City of Morgan Hill
Development Services Department

CITY OF MORGAN HILL

Tenfold Residential Care Facility for the Elderly Project

Addendum

August 2025

Prepared By

RANEY PLANNING & MANAGEMENT, INC. 25 years
1501 Sports Drive, Suite A, • Sacramento • CA • 95834
Office 916.372.6100 • Fax 916.419.6108

ADDENDUM TO AN ADOPTED INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

The City of Morgan Hill, California, a municipal corporation, does hereby prepare, make, declare, and publish the Addendum to an adopted Initial Study/Mitigated Negative Declaration (IS/MND) for the following described project:

Project Name and Number: Tenfold Residential Care Facility for the Elderly Project (SR2022-0014)

Original Project: Cochrane Road Commercial Development Project (ZA-13-12/SD-13-14)

The City of Morgan Hill, Development Services Department, has reviewed the proposed project and on the basis of the whole record before it, has determined that pursuant to CEQA Guidelines Section 15162, substantial changes have not occurred with respect to the circumstances under which the Cochrane Road Commercial Development Project IS/MND (2014 IS/MND) and subsequent Butterfield and Cochrane Development IS/Addendum (2018 IS/Addendum) were adopted, and new available information does not exist, which was not known and could not have been known at the time that the IS/MND and IS/Addendum were adopted. The project, as identified in this Addendum, would not have a significant effect on the environment beyond that which was evaluated in the 2014 IS/MND or 2018 IS/Addendum. This document demonstrates that further environmental review is not required given that the proposed modifications to the approved project would not trigger the applicable criteria set forth in the CEQA Guidelines Section 15162.

This Addendum to the 2014 IS/MND, as amended, has been prepared pursuant to Title 14, Section 15164 of the California Code of Regulations and City of Morgan Hill environmental standards.

A copy of this document and all supportive documentation may be reviewed or obtained at the City of Morgan Hill, Development Services Department, 17575 Peak Avenue, Morgan Hill, California, 95037.

Development Service Director, City of Morgan Hill, California, a municipal corporation

By: _____

Date: _____

Tenfold Residential Care Facility for the Elderly Project (SR2022-0014) Addendum to the Cochrane Road Commercial Development Project IS/MND, as Amended

---

File Number/Project Name: Tenfold Residential Care Facility for the Elderly Project (SR2022-0014)

Project Location and Surrounding Land Uses: The approximately 4.05-acre project site, identified by Assessor's Parcel Number (APN) 726-58-012, is located west of the intersection of Sutter Boulevard and Jarvis Drive within the southeast quadrant of the Evergreen Village Development Master Plan (Evergreen Village) area in the City of Morgan Hill, California. The project site, known as Parcel 12 within the Evergreen Village area, is undeveloped, but has undergone previous grading activities. The project site is bound to the west by Skipper Lane, to the north by Checkerspot Lane, and to the south by Jarvis Drive. Surrounding existing land uses include undeveloped land to the north and west; a 7-Eleven, Starbucks, and a Chick-fil-A to the north; office buildings further north, across Cochrane Road; office buildings to the east; a commercial shopping center and office buildings further east, across Sutter Boulevard; office buildings to the south, across Jarvis Drive; and multi-family residential units to the west, across Butterfield Boulevard (see Figure 1 and Figure 2).

Existing Plan Designations and Zoning: The City of Morgan Hill General Plan designates the 4.05-acre site as Commercial (C) and the site is zoned Planned Unit Development (PUD).

Project Background: The Cochrane Road Commercial Development (Cochrane Road) project and associated IS/MND were approved by the City of Morgan Hill in 2014. The Cochrane Road IS/MND (2014 IS/MND) evaluated the subdivision of the 20.25-acre Evergreen Village site into eight parcels as well as the subsequent development of 196,300 square feet (sf) of commercial uses over the course of two phases including the development of a 65,000-sf medical office at the location of the proposed Tenfold Residential Care Facility for the Elderly (RCFE) site. The Cochrane Road project required approval of a PUD Amendment, which would allow development of several uses, including, but not limited to, business support services, commercial services, a maximum of two drive-through restaurants; financial services, hotel/motel/lodging facilities, medical/dental offices, medical/dental, administrative offices, research and development, and retail uses. The PUD Amendment also allowed several uses with approval of a conditional use permit, including, but not limited to assisted living facilities, convenience markets and specialty markets, daycare centers and nursery schools, drive-through restaurants, nursing homes or convalescent hospitals, and service stations.

An IS/Addendum to the 2014 Cochrane Road IS/MND was adopted in 2018 in relation to the applications to amend the previously approved tentative map and Planned Development (PD) Master Plan for the 20.25-acre Cochrane Road development project site. In general, the proposed amendments to the PD Master Plan resulted in identification of site-specific uses, including, but not limited to a nine-pump gas station, approximately 10,000 sf of restaurant space, 38,000 sf of retail space, a 110-room hotel, 40,500 sf of office space, and an 85-bed assisted living facility at the location of the proposed Tenfold RCFE site. The amendment to the originally approved tentative map increased the number of parcels from eight to 12. On September 5, 2018 and September 26, 2018, the City approved the requested amendments to the original Tentative Map and PD Master Plan through Resolution 18-067 and Ordinance 2279, respectively.

Figure 1
Regional Vicinity Map

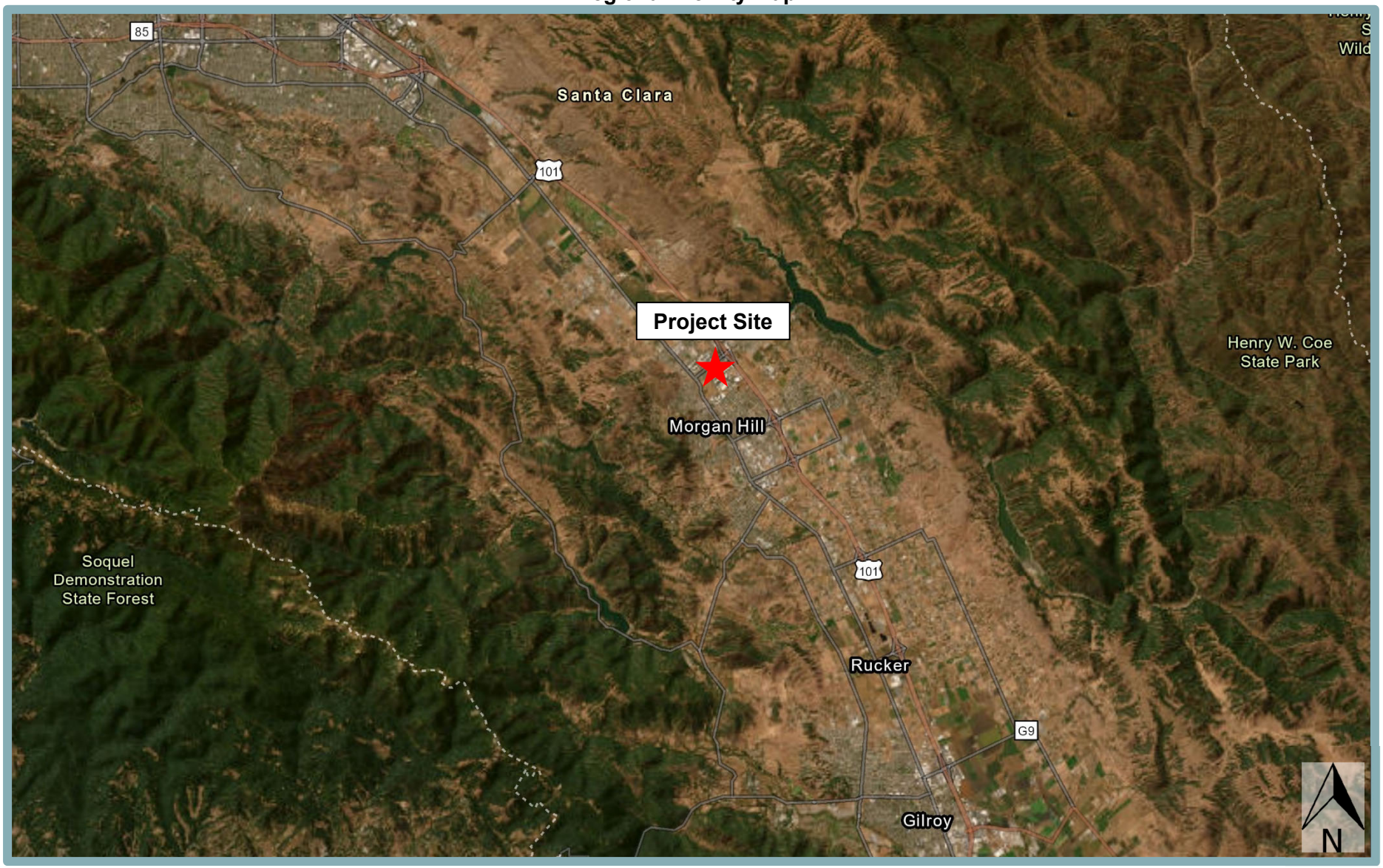


Figure 2
Project Site Boundaries

Subsequently, in 2019, the City received an application for Site and Architectural Review for Parcel 12 related to an 80-unit senior housing facility. Through Approval Certificate No. 19-015, the Community Development Department (CDD) determined there was not substantial evidence that the project would have a significant effect on the environment. The 2014 IS/MND reflects the CDD's independent judgement and analyses and the 2014 IS/MND was adopted prior to the action taken to adopt Approval Certificate No. 19-015; therefore, further environmental review was not deemed necessary. To date, Parcel 12 has not been developed and the property owner is seeking to modify the approved 80-unit senior housing project.

Project Description: The proposed project would include the development of a three-story, 136,085-sf residential care facility with 115 independent/assisted senior living suites and a total of 139 beds (see Figure 3). The 115 suites would include a mix of eight 679-sf studio suites; 83 735-sf one-bedroom suites; and 24 1,069-sf two-bedroom suites. The suites would include a half-kitchen, living area, storage space, and bathroom(s). The facility's indoor amenities would include two dining rooms, an on-site bistro/café, gym, movie theater, salon, crafts room, physical therapy room, and various seating and gathering areas. Outdoor amenities would include an enclosed courtyard, multi-purpose lawn, and community garden beds. The proposed project would provide a total of 85 on-site parking spaces. In addition, 10 short-term bicycle spaces and five long-term bicycle lockers would be provided throughout the site. Site access would be provided by a driveway off of Skipper Lane and would connect to an internal parking lot. An additional vehicle exit would be provided by Checkerspot Lane, to the north. The median south of the project site entrance, on Skipper Lane, would be removed as part of the proposed project.

As shown in Figure 4, an assortment of drought-resistant trees, shrubs, grasses, and ground cover plants would be planted along the frontages of Skipper Lane and Checkerspot Lane, within parking lot planters, and throughout the project site. The proposed bioretention areas, discussed in further detail below, would be planted with a bioretention planter-specific groundcover mix. All landscaping would comply with the State's Model Water Efficient Landscape Ordinance (MWELO).

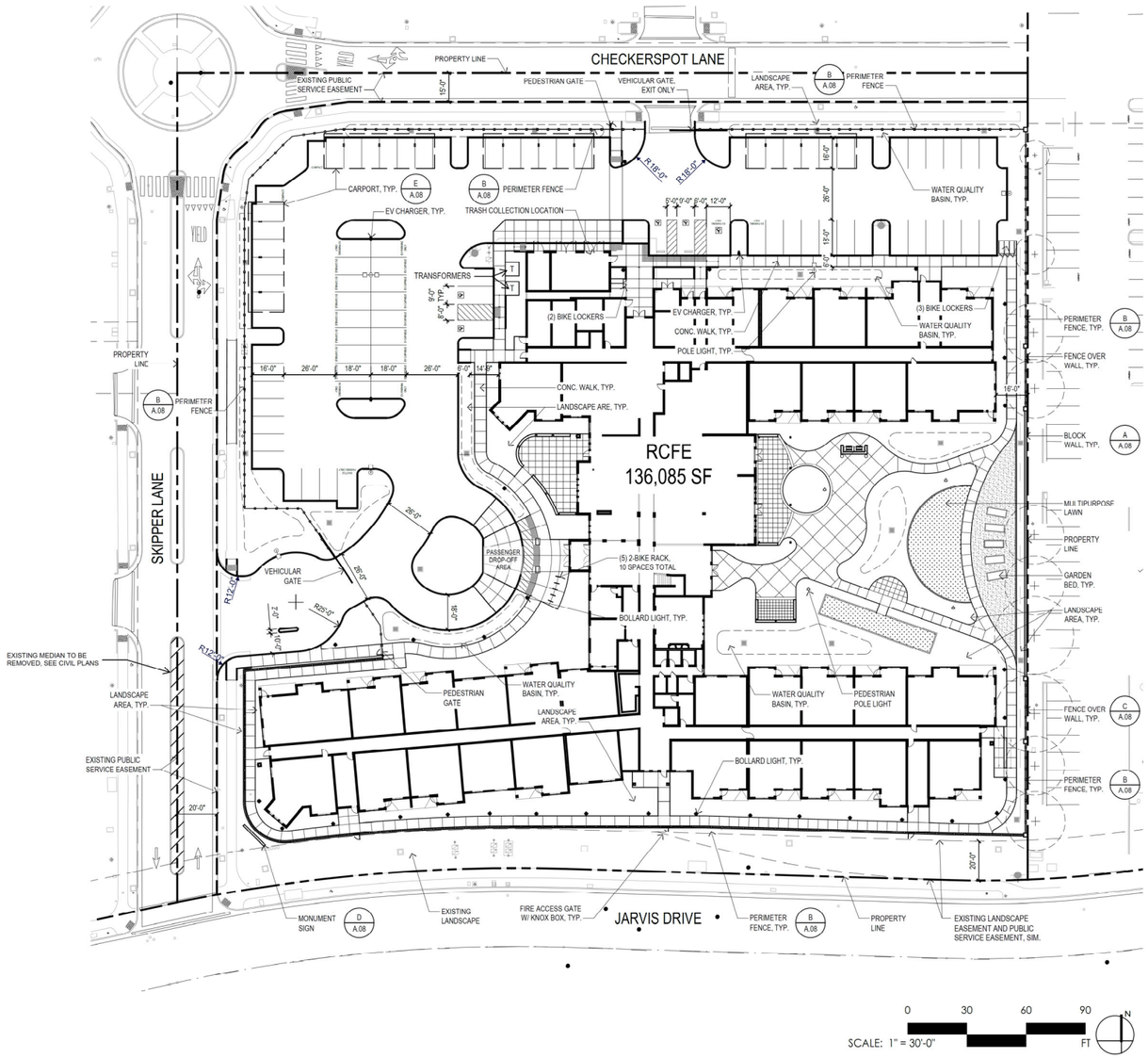
Water and sewer service for the proposed development would be provided through connections to existing City infrastructure located in the site vicinity (see Figure 5). The proposed project would include the installation of a new eight-inch water line extending from the existing line within Skipper Lane, which would connect to new water laterals within the project site. Wastewater would be conveyed by new six-inch sanitary sewer lines into on-site sanitary sewer manholes which would then direct wastewater to the existing eight-inch sanitary sewer main within Checkerspot Lane.

According to the Preliminary Drainage Report prepared for the proposed project, the project site would be separated into 11 drainage management areas (DMAs) each containing an individual bioretention basin within the proposed landscaped areas (see Figure 6).[1] Stormwater runoff that does not infiltrate into the bioretention basins and landscaped areas during storm events would be routed to new drop inlets and eight-, 12-, and 48-inch storm drain pipes which would direct stormwater into the existing DMAs along the western and northern border of the project site and ultimately into the City's stormwater system through existing storm drain lines located along the site's northern and western frontage.

Electricity service for the proposed development would be provided through connections to existing City infrastructure located in the site vicinity.

[1] TSD Engineering, Inc. *Preliminary Post-Construction Stormwater Plan.* April 29, 2025.

Figure 3
Overall Site Plan



LEGAL DESCRIPTION:

THE LAND REFERRED TO HEREON IS SITUATED IN THE CITY OF MORGAN HILL, COUNTY OF SANTA CLARA, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

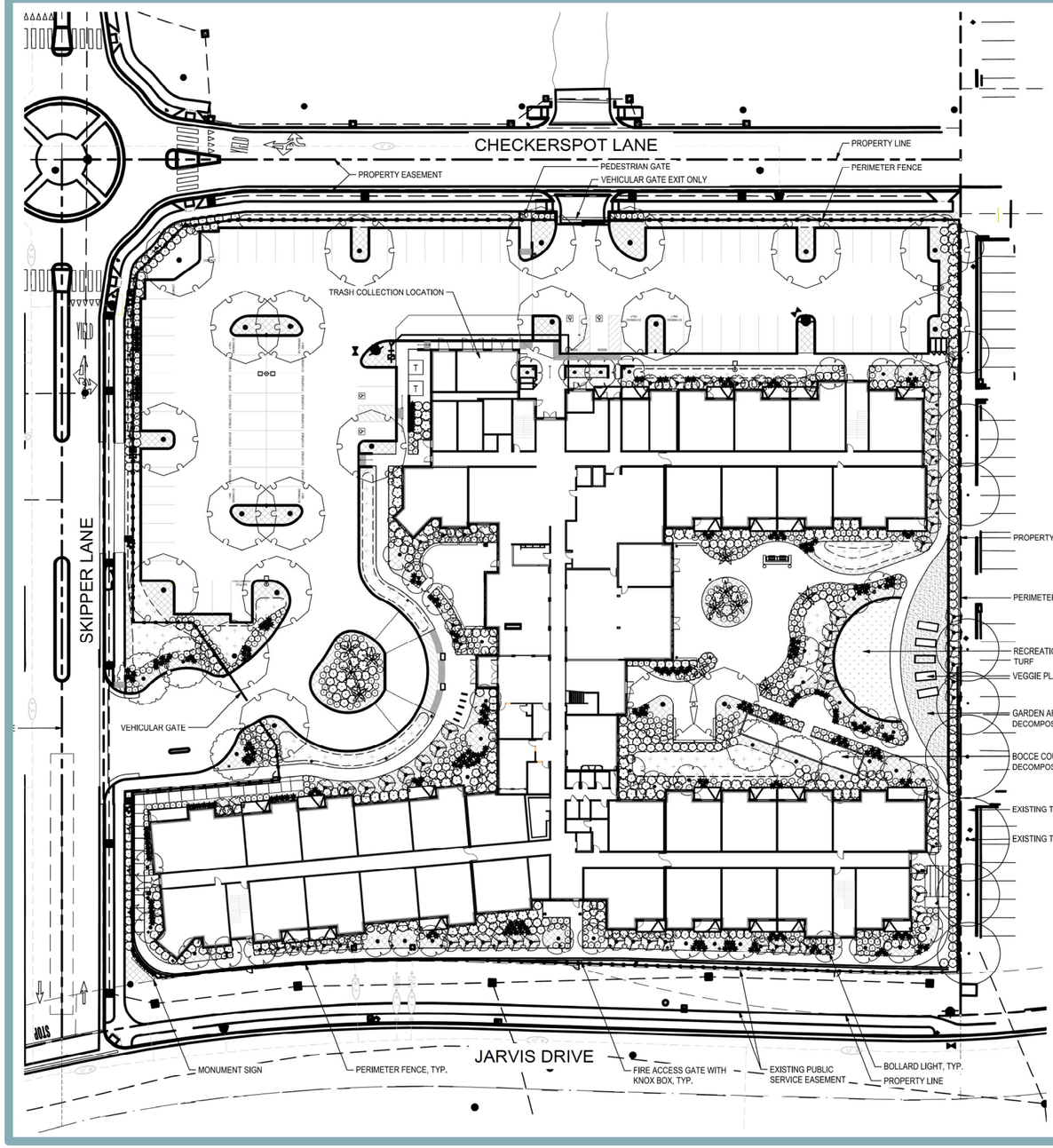
PARCEL 12 AS SHOWN ON THAT CERTAIN MAP ENTITLED AS "PARCEL MAP, EVERGREEN VILLAGE" WHICH MAP WAS FILED FOR RECORD IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA ON JULY 17, 2019 IN BOOK 924, PAGES 45 THROUGH 47, SANTA CLARA COUNTY RECORDS.

NOTE:
REFER TO THE RECORDED COREA FOR MORE INFORMATION ON THE USE, MODIFICATION AND MAINTENANCE OF THE COMMON AREAS AND PUBLIC RIGHTS-OF-WAY

OVERALL SITE PLAN | MORGAN HILL RCFE | MORGAN HILL, CA | A.07

PROJECT NO. 1262-0002 | 12/13/2024

Figure 4
Planting Plan



CONCEPT TREE SCHEDULE

LARGE SHADE TREE — 21
24" box trees. (35' - 30' high/wide) Site and parking lot shade tree. Low water-use trees.
Drip bubbler irrigation.

Quercus agrifolia / Coast Live Oak
Ulmus parvifolia 'Drake' / Drake Lacebark Elm

MEDIUM SHADE TREE — 6
24" box trees. (30' - 25' high/wide) Smaller planting areas. Low water-use trees.
Drip bubbler irrigation.

Arbutus x 'Marina' / Marina Strawberry Tree Standard
Pistacia chinensis / Chinese Pistache

SMALL TREE — 44
15 gallon trees. (25' - 20' high/wide) Small planting areas, entries, parking drive aisle. Low water-use trees.
Drip bubbler irrigation.

Lagerstroemia indica x fauriei 'Natchez' / Natchez Crape Myrtle
Olea europaea 'Swan Hill' / Swan Hill Fruitless Olive

ACCENT TREE — 69
15 gallon trees. (20' – 15' high/wide) Small planting areas, entries, building accent. Low water-use trees.
Drip bubbler irrigation.

Cercis occidentalis / Western Redbud
Rhaphiolepis x 'Montic' / Majestic Beauty® Indian Hawthorn

PALM TREE — 11
15 BTH Palm Trees
. Low water-use trees.
Drip Bubbler irrigation.

Phoenix dactylifera / Date Palm
Trachycarpus fortunei / Windmill Palm
Washingtonia robusta / Mexican Fan Palm

CONCEPT SHRUB & GROUNDCOVER SCHEDULE

LARGE SHRUBS — 101
5 gallon shrubs. Drought tolerant, low water-use plants.
Shrubs (3' - 5' high/wide) throughout project site.
Dripline irrigation.

Cistus x purpureus / Orchid Rockrose
Dodonaea viscosa 'Purpurea' / Purple Hopseed Bush
Kniphofia uvaria 'Flamenco' / Flamenco Red Hot Poker
Loropetalum chinense rubrum 'Chang Nian Hong' / Ever Red® Fringe Flower
Phormium tenax / New Zealand Flax
Punica granatum 'Nana' / Dwarf Pomegranate
Rhamnus californica / California Coffeeberry
Salvia x 'Allen Chickering' / Allen Chickering Sage

MEDIUM SHRUBS — 351
5 gallon shrubs, Drought tolerant, low water-use plants.
Shrubs (2' - 3' high/wide) throughout project site.
Dripline Irrigation.

Callistemon viminalis 'Little John' / Little John Weeping Bottlebrush
Hesperaloe parviflora / Red Yucca
Lavandula stoechas 'Otto Quast' / Otto Quast Spanish Lavender
Nandina domestica / Heavenly Bamboo
Perovskia abrotanoides / Russian Sage
Phlomis russelliana / Jerusalem Sage

ORNAMENTAL GRASSES — 267
5 gallon shrubs, Drought tolerant, low water-use plants.
Grasses and grass-like plants. (2' - 4' high/wide) throughout project site.
Dripline Irrigation.

Dietes bicolor / Fortnight Lily
Festuca idahoensis / Idaho Fescue
Leymus condensatus / Giant Wild Rye
Lomandra longifolia 'Breeze' / Breeze™ Mat Rush
Muhlenbergia capillaris 'Lenca' / Regal Mist® Pink Muhly Grass

VINES — 13
1 gallon vine, screening at trash enclosures. Low water-use plants.
Dripline irrigation.

Parthenocissus tricuspidata 'Veitchii' / Boston Ivy

SMALL SHRUBS — 579
1 gallon shrubs, Drought tolerant, low water-use plants.
Shrubs (1'- 2' high/wide) throughout project site.
Dripline Irrigation.

Callistemon viminalis 'Little John' / Little John Weeping Bottlebrush
Oenothera caespitosa / Tufted Evening Primrose
Yucca filamentosa / Adam's Needle

VERTICAL EVERGREEN — 23
5 gallon shrubs, Drought tolerant, low water-use plants.
Shrubs (3'- 5' high x 1' – 3' wide) throughout project site.
Dripline Irrigation.

Cupressus sempervirens / Italian Cypress

GROUNDCOVER — 9,945 sf
1 gallon, small shrubs and spreading groundcover, low and medium water-use plants. Plants to be primarily evergreen with seasonal interest in flowering and/or form.
Shrubs and groundcover (6"-12" high x 36"- 60" wide) throughout project site.
Dripline Irrigation.

Baccharis pilularis 'Twin Peaks #2' / Twin Peaks #2 Coyote Brush
Cotoneaster dammeri 'Lowfast' / Lowfast Bearberry Cotoneaster
Festuca glauca 'Boulder Blue' / Boulder Blue Fescue
Juniperus horizontalis / Creeping Juniper
Myoporum parvifolium / Trailing Myoporum
Rosmarinus officinalis 'Huntington Carpet' / Huntington Carpet Rosemary

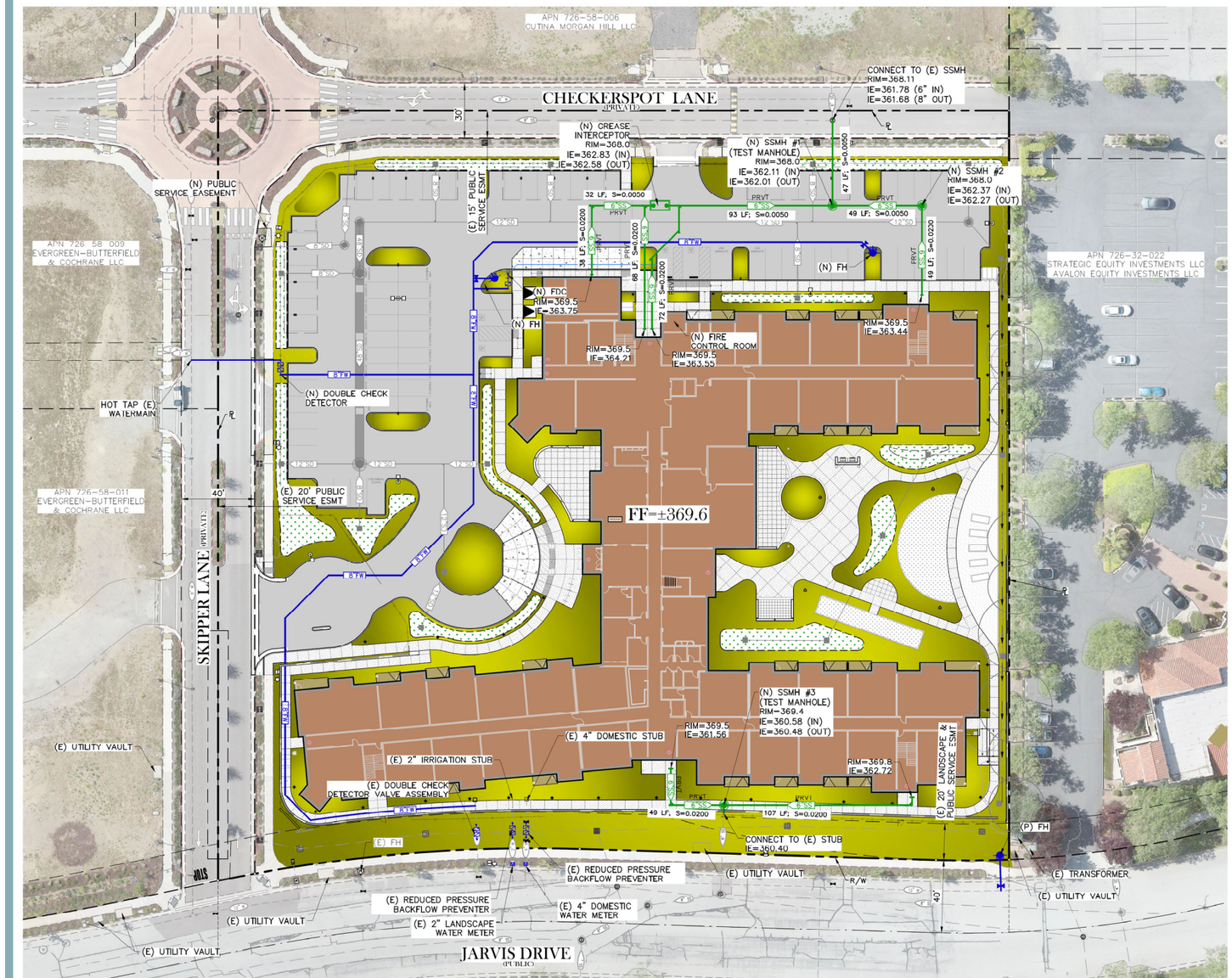
BIORETENTION PLANTER — 6,543 sf
Plants to be water tolerant.
Plants (6'- 12" high/wide) in bioretention planters.
Subsurface in-line, Dripline Irrigation.

Achillea millefolium / Common Yarrow
Juncus patens / California Gray Rush
Leymus triticoides / Wild Rye

LAWN — 1,305 sf
Sod. Overhead Spray Irriagtion.

Bolero Plus

Figure 5
Preliminary Utility Plan



UTILITY LEGEND

DESCRIPTION	PROPOSED	EXISTING
WATER MAIN	10"W	8"W
FIRE WATER (PRIVATE)	6"FW	
FIRE SERVICE (PRIVATE)	6"FS	
FIRE HYDRANT (PRIVATE)		
DOUBLE CHECK DETECTOR	DCD	
FIRE DEPT CONNECTION		
WATER METER & BACKFLOW		
SEWER LINE (PUBLIC)		15" SS
SEWER LINE (PRIVATE)	6"SS	
SEWER MANHOLE		
SEWER CLEANOUT		
GREASE INTERCEPTOR		

SANITARY SEWER DEMAND

AVERAGE FLOW (PER CAPITA/MULTI-FAMILY)
(PER CITY OF MORGAN HILL DESIGN STANDARDS – SECTION 3: SANITARY SEWER DESIGN STANDARDS 3.200)

ASSUMPTIONS:

- MULTI-FAMILY (≤ BEDROOMS/UNIT) = 2.75 PERSONS PER UNIT
- 90 GALLONS PER CAPITA PER DAY
- NUMBER OF UNITS = 115 UNITS

AVERAGE FLOW = 2.75 x 90 x 115 = 28,462.5 GALLONS/DAY (0.04 CFS)

DESIGN FLOW
(PER CITY OF MORGAN HILL DESIGN STANDARDS – SECTION 3: SANITARY SEWER DESIGN STANDARDS 3.300)

ASSUMPTIONS:

- PEAKING FACTOR = 2.60

DESIGN FLOW = 0.04 CFS x 2.60 = 0.11 CFS

SANITARY SEWER PIPE CAPACITY

ASSUMPTIONS:

- 6" PVC SANITARY SEWER PIPE
- SLOPE = 0.0200 FT/FT

MAXIMUM PIPE CAPACITY = 0.68 CFS

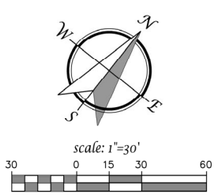
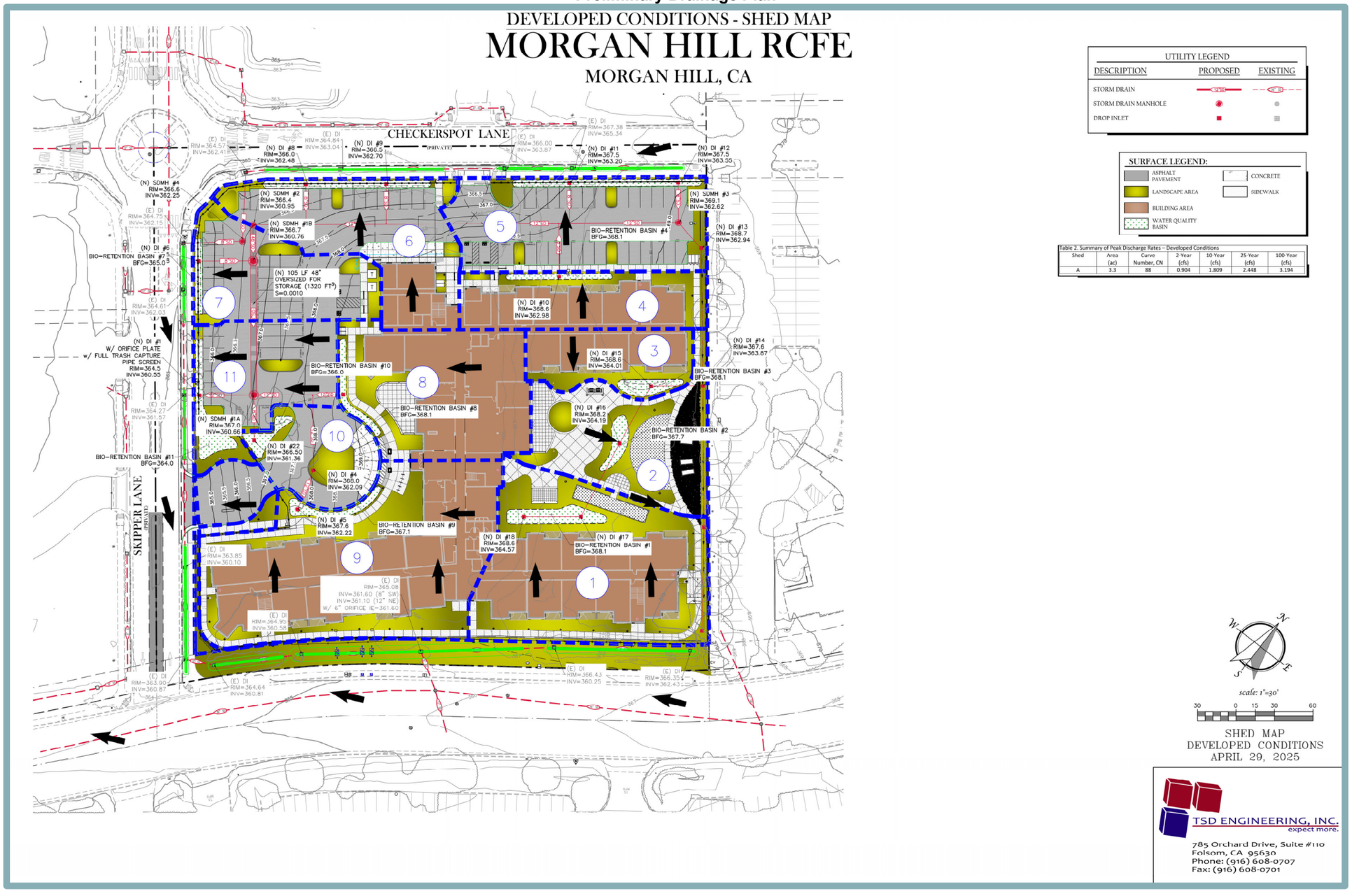


Figure 6
Preliminary Drainage Plan



The proposed project would not use natural gas, as natural gas is prohibited in all new construction within Morgan Hill effective March 1, 2020, pursuant to City Ordinance No. 2306.

Project Approvals
The proposed project would require the following entitlements from the City of Morgan Hill:

- Approval of Design Permit Amendment.

Rationale for Preparation of the Addendum

In determining whether an addendum is the appropriate document to analyze the modifications to the project and its approval, CEQA Guidelines Section 15164 (Addendum to an Environmental Impact Report (EIR) or Negative Declaration) states:

> (a) The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.
>
> (b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.
>
> (c) An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.
>
> (d) The decision-making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.
>
> (e) A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's required findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.

New significant effects or other grounds require preparation of a subsequent EIR in support of further agency action on a project pursuant to Public Resources Code Section 21166 and State CEQA Guidelines Sections 15162 and 15163.

Under the guidelines, a subsequent or supplemental EIR or Mitigated Negative Declaration shall be prepared if any of the following criteria are met:

> (a) When an EIR has been certified or negative declaration adopted for a project, a subsequent EIR shall not be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Use of a Prior Environmental Document:

The California Supreme Court has held that a lead agency has the responsibility of initially deciding whether an original environmental document retains "some relevance" to the ongoing decision-making process. The City of Morgan Hill has determined that the 2014 IS/MND, as amended, is relevant and has prepared an addendum to that document to evaluate the proposed project.

In accordance with Sections 15162 through 15164 of the CEQA Guidelines, the proposed project would not require major revisions of the 2014 IS/MND, as amended, due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The analysis that follows concludes that none of the conditions identified in CEQA Guidelines Sections 15162 and 15163 apply to the proposed project. Thus, preparation of an addendum would provide the appropriate level of environmental review.

In cases where an approved project has already undergone environmental review, and the environmental document has been certified by the lead agency, the lead agency can restrict its review to the incremental effects of the modified project, rather than having to reconsider the overall impacts of the project. In other words, if the project under review constitutes a modification of a previously approved project previously subjected to environmental review, then the "baseline" for purposes of CEQA is adjusted such that the originally approved project is assumed to exist.[2]

[2] See Michael H. Remy et al. *Guide to CEQA, 11th Edition*. Point Arena: Solano Press Books (2007), p. 207; Stephen L. Kostka and Michael H. Zischke. *Practice Under the Environmental Quality Act, Second Edition* (Vol. 1). Oakland: Continuing Education of the Bar (2018), p. 12-32; *Benton v. Board of Supervisors* (1st Dist. 1991) 226 Cal. App. 3d 1467.

Thus, the environmental baseline for the proposed project analysis consists of the previously approved 41,723-sf, 80-unit senior housing facility on-site.

It should be noted that under CEQA Guidelines Section 15162(a)(1), the requirements to prepare a subsequent or supplemental EIR are triggered when substantial changes are proposed that will require major revisions of the previous EIR or Negative Declaration. Such language implies that a new or revised mitigation measure that does not require a major revision could be adopted on the basis of an addendum. Similarly, the provisions of CCR Section 15162(a)(3)(c-d) require a subsequent or supplemental EIR only if newly feasible or considerably different mitigation becomes available but is not adopted. Such provisions also imply that newly feasible or different mitigation can be adopted based on an Addendum, without the need for a subsequent or supplemental EIR.

Discussion

The following sections provide discussions of any potential impacts associated with the proposed project beyond those previously identified in the 2014 IS/MND, as amended. As discussed above, the environmental baseline for the proposed project analysis consists of the previously approved 41,723-sf, 80-unit, 85-bed senior housing facility on-site. The proposed project would include the development of a 136,085-sf residential care facility with 115 independent/assisted senior living suites with 139 beds. As such, the proposed project would develop an additional 94,723 sf of space consisting of 35 additional senior housing units, and 54 additional beds. Given the limited scope of changes that would occur as a result of the proposed project in comparison to the former Cochrane Road Commercial Development Project, as amended, this Addendum provides a detailed evaluation of select CEQA topics potentially affected by the changes, including Air Quality, Greenhouse Gas Emissions, Hydrology and Water Quality, and Transportation. The remaining CEQA topics are appropriately discussed at a lesser level of detail.

Air Quality

The City of Morgan Hill is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAD). The SFBAAB area is currently designated as a nonattainment area for State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter ($PM_{2.5}$), and State respirable particulate matter 10 microns in diameter (PM_{10}) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour $PM_{2.5}$ federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal $PM_{2.5}$ AAQS until such time as the BAAD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation. The USEPA has not yet approved a request for redesignation of the SFBAAB; therefore, the SFBAAB remains in nonattainment for 24-hour $PM_{2.5}$.

In compliance with regulations, due to the nonattainment designations of the area, the BAAD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). The most recent

State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. Adopted BAAD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with the applicable air quality plan. Thus, by exceeding the BAAD's emission thresholds for construction or operational emissions, a project would be considered to conflict with or obstruct implementation of the BAAD's air quality planning efforts.

Under Section 4.3, Air Quality, the 2014 IS/MND evaluated potential impacts to air quality emissions and concluded that the only potential impacts were related to fugitive dust and objectionable odors. However, with the implementation of Mitigation Measures AIR-1.1 and AIR-2.1, which would require the proposed project to implement project-specific best management practices (BMPs) and include designs to reduce cooking odors or installation of odor abatement equipment if complaints occur, the 2014 IS/MND concluded that the identified impacts would be reduced to a less-than-significant level. All other impacts to air quality were determined to be less than significant. The proposed project would not involve the development of a restaurant use. Thus, Mitigation Measure AIR 2.1 of the 2014 IS/MND would not be applicable to the proposed project. In addition, the 2018 IS/Addendum concluded that all impacts related to air quality would be the same as analyzed within the 2014 IS/MND.

Since the adoption of the 2014 IS/MND, as amended, BAAD has updated its screening criteria to aid in determining if emissions from development projects would exceed the applicable thresholds of significance and result in potentially significant air quality impacts. According to the BAAD 2022 CEQA Guidelines, if a project is below the screening level identified for the applicable land use type, emissions from construction and operation of the project would have a less-than-significant impact on air quality. The screening criterion for criteria pollutant emissions associated with Congregate Care/Retirement Community is 416 units during construction and 1,008 units for operations. The proposed project involves the development of 115 Congregate Care dwelling units, which would be below the screening criteria during construction and operations. Therefore, based on BAAD's screening criteria, the proposed project's emissions would not be expected to exceed BAAD thresholds of significance.

Nonetheless, to confirm the above conclusion, and to determine the change in criteria pollutant emissions that would occur with implementation of the proposed project, air quality emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.29 software for both the previously approved project and the currently proposed project. Table 1 presents the maximum unmitigated construction emissions associated with the previously approved project in comparison to the maximum unmitigated construction emissions associated with the currently proposed project.

As presented in Table 1, the proposed project would result in a net increase in construction-related emissions as compared to the previously evaluated project. However, the net increase in construction-related emissions associated with the proposed project, as well as overall project construction emissions, would be below the applicable thresholds of significance for all criteria pollutants. Therefore, the proposed project would not result in any new or more severe significant impacts related to construction criteria pollutant emissions from what was previously analyzed in the 2014 IS/MND, as amended.

Table 1
Maximum Unmitigated Construction Emissions (lbs/day)

	ROG	NO_X	PM_{10}*	$PM_{2.5}$*
Previously Approved Project	3.99	29.20	1.24	1.14
Proposed Project	6.86	29.20	1.24	1.14
Net Increase	*+2.87*	-	-	-
Threshold of Significance	**54**	**54**	**82**	**54**
Exceeds Threshold?	**NO**	**NO**	**NO**	**NO**

* Denotes emissions from exhaust only. BAAD has not yet adopted PM thresholds for fugitive emissions.

Source: CalEEMod, June/July 2025 (see Attachment 4).

In addition, all projects under the jurisdiction of the BAAD are required to implement all of the BAAD's Basic Construction Mitigation Measures (BCMMs), which include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
7. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
8. Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a six- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
9. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

In addition to the BCMMs, projects are strongly encouraged to implement enhanced best management practices to control fugitive dust emissions. The enhanced measures are especially important when schools, residential areas, or other sensitive land uses are located near the construction site. BAAD recommended enhanced BMPs include the following:

1. Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
2. Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
3. Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.
4. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
5. Minimize the amount of excavated material or waste materials stored at the site.

6. Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.

Although BAAD requires that all construction activity within the SFBAAB implement the above listed BCMMs, both the previously approved project and the proposed project were modeled without the inclusion of such measures to provide a conservative, worst-case emissions estimate. As presented in Table 1, even under the conservative assumptions used for the proposed project analysis, emissions of $PM_{2.5}$ and PM_{10} would remain below the BAAD's thresholds of significance. Implementation of the BCMMs provided herein would ensure the project's compliance with Mitigation Measure AIR-1.1 as set forth in the 2014 IS/MND. However, it should be noted that the BCMMs have been updated since the 2014 IS/MND was prepared. Therefore, the BCMMs presented above are the most currently adopted BAAD BCMMs and supersede the measures included in Mitigation Measure AIR-1.1. Nonetheless, to ensure compliance with the updated BCMMs, Mitigation Measure AIR-1.1 has been modified, as presented below.

Table 2 presents the maximum unmitigated operational emissions associated with the previously approved project in comparison to the maximum unmitigated operational emissions associated with the currently proposed project.

Table 2
Maximum Unmitigated Operational Emissions

	ROG		NO_X		PM_{10}*		$PM_{2.5}$*	
	lbs/day	**tons/yr**	**lbs/day**	**tons/yr**	**lbs/day**	**tons/yr**	**lbs/day**	**tons/yr**
Previously Approved Project	2.22	0.39	0.75	0.21	0.03	0.01	0.02	0.01
Proposed Project	5.11	0.90	1.07	0.27	0.04	0.01	0.03	0.01
Net Increase	*+2.89*	*+0.51*	*+0.32*	*+0.06*	*+0.01*	-	*+0.01*	-
Threshold of Significance	**54**	**10**	**54**	**10**	**82**	**15**	**54**	**10**
Exceeds Threshold?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Note:
* Denotes emissions from exhaust only. BAAD has not yet adopted PM thresholds for fugitive emissions.

Source: CalEEMod, June/July 2025 (see Attachment 4).

As presented in Table 2, the proposed project would result in a net increase in operational criteria pollutant emissions. However the net increase in operational emissions associated with the proposed project, as well as the total operational emissions associated with the proposed project, would be below the applicable thresholds of significance for all criteria pollutants. Therefore, the proposed project would not result in any new or substantially more severe significant impacts related to operational criteria pollutant emissions from what was previously analyzed in the 2014 IS/MND, as amended.

Based on the information presented above, the proposed project would not result in any new impacts or substantially more severe impacts related to air quality relative to what was analyzed in the 2014 IS/MND.

Prior Mitigation Measures
None applicable.

Modified Mitigation Measures

AIR-1.1: The following Best Management Practices (BMPs) shall be implemented during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered ~~twice daily~~ two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a six- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- ~~Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.~~
- ~~All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.~~
- ~~Post a p~~Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints ~~phone~~ number shall also be visible to ensure compliance with applicable regulations.

New Mitigation Measures

None required.

Greenhouse Gas Emissions

The 2014 IS/MND evaluated potential impacts related to greenhouse gas (GHG) emissions under Section 4.7. Specifically, the 2014 IS/MND compared the Cochrane Road Commercial Development Project to the BAAD's GHG thresholds of significance in place at the time the 2014 IS/MND was prepared and concluded that the proposed project would exceed 1,100 $MTCO_2e$, as well as the applicable land use GHG efficiency threshold of 4.6 MTCO2e. However, the 2014

IS/MND included Mitigation Measures GHG-1.1 and GHG-1.2, which required implementation of energy efficient measures to reduce GHG emissions and development of a carbon offset program. With the implementation of Mitigation Measures GHG-1.1 and GHG-1.2, the 2014 IS/MND concluded a less-than-significant impact would result. In addition, the 2018 IS/Addendum concluded that all impacts related to GHG emissions would be the same as analyzed within the 2014 IS/MND.

The change in GHG emissions that would occur with implementation of the proposed project was estimated using CalEEMod version 2022.1.1.29 software for both the proposed project and the previously approved project. Table 3 presents the maximum unmitigated GHG emissions associated with the previously approved project in comparison to the maximum unmitigated GHG emissions associated with the proposed project.

Table 3
Maximum Unmitigated GHG Emissions (tons/yr)

	Construction	Operations
Previously Approved Project	319	362
Proposed Project	341	515
Net Increase	*+22*	*+153*

Source: CalEEMod, June/July 2025 (see Attachment 4).

As shown in the table, the proposed project would result in an increase in construction GHG emissions and operational GHG emissions as compared to the GHG emissions that would be generated under the previously approved project. However, the information presented in Table 3 is provided for disclosure purposes only, as potential impacts related to GHG emissions resulting from implementation of the proposed project are considered in comparison with BAAD's currently adopted qualitative thresholds of significance, as discussed in further detail below.

Since preparation of the 2014 IS/MND, as amended, the BAAD adopted new thresholds of significance for GHG emissions. The applicable BAAD thresholds of significance for GHG emissions are now qualitative and require that a project either include specific project design elements or be consistent with a local GHG reduction strategy that meets the criteria pursuant to State CEQA Guidelines Section 15183.5(b).[3] In December of 2021, the City of Morgan Hill adopted a Climate Action Plan (CAP); however, the City's CAP does not qualify as a local GHG reduction strategy under CEQA Guidelines Section 15183.5(b). Therefore, the City has determined that the BAAD thresholds of significance are appropriate for the analysis of the proposed project, and the following analysis focuses on the BAAD GHG thresholds related to specific project design elements.

According to the BAAD's thresholds of significance, in order to find a less-than-significant GHG impact, projects must include, at a minimum, the following project design elements:

- The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development);
- The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines;

[3] Bay Area Air Quality Management District. *CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans.* April 2022.

- The project will achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current California Climate Change Scoping Plan (15 percent) or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research (OPR's) Technical Advisory on Evaluating Transportation Impacts in CEQA; and
- The project will achieve compliance with off-street electric vehicle (EV) requirements in the most recently adopted version of CALGreen Tier 2.

In order to be consistent with the first criterion, the proposed project is required to include all electric appliances and plumbing. Natural gas is prohibited in all new construction within the City pursuant to City Ordinance No. 2306, effective March 1, 2020. Therefore, the proposed project would not include the use of natural gas appliances or natural gas plumbing and, thus, would comply with the first BAAD GHG criterion.

Regarding the second criterion, the proposed project would comply with all applicable federal, State, and local regulations regarding energy use during both project construction and project operations, such as the California Green Building Standards Code (CALGreen Code) and the Building Energy Efficiency Standards. Requirements of the CALGreen Code that would be applicable to the proposed project include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of EV charging infrastructure;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. In addition, all construction equipment and operation thereof would be regulated by the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. Required compliance with applicable standards and regulations would ensure that energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. Therefore, the proposed project would comply with the second BAAD GHG criterion.

With respect to the third criterion, as discussed within the Transportation Section of this Addendum, according to Resolution 24-039, which approved Citywide thresholds of significance for VMT within Morgan Hill, the proposed project would result in a significant project-generated VMT impact if project VMT per capita exceeds Morgan Hill's baseline VMT per capita. Project VMT was modeled using the Santa Clara Countywide (SCC) VMT Evaluation Tool as part of the

Transportation Study prepared for the proposed project. Based on the results of the SCC VMT Evaluation Tool, the baseline home-based VMT per capita for the City of Morgan Hill is 24.64, while the home-based VMT per capita where the project site is located is 23.77. Therefore, project-generated VMT would be less than the baseline VMT per capita for the City of Morgan Hill, and pursuant to Morgan Hill Resolution 24-039, the proposed project would result in a less than significant impact. Based on the above, the proposed project would comply with the third BAAD GHG criterion.

With respect to the fourth criterion, under the CBSC, congregate care/assisted living facilities are considered to fall under occupancy group R. Land uses classified as occupancy group R are considered Residential under the CALGreen standards. Thus, the proposed project would be subject to the multi-family residential requirements set forth in the CALGreen standards. For a multi-family residential project to comply with Tier 2 CALGreen standards, as required by BAAD, 55 percent of total parking spaces shall be electric vehicle (EV) capable, and 20 percent of spaces shall have Level 2 EV Chargers. A total of 85 parking spaces are proposed on-site. Thus, the proposed project would be required to provide 47 EV capable spaces, and 17 spaces would be required to have Level 2 EV Chargers. The site plan for the proposed project shows 14 EV capable spaces and five Level 2 EV Chargers. Thus, without mitigation, the proposed project could conflict with Transportation criterion d.

Based on the above, the proposed project could conflict with Transportation Criterion d. of the BAAD's GHG thresholds of significance. Thus, implementation of project-specific Mitigation Measure GHG-1 listed below would ensure the proposed project would not result in any additional significant impacts or substantially more severe significant impacts related to GHG emissions as compared to the 2014 IS/MND, as amended.

Prior Mitigation Measures

As discussed above, since preparation of the 2014 IS/MND, BAAD has adopted new thresholds of significance for GHG emissions, which are qualitative, and are aimed at reducing GHG emissions through requirements related to the prohibition of natural gas, energy efficiency, the provision of on-site EV infrastructure, and VMT reductions. Mitigation Measures GHG-1.1 and GHG-1.2 of the 2014 IS/MND, as well as Mitigation Measure GHG-1.1 of the 2018 IS/Addendum, included various measures aimed at reducing GHG emissions to below the thresholds in place at the time such documents were prepared. However, the requirements set forth in Mitigation Measures GHG-1.1 and GHG-1.2 of the 2014 IS/MND and Mitigation Measure GHG-1.1 of the 2018 IS/Addendum would not directly apply to meeting the current BAAD thresholds of significance. Therefore, Mitigation Measures GHG-1.1 and GHG-1.2 of the 2014 IS/MND and Mitigation Measure GHG-1.1 of the 2018 IS/Addendum are not considered to be applicable to the proposed project.

Modified Mitigation Measures

None required.

New Mitigation Measures

Implementation of Mitigation Measure GHG-1 would ensure project consistency with BAAD Transportation criterion d. Therefore, with implementation of the following mitigation measure, impacts related to GHG emissions and global climate change would be reduced to a *less-than-significant* level.

GHG-1 Prior to the approval of project improvement plans, the applicant shall implement the following measure:

- Consistent with BAAD's Transportation criterion d., EV Capable parking spaces (including EV Capable parking spaces with electric vehicle supply equipment [EVSE]) shall be installed throughout the project site at the ratio specified by the current CalGreen Tier 2 standards.

Compliance with the foregoing measure shall be ensured by the City of Morgan Hill Community Development Department.

Hydrology and Water Quality

The 2014 IS/MND evaluated potential impacts to hydrology and water quality under Section 4.9 and concluded that the only potential impact would be related to water quality standards, waste discharge requirements, or otherwise degraded water quality during project construction. In order to reduce the foregoing impact to a less-than-significant level, the 2014 IS/MND included mitigation measures HYD-1.1 and HYD-1.2, which require the proposed project to implement project-specific BMPs and prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities. All other impacts related to hydrology and water quality were determined to be less than significant. In addition, the 2018 IS/Addendum concluded that all hydrology and water quality impacts would be the same as analyzed within the 2014 IS/MND.

In order to ensure that the proposed project would not result in any additional or substantially more severe significant impacts related to hydrology and water quality as compared to the 2014 IS/MND, as amended, a project-specific Preliminary Stormwater Control Plan (SWCP) and a Preliminary Hydrology and Hydraulics Report (Preliminary Drainage Report) were prepared by TSD Engineering, Inc., dated April 29, 2025 (see Attachment 5 and Attachment 6).[4][5] The Preliminary SWCP included an evaluation of the proposed performance requirements, drainage design, and source control measures. According to the Preliminary SWCP, the project site currently drains to the bioretention facilities located on the perimeter of the site within existing DMAs intended to mitigate increased runoff caused by development within the project area. Based on conversations with the City of Morgan Hill, the existing system does not have the capacity to mitigate the increased runoff due to the development in the area in which the project site is located. The Preliminary Drainage Report is discussed in further detail below.

During project construction, grading activities could result in an increase in erosion-related pollutants in stormwater runoff. Similar to the 2014 IS/MND, as amended, construction activities associated with the proposed project could therefore result in significant impacts to water quality standards, waste discharge requirements, or otherwise degraded water quality. However, the proposed project would be built within Parcel 12, as analyzed within the 2014 IS/MND, as amended, and would not result in any increased ground disturbance as compared to the approved project. In addition, the proposed project would still be required to develop BMPs and implement a SWPPP, which would include elimination or reduction strategies to ensure that non-stormwater discharges into the stormwater system would avoid water quality impacts. Implementation of

[4] TSD Engineering, Inc. *Preliminary Post-Construction Stormwater Control Plan.* April 29, 2025.
[5] TSD Engineering, Inc. *Preliminary Hydrology and Hydraulics Report.* April 29, 2025.

BMPs and a SWPPP would also provide details about how discharges into the stormwater system would be monitored, and what BMPs would be implemented by the project to avoid water quality impacts during construction and operational periods. As such, Mitigation Measures HYD-1.1 and HYD-1.2 would still be required to reduce the potential for substantial adverse impacts to water quality during construction.

Development of the proposed project would create new impervious surfaces on-site, which would increase urban runoff as compared to the current project site conditions. To manage stormwater flows created by the proposed project, the project site's stormwater facilities would be developed within 11 DMAs located throughout the entirety of the project site (see Figure 6). Each DMA would be associated with an individual bioretention basin located in the landscaped areas throughout the project site. At the direction of the City of Morgan Hill, the proposed storm drain system has been designed to reduce peak discharge rates from the project site to pre-construction rates for the two-year through 100-year, 24-hour storm event.

Stormwater runoff that does not infiltrate into the bioretention basins and landscaped areas during storm events would be routed to new drop inlets and eight-, 12-, and 48-inch storm drain pipes which would direct stormwater into the existing DMAs along the western and northern borders of the project site and ultimately into the City's stormwater system through existing storm drain lines located along the site's northern and western frontages. According to the SWCP, the proposed on-site storm drain system has been designed in accordance with the City of Morgan Hill Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements and the City of Morgan Hill Design Standards Section 4 – Storm Drain Design Standards.

The Preliminary Drainage Report included an evaluation of peak discharge rates and runoff volumes for 10-year, 25-year, and 100-year, 24-hour storm events as well as the proposed project's compliance with the aforementioned design guidelines. Table 4 below presents the peak discharge rates under pre- and post-project conditions.

Table 4
Peak Discharge Rates Comparison

Shed	Two-year	10-year	25-year	100-year
Existing	0.910	1.840	2.468	3.458
Developed	0.904	1.809	2.448	3.194

Source: TSD Engineering Inc., April 2025 (see Attachment 6).

As shown in the table, the proposed project would result in a reduction of peak discharge rates under all modeled storm events. According to the Preliminary Drainage Report, the proposed on-site storm drain system has the capacity to convey runoff and mitigate peak flows while maintaining a hydraulic grade line below the finished grade on-site. In addition, overland release routes have been designed to allow runoff to surface drain from the site in the event that the proposed storm drain system becomes clogged or inundated. Thus, consistent with State requirements, the proposed on-site stormwater system, as well as the City's existing stormwater infrastructure in the project vicinity, would be sufficient to adequately handle the project's stormwater runoff, which would ensure that the proposed project would not have the potential to violate any storm water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality in excess of what was previously anticipated for the site by the 2014 IS/MND, as amended.

In addition, development associated with the proposed project would be located within the disturbance area analyzed in the 2014 IS/MND, as amended, and would result in the development of a 115-unit independent/assisted senior living facility, as compared to the 41,723 sf, 80-unit senior housing facility at the location of the Tenfold RCFE site considered in the 2014 IS/MND, as amended. Because the proposed project would result in the development of the same land use as compared to what was anticipated in the 2014 IS/MND, as amended, the proposed project would result in similar impervious surface area than what was analyzed in the 2014 IS/MND. Furthermore, the proposed project would implement all requirements of the NPDES permitting process, as well as all other applicable State and local requirements.

Overall, the proposed project would not result in substantially more severe significant impacts related to hydrology and water quality as compared to the 2014 IS/MND, as amended.

Prior Mitigation Measures

HYD-1.1 The following BMPs would be implemented during project construction:

- Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities will be suspended during periods of high winds.
- All exposed or disturbed soil surfaces will be watered at least twice daily to control dust.
- Stockpiles of soil or other materials that can be blown by the wind will be watered or covered.
- All trucks hauling soil, sand, and other loose materials will be covered and all trucks will be required to maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site will be swept daily (with water sweepers).
- Vegetation in disturbed areas will be replanted as quickly as possible.

HYD-1.2 Consistent with the requirements of the NPDES General Permit for Construction Activities, a Notice of Intent (NOI) would be submitted to the RWQCB and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to control discharge associated with construction activities, prior to commencement of grading and construction activities. Once grading begins the SWPPP must be kept on-site and updated as needed while construction progresses.

Modified Mitigation Measures

None required.

New Mitigation Measures

None required.

Transportation

The 2014 IS/MND concluded that the proposed project would not result in significant transportation impacts. As part of the 2018 IS/MND Addendum, a Traffic Analysis was prepared which made recommendations to improve site access and on-site circulation. As such, the

recommendations of the Traffic Analysis were incorporated into the Conditions of Approval for the proposed project in the 2018 IS/Addendum to ensure impacts would be less than significant. With incorporation of the Traffic Analysis recommendations, the 2018 IS/Addendum concluded all impacts would be the same as analyzed in the 2014 IS/MND. During the 2019 Site and Architectural Review, the CDD determined under Section 4.E that adequate transportation facilities exist or would be provided to serve the proposed project provided that the proposed project would be subject to the conditions of approval contained within Section 4.E and the Approval Certificate No. 19-015.

The law has changed with respect to how transportation-related impacts may be addressed under CEQA. Previously, lead agencies used a performance metric entitled 'level of service' (LOS) to assess the significance of such impacts, with greater levels of congestion considered to be more significant than lesser levels. Enacted as part of SB 743 (2013), PRC Section 21099(b)(1), directed the Governor's Office of Land Use and Climate Innovation (LCI), formerly the Governors OPR, to prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed CEQA Guidelines addressing "criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

Pursuant to SB 743, the Natural Resources Agency promulgated CEQA Guidelines Section 15064.3 in late 2018, which became effective in early 2019. Subdivision (a) of that section provides that "[g]enerally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of the transportation analysis, Vehicle Miles Travelled (VMT) refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact." As such, the forgoing analysis is focused on VMT.

On November 6, 2024, the City of Morgan Hill adopted Resolution 24-039, approving Citywide thresholds of significance for VMT. Based on the guidance included in Resolution 24-039, the proposed project would result in a significant project-generated VMT impact if project VMT per capita exceeds Morgan Hill's baseline VMT per capita. Pursuant to a project-specific Transportation Impact Study, and Local Transportation Study (Transportation Study) prepared by T.Kear Transportation Planning and Management, Inc. in April 2025 (see Attachment 7)[6] and City of Morgan Hill regulations, VMT for the proposed project was modeled using the SCC VMT Evaluation Tool. The SCC VMT Evaluation Tool uses local maps and a travel demand model to estimate multiple VMT metrics for the community and the proposed project including a quantitative evaluation of baseline Citywide VMT and project area (i.e., traffic analysis zone [TAZ]) VMT. Based on the results of the SCC VMT Evaluation Tool, the baseline home-based VMT per capita for the City of Morgan Hill is 24.64. The home-based VMT per capita for the TAZ where the project site is located is 23.77. Thus, the project-specific VMT is less than the VMT baseline per capita for the City of Morgan Hill, and pursuant to Morgan Hill Resolution 24-039, the proposed project is not anticipated to result in VMT impacts.

[6] T. Kear Transportation Planning, Inc. *Tenfold Residential Care Facility for the Elderly (RCFE) Project Transportation Impact Study, and Local Transportation Study, Morgan Hill, California.* April 10, 2025.

In addition to the VMT analysis, bicycle, pedestrian, and transit facilities were evaluated as part of the Transportation Study to identify the potential for changes in bicycle, pedestrian, and transit service or facilities adjacent to the project site. Sidewalks are currently provided along most roads in the project site vicinity, with the exception of Sutter Boulevard, which the proposed project does not front. According to the City's Bikeways, Trails, Parks, and Recreation Master Plan, existing Class II bike lanes are located on Cochrane Drive, Sutter Boulevard, and Butterfield Boulevard.[7] Regarding transit facilities in the project site vicinity, transit service would be provided by Valley Transportation Authority (VTA) in the project site area by "express" route 121, "rapid" route 568, "frequent" route 68, and "local" route 87. Caltrain also serves the City of Morgan Hill, with one station located approximately 1.25 miles south of the proposed project. "Rapid" route 568 and "local" route 87 both have stops within one quarter mile of the proposed project.

Anticipated City improvements for the aforementioned bike lanes include provision of buffered bike lanes and multimodal intersection improvements which would eliminate right turn lanes at signalized intersections, thus increasing the separation between bikes, pedestrians, and motorized vehicles. The City's 2024 Transportation Master Plan further identifies "Tier 1" improvements along Butterfield Boulevard, west of the project site, as well as the signalization of the Sutter Boulevard/Jarvis Drive intersection, east of the project site.[8] In addition, the proposed project would include the construction of new sidewalks throughout the proposed project which would connect to the existing sidewalks on Skipper Lane and Checkerspot Lane, thus increasing the areas connectivity to nearby bike lanes and transit stops. Overall, the Transportation Study concluded that changes in pedestrian, bicycle, and transit facilities would not occur in the project site vicinity. Furthermore, the proposed project would not eliminate or adversely affect an existing bikeway or pedestrian facility, interfere with the implementation of a planned bikeway or pedestrian movements, inhibit the use of transit facilities, eliminate existing transit facilities, or prevent implementation of planned transit facilities. Therefore, the proposed project is not anticipated to result in impacts to pedestrian, bicycle, or transit facilities.

The Transportation Study also included a safety impacts assessment which included a crash history review for the project site area. The crash history review was made using data from the Statewide Integrated Traffic Records System (SWITRS) database.[9] According to the Transportation Study, the project would be considered to have a significant impact if the project would worsen crash rates. According to the Transportation Study, projects that add traffic to a dangerous location might alter the total number of crashes without affecting the crash rate. For example, adding traffic to an intersection with protected left turn movements would not be expected to increase the accident rate; while adding traffic to an intersection with permissive left turn movements and a history of broadside crashes would be expected to increase accident rates. Over the five-year period from 2019 through 2024, 15 crashes occurred on the roads/intersections within one block of the proposed project. As shown in Table 1 of the Transportation Study, nine of the aforementioned crashes occurred on Cochrane Road, which the City of Morgan Hill's 2024 Transportation Master Plan identified as having elevated crash rates. While a crash was recorded at the intersection of Cochrane Road and Skipper Lane, north of the project site, the accident occurred prior to the installation of a new signal with protected eastbound/westbound left turns

[7] City of Morgan Hill. *Bikeways, Trails, Parks and Recreation Master Plan*. Available at https://www.morganhill.ca.gov/1429/Master-Plan-for-Parks-Trails-and-Bikeway. Accessed June 2025.

[8] City of Morgan Hill. *Transportation Master Plan & Comprehensive Safety Action Plan*. Available at: https://morganhill.ca.gov/2423/Transportation-Master-Plan-Update. Accessed June 2025.

[9] University of California, Berkley. *Transportation Injury Mapping System*. Available at https://tims.berkeley.edu/. Accessed June 2025.

and permissive northbound/southbound left turns in 2020. Ultimately the Transportation Study determined that due to the proposed roadway design and crash history data in the project vicinity, the proposed project would not be anticipated to worsen crash rates on adjacent roads or intersections. Therefore, impacts related to crash rates and safety hazards would not occur.

In addition, the Transportation Study analyzed the adequacy of entry gate queueing and driveway throat depths for the project site. According to the Transportation Study, more than 50 feet of vehicle storage is provided between the back edge of the sidewalk and entry gate of the proposed project. Additional storage would also be provided for one vehicle on the right side of the driveway before the entry gate where a visitor might enter a key-code or intercom to gain entry. Therefore, the proposed project would provide adequate driveway throat-depth to store entering vehicles without blocking traffic on the public right-of-way and would be able to do so in excess of the anticipated 95 percent entry queue of 25 feet.

Regarding sight distance at project driveways, according to the Transportation Study, Skipper Lane and Checkerspot Lane are local roads, generally operating at or below 25 miles per hour. Because stopping sight distance is 150 feet at 25 miles per hour, and clear lines of sight would be provided for 150 feet on either side of proposed project driveways, the Transportation Study concluded that sight distance at project driveways would be adequate.

Finally, the Transportation Study analyzed the adequacy of emergency vehicle access on the project site and in the site vicinity. According to the Transportation Study, emergency vehicles generally require a swept turning path with a minimum 25-foot inner radius and 50-foot outer radius. The proposed project would include the development of a larger swept path with an inner radius of 36 feet and an outer radius of 56 feet where emergency vehicles would enter the project site at Skipper Lane, where emergency vehicles would exit the project site at Checkerspot Lane, and within the project site (see Figure 7). As such, a clear fire lane accommodating the required 25-foot inner radius and 50-foot outer radius throughout the parking isles would be provided and identified as a fire lane. However, the Transportation Study concluded that the center island on Skipper Lane, just north of the entrance driveway, would not allow adequate space for southbound fire trucks to enter the proposed project without mounting a portion of the island. The proposed project currently includes the removal of the center island on Skipper Lane, south of the entrance driveway, but would not remove the center island north of the entrance driveway.

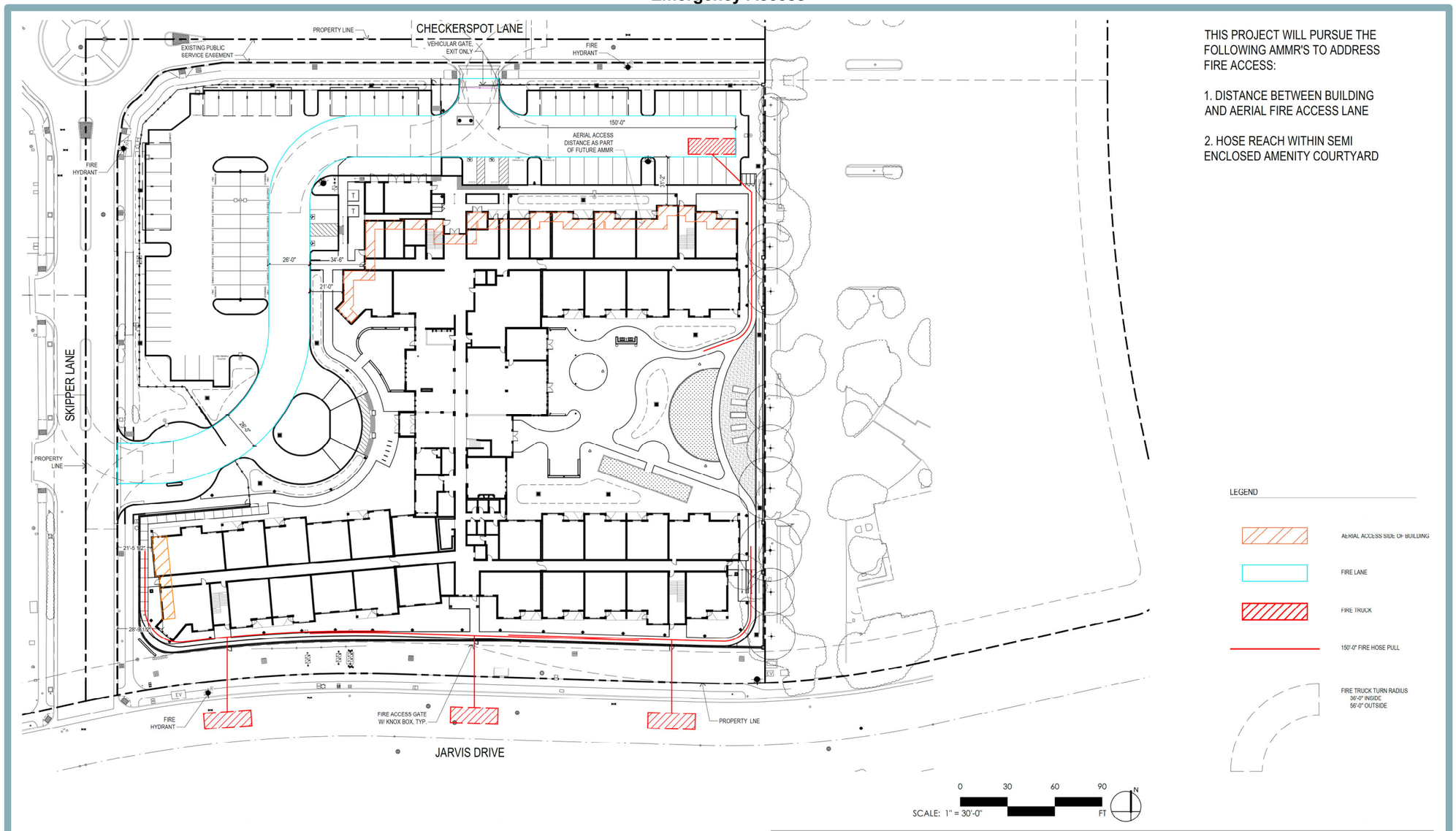
As a result, the Transportation Study recommended a condition of approval requiring a reduction in length of the center island on Skipper Lane, north of the entrance driveway, to reduce potential impacts related to adequate emergency vehicle access. Project-specific Mitigation Measure TRANS-1 is included below to ensure impacts to emergency vehicle access would not occur as a result of the proposed project.

Based on the above, and with the implementation of project-specific Mitigation Measure TRANS-1, the proposed project would not result in any new or substantially more severe impacts related to transportation relative to the approved project.

Prior Mitigation Measures
None applicable.

Modified Mitigation Measures
None required.

Figure 7
Emergency Access



New Mitigation Measures
Implementation of the following mitigation measure would reduce the potential impact to emergency vehicle access to a *less-than-significant* level.

TRANS-1 Prior to approval of the Building Permit, the Applicant shall update the site plan to remove the length of the Skipper Lane center island to the south of the proposed project's entry driveway on Skipper Lane to the City Engineer's satisfaction so that fire apparatus and California legal tractor-trailers may enter the site without mounting the median.

Remaining Environmental Resource Areas

The 2014 IS/MND, as amended, previously considered development of the project site with a 41,723 sf, 80-unit senior housing facility. The proposed project would include the development of a 115-unit independent/assisted senior living facility on the same project site. As such, the area of disturbance associated with the development of a residential care facility would remain the same as what was anticipated in the 2014 IS/MND, as amended. In addition, the 2018 IS/Addendum concluded that all impacts related to cultural resources would be the same as analyzed within the 2014 IS/MND. As analyzed in the 2018 IS/Addendum, with implementation of the City's standard conditions of approval, development of the on-site senior housing facility would result in a less-than-significant impact on archeological resources. The City's standard conditions of approval include but are not limited to implementation of archaeological surveys in archeologically sensitive areas prior to ground disturbance, or, implementation of an archeologist present on-site during ground-disturbing activities to monitor for archeological resources and standard avoidance and mitigation measures for archeological resources if they are discovered during ground-disturbing activities. Furthermore, according to the 2018 IS/Addendum significant or potentially significant cultural resources and historic properties do not exist on the project site. Because the proposed project would be located on the same project site as the 2014 IS/MND, as amended, and would develop the site with similar uses and building design as was originally analyzed therein, the proposed project would have similar impacts related to cultural and tribal cultural resources.

Wildfire is an environmental issue area that was included in CEQA Guidelines Appendix G subsequent to the approval of the 2014 IS/MND, and 2018 IS/Addendum. As such, the 2014 IS/MND did not include an analysis specifically dedicated to wildfire. However, the 2014 IS/MND, as amended, addressed the potential for wildfires within Section 4.8.2.1, under the Hazards and Hazardous Materials Section. As noted therein, the project site is not located in an area subject to wildland fires. Similarly, the 2018 IS/Addendum addressed the potential for wildfires within Section 4.8.2.3 under the Other Hazards Section. According to the 2018 IS/Addendum the project site is in a highly developed urban area within the City limits, is not adjacent to any wildland areas that would be susceptible to fire, and is not located within a State of California Very High Fire Hazard Severity Zone (FHSZ) or the City's Wildland Fire Interface. According to the California Department of Forestry and Fire protection FHSZ Viewer, the proposed project is not within a FHSZ; however, the area east of the project site, across Monterey Road, is located within High and Very High FHSZs within a State responsibility area.[10] Nonetheless, similar to the 2014 IS/MND, the proposed project would be constructed in conformance with current building and fire codes, including features that would reduce potential fire hazards. In addition, the proposed

[10] California Department of Forestry and Fire Protection. *Fire Hazard Severity Zone Viewer*. Available at: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/. Accessed July 2025.

project would be served by the City's existing water distribution system for fire flow purposes, and would be designed with safe access for emergency response vehicles. Furthermore, the proposed project would be located on the same project site as the 2014 IS/MND, as amended, and would develop the site with 35 additional housing units, which would not create a substantial increase in demand for fire protection services. Therefore, impacts related to wildfire would be the same as what was previously analyzed in the 2014 IS/MND.

In addition, a number of environmental impact areas are a function of population, including public services, utilities and service systems, recreation, and population and housing. For example, if fewer individuals occupy a project site, the project is expected to exert less demand on utilities such as water and sewer. The proposed project would involve the development of 54 additional beds as compared to the approved project. Given that one bed is equivalent to one person, the proposed project would result in 54 additional residents. Such a population increase would not be considered significant in the context of the City or as compared to the Cochrane Road Commercial Development Project. Thus, impacts to the aforementioned areas would be within the scope of what was previously analyzed in the 2014 IS/MND.

With respect to biological resources, the 2014 IS/MND identified a potentially significant impact associated with potential impacts to special-status species including burrowing owl, nesting raptors and migratory birds, and American Badger. Mitigation Measures BIO-1.1, BIO-2.1, and BIO-3.1 require preconstruction surveys for burrowing owl, nesting raptors and migratory birds, and American badger to determine the presence or absence of such special-status species on-site. Additionally, Mitigation Measures BIO-1.2, BIO-1.3, BIO-1.4, BIO-2.2, and BIO-3.1 require avoidance and minimization measures in the event that such special-status species occur on-site. The 2014 IS/MND determined that with implementation of the aforementioned mitigation measures, a less-than-significant impact would occur. In addition, the 2018 IS/Addendum concluded that all biological resource impacts would be the same as analyzed within the 2014 IS/MND. Because the proposed project would be located on the same project site as the 2014 IS/MND, as amended, and would develop the site with similar uses as was originally analyzed therein, the proposed project would have similar impacts associated with biological resources. As shown below, the aforementioned mitigation measures regarding burrowing owl have been revised to be consistent with the most recent standards and regulations related to the species. Compliance with such mitigation would ensure that new or substantially more significant impacts beyond what was identified in the 2014 IS/MND, as amended, would not occur. Therefore, impacts related to biological resources would not be substantially more severe than what was previously analyzed in the 2014 IS/MND, as amended.

With respect to geology and soils, the 2014 IS/MND did not identify potentially significant impacts associated with adverse affects resulting from rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, landslides, lateral spreading, subsidence, collapse, or expansive soils. However, as discussed under Section 4.6.2.1 Geology and Soils, of the 2014 IS/MND, the project site is located in a seismically active region and the predominant soil type on the site has high expansive potential. In addition, the 2018 IS/Addendum concluded that all geology and soil impacts would be the same as analyzed within the 2014 IS/MND. As analyzed in the 2018 IS/Addendum, conformance with the recommendations of a design-level geotechnical engineering report, the California Building Code, as well as the City's standard measures and conditions of approval would ensure that impacts to geology and soil would be less than significant. The City's standard measures and conditions of approval include, but are not limited to, the use of standard engineering and seismic safety design techniques, implementation of the

recommendations of a design-level geotechnical report, compliance with the applicable California building code, and implementation of storm drain design and permitting to avoid significant soil erosion impacts. In order to ensure geological hazards resulting from soils with high shrink/swell potential would not occur on the project site, a project-specific addendum to the Geotechnical Engineering Investigation prepared in 2022 by Krazan & Associates, Inc. was prepared for the proposed project (see Attachment 8).[11] According to the Geotechnical Addendum, Krazan & Associates, Inc. concluded that the recommendations and limitations provided in the Geotechnical Engineering Investigation report dated August 31, 2006 would be sufficient to avoid potential geological impacts resulting from the proposed project. As such, impacts related to geology and soils would not be substantially more severe than what was previously analyzed in the 2014 IS/MND, as amended.

With respect to hazards and hazardous materials, the 2014 IS/MND did not identify potentially significant impacts associated with hazards and hazardous materials. In addition, the 2018 IS/Addendum concluded that all hazards and hazardous material impacts would be the same as analyzed within the 2014 IS/MND. Because the proposed project would be located on the same project site as the 2014 IS/MND and would develop the site with similar uses as was originally analyzed therein, the proposed project would have similar impacts associated with hazards and hazardous materials. Given that the proposed project would involve the development of a 115-unit independent/assisted senior living facility, similar to the currently approved 41,723-sf, 80-unit senior housing facility on-site, any hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials associated with the proposed project would be similar to what was anticipated in the 2014 IS/MND, as amended, and therefore would not be considered significant. Therefore, impacts related to hazards and hazardous materials would not be substantially more severe than what was previously analyzed in the 2014 IS/MND, as amended.

Furthermore, a project-specific Environmental Noise Assessment prepared by Illingworth and Rodkin as part of the 2014 IS/MND evaluated potential noise and vibrational impacts associated with project construction, operations, and increased traffic during operations against the noise standards set forth within the City of Morgan Hill Noise Element and estimated future traffic noise levels. According to the Environmental Noise Assessment, the highest maximum instantaneous noise levels generated by project construction would range from about 90 to 95 A-weighted decibels (dBA) at the highest root-mean square level (L_{max}) at a distance of 50 feet from the noise source. Therefore, the Environmental Noise Assessment concluded that the proposed project could have a significant impact regarding short-term construction noise without further mitigation, and Mitigation Measure NOI-1.1 was included to reduce construction noise impacts to a less-than-significant level. With respect to project construction, Mitigation Measure NOI-1.1 included in the 2014 IS/MND requires standard construction noise suppression measures, and would still be applicable to the proposed project. All other potential noise and vibrational impacts were determined to be less than significant within the 2014 IS/MND. In addition, the 2018 IS/Addendum concluded that all noise impacts would be the same as analyzed within the 2014 IS/MND. Given that the proposed project would involve the development of a 115-unit independent/assisted senior living facility, similar to the currently approved 41,723-sf, 80-unit senior housing facility on-site, any operational noise associated with the proposed project would be similar to what was anticipated in the 2014 IS/MND, as amended, and therefore would not be considered significant.

[11] Krazan & Associates, Inc. *Addendum to Geotechnical Engineering Investigation, Proposed Tenfold Senior Housing RCFE, Jarvis Drive near Butterfield Boulevard, Morgan Hill, California.* April 22, 2025.

Thus, project-related noise impacts would not be more severe than what was previously analyzed in the 2014 IS/MND, as amended.

Additionally, the 2014 IS/MND concluded that impacts associated with aesthetics and land use and planning would be less-than-significant. In addition, the 2018 IS/Addendum concluded that all impacts related to aesthetics and land use and planning would be the same as analyzed within the 2014 IS/MND. As analyzed in the 2018 IS/Addendum, the senior living building would be approximately 35 feet in height. The proposed project would be developed with a maximum height of 40 feet, which is not considered a significant increase as compared to the approved project. Because the proposed project would be located on the same project site as the 2014 IS/MND, as amended, and would develop the site with similar uses and building design as was originally analyzed therein, the proposed project would have similar impacts associated with aesthetics and land use and planning.

Overall, with implementation of the applicable Mitigation Measures included in the 2014 IS/MND, as listed below, the proposed project would not result in any additional significant impacts or substantially more severe significant as compared to the 2014 IS/MND, as amended.

Prior Mitigation Measures

BIO-1.1 Complete pre-construction surveys to determine if burrowing owls are present within the footprint of the proposed grading area, no more than 30 days prior to initiation of any construction-related activities.

BIO-1.2 Should burrowing owls be found on the site during the breeding season (February 1 through August 31), exclusion zones with a 250-foot radius from occupied burrows, shall be established. All project-related activities shall occur outside of the exclusion area until the young have fledged.

BIO-1.4 A final report on burrowing owls, including any protection measures, shall be submitted to the Director of Community Development prior to grading.

BIO-2.1 Construction shall be scheduled to avoid the nesting season to the extent feasible. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests.

BIO-2.2 If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated

buffer zones shall be submitted to the satisfaction of the Director of Community and Economic Development prior to the start of construction.

BIO-3.1 Pre-construction surveys shall be used to determine the presence or absence of badgers on the project site. If an active badger den is identified during pre-construction surveys, a construction-free buffer of up to 300 feet shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.

NOI-1.1 Consistent with the City of Morgan Hill Municipal Code, the following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance.

- Construction activities shall be limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities should occur on Sundays or federal holidays (Consistent with Section 8.28.040 of the Morgan Hill Municipal Code).
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment (e.g. rock crushers, compressors) as far as possible from adjacent residential receptors.
- Acoustically shield stationary equipment located near residential receptors with temporary noise barriers or recycled demolition materials.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

Modified Mitigation Measures

BIO-1.3 ~~If preconstruction surveys are completed during the non-breeding season and burrowing owls are observed on the site, the owls may be relocated upon approval of the California Department of Fish and Game once mitigation has been provided.~~

If construction is scheduled to begin during the non-breeding season (late September through the end of January) for burrowing owl, a qualified biologist shall conduct a survey for burrowing owls and burrows or debris that represent suitable nesting or refugia habitat for burrowing owls within areas of proposed ground disturbance. Should owls be present, construction activities shall avoid the refugia by 250 feet until the burrowing owl vacates the site. If burrow exclusion/passive relocation is required during the non-breeding season, the project applicant shall consult with the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code Section 2081. Avoidance and minimization measures prescribed as part of the consultation process would include recommendations provided in the CDFW Staff Report on Burrowing Owl Mitigation (2012). Survey results shall only be valid for the year in which they are conducted.

If clearing and construction activities are planned to occur during the nesting period for burrowing owls (February 1–August 31), a qualified biologist shall conduct a targeted burrowing owl nest survey of all accessible areas within 500 feet of the proposed construction area no more than 14 days prior to construction initiation, as described in the CDFW Staff Report on Burrowing Owl Mitigation (2012). Surveys shall be repeated if project activities are suspended or delayed for more than 14 days during nesting season. The results of the surveys shall be submitted to the City of Morgan Hill Development Services Department. If burrowing owls are not detected, further mitigation is not required. Survey results shall only be valid for the year in which they are conducted.

If an active burrowing owl nest burrow (i.e., occupied by more than one adult owl, and/or juvenile owls are observed) is found within 250 feet of a construction area, construction shall cease within 250 feet of the active burrow until a qualified biologist determines that the young have fledged and adult has vacated, or it is determined that the nesting attempt has failed. If the applicant desires to work within 250 feet of the nest burrow, a qualified biologist shall make recommendations on an appropriate buffer and consult with the City and CDFW to determine whether and/or how the nest buffer can be reduced.

If nesting burrowing owls are found during the pre-construction survey, a habitat assessment shall be conducted and mitigation for the permanent loss of burrowing owl habitat, as determined by a qualified biologist, shall be accomplished consistent with the recommendations in the CDFW Staff Report on Burrowing Owl Mitigation.

A report detailing compliance with the provisions established herein shall be submitted for review and approval to the City of Morgan Hill Development Services Department within 30 days of completion of all such provisions.

New Mitigation Measures
None required.

Conclusion

As established in the discussions above regarding the potential effects of the proposed project, the proposed project would not result in any new significant information of substantial importance, new significant impacts, a substantial increase in the severity of previously identified significant impacts, or new mitigation measures, from what was analyzed in 2014 IS/MND, as amended. As such, the proposed project would not result in any conditions identified in CEQA Guidelines Section 15162, and a subsequent EIR is not required.

Based on the above analysis, this Addendum to the previously certified 2014 IS/MND, as amended has been prepared.

ATTACHMENT 1

COCHRANE ROAD COMMERCIAL DEVELOPMENT PROJECT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

INITIAL STUDY

Cochrane Road Commercial Development

ZA-13-12/SD-13-14

CITY OF MORGAN HILL

June 2014

TABLE OF CONTENTS

SECTION 1.0 INTRODUCTION AND PURPOSE 1
SECTION 2.0 PROJECT INFORMATION 2
2.1 PROJECT TITLE 2
2.2 PROJECT LOCATION 2
2.3 LEAD AGENCY CONTACT 2
2.4 PROPERTY OWNER/PROJECT APPLICANT 2
2.5 ASSESSOR'S PARCEL NUMBERS 2
2.6 ZONING DISTRICT AND GENERAL PLAN DESIGNATIONS 2
SECTION 3.0 PROJECT DESCRIPTION 9
SECTION 4.0 SETTING, ENVIRONMENTAL CHECKLIST AND IMPACTS 15
4.1 AESTHETICS 15
4.2 AGRICULTURAL AND FOREST RESOURCES 18
4.3 AIR QUALITY 20
4.4 BIOLOGICAL RESOURCES 27
4.5 CULTURAL RESOURCES 35
4.6 GEOLOGY AND SOILS 38
4.7 GREENHOUSE GAS EMISSIONS 42
4.8 HAZARDS AND HAZARDOUS MATERIALS 47
4.9 HYDROLOGY AND WATER QUALITY 51
4.10 LAND USE 57
4.11 MINERAL RESOURCES 60
4.12 NOISE 61
4.13 POPULATION AND HOUSING 67
4.14 PUBLIC SERVICES 69
4.15 RECREATION 72
4.16 TRANSPORTATION 73
4.17 UTILITIES AND SERVICE SYSTEMS 94
4.18 MANDATORY FINDINGS OF SIGNIFICANCE 99
SECTION 5.0 REFERENCES 101
SECTION 6.0 AUTHORS AND CONSULTANTS 103

TABLE OF CONTENTS

FIGURES

Figure 2.2-1 Regional Map 3
Figure 2.2-2 Vicinity Map 5
Figure 2.2-3 Aerial Map 7
Figure 3.1-1 Site Plan 11
Figure 4.16-1 Study Intersections 77

TABLES

Table 3.1-1 Project Development 10
Table 4.3-1 Project Construction Emissions 23
Table 4.3-2 Project Operational Emissions 25
Table 4.12-1 Summary of Short-term Noise Measurements 62
Table 4.16-1 Existing Intersection Levels of Service 80
Table 4.16-2 Existing Freeway Segment Levels of Service 81
Table 4.16-3 Project Trip Generation Estimates 85
Table 4.16-4 Existing Plus Project Intersection Levels of Service 86
Table 4.16-5 Existing Plus Project Freeway Segment Levels of Service 88
Table 4.16-6 Year 2015 Cumulative Intersection Levels of Service 92
Table 4.17-1 Estimated Project Daily Water Use 97
Table 4.17-2 Estimated Annual Solid Waste Generation 98

APPENDICES

Appendix A – Air Quality and Greenhouse Gas Analysis
Appendix B – Biological Constraints Analysis
Appendix C – Tree Survey
Appendix D – Phase I Environmental Site Assessment
Appendix E – Agrichemical Assessment
Appendix F – Vicinity Hazardous Materials Users Survey
Appendix G – Environmental Noise Assessment
Appendix H – Traffic Impact Analysis

SECTION 1.0 INTRODUCTION AND PURPOSE

This Initial Study of environmental impacts is being prepared to conform to the requirements of the California Environmental Quality Act (CEQA), the CEQA Guidelines (California Code of Regulations §15000 et.seq.) and the regulations and policies of the City of Morgan Hill.

The City of Morgan Hill is the Lead Agency under CEQA and has prepared this Initial Study to evaluate the environmental impacts that might reasonably be anticipated to result from implementing the proposed Cochrane Road Commercial Development project. The proposed project would construct 196,300 square feet of commercial uses on a 20.25-acre site located in central Morgan Hill.

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

Cochrane Road Commercial Development (ZA-13-12/SD-13-14)

2.2 PROJECT LOCATION

Southeast quadrant of the Cochrane Road and Butterfield Boulevard intersection in Morgan Hill (refer to Figures 2.2-1, 2.2-2, and 2.2-3).

2.3 LEAD AGENCY CONTACT

City of Morgan Hill
Terry Linder, Senior Planner
17575 Peak Avenue
Morgan Hill, CA 95037
(408) 778-6480

2.4 PROPERTY OWNER/PROJECT APPLICANT

David Andris
Cochrane Road Investors, LLC
1690 Dell Avenue
Campbell, CA 95008

2.5 ASSESSOR'S PARCEL NUMBERS

726-25-035
726-32-021

2.6 ZONING DISTRICT AND GENERAL PLAN DESIGNATIONS

Zoning District: Planned Unit Development
General Plan Designation: Industrial

FIGURE 2.2-1

FIGURE 2.2-2

FIGURE 2.2-3

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROPOSED PROJECT

The 20.25-acre project site is located in the southeast quadrant of the intersection of Cochrane Road and Butterfield Boulevard in the City of Morgan Hill. The site is undeveloped. The site's existing General Plan land use designation and zoning are *Industrial* and *Planned Unit Development District*, respectively. The project area includes a mix of uses. Residences are located southwest of the project site, across Butterfield Boulevard. Industrial uses are located northwest and southwest of the project site, across Cochrane Road and Jarvis Drive, respectively. Commercial uses are located northeast of the site.

The project proposes to amend the existing Planned Unit Development District, subdivide the project site into eight parcels, install a stoplight at the main entrance on Cochrane Road, and develop 196,300 square feet of commercial uses on the project site.

3.1.1 Rezoning

The project proposes to amend the site's existing PUD zoning to permit the following uses:

1) Business support services;
2) Commercial services;
3) Commercial recreation, indoor, 3,000 square feet or less in size;
4) Drive-through restaurant (maximum of two);
5) Financial services;
6) Home improvement center;
7) Hotel/motel/lodging facilities;
8) Offices, medical/dental;
9) Offices, administrative;
10) Offices, professional
11) Personal services
12) Research and development;
13) Restaurants, sit-down and fast food;
14) Retail, intensive (excluding convenience and specialty markets);
15) Any other use the Community Development Director finds similar to listed or permitted uses.

The proposed rezoning would also allow the following conditional uses to be approved by the City at a later date:

1) Commercial recreation, indoor, greater than 3,000 square feet in size;
2) Congregate care for the elderly/assisted living facilities;
3) Convenience markets and specialty markets;
4) Day care centers and nursery schools;
5) Day care centers, adult;
6) Drive-in or drive-through restaurant uses (beyond the two permitted);
7) Kennel

8) Minor motor vehicle repair;
9) Nursing home or convalescent hospital;
10) Service station.

3.1.2 Site Development

As shown on Figure 3.1-1, the proposed project would divide the project site into eight lots. Seven lots would be developed in two phases, and the eighth would be a new private street that would serve as the primary entrance. The two phases of development are detailed in Table 3.1-1 below and total 20.05 acres. The remaining 0.20 acres would consist of right-of-way dedication along Cochrane Road. Total project development encompasses 20.25 acres.

Table 3.1-1 Project Development

Lot #	Acreage	Proposed Square Footage	Proposed Parking Spaces	Proposed Parking Ratio	Anticipated Use
Phase I					
1	1.30	10,000	40	4.00/ksf	Retail
2	0.82	2,400	35	14.58/ksf	Drive-thru Fast Food
3	1.50	6,500	94	14.46/ksf	Restaurant
4	0.82	2,400	24	10.00/ksf	Drive-thru Fast Food
5	1.13	10,000	43	4.30/ksf	Retail
Phase I Total	**6.22**	**31,300**	**236**	**7.54/ksf**	**--**
Phase II					
6	8.64	105,000	436	4.15/ksf	Retail (Big Box)
7	5.19	60,000	300	5.00/ksf	Medical Office
Phase II Total	**13.83**	**165,000**	**736**	**4.46/ksf**	
Other					
Driveway[1]	0.65	--	--	--	--
ROW	0.20	--	--	--	--
Grand Total	**20.25**	**196,300**	**972**	**4.95/ksf**	

[1]The driveway is considered lot eight.

3.1.3 Site Access and Parking

Direct vehicle access to the project site would be from driveways on Cochrane Road, Butterfield Boulevard, and Jarvis Drive. The project would include a total of six access driveways. The main entrance would be located on Cochrane Road, near its intersection with Woodview Avenue. A new traffic signal would be installed at this driveway. This driveway is lot eight. The project would provide a total of 972 parking spaces.

FIGURE 3.1-1

3.1.4 Stormwater

The project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. An onsite network of perforated storm drain pipes would collect the runoff filtered through the landscape/bioretention areas, maximizing the amount of runoff retained onsite prior to discharging to the public storm drain system. The landscape/bioretention system would be sized to limit the runoff rate from the proposed project to existing conditions.[1] Excess runoff would be directed to the detention basin southwest of the project site.

[1] Using the City's requirements for sizing, the project site would be required to provide storage for a 25-year, 24-hour storm with an additional capacity of 25 percent for freeboard.

SECTION 4.0 SETTING, ENVIRONMENTAL CHECKLIST AND IMPACTS

This section describes the existing environmental conditions on and near the project site, as well as environmental impacts of the proposed project. The environmental checklist, as recommended in the California Environmental Quality Act (CEQA) Guidelines, identifies the environmental impacts that could occur if the proposed project is implemented.

The right-hand column in the checklist lists the source(s) for the answer to each question. The sources cited are identified at the end of this section. This section identifies environmental impacts from the project or that would affect the project and an explanation of those adverse impacts determined to be less than significant. Mitigation measures are identified for all significant project impacts and evaluated for their expected effectiveness feasibility. "Mitigation Measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guideline 15370).

4.1 AESTHETICS

4.1.1 Setting

The 20.25-acre project site is located in central Morgan Hill in the southeast quadrant of the Cochrane Road and Butterfield Boulevard intersection. The project site is a flat, undeveloped field covered by non-native grassland with some trees planted along Cochrane Road and Jarvis Drive. The trees on the project site have been neglected and are in poor condition.

The project area is a patchwork of developed and undeveloped parcels. Newer commercial development borders the eastern site boundary, including a one-story restaurant building and a Spanish-style stucco office building that is up to three stories tall. Cochrane Road, Butterfield Boulevard, and Jarvis Drive border the site to the north, west, and south, respectively. Cochrane Road and Butterfield Boulevard are large roadways (two lanes in each direction) with landscaped medians, sidewalks, and streetlights. Jarvis Drive is a two-lane roadway with streetlights that serves the industrial and commercial uses in the project area. Sidewalks are provided along the north side of Jarvis Drive, however the sidewalk is intermittent along the project frontage. The area north of the project site (across Cochrane Road) includes newer commercial development mostly one-story in height, and undeveloped parcels similar in appearance to the project site. The area west of the project site (across Butterfield Boulevard) includes newer residential apartment buildings, new small-lot single family residences that are up to three-stories in height, and undeveloped parcels similar in appearance to the project site. The area south of the site (across Jarvis Drive) includes newer industrial and commercial buildings that are up to two stories in height.

Due to the flat topography, existing development, and large trees in the project area, views of the project site are limited to the immediate vicinity. The site is not located within a designated scenic view corridor or visible from a designated scenic highway

4.1.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	1, 2
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒	1, 2
3. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	1, 2
4. Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☒	☐	1, 2

4.1.2.1 *Impacts to Visual Character*

The proposed project would construct seven buildings in two phases. The first phase would construct five commercial buildings ranging in size from 2,400 to 10,000 square feet. This construction would front Cochrane Road and make up 6.07 acres of the project site. The second phase would be set back from Cochrane Road, backing up against Jarvis Drive and would consist of one 60,000-square foot medical building and one 105,000-square foot commercial building. This phase would take up the remaining 14.18 acres of the project site. Building heights would be limited to a maximum of 50 feet. Trees currently on the project site would be removed and replaced with landscaping, however as discussed further in Section 4.4.1.3, the trees are in poor condition and are not protected by the City's ordinance.

While development under the proposed project would change the existing visual character of the existing undeveloped project site, the proposed commercial buildings would be similar in scale to the existing development in the project area. All development on the site would be subject to review and approval by the City of Morgan Hill Design Permit process to ensure the development meets local design and aesthetic standards. Franchise architecture would not be permitted.

4.1.2.2 *Scenic Vistas and Highways*

The project site is not located within a scenic view corridor or visible from a designated State scenic highway. For these reasons, the proposed development of commercial and office buildings on the site would not affect scenic vistas in the project area or views from a designated State scenic highway.

4.1.2.3 *Light and Glare*

The proposed development of commercial buildings would incrementally increase light and glare in the project area, due to the new reflective surfaces and outdoor lighting on the site and vehicles traveling on and to and from the site. These new sources of light and glare from the project would be similar in character to light and glare from the nearby existing commercial, industrial and residential development. Building design, glazing materials and outdoor lighting would be subject to review by the City of Morgan Hill Design Permit process for conformance with City standards. For these reasons, development on the site under the proposed project would not result in a new source of substantial light or glare that would affect day or nighttime views in the area.

4.1.2.4 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.1.3 Conclusion

The proposed development of commercial buildings on the project site would not result in significant aesthetic impacts. **(Less Than Significant Impact)**

4.2 AGRICULTURAL AND FOREST RESOURCES

4.2.1 Setting

The project site is not used for agricultural production and is not the subject of a Williamson Act contract.[2] No land adjacent to the project site is used for agricultural production. The City of Morgan Hill General Plan Land Use Diagram designates the project site *Industrial*, and the Zoning Map designates the project site *Planned Unit Development – General Commercial (PUD)*. The land in the project vicinity is also designated and zoned for urban uses. Existing development adjacent to the site includes commercial, industrial, and residential uses. The land on and adjacent to the site is not forest land or timberland, or zoned for timberland production. According to the Santa Clara County Important Farmland 2010 Map, the surrounding area is designated *Urban and Built-up Land*.

There are four farmland categories in the California Department of Conservation Farmland Mapping Program: *Prime Farmland*, *Farmland of Statewide Importance*, *Unique Farmland* and *Farmland of Local Importance*. According to the Santa Clara County Important Farmland 2010 Map, the project site is designated *Farmland of Local Importance,* which is defined as land with small orchards and vineyards, primarily in the foothill areas, and land cultivated as dry cropland for grains and hay.[3]

4.2.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	1, 2, 3
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	1, 2, 4
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒	1, 2
4. Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	1, 2

[2] Giordano, Frank. Office of the Assessor, County of Santa Clara. *Personal Communication*. October 10, 2012
[3] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, *Santa Clara County Important Farmlands Map*, 2010.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐	1, 2, 3

4.2.2.1 *Impacts to Agricultural and Forest Resources*

The City of Morgan Hill is currently developing policies to support continued agricultural activities in and around Morgan Hill. As part of this process, the City is currently in the process of establishing a citywide Agricultural Lands Preservation Program as part of a project referred to as the Southeast Quadrant. This program would create an agricultural mitigation policy for the loss of *Prime Farmland, Unique Farmland, Farmland of Statewide Importance,* and *Farmland of Local Importance*.[4] This policy has not yet been adopted by the City Council and, therefore, is not applicable to the proposed project. In the interim, the City will use the CEQA Guidelines for thresholds of significance related to agricultural land.

The project site is located in central Morgan Hill in an area that is planned for and developed with urban uses. Residential, commercial, and industrial uses are located adjacent to the site. There are no agricultural uses located on or adjacent to the site. The land on and adjacent to the site is not forest land or timberland, or zoned for timberland production. Although the site is designated *Farmland of Local Importance* on the Santa Clara County Important Farmland 2010 Map, the CEQA Guidelines do not consider the loss of *Farmland of Local Importance* to be a significant impact. For these reasons and those stated above, the proposed commercial development on the project site would not result in a significant impact to agricultural or forest resources. Urban development on the project site would not interfere with other agricultural operations, facilitate the conversion of farmland elsewhere in the project area to non-agricultural uses, convert *Prime Farmland, Unique Farmland,* or *Farmland of Statewide Importance* to a non-agricultural use, or conflict with a Williamson Act contract or existing zoning for agricultural use.

4.2.2.2 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.2.3 Conclusion

The proposed development of commercial and office uses on the project site would not result in a significant impact to agricultural or forest resources. **(Less Than Significant Impact)**

[4] City of Morgan Hill, *Southeast Quadrant*, 2014, http://www.morganhill.ca.gov/index.aspx?nid=670.

4.3 AIR QUALITY

The following discussion is based on an air quality and greenhouse gas emissions analysis completed for the proposed project by *Illingworth & Rodkin* on May 23, 2014. The report summarizing the results of the analysis is included as Appendix A of this Initial Study.

4.3.1 Setting

Air quality and the amount of a given pollutant in the atmosphere are determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determination of transport and dilution are wind, atmospheric stability, terrain, and, for photochemical pollutants, sunlight.

The project site is located at the south end of the Santa Clara Valley, within the San Francisco Bay Area Air Basin. The region typically has moderate ventilation and frequent inversions that restrict vertical dilution. The Santa Cruz Mountains and Diablo Range, located on either side of the Santa Clara Valley, restrict horizontal dilution. The surrounding terrain results in a prevailing wind that follows along the valley's northwest-southeast axis. The combined effects of these geographical and meteorological factors make air pollution potential in the Santa Clara Valley quite high. The San Francisco Bay Area, however, is considered to be one of the cleanest metropolitan areas in the country, with respect to air quality.

The undeveloped project site generates no air pollutant emissions, except for dust and exhaust emissions generated during fire control disking and dust from wind blowing across unvegetated areas of the site.

4.3.1.1 *Ambient Air Quality*

Ambient Air Quality Standards

As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: carbon monoxide (CO), nitrogen oxides (NO_X), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), sulfur oxides, and lead. Pursuant to the California Clean Air Act, the state has also established the California Ambient Air Quality Standards (CAAQS), which are generally more stringent than the corresponding federal standards. The Bay Area Air Quality Management District (BAAQMD) is primarily responsible for assuring that the national and state ambient air quality standards are attained and maintained in the San Francisco Bay Air Basin.

Attainment Status

Santa Clara County, and the Bay Area as a whole, is classified as a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$ under federal law. The county is either in attainment or unclassified for other pollutants.

Ozone, often called photochemical smog, is classified as a secondary air pollutant, meaning it is not emitted directly into the air. It is created by the action of sunlight on ozone precursors, primarily reactive organic gases (ROG) and NO_X. The major sources of ozone precursors include combustion

sources such as factories and automobiles and evaporation of solvents and fuels. The main public health concerns associated with ground level ozone pollution are eye irritation and impairment of respiratory functions.

PM_{10} consists of solid and liquid particles of dust, soot, aerosols, and other matter which are less than 10 microns in diameter. Major sources of PM_{10} are combustion (including automobile engines – particularly diesel, fires, and factories) and dust from paved and unpaved roads. Public health concerns associated with PM_{10} include aggravation of chronic disease and heart/lung disease symptoms.

$PM_{2.5}$, also known as Fine Particulate Matter, consists of the same type of matter as PM_{10}, but is less than 2.5 microns in diameter. The major source of $PM_{2.5}$ is combustion, but the particles can also be formed by chemical changes occurring in the air. $PM_{2.5}$ can cause respiratory problems and is of particular concern because the particles can penetrate deeper into the lungs.

Thresholds of Significance

As part of an effort to attain and maintain ambient air quality standards for ozone, PM_{10}, and $PM_{2.5}$ BAAQMD has established thresholds of significance for precursor air pollutants. These thresholds are for ozone precursor pollutants (ROG and NO_x), PM_{10}, and $PM_{2.5}$. A project that generates more than 10 tons per year or 54 pounds per day of ROG, NO_x, or $PM_{2.5}$, or more than 15 tons per year or 82 pounds per day of PM_{10} is considered to have a significant operational and/or construction-related air quality impact, according to the BAAQMD thresholds of significance.

4.3.1.2 *Toxic Air Contaminants*

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). Cars and trucks release at least forty different toxic air contaminants. The most important, in terms of health risk, are diesel particulate, benzene, formaldehyde, 1,3-butadiene and acetaldehyde.

Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Health effects of TACs include cancer, birth defects, and neurological damage.

Thresholds of Significance

BAAQMD identified thresholds of significance for exposure to TACs and $PM_{2.5}$ as part of its May 2011 CEQA Air Quality Guidelines. The following are considered significant impacts that require mitigation:

- An excess cancer risk level of more than 10 in one million.
- A non-cancer (chronic or acute) hazard index greater than 1.0.

- An incremental increase of more than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$.

4.3.1.3 *Odors*

Common sources of odors include wastewater treatment plants, transfer stations, coffee roasters, painting/coating operations, etc. Based on BAAQMD guidance, an odor source is considered significant by the City when the source has five or more confirmed odor complaints per year, averaged over three years. There are no known existing odor sources affecting the site.

4.3.1.4 *Sensitive Receptors*

BAAQMD defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, child-care centers, retirement homes, convalescent homes, hospitals and medical clinics. Existing residences west of the project site are currently the closest sensitive receptors.

4.3.1.5 *Clean Air Plan*

BAAQMD prepared and adopted the Bay Area 2010 Clean Air Plan (CAP). This CAP updates the most recent ozone plan; the 2005 Ozone Strategy. Unlike previous Bay Area CAPs, the 2010 CAP is a multi-pollutant air quality plan addressing four categories of air pollutants:

- Ground-level ozone and the key ozone precursor pollutants (reactive organic gases and nitrogen oxide), as required by State law;
- Particulate matter, primarily $PM_{2.5}$, as well as the precursors to secondary $PM_{2.5}$;
- Toxic air contaminants (TAC); and
- Greenhouse gases.

4.3.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	1, 8, 23
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐	1, 8, 23

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☒	☐	☐	1, 8, 23
4. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	1, 8, 23
5. Create objectionable odors affecting a substantial number of people?	☐	☒	☐	☐	1, 8, 23

4.3.2.1 *Construction Air Quality Impacts*

Project construction activities would temporarily affect local air quality. Construction activity is anticipated to include grading, building construction, paving, and application of architectural coatings. CalEEMod emissions modeling completed for the proposed project shows ozone precursors emitted during construction would be well below established BAAQMD thresholds and would, therefore, not result in significant air quality impacts. These findings are summarized in Table 4.3-1 below:

Table 4.3-1 Project Construction Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Phase 1 (2015)				
-Emissions in tons per year	0.31	0.62	0.04	0.04
-Emissions in pounds per day	3.6	7.2	0.5	0.5
Phase 2 (2018)				
-Emissions in tons per year	1.34	1.17	0.06	0.06
-Emissions in pounds per day	14.1	12.3	0.6	0.6
BAAQMD Threshold (pounds per day)[1]	54	54	82	54
Significant Impact?	NO	NO	NO	NO

[1] Bay Area Air Quality Management District, *CEQA Guidelines*, May 2012.

During grading, and some building construction activities, substantial amounts of dust could be generated. Most of the dust would result from grading activities. The amount of dust generated would be highly variable and would be dependent on the size of the area disturbed at any given time, the amount of activity, soil conditions, and weather. Fugitive dust is considered a significant impact unless appropriate measures are implemented.

Impact AIR-1: The proposed project could result in significant air quality impacts associated with fugitive dust during construction.

The following mitigation measure is proposed to reduce impacts associated with fugitive dust to a less than significant level:

MM AIR-1.1: The following Best Management Practices (BMPs) shall be implemented during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered twice daily.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Construction Toxic Air Contaminants (TACs)

The proposed project would have exhaust emissions during the construction period. Diesel exhaust associated with construction equipment is a known TAC. The primary risks associated with these emissions are increased cancer risks and exposure to $PM_{2.5}$. Because of the nearby residences, emissions and dispersion modeling were conducted for the proposed project. The excess cancer risk was calculated to be 1.6 cases per million for children and 0.1 cases per million for adults, both below the BAAQMD threshold of 10 per million. The non-cancer health hazard index was calculated to be 0.003, which is well below BAAQMD's established threshold of 1.0. **(Less Than Significant Impact)**

4.3.2.2 *Operational Air Quality Impacts*

CalEEMod emissions modeling was also used to complete annual air pollutant emissions from operation of the proposed project. The model uses the type and size of the project along with project-

specific trip generation rates. Operational emissions from the proposed project are summarized in Table 4.3-2 below. Emissions from the proposed project would be below BAAQMD thresholds and would, therefore, be less than significant. **(Less Than Significant Impact)**

Table 4.3-2 Project Operational Emissions

	ROG	NO_X	PM_{10}	$PM_{2.5}$
Phase 1 (2016)				
-Emissions in tons per year	2.54	2.94	1.51	0.43
-Emissions in pounds per day	14	16	8	2
Phase 1 & 2 (2019)				
-Emissions in tons per year	6.05	5.72	3.94	1.12
-Emissions in pounds per day	33	31	22	6
BAAQMD Threshold (pounds per day)[1]	54	54	82	54
Significant Impact?	NO	NO	NO	NO

[1] Bay Area Air Quality Management District, *CEQA Guidelines*, May 2012.

4.3.2.3 *Odor Impacts*

Odor impacts associated with the proposed project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors through development of a new odor source or placement of receptors near an existing odor source. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative methodologies to determine the presence of a significant odor impact. The significance of odor impacts is based on the potential to cause odor complaints.

The project would include restaurants, which could be sources of odors. Restaurants, especially fast-food restaurants, can produce noticeable odors through the preparation of food. Char broilers and deep fryers tend to produce odors that can be offensive to some people and generate complaints. There are a number of measures that restaurants can incorporate into the exhaust systems to eliminate or reduce odors so that complaints do not occur. BAAQMD's Regulation 7: Odorous Substances generally apply to restaurants. This regulation prohibits discharge of any odorous substance that causes the ambient air at or beyond the property line to be odorous and to remain odorous after dilution with four parts of odor-free air.

Existing residents are located approximately 150 feet west or southwest from proposed restaurants. These residents will generally not be located downwind of the restaurants (the dominant wind flow in Morgan Hill is from the north-northwest). Although significant odors are unlikely, this impact is considered significant due to the potential for odor complaints.

Impact AIR-2: Odors generated by the proposed restaurants could result in odor complaints.

The following mitigation measure is proposed to reduce this impact to a less than significant level:

MM AIR-2.1: Include designs to reduce cooking odors or require the installation of odor abatement equipment if complaints occur. The City shall require designs of the restaurant to avoid odor complaints, and if necessary, require restaurants to install odor abatement equipment if confirmed odor complaints are received. **(Less Than Significant Impact with Mitigation Incorporated)**

4.3.2.4 *Consistency with Applicable Air Quality Plans*

The most recent clean air plan is the *Bay Area 2010 Clean Air Plan* that was adopted by BAAQMD in September 2010. The proposed project would not conflict with the latest Clean Air Plan since the project would result in development that is consistent with the City's General Plan land use assumptions. In addition, the project is too small to incorporate project-specific transportation control measures listed in the plan. **(Less Than Significant Impact)**

4.3.3 Conclusion

With the inclusion of the mitigation measures described above, the proposed project would not result in significant air quality impacts. **(Less Than Significant with Mitigation Incorporated)**

4.4 BIOLOGICAL RESOURCES

The following discussion is based upon a biological constraints study prepared for the project site by *Live Oak Associates* in October 2012 and a tree survey completed by *Deborah Ellis, MS - Consulting Arborist and Horticulturalist* in May 2013. The reports summarizing the results of the biological constraints study and tree survey are included in Appendix B and C of this Initial Study, respectively.

4.4.1 Setting

4.4.1.1 *Onsite Habitat*

The project site, historically disturbed by agricultural activities and currently disked to reduce fire hazards, provides grassland habitat that supports a mixture of ruderal (weedy) species, dominated by non-native annual grasses and forbs. The habitat provided by the site is common in the project area. A number of locally occurring wildlife species may occur on the project site. Due to the relatively small size of the site, the urban development adjacent to the site, and the disturbed nature of the site, the habitat provided by the site provides limited value for wildlife.

Several trees are present on the site, including a row of olive trees along Cochrane Road and a group of landscape trees planted in the east corner of the site. Valley oak and coast live oak saplings are also present along Cochrane Road. The trees on the project site may support a variety of nesting bird species, including raptors.

There were no aquatic features observed on the project site. The nearest waterway to the project site is the Madrone Channel (approximately 2,200 feet east across US 101).

4.4.1.2 *Sensitive Species*

Special-status species include those plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA). These acts afford protection to both listed and proposed species. Although California Department of Fish and Wildlife (CDFW) Species of Special Concern generally have no legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the United States are protected under the Migratory Bird Treaty Act (MBTA). Plant species on the California Native Plant Society (CNPS) Lists 1 and 2 are also considered special-status species and must be considered under CEQA.

Special-Status Plant Species

Based on a focused review of literature and data sources, a list of special-status plant species with potential to occur in the project area was developed (refer to Appendix B). Special-status plants expected to occur in the project area are generally found in relatively undisturbed areas within unique vegetation communities and/or habitats such as serpentine grassland, vernal pools or alkali flats. These habitat types do not occur on the project site. Therefore, there is not suitable habitat on the project site for the special-status plant species that could possibly exist in the project area.

Special-Status Wildlife Species

Based on a focused review of literature and data sources, a list of special-status wildlife species with potential to occur in the project area was developed (refer to Appendix B). There are 16 special-status animal species that are known to occur in the vicinity of the project site. Of these, nine are considered to be either absent or unlikely to occur on the site due to the unsuitability of habitat for these species. These species include the bay checkerspot butterfly, steelhead, foothill yellow-legged frog, California tiger salamander, California red-legged frog, western pond turtle, coast horned lizard, least Bell's vireo, black swift, and San Francisco dusky footed woodrat.

Three species may rarely or occasionally occur on the site as transients, occasional foragers, or winter migrants including the golden eagle, tricolored blackbird, and pallid bat. These species are expected to only occasionally use the site for foraging.

Species that could use the site more frequently or possibly for breeding include the white-tailed kite, burrowing owl, and American badger. These special-status wildlife species are discussed below:

Western Burrowing Owl

Western burrowing owl is a CDFW Species of Special Concern and is also protected under the MBTA. Burrowing owls live and breed in burrows in the ground, especially in abandoned ground squirrel burrows. Optimal habitat conditions include large open, dry and nearly level grasslands or prairies with short to moderate vegetation height and cover, areas of bare ground, and populations of burrowing mammals. Although no burrowing owls were seen during the surveys, small mammal burrows present on the site are considered potential habitat.

Nesting Migratory Birds and Raptors

Although nesting activity was not observed during the field survey, trees present on and adjacent to the project site provide nesting habitat for several species of raptors known to nest in the project area, such as the white-tailed kite, Cooper's hawk, and red-tailed hawk. These species are protected under the MBTA. The grassland habitat on the project site may also provide foraging habitat for these species. In addition to nesting raptors, migratory birds may also nest within trees and vegetation present on the project site.

American Badger

Ground squirrels, a major food source for badgers, are present on the project site, and the project site is contiguous to known badger habitat located in the foothills west of the site. For these reasons, although badger signs were not observed on the site, badgers could be present within on the site at the time of future development.

4.4.1.3 *City of Morgan Hill Tree Removal Controls*

The City of Morgan Hill maintains the urban natural landscape partly by promoting the health, safety, and welfare of the City by controlling the removal of significant sized trees (Municipal Code 12.32.020 G and H). According to the City of Morgan Hill Tree Removal Controls, a significant tree

is considered to be a tree with a single stem or trunk of a circumference of 40 inches (or diameter of 12.7 inches) or more for nonindigenous species and a circumference of 18 inches (or diameter of 5.7 inches) or more for indigenous species measured at four and one-half feet vertically above the ground. In addition, the Tree Removal Controls specify that all commercial tree farms, nonindigenous tree species in residential zones, and orchards (including individual fruit trees) are exempted from the definition of significant tree.

A tree survey was completed for the project site. There are a total of 33 trees on the project site including 17 olive, nine London plane, four ash, and two locust. The trees on the site have been neglected and, as a result, are not in good condition. All of the trees on the site are nonindigenous species with diameters measuring 11 inches or less and, therefore, are not protected under the City of Morgan Hill Tree Removal Controls. The tree survey completed for the project site is included as Appendix C to this Initial Study.

4.4.1.3 *Santa Clara Valley Habitat Plan*

The Santa Clara Valley Habitat Plan (SCVHP) was developed through a partnership between Santa Clara County, the Cities of San Jose, Morgan Hill, and Gilroy, Santa Clara Valley Water District (SCVWD), Santa Clara Valley Transportation Authority (VTA), U.S. Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife (CDFW). The SCVHP is intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth in approximately 500,000 acres of southern Santa Clara County. The SCVHP has been approved by the local partners, and has been effective since October 14, 2013. The proposed project is a covered activity under the plan. The majority of the project site (19.9 acres) is mapped as *Grain, Row-crop, Hay and Pasture, Disked/Short-term Fallowed* land cover due to its former agricultural use. The remaining 0.4 acres is mapped as *Urban-Suburban* land cover. The project site is not mapped in any plant or wildlife survey areas.

4.4.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☒	☐	☐	1, 2, 9
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐	☒	1, 2, 9

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒	1, 2, 9
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☐	☒	☐	1, 2, 9
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	1, 2, 10
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒	1, 2, 11

4.4.2.1 *Impacts to Habitat*

Direct Habitat Impacts

The non-native grassland habitat provided by the project site is regionally abundant. There are no sensitive habitats, including areas of high biological diversity, areas providing important wildlife habitat, or unusual or regionally restricted habitat types on the site. The proposed development of the project site would not directly affect wetlands, riparian habitat or other sensitive natural community.

Because the project site is surrounded by development, the site provides minimal dispersal habitat for native wildlife and does not function as a wildlife movement corridor. For these reasons, loss of the 20.25 acres of non-native grassland habitat present on the site that would occur under the proposed project would not be significant. **(Less Than Significant Impact)**

Indirect Habitat Impacts

Runoff from the project site both during and after construction could adversely affect aquatic life downstream of the project site (e.g., Llagas Creek). Implementation of appropriate mitigation measures would ensure that impacts to aquatic organisms would be avoided or minimized. As discussed in Section 4.8 Hydrology and Water Quality, the proposed project would implement best management practices (BMP's) to reduce impacts to water quality downstream of the project site.

These BMPs would be identified in the Storm Water Pollution Prevention Plan (SWPPP) prepared by the project. **(Less Than Significant Impact)**

4.4.2.2 *Impacts to Species*

Special Status Plants

Due to the lack of adequate habitat and highly disturbed condition of the project site, special-status plant species that are known to occur in the region would not occur on the project site. Therefore, development of the project site would not impact special-status plant species.

Special Status Animals

Burrowing Owl

Although burrowing owls were not seen on or adjacent to the project site during field surveys, the project site contains open areas that could support burrowing owls. Therefore, there is the possibility for burrowing owls to be present on the project site at the time of project development. If owls occupy the site, construction on the site during the nesting season could disturb or destroy occupied nests, resulting in the loss of the reproductive effort; this would be a significant impact.

Impact BIO-1: Construction activities on the project site could result in the loss of burrowing owl eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest. **(Significant Impact)**

Mitigation Measures: The developer would participate in the Citywide Burrowing Owl Habitat Mitigation Plan, a mitigation program acceptable to the California Department of Fish and Wildlife. Under the Plan, the City has adopted a fee program that funds setting aside or managing preserve land to provide habitat for burrowing owls. Providing habitat for burrowing owls elsewhere offsets indirect and cumulative impacts from the loss of foraging and nesting habitat in the City.

In conformance with the City's Burrowing Owl Habitat Mitigation Plan, the project would be required to implement the following measures to avoid direct impacts to burrowing owls and to offset impacts to non-native grassland habitat on the site. Implementation of this measure would avoid or reduce significant impacts to burrowing owls and their habitat.

MM BIO-1.1 Complete pre-construction surveys to determine if burrowing owls are present within the footprint of the proposed grading area, no more than 30 days prior to initiation of any construction-related activities.

MM BIO-1.2 Should burrowing owls be found on the site during the breeding season (February 1 through August 31), exclusion zones with a 250-foot radius from occupied burrows, shall be established. All project-related activities shall occur outside of the exclusion area until the young have fledged.

MM BIO-1.3 If preconstruction surveys are completed during the non-breeding season and burrowing owls are observed on the site, the owls may be relocated upon

approval of the California Department of Fish and Game once mitigation has been provided.

MM BIO-1.4 A final report on burrowing owls, including any protection measures, shall be submitted to the Director of Community Development prior to grading.

Nesting Raptors and Migratory Birds

Nesting raptors and migratory birds are protected under State and Federal regulations. At the time of development, raptors and migratory birds could be nesting in the trees and vegetation on and adjacent to the project site. Construction during the nesting season could destroy nests or disturb occupied nests, resulting in the loss of the reproductive effort.

Impact BIO-2: Construction activities on the project site could result in the loss of raptor and/or migratory bird eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest. **(Significant Impact)**

Mitigation Measures: The following mitigation measures will reduce impacts from construction at the project site nesting raptors and migratory birds to a less than significant level:

MM BIO-2.1 Construction shall be scheduled to avoid the nesting season to the extent feasible. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests.

MM BIO-2.2 If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the Director of Community and Economic Development prior to the start of construction.

American Badger

American badgers may be present on the project site at the time of project construction. Although badgers or signs of badgers were not seen on or adjacent to the project site during field surveys, the project site contains open areas, a food source (i.e., ground squirrels) and is contiguous to known badger habitat. Conversion of the ruderal field to urban development would not result in a substantial loss of habitat for the American badger, however, construction activities on the site could cause harm or injury to individuals, if they are present.

Impact BIO-3: American badgers could be injured or harmed, if occupied badger dens are present onsite at the time of construction. **(Significant Impact)**

Mitigation Measure: The following mitigation measure will reduce impacts from construction at the project site to American badgers to a less than significant level:

MM BIO-3.1: Pre-construction surveys shall be used to determine the presence or absence of badgers on the project site. If an active badger den is identified during pre-construction surveys, a construction-free buffer of up to 300 feet shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.

4.4.2.3 *Consistency with Plans, Policies, Ordinances, and the VHP*

Tree Removal

The trees on the project site have been neglected and, as a result, are not in good condition. The trees on the site are non-indigenous species that measure below the sizing requirements for protection under the City of Morgan Hill Tree Removal Controls. With implementation of MM BIO-2.1 and MM BIO-2.2 (discussed above), tree removal would avoid impacts to birds during the nesting season.

Santa Clara Valley Habitat Plan

As stated previously, the proposed project is a covered activity under the SCVHP (Private Development Covered 2.6 acres, Urban Development Equal to or Greater Than Two Acres Covered 17.7 acres). The vast majority of the site is mapped as *Grain, Row-crop, Hay and Pasture, Disked/Short-term Fallowed* land cover (19.9 acres). This land cover type is tilled land not currently supporting orchards or vineyards (the project site is former agricultural land). Vegetation found in this land cover type is typically comprised of fast-growing forage grasses and non-native weeds such as thistles, mustards, and other weedy forbs. The remainder of the site (0.4 acres) is mapped as

Urban-Suburban land cover. Vegetation found in this land cover type is usually in the form of landscaped residences, planted street trees, and parklands.

The vast majority of the site (19.9 acres) is mapped as *Fee Zone B* (Agricultural and Valley Floor Lands). The proposed project would be required to pay this fee to offset the loss of this land cover type. The remainder of the project site (0.4 acres) is mapped as an *Urban Area* with no land cover fee. The project site is not located in any other fee zone or within or adjacent to any plant or wildlife survey area.

Nitrogen Deposition

Nitrogen deposition is known to have damaging effects on many of the serpentine plants in the SCVHP study area, as well as the host plants that support the Bay checkerspot butterfly. All major remaining populations of the butterfly and many of the sensitive serpentine plant populations occur in areas subject to air pollution from vehicle exhaust and other sources throughout the Bay Area, including the project area. Because serpentine soils tend to be nutrient poor, and nitrogen deposition artificially fertilizes serpentine soils, nitrogen deposition facilitates the spread of invasive plant species. The displacement of these species, and subsequent decline of the several federally-listed species, including the butterfly and its larval host plants, has been documented on Coyote Ridge in central Santa Clara County. Nitrogen tends to be efficiently recycled by the plants and microbes in infertile soils such as those derived from serpentine, so that fertilization impacts could persist for years and result in cumulative habitat degradation. Mitigation for the impacts of nitrogen deposition upon serpentine habitat and the Bay checkerspot butterfly can be correlated to the amount of new vehicle trips that a project is expected to generate. Fees collected under the Habitat Plan for new vehicle trips will be used to purchase conservation land for the Bay checkerspot butterfly.

The SCVHP requires payment for nitrogen deposition fees for all covered projects that generate new net trips and create or replace more than two acres of impervious surfaces. The project is subject to the SCVHP and required to pay all applicable SCVHP fees prior to issuance of grading permits. Nitrogen deposition fees are based on the number of average daily trips generated by a proposed project. As discussed in Section 4.16.2.3, a net total of 8,153 new daily trips would be generated. Payment of these fees would reduce nitrogen deposition impacts to a less than significant impact.

4.4.2.4 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.4.3 Conclusion

Implementation of the mitigation measures listed above would avoid or mitigate significant impacts to biological resources resulting from the proposed project. **(Less Than Significant Impact with Mitigation)**

4.5 CULTURAL RESOURCES

The following discussion is based, in part, upon a cultural resources assessment prepared in 2006 by *Basin Research Associates Inc.* for the Cochrane Animal Hospital, which is located 100 feet north of the project site, across Cochrane Road. This report is on file at the City of Morgan Hill and may be reviewed by qualified personnel during regular business hours.

4.5.1 Setting

The project site is an undeveloped field covered by non-native grassland. The area surrounding the project site is developed with newer residential, commercial, and light industrial buildings. There are no historic structures located on or adjacent to the project site.

4.5.1.1 *Archaeological Resources*

Based on the Archaeological Sensitivity Map included in the City of Morgan Hill General Plan, the west corner of the project site extends into the archaeological sensitivity area associated with the former location of the 1876 J. Cairns residence, which was setback north of Cochrane Road. The Cultural Resources Assessment (CRA) completed for the Cochrane Animal Hospital site, which is located north of Cochrane Road between the project site and the former Cairns residence, evaluates the possibility of archaeological resources associated with the Cairns residence extending south towards the project site. The CRA notes that archaeological resources associated with the Cairns residence would likely be located north of Cochrane Road in privies and outbuildings at the rear of the residence, and that any historic fences along Cochrane Road would have deteriorated through time and later removed when Cochrane Road was widened.[5] For these reasons, archaeological resources associated with the Cairns residence are not expected on the project site.

4.5.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	☐	☐	☐	☒	1, 12, 13
2. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☒	☐	1, 12, 13
3. Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☒	☐	1, 12, 13
4. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐	1, 12, 13

[5] Basin Research Associates, Inc., *Cultural Resources Assessment: Adams-Natt Veterinary Hospital*, January 2006.

4.5.2.1 *Impacts to Cultural Resources*

The Cultural Resource Assessment completed for the Cochrane Animal Hospital, which is located 100 feet north of the project site, suggests a low to moderate potential for the presence of intact subsurface prehistoric or historic era archaeological deposits on the project site. No prehistoric or historic archaeological sites are recorded on, adjacent, or within 0.25 miles of the project site; no listed, determined, or pending California Register of Historical Resources are located on or adjacent to the project site; no significant or potentially significant local, State, or Federal cultural resources/historic properties (e.g., landmarks, points of interest, etc.) are located on or adjacent to the project site, and; no prehistoric or historic archaeological resources were observed 100 feet north of the site during the archaeological field inventory completed for Cochrane Animal Hospital.

No subsurface testing for buried archaeological resources appears warranted. In the unlikely event cultural materials are found during site grading or excavation, the following standard measures would be implemented, per the City of Morgan Hill's Standard Conditions of Approval:

Standard Measures: This project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials. In the unlikely event cultural materials are found during site grading or excavation, the following standard measures would be implemented. If human remains are discovered, it is probable they are the remains of Native Americans.

- If human remains are encountered they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.
    - Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.
    - Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains.
- In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the discovery locale.
- An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the Monitoring Archaeologist (typically 25-50ft for single burial or archaeological find).

- The discovery locale shall be secured (e.g., 24 hour surveillance) as directed by the City or County if considered prudent to avoid further disturbances.
- The Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:
  - The City of Morgan Hill Community Development Director (408) 779-7247
  - The Contractor's Point(s) of Contact
  - The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900
  - The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082
  - The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C)
- The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC.
- The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)
- Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.
- Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Community Development Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out.
- If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

4.5.2.2 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.5.3 Conclusion

Implementation of the standard measures listed above would avoid or mitigate significant impacts to cultural resources during construction under the proposed project. **(Less Than Significant Impact)**

4.6 GEOLOGY AND SOILS

4.6.1 Setting

The project site is located in the Santa Clara Valley, an alluvial basin, bounded by the Santa Cruz Mountains to the west, the Hamilton/Diablo Range to the east, and the San Francisco Bay to the north. The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Hamilton/Diablo Range were exposed by the continued tectonic uplift and regression of the inland sea that had previously inundated this area. Bedrock in this area is made up of the Franciscan Complex, a diverse group of igneous, sedimentary, and metamorphic rocks of Upper Jurassic to Cretaceous age (70-140 million years old). Overlaying the bedrock at substantial depths are marine and terrestrial sedimentary rocks of Tertiary and Quaternary age.

4.6.1.1 *Soils*

Soils on the site and in the immediate project area consist of Arbuckle gravelly loam, Cortina loam, and San Ysidro loam.[6] The shrink-swell potential of these soils ranges from low to high, respectively. The site is predominantly San Ysidro loam, which has a high shrink-swell potential. The shrinking and swelling is the result of the soil absorbing water in the winter and drying in the summer. The shrinking and swelling action can damage improperly designed and/or constructed building foundations and pavements.

The potential for erosion and landslides at the project site is low, due to the flat slope of the project site and surrounding area. The project site is not located within a landslide hazard zone.[7]

4.6.1.2 *Seismicity*

Morgan Hill is located in the seismically active San Francisco Bay Area, which is classified as Zone 4, the most seismically active zone in the United States. An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the project site. The degree of shaking is dependent on the magnitude of the event, the distance to its zone of rupture and local geologic conditions. According to County of Santa Clara Geologic Hazard Zones map, the project site is not located in a fault rupture hazard zone.[8] The City of Morgan Hill Ground Movement Potential map notes that the terrain of the project site "May be subject to vertical displacements under seismic or aseismic conditions."[9]

The 2007 Working Group on California Earthquake Probabilities has estimated that there is a 63 percent probability that an earthquake with a magnitude greater than 6.7 will occur in the San

[6] United States Department of Agriculture, Natural Resources Conservation Service, *Custom Soil Resource Report for Eastern Santa Clara Area, California*, May 20, 2014.
[7] County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012, http://www.sccgov.org/sites/PLANNING/GIS/GEOHAZARDZONES/Pages/SCCGeoHazardZoneMaps.aspx.
[8] *Ibid.*
[9] Pacific Geotechnical Engineering, *Generalized Hydrogeologic and Liquefaction Potential Map of Valley Floor Terrain, City of Morgan Hill*, December 1991.

Francisco Bay Area over the next 30 years.[10] A moderate to major earthquake on the Calaveras Fault is most likely to generate the strongest ground shaking at this site.

The nearest active fault lines to the site include the San Andreas Fault, Hayward Fault Southeast Extension, and Calaveras Fault, which are located approximately 12 miles southwest, 11 miles north, and three miles northeast of the project site, respectively. Other faults near the project site include the Coyote Creek Fault (approximately two miles northeast of the project site), and the Silver Creek Fault (approximately 2.5 miles northeast of the project site).

4.6.1.3 *Liquefaction*

Soil liquefaction is a phenomenon in which saturated, cohesion-less soils undergo a temporary loss of strength during earthquake ground shaking. The liquefaction potential of valley floor terrain is estimated based on groundwater elevations in alluvial deposits within 50 feet of the ground surface.[11] The project site is not located within a liquefaction hazard zone.[12]

4.6.1.4 *Lateral Spreading*

Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying alluvial material toward an open area, such as a steep bank of a stream channel or cliff. There are no open areas on or adjacent to the site that would be subject to substantial lateral spreading.

4.6.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
a. Rupture of a known earthquake fault, as described on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒	1, 2, 5
b. Strong seismic ground shaking?	☐	☐	☒	☐	1, 2

10 Southern California Earthquake Center, *Uniform California Earthquake Rupture Forecast*, 2007, http://www.scec.org/ucerf2/.

[11] Pacific Geotechnical Engineering, *Geology, Geologic, and Geotechnical Hazards, City of Morgan Hill*, December, 1991.

[12] County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
c. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒	1, 2, 5
d. Landslides?	☐	☐	☐	☒	1, 2, 5
2. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	1, 2
3. Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒	1, 2, 5
4. Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☒	☐	1, 6, 7
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒	1

4.6.2.1 *Geology and Soils Impacts*

The project site would not be exposed to slope instability, landslide hazards, liquefaction, or erosion, due to the flat topography of the site. As discussed in Section 4.9, Hydrology and Water Quality, best management practices would be implemented during project construction to reduce erosion during project construction to a less than significant level. The project would not use septic tanks or alternative wastewater disposal systems.

The project site is located in a seismically-active region and predominant soil type on the site has a high shrink/swell potential (highly expansive). To avoid impacts from these geologic hazards, the project would be constructed in accordance with 2013 California Building Code. The California Building Code contains regulations that govern the construction of structures in California. Adherence to the Code would ensure the proposed structures resist minor earthquakes without damage and major earthquakes without collapse.

The following standard measures would be included in the project to reduce and avoid impacts related to soil and geologic conditions:

Standard Measures:

- The adverse effects of seismic activity and expansive soil would be avoided using standard engineering and design techniques applied to new construction projects within the City of Morgan Hill. Building design and construction would be completed in conformance with a design-level geotechnical investigation reviewed by the City as a standard condition of

development. The proposed project will also be required to conform to the requirements of the 2013 California Building Code.

- The project will be subject to review and approval by the Morgan Hill Fire Department, prior to issuance of a building permit.
- The project will be required to prepare an Erosion Control Plan. Prior to issuance of a building and/or site development permit, the Erosion Control Plan will be subject to review and approval of the Public Works Department. Conformance with the measures in the Erosion Control Plan would reduce soil erosion during construction to a less than significant level.

4.6.2.2 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.6.3 Conclusion

With implementation of the standard measures described above, the proposed project would not result in geology and soil impacts. **(Less Than Significant Impact)**

4.7 GREENHOUSE GAS EMISSIONS

The following discussion is based on an air quality and greenhouse gas emissions analysis completed for the proposed project by *Illingworth & Rodkin* on May 23, 2014. The report summarizing the results of the analysis is included as Appendix A of this Initial Study.

4.7.1 Setting

Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of Greenhouse Gases (GHGs) have a broader, global impact. Global climate change associated with the "greenhouse effect" is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principle GHGs contributing to global climate change are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds. The world's leading climate scientists have reached the consensus that global climate change is underway and is likely caused by human activity.[13] Humans generate GHGs through combustion of fossil fuels (oil, natural gas, and coal) for energy production and transportation, decomposition of solid waste, burning of wood, deforestation, agriculture, and industrial activities.

4.7.1.1 *State Regulations*

Regulatory efforts in California that apply to the project are summarized below:

State of California Executive Order S-3-05

In June 2005, Governor Schwarzenegger issued Executive Order S-3-05, which identified Cal/EPA as the lead coordinating State agency for establishing GHG emission reduction targets in California. A "Climate Action Team," a multi-agency group was set up to implement Executive Order S-3-05. Under this order, the State plans to reduce GHG emissions to 80 percent below 1990 levels by 2050.

Assembly Bill (AB) 32 – The California Global Warming Solutions Act of 2006

California Assembly Bill (AB) 32 was signed into law in September 2006. The bill requires statewide reductions of GHG emissions to 1990 levels by 2020 and the adoption of rules and regulations to achieve the most technologically feasible and cost-effective GHG emissions reductions.

Senate Bill (SB) 97 – Modification to the Public Resources Code

In August 2007, Governor Schwarzenegger signed SB 97. SB 97 required the Office of Planning and Research to prepare, develop, and transmit guidelines to the Resources Agency for the mitigation of GHG emissions or the effects of GHG emissions including, but not limited to, the effects associated with transportation and energy consumption. The Resources Agency adopted the CEQA Guidelines Amendments addressing GHG emissions on December 30, 2009.

13 National Aeronautics and Space Administration, *Global Climate Change: Vital Signs of the Planet, Consensus*, March 5, 2013. http://climate.nasa.gov/scientific-consensus

SB 375 – Sustainable Communities and Climate Protection Act

Senate Bill 375 (SB 375), also known as the Sustainable Communities and Climate Protection Act of 2008, requires regional transportation plans to include a Sustainable Communities Strategy (SCS) that links transportation and land use planning together into a more comprehensive, integrated process. The SCS is a mechanism for effectively linking a land use pattern and a transportation system together to make travel more efficient and communities more livable. The intended result is reduced GHG emissions from passenger vehicles along with other benefits.

In 2010, CARB adopted GHG emissions reduction targets for regions across California as mandated by SB 375. The target for the Bay Area is a seven percent per capita reduction in GHG emissions attributable to automobiles and light trucks by 2020 and a 15 percent per capita reduction by 2035. The four major requirements of SB 375 are:

1. Metropolitan Planning Organizations (MPOs) must meet GHG emission reduction targets for automobiles and light trucks through land use and transportation strategies.
2. MPOs must create a Sustainable Communities Strategy (SCS), to provide an integrate land use/transportation plan for meeting regional targets, consistent with the Regional Transportation Plan (RTP).
3. Regional housing elements and transportation plans must be synchronized on eight-year schedules, with Regional Housing Needs Assessment (RHNA) allocation numbers conforming to the SCS.
4. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC).

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) has partnered with the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC) to prepare the region's SCS as part of the RTP process.[14] The SCS is referred to as *Plan Bay Area*.

MTC and ABAG adopted *Plan Bay Area* in July 2013. The strategies in the plan are intended to promote compact, mixed-use development close to public transit, jobs, schools, shopping, parks, recreation, and other amenities, particularly within Priority Development Areas (PDAs) identified by local jurisdictions.

BAAQMD CEQA Guidelines

The Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines include thresholds for analyzing GHG emissions. The BAAQMD CEQA Guidelines also outline a methodology for estimating GHGs, including the use of the modeling for direct emissions from land use projects when appropriate.

14 ABAG, BAAQMD, BCDC, and MTC. *One Bay Area Frequently Asked Questions.* Accessed July 23, 2013, Available at: http://onebayarea.org/about/faq.html#.UQceKR2_DAk

BAAQMD thresholds of significance were developed specifically for the Bay Area after considering the latest Bay Area GHG inventory and the effects of AB 32 scoping plan measures that would reduce regional emissions. BAAQMD intends to achieve GHG reductions from new land use developments to close the gap between projected regional emissions with AB 32 scoping plan measures and the AB 32 targets. The BAAQMD applies GHG efficiency thresholds to land use projects with annual emissions of 1,100 metric tons (MT) of CO_2 equivalent (CO_2e) or greater. Projects that have emissions below 1,100 MT of CO_2e per year are considered to have less than significant GHG emissions. For land use projects, the GHG efficiency threshold is 4.6 MT of CO_2e annually per capita, where capita is the sum of project residents and workers.

4.7.1.2 *Greenhouse Gas Emissions*

Under existing conditions, GHG emissions from the undeveloped project site are extremely low.

4.7.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐	1, 8, 23
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒	☐	☐	1, 8, 23

4.7.2.1 *Greenhouse Gas Emissions Impacts*

Construction Emissions

Construction emissions modeling was completed for the proposed project. CO_2 emissions associated with construction were modeled to occur in 2015 and 2018. Under this scenario, construction of the proposed project would emit 242 MT of CO_2. These would be temporary emissions, and neither the City nor BAAQMD have quantified thresholds for construction.

Operational Emissions

Operational emissions modeling was completed for the proposed project. Assumptions used to complete the modeling are discussed in detail in Attachment A. For commercial and retail uses, the service population is based on the estimated number of workers and for purposes of this analysis, the number of workers is estimated to be 181 Phase 1 and 494 for Phase 2. The per service population emissions rate is the total annual GHG emissions expressed in metric tons, divided by the number of workers.

Future emissions from the proposed project would exceed the threshold of 1,100 MT CO_2e and 4.6 MT CO_2e per service population. When fully constructed, per service population emissions from the proposed project would be 11.28 MT CO_2e/year in 2019 and total emissions would be 5,574 MT CO_2e/year. This is considered a significant impact.

Impact GHG-1: The proposed project would exceed BAAQMD's GHG emissions thresholds.

The following mitigation measures are proposed to reduce GHG emissions impacts to a less than significant level:

MM GHG-1.1: The project shall implement the following energy-efficiency measures to reduce GHG emissions:

- The Project shall implement energy reduction features and meet new 2013 Title 24 Building Code Standards that would result in GHG emissions from energy usage that are 20 percent lower than the usage predicted in CalEEMod that is based on 2008 or earlier Title 24 requirements.
- The Project shall implement a Trip Reduction Plan for employees to reduce those trips by at least 5 percent. The plan shall include the following features:
  - Subsidized transit passes;
  - Showers and locker facilities to encourage non-motorized commutes alternatives;
  - Secure bike facilities on site;
  - Pedestrian and bicycle connections to adjacent roadways;
  - Preferred parking for electric vehicles with charging stations;
  - Enhancement of transit/bus stops adjacent to the site; and
  - Enhance/improve sidewalks and pedestrian access to the site.
- The Project, as a whole, shall adopt a water use reduction goal of at least 20 percent. A water use reduction plan shall be developed by the project applicant that may include measures such as the installation of low-flow water fixtures in sinks, low-flush toilets, and the use of water efficient landscaping.
- Implement a solid waste recycling program through recycling and composting strategies, which results in a solid waste diversion rate of at least 20 percent.
- Loading docks have electrical hookups for trucks and include signage that prohibits excessive idling.
- Where feasible, install solar voltaic panels to generate electricity. This could include rooftop photovoltaic panels and/or covering on-site parking areas with photovoltaic panels.

Since a majority of the emissions are from retail and medical office customer traffic, the measures included in MM GHG-1.1 would likely reduce emissions by 10 to 15 percent, or less than 1,000 MT CO_2e/year. GHG emissions would still be significant. Development of a carbon offset program would be necessary to reduce emissions to a less than significant level.

MM GHG-1.2: Develop a carbon offset program to offset all remaining project emissions above the per service population threshold of 4.6 MT CO_2e per year. Any offset of project emissions shall be demonstrated to be real, permanent, verifiable, and enforceable by the City or BAAQMD. Offsets may include but are not limited to the following:

- Applicant funding of local projects, subject to review and approval by the City or BAAQMD, that will result in real, permanent, verifiable, and enforceable, and additional reduction in GHG emissions. If the City or BAAQMD develops a GHG mitigation fund, the applicant may instead pay into this fund to offset GHG emissions in excess of the significance threshold.
- Purchase of carbon credits to offset emissions below the significance threshold. Only CARB carbon offset credits, credits verified and registered with the Climate Action reserve may be used to offset emissions. **(Less Than Significant Impact with Mitigation Incorporated)**

4.7.2.2 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.7.3 Conclusion

With the mitigation measures detailed above, including a carbon offset program, the proposed project would not result in significant GHG emissions impacts or conflict with applicable GHG reduction plans. **(Less Than Significant Impact with Mitigation Incorporated)**

4.8 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based upon a Phase I Environmental Site Assessment prepared for the project site by *Geologica Inc.* in November 2007, an agrichemical assessment prepared for the project site by *ENGEO Inc.* in March 2013, and a Vicinity Hazardous Materials Users Survey completed for the proposed project by *Belinda Blackie, P.E., R.E.A.* in June 2013. These hazardous material reports are included as Appendix D, E, and F, respectively.

4.8.1 Setting

The approximately 20.25-acre project site consists of an undeveloped field. The area surrounding the project site is developed with a mix of residential, commercial, and industrial uses. Review of historic topographic maps and aerial photographs indicated no evidence of historic buildings or structures on the site or in the immediate area, and that the site was historically used for agricultural production. The project site is not subject to wildland fires. The project site is not located within the Santa Clara County Airport Land Use Commission (ALUC) jurisdiction, and there are no private airstrips located near the project site.

4.8.1.1 *Onsite Hazardous Material Conditions*

Visual inspection of the site during preparation of the Phase I Environmental Site Assessment indicated no evidence of hazardous waste storage, disposal, or dumping. The site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., Cortese List).

Agricultural Pesticides

The project site was historically used for agricultural production up until at least 1965.[15] For this reason, soil samples from the project site were analyzed to determine if past agricultural activities on the site contaminated the soil with organochlorine pesticides and/or arsenic. No organochlorine pesticides were detected at or above the test method detection limits. All levels of detected arsenic were below naturally occurring background levels. The results of the soil sample analysis indicate that past agricultural uses have not significantly impacted the site.[16]

4.8.1.2 *Offsite Sources of Contamination*

Groundwater Contamination

Groundwater beneath the site likely flows northwest towards San Francisco Bay or southwest towards local creeks and Monterey Bay. Federal, State, and/or local databases were searched to determine if groundwater contamination (e.g. a leaking underground storage tank) in the project area could affect the groundwater beneath the project site. Although there are some listed sites in the project vicinity, based on the regulatory agency status (e.g., closed) and/or location of these facilities relative to the subject site (e.g., downgradient), the potential for these sites to have impacted the

[15] Geologica, *Phase I Environmental Site Assessment,* November 5, 2007.
[16] ENGEO, Inc., *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment,* March 14, 2013.

subject property was considered low at the time the Phase I Environmental Site Assessment was completed for the project site.[17]

4.8.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	1, 2, 16, 17
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐	1, 2, 16, 17
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	1, 2
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒	1, 2
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	1, 2
6. For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	1, 2
7. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	1, 2
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒	1, 2

[17]Geologica, *Phase I Environmental Site Assessment,* November 5, 2007.

4.8.2.1 *Hazards and Hazardous Materials Impacts*

The project site is not included on a list of hazardous materials site compiled pursuant to Government Code Section 65962.5 (Cortese List). The site is not located within an area subject to wild land fires. The site is not identified in an emergency response plan or emergency evacuation plan, and development of the site would not otherwise affect such plans. The site is not located within the Santa Clara County Airport Land Use Commission (ALUC) jurisdiction, and there are no private airstrips located near the site. For these reasons, the proposed project would not result in significant impacts related to these hazards and hazardous materials issues. **(No Impact)**

Historic Agricultural Use

The results of the soil sample analysis completed for the project site indicate that past agricultural uses on the project site have not significantly impacted the site. For these reasons, pesticide application during historic agricultural use of the site is not expected to result in a significant hazardous material impact. **(Less Than Significant Impact)**

Proposed Uses

The proposed commercial uses (i.e., big box retail, restaurants, and medical offices) are not expected to store or handle substantial quantities of hazardous materials. The use and storage of hazardous materials in the City of Morgan Hill is regulated by Santa Clara County Department of Environmental Health Hazardous Materials Compliance Division (SCCDEH). The construction and operation of the proposed project would conform to the requirements of the SCCDEH. For these reasons, the storage and handling of hazardous materials on the site, under the proposed project, would not result in a significant impact. **(Less Than Significant Impact)**

Groundwater Contamination

Based on the findings of the Phase I Environmental Site Assessment prepared for the project site, there are no hazardous waste sites or past hazardous waste incidents in the project area that would be likely to impact the project site. **(No Impact)**

4.8.2.2 *Conditional Uses*

Some of the conditional uses that could be approved by the City at a later date are sensitive to hazardous material use in the project vicinity. These include day care centers, nursing homes, and congregate care facilities. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

Hazardous Material Use in the Project Vicinity

The project site is surrounded by a mix of industrial, commercial and residential land uses. A vicinity hazardous material user survey was completed for the project area. The purpose of the survey was to identify California Accidental Release Program (CalARP) facilities in the project area and to also identify facilities that may be storing CalARP - regulated chemicals at quantities exceeding the respective CalARP threshold. The purpose of the CalARP program is to prevent

accidental releases of substances that can cause serious harm to the public and the environment and to minimize the damage in the event of a release.

The survey included the following:

- a visual survey of the project area to identify businesses located within a one-half mile radius of the project sites that appear to use, handle, and/or store significant quantities of toxic or hazardous materials and/or waste.
- reviewing available Santa Clara County Fire Department (SCCFD) hazardous materials/waste inventories for the facilities identified during the visual survey.
- reviewing a list of California Accidental Release Program (CalARP) facilities for the project area.
- reviewing a regulatory agency database report to identify government agency-recorded facilities using or emitting hazardous materials in the project area.

Based on the results of the survey, there are no CalARP facilities within one mile of the project site and there are no facilities in the project area using or storing CalARP - regulated chemicals at quantities exceeding the respective CalARP threshold. Therefore, the use and storage of chemicals in the project area is not expected to affect the proposed project in the event of an accidental release. **(Less Than Significant Impact)**

Hazardous Material Use on the Project Site

Service stations may be allowed in the future as a conditional use. Service stations routinely transport and use hazardous materials. Compliance with applicable Federal, State, and local handling, storage, and disposal requirements would ensure that no significant hazards to the public or the environment are created by these routine activities. These requirements include equipping fuel dispensers with automatic shutoffs and other safety devices in accordance with Fire, Building, and Health codes, and including spill containment and overfill prevention systems on underground storage tanks in accordance with CCR Title 23, section 2635. **(Less Than Significant Impact)**

4.8.3 Conclusion

The proposed project would not use or store substantial quantities of hazardous materials. There are no hazardous material concerns on the project site or in the project area that would affect the proposed project. For these reasons, the proposed project would not result in a significant hazards and hazardous materials impact. **(Less Than Significant Impact)**

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Setting

4.9.1.1 *Drainage and Flooding*

The project site is located in the Butterfield Channel storm water drainage basin. Butterfield Channel, previously named Sutter Channel, is an improved channel that drains the area west of US 101 and east of Railroad Avenue to East Little Llagas Creek. Because the entire project is an undeveloped field, the site generates little storm water runoff.

The project site is not located within a 100-year flood hazard area. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), the project site is located within Zone X. Zone X is an area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods.[18]

4.9.1.2 *Surface Water*

The water quality of ponds, creeks, streams, and other surface water-bodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as "non-point" source pollutants, are washed from streets, construction site, parking lots, and other exposed surfaces into storm drains. Storm water runoff often contains contaminants such as oil and grease, plant and animal debris (e.g., leaves, dust, animal feces, etc.) pesticides, litter, and heavy metals. In sufficient concentration, these pollutants have been found to adversely affect the aquatic habitats to which they drain. The primary non-point source pollutants from the project site (i.e., an undeveloped field) are sediment and plant debris.

4.9.1.3 *Groundwater*

The depth to groundwater at the project site is approximately 42 feet below ground surface (bgs).[19] The site does not contain aquifer recharge facilities, such as streams or ponds.

4.9.1.4 *Dam Failure*

The Association of Bay Area Governments has compiled dam failure inundation hazard maps submitted to the State Office of Emergency Services by dam owners throughout the Bay Area. The maps for the City of Morgan Hill show the project site to be in the dam failure inundation hazard zone for Anderson Reservoir.[20] The dams in Santa Clara County are managed by the Santa Clara Valley Water District. The dams are inspected twice each year and are continuously monitored for seepage and settling and inspected immediately following significant earthquakes. For these reasons, the likelihood of catastrophic dam failure that would impact the site is considered low.[21]

[18] Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel #06085C0443H, May 18, 2009.
[19] Geologica Inc., *Phase I Environmental Site Assessment. Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*, November 5, 2007.
[20] Association of Bay Area Governments, *Bay Area Dam Failure Inundation Hazards*, October 5, 2009, http://www.abag.ca.gov/bayarea/eqmaps/damfailure/.
[21] Santa Clara Valley Water District, *Reservoirs*, 2014, http://www.valleywater.org/Services/Reservoirs.aspx.

4.9.1.5 *Seiches, Tsunamis, and Mudflows*

A seiche is an oscillation of the surface of a lake or landlocked sea varying in period from a few minutes to several hours. There are no landlocked bodies of water near the project site that in the event of a seiche will affect the site.

A tsunami is a series of water waves caused by the displacement of a large volume of a body of water, such as an ocean or a large lake. Due to the immense volumes of water and energy involved, tsunamis can devastate coastal regions. The project site does not lie within a tsunami inundation hazard area.[22]

A mudflow is the rapid movement of a large mass of mud formed from loose soil and water. The project site is relatively flat and is not susceptible to mudflows.[23]

4.9.1.6 *Regulatory Framework*

The Federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. Regulations set forth by the US Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB) have been developed to fulfill the requirements of this legislation. The EPA's regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into waters of the United States. These regulations are implemented at the regional level by water quality control boards, which for the Morgan Hill area south of Cochrane Road is the Central Coast Regional Water Quality Control Board (RWQCB). The Central Coast RWQCB issues and enforces NPDES permits for discharges to water bodies in the portion of Santa Clara County that drains into Monterey Bay. The RWQCB is also tasked with preparation and revision of a regional Water Quality Control Plan, also known as the Basin Plan. The Central Coast RWQCB's latest Basin Plan was approved in September 1994, and last revised in June 2011. The RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to control water quality and protect beneficial uses.

Under Section 303(d) of the Clean Water Act, states are required to identify impaired surface water bodies and develop total maximum daily loads (TMDLs) for contaminants of concern. The TMDL is the quantity of a pollutant that can safely be assimilated by a water body without violating water quality standards. The intent of listing a water body as impaired is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for future water quality degradation. The Llagas Creek watershed is listed as an impaired water body for chloride, fecal coliform, low dissolved oxygen, pH, sodium, and total dissolved solids.[24]

---

22 California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning San Francisco Bay Area, December 9, 2009, http://www.consrv.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Documents/Tsunami_Inundation_SanFranciscoBayArea300.pdf.

23 Santa Clara County Ordinance NS 1100.106 defines a mudslide or mudflow prone area as "an area with land surfaces and slopes of unconsolidated material where the history, geology, and climate indicate a potential for mudflow."

24 California Environmental Protection Agency, State Water Resources Control Board, *2006 Impaired Water Bodies*, August 5, 2013, http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml.

NPDES Municipal Stormwater Permit

The U.S. EPA delegated management of NPDES requirements for municipal urban runoff discharges in California to the SWRCB and the nine RWQCBs. The City of Morgan Hill has adopted and prepared a Storm Water [sic] Management Plan (SWMP) and has been issued the NPDES Small Municipal Separate Storm Sewer Systems General Permit by the Central Coast RWQCB (Order Number 2003-0005-DWQ, Waste Discharge Identification Number 3-43MS03020). The City's SWMP outlines a comprehensive five year plan to establish Best Management Practices (BMPs) through six Minimum Control Measures (MCMs) to help reduce the discharge of pollutants into waterways caused by stormwater and urban runoff and to protect local water quality.

Statewide Construction General Permit

The SWRCB implemented an NPDES Construction General Permit (CGP) for the State. Construction activity subject to this permit includes clearing, grading, and ground disturbances such as stockpiling or excavation. For projects disturbing one acre or more of soil, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to commencement of construction.[25]

4.9.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐	1, 2
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐	1, 2
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on-or off-site?	☐	☐	☒	☐	1, 2

25 State Water Resources Control Board, *Construction General Permit Fact Sheet*, January 23, 2013.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or off-site?	☐	☐	☒	☐	1, 2
5. Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	1, 2
6. Otherwise substantially degrade water quality?	☐	☐	☒	☐	1, 2
7. Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒	14
8. Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☐	☒	14
9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐	1, 15
10. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	1, 2

4.9.2.1 *Drainage and Flooding Impacts*

The existing project site is an undeveloped field with no impervious surfaces. The proposed project, as shown on the conceptual site plan (refer to Figure 3.1), would fully develop the site. This increase in onsite impervious surfaces (i.e., roofs, sidewalks, and pavement) would substantially increase the amount of storm water runoff generated by the site. The project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. An onsite network of perforated storm drain pipes would collect the runoff filtered through the landscape/bioretention areas, maximizing the amount of runoff retained onsite prior to discharging to the large detention basin southwest of the project site near the Union Pacific Railroad tracks and Monterey Road. The landscape/bioretention system would be sized to limit the runoff rate from the proposed project to existing conditions. In accordance with the City of Morgan Hill Standard Conditions of Approval, the project would prepare and submit a Storm Drainage Study to the Director of Public Works for review and approval, prior to issuance of a grading permit. The Study would include calculations to determine detention and operations and demonstrate how the runoff

rate from the proposed project would be less than or equal to existing conditions.[26] For this reason, the project would not result in drainage and flooding impacts. **(Less Than Significant Impact)**

The project is not located within a 100-year flood hazard zone and, therefore, would have no impact on 100-year flows or expose people to flood hazards associated with the 100-year flood. **(No Impact)**

The site is not subject to inundation by seiche, tsunami, or mudflow. **(No Impact)**

As discussed in Section 4.9.1.4, the proposed project would not expose people to significant risk of flooding or inundation from dam failure. **(Less Than Significant Impact)**

4.9.2.2 *Water Quality Impacts*

Construction

There is the potential for water quality impacts to occur during project construction (e.g., demolition, grading, and excavation activities). In addition to generating dust, litter, oil, and other pollutants that could contaminate runoff from the site, construction activities would increase the potential for erosion and sedimentation by disturbing and exposing underlying soil to the erosive forces of water and wind. The proposed project would disturb more than one acre of soil and would be required to follow the requirements of the Statewide CGP.

Impact HYD-1: Construction activities could temporarily increase pollutant loads in storm water runoff, degrading water quality downstream of the project site. **(Less Than Significant Impact with Mitigation)**

Mitigation Measures: In accordance with the City of Morgan Hill Standard Conditions of Approval and the NPDES General Permit for Construction Activities, the following measures are included in the project to reduce construction-related water quality impacts to a less than significant level:

MM HYD-1.1: The following BMPs would be implemented during project construction:

- Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities will be suspended during periods of high winds.
- All exposed or disturbed soil surfaces will be watered at least twice daily to control dust.
- Stockpiles of soil or other materials that can be blown by the wind will be watered or covered.
- All trucks hauling soil, sand, and other loose materials will be covered and all trucks will be required to maintain at least two feet of freeboard.

[26] Using the City's requirements for sizing, the project site would be required to provide storage for a 25-year, 24-hour storm with an additional capacity of 25 percent for freeboard.

- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site will be swept daily (with water sweepers).
- Vegetation in disturbed areas will be replanted as quickly as possible.

MM HYD-1.2: Consistent with the requirements of the NPDES General Permit for Construction Activities, a Notice of Intent (NOI) would be submitted to the RWQCB and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to control discharge associated with construction activities, prior to commencement of grading and construction activities. Once grading begins the SWPPP must be kept on-site and updated as needed while construction progresses.

Post - Construction

Stormwater runoff from urban uses such as the proposed project contains metals, pesticides, herbicides, and other contaminants such as oil, grease, lead, and animal waste. The project would conform to the City's Storm Water Management Plan (SWMP) to reduce the discharge of pollutants into waterways and to protect local water quality that could be degraded by storm water and urban run-off within the corporate limits of Morgan Hill.

In order to meet SWMP requirements onsite, the project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. An onsite network of perforated storm drain pipes would collect the runoff filtered through the landscape/bioretention areas, maximizing the amount of runoff retained onsite prior to discharging to the public storm drain system. Conformance with the SWMP, as proposed by the project, would reduce the potential for the project to result in post-construction water quality impacts. **(Less Than Significant Impact)**

4.9.2.3 *Groundwater Impacts*

As discussed in Section 4.9.1.3, the depth to groundwater at the project site is approximately 42 feet below ground surface (bgs). The groundwater is deep enough such that the project would not interfere with groundwater flow or expose any aquifers. The project site is not an aquifer recharge facility (i.e., streams or ponds); therefore, development of the project site would not substantially interfere with aquifer recharge. **(Less Than Significant Impact)**

4.9.2.4 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.9.3 Conclusion

With implementation of the mitigation measures discussed above, the proposed project would not result in significant impacts to hydrology and water quality. **(Less Than Significant Impact with Mitigation Incorporated)**

4.10 LAND USE

4.10.1 Setting

The 20.25-acre project site is located in the southeast quadrant of the intersection of Cochrane Road and Butterfield Boulevard in the City of Morgan Hill. The site is undeveloped. The site's existing General Plan land use designation and zoning are *Industrial* and *Planned Unit Development District*, respectively. The project area includes a mix of uses. Residences are located west of the project site, across Butterfield Boulevard. Industrial uses are located north and south of the project site, across Cochrane Road and Jarvis Drive, respectively. Commercial uses are located east of the project site. An aerial photograph of the project site and the surrounding land uses is shown on Figure 2-3.

4.10.1.1 *Santa Clara Valley Habitat Plan*

As discussed in Section 4.4, Biological Resources, the project site is located within the boundaries of the SCVHP. The SCVHP is a regional partnership between six local partners (the County of Santa Clara, Santa Clara Valley Transportation Authority, Santa Clara Valley Water District, and the cities of San Jose, Gilroy, and Morgan Hill) and two wildlife agencies (the CDFW and the U.S. Fish and Wildlife Service). The SCVHP became effective October 14, 2013. The project site is in an area planned for urban growth, and does not support protected species or critical habitat.

4.10.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Physically divide an established community?	☐	☐	☐	☒	1, 2
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒	1, 2
3. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒	1, 2, 11

4.10.2.1 *Land Use Impacts*

The proposed project would construct 196,300 square feet of commercial uses, including a 60,000 square foot medical building on the site. The proposed project does not include major roadways or other features that would divide an established community.

Land use conflicts can arise from two basic causes: 1) a new development or land use may cause impacts to persons or the physical environment in the vicinity of the project site or elsewhere; or 2) conditions on or near the project site may have impacts on persons or development introduced onto the site by the project. Both of these circumstances are aspects of land use compatibility. Incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritations and nuisance to significant effects on human health and safety.

Land Use Impacts from the Project

The proposed development of commercial uses on the project site would be compatible with the surrounding commercial and industrial uses. Land use conflicts between the proposed commercial uses and existing residential uses in the project area are not expected, because there is sufficient separation distance (i.e., Butterfield Boulevard, a four-lane arterial with a landscaped median) between the uses.

Land Use Impacts to the Project

The project proposes commercial uses on the project site. The proposed use would be compatible with the existing commercial, industrial, and residential land uses surrounding the project site. The surrounding uses would not result in land use impacts upon the proposed onsite commercial uses.

Noise, dust, odors, and other byproducts of industrial and commercial operations could impact future employees and patrons of the proposed project. As discussed in Sections 4.3 Air Quality, 4.8 Hazards and Hazardous Materials, and 4.12 Noise of this Initial Study, the existing uses adjacent to the project site are not expected to result in noise, air quality, or hazardous materials impacts upon the future employees and patrons of the proposed project. For these reasons and those stated above, the surrounding uses would not result in land use compatibility impacts upon the proposed development, and the development of commercial uses on the project site is not expected to conflict with plans or policies adopted for the purpose of avoiding or mitigating an environmental effect.

Consistency with the Santa Clara Valley Habitat Plan

Project consistency with the SCVHP is discussed in Section 4.4, Biological Resources. The proposed project is a covered activity under the Santa Clara Valley Habitat Plan and would be required to pay the appropriate development fees and adhere to applicable conditions. The proposed project would not conflict with the VHP.

4.10.2.2 *Conditional Uses*

As discussed in Sections 4.3 Air Quality, 4.8 Hazards and Hazardous Materials, and 4.12 Noise of this Initial Study, conditional uses that may be permitted by the City would not result in significant land use compatibility impacts.

4.10.3 Conclusion

The proposed project would not physically divide an established community and would not conflict with the SCVHP. The proposed commercial use of the project site is compatible with surrounding land uses. **(No Impact)**

4.11 MINERAL RESOURCES

4.11.1 Setting

The project site is located in an urban area within the City of Morgan Hill. Mineral resource recovery activities do not occur on or near the project site, nor does the site contain any known mineral resources.

4.11.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒	1, 2
2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒	1, 2

4.11.2.1 *Impacts to Mineral Resources*

There are no known mineral resources on or adjacent to the project site, and no mineral recovery sites are present within the project area. For these reasons, the proposed development of the project site would not result in impacts to known mineral resources.

4.11.3 Conclusion

The proposed development of the project site would not result in impacts to known mineral resources. **(No Impact)**

4.12 NOISE

The following discussion is based upon an environmental noise assessment prepared for the proposed project by *Illingworth & Rodkin* in April 2013. The environmental noise assessment is included as Appendix G of this Initial Study.

4.12.1 Setting

Acceptable levels of noise vary depending on the land use. At any one location, the noise level will vary over time, from the lowest background or ambient noise level to temporary increases caused by traffic or other sources. State and Federal standards have been established as guidelines for determining the compatibility of a particular use with its noise environment.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing the either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources which create a relatively steady background noise in which no particular source is identifiable. Sound level meters can accurately measure environmental noise levels to within about plus or minus one dBA. Since the sensitivity to noise increases during the evening hours, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Day/Night Average Sound Level (DNL) is the average A-weighted noise level during a 24-hour day, obtained after the addition of 10 dB to noise levels measured between 10PM and 7AM.

4.12.1.1 *Regulatory Setting*

City of Morgan Hill General Plan

The Public Health and Safety Element of the General Plan sets forth noise and land use compatibility standards to guide development and noise goals and policies to protect citizens from the harmful and annoying effects of excessive noise. Commercial land uses are considered normally acceptable in noise environments up to 70 dBA. Policies established in the Noise Element of the General Plan that are applicable to the project include:

Policy 7b: The impact of a proposed development project on existing land uses should be evaluated in terms of the potential for adverse community response based on significant increase in existing noise levels, regardless of compatibility guidelines.

Policy 7e: Noise level increases resulting from traffic associated with new projects shall be considered significant if the noise level increase is five dBA or greater with a future noise level of less than 60 dBA or if the noise level increase is three dBA or greater with a future noise levels of more than 60 dBA.

City of Morgan Hill Municipal Code

Section 8.28.040 of the Health and Safety section of the Municipal Code prohibits construction activities between the hours of 8PM and 7AM, Monday through Friday and between the hours of 6PM and 9AM on Saturday. Construction is prohibited on Sundays and federal holidays.

California Green Building Code

Title 24, Part 11 of the California Code of Regulations sets forth noise performance standards for building in certain locations that would be expected to experience noise levels exceeding 65 DNL.

4.12.1.2 *Existing Noise Environment*

A noise monitoring survey consisting of three short-term noise measurements was completed at the project site on the morning of Tuesday, December 18, 2012 to document existing ambient noise levels. The results of the noise monitoring survey indicate that the predominant noise sources affecting the site are vehicular traffic along Cochrane Road and Butterfield Boulevard. Table 4.12-1 summarizes the noise data collected at the noise monitoring sites. Daily average noise levels at the noise monitoring sites were estimated based on long-term noise data measured at a nearby site in June 2012.[27]

TABLE 4.12-1 - Summary of Short-Term Noise Measurements (dBA)

Short-term (ST) Noise Measurement Location	L_{eq}	L_{max}	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{dn}*
ST-1: ~100 feet from the center of Jarvis Drive along southeast boundary of the site.	58	62	59	57	56	59
ST-2: ~375 feet from the center of Cochrane Road and ~420 feet from the center of Butterfield Boulevard.	55	60	57	55	53	56
ST-3: East of the Cochrane Road/Butterfield Boulevard intersection.	61	70	64	60	57	62
L_{dn} estimated by comparing measured short-term noise data to recent long-term noise data collected at a nearby site.						

[27] Illingworth & Rodkin, Inc., *Butterfield Boulevard Residential Projects General Plan Amendment, Environmental Noise Assessment,* August 15, 2012.

4.12.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project result in:					
1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	1, 2, 18
2. Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	1, 2, 18
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	1, 2, 18
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐	1, 2, 18
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	1, 2
6. For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	1, 2

4.12.2.1 *Noise Impacts*

Exterior Noise Levels

Outdoor noise is not a major consideration for the proposed commercial uses. Future noise levels are calculated to reach 70 dBA L_{dn} adjacent to Cochrane Road and Butterfield Boulevard. Future exterior noise levels adjacent to Jarvis Drive are calculated to reach 63 dBA L_{dn}.

The operation of future development on the project site would introduce new sources of noise that may permanently increase noise levels at noise-sensitive land uses in the vicinity (residences west of Butterfield Boulevard). Examples of mechanical equipment normally associated with commercial buildings include heating, ventilation, and air conditioning systems, as well as boilers, pumps, and air handling equipment. This type of equipment typically produces fairly steady noise levels while operating. Truck loading and unloading activities, vehicle circulation, and parking lot noise would also be expected.

The site layout is such that the smaller businesses would be located closest to Cochrane Road, where noise levels are already known to reach 70 dBA due to traffic. The loading dock of the big box retail store would be located at the far southern portion of the project site adjacent to Jarvis Drive. As proposed, the dock would be located over 750 feet from the nearest residence and be oriented to face the proposed medical offices. The location and orientation of the proposed development makes it unlikely that nearby residences would experience noise levels substantially greater than those currently occurring.

The proposed project would be required to comply with Chapter 18.48 of the City's Municipal Code, which specifies that the maximum sound generated by any use shall not exceed 75 dBA when adjacent uses are industrial or wholesale uses, and shall not exceed 65 when adjacent to offices, retail, or sensitive industries. When uses are adjacent or contiguous to residential, park, or institutional uses, the maximum sound level shall not exceed 60 dBA.

Interior Noise Levels

The proposed retail building at the corner of Butterfield Boulevard and Cochrane Road would be exposed to the highest exterior noise levels. This location would be exposed to future exterior noise levels of approximately 70 dBA L_{dn} assuming the build-out of the General Plan. Other new commercial uses setback further onto the project site or located adjacent to Jarvis Drive would be exposed to future noise levels calculated to reach 63 dBA L_{dn} or less. In buildings of typical construction, with the windows partially open, interior noise levels are approximately 15 dBA lower than exterior noise levels. With the windows closed, standard construction typically provides 20 to 25 decibels of exterior to interior noise reduction. The project is not proposing any noise sensitive uses that would require additional noise mitigation.

Traffic Noise

Per the City of Morgan Hill General Plan, noise from project-generated traffic would result in a significant impact if: a) the noise level increase is five dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or b) the noise level increase is three dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater. The noise environment at the nearest sensitive receptors exceeds 60 dBA L_{dn}, therefore, a noise impact would be identified where the project would result in a permanent noise level increase of 3 dBA L_{dn} or more.

Vehicles would mainly access the project site from a new signalized intersection at Cochrane Road and Woodview Avenue. The traffic volume data in the transportation impact analysis completed for the proposed project (refer to Section 4.14 Transportation) was used to calculate the change in traffic volumes and associated noise levels attributable to the project. Project-generated traffic would not substantially increase existing noise levels, because project traffic is a small percentage of the total traffic along roadways serving the site. As a result, traffic noise levels would increase by less than one dBA L_{dn} above existing conditions at the nearest noise-sensitive receptors. This noise level increase would not be measurable or noticeable, and would not exceed the City's significance thresholds.

Short-Term Construction Noise

The proposed project would be constructed in two phases. Future construction at the project site would generate noise, and would temporarily increase noise levels at adjacent noise-sensitive land uses. Construction activities can generate high noise levels, especially during the construction of project infrastructure when heavy equipment is used. The highest maximum instantaneous noise levels generated by project construction would typically range from about 90 to 95 dBA L_{max} at a distance of 50 feet from the noise source. Typical hourly average construction generated noise levels are about 81 dBA to 88 dBA L_{eq} measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.). Construction noise levels drop off at a rate of about six dBA per doubling of distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors.

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. Construction noise impacts primarily occur when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction durations last over extended periods of time. Where noise from construction activities exceeds 60 dBA L_{eq} and exceeds the ambient noise environment by at least 5 dBA L_{eq} at noise-sensitive uses in the project vicinity for a period of one year or more, the impact would be considered significant.

Impact NOI-1: If not controlled, construction activities on the project site could expose adjacent sensitive receptors to a substantial temporary increase in ambient noise levels. **(Less Than Significant Impact with Mitigation)**

Mitigation Measure: With the implementation of the measures listed below, and recognizing that the sensitive land uses located across Butterfield Boulevard would only be affected by noise from construction activities on the westernmost portion of the site, and recognizing that construction on the remainder of the site would typically occur at distances of 500 feet or more from those same sensitive land uses, the substantial temporary increase in ambient noise levels would be less than significant.

MM NOI-1.1: Consistent with the City of Morgan Hill Municipal Code, the following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance.

- Construction activities shall be limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities should occur on Sundays or federal holidays (Consistent with Section 8.28.040 of the Morgan Hill Municipal Code).
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Locate stationary noise generating equipment (e.g. rock crushers, compressors) as far as possible from adjacent residential receptors.
- Acoustically shield stationary equipment located near residential receptors with temporary noise barriers or recycled demolition materials.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

Groundborne Vibration

There are no local, state, or federal vibration impact criteria that are applicable to this project. The California Department of Transportation (Caltrans) uses a vibration limit of 0.5 inches per second (in/sec) for buildings structurally sound and designed to modern engineering thresholds. A conservative vibration limit of 0.3 in/sec has been used for older residential structures found to be structurally sound.

Activities with the potential to generate perceptible groundborne vibration levels would primarily include the compacting of soil and the operation of heavy vehicles during construction. Compaction of soil would generate the strongest vibration at the site, with a reference level of 0.21 in/sec at a distance of 25 feet. Vibration levels generated by the project would be below the 0.3 in/sec criteria and would not represent a significant impact. **(Less Than Significant Impact)**

4.12.3 Conclusion

The proposed project, with the implementation of the mitigation measures described above, would not result in significant long- or short-term noise impacts. **(Less than Significant Impact with Mitigation)**

4.13 POPULATION AND HOUSING

4.13.1 Setting

According to California Department of Finance 2014 estimates, Morgan Hill's population is 41,197, up 2.9% from 2013.[28] The Association of Bay Area Governments (ABAG) projects the population for Morgan Hill, in the absence of any local growth management controls as discussed below, to be 45,800 in 2030.[29]

As part of the General Plan, residential development within the City of Morgan Hill is controlled by the Residential Development Control System (RDCS). By approving Measure C in 2004 and Measure F in 2006, Morgan Hill voters extended the City's RDCS to 2020. The RDCS establishes a population ceiling for the City of 48,000 as of January 1, 2020.

A substantial portion of the Morgan Hill workforce currently travels outside the City for employment. Increasing jobs in the City would help to alleviate peak hour traffic by reducing the need for Morgan Hill workers to commute to employment centers in northern Santa Clara County. The City's General Plan policies include maintaining a jobs housing balance (*Jobs and Housing Policy 2d*). In 2010, the City had 17,624 employed residents and 17,523 jobs or 0.99 jobs per employed resident.[30]

There are no housing or jobs on the project site. The undeveloped project site is located in an urban area that is currently served by existing infrastructure.

4.13.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐	1
2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1
3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1

[28] California Department of Finance, *E-1 Population Estimates for Cities, Counties, and the State — January 1, 2013 and 2014*, April 2014, http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/.
[29] Association of Bay Area Governments, *Projections and Priorities 2009: San Francisco Bay Area Population, Household, and Job Forecasts.* August 2009.
[30] Strategic Economics, *Economic and Fiscal Impact Analysis of Proposed Industrial Land Conversion in Morgan Hill*, August 24, 2012.

4.13.2.1 *Population and Housing Impacts*

The proposed project would construct six commercial buildings totaling 136,300 square feet and one 60,000-square foot medical office building. Business and medical offices occupying the proposed buildings would primarily serve Morgan Hill's existing population and would not induce substantial population growth. The lot is currently vacant and as a result, the project would not displace people or housing.

4.13.2.2 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed. If a nursing home or congregate care facility were constructed in the future, it would be expected to serve the existing population.

4.13.3 Conclusion

The proposed project would not induce substantial population growth or displace people or housing. **(Less Than Significant Impact)**

4.14 PUBLIC SERVICES

4.14.1 Setting

4.14.1.1 *Fire Protection*

The City of Morgan Hill contracts with the California Department of Forestry and Fire Protection (CalFire) for fire and emergency medical services. The City is served by three stations at the following locations: 1) El Toro Fire Station, located at 18300 Old Monterey Road (approximately one mile northwest of the project site), 2) Dunne Hill Fire Station, located at 2100 East Dunne Avenue (approximately 2.0 miles east of the project site), and 3) 15670 Monterey Street (approximately 1.5 miles south of the project site). In general, the response time meets the current standard of eight minutes 95 percent of the time; although it is expected that most responses will be approximately five minutes 90 of the time.[31]

4.14.1.2 *Police Protection*

Police service is provided to the site by the Morgan Hill Police Department (MHPD). Officers are dispatched from police headquarters located at 16200 Vineyard Boulevard. It is MHPD's goal to respond to Priority One calls within five minutes and Priority Two calls within 10 minutes.

4.14.1.3 *Schools*

The Morgan Hill Unified School District (MHUSD) provides public education services to approximately 10,000 students in the City. MHUSD is currently comprised of eight elementary schools, two middle schools, three high schools, and one community adult school. MHUSD also oversees the City's K-8 home school program.

4.14.1.4 *Parks and Other Public Facilities*

The City owns 70 acres of developed parkland (including the Civic Center, assessment district parks, and city owned trails) and 59 acres of recreational facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. There is also a significant amount of recreational land and open space in the City that is privately owned and maintained. In combination, these various types of public and private parks and recreational facilities total about 200 acres to serve the City's estimated population of 41,197. This meets the City's goal of five acres of parkland per 1,000 residents.

[31] City of Morgan Hill, City Council Staff Report, *Fire and Emergency Medical Services (EMS) CalFire Proposal Update*, Meeting Date April 4, 2012.

4.14.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
Fire Protection?	☐	☐	☒	☐	1, 2
Police Protection?	☐	☐	☒	☐	1, 2
Schools?	☐	☐	☐	☒	1, 2
Parks?	☐	☐	☐	☒	1, 2
Other Public Facilities?	☐	☐	☐	☒	1, 2

4.14.2.1 *Impacts to Public Services*

The project site is located in central Morgan Hill in an area developed with urban uses and currently served by existing public services. The proposed development of 196,300 square feet of commercial uses on the project site would incrementally increase demand for public services in the project area.

Fire and Police Protection

Development on the project site under the proposed project would be constructed in conformance with current building and fire codes, including features that would reduce potential fire hazards. The development would be reviewed by both CalFIRE and the Morgan Hill Police Department to ensure appropriate safety features to reduce fire hazards and criminal activity are included in the project. Given that the proposed project is infill development, the development of commercial uses on the site would not substantially increase the demand for fire or police protection, or otherwise require construction or expansion of fire or police facilities.

Schools, Parks, and other Public Services

The development of commercial uses on the project site would not increase the population of the project area and, therefore, would not increase demand on local schools, parks, or other public services.

4.14.2.2 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.14.3 Conclusion

The proposed development of 196,300 square feet of commercial uses on the project site would incrementally increase demand for public services in the project area, however, this increase in demand would not result in a significant impact on the environment. **(Less Than Significant Impact)**

4.15 RECREATION

4.15.1 Setting

The City owns 70 acres of developed parkland (including the Civic Center, assessment district parks, and city owned trails) and 59 acres of recreational facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. There is also a significant amount of recreational land and open space in the City that is privately owned and maintained. In combination, these various types of public and private parks and recreational facilities total about 200 acres to serve the City's estimated population of 41,197. This meets the City's goal of five acres of parkland per 1,000 residents. The nearest park to the project site is Murphy Springs Park, located approximately one mile to the southwest.

4.15.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☐	☒	1
2. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒	1

4.15.2.1 *Impacts to Recreation*

The proposed project would construct commercial buildings and medical offices only, and would not increase the use of existing neighborhood or regional parks or require the construction or expansion of recreational facilities.

4.15.2.2 *Conditional Use*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.15.3 Conclusion

The proposed project would not result in impacts to recreation. **(No Impact)**

4.16 TRANSPORTATION

The following discussion is based upon a traffic impact analysis completed for the proposed project by *Hexagon Transportation Consultants* in April 2014. The report is attached as Appendix H of this Initial Study.

4.16.1 Setting

4.16.1.1 *Existing Roadway Network*

Regional access to the project site is provided via US 101. Local access to the site is provided by Cochrane Road, Monterey Road, Butterfield Boulevard, Jarvis Drive, and Sutter Boulevard. These facilities are described below:

US 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle [HOV] lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Existing access to and from the project area is provided via an interchange at Cochrane Road.

Cochrane Road is an east-west divided roadway that runs from Monterey Road to Malaguerra Avenue east of US 101. Cochrane Road is a four-lane road between Monterey Road and Sutter Boulevard. Between Sutter Boulevard and US 101, Cochrane Road widens to three lanes eastbound and two lanes westbound, then narrows back to four lanes east of US 101, and to two lanes east of Mission View Drive. Cochrane Road has a posted speed limit of 45 mph. It runs along the northern project frontage and would provide direct access to the project site via various driveways.

Monterey Road is a four-lane divided major arterial that runs directly through Morgan Hill. Monterey Road extends from Market Street in downtown San Jose to US 101 south of Gilroy. Monterey Road runs west of the project site with a posted speed limit of 45 mph.

Butterfield Boulevard is a four-lane roadway that runs southward from Cochrane Road to Monterey Road with a posted speed limit of 35 mph. At the intersection with Monterey Road, Butterfield Boulevard changes designation to Watsonville Road. Direct access to the project site would be provided via a driveway along Butterfield Boulevard.

Jarvis Drive is a two-lane undivided roadway that runs in a concentric form within the area bounded by Monterey Road, Cochrane Road, US 101, and Main Avenue. It begins at Monterey Road and extends eastward past Sutter Boulevard at which point it loops around and extends southwest to Butterfield Boulevard. Jarvis Drive is the southern project boundary and would provide direct access to the project site via two driveways.

Sutter Boulevard is a four-lane roadway that runs from Butterfield Boulevard to Woodview Avenue just north of Cochrane Road, with a posted speed limit of 35 mph. Indirect access would be provided to the project site from Sutter Boulevard via an existing driveway that serves the existing commercial development east of the project site.

4.16.1.2 *Existing Bicycle and Pedestrian Facilities*

Monterey Road has bike lanes along its entire length within the City of Morgan Hill, with the exception of the segment that runs through downtown between Dunne Avenue and Main Avenue. Bike lanes are also provided along the entire lengths of Cochrane Road, Butterfield Boulevard, and Sutter Boulevard.

Sidewalks are provided along the south side of Cochrane Road between Monterey Road and US 101. There are no sidewalks provided along the north side of Cochrane Road between Monterey Road and just east of Butterfield Boulevard. Sidewalks are provided along both sides of Butterfield Boulevard. Sidewalks are provided along the north side of Jarvis Drive, however the sidewalk is intermittent along the project frontage. Sidewalks are provided along Sutter Boulevard between Cochrane Road and Jarvis Road, however no sidewalks are provided south of Jarvis Road.

4.16.1.3 *Existing Transit Service*

Existing transit service to the project site is provided by the Santa Clara Valley Transportation Authority (VTA) and Caltrain. The nearest bus stops to the project site are located on Cochrane Road at the intersection with Sutter Boulevard and west of Butterfield Boulevard. The site is served by one local bus (Community Bus Route 16) and two express buses (Express Routes 121 and 168). Additionally, Bus Route 68 operates along Monterey Road in the project area. These transit services are described below:

Community Bus Route 16 operates on Cochrane Road near the project site. The bus runs from Burnett Avenue to the Civic Centre in Morgan Hill with approximately 60-minute headways in the AM and PM peak hours. Route 16 operates between 6:30AM and 6:00PM. The nearest Route 16 stops to the project site are located near the intersection of Cochrane Road and Butterfield Boulevard.

Express Route 121 operates on Cochrane Road on its route between the Gilroy Transit Center and the Lockheed Martin Transit Center. It operates northbound with 30-minute headways during AM peak hours and southbound with 30 to 55-minute headways during PM peak hours. The nearest stop to the project site is located at the intersection of Cochrane Road and Sutter Boulevard.

Express Route 168 operates on Cochrane Road on its route between the Gilroy Transit Center and the San Jose Diridon Transit Center. It operates northbound with 30-minute headways during AM peak hours and southbound with 30-minute headways during PM peak hours. The nearest stop to the project site is located at the intersection of Cochrane Road and Sutter Boulevard.

Local Route 68 operates on Monterey Road near the project site. The bus runs from Gilroy Transit Center to the San Jose Diridon Transit Center with 15 to 20-minute headways on weekdays in the AM and PM peak hours. Route 68 operates between 4:00AM and 1:30AM. The nearest Route 68 stop to the project site is located at the Main and Hale Avenue Transit Center.

Caltrain operates commuter rail service between San Francisco and Gilroy. The Morgan Hill Caltrain Station is located along the west side of Butterfield Boulevard between Dunne Avenue and Main Avenue, approximately 1.5 miles from the project site. At the Morgan Hill station, Caltrain provides service with approximately 30 to 40-minute headways during commute hours. Express

Routes 121 and 168 provide service from the project area to the Morgan Hill Caltrain Station during PM commute periods.

4.16.1.4 *Study Intersections and Level of Service Standards*

The traffic impact analysis completed for the proposed project evaluates the operations of 19 signalized intersections, six unsignalized intersections, and seven freeway segments (see Figure 4.16-1). The study intersections and freeway segments listed below were evaluated following the standards and methodologies set forth by the City of Morgan Hill and VTA. A detailed discussion of the methodologies used is included in the traffic impact analysis attached as Appendix H of this Initial Study.

Study Intersections

1. Monterey Road and Cochrane Road
2. Cochrane Circle and Cochrane Road
3. Butterfield Boulevard and Cochrane Road
4. Woodview Avenue and Cochrane Road (unsignalized)
5. Sutter Boulevard and Cochrane Road
6. Madrone Parkway and Cochrane Road
7. US 101 Southbound Ramps and Cochrane Road
8. US 101 Northbound Ramps and Cochrane Road
9. DePaul Drive and Cochrane Road
10. Mission View Drive and Cochrane Road (unsignalized)
11. Sutter Boulevard and Cochrane Road (unsignalized)
12. Butterfield Boulevard and Jarvis Drive (N) (unsignalized)
13. Sutter Boulevard and Jarvis Drive (unsignalized)
14. Butterfield Boulevard and Sutter Boulevard
15. Butterfield Boulevard and Jarvis Drive (S) (unsignalized)
16. Monterey Road and Old Monterey Road
17. Butterfield Boulevard and Central Avenue
18. Monterey Road and Main Avenue
19. Butterfield Boulevard and Main Avenue
20. Condit Road and Main Avenue
21. Butterfield Boulevard and Diana Avenue
22. Monterey Road and Dunne Avenue
23. Butterfield Boulevard and Dunne Avenue
24. US 101 Southbound Ramps and Dunne Avenue
25. US 101 Northbound Ramps and Dunne Avenue

FIGURE 4.16-1

Study Freeway Segments

1. US 101 between SR 85 and the Southbound Lane Drop
2. US 101 between Southbound Lane Drop and Sheller Avenue
3. US 101 between Sheller Avenue and Burnett Avenue
4. US 101 between Burnett Avenue and Cochrane Road
5. US 101 between Cochrane Road and Dunne Avenue
6. US 101 between Dunne Avenue and Tennant Avenue
7. US 101 between Tennant Avenue and San Martin Avenue

Level of Service Standards

Level of Service (LOS) is a qualitative description of traffic operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of Downtown intersections permitted to operate at LOS F, and nine intersections and three freeway zones permitted to operate at LOS E. The study intersections of Dunne Avenue and Monterey Road and Cochrane Road and Monterey Road, as well as the Cochrane Road and Dunne Avenue Freeway zones, are included in this group.

LOS standards for freeway segments is based on VTA congestion management plan (CMP) guidelines. The CMP defines an acceptable level of service for freeway segments as LOS E or better.

4.16.1.5 *Existing Intersection Levels of Service*

The operations of the study intersections were evaluated during the weekday AM and PM peak hours. The peak hour is the highest one-hour volume counted during the peak period. The morning peak period is between 6AM and 9AM. The evening peak period is between 4PM and 7PM. Existing peak hour traffic volumes were obtained from recently completed traffic studies and supplemented with manual turning-movement counts at intersections where counts were either unavailable or outdated (more than two years old).

The results show that, measured against the City's LOS standards, all study intersections currently operate at an acceptable level of service under existing conditions during each of the peak hours analyzed. The results of the existing LOS analysis are shown in Table 4.16-1, on the following pages:

Table 4.16-1
Existing Intersections Level of Service

Intersection	Peak Hour	Existing Conditions	
		Delay[1]	LOS
1. Monterey Road/Cochrane Road	AM	29.0	C
	PM	28.0	C
2. Cochrane Circle/Cochrane Road	AM	10.1	B
	PM	10.2	B
3. Butterfield Boulevard/Cochrane Road	AM	12.5	B
	PM	14.0	B
4. Woodview Avenue/Cochrane Road	AM	10.7	B
	PM	14.3	B
5. Sutter Boulevard/Cochrane Road	AM	19.0	B
	PM	19.4	B
6. Madrone Parkway/Cochrane Plaza/Cochrane Road	AM	18.6	B
	PM	28.3	C
7. US 101 Southbound Ramps/Cochrane Road	AM	12.5	B
	PM	18.6	B
8. US 101 Northbound Ramps/Cochrane Road	AM	10.7	B
	PM	10.7	B
9. De Paul Drive/Cochrane Road	AM	17.6	B
	PM	17.4	B
10. Mission View Drive/Cochrane Road	AM	16.0	C
	PM	11.5	B
11. Sutter Boulevard/Cochrane Plaza	AM	12.4	B
	PM	21.5	C
12. Butterfield Boulevard/Jarvis Drive (N)	AM	10.7	B
	PM	9.5	A
13. Sutter Boulevard/Jarvis Drive	AM	13.7	B
	PM	13.2	B
14. Butterfield Boulevard/Sutter Boulevard	AM	8.6	A
	PM	17.0	B
15. Butterfield Boulevard/Jarvis Drive (S)/Digital Drive	AM	11.9	B
	PM	11.8	B
16. Monterey Road/Old Monterey Road	AM	10.4	B
	PM	15.2	B
17. Butterfield Boulevard/Central Avenue	AM	12.5	B
	PM	5.3	A
18. Monterey Road/Main Avenue	AM	42.3	D
	PM	45.0	D
19. Butterfield Boulevard/Main Avenue	AM	29.3	C
	PM	32.0	C
20. Condit Road/Main Avenue	AM	24.7	C
	PM	16.0	B
21. Butterfield Boulevard/Diana Avenue	AM	11.5	B
	PM	11.6	B
22. Monterey Road/Dunne Avenue	AM	30.3	C
	PM	41.8	D
23. Butterfield Boulevard/Dunne Avenue	AM	38.0	D
	PM	30.8	C

Table 4.16-1 Existing Intersections Level of Service			
Intersection	**Peak Hour**	**Existing Conditions**	
		Delay[1]	**LOS**
24. US 101 Southbound Ramps/Dunne Avenue	AM PM	20.3 23.0	C C
25. US 101 Northbound Ramps/Dunne Avenue	AM PM	10.0 11.5	B B
[1] The reported delay and corresponding level of service for signalized and all-way stop-controlled intersections represents the average delay for all approaches at the intersection. The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.			

4.16.1.6 *Existing Freeway Segment Levels of Service*

Traffic volumes for the subject freeway segments were obtained from the 2012 CMP Annual Monitoring Report. The results of the analysis are summarized in Table 4.16-2. The results show that the mixed-flow lanes on the following three freeway segments currently operate at an unacceptable LOS F during at least one peak hour:

- Northbound US 101, from San Martin Avenue to Tennant Avenue (AM peak hour)
- Northbound US 101, from Tennant Avenue to East Dunne Avenue (AM peak hour)
- Southbound US 101, from Burnett Avenue (lane drop) to Cochrane Road (PM Peak Hour)

All other freeway segments analyzed operate at LOS E or better during the AM and PM peak hours.

Table 4.16-2 Existing Freeway Segment Level of Service							
Freeway	**Direction**	**From**	**To**	**Peak Hour**	**Number of Lanes**	**Density[1]**	**LOS**
US 101	North	San Martin Avenue	Tennant Avenue	AM PM	3 3	**73** 21	**F** C
		Tennant Avenue	East Dunne Avenue	AM PM	3 3	**77** 18	**F** B
		East Dunne Avenue	Cochrane Road	AM PM	3 3	51 19	E C
		Cochrane Road	Burnett Avenue (Lane Drop)	AM PM	3 3	32 26	D C
		Burnett Ave (Lane Drop)	Sheller Avenue	AM PM	3 3	28 17	D B
		Sheller Avenue	Lane Drop (SB)	AM PM	3 3	55 19	E C
		Lane Drop (SB)	SR 85	AM PM	3 3	36 19	D C

	South	SR 85	Lane Drop (SB)	AM PM	4 4	15 20	B C
		Lane Drop (SB)	Sheller Avenue	AM PM	3 3	17 32	B D
		Sheller Avenue	Burnett Ave (Lane Drop	AM PM	3 3	15 38	B D
		Burnett Avenue (Lane Drop)	Cochrane Road	AM PM	3 3	20 **71**	C **F**
		Cochrane Road	East Dunne Avenue	AM PM	3 3	16 38	B D
		East Dunne Avenue	Tennant Avenue	AM PM	3 3	18 32	B D
		Tennant Avenue	San Martin Avenue	AM PM	3 3	14 37	B D

[1] Measured in passenger cars per mile per lane.
Bold type indicates unacceptable operations (LOS F).

4.16.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐	1, 2, 19
2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐	1, 2, 19
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒	1, 2, 19

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☒	☐	1, 2, 19
5. Result in inadequate emergency access?	☐	☐	☐	☒	1, 2, 19
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐	1, 2, 19

4.16.2.1 *Thresholds of Significance*

All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of Downtown intersections permitted to operate at LOS F, and nine intersections and three freeway zones permitted to operate at LOS E. According to the City's LOS guidelines, a development is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or LOS E as identified above under existing conditions to an unacceptable LOS E or LOS F under project conditions, or
2. The level of service at the intersection is an unacceptable level of LOS E or LOS F as identified above under existing conditions and the addition of project trips causes the average critical delay to increase by four or more seconds and the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

Unsignalized intersections within the City have a minimum operating level of LOS D. According to the City's LOS guidelines, a development is said to have a significant adverse impact on traffic conditions at an unsignalized intersection if for either peak hour the addition of project traffic causes the worst approach delay to LOS E or F and the traffic volumes at the intersections are sufficiently high to satisfy the peak hour volume warrant.

A project is said to create a significant adverse impact on traffic conditions on a CMP freeway segment if for either peak hour:

1. The level of service on a freeway segment is an unacceptable LOS F under no project conditions, and the number of project trips on that segment constitutes at least one percent of capacity on that segment.
2. The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under project conditions.

A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore freeway conditions to LOS E or better.

4.16.2.2 *Transportation Network under Existing plus Project Conditions*

The TIA assumes the roadway network and intersection configurations under existing plus project conditions would be the same as described in Section 4.16.1.3 with the exception of the following improvements that would be constructed as part of the project:

Widening of Cochrane Road along the Project Frontage

The existing curb line along the project frontage from just east of Butterfield Boulevard to the eastern project boundary would be reconstructed to align with the existing curb lines west and east of the project boundary along Cochrane Road. The improvements would allow for a third eastbound lane along Cochrane Road.

Signalization of Woodview Avenue and Cochrane Road

The intersection of Woodview Avenue and Cochrane Road, which serves as the main project entrance, would be signalized as part of the proposed project. A new south leg at the intersection would provide access to the project site. As part of the Woodview Avenue and Cochrane Road project improvements, the following lane geometry was assumed:

- The new south approach would have one left-turn lane and one shared through and right-turn lane. The existing north approach to the intersection (Woodview Avenue) would also provide one left-turn lane and one shared through and right-turn lane. As described above, the project frontage improvements along Cochrane Road would allow for a third eastbound through lane through the Woodview Avenue and Cochrane Road intersection.

4.16.2.3 *Project Trip Generation, Distribution, and Assignment*

The traffic generated by the project and the roadways upon which it would travel are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The project trip generation estimates the volume of traffic entering and exiting the site for the AM and PM peak hours. The trip distribution estimates the directions to and from which the project trips would travel. The trip assignment assigns the project-generated traffic to specific streets and intersections in the study area. These procedures are discussed below.

Trip Generation

The project's trip generation was estimated using the trip generation rates published in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, Ninth Edition, 2012.

Trip generation for retail uses is typically adjusted to account for pass-by trips. Pass-by trips are trips that would already be on adjacent roadways (and are therefore already county in the existing traffic) but would turn into the site while passing by. Justification for applying the pass-by trip reduction is

founded on the observation that such retail traffic is not actually generated by the retail development, but is already part of the ambient traffic levels. Pass-by trips are therefore excluded from the traffic projections (although pass-by traffic is accounted for at the site entrances). A pass-by trip reduction of 20 percent was applied to the project as recommended by the ITE Trip Generation Handbook.

Based on the ITE trip generation rates and reductions for pass-by trips, it is estimated that the proposed project would generate 8,153 daily trips, with 463 trips (289 inbound and 174 outbound) occurring during the AM peak hour and 608 trips (266 inbound and 342 outbound) occurring during the PM peak hour. The project's trip generation estimates are presented in Table 4.16-3.

Table 4.16-3
Project Trip Generation Estimates

Land Use	Size (sf)	Daily Trips[2]	AM			PM		
			In	Out	Total	In	Out	Total
Retail (Tire Store)	10,000	249	18	11	29	18	24	42
Drive-thru Fast Food	2,400	1,191	56	53	109	41	37	78
Drive-thru Fast Food	2,400	1,191	56	53	109	41	37	78
Quality Restaurant	6,500	585	3	2	5	33	16	49
Retail (Personal Services)	10,000	443	4	3	7	12	15	27
Retail (Big Box)	105,000	2,402	39	22	61	100	96	196
Medical Offices	60,000	2,168	113	30	143	60	154	214
Total Project Trips		**8,229**	**289**	**174**	**463**	**305**	**379**	**684**
20% passby-reduction[1]		-76				-39	-37	-76
Net Project Trips		**8,153**	**289**	**174**	**463**	**266**	**342**	**608**

[1] Per the ITE Trip Generation Manual, a 20% PM peak-hour pass-by reduction was applied to the retail and restaurant uses.
[2] The average trip generation rate from the ITE Trip Generation Manual was used for all land uses.

Trip Distribution

The trip distribution pattern for project-generated traffic was estimated based on existing travel patterns on the surrounding roadway system and on the locations of complementary land uses.

Trip Assignment

The peak-hour trips associated with the proposed project were added to the transportation network in accordance with the distribution pattern discussed above.

4.16.2.4 *Existing Plus Project Intersection Levels of Service*

The results of the intersection level of service analysis under existing plus project conditions are summarized in Table 4.16-4. The results show that, measured against the City's LOS standards, all study intersections are projected to operate at acceptable levels of service under existing plus project conditions during each of the peak hours analyzed. Therefore, no study intersections would be

significantly impacts by the project according to the City's impact criteria. **(Less Than Significant Impact)**

Table 4.16-4
Existing Plus Project Intersection Levels of Service

Intersection	Peak Hour	Existing		Existing + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
1. Monterey Road/Cochrane Road	AM	29.0	C	29.3	C	0.5	0.016
	PM	28.0	C	28.3	C	0.2	0.025
2. Cochrane Circle/Cochrane Road	AM	10.1	B	9.9	A	-0.2	0.013
	PM	10.2	B	10.2	B	0.1	0.021
3. Butterfield Boulevard/Cochrane Road	AM	12.5	B	13.1	B	0.9	0.055
	PM	14.0	B	14.9	B	1.2	0.092
4. Woodview Avenue/Cochrane Road	AM	10.7	B	16.7	B	N/A	N/A
	PM	14.3	B	18.5	B	N/A	N/A
5. Sutter Boulevard/Cochrane Road	AM	19.0	B	19.2	B	0.2	0.029
	PM	19.4	B	19.7	B	0.6	0.034
6. Madrone Parkway/Cochrane Plaza/Cochrane Road	AM	18.6	B	18.5	B	-3.3	0.016
	PM	28.3	C	27.5	C	-0.3	0.034
7. US 101 Southbound Ramps/ Cochrane Road	AM	12.5	B	12.7	B	0.2	0.024
	PM	18.6	B	19.3	B	1.2	0.032
8. US 101 Northbound Ramps/ Cochrane Road	AM	10.7	B	11.0	B	0.1	0.016
	PM	10.7	B	11.0	B	0.2	0.020
9. De Paul Drive/Cochrane Road	AM	17.6	B	17.6	B	0.0	0.005
	PM	17.4	B	17.6	B	0.1	0.004
10. Mission View Drive/Cochrane Road	AM	16.0	C	16.5	C	0.4	0.006
	PM	11.5	B	11.7	B	0.2	0.002
11. Sutter Boulevard/Cochrane Plaza	AM	12.4	B	12.8	B	N/A	N/A
	PM	21.5	C	22.9	C	N/A	N/A
12. Butterfield Boulevard/Jarvis Drive (N)	AM	10.7	B	11.2	B	N/A	N/A
	PM	9.5	A	9.9	A	N/A	N/A
13. Sutter Boulevard/Jarvis Drive	AM	13.7	B	14.6	B	N/A	N/A
	PM	13.2	B	14.3	B	N/A	N/A
14. Butterfield Boulevard/Sutter Boulveard	AM	8.6	A	8.8	A	-0.1	0.031
	PM	17.0	B	18.2	B	1.2	0.036
15. Butterfield Boulevard/Jarvis Drive (S)/Digital Drive	AM	11.9	B	12.5	B	N/A	N/A
	PM	11.8	B	12.5	B	N/A	N/A
16. Monterey Road/Old Monterey Road	AM	10.4	B	10.6	B	0.3	0.018
	PM	15.2	B	16.1	B	1.4	0.013

Table 4.16-4
Existing Plus Project Intersection Levels of Service

Intersection	Peak Hour	Existing		Existing + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
17. Butterfield Boulevard/Central Avenue	AM	12.5	B	12.4	B	0.0	0.033
	PM	5.3	A	5.3	A	0.4	0.036
18. Monterey Road/Main Avenue	AM	42.3	D	42.5	D	0.3	0.018
	PM	45.0	D	45.4	D	0.6	0.025
19. Butterfield Boulevard/Main Avenue	AM	29.3	C	28.0	C	-4.1	0.038
	PM	32.0	C	32.1	C	0.0	0.025
20. Condit Road/Main Avenue	AM	24.7	C	24.7	C	0.0	0.004
	PM	16.0	B	16.0	B	0.0	0.004
21. Butterfield Boulevard/Diana Avenue	AM	11.5	B	11.3	B	-0.1	0.018
	PM	11.6	B	11.5	B	0.0	0.022
22. Monterey Road/Dunne Avenue	AM	30.3	C	30.4	C	0.2	0.011
	PM	41.8	D	43.3	D	2.7	0.018
23. Butterfield Boulevard/Dunne Avenue	AM	38.0	D	38.5	D	0.9	0.027
	PM	30.8	C	31.8	C	1.6	0.025
24. US 101 Southbound Ramps/Dunne Avenue	AM	20.3	C	20.3	C	0.0	0.001
	PM	23.0	C	23.0	C	0.0	0.002
25. US 101 Northbound Ramps/Dunne Avenue	AM	10.0	B	10.0	B	0.0	0.002
	PM	11.5	B	11.5	B	0.0	0.003

[1] The reported delay and corresponding level of service for signalized and all-way stop-controlled intersections represents the average delay for all approaches at the intersection. The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.

[2] LOS = Level of service. LOS calculations conducted using the TRAFFIX level of service analysis software package.

4.16.2.5 *Existing Plus Project Freeway Segment Levels of Service*

The results of the freeway segment level of service analysis under existing plus project conditions are summarized in Table 4.16-5. Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding project trips to the existing volumes discussed in Section 4.16.1.6. The results show that the project would not cause an increase in traffic volumes of one percent or more of freeway capacity on any freeway segments currently operating at an unacceptable LOS F, nor would the addition of project traffic result in the degradation of LOS on any freeway segment currently operating at an acceptable LOS E to an unacceptable LOS F. Therefore, based on CMP impact criteria, the proposed project would not have a significant impact on freeways. **(Less Than Significant Impact)**

Table 4.16-5
Existing Plus Project Freeway Segment Levels of Service

Freeway	NB/ SB	From	To	Peak Hour	Project Trips	LOS	Cap (vph)	Percent Increase
US 101	North	San Martin Avenue	Tennant Avenue	AM PM	44 40	**F** C	6,900	0.6% 0.6%
		Tennant Avenue	East Dunne Avenue	AM PM	44 40	**F** B	6,900	0.6% 0.6%
		East Dunne Avenue	Cochrane Road	AM PM	51 47	E C	6,900	0.7% 0.7%
		Cochrane Road	Burnett Avenue (Lane Drop)	AM PM	26 51	D C	6,900	0.3% 0.7%
		Burnett Ave (Lane Drop)	Sheller Avenue	AM PM	26 51	D B	6,900	0.3% 0.6%
		Sheller Avenue	Lane Drop (SB)	AM PM	26 51	E C	6,900	0.3% 0.6%
		Lane Drop (SB)	SR 85	AM PM	26 51	D C	6,900	0.3% 0.6%
US 101	South	SR 85	Lane Drop (SB	AM PM	44 40	B C	9,200	0.4% 0.3%
		Lane Drop (SB)	Sheller Avenue	AM PM	44 40	B D	6,900	0.5% 0.4%
		Sheller Avenue	Burnett Ave (Lane Drop	AM PM	44 40	B D	6,900	0.5% 0.4%
		Burnett Avenue (Lane Drop)	Cochrane Road	AM PM	44 40	C **F**	6,900	0.6% 0.6%
		Cochrane Road	East Dunne Avenue	AM PM	30 60	B D	6,900	0.4% 0.9%
		East Dunne Avenue	Tennant Avenue	AM PM	26 51	B D	6,900	0.4% 0.7%
		Tennant Avenue	San Martin Avenue	AM PM	26 51	B D	6,900	0.4% 0.7%

[1] Measured in passenger cars per mile per lane.
[2] LOS = level of service.
Bold type indicates unacceptable operations (LOS F).

4.16.2.6 *Site Access and Circulation*

Site Access

The proposed project would have six access points serving the project site: three along Cochrane Road, two along Jarvis Drive, and one along Butterfield Boulevard. The two main access points to the site from Cochrane Road and Jarvis Drive would be connected by a north/south internal roadway that would bisect the site in two. The main access point along Cochrane Road (located at Woodview Avenue) is proposed to be signalized as part of the project and would provide full access to the site.

The additional access driveways proposed along Cochrane Road and Butterfield Boulevard would consist of right in and out only driveways, while the access driveways along Jarvis Drive are proposed to be full access driveways. Additionally, the site plan (Figure 3.1-1) shows one driveway connecting the existing commercial uses adjacent to the project site's eastern boundary and providing a secondary access point to the project site.

On-Site Circulation

As shown on the site plan (Figure 3.1-1), the main access points to the project site would be connected by a north/south internal roadway that would bisect the site. A second internal roadway, running east/west, would also serve the site via the access driveway along Butterfield Boulevard. These two internal access roadways would intersect approximately 200 feet south of the Woodview Avenue and Cochrane Road intersection. The new intersection created by these two access roadways is planned to be a roundabout/traffic circle. These two on-site roadways would provide access to all parking areas within the project site.

All proposed parking spaces would be 90-degree parking stalls. The layout of all parking areas allows for a direct connection between the parking stalls and the land use they serve without having to cross more than one drive aisle. The planned internal roadway network contains no dead-end drive aisles on site, providing continuous vehicular circulation throughout the site.

The proposed project would consist of two primary land uses (a big box retail store and medical office building) and other auxiliary services, including restaurants and specialty retail land uses. The proposed big box retail store and medical office building would be located along the southern project boundary while the auxiliary land uses would be located near the northern project boundary (along Cochrane Road). With all auxiliary land uses condensed within the same area, it can be expected that the northern part of the project site would experience the greatest amount of on-site vehicular and pedestrian circulation.

The project would include continuous pedestrian connections between all proposed land uses on site and pedestrian walkways along the site frontages. The proposed pedestrian walkways along the project site frontages would provide connection to other existing pedestrian facilities east and west of the project site.

As recommended by the Americans with Disabilities Act (ADA), the project would place accessible parking spaces on the shortest route of travel from adjacent parking to the proposed buildings. **(Less Than Significant Impact)**

4.16.2.7 *Intersection Operations*

A queuing analysis was conducted for the intersections of Butterfield Boulevard and Cochrane Road and Woodview Avenue and Cochrane Road, where the project would add a large number of left-turning vehicles: The 95th percentile maximum number of queued vehicles for left turns was calculated using standard traffic engineering techniques. Using this figure, the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle. This estimated queue length is compared to the existing or planned available storage capacity for the movement.

The queuing analysis indicates that the maximum vehicle queues for the westbound left-turn pocket at the Butterfield Boulevard and Cochrane Road intersection currently exceeds vehicle storage capacity, and would continue to do so under existing plus project conditions during the PM peak hour. The westbound left-turn pocket provides 250 feet of vehicle storage, which can accommodate approximately 10 vehicles. The estimated 95th percentile vehicle queue during the PM peak hour under existing conditions exceeds the left-turn pocket storage capacity by two vehicles. The project would not increase the 95th percentile vehicle queues for this movement.

Project generated traffic at other locations would be too low to have a measurable effect on queue lengths. **(Less Than Significant Impact)**

4.16.2.8 *Impacts to Transit Service and Pedestrian/Bicycle Facilities*

The project is served by three of the four bus lines that serve the City of Morgan Hill. In addition, two express lines provide service from the project area to the Morgan Hill Caltrain Station during PM commute periods. A typical mode split in Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than 18 transit riders during the AM and PM peak hours. The transit ridership demands of the proposed project would not justify the enhancement of existing transit facilities.

Sidewalks are provided along the north side of Jarvis Drive from the project's eastern boundary to Sutter Boulevard, however the sidewalk is intermittent along the project frontage. The project would provide a sidewalk along its entire frontage and result in a continuous connection to the existing sidewalk along Jarvis Drive to provide safe connection between the project site and other surrounding land uses in the area.

There are several bike lanes and bike paths in the vicinity of the project site as described in Section 4.16.1.2. It is expected that bicycle trips would comprise no more than one percent of total project-generated trips. Thus, the project would generate no more than six new bicycle trips during each of the peak hours. The demand generated by the proposed project would be accommodated by the existing bicycle facilities in the vicinity of the project site. **(Less Than Significant Impact)**

4.16.2.9 *Year 2015 Cumulative Conditions*

Year 2015 cumulative traffic volumes were obtained from traffic forecasts produced using the City's traffic demand forecasting model. The Year 2015 forecasts include land use growth and transportation improvements as identified in the City's 2010 General Plan Circulation Element. Project generated traffic was added to Year 2015 cumulative traffic volumes to represent Year 2015 Cumulative Project Conditions.

Year 2015 Cumulative Transportation Network

Several new roadways are planned under Year 2015 cumulative conditions to provide for enhanced connectivity and circulation throughout the City. The following roadway improvements within the study area are planned and assumed completed under this analysis:

- Extension of Butterfield Boulevard as a two-lane roadway between Madrone Parkway and Cochrane Road.
- Monterey Road widened to a four-lane arterial between Cochrane Road and Old Monterey Road/Llagas Creek Drive.
- Dunne Avenue widened to a four-lane arterial between Monterey Road and Del Monte Avenue.

Year 2015 Cumulative Conditions Intersection Level of Service

The level of service analysis results under Year 2015 Cumulative with and without the project are summarized in Table 4.16-6. The results show that two unsignalized intersections would operate at unacceptable levels under Year 2015 Cumulative conditions without the project during at least one peak hour when measured against the City's level of service standards:

- Mission View Drive and Cochrane Road (LOS F – AM peak hour)
- Sutter Boulevard and Cochrane Plaza (LOS E – PM peak hour)

However, peak hour traffic signal warrant checks indicate that the Sutter Boulevard and Cochrane Plaza intersection would not have traffic volumes under Year 2015 Cumulative conditions with or without the project to meet thresholds warranting signalization. Therefore, based on the City's impact criteria and signal warrant analysis, the proposed project would not result in a cumulatively significant impact at the Sutter Boulevard and Cochrane Plaza intersection.

The projected poor levels of service at the Sutter Boulevard and Cochrane Plaza intersection are due to the delay that would be experienced by the controlled movements from the Cochrane Plaza entrance. The Year 2015 traffic volumes indicate that there would be inadequate gaps in the traffic stream on Sutter Boulevard to serve turn movements from the Cochrane Plaza entrance. This condition would exist with or without the proposed project. Thus, it is recommended that the restriction of left turns from the Cochrane Plaza entrance be considered as traffic volumes increase along Sutter Boulevard.

Peak hour traffic signal warrant checks indicate that the traffic volumes at the Mission View and Cochrane Road intersection currently meet and are projected to continue to meet thresholds that warrant signalization under Year 2015 Cumulative conditions with and without the project. However, each approach leg at the intersection is currently stop-controlled, therefore, there is no safety issue that requires the installation of a signal. Furthermore, the addition of proposed project traffic would result in an increase in delay at the intersection of less than four seconds. Therefore, the proposed project would not result in a significant impact at the Mission View Drive and Cochrane Road intersection. The signalization of this intersection is included in the Year 2030 General Plan roadway network and will be completed concurrently with the planned extension of Mission View Drive from Cochrane Road to Vista del Lomas Avenue. **(Less Than Significant Impact)**

Table 4.16-6
Year 2015 Cumulative Intersection Levels of Service

Intersection	Peak Hour	Delay[1]	LOS	Delay[1]	LOS	Δ in Crit. Delay	Δ in Crit. V/C
	Year 2015 Cumulative			Year 2015 Cumulative Plus Project			
1. Monterey Road/Cochrane Road	AM	29.5	C	29.9	C	0.8	0.012
	PM	29.6	C	30.2	C	0.5	0.021
2. Cochrane Circle/Cochrane Road	AM	10.5	B	10.5	B	0.1	0.010
	PM	10.6	B	10.6	B	0.1	0.017
3. Butterfield Boulevard/Cochrane Road	AM	27.3	C	28.4	C	1.8	0.052
	PM	28.3	C	31.3	C	5.2	0.089
4. Woodview Avenue/Cochrane Road	AM	20.2	C	16.5	B	N/A	N/A
	PM	25.8	D	21.2	C	N/A	N/A
5. Sutter Boulevard/Cochrane Road	AM	19.5	B	19.8	B	0.4	0.028
	PM	21.0	C	22.2	C	2.0	0.032
6. Madrone Parkway/Cochrane Plaza/Cochrane Road	AM	19.8	B	19.5	B	-3.1	0.028
	PM	31.3	C	31.0	C	0.3	0.033
7. US 101 Southbound Ramps/ Cochrane Road	AM	13.7	B	14.0	B	0.5	0.024
	PM	44.2	D	50.3	D	11.9	0.032
8. US 101 Northbound Ramps/ Cochrane Road	AM	12.2	B	12.6	B	0.5	0.016
	PM	13.9	B	14.3	B	0.5	0.020
9. De Paul Drive/Cochrane Road	AM	24.8	C	25.2	C	0.7	0.005
	PM	35.2	D	35.1	D	-0.2	0.004
10. Mission View Drive/Cochrane Road	AM	**71.1**	**F**	**74.9**	**F**	**3.8**	**0.002**
	PM	18.6	C	19.2	C	0.7	0.003
11. Sutter Boulevard/Cochrane Plaza	AM	12.9	B	13.1	B	N/A	N/A
	PM	**35.1**	**E**	**39.2**	**E**	N/A	N/A
12. Butterfield Boulevard/Jarvis Drive (N)	AM	13.9	B	14.9	B	N/A	N/A
	PM	11.0	B	11.6	B	N/A	N/A
13. Sutter Boulevard/Jarvis Drive	AM	18.5	C	20.3	C	N/A	N/A
	PM	15.1	C	17.6	C	N/A	N/A
14. Butterfield Boulevard/Sutter Boulevard	AM	9.6	A	9.9	A	0.3	0.031
	PM	20.7	C	21.7	C	1.2	0.036
15. Butterfield Boulevard/Jarvis Drive (S)/Digital Drive	AM	17.1	C	18.2	C	N/A	N/A
	PM	15.5	C	16.7	C	N/A	N/A
16. Monterey Road/Old Monterey Road	AM	22.3	C	23.2	C	1.5	0.018
	PM	41.1	D	43.2	D	2.7	0.015
17. Butterfield Boulevard/Central Avenue	AM	14.2	B	14.3	B	0.4	0.033
	PM	6.5	A	6.5	A	0.3	0.036
18. Monterey Road/Main Avenue	AM	49.2	D	50.3	D	1.6	0.015
	PM	48.4	D	49.7	D	2.0	0.025
19. Butterfield Boulevard/Main Avenue	AM	29.4	C	29.8	C	0.4	0.030
	PM	33.6	C	34.0	C	0.4	0.025

Table 4.16-6
Year 2015 Cumulative Intersection Levels of Service

Intersection	Peak Hour	Delay[1]	LOS	Delay[1]	LOS	Δ in Crit. Delay	Δ in Crit. V/C
	Year 2015 Cumulative			Year 2015 Cumulative Plus Project			
20. Condit Road/Main Avenue	AM	28.5	C	28.5	C	1.8	0.028
	PM	20.6	C	20.6	C	0.0	0.004
21. Butterfield Boulevard/Diana Avenue	AM	12.3	B	12.5	B	0.3	0.018
	PM	12.0	B	12.0	B	0.2	0.022
22. Monterey Road/Dunne Avenue	AM	30.9	C	31.1	C	0.4	0.011
	PM	39.4	D	40.3	D	1.6	0.015
23. Butterfield Boulevard/Dunne Avenue	AM	42.9	D	44.1	D	1.9	0.027
	PM	36.7	D	37.3	D	1.3	0.025
24. US 101 Southbound Ramps/ Dunne Avenue	AM	19.9	B	19.9	B	0.0	0.000
	PM	23.1	C	23.1	C	0.0	0.002
25. US 101 Northbound Ramps/ Dunne Avenue	AM	9.6	A	9.6	A	0.0	0.002
	PM	11.8	B	11.8	B	0.0	0.003

[1] The reported delay and corresponding level of service for signalized and all-way stop-controlled intersections represents the average delay for all approaches at the intersection. The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.

4.16.2.10 *Air Traffic Patterns and Emergency Access*

The proposed project would not result in a change in air traffic patterns or inadequate emergency access. **(No Impact)**

4.16.2.11 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed. The City may require future applicants to prepare trip generation analyses to confirm the proposed uses would not result in impacts greater or substantially different from those above.

4.16.3 Conclusion

As discussed above, the proposed project would not result in significant transportation impacts. **(Less Than Significant Impact)**

4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Setting

The existing project site is an undeveloped field. The project site generates little to no demand upon the existing utilities and service systems in the project area, which are described in further detail below.

4.17.1.1 *Water Service*

The City of Morgan Hill provides potable water service to its residential, commercial, industrial, and institutional customers within the City limits. The City's water system facilities include 14 groundwater wells, 10 potable water storage tanks, 10 booster stations, and over 160 miles of pressured pipes ranging from two to 14 inches in diameter. The City's water distribution system meets the needs of existing customers. The City has planned and constructed water projects in conjunction with new street construction in anticipation of future growth and water needs.

In the project area, there are existing 10-inch water mains in Cochrane Road, Butterfield Boulevard, and Jarvis Drive.[32]

4.17.1.2 *Wastewater*

The City of Morgan Hill sewer collection system consists of approximately 135 miles of 6-inch through 30-inch diameter sewers, and includes 15 sewage lift stations and associated force mains. The "backbone" of the system consists of the trunk sewers, generally 12-inches in diameter and larger, that convey the collected wastewater flows through an outfall that continues south to the South County Regional Wastewater Authority (SCRWA) Wastewater Treatment Plant. The treatment plant provides service to the cities of Morgan Hill and Gilroy. The treatment plant has capacity to treat an average dry weather flow (ADWF) of 8.5 million gallons per day (mgd) and is currently permitted by the Regional Water Quality Control Board (RWQCB), Central Coast Region to treat up to 8.5 mgd. Both the cities of Gilroy and Morgan Hill have growth control systems in place which limit unexpected increases in sewage generation. The ADWF for combined flows from Morgan Hill and Gilroy were approximately 6.8 mgd in 2010. Based on combined population projections for both cities, the current capacity of 8.5 mgd will be reached in approximately 2019.[33]

The City has planned and constructed sewer facilities in conjunction with new street construction in anticipation of future growth and sewage needs. In the project area, there are existing 18-inch, 21-inch, and six-inch sewer lines in Cochrane Road, Butterfield Boulevard, and Jarvis Drive, respectively.[34] [35] A sewage lift station is located midway along the project site's Cochrane Road frontage.

[32] City of Morgan Hill, *Water System Master Plan*, January 2002.
[33] MWH Global and Akel Engineering Group, *Draft– South County Regional Wastewater Authority Wastewater Flow Projections 2011*, July 2011.
[34] City of Morgan Hill, *Sewer System Master Plan*, January 2002.
[35] Mitchel W. Burley. BKF Engineers. April 4, 2013.

4.17.1.3 *Storm Drainage*

The City of Morgan Hill's storm drainage system consists of a combination of curb and gutter facilities, curb inlets, underground pipelines, and bubblers that drain into detention basins or to the nearest creek. The City's storm drainage system in the project vicinity meets existing drainage needs.

The project site is within the Butterfield Channel storm water drainage basin. Butterfield Channel, previously named Sutter Channel, is an improved channel that drains the area west of US 101 and east of Railroad Avenue to East Little Llagas Creek. The channel is presently complete from Jarvis Drive to Tennant Avenue, and serves as an interim detention basin pending completion of the remainder of the channel and the 27-acre detention basin. Upon completion, the Butterfield Channel storm water drainage basin will consist of an open drainage channel along the eastern side of Butterfield Boulevard extension and a 27.6 acre detention pond on the south side of Maple Avenue. The drainage channel will begin south of Jarvis Drive on the north, and extend to Maple Avenue on the south. There is a 36-inch public storm drain main located adjacent to the site along Cochrane Road.[36] There are also existing storm drain mains on the project site and along Butterfield Boulevard and Jarvis Drive. The existing onsite storm drain line bisects the project site, connecting to the existing lines in Cochrane Road and Jarvis Drive.[37]

4.17.1.4 *Solid Waste*

Recology South Valley provides solid waste and recycling services to the businesses and residents of the cities of Morgan Hill and Gilroy. Recology South Valley has contracted through 2017 with the Salinas Valley Solid Waste Authority to dispose of municipal solid waste at Johnson Canyon Sanitary Landfill. Johnson Canyon Sanitary Landfill is anticipated to reach capacity in 2043.[38]

4.17.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	1, 20
2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	1, 20, 22

[36] Mitchel W. Burley. BKF Engineers. April 4, 2013.
[37] City of Morgan Hill, *Storm Drainage System Master Plan*, January 2002.
[38] Phil Couchee, *General Manager, Recology*, Phone Communication, February 3, 2010.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
3. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	1, 21
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐	1, 22
5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	1, 20
6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	1
7. Comply with federal, state and local statutes and regulations related to solid waste?	☐	☐	☒	☐	1

4.17.2.1 *Impacts to Utilities and Service Systems*

As an undeveloped field, the existing project site generates little to no demand upon the existing utilities and service systems. Therefore, compared to existing conditions, the proposed commercial development would increase demand upon existing utility and service systems in the project area.

Water Service

The estimated project water demand totals 53,320 gallons per day, and is broken down is Table 4.17-1, on the following page.

The development proposed by the project would not increase water demand above that forecasted in the most recent Urban Water Management Plan. There is sufficient capacity in the water mains adjacent to the site in Cochrane Road, Butterfield Boulevard, and Jarvis Drive to serve the proposed project.[39]

[39] BKF Engineers, *Mitchel W. Burley,* April 4, 2013.

Table 4.17-1: Estimated Project Daily Water Use			
Use	**Rate[1]**	**Size[2]**	**Gallons/Day**
Big Box Retail[3]	900 gallons/day/25 feet frontage	420 feet	15,120
Restaurant	30 gallons/day/seat	200 seats	6,000
Fast Food	30 gallons/day/seat	100 seats	3,000
Fast Food	30 gallons/day/seat	100 seats	3,000
Medical Office	0.18 gallons/day/square foot	60,000 ft^2	10,800
Retail[3]	450 gallons/day/25 feet frontage	200 feet	7,200
Retail[3]	450 gallons/day/25 feet frontage	200 feet	7,200
Total Project Daily Water Use			**52,320**

[1] City of Redwood City. Water Demand Projection Worksheets. June 2007

[2] Building frontages are estimated based on the Master Site Plan.

[3] For purposes of this estimate, it was assumed the "Big Box" retail would sell food.

Wastewater

The proposed commercial development would generate approximately 44,472 gallons of wastewater per day.[40] There is sufficient capacity in the sanitary sewer system to support the project and the project would not adversely affect the functionality or the capacity of the existing sanitary sewer system.[41]

Stormwater

The existing project site is an undeveloped field with no impervious surfaces. The proposed project would substantially increase the amount of onsite impervious surfaces (i.e., roofs, sidewalks, and pavement) and, as a result, the amount of storm water runoff generated by the site would increase. As described in Section 4.9, Hydrology and Water Quality, the project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. In accordance with the City of Morgan Hill Standard Conditions of Approval, the project would prepare and submit a Storm Drainage Study to the Director of Public Works for review and approval, prior to the issuance of a grading permit. The Storm Drainage Study would include calculations to determine detention and operations and demonstrate how the runoff rate from the proposed project would be less than or equal to existing conditions.[42] The project would not construct new storm water drainage facilities beyond those proposed onsite to support the project. For these reasons, project runoff would not exceed the capacity of existing or planned storm water drainage systems, and the project would not require the construction of new storm water drainage facilities or expansion of existing facilities.

[40] Based on 85 percent of the total water usage.

[41] Ha, Charlie, *Will Serve Letter*, City of Morgan Hill, May 16, 2014.

[42] Using the City's requirements for sizing, the project site would be required to provide storage for a 25-year, 24-hour storm with an additional capacity of 25 percent for freeboard.

As shown in Table 4.17-2, the proposed development would generate approximately 2,064.5 tons of solid waste per year when under full operation.

Table 4.17-1: Estimated Annual Solid Waste Generation

Use	Rate[1]	Size	Tons/Year
Big Box Retail	16.79 lbs/year/square foot	105,000 ft^2	881.5
Restaurant	0.183 tons/year/seat	200 seats	36.6
Fast Food	3.1 tons/year/employee	20 employees	62.0
Fast Food	3.1 tons/year/employee	20 employees	62.0
Medical Office	30.66 lbs/year/square foot	60,000 ft^2	919.8
Retail	1.9 tons/year/employee	27 employees	51.3
Retail	1.9 tons/year/employee	27 employees	51.3
Total Tons of Solid Waste Per Year			**2,064.5**

[1] CalRecycle, *Waste Disposal Rates*, December 21, 2011, http://www.calrecycle.ca.gov/WASTECHAR/WasteGenRates/default.htm.

The City of Morgan Hill has contracted with Recology South Valley to provide solid waste disposal and recycling service within the City. Recology South Valley will dispose of solid waste from the City at Johnson Canyon Sanitary Landfill which has a projected permitted capacity of approximately 13,834,328 cubic yards and is expected to remain open through 2043. The proposed project would result in increased waste disposal from the project site; however, the proposed development would be served by a landfill with adequate capacity, and would comply with the 50 percent minimum waste diversion required by the State.

4.17.2.2 *Conditional Uses*

The conditional uses listed in Section 3.1.1 would not result in impacts greater or substantially different than those discussed above. The conditional uses would be subject to subsequent environmental review at the time applications are filed.

4.17.3 Conclusion

The proposed project would not exceed the capacity of existing utilities and service systems serving the project area. **(Less Than Significant Impact)**

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	1-23
2. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐	1-23
3. Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐	1-23
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	1-23

4.18.1 Findings

As described in their respective sections, measures are included in the proposed project to avoid or reduce impacts to less than significant level. With implementation of these measures, the proposed project would not result in significant impacts to biological or cultural resources, achieve short-term environmental goals to the disadvantage of long-term environmental goals, or substantially adversely affect human beings directly or indirectly.

The potential for the proposed project to result in cumulative impacts is discussed throughout this Initial Study. The proposed project would not make a cumulatively considerable contribution to a significant cumulative impact.

Checklist Sources

1. CEQA Guidelines – Environmental Thresholds (Professional judgment and expertise and review of project plans).
2. City of Morgan Hill, *General Plan*, February 2010.
3. California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, *Santa Clara County Important Farmlands Map*, 2010.
4. California Department of Conservation, Division of Land Resource Protection, Conservation Program Support, *Santa Clara County Williamson Act FY 2012/2013*, 2012.
5. County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012.
6. Pacific Geotechnical Engineering, *Ground Movement Potential Map Folio*, December 1991.
7. Pacific Geotechnical Engineering, *Geologic Map Folio*, December 1991.
8. Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2012.
9. Live Oak Associates, Inc., *Biological constraints analysis of The Village project on Cochrane Road in Morgan Hill, California (PN 1676-01)*, December 18, 2012.
10. City of Morgan Hill, *Municipal Code*, 2013.
11. County of Santa Clara, *Final Santa Clara Valley Habitat Plan*, August 2012.
12. City of Morgan Hill, *Archaeology Sensitivity Map*, December 2000.
13. Basin Research Associates, Inc., *Cultural Resources Assessment, Adams-Natt Veterinary Hospital, Morgan Hill, Santa Clara County, California*, January 2006.
14. Federal Emergency Management Agency, *Flood Insurance Rate Map, Community Panel No. 06085C0443H*, May 18, 2009.
15. Association of Bay Area Governments, *Bay Area Dam Failure Inundation Maps*, October 20, 2003, http://www.abag.ca.gov/bayarea/eqmaps/dfpickc.html.
16. Phase I Environmental Site Assessment, *Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*, November 5, 2007.
17. ENGEO, Inc., *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment*, March 14, 2013
18. Illingworth & Rodkin, Inc., *Butterfield Boulevard Residential Projects General Plan Amendment, Environmental Noise Assessment*, August 15, 2012.
19. Hexagon Transportation Consultants, *Marketplace at Cochrane Village Traffic Impact Analysis*, April 14, 2014.
20. City of Morgan Hill, *Sewer System Master Plan*, January 2002.
21. City of Morgan Hill, *Storm Drainage System Master Plan*, January 2002.
22. City of Morgan Hill, *Water System Master Plan*, January 2002.
23. Illingworth & Rodkin, Inc., *Air Quality and GHG Report*, May 23, 2014.

SECTION 5.0 REFERENCES

Airport Land Use Commission, *Land Use Plan for Areas Surrounding Santa Clara County Airports*, September 1992.

Association of Bay Area Governments, *Dam Failure Inundation Hazard Map for Morgan Hill*, October 2003, http://www.abag.ca.gov/bayarea/eqmaps/dfpickc.html.

Association of Bay Area Governments, *Projections and Priorities 2009: Building Momentum*, August 2009.

Basin Research Associates, Inc., *Cultural Resources Assessment, Adams-Natt Veterinary Hospital, Morgan Hill, Santa Clara County, California*, January 2006.

Bay Area Air Quality Management District, *CEQA Guidelines*, May 2011.

Blackie, Belinda P. P.E., R.E.A., *Vicinity Hazardous Materials User Survey, Cochrane South Bay Development, Morgan Hill, California*, June 10, 2013.

California Department of Conservation, *Santa Clara County Important Farmland 2010*, June 2011.

City of Morgan Hill, *General Plan 2025*, February 2010.

City of Morgan Hill, *Archaeological Sensitivity Map*, December 2000.

City of Morgan Hill, *Parks, Facilities, and Recreation Programming Master Plan*, December 2000.

City of Morgan Hill, *Sewer System Master Plan*, January 2002.

City of Morgan Hill, *Storm Drainage System Master Plan*, January 2002

City of Morgan Hill, *Water System Master Plan*, January 2002.

City of Morgan Hill, *Zoning Ordinance*, March 2006.

County of Santa Clara, Department of Public Works, *Soil Map Sheet 53*, 1964.

County of Santa Clara, *Final Santa Clara Valley Habitat Plan*, August 2012.

Ellis, D., *Arborist Report: Morgan Hill Apartments Cochrane Road, Butterfield Boulevard, and Jarvis Drive, Morgan Hill, California*, May 6, 2013.

ENGEO, Inc., *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California Agrichemical Assessment*, March 14, 2013.

Federal Emergency Management Agency, *Flood Insurance Rate Map, Community Panel No. 06085C0443H*, May 18, 2009.

Geologica Inc., *Phase I Environmental Site Assessment, Vacant Properties, Assessor's Parcel Numbers 726-250935 and 726-32-021, Morgan Hill, California*, November 5, 2007.

Hexagon Transporation Consultants, Inc., *Marketplace at Cochrane Village Traffic Impact Analysis*, April 14, 2014.

Illingworth & Rodkin, Inc., *Cochrane-South Bay Development Air Quality and Greenhouse Gas Emission Assessment, Morgan Hill, California*, May 23, 2014.

Illingworth & Rodkin, Inc., *Cochrane-South Bay Development Environmental Noise Assessment, Morgan Hill, California*, April 17, 2013.

Live Oak Associates, Inc., *Biological Constraints Analysis of The Village Project on Cochrane Road in Morgan Hill, California (PN 1676-01)*, December 18, 2012.

Pacific Geotechnical Engineering, *Geologic Map Folio, City of Morgan Hill*.

Pacific Geotechnical Engineering, *Generalized Hydrogeologic and Liquefaction Potential Map of Valley Floor Terrain, City of Morgan Hill*, December 1991.

Pacific Geotechnical Engineering, *Generalized Geologic Map, Geology, Geologic and Geotechnical Hazards Study, City of Morgan Hill*, October 1993.

United States Department of Agriculture, Natural Resources Conservation Service, *Custom Soil Resource Report for Eastern Santa Clara Area, California*, May 20, 2014.

SECTION 6.0 AUTHORS AND CONSULTANTS

Authors: **City of Morgan Hill**
Terry Linder, Senior Planner

Consultants: **David J. Powers & Associates**
Akoni Danielsen, Principal Project Manager
Demetri Loukas, Project Manager
Brad J. Napientek, Associate Project Manager
Zach Dill, Graphic Artist

Illingworth & Rodkin
Michael Thill, Noise Consultant
James Reyff, Air Quality Consultant

Live Oak Associates
Davinna Ohlson, Ecologist

Hexagon Transportation Consultants
Robert Del Rio, Transportation Consultant

ATTACHMENT 2

BUTTERFIELD & COCHRANE DEVELOPMENT PROJECT ADDENDUM

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Butterfield & Cochrane Development
Initial Study/Addendum
City of Morgan Hill
July 2018

TABLE OF CONTENTS

Section 1.0 Introduction and Purpose 1
Section 2.0 Project Information 4
Section 3.0 Project Description 9
Section 4.0 Environmental Setting, Checklist, and Impact Discussion 13
4.1 Aesthetics 15
4.2 Agricultural and Forestry Resources 18
4.3 Air Quality 20
4.4 Biological Resources 28
4.5 Cultural Resources 35
4.6 Geology and Soils 41
4.7 Greenhouse Gas Emissions 46
4.8 Hazards and Hazardous Materials 52
4.9 Hydrology and Water Quality 57
4.10 Land Use and Planning 64
4.11 Mineral Resources 66
4.12 Noise and Vibration 67
4.13 Population and Housing 75
4.14 Public Services 77
4.15 Recreation 80
4.16 Transportation/Traffic 82
4.17 Utilities and Service Systems 93
4.18 Mandatory Findings of Significance 98
Section 5.0 References 101
Section 6.0 Lead Agency and Consultants 104

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

TABLE OF CONTENTS

Figures

Figure 2.8-1: Regional Map 6
Figure 2.8-2: Vicinity Map 7
Figure 2.8-3: Aerial Photograph and Surrounding Land Uses 8
Figure 3.2-1: Conceptual Site Plan 11
Figure 4.12-1: Noise Measurement Locations 69

Tables

Table 3.2-1: Project Development 10
Table 4.3-1: Construction Criteria Pollutant Emissions 22
Table 4.3-2: Operational Criteria Pollutant Emissions 25
Table 4.3-3: Cumulative TAC Emissions at Construction MEI 25
Table 4.3-4: Community Risk Impact to New Project Residences 27
Table 4.7-1: Annual Project GHG Emissions in Metric Tons 50
Table 4.12-1: Summary of Short-term and Long-term Noise Measurements (dBA) 68
Table 4.16-1: Existing Plus Project Intersection Levels of Service 86
Table 4.16-2: Cumulative Plus Project Intersection Levels of Service 89
Table 4.16-3: Existing Plus Project Freeway Segment Levels of Service 91
Table 4.17-1: Estimated Project Daily Water Use 96

Appendices

Appendix A: Air Quality
Appendix B: Biological Constraints Analysis
Appendix C: Tree Survey
Appendix D: Phase I Environmental Site Assessment
Appendix E: Agrichemical Assessment
Appendix F: Vicinity Hazardous Materials Users Survey
Appendix G: Noise
Appendix H: Traffic Impact Analysis

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

ACRONYMS AND ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
MND	Mitigated Negative Declaration
NOD	Notice of Determination
RWQCB	Regional Water Quality Control Board
USFWS	United States Fish and Wildlife Service

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 1.0 INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

On June 24, 2014, the Planning Commission adopted the Mitigated Negative Declaration (MND) for the Butterfield and Cochrane Development. The development proposed to amend the existing Planned Unit Development District, subdivide the project site into eight parcels, install a stoplight at the main entrance on Cochrane Road, and develop 196,300 square feet of commercial uses on the project site including the following:

1) Business support services;
2) Commercial services;
3) Commercial recreation, indoor, 3,000 square feet or less in size;
4) Commercial recreation, indoor, greater than 3,000 square feet in size;
5) Drive-through restaurant (maximum of three);
6) Financial services;
7) Home improvement center;
8) Hotel/motel/lodging facilities;
9) Offices, medical/dental;
10) Offices, administrative;
11) Offices, professional
12) Personal services
13) Research and development;
14) Restaurants, sit-down and fast food;
15) Retail, intensive (excluding convenience and specialty markets);
16) Congregate care for the elderly/assisted living facilities;
17) Convenience markets and specialty markets;
18) Day care centers and nursery schools;
19) Day care centers, adult;
20) Minor motor vehicle repair;
21) Nursing home or convalescent hospital;
22) Service station.
23) Any other use the Community Development Director finds similar to listed or permitted uses.

The proposed rezoning would also allow the following conditional uses to be approved by the City at a later date:

1) Kennel

The City of Morgan Hill is the Lead Agency under CEQA and has prepared this Addendum to address the impacts of implementing the currently proposed project. This Addendum is being prepared to conform to the requirements of the CEQA, the CEQA Guidelines (California Code of Regulations §15000 et.seq.) and the regulations and policies of the City of Morgan Hill. As discussed in the following analysis, the proposed project is of similar size and intensity compared to the previously analyzed project, and no new significant impacts, nor a substantial increase in the

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

severity of previously identified impacts, are expected to occur from the implementation of the proposed project, therefore this Addendum has been prepared in conformance with CEQA.

1.2 PURPOSE OF THE ADDENDUM

The California Environmental Quality Act (CEQA) recognizes that between the date an environmental document is completed and the date the project is fully implemented, one or more of the following changes may occur: 1) the project may change; 2) the environmental setting in which the project is located may change; 3) laws, regulations, or policies may change in ways that impact the environment; and/or 4) previously unknown information can arise. Before proceeding with a project, CEQA requires the Lead Agency to evaluate these changes to determine whether or not they affect the conclusion in the environmental document.

The CEQA Guidelines §15162 state that when an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR or negative declaration, due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

CEQA Guidelines §15164 states that the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions described in §15162 (see above) calling for preparation of a subsequent EIR have occurred.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

This Addendum will not be circulated for public review, but will be attached to the 2014 Butterfield & Cochrane Development Initial Study, pursuant to CEQA Guidelines §15164(c). All documents referenced in this Initial Study/Addendum are available for public review in the Community Development Department at the City of Morgan Hill during normal business hours.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

Butterfield & Cochrane Development (AAE2017-0034/AAE2017-0035: Cochrane-South Bay)

2.2 PROJECT LOCATION

Southeast quadrant of the Cochrane Road and Butterfield Boulevard intersection in Morgan Hill (refer to Figure 2.8-1, Figure 2.8-2, and Figure 2.8-3).

2.3 LEAD AGENCY CONTACT

Richard Smeaton, Contract Planner
City of Morgan Hill
Community Development Agency
17575 Peak Avenue
Morgan Hill, CA 95037
Phone: (408) 778-6480
Email: Richard.Smeaton@morganhill.ca.gov

2.4 PROJECT APPLICANT

Zach Lauterbach, Senior Development Manager
Evergreen Development
2390 East Camelback Road, Suite 410
Phoenix, AZ. 85016
Phone: (602) 808-8600
Email: zlauterbach@evgre.com

2.5 ASSESSOR'S PARCEL NUMBER

726-25-035 and 726-32-021

2.6 GENERAL PLAN DESIGNATION AND ZONING DISTRICT

Zoning District: Planned Unit Development
General Plan Designation: Commercial

2.7 HABITAT PLAN DESIGNATION

Private Development Areas:	Urban Development Equal to or Greater Than 2 Acres Covered
Land Cover:	Grain, Row-crop, Hay and Pasture, Disked/Short-term Fallowed
Land Cover Fee Zone:	Agricultural and Valley Floor Lands (Fee Zone B)

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Burrowing Owl Survey and Fee Zone: N/A

2.8 PROJECT-RELATED APPROVALS, AGREEMENTS, AND PERMITS

The project would require the City to approve a Planned Development/Zoning Amendment, Development Agreement, and Design Permit application.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 2.8-1: Regional Map

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 2.8-2: Vicinity Map

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 2.8-3: Aerial Photograph and Surrounding Land Uses

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW

This Initial Study/Addendum provides project-level CEQA analysis for a Development Agreement and Planned Development Zoning Amendment to allow the development of a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility.

3.1.1 Environmental Setting

The 20.25-acre project site (APNs 726-25-035 and 726-32-021) is located in the southeast quadrant of the intersection of Cochrane Road and Butterfield Boulevard in the City of Morgan Hill. The site is undeveloped. The site's existing General Plan land use designation and zoning are *Commercial* and *Planned Unit Development District*, respectively. The project area includes a mix of uses. Residences are located southwest of the project site, across Butterfield Boulevard. Industrial uses are located northwest and southwest of the project site, across Cochrane Road and Jarvis Drive, respectively. Commercial uses are located northeast of the site.

3.2 PROJECT DESCIRPTION

3.2.1 Site Design and Development Details

The proposed project would divide the project site into 11 parcels and develop a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility (see Table 3.2-1 and

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 3.2-1). The retail, restaurant, and convenience store buildings will not exceed 30 feet. The market, medical offices and senior living building will be approximately 35 feet in height, and the hotel is anticipated to be 60 feet in height. 0.20 acres of the project site would consist of right-of-way dedication along Cochrane Road for a future road expansion project. The proposed revised project would disturb the site in a similar fashion to the 2014 approved project, but would introduce additional uses not included in the 2014 entitlement.

Table 3.2-1: Project Development

Parcel #	Proposed Square Footage	Anticipated Use
1	3,000	Convenience store, nine fuel pumps, and car wash
2	3,500	Quick service restaurant and drive-thru
3	2,000	Quick service restaurant and drive-thru
4	7,200	Mixed-use of commercial services and food uses
5	44,000	Full service four-story hotel with approximately 110 rooms
6	10,000	Tire store and showroom with tire service center
7	22,000	Grocery store
8	3,000	Retail uses
9	35,000	Two-story medical office building
10	176,500	85 unit senior residential care facility
11	5,500	General office building

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 3.2-1: Conceptual Site Plan

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

3.2.1.1 *Site Access and Parking*

Direct vehicle access to the project site would be from driveways on Cochrane Road, Butterfield Boulevard, Jarvis Drive, and the adjacent parcel along Sutter Boulevard. The project would include a total of seven access driveways. The main entrance would be located on Cochrane Road, near its intersection with Woodview Avenue. A new traffic signal would be installed at this driveway. The project would provide a total of 592 parking spaces.

3.2.1.2 *Stormwater*

The project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. An onsite network of perforated storm drain pipes would collect the runoff filtered through the landscape/bioretention areas, maximizing the amount of runoff retained onsite prior to discharging to the public storm drain system. The landscape/bioretention system would be sized to limit the runoff rate from the proposed project to existing conditions.[1] Excess runoff would be directed to the detention basin southwest of the project site.

3.2.1.3 *Construction*

The proposed project would be constructed in two phases. Phase I would construct the project infrastructure, including onsite main access driveways, internal roads, utilities to the building pads, and other offsite work. Phase II would construct the proposed buildings across the project site. Phase II is expected to occur over multiple years, as the project will subdivide the site into 11 parcels. It is anticipated each of the 11 parcels will be constructed as a separate project, albeit with some amount of overlap, i.e. several parcels could be under construction simultaneously based on market demand, with the overall timeframe of construction lasting between three and five years. The proposed project does not anticipate the need for pile driving, and soil import and export volumes are expected to balance each other out.

[1] Using the City's requirements for sizing, the project site would be required to provide storage for a 25-year, 24-hour storm with an additional capacity of 25 percent for freeboard.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 4.0 ENVIRONMENTAL SETTING, CHECKLIST, AND IMPACT DISCUSSION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

4.1	Aesthetics	4.10	Land Use and Planning
4.2	Agricultural and Forestry Resources	4.11	Mineral Resources
4.3	Air Quality	4.12	Noise and Vibration
4.4	Biological Resources	4.13	Population and Housing
4.5	Cultural Resources	4.14	Public Services
4.6	Geology and Soils	4.15	Recreation
4.7	Greenhouse Gas Emissions	4.16	Transportation/Traffic
4.8	Hazards and Hazardous Materials	4.17	Utilities and Service Systems
4.9	Hydrology and Water Quality	4.18	Mandatory Findings of Significance

The discussion for each environmental subject includes the following subsections:

- **Environmental Setting** – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.
- **Checklist and Discussion of Impacts** – This subsection includes a checklist for determining potential impacts and discusses the project's environmental impact as it relates to the checklist questions. For significant impacts, feasible mitigation measures are identified. "Mitigation measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered using an alphanumeric system that identifies the environmental issue. For example, **Impact HAZ-1** denotes the first potentially significant impact discussed in the Hazards and Hazardous Materials section. Mitigation measures are also numbered to correspond to the impact they address. For example, **MM NOI-2.3** refers to the third mitigation measure for the second impact in the Noise section.
- **Conclusion** – This subsection provides a summary of the project's impacts on the resource.

Important Note to the Reader

The California Supreme Court in a December 2015 opinion in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 *(BIA v. BAAQMD)* confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project on the environment, including whether a project may exacerbate existing environmental hazards.

The City of Morgan Hill has policies that address existing conditions affecting a proposed project, which are also discussed in this section. This is consistent with one of the primary objectives of

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

CEQA, which is to provide objective information to decision-makers and the public. The CEQA Guidelines and the courts are clear that a CEQA document can include information of interest even if such information is not an environmental impact as defined by CEQA.

Therefore, in addition to describing the impacts of the project on the environment, this section will discuss operational issues as they relate to City of Morgan Hill policies. Such examples include, but are not limited to, locating a project near sources of air emissions that can pose a health risk, in a floodplain, geologic hazard zone, high noise environment, or on/adjacent to sites involving hazardous substances.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.1 AESTHETICS

4.1.1 Environmental Setting

4.1.1.1 *Existing Conditions*

The 20.25-acre project site is located in central Morgan Hill in the southeast quadrant of the Cochrane Road and Butterfield Boulevard intersection. The project site is a flat, undeveloped field covered by non-native grassland with some trees planted along Cochrane Road and Jarvis Drive. The trees on the project site have been neglected and are in poor condition.

4.1.1.2 *Surrounding Visual Character*

The project area is a patchwork of developed and undeveloped parcels. Newer commercial development borders the eastern site boundary, including a one-story restaurant building and a Spanish-style stucco office building that is up to three stories tall. Cochrane Road, Butterfield Boulevard, and Jarvis Drive border the site to the north, west, and south, respectively. Cochrane Road and Butterfield Boulevard are large roadways (two lanes in each direction) with landscaped medians, sidewalks, and streetlights. Jarvis Drive is a two-lane roadway with streetlights that serves the industrial and commercial uses in the project area. Sidewalks are provided along the north side of Jarvis Drive, however the sidewalk is intermittent along the project frontage. The area north of the project site (across Cochrane Road) includes newer commercial development mostly one-story in height, and undeveloped parcels similar in appearance to the project site. The area west of the project site (across Butterfield Boulevard) includes newer residential apartment buildings, new small-lot single family residences that are up to three-stories in height, and undeveloped parcels similar in appearance to the project site. The area south of the site (across Jarvis Drive) includes newer industrial and commercial buildings that are up to two stories in height.

4.1.1.3 *Scenic Vistas and Resources*

Due to the flat topography, existing development, and large trees in the project area, views of the project site are limited to the immediate vicinity. The site is not located within a designated scenic view corridor or visible from a designated scenic highway. The nearest state-designated highway is State Route (SR) 9, approximately 20 miles west of the site (at the SR 17 interchange).

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.1.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒	☐	1, 2
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒	☐	1, 2
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒	☐	1, 2
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒	☐	1, 2

4.1.2.1 *Impacts to Scenic Views or Scenic Resources (Checklist Questions a and b)*

The project site is not located along a state scenic highway. Views of the project site area are limited to the immediate area. The proposed project would not block views of Nob Hill to the north since views from developments south of the site are obstructed by existing development.

Trees are considered visual resources in urban environments since they contribute to aesthetic interest and character. Several trees are present on the site, including a row of olive trees along Cochrane Road and a group of landscape trees planted in the east corner of the site. Valley oak and coast live oak saplings are also present along Cochrane Road. Although these trees would be removed, the tree removal would be consistent with what is associated with the approved 2014 project, and trees would be planted in accordance with City policies to offset the aesthetic effects of tree removal (see Section 4.4 Biological Resources for a detailed discussion).

Redevelopment of this site, therefore, would not have a significant adverse effect on a scenic vista or damage scenic resources within a state scenic highway. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.1.2.2 *Impacts to Visual Character (Checklist Questions c)*

The proposed project would divide the project site into 11 parcels and develop a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility. While development under the proposed project would change the existing visual character of the existing undeveloped project site, the proposed commercial buildings

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

would be similar in scale to the existing development in the project area, and would be substantially similar in scale and character to the development program under the 2014 approved entitlements, which was also found to result in a less than significant visual impact. All development on the site would be subject to review and approval by the City of Morgan Hill Design Permit process to ensure the development meets local design and aesthetic standards. Franchise architecture would not be permitted. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.1.2.3 *Light and Glare Impacts (Checklist Question d)*

The proposed development of commercial buildings would incrementally increase light and glare in the project area, due to the new reflective surfaces and outdoor lighting on the site and vehicles traveling on and to and from the site. These new sources of light and glare from the project would be similar in character to light and glare from the nearby existing commercial, industrial and residential development. Building design, glazing materials and outdoor lighting would be subject to review by the City of Morgan Hill Design Permit process for conformance with City standards. For these reasons, development on the site under the proposed project would not result in a new source of substantial light or glare that would affect day or nighttime views in the area, and would be substantially similar in terms of proposed lighting to the development program under the 2014 approved entitlements, which was also found to result in a less than significant light and glare impact. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.1.3 Conclusion

The proposed development of commercial buildings on the project site would not result in significant aesthetic impacts. **[Same Impact as Approved Project (Less Than Significant Impact)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.2 AGRICULTURAL AND FORESTRY RESOURCES

4.2.1 Environmental Setting

The project site is not used for agricultural production and is not the subject of a Williamson Act contract.[2] No land adjacent to the project site is used for agricultural production. The City of Morgan Hill General Plan Land Use Diagram designates the project site *Commercial*, and the Zoning Map designates the project site *Planned Unit Development – General Commercial (PUD)*. The land in the project vicinity is also designated and zoned for urban uses. Existing development adjacent to the site includes commercial, industrial, and residential uses. The land on and adjacent to the site is not forest land or timberland, or zoned for timberland production. According to the Santa Clara County Important Farmland 2014 Map, the surrounding area is designated *Urban and Built-up Land*.

There are four farmland categories in the California Department of Conservation Farmland Mapping Program: *Prime Farmland, Farmland of Statewide Importance, Unique Farmland* and *Farmland of Local Importance*. According to the Santa Clara County Important Farmland 2010 Map, the project site was designated *Farmland of Local Importance*, which is defined as land with small orchards and vineyards, primarily in the foothill areas, and land cultivated as dry cropland for grains and hay, however, in the most recent 2014 map, the site was re-designated as *Grazing Land***.**[3] The project site is not subject to a Williamson Act contract.

4.2.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	☐	1, 2, 3
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	☐	1, 2, 4

[2] Giordano, Frank. Office of the Assessor, County of Santa Clara. *Personal Communication*. October 10, 2012
[3] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Santa Clara County Important Farmlands Map 2014.* Map. October 2016.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒	☐	1, 2
d) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐	1, 2
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐	1, 2, 3

4.2.2.1 *Agricultural and Forest Resources (Checklist Question a-e)*

The City of Morgan Hill adopted its Agricultural Lands Preservation Program (Preservation Program) in November 2014 to preserve potential agricultural land subject to development. Lands classified as *Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or Grazing Land* under the California Department of Conservation Farmland Mapping Program are covered under the Preservation Program. The project site was designated *Farmland of Local Importance* in 2010 and would be required to comply with Preservation Program's mitigation measures as detailed in the Agricultural Mitigation Ordinance. (**note to City: site is now mapped as Grazing Land, which is not subject to the Ag Ordinance, but it was Local Importance in 2010, so please confirm mitigation applies**) The proposed project would pay all applicable agricultural preservation in-lieu fees and/or provide sufficient agricultural conservation easements at a 1:1 ratio.[4] The project site is not a forest resource, nor are there forest lands in its vicinity. For these reasons, the project would not impact agricultural or forest resources. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.2.3 Conclusion

The proposed project would not result in any new or more significant impacts to agricultural, forestry or timberland resources on the project site or project area than the approved project. **[Same Impact as Approved Project (Less than Significant Impact)]**

[4] Chapter 18.85 of the Morgan Hill Municipal Code.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.3 AIR QUALITY

The following discussion is based on an air quality and greenhouse gas emissions analysis completed for the proposed project by *Illingworth & Rodkin* on July 13, 2018. The report summarizing the results of the analysis is included as Appendix A of this Addendum.

4.3.1 Environmental Setting

Air quality and the concentration of a given pollutant in the atmosphere are determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunlight.

The project site is located at the south end of the Santa Clara Valley within the San Francisco Bay Area Air Basin. The region typically has moderate ventilation and frequent inversions that restrict vertical dilution. Located on either side of the Santa Clara Valley, the Santa Cruz Mountains and Diablo Range restrict horizontal dilution. The surrounding terrain results in a prevailing wind that follows along the valley's northwest-southeast axis. The combined effects of these geographical and meteorological factors make air pollution potential in the Santa Clara Valley quite high.

4.3.1.1 *Existing Conditions*

The project site is currently undeveloped and does not generate any air pollutants.

4.3.1.2 *Sensitive Receptors*

The Bay Area Air Quality Management District (BAAQMD) defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, school playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. Sensitive receptors within the project area are the single-family residences located across the street from the project site along Butterfield Boulevard.

4.3.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒	☐	1, 8, 23
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒	☐	1, 8, 23

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☐	☐	☒	☐	1, 8, 23
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒	☐	1, 8, 23
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒	☐	1, 8, 23

4.3.2.1 *Clean Air Plan Consistency (Checklist Question a)*

The most recent clean air plan is the 2017 Bay Area Clean Air Plan (2017 CAP). The proposed project would not conflict with the 2017 CAP because it would have emissions below BAAQMD thresholds, is considered urban infill, and is consistent with the development assumptions of the City's General Plan. Because the project would not exceed BAAQMD significance thresholds, it is not required to incorporate project-specific control measures listed in the 2017 CAP. Further, implementation of the project would not inhibit BAAQMD or partner agencies from continuing progress toward attaining state and federal air quality standards and eliminating health-risk disparities from exposure to air pollution among Bay Area communities, as described within the 2017 CAP. **(Less Than Significant Impact [Same Impact as Approved Project])**

4.3.2.2 *Violation of Standards (Checklist Question b, d)*

Construction

Criteria Pollutants

Construction of the project would involve site grading, trenching, paving, building construction, and architectural coatings. Construction-related automobiles, trucks, and heavy equipment are a primary concern with regard to criteria pollutant emissions as a result of diesel particulate matter.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.3-1: Construction Criteria Pollutant Emissions				
Scenario	**ROG**	**NOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Total construction emissions	3.3 tons	6.3 tons	0.3 tons	0.2 tons
Average daily emissions[1]	16.5 lbs./day	31.5 lbs./day	1.3 lbs./day	1.2 lbs./day
BAAQMD Thresholds	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
Threshold Exceeded?	**No**	**No**	**No**	**No**
[1]Assumes 400 workdays.				

As shown in Table 4.3-1, the emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust associated with construction would not exceed the BAAQMD significance thresholds and, therefore, would not result in a significant impact from construction emissions. **(Less Than Significant Impact [Same Impact as Approved Project])**

Fugitive Dust

Similar to the 2014 approved project, construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soil. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA *Air Quality Guidelines* consider these impacts to be less than significant if best management practices are implemented to reduce these emissions. As described below, the project includes mitigation measures, consistent with those measures required of the approved 2014 project, to reduce this impact to a less than significant level.

Impact AQ-1: Construction of the proposed project could temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. **(Significant Impact)**

Mitigation Measures: The following mitigation measure, which is consistent with the Basic Construction Mitigation Measures identified in the BAAQMD CEQA *Air Quality Guidelines* to reduce impacts from construction-related fugitive dust to a less than significant level, shall be implemented.

MM AQ-1.1: During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

- Haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- Visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweeps at least once per day. The use of dry power sweeping is prohibited.
- Vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph)
- Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- Construction equipment shall be maintained and properly tuned in accordance with manufacture's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of MM AQ-1.1, dust emissions during construction of the proposed project would be reduced to a less than significant level. **(Less Than Significant Impact with Mitigation [Same as Impact Approved Project])**

Toxic Air Contaminants

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Construction exhaust emissions pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. As was done for the approved 2014 project, a health risk assessment of project construction activities (refer to Appendix A) was prepared to evaluate potential health effects of sensitive receptors at nearby residences and identified a maximally exposed individual (MEI) for construction emissions of DPM and $PM_{2.5}$. The MEI is located at the northwest corner of the Butterfield Boulevard and Jarvis Drive intersection.

The health risk assessment conservatively assumed that both construction phases would occur concurrently, and that all 11 proposed parcels would be constructed within an 18 month window, such that construction emissions would be compressed into a 'worst-case' scenario. Using these conservative assumptions, results of the assessment for project construction indicate the maximum incremental residential infant/child cancer risk at the MEI receptor would be 11.0 in one million and the residential adult incremental cancer risk would be 0.2 in one million, which is above the BAAQMD significance threshold of 10.0 in one million. The maximum-modeled annual $PM_{2.5}$ concentration, was 0.1 micrograms per cubic meter ($\mu g/m^3$), which would not exceed the BAAQMD

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

significance threshold of 0.3 µg/m^3. The maximum modeled annual residential DPM concentration was 0.011 µg/m^3, also lower than the BAAQMD significance criterion of a hazard index greater than 1.0. While annual $PM_{2.5}$ concentrations and non-cancer hazards from construction activities would be below the significance thresholds, cancer risk, if the project were constructed in as little as 18 months, would be above the significance threshold and represent a significant impact compared to the 2014 approved project. However, as noted in the project description, the proposed project would be constructed in two phases. Phase I would construct the project infrastructure, including onsite main access driveways, internal roads, utilities to the building pads, and other offsite work. Phase II would construct the proposed buildings across the project site. Phase II is expected to occur over multiple years, as the project will subdivide the site into 11 parcels. It is anticipated each of the 11 parcels will be constructed as a separate project, albeit with some amount of overlap, i.e. several parcels could be under construction simultaneously based on market demand, with the overall timeframe of construction lasting between three and five years. Therefore, the modeling results contained in Appendix A are not reflective of the project's intended construction schedule, and represent a 'worst-case' scenario that will not occur. Nevertheless, to ensure this outcome, the following mitigation measure is included in the project.

Impact AQ-2: Construction of the proposed project, if all 11 parcels are constructed simultaneously and within 18 months, could increase cancer risk to nearby sensitive receptors. **(Significant Impact)**

Mitigation Measures: The following mitigation measure shall be implemented to ensure construction TACs do not exceed established health risk thresholds.

MM AQ-2.1: Prior to issuance of a grading permit, the project shall develop, and provide to the City for review and approval, a construction equipment plan with updated construction phasing schedule demonstrating that the combined emissions of the 11 parcels would not exceed the significant health risk threshold of 10.0 cancer cases in one million for infant exposure. The use of Tier 4 engines or equipment that includes CARB-certified Level 3 Diesel Particulate Filters or alternatively-fueled equipment (i.e., non-diesel) could meet this requirement. Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce community risk impacts to less than significant levels.

With implementation of MM AQ-1.1 and MM AQ-2.1, the infant/child cancer risk would be less than 10.0 in one million and result in a less than significant impact, consistent with the 2014 approved project. **(Less Than Significant Impact with Mitigation [Same as Impact Approved Project])**

Operation

Criteria Pollutants

Operational air emissions from the project would be generated primarily from autos driven by future customers, employees, and vendors. Evaporative emissions from gasoline station operations, architectural coatings and maintenance products (classified as consumer products) are typical emissions from the types of uses proposed by the project.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.3-2: Operational Criteria Pollutant Emissions				
Scenario	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
2021 Project Operational Emissions (*tons/year*)	4.3 tons	8.2 tons	3.4 tons	1.0 tons
Gasoline Dispensing Facility Emissions (*tons/year*)	1.7 tons	0.0 tons	0.0 tons	0.0 tons
Total Emissions (*tons/year*)	6.0 tons	8.2 tons	3.4 tons	1.0 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	***No***	***No***	***No***	***No***
2021 Project Operational Emissions (*lbs./day*)	14.2 lbs.	44.9 lbs.	18.6 lbs.	5.5 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	***No***	***No***	***No***	***No***
Notes: Assumes 365-day operation.				

As shown in Table 4.3-2, the emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust associated with operation of the proposed project would not exceed the BAAQMD significance thresholds and, therefore, would not result in a significant impact from operational emissions. **(Less Than Significant Impact [Same Impact as Approved Project])**

4.3.2.3 *Cumulative Pollutant Increase (Checklist Question c)*

Cumulative TAC emissions from the project take into account construction of the project, stationary sources, the proposed gas station, and traffic on Butterfield Boulevard and Cochrane Road. As shown in **Table 4.3-3**, the proposed project would not exceed the cumulative TAC thresholds for maximum cancer risk, $PM_{2.5}$, or the hazard index at the MEI; therefore, the project would have a less than significant impact. **(Less Than Significant Impact [Same Impact as Approved Project])**

Table 4.3-3: Cumulative TAC Emissions at Construction MEI			
Source	**Maximum Cancer Risk (per million)**	**$PM_{2.5}$ concentration ($\mu g/m^3$)**	**Hazard Index**
Project Construction Unmitigated	11.0[5]	0.10	0.01
Butterfield Blvd (north-south) at 40 feet west, 15,440 ADT	5.2	0.16	<0.01
Cochrane Rd (east-west) at 800 feet south, 17,290 ADT	0.9	0.03	<0.01

[5] As noted above, the predicted 11.0 cases per million cancer risk is based on an assumption that the project is constructed within an 18-month timeframe with all 11 parcels under construction simultaneously, which is a conservative assumption and not reflective of the actual intended schedule for construction, which is more realistically expected to occur over three to five years, and therefore construction emissions are expected to be below 10.0 cases per million, which will be ensured through implementation of MM AQ-2.1. Therefore, Table 4.3-

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Plant #17542 at 1,000 feet southwest	0.0	0.00	<0.01
Plant #2417 at 1,000 feet west	0.2	<0.01	<0.01
Plant #12093 at 570 feet west	0.2	<0.01	<0.01
Plant #18212 at 330 feet west	0.0	0.00	0.00
On-Site Gas Station at 600 feet southwest	0.2	0.00	<0.01
Combined Sources Unmitigated	17.7	<0.30	<0.07
BAAQMD Threshold – Combined Sources	**100**	**0.8**	**10.0**

4.3.2.4 *Odor Impacts (Checklist Question e)*

Similar to the 2014 approved project, the proposed project would include restaurants, which could be sources of odors. Restaurants, especially fast-food restaurants, can produce noticeable odors through the preparation of food. Char broilers and deep fryers tend to produce odors that can be offensive to some people and generate complaints. Existing residents are located approximately 500 feet west or southwest from proposed restaurants. These residents will generally not be located downwind of the restaurants (the dominant wind flow in Morgan Hill is from the north-northwest). Although significant odors are unlikely, this impact is considered significant due to the potential for odor complaints.

Impact AQ-3: Odors generated by the proposed restaurants could result in odor complaints.

Mitigation Measure: The following mitigation measure shall be implemented to reduce potential odors to a less than significant level:

MM AQ-3.1: Include designs to reduce cooking odors or require the installation of odor abatement equipment if complaints occur. The City shall require designs of the restaurant to avoid odor complaints, and if necessary, require restaurants to install odor abatement equipment if confirmed odor complaints are received.

Implementation of MM AQ-3.1 would reduce potential odors to a less than significant level if complaints are confirmed by the City. **(Less Than Significant Impact with Mitigation [Same as Impact Approved Project])**

4.3.3 Existing Air Quality Conditions Affecting the Project

The California Supreme Court in a December 2015 opinion (*BIA v. BAAQMD*) confirmed CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project; nevertheless the City complies with BAAQMD Air Quality Guidelines that address existing conditions (e.g. air quality) affecting a proposed project, which are addressed below.

3 overestimates actual construction health risks, and even using those inflated numbers, cumulative health risks are not significant.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.3-4: Community Risk Impact to New Project Residences			
Source	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ ($\mu g/m^3$)**	**Hazard Index**
Butterfield Blvd (north-south) at 800 feet east, 15,440 ADT	0.34	0.03	<0.01
Cochrane Rd (east-west) at 500 feet south, 17,290 ADT	0.58	0.05	<0.01
Plant #17542 at 1,000 feet south	0.00	<0.01	0.00
Plant #2417 at 300 feet north	0.45	<0.01	<0.01
Plant #12093 at 350 feet north	0.18	<0.01	<0.01
Plant #18212 at 600 feet northeast	0.00	0.00	0.00
On-Site Gas Station at 700 feet east	0.07	0.00	0.00
Cumulative Total	1.62	0.11	<0.04
BAAQMD Single-Source Threshold	**>10.0**	**>0.3**	**>1.0**
Significant?	**No**	**No**	**No**
BAAQMD Cumulative Source Threshold	**>100**	**>0.8**	**>10.0**
Significant?	**No**	**No**	**No**

The proposed project includes sensitive receptors at an assisted living facility on the southeast corner of the site. As shown in Table 4.3-4, traffic on Butterfield Boulevard and Cochrane Road, nearby stationary sources (i.e. diesel generators), and emissions from the proposed gas station would not expose these sensitive receptors to significant air quality risks.

4.3.4 Conclusion

The proposed project, with the implementation of the above mitigation measures, would not result in any new or more significant air quality impacts than the approved project. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.4 BIOLOGICAL RESOURCES

The following discussion is based upon a biological constraints study prepared for the project site by *Live Oak Associates* in October 2012 and a tree survey completed by *Deborah Ellis, MS - Consulting Arborist and Horticulturalist* in May 2013. The reports summarizing the results of the biological constraints study and tree survey are included in Appendix B and Appendix C of this Initial Study, respectively.

4.4.1 Environmental Setting

4.4.1.1 *Existing Conditions*

The project site, historically disturbed by agricultural activities and currently disked to reduce fire hazards, provides grassland habitat that supports a mixture of ruderal (weedy) species, dominated by non-native annual grasses and forbs. The habitat provided by the site is common in the project area. A number of locally occurring wildlife species may occur on the project site. Due to the relatively small size of the site, the urban development adjacent to the site, and the disturbed nature of the site, the habitat provided by the site provides limited value for wildlife.

There are 33 trees present on the site, including a row of olive trees along Cochrane Road and a group of landscape trees planted in the east corner of the site. Valley oak and coast live oak saplings are also present along Cochrane Road. The trees on the project site may support a variety of nesting bird species, including raptors.

There were no aquatic features observed on the project site. The nearest waterway to the project site is the Madrone Channel (approximately 2,200 feet east across US 101).

4.4.1.2 *Applicable Plans, Policies, and Regulations*

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the US Fish and Wildlife Service (USFWS). Species of birds protected under the MBTA include all native birds and certain game birds. The MBTA protects whole birds, parts of birds, bird eggs, and nests and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young. Birds protected by the MBTA may be present in the grassland habitat and/or in the cottonwood tree located on the project site.

Birds of Prey

Birds of prey are protected in California under provisions of the State Fish and Game Wildlife Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season that results in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment is considered a "taking" by the California Department of Fish and Wildlife.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Local Plans and Policies

Santa Clara Valley Habitat Plan/Natural Communities Conservation Plan

The project site is located within the Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) area. The HCP/NCCP was developed by the County of Santa Clara, the Cities of San Jose, Gilroy and Morgan Hill, the Santa Clara Valley Water District, and the Santa Clara Valley Transportation Authority (collectively the "local partners") under the guidance of the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife (CDFW). The HCP/NCCP provides 'take' authorization [per the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA)] for 18 listed and non-listed species (i.e. covered species). The HCP/NCCP also includes conservation measures to protect all 18 species and a conservation strategy designed to mitigate impacts on covered species and to contribute to the recovery of these species in the study area.

City of Morgan Hill Tree Removal Controls

The City of Morgan Hill maintains the urban natural landscape partly by promoting the health, safety, and welfare of the City by controlling the removal of significant sized trees (Municipal Code 12.32.020 G and H). According to the City of Morgan Hill Tree Removal Controls, a significant tree is considered to be a tree with a single stem or trunk of a circumference of 40 inches (or diameter of 12.7 inches) or more for nonindigenous species and a circumference of 18 inches (or diameter of 5.7 inches) or more for indigenous species measured at four and one-half feet vertically above the ground. In addition, the Tree Removal Controls specify that all commercial tree farms, nonindigenous tree species in residential zones, and orchards (including individual fruit trees) are exempted from the definition of significant tree.

A tree survey was completed for the project site in connection with the entitlements for the approved 2014 project. There are a total of 33 trees on the project site including 17 olive, nine London plane, four ash, and two locust. The trees on the site have been neglected and, as a result, are not in good condition. All of the trees on the site are nonindigenous species with diameters measuring 11 inches or less and, therefore, are not protected under the City of Morgan Hill Tree Removal Controls.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.4.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?	☐	☐	☐	☒	☐	1, 2, 9
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	☐	☐	☐	☒	☐	1, 2, 9
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒	☐	1, 2, 9
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☐	☐	☒	☐	1, 2, 9
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	☐	1, 2, 10
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒	☐	1, 2, 11

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.4.2.1 *Impacts to Sensitive Habitat (Checklist Question b-d)*

The non-native grassland habitat provided by the project site is regionally abundant. There are no sensitive habitats, including areas of high biological diversity, areas providing important wildlife habitat, or unusual or regionally restricted habitat types on the site. The proposed development of the project site would not directly affect wetlands, riparian habitat or other sensitive natural community.

Because the project site is surrounded by development, the site provides minimal dispersal habitat for native wildlife and does not function as a wildlife movement corridor. For these reasons, loss of the 20.25 acres of non-native grassland habitat present on the site that would occur under either the proposed project or the approved 2014 project would not be significant. **(Less Than Significant Impact [Same as Approved Project])**

4.4.2.2 *Impacts to Special Status Species (Checklist Question a)*

Burrowing Owls

Although burrowing owls were not seen on or adjacent to the project site during field surveys, the project site contains open areas that could support burrowing owls. Therefore, there is the possibility for burrowing owls to be present on the project site at the time of project development. If owls occupy the site, construction on the site during the nesting season could disturb or destroy occupied nests, resulting in the loss of the reproductive effort; this would be a significant impact.

Impact BIO-1: Construction activities on the project site, whether associated with the approved 2014 project or the current proposed project, could result in the loss of burrowing owl eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest. **(Significant Impact)**

Mitigation Measures: The developer would participate in the Citywide Burrowing Owl Habitat Mitigation Plan, a mitigation program acceptable to the California Department of Fish and Wildlife. Under the Plan, the City has adopted a fee program that funds setting aside or managing preserve land to provide habitat for burrowing owls. Providing habitat for burrowing owls elsewhere offsets indirect and cumulative impacts from the loss of foraging and nesting habitat in the City.

In conformance with the City's Burrowing Owl Habitat Mitigation Plan, the project would be required to implement the following measures to avoid direct impacts to burrowing owls and to offset impacts to non-native grassland habitat on the site. Implementation of this measure would avoid or reduce significant impacts to burrowing owls and their habitat.

MM BIO-1.1: Complete pre-construction surveys to determine if burrowing owls are present within the footprint of the proposed grading area, no more than 30 days prior to initiation of any construction-related activities.

MM BIO-1.2: Should burrowing owls be found on the site during the breeding season (February 1 through August 31), exclusion zones with a 250-foot radius from occupied burrows, shall be established. All project-related activities shall occur outside of the exclusion area until the young have fledged.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

MM BIO-1.3: If preconstruction surveys are completed during the non-breeding season and burrowing owls are observed on the site, the owls may be relocated upon approval of the California Department of Fish and Game once mitigation has been provided.

MM BIO-1.4: A final report on burrowing owls, including any protection measures, shall be submitted to the Director of Community Development prior to grading.

Conformance with the City's Burrowing Owl Habitat Mitigation Plan (or any adopted HCP/NCCP), including mitigation measures, MM BIO-1.1 through MM BIO-1.4, would ensure impacts to burrowing owls would be less than significant. [**(Less Than Significant Impact with Mitigation) Same Impact as Approved Project]**

Nesting Raptors ad Migratory Birds

Nesting raptors and migratory birds are protected under State and Federal regulations. At the time of development, raptors and migratory birds could be nesting in the trees and vegetation on and adjacent to the project site. Construction during the nesting season could destroy nests or disturb occupied nests, resulting in the loss of the reproductive effort.

Impact BIO-2: Construction activities on the project site, whether associated with the approved 2014 project or the current proposed project, could result in the loss of raptor and/or migratory bird eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest. **(Significant Impact)**

Mitigation Measures: The following mitigation measures will reduce impacts from construction at the project site nesting raptors and migratory birds to a less than significant level:

MM BIO-2.1: Construction shall be scheduled to avoid the nesting season to the extent feasible. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests.

MM BIO-2.2: If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

survey and any designated buffer zones shall be submitted to the satisfaction of the Director of Community and Economic Development prior to the start of construction. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

American Badger

American badgers may be present on the project site at the time of project construction. Although badgers or signs of badgers were not seen on or adjacent to the project site during field surveys, the project site contains open areas, a food source (i.e., ground squirrels) and is contiguous to known badger habitat. Conversion of the ruderal field to urban development would not result in a substantial loss of habitat for the American badger, however, construction activities on the site, whether associated with the approved 2014 project or the current proposed project, could cause harm or injury to individuals, if they are present.

Impact BIO-3: American badgers could be injured or harmed, if occupied badger dens are present onsite at the time of construction. **(Significant Impact)**

Mitigation Measure: The following mitigation measure will reduce impacts from construction at the project site to American badgers to a less than significant level:

MM BIO-3.1: Pre-construction surveys shall be used to determine the presence or absence of badgers on the project site. If an active badger den is identified during pre-construction surveys, a construction-free buffer of up to 300 feet shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

4.4.2.3 *Impacts to City-Protected Trees (Checklist Question e)*

The trees on the project site have been neglected and, as a result, are not in good condition. All of the trees on the site are nonindigenous species with diameters measuring 11 inches or less and, therefore, are not protected under the City of Morgan Hill Tree Removal Controls. With implementation of MM BIO-2.1 and MM BIO-2.2 (discussed above), tree removal would avoid impacts to birds during the nesting season. **(No Impact [Same as Approved Project])**

4.4.2.4 *Consistency with Habitat Conservation Plan/Natural Community Conservation Plan (Checklist Question f)*

The current proposed project, as well as the approved 2014 project, is a covered activity under the HCP/NCCP (Private Development Covered 2.6 acres, Urban Development Equal to or Greater Than Two Acres Covered 17.7 acres). The vast majority of the site is designated as *Grain, Row-crop, Hay*

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

and Pasture, Disked/Short-term Fallowed land cover (19.9 acres) and is mapped as *Fee Zone B* (Agricultural and Valley Floor Lands).[6] The proposed project would be required to pay this fee to offset the loss of this land cover type. The remainder of the project site (0.4 acres) is designated as an *Urban Area* with no land cover fee. The project site is not located in any other fee zone or within or adjacent to any plant or wildlife survey area.

The HCP/NCCP also considers covered activities to result in a certain amount of indirect impacts from urban development mostly in the form of increased impervious surface and from the effects of nitrogen deposition. Urban development that increases the intensity of land use results in increased air pollutant emissions from passenger and commercial vehicles and other industrial and nonindustrial sources. Emissions from these sources are known to increase airborne nitrogen, of which a certain amount is converted into forms that can fall to earth as depositional nitrogen. It has been shown that increased nitrogen in serpentine soils can favor the growth of nonnative annual grasses over native serpentine species and these nonnative species, if left unmanaged, can overtake the native serpentine species, which are host plants for larval Bay Checkerspot butterfly. As such, covered projects within the HCP/NCCP area are subject to paying a "Nitrogen Deposition Impact Fee" which is calculated based on the number of daily vehicle trips attributed to the activity and collected prior to the commencement of the use. The current proposed project would generate approximately 2,000 more daily vehicle trips than the approved 2014 project, and therefore would pay a higher nitrogen deposition impact fee.

In addition, all covered activities in the HCP/NCCP are subject to certain conditions (as identified in Chapter 6 of the Plan) based on the project's location and type of project. To ensure that the project complies with conditions of the HCP/NCCP, the conditions will be applied to each component as part of the entitlement approval conditions and/or other permits (i.e. grading permits, building permits, etc.).

The City of Morgan Hill has adopted the HCP/NCCP and approved an ordinance[7] implementing the measures and conditions set forth in the HCP/NCCP, and will levy applicable impact fees and incorporate relevant conditions on covered activities into the proposed residential mixed-use project. Therefore, the project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. **(No Impact)**

4.4.3 Conclusion

The proposed project, with the implementation of the above mitigation measures, would not result in any new or more significant impacts to biological resources than the approved project. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation)]**

[6] Santa Clara Valle Habitat Agency. "Geobrowser". Accessed June 12, 2018. http://www.hcpmaps.com/habitat/.
[7] Chapter 18.69 of the City of Morgan Hill Municipal Code

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.5 CULTURAL RESOURCES

The following discussion is based, in part, upon a cultural resources assessment prepared in 2006 by *Basin Research Associates Inc.* for the Cochrane Animal Hospital, which is located 100 feet north of the project site, across Cochrane Road. This report is on file at the City of Morgan Hill and may be reviewed by qualified personnel during regular business hours.

4.5.1 Environmental Setting

4.5.1.1 *Existing Conditions*

The project site is an undeveloped field covered by non-native grassland. The area surrounding the project site is developed with newer residential, commercial, and light industrial buildings. There are no historic structures located on or adjacent to the project site.

4.5.1.2 *Archaeological Resources*

Based on the Archaeological Sensitivity Map included in the City of Morgan Hill General Plan, the west corner of the project site extends into the archaeological sensitivity area associated with the former location of the 1876 J. Cairns residence, which was setback north of Cochrane Road. The Cultural Resources Assessment (CRA) completed for the Cochrane Animal Hospital site, which is located north of Cochrane Road between the project site and the former Cairns residence, evaluates the possibility of archaeological resources associated with the Cairns residence extending south towards the project site. The CRA notes that archaeological resources associated with the Cairns residence would likely be located north of Cochrane Road in privies and outbuildings at the rear of the residence, and that any historic fences along Cochrane Road would have deteriorated through time and later removed when Cochrane Road was widened.[8] For these reasons, archaeological resources associated with the Cairns residence are not expected on the project site.

California Assembly Bill (AB) 52 requires lead agencies to conduct formal consultations with California Native American tribes during the CEQA process to identify tribal cultural resources that may be subject to significant impacts as a result of a project. This consultation requirement applies only if the tribes have sent written requests for notification of projects to the lead agency. The City of Morgan Hill has not been contacted for consultation by a tribe.

4.5.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5?	☐	☐	☐	☒	☐	1, 12, 13

[8] Basin Research Associates, Inc. *Cultural Resources Assessment: Adams-Natt Veterinary Hospital*. January 2006.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5?	☐	☐	☐	☒	☐	1, 12, 13
c) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☐	☒	☐	1, 12, 13
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒	☐	1, 12, 13
e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:						
1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or	☐	☐	☒	☐	☐	1, 12, 13
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying this criteria, the significance of the resource to a California Native American tribe shall be considered.	☐	☐	☒	☐	☐	1, 12, 13

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.5.2.1 *Impacts to Archaeological and Paleontological Resources (Checklist Question b-e)*

Archaeological Resources

The Cultural Resource Assessment completed for the Cochrane Animal Hospital, which is located 100 feet north of the project site, suggests a low to moderate potential for the presence of intact subsurface prehistoric or historic era archaeological deposits on the project site. No prehistoric or historic archaeological sites are recorded on, adjacent, or within 0.25 miles of the project site and no prehistoric or historic archaeological resources were observed 100 feet north of the site during the archaeological field inventory completed for Cochrane Animal Hospital. Per AB 52, no tribes have requested consultation with the City pertaining to this project, and there are no known tribal resources present on the project site. However, in the unlikely event cultural materials are found during site grading or excavation, the following standard measures would be implemented, per the City of Morgan Hill's Standard Conditions of Approval.

Standard Measures: In accordance with the City of Morgan Hill Municipal Code Chapter 18.75, proposals for the development or redevelopment of a site identified as archaeologically sensitive by the City's adopted archaeological sensitivity map shall be subject to the following review process and standard conditions of project approval. Implementation of standard measures, SM CULT-1 and SM CULT-2, would ensure that development on the project site would not result in significant impacts to archaeological resources:

SM CULT-1: Since the site is located within the mapped archaeologically sensitive area as adopted by the City, then the project applicant has the option to either have an archaeological survey be completed for the site to determine what, if any, conditions of approval will be required as mitigation measures; or agree to comply with the following standard conditions of approval, which shall be conclusively deemed to reduce potentially significant impacts on archaeological resources to a less than significant level (no archaeological resources report is required as part of any CEQA review of the project as long as the applicant accepts these conditions and incorporates them into the project):

- An archaeologist shall be present on-site to monitor all ground-disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below:
  - Work at the location of the find will halt immediately within thirty feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter;
  - If the find is determined not to be a Unique Archaeological Resource, construction can continue. The archaeologist will prepare a brief informal memo/letter that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find;
  - If the find appears significant and to qualify as a unique archaeological resource, the archaeologist will determine if the resource can be avoided

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

and will detail avoidance procedures in a formal memo/letter; and

- If the resource cannot be avoided, the archaeologist shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the community development director. The action plan shall be in conformance with California Public Resources Code 21083.2.

SM CULT-2: All development projects located within an archaeological sensitivity area and/or containing known archaeological resources on-site shall also be subject to the following measures as standard conditions of project approval:

- This project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans.
  - If human remains are encountered they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.
  - Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.
  - Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains.
- In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.
- An “exclusion zone” where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the Monitoring Archaeologist (typically 25-50ft for single burial or archaeological find).
- The exclusion zone shall be secured (e.g., 24 hour surveillance) as directed by the City or County if considered prudent to avoid further disturbances.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

- The Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:
  - The City of Morgan Hill Community Development Director
  - The Contractor's Point(s) of Contact
  - The Coroner of the County of Santa Clara (if human remains found)
  - The Native American Heritage Commission (NAHC) in Sacramento
  - The Amah Mutsun Tribal Band
- The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC.
- The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)
- Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.
- Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's community development director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out.
- If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Paleontological Resources

The proposed project would excavate to a maximum depth of approximately five feet to install necessary utility infrastructure. Given that the proposed project would not require excavation below five feet below ground surface, paleontological resources would not likely be discovered during construction. The project would, therefore, not result in a significant impact to paleontological resources. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.5.2.2 *Impacts to Historic Resources (Checklist Question a)*

The project site is currently undeveloped; no listed, determined, or pending California Register of Historical Resources are located on or adjacent to the project site; and no significant or potentially significant local, State, or Federal cultural resources/historic properties (e.g., landmarks, points of

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

interest, etc.) are located on or adjacent to the project site. For these reasons the proposed project would have no impact on historic resources. **[(No Impact) Same Impact as Approved Project]**

4.5.3 Conclusion

With the implementation of the City's standard conditions of approval to protect archaeological resources, the proposed project would have a less than significant impact on archaeological resources. The project would not have a significant impact on tribal, paleontological, or historic resources. **(Less Than Significant Impact [Same Impact as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.6 GEOLOGY AND SOILS

4.6.1 Environmental Setting

4.6.1.1 *Geology and Soils*

The project site is located in the Santa Clara Valley, an alluvial basin, bounded by the Santa Cruz Mountains to the west, the Hamilton/Diablo Range to the east, and the San Francisco Bay to the north. The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Hamilton/Diablo Range were exposed by the continued tectonic uplift and regression of the inland sea that had previously inundated this area. Bedrock in this area is made up of the Franciscan Complex, a diverse group of igneous, sedimentary, and metamorphic rocks of Upper Jurassic to Cretaceous age (70-140 million years old). Overlaying the bedrock at substantial depths are marine and terrestrial sedimentary rocks of Tertiary and Quaternary age.

Soils on the site and in the immediate project area consist of Arbuckle gravelly loam, Cortina loam, and San Ysidro loam.[9] The shrink-swell potential of these soils ranges from low to high, respectively. The site is predominantly San Ysidro loam, which has a high shrink-swell potential. The shrinking and swelling is the result of the soil absorbing water in the winter and drying in the summer. The shrinking and swelling action can damage improperly designed and/or constructed building foundations and pavements.

The potential for erosion and landslides at the project site is low, due to the flat slope of the project site and surrounding area. The project site is not located within a landslide hazard zone.[10]

4.6.1.2 *Seismicity*

An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the project site. The degree of shaking is dependent on the magnitude of the event, the distance to its zone of rupture and local geologic conditions. According to the City of Morgan Hill Geotechnical Hazards maps and the County's *Geologic Hazard Zones* Map, the project site is not located in a fault rupture hazard zone.

The nearest active fault lines to the site include the San Andreas Fault, Hayward Fault Southeast Extension, and Calaveras Fault, which are located approximately 12 miles southwest, 11 miles north, and three miles northeast of the project site, respectively. Other faults near the project site include the Coyote Creek Fault (approximately two miles northeast of the project site), and the Silver Creek Fault (approximately 2.5 miles northeast of the project site).

4.6.1.3 *Liquefaction*

Soil liquefaction is a phenomenon in which saturated, cohesion-less soils undergo a temporary loss of strength during earthquake ground shaking. The liquefaction potential of valley floor terrain is

[9] United States Department of Agriculture, Natural Resources Conservation Service. *Custom Soil Resource Report for Eastern Santa Clara Area, California*. June 12, 2018.
[10] County of Santa Clara. *County Geologic Hazard Zones Map 53*. October 26, 2012.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

estimated based on groundwater elevations in alluvial deposits within 50 feet of the ground surface.[11] The project site is not located within a liquefaction hazard zone.[12]

4.6.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:						
1. Rupture of a known earthquake fault, as described on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42.)?	☐	☐	☐	☒	☐	1, 2, 5
2. Strong seismic ground shaking?	☐	☐	☐	☒	☐	1, 2
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒	☐	1, 2, 5
4. Landslides?	☐	☐	☐	☒	☐	1, 2, 5
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒	☐	1, 2
c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒	☐	1, 2, 5

[11] Pacific Geotechnical Engineering, *Geology, Geologic, and Geotechnical Hazards, City of Morgan Hill*, December, 1991.
[12] County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
d) Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☐	☒	☐	1, 6, 7
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒	☐	1

4.6.2.2 *Soil Impacts (Checklist Question b, d, e)*

Soil Conditions

Soils on the project site range from a low to high expansion potential. Expansive soil conditions could damage future development and improvements proposed under the project, which would represent a significant impact (unless substantial damage is avoided by incorporating appropriate engineering into the grading and foundation design of proposed buildings).

Standard Measures: In accordance with the City of Morgan Hill standards, the project, consistent with the conditions of approval of the 2014 approved project, shall implement the following measures to reduce and/or avoid soil hazards. Implementation of the standard measure, SM GEO-1, would ensure that impacts to the project from soil conditions and seismic hazards would be less than significant.

SM GEO-1: To avoid or minimize potential damage from seismic shaking, the proposed residential mixed-use development shall be built using standard engineering and seismic safety design techniques. Prior to issuance of development permits, building design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which will be included in a report to the City. The structural designs for the proposed development will account for repeatable horizontal ground accelerations. The report shall be reviewed and approved by the City of Morgan Hill Building Division prior to issuance of a building permit. The buildings will be required to meet the requirements of applicable Building and Fire Codes, including the 2013 California Building Code Chapter 16, Section 1613, as adopted or updated by the City. The project will be designed to withstand soil hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Capability of Soils

New development at the site would connect to the existing sewer sanitary system. No septic systems would be developed under the project; therefore, no impacts to soils related to septic systems would occur. **(No Impact [Same as Approved Project])**

Soil Erosion

Ground disturbance would be required during grading, trenching, and construction of the proposed project, similar to the ground disturbance involved with the 2014 approved project. Ground disturbance would expose soils and increase the potential for wind or water related erosion and sedimentation at the site until construction is complete.

The City developed standard conditions to avoid significant soil erosion impacts during construction. The following conditions would be included as part of the project:

Standard Condition (SC GEO-1), Storm Drain System: Prior to final map approval or issuance of a grading permit the applicant shall complete the following to the satisfaction of the Director of Public Works.

1. Storm drain calculations to determine detention pond sizing and operations.
2. Plan describing how material excavated during construction will be controlled to prevent this material from entering the storm drain system.
3. Water Pollution Control Drawings for Sediment and Erosion Control.

Standard Condition (SC GEO-2), Storm Drain System: As required by the State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, construction activity resulting in a land disturbance of one acre or more of soil, or whose projects are part of a larger common plan of development that in total disturbs more than one (1) acre, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity (General Permit). To be permitted with the SWRCB under the General Permit, owners must file a complete Notice of Intent (NOI) package and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual in accordance with Section A, B, and C of the General Permit prior to the commencement of soil disturbing activities. A NOI Receipt Letter assigning a Waste Discharger Identification number to the construction site will be issued after the State Water Resource Control Board (SWRCB) receives a complete NOI package (original signed NOI application, vicinity map, and permit fee); copies of the NOI Receipt Letter and SWPPP shall be forwarded to the Building and Public Works Department review. The SWPPP shall be made a part of the improvement plans. (SWRCB NPDES General Permit CA000002)
[Less Impact than Approved Project (Less Than Significant Impact)]

4.6.2.3 *Seismic Hazards (Checklist Question a, c)*

The likelihood that a fault rupture would occur at the site is low; however, the site is located in a seismically active region and strong ground shaking will likely occur during the life of the project. The site is located in an area of relatively stable ground not likely to be involved in landsliding, faulting or other lateral displacement type ground failures. Based on the *Santa Clara County*

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Geologic Hazard Zones Map, the site is not are not located in a fault rupture, landslide, or liquefaction hazard zone. **(Less Than Significant Impact [Same as Approved Project])**

Since the soils on the site are not prone to liquefaction nor is the site near a creek or other open channel, the probability of lateral spreading occurring on-site is low. **(Less Than Significant Impact [Same as Approved Project])**

Impacts from seismic and seismic-related hazards can be minimized through the use of standard engineering and seismic safety design techniques per the City's Building Division and the California Building Code (see SM GEO-1). The proposed development would be designed to withstand soil hazards and to reduce the risk to life or property to the extent feasible and in compliance with the California Building Code. **(Less Than Significant Impact [Same as Approved Project])**

4.6.3 Conclusion

Conformance with the recommendations of a design-level geotechnical engineering report and with the California Building Code, and conformance with the City's standard conditions of approval would avoid geology and soil impacts at the project site. **(Less Than Significant Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.7 GREENHOUSE GAS EMISSIONS

The following discussion is based on an air quality and greenhouse gas emissions analysis completed for the proposed project by *Illingworth & Rodkin* on July 13, 2018. The report summarizing the results of the analysis is included as Appendix A of this Addendum.

4.7.1 Environmental Setting

4.7.1.1 *Background Information*

This section provides a general discussion of global climate change and focuses on emissions from human activities that alter the chemical composition of the atmosphere. As discussed in the Downtown Specific Plan MEIR, the discussion on global climate change and greenhouse gas (GHG) emissions is based in part upon the California Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32) and research, information and analysis completed by the International Panel on Climate Change (IPCC), the U.S. EPA, and the California Air Resources Board (CARB).

Global climate change refers to changes in weather including temperatures, precipitation, and wind patterns. Global temperatures are modulated by naturally occurring and anthropogenic (generated by mankind) atmospheric gases such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (NOx).[13] These gases allow sunlight into the earth's atmosphere but prevent heat from radiating back out into outer space and escaping from the earth's atmosphere, thus altering the earth's energy balance. This phenomenon is known as the greenhouse effect.

Naturally occurring GHGs include water vapor,[14] CO_2, CH_4, NO_x, and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but are for the most part solely a product of industrial activities.

Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of GHGs have a broader, global impact. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors.

Impacts to California from climate change include shifting precipitation patterns, increasing temperatures, increasing severity and duration of wildfires, earlier melting of snow pack and effects on habitats and biodiversity. Sea levels along the California coast have risen up to seven inches over the last century, and average annual temperatures have been increasing. These and other effects will likely intensify in the coming decades and significantly impact the State's public health, natural and manmade infrastructure, and ecosystems.

---

[13] IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Bases. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at: <http://ipcc.ch/ >. Accessed March 25, 2013.

[14] Concentrations of water are highly variable in the atmosphere over time, with water occurring as vapor, cloud droplets and ice crystals. Changes in its concentration are also considered to be a result of climate feedbacks rather than a direct result of industrialization or other human activities. For this reason, water vapor is not discussed further as a greenhouse gas.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Agencies at the international, national, state, and local levels are considering strategies to control emissions of gases that contribute to global warming. There is no comprehensive strategy that is being implemented on a global scale that addresses climate change; however, in California a multi-agency "Climate Action Team," has identified a range of strategies and the Air Resources Board, under AB 32, has approved the *Climate Change Scoping Plan* (Scoping Plan), discussed below.

Assembly Bill 32 and Executive Order S-3-05

Assembly Bill 32 (AB 32), also known as the Global Warming Solutions Act, was passed in 2006 and established a goal to reduce GHG emissions to 1990 levels by 2020. Prior to the adoption of AB 32, the Governor of California also signed Executive Order S-3-05, which set a long-term objective to reduce GHG emissions to 90 percent below 1990 levels by 2050. The CalEPA is the state agency in charge of coordinating the GHG emissions reduction effort and establishing targets along the way.

In December 2008, the California Air Resources Control Board (CARB) approved the Climate Change Scoping Plan, which proposes a comprehensive set of actions designed to reduce California's dependence on oil, diversify energy sources, save energy, and enhance public health, among other goals. Per AB 32, the Climate Change Scoping Plan, must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 were signed into law in September 2016. SB 32 legislation amends provisions of AB 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code Division 25.5), to require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by December 31, 2030. This legislation incorporates the Executive Order B-30-15 target discussed above into state law. Changes to the California Health and Safety Code under the companion AB 197 legislation call for each scoping plan update to identify emissions reduction measures and include the range of projected GHG emissions reductions as well as the range of projected air pollution reductions that result from the emission reduction measures.

The mid-term target established under SB 32 is considered critical by the state to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing GHG emissions. As a part of this effort, CARB is required to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. The most recently plan update was approved by CARB in December of 2017.SB 32 applies to projects that are completed after 2020.

4.7.1.2 *Regulatory Framework*

Bay Area 2017 Clean Air Plan

The Bay Area Air Quality Management District (BAAQMD) is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. BAAQMD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents, and develops regulations that must be consistent with or more stringent than, federal and state air quality laws and regulations.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state air quality standards would be met. BAAQMD's most recently adopted plan is the Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP focuses on two closely related BAAQMD goals: protecting public health and protecting the climate. To protect public health, the 2017 CAP describes how the BAAQMD will continue its progress toward attaining state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities.

The 2017 CAP includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

Bay Area Air Quality Management District: CEQA Guidelines

The thresholds of significance used to evaluate the proposed developments are determined by the Lead Agency, the City of Morgan Hill. Per CEQA Guidelines Section 15064.7, the City has elected to use the thresholds and methodology included in the May 2017 BAAQMD Air Quality Guidelines, as they are based on substantial evidence and remain the most up-to-date, scientifically-based method available to evaluate air quality impacts.

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO2e/year/service population. This is calculated for 2030 based on the GHG reduction goals of SB 32 and Executive Order B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[15]

4.7.1.3 *Existing Conditions*

The project site is currently undeveloped and contributes extremely low emissions of GHGs.

[15] Association of Environmental Professionals, 2016. Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. April.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.7.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒	☐	1, 8, 23
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒	☐	1, 8, 23

4.7.2.1 *Construction Greenhouse Gas Emissions (Checklist Question a, b)*

Construction phases include site grading, trenching, building construction, and paving. The project site is located in an urbanized location, within close distance of construction supplies and equipment, which would help minimize greenhouse gas emissions generated from the transport of construction materials and waste. There is no reliable method to estimate construction-related emissions associated with the manufacturing of project materials.

Neither the City of Morgan Hill nor the BAAQMD have quantified thresholds for construction activities, however, the project site is in an urban setting close to construction supplies and equipment, and construction of the project would not contribute substantially to local or regional greenhouse gas emissions. **(Less than Significant Impact [Same as Approved Project])**

4.7.2.2 *Operational Greenhouse Gas Emissions (Checklist Question a, b)*

GHG (e.g., carbon dioxide, methane, and nitrogen dioxide) from operations of the project would include electricity and natural gas used by residents of the site, and fuel burned for transportation to and from the site. Indirect emissions will include utility usage by building residents and employees for water conveyance, wastewater treatment, and solid waste disposal. As shown in Table 4.7-1, the proposed project would exceed the BAAQMD GHG emissions threshold in the year 2021, similar to the 2014 approved project which was forecast to result in emissions of 11.2 MT/service population/year, and in the year 2030.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.7-1: Annual Project GHG Emissions in Metric Tons		
Source Category	**Proposed Project in 2021**	**Proposed Project in 2030**
Area	4	4
Energy Consumption	901	901
Mobile	3,890	3,071
Solid Waste Generation	405	404
Water	31	31
Total (MT/year)	**5,231**	**4,411**
Service Population Emissions (MT/Capita/year)	**12.7**	**10.7**
Significance Threshold	1,100 MT/year or 4.6 in 2020 2.6 in 2030	

Impact GHG-1: The proposed project, similar to the 2014 approved project, would exceed BAAQMD GHG emissions thresholds for 2020 and 2030. **(Significant Impact)**

Mitigation Measure: The following mitigation measure shall be implemented to reduce GHG emissions to a less than significant level.

MM GHG-1.1: The proposed project shall implement a GHG reduction plan for each parcel that includes the proper strategies to reduce GHG emissions consistent with 2020 or 2030 thresholds based on the date of operation of a given parcel, i.e. parcels that will be in operation prior to 2021 must meet the 2020 threshold and those after 2020 must meet the 2030 threshold. Strategies of this plan may include, but would not be limited to, the following:

- Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;
- Develop and implement a tranposrtation demand management program to reduce mobile GHG emissions;
- Construct onsite or fund off-site carbon sequestration projects (such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted). If the project develops an off-site project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions;
- Purchase of carbon credits to offset Project annual emissions. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by the California Air Resources Board or BAAQMD. The preference for offset carbon credit

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by City of Morgan Hill. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

4.7.3 Conclusion

With implementation of MM GHG-1.1, the proposed project would reduce its GHG emissions to below the BAAQMD 2020 or 2030 threshold, as applicable, and not result in a significant impact. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.8 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based upon a Phase I Environmental Site Assessment prepared for the project site by *Geologica Inc.* in November 2007, an agrichemical assessment prepared for the project site by *ENGEO Inc.* in March 2013, and a Vicinity Hazardous Materials Users Survey completed for the proposed project by *Belinda Blackie, P.E., R.E.A.* in June 2013. These hazardous material reports are included as Appendix D, Appendix E, and Appendix F respectively.

4.8.1 Environmental Setting

The approximately 20.25-acre project site consists of an undeveloped field. The area surrounding the project site is developed with a mix of residential, commercial, and industrial uses. Review of historic topographic maps and aerial photographs indicated no evidence of historic buildings or structures on the site or in the immediate area, and that the site was historically used for agricultural production. The project site is not subject to wildland fires. The project site is not located within the Santa Clara County Airport Land Use Commission (ALUC) jurisdiction, and there are no private airstrips located near the project site.

4.8.1.1 *Onsite Hazardous Material Conditions*

Visual inspection of the site during preparation of the Phase I Environmental Site Assessment indicated no evidence of hazardous waste storage, disposal, or dumping. The site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., Cortese List).

The project site was historically used for agricultural production up until at least 1965.[16] For this reason, soil samples from the project site were analyzed to determine if past agricultural activities on the site contaminated the soil with organochlorine pesticides and/or arsenic. No organochlorine pesticides were detected at or above the test method detection limits. All levels of detected arsenic were below naturally occurring background levels. The results of the soil sample analysis indicate that past agricultural uses have not significantly impacted the site.[17]

4.8.1.2 *Offsite Sources of Contamination*

Groundwater beneath the site likely flows northwest towards San Francisco Bay or southwest towards local creeks and Monterey Bay. Federal, State, and/or local databases were searched to determine if groundwater contamination (e.g. a leaking underground storage tank) in the project area could affect the groundwater beneath the project site. Although there are some listed sites in the project vicinity, based on the regulatory agency status (e.g., closed) and/or location of these facilities relative to the subject site (e.g., downgradient), the potential for these sites to have impacted the subject property was considered low at the time the Phase I Environmental Site Assessment was completed for the project site.[18]

[16] Geologica, *Phase I Environmental Site Assessment,* November 5, 2007.
[17] ENGEO, Inc., *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment,* March 14, 2013.
[18] Geologica, *Phase I Environmental Site Assessment,* November 5, 2007.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.8.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒	☐	1, 2, 16, 17
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒	☐	1, 2, 16, 17
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	☐	1, 2
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒	☐	1, 2
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐	1, 2
f) For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐	1, 2
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	☐	1, 2

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒	☐	1, 2

4.8.2.1 *Impacts from Construction and Operations at the Site (Checklist Questions a, c)*

The proposed mixed-use development would routinely use limited amounts of cleaning materials and would not generate substantial hazardous emissions or accidental chemical releases from hazardous materials use, storage, or transport. The use and storage of hazardous materials in the City of Morgan Hill is regulated by Santa Clara County Department of Environmental Health Hazardous Materials Compliance Division (SCCDEH). The construction and operation of the proposed project would conform to the requirements of the SCCDEH. Service stations routinely transport and use hazardous materials. Compliance with applicable Federal, State, and local handling, storage, and disposal requirements would ensure that no significant hazards to the public or the environment are created by these routine activities. These requirements include equipping fuel dispensers with automatic shutoffs and other safety devices in accordance with Fire, Building, and Health codes, and including spill containment and overfill prevention systems on underground storage tanks in accordance with CCR Title 23, section 2635. For these reasons, the storage and handling of hazardous materials on the site, under the proposed project, would not result in a significant impact.

The nearest schools to the site, El Toro Elementary and Stratford School, are approximately 1.0 miles and 0.8 miles, respectively, from the site. Due to the distance of the site from nearby schools, the project impacts of hazardous construction emissions and hazardous wastes on nearby schools would be less than significant. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.8.2.2 *Impacts of Soil Contamination and Hazardous Building Materials (Checklist Question b, d)*

Based on the findings in the Phase I ESA and the Agrichemical Assessment, hazardous chemicals were used on the project site's former agricultural production. No organochlorine pesticides were detected at or above the test method detection limits. All levels of detected arsenic were below naturally occurring background levels. The results of the soil sample analysis indicate that past agricultural uses have not significantly impacted the site.[19]

Groundwater is approximately 42 feet below ground surface. Since subsurface soil samples are either consistent with background concentration levels or below regulatory screening levels and the

[19] ENGEO, Inc. *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment.* March 14, 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

risk of exposure to the groundwater is low, groundwater is not considered an environmental concern on the project site. **[Same Impact as Approved Project (Less Than Significant Impact)]**

Hazardous Building Materials

Review of historic topographic maps and aerial photographs indicated no evidence of historic buildings or structures on the site or in the immediate area, and that the site was historically used for agricultural production. For these reasons the project site does not contain hazardous building materials. **[Same Impact as Approved Project (No Impact)]**

4.8.2.3 *Other Hazards*

Airport Safety Hazard (Checklist Question e)

The project site is not located within the South County Airport Influence Areas or Federal Aviation Administration Height Restriction Area; therefore, the project would not result in an airport safety hazard. Since the site is not within the airport influence area (AIA) of an airport, the site is not subject to Santa Clara County Airport Land Use Commission (ALUC) evaluation.
(No Impact [Same as Approved Project])

Private Airstrip (Checklist Question f)

The project site is not within the vicinity of a private airstrip; therefore, the proposed development would not result in a safety hazard in relation to a private airstrip. **(No Impact [Same as Approved Project])**

Emergency Response (Checklist Question g)

The proposed mixed-use development project would not interfere with the City-adopted Local Hazard Mitigation Plan or any adopted statewide emergency response or evacuation plans.
(No Impact [Same as Approved Project])

Wildfires (Checklist Question h)

The project is in a highly developed urban area and it is not adjacent to any wildland areas that would be susceptible to fire. The project site is within the City limits and is not within a State of California Very High Fire Hazard Severity Zone or the City's wildland and urban interface.[20]
(No Impact [Same as Approved Project])

4.8.2.4 *Off-Site Contamination Impacts on the Project*

The project site is surrounded by a mix of industrial, commercial and residential land uses. A vicinity hazardous material user survey was completed for the project area. The purpose of the survey was to identify California Accidental Release Program (CalARP) facilities in the project area and to also identify facilities that may be storing CalARP - regulated chemicals at quantities exceeding the respective CalARP threshold. The purpose of the CalARP program is to prevent

[20] CAL FIRE. *Very High Fire Hazard Severity Zones in LRA*. Map. October 2008.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

accidental releases of substances that can cause serious harm to the public and the environment and to minimize the damage in the event of a release.

The survey included the following:

- a visual survey of the project area to identify businesses located within a one-half mile radius of the project sites that appear to use, handle, and/or store significant quantities of toxic or hazardous materials and/or waste.
- reviewing available Santa Clara County Fire Department (SCCFD) hazardous materials/waste inventories for the facilities identified during the visual survey.
- reviewing a list of California Accidental Release Program (CalARP) facilities for the project area.
- reviewing a regulatory agency database report to identify government agency-recorded facilities using or emitting hazardous materials in the project area.

Based on the results of the survey, there are no CalARP facilities within one mile of the project site and there are no facilities in the project area using or storing CalARP - regulated chemicals at quantities exceeding the respective CalARP threshold. Therefore, the use and storage of chemicals in the project area is not expected to affect the proposed project in the event of an accidental release. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.8.3 Conclusion

The proposed project would store hazardous materials in accordance with local, state, and federal regulations. There are no hazardous material concerns on the project site or in the project area that would affect the proposed project. For these reasons, the proposed project would not result in a significant hazards and hazardous materials impact. **[Same Impact as Approved Project (Less Than Significant Impact)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Environmental Setting

4.9.1.1 *Drainage and Flooding*

The project site is located in the Butterfield Channel storm water drainage basin. Butterfield Channel, previously named Sutter Channel, is an improved channel that drains the area west of US 101 and east of Railroad Avenue to East Little Llagas Creek. Because the entire project is an undeveloped field, the site generates little storm water runoff.

The project site is not located within a 100-year flood hazard area. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), the project site is located within Zone X. Zone X is an area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods.[21]

4.9.1.2 *Water Quality*

The water quality of ponds, creeks, streams, and other surface water-bodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as "non-point" source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Grading and excavation activities during construction of the proposed billboard could increase the amount of surface water runoff (i.e., particles of fill or excavated soil) from the site, or could erode soil downgradient, if the flows are not controlled. Deposition of eroded material in water features could increase turbidity, thereby endangering aquatic life, and reducing wildlife habitat. Excessive precipitation can carry these non-point pollutants downstream.

Regulatory Overview (Water Quality)

The Federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. Regulations set forth by the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board have been developed to fulfill the requirements of this legislation. EPA's regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by water quality control boards, which for the Morgan Hill area south of Cochrane Road[22] is the Central Coast Regional Water Quality Control Board (RWQCB).[23] The Central Coast RWQCB issues and enforces NPDES permits for discharges to water bodies in the portion of Santa Clara County that drains to the Monterey Bay. The RWQCB is also tasked with preparation and

[21] Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel #06085C0443H, May 18, 2009.
[22] Santa Clara Valley Water District. *Uvas-Llagas Watershed Map.* <http://www.valleywatercompplan.org/watersheds/view/449 > Accessed July 28, 2011.
[23] Historically, efforts to prevent water pollution focused on "point" sources, meaning the source of the discharge was from a single location (e.g., a sewage treatment plant, power plant, factory, etc.). More recent efforts are focusing on pollution caused by "non-point" sources, meaning the discharge comes from multiple locations. The best example of this latter category is urban stormwater runoff, the source of which is a myriad of impervious surfaces (e.g., highways, rooftops, parking lots, etc.) that are found in a typical city or town.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

revision of a regional Water Quality Control Plan, also known as the Basin Plan. The Central Coast RWQCB's latest Basin Plan was approved in September 2017. The RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to control water quality and protect beneficial uses.

Under Section 303(d) of the 1972 Clean Water Act, States are required to identify impaired surface water bodies and develop total maximum daily loads (TMDLs) for contaminants of concern.[24] The TMDL is the quantity of pollutant that can be safely assimilated by a water body without violating water quality standards. Listing of a water body as impaired does not necessarily suggest that the water body cannot support the beneficial uses; rather, the intent is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for future water quality degradation. The Llagas Creek watershed is listed by the U.S. Environmental Protection Agency as an impaired water body for chloride, fecal coliform, low dissolved oxygen, pH, sodium, and total dissolved solids.

NPDES General Permit for Construction Activity

The State Water Resources Control Board has implemented a NPDES General Construction Permit for the State of California. Construction activity subject to this permit includes clearing, grading, and ground disturbances such as stockpiling or excavation. For projects disturbing one acre or more of soil,[25] a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to commencement of construction.[26]

NPDES Municipal Stormwater Permit

The U.S. Environmental Protection Agency has delegated management of NPDES requirements for municipal urban runoff discharges in California to the State Water Resources Control Board and the nine RWQCB's. The City of Morgan Hill has adopted and prepared a Storm Water Management Plan (SWMP) and been issued the NPDES Small Municipal Separate Storm Sewer Systems (small MS4s) General Permit by the Central Coast RWQCB [Order Number 2003-0005-DWQ, Waste Discharge Identification Number (WDID#) 3-43MS03020]. The City of Morgan Hill is designated by the EPA as a small MS4, serving less than 100,000 people. Morgan Hill's previous Small MS4 permit expired in June 2010, and the new regional permit serves as a renewal of the Small MS4 permit for Morgan Hill. The City's SWMP plan outlines a comprehensive five year plan to establish Best Management Practices (BMPs) through six Minimum Control Measures (MCMs) to help reduce the discharge of pollutants into waterways and to protect local water quality caused by stormwater and urban runoff within the corporate limits of Morgan Hill.

[24] California State Water Resources Control Board, "Total Maximum Daily Load Program," http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml, viewed December 20, 2016.
[25] Effective July 1, 2010, all dischargers were required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. Source: State Water Resources Control Board website, updated February 2013. Available at: <http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml>. Accessed December 21, 2016.
[26] State Water Resources Control Board, Division of Water Quality. *Construction General Permit Fact Sheet*. Last Updated January 2013. Available at: <http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml>. Accessed December 21, 2016.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.9.1.3 *Groundwater*

The depth to groundwater at the project site is approximately 42 feet below ground surface (bgs).[27] The site does not contain aquifer recharge facilities, such as streams or ponds.

4.9.1.4 *Dam Failure*

The Association of Bay Area Governments has compiled dam failure inundation hazard maps submitted to the State Office of Emergency Services by dam owners throughout the Bay Area. The maps for the City of Morgan Hill show the project site to be in the dam failure inundation hazard zone for Anderson Reservoir.[28] The dams in Santa Clara County are managed by the Santa Clara Valley Water District. Anderson Dam is currently limited to about half its capacity due to seismic concerns, in order to protect against potential dam failure. The dam is currently being retrofitted to solve the seismic issue.[29]

4.9.1.5 *Seiches, Tsunamis, and Mudflows*

A seiche is an oscillation of the surface of a lake or landlocked sea varying in period from a few minutes to several hours. There are no landlocked bodies of water near the project site that in the event of a seiche will affect the site.

A tsunami is a series of water waves caused by the displacement of a large volume of a body of water, such as an ocean or a large lake. Due to the immense volumes of water and energy involved, tsunamis can devastate coastal regions. The project site does not lie within a tsunami inundation hazard area.[30]

A mudflow is the rapid movement of a large mass of mud formed from loose soil and water. The project site is relatively flat and is not susceptible to mudflows.

4.9.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒	☐	1, 2

[27] Geologica Inc., *Phase I Environmental Site Assessment. Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*, November 5, 2007.
[28] Association of Bay Area Governments, *Bay Area Dam Failure Inundation Hazards*, October 5, 2009, http://www.abag.ca.gov/bayarea/eqmaps/damfailure/.
[29] Santa Clara Valley Water District. "Anderson Dam Seismic Retrofit". 2018. https://www.valleywater.org/project-updates/dam-reservoir-projects/anderson-dam-seismic-retrofit.
[30] California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning San Francisco Bay Area, December 9, 2009, http://www.consrv.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Documents/Tsunami_Inundation_SanFranciscoBayArea300.pdf.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒	☐	1, 2
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on-or off-site?	☐	☐	☐	☒	☐	1, 2
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or off-site?	☐	☐	☐	☒	☐	1, 2
e) Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒	☐	1, 2
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒	☐	1, 2
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒	☐	14
h) Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☐	☒	☐	14

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒	☐	1, 15
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐	1, 2

4.9.2.1 *Impacts to Drainage (Checklist Questions c-e)*

The project site is approximately 20.25 acres of undeveloped land and 100 percent pervious.

The proposed mixed-use development would fully develop the project site and at completion of project construction, the project site would be approximately 23 percent pervious, leaving the site nearly covered in impervious surfaces.

Per the implementation of the SWPPP and other drainage standards implemented by the City, the project should not significantly increase stormwater flows into the existing system. The project would be required to minimally retain all water from the 85th percentile of rainfall events (approximately two to five year storm events) on site; therefore, during 85 percent of the rainfall events, the existing storm drain system would not be impacted by the project. Furthermore, any on-site systems (retention basins) would be required to be designed to detain a volume of water up to a 25-year storm event while releasing water at a rate reflective of the 10-year predevelopment flow. This design limits stormwater flows off-site to less than 10-year predevelopment flows. The existing public storm water system is already designed to convey a 10-year storm event; therefore, the project should not significantly contribute to any additional flooding during the most frequent events. The final drainage system design for the project would be subject to review and approval by the City of Morgan Hill Public Works Department, who would confirm that the proposed drainage system for the project is consistent with the City's Storm Drainage Master Plan and standard stormwater-related conditions of approval. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.9.2.2 *Impacts to Water Quality (Checklist Question a, f)*

Construction

There is the potential for water quality impacts to occur during project construction (e.g., demolition, grading, and excavation activities). In addition to generating dust, litter, oil, and other pollutants that could contaminate runoff from the site, construction activities would increase the potential for erosion and sedimentation by disturbing and exposing underlying soil to the erosive forces of water and wind. The proposed project would disturb more than one acre of soil and would be required to follow the requirements of the Statewide CGP.

Impact HYD-1: Construction activities could temporarily increase pollutant loads in storm water runoff, degrading water quality downstream of the project site.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Mitigation Measures: In accordance with the City of Morgan Hill Standard Conditions of Approval and the NPDES General Permit for Construction Activities, the following measures are included in the project to reduce construction-related water quality impacts to a less than significant level:

MM HYD-1.1: The following BMPs would be implemented during project construction:

- Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities will be suspended during periods of high winds.
- All exposed or disturbed soil surfaces will be watered at least twice daily to control dust.
- Stockpiles of soil or other materials that can be blown by the wind will be watered or covered.
- All trucks hauling soil, sand, and other loose materials will be covered and all trucks will be required to maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site will be swept daily (with water sweepers).
- Vegetation in disturbed areas will be replanted as quickly as possible.

MM HYD-1.2: Consistent with the requirements of the NPDES General Permit for Construction Activities, a Notice of Intent (NOI) would be submitted to the RWQCB and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to control discharge associated with construction activities, prior to commencement of grading and construction activities. Once grading begins the SWPPP must be kept on-site and updated as needed while construction progresses. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

Post – Construction

Stormwater runoff from urban uses such as the proposed project contains metals, pesticides, herbicides, and other contaminants such as oil, grease, lead, and animal waste. The project would conform to the City's Storm Water Management Plan (SWMP) to reduce the discharge of pollutants into waterways and to protect local water quality that could be degraded by storm water and urban run-off within the corporate limits of Morgan Hill.

In order to meet SWMP requirements onsite, the project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. An onsite network of perforated storm drain pipes would collect the runoff filtered through the landscape/bioretention areas, maximizing the amount of runoff retained onsite prior to discharging to the public storm drain system. Conformance with the SWMP, as proposed by the project, would reduce the potential for the project to result in post-construction water quality impacts. **(Less Than Significant Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.9.2.3 *Impacts to Groundwater (Checklist Question b)*

As discussed above, the depth to groundwater at the project site is approximately 42 feet below ground surface (bgs). The groundwater is deep enough such that the project, which entails only shallow ground disturbance for building foundations and utility trenching, would not interfere with groundwater flow or expose any aquifers. The project site is not an aquifer recharge facility (i.e., streams or ponds); therefore, development of the project site would not substantially interfere with aquifer recharge. **(Less Than Significant Impact [Same as Approved Project])**

4.9.2.4 *Impacts to the Project from Flooding (Checklist Question g-i)*

The project is not located within a 100-year flood hazard zone and, therefore, would have no impact on 100-year flows or expose people to flood hazards associated with the 100-year flood. **(No Impact [Same as Approved Project])**

Dam Failure

The City of Morgan Hill is located in the dam failure inundation area of Anderson Dam. While the project site is subject to deep inundation should the Anderson Dam fail catastrophically, the dam is inspected twice a year by the SCVWD in the presence of representatives from the California Division of Safety of Dams and the Federal Energy Regulatory Commission. Furthermore, the Anderson Reservoir is managed to present significant damage during a maximum credible earthquake. While the potential inundation resulting from catastrophic dam failure could damage property and proposed structures within Morgan Hill as a whole and pose a severe hazard to public safety, the probability of such failure is extremely remote and reservoir levels have been lowered to maintain an additional level of safety; therefore dam inundation failure is not considered a significant hazard.[31] **(Less Than Significant Impact [Same as Approved Project])**

Seiches, Tsunamis, and Mudflows

The project site would not be at risk from damage due to sea waves or tsunamis. The project site would not be subject to inundation by seiche, tsunami, or mudflow. The site is not in an area that could be exposed to inundation from sea level rise. **(No Impact [Same as Approved Project])**

4.9.3 Conclusion

With the implementation of standard measures and the City's policies and standards, the proposed mixed-use development would have a less than significant impact on hydrology and water quality. **(Less Than Significant Impact [Same as Approved Project])**

[31] Santa Clara Valley Water District. "Anderson Dam Seismic Retrofit". 2018. https://www.valleywater.org/project-updates/dam-reservoir-projects/anderson-dam-seismic-retrofit.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.10 LAND USE AND PLANNING

4.10.1 Environmental Setting

The 20.25-acre project site is located in the southeast quadrant of the intersection of Cochrane Road and Butterfield Boulevard in the City of Morgan Hill. The site is undeveloped. The site's existing General Plan land use designation and zoning are *Commercial* and *Planned Unit Development District*, respectively. The project area includes a mix of uses. Residences are located west of the project site, across Butterfield Boulevard. Industrial uses are located north and south of the project site, across Cochrane Road and Jarvis Drive, respectively. Commercial uses are located east of the project site. An aerial photograph of the project site and the surrounding land uses is shown in Figure 2.8-3.

4.10.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Physically divide an established community?	☐	☐	☐	☒	☐	1, 2
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒	☐	1, 2
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒	☐	1, 2, 11

4.10.2.1 *Land Use Impacts from the Project*

Impacts on Established Communities (Checklist Question a)

The site is in an urban setting predominantly characterized by commercial, office, residential and parking uses. The area is currently developed with a mix of land uses and development of the proposed mixed use development would not physically divide an established community. **(No Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Land Use Conflict Impacts (Checklist Question b)

Consistency with Applicable Land Use Plan

Land use conflicts can arise from two basic causes: 1) a new development or land use may cause impacts to persons or the physical environment in the vicinity of the project site or elsewhere; or 2) conditions on or near the project site may have impacts on persons or development introduced onto the site by the project. Both of these circumstances are aspects of land use compatibility. Potential incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritations and nuisance to potentially significant effects on human health and safety.

The proposed development of mixed uses on the project site would be compatible with the surrounding commercial and industrial uses. Land use conflicts between the proposed commercial uses and existing residential uses in the project area are not expected, because there is sufficient separation distance (i.e., Butterfield Boulevard, a four-lane arterial with a landscaped median) between the uses.

The proposed project is consistent with the *Commercial* General Plan land use designation. Therefore, the project site would retain its current General Plan land use designation. The site is currently zoned *PUD, Planned Unit Development*. The project includes an application to amend the *PUD* to accommodate the proposed mixed-use development. **(No Impact [Same as Approved Project])**

Shade and Shadow Impacts

Shadow sensitive land uses, such as parks, community facilities, and historic resources within the project area were identified based upon a visual reconnaissance and review of aerial photographs. There are no shadow sensitive land uses immediately adjacent to the project site. The nearest shadow sensitive land use is Murphy Springs Park, approximately 0.75 mile southwest of the site, on Murphy Springs Court. The proposed project is not adjacent to any shadow sensitive land uses and would undergo design review by the City. For these reasons, the project would not result in significant shade and shadow impacts. **(No Impact [Same as Approved Project])**

Consistency with the Santa Clara Valley Habitat Plan

Project consistency with the Santa Clara Valley Habitat Plan (VHP) is discussed in Section 4.4, Biological Resources. The proposed project is a covered activity under the Santa Clara Valley Habitat Plan and would be required to pay the appropriate development fees and adhere to applicable conditions. The proposed project would not conflict with the VHP. **(No Impact [Same as Approved Project])**

4.10.3 Conclusion

The proposed project would not physically divide an established community and would not conflict with the VHP. The proposed commercial use of the project site is compatible with surrounding land uses. **(No Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.11 MINERAL RESOURCES

4.11.1 Environmental Setting

The project site is located in an urban area within the City of Morgan Hill. Mineral resource recovery activities do not occur on or near the project site, nor does the site contain any known mineral resources.

4.11.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒	☐	1, 2
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒	☐	1, 2

4.11.2.1 *Mineral Resources Impacts (Checklist Questions a, b)*

The project site is undeveloped and does not contain any known state or locally important mineral resources. Therefore, the proposed project would not impact mineral resources. **[Same Impact as Approved Project (No Impact)]**

4.11.3 Conclusion

Implementation of the proposed project would result in no impact to mineral resources. **[Same Impact as Approved Project (No Impact)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.12 NOISE AND VIBRATION

The following discussion is based upon an environmental noise assessment prepared for the proposed project by *Illingworth & Rodkin* in July 2018. The environmental noise assessment is included as Appendix G of this Addendum.

4.12.1 Environmental Setting

4.12.1.1 *Noise Background*

Noise

Noise is defined as unwanted sound. Noise can be disturbing or annoying because of its pitch or loudness. Pitch refers to relative frequency of the vibrations by which sound is produced. Higher pitched signals sound louder to people than sounds with a lower pitch. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. A 10 on the decibel scale marks the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis such that each 10 decibel increase is perceived as a doubling of loudness. The California A-weighted sound level, or dBA, is a sound measurement scale that gives greater weight to sounds to which the human ear is most sensitive.

Sensitivity to noise increases during the evening and at night because excessive noise interferes with the ability to sleep. Twenty-four hour descriptors have been developed that emphasize quiet-time noise events. The Day/Night Average Sound Level, L_{dn}, is a measure of the cumulative noise exposure in a community. It includes a 10 dB addition to noise levels from 10:00 PM to 7:00 AM to account for human sensitivity to night noise.

Vibration

The abbreviation "VdB" is used for vibration decibels to reduce confusion with sound decibels. Construction activities can cause vibration that varies in intensity depending on several factors. Pile driving and vibratory compaction equipment typically generate the highest construction-related groundborne vibration levels. The two primary concerns with construction-induced vibration are the potential to damage a structure, and the potential to annoy or disturb people and interfere with enjoyment of life.

4.12.1.2 *Existing Noise Environment*

A noise monitoring survey consisting of two short-term and two long-term noise measurements was completed at the project site beginning on Monday, April 30, 2018 and concluding on Thursday, May 3, 2018 to document existing ambient noise levels. The results of the noise monitoring survey indicate that the predominant noise sources affecting the site are vehicular traffic along surrounding roadways. The results of the monitoring are shown in Table 4.12-1 below. An aerial photograph showing the locations from which noise measurements were taken is provided in Figure 4.12-1.[32]

[32] Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment.* July 5, 2018.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.12-1: Summary of Short-term and Long-term Noise Measurements (dBA)		
ID	**Noise Measurement Location**	**L_{eq}**
ST-1	Eastern property line of the site	53
ST-2	South side of the site along Jarvis Drive	51
LT-1	Front of 18443 Butterfield Boulevard	63-74 (day) 53-68 (night)
LT-2	Front of 355 Woodview Avenue on Cochrane Road	70-74 (day) 59-70 (night)

Source: Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment*. July 5, 2018.

LT = Long-term

ST = Short-term

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 4.12-1: Noise Measurement Locations

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.12.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project result in:						
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒	☐	1, 2, 18
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒	☐	1, 2, 18
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	☐	1, 2, 18
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	☐	1, 2, 18
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐	1, 2
f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐	1, 2

4.12.2.1 *Noise and Vibration Impacts from the Project*

Traffic Noise (Checklist Question a, c)

Per the City of Morgan Hill General Plan, noise from project-generated traffic would result in a significant impact if: a) the noise level increase is five dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or b) the noise level increase is three dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater. The noise environment at the nearest sensitive receptors exceeds 60

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

dBA L_{dn}, therefore, a noise impact would be identified where the project would result in a permanent noise level increase of 3 dBA L_{dn} or more.

Traffic generated by the project would use Butterfield Boulevard, Cochrane Road, Sutter Boulevard, and Jarvis Drive to access the project site. Traffic noise levels due to the proposed project are calculated to increase existing traffic noise levels by 0 to 1 dBA L_{dn} along Butterfield Boulevard, Cochrane Road, and Sutter Boulevard. Traffic noise levels at receptors along Jarvis Road, between Butterfield Boulevard and Sutter Boulevard, are calculated to increase by 2 dBA L_{eq} during the AM and PM peak hour due to a combination of traffic noise increases on Jarvis Road and those on the surrounding roadways. There are no noise sensitive land uses (i.e., residences) located along this segment of Jarvis Road. Traffic noise increases resulting from the proposed project would not increase ambient noise levels by 3 dBA L_{dn} or more at existing noise sensitive uses. **(Less than Significant Impact [Same as Approved Project])**

Operational Noise (Checklist Question a, c)

The proposed project would generate noise associated with mechanical equipment (i.e. heating, ventilation, air conditioning systems, auto shop equipment), parking and circulation, loading docks, and a carwash. Based on the distance to the nearest sensitive receptor, residences located approximately 150 feet west of the site across Butterfield Boulevard, and the existing ambient noise level of 63 to 73 dBA L_{eq}, noise generated by parking and circulation (50 to 60 dBA L_{max}), loading docks (50 to 55 dBA L_{max}), and the car wash (53 to 63 dBA L_{eq}) would be below the existing ambient noise level and would not be distinguishable from existing noise sources, similar to the 2014 approved project.

Mechanical equipment (i.e. heating, ventilation, air conditioning systems, auto shop equipment) on parcels one, six, and nine (see Figure 3.2-1), however, could potentially impact nearby sensitive receptors located to the west, across Butterfield Boulevard. Mechanical equipment can operate continuously throughout the day and night and has different acoustical characteristics than traffic noise; therefore, the following mitigation measure would apply to the proposed project.

Impact NOI-1: Operation of mechanical equipment could exceed existing ambient noise levels near sensitive receptors.

Mitigation Measure: The following mitigation measure would be implemented as part of the project in order to reduce mechanical equipment noise to a less than significant level:

MM NOI-1.1: Prior to the issuance of building permits, mechanical equipment shall be selected and designed to reduce impacts on surrounding uses to meet the City of Morgan Hill's requirements. A qualified acoustical consultant shall be retained by the project applicant to review mechanical noise as the equipment systems are selected in order to determine specific noise reduction measures necessary to reduce noise to 55 dBA Leq at residences to the west of the site, across Butterfield Boulevard. Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels and/installation of noise barriers such as enclosures and parapet walls to block the line of sight between the noise source and the nearest receptors.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

With implementation of MM NOI-1.1, noise generated by the proposed project's mechanical equipment would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

Construction Noise (Checklist Question a, b, d)

Construction activities can generate high noise levels, especially during demolition, excavation, and foundation construction when heavy equipment operates on-site. Hourly average noise levels generated by demolition and construction typically range from 78-91 dBA L_{eq} at a distance of 50 feet from the center of a busy construction site. The closest noise sensitive uses surrounding the site include residences located about 150 feet west of the site, across Butterfield Boulevard. Residences to the west would be exposed construction noise levels as high as 69 to 82 dBA L_{eq} when construction is located adjacent to the western property line, with more typical levels being 60 to 73 dBA L_{eq} or less as construction moves away from the property line. Commercial uses, located about 50 and 80 feet to the east, 200 feet to the north, and 175 feet to the south would be exposed to typical construction noise levels of up to 66 to 90 dBA L_{eq}. Construction noise would be lower as activities move further from noise sensitive locations or into shielded areas. Project construction would similar to construction activity associated with the 2014 approved project and would be anticipated to exceed 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial uses and the ambient noise levels by more than 5 dBA L_{eq} over a period exceeding one year, resulting in a significant impact.

Impact NOI-2: If not controlled, construction activities on the project site could expose adjacent sensitive receptors to a substantial temporary increase in ambient noise levels. **(Less Than Significant Impact with Mitigation)**

Mitigation Measure: With the implementation of the measures listed below, and recognizing that the sensitive land uses located across Butterfield Boulevard would only be affected by noise from construction activities on the westernmost portion of the site, and recognizing that construction on the remainder of the site would typically occur at distances of 500 feet or more from those same sensitive land uses, the substantial temporary increase in ambient noise levels would be less than significant.

MM NOI-2.1: Consistent with the City of Morgan Hill Municipal Code, the following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance.

- Construction activities shall be limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities should occur on Sundays or federal holidays (Consistent with Section 8.28.040 of the Morgan Hill Municipal Code).
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

- Locate stationary noise generating equipment (e.g. rock crushers, compressors) as far as possible from adjacent residential receptors.
- Acoustically shield stationary equipment located near residential receptors with temporary noise barriers or recycled demolition materials.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

Implementation of MM NOI-2.1 would reduce construction noise levels to a less than significant level. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

Construction Vibration (Checklist Question a, b, d)

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. The nearest structures are located as close as 50 and 80 feet to the east, 200 feet to the north, 125 feet to the west, and 175 feet to the south of the project site. At the nearest structures, located about 50 feet to the east, typical construction activities would be expected to result in vibration levels of 0.1 in/sec PPV or less. Vibration would be anticipated to be perceptible when located adjacent to structures but would be well below the 0.30 in/sec PPV significance threshold for architectural or structural damage. **(Less than Significant Impact [Same as Approved Project])**

4.12.2.2 *Airport-Related Noise (Checklist Question e, f)*

The project site is located approximately six miles northwest of the San Martin Airport. There are no private airstrips in the site vicinity. The project site is not within the noise contours of the airport, therefore there would be no noise impacts to future residents resulting from airport-related noise. **[(No Impact) Same Impact as Approved Project]**

4.12.2.3 *Noise and Vibration Conditions Affecting the Project*

The California Supreme Court in a December 2015 opinion (*BIA v. BAAQMD*) confirmed CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project; nevertheless the City has policies that address existing conditions (e.g. noise) affecting a proposed project, which are addressed below.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Exterior Noise

The main noise generator in the project area is traffic on the surrounding surface streets. The majority of the outdoor uses of the proposed project are of sufficient distance or shielded from existing traffic noise, and would not exceed the City of Morgan Hill's exterior noise policy (65 dBA for residential/hotel and 70 dBA for office, commercial, and parks). The exterior uses at the proposed hotel, however, could potentially exceed the City's exterior noise policy depending on the final site design. The project would comply with the following condition of approval prior to obtaining grading/building permits:

- Consider acoustics in the design of outdoor use areas for the Parcel 5 Hotel use. A qualified acoustical consultant shall be retained by the project applicant to review hotel plans to determine specific noise reduction measures necessary to reduce noise to meet the City's noise and land use compatibility threshold (65 dBA Ldn). Noise reduction measures could include, but are not limited to, site planning utilizing setbacks from Cochrane Road and shielding from hotel structures and/or the installation of noise barriers or parapet walls (in the case of rooftop use areas).

Interior Noise

The proposed project buildings located along Butterfield Boulevard and Cochrane Road would be exposed to the highest exterior noise levels. Interior noise levels vary depending on the design of the building. Based on the anticipated exterior noise environment, interior noise levels at the assisted living facility and medical offices would be below the City's 45 dBA L_{dn} for residential uses, 45 dBA L_{eq} for offices, and below the 50 dBA $L_{eq(1\text{-}hr)}$ specified by the Cal Green Code.

The proposed hotel and commercial uses along Butterfield Boulevard and Cochrane road would also meet the interior noise standards with the inclusion of forced-air ventilation, so that windows can be kept closed to control noise.

4.12.3 Conclusion

With implementation of MM NOI-1.1 and MM NOI-2.1, the proposed project would not result in significant noise impacts. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.13 POPULATION AND HOUSING

4.13.1 Environmental Setting

Based on the California Department of Finance population estimates, the City's total population was approximately 44,513 in January 2018 and the average persons per household was an estimated 3.06.[33,34] The City's total population is projected to grow to approximately 46,100 by 2030.[35]

As part of the General Plan, residential development within the City of Morgan Hill is controlled by the Residential Development Control System (RDCS). Morgan Hill's RDCS process meters the amount of residential development occurring within the City in any given year, typically up to 215 units annually, to ensure the rate of development does not outstrip the availability of public services and infrastructure to serve the City's residents. RDCS establishes a population ceiling of 58,200 for the City as of January 1, 2035.

4.13.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒	☐	1, 3
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐	1, 3
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐	1, 3

4.13.2.1 *Impacts to Population and Housing*

A project can induce substantial population growth by: 1) proposing new housing beyond projected or planned development levels, 2) generating demand for housing as a result of new businesses, 3) extending roads or other infrastructure to previously undeveloped areas, or 4) removing obstacles to

[33] California Department of Finance. *E-1: City/County Population Estimates with Annual Percent Change - January 2017 and 2018*. May 2018.
[34] City of Morgan Hill. *Pop-Facts: Demographic Snapshot 2015 Report*. Available at: <http://www.morgan-hill.ca.gov/717/Demographics-Community-Profile>. Accessed January 3, 2017.
[35] City of Morgan Hill. *Morgan Hill General Plan: City of Morgan Hill Housing Element*. Adopted February 2015.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

population growth (i.e., expanding capacity of a wastewater treatment plant beyond that necessary to serve planned growth).

Population Growth (Checklist Question a)

The proposed project would develop a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility. The businesses and medical offices would primarily serve Morgan Hill's existing population and would not induce substantial population growth. The proposed assisted living facility is considered a commercial use and is not subject to the City's RDCS system, provided that any private rooms only contain a half kitchen. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Population Growth and People/Housing Displacement (Checklist Question b, c)

The project site is undeveloped, and therefore, no residents occupy the site. For this reason, the proposed project would not displace people or necessitate the construction of housing elsewhere. **[(No Impact) Same as Approved Project]**

4.13.3 Conclusion

The proposed project would not induce substantial population growth or displace people or housing. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.14 PUBLIC SERVICES

4.14.1 Environmental Setting

4.14.1.1 *Fire Protection*

The City of Morgan Hill contracts with the California Department of Forestry and Fire Protection (CalFire) for fire and emergency medical services. The City is served by three stations at the following locations: 1) El Toro Fire Station, located at 18300 Old Monterey Road (approximately 0.4 mile southwest of the project site), 2) Dunne Hill Fire Station, located at 2100 East Dunne Avenue (approximately 2.5 miles east of the project site), and 3) 15670 Monterey Street (approximately 2.8 miles south of the project site). In general, the response time meets the current standard of eight minutes 95 percent of the time; although it is expected that most responses will be approximately five minutes 90 of the time.[36]

4.14.1.2 *Police Protection*

Police service is provided to the project site by the City of Morgan Hill Police Department (MHPD). The MHPD facility is located at 16200 Vineyard Boulevard, approximately one mile southeast of the project site. The department employs 39 sworn officers.[37] The Police Department's goal is to respond to Priority One calls within five minutes and Priority Two calls within eight minutes.[38] Priority One calls are reports of a crime in progress or where an injury has occurred and Priority Two calls are reports of felonies and other major calls.

4.14.1.3 *Schools*

The project site is located within the Morgan Hill Unified School District. The District has eight elementary schools, two middle schools, two comprehensive high schools, one continuation high school, and a community adult school, as well as a home schooling program. The nearest schools to the site, El Toro Elementary and Stratford School, are approximately 1.0 mile and 0.8 mile, respectively, from the site.

4.14.1.4 *Parks*

The City owns 70 acres of developed park land (including the Civic Center, assessment district parks and city owned trails) and 59 acres of recreation facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. In addition to publicly-owned park land, there is also a significant amount of recreational land and open space in the City that is privately owned and maintained.

The City also owns and operates special use facilities for recreational purposes. These facilities include the Morgan Hill Aquatics Center, Community and Cultural Center, the Centennial Recreation Center, the 38 acre Outdoor Sports Center, and Skateboard/BMX park. Many sports leagues and

[36] City of Morgan Hill, City Council Staff Report. *Fire and Emergency Medical Services (EMS) CalFire Proposal Update*. Meeting Date April 4, 2012.
[37] City of Morgan Hill. *Police*. Accessed June 14, 2018. http://www.morgan-hill.ca.gov/index.aspx?nid=129.
[38] City of Morgan Hill. *Operating and CIP Budget, FY 13-14. Police Field Operations, Performance Measures.* 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

teams use Morgan Hill School District facilities after school hours and on weekends. These facilities include 12 baseball/softball fields, two football fields, two tracks, and four swimming pools.

The General Plan includes policies that support the City's park land and recreational goal to provide useful, accessible, and high-quality parks, recreation, and trail facilities. To achieve this goal, the City has adopted General Plan Policies and a park land dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires park land dedication or in-lieu fees for residential developments.

In accordance with General Plan Policies HC-3.3 and HC-3.29, park land dedication or in-lieu fees are required by new developments to meet the recreation and open space needs of residents in Morgan Hill.

4.14.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project						
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:						
- Fire Protection?	☐	☐	☐	☒	☐	1, 2
- Police Protection?	☐	☐	☐	☒	☐	1, 2
- Schools?	☐	☐	☐	☒	☐	1, 2
- Parks?	☐	☐	☐	☒	☐	1, 2
- Other Public Facilities?	☐	☐	☐	☒	☐	1, 2

4.14.2.1 *Impacts to Public Services (Checklist Question a)*

Fire and Police Services

Development on the project site under the proposed project would be constructed in conformance with current building and fire codes, including features that would reduce potential fire hazards. The development would be reviewed by both CalFIRE and the Morgan Hill Police Department to ensure appropriate safety features to reduce fire hazards and criminal activity are included in the project. Given that the proposed project is infill development, the development of commercial uses on the site would not substantially increase the demand for fire or police protection, or otherwise require

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

construction or expansion of fire or police facilities. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Schools

The proposed project does not propose to develop residential units that would increase the student population of the City. The assisted living facility would not include school age children who would attend area schools. Therefore, the proposed project would have not increase demand on or require additional construction of school facilities. **[(No Impact) Same as Approved Project]**

Parks

The City of Morgan Hill has adopted a parkland dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires parkland dedication or in-lieu fees for residential developments. The proposed project does not include residential development that would place demands on park in that the assisted living facility would not include a large population of residents who would be expected to use nearby parks and the project would not therefore be subject to the parkland dedication/park land in-lieu fee ordinance; thus, the proposed project would have no impact on park facilities. **[(No Impact) Same as Approved Project]**

4.14.3 Conclusion

The proposed development of the proposed mixed-uses on the project site would incrementally increase demand for public services in the project area, however, this increase in demand would not result in a significant impact on the environment. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.15 RECREATION

4.15.1 Environmental Setting

The City owns 70 acres of developed park land (including the Civic Center, assessment district parks and city owned trails) and 59 acres of recreation facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. In addition to publicly-owned park land, there is also a significant amount of recreational land and open space in the City that is privately owned and maintained.

The City also owns and operates special use facilities for recreational purposes. These facilities include the Morgan Hill Aquatics Center, Community and Cultural Center, the Centennial Recreation Center, the 38 acre Outdoor Sports Center, and Skateboard/BMX park. Many sports leagues and teams use Morgan Hill School District facilities after school hours and on weekends. These facilities include 12 baseball/softball fields, two football fields, two tracks, and four swimming pools.

The General Plan includes policies that support the City's park land and recreational goal to provide useful, accessible, and high-quality parks, recreation, and trail facilities. To achieve this goal, the City has adopted a park land dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires park land dedication or in-lieu fees for residential developments.

4.15.2 Checklist and Discussion of Impacts

		New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☐	☒	☐	1
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒	☐	1

4.15.2.1 *Impacts on Parks and Recreational Facilities (Checklist Question a, b)*

As discussed in Section 4.13 Public Services, the proposed project does not include the development of residential units that would place demands on parks in that the assisted living facility would not include a large population of residents who would be expected to use nearby parks and the anticipated workforce for the proposed businesses would largely come from the existing City

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

population. As a result, the proposed project would not increase the use of existing recreational facilities or require their expansion. **[(No Impact) Same as Approved Project]**

4.15.3 Conclusion

The proposed project would not result in impacts to recreation. **[(No Impact) Same as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.16 TRANSPORTATION/TRAFFIC

The following discussion is based upon a traffic impact analysis completed for the proposed project by *Hexagon Transportation Consultants* in June 2018. The report is attached as Appendix H of this Initial Study/Addendum.

4.16.1 Environmental Setting

4.16.1.1 *Existing Roadway Network*

Regional Access

US 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle [HOV] lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Existing access to and from the project area is provided via an interchange at Cochrane Road.

Local Access

Cochrane Road is an east-west divided roadway that runs from Monterey Road to Malaguerra Avenue east of US 101. Cochrane Road is a four-lane road between Monterey Road and Sutter Boulevard. Between Sutter Boulevard and US 101, Cochrane Road widens to three lanes eastbound and two lanes westbound, then narrows back to four lanes east of US 101, and to two lanes east of Mission View Drive. Cochrane Road has a posted speed limit of 45 mph. It runs along the northern project frontage and would provide direct access to the project site via various driveways.

Monterey Road is a four-lane divided major arterial that runs directly through Morgan Hill. Monterey Road extends from Market Street in downtown San Jose to US 101 south of Gilroy. Monterey Road runs west of the project site with a posted speed limit of 45 mph.

Butterfield Boulevard is a four-lane roadway that runs southward from Cochrane Road to Monterey Road with a posted speed limit of 35 mph. At the intersection with Monterey Road, Butterfield Boulevard changes designation to Watsonville Road. Direct access to the project site would be provided via a driveway along Butterfield Boulevard.

Jarvis Drive is a two-lane undivided roadway that runs in a concentric form within the area bounded by Monterey Road, Cochrane Road, US 101, and Main Avenue. It begins at Monterey Road and extends eastward past Sutter Boulevard at which point it loops around and extends southwest to Butterfield Boulevard. Jarvis Drive is the southern project boundary and would provide direct access to the project site via two driveways.

Sutter Boulevard is a four-lane roadway that runs from Butterfield Boulevard to Woodview Avenue just north of Cochrane Road, with a posted speed limit of 35 mph. Indirect access would be provided to the project site from Sutter Boulevard via an existing driveway that serves the existing commercial development east of the project site.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Study Intersections

The traffic impact analysis completed for the proposed project evaluates the operations of 20 signalized intersections, five unsignalized intersections, and 16 freeway segments. The study intersections and freeway segments listed below were evaluated following the standards and methodologies set forth by the City of Morgan Hill and VTA. A detailed discussion of the methodologies used is included in the traffic impact analysis attached as Appendix H of this Initial Study/Addendum.

Intersections

1. Monterey Road and Cochrane Road
2. Cochrane Circle and Cochrane Road
3. Butterfield Boulevard and Cochrane Road
4. Woodview Avenue and Cochrane Road (unsignalized)
5. Sutter Boulevard and Cochrane Road
6. Madrone Parkway and Cochrane Road
7. US 101 Southbound Ramps and Cochrane Road
8. US 101 Northbound Ramps and Cochrane Road
9. DePaul Drive and Cochrane Road
10. Mission View Drive and Cochrane Road (unsignalized)
11. Sutter Boulevard and Cochrane Road (unsignalized)
12. Butterfield Boulevard and Jarvis Drive (N) (unsignalized)
13. Sutter Boulevard and Jarvis Drive (unsignalized)
14. Butterfield Boulevard and Sutter Boulevard
15. Butterfield Boulevard and Jarvis Drive (S)/Digital Drive
16. Monterey Road and Old Monterey Road
17. Butterfield Boulevard and Central Avenue
18. Monterey Road and Main Avenue
19. Butterfield Boulevard and Main Avenue
20. Condit Road and Main Avenue
21. Butterfield Boulevard and Diana Avenue
22. Monterey Road and Dunne Avenue
23. Butterfield Boulevard and Dunne Avenue
24. US 101 Southbound Ramps and Dunne Avenue
25. US 101 Northbound Ramps and Dunne Avenue

Freeway Segments

1. US 101 between SR 85 and the Southbound Lane Drop
2. US 101 between Southbound Lane Drop and Sheller Avenue
3. US 101 between Sheller Avenue and Burnett Avenue
4. US 101 between Burnett Avenue and Cochrane Road
5. US 101 between Cochrane Road and Dunne Avenue
6. US 101 between Dunne Avenue and Tennant Avenue
7. US 101 between Tennant Avenue and San Martin Avenue
8. US 101 between San Martin Avenue and Masten Avenue
9. US 101 between Masten Avenue and San Martin Avenue
10. US 101 between San Martin Avenue and Tennant Avenue

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

11. US 101 between Tennant Avenue and Dunne Avenue
12. US 101 between Dunne Avenue and Cochrane Road
13. US 101 between Cochrane Road and Burnett Avenue
14. US 101 between Burnett Avenue and Sheller Avenue
15. US 101 between Sheller Avenue and Southbound Lane Drop
16. US 101 between the Southbound Lane Drop and SR 85

4.16.1.2 *Existing Bicycle and Pedestrian Facilities*

Monterey Road has bike lanes along its entire length within the City of Morgan Hill, with the exception of the segment that runs through downtown between Dunne Avenue and Main Avenue. Bike lanes are also provided along the entire lengths of Cochrane Road, Butterfield Boulevard, and Sutter Boulevard.

Sidewalks are provided along the south side of Cochrane Road between Monterey Road and US 101. There are no sidewalks provided along the north side of Cochrane Road between Monterey Road and just east of Butterfield Boulevard. Sidewalks are provided along both sides of Butterfield Boulevard. Sidewalks are provided along the north side of Jarvis Drive, however the sidewalk is intermittent along the project frontage. Sidewalks are provided along Sutter Boulevard between Cochrane Road and Jarvis Road, however no sidewalks are provided south of Jarvis Road.

4.16.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒	☐	1, 2, 19
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒	☐	1, 2, 19

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒	☐	1, 2, 19
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☐	☒	☐	1, 2, 19
e) Result in inadequate emergency access?	☐	☐	☐	☒	☐	1, 2, 19
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒	☐	1, 2, 19

4.16.2.1 *Thresholds of Significance*

All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of Downtown intersections permitted to operate at LOS F, and nine intersections and three freeway zones permitted to operate at LOS E. According to the City's LOS guidelines, a development is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or LOS E as identified above under existing conditions to an unacceptable LOS E or LOS F under project conditions, or
2. The level of service at the intersection is an unacceptable level of LOS E or LOS F as identified above under existing conditions and the addition of project trips causes the average critical delay to increase by four or more seconds and the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

Unsignalized intersections within the City have a minimum operating level of LOS D. According to the City's LOS guidelines, a development is said to have a significant adverse impact on traffic conditions at an unsignalized intersection if for either peak hour the addition of project traffic causes the worst approach delay to degrade to LOS E or F and the traffic volumes at the intersections are sufficiently high to satisfy the peak hour volume warrant.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

A project is said to create a significant adverse impact on traffic conditions on a County Congestion Management Program (CMP) freeway segment if for either peak hour:

1. The level of service on a freeway segment is an unacceptable LOS F under no project conditions, and the number of project trips on that segment constitutes at least one percent of capacity on that segment.
2. The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under project conditions.

A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore freeway conditions to LOS E or better.

4.16.2.2 *Impacts to Roadways (Checklist Question a, b)*

Existing Plus Project

Based on the ITE trip generation rates and reductions for pass-by-trips, it is estimated that the proposed project would generate 10,064 daily trips, with 666 trips (385 inbound and 281 outbound) occurring during the AM peak hour and 758 trips (351 inbound and 407 outbound) occurring during the PM peak hour. The 2014 approved project generated 8,153 daily trips.

The results of the intersection level of service analysis under existing plus project conditions are summarized in Table 4.16-1. The results show that, measured against the City's LOS standards, all study intersections are projected to operate at acceptable levels of service under existing plus project conditions during each of the peak hours analyzed. Therefore, no study intersections would be significantly impacts by the project according to the City's impact criteria. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Table 4.16-1: Existing Plus Project Intersection Levels of Service

Intersection	Peak Hour	Existing		Existing + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
1. Monterey Road/Cochrane Road	AM PM	28.1 24.0	C C	28.7 25.2	C C	0.9 1.2	0.021 0.025
2. Cochrane Circle/Cochrane Road	AM PM	10.5 10.9	B B	10.4 11.3	B B	0.1 0.4	0.017 0.022
3. Butterfield Boulevard/Cochrane Road	AM PM	12.8 14.7	B B	13.6 16.2	B B	1.0 2.0	0.078 0.100
4. Woodview Avenue/Cochrane Road	AM PM	14.8 13.1	B B	17.4 17.9	B B	N/A N/A	N/A N/A
5. Sutter Boulevard/Cochrane Road	AM PM	17.6 18.3	B B	18.0 19.1	B B	0.2 0.0	0.038 0.040

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-1: Existing Plus Project Intersection Levels of Service							
		Existing		Existing + Project			
Intersection	Peak Hour	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
6. Madrone Parkway/Cochrane Plaza/Cochrane Road	AM PM	19.1 31.4	B C	18.6 30.5	B C	-3.5 -0.7	0.037 0.028
7. US 101 Southbound Ramps/ Cochrane Road	AM PM	12.8 16.5	B B	13.2 16.9	B B	0.5 0.7	0.035 0.039
8. US 101 Northbound Ramps/ Cochrane Road	AM PM	8.6 11.3	A B	9.1 11.6	A B	0.4 0.3	0.020 0.023
9. De Paul Drive/Cochrane Road	AM PM	17.7 18.7	B B	17.8 18.8	B B	0.1 0.1	0.006 0.006
10. Mission View Drive/Cochrane Road	AM PM	32.6 16.1	D C	34.2 16.4	D C	N/A N/A	N/A N/A
11. Sutter Boulevard/Cochrane Plaza	AM PM	13.7 23.0	B C	14.0 25.1	B D	N/A N/A	N/A N/A
12. Butterfield Boulevard/Jarvis Drive (N)	AM PM	11.9 12.1	B B	13.1 12.8	B B	N/A N/A	N/A N/A
13. Sutter Boulevard/Jarvis Drive	AM PM	16.1 19.7	C C	13.2 20.6	B C	N/A N/A	N/A N/A
14. Butterfield Boulevard/Sutter Boulevard	AM PM	6.7 15.6	A B	7.4 17.5	A B	0.9 1.9	0.080 0.074
15. Butterfield Boulevard/Jarvis Drive (S)/Digital Drive	AM PM	4.5 7.0	A A	4.7 6.6	A A	0.3 -0.2	0.047 0.050
16. Monterey Road/Old Monterey Road	AM PM	9.9 18.8	A B	10.1 21.0	B C	0.3 3.1	0.034 0.039
17. Butterfield Boulevard/Central Avenue	AM PM	10.4 4.0	B A	10.5 4.1	B A	0.4 0.6	0.050 0.054
18. Monterey Road/Main Avenue	AM PM	44.2 45.1	D D	44.8 45.9	D D	0.7 1.1	0.021 0.025
19. Butterfield Boulevard/Main Avenue	AM PM	27.6 29.8	C C	28.3 29.9	C C	0.4 -0.1	0.043 0.032
20. Condit Road/Main Avenue	AM PM	27.6 26.1	C C	27.7 26.2	C C	0.1 0.1	0.004 0.005
21. Butterfield Boulevard/Diana Avenue	AM PM	32.3 27.7	C C	44.4 37.2	D D	17.0 14.5	0.033 0.035
22. Monterey Road/Dunne Avenue	AM PM	28.9 31.4	C C	29.2 31.7	C C	0.4 0.5	0.013 0.014

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-1: Existing Plus Project Intersection Levels of Service							
		Existing		Existing + Project			
Intersection	Peak Hour	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
23. Butterfield Boulevard/Dunne Avenue	AM PM	38.3 35.3	D D	40.3 36.7	D D	3.7 2.1	0.058 0.042
24. US 101 Southbound Ramps/Dunne Avenue	AM PM	20.9 18.8	C B	20.9 18.8	C B	0.0 0.0	0.000 0.000
25. US 101 Northbound Ramps/Dunne Avenue	AM PM	5.3 11.8	A B	5.2 11.7	A B	-0.1 0.0	0.006 0.005

[1] The reported delay and corresponding level of service for signalized and all-way stop-controlled intersections represents the average delay for all approaches at the intersection. The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.

[2] LOS = Level of service. LOS calculations conducted using the TRAFFIX level of service analysis software package.

Cumulative Plus Project

Cumulative conditions are comprised of forecasted traffic volumes and reflect estimated traffic growth in the City of Morgan Hill for the Year 2025. The land uses of the proposed development plan are of greater intensity than those assumed in the General Plan. When compared with the land uses included in the City's General Plan, the proposed mix of uses in the current development application would result in an additional 510 AM peak hour trips and 404 PM peak hour trips at the project site compared to what volumes are currently assumed in the City's 2025 forecast model.

The results show that, measured against the City of Morgan Hill level of service standards, all the study intersections are projected to operate at acceptable levels of service under Year 2025 cumulative and cumulative plus project conditions during each of the peak hours analyzed (see Table 4.16-2). Therefore, no study intersections would be significantly impacted by the project, according to the City's level of service impact criteria.

In addition, all unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization under Year 2025 cumulative and cumulative plus project conditions. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-2: Cumulative Plus Project Intersection Levels of Service

Intersection	Peak Hour	Cumulative		Cumulative + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
1. Monterey Road/Cochrane Road	AM PM	26.2 26.4	C C	26.8 27.1	C C	0.8 0.6	0.012 0.010
2. Cochrane Circle/Cochrane Road	AM PM	10.4 11.9	B B	10.4 12.1	B B	0.1 0.3	0.012 0.010
3. Butterfield Boulevard/Cochrane Road	AM PM	19.7 25.2	B C	21.1 27.6	C C	2.4 2.9	0.068 0.015
4. Woodview Avenue/Cochrane Road	AM PM	17.1 15.6	C C	17.0 16.6	B B	N/A N/A	N/A N/A
5. Sutter Boulevard/Cochrane Road	AM PM	18.1 19.5	B B	17.1 19.8	B B	-4.1 0.0	-0.070 0.017
6. Madrone Parkway/Cochrane Plaza/Cochrane Road	AM PM	18.6 29.7	B C	18.5 29.3	B C	0.0 -0.3	0.031 0.014
7. US 101 Southbound Ramps/ Cochrane Road	AM PM	13.6 19.2	B B	14.0 19.7	B B	0.5 0.8	0.027 0.021
8. US 101 Northbound Ramps/ Cochrane Road	AM PM	9.9 11.9	A B	10.3 12.1	B B	0.3 0.3	0.013 0.013
9. De Paul Drive/Cochrane Road	AM PM	19.0 19.3	B B	19.1 19.4	B B	0.1 0.1	0.005 0.003
10. Mission View Drive/Cochrane Road	AM PM	20.3 22.4	C C	20.4 22.3	C C	0.3 0.0	0.008 0.000
11. Sutter Boulevard/Cochrane Plaza	AM PM	15.3 30.3	C D	15.5 30.5	C D	N/A N/A	N/A N/A
12. Butterfield Boulevard/Jarvis Drive (N)	AM PM	12.5 12.9	B B	13.4 13.4	B B	N/A N/A	N/A N/A
13. Sutter Boulevard/Jarvis Drive	AM PM	21.1 29.4	C D	18.1 29.7	C D	N/A N/A	N/A N/A
14. Butterfield Boulevard/Sutter Boulevard	AM PM	15.5 25.1	B C	16.5 27.4	B C	1.4 3.2	0.056 0.034
15. Butterfield Boulevard/Jarvis Drive (S)/Digital Drive	AM PM	4.5 6.9	A A	4.6 6.7	A A	0.2 -0.1	0.033 0.025
16. Monterey Road/Old Monterey Road	AM PM	13.6 48.5	B D	13.9 52.6	B D	0.6 5.7	0.027 0.021
17. Butterfield Boulevard/Central Avenue	AM PM	10.4 4.0	B A	10.5 4.1	B A	0.3 0.4	0.036 0.029

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-2: Cumulative Plus Project Intersection Levels of Service

Intersection	Peak Hour	Cumulative		Cumulative + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
18. Monterey Road/Main Avenue	AM PM	54.2 47.4	D D	55.3 47.9	E D	1.5 0.7	0.012 0.013
19. Butterfield Boulevard/Main Avenue	AM PM	29.7 32.9	C C	30.3 33.0	C C	0.7 0.2	0.037 0.016
20. Condit Road/Main Avenue	AM PM	30.1 31.0	C C	30.2 31.1	C C	0.2 0.2	0.003 0.003
21. Butterfield Boulevard/Diana Avenue	AM PM	34.2 39.4	C D	42.2 46.2	C D	12.1 10.6	0.024 0.018
22. Monterey Road/Dunne Avenue	AM PM	30.2 34.4	C C	30.4 34.7	C C	0.4 0.3	0.009 0.007
23. Butterfield Boulevard/Dunne Avenue	AM PM	40.1 36.9	D D	41.7 37.7	D D	2.9 1.3	0.040 0.023
24. US 101 Southbound Ramps/Dunne Avenue	AM PM	21.0 20.1	C C	21.0 20.1	C C	0.0 0.0	0.000 0.000
25. US 101 Northbound Ramps/Dunne Avenue	AM PM	6.4 11.3	A B	6.3 11.2	A B	-0.1 0.0	0.004 0.003

[1] The reported delay and corresponding level of service for signalized and all-way stop-controlled intersections represents the average delay for all approaches at the intersection. The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.

[2] LOS = Level of service. LOS calculations conducted using the TRAFFIX level of service analysis software package.

4.16.2.3 *Impacts to Freeways (Checklist Question a, b)*

Existing Plus Project

The results of the freeway segment level of service analysis under existing plus project conditions are summarized in Table 4.16-3. Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding project trips to the existing volumes. The results show that the project would not cause an increase in traffic volumes of one percent or more of freeway capacity on any freeway segments currently operating at an unacceptable LOS F, nor would the addition of project traffic result in the degradation of LOS on any freeway segment currently operating at an acceptable LOS E to an unacceptable LOS F. Therefore, based on CMP impact criteria, the proposed project would not have a significant impact on freeways. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Table 4.16-3: Existing Plus Project Freeway Segment Levels of Service

Freeway	NB/ SB	From	To	Peak Hour	Project Trips	LOS	Cap (vph)	Percent Increase
US 101	North	Masten Avenue	San Martin Avenue	AM PM	58 53	C B	6,900	0.84 0.77
		San Martin Avenue	Tennant Avenue	AM PM	58 53	**F** B	6,900	0.84 0.77
		Tennant Avenue	East Dunne Avenue	AM PM	58 53	**F** C	6,900	0.84 0.77
		East Dunne Avenue	Cochrane Road	AM PM	58 53	E C	6,900	0.84 0.77
		Cochrane Road	Burnett Avenue (Lane Drop)	AM PM	34 52	D C	6,900	0.49 0.75
		Burnett Ave (Lane Drop)	Sheller Avenue	AM PM	31 54	D E	6,900	0.45 0.78
		Sheller Avenue	Lane Drop (SB)	AM PM	31 48	D C	6,900	0.45 0.70
		Lane Drop (SB)	SR 85	AM PM	34 54	C B	6,900	0.49 0.78
US 101	South	SR 85	Lane Drop (SB	AM PM	51 41	B C	9,200	0.55 0.45
		Lane Drop (SB)	Sheller Avenue	AM PM	47 39	B D	6,900	0.68 0.57
		Sheller Avenue	Burnett Ave (Lane Drop	AM PM	50 37	B **F**	6,900	0.72 0.54
		Burnett Avenue (Lane Drop)	Cochrane Road	AM PM	58 53	B **F**	6,900	0.84 0.77
		Cochrane Road	East Dunne Avenue	AM PM	42 61	B E	6,900	0.61 0.88
		East Dunne Avenue	Tennant Avenue	AM PM	42 61	B E	6,900	0.61 0.88
		Tennant Avenue	San Martin Avenue	AM PM	42 61	B E	6,900	0.61 0.88
		San Martin Avenue	Masten Avenue	AM PM	42 61	B D	6,900	0.61 0.88

[1] Measured in passenger cars per mile per lane.
[2] LOS = level of service.
Bold type indicates unacceptable operations (LOS F).

4.16.2.4 *Air Traffic Patterns (Checklist Question c)*

The proposed project would not result in a change in air traffic patterns given the nearest airport is six miles away. **[(No Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.16.2.5 *Site Access, Design, and Circulation (Checklist Question d, e)*

The project site would be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site.

(Note to City: Hexagon made the following suggestions for improved site access and circulation. The final IS text will reflect those adjustments that have been made by the project, or will be required by the City.)

A review of the project site plan identified several recommended adjustments to improve site access and on-site circulation. The following adjustments are recommended:

Due to its close proximity and potential to disrupt traffic flow along Cochrane Road, it is recommended that direction of the drive-thru lane for Pad B within Parcel 3 be reversed to flow in a clockwise direction. The change in direction will ensure that vehicle queues at the drive-thru lane do not spill out to the main drive aisle and potentially onto Cochrane Road.

It is likely that queues extending back from Butterfield Boulevard along Jarvis Drive will block left-turns into and out of Driveway 4 located at the southwest corner of the site along Jarvis Drive. The view of outbound left-turns from the driveway also would be restricted for vehicles originating from Butterfield Boulevard and traveling eastbound along Jarvis Drive. Therefore, it is recommended that Driveway 4 be restricted to right-turns in and out only.

Adhering to City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate circulation of both passenger and emergency vehicles. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.16.2.6 *Bicycle and Pedestrian Facilities (Checklist Question f)*

The project site plan shows continuous pedestrian connections between all proposed land uses on site and pedestrian walkways along the project site frontages. The proposed pedestrian walkways along the project site frontages would provide a connection to other existing pedestrian facilities (sidewalks, crosswalks, bus stops, etc.) east and west of the project site. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.16.3 Conclusion

As discussed above, the proposed project would not result in significant transportation impacts. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Environmental Setting

4.17.1.1 *Water Service*

The City of Morgan Hill provides potable water service to its residential, commercial, industrial, and institutional customers within the City limits. The City's water system facilities include 14 groundwater wells, ten potable water storage tanks, 10 booster stations, and over 160 miles of pressured pipes ranging from two to 14 inches in diameter. The City's water distribution system meets the needs of existing customers. The City has planned and constructed water projects in conjunction with new street construction in anticipation of future growth and water needs.

4.17.1.2 *Sewer System and Wastewater Treatment*

The South County Regional Wastewater Authority (SCRWA) Wastewater Treatment Plant provides service to the cities of Morgan Hill and Gilroy. The treatment plant has capacity to treat an average dry weather flow (ADWF) of 8.5 million gallons per day (mgd) and is currently permitted by the California Regional Water Quality Control Board, Central Coast Region to treat up to 8.5 mgd.[39] Both the cities of Gilroy and Morgan Hill have growth control systems in place which limit unexpected increases in sewage generation. The ADWF for combined flows from Morgan Hill and Gilroy was approximately 6.8 mgd in 2010 (with 2.9 mgd generated by Morgan Hill). Based on combined population projections for both cities, the current capacity of 8.5 mgd would be reached in approximately 2021. The City of Morgan Hill has an allocation of 3.56 mgd (of the total 8.5 mgd). The latest projections in November 2013, based on the City's existing General Plan, show this allocation is projected to be reached by about 2023. The City of Gilroy's allocation (4.94 mgd) is projected to be reached in 2019. Flow projections are ongoing and have changed over the past years, depending on changing per capita flow rates and other variables in the projection calculations.

The 8.5 mgd total plant capacity is projected to be exceeded in 2022. In recognition of this projected exceedance of capacity, the SCRWA is currently planning to fund, design, and construct an expansion of the facility by 2022. It is further anticipated that the plant will need to be expanded again in the mid-2030s, in conjunction with buildout of the current Morgan Hill and Gilroy General Plans.

4.17.1.3 *Solid Waste*

Recology South Valley provides solid waste and recycling services to the businesses and residents of the cities of Morgan Hill and Gilroy. Recology South Valley has contracted through 2017 with the Salinas Valley Solid Waste Authority to dispose of municipal solid waste at Johnson Canyon Sanitary Landfill. Johnson Canyon Sanitary Landfill is anticipated to reach capacity in 2040.[40]

[39] California Regional Water Quality Control Board. *Waste Discharge Requirements, South County Regional Wastewater Authority Wastewater Treatment and Reclamation Facility, Santa Clara County (NPDES Permit No. CA0049964) – Order No. R3-2010-0009*. April 2010.
[40] Phil Couchee, General Manager, Recology South Valley. February 3, 2010.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.17.1.4 *Storm Drainage*

The City of Morgan Hill's storm drainage system consists of a combination of curb and gutter facilities, curb inlets, underground pipelines, and bubblers that drain into detention basins or to the nearest creek. The City's storm drainage system in the project vicinity meets existing drainage needs.

The project site is within the Butterfield Channel storm water drainage basin. Butterfield Channel, previously named Sutter Channel, is an improved channel that drains the area west of US 101 and east of Railroad Avenue to East Little Llagas Creek. The channel is presently complete from Jarvis Drive to Tennant Avenue, and serves as an interim detention basin pending completion of the remainder of the channel and the 27-acre detention basin. Upon completion, the Butterfield Channel storm water drainage basin will consist of an open drainage channel along the eastern side of Butterfield Boulevard extension and a 27.6 acre detention pond on the south side of Maple Avenue. The drainage channel will begin south of Jarvis Drive on the north, and extend to Maple Avenue on the south. There is a 36-inch public storm drain main located adjacent to the site along Cochrane Road.[41] There are also existing storm drain mains on the project site and along Butterfield Boulevard and Jarvis Drive. The existing onsite storm drain line bisects the project site, connecting to the existing lines in Cochrane Road and Jarvis Drive.[42]

4.17.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒	☐	1, 20
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	☐	1, 20, 22
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	☐	1, 21

[41] Mitchel W. Burley. BKF Engineers. April 4, 2013.
[42] City of Morgan Hill, *Storm Drainage System Master Plan*, January 2002.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒	☐	1, 22
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒	☐	1, 20
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒	☐	1

4.17.2.1 *Impacts to Sewer System and Wastewater Treatment (Checklist Question a, b, e)*

The proposed commercial development would generate approximately 46,575 gallons of wastewater per day.[43] There is sufficient capacity in the sanitary sewer system to support the project and the project would not adversely affect the functionality or the capacity of the existing sanitary sewer system.[44] **(Less Than Significant Impact [Same as Approved Project])**

4.17.2.2 *Impacts to Storm Drainage (Checklist Question c)*

The proposed project site is undeveloped with no impervious surfaces. Development of the proposed project would fully develop the project site and substantially increase the amount of impervious surfaces and stormwater runoff. Per the implementation of the SWPPP and other drainage standards implemented by the City, the project should not significantly increase storm water flows into the existing system. The project will be required to minimally retain all water from the 85th percentile of rainfall events (approximately two to five year storm events) on site; therefore, during 85 percent of the rainfall events, the existing storm drain system would not be impacted by the project. Furthermore, the on-site systems (retention basins) will be required to be designed to detain a volume of water up to a 25-year storm event while releasing water at a rate reflective of the 10-year predevelopment flow. This design limits storm water flows off-site to less than 10-year predevelopment flows. The existing public storm water system is already designed to convey a 10-year storm event; therefore, the project should not significantly contribute to any additional flooding during the most frequent events. The final drainage system design for the proposed commercial mixed-use development will be subject to review and approval by the City of Morgan Hill Public

[43] Based on 85 percent of the total water usage.
[44] Ha, Charlie, *Will Serve Letter*, City of Morgan Hill, May 16, 2014.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Works Department, who will confirm that the proposed drainage system for the project is consistent with the City's Storm Drainage Master Plan and standard stormwater-related conditions of approval. **(Less Than Significant Impact [Same as Approved Project])**

4.17.2.3 *Impacts to Water Supply Services (Checklist Question d)*

The estimated water demand of the proposed project would be approximately 54,794 gallons per day (gpd), as shown in Table 4.17-1. The City has accounted for the increase in water use based on the General Plan's projection of population growth in the City and planned development. The development proposed by the project would not increase water demand above that forecasted in the most recent Urban Water Management Plan. There is sufficient capacity in the water mains adjacent to the site in Cochrane Road, Butterfield Boulevard, and Jarvis Drive to serve the proposed project.[45] **(Less Than Significant Impact [Same as Approved Project])**

Table 4.17-1: Estimated Project Daily Water Use

Use	Rate[1]	Size	Gallons/Day
Convenience store, nine fuel pumps, and car wash	203 gallons/day/1,000 ft^2	3,000 ft^2	609
Quick service restaurant and drive-thru	832 gallons/day/1,000 ft^2	3,500 ft^2	2,912
Quick service restaurant and drive-thru	832 gallons/day/1,000 ft^2	2,000 ft^2	1,664
Mixed-use of commercial services and food uses	203 gallons/day/1,000 ft^2	7,200 ft^2	1,461
Full service four-story hotel	69 gallons/day/room	110 rooms	7,590
Tire store and showroom with tire service center	258/day/1,000 ft^2	10,000 ft^2	2,580
Grocery store	338 gallons/day/1,000 ft^2	22,000 ft^2	7,436
Retail uses	203 gallons/day/1,000 ft^2	3,000 ft^2	609
Two-story medical office building	344 gallons/day/1,000 ft^2	35,000 ft^2	12,040
Senior residential care facility	179 gallons/day/1,000 ft^2	85 units	15,215
General office building	487 gallons/day/1,000 ft^2	5,500 ft^2	2,678
Total Project Daily Water Use			**54,794**

[1] CalEEMod Water Use Rates, Table 9.1

4.17.2.4 *Impacts to Landfills (Checklist Question f)*

The City of Morgan Hill has contracted with Recology South Valley to provide solid waste disposal and recycling service within the City. Recology South Valley will dispose of solid waste from the City at Johnson Canyon Sanitary Landfill which has a projected permitted capacity of approximately

[45] BKF Engineers, *Mitchel W. Burley*, April 4, 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

13,800,000 cubic yards and is expected to remain open through 2040.[46] The proposed project will result in increased waste disposal from the project site; however, future development would be served by a landfill with adequate capacity to serve the project site. **(Less Than Significant Impact [Same as Approved Project])**

4.17.3 Conclusion

The proposed project would not exceed the capacity of existing utilities and service systems serving the project area. **(Less Than Significant Impact [Same as Approved Project])**

[46] California Integrated Waste Management Board. *Facility/Site Summary Details: Johnson Canyon Sanitary Landfill.* 2008. Accessed June 15, 2018. http://www.calrecycle.ca.gov/SWFacilities/Directory/27-AA-0005/Detail/.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

		New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒	☐	1-23
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒	☐	1-23
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒	☐	1-23

4.18.1 Project Impacts (Checklist Question a)

This Initial Study/Addendum evaluates the environmental impacts that could result from the project's implementation. With implementation of the mitigation measures included in the project and described in sections 4.3 Air Quality, 4.4 Biological Resources, 4.7 Greenhouse Gas Emissions, 4.9 Hydrology and Water Quality, and 4.12 Noise and compliance with City General Plan policies, Standard Measures and Standard Conditions of Approval, the proposed project would not result in significant adverse environmental impacts to fish or wildlife species, rare plants, or cultural resources. **[Same Impact as Approved Project (Less Than Significant Impact with Mitigation)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.18.2 Cumulative Impacts (Checklist Question b)

Pursuant to Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects "that are individually limited, but cumulatively considerable." As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

As discussed in Section 4.3 Air Quality, the proposed project would implement mitigation measures to reduce short-term construction impacts from TACs to a less than significant level. Modeling of cumulative impacts from project area TACs showed the project was below the BAAQMD threshold; thus, there is no significant cumulative impact, consistent with the approved 2014 project.

As discussed in Section 4.7 Greenhouse Gas Emissions, the proposed project would implement mitigation measures to reduce GHG emissions to a less than significant level and, therefore, not make a substantial contribution to a cumulative GHG emissions impact, consistent with the approved 2014 project.

As discussed in Section 4.16 Transportation and Traffic, the proposed development and future development in the project area would not cause a significant intersection or freeway delays; therefore, no cumulative impact on the roadway network is anticipated.

With implementation of mitigation measures, standard measures, and conditions of approval to address environmental impacts to biological resources, cultural resources, geology and soils, hydrology and water quality, and noise, the proposed project would not result in cumulative impacts on these resources.

4.18.3 Direct or Indirect Adverse Effects on Human Beings (Checklist Question c)

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Pursuant to this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, and noise. Implementation of the Standard Permit Conditions and mitigation measures, and adherence to General Plan, City Code, and state and federal regulations described in these sections of the report, would avoid significant impacts. No other direct or indirect adverse effects on human beings have been identified. **(Less than Significant Impact with Mitigation Incorporated)**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Checklist Sources

1. CEQA Guidelines – Environmental Thresholds (Professional judgment and expertise and review of project plans).
2. City of Morgan Hill. *General Plan.* February 2010.
3. California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Santa Clara County Important Farmlands Map 2014.* Map. October 2016.
4. California Department of Conservation, Division of Land Resource Protection, Conservation Program Support. *Santa Clara County Williamson Act FY 2012/2013.* 2012.
5. County of Santa Clara. *County Geologic Hazard Zones Map 53.* October 26, 2012.
6. Pacific Geotechnical Engineering. *Ground Movement Potential Map Folio.* December 1991.
7. Pacific Geotechnical Engineering. *Geologic Map Folio.* December 1991.
8. Bay Area Air Quality Management District. *CEQA Air Quality Guidelines.* May 2012.
9. Live Oak Associates, Inc. *Biological constraints analysis of The Village project on Cochrane Road in Morgan Hill, California (PN 1676-01).* December 18, 2012.
10. City of Morgan Hill. *Municipal Code.* 2013.
11. County of Santa Clara. *Final Santa Clara Valley Habitat Plan.* August 2012.
12. City of Morgan Hill. *Archaeology Sensitivity Map.* December 2000.
13. Basin Research Associates, Inc. *Cultural Resources Assessment, Adams-Natt Veterinary Hospital, Morgan Hill, Santa Clara County, California*. January 2006.
14. Federal Emergency Management Agency. *Flood Insurance Rate Map, Community Panel No. 06085C0443H.* May 18, 2009.
15. Association of Bay Area Governments. *Bay Area Dam Failure Inundation Maps.* October 20, 2003. http://www.abag.ca.gov/bayarea/eqmaps/dfpickc.html.
16. Phase I Environmental Site Assessment. *Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*. November 5, 2007.
17. ENGEO, Inc. *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment*. March 14, 2013
18. Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment*. July 5, 2018.
19. Hexagon Transportation Consultants. *Cochrane & Butterfield Mixed-Use Development Traffic Impact Analysis*. June 7, 2018.
20. City of Morgan Hill. *Sewer System Master Plan*. January 2002.
21. City of Morgan Hill. *Storm Drainage System Master Plan*. January 2002.
22. City of Morgan Hill. *Water System Master Plan*. January 2002.
23. Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Air Quality Assessment*. July 13, 2018.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 5.0 REFERENCES

Association of Bay Area Governments, *Bay Area Dam Failure Inundation Hazards*, October 5, 2009, http://www.abag.ca.gov/bayarea/eqmaps/damfailure/.

Basin Research Associates, Inc. *Cultural Resources Assessment: Adams-Natt Veterinary Hospital*. January 2006.

BKF Engineers, *Mitchel W. Burley*, April 4, 2013.

CAL FIRE. *Very High Fire Hazard Severity Zones in LRA*. Map. October 2008.

California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Santa Clara County Important Farmlands Map 2014*. Map. October 2016.

California Department of Finance. *E-1: City/County Population Estimates with Annual Percent Change - January 2017 and 2018*. May 2018.

California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning San Francisco Bay Area, December 9, 2009, http://www.consrv.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Documents/Tsunami_Inundation_SanFranciscoBayArea300.pdf.

California Integrated Waste Management Board. *Facility/Site Summary Details: Johnson Canyon Sanitary Landfill*. 2008. Accessed June 15, 2018. http://www.calrecycle.ca.gov/SWFacilities/Directory/27-AA-0005/Detail/.

California Regional Water Quality Control Board. *Waste Discharge Requirements, South County Regional Wastewater Authority Wastewater Treatment and Reclamation Facility, Santa Clara County (NPDES Permit No. CA0049964) – Order No. R3-2010-0009*. April 2010.

California State Water Resources Control Board, "Total Maximum Daily Load Program," Accessed: December 20, 2016. http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml.

Chapter 18.69 of the City of Morgan Hill Municipal Code

Chapter 18.85 of the Morgan Hill Municipal Code.

City of Morgan Hill, City Council Staff Report. *Fire and Emergency Medical Services (EMS) CalFire Proposal Update*. Meeting Date April 4, 2012.

City of Morgan Hill, *Storm Drainage System Master Plan*, January 2002.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

City of Morgan Hill. *Morgan Hill General Plan: City of Morgan Hill Housing Element*. Adopted February 2015.

City of Morgan Hill. *Operating and CIP Budget, FY 13-14. Police Field Operations, Performance Measures.* 2013.

City of Morgan Hill. *Police*. Accessed June 14, 2018. http://www.morgan-hill.ca.gov/index.aspx?nid=129.

City of Morgan Hill. *Pop-Facts: Demographic Snapshot 2015 Report*. Available at: <http://www.morgan-hill.ca.gov/717/Demographics-Community-Profile>. Accessed January 3, 2017.

County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012.

ENGEO, Inc. *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment.* March 14, 2013.

Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel #06085C0443H, May 18, 2009.

Geologica Inc., *Phase I Environmental Site Assessment. Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*, November 5, 2007.

Giordano, Frank. Office of the Assessor, County of Santa Clara. *Personal Communication*. October 10, 2012

Ha, Charlie, *Will Serve Letter*, City of Morgan Hill, May 16, 2014.

Hexagon Transportation Consultants. *Cochrane & Butterfield Mixed-Use Development Traffic Impact Analysis*. June 7, 2018.

Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment*. July 5, 2018.

Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Air Quality Assessment*. July 13, 2018.

IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Bases. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at: <http://ipcc.ch/ >. Accessed March 25, 2013.

Mitchel W. Burley. BKF Engineers. April 4, 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Pacific Geotechnical Engineering, *Geology, Geologic, and Geotechnical Hazards, City of Morgan Hill*, December, 1991.

Phil Couchee, General Manager, Recology South Valley. February 3, 2010.

Santa Clara Valle Habitat Agency. "Geobrowser". Accessed June 12, 2018. http://www.hcpmaps.com/habitat/.
Santa Clara Valley Water District. "Anderson Dam Seismic Retrofit". 2018. https://www.valleywater.org/project-updates/dam-reservoir-projects/anderson-dam-seismic-retrofit.

Santa Clara Valley Water District. *Uvas-Llagas Watershed Map.* <http://www.valleywatercompplan.org/watersheds/view/449 > Accessed July 28, 2011.

State Water Resources Control Board, Division of Water Quality. *Construction General Permit Fact Sheet*. Last Updated January 2013. Available at: <http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml>. Accessed December 21, 2016.

United States Department of Agriculture, Natural Resources Conservation Service. *Custom Soil Resource Report for Eastern Santa Clara Area, California*. June 12, 2018.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 6.0 LEAD AGENCY AND CONSULTANTS

6.1 LEAD AGENCY

Terry Linder, Senior Planner
Richard Smeaton, Contract Planner

6.2 CONSULTANTS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners
Akoni Danielsen, Principal Project Manager
Tyler Rogers, Assistant Project Manager
Zach Dill, Graphic Artist

Hexagon Transportation Consultants Inc.
Robert Del Rio, Vice President & Principal Associate

Illingworth & Rodkin, Inc.
Michael Thill, Noise Consultant
James Reyff, Air Quality Consultant

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

ATTACHMENT 3

SITE AND ARCHITECTURAL REVIEW FOR PARCEL 12

CITY OF MORGAN HILL

PLANNING COMMISSION STAFF REPORT
MEETING DATE: July 24, 2018

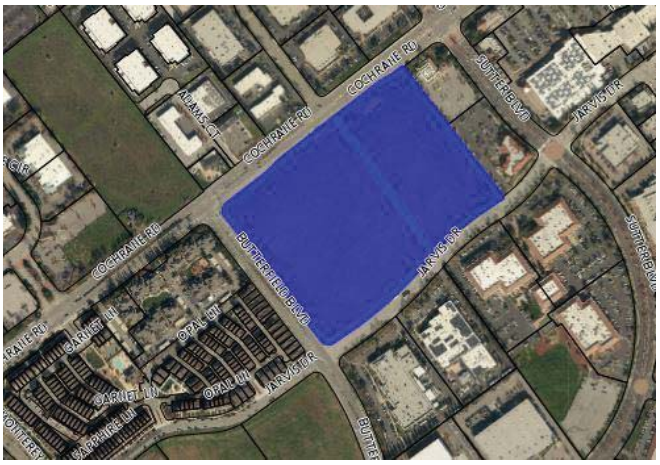
PREPARED BY: Richard Smeaton,
APPROVED BY: Jennifer Carman, Community Development Director

AAE2017-0034 & AAE2017-0035: COCHRANE-SOUTH BAY: AMENDMENTS TO TENTATIVE SUBDIVISION MAP AND PLANNED DEVELOPMENT MASTER PLAN FOR A PROPOSED COMMERCIAL AND RETAIL CENTER. THE PROPERTIES, IDENTIFIED BY ASSESSOR PARCEL NUMBERS 726-25-035 AND 726-32-021, ARE LOCATED ON THE EASTERLY SIDE OF BUTTERFIELD BOULEVARD BETWEEN COCHRANE ROAD AND JARVIS DRIVE (COCHRANE ROAD INVESTORS, LLC, OWNERS).

RECOMMENDATION(S)

1. Adopt a Resolution recommending the City Council approve an amendment to a commercial Planned Development Master Plan and an addendum to the Mitigated Negative Declaration adopted on June 24, 2014;
2. Adopt a Resolution recommending the City Council approve an amended Tentative Subdivision Map.

LOCATION MAP



PROJECT SUMMARY

1. Location: Southeast corner of Butterfield Boulevard and Cochrane Road (APN's 726-25-035 and 726-32-021)
2. Site Area: 20.43 Acres

3. General Plan: Commercial
4. Zoning: PD-General Commercial

BACKGROUND

The project site is located within the Morgan Hill Ranch Planned Unit Development (PUD) (now referred to as a Planned Development or PD). On June 24, 2014, the Planning Commission approved a Tentative Subdivision Map for the site (SD-13-14), which proposed to subdivide the property into eight parcels.

The City Council adopted Ordinance No. 2109, N.S. on August 8, 2014, amending the PD to include a Precise Development Plan (now referred to as a Master Plan) (The Village) for the 20.25-acre site (Attachment 3). The Master Plan included site development standards and a list of permitted and conditional uses for the site.

On April 10, 2018, the Planning Commission conducted a Preliminary Review for the proposed project (Attachment 4). The Planning Commission requested the applicant relocate the gas station within the site, reposition the tire store so that the repair bays were facing away from the adjoining residences, and reconfigure the retail and office uses so that they were more pedestrian friendly.

Project Description

Evergreen Devco, Inc. has submitted applications to amend the previously approved Tentative Subdivision Map and PD Master Plan for the 20-acre commercial site. The site is located at the easterly side of Butterfield Boulevard, between Cochrane Road and Jarvis Drive. Residential uses are located to the west across Butterfield Boulevard, office/industrial uses to the north and the south, and restaurant and office uses to the east. The applicant is planning to subdivide the property into 12 parcels, install the off-site and on-site infrastructure improvements and landscaping, and sell the individual parcels to end users who would then develop the individual parcels.

The proposal includes:

1) 4-story, 110 to 120 room hotel;
2) Convenience store, fuel center, and car wash;
3) Tire store;
4) 2-story medical office;
5) Two fast food pads;
6) Three retail buildings;
7) One, 14,000 square foot office building;
8) One grocery store;
9) One, 85-bed memory care-senior living residential care facility;
10) Three drive-thru locations (two fast-food and one car wash); and
11) Changes to the approved uses for the site.

A project description detailing the amendments to the PD Master Plan (Attachment 5), the amended Tentative Subdivision Map (Attachment 6), and detailed landscape plans (Attachment 7) have been provided.

ANALYSIS:

The proposed project was analyzed with respect to consistency with the: 1) General Plan; 2) Zoning Ordinance and "The Village" PD Development Standards; 3) Parcel Development 4) Morgan Hill Architectural Handbook; 5) 2017 Morgan Hill Economic Blueprint; 6) Findings; and 6) California Environmental Quality Act.

1. **General Plan**

The site has a Commercial designation in the Morgan Hill 2035 General Plan. This designation is intended to allow a wide range of retail businesses, administrative and executive office uses, and professional services, either in stand-alone buildings or as part of shopping centers, where retail stores are emphasized. The Commercial designation allows a maximum 0.6 floor area ratio (FAR). The project proposes building FAR's that would comply with this provision.

Figure CNF-4 (Industrial Subareas) within the General Plan identifies the property to be located within Industrial Sub Area 3. This area is considered a Core Employment Area, which includes many of the City's largest employers and will continue to be the strongest location for future employment growth with an emphasis on Research and Development, light manufacturing, office, and supporting uses.

General Plan Policies that would apply to this project include:

> Policy CNF-8.2 – Design Features. Encourage design features and amenities in new development and redevelopment, including, but not limited to:
>
> • Highly connected street layouts, supporting multiple paths of travel for all modes
> • Cluster buildings to create useable open space
> • Abundant landscaping
> • Attractive transitions between uses
> • Comfortable pedestrian facilities that promote a high level of pedestrian activity
> • Distinctiveness and variety in architectural design
>
> Policy CNF-8.7 Design Sensitivity. Ensure that new development is sensitive to the character of adjacent structures and the immediate neighborhood.
>
> Policy CNF-8.11 Pedestrian Spaces. Encourage the design of attractive outdoor pedestrian spaces that encourage impromptu public gathering places with features such as plazas, interior walkways and paseos, ornamental gates, trellises, lighting, trees and landscaping, seating and fountains.

Policy CNF-17.2 – Industrial Land Use Conflicts. Ensure proposed new uses adjacent to industrial uses do not introduce land use conflicts that would adversely impact industrial activities.

Policy CNF-17.3 – Buffer between Industrial and Incompatible Uses. Ensure that all industrial uses are well sited and buffered from incompatible uses; buffers may include offices adjacent to sensitive uses, landscaping, berms, etc.

Consistency

The proposed uses have been reviewed to ensure compatibility with adjacent uses.

2. **Zoning Ordinance / "The Village" Planned Unit Development**

The site has a PD designation with an underlying zoning designation of General Commercial. The existing PD Master Plan allows for limited research and development uses.

Permitted and Conditional Uses

The project includes an amendment to the "The Village" PD Master Plan allowed uses. The applicant is requesting to limit the number of uses that would require a Conditional Use Permit within the shopping center by requesting to allow uses by-right that traditionally require additional review due to the more intense nature of the use, possible impacts on surrounding properties and/or compatibility of sensitive uses. The intent of this change is to provide more flexibility for potential users and would contribute to the overall development of the center.

While the applicant is requesting many uses to be allowed by-right, staff suggests that the by-right nature of the more intensive uses listed below be limited to specific parcels within the development. This would provide the Planning Commission the opportunity to review uses on specific parcels to ensure compatibility with surrounding uses.

- Nursing Homes and Long-Term Care
- Residential Care Facilities
- Day Care Centers (including Nursery Schools and Adult Day Care)
- Minor Vehicle Repair facilities and Service Stations

Table 1 provides details regarding the change in uses within the PD. Uses that are proposed to be changed are indicated in **bold**. Please note that the names of proposed uses have been updated to reflect the language used in the new Zoning Code and will not directly correspond to those names listed in Attachment 5.

Table 1
Approved and Proposed Uses for the Cochrane- Evergreen Project

Use	Existing Planned Development Uses	Proposed Amendment	Staff Recommendation
Business Support Services	P	P	P
Commercial Services	P	P	P
Commercial Recreation Use <3,000 sq. ft.	P	P	P
Commercial Recreational Use >3,000 sq. ft.	C	**P**	**P**
~~Drive-Thru Restaurant (max 2)~~	~~P~~	~~P~~	~~P~~
Drive-Thru **~~Restaurant~~** (max 3)	C	**P**	**P**
Drive-Thru **~~Restaurant~~** (4+)	C	C	C
Financial Services	P	P	P
Grocery Store	-	**P**	**P**
Home Improvement Center	P	P	P
Hotel/Motel	P	P	P
Mini-Storage Facility	-	**P**	**NP**
Office, Medical/Dental	P	P	P
Office Administrative	P	P	P
Office Professional	P	P	P
Personal Services	P	P	P
Research & Development	P	P	P
Restaurant, sit-down & fast food	P	P	P
General Retail	P	P	P
Convenience Markets, **~~Grocery~~**, & Specialty Markets	C	**P**	**P**
Service Station **(24-hour operation)**	C	**P**	**P for parcel 5, C for additional parcels**
Minor Vehicle Repair	C	**P**	**P for parcel 7, C for additional parcels**
Nursing Homes and Long-Term Care	C	**P South half of site no more than 10 acres**	**P for parcel 12 C for additional parcels**
Residential Care Facilities	C	**P South half of site no more than 10 acres**	**P for parcel 12 C for additional parcels**
Day Care Centers	C	**P**	**C Adult Day Care P if ancillary to Elderly/Assisted**

Use	Existing Planned Development Uses	Proposed Amendment	Staff Recommendation
			Living Use, C if not ancillary
Kennel	C	C	C

P = Permitted Use
C = Conditional Use
NP = Not Permitted

Staff agrees with most of the proposed changes, with the following suggested modifications:

a. Mini-Storage – Mini-Storage was not initially permitted on the site and is not believed to be a suitable use for this location. The applicant has agreed to withdraw the request.

b. Service Station – The applicant has requested that a service station use be permitted by-right to allow for flexibility in marketing the project. Staff would recommend that the use be permitted on Parcel No. 5 and that a Conditional Use Permit be required for other locations on the site.

c. Minor Vehicle Repair – Minor Vehicle Repair is being requested as a by-right use. Vehicle storage, noise and storage/disposal of vehicle parts is a primary concern with this type of use and requires additional review. Staff would recommend that the use be permitted on Parcel No. 7 and that a Conditional Use Permit be required for other locations on the site.

d. Nursing Homes & Long-Term Care/Residential Care Facilities– The applicant proposes to reserve the south 10 acres of the site for by-right assisted living uses. Parcel No. 12 has been identified for a memory care user. Staff is concerned with permitting additional Nursing Homes & Long-Term Care/Residential Care Facilities development without further review by the Planning Commission. It is recommended that the memory care use be limited to Parcel No. 12 and that a Conditional Use Permit be required for other senior housing development on the site.

e. Day Care Center, Nursery Schools and Adult Day Care – Staff has raised concerns with the traffic that can be generated with a day care and nursery school uses. Based on this review, the applicant has agreed that a Conditional Use Permit would be required for the use. For adult day care, staff believes that allowing this use as a by-right ancillary use to an approved Nursing Homes & Long-Term Care/Residential Care Facilities would be appropriate and would have minimal impact on the site. However, if the use were to be a stand-alone use, a Conditional Use Permit is recommended to be required.

<u>Drive-Thru Uses</u>

The existing PD limits the use of drive-thrus to restaurant uses only. The applicant is requesting to expand the use on the site to allow for three drive-thrus by-right. Additional drive-thrus would require a Conditional Use Permit. Drive-thrus would not be limited to restaurant use only.

Maximum Building Height

Site development standards within the existing PD limits the maximum building height to fifty (50) feet. The applicant is seeking to increase the maximum height for the hotel only to sixty (60) feet. This height would include all mechanical and architectural embellishments and reflect the recent changes in hotel height standards in the Zoning Code. Increasing the height limitation within the PD would allow for greater development potential for the hotel, without significant impact to adjacent businesses or residents.

Parking Reduction

The applicant is requesting that the motor vehicle repair use be allowed to reduce the parking ratio from 1 parking space per 200 square feet (1/200) to 1 parking space per 250 square feet (1/250) with repair bays counting towards the parking requirement. The applicant has a specific user for the site that does not believe the required parking specified by the zoning ordinance is necessary. Reducing the parking for this user may cause parking issues if the site is redeveloped or a new user takes over the same building; therefore, a parking reduction is not recommended.

3. **Parcel Development**

With the previous application, a Tentative Subdivision Map was approved to subdivide the site into eight parcels. The current proposal would subdivide the site into twelve parcels, which would require an amendment to the approved Tentative Subdivision Map. The proposed site plan includes:

Parcel Number	Parcel Size	Building Size	Proposed Use
1	39,914 square feet	6,000 square feet	Retail
2	52,266 square feet	6,000 square feet	Retail
3	33,228 square feet	3,500 square feet	Quick service restaurant and drive-thru
4	49,972 square feet	4,500 square feet	Quick service restaurant and drive-thru
5	58,145 square feet	4,500 square feet	Convenience store, fueling station and touch-free drive-thru car wash
6	96,225 square feet	44,000 square feet	Hotel
7	52,190 square feet	10,000 square feet	Tire store
8	96,090 square feet	22,000 square feet	Grocery store / Market
9	49,288 square feet	6,000 square feet	Retail
10	46,388 square feet	14,000 square feet	Office
11	125,366 square feet	35,000 square feet	Medical offices

Parcel Number	Parcel Size	Building Size	Proposed Use
12	176,270 square feet	40,000 square feet	85-unit residential care facility

Evergreen Devco, Inc. is proposing to subdivide the property and sell the individual parcels to end users to be developed. Given the nature of this type of development staff has requested that strong CC&R's be developed and a site manager be designated to ensure that any future property maintenance issues can be addressed.

4. **Site and Architecture Review**

The project design is driven by the development plan for the property. The site will contain 12 parcels, each of which may be sold individually, and each containing required parking for the proposed use on the lot. The developer will be required to create reciprocal parking and access easements across the entire site, as well as covenants and restrictions which address permitted uses, non-compete issues, common signage standards and maintenance responsibilities.

The site was initially planned as an auto oriented commercial development. Taking the Planning Commission comments from the Preliminary Review hearing, the layout of the site has been modified relocating retail buildings to the hard corner, creating plazas on the corner of Butterfield Boulevard and Cochrane Road (between Shops 1 and Shops 2) and internal to the site (between the Market and Shops 3). Auto oriented uses that generate large amounts of traffic have been consolidated along Cochrane Road.

The applicant has provided conceptual landscape plans as part of their overall site planning. A complete analysis of the project's conformance with city design standards will occur upon the submittal of a Site and Architectural Review application for each parcel as they develop and the overall on-site infrastructure and landscaping improvements that will be completed by the applicant. Specific details on the plaza designs will be determined during the Site and Architecture Review process.

Circulation

The site provides seven external access points from the public right-of-way. Three access points are located along Cochrane Road. One is a full intersection with a traffic light, which the applicant will install as part of the site improvements and the other two will be driveways located to the east and the west of the full intersection. There will be one access point along Butterfield Boulevard and three along Jarvis Drive. There will be one connection adjoining the commercial property to the east.

Internal circulation is provided primarily by east-west and north-south access drives that intersect at a roundabout. Specific design elements for the roundabout will be considered as part of Site and Architectural review, but staff has provided a Condition of Approval that requires the design include a raised curb, decorative bollards, landscaping and/or public art. Additionally, speed tables or other traffic calming measures will be installed along the access roads to discourage drive-by traffic from

utilizing the site to bypass traffic lights. A Condition of Approval has been included that requires an ingress-egress easement over the entire site.

The north-south access is designed as a boulevard. The landscape median in the boulevard would be required to be wide enough to allow trees and other landscaping to thrive. The landscape median will need to be a minimum of ten feet in width.

A Traffic Analysis has been prepared for the project by Hexagon. Recommended adjustments to improve site access and on-site circulation have been recommended:

a. Due to its close proximity and potential to disrupt traffic flow along Cochrane Road, it is recommended that direction of the drive-thru lane for Pad B within Parcel 3 be reversed to flow in a clockwise direction. The change in direction will ensure that vehicle queues at the drive-thru lane do not spill out to the main drive aisle and potentially onto Cochrane Road.

b. It is likely that queues extending back from Butterfield Boulevard along Jarvis Drive will block left-turns into and out of Driveway 4 located at the south west corner of the site along Jarvis Drive. The view of outbound left-turns from the driveway also would be restricted for vehicles originating from Butterfield Boulevard and traveling eastbound along Jarvis Drive. Therefore, it is recommended that Driveway 4 be restricted to right-turns in and out only.

These recommendations have been incorporated into the Conditions of Approval.

5. **Economic Development Blueprint**

The City's 2017 Morgan Hill Economic Blueprint establishes the City's current priorities for the implementation of Economic Development goals. The document does not replace the Economic Development Element of the General Plan, but rather supplements the 2035 General Plan by identifying quantifiable actions required to generate jobs, attract investment, grow economic vitality, as well as new tax revenues for the community.

The Economic Blueprint identified four key industries which will drive economic prosperity, create a fiscally sustainable future:

1. Innovation and Advanced Manufacturing
2. Retail
3. Tourism
4. Healthcare

The proposed development, with the proposed uses directly supports three of the four key industries identified in the Economic Blueprint: Healthcare, Tourism, and Retail.

<u>Retail</u>

The Economic Blueprint promotes growing retail offerings and strengthening commercial nodes. The proposed development would create an additional 83,000 square feet of new retail development. The Economic Blueprint identifies retail flexibility as a key strategy to support the retail industry.

The development would be consistent with the identified Economic Blueprint strategies:

Retail Flexibility

Strategy No. 14: Continually revisit retail industry trends and requirements.

Strategy No. 16: Re-Evaluate and propose changes to shopping center-site specific zoning requirements

Tourism

The Economic Blueprint promotes growing leisure, agriculture, wine country and recreational tourism. Supporting lodging is a strategy for this industry. The site is also located near key employment areas for the City and more business quality hotel development has been requested by the community's top employers to support their business needs.

The development would be consistent with the following Economic Blueprint strategies:

Support Lodging

Strategy No. 25: Ensure General Plan and Zoning Code address Bed & Breakfasts, Air B&B and Hotel Development

Strategy No. 27: Identify Pre-zoned lodging sites

Healthcare

The Economic Blueprint promotes growing and fostering medical services and diagnostics industry by attracting services and facilities. The proposed development would add 35,000 square feet of new medical offices.

The development would be consistent with the following Economic Blueprint strategies:

Actively Promote Locations for Medical Uses

Strategy No. 33: Identify and Market pre-zoned medical sites

Consistency

The proposed project would complete a 20-acre site within an established PD, providing additional lodging opportunities that would directly support the tourism industry. The

overall development would create employment opportunities and service amenities for residents within the City.

6. Findings

Planned Development Amendment

In accordance with Section 18.14.020.C (Legacy Zones), a legacy zone is the base zoning district, overlay zone, or combining district which was applied to a property prior to July 7, 2018. All rules and regulations of the legacy zone, and any subsequent amendments thereto, continue to apply to the subject property. The PD (formerly PUD) that was adopted for the site is considered a Legacy Zone.

Permitted land uses, development standards, and other provisions that apply within a legacy zone may be amended in accordance with Chapter 18.114 (Zoning Code Amendments).

The Planning Commission may recommend to the City Council the approval or conditional approval of the proposed Zoning Code Amendment, based upon the findings specified in Section 18.114.060 (Findings for Approval). In accordance with Section 18.114.060 (Findings for Approval), the City Council may approve a Zoning Code Amendment only if all of the following findings are made:

1. **The proposed amendment is consistent with the General Plan and any applicable specific plan as provided by Government Code Section 65860.**

2. **The proposed amendment will not be detrimental to the public interest, health, safety, convenience, or welfare of the City.**

As described in the analysis above, the proposed amendment is found to be consistent with the General Plan, and it will not be detrimental to the public interest, health, safety, convenience, or welfare of the City. The proposed change to the existing PD enables the creation of a shopping center that is smaller scale clustered development that is sensitive to the character of adjacent structures and the immediate neighborhood. The existing PD encourages big box retail uses that are discouraged by the General Plan. The proposed uses do not conflict with the existing neighborhood but instead provide uses that serve both the adjacent residential and industrial areas as well as the larger Morgan Hill community.

The inclusion of outdoor pedestrian spaces such as plazas and walkways encourage pedestrian activity and provide for attractive transitions between uses as well as public gathering spaces.

Tentative Subdivision Map

Morgan Hill Municipal Code Section 17.20.090, Tentative Subdivision Map — Approval Conditions requires that the following finding to be made by the Planning Commission to adopt the amendment to the Tentative Subdivision Map:

> **In approving or conditionally approving the Tentative Subdivision Map, the Planning Commission shall find that the proposed subdivision, together with its provisions for its design and improvements, is consistent with applicable general or specific plans adopted by the City.**

The amendment to the Tentative Subdivision Map has been designed consistent with the City's General Plan, considering circulation patterns and providing ingress-egress easements to adjacent parcels.

Conclusion

The project has been found to be consistent with the General Plan. Staff recommends that the Planning Commission accept the Addendum to the Mitigated Negative Declaration, approve the amendment to the Tentative Subdivision Map as conditioned, and recommend approval to the City Council of the amendment to the PD Master Plan for the commercial development.

Community Engagement

The Morgan Hill Community was informed about the project through public notification including site signage, newspaper notice, and direct mail to property owners within 300 feet.

7. **California Environmental Quality Act (CEQA):**

On June 24, 2014, the Morgan Hill Planning Commission adopted the Mitigated Negative Declaration (MND) for the Butterfield and Cochrane Development.

The MND found that the project would result in impacts that were either less than significant or less than significant with mitigation. A mitigation monitoring and reporting program was adopted. Mitigation measures are applicable to the project site and an updated Mitigation Monitoring and Reporting Plan is attached.

An addendum to a previously adopted MND may be prepared if some changes or additions are necessary but no substantial changes would result in new significant environmental impacts or increase the severity of previously identified significant impacts. An addendum in this case is warranted as none of the conditions described in Section 15162 of the CEQA guidelines would occur.

The Modified Project would not result in new or different environmental impacts, nor substantially increase the severity of the previously identified environmental impacts, not require new mitigation measures, and no new information has emerged that would materially change the analyses or conclusions set forth in the MND. Therefore, the

Modified Project would not change the analysis or conclusions reached in the MND (Attachment 8).

LINKS/ATTACHMENTS:

1. AAE2017-0034 SD Resolution
2. AAE2017-0035 ZA Resolution
3. ORD2109 - Cochrane-South Bay
4. April 10, 2018 PC Preliminary Project Review Meeting (Weblink)
5. Evergreen Village - PD Narrative
6. Site Plan and Tentative Map
7. Landscape Plans
8. Butterfield Cochrane Initial Study - Addendum (7-19-18)
9. Butterfield Cochrane Initial Study - Addendum Appendices (Weblink)
10. Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014

RESOLUTION NO. 18-XXX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF MORGAN HILL RECOMMENDING CITY COUNCIL APPROVAL OF AN AMENDMENT TO A TENTATIVE SUBDIVISION MAP TO SUBDIVIDE A 20.43-ACRE SITE INTO 12 LOTS LOCATED AT SOUTHWEST CORNER OF BUTTERFIELD BOULDEVARD AND COCHRANE ROAD IN A PD ZONING DISTRICT (APN's 726-25-035 AND 726-32-021)

WHEREAS, such request was considered by the Planning Commission at its regular meeting of July 24, 2018, at which time the Planning Commission recommended approval by the City Council of a subdivision amendment application, AAE2017-0034: Cochrane-South Bay amending the previously approved application SD-13-14: Cochrane-South Bay; and

WHEREAS, testimony received at a duly-noticed public hearing, along with exhibits and drawings and other materials have been considered in the review process.

NOW, THEREFORE, THE MORGAN HILL PLANNING COMMISSION DOES RESOLVE AS FOLLOWS:

SECTION 1. The amended Tentative Subdivision Map, together with its provisions for its design and improvements, is consistent with the General Plan.

SECTION 2. The approval of this subdivision is contingent upon the City Council approval of a Planned Development Master Plan as contained in Zoning Amendment application, AAE2017-0035: Cochrane-Evergreen.

SECTION 3. The Planning Commission of the City of Morgan Hill hereby finds that, on the basis of the whole record before it (including the initial study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the Addendum to the Mitigated Negative Declaration reflects the Planning Commission's independent judgment and analysis, and that the adopted Mitigated Negative Declaration was considered prior to action taken to adopt the Resolution. The custodian of the documents or other material which constitute the record shall be the Development Services Department. The mitigation measures, including those from the Mitigation Monitoring and Reporting Program, are identified in the set of standard conditions as contained in Exhibit A and are hereby incorporated herein.

SECTION 4. The proposed subdivision will not result in a violation of the requirements established by the Regional Water Quality Control Board.

SECTION 5. The approved project shall be subject to the conditions as identified in the set of standard conditions attached hereto, as Exhibit A, and by this reference incorporated herein.

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

PASSED AND ADOPTED THIS 24th DAY OF JULY 2018, AT A REGULAR MEETING OF THE PLANNING COMMISSION BY THE FOLLOWING VOTE:

AYES: COMMISSIONERS:

NOES: COMMISSIONERS:

ABSTAIN: COMMISSIONERS:

ABSENT: COMMISSIONERS:

ATTEST: **APPROVED:**

JENNA LUNA, Deputy City Clerk **LIAM DOWNEY, Chair**

A F F I D A V I T

I, , applicant, hereby agree to accept and abide by the terms and conditions specified in this resolution.

_____

Applicant

Date: _____

R:\PLANNING\WP51\Zoning Amendment\2013\ZA 13-12 Cochrane-So Bay\AAE2017-0035\PC Resolitions\AAE2017-0034 SD Ammend Res.docx

EXHIBIT "A"

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

STANDARD CONDITIONS

APPLICATION: AAE2017-0034: Cochrane-Evergreen

THE FOLLOWING ARE STANDARD CONDITIONS OF APPROVAL THAT MUST-BE MET PRIOR TO THE ISSUANCE OF BUILDING PERMITS AND/OR SITE DEVELOPMENT PERMITS EXCEPT AS MAY BE SPECIFIED IN THE CONDITIONS. THE APPROVAL REQUIREMENTS INCLUDE THESE REQUIREMENTS AND ANY SPECIAL CONDITIONS THAT ARE APPLIED THROUGH THE DEVELOPMENT APPROVAL PROCESS. APPLICANTS ARE REQUIRED TO SIGN THE *APPROVAL CERTIFICATE/RESOLUTION* FORM INDICATING THEY UNDERSTAND AND AGREE TO IMPLEMENT THESE STANDARD CONDITIONS AND ANY SPECIAL CONDITIONS APPLIED TO THEIR PERMIT APPROVAL.

ACRONYMS:
MHMC – Morgan Hill Municipal Code
MHARH – Morgan Hill Architectural Review Handbook

PLANNING DIVISION

I. TIME LIMITS

A. The Tentative Subdivision approval granted under this Resolution shall remain in effect for two years to July 24, 2020. Failure to apply for Final Map approval with the City Engineer within this term shall result in expiration of approval unless an extension of time is granted by the Planning Commission prior to the expiration date. **(MHMC 17.20.170; 17.24.110)**

II. SITE DEVELOPMENT

A. DESIGN PERMIT APPROVAL: Prior to recordation of the final map, all areas of required public or private improvements shall receive Design Permit approval.

B. PUBLIC IMPROVEMENT INSTALLATION: All perimeter public improvements shall be installed as part of the first final map. Public improvements shall include but are not limited to the following:

1. Raised landscaped median along project frontage on Cochrane Road.
2. Dedicate necessary right-of-way (67 feet from center line) to accommodate 3 travel lanes and bike lane across project Cochrane Road frontage.
3. Curb, gutter and sidewalk on Cochrane Rd., Butterfield Blvd. and Jarvis Dr.
4. Traffic signal at the project entrance and Cochrane Rd.
5. All perimeter driveway approaches.

C. ON-SITE COMMON IMPROVEMENTS: The following on site private improvements shall be installed as part of the public improvement plans prior to the recordation of the first final map:

1. All private street and landscape improvements.
2. All access drives as shown on the site plan.

3. All perimeter landscaping along Cochrane Rd., Butterfield Blvd., and Jarvis shall be installed.

D. TREE PROTECTION: Unless tree removal has been previously approved through the Design Permit process, all trees located within the project shall be protected using the following minimum protection measures (these guidelines shall be included with all site development plans):

1. Mark all trees to be saved with a survey flag or ribbon. Do not nail or staple directly to the tree.

2. Erect a temporary fence enclosing an area equal to at least the dripline of the tree (or as far from the trunk as possible). This tree protection zone shall not be used for parking, storage of building materials, or other equipment or the placement of temporary or permanent fill. Signs should be posted identifying the restriction of uses in the tree protection zone.

3. Locate structures, grade changes, and other ground or surface disturbances (e.g. concrete pours) as far as feasible from the "dripline" area of the tree.

4. Avoid root damage through grading, trenching, compaction, etc at least within an area 1.5 times the dripline area of the tree. Where root damage cannot be avoided, roots encountered over 1" in diameter should be exposed approximately 12" beyond the area to be disturbed (towards the tree stem), by hand excavation, or with specialized hydraulic or pneumatic equipment, cut cleanly with hand pruners or power saw and immediately back-filled with soil. Avoid tearing or otherwise disturbing that portion of the roots to remain.

5. The addition of plant or other landscaping materials shall remain outside of the dripline of all trees.

6. Any tree subject to Chapter 12.32 Restrictions On Removal Of Significant Trees of the Morgan Hill Municipal Code requires approval from the Planning Division. The applicant shall request approval prior to removing any significant trees.

E. CC & R'S: The applicant shall provide a set of Covenants, Conditions and Restrictions, Bylaws and Articles of Incorporation, for review and approval by the Community Development Department prior to recordation of the final map. All such CC&Rs shall include the following text:

1. Common Areas/Right of Ways:

a. The Owners recognize that the use, modification and proper maintenance of the Common Area and public right-of-way(s)* are for the benefit of all citizens of the City of Morgan Hill (City) and that the City is an intended third party beneficiary of these covenants, conditions and restrictions and may, upon notice of hearing as set forth below, exercise the same powers of enforcement as the Association.

(a) *Public right-of-way: Exclusive of streets dedicated to and accepted by the City of Morgan Hill

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

b. The City may, by mail or personal delivery, give written notice of the breach of any maintenance obligation to the Association with a demand that such breach be remedied. If such breach is not remedied within thirty (30) days of the mailing or delivery of such notice, the City shall have standing and the right (but not the obligation) to bring a court action against the Association and Owners to enforce such provision. In addition, the City shall be entitled to recover reasonable attorneys' fees and costs incurred in such action.

c. The Notice may also contain a date for a hearing on the matter before a City employee designated by the City (which hearing shall be held no sooner than fifteen (15) days after mailing of such notice), and if after such hearing the City determines that there has been inadequate maintenance, the City shall have the right (but not the obligation) to undertake the maintenance of the Common Area or public right-of-way in question. Any and all costs incurred by the City in so maintaining the Common Area or public right-of-way shall be a lien against all the properties included with the Project and shall be the personal responsibility of the Owners and the Association.

d. The entire Project and all of the properties located thereon shall be subject to the conditions and restrictions of all subdivision and other Project approvals by the City, with respect to the Project. Any changes and/or modifications to the Project and/or any Unit, including but not limited to changes to the exterior of any Unit, may be subject to review and approval of the City of Morgan Hill as may be determined by review of the Project approvals by the City of Morgan Hill.

e. This section may not be amended without the prior written consent of the Director of Community Development for the City. Nothing contained in this section shall limit any other right or remedy which the City may have under its ordinances or state law.

f. For the purposes of this section, the question of whether there has been a breach of a maintenance obligation or adequate maintenance shall be determined by the provisions of the original Declaration as first recorded with the County Recorder for Santa Clara County and by any amendment thereto, but only to the extent that such maintenance obligation or duty of maintenance is increased by such amendment.

2. Tree and Landscape Preservation: The Owners of the lots and Association shall preserve and maintain all trees and landscape on the property originally required by the approved landscape plan and shall not remove or alter any such trees or landscape from the Property without the approval of the Director of Community Development of the City of Morgan Hill.

3. Compliance with the City of Morgan Hill Conditions of Approval: It shall be the responsibility of each Owner and the Association to insure that any changes or modifications to the Project or any Unit are in compliance with the original City conditions of approval of the Project, which are hereby incorporated herein as if set forth in full.

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

F. FINAL SITE DEVELOPMENT PLANS: Final site development plans for all common area or perimeter landscape improvements shall be reviewed, approved and installed prior to recordation of the final map.

G. FORMATION OF MAINTENANCE ASSOCIATION: Prior to recordation of the first final map a maintenance association shall be formed to maintain all common area landscaping, parking, lighting and circulation. Maintenance of the common areas will be managed by an association in accordance with to be established CC&R's.

H. DUST, NOISE, VIBRATION, AND MATERIALS MANAGEMENT PLAN: A management plan detailing strategies for control of noise, dust and vibration, and storage of hazardous materials during construction of the project shall be on all site development and grading plans. The intent of this condition is to minimize construction related disturbance of residents of the nearby or adjacent properties. **(MHMC 18.76)**

The plan must include the following "Basic Construction Mitigation Measures" per Bay Area Air Quality Management District's guidelines:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.

8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

I. STREET NAMES: Street names, private or otherwise, used to identify building locations shall be submitted to the Planning Division for approval. Proposed street names shall comply with the Street Naming Policy approved by City Council (Res No. 4601)

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

III. PARKING & VEHICULAR ACCESS

A. RECIPROCAL INGRESS/EGRESS AND SHARED PARKING EASEMENTS: Prior to recordation of the final map reciprocal parking and access agreements shall be all record on appropriate deed restriction and covenants running with the land subject to review and approval of the Community Development Director for a reciprocal ingress/egress easement and shared parking.

B. TRAFFIC CALMING:

1. Roundabout - The roundabout at the intersection of the two main access drives shall contain a barrier curb, decorative bollards, landscaping and/or public art; to be approved by the Community Development Director as part of the Design Permit approval process for the site improvements or recordation of the Final Map, whichever occurs first.

2. Speed Tables – Speed tables or other traffic calming measures shall be installed along the east-west access drive. The final design shall be reviewed and approved by the Community Development Director as part of the common area Design Permit approval.

C. SITE ACCESS AND CIRCULATION:

1. Due to its close proximity and potential to disrupt traffic flow along Cochrane Road, the direction of the drive-thru lane for Pad B within Parcel 3 shall be reversed to flow in a clockwise direction. The change in direction will ensure that vehicle queues at the drive-thru lane do not spill out to the main drive aisle and potentially onto Cochrane Road.

2. Barrier curb and signage shall be installed to restrict Driveway 4 to right-turns in and out only.

IV. LANDSCAPING

A. LANDSCAPE MAINTENANCE AGREEMENT**:** The applicant shall enter into a two-year landscape maintenance agreement effective upon acceptance of landscaping improvements and provide an appropriate bond as required by the Design Review Ordinance. Bond amount shall be equal to 100 percent of the value of the landscaping and irrigation improvements for the development project. **(MHMC 18.64.060)**

B. PLANTING AND IRRIGATION WORKING DRAWINGS: Detailed landscape planting and irrigation working drawings shall be submitted to the Community Development Department for Design Permit review and approval prior to the recordation of the final map. Landscape plans for streets and landscape easements shall be part of the improvement plan submittal.

C. COMMON AREA PARCELS: A note shall be placed on the final map which shall indicate that lot 8 shall be used for no purpose other than project ingress and egress purposes and shall be permanently secured with appropriate documentation [i.e., Deeds; Easements; Covenants, Conditions and Restrictions (CC&Rs), Dedication, Homeowners Association; etc.).

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

V. HABITAT PLAN

A. The approved project is covered under the Santa Clara Valley Habitat Plan (Habitat Plan) and subject to fees and conditions contained in the Habitat Plan.

B. Prior to issuance of building permits or grading permits the project shall complete and submit a Habitat Plan Application Package. All fees must be paid prior to issuance building permits or grading permits. **(MHMC 18.132.050)**

C. Any additional conditions or mitigations required by the Habitat Plan shall be clearly stated on all plans that involve any ground disturbing activity (i.e. grading plans, improvement plans, paving plans, demolition plans or other plans for site clearing or temporary stockpile of dirt). **(MHMC 18.132.040)**

D. This Tentative Map approval is limited to the plan set stamped approved on file (File Number SD 13-14: Cochrane-South Bay) with the Community Development Department. The final map shall be in substantial conformance to the tentative map.

E. RELATED APPLICATIONS: The project shall comply with the conditions of approval of the related applications or planning division files ZA 13-12: Cochrane-South Bay

F. DEFENSE AND INDEMNITY: Applicant agrees to defend and indemnify and hold City, its officers, agents, employees, officials and representatives free and harmless from and against any and all claims, losses, damages, injuries, costs and liabilities arising from any suit for damages or for equitable or injunctive relief which is filed against City by reason of its approval of this Tentative Subdivision approval. In addition, applicant shall pay all pre-tender litigation costs incurred on behalf of the City including City's attorney's fees and all other litigation costs and expenses, including expert witnesses, required to defend against any lawsuit brought as a result of City's approval or approvals, but shall not be required to pay any litigation from the City. However, applicant shall continue to pay reasonable internal City administrative costs, including but not limited to staff time and expense spent on the litigation, after tender is accepted. The undersigned hereby represents that they are fully empowered by the applicant as their agent to agree to provide the indemnification, defense and hold harmless obligations, and the signature below represents the unconditional agreement by applicant to be bound by such conditions.

G. MITIGATION FEE ACT: Notice is hereby given that, pursuant to the Mitigation Fee Act, the City of Morgan Hill charges certain fees (as such term is defined in Government Code Section 66000) in connection with approval of your development project for the purpose of defraying all or a portion of the cost of public facilities related to your development project (Mitigation Fee Act Fees). These fees do not include fees for processing applications for governmental regulatory actions or approvals, fees collected under development agreements, or as a part of your application for development allocations under the City's Residential Development Control System. The Mitigation Fee Act Fees applying to your project are listed in the schedule of fees provide. Notice is also hereby given that you have the opportunity to protest the imposition of the Mitigation Fee Act Fees within 90 days of the approval of the approval or conditional approval of your

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

development project and that the 90-day approval period in which you may protest has begun.

H. SIGNED COPIES OF RESOLUTION 18-XX: Submit two (2) signed copies of Resolution 18-XX to the Planning Division prior to recordation of a final map.

VI. PROJECT MITIGATION MEASURES

All mitigation measures identified in the Mitigation Monitoring and reporting Plan are hereby incorporated by reference.

ENGINEERING CONDITIONS

The following conditions shall apply to the project/application.

VII. PROJECT SPECIFIC

A. At Architecture & Site Review stage, provide the following:
   1. Copy of a recent Preliminary Title Report (within last 90 days).
   2. Phasing plan, if available.

B. TRANSPORTATION:
   1. At Architecture & Site Review stage, revise plans to address the following:
      a. Show the proposed traffic signal improvements at the project's main access point at Cochrane Road and Woodview Avenue. The traffic signal improvements shall be subject to the review and approval by the Director of Public Works.
      b. Show the required second westbound left-turn lane at the Butterfield Boulevard and Cochrane Road intersection per the Traffic Impact Analysis prepared by Hexagon Transportation Consultants dated June 7, 2018.
      c. Show the recommended adjustments to the site access and circulation per the Hexagon Traffic Impact Analysis dated June 7, 2018.
      d. Show width and turn-radii along all drive/parking aisles per City Standards.
      e. Label proposed streets/access roads with temporary name or letter for identification.
   2. At Architecture & Site Review stage, verify with the Santa Clara Valley Transportation Authority (VTA) if a bus stop is required along the project's Cochrane Road frontage.

C. GRADING:
   1. At Architecture & Site Review stage, revise plans to address the following:
      a. Note the grading quantities for cut, fill, import and export.
      b. Include the lot numbers on the Grading Plan sheets.

D. STREET IMPROVEMENTS:
   1. At Architecture & Site Review stage, revise plans to address the following:
      a. Show standard driveways (instead of curb cuts) at the two Cochrane Road project access points adjacent to Pad A and to the new hotel.

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

b. Show new sidewalk (5' minimum width) and street trees in the park strip along all project frontages.
c. Show raised landscape median along project's Cochrane Road frontage.
d. Show street sections at Butterfield Boulevard and Jarvis Drive.
e. Confirm adequacy of access to City's Sanitary Sewer Lift Station "P" by the City's Sewer Maintenance vactor truck and other large equipment.
f. Adjust the new sidewalk at Cochrane Road, across the City's Sanitary Sewer Lift Station "P".

E. UTILITIES:
1. At Architecture & Site Review stage, revise plans to show removal of the abandoned storm and sanitary sewer mains which runs through the project from Cochrane Road to Jarvis Drive. Prior to abandonment, field verify that storm and sanitary sewer mains are inactive and no longer in use.
2. All buildings shall have a Fire Department connection with a fire hydrant within an acceptable distance as approved by the Fire Division.
3. All water services shall have backflow devices per City Standards.
4. On-site sanitary and storm facilities shall be privately maintained.
5. At improvement plan stage, remove and replace non-standard streetlights along project's Cochrane Road, Butterfield Boulevard and Jarvis Drive frontages.

F. STORMWATER:
1. At Architecture & Site Review stage, revise plans to show the proposed underground retention tanks and other post-construction stormwater facilities located within a Private Stormwater Easement.
2. At Architecture & Site Review stage, submit the following:
a. Preliminary Stormwater Control Plan, Stormwater Runoff Management Plan and applicable stormwater performance certifications per the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements.
b. Copy of Soils Report and site-specific infiltration rates.
3. At Architecture & Site Review stage, provide owner(s)/entity responsible for maintaining the post-construction stormwater facilities.

VIII. GENERAL

A. The applicant shall cause the construction of all public and private improvements in accordance with the latest City Standard Drawings and Specifications. **(MHMC 12.02.090 A; 17.32.010 A)**

B. The applicant shall have a Final Map prepared by a registered engineer (licensed prior to 01/01/1982: registration number 33,965 or lower) or licensed land surveyor delineating all parcels and easements created. There shall be concurrence in writing by PG & E, Telephone, Cable TV and any other affected agencies to all improvements and easements which are applicable to them. The number and locations of monuments shall be set as required by the Public Works Department. **(MHMC 17.20.200 A; 17.20.290; 17.24.010)**

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

C. The applicant shall submit as part of the improvement drawings for the project, profiles of all improvements and typical cross-sections of all streets and details of curbs, gutters, and sidewalks, to be accomplished to the satisfaction of the Director of Public Works prior to submittal of Final Map. **(MHMC Sec 17.32.060 B; 17.32.070; 17.32.080 A)**

D. Obtain necessary encroachment permits from:
☒ City of Morgan Hill
and provide guarantee covering off-site improvements. **(MHMC 12.08.040 A; 12.08.090)**

E. Improvement plans are to show water lines, sanitary sewer, storm drain system, pavement widths, curve radius, and existing utilities.

F. Enter into an
☒ Improvement Agreement (IA)
with the City of Morgan Hill to cover required improvements. **(MHMC 12.02.150; 17.32.010 B; 17.32.160)**

G. Reciprocal access easements and maintenance agreements ensuring access to all parcels and joint maintenance of all common roads, drives or parking areas shall be provided by CC&R's and deed and shall be recorded concurrent with the map, or prior to issuance of building permit where no map is involved. **(MHMC 17.20.350 H)**

H. A traffic study of the area affected by the proposed project has been completed. This study shall be subject to review and approval by the Public Works Director prior to the issuance of any City permits. All mitigating improvements outlined in the study shall be installed by the applicant at his expense. **(MHMC 17.20.350 I)**

I. The applicant shall be required to install a raised landscape median on Cochrane Road for that portion covering the project frontage per City's General Plan. **(MHMC 12.02.120 B)**

J. Applicant shall file an application for assessment district reapportionment and pay the required fee prior to recordation of the final map. **(MHMC 17.20.350 I)**

K. Pursuant to City Ordinance 982, the subject property will have reimbursement obligation to the City for lands acquired for street purposes and streets improved should those lands/street improvements abut or be included within subject property. **(MHMC 12.02.120 B)**

L. **IMPACT FEE INCREASE** – The City of Morgan Hill, pursuant to City Code Chapter 3.56 has established impact fees to finance the cost of improvements required by new development. City Code Chapter 3.56.050 provides for automatic annual (July 1st) adjustment of those fees in existence utilizing the Engineering News Record Index for the preceding twelve months. The City Public Works Department maintains historical records on the Engineering News Record Index. These records are available for inspection during normal business hours. **(MHMC 3.56.010; 3.56.030; 3.56.050)**

IX. STREET IMPROVEMENTS

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

A. The applicant shall cause the design and construction of all new public and private streets serving the project. The design of all new public and private streets shall be consistent with the General Plan Land Use and Circulation Element as well as the Street Standard Details as contained within the Public Works Standards Details. The construction of the streets shall be undertaken to the lines and grades and in a manner satisfactory to the Director of Public Works. All street improvements shall be constructed to the satisfaction of the Director of Public Works. The timing of the improvements will be determined by the City. **(MHMC 12.02.010; 12.02.090; 17.32.060 B; CMH General Plan; CMH Design Standards and Standard Details for Construction)**

B. The project shall install and dedicate street improvement including, but not limited to, curb and gutter, sidewalk, compaction, street paving, oiling, storm drainage facilities, sewer and water, fire protection, undergrounding of utilities and street lighting in conformance with City of Morgan Hill requirements. **(MHMC 12.02.010; 12.02.50; 12.02.080; 12.02.100; 17.28.010; 17.32.060)**

C. Dedication of public right-of-way on Cochrane Road and Butterfield Boulevard. The total width of dedication to be approved by the Director of Public Works. **(MHMC 12.02.010; 12.02.50; 12.02.080; 12.02.90; 12.02.100; 17.28.010)**

D. Dedication of the required corner cutoff at the intersection of Cochrane Road and Woodview Drive and Cochrane Road and Butterfield Boulevard. **(MHMC 12.02.010; 12.02.50; 12.02.080; 12.02.100; 17.28.010)**

E. Underground existing utilities: all existing overhead utilities adjacent to any site boundary or along any street frontage of site shall be placed underground in accordance with City standards and affected utility company guidelines. **(MHMC 12.02.090 B; 17.32.020 E.1)**

X. SANITARY SEWER SYSTEM

A. The applicant shall cause to be undertaken the design and construction of sanitary sewer improvements including, but not limited to installation of sewer line extension on the proposed public street(s) or private street(s)/drive aisle(s). The sanitary collection system shall include, but not be limited to manholes with manhole frames and covers, cleanouts, wye-branches and laterals, and separate sewer taps to each lot. These are to be installed by the developer. **(MHMC 13.20.355; 17.32.020 C; CMH Sewer System Master Plan; CMH Design Standards and Standard Details for Construction)**

B. All existing and future sewer lines shall be tied into the City's system and existing septic systems shall be abandoned in accordance with City requirements. **(MHMC 13.24.060; 17.32.20 C)**

XI. STORM DRAIN SYSTEM

A. A complete storm drainage study of the proposed development must be submitted showing amount of run-off, and existing and proposed drainage structure capacities. This study

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

shall be subject to review and approval by the Director of Public Works. All needed improvements will be made by the applicant. No overloading of the existing system will be permitted. **(MHMC 17.32.020 B;17.32.090; CMH Design Standards and Standard Details for Construction)**

B. The applicant shall cause the design and construction to be undertaken for a storm drainage collection system shown on the Tentative Map/Site Review plans. All storm drain improvements shall be constructed to the satisfaction of the Director of Public Works. **(MHMC 17.32.020 A & B)**

C. Collection system shall be designed to be capable of handling a 10-year storm without local flooding. On-site detention facilities shall be designed to a 25-year storm capacity. Streets shall be designed to carry a 100-year storm. Items of construction shall include, but not be limited to installation of storm line extension on proposed public street(s), surface and subsurface storm drain facilities, manholes with manhole frames and covers, catch basins and laterals. Note: the project may be required to **retain** stormwater runoff as part of resolution R3-2013-0032 prior to releasing discharge rates at pre development flows. **(MHMC 17.32.020 B; 18.74.440; CMH Design Standards and Standard Details for Construction; CMH Storm Drainage System Master Plan)**

D. Prior to final map approval or issuance of a grading permit the applicant shall complete the following to the satisfaction of the Director of Public Works.
   1. Storm drain calculations to determine detention/retention pond sizing and operations.
   2. Plan describing how material excavated during construction will be controlled to prevent this material from entering the storm drain system.
   3. Water Pollution Control Drawings (WPCD) for Sediment and Erosion Control.

   (CMH Design Standards and Standard Details for Construction)

E. Where the project adjoins existing Santa Clara Valley Water District storm drain facilities, applicant shall obtain dedication(s) of all necessary easement or right-of-way to accommodate established ultimate facilities master plan.

F. BMP Tree protection shall be part of the SWPPP inspections.

G. As required by the State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ, construction activity resulting in a land disturbance of one (1) acre or more of soil, or whose projects are part of a larger common plan of development that in total disturbs more than one (1) acre, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity (General Permit). To be permitted with the SWRCB under the General Permit, owners must file a complete Notice of Intent (NOI) ONLINE at: http://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual in accordance with the General Permit. The SWPPP Manual shall follow the CASQA SWPPP template/format at https://www.casqa.org/store/products/tabid/154/p-167-construction-handbookportal-initial-subscription.aspx and shall be approved by Land Development Engineering. A Waste Discharger Identification (WDID) number to will be issued to the construction site

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

after the SWRCB receives and verifies the submitted ONLINE NOI information. The WDID number and approved SWPPP Manual shall be provided to Public Works and the Building Department prior to any approval of grading activities **(SWRCB NPDES General Permit CA000002).**

H. NPDES GENERAL PERMIT SITE SWPPP INSPECTIONS AND COMPLIANCE:
   1. ALL project onsite and offsite construction activity shall have the site inspected by a **qualified third party SWPPP Inspector (QSD or QSP or RCE).**
   2. SWPPP Inspections shall occur weekly during the rainy season (September 15th thru May 1st).
   3. SWPPP Inspections shall occur bi-weekly during the non-rainy season.
   4. 48 hours prior to and following a forecasted rain event, SWPPP Inspections shall occur in addition to those of items 2 or 3 above.
   5. Per each of the inspection conditions 2, 3, or 4, the NPDES SWPPP Inspector shall certify in writing to the Building and Public Works Department if the site is in compliance or non-compliance with the NPDES General Permit for Stormwater, site SWPPP Manual, and Water Pollution Control Drawings (per the CMH-SWPPP Inspection Check List to be provided by Public Works). QSD/QSP SWPPP Inspectors shall forward onsite and offsite information/certification to the Building (on-site private property issues) and Public Works (public right-of-way issues) inspectors respectively.
   6. Prior to rain events, BMPs not in compliance will need to be corrected immediately. BMPs maintenance/inspections shall include tree protection if applicable.
   7. Illicit discharges per the NPDES General Permit, non-compliance of tracking control, and inlet protection within the public right of way shall be address immediately.
   8. Other non-compliance issues need to be addressed within a 24 hour period.
   9. Non-compliance issues which have been corrected shall be verified by NPDES SWPPP Inspector by a follow up inspection.

XII. WATER SYSTEM

A. The applicant shall cause the design and construction to be undertaken of a domestic water system to the satisfaction of the Director of Public Works. The water system improvements shall be constructed within public easements or street rights-of-way to the satisfaction of the Director of Public Works and dedicated to the City. **(MHMC 17.32.020 A & D; CMH Design Standards and Standard Details for Construction; CMH Water System Master Plan)**

B. Abandonment of any existing water well shall be in conformance with Santa Clara Valley Water District (SCVWD) Ordinance 90-1. Location and disposition to be shown on the plan. Well(s) shall be properly registered with the SCVWD and either be maintained or abandoned in accordance with SCVWD standards.

C. Installation of water line extension on the proposed public streets and/or private streets. **(MHMC 17.32.020 A & D; CMH Water System Master Plan)**

D. Provide separate water services and meters for each building and separate suites. These are to be installed by developer. **(MHMC 17.32.020 D)**

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

XIII. OTHER CONDITIONS

A. The owner shall dedicate all necessary utility easements. **(MHMC 12.02.080 D; 17.28.010 A)**

B. The applicant shall cause the design and construction required to underground all electric, gas, Cable TV and communication lines within the development. Such design and construction shall be to the satisfaction of the affected utilities and the Director of Public Works. **(MHMC 17.32.020 E.1)**

C. The final map on all major subdivision (5 or more lots) shall be approved by the City Council prior to issuance of a grading permit. For minor subdivision (4 lots or less), the final map shall be signed by the City Engineer and the Planning Commission Secretary prior to issuance of a grading permit. **(MHMC 17.20.390; 17.24.210)**

D. Landscaping and irrigation systems serving common areas that are required to be installed in the public right-of-way on the perimeter of the project area shall be continuously maintained by the owner(s)/Maintenance Association.

E. Final landscape plans shall be submitted with and included as part of the improvement plans for the project. **(MHMC 17.08.090)**

F. Prior to the approval of any Building Permit for grading activity, the developer shall schedule a preconstruction meeting with the Public Works Inspection Division with the following project team members:
   1. Civil Engineer of record.
   2. Geotechnical Engineer of record.
   3. Third Party QSD/QSP SWPPP Inspector.
   4. General Contractor.
   5. Sub Contractors.

XIV. NPDES WATER QUALITY STORMWATER MANAGEMENT DEVELOPMENT STANDARDS

A. State Water Resources Control Board Post Construction Requirements (PCRs): Project shall comply with the California Regional Water Quality Control Board Central Coast Region Resolution No. R3-2013-0032 as documented by the **Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements** (developed from Resolution No. R-2013-0032 Attachment 1 and 2 at: http://www.waterboards.ca.gov/centralcoast/water_issues/programs/stormwater/docs/lid/lid_hydromod_charette_index.shtml). A copy of the guidance manual can obtained through the Department of Public Works internet site. Project shall provide Stormwater Control Plan Checklist and applicable calculations per the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements. Project shall meet the applicable requirements of the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements:

1. Performance Requirement 1: Site Design and Runoff Reduction
2. Performance Requirement 2: Water Quality Treatment
3. Performance Requirement 3: Runoff Retention
4. Performance Requirement 4: Peak Management

B. **Peak Storm Water Runoff Discharge Rates** - Post-development peak stormwater runoff discharge rates shall not exceed the estimated pre development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion. Note: the project may be required to **retain** stormwater runoff as part of resolution R3-2013-0032 prior to releasing discharge rates at pre development flows.

C. **Minimize Stormwater Pollutants of Concern** - Stormwater runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the stormwater conveyance system. The development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the stormwater conveyance system as approved by the building official. Pollutants of concern consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bio-accumulate in organisms therein, or the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna.
In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in:
1. *California Stormwater Quality Association (CASQA) Handbook: BMPs for New Development and Redevelopment*
2. *Bay Area Stormwater Management Agencies Association (BASMAA) Design Guidance Manual for Stormwater Quality Protection: Start at the Source 1999*
3. *California Stormwater Best Management Practices Handbooks*
4. *Caltrans Stormwater Quality Handbook: Planning and Design Staff Guide*

D. **Provide Storm Drain System Stenciling and Signage** - Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the stormwater conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message. All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: "NO DUMPING – DRAINS TO CREEK") and/or graphical icons to discourage illegal dumping. Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.· Legibility of stencils and signs must be maintained.

E. **Properly Design Outdoor Material Storage Areas** - Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials. Improper storage of

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the stormwater conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, the following Structural or Treatment BMPs are required:

1. Materials with the potential to contaminate stormwater must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the stormwater conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
2. The storage area must be paved and sufficiently impervious to contain leaks and spills.
3. The storage area must have a roof or awning to minimize collection of stormwater within the secondary containment area.

F. **Properly Design Trash Enclosure Areas** - All trash enclosure areas must meet the following Structural or Treatment Control BMP requirements (individual single family residences are exempt from these requirements):

1. Roof Required: Trash enclosure areas shall have an all weather noncombustible solid roof to prevent rainwater from mixing with the enclosure's contents.
2. Walls Required: Trash enclosure shall have structural walls to prevent unauthorized off-site transport of trash.
3. Doors: Trash enclosure shall have door(s) which can be secured when closed.
4. Grades: The pad for the enclosure shall be designed to not drain outward, and the grade surrounding the enclosure shall be designed to not drain into the enclosure.
5. Drain Inlet: Within the enclosure, an area drain with an approved (Zurn) vandal proof drain shall be installed and shall be plumbed to the sanitary sewer system with grease trap. Grease trap shall be located within the trash enclosure footprint.

G. **Design Standards for Structural or Treatment Control BMPs** - The post-construction treatment control BMPs shall incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) stormwater runoff:

1. Volumetric Treatment Control BMP
   a. The 85th percentile 24-hour runoff event determined as the maximized capture stormwater volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or
   b. The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (2003); or
   c. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.
2. Flow Based Treatment Control BMP
   a. The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the area; or

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

b. The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

H. **Stormwater Runoff Management Plan (SWRMP) required -** The stormwater runoff management plan shall include sufficient information to evaluate the environmental characteristics of affected areas, the potential impacts of the proposed development on water resources, and the effectiveness and acceptability of measures (post construction BMPs) proposed for managing stormwater runoff.

1. The stormwater runoff management plan shall be prepared under the direction of a professional civil engineer registered in the State of California. The responsible professional civil engineer shall stamp and sign the approved stormwater runoff management plan.
2. The chief engineer or designee may require a developer to provide a signed certification from the civil engineer responsible for preparing the stormwater runoff management plan that all stormwater best management practices have been designed to meet the requirements of this chapter.
3. Each certifying civil engineer shall establish to the city's satisfaction that such person has been trained on the design of stormwater quality best management practices not more than three years prior to the certification signature date.
4. Qualifying training shall be conducted by an organization with stormwater quality management expertise, such as a university, the Bay Area Stormwater Management Agencies Association, the American Society of Civil Engineers, the American Public Works Association, or the California Water Environment Association.

I. **Stormwater BMP operation, maintenance, and replacement responsibility**

1. All on-site stormwater management facilities shall be operated and maintained in good condition and promptly repaired/replaced by the property owner(s), an owners' or homeowners' association or other legal entity approved by the city.
2. Any repairs or restoration/replacement and maintenance shall be in accordance with city-approved plans.
3. The property owner(s) shall develop a maintenance schedule for the life of any stormwater management facility and shall describe the maintenance to be completed, the time period for completion, and who shall perform the maintenance. This maintenance schedule shall be included with the approved stormwater runoff management plan.

J. **Stormwater BMP operation and Maintenance Agreement (SWBOMA) required -** Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly.

1. Prior to the issuance of any building permit requiring stormwater management BMPs, the owner(s) of the site shall enter into a formal written stormwater BMP operation and maintenance agreement with the city. The city shall record this agreement, against the property or properties involved, with the County of Santa Clara and it shall be binding on all subsequent owners of land served by the stormwater management treatment

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

BMPs (City standard STORMWATER BMP OPERATION AND MAINTENANCE AGREEMENT to be provided by Land Development Engineering).

2. The stormwater BMP operation and maintenance agreement shall require that the BMPs not be modified and BMP maintenance activities not alter the designed function of the facility from its original design unless approved by the city prior to the commencement of the proposed modification or maintenance activity.
3. The stormwater BMP operation and maintenance agreement shall provide that in the event that maintenance or repair is neglected, or the stormwater management facility becomes a danger to public health or safety, the city shall have the authority to perform maintenance and/or repair work and to recover the costs from the owner.

K. **Stormwater BMP inspection responsibility**

1. The property owner(s) shall be responsible for having all stormwater management facilities inspected for condition and function by a **Register Civil Engineer (RCE)**.
2. Unless otherwise required by the chief engineer or designee, stormwater facility inspections shall be done at least twice per year (April 15th and September 15th) by the RCE. Written records shall be kept of all inspections and shall include, at minimum, the following information:
   a. Site address;
   b. Date and time of inspection;
   c. Name of the person conducting the inspection;
   d. List of stormwater facilities inspected;
   e. Condition of each stormwater facility inspected;
   f. Description of any needed maintenance or repairs; and
   g. As applicable, the need for site re-inspection.
3. Upon completion of each inspection, an inspection report shall be submitted to Land Development Engineering.

L. **Records of maintenance and inspection activities -** On or before April 15th and September 15th of each year, the party responsible for the operation and maintenance of on-site stormwater management facilities under the BMP operation and maintenance agreement shall provide the chief engineer or designee with records of all inspections, maintenance and repairs.

M. **Annual Certification of SWRMP** – On or before September 30th of each year a Registered Civil Engineer (RCE) shall provide written certification that the development's stormwater quality design standards are properly maintained and functioning as required by the SWRMP.

XV. NPDES WATER QUALITY STORMWATER MANAGEMENT DEVELOPMENT STANDARDS FOR PRIORITY PROJECTS

A. **Restaurants**

1. Properly Design Equipment/Accessory Wash Areas - The activity of outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the stormwater conveyance

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

system. Include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must be:

a. Self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
b. If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer or other appropriately permitted disposal facility.

B. **Retail Gasoline Outlets**

1. Properly Design Fueling Area - Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm \water conveyance system. Therefore, design plans, which include fueling areas, must contain the following BMPs:
   a. The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
   b. The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
   c. The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of stormwater to the extent practicable.
   d. At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

C. **Parking Lots**

1. Properly Design Parking Area - Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on parking lot surfaces by motor-vehicles. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:
   a. Reduce impervious land coverage of parking areas.
   b. Infiltrate or treat runoff.
2. Properly Design To Limit Oil Contamination and Perform Maintenance - Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks:
   a. Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces, sports event parking lots, shopping malls, grocery stores, discount warehouse stores).
   b. Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control.

FIRE DEPARTMENT

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

1. Prior to performing any work, the applicant shall make application to, and receive from, the Building Department all applicable construction permits.

2. Automatic Fire Sprinkler System Required. Buildings requiring automatic fire sprinkler system shall be equipped throughout with an approved automatic fire sprinkler system. The fire sprinkler system shall be hydraulically designed per National Fire Protection Association (NFPA) Standard #13. **(CFC Chapter 9 as amended by MHMC 15.44.170)**

3. Final Required Fire Flow. Required fire flow may be reduced up to 75% in buildings equipped with automatic fire sprinkler systems but, can be no less than 1,500 GPM. Therefore, the final required fire flow is 1687 GPM at 20 psi residual pressure. This flow shall be taken from any two fire hydrants, on or near the site spaced at a maximum spacing of 250 feet. **(CFC Appendix B)**

4. Public Fire Hydrant(s) required. Provide 13 public fire hydrant(s) at location(s) to be determined jointly by the Fire Department and the City of Morgan Hill Public Works Department. Maximum hydrant spacing shall be 250 feet and the minimum single flow hydrant shall be 1687 GPM at 20 psi residual pressure. If fire hydrants are already in place, include civil drawings showing location of all hydrants with the building permit submittal. **(CFC 507)**

5. Fire Apparatus (Ladder Truck) Access Roads Required. Provide access roadways with a paved all weather surface and a minimum unobstructed width of 30 feet, vertical clearance of 13 feet, 6 inches, minimum circulating turning radius of 23 feet inside and 36 feet outside, a maximum slope of 10% and vehicle loading of 72,000 pounds. **(CFC section 503 as amended by MHMC 15.44.140)**

6. Timing of Required Roadway/Driveway Installations. Prior to the commencement of combustible construction, the required roadway/driveway installations, up through first lift of asphalt, shall be in place, inspected, and accepted by the City of Morgan Hill unless otherwise approved in writing by the Fire Marshal. Bulk combustible construction materials shall not be delivered to the construction site until installations are completed as stated above. During construction, emergency access roads shall be maintained clear and unimpeded. Issuance of building permits may be withheld until installations are completed. **(CFC Chapter 14 as amended by MHMC 15.44.180)**

7. Timing of Required Water Supply Installations. Prior to the commencement of combustible construction, the required Fire Hydrant and Water Supply installations shall be in place, inspected, tested, and accepted by the Fire Department and the City of Morgan Hill, unless otherwise approved in writing by the Fire Marshal. Bulk construction materials may not be delivered to the construction site until installations are completed as stated above. Clearance for building permits may be held until installations are completed. **(CFC Chapter 14 as amended by MHMC 15.44.180)**

8. Fire Lane Marking Required. Provide marking for all roadways within the project. Markings shall be per fire department specifications. Installations shall also conform to Local

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Government Standards and the City of Morgan Hill Standard Details and Specifications 11-F. **(CFC section 503)**

9. Conditions contained within this standard conditions checklist shall be restated as "notes" on all pending and future plan submittals, and any referenced diagrams shall be reproduced onto the future plan submittal.

PACIFIC GAS & ELECTRIC (PG&E)

I. UTILITY ACCESS

A. Development plans shall provide for unrestricted utility access and avoid encroachments that might impair the safe and reliable maintenance and operation of PG&E's facilities. Examples of activities which could have an impact on PG&E facilities include permanent/temporary changes in grade over or under the facilities; construction of structures within or adjacent to PG&E easements; and planting of certain types of vegetation over or underneath gas and electric facilities respectively. Developers shall be responsible for the costs associated with the relocation of existing PG&E facilities to accommodate the proposed development **(PG&E)**.

Attachment: AAE2017-0034 SD Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

RESOLUTION NO. 18-XXX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF MORGAN HILL RECOMMENDING APPROVAL OF AN ADDENDUM TO A MITIGATED NEGATIVE DECLARATION AND AN AMENDMENT TO A PLANNED DEVELOPMENT MASTER PLAN FOR "THE VILLAGE" LOCATED ON THE SOUTHEAST CORNER OF BUTTERFIELD BOULEVARD AND COCHRANE ROAD (APN's 726-25-035 AND 726-32-021)

WHEREAS, the City Council at their regular meeting of August 8, 2014, adopted Ordinance 2109 N.S. which approved a PD Master Plan and development standards for the Morgan Hill Business Park Planned Unit Development;

WHEREAS, Evergreen Development Co**.** proposes to develop the property, identified by Assessor Parcel Number(s) 726-25-035 and 726-32-021, on the southeast corner of Butterfield Boulevard and Cochrane Road, with a commercial development;

WHEREAS, said proposal requires the adoption of an amendment to the PD Master Plan prior to development on the site;

WHEREAS, findings must be made pursuant to Section 18.114.060 to support a request for an amendment to a PD Master Plan, and any Plan shall be found consistent with such findings;

WHEREAS, such request was considered by the Planning Commission at their regular meeting of July 24, 2018 at which time the Planning Commission recommended approval of Zoning Amendment application AAE2017-0035, amending application ZA 13-12; and

WHEREAS, testimony received at a duly-noticed public hearing, along with exhibits and drawings and other materials have been considered in the review process.

NOW, THEREFORE, THE MORGAN HILL PLANNING COMMISSION DOES RESOLVE AS FOLLOWS:

SECTION 1. The proposed zoning amendment is consistent with the General Plan. The development plan established by this amended PD Master Plan will define an orderly and logical development plan and establish uses that are supportive of the surrounding development and future development permitted in the Morgan Hill Business Park PUD.

SECTION 2. The proposed project will not be detrimental to the public welfare, will be in the best interests of the city and will be in keeping with the general intent and spirit of the zoning regulations of the City of Morgan Hill, with the City of Morgan Hill General Plan and with any applicable plans adopted by the city.

SECTION 3. The Planning Commission of the City of Morgan Hill hereby finds that, on the basis of the whole record before it, there is no substantial evidence that the project as currently proposed will have a significant effect on the environment beyond

Attachment: AAE2017-0035 ZA Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

what was anticipated in the previously adopted Mitigated Negative Declaration (June 24, 2014) and the project specific Addendum to the Mitigated Negative Declaration prepared, and this finding reflects the Planning Commission's independent judgment and analysis; therefore, the Planning Commission recommends approval of the addendum to the Mitigated Negative Declaration. The custodian of the documents or other material which constitute the record shall be the Development Services Department.

SECTION 4. The Planning Commission hereby recommends approval of a PD Master Plan, on file at the Development Services Department date stamped June 20, 2018, entitled "Amended Tentative Map Evergreen Village" prepared by MH Engineering and the landscape plans entitled "Morgan Hill Development" prepared by Reed Associates, dated June 29, 2018. The Master Site plan and Landscape Plans are attached as Exhibit A.

SECTION 5. The Planning Commission hereby recommends approval of development standards for "The Village" as attached as Exhibit B.

PASSED AND ADOPTED THIS 24th DAY OF JULY, 2018, AT A REGULAR MEETING OF THE PLANNING COMMISSION BY THE FOLLOWING VOTE:

AYES: COMMISSIONERS:

NOES: COMMISSIONERS:

ABSTAIN: COMMISSIONERS:

ABSENT: COMMISSIONERS:

ATTEST: **APPROVED:**

JENNA LUNA, Deputy City Clerk **LIAM DOWNEY, Chair**

R:\PLANNING\WP51\Zoning Amendment\2013\ZA 13-12 Cochrane-So Bay\AAE2017-0035\PC Resolitions\AAE2017-0035 ZA Ammend Res.doc

Attachment: AAE2017-0035 ZA Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Exhibit A
Morgan Hill Business Ranch
"The Village" Site Plan

Attachment: AAE2017-0035 ZA Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Attachment: AAE2017-0035 ZA Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Exhibit B
Morgan Hill Business Ranch
"The Village" PUD Development Standards

PUD Location:

The 20-acre "The Village" is located in the southeast quadrant of Butterfield Blvd. and Cochrane Rd., and bound by Jarvis Dr. to the south. APN's 726-25-035 & 726-32-021

PUD Objective:

The objective of planned development is to create and maintain a broad range of general office, medical office, light R & D and retail uses that would be supportive of the surrounding businesses, residential uses and the residents of the City of Morgan Hill.

Site development standards:

A. Maximum building size shall be per the approved PD Master Plan
B. Building location shall be per the approved PD Master Plan
C. Building setbacks shall be per the approved PD Master Plan
D. Maximum building height:
    a. Hotels - 60 ft., including all architectural features and mechanical equipment.
    b. All Others - 50 ft.
E. Any subdivision must be consistent with the approved PD Master Plan

The following uses as defined in the Morgan Hill Municipal Code shall be permitted or conditional uses within The Village precise development boundary:

Permitted and Conditional Uses "The Village"

Use	Staff Recommendation
Business Support Services	P
Commercial Services	P
Commercial Recreation, Indoor <15,000 sq. ft.	P
Commercial Recreational, Indoor >15,000 sq. ft.	P
Drive-Thru (maximum 3)	P
Drive-Thru (4 or more)	C
Banks and Financial Institutions	P
Grocery Store	P
Home Improvement Center	P
Hotels & Motels	P
Professional Offices	P
Personal Services	P
Research & Development	P
Restaurants, fast food	P
Restaurants, sit-down	P

Use	Staff Recommendation
General Retail	P
Convenience Markets	P
Fuel and Service Station	P for parcel 5, C for additional parcels
Vehicle Repair and Maintenance, Minor	P for parcel 7, C for additional parcels
Residential Care Facility	P for parcel 12 C for additional parcels
Nursing Homes and Long-Term Care	P for parcel 12 C for additional parcels
Day Care Centers	C
Day Care Centers, Adult	P if ancillary to Elderly/Assisted Living Use, C if not ancillary
Kennel	C

P = Permitted Use
C = Conditional Use

Permitted and Conditionals Uses shall be defined in accordance with Morgan Hill Municipal Code section 18.08.040. Uses not specifically listed may be considered as either permitted or conditional by the Planning Commission if found to be consistent in nature with other listed permitted or conditional uses.

All uses, whether permitted or conditional, shall be conducted in such a manner so as to avoid any nuisance, hazard or commonly recognized offensive condition or characteristic, as established by the commercial and industrial performance standards of Morgan Hill Municipal Code Chapter 18.76.

Additional required conditions.

A. Parking standards for all uses within The Village PD shall be consistent with Chapter 18.72 Parking and Loading of the Morgan Hill Municipal Code.

B. Sign limitations shall be satisfied in accordance with Chapter 18.88 of the Morgan Hill Municipal Code.

C. Design Permit approval by the Community Development Director shall be required of all new construction, additions or substantial building or site alterations

D. All development and landscaping shall be consistent with Chapter 18.108.040 Design Permit of the Morgan Municipal Code.

E. Design Permit approval by the community development director shall be required of all substantial landscape alterations.

Attachment: AAE2017-0035 ZA Resolution [Revision 1] (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

ORDINANCE NO. 2109, NEW SERIES

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MORGAN HILL AMENDING THE MORGANHILL BUSINESS PARK PLANNED UNIT DEVELOPMENT ZONING DISTRICT TO INCORPORATE A PRECISE DEVELOPMENT PLAN FOR THE 20.25-ACRE SITE LOCATED AT THE SOUTHEASTERLY CORNER OF COCHRANE ROAD AND BUTTERFIELD BLVD.

THE CITY COUNCIL OF THE CITY OF MORGAN HILL DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. AMENDING THE PLANNED UNIT DEVELOPMENT DISTRICT established under Ordinance No. 545, New Series located on the south side of Cochrane Road between Monterey Rd. and US 101 for a 20.25-acre site located on the southeasterly corner of Cochrane Road and Butterfield Blvd. for Zoning Amendment application ZA-13-12: Cochrane-South Bay Dev. (APNS 726-32-021 and 726-25-035).

SECTION 2. INCORPORATING THE DEVELOPMENT PLAN BY REFERENCE. There hereby is attached hereto as Exhibit "A" and made a part of this ordinance, a precise development plan as contained in that certain series of documents date stamped June 18, 2014, on file at the Community Development Department, entitled "The Village" prepared by Kenneth Rodrigues & Partners Inc. and BKF Engineers/ Surveyors/Planners. These documents, as amended by site and architectural review, show the location and relative sizes of all proposed buildings, vehicle and pedestrian circulation ways, parking areas, landscape areas and any other purposeful uses on the project.

SECTION 3. DESCRIPTION OF LAND IN REZONING. There hereby is attached hereto as Exhibit "B" are the development standards for "The Village" and made a part of this ordinance which defines the development standard and land uses allowed or conditionally allowed within the boundaries of the described parcel of land.

SECTION 4. FINDING OF CONSISTENCY WITH THE GENERAL PLAN. The City Council hereby finds that the amendments established by this ordinance as herein described are compatible with the goals, objectives, policies and land use designation of the General Plan of the City of Morgan Hill. The development plan established by this zoning amendment will define an orderly and logical development plan and establish uses that are supportive of the surrounding development and future development permitted in the Morgan Hill Business Park PUD. The Council further finds that the proposed amendments are required in order to serve the public health, convenience and general welfare as provided by Section 18.62.070 of the Morgan Hill Municipal Code.

SECTION 5. MITIGATED NEGATIVE DECLARATION. The City Council hereby finds that, on the basis of the whole record before it (including the Initial Study and any comments received), there is no substantial evidence that the project will

Attachment: ORD2109 - Cochrane-South Bay (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

have a significant effect on the environment and that the Mitigated Negative Declaration reflects the City Council's independent judgment and analysis, and that the Mitigated Negative Declaration was adopted prior to action taken to adopt the Ordinance. The custodian of the documents or other material which constitute the record shall be the Community Development Department.

SECTION 6. SEVERABILITY. If any part of this Ordinance is held to be invalid or inapplicable to any situation by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance or the applicability of this Ordinance to other situations.

SECTION 7. EFFECTIVE DATE; PUBLICATION. This Ordinance shall take effect thirty (30) days after the date of its adoption. The City Clerk is hereby directed to publish this ordinance pursuant to §36933 of the Government Code.

THE FOREGOING ORDINANCE WAS INTRODUCED AT A MEETING OF THE CITY COUNCIL HELD ON THE 16TH DAY OF JULY 2014, AND WAS FINALLY ADOPTED AT A MEETING OF THE CITY COUNCIL HELD ON THE 8th DAY OF AUGUST 2014, AND SAID ORDINANCE WAS DULY PASSED AND ADOPTED IN ACCORDANCE WITH LAW BY THE FOLLOWING VOTE:

AYES: COUNCILMEMBERS: Larry Carr, Rich Constantine, Marilyn Librers, Gordon Siebert, Steve Tate
NOES: COUNCILMEMBERS: None
ABSTAIN: COUNCILMEMBERS: None
ABSENT: COUNCILMEMBERS: None

ATTEST:
IRMA TORREZ, City Clerk

APPROVED:
STEVE TATE, Mayor

CERTIFICATION

I, IRMA TORREZ, CITY CLERK OF THE CITY OF MORGAN HILL, CALIFORNIA, do hereby certify that the foregoing is a true and correct copy of Ordinance No. 2109, New Series, adopted by the City Council of the City of Morgan Hill, California at its regular meeting held on the 8th day of August, 2014.

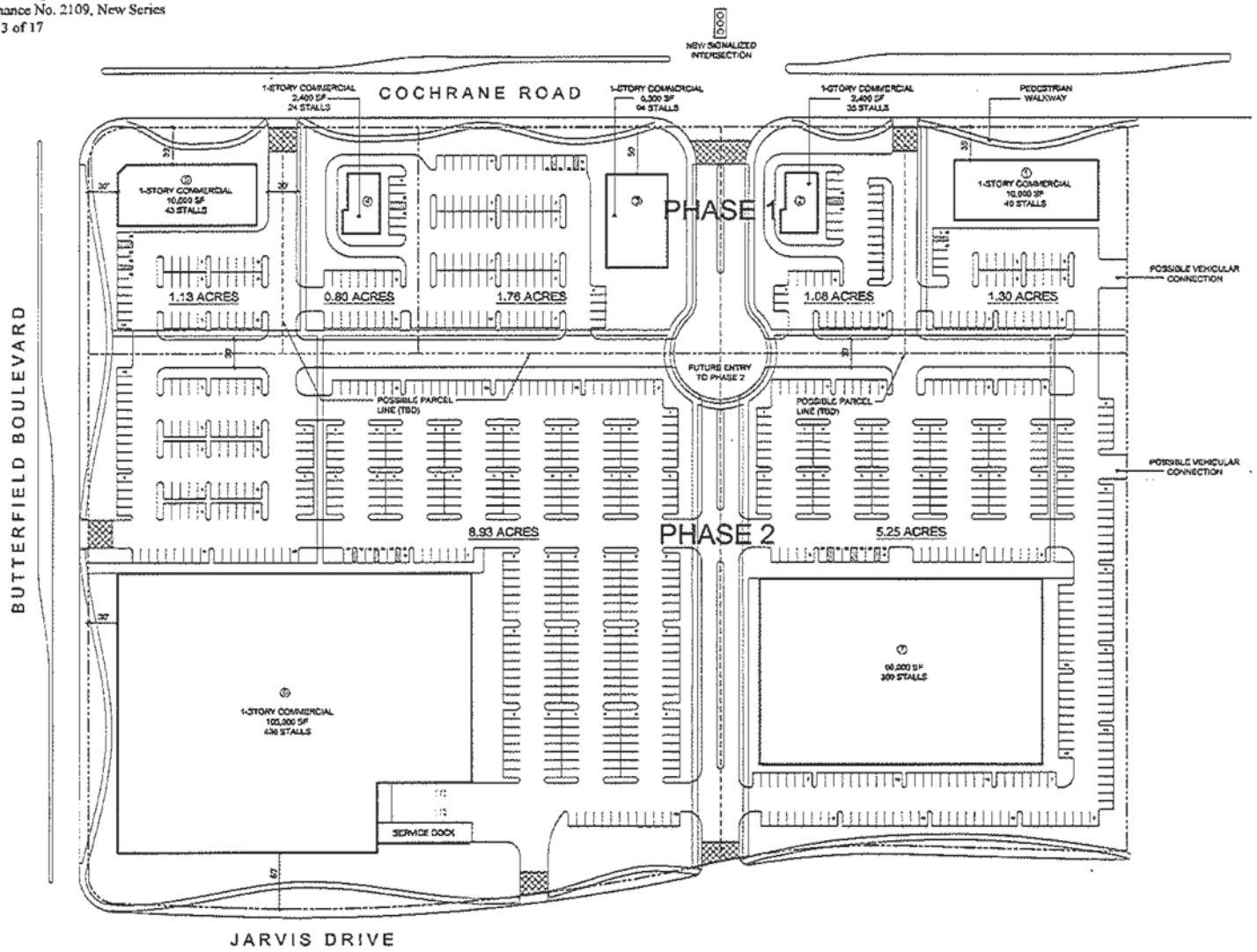
WITNESS MY HAND AND THE SEAL OF THE CITY OF MORGAN HILL.

DATE: 10/22/2014

IRMA TORREZ, City Clerk

Attachment: ORD2109 - Cochrane-South Bay (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

EXHIBIT A



THE VILLAGE

MORGAN HILL, CALIFORNIA

SOUTH BAY DEVELOPMENT
KENNETH RODRIGUES & PARTNERS, INC.

TABULATION

TOTAL SITE AREA	20.25 ACRES

PHASE 1

SITE AREA	6.07 ACRES
BUILDING AREA	31,300 SF
PARKING	236 STALLS
RATIO	7.5 / 1000

PHASE 2

SITE AREA	14.18 ACRES
BUILDING AREA	165,000 SF
PARKING	736 STALLS
RATIO	4.5 / 1000

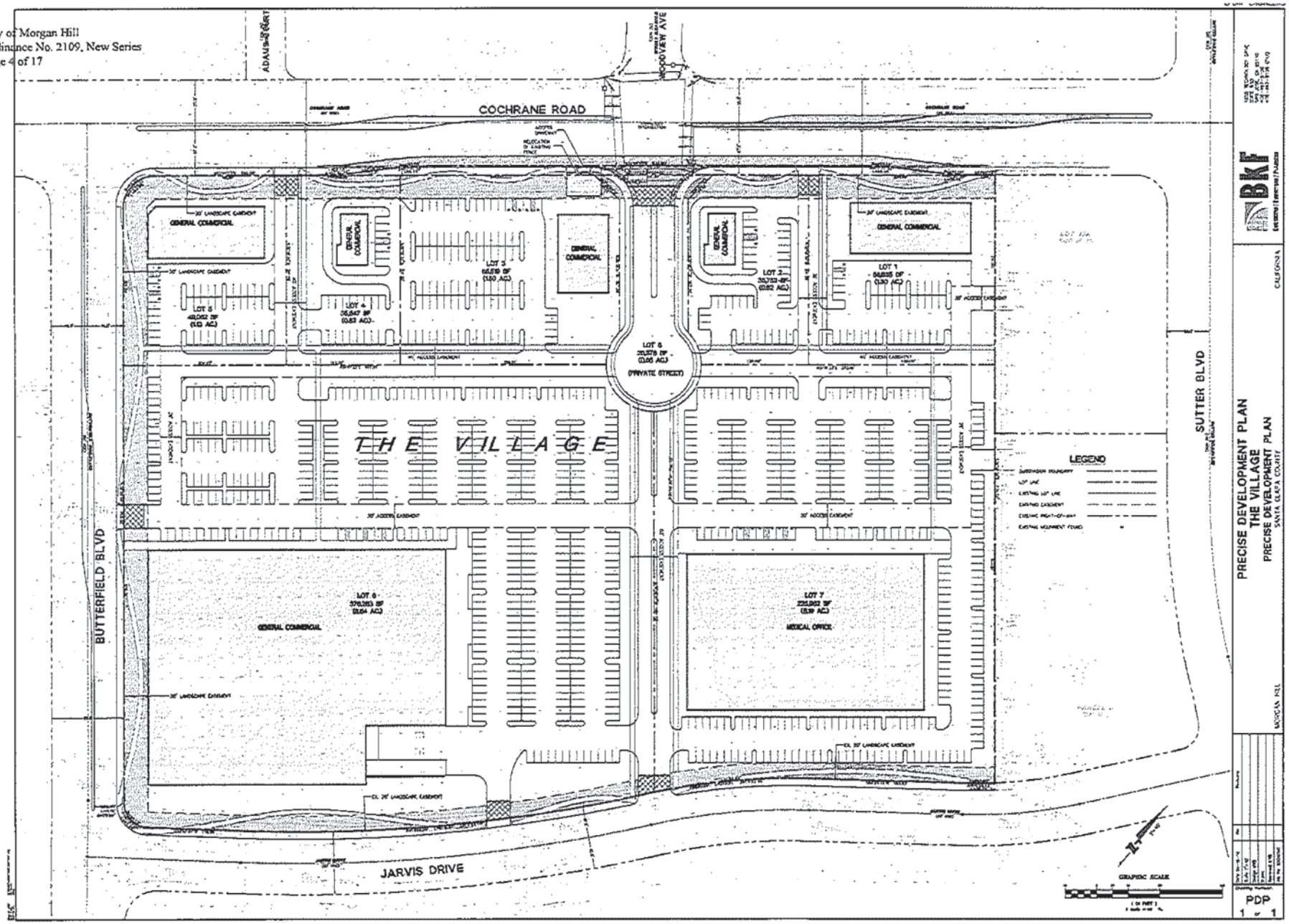
DEVELOPMENT SERVICES
JUN 18 2014
CITY OF MORGAN HILL

MASTER SITE PLAN

N

0 25' 50' 100' 150' 200'
1" = 50'
04.10.14

Attachment: ORD2109 - Cochrane-South Bay (1846 : AAE2017-0034 & AAE2017-0035 Amendment to


COCHRANE ROAD
MOORVIEW AVE
ADAMS COURT
BUTTERFIELD BLVD
SUTTER BLVD
JARVIS DRIVE
THE VILLAGE
LOT 6
(PRIVATE STREET)
LOT 8
GENERAL COMMERCIAL
LOT 7
MEDICAL OFFICE
LEGEND
GRAPHIC SCALE
PRECISE DEVELOPMENT PLAN
THE VILLAGE
PRECISE DEVELOPMENT PLAN
SANTA CLARA COUNTY
PDP

TENTATIVE SUBDIVISION MAP
THE VILLAGE
COMMERCIAL DEVELOPMENT

CITY OF MORGAN HILL, SANTA CLARA COUNTY, CALIFORNIA

SUBDIVISION NO. _____

ORDINANCE NO. _____

BENCH MARK

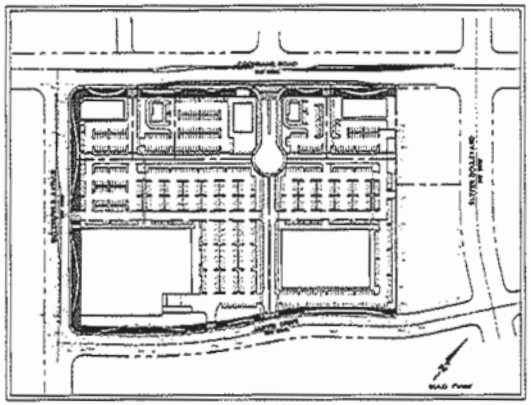
TOP OF WALK 5' EAST OF SOUTHWEST CORNER OF BRIDGE NO 37-341 AT COCHRANE ROAD AND SOUTH VALLEY FREEWAY (ESTABLISHED BY HOLTE & ASSOCIATES)
FEMA (FIRM) BM #943, ELEVATION 377.58' NGVD29

FLOOD ZONE DATA

THIS SITE IS IN FLOOD ZONE "X"; AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 06085C0003C, DATED DECEMBER 22, 1998.

NOTES

1. NON-EXCLUSIVE RECIPROCAL EASEMENTS FOR INGRESS AND EGRESS AND USE FOR VEHICULAR AND PEDESTRIAN PASSAGE AND PARKING ACROSS ALL ROADS, PARKING AREAS AND ACCESS ENTRIES TO AND FROM PUBLIC THOROUGHFARES AS SUCH ROADS, PARKING AREAS AND ENTRIES SHALL BE GRANTED ON THE FINAL MAP FOR SUBJECT SITE FOR THE BENEFIT OF ALL LOTS.
2. NON-EXCLUSIVE RECIPROCAL EASEMENTS FOR UTILITIES SHALL BE GRANTED ON THE FINAL MAP FOR SUBJECT SHALL BE GRANTED ON THE FINAL MAP FOR SUBJECT SITE FOR THE BENEFIT OF ALL LOTS.



VICINITY MAP

GENERAL NOTES

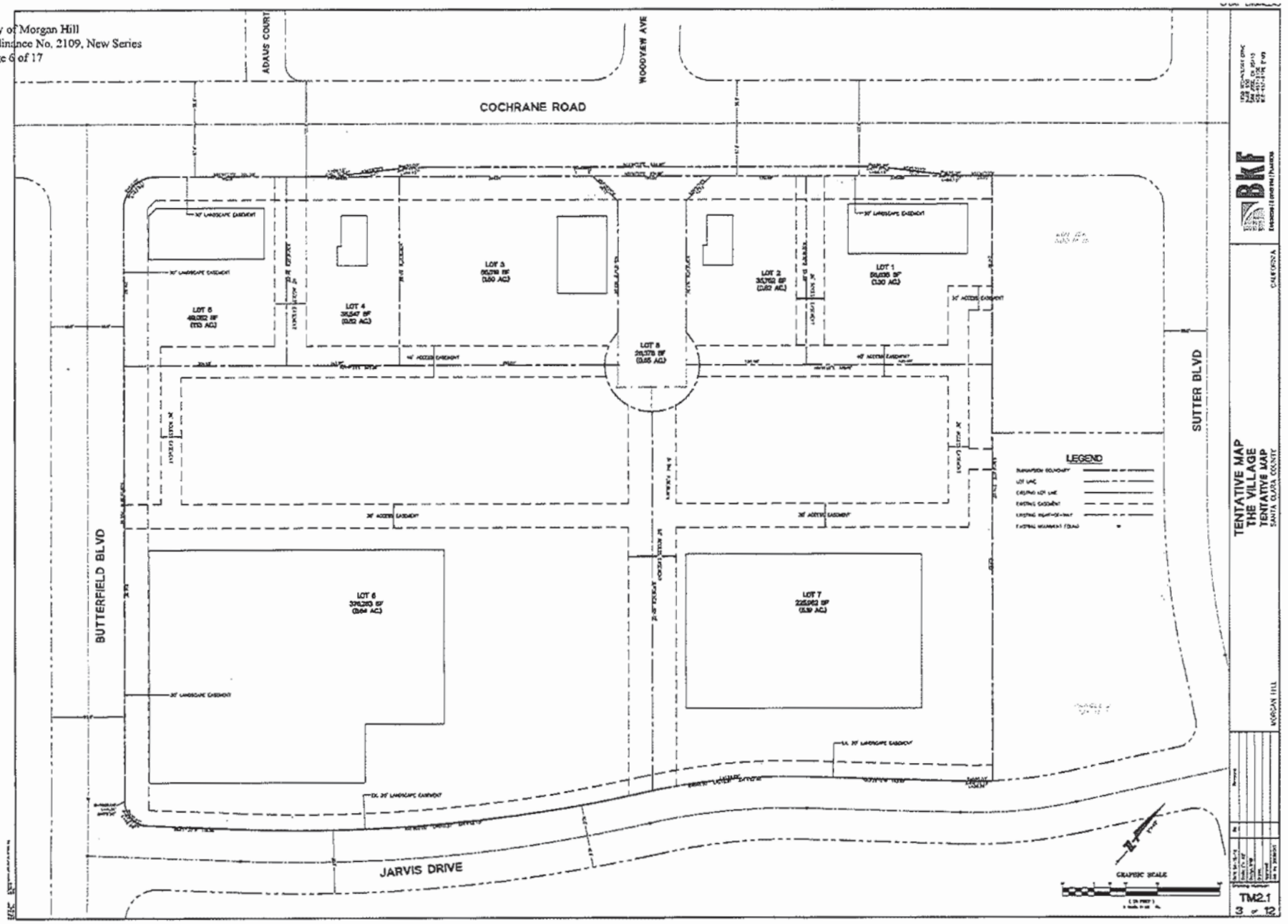
OWNER:	Cochrane Road Investors, LLC c/o South Bay Redevelopment Company 1590 Del Avenue Campbell, CA 95008 (408) 436-3631 Attn: David Andra
SUBDIVIDER:	Cochrane Road Investors, LLC c/o South Bay Redevelopment Company 1590 Del Avenue Campbell, CA 95008 (408) 436-3631 Attn: David Andra
ENGINEER:	BKF Engineers 1650 Technology Drive, Suite 650 San Jose, CA 95110 Phone - (408) 467-9100 Fax - (408) 467-9199 Attn: Walter M. Burke, P.L.S. 5784
PROPERTY DESCRIPTION:	APN 726-28-020 & 726-32-029
EXISTING LAND USE:	Vacant
PROPOSED LAND USE:	Commercial
EXISTING ZONING:	PUD - Planned Unit Development District
PROPOSED ZONING:	PUD - Planned Unit Development District
WATER SUPPLY:	City of Morgan Hill
NO. OF LOTS:	7
TOTAL ACREAGE:	20.43 Ac.
PUBLIC DEDICATION (FUTURE):	0.15 Ac.
NET ACREAGE:	20.34 Ac.

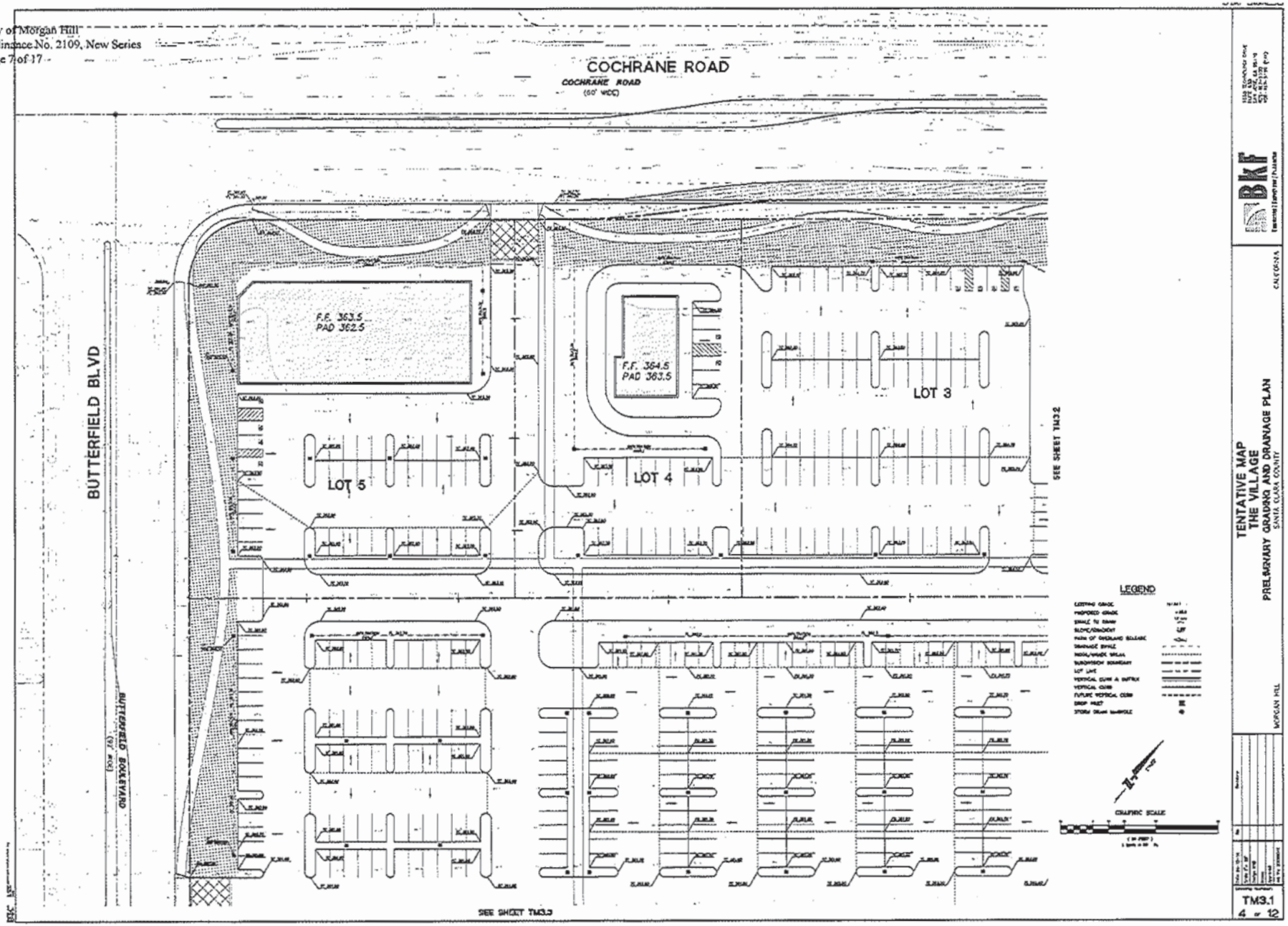
TABLE OF CONTENTS

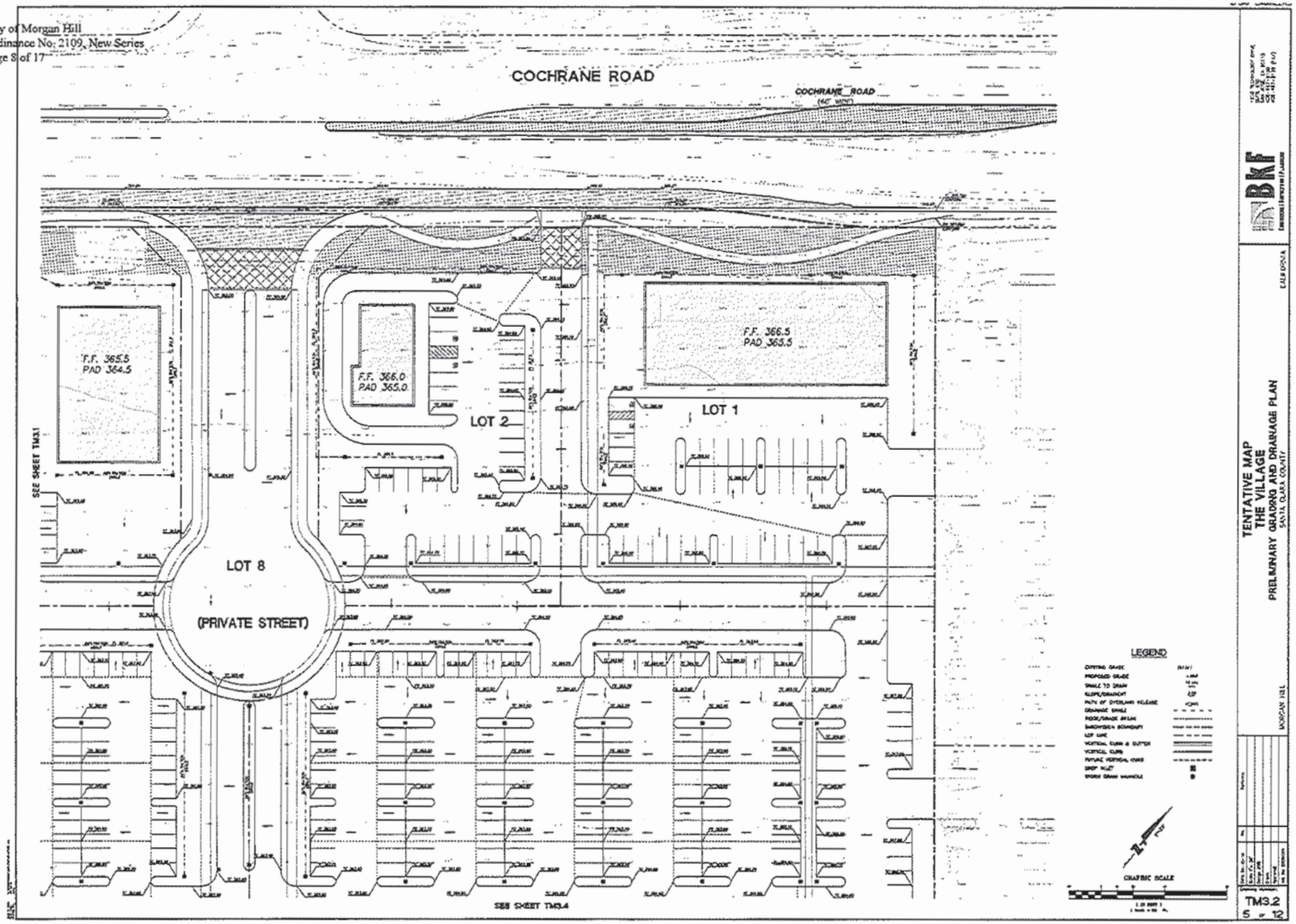
TM1.0	Title Sheet
TM2.0	Development Map
TM2.1	Tentative Map
TM3.1-3.4	Preliminary Grading and Drainage Plan
TM4.1-4.4	Preliminary Utility Plan
TM5.0	Sections

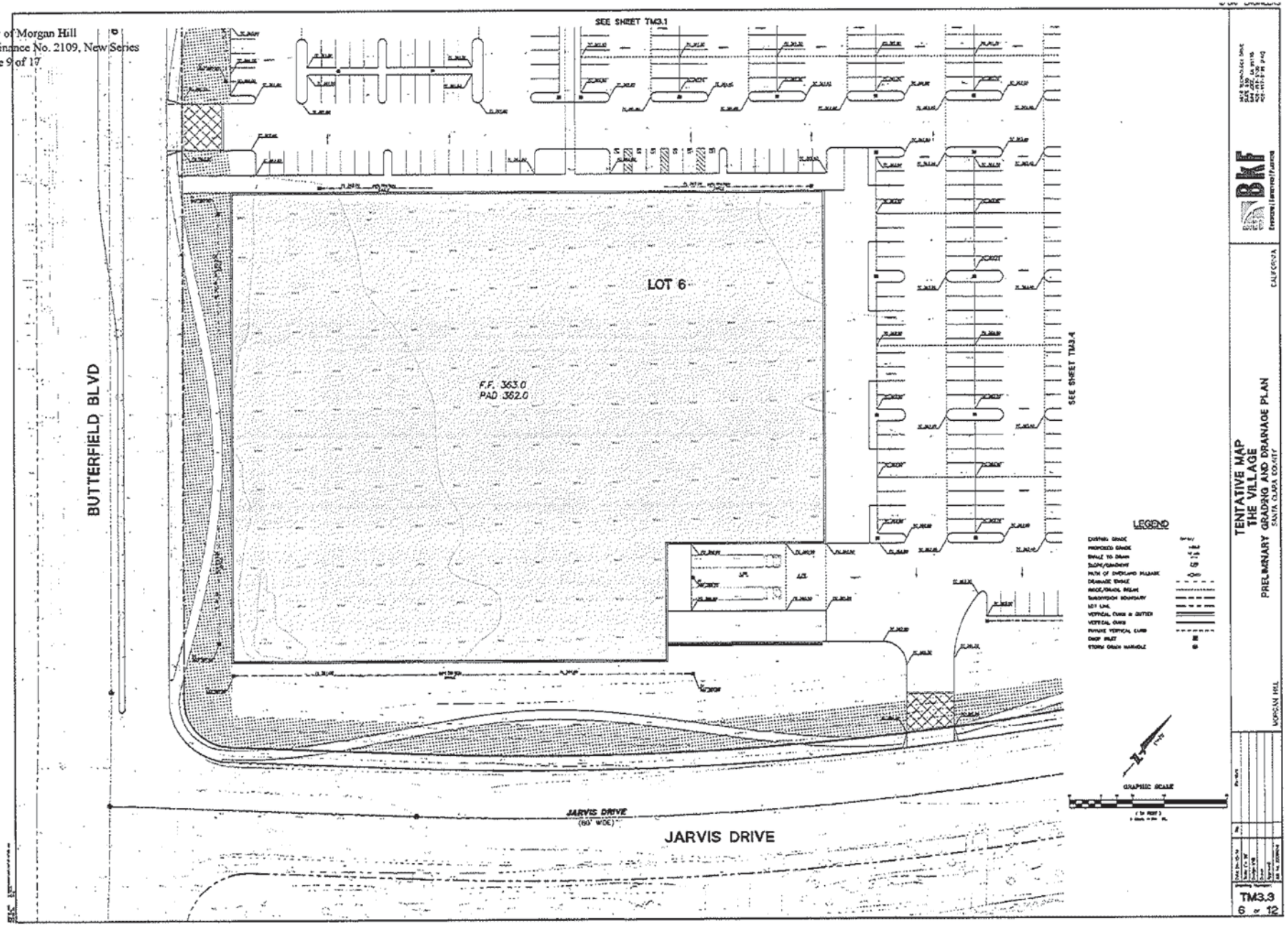
BKF Engineers
TENTATIVE MAP
THE VILLAGE
TITLE SHEET
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL
TM1.0
1 of 12

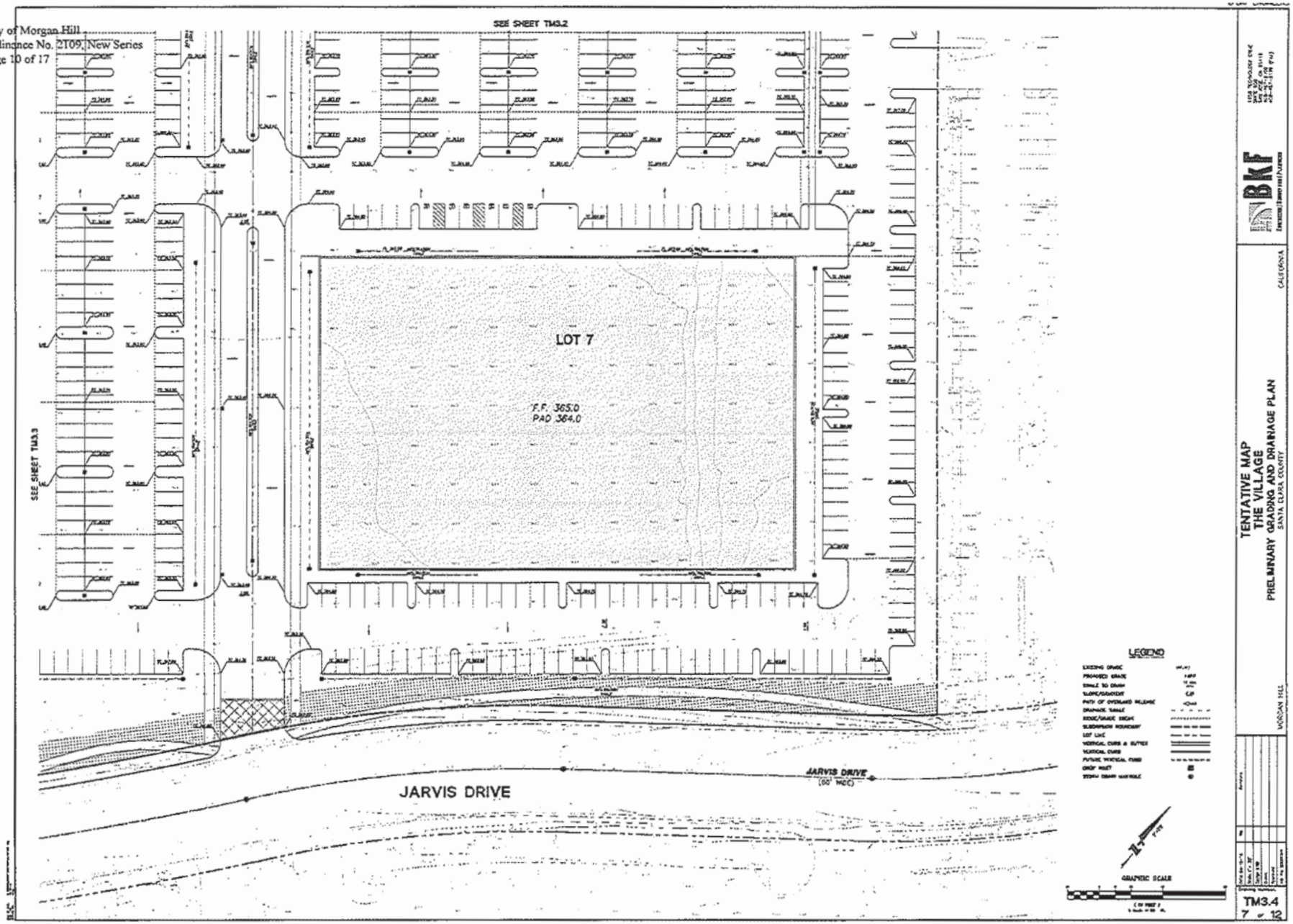
Attachment: ORD2109 - Cochrane-South Bay (1846 : AAE2017-0034 & AAE2017-0035 Amendment to

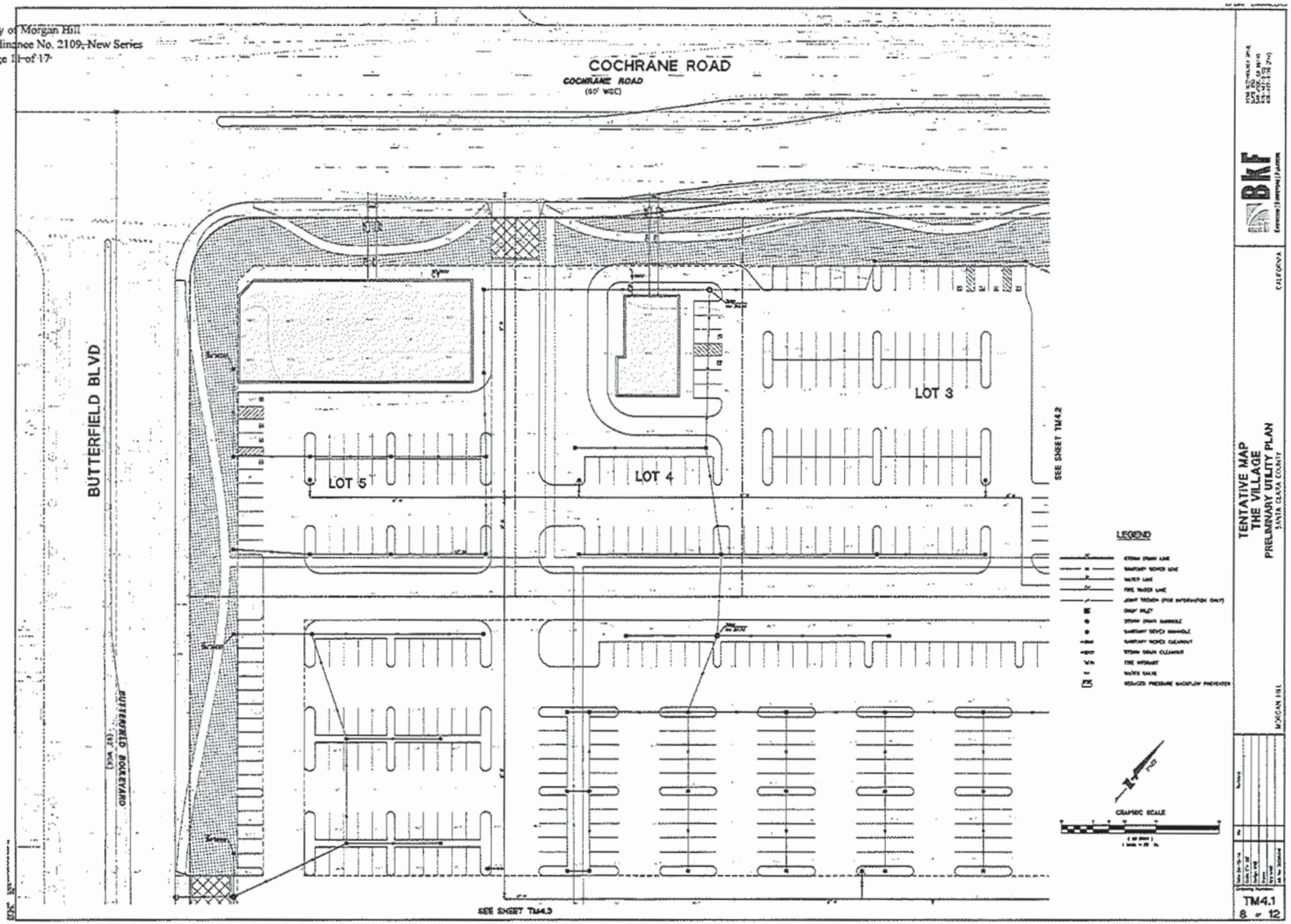

ADAUS COURT
WOODVIEW AVE
COCHRANE ROAD
BUTTERFIELD BLVD
SUTTER BLVD
JARVIS DRIVE
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
TENTATIVE MAP
SANTA CLARA COUNTY
MORGAN HILL
TM2.1
3 of 12

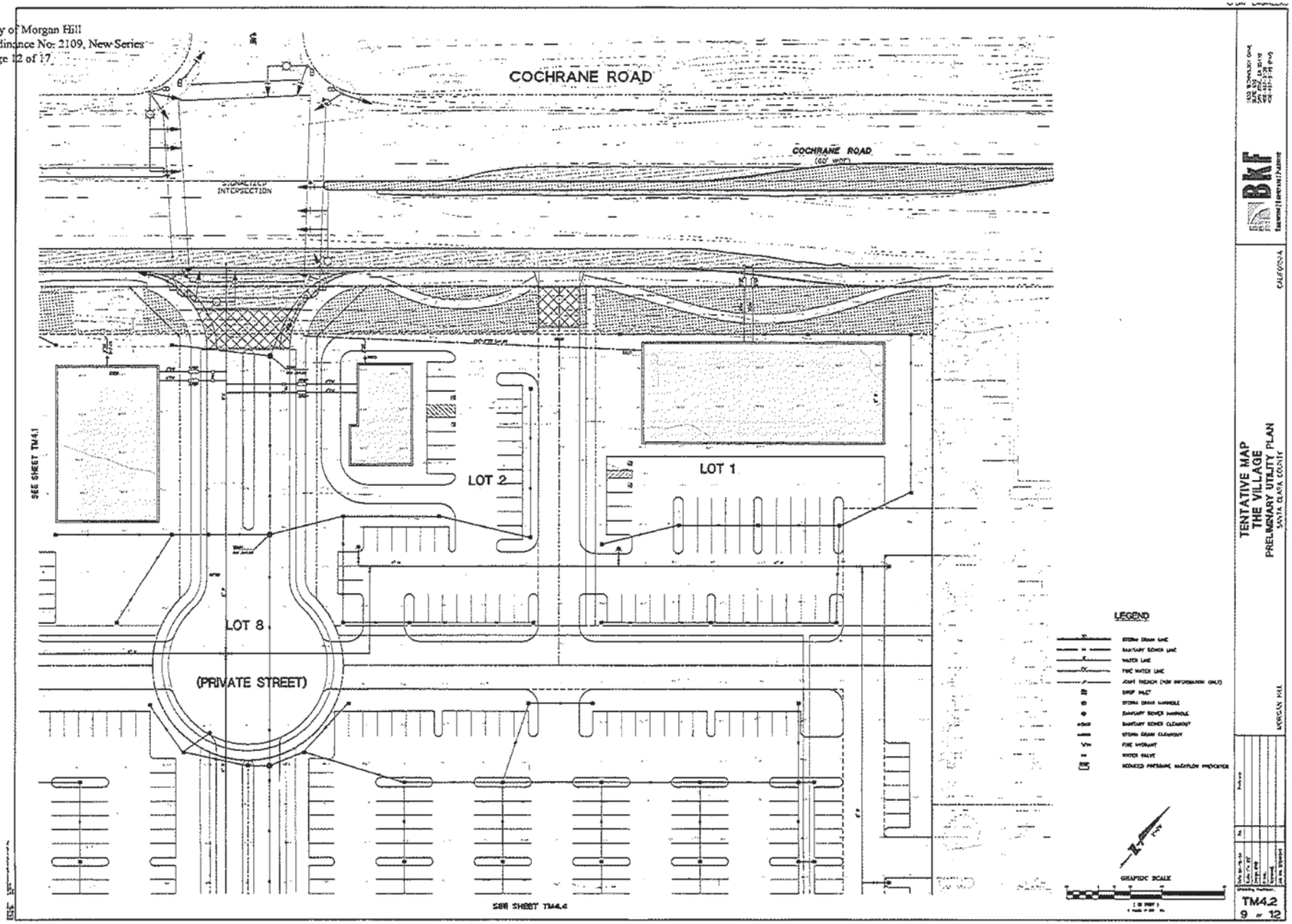

COCHRANE ROAD
COCHRANE ROAD
(60' WIDE)
BUTTERFIELD BLVD
BUTTERFIELD BOULEVARD
(70' WIDE)
F.F. 363.5
PAD 362.5
F.F. 364.5
PAD 363.5
LOT 3
LOT 4
LOT 5
SEE SHEET TM3.2
SEE SHEET TM3.3
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY GRADING AND DRAINAGE PLAN
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL
BKF
TM3.1
4 OF 12

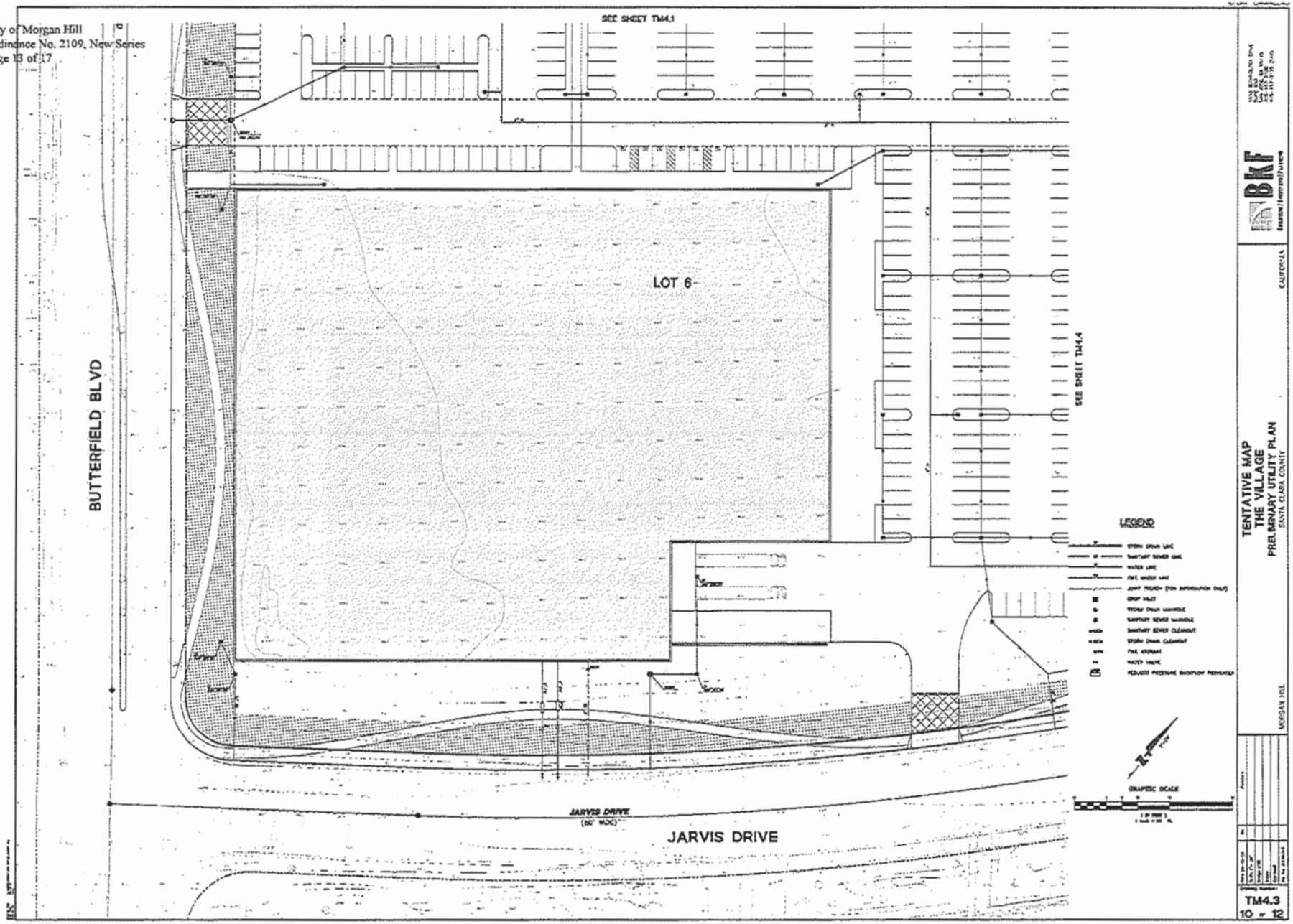

COCHRANE ROAD
COCHRANE ROAD
(60' WIDE)
F.F. 365.5
PAD 364.5
F.F. 366.0
PAD 365.0
LOT 2
F.F. 366.5
PAD 365.5
LOT 1
LOT 8
(PRIVATE STREET)
SEE SHEET TM3.1
SEE SHEET TM3.4
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY GRADING AND DRAINAGE PLAN
SANTA CLARA COUNTY
MORGAN HILL
BKF
TM3.2
5 of 12

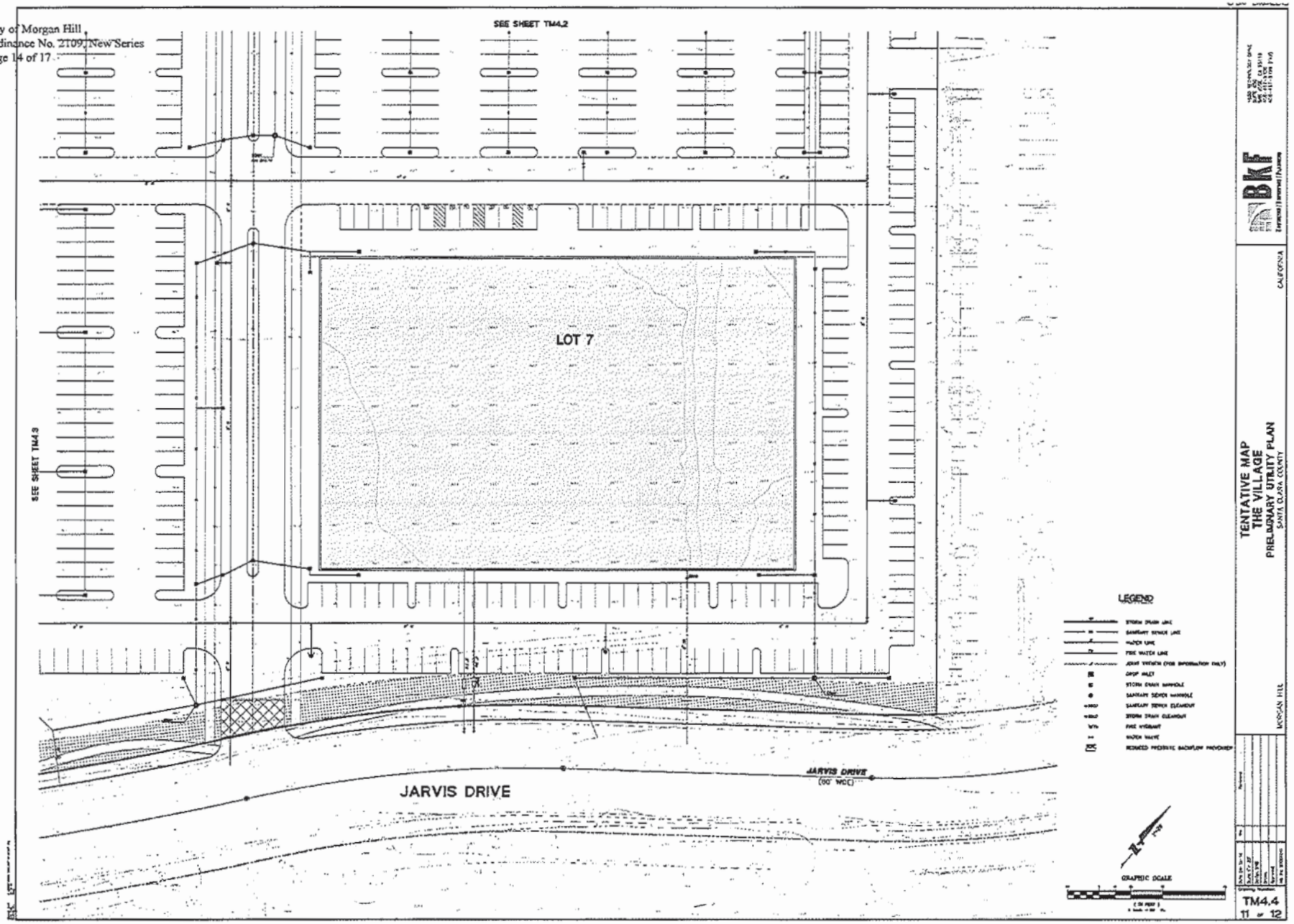

SEE SHEET TM3.1
BUTTERFIELD BLVD
LOT 6
F.F. 363.0
PAD 362.0
SEE SHEET TM3.4
JARVIS DRIVE
(80' WIDE)
JARVIS DRIVE
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY GRADING AND DRAINAGE PLAN
SANTA CLARA COUNTY
MORGAN HILL
CALIFORNIA
BKF
TM3.3
6 of 12

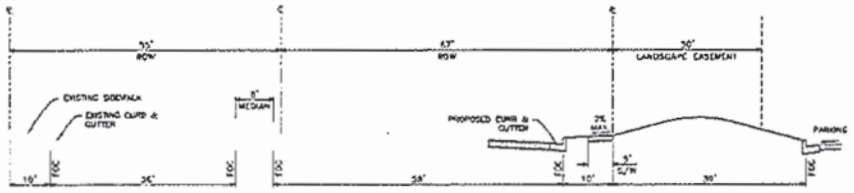

SEE SHEET TM3.2
SEE SHEET TM3.3
LOT 7
F.F. 365.0
PAD 364.0
JARVIS DRIVE
JARVIS DRIVE
(60' HCC)
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY GRADING AND DRAINAGE PLAN
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL
BKF
TM3.4
7 of 12


COCHRANE ROAD
COCHRANE ROAD
(90' WIDE)
BUTTERFIELD BLVD
BUTTERFIELD BOULEVARD
(100' WIDE)
LOT 3
LOT 4
LOT 5
SEE SHEET TM4.2
SEE SHEET TM4.3
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY UTILITY PLAN
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL
BKF
TM4.1
8 of 12

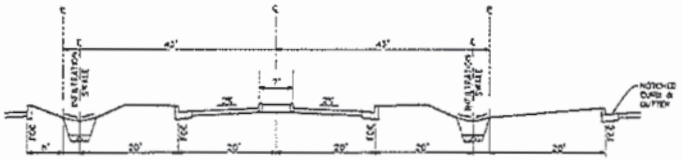

COCHRANE ROAD
COCHRANE ROAD
(60' WIDE)
SIGNALIZED INTERSECTION
SEE SHEET TM4.1
LOT 1
LOT 2
LOT 8
(PRIVATE STREET)
SEE SHEET TM4.2
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY UTILITY PLAN
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL
TM4.2
9 OF 12


SEE SHEET TM4.1
LOT 6
BUTTERFIELD BLVD
SEE SHEET TM4.4
LEGEND
JARVIS DRIVE
(80' WIDE)
JARVIS DRIVE
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY UTILITY PLAN
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL
TM4.3
10 OF 12

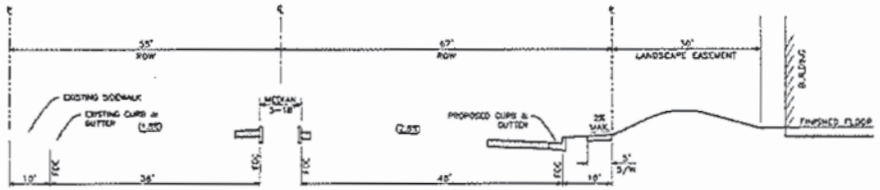

SEE SHEET TM4.2
SEE SHEET TM4.3
LOT 7
JARVIS DRIVE
JARVIS DRIVE
(90' WIDE)
LEGEND
GRAPHIC SCALE
TENTATIVE MAP
THE VILLAGE
PRELIMINARY UTILITY PLAN
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL
BKF
TM4.4
11 of 12



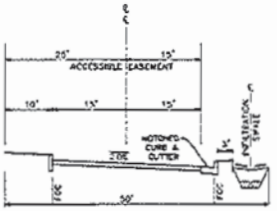
COCHRANE ROAD
SECTION A-A
N.T.S.



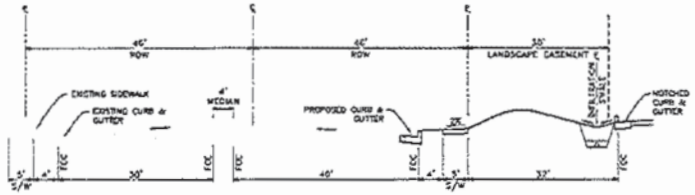
SECTION C-C
N.T.S.



SECTION B-B
N.T.S.



SECTION D-D, E-E
N.T.S.



BUTTERFIELD BLVD
SECTION F-F
N.T.S.

TENTATIVE MAP
THE VILLAGE
SECTIONS
SANTA CLARA COUNTY
CALIFORNIA
MORGAN HILL

BKF

TM5.0
12 of 12

Exhibit B
Morgan Hill Business Ranch
"The Village" PUD Development Standards

PUD Location:

The 20-acre "The Village" is located in the southeast quadrant of Butterfield Blvd. and Cochrane Rd., and bound by Jarvis Dr. to the south. APN's 726-25-035 & 726-32-021

PUD Objective:

The objective of planned development is to create and maintain a broad range of general office, medical office, light R & D and retail uses that would be supportive of the surrounding businesses, residential uses and the residents of the City of Morgan Hill.

Site development standards:

A. Maximum building size shall be per the approved Precise Development Plan
B. Building location shall be per the approved Precise Development Plan
C. Building setbacks shall be per the approved Precise Development Plan
D. Maximum building height: 50 ft.
E. Any subdivision must be consistent with the approved Precise Development Plan

The following uses as defined in Chapter 18.04 of the Morgan Hill Municipal Code shall be permitted within The Village precise development boundary:

Permitted Uses:

A. Business support services;
B. Commercial Services;
C. Commercial recreation, indoor, 3000 sq. ft. or less in size;
D. Drive –through restaurant (maximum of two);
E. Financial services;
F. Home Improvement Center;
G. Hotel/motel/lodging facilities;
H. Offices, Medical/Dental;
I. Offices, Administrative;
J. Offices, Professional;
K. Personal Services;
L. Research and development;
M. Restaurants, sit-down and fast food;
N. Retail, intensive (excluding convenience or specialty markets);

Permitted Uses shall be defined in accordance with Morgan Hill Municipal Code section 18.04. Uses not specifically listed may be found to be consistent in nature with other listed permitted uses in accordance with Municipal Code chapter 18.22.

Attachment: ORD2109 - Cochrane-South Bay (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

The following uses as defined in Chapter 18.04 of the Morgan Hill Municipal Code may be conditionally allowed in The Village precise development boundary, subject to issuance of a conditional use permit in accordance with Chapter 18.54 of the Morgan Hill Municipal Code:

Conditional Uses

A. Commercial recreation, indoor, greater than 3000 sq. ft. in size;
B. Congregate care for the elderly/assisted living facilities;
C. Convenience markets & specialty markets;
D. Day care centers and nursery school;
E. Day care centers, Adult;
F. Drive-in or drive through restaurant uses (beyond the 2 permitted);
G. Kennel;
H. Minor motor vehicle repair;
I. Nursing home or convalescent hospital;
J. Service station

Conditionals Uses shall be defined in accordance with Morgan Hill Municipal Code section 18.04. Uses not specifically listed may be found to be consistent in nature with other listed permitted or conditional uses in accordance with Municipal Code chapter 18.22.

All uses, whether permitted or conditional, shall be conducted in such a manner so as to avoid any nuisance, hazard or commonly recognized offensive condition or characteristic, as established by the commercial and industrial performance standards of Morgan Hill Municipal Code Chapter 18.48

Additional required conditions.

A. Parking standards for all uses within The Village PD shall be consistent with Chapter 18.50 Parking and Paving of the Morgan Hill Municipal Code.

B. Sign limitations shall be satisfied in accordance with Chapter 18.76 of the Morgan Hill Municipal Code.

C. Design permit approval by the community development director shall be required of all new construction, additions or substantial building or site alterations

D. All development and landscaping shall be consistent with Chapter 18.74 Design Review of the Morgan Municipal Code.

E. Design permit approval by the community development director shall be required of all substantial landscape alterations.

Attachment: ORD2109 - Cochrane-South Bay (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Table of Contents

Butterfield & Cochrane

Evergreen Village

Attachment: Evergreen Village - PD Narrative (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Planning Objectives

Evergreen intends to develop a first-rate shopping center offering lifestyle amenities to serve the community of Morgan Hill. Evergreen has a successful track record of developing shopping center sites throughout California, Arizona, and Colorado, which enables us to apply a diverse spectrum of knowledge regarding what works well and serves communities best. As a testament to our extensive retail experience, we have completed development projects across the United States in more than 175 municipalities.

We would like to apply our experience to the approximately 20-acre site at the Southeast corner of Butterfield & Cochrane. The site is bounded by industrial uses on the south, industrial and commercial uses on the north, commercial uses on the east, and residential on the west making this a transitional development project as we work to integrate it with these existing uses.

Based on feedback and continued discussions with the City, we feel that the site plan we are proposing allows for the highest functionality and developability of the site. There is strength in thoughtful vehicular movement, as well as extensive walkability between the varying portions of the site based on the intended uses.

We intend to bring appropriate and cohesive architecture to the development site that will embody the character of the City of Morgan Hill. We have established Design Guidelines that will reflect the colors, materials and architectural styles for the buildings in the development, as well as landscape, hardscape designs and materials palettes, that will be utilized for the development of the site.

Attachment: Evergreen Village - PD Narrative (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Development Standard Deviations

The current approved uses per the Morgan Hill Business Ranch "The Village" PUD Development Standards for this parcel are as follows:

Uses permitted (no conditional use permit required):

A. Business Support Services
B. Commercial Services
C. Commercial Recreation, indoor, 3,000 sq. ft. or less in size
D. Drive-through restaurant (maximum of two)
E. Financial services
F. Home Improvement Center
G. Hotel/motel/lodging facilities
H. Offices, Medical/Dental
I. Offices, Administrative
J. Offices, Professional
K. Personal Services
L. Research & Development
M. Restaurants, sit-down and fast food
N. Retail, intensive (excluding convenience or specialty markets)

Uses subject to issuance of a conditional use permit:

A. Commercial recreation, indoor, greater than 3,000 sq. ft. in size
B. Congregate care for the elderly/assisted living facilities
C. Convenience markets & specialty markets
D. Day care centers and nursery school
E. Day care centers, Adult
F. Drive-in or drive through restaurant uses (beyond 2 permitted)
G. Kennel
H. Minor vehicle repair
I. Nursing Home or convalescent hospital
J. Service station

Attachment: Evergreen Village - PD Narrative (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

Evergreen Village

With this application, we are requesting that the uses be amended as follows:

Uses permitted (no conditional use permit required):

A. Business Support Services
B. Commercial Services
C. Commercial Recreation, indoor, 3,000 sq. ft. or less in size
D. Commercial Recreation, indoor, greater than 3,000 sq. ft. in size
E. Drive-in/through establishments (maximum of three)
F. Financial services
G. Grocery Store
H. Home Improvement Center
I. Hotel/motel/lodging facilities (height not to exceed 60', including architectural embellishments)
J. Mini-storage facilities
K. Offices, Medical/Dental
L. Offices, Administrative
M. Offices, Professional
N. Personal Services
O. Research & Development
P. Restaurants, sit-down and fast food
Q. Retail, intensive (excluding convenience or specialty markets)
R. Convenience market, grocery, & specialty markets
S. Service station (24-hour operation)
T. Minor Motor vehicle repair (parking requirement 1/250 SF of gross area, vehicle repair bays count towards parking requirement)
U. Congregate car for the elderly/assisted living facilities
V. Nursing Home or convalescent hospital
W. Day care centers, Adult and Children

Uses subject to issuance of a conditional use permit:

A. Drive-in or drive through restaurant uses (beyond 3 permitted)
B. Kennel

As we have worked closely with staff, we feel that allowing staff to administratively review any changes to the Precise Development Plan, as they arise, with the intent that the development will be maintained and adhere to the requirements of this Planned Development Amendment.

Development Scheme (Construction Phasing)

Our intent is to develop the center in more than one phase of construction:

1. Master Developer (Phase One):
    a. Offsite improvements including:
        i. dedicate right of way along Cochrane Rd. across frontage,
            1. 67 ft from centerline
        ii. install landscaping in the median east of Woodview Ave, along the project frontage in Cochrane Rd.,
        iii. construct left turn lane in west bound median in Cochrane Rd. for the Woodview Ave and Cochrane Rd. intersection to allow left turns into the project,
        iv. construct curb, gutter and sidewalks (as required) along project frontage on Cochrane Rd.,
        v. construct sidewalk (as required) along project frontage on Jarvis Dr.,
        vi. remove and relocate street lights (as required), replace as necessary,
            1. Cochrane Ave.
            2. Butterfield Blvd.
            3. Jarvis Dr.
        vii. construct a traffic signal at the intersection of Cochrane Rd. and Woodview Ave, the project's access on Cochrane Rd.,
        viii. construct required modifications to the Sewer lift station and provide access to the facility from the Project,
        ix. construct street access driveway approaches,

Attachment: Evergreen Village - PD Narrative (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

x. conformance with all Project Mitigation Measures as delineated in the Negative Mitigation Declaration

b. Onsite infrastructure consisting of rough graded pads, ready for individual parcel improvements that includes:
   i. private drive aisles complete with lighting and temporary onsite drainage and access points to each parcel,
   ii. Project mitigation measures per the Mitigated Negative Declaration by Wagstaff and Associates;
      1. air quality
      2. burrowing owls
      3. nesting raptors
   iii. water main to ensure service to each pad within the development
   iv. fire and domestic water services stubbed to each on-site parcel,
   v. sanitary sewer main to ensure service to each pad within the development
   vi. sanitary sewer service stubbed to each pad within the development
   vii. storm sewer tie-ins stubbed to each pad within the development, as required, and
   viii. dry utility services (natural gas, telecommunications and electric) stubbed to each pad within the development.

2. End Users (Subsequent Individual Phases):
   a. Each parcel owner will work directly with the City to fully develop, build out and maintain their parcel in accordance with the City of Morgan Hill Development standards.

Additionally, we intend to provide pedestrian connectivity throughout the development to allow for better accessibility to all stores for the patrons. We are extremely excited to present this project to the City and

Attachment: Evergreen Village - PD Narrative (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

bring significant value through needed uses and convenience to the City and neighborhood.

Applicant's Intention – Sale/Lease and Common Area Maintenance

Evergreen understands the importance of designing a shopping center that is visually appealing, thoughtfully laid-out, and has the necessary parameters in place to stay first rate long after the initial development is completed.

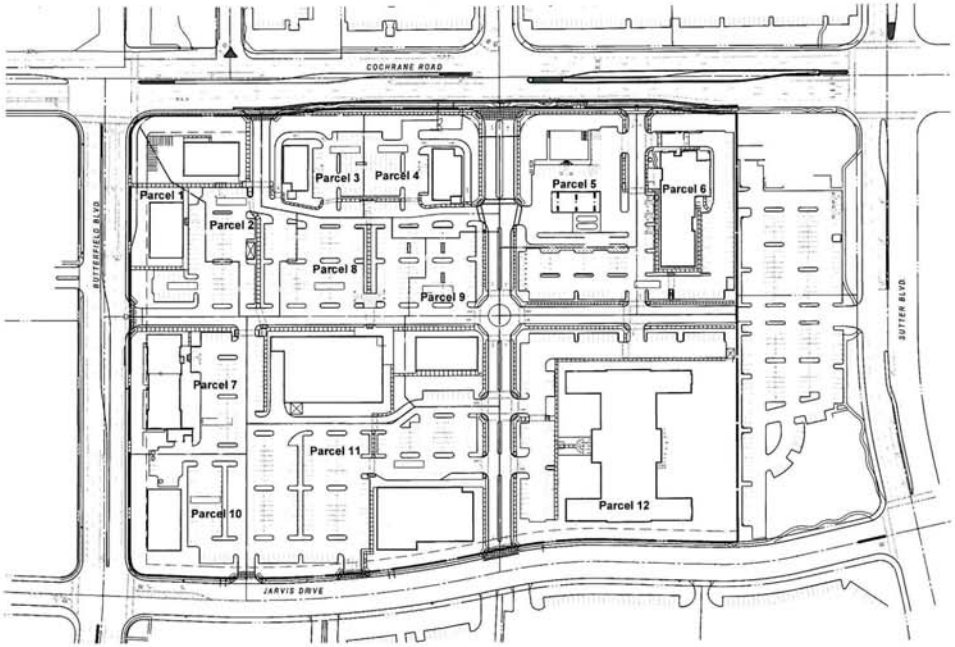
As such, we have developed and will record, with this development, a set of CC&R's that will provide oversight and guidance for the parcel developments (including the requirement to utilize the Design Guidelines) to ensure a cohesive appearance of the fully built project.

Each parcel owner will be responsible for the construction and maintenance of the improvements on their parcel, subject to the enforcement of maintenance standards by the Manager of the shopping center.

Evergreen has successfully developed many shopping centers utilizing these CC&R's and Design Guideline standards and is highly confident that the development of this project will meet the City's standards and expectations for a cohesive and high-quality project.

Attachment: Evergreen Village - PD Narrative (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned

AMENDED TENTATIVE MAP
EVERGREEN VILLAGE
COMMERCIAL DEVELOPMENT
CITY OF MORGAN HILL, SANTA CLARA, CALIFORNIA
SUBDIVISION NO.
ORDINANCE NO.



BENCH MARK

TOP OF WALK 5' EAST OF SOUTHWEST CORNER OF BRIDGE NO. 37-341 AT COCHRANE ROAD AND SOUTH VALLEY FREEWAY (ESTABLISHED BY NOLTE AND ASSOCIATES) FEMA (FIRM) Bm3 (BM3, ELEVATION 377.58' NGVD 29

NOTES:

ASSESSOR'S PARCEL NO.	726-25-035 & 726-32-021
PRESENT USE	VACANT
PROPOSED USE	COMMERCIAL
PRESENT ZONING	PUD - PLANNED UNIT DEVELOPMENTDISTRICT
PROPOSED ZONING	PUD - PLANNED UNIT DEVELOPMENTDISTRICT
SANITARY SEWER	CITY OF MORGAN HILL
GAS and ELECTRIC	P.G. and E.
WATER	CITY OF MORGAN HILL
TELEPHONE	VERIZON
TOTAL ACERAGE	20.43 ACRES

OWNER'S REPRESENTATIVE

EVERGREEN
DEVELOPMENT SERVICES
2390 EAST CAMELBACK ROAD, SUITE 410
PHOENIX, ARIZONA 85016

ENGINEER

MH ENGINEERING
16075 VINEYARD BLVD.
MORGAN HILL, CA 95037
(408) 779-7381

VICINITY MAP

SHEET INDEX

1. COVER SHEET
A-1.1 PROPOSED SITE PLAN
2. TENTATIVE MAP
3. STREET SECTIONS
4. PRELIMINARY GRADING PLAN
5. PRELIMINARY GRADING PLAN
6. PRELIMINARY GRADING PLAN
7. PRELIMINARY GRADING PLAN
8. GRADING CROSS SECTIONS

DEVELOPMENT SERVICES
JUN 20 2018
CITY OF MORGAN HILL

FOR PLANCHECK ONLY
REGISTERED PROFESSIONAL ENGINEER WILLIAM J. McKINNON No 24893 EXP 12-31-2018 STATE OF CALIFORNIA
FOR PLANCHECK ONLY

MH engineering Co.
16075 Vineyard Boulevard Morgan Hill, CA 95037

Amended Tentative Map
Evergreen Village

DATE: 6/18
SCALE: 1"=100'
DRAWN BY: RS
CHECKED BY: WJM
JOB NO. 214096
SHEET 1 OF 8

Attachment: Site Plan and Tentative Map (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development:

JOHNSON LYMAN ARCHITECTS

Evergreen Village

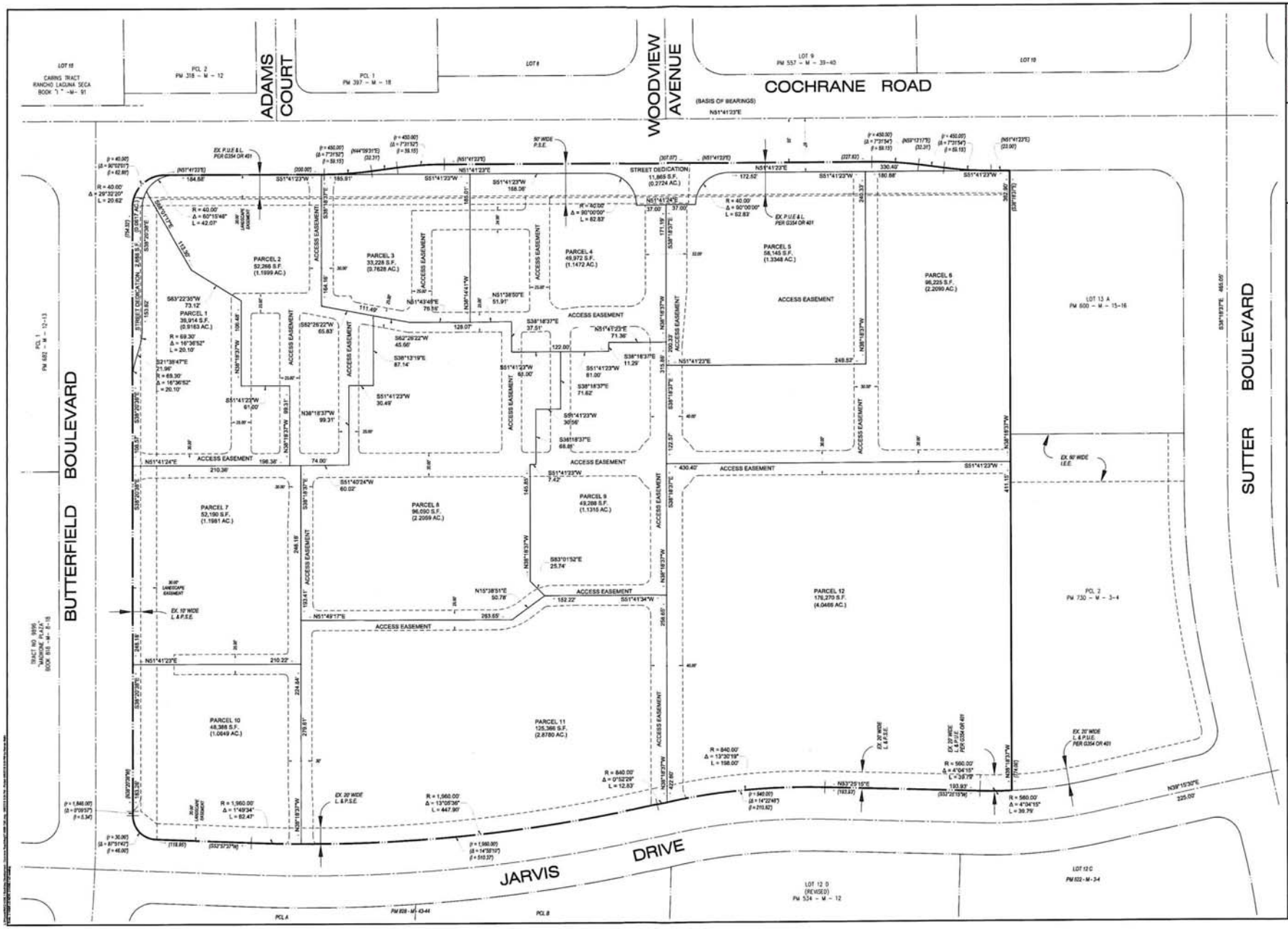
Morgan Hill California

Proposed Site Plan

A-1.1

6-14-18

Attachment: Site Plan and Tentative Map (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development:



FOR PLANCHECK ONLY

REGISTERED PROFESSIONAL ENGINEER
WILLIAM J. McCLENAHAN
No. 24893
EXP. 12-31-2019
STATE OF CALIFORNIA - CIVIL

FOR PLANCHECK ONLY

MH engineering Co.
16975 Vineyard Boulevard
Morgan Hill, CA 95037

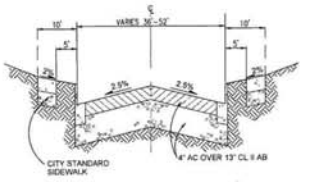
Amended Tentative Map
Evergreen Village

DATE:	6/18
SCALE:	1"=60'
DRAWN BY:	RS
CHECKED BY:	WJM

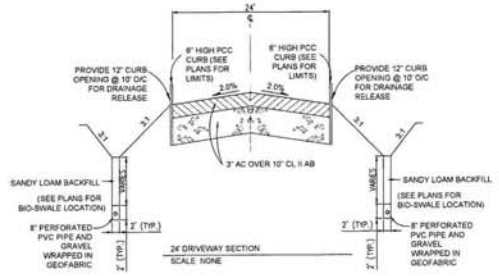
JOB NO. 214096

SHEET 2 OF 8

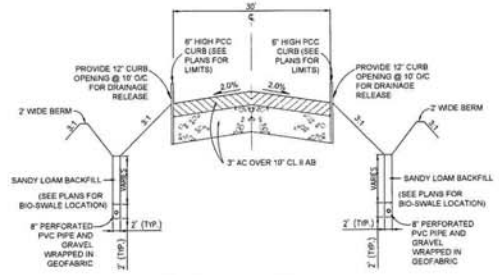
Attachment: Site Plan and Tentative Map (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development:



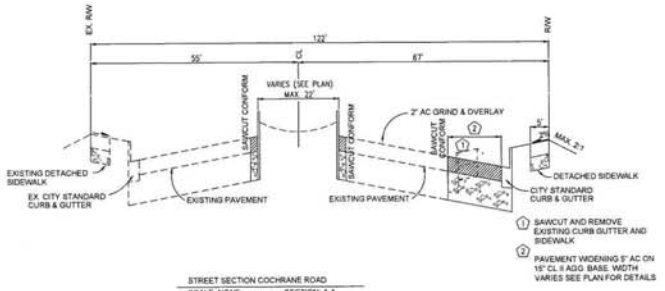
STREET SECTION - WOODVIEW AVENUE
SCALE: NONE T.I.=7 R-VALUE=37



24' DRIVEWAY SECTION
SCALE: NONE



STREET SECTION - ACCESS ROAD
SCALE: NONE



STREET SECTION COCHRANE ROAD
SCALE: NONE SECTION: A-A

FOR PLANCHECK ONLY
REGISTERED PROFESSIONAL ENGINEER WILLIAM J. HOPPE No. 24893 EXP. 12/31/2018 STATE OF CALIFORNIA CIVIL
FOR PLANCHECK ONLY

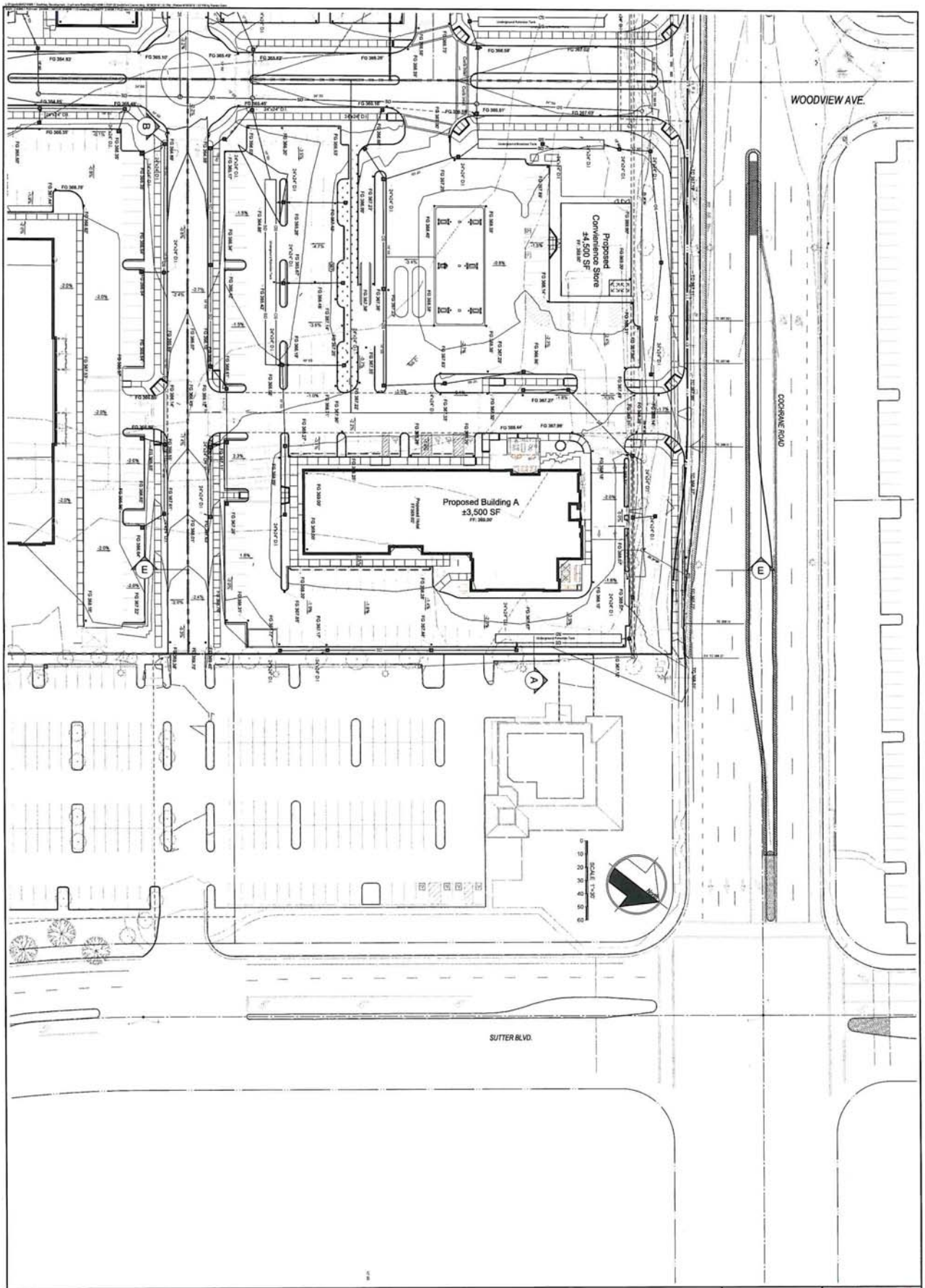
MH engineering Co.
1970 Broadway, Suite 825, Oakland, CA 94612

Amended Tentative Map
Evergreen Village

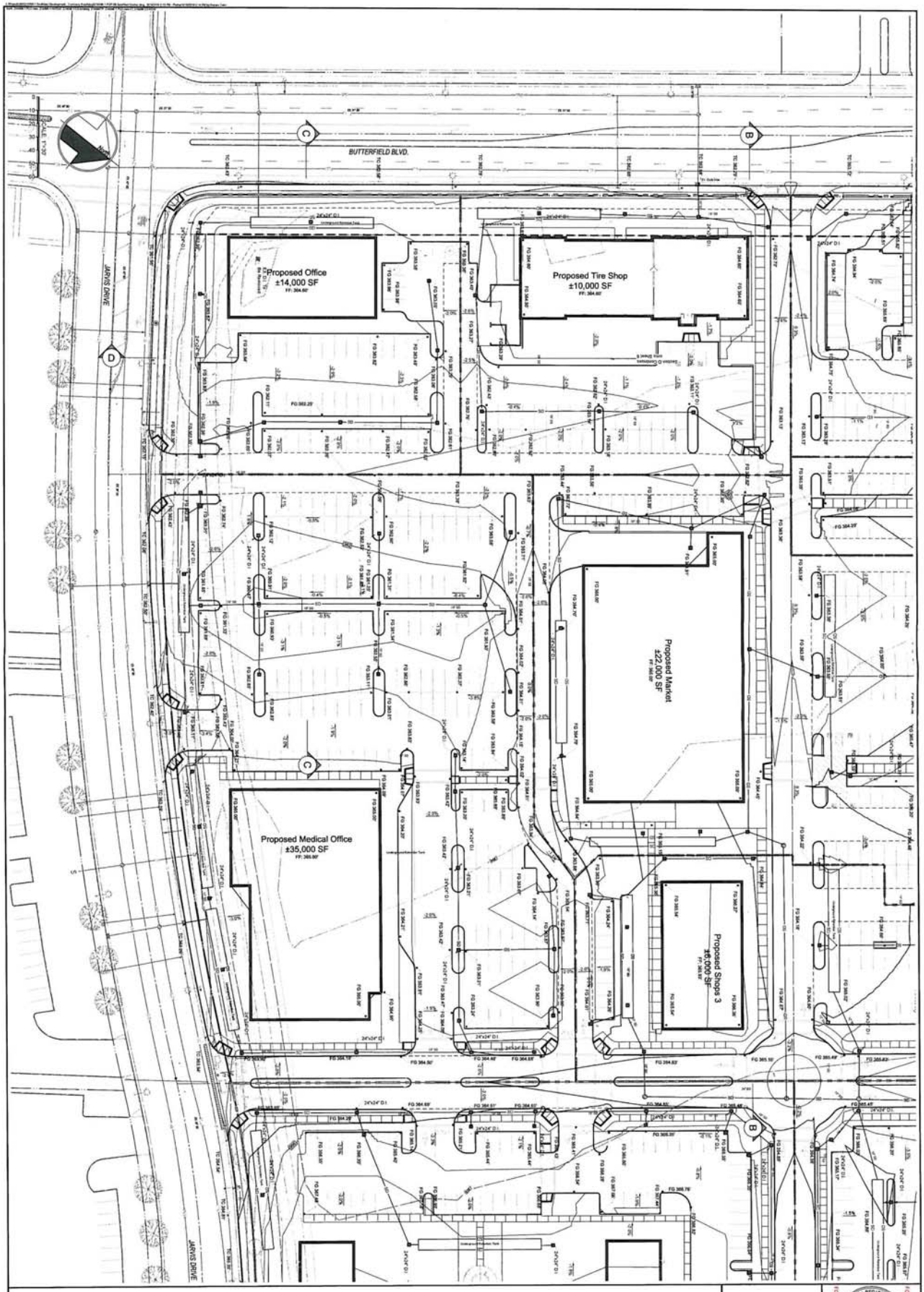
DATE: 6/18
SCALE: None
DRAWN BY: RS
CHECKED BY: WJM
JOB NO. 214096
SHEET 3
OF

Attachment: Site Plan and Tentative Map (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development:

Attachment: Site Plan and Tentative Map (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development:



214096.1	DATE: 5/18 SCALE: 1" = 30' DRAWN BY: rs CHECKED BY: WJM	**Preliminary Grading Plan** **Evergreen Village**	**MH engineering Co.** 16075 Vineyard Boulevard, Morgan Hill, CA 95037



Preliminary grading Plan
Everegreen Village

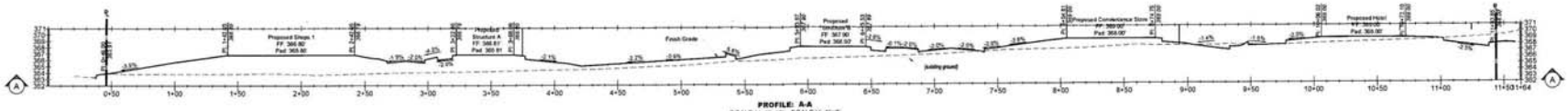
MH engineering Co.
18075 Vineyard Boulevard
Morgan Hill, CA 95037

214096.1

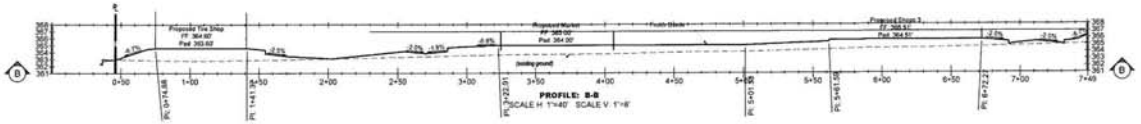
DATE: 6/18
SCALE: 1" = 30'
DRAWN BY: RS
CHECKED BY: WJM

FOR PLANCHECK ONLY

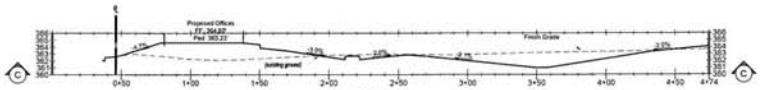
Attachment: Site Plan and Tentative Map (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development:



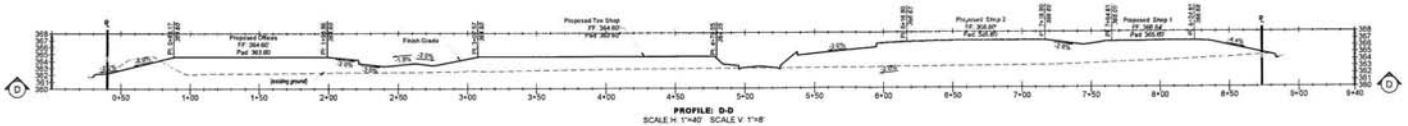
PROFILE: A-A
SCALE H: 1"=40' SCALE V: 1"=8'



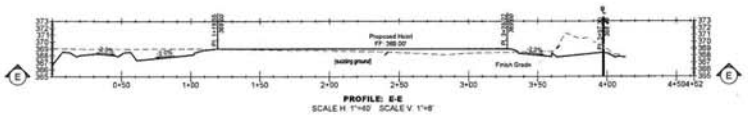
PROFILE: B-B
SCALE H: 1"=40' SCALE V: 1"=8'



PROFILE: C-C
SCALE H: 1"=40' SCALE V: 1"=8'



PROFILE: D-D
SCALE H: 1"=40' SCALE V: 1"=8'



PROFILE: E-E
SCALE H: 1"=40' SCALE V: 1"=8'

Preliminary Grading Quantities

Item Description	Cut	Fill	Net
Rough Grading w/ 15% shrinkage	15,726 CY	8,826 CY	7,190 CY (Cut)
Grippings (3' Deep)	Deep	Onsi	Pothole
Tranch Spoils	1,581 CY	0 CY	1,581 CY (Cut)
Residual Excavation	3,694 CY	0 CY	3,694 CY (Cut)
Total	20,511 CY	8,826 CY	11,905 CY (Cut)

FOR PLANCHECK ONLY

REGISTERED PROFESSIONAL ENGINEER — WILLIAM F. MCDONALD — No. 24893 — EXP 12-31-2019 — STATE OF CALIFORNIA

FOR PLANCHECK ONLY

MH engineering Co.
1903 Wayson Boulevard

Preliminary Grading Plan

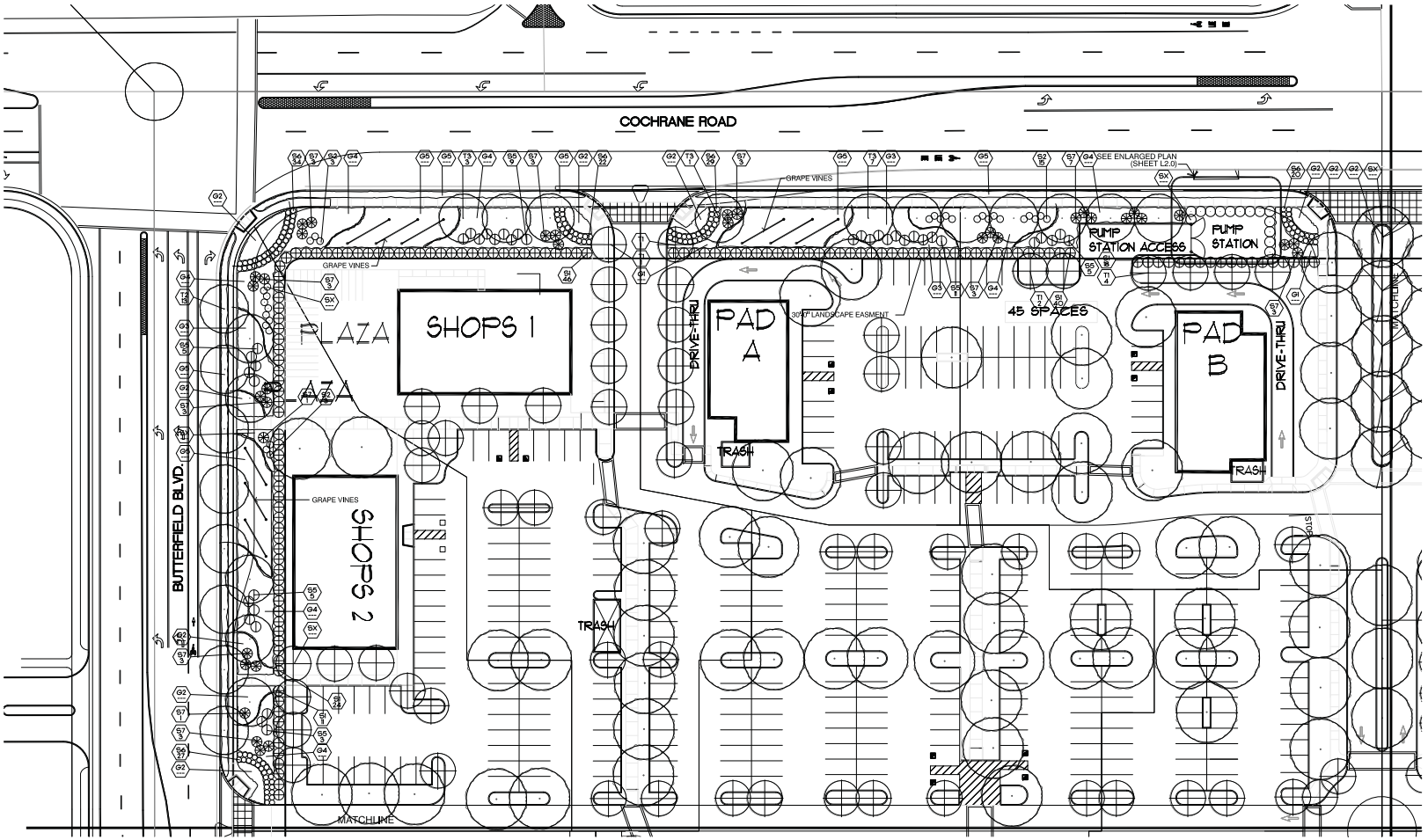
Evergreen Village

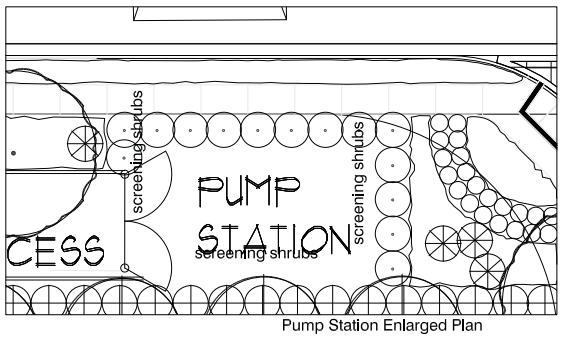
DATE: 8/19
SCALE: 1" = 30'
DRAWN BY: RS
CHECKED BY: WJM

JOB NO. 214096.1

SHEET 8 OF 8

Attachment: Site Plan and Tentative Map (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development:





Pump Station Enlarged Plan

LANDSCAPE UTILITY NOTES:

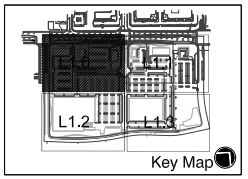
1. ALL LANDSCAPE BACKFLOW PREVENTION DEVICES TO BE SCREENED WITH 5 GALLON POT SIZE PLANTS (RHAPIOLEPIS U. 'MINOR') AT 36" O.C. AT 3'-0" OFFSET FROM DEVICE.

PLANT LIST:

KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS	W.U.C.O.L.S
	TREES					
T1	LAGERSTROEMIA I. 'MUSKOGEE'	MUSKOGEE CRAPE MYRTLE	---	24"BOX	MULTI-TRUNK	LOW
T2	CELTIS SINENSIS	CHINESE HACKBERRY	---	24"BOX	STANDARD	LOW
T3	FRAXINUS UHDEI	EVERGREEN ASH	---	24"BOX	STANDARD	MEDIUM
T4	PLATANUS A. COLUMBIA'	LONDON PLANE TREE	---	24"BOX	STANDARD	MEDIUM
T5	LYONOTHAMNUS FLORIBUNDUS	CATALINA IRONWOOD	---	24"BOX	STANDARD	LOW
T6	JUNIPERUS S. 'HEDORA'	HEDORA JUNIPER	---	24"BOX	STANDARD	LOW
T7	QUERCUS AGRIFOLIA	COAST LIVE OAK	---	24"BOX	STANDARD	LOW
T8	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	---	48"BOX	STANDARD	LOW
	SHRUBS					
S1	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S2	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S3	ARBUTUS U. 'COMPACTA'	STRAWBERRY TREE	---	15 GAL		LOW
S4	ROSMARINUS O. 'TUSCAN BLUE'	UPRIGHT ROSEMARY	---	5 GAL		LOW
S5	ARCTOSTAPHYLOS GLAUCA	BIG BERRY MANZANITA	---	5 GAL		LOW
S6	YUCCA BRIGHT STAR	BRIGHT STAR YUCCA	---	5 GAL		LOW
S7	PHORMIUM T. 'MARGARET JONES'	NEW ZEALAND FLAX	---	5 GAL		LOW
	GROUND COVERS					
G1	MYOPORUM PARVIFOLIUM	CREEPING BOOBIALLA	-	1 GAL	36" O.C.	LOW
G2	BULBINE FRUTESCENS	STALKED BULBINE	-	1 GAL	24" O.C.	LOW
G3	CEANOTHUS G.H. 'YANKEE POINT'	CARMEL MOUNTAIN LILAC	-	1 GAL	48" O.C.	LOW
G4	ROSMARINUS O. 'HUNTINGTON CARPET'	HUNTINGTON CARPET ROSEMARY	-	1 GAL	36" O.C.	LOW
G5	COTONEASTER D. 'LOWFAST'	BEARBERRY COTONEASTER	-	1 GAL	48" O.C.	LOW

PLANT SYMBOLS

SX — INDICATES PLANT KEY
XX — INDICATES PLANT QUANTITY



Know what's **below.** **Call** before you dig.

SCALE
DRAWN BY DS
CHECKED BY PJR

STAMP
LANDSCAPE ARCHITECT PAUL JAY REED No. 2002 EXP. 9/30/19 STATE OF CALIFORNIA

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH TAAFFE STREET
SUNNYVALE, CALIFORNIA 94086
(408) 736-8121 / FAX 736-8122
web: www.rala.net / email: pal@rala.net

Morgan Hill Development

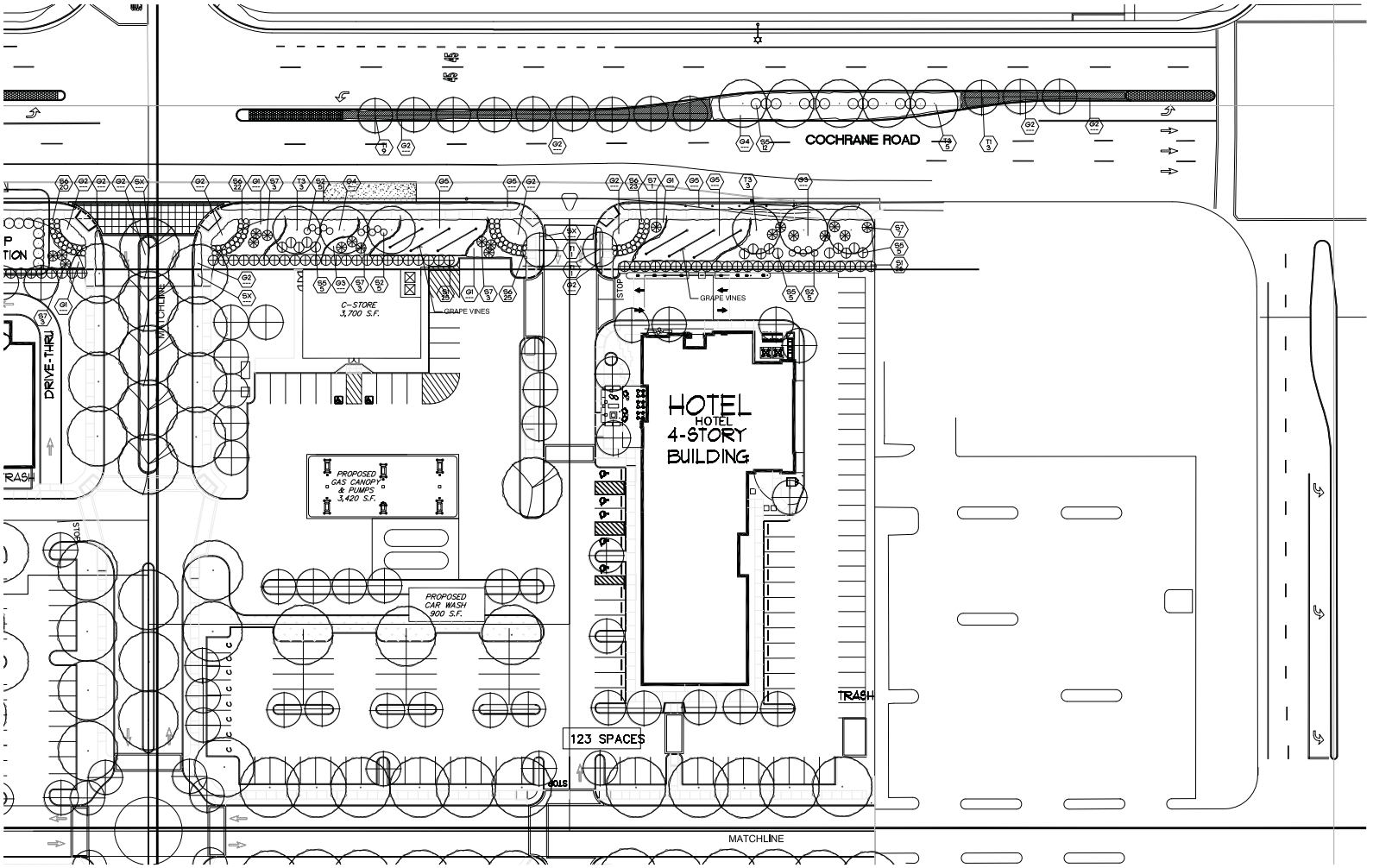
Morgan Hill, California

LANDSCAPE PLANTING PLAN

JOB NO. DATE 06.29.18

SHEET L1.0 OF

Attachment: Landscape Plans (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)



LANDSCAPE UTILITY NOTES:

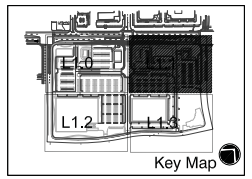
1. ALL LANDSCAPE BACKFLOW PREVENTION DEVICES TO BE SCREENED WITH 5 GALLON POT SIZE PLANTS 6HAHPIOLEPIS U. 'MINOR' AT 36" O.C. AT 3'-0" OFFSET FROM DEVICE.

PLANT LIST:

KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS	W.U.COLS
	TREES					
T1	LAGERSTROEMIA I. 'MUSKOGEE'	MUSKOGEE CRAPE MYRTLE	---	24"BOX	MULTI-TRUNK	LOW
T2	CELTIS SINENSIS	CHINESE HACKBERRY	---	24"BOX	STANDARD	LOW
T3	FRAXINUS UHDEI	EVERGREEN ASH	---	24"BOX	STANDARD	MEDIUM
T4	PLATANUS A. 'COLUMBIA'	LONDON PLANE TREE	---	24"BOX	STANDARD	MEDIUM
T5	LYONOTHAMNUS FLORIBUNDUS	CATALINA IRONWOOD	---	24"BOX	STANDARD	LOW
T6	JUNIPERUS S. 'HEDMOR'	HEDMOR JUNIPER	---	24"BOX	STANDARD	LOW
T7	QUERCUS AGRIFOLIA	COAST LIVE OAK	---	24"BOX	STANDARD	LOW
T8	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	---	48"BOX	STANDARD	LOW
	SHRUBS					
S1	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S2	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S3	ARBUTUS U. 'COMPACTA'	STRAWBERRY TREE	---	5 GAL		LOW
S4	ROSMARINUS O. 'TUSCAN BLUE'	UPRIGHT ROSEMARY	---	5 GAL		LOW
S5	ARCTOSTAPHYLOS GLAUCA	BIG BERRY MANZANITA	---	5 GAL		LOW
S6	YUCCA BRIGHT STAR	BRIGHT STAR YUCCA	---	5 GAL		LOW
S7	PHORMIUM 'MARGARET JONES'	NEW ZEALAND FLAX	---	5 GAL		LOW
	GROUND COVERS					
G1	HYPOCALYM PARVIFOLIUM	CREEPING BOOBIALLA	-	1 GAL	36" O.C.	LOW
G2	BULBINE FRUTESCENS	STALKED BULBINE	-	1 GAL	24" O.C.	LOW
G3	CEANOTHUS G.H. 'YANKEE POINT'	CARMEL MOUNTAIN LILAC	-	1 GAL	48" O.C.	LOW
G4	ROSMARINUS O. 'HUNTINGTON CARPET'	HUNTINGTON CARPET ROSEMARY	-	1 GAL	36" O.C.	LOW
G5	COTONEASTER D. 'LOWFAST'	BEARBERRY COTONEASTER	-	1 GAL	48" O.C.	LOW

PLANT SYMBOLS

SXX — INDICATES PLANT KEY
XX — INDICATES PLANT QUANTITY



0 15 30 60
Scale 1" = 30 ft.
sheet size = 24"x36"

811 Know what's below. Call before you dig.

STAMP: LANDSCAPE ARCHITECT PAUL JAY REED No. 2002 EXP. 9/30/19 STATE OF CALIFORNIA

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH MATHILDA AVENUE
SUNNYVALE, CALIFORNIA 94086
(408) 481-1822 / 481-1822 FAX
web: www.rala.net / email: paul@rala.net

SCALE 1"=30'
DRAWN BY DS
CHECKED BY PJR

Morgan Hill Development

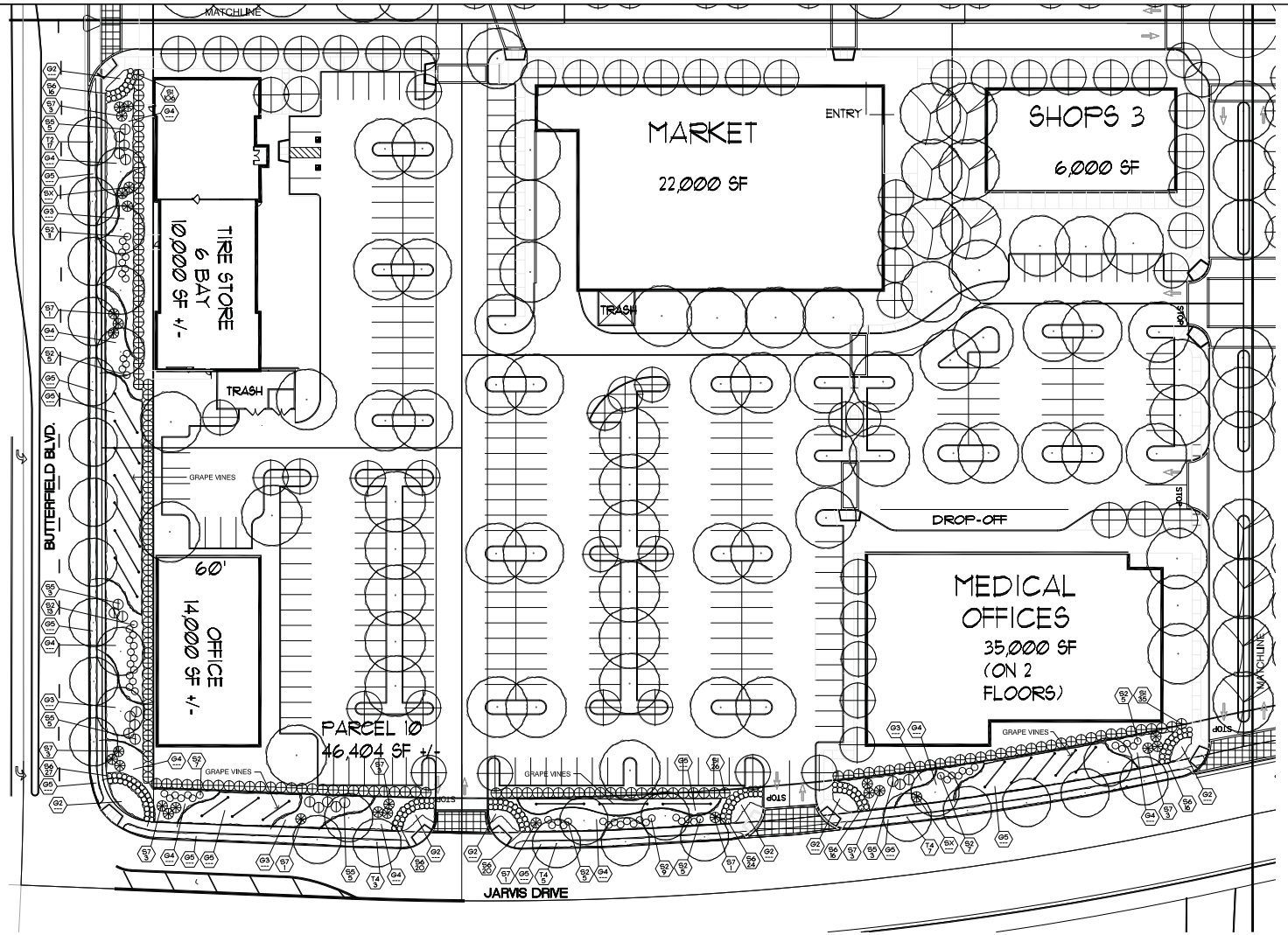
Morgan Hill, California

LANDSCAPE PLANTING PLAN

JOB NO.
DATE 06.29.18

SHEET L1.1
OF

Attachment: Landscape Plans (1845 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)



PLANT LIST:

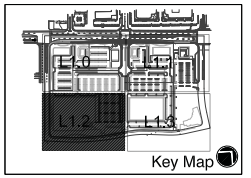
KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS	WUCOLS
	TREES					
T1	LAGERSTROEMIA I. 'MUSKOGEE'	MUSKOGEE CRAPE MYRTLE	---	24"BOX	MULTI-TRUNK	LOW
T2	CELTIS SINENSIS	CHINESE HACKBERRY	---	24"BOX	STANDARD	LOW
T3	FRAXINUS UHDEI	EVERGREEN ASH	---	24"BOX	STANDARD	MEDIUM
T4	PLATANUS A. 'COLUMBIA'	LONDON PLANE TREE	---	24"BOX	STANDARD	MEDIUM
T5	LYONOTHAMNUS FLORIBUNDUS	CATALINA IRONWOOD	---	24"BOX	STANDARD	LOW
T6	JUNIPERUS S. 'MEDORA'	MEDORA JUNIPER	---	24"BOX	STANDARD	LOW
T7	QUERCUS AGRIFOLIA	COAST LIVE OAK	---	24"BOX	STANDARD	LOW
T8	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	---	48"BOX	STANDARD	LOW
	SHRUBS					
S1	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S2	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S3	ARBUTUS U. 'COMPACTA'	STRAWBERRY TREE	---	15 GAL		LOW
S4	ROSMARINUS O. 'TUSCAN BLUE'	UPRIGHT ROSEMARY	---	5 GAL		LOW
S5	ARCTOSTAPHYLOS GLAUCA	BIG BERRY MANZANITA	---	5 GAL		LOW
S6	YUCCA BRIGHT STAR	BRIGHT STAR YUCCA	---	5 GAL		LOW
S7	PHORMIUM 'MARGARET JONES'	NEW ZEALAND FLAX	---	5 GAL		LOW
	GROUND COVERS					
G1	MYOPORUM PARVIFOLIUM	CREEPING BOOBIALLA	-	1 GAL	36" O.C.	LOW
G2	BULBINE FRUTESCENS	STALKED BULBINE	-	1 GAL	24" O.C.	LOW
G3	CEANOTHUS G.H. 'YANKEE POINT'	CARMEL MOUNTAIN LILAC	-	1 GAL	48" O.C.	LOW
G4	ROSMARINUS O. 'HUNTINGTON CARPET'	HUNTINGTON CARPET ROSEMARY	-	1 GAL	36" O.C.	LOW
G5	COTONEASTER D. 'LOWFAST'	BEARBERRY COTONEASTER	-	1 GAL	48" O.C.	LOW

LANDSCAPE UTILITY NOTES:

1. ALL LANDSCAPE BACKFLOW PREVENTION DEVICES TO BE SCREENED WITH 5 GALLON POT SIZE PLANTS (RHAPHIOLEPIS U. 'MINOR') AT 36" O.C. AT 3'-0" OFFSET FROM DEVICE.

PLANT SYMBOLS

5XX — INDICATES PLANT KEY
XX — INDICATES PLANT QUANTITY



0 15 30 60
Scale 1" = 30 ft
sheet size = 24"x36"

Know what's below. Call before you dig.

SCALE 1"=30'
DRAWN BY DS
CHECKED BY PJR

STAMP

LANDSCAPE ARCHITECT PAUL JAY REED No. 2002 EXP. 9/30/19 STATE OF CALIFORNIA

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH MAPLE STREET
SUNNYVALE, CALIFORNIA 94086
(408) 481-1822 / FAX 481-1822
web: www.rala.net / email: paul@rala.net

Morgan Hill Development

Morgan Hill, California

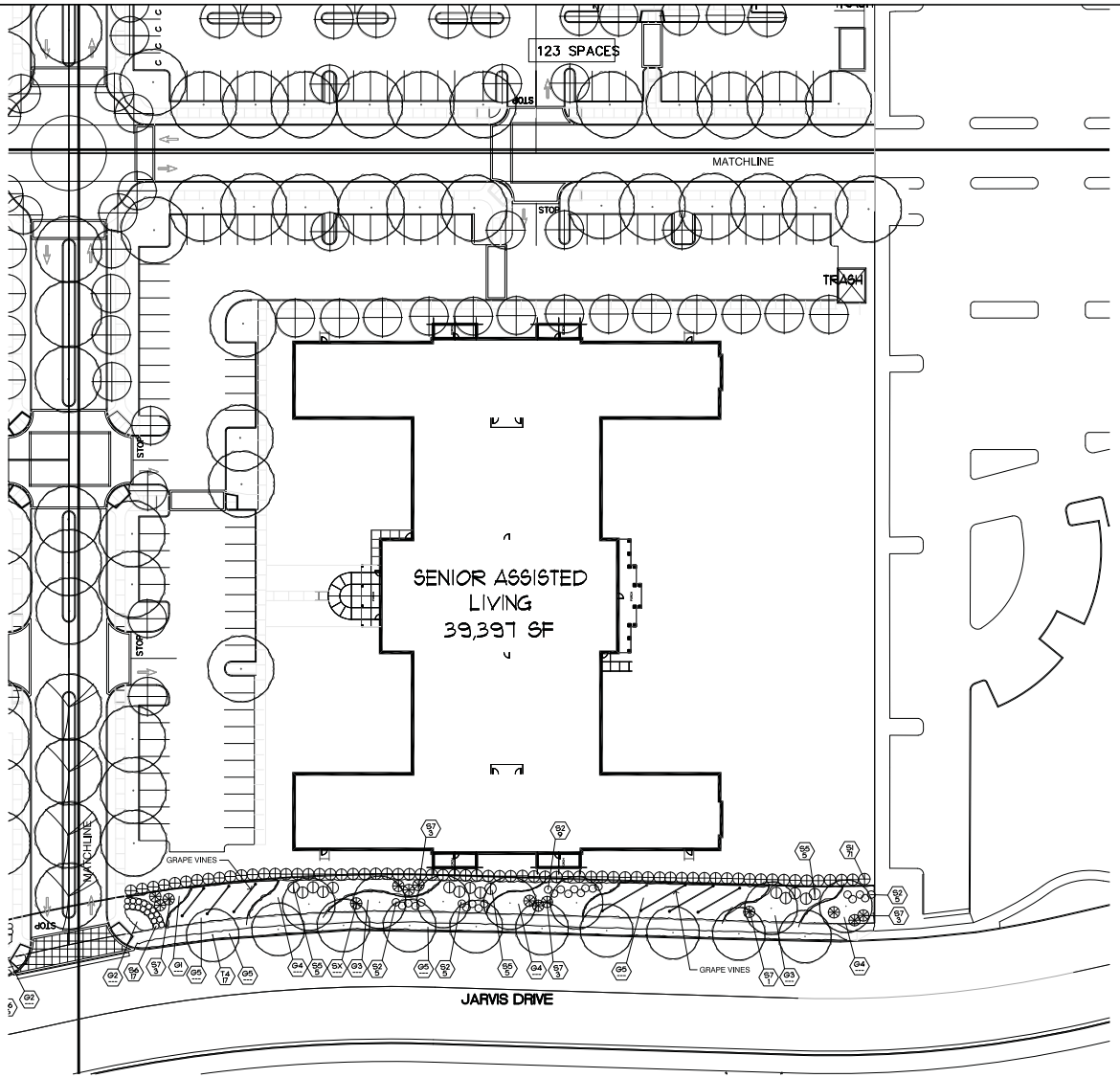
LANDSCAPE PLANTING PLAN

JOB NO.

DATE 06.29.18

SHEET L1.2 OF

Attachment: Landscape Plans (1845 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)



PLANT NOTES:

1. THE CONTRACTOR SHALL VERIFY PLANT QUANTITIES FROM THE PLANTING PLAN. QUANTITIES SHOWN IN THE LEGEND ARE FOR CONVENIENCE ONLY.
2. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES BETWEEN ACTUAL SITE CONDITIONS AND THE PLANTING PLAN.
3. PLANT GROUNDCOVER IN SHRUB AREAS AS NOTED, USE TRIANGULAR SPACING.
4. SEE DETAIL AND SPECIFICATION SHEETS FOR ADDITIONAL INFORMATION.
5. THERE WILL BE NO MATERIALS OR PLANT MATERIALS SUBSTITUTIONS WITHOUT APPROVAL OF THE OWNER OR THE LANDSCAPE ARCHITECT.
6. ALL SLOPES PLANTED WITH LAWN NOT TO EXCEED A 4:1 SLOPE. ALL SLOPES PLANTED WITH GROUND COVER NOT TO EXCEED A 2:1 SLOPE.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS (2% MIN.)
8. IN THE EVENT OF ANY DISCREPANCIES BETWEEN THIS PLAN AND ACTUAL SITE CONDITIONS, THE LANDSCAPE ARCHITECT IS TO BE NOTIFIED IMMEDIATELY.
9. ENTIRE SITE IS TO BE ROUGH GRADED BY THE GRADING CONTRACTOR TO WITHIN ½ FOOT OF FINISH GRADE. LANDSCAPE CONTRACTOR IS TO FINE GRADE ALL LANDSCAPE AREAS.
10. ALL SITE UTILITIES ARE TO BE PROTECTED DURING CONSTRUCTION. IN THE EVENT OF CONFLICT BETWEEN THE PLANS AND UTILITIES THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT. ANY DAMAGE TO UTILITIES, STRUCTURES, OR OTHER FEATURES TO REMAIN, AND CAUSED BY THE LANDSCAPE CONTRACTOR SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
11. THE WORK IN THESE DRAWINGS AND SPECIFICATIONS MY RUN CONCURRENTLY WITH WORK BY OTHERS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS.
12. REFER TO CIVIL ENGINEER'S PLANS FOR OVERALL SITE GRADING AND DRAINAGE.
13. PRIOR TO ANY DIGGING OR TRENCHING, CALL UNDERGROUND SERVICE ALERT - 1.800.227.2600

PLANT LIST:

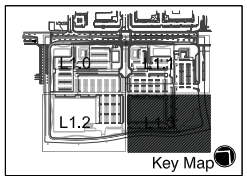
KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS	W.UCOLS
	TREES					
T1	LAGERSTROEMIA I. 'MUSKOGEE'	MUSKOGEE CRAPE MYRTLE	---	24"BOX	MULTI-TRUNK	LOW
T2	CELTIS SINENSIS	CHINESE HACKBERRY	---	24"BOX	STANDARD	LOW
T3	FRAXINUS UHDEI	EVERGREEN ASH	---	24"BOX	STANDARD	MEDIUM
T4	PLATANUS A. 'COLUMBIA'	LONDON PLANE TREE	---	24"BOX	STANDARD	MEDIUM
T5	L'YONTHAMNUS FLORIBUNDUS	CATALINA IRONWOOD	---	24"BOX	STANDARD	LOW
T6	JUNIPERUS S. 'MEDORA'	MEDORA JUNIPER	---	24"BOX	STANDARD	LOW
T7	QUERCUS AGRIFOLIA	COAST LIVE OAK	---	24"BOX	STANDARD	LOW
T8	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	---	48"BOX	STANDARD	LOW
	SHRUBS					
S1	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S2	PITTOSPORUM T. 'VARIEGATA'	MOCK ORANGE	---	5 GAL		LOW
S3	ARBUTUS U. 'COMPACTA'	STRAWBERRY TREE	---	15 GAL		LOW
S4	ROSMARINUS O. 'TUSCAN BLUE'	UPRIGHT ROSEMARY	---	5 GAL		LOW
S5	ARCTOSTAPHYLOS GLAUCA	BIG BERRY MANZANITA	---	5 GAL		LOW
S6	YUCCA BRIGHT STAR	BRIGHT STAR YUCCA	---	5 GAL		LOW
S7	PHORMIUM 'MARGARET JONES'	NEW ZEALAND FLAX	---	5 GAL		LOW
	GROUND COVERS					
G1	HYDROPHYLLUM PURVIFOLIUM	CREEPING BOOBIALLA	-	1 GAL	36" O.C.	LOW
G2	BULBINE FRUTESCENS	STALKED BULBINE	-	1 GAL	24" O.C.	LOW
G3	CEANOTHUS GH. 'JANCEE POINT'	CARMEL MOUNTAIN LILAC	-	1 GAL	48" O.C.	LOW
G4	ROSMARINUS O. 'HUNTINGTON CARPET'	HUNTINGTON CARPET ROSEMARY	-	1 GAL	36" O.C.	LOW
G5	COTONEASTER D. 'LOWFAST'	BEARBERRY COTONEASTER	-	1 GAL	48" O.C.	LOW

LANDSCAPE UTILITY NOTES:

1. ALL LANDSCAPE BACKFLOW PREVENTION DEVICES TO BE SCREENED WITH 5 GALLON POT SIZE PLANTS (RHAPHIOLEPIS U. 'MINOR') AT 36" O.C. AT 3'-0" OFFSET FROM DEVICE.

PLANT SYMBOLS

SX — INDICATES PLANT KEY
XX — INDICATES PLANT QUANTITY



0 15 30 60
Scale 1" = 30 ft
sheet size = 24"x36"

Know what's **below.** **Call** before you dig.

SCALE 1" = 30'
DRAWN BY DS
CHECKED BY PJR

STAMP

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH MATHILDA AVENUE
SUNNYVALE, CALIFORNIA 94086
408.830.8210 / 408.830.8211 FAX
web: www.rala.net / email: paul@rala.net

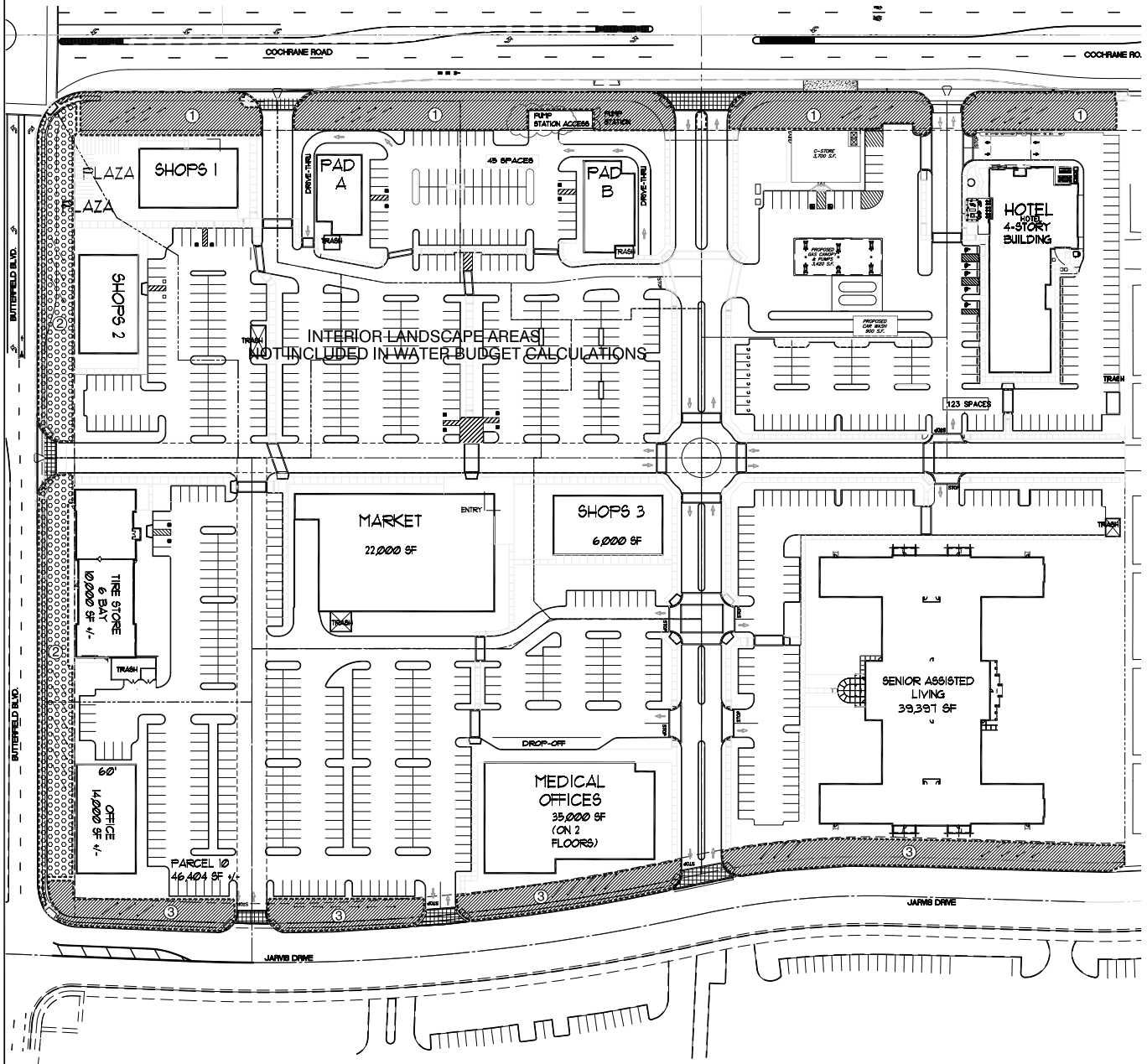
Morgan Hill Development
Morgan Hill, California

LANDSCAPE PLANTING PLAN

JOB NO.
DATE 06.29.18

SHEET L1.3
OF

Attachment: Landscape Plans (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)



IRRIGATION HYDRO-ZONE LEGEND

PLANTS ARE GROUP TO HAVE MATCHING WATER REQUIREMENTS AND MICRO-CLIMATE CHARACTERISTICS.

- HIGH WATER REQUIREMENT
- MEDIUM WATER REQUIREMENT
- LOW WATER REQUIREMENT (DROUGHT TOLERANT PLANTING)

Appendix B - Water Efficient Landscape Worksheet

Reference Evapotranspiration (ETo) 43.1

MAWA - Regular Landscape Areas

MAWA = (ETo) x (0.62) x ((0.45 x LA) + (0.3 x SLA))

landscape area 77,488 s.f.
ETAF .45 average ETAF for regular landscape areas must be 0.55 residential areas, and 0.45 for non-residential areas.
mawa total 931,785 gallons per year

ETWU - Regular Landscape Areas

ETWU = (ETo) x (0.62) x (ETAF x LA)

hydro-zone number	plant water use	plant factor (PF)	irrigation method	irrigation efficiency	ETAF (PF/IE)	hydro-zone area	ETAF x Area	ETWU
1	medium	0.5	drip	0.81	0.617	30,251	18,673.5	498,992
2	low	0.2	drip	0.81	0.247	22,236	5,490.4	146,714
3	medium	0.5	drip	0.81	0.617	25,001	15,433	412,393
totals						77,488	39596.54	1,058,099

ETAF calculations

total ETAF x area 39596.54
total area 77,488 s.f.
average ETAF 0.511 Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

TOTALS

MAWA total 931,785 gallons per year
ETWU total 1,058,099 gallons per year

-13.6 Percentage reduction of Potable Irrigation Water

0 30 60 120
Scale 1" = 60 ft
sheet size = 24"x36"

Know what's below. Call before you dig.

SCALE
DRAWN BY DS
CHECKED BY PJE

LANDSCAPE ARCHITECT PAUL JAY REED No. 2002 EXP. 9/30/19 STATE OF CALIFORNIA
STAMP

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH MATHILDA AVENUE
SUNNYVALE, CALIFORNIA 94086
(408) 736-6531 / FAX 736-6532
web: www.rala.net / email: paul@rala.net

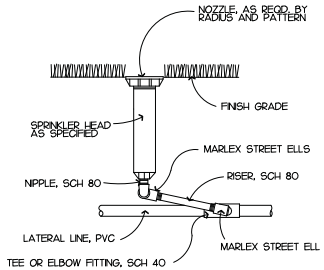
Morgan Hill Development

Morgan Hill, California

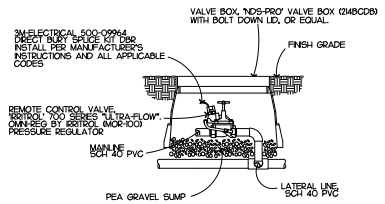
LANDSCAPE HYDROZONE PLAN

JOB NO.
DATE 06.29.18
SHEET L2.0
OF

Attachment: Landscape Plans (1845 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)

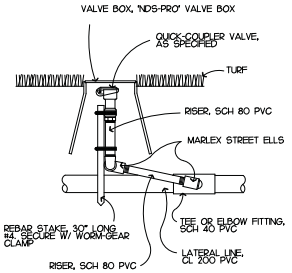


1 IRRIGATION HEAD DETAIL

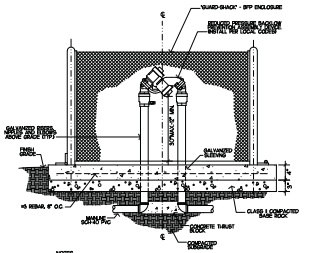


SEE 'DRIP LINE CONTROL ZONE KIT' DETAIL FOR FOR CONTROL VALVES FOR DRIP IRRIGATION

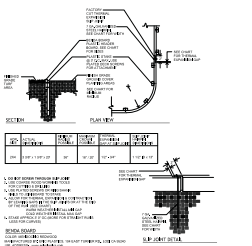
2 IRRIGATION CONTROL VALVE DETAIL



3 QUICK-COUPLER DETAIL

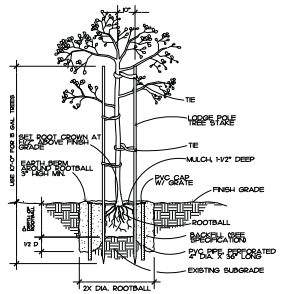


4 BACKFLOW PREVENTER DETAIL

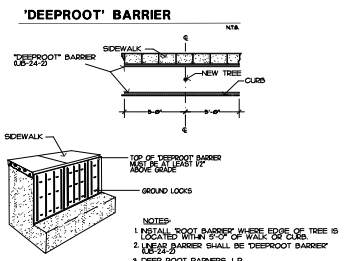


BENDA BOARD PLASTIC HEADER BOARD DETAIL #110

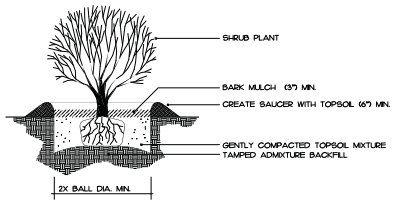
5 'BENDABOARD' LAWN HEADER (OR EQUAL) DETAIL



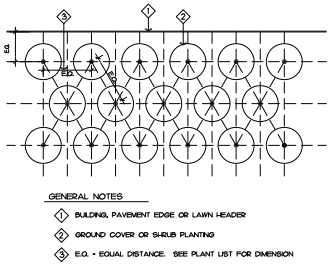
6 TREE PLANTING DETAIL



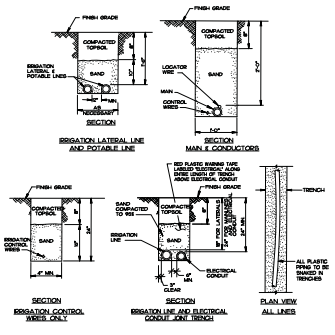
7 TREE ROOT BARRIER DETAIL



8 SHRUB PLANTING DETAIL



9 GROUND COVER SPACING



10 IRRIGATION TRENCH DETAIL

11

12

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH MATHILDA AVENUE
SUNNYVALE, CALIFORNIA 94086
(408) 481-1822 PHONE (408) 481-1822 FAX
web: www.ralla.net / email: paul@ralla.net

PAUL JAY REED No. 2002 EXP. 9/30/19 LANDSCAPE ARCHITECT STATE OF CALIFORNIA

STAMP

SCALE
DRAWN BY DS
CHECKED BY PJR

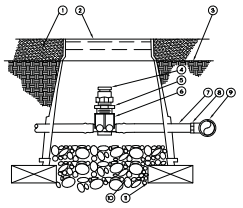
Morgan Hill Development
Morgan Hill, California

LANDSCAPE CONSTRUCTION DETAILS

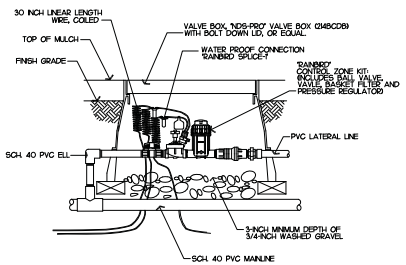
JOB NO.
DATE 06.29.18

SHEET L3.0
OF

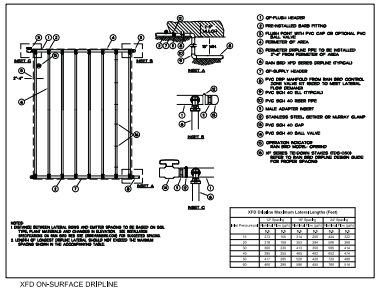
Attachment: Landscape Plans (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)



1 DRIP LINE AIR RELIEF VALVE

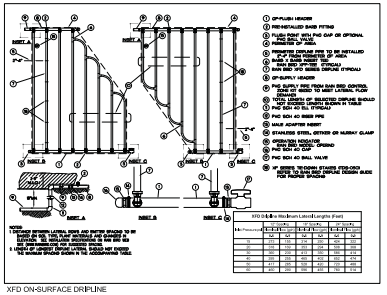


2 DRIP LINE CONTROL ZONE KIT DETAIL



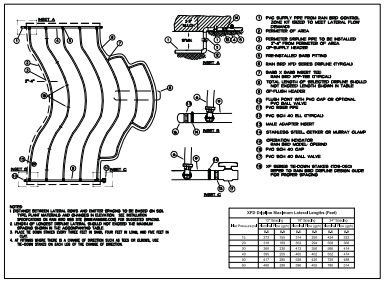
XFD ON-SURFACE DRIPLINE

3 DRIP EMITTER LINE DETAIL



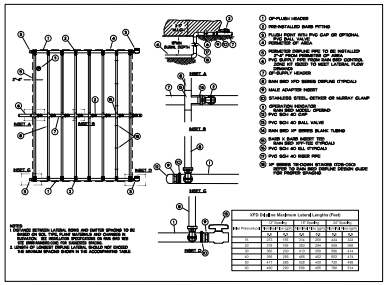
XFD ON-SURFACE DRIPLINE

4 DRIP EMITTER LINE DETAIL



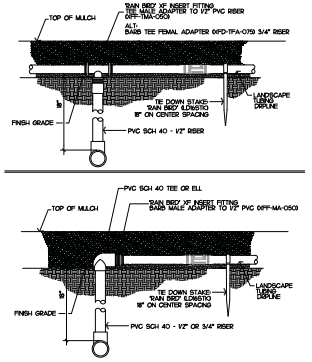
XFD ON-SURFACE DRIPLINE

5 DRIP EMITTER LINE DETAIL



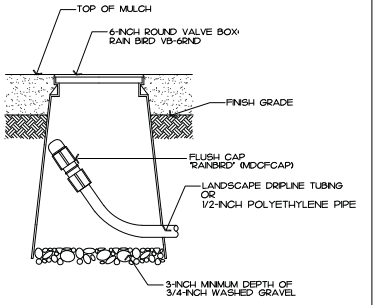
XFD ON-SURFACE DRIPLINE

6 DRIP EMITTER LINE DETAIL

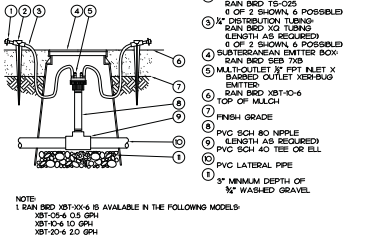


7 DRIP EMITTER LINE DETAIL

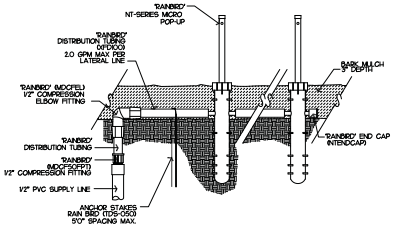
8



9 FLUSH POINT DETAIL



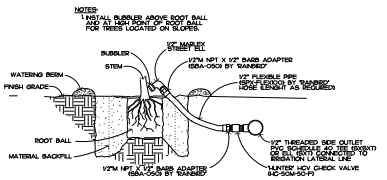
10 MULTI-OUTLET XERI BUG OUTLET



NOTES

1. STATIC WATER PRESSURE AT FIRST NOZZLE TO BE 40 P.S.I.
2. SPACING BETWEEN NOZZLES NOT TO EXCEED 66 INCHES
3. 2.0 GALLONS PER MINUTE MAXIMUM FLOW FOR EACH "RAINBIRD" NP-SERIES DRIP TUBING LATERAL LINE.
4. INSTALL "RAINBIRD" PRESSURE REDUCING FILER ON EACH IRRIGATION CONTROL VALVE: 910F-ECO-RBY3.
5. COMPLY WITH ALL MANUFACTURES INSTALLATION INSTRUCTIONS.

11 NT SERIES MICRO POP-UP SPRAY DETAIL



12 TREE BUBBLER DETAIL

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH MATHILDA AVENUE
SUNNYVALE, CALIFORNIA 94086
(408) 245-7032 FAX
web: www.rala.net / email: paul@rala.net

STAMP

PAUL JAY REED No. 2002 EXP. 9/30/19 LANDSCAPE ARCHITECT STATE OF CALIFORNIA

SCALE
DRAWN BY DS
CHECKED BY PJR

Morgan Hill Development

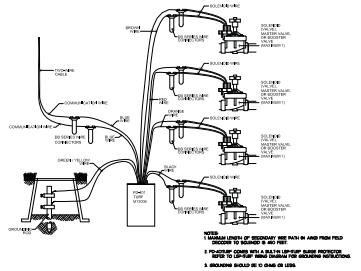
Morgan Hill, California

LANDSCAPE CONSTRUCTION DETAILS

JOB NO.
DATE 06.29.18

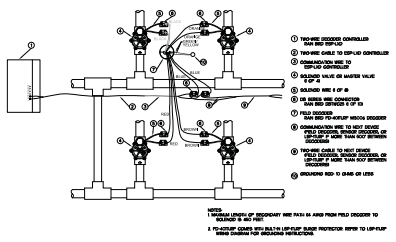
SHEET L3.1
OF

Attachment: Landscape Plans (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)



NOTES:
1. MAXIMUM LENGTH OF SECONDARY WIRE PATH IS 4X AWG FROM FIELD DECODER TO SOLENOID IS 400 FEET.
2. FD-401-PC COMES WITH A BUILT-IN LEP-FLEP SURGE PROTECTOR. REFER TO LEP-FLEP WIRING DIAGRAM FOR GROUNDING INSTRUCTIONS.
3. GROUNDING SHOULD BE 10 OHMS OR LESS.

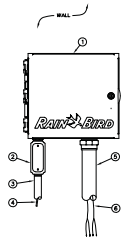
1 FD-401 TURF DECODER DETAIL



1. TWO-WIRE DECODER CONTROLLER RAIN BIRD ESP-LXD
2. TWO-WIRE CABLE TO ESP-LXD CONTROLLER
3. COMMUNICATION WIRE TO ESP-LXD CONTROLLER
4. SOLENOID VALVE OR MASTER VALVE # OF 2
5. SOLENOID WIRE # OF 2
6. DB SERIES WIRE CONNECTOR RAIN BIRD DBRY/DB-B # OF 12
7. FIELD DECODER RAIN BIRD FD-401-PC WITH BUILT-IN SURGE PROTECTOR
8. COMMUNICATION WIRE TO NEXT DEVICE (FIELD DECODER, SENSOR DECODER, OR LEP-FLEP IF MORE THAN 50 FT BETWEEN DECODERS)
9. TWO-WIRE CABLE TO NEXT DEVICE (FIELD DECODER, SENSOR DECODER, OR LEP-FLEP IF MORE THAN 50 FT BETWEEN DECODERS)
10. GROUNDING ROD TO 10 OHMS OR LESS

NOTES:
1. MAXIMUM LENGTH OF SECONDARY WIRE PATH IS 4X AWG FROM FIELD DECODER TO SOLENOID IS 400 FEET.
2. FD-401-PC COMES WITH BUILT-IN LEP-FLEP SURGE PROTECTOR. REFER TO LEP-FLEP WIRING DIAGRAM FOR GROUNDING INSTRUCTIONS.

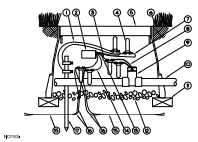
2 FD-401 TURF DECODER DETAIL



1. TWO-WIRE DECODER CONTROLLER: RAIN BIRD ESP-LXD TWO-WIRE DECODER CONTROLLER IN PLASTIC CABINET WITH WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
4. POWER SUPPLY WIRE
5. 2-INCH CONDUIT AND FITTINGS FOR TWO-WIRE CABLE
6. MAXICABLE TWO-WIRE PATH TO DECODERS: USE A DIFFERENT CABLE JACKET COLOR FOR EACH PATH.

NOTES:
1. ESP-LXD CONTROLLER COMES WITH 50 STATIONS AVAILABLE. TWO ADDITIONAL 75 STATION ESP-LXD-SLM75 MODULES MAY BE ADDED TO EXPAND THE CONTROLLER UP TO 200 TOTAL STATIONS.
2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

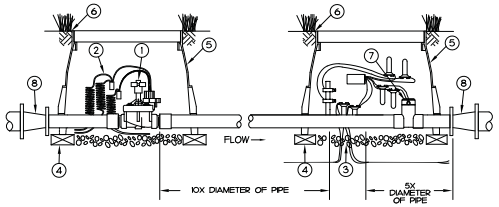
3 2 WIRE DECODER CONTROLLER DETAIL



NOTES:
1. LENGTH/BULK LENGTH OF SECONDARY WIRE PATH (14 AWG) FROM DECODER TO RELAY IS 400 FEET.
2. PLACE 3 FEET OF EXTRA WIRE IN VALVE BOX FOR EASY SERVICING.
3. GROUNDING SHOULD BE TO 10 OHMS OR LESS.

1. GREEN/YELLOW WIRE FROM SC-4CXTURF TO GROUNDING ROD BRASS CLAMP (1 OF 2)
2. SENSOR DECODER RAIN BIRD SDI-4CXTURF WITH DB SERIES SENSOR DECODER
3. RED WIRE FROM SC-4CXTURF TO FLOW SENSOR
4. DB SERIES WIRE CONNECTOR RAIN BIRD DBRY/DB-C (1 OF 6)
5. LARGE VALVE BOX WITH COVER: RAIN BIRD VB-STD
6. FINISH GRADE OR TOP OF MULCH
7. GROUND WIRE FROM SC-4CXTURF TO DB SERIES WIRE CONNECTOR (1 OF 2)
8. FLOW SENSOR WIRE (1 OF 2)
9. FLOW SENSOR
10. PVC MAIN LINE PIPE
11. PIPE (1 OF 4)
12. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
13. BLACK WIRE FROM SC-4CXTURF TO FLOW SENSOR
14. BLUE WIRE FROM SC-4CXTURF (1 OF 2)
15. TWO-WIRE CABLE TO NEXT DEVICE (FIELD DECODER, SENSOR DECODER, LINE SURGE PROTECTOR OR ESP-LXD CONTROLLER)
16. COMMUNICATION WIRE TO NEXT DEVICE (FIELD DECODER, SENSOR DECODER, LINE SURGE PROTECTOR, OR ESP-LXD CONTROLLER)
17. GROUNDING ROD

4 FLOW-SENSOR DETAIL



1. NORMALLY OPEN MASTER VALVE
2. WIRE TO SATELLITE CONTROLLER MASTER VALVE CIRCUIT (36-INCH EXPANSION COIL, EACH WIRE)
3. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
4. BRICK (1 OF 4)
5. RECTANGULAR VALVE BOX WITH COVER: RAIN BIRD VB-STD
6. FINISH GRADE
7. FLOW SENSOR: RAIN BIRD FS SERIES (see flow sensor detail)
8. CONCENTRIC REDUCER

NOTE:
1. REFER TO RAIN BIRD TECHNICAL DATA FOR FLOW SENSOR INSTALLATION BASED ON PIPE SIZING PARAMETERS.

5 MASTER VALVE AND FLOW SENSOR DETAIL (2 WIRE DECODER SYSTEM)

6

7

8

9

10

11

SCALE
DRAWN BY DS
CHECKED BY PJR

STAMP

REED ASSOCIATES
LANDSCAPE ARCHITECTURE
477 SOUTH MATHILDA AVENUE
SUNNYVALE, CALIFORNIA 94086
(408) 735-7421 FAX 735-7422
web: www.rala.net / email: paul@rala.net

Morgan Hill Development
Morgan Hill, California

LANDSCAPE CONSTRUCTION DETAILS

JOB NO.
DATE 06.29.18

SHEET L3.2
OF

Attachment: Landscape Plans (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map and Planned Development: Cochrane-South Bay)

LANDSCAPE SPECIFICATIONS

IRRIGATION SPRINKLER SYSTEM AND LANDSCAPE PLANTING

1.0 GENERAL

A. THE WORK INCLUDES LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE WORK INDICATED IN DRAWINGS AND DESCRIBED IN SPECIFICATIONS.

1. PERFORM WORK IN ACCORDANCE WITH BEST STANDARDS OF PRACTICE RELATING TO VARIOUS TRADES, AND UNDER CONTINUOUS SUPERVISION OF A COMPONENT FOREMAN CAPABLE OF INTERPRETING DRAWINGS AND SPECIFICATIONS.

B. PRIOR TO CONSTRUCTION, VERIFY THAT CONTRACT DOCUMENTS REFLECT LATEST REVISIONS, INCLUDING PLAN CHECK REQUIREMENTS.

C. CONSTRUCT IRRIGATION SYSTEM USING MATERIAL AND METHODS CONFORMING TO APPLICABLE PROVISIONS OF UNIFORM PLUMBING CODE, PUBLISHED BY WESTERN PLUMBING OFFICIALS ASSOCIATION, NATIONAL ELECTRICAL CODE, AND OTHER CODES PROPERLY GOVERNING THESE ACTIVITIES AT THE LOCATION OF THE WORK.

1. VERIFY LOCATIONS OF EXISTING UTILITIES WHETHER OR NOT SHOWN IN DRAWINGS. ASSUME RESPONSIBILITY FOR THEIR PROTECTION.

D. THE CONTRACT DOCUMENTS ARE NOT INTENDED TO CONFLICT WITH REQUIREMENTS OF GOVERNING ORDINANCES. WHEN DRAWINGS AND SPECIFICATIONS DESCRIBE MATERIALS, WORKMANSHIP, OR CONSTRUCTION OF BETTER QUALITY, HIGHER STANDARD, PROVISIONS OF DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE.

E. OBTAIN AND PAY FOR PERMITS AND INSPECTIONS REQUIRED FOR THE WORK.

F. BEFORE PROCEEDING WITH THE WORK, VERIFY DIMENSIONS AND QUANTITIES. IMMEDIATELY INFORM LANDSCAPE ARCHITECT OF DISCREPANCY BETWEEN DRAWINGS, SPECIFICATIONS, AND ACTUAL CONDITIONS. COMMENCE WORK IN AREAS OF DISCREPANCY ONLY AFTER RECEIVING INSTRUCTIONS FROM LANDSCAPE ARCHITECT.

G. DIMENSIONS INDICATED IN DRAWINGS ARE APPROXIMATE. PROVIDE OFFSETS, FITTINGS, SLEEVES, ETC. REQUIRED TO COMPLETE THE PROJECT. PERFORM SIMILAR OPERATIONS FOR LIKE CONDITIONS WITHOUT ADDITIONAL COST TO OWNER.

1.1 SUBSTITUTIONS

A. FURNISH MATERIALS IN QUANTITIES, SIZE, AND MANUFACTURE INDICATED IN DRAWINGS AND SPECIFICATIONS.

B. FOR A PERIOD OF 30 DAYS AFTER EXECUTION OF CONTRACT, LANDSCAPE ARCHITECT WILL CONSIDER FORMAL REQUESTS FROM CONTRACTOR FOR SUBSTITUTION OF PRODUCTS IN PLACE OF THOSE SPECIFIED ONLY UNDER THESE CONDITIONS:

1. WHEN SPECIFIED PRODUCTS ARE NOT AVAILABLE THROUGH NO FAULT OF SUB-CONTRACTOR.
2. WHEN IT IS CLEARLY SEEN, IN THE JUDGMENT OF OWNER, THAT A SUBSTITUTION WILL BE TO OWNER'S BEST INTERESTS IN TERMS OF TIME, COST, OR OTHER CONSIDERATIONS.

C. SUBMIT A SEPARATE REQUEST FOR EACH SUBSTITUTION. PROVIDE COMPLETE DATA SUBSTANTIATING COMPLIANCE OF PROPOSED SUBSTITUTION, INCLUDING PRODUCT IDENTIFICATION, MANUFACTURER'S NAME AND ADDRESS, MANUFACTURER'S LITERATURE, AND SAMPLES AS APPLICABLE.

D. MANUFACTURER'S WARRANTIES WILL NOT RELIEVE SUB-CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. ONLY SUPPLEMENT THE GUARANTEE.

1.2 RECORD DRAWINGS

A. FURNISH OWNER WITH A SET OF RECORD DRAWINGS (REPRODUCIBLE VELLUMS) OF IRRIGATION SPRINKLER SYSTEM AT CONCLUSION OF THE INSTALLATION.

1. OBTAIN VELLUMS FROM LANDSCAPE ARCHITECT AT COST OF REPRODUCTION PLUS 25 PERCENT.

B. INDICATE IN RECORD DRAWINGS ALL CHANGES MADE TO IRRIGATION SYSTEM DESIGN.

1.3 EXTRA MATERIALS

A. FURNISH OWNER WITH 2 EACH OF THE FOLLOWING MATERIALS FOR EACH TYPE OF VALVE AND SPRINKLER HEAD INSTALLED IN THE SYSTEM:

1. VALVE KEYS.
2. SERVICE WRENCHES.
3. QUICK COUPLER VALVE KEYS.
4. HOSE SWIVELS COMPATIBLE WITH QUICK COUPLER VALVES.
5. KEYS TO OPEN AUTOMATIC CONTROL CABINET.

1

1.4 WARRANTY

A. FURNISH OWNER WITH GUARANTEE THAT IRRIGATION SPRINKLER SYSTEM IS FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP, AND THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. ORDINARY WEAR AND TEAR, UNUSUAL ABUSE, OR NEGLECT ACCEPTED.

B. PROVIDE GUARANTEE FOR REPAIR OR REPLACEMENT OF DEFECTS IN MATERIAL OR WORKMANSHIP, SETTLING OF BACKFILLED TRENCHES, AND TO REPAIR OR REPLACE DAMAGE RESULTING FROM THE REPAIRS OR REPLACEMENTS OF DEFECTS WITHOUT ADDITIONAL COST TO OWNER.

C. MAKE REPAIRS OR REPLACEMENTS, INCLUDING COMPLETE RESTORATION OF DAMAGED PLANTING, PAVING, OR OTHER IMPROVEMENTS OF ANY KIND, WITHIN A REASONABLE TIME AS DETERMINED BY OWNER, AFTER RECEIPT OF WRITTEN NOTICE.

D. IN THE EVENT OF FAILURE BY CONTRACTOR TO MAKE REPAIRS OR REPLACEMENTS WITHIN A TEN (10) DAYS AFTER RECEIPT OF NOTICE, REPAIRS OR REPLACEMENTS WILL BE MADE BY OTHERS AT THE EXPENSE OF SUB-CONTRACTOR.

E. WARRANTY PERIOD FOR IRRIGATION SPRINKLER SYSTEM, 1 YEAR FROM DATE OF ACCEPTANCE BY OWNER.

1.5 LANDSCAPE MAINTENANCE AND GUARANTEE

A. PROVIDE MAINTENANCE FOR PLANTING AND IRRIGATION FOR 60 CALENDAR DAYS AFTER STAGE ACCEPTANCE.

1. WORK INCLUDES, BUT IS NOT LIMITED TO, WATERING, WEEDING, MOWING, FERTILIZING, CULTIVATING, EDGING, CUTTING, AND PRUNING NECESSARY TO KEEP PLANTS IN A HEALTHY GROWING CONDITION, AND TO KEEP PLANTED AREAS NEAT AND ATTRACTIVE IN APPEARANCE THROUGHOUT MAINTENANCE PERIOD.
2. IMMEDIATELY REPLACE DAMAGED, UNHEALTHY, OR DEAD TREES, SHRUBS, AND GROUND COVERS WITH SIZE AND KIND INDICATED IN DRAWINGS.
3. PRIOR TO END OF MAINTENANCE PERIOD, APPLY FERTILIZED 'D' (15-2-6) AT THE RATE OF 4 POUNDS PER 1,000 SQUARE FEET UNIFORMLY OVER ALL PLANTING AREAS.
4. UPON COMPLETION OF INITIAL 60 DAY MAINTENANCE PERIOD, NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO DATE OF INITIAL INSPECTION.

B. GUARANTEE THAT PLANTS AND PLANTING AREAS ARE IN HEALTHY, THRIVING CONDITION FOR AN ADDITIONAL 60 DAYS AFTER INITIAL ACCEPTANCE OF PROJECT BY LANDSCAPE ARCHITECT.

1. FINAL ACCEPTANCE MAY BE GRANTED AT THIS TIME AS DETERMINED BY LANDSCAPE ARCHITECT.

2

2.0 PRODUCTS

2.1 IRRIGATION SPRINKLER MATERIALS

A. PVC PLASTIC PIPE AND FITTINGS

1. MAIN LINE (PRESSURE) PIPING, TYPE 1120-1220 SCHEDULE 40, NSF APPROVED, LASCO, JOHNS MANVILLE, OR APPROVED EQUAL.
   A. MAIN LINE PVC PIPE FITTINGS, TYPE 1-11 SCHEDULE 40, NSF APPROVED.
2. LATERAL (NON-PRESSURE) PIPING, TYPE 1120-1220 SCHEDULE 40, CLASS 200, NSF APPROVED, LASCO, JOHNS MANVILLE, OR APPROVED EQUAL.
   A. LATERAL PVC PIPE FITTINGS, TYPE 1-11 SCHEDULE 40, NSF APPROVED, LASCO, SLOANS, OR APPROVED EQUAL.
3. SOLVENT, TYPE APPROVED BY MANUFACTURER OF PIPE AND FITTINGS. USE SCHEDULE 80 PVC THREADED NIPPLES IN RISER ASSEMBLIES.
4. USE ONLY PVC PLASTIC PIPE FREE FROM BLISTERS, INTERNAL STRIATIONS, DENTS, WRINKLES, CRACKS, HOLES, FOREIGN MATERIALS, SMOOTH INTERIOR WALL WITH A GLASS-LIKE APPEARANCE.
   A. CONTINUOUSLY AND PERMANENTLY MARK EACH PIPE WITH MANUFACTURER'S NAME, KIND OF PIPE, MATERIAL, SIZE SCHEDULE OR TYPE, AND MANUFACTURER'S QUALITY CONTROL IDENTIFICATION.

B. GALVANIZED PIPE AND FITTINGS

1. WHERE INDICATED IN DRAWINGS, USE ASA SCHEDULE 40 MILD STEEL SCREWED PIPE, GALVANIZED, WITH MEDIUM GALVANIZED SCREWED BEADED MALLEABLE IRON FITTINGS.
   A. GALVANIZED COUPLINGS MAY BE MERCHANT COUPLING.

2

C. CONTROL WIRE

1. DIRECT BURIAL REMOTE CONTROL WIRES, U.L. APPROVED TYPE U.F. MINIMUM OF 4/64 INCH VINYL INSULATION. CONSULT VALVE MANUFACTURER'S CURRENT WIRE SIZING CHART FOR REQUIRED WIRE SIZES.
2. COMMON RETURN WIRE = WHITE, PILOT WIRE = RED, ORANGE, OR BLACK.
3. MAKE SPLICES WITH "SCOTCH LOK" NO. 3577 CONNECTOR SEALING PACKS, OR APPROVED EQUAL.

D. SPRINKLER HEADS, REMOTE CONTROL VALVES, AUTOMATIC CONTROLLER, QUICK COUPLER

1. TYPE, SIZE, AND LOCATION INDICATED IN DRAWINGS.
2. LOCATE REMOTE CONTROL VALVES AND QUICK COUPLERS A MAXIMUM OF 12 INCHES FROM CURB, WALK, OR HEADERBOARD.

E. BACKFLOW PREVENTION

1. BACKFLOW PREVENTERS AS INDICATED IN DRAWINGS OR AS APPROVED BY LOCAL GOVERNING BODY.
2. DO NOT LOCATE IN LAWN AREAS.
3. SCREEN UNIT WITH PLANT MATERIAL SHOWN ON PLANTING PLAN IN LOCATION OF BACKFLOW PREVENTER OR ELSEWHERE ON SITE WHEN DIRECTED BY LANDSCAPE ARCHITECT.
4. AVOID USING PVC PIPING IN BACKFLOW PREVENTER ASSEMBLIES.

F. VALVE BOXES

1. CONTROL VALVE BOXES, AMETEK NO. 10-70-00 WITH GREEN COVER LID NO. 10-173-004, OR EQUAL. PROVIDE EXTENSIONS IF REQUIRED.

2.2 LANDSCAPE PLANTING MATERIALS

A. SOIL

1. EXISTING SURFACE SOIL, UNLESS OTHERWISE INDICATED IN DRAWINGS, FREE FROM SUBSOIL, REFUSE, ROOTS, HEAVY OR STIFF CLAY, ROCKS, STICKS, BRUSH OR OTHER DELETERIOUS MATERIALS.
2. NATIVE SOIL MATERIAL EXCAVATED FROM PLANTING HOLES, FREE FROM ROCK OVER 1/2 INCH IN DIAMETER.
3. IMPORTED SOIL, IF REQUIRED, SANDY LOAM TEXTURE.
   A. SUBMIT SOIL SAMPLES AND ANALYSIS OF IMPORTED SOIL TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO DELIVERY TO PROJECT SITE.
   B. SHOULD LANDSCAPE ARCHITECT REJECT ANY PORTION OF DELIVERED SOIL FOR ANY REASON, SELECT SOIL MATERIAL FROM A DIFFERENT SOURCE AND RESUBMIT TO LANDSCAPE ARCHITECT FOR APPROVAL WITHOUT ADDITIONAL COST TO OWNER.

B. ORGANIC FERTILIZERS AND SOIL AMENDMENTS

1. COMMERCIAL GRADE ORGANIC FERTILIZERS AND SOIL AMENDMENTS, UNIFORM IN COMPOSITION, DRY AND FREE-FLOWING, DELIVERED TO SITE IN ORIGINAL, UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS.
2. MATERIAL WHICH BECOMES CAKED OR OTHERWISE DAMAGED, MAKING IT UNSUITABLE FOR USE, WILL BE REJECTED.
   A. FERTILIZER 'A': ORGANIC FERTILIZER FOR GENERAL SOIL FERTILITY IMPROVEMENT IN ALL TURF AND PLANTING AREAS SHALL BE GRANULATED/PELLETIZED TYPE HAVING A N6-P20-K20 FORMULA
   B. FERTILIZER 'B': ORGANIC FERTILIZER TO BE APPLIED TO LAWN AREAS PRIOR TO SEEDING OR SODDING SHALL BE GRANULATED/PELLETIZED TYPE HAVING N6-P2-K0 (WITH 1% IRON).
   C. FERTILIZER 'C': ORGANIC FERTILIZER TO BE INCORPORATED IN EACH PLANT PIT SHALL BE A PLANT TAB WITH FORMULA N20-P10-K5, SUCH AS GRO-POWER.
   D. FERTILIZER 'D': ORGANIC FERTILIZER TO BE APPLIED TO LAWN AREAS AFTER TURF IS ESTABLISHED AND AROUND INSTALLED CONTAINER PLANTS DURING THE MAINTENANCE PERIOD SHALL BE PELLETED TYPE COMBINATION CHEMICAL ORGANIC FORMULA N15-P2-K6.
   E. SOIL AMENDMENT: IMPORT TOPSOIL TO MEET ORGANIC MATTER CONTENT OF A MIN. OF 3.5% BY DRY WEIGHT OR 1 INCH OF COMPOST.
      "OPTION 1" --REQUIRE IMPORT TOPSOIL TO MEET ORGANIC MATTER CONTENT OF A MIN. OF 3.5% BY DRY WEIGHT.
      "OPTION 2" --SUBMIT SOILS REPORT THAT IDENTIFIES EXISTING TOPSOIL MEETS ORGANIC MATTER OF CONTENT OF 3.5% BY DRY WEIGHT OR GREATER.
      RECYCLED COMPOST MATERIAL FROM A PROCESSOR THAT PARTICIPATES IN THE U.S. COMPOSTING COUNCIL'S STANDARD TESTING ASSURANCE PROGRAM

3

   F. IRON SULFATE: STANDARD COMMERCIAL BRAND.

C. WOOD CHIP MULCH

1. ALL PLANTED AREAS, EXCEPT TURF, SHALL RECEIVE A TOP DRESSING OF MULCH CONSISTING OF RECYCLED, NON-DYED WOOD CHIPS OR FIR CHIPS, MEDIAN GRIND 3/8 TO 2" IN DIAMETER. SHREDDED BARK IS UNACCEPTABLE.

D. PLANT MATERIAL

1. CONFORM PLANT MATERIAL, INDICATED IN DRAWINGS BY THE LISTED NAMES, TO "STANDARD PLANT NAMES," SECOND EDITION. EXCEPT FOR NAMES NOT INCLUDED, FOLLOW THE ESTABLISHED CUSTOMS OF THE NURSERY TRADE.
2. ALL PLANTS SHALL BE TRUE TO NAME. TAG ONE OF EACH BUNDLE OR LOT WITH THE NAME AND SIZE OF THE PLANT, IN ACCORDANCE WITH STANDARDS OF PRACTICE RECOMMENDED BY AMERICAN ASSOCIATION OF NURSERYMEN.
3. ALL PLANT MATERIALS SHALL MEET THE SPECIFICATIONS OF FEDERAL, STATE, AND COUNTY LAWS, REQUIRED INSPECTION FOR PLANT DISEASES AND INSECT INFESTATIONS.
4. PLANTS SHALL BE SYMMETRICAL, TYPICAL FOR VARIETY AND SPECIES, SOUND, HEALTHY, VIGOROUS, FREE FROM PLANT DISEASES, INSECT PESTS, OR OTHER EGGS, WITH HEALTHY, NORMAL ROOT SYSTEMS, WELL FILLING THEIR CONTAINERS, BUT NOT TO THE POINT OF BEING ROOT BOUND.
5. USE ONLY PLANT MATERIALS THAT ARE FIRST CLASS REPRESENTATIVE OF THE SPECIES AND CULTIVARS SPECIFIED AND THAT CONFORM TO ALL STATE AND LOCAL LAWS GOVERNING THE SALE, TRANSPORTATION, AND INSPECTION OF PLANT MATERIALS.
6. PROVIDE ONLY PLANTS WITH STRAIGHT, SINGLE TRUNKS, UNLESS OTHERWISE INDICATED IN DRAWINGS.
7. THOSE SPECIFIED TO BE MULTI-TRUNK SHALL HAVE AT LEAST THREE MAIN LEADERS FROM THE BASE.
8. PLANTS THAT HAVE ENCIRCLING ROOTS, NOT ROOT BOUND, SHALL HAVE ROOTBALLS LIGHTLY SLASHED ON A MINIMUM OF 3 SIDES TO STOP ENCIRCLING ROOT GROWTH.
9. THE HEIGHT AND SPREAD OF PLANT MATERIALS SHALL BE MEASURED WITH BRANCHES IN THEIR NORMAL POSITION. MEASURE SIZES OF PLANTS ON THE PLANT LIST.
   A. 5 AND 15 GALLON CAN CONTAINER STOCK SHALL HAVE BEEN GROWN IN THAT CONTAINER NOT LESS THAN SIX (6) MONTHS, BUT SHALL NOT HAVE BEEN TRANSPLANTED OR BEEN IN THE CONTAINERS SO AS TO HAVE BECOME ROOT BOUND.
   B. 15 GALLON CAN CONTAINER STOCK SHALL HAVE A PLANTED HEIGHT OF 6 FEET WITH 1 INCH CALIPER TRUNK.

2.3 SOURCE QUALITY CONTROL

A. PERFORM INSPECTIONS OF CONSTRUCTION FOR THE FOLLOWING PARTS OF THE WORK:

1. INSPECTION UPON COMPLETION OF PRELIMINARY FINISH GRADING AND IRRIGATION SPRINKLER SYSTEM.
2. INSPECTION OF PLANTS PRIOR TO LAYOUT.
3. LAYOUT INSPECTION OF SPOTTED PLANTS.
4. INITIAL INSPECTION UPON COMPLETION OF PLANTING AND TREE STAKING, PRIOR TO COMMENCEMENT OF MAINTENANCE PERIOD.
5. FINAL INSPECTION AT CONCLUSION OF ADDITIONAL 60 DAY LANDSCAPE MAINTENANCE PERIOD.

B. LISTED INSPECTIONS WILL BE MADE BY LANDSCAPE ARCHITECT OR AN AUTHORIZED REPRESENTATIVE.

1. REQUEST INSPECTION BY LANDSCAPE ARCHITECT AT LEAST 48 HOURS IN ADVANCE OF TIME INSPECTION IS REQUIRED.

4

3.0 EXECUTION

3.1 IRRIGATION SPRINKLER SYSTEM

A. PREPARATION

1. COORDINATE INSTALLATION OF SPRINKLER MATERIALS, INCLUDING PIPE, TO ELIMINATE INTERFERENCE WITH, OR DIFFICULTY IN PLANTING SHRUBS, TREES, GROUND COVER, EXISTING OR PROPOSED UTILITIES, AND OTHER CONSTRUCTION. RESTORE TO ORIGINAL CONTOURS AND ESTABLISHED GRADES CHANGED DURING COURSE OF THE WORK.

5

B. INSTALLATION

1. PRIOR TO INSTALLATION, LAYOUT AND STAKE PRESSURE SUPPLY LINES, LATERAL LINES, AND LOCATION OF SPRINKLER HEADS. OBTAIN APPROVAL LAYOUT FROM LANDSCAPE ARCHITECT.
   A. IF EQUIPMENT IS INCORRECTLY LOCATED WITHOUT APPROVAL, RELOCATE PER DIRECTIONS OF LANDSCAPE ARCHITECT WITHOUT ADDITIONAL COST TO OWNER.
2. CONNECT SPRINKLER IRRIGATION SYSTEM TO POINT OF CONNECTION (P.O.C.) INDICATED IN DRAWINGS.
   A. MAKE CONNECTIONS AT APPROXIMATE LOCATIONS SHOWN IN DRAWINGS.
   B. ASSUME RESPONSIBILITY FOR CHANGES CAUSED BY ACTUAL SITE CONDITIONS.

C. TRENCHING & BACKFILLING

1. EXCAVATION INCLUDES REMOVAL OF WATER AND MATERIALS, OR OBSTRUCTIONS OF ANY NATURE THAT WOULD INTERFERE WITH THE WORK.
2. REMOVE FROM THE SITE EXCESS AND WASTE MATERIAL RESULTING FROM TRENCHING OPERATIONS.
3. DIG TRENCHES STRAIGHT AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF DITCH.
   A. LAY PIPE TO AN EVEN GRADE. FOLLOW LAYOUT FOR TRENCHING EXCAVATION INDICATED IN DRAWINGS AND AS NOTED.
4. COVERAGES
   A. PROVIDE MINIMUM COVER OF 18 INCHES FOR PRESSURE SUPPLY LINES.
   B. PROVIDE MINIMUM COVER OF 18 INCHES FOR ALL NON-PRESSURE LINES INDICATED IN DRAWINGS.
   C. PROVIDE MINIMUM COVER OF 24 INCHES OVER PIPE UNDER VEHICULAR WAYS.
   D. PROVIDE MINIMUM COVER OF 18 INCHES FOR CONTROL WIRING.
   E. PROVIDE 3 INCH SAND BACKFILL ALL SIDES OF PVC PIPE, WHERE SOILS CONTAIN GREATER THAN 50% ROCKS OR OTHER MATERIAL 1/2 INCH OR LARGER IN DIAMETER WITHIN NATIVE BACKFILL MATERIAL.

D. COMPACTION

1. COMPACT BACKFILL FOR TRENCHING TO A DRY DENSITY EQUAL TO ADJACENT UNDISTURBED SOIL IN PLANTING AREAS AND TO 90% IN PAVED AREAS.
2. CONFORM TO ADJACENT GRADES WITHOUT DIPS, SUNKEN AREAS, HUMPS, OR OTHER IRREGULARITIES.
3. PLACE INITIAL BACKFILL ON ALL LINES OF A FINE GRANULAR MATERIAL.
4. FOREIGN MATTER LARGER THAN 1/2 INCH IN SIZE WILL NOT BE PERMITTED.
5. IF SETTLEMENT OCCURS AND ADJUSTMENTS IN PIPE, VALVES, SPRINKLER HEADS, LAWN OR PLANTING, OR OTHER CONSTRUCTION ARE NECESSARY, MAKE REQUIRED ADJUSTMENTS WITHOUT ADDITIONAL COST TO OWNER.

E. HANDLING OF PIPE

1. INSTALL PVC PIPE ALLOWING A SMALL AMOUNT OF EXCESS LENGTH IN THE LINE TO COMPENSATE FOR CONTRACTION OR EXPANSION OF THE PIPE.
   A. ACCOMPLISH EXCESS LENGTH BY "SNAKING" THE LINE IN THE TRENCH DURING TIME OF INSTALLATION.
2. HANDLE AND ASSEMBLE PIPE, FITTINGS, AND ACCESSORIES BY SKILLED TRADESMEN USING APPROVED METHODS AND TOOLS. EXERCISE CARE TO PREVENT DAMAGE TO MATERIALS OR EQUIPMENT.
   A. KEEP INTERIOR OF PIPES, FITTINGS, AND ACCESSORIES CLEAN AT ALL TIMES. CLOSE OPENINGS IN PIPING RUNS AT THE END OF WORK EACH DAY TO PREVENT ENTRY OF FOREIGN MATERIALS.
   B. BENDING OF GALVANIZED STEEL PIPE WILL NOT BE PERMITTED.
3. PERFORM JOINTING BY COMPETENT TRADESMEN SPECIALLY TRAINED IN THE TYPE OF WORK REQUIRED, USING TOOLS AND EQUIPMENT RECOMMENDED BY THE MANUFACTURERS OF THE PIPE, FITTINGS, OR EQUIPMENT.
   A. TAKE EVERY PRECAUTION TO SECURE A PERMANENT, WATER-TIGHT JOINT BETWEEN EACH LENGTH OF PIPE.
   B. JOINTING PROCEDURES AND METHODS ADOPTED BY CONTRACTOR SHALL BE IN STRICT ACCORDANCE WITH RECOMMENDATIONS OF MANUFACTURER OF JOINTING MATERIAL USED.

6

   C. CUT PIPE CUT STRAIGHT AND TRUE.
   D. AFTER CUTTING, REAM OUT ENDS TO THE FULL INSIDE DIAMETER OF THE PIPE.
   E. IN CHANGING PIPE DEPTHS, USE 45º ELBOWS.

F. SPRINKLER HEADS

1. INSTALL TURF HEADS, WHERE ADJACENT TO FIXED OBJECTS SUCH AS HEADERBOARDS, CURBS, OR MOWING STRIPS, SO POWERED EDGING TOOLS CAN PASS BETWEEN TURF HEAD AND FIXED OBJECT WITHOUT DIFFICULTY.
2. LOCATE SHRUB HEADS MINIMUM 12 INCHES FROM BACK OF CURBS AND EDGE OF WALKWAYS WHEN SHRUB HEAD IS MOUNTED ABOVE GRADE ON A RISER.

G. CONTROL VALVES

1. INSTALL ELECTRIC, NORMALLY CLOSED ANGLE CONTROL VALVES AS INDICATED IN DRAWINGS AND AS SPECIFIED BY MANUFACTURER.
2. SET VALVES IN VERTICAL POSITION, HOUSED IN AMETEK OR EQUAL VALVE BOX WITH REMOVABLE COVER, FLUSH WITH FINISHED GRADE. WHEREVER POSSIBLE, INSTALL IN A SHRUB AREA.

H. ELECTRICAL WORK

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, THE STATE OF CALIFORNIA ELECTRICAL SAFETY ORDERS, OTHER APPLICABLE STATE AND LOCAL CODES AND REGULATIONS.
2. ASSUME RESPONSIBILITY FOR THE COORDINATION OF ALL ELECTRICAL SERVICE CONNECTIONS TO THE CONTROLLER.

I. FIELD QUALITY CONTROL

1. FLUSH PIPES BY REMOVING HEADS AND OPERATING THE SYSTEM AT FULL PRESSURE UNTIL ALL RUST, SCALE, SAND, ETC., IS REMOVED.
   A. DIVERT FLUSHING WATER TO PREVENT PONDING OR SOIL EROSION.
2. TEST PIPING UNDER FULL PRESSURE, WITH RISERS CAPPED FOR A PERIOD OF TWO HOURS.
3. INSPECT PIPE FOR LEAKS.
   A. CORRECT ANY LEAKAGE DISCOVERED DURING TESTS.
4. REPEAT TESTS UNTIL SATISFACTORY.
5. TEST SPRINKLER HEADS:
   A. TO DETERMINE THAT THEY FUNCTION ACCORDING TO MANUFACTURER'S DATA, AND
   B. TO DETERMINE THAT THE INSTALLATION WILL PROVIDE DESIGN COVERAGE.
6. ALLOW OR CAUSE WORK TO BE COVERED UP OR ENCLOSED ONLY AFTER IT HAS BEEN INSPECTED, TESTED, AND APPROVED BY LANDSCAPE ARCHITECT.
   A. SHOULD ANY WORK BE CLOSED OR COVERED UP BEFORE INSPECTION AND TESTS ARE SATISFACTORILY COMPLETED, UNCOVER THE WORK, AND AFTER IT HAS BEEN INSPECTED, TESTED, AND APPROVED, MAKE ALL REPAIRS WITH MATERIALS AS MAY BE NECESSARY TO RESTORE DISTURBED WORK TO ITS ORIGINAL AND PROPER CONDITION WITHOUT ADDITIONAL COST TO OWNER.

3.2 LANDSCAPE PLANTING PROCEDURES

A. CLEARING & GRUBBING

1. PRESERVE EXISTING TREES IN AN UNDISTURBED CONDITION.
2. ROUGH GRADE EARTHEN MOUNDS TO CONTOURS INDICATED IN DRAWINGS.
3. CONSTRUCT MOUNDS WITH ENOUGH EXCESS MATERIAL TO ALLOW FOR FUTURE SETTLEMENT.
   A. FINAL LOCATION OF MOUNDS SHALL NOT CONFLICT WITH EXISTING UTILITIES, UTILITY BOXES, VALVE BOXES, ETC.
4. NO COMPACTION WILL BE ALLOWED, EXCEPT FOR NORMAL GRADING AND SHAPING OPERATIONS.
5. UPON COMPLETION OF GRADING OPERATIONS, SPREAD EXCESS MATERIAL IN AREAS DIRECTED BY LANDSCAPE ARCHITECT.

B. SOIL CONDITIONS

1. CULTIVATE PLANTED AREAS TO A LIGHT AND FRIABLE CONSISTENCY. UNIFORMLY TILL THE

7

FOLLOWING MATERIAL, PER 1,000 SQUARE FEET, INTO THE TOP 6 INCHES OF SOIL, USING A ROTOTILLER OR SIMILAR MACHINE, THEN THOROUGHLY WATER.

6 CU. YDS. – RECYCLED COMPOST MATERIAL (SOIL AMENDMENT)
25 LBS. – ORGANIC FERTILIZER 'A'
15 LBS. – SOIL SULPHER

2. CULTIVATE EXISTING PLANTING AREAS WITH HAND TOOLS.
3. PREPARED SOIL MIX FOR BACKFILL IN PITS FOR TREES, VINES, AND SHRUBS, CONSISTING OF THE FOLLOWING:

1/3 YD. – RECYCLED COMPOST MATERIAL (SOIL AMENDMENT)
2/3 YD. – NATIVE SOIL
1 LB. – IRON SULPHATE

AND ORGANIC FERTILIZER 'C' AS FOLLOWS (GRO-POWER TABS OR EQUAL)

1 GAL: 1-TAB
5 GAL: 2-TABS
15 GAL: 6-TABS
6-8 TABS FOR BOXED MATERIAL

4. CONDUCT SOIL PREPARATION AND PLANTING OPERATIONS ONLY UNDER FAVORABLE WEATHER CONDITIONS. SOIL SHALL NOT BE WORKED WHEN EXCESSIVELY DRY OR WET.
   A. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO STOP WORK TAKING PLACE DURING A PERIOD WHEN CONDITIONS ARE CONSIDERED DETRIMENTAL TO SOIL STRUCTURE OR PLANT GROWTH.

C. PLANTING TREES, SHRUBS, & VINES

1. DIG PITS FOR PLANTS SQUARE PER DETAIL IN DRAWINGS.
   A. LEVEL SIZE OF PITS SHALL BE 2 TIMES DIAMETER OF ROOT BALL, AND ONE-HALF AS DEEP AS THE DEPTH OF ROOT BALL.
   B. SOIL AT SIDES AND BOTTOMS SHALL BE LOOSENED BY SCARIFYING TO ENSURE ROOT PENETRATION. AVOID SMOOTH CIRCULAR SIDES.
2. BACKFILL PITS WITH "PREPARED SOIL" TO THE BOTTOM OF THE ROOT BALL. THEN SET THE PLANT IN AN UPRIGHT POSITION IN CENTER OF HOLE. BACKFILL SPACE AROUND IT WITH PLANTING MIX.
   A. WHEN THE BACKFILL AROUND THE PLANT IS APPROXIMATELY TWO-THIRDS COMPLETED, THOROUGHLY WATER. BACKFILL COMPLETE TO THE GRADE OF THE SURROUNDING AREA.
   B. THE CROWN OF THE PLANT SHALL BE 1-1/2 INCHES ABOVE (MINIMUM) FINISHED GRADE.
3. PREPARE A SOIL RING AT LEAST 3 INCHES HIGH AND AS WIDE AS ROOT BALL AROUND EACH PLANT (NOT IN A TURF AREA) TO RETAIN WATER.
   A. WATER THOROUGHLY TO ELIMINATE AIR POCKETS.
   B. REMOVE TURF IN A 24 INCH DIAMETER RING AROUND EACH TREE BASE IN TURF AREAS.

D. PLANTING GROUND COVERS

1. PLANTING SHALL TAKE PLACE IN THE EXISTING PREPARED MOIST AND FRIABLE SOIL, NEVER DRY OR WET AND MUDDY.
   A. THE MOIST CONDITION SHALL EXTEND TO THE FULL DEPTH OF CULTIVATION.
2. SPACE GROUND COVER PLANTS AS INDICATED IN DRAWINGS AND IN THE PLANT LIST.
3. PLANT IN EVENLY SPACED ROWS WITH STAGGERED TRIANGULAR SPACING AND AROUND SHRUBS AND TREES TO WITHIN ONE FOOT.
4. NO GROUND COVER SHALL BE PLANTED LESS THAN ONE-HALF OF THE SPECIFIED SPACING FROM ANY CURB OR WALKWAY.

E. PLANTING TURF GRASS

1. AFTER ALL SOIL AMENDMENT AND ORGANIC FERTILIZERS HAVE BEEN APPLIED AND CULTIVATED INTO SOIL, FINE GRADE ALL AREAS.
2. REMOVE RIDGES AND DEPRESSIONS. AREAS SHALL BE SMOOTH, CONTINUOUS, FIRM PLANES THAT ENSURE PROPER SURFACE DRAINAGE.
3. REMOVE ROCKS, SOIL LUMPS, AND DELETERIOUS MATERIALS LARGER THAN 1 INCH, RAKE AND COMPACT AREAS WITH A 200 POUND ROLLER.
4. AVOID ADDITIONAL COMPACTION OF THE SOILS AFTER TREATMENT. DO NOT PERMIT VEHICULAR OR EQUIPMENT TRAFFIC OVER AREAS.

8

   A. IN THE EVENT OF SUCH COMPACTION, CONTRACTOR WILL BE REQUIRED TO RECULTIVATE COMPACTED AREAS.
5. SODDING: RAKE AREAS TO FINISH GRADE ELEVATION TO 1 INCH LOWER THAN ADJACENT PAVING TO ACCOMMODATE SOD THICKNESS.
   A. SPREAD 20 POUNDS PER 1,000 SQUARE FEET OF FERTILIZER 'B' ON SOIL SURFACES PRIOR TO SODDING. THEN NEATLY INSTALL SOD SLABS.
   B. STAGGER END JOINTS, TIGHTLY JOINTED WITH NO VISIBLE SPACES.
   C. LIGHTLY WATER AND ROLL ENTIRE AREAS. THEN HEAVILY WATER TO ASSURE WATER PENETRATION OF AT LEAST A DEPTH OF 8 INCHES.
6. SEEDING: APPLY FERTILIZER 'B' TO FINISH GRADED SURFACES AT THE RATE OF 4 POUNDS PER 1,000 SQUARE FEET.
   A. USE ONLY SEED THAT IS WEED FREE, FRESH, RECLEANED, GRADE A, NEW CROP CONSISTING OF THE PERCENTAGE OF MIX AS DESCRIBED IN DRAWINGS.
   B. LABEL SEED IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT PRESENTLY IN EFFECT AND SHALL BE DELIVERED TO PROJECT SITE IN BAGS BEARING DEALER'S LABEL AND GUARANTEED ANALYSIS.
   C. SOW SEED IN 2 DIRECTIONS AT A TOTAL COMBINED RATE OF 10 POUNDS PER 1,000 SQUARE FEET.
   D. SOW SEED BY EXPERIENCED PERSONNEL AT A TIME WHEN LITTLE OR NO WIND IS BLOWING.
   E. LIGHTLY RAKE INTO TOP 1/8 INCH OF SOIL.
   F. DO NOT MOW UNTIL TURF IS 2-1/2 INCHES HIGH, AND FOR

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Butterfield & Cochrane Development
Initial Study/Addendum
City of Morgan Hill
July 2018

TABLE OF CONTENTS

Section 1.0 Introduction and Purpose 1
Section 2.0 Project Information 4
Section 3.0 Project Description 9
Section 4.0 Environmental Setting, Checklist, and Impact Discussion 13
4.1 Aesthetics 15
4.2 Agricultural and Forestry Resources 18
4.3 Air Quality 20
4.4 Biological Resources 28
4.5 Cultural Resources 35
4.6 Geology and Soils 41
4.7 Greenhouse Gas Emissions 46
4.8 Hazards and Hazardous Materials 52
4.9 Hydrology and Water Quality 57
4.10 Land Use and Planning 64
4.11 Mineral Resources 66
4.12 Noise and Vibration 67
4.13 Population and Housing 75
4.14 Public Services 77
4.15 Recreation 80
4.16 Transportation/Traffic 82
4.17 Utilities and Service Systems 93
4.18 Mandatory Findings of Significance 98
Section 5.0 References 101
Section 6.0 Lead Agency and Consultants 104

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

TABLE OF CONTENTS

Figures

Figure 2.8-1: Regional Map 6
Figure 2.8-2: Vicinity Map 7
Figure 2.8-3: Aerial Photograph and Surrounding Land Uses 8
Figure 3.2-1: Conceptual Site Plan 11
Figure 4.12-1: Noise Measurement Locations 69

Tables

Table 3.2-1: Project Development 10
Table 4.3-1: Construction Criteria Pollutant Emissions 22
Table 4.3-2: Operational Criteria Pollutant Emissions 25
Table 4.3-3: Cumulative TAC Emissions at Construction MEI 25
Table 4.3-4: Community Risk Impact to New Project Residences 27
Table 4.7-1: Annual Project GHG Emissions in Metric Tons 50
Table 4.12-1: Summary of Short-term and Long-term Noise Measurements (dBA) 68
Table 4.16-1: Existing Plus Project Intersection Levels of Service 86
Table 4.16-2: Cumulative Plus Project Intersection Levels of Service 89
Table 4.16-3: Existing Plus Project Freeway Segment Levels of Service 91
Table 4.17-1: Estimated Project Daily Water Use 96

Appendices

Appendix A: Air Quality
Appendix B: Biological Constraints Analysis
Appendix C: Tree Survey
Appendix D: Phase I Environmental Site Assessment
Appendix E: Agrichemical Assessment
Appendix F: Vicinity Hazardous Materials Users Survey
Appendix G: Noise
Appendix H: Traffic Impact Analysis

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

ACRONYMS AND ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
MND	Mitigated Negative Declaration
NOD	Notice of Determination
RWQCB	Regional Water Quality Control Board
USFWS	United States Fish and Wildlife Service

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 1.0 INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

On June 24, 2014, the Planning Commission adopted the Mitigated Negative Declaration (MND) for the Butterfield and Cochrane Development. The development proposed to amend the existing Planned Unit Development District, subdivide the project site into eight parcels, install a stoplight at the main entrance on Cochrane Road, and develop 196,300 square feet of commercial uses on the project site including the following:

1) Business support services;
2) Commercial services;
3) Commercial recreation, indoor, 3,000 square feet or less in size;
4) Commercial recreation, indoor, greater than 3,000 square feet in size;
5) Drive-through restaurant (maximum of three);
6) Financial services;
7) Home improvement center;
8) Hotel/motel/lodging facilities;
9) Offices, medical/dental;
10) Offices, administrative;
11) Offices, professional
12) Personal services
13) Research and development;
14) Restaurants, sit-down and fast food;
15) Retail, intensive (excluding convenience and specialty markets);
16) Congregate care for the elderly/assisted living facilities;
17) Convenience markets and specialty markets;
18) Day care centers and nursery schools;
19) Day care centers, adult;
20) Minor motor vehicle repair;
21) Nursing home or convalescent hospital;
22) Service station.
23) Any other use the Community Development Director finds similar to listed or permitted uses.

The proposed rezoning would also allow the following conditional uses to be approved by the City at a later date:

1) Kennel

The City of Morgan Hill is the Lead Agency under CEQA and has prepared this Addendum to address the impacts of implementing the currently proposed project. This Addendum is being prepared to conform to the requirements of the CEQA, the CEQA Guidelines (California Code of Regulations §15000 et.seq.) and the regulations and policies of the City of Morgan Hill. As discussed in the following analysis, the proposed project is of similar size and intensity compared to the previously analyzed project, and no new significant impacts, nor a substantial increase in the

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

severity of previously identified impacts, are expected to occur from the implementation of the proposed project, therefore this Addendum has been prepared in conformance with CEQA.

1.2 PURPOSE OF THE ADDENDUM

The California Environmental Quality Act (CEQA) recognizes that between the date an environmental document is completed and the date the project is fully implemented, one or more of the following changes may occur: 1) the project may change; 2) the environmental setting in which the project is located may change; 3) laws, regulations, or policies may change in ways that impact the environment; and/or 4) previously unknown information can arise. Before proceeding with a project, CEQA requires the Lead Agency to evaluate these changes to determine whether or not they affect the conclusion in the environmental document.

The CEQA Guidelines §15162 state that when an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR or negative declaration, due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

CEQA Guidelines §15164 states that the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions described in §15162 (see above) calling for preparation of a subsequent EIR have occurred.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

This Addendum will not be circulated for public review, but will be attached to the 2014 Butterfield & Cochrane Development Initial Study, pursuant to CEQA Guidelines §15164(c). All documents referenced in this Initial Study/Addendum are available for public review in the Community Development Department at the City of Morgan Hill during normal business hours.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

Butterfield & Cochrane Development (AAE2017-0034/AAE2017-0035: Cochrane-South Bay)

2.2 PROJECT LOCATION

Southeast quadrant of the Cochrane Road and Butterfield Boulevard intersection in Morgan Hill (refer to Figure 2.8-1, Figure 2.8-2, and Figure 2.8-3).

2.3 LEAD AGENCY CONTACT

Richard Smeaton, Contract Planner
City of Morgan Hill
Community Development Agency
17575 Peak Avenue
Morgan Hill, CA 95037
Phone: (408) 778-6480
Email: Richard.Smeaton@morganhill.ca.gov

2.4 PROJECT APPLICANT

Zach Lauterbach, Senior Development Manager
Evergreen Development
2390 East Camelback Road, Suite 410
Phoenix, AZ. 85016
Phone: (602) 808-8600
Email: zlauterbach@evgre.com

2.5 ASSESSOR'S PARCEL NUMBER

726-25-035 and 726-32-021

2.6 GENERAL PLAN DESIGNATION AND ZONING DISTRICT

Zoning District: Planned Unit Development
General Plan Designation: Commercial

2.7 HABITAT PLAN DESIGNATION

Private Development Areas:	Urban Development Equal to or Greater Than 2 Acres Covered
Land Cover:	Grain, Row-crop, Hay and Pasture, Disked/Short-term Fallowed
Land Cover Fee Zone:	Agricultural and Valley Floor Lands (Fee Zone B)

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Burrowing Owl Survey and Fee Zone: N/A

2.8 PROJECT-RELATED APPROVALS, AGREEMENTS, AND PERMITS

The project would require the City to approve a Planned Development/Zoning Amendment, Development Agreement, and Design Permit application.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 2.8-1: Regional Map

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 2.8-2: Vicinity Map

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 2.8-3: Aerial Photograph and Surrounding Land Uses

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW

This Initial Study/Addendum provides project-level CEQA analysis for a Development Agreement and Planned Development Zoning Amendment to allow the development of a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility.

3.1.1 Environmental Setting

The 20.25-acre project site (APNs 726-25-035 and 726-32-021) is located in the southeast quadrant of the intersection of Cochrane Road and Butterfield Boulevard in the City of Morgan Hill. The site is undeveloped. The site's existing General Plan land use designation and zoning are *Commercial* and *Planned Unit Development District*, respectively. The project area includes a mix of uses. Residences are located southwest of the project site, across Butterfield Boulevard. Industrial uses are located northwest and southwest of the project site, across Cochrane Road and Jarvis Drive, respectively. Commercial uses are located northeast of the site.

3.2 PROJECT DESCIRPTION

3.2.1 Site Design and Development Details

The proposed project would divide the project site into 11 parcels and develop a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility (see Table 3.2-1 and

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 3.2-1). The retail, restaurant, and convenience store buildings will not exceed 30 feet. The market, medical offices and senior living building will be approximately 35 feet in height, and the hotel is anticipated to be 60 feet in height. 0.20 acres of the project site would consist of right-of-way dedication along Cochrane Road for a future road expansion project. The proposed revised project would disturb the site in a similar fashion to the 2014 approved project, but would introduce additional uses not included in the 2014 entitlement.

Table 3.2-1: Project Development

Parcel #	Proposed Square Footage	Anticipated Use
1	3,000	Convenience store, nine fuel pumps, and car wash
2	3,500	Quick service restaurant and drive-thru
3	2,000	Quick service restaurant and drive-thru
4	7,200	Mixed-use of commercial services and food uses
5	44,000	Full service four-story hotel with approximately 110 rooms
6	10,000	Tire store and showroom with tire service center
7	22,000	Grocery store
8	3,000	Retail uses
9	35,000	Two-story medical office building
10	176,500	85 unit senior residential care facility
11	5,500	General office building

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 3.2-1: Conceptual Site Plan

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

3.2.1.1 *Site Access and Parking*

Direct vehicle access to the project site would be from driveways on Cochrane Road, Butterfield Boulevard, Jarvis Drive, and the adjacent parcel along Sutter Boulevard. The project would include a total of seven access driveways. The main entrance would be located on Cochrane Road, near its intersection with Woodview Avenue. A new traffic signal would be installed at this driveway. The project would provide a total of 592 parking spaces.

3.2.1.2 *Stormwater*

The project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. An onsite network of perforated storm drain pipes would collect the runoff filtered through the landscape/bioretention areas, maximizing the amount of runoff retained onsite prior to discharging to the public storm drain system. The landscape/bioretention system would be sized to limit the runoff rate from the proposed project to existing conditions.[1] Excess runoff would be directed to the detention basin southwest of the project site.

3.2.1.3 *Construction*

The proposed project would be constructed in two phases. Phase I would construct the project infrastructure, including onsite main access driveways, internal roads, utilities to the building pads, and other offsite work. Phase II would construct the proposed buildings across the project site. Phase II is expected to occur over multiple years, as the project will subdivide the site into 11 parcels. It is anticipated each of the 11 parcels will be constructed as a separate project, albeit with some amount of overlap, i.e. several parcels could be under construction simultaneously based on market demand, with the overall timeframe of construction lasting between three and five years. The proposed project does not anticipate the need for pile driving, and soil import and export volumes are expected to balance each other out.

[1] Using the City's requirements for sizing, the project site would be required to provide storage for a 25-year, 24-hour storm with an additional capacity of 25 percent for freeboard.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 4.0 ENVIRONMENTAL SETTING, CHECKLIST, AND IMPACT DISCUSSION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

4.1	Aesthetics	4.10	Land Use and Planning
4.2	Agricultural and Forestry Resources	4.11	Mineral Resources
4.3	Air Quality	4.12	Noise and Vibration
4.4	Biological Resources	4.13	Population and Housing
4.5	Cultural Resources	4.14	Public Services
4.6	Geology and Soils	4.15	Recreation
4.7	Greenhouse Gas Emissions	4.16	Transportation/Traffic
4.8	Hazards and Hazardous Materials	4.17	Utilities and Service Systems
4.9	Hydrology and Water Quality	4.18	Mandatory Findings of Significance

The discussion for each environmental subject includes the following subsections:

- **Environmental Setting** – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.
- **Checklist and Discussion of Impacts** – This subsection includes a checklist for determining potential impacts and discusses the project's environmental impact as it relates to the checklist questions. For significant impacts, feasible mitigation measures are identified. "Mitigation measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered using an alphanumeric system that identifies the environmental issue. For example, **Impact HAZ-1** denotes the first potentially significant impact discussed in the Hazards and Hazardous Materials section. Mitigation measures are also numbered to correspond to the impact they address. For example, **MM NOI-2.3** refers to the third mitigation measure for the second impact in the Noise section.
- **Conclusion** – This subsection provides a summary of the project's impacts on the resource.

Important Note to the Reader

The California Supreme Court in a December 2015 opinion in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 *(BIA v. BAAQMD)* confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project on the environment, including whether a project may exacerbate existing environmental hazards.

The City of Morgan Hill has policies that address existing conditions affecting a proposed project, which are also discussed in this section. This is consistent with one of the primary objectives of

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

CEQA, which is to provide objective information to decision-makers and the public. The CEQA Guidelines and the courts are clear that a CEQA document can include information of interest even if such information is not an environmental impact as defined by CEQA.

Therefore, in addition to describing the impacts of the project on the environment, this section will discuss operational issues as they relate to City of Morgan Hill policies. Such examples include, but are not limited to, locating a project near sources of air emissions that can pose a health risk, in a floodplain, geologic hazard zone, high noise environment, or on/adjacent to sites involving hazardous substances.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.1 AESTHETICS

4.1.1 Environmental Setting

4.1.1.1 *Existing Conditions*

The 20.25-acre project site is located in central Morgan Hill in the southeast quadrant of the Cochrane Road and Butterfield Boulevard intersection. The project site is a flat, undeveloped field covered by non-native grassland with some trees planted along Cochrane Road and Jarvis Drive. The trees on the project site have been neglected and are in poor condition.

4.1.1.2 *Surrounding Visual Character*

The project area is a patchwork of developed and undeveloped parcels. Newer commercial development borders the eastern site boundary, including a one-story restaurant building and a Spanish-style stucco office building that is up to three stories tall. Cochrane Road, Butterfield Boulevard, and Jarvis Drive border the site to the north, west, and south, respectively. Cochrane Road and Butterfield Boulevard are large roadways (two lanes in each direction) with landscaped medians, sidewalks, and streetlights. Jarvis Drive is a two-lane roadway with streetlights that serves the industrial and commercial uses in the project area. Sidewalks are provided along the north side of Jarvis Drive, however the sidewalk is intermittent along the project frontage. The area north of the project site (across Cochrane Road) includes newer commercial development mostly one-story in height, and undeveloped parcels similar in appearance to the project site. The area west of the project site (across Butterfield Boulevard) includes newer residential apartment buildings, new small-lot single family residences that are up to three-stories in height, and undeveloped parcels similar in appearance to the project site. The area south of the site (across Jarvis Drive) includes newer industrial and commercial buildings that are up to two stories in height.

4.1.1.3 *Scenic Vistas and Resources*

Due to the flat topography, existing development, and large trees in the project area, views of the project site are limited to the immediate vicinity. The site is not located within a designated scenic view corridor or visible from a designated scenic highway. The nearest state-designated highway is State Route (SR) 9, approximately 20 miles west of the site (at the SR 17 interchange).

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.1.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒	☐	1, 2
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒	☐	1, 2
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒	☐	1, 2
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒	☐	1, 2

4.1.2.1 *Impacts to Scenic Views or Scenic Resources (Checklist Questions a and b)*

The project site is not located along a state scenic highway. Views of the project site area are limited to the immediate area. The proposed project would not block views of Nob Hill to the north since views from developments south of the site are obstructed by existing development.

Trees are considered visual resources in urban environments since they contribute to aesthetic interest and character. Several trees are present on the site, including a row of olive trees along Cochrane Road and a group of landscape trees planted in the east corner of the site. Valley oak and coast live oak saplings are also present along Cochrane Road. Although these trees would be removed, the tree removal would be consistent with what is associated with the approved 2014 project, and trees would be planted in accordance with City policies to offset the aesthetic effects of tree removal (see Section 4.4 Biological Resources for a detailed discussion).

Redevelopment of this site, therefore, would not have a significant adverse effect on a scenic vista or damage scenic resources within a state scenic highway. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.1.2.2 *Impacts to Visual Character (Checklist Questions c)*

The proposed project would divide the project site into 11 parcels and develop a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility. While development under the proposed project would change the existing visual character of the existing undeveloped project site, the proposed commercial buildings

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

would be similar in scale to the existing development in the project area, and would be substantially similar in scale and character to the development program under the 2014 approved entitlements, which was also found to result in a less than significant visual impact. All development on the site would be subject to review and approval by the City of Morgan Hill Design Permit process to ensure the development meets local design and aesthetic standards. Franchise architecture would not be permitted. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.1.2.3 *Light and Glare Impacts (Checklist Question d)*

The proposed development of commercial buildings would incrementally increase light and glare in the project area, due to the new reflective surfaces and outdoor lighting on the site and vehicles traveling on and to and from the site. These new sources of light and glare from the project would be similar in character to light and glare from the nearby existing commercial, industrial and residential development. Building design, glazing materials and outdoor lighting would be subject to review by the City of Morgan Hill Design Permit process for conformance with City standards. For these reasons, development on the site under the proposed project would not result in a new source of substantial light or glare that would affect day or nighttime views in the area, and would be substantially similar in terms of proposed lighting to the development program under the 2014 approved entitlements, which was also found to result in a less than significant light and glare impact. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.1.3 Conclusion

The proposed development of commercial buildings on the project site would not result in significant aesthetic impacts. **[Same Impact as Approved Project (Less Than Significant Impact)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.2 AGRICULTURAL AND FORESTRY RESOURCES

4.2.1 Environmental Setting

The project site is not used for agricultural production and is not the subject of a Williamson Act contract.[2] No land adjacent to the project site is used for agricultural production. The City of Morgan Hill General Plan Land Use Diagram designates the project site *Commercial*, and the Zoning Map designates the project site *Planned Unit Development – General Commercial (PUD)*. The land in the project vicinity is also designated and zoned for urban uses. Existing development adjacent to the site includes commercial, industrial, and residential uses. The land on and adjacent to the site is not forest land or timberland, or zoned for timberland production. According to the Santa Clara County Important Farmland 2014 Map, the surrounding area is designated *Urban and Built-up Land*.

There are four farmland categories in the California Department of Conservation Farmland Mapping Program: *Prime Farmland, Farmland of Statewide Importance, Unique Farmland* and *Farmland of Local Importance*. According to the Santa Clara County Important Farmland 2010 Map, the project site was designated *Farmland of Local Importance*, which is defined as land with small orchards and vineyards, primarily in the foothill areas, and land cultivated as dry cropland for grains and hay, however, in the most recent 2014 map, the site was re-designated as *Grazing Land***.**[3] The project site is not subject to a Williamson Act contract.

4.2.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	☐	1, 2, 3
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	☐	1, 2, 4

[2] Giordano, Frank. Office of the Assessor, County of Santa Clara. *Personal Communication*. October 10, 2012
[3] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Santa Clara County Important Farmlands Map 2014.* Map. October 2016.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒	☐	1, 2
d) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐	1, 2
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐	1, 2, 3

4.2.2.1 *Agricultural and Forest Resources (Checklist Question a-e)*

The City of Morgan Hill adopted its Agricultural Lands Preservation Program (Preservation Program) in November 2014 to preserve potential agricultural land subject to development. Lands classified as *Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or Grazing Land* under the California Department of Conservation Farmland Mapping Program are covered under the Preservation Program. The project site was designated *Farmland of Local Importance* in 2010 and would be required to comply with Preservation Program's mitigation measures as detailed in the Agricultural Mitigation Ordinance. (**note to City: site is now mapped as Grazing Land, which is not subject to the Ag Ordinance, but it was Local Importance in 2010, so please confirm mitigation applies**) The proposed project would pay all applicable agricultural preservation in-lieu fees and/or provide sufficient agricultural conservation easements at a 1:1 ratio.[4] The project site is not a forest resource, nor are there forest lands in its vicinity. For these reasons, the project would not impact agricultural or forest resources. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.2.3 Conclusion

The proposed project would not result in any new or more significant impacts to agricultural, forestry or timberland resources on the project site or project area than the approved project. **[Same Impact as Approved Project (Less than Significant Impact)]**

[4] Chapter 18.85 of the Morgan Hill Municipal Code.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.3 AIR QUALITY

The following discussion is based on an air quality and greenhouse gas emissions analysis completed for the proposed project by *Illingworth & Rodkin* on July 13, 2018. The report summarizing the results of the analysis is included as Appendix A of this Addendum.

4.3.1 Environmental Setting

Air quality and the concentration of a given pollutant in the atmosphere are determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunlight.

The project site is located at the south end of the Santa Clara Valley within the San Francisco Bay Area Air Basin. The region typically has moderate ventilation and frequent inversions that restrict vertical dilution. Located on either side of the Santa Clara Valley, the Santa Cruz Mountains and Diablo Range restrict horizontal dilution. The surrounding terrain results in a prevailing wind that follows along the valley's northwest-southeast axis. The combined effects of these geographical and meteorological factors make air pollution potential in the Santa Clara Valley quite high.

4.3.1.1 *Existing Conditions*

The project site is currently undeveloped and does not generate any air pollutants.

4.3.1.2 *Sensitive Receptors*

The Bay Area Air Quality Management District (BAAQMD) defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, school playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. Sensitive receptors within the project area are the single-family residences located across the street from the project site along Butterfield Boulevard.

4.3.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒	☐	1, 8, 23
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒	☐	1, 8, 23

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☐	☐	☒	☐	1, 8, 23
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒	☐	1, 8, 23
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒	☐	1, 8, 23

4.3.2.1 *Clean Air Plan Consistency (Checklist Question a)*

The most recent clean air plan is the 2017 Bay Area Clean Air Plan (2017 CAP). The proposed project would not conflict with the 2017 CAP because it would have emissions below BAAQMD thresholds, is considered urban infill, and is consistent with the development assumptions of the City's General Plan. Because the project would not exceed BAAQMD significance thresholds, it is not required to incorporate project-specific control measures listed in the 2017 CAP. Further, implementation of the project would not inhibit BAAQMD or partner agencies from continuing progress toward attaining state and federal air quality standards and eliminating health-risk disparities from exposure to air pollution among Bay Area communities, as described within the 2017 CAP. **(Less Than Significant Impact [Same Impact as Approved Project])**

4.3.2.2 *Violation of Standards (Checklist Question b, d)*

Construction

Criteria Pollutants

Construction of the project would involve site grading, trenching, paving, building construction, and architectural coatings. Construction-related automobiles, trucks, and heavy equipment are a primary concern with regard to criteria pollutant emissions as a result of diesel particulate matter.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.3-1: Construction Criteria Pollutant Emissions				
Scenario	**ROG**	**NOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Total construction emissions	3.3 tons	6.3 tons	0.3 tons	0.2 tons
Average daily emissions[1]	16.5 lbs./day	31.5 lbs./day	1.3 lbs./day	1.2 lbs./day
BAAQMD Thresholds	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
Threshold Exceeded?	**No**	**No**	**No**	**No**
[1]Assumes 400 workdays.				

As shown in Table 4.3-1, the emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust associated with construction would not exceed the BAAQMD significance thresholds and, therefore, would not result in a significant impact from construction emissions. **(Less Than Significant Impact [Same Impact as Approved Project])**

Fugitive Dust

Similar to the 2014 approved project, construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soil. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA *Air Quality Guidelines* consider these impacts to be less than significant if best management practices are implemented to reduce these emissions. As described below, the project includes mitigation measures, consistent with those measures required of the approved 2014 project, to reduce this impact to a less than significant level.

Impact AQ-1: Construction of the proposed project could temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. **(Significant Impact)**

Mitigation Measures: The following mitigation measure, which is consistent with the Basic Construction Mitigation Measures identified in the BAAQMD CEQA *Air Quality Guidelines* to reduce impacts from construction-related fugitive dust to a less than significant level, shall be implemented.

MM AQ-1.1: During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

- Haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- Visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweeps at least once per day. The use of dry power sweeping is prohibited.
- Vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph)
- Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- Construction equipment shall be maintained and properly tuned in accordance with manufacture's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of MM AQ-1.1, dust emissions during construction of the proposed project would be reduced to a less than significant level. **(Less Than Significant Impact with Mitigation [Same as Impact Approved Project])**

Toxic Air Contaminants

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Construction exhaust emissions pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. As was done for the approved 2014 project, a health risk assessment of project construction activities (refer to Appendix A) was prepared to evaluate potential health effects of sensitive receptors at nearby residences and identified a maximally exposed individual (MEI) for construction emissions of DPM and $PM_{2.5}$. The MEI is located at the northwest corner of the Butterfield Boulevard and Jarvis Drive intersection.

The health risk assessment conservatively assumed that both construction phases would occur concurrently, and that all 11 proposed parcels would be constructed within an 18 month window, such that construction emissions would be compressed into a 'worst-case' scenario. Using these conservative assumptions, results of the assessment for project construction indicate the maximum incremental residential infant/child cancer risk at the MEI receptor would be 11.0 in one million and the residential adult incremental cancer risk would be 0.2 in one million, which is above the BAAQMD significance threshold of 10.0 in one million. The maximum-modeled annual $PM_{2.5}$ concentration, was 0.1 micrograms per cubic meter ($\mu g/m^3$), which would not exceed the BAAQMD

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

significance threshold of 0.3 µg/m^3. The maximum modeled annual residential DPM concentration was 0.011 µg/m^3, also lower than the BAAQMD significance criterion of a hazard index greater than 1.0. While annual $PM_{2.5}$ concentrations and non-cancer hazards from construction activities would be below the significance thresholds, cancer risk, if the project were constructed in as little as 18 months, would be above the significance threshold and represent a significant impact compared to the 2014 approved project. However, as noted in the project description, the proposed project would be constructed in two phases. Phase I would construct the project infrastructure, including onsite main access driveways, internal roads, utilities to the building pads, and other offsite work. Phase II would construct the proposed buildings across the project site. Phase II is expected to occur over multiple years, as the project will subdivide the site into 11 parcels. It is anticipated each of the 11 parcels will be constructed as a separate project, albeit with some amount of overlap, i.e. several parcels could be under construction simultaneously based on market demand, with the overall timeframe of construction lasting between three and five years. Therefore, the modeling results contained in Appendix A are not reflective of the project's intended construction schedule, and represent a 'worst-case' scenario that will not occur. Nevertheless, to ensure this outcome, the following mitigation measure is included in the project.

Impact AQ-2: Construction of the proposed project, if all 11 parcels are constructed simultaneously and within 18 months, could increase cancer risk to nearby sensitive receptors. **(Significant Impact)**

Mitigation Measures: The following mitigation measure shall be implemented to ensure construction TACs do not exceed established health risk thresholds.

MM AQ-2.1: Prior to issuance of a grading permit, the project shall develop, and provide to the City for review and approval, a construction equipment plan with updated construction phasing schedule demonstrating that the combined emissions of the 11 parcels would not exceed the significant health risk threshold of 10.0 cancer cases in one million for infant exposure. The use of Tier 4 engines or equipment that includes CARB-certified Level 3 Diesel Particulate Filters or alternatively-fueled equipment (i.e., non-diesel) could meet this requirement. Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce community risk impacts to less than significant levels.

With implementation of MM AQ-1.1 and MM AQ-2.1, the infant/child cancer risk would be less than 10.0 in one million and result in a less than significant impact, consistent with the 2014 approved project. **(Less Than Significant Impact with Mitigation [Same as Impact Approved Project])**

Operation

Criteria Pollutants

Operational air emissions from the project would be generated primarily from autos driven by future customers, employees, and vendors. Evaporative emissions from gasoline station operations, architectural coatings and maintenance products (classified as consumer products) are typical emissions from the types of uses proposed by the project.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.3-2: Operational Criteria Pollutant Emissions				
Scenario	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
2021 Project Operational Emissions (*tons/year*)	4.3 tons	8.2 tons	3.4 tons	1.0 tons
Gasoline Dispensing Facility Emissions (*tons/year*)	1.7 tons	0.0 tons	0.0 tons	0.0 tons
Total Emissions (*tons/year*)	6.0 tons	8.2 tons	3.4 tons	1.0 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	***No***	***No***	***No***	***No***
2021 Project Operational Emissions (*lbs./day*)	14.2 lbs.	44.9 lbs.	18.6 lbs.	5.5 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	***No***	***No***	***No***	***No***
Notes: Assumes 365-day operation.				

As shown in Table 4.3-2, the emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust associated with operation of the proposed project would not exceed the BAAQMD significance thresholds and, therefore, would not result in a significant impact from operational emissions. **(Less Than Significant Impact [Same Impact as Approved Project])**

4.3.2.3 *Cumulative Pollutant Increase (Checklist Question c)*

Cumulative TAC emissions from the project take into account construction of the project, stationary sources, the proposed gas station, and traffic on Butterfield Boulevard and Cochrane Road. As shown in **Table 4.3-3**, the proposed project would not exceed the cumulative TAC thresholds for maximum cancer risk, $PM_{2.5}$, or the hazard index at the MEI; therefore, the project would have a less than significant impact. **(Less Than Significant Impact [Same Impact as Approved Project])**

Table 4.3-3: Cumulative TAC Emissions at Construction MEI			
Source	**Maximum Cancer Risk (per million)**	**$PM_{2.5}$ concentration ($\mu g/m^3$)**	**Hazard Index**
Project Construction Unmitigated	11.0[5]	0.10	0.01
Butterfield Blvd (north-south) at 40 feet west, 15,440 ADT	5.2	0.16	<0.01
Cochrane Rd (east-west) at 800 feet south, 17,290 ADT	0.9	0.03	<0.01

[5] As noted above, the predicted 11.0 cases per million cancer risk is based on an assumption that the project is constructed within an 18-month timeframe with all 11 parcels under construction simultaneously, which is a conservative assumption and not reflective of the actual intended schedule for construction, which is more realistically expected to occur over three to five years, and therefore construction emissions are expected to be below 10.0 cases per million, which will be ensured through implementation of MM AQ-2.1. Therefore, Table 4.3-

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Plant #17542 at 1,000 feet southwest	0.0	0.00	<0.01
Plant #2417 at 1,000 feet west	0.2	<0.01	<0.01
Plant #12093 at 570 feet west	0.2	<0.01	<0.01
Plant #18212 at 330 feet west	0.0	0.00	0.00
On-Site Gas Station at 600 feet southwest	0.2	0.00	<0.01
Combined Sources Unmitigated	17.7	<0.30	<0.07
BAAQMD Threshold – Combined Sources	**100**	**0.8**	**10.0**

4.3.2.4 *Odor Impacts (Checklist Question e)*

Similar to the 2014 approved project, the proposed project would include restaurants, which could be sources of odors. Restaurants, especially fast-food restaurants, can produce noticeable odors through the preparation of food. Char broilers and deep fryers tend to produce odors that can be offensive to some people and generate complaints. Existing residents are located approximately 500 feet west or southwest from proposed restaurants. These residents will generally not be located downwind of the restaurants (the dominant wind flow in Morgan Hill is from the north-northwest). Although significant odors are unlikely, this impact is considered significant due to the potential for odor complaints.

Impact AQ-3: Odors generated by the proposed restaurants could result in odor complaints.

Mitigation Measure: The following mitigation measure shall be implemented to reduce potential odors to a less than significant level:

MM AQ-3.1: Include designs to reduce cooking odors or require the installation of odor abatement equipment if complaints occur. The City shall require designs of the restaurant to avoid odor complaints, and if necessary, require restaurants to install odor abatement equipment if confirmed odor complaints are received.

Implementation of MM AQ-3.1 would reduce potential odors to a less than significant level if complaints are confirmed by the City. **(Less Than Significant Impact with Mitigation [Same as Impact Approved Project])**

4.3.3 Existing Air Quality Conditions Affecting the Project

The California Supreme Court in a December 2015 opinion (*BIA v. BAAQMD*) confirmed CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project; nevertheless the City complies with BAAQMD Air Quality Guidelines that address existing conditions (e.g. air quality) affecting a proposed project, which are addressed below.

3 overestimates actual construction health risks, and even using those inflated numbers, cumulative health risks are not significant.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.3-4: Community Risk Impact to New Project Residences			
Source	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ ($\mu g/m^3$)**	**Hazard Index**
Butterfield Blvd (north-south) at 800 feet east, 15,440 ADT	0.34	0.03	<0.01
Cochrane Rd (east-west) at 500 feet south, 17,290 ADT	0.58	0.05	<0.01
Plant #17542 at 1,000 feet south	0.00	<0.01	0.00
Plant #2417 at 300 feet north	0.45	<0.01	<0.01
Plant #12093 at 350 feet north	0.18	<0.01	<0.01
Plant #18212 at 600 feet northeast	0.00	0.00	0.00
On-Site Gas Station at 700 feet east	0.07	0.00	0.00
Cumulative Total	1.62	0.11	<0.04
BAAQMD Single-Source Threshold	**>10.0**	**>0.3**	**>1.0**
Significant?	**No**	**No**	**No**
BAAQMD Cumulative Source Threshold	**>100**	**>0.8**	**>10.0**
Significant?	**No**	**No**	**No**

The proposed project includes sensitive receptors at an assisted living facility on the southeast corner of the site. As shown in Table 4.3-4, traffic on Butterfield Boulevard and Cochrane Road, nearby stationary sources (i.e. diesel generators), and emissions from the proposed gas station would not expose these sensitive receptors to significant air quality risks.

4.3.4 Conclusion

The proposed project, with the implementation of the above mitigation measures, would not result in any new or more significant air quality impacts than the approved project. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.4 BIOLOGICAL RESOURCES

The following discussion is based upon a biological constraints study prepared for the project site by *Live Oak Associates* in October 2012 and a tree survey completed by *Deborah Ellis, MS - Consulting Arborist and Horticulturalist* in May 2013. The reports summarizing the results of the biological constraints study and tree survey are included in Appendix B and Appendix C of this Initial Study, respectively.

4.4.1 Environmental Setting

4.4.1.1 *Existing Conditions*

The project site, historically disturbed by agricultural activities and currently disked to reduce fire hazards, provides grassland habitat that supports a mixture of ruderal (weedy) species, dominated by non-native annual grasses and forbs. The habitat provided by the site is common in the project area. A number of locally occurring wildlife species may occur on the project site. Due to the relatively small size of the site, the urban development adjacent to the site, and the disturbed nature of the site, the habitat provided by the site provides limited value for wildlife.

There are 33 trees present on the site, including a row of olive trees along Cochrane Road and a group of landscape trees planted in the east corner of the site. Valley oak and coast live oak saplings are also present along Cochrane Road. The trees on the project site may support a variety of nesting bird species, including raptors.

There were no aquatic features observed on the project site. The nearest waterway to the project site is the Madrone Channel (approximately 2,200 feet east across US 101).

4.4.1.2 *Applicable Plans, Policies, and Regulations*

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the US Fish and Wildlife Service (USFWS). Species of birds protected under the MBTA include all native birds and certain game birds. The MBTA protects whole birds, parts of birds, bird eggs, and nests and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young. Birds protected by the MBTA may be present in the grassland habitat and/or in the cottonwood tree located on the project site.

Birds of Prey

Birds of prey are protected in California under provisions of the State Fish and Game Wildlife Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season that results in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment is considered a "taking" by the California Department of Fish and Wildlife.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Local Plans and Policies

Santa Clara Valley Habitat Plan/Natural Communities Conservation Plan

The project site is located within the Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) area. The HCP/NCCP was developed by the County of Santa Clara, the Cities of San Jose, Gilroy and Morgan Hill, the Santa Clara Valley Water District, and the Santa Clara Valley Transportation Authority (collectively the "local partners") under the guidance of the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife (CDFW). The HCP/NCCP provides 'take' authorization [per the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA)] for 18 listed and non-listed species (i.e. covered species). The HCP/NCCP also includes conservation measures to protect all 18 species and a conservation strategy designed to mitigate impacts on covered species and to contribute to the recovery of these species in the study area.

City of Morgan Hill Tree Removal Controls

The City of Morgan Hill maintains the urban natural landscape partly by promoting the health, safety, and welfare of the City by controlling the removal of significant sized trees (Municipal Code 12.32.020 G and H). According to the City of Morgan Hill Tree Removal Controls, a significant tree is considered to be a tree with a single stem or trunk of a circumference of 40 inches (or diameter of 12.7 inches) or more for nonindigenous species and a circumference of 18 inches (or diameter of 5.7 inches) or more for indigenous species measured at four and one-half feet vertically above the ground. In addition, the Tree Removal Controls specify that all commercial tree farms, nonindigenous tree species in residential zones, and orchards (including individual fruit trees) are exempted from the definition of significant tree.

A tree survey was completed for the project site in connection with the entitlements for the approved 2014 project. There are a total of 33 trees on the project site including 17 olive, nine London plane, four ash, and two locust. The trees on the site have been neglected and, as a result, are not in good condition. All of the trees on the site are nonindigenous species with diameters measuring 11 inches or less and, therefore, are not protected under the City of Morgan Hill Tree Removal Controls.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.4.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?	☐	☐	☐	☒	☐	1, 2, 9
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	☐	☐	☐	☒	☐	1, 2, 9
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒	☐	1, 2, 9
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☐	☐	☒	☐	1, 2, 9
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	☐	1, 2, 10
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒	☐	1, 2, 11

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.4.2.1 *Impacts to Sensitive Habitat (Checklist Question b-d)*

The non-native grassland habitat provided by the project site is regionally abundant. There are no sensitive habitats, including areas of high biological diversity, areas providing important wildlife habitat, or unusual or regionally restricted habitat types on the site. The proposed development of the project site would not directly affect wetlands, riparian habitat or other sensitive natural community.

Because the project site is surrounded by development, the site provides minimal dispersal habitat for native wildlife and does not function as a wildlife movement corridor. For these reasons, loss of the 20.25 acres of non-native grassland habitat present on the site that would occur under either the proposed project or the approved 2014 project would not be significant. **(Less Than Significant Impact [Same as Approved Project])**

4.4.2.2 *Impacts to Special Status Species (Checklist Question a)*

Burrowing Owls

Although burrowing owls were not seen on or adjacent to the project site during field surveys, the project site contains open areas that could support burrowing owls. Therefore, there is the possibility for burrowing owls to be present on the project site at the time of project development. If owls occupy the site, construction on the site during the nesting season could disturb or destroy occupied nests, resulting in the loss of the reproductive effort; this would be a significant impact.

Impact BIO-1: Construction activities on the project site, whether associated with the approved 2014 project or the current proposed project, could result in the loss of burrowing owl eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest. **(Significant Impact)**

Mitigation Measures: The developer would participate in the Citywide Burrowing Owl Habitat Mitigation Plan, a mitigation program acceptable to the California Department of Fish and Wildlife. Under the Plan, the City has adopted a fee program that funds setting aside or managing preserve land to provide habitat for burrowing owls. Providing habitat for burrowing owls elsewhere offsets indirect and cumulative impacts from the loss of foraging and nesting habitat in the City.

In conformance with the City's Burrowing Owl Habitat Mitigation Plan, the project would be required to implement the following measures to avoid direct impacts to burrowing owls and to offset impacts to non-native grassland habitat on the site. Implementation of this measure would avoid or reduce significant impacts to burrowing owls and their habitat.

MM BIO-1.1: Complete pre-construction surveys to determine if burrowing owls are present within the footprint of the proposed grading area, no more than 30 days prior to initiation of any construction-related activities.

MM BIO-1.2: Should burrowing owls be found on the site during the breeding season (February 1 through August 31), exclusion zones with a 250-foot radius from occupied burrows, shall be established. All project-related activities shall occur outside of the exclusion area until the young have fledged.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

MM BIO-1.3: If preconstruction surveys are completed during the non-breeding season and burrowing owls are observed on the site, the owls may be relocated upon approval of the California Department of Fish and Game once mitigation has been provided.

MM BIO-1.4: A final report on burrowing owls, including any protection measures, shall be submitted to the Director of Community Development prior to grading.

Conformance with the City's Burrowing Owl Habitat Mitigation Plan (or any adopted HCP/NCCP), including mitigation measures, MM BIO-1.1 through MM BIO-1.4, would ensure impacts to burrowing owls would be less than significant. [**(Less Than Significant Impact with Mitigation) Same Impact as Approved Project]**

Nesting Raptors ad Migratory Birds

Nesting raptors and migratory birds are protected under State and Federal regulations. At the time of development, raptors and migratory birds could be nesting in the trees and vegetation on and adjacent to the project site. Construction during the nesting season could destroy nests or disturb occupied nests, resulting in the loss of the reproductive effort.

Impact BIO-2: Construction activities on the project site, whether associated with the approved 2014 project or the current proposed project, could result in the loss of raptor and/or migratory bird eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest. **(Significant Impact)**

Mitigation Measures: The following mitigation measures will reduce impacts from construction at the project site nesting raptors and migratory birds to a less than significant level:

MM BIO-2.1: Construction shall be scheduled to avoid the nesting season to the extent feasible. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests.

MM BIO-2.2: If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

survey and any designated buffer zones shall be submitted to the satisfaction of the Director of Community and Economic Development prior to the start of construction. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

American Badger

American badgers may be present on the project site at the time of project construction. Although badgers or signs of badgers were not seen on or adjacent to the project site during field surveys, the project site contains open areas, a food source (i.e., ground squirrels) and is contiguous to known badger habitat. Conversion of the ruderal field to urban development would not result in a substantial loss of habitat for the American badger, however, construction activities on the site, whether associated with the approved 2014 project or the current proposed project, could cause harm or injury to individuals, if they are present.

Impact BIO-3: American badgers could be injured or harmed, if occupied badger dens are present onsite at the time of construction. **(Significant Impact)**

Mitigation Measure: The following mitigation measure will reduce impacts from construction at the project site to American badgers to a less than significant level:

MM BIO-3.1: Pre-construction surveys shall be used to determine the presence or absence of badgers on the project site. If an active badger den is identified during pre-construction surveys, a construction-free buffer of up to 300 feet shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

4.4.2.3 *Impacts to City-Protected Trees (Checklist Question e)*

The trees on the project site have been neglected and, as a result, are not in good condition. All of the trees on the site are nonindigenous species with diameters measuring 11 inches or less and, therefore, are not protected under the City of Morgan Hill Tree Removal Controls. With implementation of MM BIO-2.1 and MM BIO-2.2 (discussed above), tree removal would avoid impacts to birds during the nesting season. **(No Impact [Same as Approved Project])**

4.4.2.4 *Consistency with Habitat Conservation Plan/Natural Community Conservation Plan (Checklist Question f)*

The current proposed project, as well as the approved 2014 project, is a covered activity under the HCP/NCCP (Private Development Covered 2.6 acres, Urban Development Equal to or Greater Than Two Acres Covered 17.7 acres). The vast majority of the site is designated as *Grain, Row-crop, Hay*

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

and Pasture, Disked/Short-term Fallowed land cover (19.9 acres) and is mapped as *Fee Zone B* (Agricultural and Valley Floor Lands).[6] The proposed project would be required to pay this fee to offset the loss of this land cover type. The remainder of the project site (0.4 acres) is designated as an *Urban Area* with no land cover fee. The project site is not located in any other fee zone or within or adjacent to any plant or wildlife survey area.

The HCP/NCCP also considers covered activities to result in a certain amount of indirect impacts from urban development mostly in the form of increased impervious surface and from the effects of nitrogen deposition. Urban development that increases the intensity of land use results in increased air pollutant emissions from passenger and commercial vehicles and other industrial and nonindustrial sources. Emissions from these sources are known to increase airborne nitrogen, of which a certain amount is converted into forms that can fall to earth as depositional nitrogen. It has been shown that increased nitrogen in serpentine soils can favor the growth of nonnative annual grasses over native serpentine species and these nonnative species, if left unmanaged, can overtake the native serpentine species, which are host plants for larval Bay Checkerspot butterfly. As such, covered projects within the HCP/NCCP area are subject to paying a "Nitrogen Deposition Impact Fee" which is calculated based on the number of daily vehicle trips attributed to the activity and collected prior to the commencement of the use. The current proposed project would generate approximately 2,000 more daily vehicle trips than the approved 2014 project, and therefore would pay a higher nitrogen deposition impact fee.

In addition, all covered activities in the HCP/NCCP are subject to certain conditions (as identified in Chapter 6 of the Plan) based on the project's location and type of project. To ensure that the project complies with conditions of the HCP/NCCP, the conditions will be applied to each component as part of the entitlement approval conditions and/or other permits (i.e. grading permits, building permits, etc.).

The City of Morgan Hill has adopted the HCP/NCCP and approved an ordinance[7] implementing the measures and conditions set forth in the HCP/NCCP, and will levy applicable impact fees and incorporate relevant conditions on covered activities into the proposed residential mixed-use project. Therefore, the project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. **(No Impact)**

4.4.3 Conclusion

The proposed project, with the implementation of the above mitigation measures, would not result in any new or more significant impacts to biological resources than the approved project. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation)]**

[6] Santa Clara Valle Habitat Agency. "Geobrowser". Accessed June 12, 2018. http://www.hcpmaps.com/habitat/.
[7] Chapter 18.69 of the City of Morgan Hill Municipal Code

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.5 CULTURAL RESOURCES

The following discussion is based, in part, upon a cultural resources assessment prepared in 2006 by *Basin Research Associates Inc.* for the Cochrane Animal Hospital, which is located 100 feet north of the project site, across Cochrane Road. This report is on file at the City of Morgan Hill and may be reviewed by qualified personnel during regular business hours.

4.5.1 Environmental Setting

4.5.1.1 *Existing Conditions*

The project site is an undeveloped field covered by non-native grassland. The area surrounding the project site is developed with newer residential, commercial, and light industrial buildings. There are no historic structures located on or adjacent to the project site.

4.5.1.2 *Archaeological Resources*

Based on the Archaeological Sensitivity Map included in the City of Morgan Hill General Plan, the west corner of the project site extends into the archaeological sensitivity area associated with the former location of the 1876 J. Cairns residence, which was setback north of Cochrane Road. The Cultural Resources Assessment (CRA) completed for the Cochrane Animal Hospital site, which is located north of Cochrane Road between the project site and the former Cairns residence, evaluates the possibility of archaeological resources associated with the Cairns residence extending south towards the project site. The CRA notes that archaeological resources associated with the Cairns residence would likely be located north of Cochrane Road in privies and outbuildings at the rear of the residence, and that any historic fences along Cochrane Road would have deteriorated through time and later removed when Cochrane Road was widened.[8] For these reasons, archaeological resources associated with the Cairns residence are not expected on the project site.

California Assembly Bill (AB) 52 requires lead agencies to conduct formal consultations with California Native American tribes during the CEQA process to identify tribal cultural resources that may be subject to significant impacts as a result of a project. This consultation requirement applies only if the tribes have sent written requests for notification of projects to the lead agency. The City of Morgan Hill has not been contacted for consultation by a tribe.

4.5.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5?	☐	☐	☐	☒	☐	1, 12, 13

[8] Basin Research Associates, Inc. *Cultural Resources Assessment: Adams-Natt Veterinary Hospital*. January 2006.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5?	☐	☐	☐	☒	☐	1, 12, 13
c) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☐	☒	☐	1, 12, 13
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒	☐	1, 12, 13
e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:						
1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or	☐	☐	☒	☐	☐	1, 12, 13
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying this criteria, the significance of the resource to a California Native American tribe shall be considered.	☐	☐	☒	☐	☐	1, 12, 13

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.5.2.1 *Impacts to Archaeological and Paleontological Resources (Checklist Question b-e)*

Archaeological Resources

The Cultural Resource Assessment completed for the Cochrane Animal Hospital, which is located 100 feet north of the project site, suggests a low to moderate potential for the presence of intact subsurface prehistoric or historic era archaeological deposits on the project site. No prehistoric or historic archaeological sites are recorded on, adjacent, or within 0.25 miles of the project site and no prehistoric or historic archaeological resources were observed 100 feet north of the site during the archaeological field inventory completed for Cochrane Animal Hospital. Per AB 52, no tribes have requested consultation with the City pertaining to this project, and there are no known tribal resources present on the project site. However, in the unlikely event cultural materials are found during site grading or excavation, the following standard measures would be implemented, per the City of Morgan Hill's Standard Conditions of Approval.

Standard Measures: In accordance with the City of Morgan Hill Municipal Code Chapter 18.75, proposals for the development or redevelopment of a site identified as archaeologically sensitive by the City's adopted archaeological sensitivity map shall be subject to the following review process and standard conditions of project approval. Implementation of standard measures, SM CULT-1 and SM CULT-2, would ensure that development on the project site would not result in significant impacts to archaeological resources:

SM CULT-1: Since the site is located within the mapped archaeologically sensitive area as adopted by the City, then the project applicant has the option to either have an archaeological survey be completed for the site to determine what, if any, conditions of approval will be required as mitigation measures; or agree to comply with the following standard conditions of approval, which shall be conclusively deemed to reduce potentially significant impacts on archaeological resources to a less than significant level (no archaeological resources report is required as part of any CEQA review of the project as long as the applicant accepts these conditions and incorporates them into the project):

- An archaeologist shall be present on-site to monitor all ground-disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below:
  - Work at the location of the find will halt immediately within thirty feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter;
  - If the find is determined not to be a Unique Archaeological Resource, construction can continue. The archaeologist will prepare a brief informal memo/letter that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find;
  - If the find appears significant and to qualify as a unique archaeological resource, the archaeologist will determine if the resource can be avoided

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

and will detail avoidance procedures in a formal memo/letter; and

- If the resource cannot be avoided, the archaeologist shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the community development director. The action plan shall be in conformance with California Public Resources Code 21083.2.

SM CULT-2: All development projects located within an archaeological sensitivity area and/or containing known archaeological resources on-site shall also be subject to the following measures as standard conditions of project approval:

- This project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans.
  - If human remains are encountered they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.
  - Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.
  - Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains.
- In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.
- An “exclusion zone” where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the Monitoring Archaeologist (typically 25-50ft for single burial or archaeological find).
- The exclusion zone shall be secured (e.g., 24 hour surveillance) as directed by the City or County if considered prudent to avoid further disturbances.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

- The Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:
  - The City of Morgan Hill Community Development Director
  - The Contractor's Point(s) of Contact
  - The Coroner of the County of Santa Clara (if human remains found)
  - The Native American Heritage Commission (NAHC) in Sacramento
  - The Amah Mutsun Tribal Band
- The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC.
- The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)
- Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.
- Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's community development director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out.
- If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Paleontological Resources

The proposed project would excavate to a maximum depth of approximately five feet to install necessary utility infrastructure. Given that the proposed project would not require excavation below five feet below ground surface, paleontological resources would not likely be discovered during construction. The project would, therefore, not result in a significant impact to paleontological resources. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.5.2.2 *Impacts to Historic Resources (Checklist Question a)*

The project site is currently undeveloped; no listed, determined, or pending California Register of Historical Resources are located on or adjacent to the project site; and no significant or potentially significant local, State, or Federal cultural resources/historic properties (e.g., landmarks, points of

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

interest, etc.) are located on or adjacent to the project site. For these reasons the proposed project would have no impact on historic resources. **[(No Impact) Same Impact as Approved Project]**

4.5.3 Conclusion

With the implementation of the City's standard conditions of approval to protect archaeological resources, the proposed project would have a less than significant impact on archaeological resources. The project would not have a significant impact on tribal, paleontological, or historic resources. **(Less Than Significant Impact [Same Impact as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.6 GEOLOGY AND SOILS

4.6.1 Environmental Setting

4.6.1.1 *Geology and Soils*

The project site is located in the Santa Clara Valley, an alluvial basin, bounded by the Santa Cruz Mountains to the west, the Hamilton/Diablo Range to the east, and the San Francisco Bay to the north. The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Hamilton/Diablo Range were exposed by the continued tectonic uplift and regression of the inland sea that had previously inundated this area. Bedrock in this area is made up of the Franciscan Complex, a diverse group of igneous, sedimentary, and metamorphic rocks of Upper Jurassic to Cretaceous age (70-140 million years old). Overlaying the bedrock at substantial depths are marine and terrestrial sedimentary rocks of Tertiary and Quaternary age.

Soils on the site and in the immediate project area consist of Arbuckle gravelly loam, Cortina loam, and San Ysidro loam.[9] The shrink-swell potential of these soils ranges from low to high, respectively. The site is predominantly San Ysidro loam, which has a high shrink-swell potential. The shrinking and swelling is the result of the soil absorbing water in the winter and drying in the summer. The shrinking and swelling action can damage improperly designed and/or constructed building foundations and pavements.

The potential for erosion and landslides at the project site is low, due to the flat slope of the project site and surrounding area. The project site is not located within a landslide hazard zone.[10]

4.6.1.2 *Seismicity*

An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the project site. The degree of shaking is dependent on the magnitude of the event, the distance to its zone of rupture and local geologic conditions. According to the City of Morgan Hill Geotechnical Hazards maps and the County's *Geologic Hazard Zones* Map, the project site is not located in a fault rupture hazard zone.

The nearest active fault lines to the site include the San Andreas Fault, Hayward Fault Southeast Extension, and Calaveras Fault, which are located approximately 12 miles southwest, 11 miles north, and three miles northeast of the project site, respectively. Other faults near the project site include the Coyote Creek Fault (approximately two miles northeast of the project site), and the Silver Creek Fault (approximately 2.5 miles northeast of the project site).

4.6.1.3 *Liquefaction*

Soil liquefaction is a phenomenon in which saturated, cohesion-less soils undergo a temporary loss of strength during earthquake ground shaking. The liquefaction potential of valley floor terrain is

[9] United States Department of Agriculture, Natural Resources Conservation Service. *Custom Soil Resource Report for Eastern Santa Clara Area, California*. June 12, 2018.
[10] County of Santa Clara. *County Geologic Hazard Zones Map 53*. October 26, 2012.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

estimated based on groundwater elevations in alluvial deposits within 50 feet of the ground surface.[11] The project site is not located within a liquefaction hazard zone.[12]

4.6.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:						
1. Rupture of a known earthquake fault, as described on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42.)?	☐	☐	☐	☒	☐	1, 2, 5
2. Strong seismic ground shaking?	☐	☐	☐	☒	☐	1, 2
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒	☐	1, 2, 5
4. Landslides?	☐	☐	☐	☒	☐	1, 2, 5
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒	☐	1, 2
c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒	☐	1, 2, 5

[11] Pacific Geotechnical Engineering, *Geology, Geologic, and Geotechnical Hazards, City of Morgan Hill*, December, 1991.
[12] County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
d) Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☐	☒	☐	1, 6, 7
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒	☐	1

4.6.2.2 *Soil Impacts (Checklist Question b, d, e)*

Soil Conditions

Soils on the project site range from a low to high expansion potential. Expansive soil conditions could damage future development and improvements proposed under the project, which would represent a significant impact (unless substantial damage is avoided by incorporating appropriate engineering into the grading and foundation design of proposed buildings).

Standard Measures: In accordance with the City of Morgan Hill standards, the project, consistent with the conditions of approval of the 2014 approved project, shall implement the following measures to reduce and/or avoid soil hazards. Implementation of the standard measure, SM GEO-1, would ensure that impacts to the project from soil conditions and seismic hazards would be less than significant.

SM GEO-1: To avoid or minimize potential damage from seismic shaking, the proposed residential mixed-use development shall be built using standard engineering and seismic safety design techniques. Prior to issuance of development permits, building design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which will be included in a report to the City. The structural designs for the proposed development will account for repeatable horizontal ground accelerations. The report shall be reviewed and approved by the City of Morgan Hill Building Division prior to issuance of a building permit. The buildings will be required to meet the requirements of applicable Building and Fire Codes, including the 2013 California Building Code Chapter 16, Section 1613, as adopted or updated by the City. The project will be designed to withstand soil hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Capability of Soils

New development at the site would connect to the existing sewer sanitary system. No septic systems would be developed under the project; therefore, no impacts to soils related to septic systems would occur. **(No Impact [Same as Approved Project])**

Soil Erosion

Ground disturbance would be required during grading, trenching, and construction of the proposed project, similar to the ground disturbance involved with the 2014 approved project. Ground disturbance would expose soils and increase the potential for wind or water related erosion and sedimentation at the site until construction is complete.

The City developed standard conditions to avoid significant soil erosion impacts during construction. The following conditions would be included as part of the project:

Standard Condition (SC GEO-1), Storm Drain System: Prior to final map approval or issuance of a grading permit the applicant shall complete the following to the satisfaction of the Director of Public Works.

1. Storm drain calculations to determine detention pond sizing and operations.
2. Plan describing how material excavated during construction will be controlled to prevent this material from entering the storm drain system.
3. Water Pollution Control Drawings for Sediment and Erosion Control.

Standard Condition (SC GEO-2), Storm Drain System: As required by the State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, construction activity resulting in a land disturbance of one acre or more of soil, or whose projects are part of a larger common plan of development that in total disturbs more than one (1) acre, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity (General Permit). To be permitted with the SWRCB under the General Permit, owners must file a complete Notice of Intent (NOI) package and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual in accordance with Section A, B, and C of the General Permit prior to the commencement of soil disturbing activities. A NOI Receipt Letter assigning a Waste Discharger Identification number to the construction site will be issued after the State Water Resource Control Board (SWRCB) receives a complete NOI package (original signed NOI application, vicinity map, and permit fee); copies of the NOI Receipt Letter and SWPPP shall be forwarded to the Building and Public Works Department review. The SWPPP shall be made a part of the improvement plans. (SWRCB NPDES General Permit CA000002)
[Less Impact than Approved Project (Less Than Significant Impact)]

4.6.2.3 *Seismic Hazards (Checklist Question a, c)*

The likelihood that a fault rupture would occur at the site is low; however, the site is located in a seismically active region and strong ground shaking will likely occur during the life of the project. The site is located in an area of relatively stable ground not likely to be involved in landsliding, faulting or other lateral displacement type ground failures. Based on the *Santa Clara County*

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Geologic Hazard Zones Map, the site is not are not located in a fault rupture, landslide, or liquefaction hazard zone. **(Less Than Significant Impact [Same as Approved Project])**

Since the soils on the site are not prone to liquefaction nor is the site near a creek or other open channel, the probability of lateral spreading occurring on-site is low. **(Less Than Significant Impact [Same as Approved Project])**

Impacts from seismic and seismic-related hazards can be minimized through the use of standard engineering and seismic safety design techniques per the City's Building Division and the California Building Code (see SM GEO-1). The proposed development would be designed to withstand soil hazards and to reduce the risk to life or property to the extent feasible and in compliance with the California Building Code. **(Less Than Significant Impact [Same as Approved Project])**

4.6.3 Conclusion

Conformance with the recommendations of a design-level geotechnical engineering report and with the California Building Code, and conformance with the City's standard conditions of approval would avoid geology and soil impacts at the project site. **(Less Than Significant Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.7 GREENHOUSE GAS EMISSIONS

The following discussion is based on an air quality and greenhouse gas emissions analysis completed for the proposed project by *Illingworth & Rodkin* on July 13, 2018. The report summarizing the results of the analysis is included as Appendix A of this Addendum.

4.7.1 Environmental Setting

4.7.1.1 *Background Information*

This section provides a general discussion of global climate change and focuses on emissions from human activities that alter the chemical composition of the atmosphere. As discussed in the Downtown Specific Plan MEIR, the discussion on global climate change and greenhouse gas (GHG) emissions is based in part upon the California Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32) and research, information and analysis completed by the International Panel on Climate Change (IPCC), the U.S. EPA, and the California Air Resources Board (CARB).

Global climate change refers to changes in weather including temperatures, precipitation, and wind patterns. Global temperatures are modulated by naturally occurring and anthropogenic (generated by mankind) atmospheric gases such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (NOx).[13] These gases allow sunlight into the earth's atmosphere but prevent heat from radiating back out into outer space and escaping from the earth's atmosphere, thus altering the earth's energy balance. This phenomenon is known as the greenhouse effect.

Naturally occurring GHGs include water vapor,[14] CO_2, CH_4, NO_x, and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but are for the most part solely a product of industrial activities.

Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of GHGs have a broader, global impact. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors.

Impacts to California from climate change include shifting precipitation patterns, increasing temperatures, increasing severity and duration of wildfires, earlier melting of snow pack and effects on habitats and biodiversity. Sea levels along the California coast have risen up to seven inches over the last century, and average annual temperatures have been increasing. These and other effects will likely intensify in the coming decades and significantly impact the State's public health, natural and manmade infrastructure, and ecosystems.

---

[13] IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Bases. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at: <http://ipcc.ch/ >. Accessed March 25, 2013.

[14] Concentrations of water are highly variable in the atmosphere over time, with water occurring as vapor, cloud droplets and ice crystals. Changes in its concentration are also considered to be a result of climate feedbacks rather than a direct result of industrialization or other human activities. For this reason, water vapor is not discussed further as a greenhouse gas.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Agencies at the international, national, state, and local levels are considering strategies to control emissions of gases that contribute to global warming. There is no comprehensive strategy that is being implemented on a global scale that addresses climate change; however, in California a multi-agency "Climate Action Team," has identified a range of strategies and the Air Resources Board, under AB 32, has approved the *Climate Change Scoping Plan* (Scoping Plan), discussed below.

Assembly Bill 32 and Executive Order S-3-05

Assembly Bill 32 (AB 32), also known as the Global Warming Solutions Act, was passed in 2006 and established a goal to reduce GHG emissions to 1990 levels by 2020. Prior to the adoption of AB 32, the Governor of California also signed Executive Order S-3-05, which set a long-term objective to reduce GHG emissions to 90 percent below 1990 levels by 2050. The CalEPA is the state agency in charge of coordinating the GHG emissions reduction effort and establishing targets along the way.

In December 2008, the California Air Resources Control Board (CARB) approved the Climate Change Scoping Plan, which proposes a comprehensive set of actions designed to reduce California's dependence on oil, diversify energy sources, save energy, and enhance public health, among other goals. Per AB 32, the Climate Change Scoping Plan, must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 were signed into law in September 2016. SB 32 legislation amends provisions of AB 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code Division 25.5), to require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by December 31, 2030. This legislation incorporates the Executive Order B-30-15 target discussed above into state law. Changes to the California Health and Safety Code under the companion AB 197 legislation call for each scoping plan update to identify emissions reduction measures and include the range of projected GHG emissions reductions as well as the range of projected air pollution reductions that result from the emission reduction measures.

The mid-term target established under SB 32 is considered critical by the state to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing GHG emissions. As a part of this effort, CARB is required to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. The most recently plan update was approved by CARB in December of 2017.SB 32 applies to projects that are completed after 2020.

4.7.1.2 *Regulatory Framework*

Bay Area 2017 Clean Air Plan

The Bay Area Air Quality Management District (BAAQMD) is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. BAAQMD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents, and develops regulations that must be consistent with or more stringent than, federal and state air quality laws and regulations.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state air quality standards would be met. BAAQMD's most recently adopted plan is the Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP focuses on two closely related BAAQMD goals: protecting public health and protecting the climate. To protect public health, the 2017 CAP describes how the BAAQMD will continue its progress toward attaining state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities.

The 2017 CAP includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

Bay Area Air Quality Management District: CEQA Guidelines

The thresholds of significance used to evaluate the proposed developments are determined by the Lead Agency, the City of Morgan Hill. Per CEQA Guidelines Section 15064.7, the City has elected to use the thresholds and methodology included in the May 2017 BAAQMD Air Quality Guidelines, as they are based on substantial evidence and remain the most up-to-date, scientifically-based method available to evaluate air quality impacts.

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO2e/year/service population. This is calculated for 2030 based on the GHG reduction goals of SB 32 and Executive Order B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[15]

4.7.1.3 *Existing Conditions*

The project site is currently undeveloped and contributes extremely low emissions of GHGs.

[15] Association of Environmental Professionals, 2016. Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. April.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.7.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒	☐	1, 8, 23
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒	☐	1, 8, 23

4.7.2.1 *Construction Greenhouse Gas Emissions (Checklist Question a, b)*

Construction phases include site grading, trenching, building construction, and paving. The project site is located in an urbanized location, within close distance of construction supplies and equipment, which would help minimize greenhouse gas emissions generated from the transport of construction materials and waste. There is no reliable method to estimate construction-related emissions associated with the manufacturing of project materials.

Neither the City of Morgan Hill nor the BAAQMD have quantified thresholds for construction activities, however, the project site is in an urban setting close to construction supplies and equipment, and construction of the project would not contribute substantially to local or regional greenhouse gas emissions. **(Less than Significant Impact [Same as Approved Project])**

4.7.2.2 *Operational Greenhouse Gas Emissions (Checklist Question a, b)*

GHG (e.g., carbon dioxide, methane, and nitrogen dioxide) from operations of the project would include electricity and natural gas used by residents of the site, and fuel burned for transportation to and from the site. Indirect emissions will include utility usage by building residents and employees for water conveyance, wastewater treatment, and solid waste disposal. As shown in Table 4.7-1, the proposed project would exceed the BAAQMD GHG emissions threshold in the year 2021, similar to the 2014 approved project which was forecast to result in emissions of 11.2 MT/service population/year, and in the year 2030.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.7-1: Annual Project GHG Emissions in Metric Tons		
Source Category	**Proposed Project in 2021**	**Proposed Project in 2030**
Area	4	4
Energy Consumption	901	901
Mobile	3,890	3,071
Solid Waste Generation	405	404
Water	31	31
Total (MT/year)	**5,231**	**4,411**
Service Population Emissions (MT/Capita/year)	**12.7**	**10.7**
Significance Threshold	1,100 MT/year or 4.6 in 2020 2.6 in 2030	

Impact GHG-1: The proposed project, similar to the 2014 approved project, would exceed BAAQMD GHG emissions thresholds for 2020 and 2030. **(Significant Impact)**

Mitigation Measure: The following mitigation measure shall be implemented to reduce GHG emissions to a less than significant level.

MM GHG-1.1: The proposed project shall implement a GHG reduction plan for each parcel that includes the proper strategies to reduce GHG emissions consistent with 2020 or 2030 thresholds based on the date of operation of a given parcel, i.e. parcels that will be in operation prior to 2021 must meet the 2020 threshold and those after 2020 must meet the 2030 threshold. Strategies of this plan may include, but would not be limited to, the following:

- Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;
- Develop and implement a tranposrtation demand management program to reduce mobile GHG emissions;
- Construct onsite or fund off-site carbon sequestration projects (such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted). If the project develops an off-site project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions;
- Purchase of carbon credits to offset Project annual emissions. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by the California Air Resources Board or BAAQMD. The preference for offset carbon credit

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by City of Morgan Hill. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

4.7.3 Conclusion

With implementation of MM GHG-1.1, the proposed project would reduce its GHG emissions to below the BAAQMD 2020 or 2030 threshold, as applicable, and not result in a significant impact. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.8 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based upon a Phase I Environmental Site Assessment prepared for the project site by *Geologica Inc.* in November 2007, an agrichemical assessment prepared for the project site by *ENGEO Inc.* in March 2013, and a Vicinity Hazardous Materials Users Survey completed for the proposed project by *Belinda Blackie, P.E., R.E.A.* in June 2013. These hazardous material reports are included as Appendix D, Appendix E, and Appendix F respectively.

4.8.1 Environmental Setting

The approximately 20.25-acre project site consists of an undeveloped field. The area surrounding the project site is developed with a mix of residential, commercial, and industrial uses. Review of historic topographic maps and aerial photographs indicated no evidence of historic buildings or structures on the site or in the immediate area, and that the site was historically used for agricultural production. The project site is not subject to wildland fires. The project site is not located within the Santa Clara County Airport Land Use Commission (ALUC) jurisdiction, and there are no private airstrips located near the project site.

4.8.1.1 *Onsite Hazardous Material Conditions*

Visual inspection of the site during preparation of the Phase I Environmental Site Assessment indicated no evidence of hazardous waste storage, disposal, or dumping. The site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., Cortese List).

The project site was historically used for agricultural production up until at least 1965.[16] For this reason, soil samples from the project site were analyzed to determine if past agricultural activities on the site contaminated the soil with organochlorine pesticides and/or arsenic. No organochlorine pesticides were detected at or above the test method detection limits. All levels of detected arsenic were below naturally occurring background levels. The results of the soil sample analysis indicate that past agricultural uses have not significantly impacted the site.[17]

4.8.1.2 *Offsite Sources of Contamination*

Groundwater beneath the site likely flows northwest towards San Francisco Bay or southwest towards local creeks and Monterey Bay. Federal, State, and/or local databases were searched to determine if groundwater contamination (e.g. a leaking underground storage tank) in the project area could affect the groundwater beneath the project site. Although there are some listed sites in the project vicinity, based on the regulatory agency status (e.g., closed) and/or location of these facilities relative to the subject site (e.g., downgradient), the potential for these sites to have impacted the subject property was considered low at the time the Phase I Environmental Site Assessment was completed for the project site.[18]

[16] Geologica, *Phase I Environmental Site Assessment,* November 5, 2007.
[17] ENGEO, Inc., *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment,* March 14, 2013.
[18] Geologica, *Phase I Environmental Site Assessment,* November 5, 2007.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.8.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒	☐	1, 2, 16, 17
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒	☐	1, 2, 16, 17
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	☐	1, 2
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒	☐	1, 2
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐	1, 2
f) For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐	1, 2
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	☐	1, 2

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒	☐	1, 2

4.8.2.1 *Impacts from Construction and Operations at the Site (Checklist Questions a, c)*

The proposed mixed-use development would routinely use limited amounts of cleaning materials and would not generate substantial hazardous emissions or accidental chemical releases from hazardous materials use, storage, or transport. The use and storage of hazardous materials in the City of Morgan Hill is regulated by Santa Clara County Department of Environmental Health Hazardous Materials Compliance Division (SCCDEH). The construction and operation of the proposed project would conform to the requirements of the SCCDEH. Service stations routinely transport and use hazardous materials. Compliance with applicable Federal, State, and local handling, storage, and disposal requirements would ensure that no significant hazards to the public or the environment are created by these routine activities. These requirements include equipping fuel dispensers with automatic shutoffs and other safety devices in accordance with Fire, Building, and Health codes, and including spill containment and overfill prevention systems on underground storage tanks in accordance with CCR Title 23, section 2635. For these reasons, the storage and handling of hazardous materials on the site, under the proposed project, would not result in a significant impact.

The nearest schools to the site, El Toro Elementary and Stratford School, are approximately 1.0 miles and 0.8 miles, respectively, from the site. Due to the distance of the site from nearby schools, the project impacts of hazardous construction emissions and hazardous wastes on nearby schools would be less than significant. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.8.2.2 *Impacts of Soil Contamination and Hazardous Building Materials (Checklist Question b, d)*

Based on the findings in the Phase I ESA and the Agrichemical Assessment, hazardous chemicals were used on the project site's former agricultural production. No organochlorine pesticides were detected at or above the test method detection limits. All levels of detected arsenic were below naturally occurring background levels. The results of the soil sample analysis indicate that past agricultural uses have not significantly impacted the site.[19]

Groundwater is approximately 42 feet below ground surface. Since subsurface soil samples are either consistent with background concentration levels or below regulatory screening levels and the

[19] ENGEO, Inc. *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment.* March 14, 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

risk of exposure to the groundwater is low, groundwater is not considered an environmental concern on the project site. **[Same Impact as Approved Project (Less Than Significant Impact)]**

Hazardous Building Materials

Review of historic topographic maps and aerial photographs indicated no evidence of historic buildings or structures on the site or in the immediate area, and that the site was historically used for agricultural production. For these reasons the project site does not contain hazardous building materials. **[Same Impact as Approved Project (No Impact)]**

4.8.2.3 *Other Hazards*

Airport Safety Hazard (Checklist Question e)

The project site is not located within the South County Airport Influence Areas or Federal Aviation Administration Height Restriction Area; therefore, the project would not result in an airport safety hazard. Since the site is not within the airport influence area (AIA) of an airport, the site is not subject to Santa Clara County Airport Land Use Commission (ALUC) evaluation.
(No Impact [Same as Approved Project])

Private Airstrip (Checklist Question f)

The project site is not within the vicinity of a private airstrip; therefore, the proposed development would not result in a safety hazard in relation to a private airstrip. **(No Impact [Same as Approved Project])**

Emergency Response (Checklist Question g)

The proposed mixed-use development project would not interfere with the City-adopted Local Hazard Mitigation Plan or any adopted statewide emergency response or evacuation plans.
(No Impact [Same as Approved Project])

Wildfires (Checklist Question h)

The project is in a highly developed urban area and it is not adjacent to any wildland areas that would be susceptible to fire. The project site is within the City limits and is not within a State of California Very High Fire Hazard Severity Zone or the City's wildland and urban interface.[20]
(No Impact [Same as Approved Project])

4.8.2.4 *Off-Site Contamination Impacts on the Project*

The project site is surrounded by a mix of industrial, commercial and residential land uses. A vicinity hazardous material user survey was completed for the project area. The purpose of the survey was to identify California Accidental Release Program (CalARP) facilities in the project area and to also identify facilities that may be storing CalARP - regulated chemicals at quantities exceeding the respective CalARP threshold. The purpose of the CalARP program is to prevent

[20] CAL FIRE. *Very High Fire Hazard Severity Zones in LRA*. Map. October 2008.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

accidental releases of substances that can cause serious harm to the public and the environment and to minimize the damage in the event of a release.

The survey included the following:

- a visual survey of the project area to identify businesses located within a one-half mile radius of the project sites that appear to use, handle, and/or store significant quantities of toxic or hazardous materials and/or waste.
- reviewing available Santa Clara County Fire Department (SCCFD) hazardous materials/waste inventories for the facilities identified during the visual survey.
- reviewing a list of California Accidental Release Program (CalARP) facilities for the project area.
- reviewing a regulatory agency database report to identify government agency-recorded facilities using or emitting hazardous materials in the project area.

Based on the results of the survey, there are no CalARP facilities within one mile of the project site and there are no facilities in the project area using or storing CalARP - regulated chemicals at quantities exceeding the respective CalARP threshold. Therefore, the use and storage of chemicals in the project area is not expected to affect the proposed project in the event of an accidental release. **[Same Impact as Approved Project (Less Than Significant Impact)]**

4.8.3 Conclusion

The proposed project would store hazardous materials in accordance with local, state, and federal regulations. There are no hazardous material concerns on the project site or in the project area that would affect the proposed project. For these reasons, the proposed project would not result in a significant hazards and hazardous materials impact. **[Same Impact as Approved Project (Less Than Significant Impact)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Environmental Setting

4.9.1.1 *Drainage and Flooding*

The project site is located in the Butterfield Channel storm water drainage basin. Butterfield Channel, previously named Sutter Channel, is an improved channel that drains the area west of US 101 and east of Railroad Avenue to East Little Llagas Creek. Because the entire project is an undeveloped field, the site generates little storm water runoff.

The project site is not located within a 100-year flood hazard area. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), the project site is located within Zone X. Zone X is an area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods.[21]

4.9.1.2 *Water Quality*

The water quality of ponds, creeks, streams, and other surface water-bodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as "non-point" source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Grading and excavation activities during construction of the proposed billboard could increase the amount of surface water runoff (i.e., particles of fill or excavated soil) from the site, or could erode soil downgradient, if the flows are not controlled. Deposition of eroded material in water features could increase turbidity, thereby endangering aquatic life, and reducing wildlife habitat. Excessive precipitation can carry these non-point pollutants downstream.

Regulatory Overview (Water Quality)

The Federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. Regulations set forth by the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board have been developed to fulfill the requirements of this legislation. EPA's regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by water quality control boards, which for the Morgan Hill area south of Cochrane Road[22] is the Central Coast Regional Water Quality Control Board (RWQCB).[23] The Central Coast RWQCB issues and enforces NPDES permits for discharges to water bodies in the portion of Santa Clara County that drains to the Monterey Bay. The RWQCB is also tasked with preparation and

[21] Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel #06085C0443H, May 18, 2009.
[22] Santa Clara Valley Water District. *Uvas-Llagas Watershed Map.* <http://www.valleywatercompplan.org/watersheds/view/449 > Accessed July 28, 2011.
[23] Historically, efforts to prevent water pollution focused on "point" sources, meaning the source of the discharge was from a single location (e.g., a sewage treatment plant, power plant, factory, etc.). More recent efforts are focusing on pollution caused by "non-point" sources, meaning the discharge comes from multiple locations. The best example of this latter category is urban stormwater runoff, the source of which is a myriad of impervious surfaces (e.g., highways, rooftops, parking lots, etc.) that are found in a typical city or town.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

revision of a regional Water Quality Control Plan, also known as the Basin Plan. The Central Coast RWQCB's latest Basin Plan was approved in September 2017. The RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to control water quality and protect beneficial uses.

Under Section 303(d) of the 1972 Clean Water Act, States are required to identify impaired surface water bodies and develop total maximum daily loads (TMDLs) for contaminants of concern.[24] The TMDL is the quantity of pollutant that can be safely assimilated by a water body without violating water quality standards. Listing of a water body as impaired does not necessarily suggest that the water body cannot support the beneficial uses; rather, the intent is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for future water quality degradation. The Llagas Creek watershed is listed by the U.S. Environmental Protection Agency as an impaired water body for chloride, fecal coliform, low dissolved oxygen, pH, sodium, and total dissolved solids.

NPDES General Permit for Construction Activity

The State Water Resources Control Board has implemented a NPDES General Construction Permit for the State of California. Construction activity subject to this permit includes clearing, grading, and ground disturbances such as stockpiling or excavation. For projects disturbing one acre or more of soil,[25] a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to commencement of construction.[26]

NPDES Municipal Stormwater Permit

The U.S. Environmental Protection Agency has delegated management of NPDES requirements for municipal urban runoff discharges in California to the State Water Resources Control Board and the nine RWQCB's. The City of Morgan Hill has adopted and prepared a Storm Water Management Plan (SWMP) and been issued the NPDES Small Municipal Separate Storm Sewer Systems (small MS4s) General Permit by the Central Coast RWQCB [Order Number 2003-0005-DWQ, Waste Discharge Identification Number (WDID#) 3-43MS03020]. The City of Morgan Hill is designated by the EPA as a small MS4, serving less than 100,000 people. Morgan Hill's previous Small MS4 permit expired in June 2010, and the new regional permit serves as a renewal of the Small MS4 permit for Morgan Hill. The City's SWMP plan outlines a comprehensive five year plan to establish Best Management Practices (BMPs) through six Minimum Control Measures (MCMs) to help reduce the discharge of pollutants into waterways and to protect local water quality caused by stormwater and urban runoff within the corporate limits of Morgan Hill.

[24] California State Water Resources Control Board, "Total Maximum Daily Load Program," http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml, viewed December 20, 2016.
[25] Effective July 1, 2010, all dischargers were required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. Source: State Water Resources Control Board website, updated February 2013. Available at: <http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml>. Accessed December 21, 2016.
[26] State Water Resources Control Board, Division of Water Quality. *Construction General Permit Fact Sheet*. Last Updated January 2013. Available at: <http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml>. Accessed December 21, 2016.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.9.1.3 *Groundwater*

The depth to groundwater at the project site is approximately 42 feet below ground surface (bgs).[27] The site does not contain aquifer recharge facilities, such as streams or ponds.

4.9.1.4 *Dam Failure*

The Association of Bay Area Governments has compiled dam failure inundation hazard maps submitted to the State Office of Emergency Services by dam owners throughout the Bay Area. The maps for the City of Morgan Hill show the project site to be in the dam failure inundation hazard zone for Anderson Reservoir.[28] The dams in Santa Clara County are managed by the Santa Clara Valley Water District. Anderson Dam is currently limited to about half its capacity due to seismic concerns, in order to protect against potential dam failure. The dam is currently being retrofitted to solve the seismic issue.[29]

4.9.1.5 *Seiches, Tsunamis, and Mudflows*

A seiche is an oscillation of the surface of a lake or landlocked sea varying in period from a few minutes to several hours. There are no landlocked bodies of water near the project site that in the event of a seiche will affect the site.

A tsunami is a series of water waves caused by the displacement of a large volume of a body of water, such as an ocean or a large lake. Due to the immense volumes of water and energy involved, tsunamis can devastate coastal regions. The project site does not lie within a tsunami inundation hazard area.[30]

A mudflow is the rapid movement of a large mass of mud formed from loose soil and water. The project site is relatively flat and is not susceptible to mudflows.

4.9.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒	☐	1, 2

[27] Geologica Inc., *Phase I Environmental Site Assessment. Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*, November 5, 2007.
[28] Association of Bay Area Governments, *Bay Area Dam Failure Inundation Hazards*, October 5, 2009, http://www.abag.ca.gov/bayarea/eqmaps/damfailure/.
[29] Santa Clara Valley Water District. "Anderson Dam Seismic Retrofit". 2018. https://www.valleywater.org/project-updates/dam-reservoir-projects/anderson-dam-seismic-retrofit.
[30] California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning San Francisco Bay Area, December 9, 2009, http://www.consrv.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Documents/Tsunami_Inundation_SanFranciscoBayArea300.pdf.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒	☐	1, 2
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on-or off-site?	☐	☐	☐	☒	☐	1, 2
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or off-site?	☐	☐	☐	☒	☐	1, 2
e) Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒	☐	1, 2
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒	☐	1, 2
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒	☐	14
h) Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☐	☒	☐	14

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒	☐	1, 15
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐	1, 2

4.9.2.1 *Impacts to Drainage (Checklist Questions c-e)*

The project site is approximately 20.25 acres of undeveloped land and 100 percent pervious.

The proposed mixed-use development would fully develop the project site and at completion of project construction, the project site would be approximately 23 percent pervious, leaving the site nearly covered in impervious surfaces.

Per the implementation of the SWPPP and other drainage standards implemented by the City, the project should not significantly increase stormwater flows into the existing system. The project would be required to minimally retain all water from the 85th percentile of rainfall events (approximately two to five year storm events) on site; therefore, during 85 percent of the rainfall events, the existing storm drain system would not be impacted by the project. Furthermore, any on-site systems (retention basins) would be required to be designed to detain a volume of water up to a 25-year storm event while releasing water at a rate reflective of the 10-year predevelopment flow. This design limits stormwater flows off-site to less than 10-year predevelopment flows. The existing public storm water system is already designed to convey a 10-year storm event; therefore, the project should not significantly contribute to any additional flooding during the most frequent events. The final drainage system design for the project would be subject to review and approval by the City of Morgan Hill Public Works Department, who would confirm that the proposed drainage system for the project is consistent with the City's Storm Drainage Master Plan and standard stormwater-related conditions of approval. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.9.2.2 *Impacts to Water Quality (Checklist Question a, f)*

Construction

There is the potential for water quality impacts to occur during project construction (e.g., demolition, grading, and excavation activities). In addition to generating dust, litter, oil, and other pollutants that could contaminate runoff from the site, construction activities would increase the potential for erosion and sedimentation by disturbing and exposing underlying soil to the erosive forces of water and wind. The proposed project would disturb more than one acre of soil and would be required to follow the requirements of the Statewide CGP.

Impact HYD-1: Construction activities could temporarily increase pollutant loads in storm water runoff, degrading water quality downstream of the project site.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Mitigation Measures: In accordance with the City of Morgan Hill Standard Conditions of Approval and the NPDES General Permit for Construction Activities, the following measures are included in the project to reduce construction-related water quality impacts to a less than significant level:

MM HYD-1.1: The following BMPs would be implemented during project construction:

- Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities will be suspended during periods of high winds.
- All exposed or disturbed soil surfaces will be watered at least twice daily to control dust.
- Stockpiles of soil or other materials that can be blown by the wind will be watered or covered.
- All trucks hauling soil, sand, and other loose materials will be covered and all trucks will be required to maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site will be swept daily (with water sweepers).
- Vegetation in disturbed areas will be replanted as quickly as possible.

MM HYD-1.2: Consistent with the requirements of the NPDES General Permit for Construction Activities, a Notice of Intent (NOI) would be submitted to the RWQCB and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to control discharge associated with construction activities, prior to commencement of grading and construction activities. Once grading begins the SWPPP must be kept on-site and updated as needed while construction progresses. **(Less Than Significant Impact with Mitigation [Same as Approved Project])**

Post – Construction

Stormwater runoff from urban uses such as the proposed project contains metals, pesticides, herbicides, and other contaminants such as oil, grease, lead, and animal waste. The project would conform to the City's Storm Water Management Plan (SWMP) to reduce the discharge of pollutants into waterways and to protect local water quality that could be degraded by storm water and urban run-off within the corporate limits of Morgan Hill.

In order to meet SWMP requirements onsite, the project proposes to direct all runoff to the onsite landscape areas, which would be designed to function as bioretention areas. An onsite network of perforated storm drain pipes would collect the runoff filtered through the landscape/bioretention areas, maximizing the amount of runoff retained onsite prior to discharging to the public storm drain system. Conformance with the SWMP, as proposed by the project, would reduce the potential for the project to result in post-construction water quality impacts. **(Less Than Significant Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.9.2.3 *Impacts to Groundwater (Checklist Question b)*

As discussed above, the depth to groundwater at the project site is approximately 42 feet below ground surface (bgs). The groundwater is deep enough such that the project, which entails only shallow ground disturbance for building foundations and utility trenching, would not interfere with groundwater flow or expose any aquifers. The project site is not an aquifer recharge facility (i.e., streams or ponds); therefore, development of the project site would not substantially interfere with aquifer recharge. **(Less Than Significant Impact [Same as Approved Project])**

4.9.2.4 *Impacts to the Project from Flooding (Checklist Question g-i)*

The project is not located within a 100-year flood hazard zone and, therefore, would have no impact on 100-year flows or expose people to flood hazards associated with the 100-year flood. **(No Impact [Same as Approved Project])**

Dam Failure

The City of Morgan Hill is located in the dam failure inundation area of Anderson Dam. While the project site is subject to deep inundation should the Anderson Dam fail catastrophically, the dam is inspected twice a year by the SCVWD in the presence of representatives from the California Division of Safety of Dams and the Federal Energy Regulatory Commission. Furthermore, the Anderson Reservoir is managed to present significant damage during a maximum credible earthquake. While the potential inundation resulting from catastrophic dam failure could damage property and proposed structures within Morgan Hill as a whole and pose a severe hazard to public safety, the probability of such failure is extremely remote and reservoir levels have been lowered to maintain an additional level of safety; therefore dam inundation failure is not considered a significant hazard.[31] **(Less Than Significant Impact [Same as Approved Project])**

Seiches, Tsunamis, and Mudflows

The project site would not be at risk from damage due to sea waves or tsunamis. The project site would not be subject to inundation by seiche, tsunami, or mudflow. The site is not in an area that could be exposed to inundation from sea level rise. **(No Impact [Same as Approved Project])**

4.9.3 Conclusion

With the implementation of standard measures and the City's policies and standards, the proposed mixed-use development would have a less than significant impact on hydrology and water quality. **(Less Than Significant Impact [Same as Approved Project])**

[31] Santa Clara Valley Water District. "Anderson Dam Seismic Retrofit". 2018. https://www.valleywater.org/project-updates/dam-reservoir-projects/anderson-dam-seismic-retrofit.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.10 LAND USE AND PLANNING

4.10.1 Environmental Setting

The 20.25-acre project site is located in the southeast quadrant of the intersection of Cochrane Road and Butterfield Boulevard in the City of Morgan Hill. The site is undeveloped. The site's existing General Plan land use designation and zoning are *Commercial* and *Planned Unit Development District*, respectively. The project area includes a mix of uses. Residences are located west of the project site, across Butterfield Boulevard. Industrial uses are located north and south of the project site, across Cochrane Road and Jarvis Drive, respectively. Commercial uses are located east of the project site. An aerial photograph of the project site and the surrounding land uses is shown in Figure 2.8-3.

4.10.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Physically divide an established community?	☐	☐	☐	☒	☐	1, 2
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒	☐	1, 2
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒	☐	1, 2, 11

4.10.2.1 *Land Use Impacts from the Project*

Impacts on Established Communities (Checklist Question a)

The site is in an urban setting predominantly characterized by commercial, office, residential and parking uses. The area is currently developed with a mix of land uses and development of the proposed mixed use development would not physically divide an established community. **(No Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Land Use Conflict Impacts (Checklist Question b)

Consistency with Applicable Land Use Plan

Land use conflicts can arise from two basic causes: 1) a new development or land use may cause impacts to persons or the physical environment in the vicinity of the project site or elsewhere; or 2) conditions on or near the project site may have impacts on persons or development introduced onto the site by the project. Both of these circumstances are aspects of land use compatibility. Potential incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritations and nuisance to potentially significant effects on human health and safety.

The proposed development of mixed uses on the project site would be compatible with the surrounding commercial and industrial uses. Land use conflicts between the proposed commercial uses and existing residential uses in the project area are not expected, because there is sufficient separation distance (i.e., Butterfield Boulevard, a four-lane arterial with a landscaped median) between the uses.

The proposed project is consistent with the *Commercial* General Plan land use designation. Therefore, the project site would retain its current General Plan land use designation. The site is currently zoned *PUD, Planned Unit Development*. The project includes an application to amend the *PUD* to accommodate the proposed mixed-use development. **(No Impact [Same as Approved Project])**

Shade and Shadow Impacts

Shadow sensitive land uses, such as parks, community facilities, and historic resources within the project area were identified based upon a visual reconnaissance and review of aerial photographs. There are no shadow sensitive land uses immediately adjacent to the project site. The nearest shadow sensitive land use is Murphy Springs Park, approximately 0.75 mile southwest of the site, on Murphy Springs Court. The proposed project is not adjacent to any shadow sensitive land uses and would undergo design review by the City. For these reasons, the project would not result in significant shade and shadow impacts. **(No Impact [Same as Approved Project])**

Consistency with the Santa Clara Valley Habitat Plan

Project consistency with the Santa Clara Valley Habitat Plan (VHP) is discussed in Section 4.4, Biological Resources. The proposed project is a covered activity under the Santa Clara Valley Habitat Plan and would be required to pay the appropriate development fees and adhere to applicable conditions. The proposed project would not conflict with the VHP. **(No Impact [Same as Approved Project])**

4.10.3 Conclusion

The proposed project would not physically divide an established community and would not conflict with the VHP. The proposed commercial use of the project site is compatible with surrounding land uses. **(No Impact [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.11 MINERAL RESOURCES

4.11.1 Environmental Setting

The project site is located in an urban area within the City of Morgan Hill. Mineral resource recovery activities do not occur on or near the project site, nor does the site contain any known mineral resources.

4.11.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒	☐	1, 2
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒	☐	1, 2

4.11.2.1 *Mineral Resources Impacts (Checklist Questions a, b)*

The project site is undeveloped and does not contain any known state or locally important mineral resources. Therefore, the proposed project would not impact mineral resources. **[Same Impact as Approved Project (No Impact)]**

4.11.3 Conclusion

Implementation of the proposed project would result in no impact to mineral resources. **[Same Impact as Approved Project (No Impact)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.12 NOISE AND VIBRATION

The following discussion is based upon an environmental noise assessment prepared for the proposed project by *Illingworth & Rodkin* in July 2018. The environmental noise assessment is included as Appendix G of this Addendum.

4.12.1 Environmental Setting

4.12.1.1 *Noise Background*

Noise

Noise is defined as unwanted sound. Noise can be disturbing or annoying because of its pitch or loudness. Pitch refers to relative frequency of the vibrations by which sound is produced. Higher pitched signals sound louder to people than sounds with a lower pitch. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. A 10 on the decibel scale marks the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis such that each 10 decibel increase is perceived as a doubling of loudness. The California A-weighted sound level, or dBA, is a sound measurement scale that gives greater weight to sounds to which the human ear is most sensitive.

Sensitivity to noise increases during the evening and at night because excessive noise interferes with the ability to sleep. Twenty-four hour descriptors have been developed that emphasize quiet-time noise events. The Day/Night Average Sound Level, L_{dn}, is a measure of the cumulative noise exposure in a community. It includes a 10 dB addition to noise levels from 10:00 PM to 7:00 AM to account for human sensitivity to night noise.

Vibration

The abbreviation "VdB" is used for vibration decibels to reduce confusion with sound decibels. Construction activities can cause vibration that varies in intensity depending on several factors. Pile driving and vibratory compaction equipment typically generate the highest construction-related groundborne vibration levels. The two primary concerns with construction-induced vibration are the potential to damage a structure, and the potential to annoy or disturb people and interfere with enjoyment of life.

4.12.1.2 *Existing Noise Environment*

A noise monitoring survey consisting of two short-term and two long-term noise measurements was completed at the project site beginning on Monday, April 30, 2018 and concluding on Thursday, May 3, 2018 to document existing ambient noise levels. The results of the noise monitoring survey indicate that the predominant noise sources affecting the site are vehicular traffic along surrounding roadways. The results of the monitoring are shown in Table 4.12-1 below. An aerial photograph showing the locations from which noise measurements were taken is provided in Figure 4.12-1.[32]

[32] Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment.* July 5, 2018.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.12-1: Summary of Short-term and Long-term Noise Measurements (dBA)		
ID	**Noise Measurement Location**	**L_{eq}**
ST-1	Eastern property line of the site	53
ST-2	South side of the site along Jarvis Drive	51
LT-1	Front of 18443 Butterfield Boulevard	63-74 (day) 53-68 (night)
LT-2	Front of 355 Woodview Avenue on Cochrane Road	70-74 (day) 59-70 (night)

Source: Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment*. July 5, 2018.

LT = Long-term

ST = Short-term

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Figure 4.12-1: Noise Measurement Locations

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.12.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project result in:						
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒	☐	1, 2, 18
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒	☐	1, 2, 18
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	☐	1, 2, 18
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	☐	1, 2, 18
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐	1, 2
f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐	1, 2

4.12.2.1 *Noise and Vibration Impacts from the Project*

Traffic Noise (Checklist Question a, c)

Per the City of Morgan Hill General Plan, noise from project-generated traffic would result in a significant impact if: a) the noise level increase is five dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or b) the noise level increase is three dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater. The noise environment at the nearest sensitive receptors exceeds 60

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

dBA L_{dn}, therefore, a noise impact would be identified where the project would result in a permanent noise level increase of 3 dBA L_{dn} or more.

Traffic generated by the project would use Butterfield Boulevard, Cochrane Road, Sutter Boulevard, and Jarvis Drive to access the project site. Traffic noise levels due to the proposed project are calculated to increase existing traffic noise levels by 0 to 1 dBA L_{dn} along Butterfield Boulevard, Cochrane Road, and Sutter Boulevard. Traffic noise levels at receptors along Jarvis Road, between Butterfield Boulevard and Sutter Boulevard, are calculated to increase by 2 dBA L_{eq} during the AM and PM peak hour due to a combination of traffic noise increases on Jarvis Road and those on the surrounding roadways. There are no noise sensitive land uses (i.e., residences) located along this segment of Jarvis Road. Traffic noise increases resulting from the proposed project would not increase ambient noise levels by 3 dBA L_{dn} or more at existing noise sensitive uses. **(Less than Significant Impact [Same as Approved Project])**

Operational Noise (Checklist Question a, c)

The proposed project would generate noise associated with mechanical equipment (i.e. heating, ventilation, air conditioning systems, auto shop equipment), parking and circulation, loading docks, and a carwash. Based on the distance to the nearest sensitive receptor, residences located approximately 150 feet west of the site across Butterfield Boulevard, and the existing ambient noise level of 63 to 73 dBA L_{eq}, noise generated by parking and circulation (50 to 60 dBA L_{max}), loading docks (50 to 55 dBA L_{max}), and the car wash (53 to 63 dBA L_{eq}) would be below the existing ambient noise level and would not be distinguishable from existing noise sources, similar to the 2014 approved project.

Mechanical equipment (i.e. heating, ventilation, air conditioning systems, auto shop equipment) on parcels one, six, and nine (see Figure 3.2-1), however, could potentially impact nearby sensitive receptors located to the west, across Butterfield Boulevard. Mechanical equipment can operate continuously throughout the day and night and has different acoustical characteristics than traffic noise; therefore, the following mitigation measure would apply to the proposed project.

Impact NOI-1: Operation of mechanical equipment could exceed existing ambient noise levels near sensitive receptors.

Mitigation Measure: The following mitigation measure would be implemented as part of the project in order to reduce mechanical equipment noise to a less than significant level:

MM NOI-1.1: Prior to the issuance of building permits, mechanical equipment shall be selected and designed to reduce impacts on surrounding uses to meet the City of Morgan Hill's requirements. A qualified acoustical consultant shall be retained by the project applicant to review mechanical noise as the equipment systems are selected in order to determine specific noise reduction measures necessary to reduce noise to 55 dBA Leq at residences to the west of the site, across Butterfield Boulevard. Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels and/installation of noise barriers such as enclosures and parapet walls to block the line of sight between the noise source and the nearest receptors.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

With implementation of MM NOI-1.1, noise generated by the proposed project's mechanical equipment would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

Construction Noise (Checklist Question a, b, d)

Construction activities can generate high noise levels, especially during demolition, excavation, and foundation construction when heavy equipment operates on-site. Hourly average noise levels generated by demolition and construction typically range from 78-91 dBA L_{eq} at a distance of 50 feet from the center of a busy construction site. The closest noise sensitive uses surrounding the site include residences located about 150 feet west of the site, across Butterfield Boulevard. Residences to the west would be exposed construction noise levels as high as 69 to 82 dBA L_{eq} when construction is located adjacent to the western property line, with more typical levels being 60 to 73 dBA L_{eq} or less as construction moves away from the property line. Commercial uses, located about 50 and 80 feet to the east, 200 feet to the north, and 175 feet to the south would be exposed to typical construction noise levels of up to 66 to 90 dBA L_{eq}. Construction noise would be lower as activities move further from noise sensitive locations or into shielded areas. Project construction would similar to construction activity associated with the 2014 approved project and would be anticipated to exceed 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial uses and the ambient noise levels by more than 5 dBA L_{eq} over a period exceeding one year, resulting in a significant impact.

Impact NOI-2: If not controlled, construction activities on the project site could expose adjacent sensitive receptors to a substantial temporary increase in ambient noise levels. **(Less Than Significant Impact with Mitigation)**

Mitigation Measure: With the implementation of the measures listed below, and recognizing that the sensitive land uses located across Butterfield Boulevard would only be affected by noise from construction activities on the westernmost portion of the site, and recognizing that construction on the remainder of the site would typically occur at distances of 500 feet or more from those same sensitive land uses, the substantial temporary increase in ambient noise levels would be less than significant.

MM NOI-2.1: Consistent with the City of Morgan Hill Municipal Code, the following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance.

- Construction activities shall be limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities should occur on Sundays or federal holidays (Consistent with Section 8.28.040 of the Morgan Hill Municipal Code).
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

- Locate stationary noise generating equipment (e.g. rock crushers, compressors) as far as possible from adjacent residential receptors.
- Acoustically shield stationary equipment located near residential receptors with temporary noise barriers or recycled demolition materials.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

Implementation of MM NOI-2.1 would reduce construction noise levels to a less than significant level. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

Construction Vibration (Checklist Question a, b, d)

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. The nearest structures are located as close as 50 and 80 feet to the east, 200 feet to the north, 125 feet to the west, and 175 feet to the south of the project site. At the nearest structures, located about 50 feet to the east, typical construction activities would be expected to result in vibration levels of 0.1 in/sec PPV or less. Vibration would be anticipated to be perceptible when located adjacent to structures but would be well below the 0.30 in/sec PPV significance threshold for architectural or structural damage. **(Less than Significant Impact [Same as Approved Project])**

4.12.2.2 *Airport-Related Noise (Checklist Question e, f)*

The project site is located approximately six miles northwest of the San Martin Airport. There are no private airstrips in the site vicinity. The project site is not within the noise contours of the airport, therefore there would be no noise impacts to future residents resulting from airport-related noise. **[(No Impact) Same Impact as Approved Project]**

4.12.2.3 *Noise and Vibration Conditions Affecting the Project*

The California Supreme Court in a December 2015 opinion (*BIA v. BAAQMD*) confirmed CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project; nevertheless the City has policies that address existing conditions (e.g. noise) affecting a proposed project, which are addressed below.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Exterior Noise

The main noise generator in the project area is traffic on the surrounding surface streets. The majority of the outdoor uses of the proposed project are of sufficient distance or shielded from existing traffic noise, and would not exceed the City of Morgan Hill's exterior noise policy (65 dBA for residential/hotel and 70 dBA for office, commercial, and parks). The exterior uses at the proposed hotel, however, could potentially exceed the City's exterior noise policy depending on the final site design. The project would comply with the following condition of approval prior to obtaining grading/building permits:

- Consider acoustics in the design of outdoor use areas for the Parcel 5 Hotel use. A qualified acoustical consultant shall be retained by the project applicant to review hotel plans to determine specific noise reduction measures necessary to reduce noise to meet the City's noise and land use compatibility threshold (65 dBA Ldn). Noise reduction measures could include, but are not limited to, site planning utilizing setbacks from Cochrane Road and shielding from hotel structures and/or the installation of noise barriers or parapet walls (in the case of rooftop use areas).

Interior Noise

The proposed project buildings located along Butterfield Boulevard and Cochrane Road would be exposed to the highest exterior noise levels. Interior noise levels vary depending on the design of the building. Based on the anticipated exterior noise environment, interior noise levels at the assisted living facility and medical offices would be below the City's 45 dBA L_{dn} for residential uses, 45 dBA L_{eq} for offices, and below the 50 dBA $L_{eq(1\text{-}hr)}$ specified by the Cal Green Code.

The proposed hotel and commercial uses along Butterfield Boulevard and Cochrane road would also meet the interior noise standards with the inclusion of forced-air ventilation, so that windows can be kept closed to control noise.

4.12.3 Conclusion

With implementation of MM NOI-1.1 and MM NOI-2.1, the proposed project would not result in significant noise impacts. **(Less than Significant Impact with Mitigation [Same as Approved Project])**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.13 POPULATION AND HOUSING

4.13.1 Environmental Setting

Based on the California Department of Finance population estimates, the City's total population was approximately 44,513 in January 2018 and the average persons per household was an estimated 3.06.[33,34] The City's total population is projected to grow to approximately 46,100 by 2030.[35]

As part of the General Plan, residential development within the City of Morgan Hill is controlled by the Residential Development Control System (RDCS). Morgan Hill's RDCS process meters the amount of residential development occurring within the City in any given year, typically up to 215 units annually, to ensure the rate of development does not outstrip the availability of public services and infrastructure to serve the City's residents. RDCS establishes a population ceiling of 58,200 for the City as of January 1, 2035.

4.13.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒	☐	1, 3
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐	1, 3
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐	1, 3

4.13.2.1 *Impacts to Population and Housing*

A project can induce substantial population growth by: 1) proposing new housing beyond projected or planned development levels, 2) generating demand for housing as a result of new businesses, 3) extending roads or other infrastructure to previously undeveloped areas, or 4) removing obstacles to

[33] California Department of Finance. *E-1: City/County Population Estimates with Annual Percent Change - January 2017 and 2018*. May 2018.
[34] City of Morgan Hill. *Pop-Facts: Demographic Snapshot 2015 Report*. Available at: <http://www.morgan-hill.ca.gov/717/Demographics-Community-Profile>. Accessed January 3, 2017.
[35] City of Morgan Hill. *Morgan Hill General Plan: City of Morgan Hill Housing Element*. Adopted February 2015.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

population growth (i.e., expanding capacity of a wastewater treatment plant beyond that necessary to serve planned growth).

Population Growth (Checklist Question a)

The proposed project would develop a nine-pump gas station, approximately 10,000 square feet of restaurant space, 38,000 square feet of retail space (including a tire shop and grocery store), 110-room hotel, 40,500 square feet of office space, and an 85-bed assisted living facility. The businesses and medical offices would primarily serve Morgan Hill's existing population and would not induce substantial population growth. The proposed assisted living facility is considered a commercial use and is not subject to the City's RDCS system, provided that any private rooms only contain a half kitchen. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Population Growth and People/Housing Displacement (Checklist Question b, c)

The project site is undeveloped, and therefore, no residents occupy the site. For this reason, the proposed project would not displace people or necessitate the construction of housing elsewhere. **[(No Impact) Same as Approved Project]**

4.13.3 Conclusion

The proposed project would not induce substantial population growth or displace people or housing. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.14 PUBLIC SERVICES

4.14.1 Environmental Setting

4.14.1.1 *Fire Protection*

The City of Morgan Hill contracts with the California Department of Forestry and Fire Protection (CalFire) for fire and emergency medical services. The City is served by three stations at the following locations: 1) El Toro Fire Station, located at 18300 Old Monterey Road (approximately 0.4 mile southwest of the project site), 2) Dunne Hill Fire Station, located at 2100 East Dunne Avenue (approximately 2.5 miles east of the project site), and 3) 15670 Monterey Street (approximately 2.8 miles south of the project site). In general, the response time meets the current standard of eight minutes 95 percent of the time; although it is expected that most responses will be approximately five minutes 90 of the time.[36]

4.14.1.2 *Police Protection*

Police service is provided to the project site by the City of Morgan Hill Police Department (MHPD). The MHPD facility is located at 16200 Vineyard Boulevard, approximately one mile southeast of the project site. The department employs 39 sworn officers.[37] The Police Department's goal is to respond to Priority One calls within five minutes and Priority Two calls within eight minutes.[38] Priority One calls are reports of a crime in progress or where an injury has occurred and Priority Two calls are reports of felonies and other major calls.

4.14.1.3 *Schools*

The project site is located within the Morgan Hill Unified School District. The District has eight elementary schools, two middle schools, two comprehensive high schools, one continuation high school, and a community adult school, as well as a home schooling program. The nearest schools to the site, El Toro Elementary and Stratford School, are approximately 1.0 mile and 0.8 mile, respectively, from the site.

4.14.1.4 *Parks*

The City owns 70 acres of developed park land (including the Civic Center, assessment district parks and city owned trails) and 59 acres of recreation facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. In addition to publicly-owned park land, there is also a significant amount of recreational land and open space in the City that is privately owned and maintained.

The City also owns and operates special use facilities for recreational purposes. These facilities include the Morgan Hill Aquatics Center, Community and Cultural Center, the Centennial Recreation Center, the 38 acre Outdoor Sports Center, and Skateboard/BMX park. Many sports leagues and

[36] City of Morgan Hill, City Council Staff Report. *Fire and Emergency Medical Services (EMS) CalFire Proposal Update*. Meeting Date April 4, 2012.
[37] City of Morgan Hill. *Police*. Accessed June 14, 2018. http://www.morgan-hill.ca.gov/index.aspx?nid=129.
[38] City of Morgan Hill. *Operating and CIP Budget, FY 13-14. Police Field Operations, Performance Measures.* 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

teams use Morgan Hill School District facilities after school hours and on weekends. These facilities include 12 baseball/softball fields, two football fields, two tracks, and four swimming pools.

The General Plan includes policies that support the City's park land and recreational goal to provide useful, accessible, and high-quality parks, recreation, and trail facilities. To achieve this goal, the City has adopted General Plan Policies and a park land dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires park land dedication or in-lieu fees for residential developments.

In accordance with General Plan Policies HC-3.3 and HC-3.29, park land dedication or in-lieu fees are required by new developments to meet the recreation and open space needs of residents in Morgan Hill.

4.14.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project						
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:						
- Fire Protection?	☐	☐	☐	☒	☐	1, 2
- Police Protection?	☐	☐	☐	☒	☐	1, 2
- Schools?	☐	☐	☐	☒	☐	1, 2
- Parks?	☐	☐	☐	☒	☐	1, 2
- Other Public Facilities?	☐	☐	☐	☒	☐	1, 2

4.14.2.1 *Impacts to Public Services (Checklist Question a)*

Fire and Police Services

Development on the project site under the proposed project would be constructed in conformance with current building and fire codes, including features that would reduce potential fire hazards. The development would be reviewed by both CalFIRE and the Morgan Hill Police Department to ensure appropriate safety features to reduce fire hazards and criminal activity are included in the project. Given that the proposed project is infill development, the development of commercial uses on the site would not substantially increase the demand for fire or police protection, or otherwise require

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

construction or expansion of fire or police facilities. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Schools

The proposed project does not propose to develop residential units that would increase the student population of the City. The assisted living facility would not include school age children who would attend area schools. Therefore, the proposed project would have not increase demand on or require additional construction of school facilities. **[(No Impact) Same as Approved Project]**

Parks

The City of Morgan Hill has adopted a parkland dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires parkland dedication or in-lieu fees for residential developments. The proposed project does not include residential development that would place demands on park in that the assisted living facility would not include a large population of residents who would be expected to use nearby parks and the project would not therefore be subject to the parkland dedication/park land in-lieu fee ordinance; thus, the proposed project would have no impact on park facilities. **[(No Impact) Same as Approved Project]**

4.14.3 Conclusion

The proposed development of the proposed mixed-uses on the project site would incrementally increase demand for public services in the project area, however, this increase in demand would not result in a significant impact on the environment. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.15 RECREATION

4.15.1 Environmental Setting

The City owns 70 acres of developed park land (including the Civic Center, assessment district parks and city owned trails) and 59 acres of recreation facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. In addition to publicly-owned park land, there is also a significant amount of recreational land and open space in the City that is privately owned and maintained.

The City also owns and operates special use facilities for recreational purposes. These facilities include the Morgan Hill Aquatics Center, Community and Cultural Center, the Centennial Recreation Center, the 38 acre Outdoor Sports Center, and Skateboard/BMX park. Many sports leagues and teams use Morgan Hill School District facilities after school hours and on weekends. These facilities include 12 baseball/softball fields, two football fields, two tracks, and four swimming pools.

The General Plan includes policies that support the City's park land and recreational goal to provide useful, accessible, and high-quality parks, recreation, and trail facilities. To achieve this goal, the City has adopted a park land dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires park land dedication or in-lieu fees for residential developments.

4.15.2 Checklist and Discussion of Impacts

		New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☐	☒	☐	1
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒	☐	1

4.15.2.1 *Impacts on Parks and Recreational Facilities (Checklist Question a, b)*

As discussed in Section 4.13 Public Services, the proposed project does not include the development of residential units that would place demands on parks in that the assisted living facility would not include a large population of residents who would be expected to use nearby parks and the anticipated workforce for the proposed businesses would largely come from the existing City

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

population. As a result, the proposed project would not increase the use of existing recreational facilities or require their expansion. **[(No Impact) Same as Approved Project]**

4.15.3 Conclusion

The proposed project would not result in impacts to recreation. **[(No Impact) Same as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.16 TRANSPORTATION/TRAFFIC

The following discussion is based upon a traffic impact analysis completed for the proposed project by *Hexagon Transportation Consultants* in June 2018. The report is attached as Appendix H of this Initial Study/Addendum.

4.16.1 Environmental Setting

4.16.1.1 *Existing Roadway Network*

Regional Access

US 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle [HOV] lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Existing access to and from the project area is provided via an interchange at Cochrane Road.

Local Access

Cochrane Road is an east-west divided roadway that runs from Monterey Road to Malaguerra Avenue east of US 101. Cochrane Road is a four-lane road between Monterey Road and Sutter Boulevard. Between Sutter Boulevard and US 101, Cochrane Road widens to three lanes eastbound and two lanes westbound, then narrows back to four lanes east of US 101, and to two lanes east of Mission View Drive. Cochrane Road has a posted speed limit of 45 mph. It runs along the northern project frontage and would provide direct access to the project site via various driveways.

Monterey Road is a four-lane divided major arterial that runs directly through Morgan Hill. Monterey Road extends from Market Street in downtown San Jose to US 101 south of Gilroy. Monterey Road runs west of the project site with a posted speed limit of 45 mph.

Butterfield Boulevard is a four-lane roadway that runs southward from Cochrane Road to Monterey Road with a posted speed limit of 35 mph. At the intersection with Monterey Road, Butterfield Boulevard changes designation to Watsonville Road. Direct access to the project site would be provided via a driveway along Butterfield Boulevard.

Jarvis Drive is a two-lane undivided roadway that runs in a concentric form within the area bounded by Monterey Road, Cochrane Road, US 101, and Main Avenue. It begins at Monterey Road and extends eastward past Sutter Boulevard at which point it loops around and extends southwest to Butterfield Boulevard. Jarvis Drive is the southern project boundary and would provide direct access to the project site via two driveways.

Sutter Boulevard is a four-lane roadway that runs from Butterfield Boulevard to Woodview Avenue just north of Cochrane Road, with a posted speed limit of 35 mph. Indirect access would be provided to the project site from Sutter Boulevard via an existing driveway that serves the existing commercial development east of the project site.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Study Intersections

The traffic impact analysis completed for the proposed project evaluates the operations of 20 signalized intersections, five unsignalized intersections, and 16 freeway segments. The study intersections and freeway segments listed below were evaluated following the standards and methodologies set forth by the City of Morgan Hill and VTA. A detailed discussion of the methodologies used is included in the traffic impact analysis attached as Appendix H of this Initial Study/Addendum.

Intersections

1. Monterey Road and Cochrane Road
2. Cochrane Circle and Cochrane Road
3. Butterfield Boulevard and Cochrane Road
4. Woodview Avenue and Cochrane Road (unsignalized)
5. Sutter Boulevard and Cochrane Road
6. Madrone Parkway and Cochrane Road
7. US 101 Southbound Ramps and Cochrane Road
8. US 101 Northbound Ramps and Cochrane Road
9. DePaul Drive and Cochrane Road
10. Mission View Drive and Cochrane Road (unsignalized)
11. Sutter Boulevard and Cochrane Road (unsignalized)
12. Butterfield Boulevard and Jarvis Drive (N) (unsignalized)
13. Sutter Boulevard and Jarvis Drive (unsignalized)
14. Butterfield Boulevard and Sutter Boulevard
15. Butterfield Boulevard and Jarvis Drive (S)/Digital Drive
16. Monterey Road and Old Monterey Road
17. Butterfield Boulevard and Central Avenue
18. Monterey Road and Main Avenue
19. Butterfield Boulevard and Main Avenue
20. Condit Road and Main Avenue
21. Butterfield Boulevard and Diana Avenue
22. Monterey Road and Dunne Avenue
23. Butterfield Boulevard and Dunne Avenue
24. US 101 Southbound Ramps and Dunne Avenue
25. US 101 Northbound Ramps and Dunne Avenue

Freeway Segments

1. US 101 between SR 85 and the Southbound Lane Drop
2. US 101 between Southbound Lane Drop and Sheller Avenue
3. US 101 between Sheller Avenue and Burnett Avenue
4. US 101 between Burnett Avenue and Cochrane Road
5. US 101 between Cochrane Road and Dunne Avenue
6. US 101 between Dunne Avenue and Tennant Avenue
7. US 101 between Tennant Avenue and San Martin Avenue
8. US 101 between San Martin Avenue and Masten Avenue
9. US 101 between Masten Avenue and San Martin Avenue
10. US 101 between San Martin Avenue and Tennant Avenue

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

11. US 101 between Tennant Avenue and Dunne Avenue
12. US 101 between Dunne Avenue and Cochrane Road
13. US 101 between Cochrane Road and Burnett Avenue
14. US 101 between Burnett Avenue and Sheller Avenue
15. US 101 between Sheller Avenue and Southbound Lane Drop
16. US 101 between the Southbound Lane Drop and SR 85

4.16.1.2 *Existing Bicycle and Pedestrian Facilities*

Monterey Road has bike lanes along its entire length within the City of Morgan Hill, with the exception of the segment that runs through downtown between Dunne Avenue and Main Avenue. Bike lanes are also provided along the entire lengths of Cochrane Road, Butterfield Boulevard, and Sutter Boulevard.

Sidewalks are provided along the south side of Cochrane Road between Monterey Road and US 101. There are no sidewalks provided along the north side of Cochrane Road between Monterey Road and just east of Butterfield Boulevard. Sidewalks are provided along both sides of Butterfield Boulevard. Sidewalks are provided along the north side of Jarvis Drive, however the sidewalk is intermittent along the project frontage. Sidewalks are provided along Sutter Boulevard between Cochrane Road and Jarvis Road, however no sidewalks are provided south of Jarvis Road.

4.16.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒	☐	1, 2, 19
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒	☐	1, 2, 19

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒	☐	1, 2, 19
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☐	☒	☐	1, 2, 19
e) Result in inadequate emergency access?	☐	☐	☐	☒	☐	1, 2, 19
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒	☐	1, 2, 19

4.16.2.1 *Thresholds of Significance*

All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of Downtown intersections permitted to operate at LOS F, and nine intersections and three freeway zones permitted to operate at LOS E. According to the City's LOS guidelines, a development is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or LOS E as identified above under existing conditions to an unacceptable LOS E or LOS F under project conditions, or
2. The level of service at the intersection is an unacceptable level of LOS E or LOS F as identified above under existing conditions and the addition of project trips causes the average critical delay to increase by four or more seconds and the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

Unsignalized intersections within the City have a minimum operating level of LOS D. According to the City's LOS guidelines, a development is said to have a significant adverse impact on traffic conditions at an unsignalized intersection if for either peak hour the addition of project traffic causes the worst approach delay to degrade to LOS E or F and the traffic volumes at the intersections are sufficiently high to satisfy the peak hour volume warrant.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

A project is said to create a significant adverse impact on traffic conditions on a County Congestion Management Program (CMP) freeway segment if for either peak hour:

1. The level of service on a freeway segment is an unacceptable LOS F under no project conditions, and the number of project trips on that segment constitutes at least one percent of capacity on that segment.
2. The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under project conditions.

A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore freeway conditions to LOS E or better.

4.16.2.2 *Impacts to Roadways (Checklist Question a, b)*

Existing Plus Project

Based on the ITE trip generation rates and reductions for pass-by-trips, it is estimated that the proposed project would generate 10,064 daily trips, with 666 trips (385 inbound and 281 outbound) occurring during the AM peak hour and 758 trips (351 inbound and 407 outbound) occurring during the PM peak hour. The 2014 approved project generated 8,153 daily trips.

The results of the intersection level of service analysis under existing plus project conditions are summarized in Table 4.16-1. The results show that, measured against the City's LOS standards, all study intersections are projected to operate at acceptable levels of service under existing plus project conditions during each of the peak hours analyzed. Therefore, no study intersections would be significantly impacts by the project according to the City's impact criteria. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Table 4.16-1: Existing Plus Project Intersection Levels of Service

Intersection	Peak Hour	Existing		Existing + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
1. Monterey Road/Cochrane Road	AM PM	28.1 24.0	C C	28.7 25.2	C C	0.9 1.2	0.021 0.025
2. Cochrane Circle/Cochrane Road	AM PM	10.5 10.9	B B	10.4 11.3	B B	0.1 0.4	0.017 0.022
3. Butterfield Boulevard/Cochrane Road	AM PM	12.8 14.7	B B	13.6 16.2	B B	1.0 2.0	0.078 0.100
4. Woodview Avenue/Cochrane Road	AM PM	14.8 13.1	B B	17.4 17.9	B B	N/A N/A	N/A N/A
5. Sutter Boulevard/Cochrane Road	AM PM	17.6 18.3	B B	18.0 19.1	B B	0.2 0.0	0.038 0.040

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-1: Existing Plus Project Intersection Levels of Service							
		Existing		Existing + Project			
Intersection	Peak Hour	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
6. Madrone Parkway/Cochrane Plaza/Cochrane Road	AM PM	19.1 31.4	B C	18.6 30.5	B C	-3.5 -0.7	0.037 0.028
7. US 101 Southbound Ramps/ Cochrane Road	AM PM	12.8 16.5	B B	13.2 16.9	B B	0.5 0.7	0.035 0.039
8. US 101 Northbound Ramps/ Cochrane Road	AM PM	8.6 11.3	A B	9.1 11.6	A B	0.4 0.3	0.020 0.023
9. De Paul Drive/Cochrane Road	AM PM	17.7 18.7	B B	17.8 18.8	B B	0.1 0.1	0.006 0.006
10. Mission View Drive/Cochrane Road	AM PM	32.6 16.1	D C	34.2 16.4	D C	N/A N/A	N/A N/A
11. Sutter Boulevard/Cochrane Plaza	AM PM	13.7 23.0	B C	14.0 25.1	B D	N/A N/A	N/A N/A
12. Butterfield Boulevard/Jarvis Drive (N)	AM PM	11.9 12.1	B B	13.1 12.8	B B	N/A N/A	N/A N/A
13. Sutter Boulevard/Jarvis Drive	AM PM	16.1 19.7	C C	13.2 20.6	B C	N/A N/A	N/A N/A
14. Butterfield Boulevard/Sutter Boulevard	AM PM	6.7 15.6	A B	7.4 17.5	A B	0.9 1.9	0.080 0.074
15. Butterfield Boulevard/Jarvis Drive (S)/Digital Drive	AM PM	4.5 7.0	A A	4.7 6.6	A A	0.3 -0.2	0.047 0.050
16. Monterey Road/Old Monterey Road	AM PM	9.9 18.8	A B	10.1 21.0	B C	0.3 3.1	0.034 0.039
17. Butterfield Boulevard/Central Avenue	AM PM	10.4 4.0	B A	10.5 4.1	B A	0.4 0.6	0.050 0.054
18. Monterey Road/Main Avenue	AM PM	44.2 45.1	D D	44.8 45.9	D D	0.7 1.1	0.021 0.025
19. Butterfield Boulevard/Main Avenue	AM PM	27.6 29.8	C C	28.3 29.9	C C	0.4 -0.1	0.043 0.032
20. Condit Road/Main Avenue	AM PM	27.6 26.1	C C	27.7 26.2	C C	0.1 0.1	0.004 0.005
21. Butterfield Boulevard/Diana Avenue	AM PM	32.3 27.7	C C	44.4 37.2	D D	17.0 14.5	0.033 0.035
22. Monterey Road/Dunne Avenue	AM PM	28.9 31.4	C C	29.2 31.7	C C	0.4 0.5	0.013 0.014

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-1: Existing Plus Project Intersection Levels of Service							
		Existing		Existing + Project			
Intersection	Peak Hour	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
23. Butterfield Boulevard/Dunne Avenue	AM PM	38.3 35.3	D D	40.3 36.7	D D	3.7 2.1	0.058 0.042
24. US 101 Southbound Ramps/Dunne Avenue	AM PM	20.9 18.8	C B	20.9 18.8	C B	0.0 0.0	0.000 0.000
25. US 101 Northbound Ramps/Dunne Avenue	AM PM	5.3 11.8	A B	5.2 11.7	A B	-0.1 0.0	0.006 0.005

[1] The reported delay and corresponding level of service for signalized and all-way stop-controlled intersections represents the average delay for all approaches at the intersection. The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.

[2] LOS = Level of service. LOS calculations conducted using the TRAFFIX level of service analysis software package.

Cumulative Plus Project

Cumulative conditions are comprised of forecasted traffic volumes and reflect estimated traffic growth in the City of Morgan Hill for the Year 2025. The land uses of the proposed development plan are of greater intensity than those assumed in the General Plan. When compared with the land uses included in the City's General Plan, the proposed mix of uses in the current development application would result in an additional 510 AM peak hour trips and 404 PM peak hour trips at the project site compared to what volumes are currently assumed in the City's 2025 forecast model.

The results show that, measured against the City of Morgan Hill level of service standards, all the study intersections are projected to operate at acceptable levels of service under Year 2025 cumulative and cumulative plus project conditions during each of the peak hours analyzed (see Table 4.16-2). Therefore, no study intersections would be significantly impacted by the project, according to the City's level of service impact criteria.

In addition, all unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization under Year 2025 cumulative and cumulative plus project conditions. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-2: Cumulative Plus Project Intersection Levels of Service

Intersection	Peak Hour	Cumulative		Cumulative + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
1. Monterey Road/Cochrane Road	AM PM	26.2 26.4	C C	26.8 27.1	C C	0.8 0.6	0.012 0.010
2. Cochrane Circle/Cochrane Road	AM PM	10.4 11.9	B B	10.4 12.1	B B	0.1 0.3	0.012 0.010
3. Butterfield Boulevard/Cochrane Road	AM PM	19.7 25.2	B C	21.1 27.6	C C	2.4 2.9	0.068 0.015
4. Woodview Avenue/Cochrane Road	AM PM	17.1 15.6	C C	17.0 16.6	B B	N/A N/A	N/A N/A
5. Sutter Boulevard/Cochrane Road	AM PM	18.1 19.5	B B	17.1 19.8	B B	-4.1 0.0	-0.070 0.017
6. Madrone Parkway/Cochrane Plaza/Cochrane Road	AM PM	18.6 29.7	B C	18.5 29.3	B C	0.0 -0.3	0.031 0.014
7. US 101 Southbound Ramps/ Cochrane Road	AM PM	13.6 19.2	B B	14.0 19.7	B B	0.5 0.8	0.027 0.021
8. US 101 Northbound Ramps/ Cochrane Road	AM PM	9.9 11.9	A B	10.3 12.1	B B	0.3 0.3	0.013 0.013
9. De Paul Drive/Cochrane Road	AM PM	19.0 19.3	B B	19.1 19.4	B B	0.1 0.1	0.005 0.003
10. Mission View Drive/Cochrane Road	AM PM	20.3 22.4	C C	20.4 22.3	C C	0.3 0.0	0.008 0.000
11. Sutter Boulevard/Cochrane Plaza	AM PM	15.3 30.3	C D	15.5 30.5	C D	N/A N/A	N/A N/A
12. Butterfield Boulevard/Jarvis Drive (N)	AM PM	12.5 12.9	B B	13.4 13.4	B B	N/A N/A	N/A N/A
13. Sutter Boulevard/Jarvis Drive	AM PM	21.1 29.4	C D	18.1 29.7	C D	N/A N/A	N/A N/A
14. Butterfield Boulevard/Sutter Boulevard	AM PM	15.5 25.1	B C	16.5 27.4	B C	1.4 3.2	0.056 0.034
15. Butterfield Boulevard/Jarvis Drive (S)/Digital Drive	AM PM	4.5 6.9	A A	4.6 6.7	A A	0.2 -0.1	0.033 0.025
16. Monterey Road/Old Monterey Road	AM PM	13.6 48.5	B D	13.9 52.6	B D	0.6 5.7	0.027 0.021
17. Butterfield Boulevard/Central Avenue	AM PM	10.4 4.0	B A	10.5 4.1	B A	0.3 0.4	0.036 0.029

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Table 4.16-2: Cumulative Plus Project Intersection Levels of Service

Intersection	Peak Hour	Cumulative		Cumulative + Project			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Δ in Crit. Delay	Δ in Crit. V/C
18. Monterey Road/Main Avenue	AM PM	54.2 47.4	D D	55.3 47.9	E D	1.5 0.7	0.012 0.013
19. Butterfield Boulevard/Main Avenue	AM PM	29.7 32.9	C C	30.3 33.0	C C	0.7 0.2	0.037 0.016
20. Condit Road/Main Avenue	AM PM	30.1 31.0	C C	30.2 31.1	C C	0.2 0.2	0.003 0.003
21. Butterfield Boulevard/Diana Avenue	AM PM	34.2 39.4	C D	42.2 46.2	C D	12.1 10.6	0.024 0.018
22. Monterey Road/Dunne Avenue	AM PM	30.2 34.4	C C	30.4 34.7	C C	0.4 0.3	0.009 0.007
23. Butterfield Boulevard/Dunne Avenue	AM PM	40.1 36.9	D D	41.7 37.7	D D	2.9 1.3	0.040 0.023
24. US 101 Southbound Ramps/Dunne Avenue	AM PM	21.0 20.1	C C	21.0 20.1	C C	0.0 0.0	0.000 0.000
25. US 101 Northbound Ramps/Dunne Avenue	AM PM	6.4 11.3	A B	6.3 11.2	A B	-0.1 0.0	0.004 0.003

[1] The reported delay and corresponding level of service for signalized and all-way stop-controlled intersections represents the average delay for all approaches at the intersection. The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.

[2] LOS = Level of service. LOS calculations conducted using the TRAFFIX level of service analysis software package.

4.16.2.3 *Impacts to Freeways (Checklist Question a, b)*

Existing Plus Project

The results of the freeway segment level of service analysis under existing plus project conditions are summarized in Table 4.16-3. Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding project trips to the existing volumes. The results show that the project would not cause an increase in traffic volumes of one percent or more of freeway capacity on any freeway segments currently operating at an unacceptable LOS F, nor would the addition of project traffic result in the degradation of LOS on any freeway segment currently operating at an acceptable LOS E to an unacceptable LOS F. Therefore, based on CMP impact criteria, the proposed project would not have a significant impact on freeways. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Table 4.16-3: Existing Plus Project Freeway Segment Levels of Service

Freeway	NB/ SB	From	To	Peak Hour	Project Trips	LOS	Cap (vph)	Percent Increase
US 101	North	Masten Avenue	San Martin Avenue	AM PM	58 53	C B	6,900	0.84 0.77
		San Martin Avenue	Tennant Avenue	AM PM	58 53	**F** B	6,900	0.84 0.77
		Tennant Avenue	East Dunne Avenue	AM PM	58 53	**F** C	6,900	0.84 0.77
		East Dunne Avenue	Cochrane Road	AM PM	58 53	E C	6,900	0.84 0.77
		Cochrane Road	Burnett Avenue (Lane Drop)	AM PM	34 52	D C	6,900	0.49 0.75
		Burnett Ave (Lane Drop)	Sheller Avenue	AM PM	31 54	D E	6,900	0.45 0.78
		Sheller Avenue	Lane Drop (SB)	AM PM	31 48	D C	6,900	0.45 0.70
		Lane Drop (SB)	SR 85	AM PM	34 54	C B	6,900	0.49 0.78
US 101	South	SR 85	Lane Drop (SB	AM PM	51 41	B C	9,200	0.55 0.45
		Lane Drop (SB)	Sheller Avenue	AM PM	47 39	B D	6,900	0.68 0.57
		Sheller Avenue	Burnett Ave (Lane Drop	AM PM	50 37	B **F**	6,900	0.72 0.54
		Burnett Avenue (Lane Drop)	Cochrane Road	AM PM	58 53	B **F**	6,900	0.84 0.77
		Cochrane Road	East Dunne Avenue	AM PM	42 61	B E	6,900	0.61 0.88
		East Dunne Avenue	Tennant Avenue	AM PM	42 61	B E	6,900	0.61 0.88
		Tennant Avenue	San Martin Avenue	AM PM	42 61	B E	6,900	0.61 0.88
		San Martin Avenue	Masten Avenue	AM PM	42 61	B D	6,900	0.61 0.88

[1] Measured in passenger cars per mile per lane.
[2] LOS = level of service.
Bold type indicates unacceptable operations (LOS F).

4.16.2.4 *Air Traffic Patterns (Checklist Question c)*

The proposed project would not result in a change in air traffic patterns given the nearest airport is six miles away. **[(No Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.16.2.5 *Site Access, Design, and Circulation (Checklist Question d, e)*

The project site would be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site.

(Note to City: Hexagon made the following suggestions for improved site access and circulation. The final IS text will reflect those adjustments that have been made by the project, or will be required by the City.)

A review of the project site plan identified several recommended adjustments to improve site access and on-site circulation. The following adjustments are recommended:

Due to its close proximity and potential to disrupt traffic flow along Cochrane Road, it is recommended that direction of the drive-thru lane for Pad B within Parcel 3 be reversed to flow in a clockwise direction. The change in direction will ensure that vehicle queues at the drive-thru lane do not spill out to the main drive aisle and potentially onto Cochrane Road.

It is likely that queues extending back from Butterfield Boulevard along Jarvis Drive will block left-turns into and out of Driveway 4 located at the southwest corner of the site along Jarvis Drive. The view of outbound left-turns from the driveway also would be restricted for vehicles originating from Butterfield Boulevard and traveling eastbound along Jarvis Drive. Therefore, it is recommended that Driveway 4 be restricted to right-turns in and out only.

Adhering to City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate circulation of both passenger and emergency vehicles. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.16.2.6 *Bicycle and Pedestrian Facilities (Checklist Question f)*

The project site plan shows continuous pedestrian connections between all proposed land uses on site and pedestrian walkways along the project site frontages. The proposed pedestrian walkways along the project site frontages would provide a connection to other existing pedestrian facilities (sidewalks, crosswalks, bus stops, etc.) east and west of the project site. **[(Less Than Significant Impact) Same Impact as Approved Project]**

4.16.3 Conclusion

As discussed above, the proposed project would not result in significant transportation impacts. **[(Less Than Significant Impact) Same Impact as Approved Project]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Environmental Setting

4.17.1.1 *Water Service*

The City of Morgan Hill provides potable water service to its residential, commercial, industrial, and institutional customers within the City limits. The City's water system facilities include 14 groundwater wells, ten potable water storage tanks, 10 booster stations, and over 160 miles of pressured pipes ranging from two to 14 inches in diameter. The City's water distribution system meets the needs of existing customers. The City has planned and constructed water projects in conjunction with new street construction in anticipation of future growth and water needs.

4.17.1.2 *Sewer System and Wastewater Treatment*

The South County Regional Wastewater Authority (SCRWA) Wastewater Treatment Plant provides service to the cities of Morgan Hill and Gilroy. The treatment plant has capacity to treat an average dry weather flow (ADWF) of 8.5 million gallons per day (mgd) and is currently permitted by the California Regional Water Quality Control Board, Central Coast Region to treat up to 8.5 mgd.[39] Both the cities of Gilroy and Morgan Hill have growth control systems in place which limit unexpected increases in sewage generation. The ADWF for combined flows from Morgan Hill and Gilroy was approximately 6.8 mgd in 2010 (with 2.9 mgd generated by Morgan Hill). Based on combined population projections for both cities, the current capacity of 8.5 mgd would be reached in approximately 2021. The City of Morgan Hill has an allocation of 3.56 mgd (of the total 8.5 mgd). The latest projections in November 2013, based on the City's existing General Plan, show this allocation is projected to be reached by about 2023. The City of Gilroy's allocation (4.94 mgd) is projected to be reached in 2019. Flow projections are ongoing and have changed over the past years, depending on changing per capita flow rates and other variables in the projection calculations.

The 8.5 mgd total plant capacity is projected to be exceeded in 2022. In recognition of this projected exceedance of capacity, the SCRWA is currently planning to fund, design, and construct an expansion of the facility by 2022. It is further anticipated that the plant will need to be expanded again in the mid-2030s, in conjunction with buildout of the current Morgan Hill and Gilroy General Plans.

4.17.1.3 *Solid Waste*

Recology South Valley provides solid waste and recycling services to the businesses and residents of the cities of Morgan Hill and Gilroy. Recology South Valley has contracted through 2017 with the Salinas Valley Solid Waste Authority to dispose of municipal solid waste at Johnson Canyon Sanitary Landfill. Johnson Canyon Sanitary Landfill is anticipated to reach capacity in 2040.[40]

[39] California Regional Water Quality Control Board. *Waste Discharge Requirements, South County Regional Wastewater Authority Wastewater Treatment and Reclamation Facility, Santa Clara County (NPDES Permit No. CA0049964) – Order No. R3-2010-0009*. April 2010.
[40] Phil Couchee, General Manager, Recology South Valley. February 3, 2010.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.17.1.4 *Storm Drainage*

The City of Morgan Hill's storm drainage system consists of a combination of curb and gutter facilities, curb inlets, underground pipelines, and bubblers that drain into detention basins or to the nearest creek. The City's storm drainage system in the project vicinity meets existing drainage needs.

The project site is within the Butterfield Channel storm water drainage basin. Butterfield Channel, previously named Sutter Channel, is an improved channel that drains the area west of US 101 and east of Railroad Avenue to East Little Llagas Creek. The channel is presently complete from Jarvis Drive to Tennant Avenue, and serves as an interim detention basin pending completion of the remainder of the channel and the 27-acre detention basin. Upon completion, the Butterfield Channel storm water drainage basin will consist of an open drainage channel along the eastern side of Butterfield Boulevard extension and a 27.6 acre detention pond on the south side of Maple Avenue. The drainage channel will begin south of Jarvis Drive on the north, and extend to Maple Avenue on the south. There is a 36-inch public storm drain main located adjacent to the site along Cochrane Road.[41] There are also existing storm drain mains on the project site and along Butterfield Boulevard and Jarvis Drive. The existing onsite storm drain line bisects the project site, connecting to the existing lines in Cochrane Road and Jarvis Drive.[42]

4.17.2 Checklist and Discussion of Impacts

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒	☐	1, 20
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	☐	1, 20, 22
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	☐	1, 21

[41] Mitchel W. Burley. BKF Engineers. April 4, 2013.
[42] City of Morgan Hill, *Storm Drainage System Master Plan*, January 2002.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
Would the project:						
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒	☐	1, 22
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒	☐	1, 20
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒	☐	1

4.17.2.1 *Impacts to Sewer System and Wastewater Treatment (Checklist Question a, b, e)*

The proposed commercial development would generate approximately 46,575 gallons of wastewater per day.[43] There is sufficient capacity in the sanitary sewer system to support the project and the project would not adversely affect the functionality or the capacity of the existing sanitary sewer system.[44] **(Less Than Significant Impact [Same as Approved Project])**

4.17.2.2 *Impacts to Storm Drainage (Checklist Question c)*

The proposed project site is undeveloped with no impervious surfaces. Development of the proposed project would fully develop the project site and substantially increase the amount of impervious surfaces and stormwater runoff. Per the implementation of the SWPPP and other drainage standards implemented by the City, the project should not significantly increase storm water flows into the existing system. The project will be required to minimally retain all water from the 85th percentile of rainfall events (approximately two to five year storm events) on site; therefore, during 85 percent of the rainfall events, the existing storm drain system would not be impacted by the project. Furthermore, the on-site systems (retention basins) will be required to be designed to detain a volume of water up to a 25-year storm event while releasing water at a rate reflective of the 10-year predevelopment flow. This design limits storm water flows off-site to less than 10-year predevelopment flows. The existing public storm water system is already designed to convey a 10-year storm event; therefore, the project should not significantly contribute to any additional flooding during the most frequent events. The final drainage system design for the proposed commercial mixed-use development will be subject to review and approval by the City of Morgan Hill Public

[43] Based on 85 percent of the total water usage.
[44] Ha, Charlie, *Will Serve Letter*, City of Morgan Hill, May 16, 2014.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Works Department, who will confirm that the proposed drainage system for the project is consistent with the City's Storm Drainage Master Plan and standard stormwater-related conditions of approval. **(Less Than Significant Impact [Same as Approved Project])**

4.17.2.3 *Impacts to Water Supply Services (Checklist Question d)*

The estimated water demand of the proposed project would be approximately 54,794 gallons per day (gpd), as shown in Table 4.17-1. The City has accounted for the increase in water use based on the General Plan's projection of population growth in the City and planned development. The development proposed by the project would not increase water demand above that forecasted in the most recent Urban Water Management Plan. There is sufficient capacity in the water mains adjacent to the site in Cochrane Road, Butterfield Boulevard, and Jarvis Drive to serve the proposed project.[45] **(Less Than Significant Impact [Same as Approved Project])**

Table 4.17-1: Estimated Project Daily Water Use

Use	Rate[1]	Size	Gallons/Day
Convenience store, nine fuel pumps, and car wash	203 gallons/day/1,000 ft^2	3,000 ft^2	609
Quick service restaurant and drive-thru	832 gallons/day/1,000 ft^2	3,500 ft^2	2,912
Quick service restaurant and drive-thru	832 gallons/day/1,000 ft^2	2,000 ft^2	1,664
Mixed-use of commercial services and food uses	203 gallons/day/1,000 ft^2	7,200 ft^2	1,461
Full service four-story hotel	69 gallons/day/room	110 rooms	7,590
Tire store and showroom with tire service center	258/day/1,000 ft^2	10,000 ft^2	2,580
Grocery store	338 gallons/day/1,000 ft^2	22,000 ft^2	7,436
Retail uses	203 gallons/day/1,000 ft^2	3,000 ft^2	609
Two-story medical office building	344 gallons/day/1,000 ft^2	35,000 ft^2	12,040
Senior residential care facility	179 gallons/day/1,000 ft^2	85 units	15,215
General office building	487 gallons/day/1,000 ft^2	5,500 ft^2	2,678
Total Project Daily Water Use			**54,794**

[1] CalEEMod Water Use Rates, Table 9.1

4.17.2.4 *Impacts to Landfills (Checklist Question f)*

The City of Morgan Hill has contracted with Recology South Valley to provide solid waste disposal and recycling service within the City. Recology South Valley will dispose of solid waste from the City at Johnson Canyon Sanitary Landfill which has a projected permitted capacity of approximately

[45] BKF Engineers, *Mitchel W. Burley*, April 4, 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

13,800,000 cubic yards and is expected to remain open through 2040.[46] The proposed project will result in increased waste disposal from the project site; however, future development would be served by a landfill with adequate capacity to serve the project site. **(Less Than Significant Impact [Same as Approved Project])**

4.17.3 Conclusion

The proposed project would not exceed the capacity of existing utilities and service systems serving the project area. **(Less Than Significant Impact [Same as Approved Project])**

[46] California Integrated Waste Management Board. *Facility/Site Summary Details: Johnson Canyon Sanitary Landfill.* 2008. Accessed June 15, 2018. http://www.calrecycle.ca.gov/SWFacilities/Directory/27-AA-0005/Detail/.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

		New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as "Approved Project"	Less Impact than "Approved Project"	Checklist Source(s)
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒	☐	1-23
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒	☐	1-23
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒	☐	1-23

4.18.1 Project Impacts (Checklist Question a)

This Initial Study/Addendum evaluates the environmental impacts that could result from the project's implementation. With implementation of the mitigation measures included in the project and described in sections 4.3 Air Quality, 4.4 Biological Resources, 4.7 Greenhouse Gas Emissions, 4.9 Hydrology and Water Quality, and 4.12 Noise and compliance with City General Plan policies, Standard Measures and Standard Conditions of Approval, the proposed project would not result in significant adverse environmental impacts to fish or wildlife species, rare plants, or cultural resources. **[Same Impact as Approved Project (Less Than Significant Impact with Mitigation)]**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

4.18.2 Cumulative Impacts (Checklist Question b)

Pursuant to Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects "that are individually limited, but cumulatively considerable." As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

As discussed in Section 4.3 Air Quality, the proposed project would implement mitigation measures to reduce short-term construction impacts from TACs to a less than significant level. Modeling of cumulative impacts from project area TACs showed the project was below the BAAQMD threshold; thus, there is no significant cumulative impact, consistent with the approved 2014 project.

As discussed in Section 4.7 Greenhouse Gas Emissions, the proposed project would implement mitigation measures to reduce GHG emissions to a less than significant level and, therefore, not make a substantial contribution to a cumulative GHG emissions impact, consistent with the approved 2014 project.

As discussed in Section 4.16 Transportation and Traffic, the proposed development and future development in the project area would not cause a significant intersection or freeway delays; therefore, no cumulative impact on the roadway network is anticipated.

With implementation of mitigation measures, standard measures, and conditions of approval to address environmental impacts to biological resources, cultural resources, geology and soils, hydrology and water quality, and noise, the proposed project would not result in cumulative impacts on these resources.

4.18.3 Direct or Indirect Adverse Effects on Human Beings (Checklist Question c)

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Pursuant to this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, and noise. Implementation of the Standard Permit Conditions and mitigation measures, and adherence to General Plan, City Code, and state and federal regulations described in these sections of the report, would avoid significant impacts. No other direct or indirect adverse effects on human beings have been identified. **(Less than Significant Impact with Mitigation Incorporated)**

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Checklist Sources

1. CEQA Guidelines – Environmental Thresholds (Professional judgment and expertise and review of project plans).
2. City of Morgan Hill. *General Plan.* February 2010.
3. California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Santa Clara County Important Farmlands Map 2014.* Map. October 2016.
4. California Department of Conservation, Division of Land Resource Protection, Conservation Program Support. *Santa Clara County Williamson Act FY 2012/2013.* 2012.
5. County of Santa Clara. *County Geologic Hazard Zones Map 53.* October 26, 2012.
6. Pacific Geotechnical Engineering. *Ground Movement Potential Map Folio.* December 1991.
7. Pacific Geotechnical Engineering. *Geologic Map Folio.* December 1991.
8. Bay Area Air Quality Management District. *CEQA Air Quality Guidelines.* May 2012.
9. Live Oak Associates, Inc. *Biological constraints analysis of The Village project on Cochrane Road in Morgan Hill, California (PN 1676-01).* December 18, 2012.
10. City of Morgan Hill. *Municipal Code.* 2013.
11. County of Santa Clara. *Final Santa Clara Valley Habitat Plan.* August 2012.
12. City of Morgan Hill. *Archaeology Sensitivity Map.* December 2000.
13. Basin Research Associates, Inc. *Cultural Resources Assessment, Adams-Natt Veterinary Hospital, Morgan Hill, Santa Clara County, California*. January 2006.
14. Federal Emergency Management Agency. *Flood Insurance Rate Map, Community Panel No. 06085C0443H.* May 18, 2009.
15. Association of Bay Area Governments. *Bay Area Dam Failure Inundation Maps.* October 20, 2003. http://www.abag.ca.gov/bayarea/eqmaps/dfpickc.html.
16. Phase I Environmental Site Assessment. *Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*. November 5, 2007.
17. ENGEO, Inc. *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment*. March 14, 2013
18. Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment*. July 5, 2018.
19. Hexagon Transportation Consultants. *Cochrane & Butterfield Mixed-Use Development Traffic Impact Analysis*. June 7, 2018.
20. City of Morgan Hill. *Sewer System Master Plan*. January 2002.
21. City of Morgan Hill. *Storm Drainage System Master Plan*. January 2002.
22. City of Morgan Hill. *Water System Master Plan*. January 2002.
23. Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Air Quality Assessment*. July 13, 2018.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 5.0 REFERENCES

Association of Bay Area Governments, *Bay Area Dam Failure Inundation Hazards*, October 5, 2009, http://www.abag.ca.gov/bayarea/eqmaps/damfailure/.

Basin Research Associates, Inc. *Cultural Resources Assessment: Adams-Natt Veterinary Hospital*. January 2006.

BKF Engineers, *Mitchel W. Burley*, April 4, 2013.

CAL FIRE. *Very High Fire Hazard Severity Zones in LRA*. Map. October 2008.

California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Santa Clara County Important Farmlands Map 2014*. Map. October 2016.

California Department of Finance. *E-1: City/County Population Estimates with Annual Percent Change - January 2017 and 2018*. May 2018.

California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning San Francisco Bay Area, December 9, 2009, http://www.consrv.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Documents/Tsunami_Inundation_SanFranciscoBayArea300.pdf.

California Integrated Waste Management Board. *Facility/Site Summary Details: Johnson Canyon Sanitary Landfill*. 2008. Accessed June 15, 2018. http://www.calrecycle.ca.gov/SWFacilities/Directory/27-AA-0005/Detail/.

California Regional Water Quality Control Board. *Waste Discharge Requirements, South County Regional Wastewater Authority Wastewater Treatment and Reclamation Facility, Santa Clara County (NPDES Permit No. CA0049964) – Order No. R3-2010-0009*. April 2010.

California State Water Resources Control Board, "Total Maximum Daily Load Program," Accessed: December 20, 2016. http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml.

Chapter 18.69 of the City of Morgan Hill Municipal Code

Chapter 18.85 of the Morgan Hill Municipal Code.

City of Morgan Hill, City Council Staff Report. *Fire and Emergency Medical Services (EMS) CalFire Proposal Update*. Meeting Date April 4, 2012.

City of Morgan Hill, *Storm Drainage System Master Plan*, January 2002.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

City of Morgan Hill. *Morgan Hill General Plan: City of Morgan Hill Housing Element*. Adopted February 2015.

City of Morgan Hill. *Operating and CIP Budget, FY 13-14. Police Field Operations, Performance Measures.* 2013.

City of Morgan Hill. *Police*. Accessed June 14, 2018. http://www.morgan-hill.ca.gov/index.aspx?nid=129.

City of Morgan Hill. *Pop-Facts: Demographic Snapshot 2015 Report*. Available at: <http://www.morgan-hill.ca.gov/717/Demographics-Community-Profile>. Accessed January 3, 2017.

County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012.

ENGEO, Inc. *Cochrane Road Property, Cochrane Road and Butterfield Boulevard, Morgan Hill, California, Agrichemical Assessment.* March 14, 2013.

Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel #06085C0443H, May 18, 2009.

Geologica Inc., *Phase I Environmental Site Assessment. Vacant Properties, Assessor's Parcel Numbers 726-25-035 and 726-32-021, Morgan Hill, California*, November 5, 2007.

Giordano, Frank. Office of the Assessor, County of Santa Clara. *Personal Communication*. October 10, 2012

Ha, Charlie, *Will Serve Letter*, City of Morgan Hill, May 16, 2014.

Hexagon Transportation Consultants. *Cochrane & Butterfield Mixed-Use Development Traffic Impact Analysis*. June 7, 2018.

Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Environmental Noise and Vibration Assessment*. July 5, 2018.

Illingworth & Rodkin, Inc. *Butterfield & Cochrane Development, Air Quality Assessment*. July 13, 2018.

IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Bases. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at: <http://ipcc.ch/ >. Accessed March 25, 2013.

Mitchel W. Burley. BKF Engineers. April 4, 2013.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

Pacific Geotechnical Engineering, *Geology, Geologic, and Geotechnical Hazards, City of Morgan Hill*, December, 1991.

Phil Couchee, General Manager, Recology South Valley. February 3, 2010.

Santa Clara Valle Habitat Agency. "Geobrowser". Accessed June 12, 2018. http://www.hcpmaps.com/habitat/.
Santa Clara Valley Water District. "Anderson Dam Seismic Retrofit". 2018. https://www.valleywater.org/project-updates/dam-reservoir-projects/anderson-dam-seismic-retrofit.

Santa Clara Valley Water District. *Uvas-Llagas Watershed Map.* <http://www.valleywatercompplan.org/watersheds/view/449 > Accessed July 28, 2011.

State Water Resources Control Board, Division of Water Quality. *Construction General Permit Fact Sheet*. Last Updated January 2013. Available at: <http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml>. Accessed December 21, 2016.

United States Department of Agriculture, Natural Resources Conservation Service. *Custom Soil Resource Report for Eastern Santa Clara Area, California*. June 12, 2018.

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

SECTION 6.0 LEAD AGENCY AND CONSULTANTS

6.1 LEAD AGENCY

Terry Linder, Senior Planner
Richard Smeaton, Contract Planner

6.2 CONSULTANTS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners
Akoni Danielsen, Principal Project Manager
Tyler Rogers, Assistant Project Manager
Zach Dill, Graphic Artist

Hexagon Transportation Consultants Inc.
Robert Del Rio, Vice President & Principal Associate

Illingworth & Rodkin, Inc.
Michael Thill, Noise Consultant
James Reyff, Air Quality Consultant

Attachment: Butterfield Cochrane Initial Study - Addendum (7-19-18) (1846 : AAE2017-0034 & AAE2017-0035 Amendment to Subdivision Map

CITY OF MORGAN HILL

COMMUNITY DEVELOPMENT AGENCY

17575 Peak Avenue Morgan Hill CA 95037 (408) 779-7247 Fax (408) 779-7236
Website Address: www.morgan-hill.ca.gov

MITIGATED NEGATIVE DECLARATION

I. DESCRIPTION OF PROJECT:

Application #s: ZA-13-12/SD-13-14

APN: 726-25-035 and 726-32-021

Project Title: Cochrane Road Commercial Development

Project Location: The 20.25-acre project site is located in the southeast quadrant of the intersection of Cochrane Road and Butterfield Boulevard in the City of Morgan Hill.

Project Proponent: David Andris, Cochrane Road Investors, LLC

Project Description: The project proposes to amend the site's existing Planned Unit Development Zoning District to permit certain types of commercial uses, subdivide the site into eight parcels, and develop 196,300 square feet of commercial uses in two phases. The project would also install a new traffic signal at its main entrance on Cochrane Road near Woodview Avenue.

II. DETERMINATION

In accordance with the City of Morgan Hill procedures for compliance with the California Environmental Quality Act (CEQA), the City has completed an Initial Study to determine whether the proposed project may have a significant adverse effect on the environment. On the basis of that study, the City makes the following determination:

- Although the project, as proposed, could have had a significant effect on the environment, there will not be a significant effect in this case because mitigation measures are included in the project, and, therefore, this **MITIGATED NEGATIVE DECLARATION** has been prepared.

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

III. CONDITIONS (Mitigation and Avoidance Measures):

A. Air Quality:

The following mitigation measure is proposed to reduce impacts associated with fugitive dust to a less than significant level:

MM AIR-1.1: The following Best Management Practices (BMPs) shall be implemented during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered twice daily.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The following mitigation measure is proposed to reduce odor impacts to a less than significant level:

MM AIR-2.1: Include designs to reduce cooking odors or require the installation of odor abatement equipment if complaints occur. The City shall require designs of the restaurant to avoid odor complaints, and if necessary, require restaurants to install odor abatement equipment if confirmed odor complaints are received.

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

B. Biological Resources

The following mitigation measures will minimize potential adverse impacts on western burrowing owls to a less than significant level:

MM BIO-1.1: A pre-construction survey will be conducted by a qualified biologist for burrowing owls within 30 days of the on-set of construction. This survey will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 1995). All suitable habitats of the study area will be covered during this survey.

MM BIO-1.2: If pre-construction surveys undertaken during the breeding season (February 1 through August 31) locate active nest burrows within or near construction zones, exclusion zones with a 250-foot radius from occupied burrows, shall be established. All project-related activities shall occur outside the exclusion area until the young have fledged.

MM BIO-1.3: If pre-construction surveys undertaken during the non-breeding season (September 1 through January 31) locate active nest burrows within or near construction zones, resident owls may be relocated to alternative habitat. The relocation of resident owls must be according to a relocation plan prepared by a qualified biologist. Passive relocation will be the preferred method of relocation. This plan must provide for the owl's relocation to nearby lands possessing available nesting and foraging habitat. Any mitigation or relocation plan for the owls is subject to review and approval by CDFW.

MM BIO-1.4: A final report on burrowing owls, including any protection measures, shall be submitted to the Director of Community Development prior to grading.

The following mitigation measures will reduce impacts from construction at the project site to raptor and migratory bird eggs and nestlings to a less than significant level:

MM BIO-2.1: Construction shall be scheduled to avoid the nesting season to the extent feasible. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests.

MM BIO-2.2: If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the Director of Community and Economic Development prior to the start of construction.

The following mitigation measure will reduce impacts from construction at the project site to American badgers to a less than significant level:

MM BIO-3.1: Pre-construction surveys shall be used to determine the presence or absence of badgers on the project site. If an active badger den is identified during pre-construction surveys, a construction-free buffer of up to 300 feet shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.

C. Cultural Resources

The following standard measures will reduce or avoid possible impacts to buried cultural resources, if encountered during grading or excavation:

Standard Measures: This project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials. In the unlikely event cultural materials are found during site grading or excavation, the following standard measures would be implemented. If human remains are discovered, it is probable they are the remains of Native Americans.

- If human remains are encountered they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.
  - Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.
  - Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains.
- In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the discovery locale.

- An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the Monitoring Archaeologist (typically 25-50ft for single burial or archaeological find).
- The discovery locale shall be secured (e.g., 24 hour surveillance) as directed by the City or County if considered prudent to avoid further disturbances.
- The Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:
  - The City of Morgan Hill Community Development Director (408) 779-7247
  - The Contractor's Point(s) of Contact
  - The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900
  - The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082
  - The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C)
- The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC.
- The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)
- Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.
- Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Community Development Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out.
- If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

D. Greenhouse Gas Emissions

The following mitigation measures are proposed to reduce GHG emissions impacts to a less than significant level:

MM GHG-1.1: The project shall implement the following energy-efficiency measures to reduce GHG emissions:

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

- The Project shall implement energy reduction features and meet new 2013 Title 24 Building Code Standards that would result in GHG emissions from energy usage that are 20 percent lower than the usage predicted in CalEEMod that is based on 2008 or earlier Title 24 requirements.
- The Project shall implement a Trip Reduction Plan for employees to reduce those trips by at least 5 percent. The plan shall include the following features:
  - Subsidized transit passes;
  - Showers and locker facilities to encourage non-motorized commutes alternatives;
  - Secure bike facilities on site;
  - Pedestrian and bicycle connections to adjacent roadways;
  - Preferred parking for electric vehicles with charging stations;
  - Enhancement of transit/bus stops adjacent to the site; and
  - Enhance/improve sidewalks and pedestrian access to the site.
- The Project, as a whole, shall adopt a water use reduction goal of at least 20 percent. A water use reduction plan shall be developed by the project applicant that may include measures such as the installation of low-flow water fixtures in sinks, low-flush toilets, and the use of water efficient landscaping.
- Implement a solid waste recycling program through recycling and composting strategies, which results in a solid waste diversion rate of at least 20 percent.
- Loading docks have electrical hookups for trucks and include signage that prohibits excessive idling.
- Where feasible, install solar voltaic panels to generate electricity. This could include rooftop photovoltaic panels and/or covering on-site parking areas with photovoltaic panels.

MM GHG-1.2: Develop a carbon offset program to offset all remaining project emissions above the per service population threshold of 4.6 MT CO_2e per year. Any offset of project emissions shall be demonstrated to be real, permanent, verifiable, and enforceable by the City or BAAQMD. Offsets may include but are not limited to the following:

- Applicant funding of local projects, subject to review and approval by the City or BAAQMD, that will result in real, permanent, verifiable, and enforceable, and additional reduction in GHG emissions. If the City or BAAQMD develops a GHG mitigation fund, the applicant may instead pay into this fund to offset GHG emissions in excess of the significance threshold.
- Purchase of carbon credits to offset emissions below the significance threshold. Only CARB carbon offset credits, credits verified and registered with the Climate Action reserve may be used to offset emissions.

E. Hydrology and Water Quality

In accordance with the City of Morgan Hill Standard Conditions of Approval and the NPDES General Permit for Construction Activities, the following measures are included in the project to reduce construction-related water quality impacts to a less than significant level:

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MM HYD-1.1: The following BMPs will be implemented during project construction:

- Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust producing activities will be suspended during periods of high winds.
- Stockpiles of soil and other materials that can be blown by the wind will be watered or covered.
- All trucks hauling soil, sand, and other loose materials will be covered and all trucks will be required to maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site will be swept daily (with water sweepers).
- Vegetation in disturbed areas will be replanted as quickly as possible.

MM HYD-1.2: Consistent with the requirements of the NPDES General Permit for Construction Activities, a Notice of Intent (NOI) would be submitted to the RWQCB and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to control discharge associated with construction activities, prior to commencement of grading and construction activities. Once grading begins the SWPPP must be kept on-site and updated as needed while construction progresses.

F. Noise

The following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance:

MM NOI-1.1: Consistent with the City of Morgan Hill Municipal Code, the following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance.

- Construction activities shall be limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities should occur on Sundays or federal holidays (Consistent with Section 8.28.040 of the Morgan Hill Municipal Code).
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment (e.g. rock crushers, compressors) as far as possible from adjacent residential receptors.
- Acoustically shield stationary equipment located near residential receptors with temporary noise barriers or recycled demolition materials.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

uses so that construction activities can be scheduled to minimize noise disturbance.

- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

III. FINDING

The City of Morgan Hill Community Development Director hereby finds that the proposed project could have a significant effect on the environment; however, there would not be a significant effect in this case because mitigation measures summarized above and described in the Initial Study are included in the project.

_____

Andrew Crabtree
Director of Community Development

Date: _____

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM

Cochrane Road Commercial Development

ZA-13-12/SD-13-14

CITY OF MORGAN HILL

June 2014

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

PREFACE

Section 21081 of the California Environmental Quality Act (CEQA) requires a Lead Agency to adopt a Mitigation Monitoring or Reporting Program whenever it approves a project for which measures have been required to mitigate or avoid significant effects on the environment. The purpose of the Mitigation Monitoring or Reporting Program is to ensure compliance with the mitigation measures during project implementation.

The Initial Study (June 2014) prepared for the Cochrane Road Commercial Development project concludes that proposed commercial development could result in significant effects on the environment; therefore, mitigation measures were incorporated into the proposed project. This Mitigation Monitoring or Reporting Program outlines these measures and how, when, and by whom they will be implemented.

This document does *not* discuss those subjects for which the Initial Study concluded that the impacts from implementation of the project would be less-than-significant.

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
AIR QUALITY				
Impact AIR-1: The proposed project could result in significant air quality impacts associated with fugitive dust during construction.	**MM AIR-1.1:** The following Best Management Practices (BMPs) shall be implemented during construction: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered twice daily. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	The Best Management Practices shall be implemented by the applicant and contractors during grading and construction activities. Prior to issuance of a building permit, the applicant shall submit to the Community Development Department for review and approval a management plan detailing the strategies for control of dust during construction of the project.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
Impact AIR-2: Odors generated by the proposed restaurants could result in odor complaints.	**MM AIR-2.1:** Include designs to reduce cooking odors or require the installation of odor abatement equipment if complaints occur. The City shall require design of the restaurant to avoid odor complaints, and if necessary, require restaurants to install odor abatement equipment if confirmed odor complaints are received.	The measures shall be implemented by the applicant and/or the contractors during the design, construction and/or operation of the project, as applicable.	Measure shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director
BIOLOGICAL RESOURCES				
Impact BIO-1: Construction activities on the project site could result in the loss of burrowing owl eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest.	**MM BIO-1.1:** Complete pre-construction surveys to determine if burrowing owls are present within the footprint of the proposed grading area, no more than 30 days prior to initiation of any construction-related activities. **MM BIO-1.2:** Should burrowing owls be found on the site during the breeding season (February 1 through August 31), exclusion zones with a 250-foot radius from occupied burrows, shall be established. All project-related activities shall occur outside of the exclusion area until the young have fledged. **MM BIO-1.3:** If preconstruction surveys are completed during the non-breeding season and burrowing owls are observed on the site, the owls may be relocated upon approval of the California Department of Fish and Game once mitigation has been provided. **MM BIO-1.4:** A final report on burrowing owls, including any protection measures, shall be submitted to the Director of Community Development prior to grading.	Burrowing owl pre-construction surveys shall be completed by the applicant no more than 30 days prior to the initiation of site clearing or construction activities. The burrowing owl survey report, including any protection measures, shall be submitted to the Director of Community Development prior to grading.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
Impact BIO-2: Construction activities on the project site could result in the loss of raptor and/or migratory bird eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest.	**MM BIO-2.1:** Construction shall be scheduled to avoid the nesting season to the extent feasible. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all nesting habitat within 250 feet of the site for nests. **MM BIO-2.2:** If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the of the Community Development Director, prior to the start of construction.	If construction cannot be scheduled to avoid the nesting season, then the pre-construction surveys for nesting birds shall be completed within 30 days of the on-set of site clearing or construction activities.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director
Impact BIO-3: American badgers could be injured or harmed, if occupied badger dens are present onsite at the	**MM BIO-3.1:** Pre-construction surveys shall be used to determine the presence or absence of badgers on the project site. If an active badger den is identified during pre-construction surveys, a construction-free buffer of up to 300 feet shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor	The badger pre-construction survey shall be completed concurrent with the burrowing owl pre-constructrion survey	Measure shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
time of construction.	shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.	(see MM BIO-1.1 above)		
CULTURAL RESOURCES				
The project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials.	**Standard Measures:** This project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials. In the unlikely event cultural materials are found during site grading or excavation, the following standard measures would be implemented. If human remains are discovered, it is probable they are the remains of Native Americans. • If human remains are encountered they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld. o Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled. o Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains. • In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials	The measures shall be implemented by the applicant and contractors during construction, if cultural materials are encountered.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the discovery locale. • An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the Monitoring Archaeologist (typically 25-50ft for single burial or archaeological find). • The discovery locale shall be secured (e.g., 24 hour surveillance) as directed by the City or County if considered prudent to avoid further disturbances. • The Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition: o The City of Morgan Hill Community Development Director (408) 779-7247 o The Contractor's Point(s) of Contact o The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900			

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	○ The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082 ○ The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C) • The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC. • The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.) • Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose. • Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Community Development Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. • If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.			

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
GREENHOUSE GAS EMISSIONS				
Impact GHG-1: The proposed project would exceed BAAQMD's GHG emissions thresholds.	**MM GHG-1.1:** The project shall implement the following energy-efficiency measures to reduce GHG emissions: • The Project shall implement energy reduction features and meet new 2013 Title 24 Building Code Standards that would result in GHG emissions from energy usage that are 20 percent lower than the usage predicted in CalEEMod that is based on 2008 or earlier Title 24 requirements. • The Project shall implement a Trip Reduction Plan for employees to reduce those trips by at least 5 percent. The plan shall include the following features: o Subsidized transit passes; o Showers and locker facilities to encourage non-motorized commutes alternatives; o Secure bike facilities on site; o Pedestrian and bicycle connections to adjacent roadways; o Preferred parking for electric vehicles with charging stations; o Enhancement of transit/bus stops adjacent to the site; and o Enhance/improve sidewalks and pedestrian access to the site. • The Project, as a whole, shall adopt a water use reduction goal of at least 20 percent. A water use reduction plan shall be developed by the project applicant that may include measures such as the installation of low-flow water fixtures in sinks, low-flush toilets, and the use of water efficient landscaping. • Implement a solid waste recycling program through recycling and composting strategies, which results in a solid waste diversion rate of at least 20 percent. • Loading docks have electrical hookups for trucks and include signage that prohibits excessive idling. • Where feasible, install solar voltaic panels to generate electricity. This could include rooftop photovoltaic panels and/or covering on-	The GHG emissions reduction measures and carbon offset program shall be submitted to the Community Development Department for review and approval, prior to issuance of a building permit.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	site parking areas with photovoltaic panels. **MM GHG-1.2:** Develop a carbon offset program to offset all remaining project emissions above the per service population threshold of 4.6 MT CO2e per year. Any offset of project emissions shall be demonstrated to be real, permanent, verifiable, and enforceable by the City or BAAQMD. Offsets may include but are not limited to the following: • Applicant funding of local projects, subject to review and approval by the City or BAAQMD, that will result in real, permanent, verifiable, and enforceable, and additional reduction in GHG emissions. If the City or BAAQMD develops a GHG mitigation fund, the applicant may instead pay into this fund to offset GHG emissions in excess of the significance threshold. • Purchase of carbon credits to offset emissions below the significance threshold. Only CARB carbon offset credits, credits verified and registered with the Climate Action reserve may be used to offset emissions.			
GEOLOGY AND SOILS				
The project would be exposed to geology and soil hazards.	**Standard Measures:** The following measures, consistent with the City of Morgan Hill Standards Conditions of Approval, would be implemented by the proposed project: • The adverse effects of seismic activity and expansive soil would be avoided using standard engineering and design techniques applied to new construction projects within the City of Morgan Hill. Building design and construction would be completed in conformance with a design-level geotechnical investigation reviewed by the City as a standard condition of development. The proposed project will also be required to conform to the requirements of the 2013 California Building Code. • The project will be subject to review and approval by the Morgan	Prior to issuance of a building permit, the project applicant shall submit the design-level geotechnical investigation and erosion control plan to the City of Morgan Hill Public Works Department and the project plans to the City of Morgan Hil Fire	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	Hill Fire Department, prior to issuance of a building permit. • The project will be required to prepare an Erosion Control Plan. Prior to issuance of a building and/or site development permit, the Erosion Control Plan will be subject to review and approval of the Public Works Department. Conformance with the measures in the Erosion Control Plan would reduce soil erosion during construction to a less than significant level.	Department for review and approval and the project will be subject to review and approval by the City of Morgan Hil Fire Department.		
HYDROLOGY AND WATER QUALITY				
Impact HYD-1: Construction activities could temporarily increase pollutant loads in storm water runoff, degrading water quality downstream of the project site.	In accordance with the City of Morgan Hill Standard Conditions of Approval and the NPDES General Permit for Construction Activities, the following measures are included in the project to reduce construction-related water quality impacts to a less than significant level: **MM HYD-1.1:** The following BMPs would be implemented during project construction: • Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains. • Earthmoving or other dust-producing activities will be suspended during periods of high winds. • All exposed or disturbed soil surfaces will be watered at least twice daily to control dust. • Stockpiles of soil or other materials that can be blown by the wind will be watered or covered. • All trucks hauling soil, sand, and other loose materials will be covered and all trucks will be required to maintain at least two feet of freeboard. • All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site will be swept daily (with water sweepers).	The project applicant shall file a complete Notice of Intent (NOI) package and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual with the RWQCB, prior to the commencement of soil disturbing activities. Copies of the NOI Receipt Letter and SWPPP shall be submitted to the City of Morgan Hill Building and Public Works Department for review and approval,	Measures, including the approved SWPPP, shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	• Vegetation in disturbed areas will be replanted as quickly as possible. **MM HYD-1.2:** Consistent with the requirements of the NPDES General Permit for Construction Activities, a Notice of Intent (NOI) would be submitted to the RWQCB and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to control discharge associated with construction activities, prior to commencement of grading and construction activities. Once grading begins the SWPPP must be kept on-site and updated as needed while construction progresses.	prior to the issuance of a building permit. The Best Management Practices shall be implemented by the applicant and contractors during project grading and construction.		
NOISE				
Impact NOI-1: If not controlled, construction activities on the project site could expose adjacent sensitive receptors to a substantial temporary increase in ambient noise levels.	**MM NOI-1.1:** Consistent with the City of Morgan Hill Municipal Code, the following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance. • Construction activities shall be limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities should occur on Sundays or federal holidays (Consistent with Section 8.28.040 of the Morgan Hill Municipal Code). • Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. • Locate stationary noise generating equipment (e.g. rock crushers, compressors) as far as possible from adjacent residential receptors. • Acoustically shield stationary equipment located near residential receptors with temporary noise barriers or recycled demolition materials.	The measures shall be implemented by the applicant and contractors during construction.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Community Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

MITIGATION MONITORING OR REPORTING PROGRAM COCHRANE ROAD COMMERCIAL DEVELOPMENT (ZA-13-12/SD-13-14)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	• Utilize "quiet" air compressors and other stationary noise sources where technology exists. • The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance. • Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.			

SOURCE: City of Morgan Hill, *Cochrane Road Commercial Development Initial Study*, June 2014.

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June 2014 (1846 : AAE2017-0034 &

JARVIS DRIVE
BUTTERFIELD BLVD
SUTTER BLVD
COCHRANE ROAD
WOODVIEW AVE
ADAMS COURT
LEGEND
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
Common Area Improvements
EXHIBIT

MITIGATION MONITORING OR REPORTING PROGRAM

Butterfield & Cochrane Development

AAE2017-0034/AAE2017-0035

CITY OF MORGAN HILL

July 2018

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

PREFACE

Section 21081 of the California Environmental Quality Act (CEQA) requires a Lead Agency to adopt a Mitigation Monitoring or Reporting Program whenever it approves a project for which measures have been required to mitigate or avoid significant effects on the environment. The purpose of the Mitigation Monitoring or Reporting Program is to ensure compliance with the mitigation measures during project implementation.

The Initial Study prepared for the Butterfield & Cochrane Development project concludes that proposed mixed-use development could result in significant effects on the environment; therefore, mitigation measures were incorporated into the proposed project. This Mitigation Monitoring or Reporting Program outlines these measures and how, when, and by whom they will be implemented.

This document does *not* discuss those subjects for which the Initial Study concluded that the impacts from implementation of the project would be less-than-significant.

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementatio**
AIR QUALITY				
Impact AQ-1: Construction of the proposed project could temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$.	**MM AQ-1.1:** During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects: • Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • Haul trucks transporting soil, sand, or other loose material off-site shall be covered. • Visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweeps at least once per day. The use of dry power sweeping is prohibited. • Vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph) • Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California	The Best Management Practices shall be implemented by the applicant and contractors during grading and construction activities. Prior to issuance of a grading or building permit, the applicant shall submit to the Community Development Department for review and approval a management plan detailing the strategies for control of dust during construction of the project.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementatio**
	airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points. • Construction equipment shall be maintained and properly tuned in accordance with manufacture's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.			
Impact AQ-2: Construction of the proposed project, if all 11 parcels are constructed simultaneously and within 18 months, could increase cancer risk to nearby sensitive receptors.	**MM AQ-2.1:** Prior to issuance of a grading permit, the project shall develop, and provide to the City for review and approval, a construction equipment plan with updated construction phasing schedule demonstrating that the combined emissions of the 11 parcels would not exceed the significant health risk threshold of 10.0 cancer cases in one million for infant exposure. The use of Tier 4 engines or equipment that includes CARB-certified Level 3 Diesel Particulate Filters or alternatively-fueled equipment (i.e., non-diesel) could meet this requirement. Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce community risk impacts to less than significant levels.	Prior to issuance of a grading permit, the applicant shall submit to the Community Development Department for review and approval a a construction equipment plan with updated construction phasing schedule demonstrating that the combined emissions would not excced the significant	Measure shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
		health risk threshold of 10.0 cancer cases in one million for infant exposure.		
Impact AQ-3: Odors generated by the proposed restaurants could result in odor complaints.	**MM AQ-3.1:** Include designs to reduce cooking odors or require the installation of odor abatement equipment if complaints occur. The City shall require design of the restaurant to avoid odor complaints, and if necessary, require restaurants to install odor abatement equipment if confirmed odor complaints are received.	The measures shall be implemented by the applicant and/or the contractors during the design, construction and/or operation of the project, as applicable.	Measure shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director
BIOLOGICAL RESOURCES				
Impact BIO-1: Construction activities on the project site could result in the loss of burrowing owl eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest.	**MM BIO-1.1:** Complete pre-construction surveys to determine if burrowing owls are present within the footprint of the proposed grading area, no more than 30 days prior to initiation of any construction-related activities. **MM BIO-1.2:** Should burrowing owls be found on the site during the breeding season (February 1 through August 31), exclusion zones with a 250-foot radius from occupied burrows, shall be established. All project-related activities shall occur outside of the exclusion area until the young have fledged. **MM BIO-1.3:** If preconstruction surveys are completed during the non-breeding season and burrowing owls are observed on the site, the owls may be relocated upon approval of the California Department of Fish and Game once mitigation has been provided.	Burrowing owl pre-construction surveys shall be completed by the applicant no more than 30 days prior to the initiation of site clearing or construction activities. The burrowing owl survey report, including any protection measures, shall be submitted to the Director of	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	MM BIO-1.4: A final report on burrowing owls, including any protection measures, shall be submitted to the Director of Community Development prior to grading.	Community Development prior to grading permit.		
Impact BIO-2: Construction activities on the project site could result in the loss of raptor and/or migratory bird eggs or nestlings, either directly by destroying an active nest or indirectly by disturbing and causing the abandonment of an active nest.	**MM BIO-2.1:** Construction shall be scheduled to avoid the nesting season to the extent feasible. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all nesting habitat within 250 feet of the site for nests. **MM BIO-2.2:** If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the of the Community Development Director, prior to the start of construction.	If construction cannot be scheduled to avoid the nesting season, then the pre-construction surveys for nesting birds shall be completed within 30 days of the on-set of site clearing or construction activities. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the of the Community Development Director, prior to the issuance of a grading permit and start of construction.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director
Impact BIO-3: American badgers could be injured or	**MM BIO-3.1:** Pre-construction surveys shall be used to determine the presence or absence of badgers on the project site. If an active badger den is	The badger pre-construction survey shall be completed	Measure shall be printed on all construction	City of Morgan Hill Communit

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementatio**
harmed, if occupied badger dens are present onsite at the time of construction.	identified during pre-construction surveys, a construction-free buffer of up to 300 feet shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.	concurrent with the burrowing owl pre-constructrion survey (see MM BIO-1.1 above), and provided prior to grading permit.	documents, contracts, and project plans.	Development Director
CULTURAL RESOURCES				
The project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials.	**SM CULT-1:** Since the site is located within the mapped archaeologically sensitive area as adopted by the City, then the project applicant has the option to either have an archaeological survey be completed for the site to determine what, if any, conditions of approval will be required as mitigation measures; or agree to comply with the following standard conditions of approval, which shall be conclusively deemed to reduce potentially significant impacts on archaeological resources to a less than significant level (no archaeological resources report is required as part of any CEQA review of the project as long as the applicant accepts these conditions and incorporates them into the project): • An archaeologist shall be present on-site to monitor all ground-disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below: ▪ Work at the location of the find will halt immediately within thirty feet of the find. If an archaeologist is not present at the	The measures shall be implemented by the applicant and contractors during construction, if cultural materials are encountered.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementati**
	time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter; ▪ If the find is determined not to be a Unique Archaeological Resource, construction can continue. The archaeologist will prepare a brief informal memo/letter that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find; ▪ If the find appears significant and to qualify as a unique archaeological resource, the archaeologist will determine if the resource can be avoided and will detail avoidance procedures in a formal memo/letter; and ▪ If the resource cannot be avoided, the archaeologist shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the community development director. The action plan shall be in conformance with California Public Resources Code 21083.2. **SM CULT-2:** This project may adversely impact undocumented human remains or unintentionally discover significant historic or archaeological materials. In the unlikely event cultural materials are found during site grading or excavation, the following standard measures would be implemented. If human remains are discovered, it is probable they are the remains of Native Americans. • If human remains are encountered they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a			

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementati**
	need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld. o Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled. o Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains. • In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the discovery locale. • An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the Monitoring Archaeologist (typically 25-50ft for single burial or archaeological find).			

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementati**
	• The discovery locale shall be secured (e.g., 24 hour surveillance) as directed by the City or County if considered prudent to avoid further disturbances. • The Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition: o The City of Morgan Hill Community Development Director (408) 779-7247 o The Contractor's Point(s) of Contact o The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900 o The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082 o The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C) • The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC. • The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.) • Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose. • Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Community Development Director the recommended means for treating or disposing, with appropriate			

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementatio**
	dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. • If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.			
GREENHOUSE GAS EMISSIONS				
Impact GHG-1: The proposed projectwould exceed BAAQMD GHG emissions thresholds for 2020 and 2030.	**MM GHG-1.1:** The proposed project shall implement a GHG reduction plan for each parcel that includes the proper strategies to reduce GHG emissions consistent with 2020 or 2030 thresholds based on the date of operation of a given parcel, i.e. parcels that will be in operation prior to 2021 must meet the 2020 threshold and those after 2020 must meet the 2030 threshold. Strategies of this plan may include, but would not be limited to, the following: • Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power; • Develop and implement a tranposrtation demand management program to reduce mobile GHG emissions; • Construct onsite or fund off-site carbon sequestration projects (such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted). If the project develops an off-site project, it must be registered with the Climate Action Reserve or	The GHG emissions reduction measures and carbon offset program shall be submitted to the Community Development Department for review and approval, prior to issuance of a building permit.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementati**
	otherwise approved by the BAAQMD in order to be used to offset Project emissions; • Purchase of carbon credits to offset Project annual emissions. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by the California Air Resources Board or BAAQMD. The preference for offset carbon credit purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by City of Morgan Hill.			
GEOLOGY AND SOILS				
In accordance with the City of Morgan Hill standards, the project shall implement the following measures to reduce and/or avoid soil hazards.	**SM GEO-1:** To avoid or minimize potential damage from seismic shaking, the proposed residential mixed-use development shall be built using standard engineering and seismic safety design techniques. Prior to issuance of development permits, building design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which will be included in a report to the City. The structural designs for the proposed development will account for repeatable horizontal ground accelerations. The report shall be reviewed and approved by the City of Morgan Hill Building Division prior to issuance of a building permit. The buildings will be required to meet the requirements of applicable Building and Fire Codes, including the 2013 California Building Code Chapter 16, Section 1613, as adopted or updated by the City. The project will be designed to withstand soil hazards identified on the site and the project	To be implemented by the applicant and contractors prior to the issuance of a grading permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of permits.	Director of the City's Community Development Agency

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.			
Ground disturbance would expose soils and increase the potential for wind or water related erosion and sedimentation at the site until construction is complete.	**Standard Condition (SC GEO-1), Storm Drain System:** Prior to final map approval or issuance of a grading permit the applicant shall complete the following to the satisfaction of the Director of Public Works. 1. Storm drain calculations to determine detention pond sizing and operations. 2. Plan describing how material excavated during construction will be controlled to prevent this material from entering the storm drain system. 3. Water Pollution Control Drawings (WPCD) for Sediment and Erosion Control. **Standard Condition (SC GEO-2), Storm Drain System:** As required by the State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, construction activity resulting in a land disturbance of one (1) acre or more of soil, or whose projects are part of a larger common plan of development that in total disturbs more than one (1) acre, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity (General Permit). To be permitted with the SWRCB under the General Permit, owners must file a complete Notice of Intent (NOI) package and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual in accordance with Section A, B, and C of the General Permit prior to the commencement of soil disturbing activities. A NOI Receipt Letter assigning a Waste Discharger Identification (WDID) number to the construction site will be issued after the SWRCB receives a complete NOI package (original signed NOI application, vicinity map, and permit fee); copies of the NOI Receipt Letter and SWPPP shall be forwarded to the	To be implemented by the applicant and contractors prior to approval of grading permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of permits.	Director of the City's Community Development Agency and Public Works Department.

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementation**
	Building and Public Works Department review. SWPPP shall be made a part of the improvement plans. (SWRCB NPDES General Permit CA000002)			
HYDROLOGY AND WATER QUALITY				
Impact HYD-1: Construction activities could temporarily increase pollutant loads in storm water runoff, degrading water quality downstream of the project site.	In accordance with the City of Morgan Hill Standard Conditions of Approval and the NPDES General Permit for Construction Activities, the following measures are included in the project to reduce construction-related water quality impacts to a less than significant level: **MM HYD-1.1:** The following BMPs would be implemented during project construction: • Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains. • Earthmoving or other dust-producing activities will be suspended during periods of high winds. • All exposed or disturbed soil surfaces will be watered at least twice daily to control dust. • Stockpiles of soil or other materials that can be blown by the wind will be watered or covered. • All trucks hauling soil, sand, and other loose materials will be covered and all trucks will be required to maintain at least two feet of freeboard. • All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site will be swept daily (with water sweepers). • Vegetation in disturbed areas will be replanted as quickly as possible. **MM HYD-1.2:** Consistent with the requirements of the NPDES General Permit for Construction Activities, a Notice of Intent (NOI) would be submitted to the RWQCB and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to control discharge associated with construction	The project applicant shall file a complete Notice of Intent (NOI) package and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual with the RWQCB, prior to the commencement of soil disturbing activities. Copies of the NOI Receipt Letter and SWPPP shall be submitted to the City of Morgan Hill Building and Public Works Department for review and approval, prior to the issuance of a building permit. The Best Management Practices shall be	Measures, including the approved SWPPP, shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementati**
	activities, prior to commencement of grading and construction activities. Once grading begins the SWPPP must be kept on-site and updated as needed while construction progresses.	implemented by the applicant and contractors during project grading and construction.		
NOISE				
Impact NOI-1: Operation of mechanical equipment could exceed existing ambient noise levels near sensitive receptors.	**MM NOI-1.1:** Prior to the issuance of building permits, mechanical equipment shall be selected and designed to reduce impacts on surrounding uses to meet the City of Morgan Hill's requirements. A qualified acoustical consultant shall be retained by the project applicant to review mechanical noise as the equipment systems are selected in order to determine specific noise reduction measures necessary to reduce noise to 55 dBA Leq at residences to the west of the site, across Butterfield Boulevard. Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels and/installation of noise barriers such as enclosures and parapet walls to block the line of sight between the noise source and the nearest receptors.	To be implemented by applicant and contractors prior to the issuance of a building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of building permits.	City of Morgan Hill Communit Development Director
Impact NOI-2: If not controlled, construction activities on the project site could expose adjacent sensitive receptors to a substantial temporary increase in ambient noise levels.	**MM NOI-2.1:** Consistent with the City of Morgan Hill Municipal Code, the following standard measures shall be implemented by the developer during project construction to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance. • Construction activities shall be limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities should occur on Sundays or federal holidays (Consistent with Section 8.28.040 of the Morgan Hill Municipal Code).	The measures shall be implemented by the applicant and contractors during construction.	Measures shall be printed on all construction documents, contracts, and project plans.	City of Morgan Hill Communit Development Director

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

MITIGATION MONITORING OR REPORTING PROGRAM BUTTERFIELD & COCHRANE DEVELOPMENT (AAE2017-0034/AAE2017-0035)				
Impact(s)	**Mitigation and Avoidance Measures**	**Timeframe and Responsibility for Implementation**	**Method of Compliance**	**Oversight of Implementati**
	• Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. • Locate stationary noise generating equipment (e.g. rock crushers, compressors) as far as possible from adjacent residential receptors. • Acoustically shield stationary equipment located near residential receptors with temporary noise barriers or recycled demolition materials. • Utilize "quiet" air compressors and other stationary noise sources where technology exists. • The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance. • Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.			

SOURCE: City of Morgan Hill. *Butterfield & Cochrane Development Initial Study/Addendum.* July 2018.

Attachment: Cochrane Road Commercial Development Mitigated Negative Declaration and MMRP - June

ATTACHMENT 4

CALEEMOD MODELING RESULTS

Tenfold Jarvis RCFE Approved Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.3. Grading (2026) - Unmitigated

3.5. Building Construction (2026) - Unmitigated

3.7. Building Construction (2027) - Unmitigated

3.9. Paving (2026) - Unmitigated

3.11. Architectural Coating (2026) - Unmitigated

3.13. Architectural Coating (2027) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tenfold Jarvis RCFE Approved
Construction Start Date	3/2/2026
Operational Year	2027
Lead Agency	City of Morgan Hill
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	32.8
Location	37.147775000278116, -121.65717698453915
County	Santa Clara
City	Morgan Hill
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1909
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Congregate Care (Assisted Living)	80.0	Dwelling Unit	3.62	41,723	17,642	—	239	—

Parking Lot	48.0	Space	0.43	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.25	3.99	15.0	18.0	0.03	0.65	7.21	7.85	0.59	3.45	4.05	—	3,339	3,339	0.13	0.08	2.67	3,367
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.24	3.97	29.2	29.4	0.05	1.24	19.8	21.0	1.14	10.1	11.3	—	5,434	5,434	0.22	0.08	0.07	5,454
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.14	1.97	7.08	9.83	0.02	0.27	1.23	1.50	0.25	0.54	0.78	—	1,912	1,912	0.07	0.04	0.56	1,926
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.39	0.36	1.29	1.79	< 0.005	0.05	0.22	0.27	0.05	0.10	0.14	—	317	317	0.01	0.01	0.09	319

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	4.25	3.99	15.0	18.0	0.03	0.65	7.21	7.85	0.59	3.45	4.05	—	3,339	3,339	0.13	0.08	2.67	3,367
2027	2.75	2.72	0.86	1.54	< 0.005	0.02	0.10	0.11	0.02	0.02	0.04	—	229	229	0.01	< 0.005	0.32	231
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.24	3.97	29.2	29.4	0.05	1.24	19.8	21.0	1.14	10.1	11.3	—	5,434	5,434	0.22	0.08	0.07	5,454
2027	4.17	3.91	10.7	16.3	0.03	0.36	0.63	0.99	0.33	0.15	0.48	—	3,281	3,281	0.13	0.08	0.06	3,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.14	1.97	7.08	9.83	0.02	0.27	1.23	1.50	0.25	0.54	0.78	—	1,912	1,912	0.07	0.04	0.56	1,926
2027	0.77	0.72	1.80	2.75	< 0.005	0.06	0.11	0.17	0.06	0.03	0.08	—	553	553	0.02	0.01	0.18	557
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.39	0.36	1.29	1.79	< 0.005	0.05	0.22	0.27	0.05	0.10	0.14	—	317	317	0.01	0.01	0.09	319
2027	0.14	0.13	0.33	0.50	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	91.5	91.5	< 0.005	< 0.005	0.03	92.3

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.30	2.22	0.71	10.0	0.01	0.03	1.22	1.25	0.02	0.31	0.33	123	1,722	1,845	12.4	0.07	4.73	2,181
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.85	1.78	0.75	5.24	0.01	0.02	1.22	1.25	0.02	0.31	0.33	123	1,632	1,755	12.4	0.08	0.64	2,089
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.21	2.12	1.16	7.69	0.01	0.05	1.20	1.25	0.05	0.30	0.35	123	1,726	1,849	12.4	0.07	2.34	2,184
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.40	0.39	0.21	1.40	< 0.005	0.01	0.22	0.23	0.01	0.06	0.06	20.4	286	306	2.06	0.01	0.39	362

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.80	0.75	0.48	5.38	0.01	0.01	1.22	1.23	0.01	0.31	0.32	—	1,308	1,308	0.06	0.05	4.20	1,329
Area	1.48	1.46	0.04	4.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	12.1	12.1	< 0.005	< 0.005	—	12.2
Energy	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	387	387	0.05	< 0.005	—	390
Water	—	—	—	—	—	—	—	—	—	—	—	5.56	11.1	16.7	0.57	0.01	—	35.1
Waste	—	—	—	—	—	—	—	—	—	—	—	118	0.00	118	11.8	0.00	—	411
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Stationary	0.01	0.01	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.94	2.94	< 0.005	< 0.005	0.00	2.95
Total	2.30	2.22	0.71	10.0	0.01	0.03	1.22	1.25	0.02	0.31	0.33	123	1,722	1,845	12.4	0.07	4.73	2,181
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.77	0.71	0.56	5.15	0.01	0.01	1.22	1.23	0.01	0.31	0.32	—	1,230	1,230	0.06	0.06	0.11	1,249
Area	1.06	1.06	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	387	387	0.05	< 0.005	—	390
Water	—	—	—	—	—	—	—	—	—	—	—	5.56	11.1	16.7	0.57	0.01	—	35.1
Waste	—	—	—	—	—	—	—	—	—	—	—	118	0.00	118	11.8	0.00	—	411
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Stationary	0.01	0.01	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.94	2.94	< 0.005	< 0.005	0.00	2.95
Total	1.85	1.78	0.75	5.24	0.01	0.02	1.22	1.25	0.02	0.31	0.33	123	1,632	1,755	12.4	0.08	0.64	2,089
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.76	0.70	0.52	4.97	0.01	0.01	1.20	1.21	0.01	0.30	0.31	—	1,241	1,241	0.06	0.06	1.81	1,261
Area	1.26	1.25	0.02	2.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	5.98	5.98	< 0.005	< 0.005	—	6.01
Energy	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	387	387	0.05	< 0.005	—	390
Water	—	—	—	—	—	—	—	—	—	—	—	5.56	11.1	16.7	0.57	0.01	—	35.1
Waste	—	—	—	—	—	—	—	—	—	—	—	118	0.00	118	11.8	0.00	—	411
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Stationary	0.17	0.16	0.44	0.40	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	80.5	80.5	< 0.005	< 0.005	0.00	80.8
Total	2.21	2.12	1.16	7.69	0.01	0.05	1.20	1.25	0.05	0.30	0.35	123	1,726	1,849	12.4	0.07	2.34	2,184
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.10	0.91	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	205	205	0.01	0.01	0.30	209
Area	0.23	0.23	< 0.005	0.41	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.99	0.99	< 0.005	< 0.005	—	0.99
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.1	64.1	0.01	< 0.005	—	64.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.92	1.84	2.76	0.09	< 0.005	—	5.81
Waste	—	—	—	—	—	—	—	—	—	—	—	19.5	0.00	19.5	1.95	0.00	—	68.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Stationary	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	13.3	13.3	< 0.005	< 0.005	0.00	13.4
Total	0.40	0.39	0.21	1.40	< 0.005	0.01	0.22	0.23	0.01	0.06	0.06	20.4	286	306	2.06	0.01	0.39	362

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.80	0.79	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.57	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	136	136	< 0.005	0.01	0.01	138
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.78	3.78	< 0.005	< 0.005	0.01	3.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.96	1.65	15.0	17.4	0.03	0.65	—	0.65	0.59	—	0.59	—	2,960	2,960	0.12	0.02	—	2,970

Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.96	1.65	15.0	17.4	0.03	0.65	—	0.65	0.59	—	0.59	—	2,960	2,960	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.82	0.96	< 0.005	0.04	—	0.04	0.03	—	0.03	—	162	162	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	0.39	0.39	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9

Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.57	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	126	126	< 0.005	< 0.005	0.46	128
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.49	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	117	117	< 0.005	0.01	0.01	118
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.47	6.47	< 0.005	< 0.005	0.01	6.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.07	1.07	< 0.005	< 0.005	< 0.005	1.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.53	5.96	0.01	0.17	—	0.17	0.16	—	0.16	—	1,102	1,102	0.04	0.01	—	1,106
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.83	1.09	< 0.005	0.03	—	0.03	0.03	—	0.03	—	183	183	0.01	< 0.005	—	183
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.12	2.20	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	484	484	0.01	0.02	1.77	492
Vendor	0.02	0.01	0.28	0.14	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	227	227	0.01	0.03	0.55	237
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.16	1.87	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	449	449	0.01	0.02	0.05	455
Vendor	0.02	0.01	0.30	0.14	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	227	227	0.01	0.03	0.01	237
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.85	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	209	209	< 0.005	0.01	0.35	212
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	104	104	0.01	0.02	0.11	109
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	35.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.02	18.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.56	2.15	< 0.005	0.06	—	0.06	0.05	—	0.05	—	399	399	0.02	< 0.005	—	400
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	66.0	66.0	< 0.005	< 0.005	—	66.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.15	0.14	1.75	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	440	440	0.01	0.02	0.04	446
Vendor	0.02	0.01	0.28	0.14	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	222	222	0.01	0.03	0.01	232
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	74.1	74.1	< 0.005	< 0.005	0.11	75.2
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.0	37.0	< 0.005	0.01	0.04	38.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.02	12.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.12	6.12	< 0.005	< 0.005	0.01	6.41
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.48	< 0.005	0.01	—	0.01	0.01	—	0.01	—	74.0	74.0	< 0.005	< 0.005	—	74.2
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.3
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	168	168	< 0.005	0.01	0.61	171
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.63	8.63	< 0.005	< 0.005	0.01	8.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	2.58	2.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	2.58	2.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.37	0.49	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.7	57.7	< 0.005	< 0.005	—	57.9
Architectural Coatings	1.11	1.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.56	9.56	< 0.005	< 0.005	—	9.59
Architectural Coatings	0.20	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.44	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.9	96.9	< 0.005	< 0.005	0.35	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.37	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	89.7	89.7	< 0.005	< 0.005	0.01	91.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.2	39.2	< 0.005	< 0.005	0.07	39.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.50	6.50	< 0.005	< 0.005	0.01	6.59

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	2.58	2.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	2.58	2.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.03	0.02	0.16	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.9	25.9	< 0.005	< 0.005	—	26.0
Architectural Coatings	0.50	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.28	4.28	< 0.005	< 0.005	—	4.30
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.41	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.1	95.1	< 0.005	< 0.005	0.32	96.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.35	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	88.1	88.1	< 0.005	< 0.005	0.01	89.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.5

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.86	2.86	< 0.005	< 0.005	< 0.005	2.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	0.80	0.75	0.48	5.38	0.01	0.01	1.22	1.23	0.01	0.31	0.32	—	1,308	1,308	0.06	0.05	4.20	1,329
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.80	0.75	0.48	5.38	0.01	0.01	1.22	1.23	0.01	0.31	0.32	—	1,308	1,308	0.06	0.05	4.20	1,329
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	0.77	0.71	0.56	5.15	0.01	0.01	1.22	1.23	0.01	0.31	0.32	—	1,230	1,230	0.06	0.06	0.11	1,249

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.77	0.71	0.56	5.15	0.01	0.01	1.22	1.23	0.01	0.31	0.32	—	1,230	1,230	0.06	0.06	0.11	1,249
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	0.14	0.13	0.10	0.91	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	205	205	0.01	0.01	0.30	209
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.14	0.13	0.10	0.91	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	205	205	0.01	0.01	0.30	209

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	—	153	153	0.02	< 0.005	—	154
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	9.21	9.21	< 0.005	< 0.005	—	9.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	162	162	0.03	< 0.005	—	163
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	—	153	153	0.02	< 0.005	—	154
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	9.21	9.21	< 0.005	< 0.005	—	9.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	162	162	0.03	< 0.005	—	163
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	—	25.3	25.3	< 0.005	< 0.005	—	25.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1.53	1.53	< 0.005	< 0.005	—	1.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	26.8	26.8	< 0.005	< 0.005	—	27.0

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	226	226	0.02	< 0.005	—	226
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	226	226	0.02	< 0.005	—	226
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Congregate Care (Assisted Living)	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	226	226	0.02	< 0.005	—	226
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	226	226	0.02	< 0.005	—	226
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.4	37.4	< 0.005	< 0.005	—	37.5

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.89	0.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.16	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.42	0.40	0.04	4.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.1	12.1	< 0.005	< 0.005	—	12.2
Total	1.48	1.46	0.04	4.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	12.1	12.1	< 0.005	< 0.005	—	12.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.89	0.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.16	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.06	1.06	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.16	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	0.04	< 0.005	0.41	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.99	0.99	< 0.005	< 0.005	—	0.99
Total	0.23	0.23	< 0.005	0.41	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.99	0.99	< 0.005	< 0.005	—	0.99

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	5.56	11.1	16.7	0.57	0.01	—	35.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	5.56	11.1	16.7	0.57	0.01	—	35.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	5.56	11.1	16.7	0.57	0.01	—	35.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	5.56	11.1	16.7	0.57	0.01	—	35.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	0.92	1.84	2.76	0.09	< 0.005	—	5.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.92	1.84	2.76	0.09	< 0.005	—	5.81

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	118	0.00	118	11.8	0.00	—	411
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	118	0.00	118	11.8	0.00	—	411
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	118	0.00	118	11.8	0.00	—	411
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	118	0.00	118	11.8	0.00	—	411
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	19.5	0.00	19.5	1.95	0.00	—	68.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	19.5	0.00	19.5	1.95	0.00	—	68.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Congregate Care (Assisted Living)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.94	2.94	< 0.005	< 0.005	0.00	2.95
Total	0.01	0.01	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.94	2.94	< 0.005	< 0.005	0.00	2.95

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.94	2.94	< 0.005	< 0.005	0.00	2.95
Total	0.01	0.01	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.94	2.94	< 0.005	< 0.005	0.00	2.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	13.3	13.3	< 0.005	< 0.005	0.00	13.4
Total	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	13.3	13.3	< 0.005	< 0.005	0.00	13.4

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	3/2/2026	3/13/2026	5.00	10.0	—
Grading	Grading	3/16/2026	4/10/2026	5.00	20.0	—
Building Construction	Building Construction	5/11/2026	3/26/2027	5.00	230	—
Paving	Paving	4/13/2026	5/8/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	5/25/2026	4/9/2027	5.00	230	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	57.6	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	8.55	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	11.5	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	84,489	28,163	0.00	0.00	1,129

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.43

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Congregate Care (Assisted Living)	—	0%
Parking Lot	0.43	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Congregate Care (Assisted Living)	251	251	251	91,659	1,736	1,736	1,736	633,730
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Congregate Care (Assisted Living)	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	80
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
84489.075	28,163	0.00	0.00	1,129

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Congregate Care (Assisted Living)	272,916	204	0.0330	0.0040	704,326
Parking Lot	16,484	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Congregate Care (Assisted Living)	2,901,312	230,509
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Congregate Care (Assisted Living)	218	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Congregate Care (Assisted Living)	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Congregate Care (Assisted Living)	Household refrigerators and/or freezers	R-134a	1,430	0.22	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.01	100	350	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

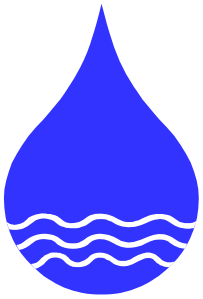
Screen	Justification
Land Use	Building square footage and acreage adjusted to represent project-specific information.
Construction: Construction Phases	Based on typical construction practices, architectural coating assumed to start two weeks after the start of building construction and last for the same number of days. Demolition not required for the proposed project.
Operations: Vehicle Data	Trip rate adjusted to match the project specific trip rate provided by T. Kear Transportation Planning and Management to provide a conservative comparison of the approved conditions and the proposed project.
Operations: Hearths	Consistent with the proposed project, hearths are not assumed. This provides a conservative comparison of the approved conditions vs the proposed project.

ATTACHMENT 5

PRELIMINARY POST-CONSTRUCTION STORMWATER CONTROL PLAN

MORGAN HILL RCFE

PRELIMANRY POST-CONSTRUCTION STORMWATER CONTROL PLAN



April 29, 2025

Prepared For:

Tenfold Senior Living
2115 SW Sunset Drive
Portland, OR 97239

Prepared By:

TSD Engineering, Inc.
785 Orchard Drive, Suite 110
Folsom, CA 95630

Table of Contents

Project Information **1**
Introduction **2**
Background **4**
Methodology **4**
Existing Conditions **5**
Post-Construction **6**
Operations and Maintenance **8**
Conclusion / Statement of Compliance **8**

APPENDICIES

Appendix A – Drainage Management Maps (Existing & Post-Construction)

Appendix B – Existing Hydrology

Appendix C – Developed Hydrology

Appendix D – Hydraulic Model Results / Bio-Retention Stage Storage Tables

Appendix E – Evergreen Stormwater Control Plan

Appendix F – Design Checklists

Appendix G – Supporting Data

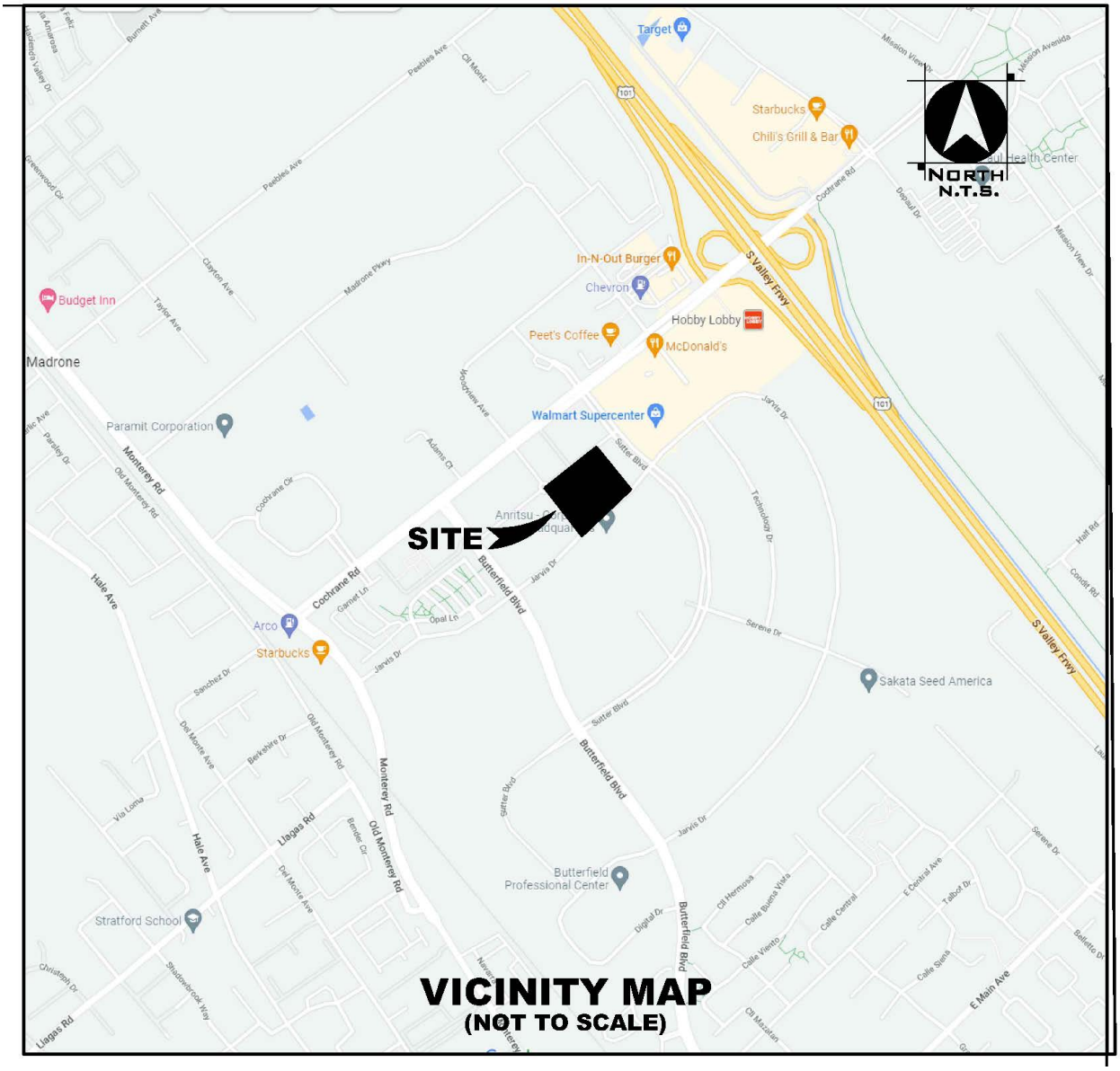
Project Information

Project Site Address/Location:	North East of the Intersection of Jarvis Drive and Skipper Lane
APN(s):	726-58-012
Owner / Applicant:	Tenfold Senior Living
Owner / Applicant Address:	2115 SW Sunset Drive Portland, OR 97239 ATTN: Brigid Flanigan
Project Type:	Multi-Unit Residential (Senior Living)
1. Total Project Area:	+/- 3.3 acres (145,070 sf)
2. Pre-Project:	
(a) Impervious Area	0
(b) Pervious Area	+/- 3.3 acres (145,070 sf)
3. Post-Project	
(a) Replaced Impervious Area	0
(b) New Impervious Area	89,390 sf
(c) Total Post-Project Impervious Area (*Sum of Line 3a and Line 3b)*	89,390 sf
(d) Post-Project Pervious Area	55,680 sf
Net impervious Area	
4. Reduced Impervious Area (*Line 2a minus Line 3c)*	0
5. Net Impervious Area (Line 3c minus 4)	89,390 sf
Water Management Zone (WMZ):	Zone 10
Design Storms:	
95th Percentile	Depth = 1.75 Inches
2-Year, 24-hour:	Depth = 3.09 Inches
10-Year, 24-Hour:	Depth = 4.42 Inches
25-Year, 24-Hour:	Depth = 5.24 Inches
100-Year, 24-Hour:	Depth = 6.50 Inches

Introduction:

This report represents the Preliminary Post-Construction Stormwater Control Plan for the Morgan Hill RCFE project, a multi-unit senior living facility. The project site is located northeast of the intersection of Jarvis Drive and Skipper Lane in the City of Morgan Hill, CA. (See Figure 1. Vicinity Map). The project will construct a senior living facility, associated drive aisles, parking, landscaping and utilities on approximately 3.3 acres of undeveloped land.

Figure 1. Vicinity Map



The project will create more than 22,500 square feet of new impervious surface area, categorizing the project as a Tier 4 Regulated Project. This report discusses the methods proposed to comply with the applicable Post-Construction Performance Requirements for the project stated in the City of Morgan Hill Stormwater Management Guidance Manual for Low Impact Development & Post-Construction Requirements and the California Regional Water Quality Control Board (CRWQCB) Post-Construction Requirements for Development Projects in the Central Coast Region, Resolution No. R3-2013-0032. This report identifies the applicable post-construction performance requirements (PR) and discusses how each will be addressed, specifically:

- PR-1 – Site Design and Runoff Reduction
  - Implement LID Measures:
    - Minimize impervious surfaces.
    - Minimize runoff by dispersing runoff from impervious surface areas to landscape areas.

- PR #2 – Water Quality Treatment
  - Treat runoff with an approved and appropriately sized LID treatment system prior to discharge from the site.
    - The site will be designed to surface drain impervious surface areas to bio-retention facilities.
    - The bio-retention facilities have been designed with a surface area greater than or equal to 4% of the Drainage Management Area (DMA) impervious area (Simple Method).

- PR #3 – Runoff Retention
  - The project site is located within Watershed Management Zone (WMZ) 10 and overlies a ground water basin.
  - Sites within WMZ 10 that overlie a groundwater basin shall prevent offsite discharge from storm events up to the 95th percentile, 24-hour rainfall event using Stormwater Control Measures.
    - The bio-retention facilities used to meet PR-2 will be sized to retain the volume of runoff generated by the 95th percentile, 24-hour storm event, a depth of 1.7 inches per the Central Coast Region 95th Percentile, 24-Hour Rainfall Depth exhibit, see Appendix B.

- PR #4 – Peak Management
  - Control post-project peak flows to not exceed pre-project peak flows for the 2-year through 100-year, 24-hour storm events.
    - An orifice plate will be installed at an outfall location to control the discharge from the site.
    - The bio-retention facilities and underground pipes will be used to detain runoff to be released at pre-project rates.

- Trash Prohibition
  - In addition to the performance requirements stated above, the project will be required to implement a Full Trash Capture Plan (FTCP) that shall be designed to trap all particles that are 5 mm or greater prior to discharging to the public storm drain system.

    A list of devices certified by the State Water Resources Control Board can be found through the link below:
    https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/trash_implementation/certified_fcsdevicelist_16Feb2021.pdf

Background:

The project site is located within a larger development, Evergreen Village. The roads adjacent to the site have been designed and constructed in accordance with Improvement Plans issued by MH Engineering Co. dated August, 2019. Backbone infrastructure and bio-retention facilities have been designed and constructed to convey and treat runoff generated within the streets. The proposed onsite storm drain system has been designed to discharge treated water at pre-project flow rates to the existing storm drain system through stubs provided with construction of the backbone infrastructure. Analysis of the offsite DMAs was not performed as part of this report.

Methodology:

The following is a discussion regarding the methods used size the stormwater control measures (SCMs) proposed to satisfy the Post-Construction Requirements stated in the previous section.

- PR-1 – Site Design and Runoff Reduction
  - Roof drains will be disconnected, allowing runoff to flow over landscaping prior to entering SCMs or the underground storm drain system.
  - Compaction will be minimized in landscape areas.

- PR #2 – Water Quality Treatment
  - The Simple Method was used to size the bio-retention facilities.
  - The bio-retention facilities were designed with a surface area equal to or greater than 4% of the contributing impervious area.

- PR #3 – Runoff Retention
  - Retention Volume = (Runoff Coefficient, C) x (95^{th} Percentile Rainfall Depth) x (Tributary Area, sf)
  - Adjusted Runoff Coefficient, $C = 0.858i^3 – 0.78i^2 + 0.774i + .040$
    - i = Fraction of tributary area that is impervious
  - 95^{th} Percentile Rainfall Depth = 1.75 inches
    - Per the Central Coast Region 95^{th} Percentile, 24-Hour Rainfall Depth exhibit, see Appendix G.
  - Tributary Area per the Drainage Management Map, see Appendix A

- PR #4 – Peak Management
  - All onsite drainage will be routed through the private onsite underground storm drain system with oversized pipes to provide storage to detain runoff and reduce the discharge from the developed site to pre-developed rates. An orifice plate will be designed and installed upstream of the existing storm drain system to regulate the flow rate leaving the site for storm events ranging from 2-year – 100-year, 24 hours.

A dynamic model utilizing Autodesk Hydraflow and Infoworks ICM software was created to preliminarily size the storm drain system and design the orifice plate that will capture, treat, convey and control the discharge from the site.

The SCS method was used to determine peak discharge rate and runoff volume for the 2-year, 10-year, 25-year and 100-year, 24-hour storm events. The following assumptions were used to estimate the peak runoff are listed below:

- SCS Rainfall Distribution Type 1A
- Rainfall Depths: (Per City of Morgan Hill Storm Drainage System Master Plan)
  - 2-Year, 24-Hour = 3.09 inches
  - 10-Year, 24-Hour = 4.42 inches
  - 25-Year, 24-Hour = 5.24 inches
  - 100-Year, 24-Hour = 6.50 inches
- Curve Numbers
  - Existing Conditions = 80 (Chaparral/Shrubs/Weeds / Soil Type D)
  - Developed Conditions = 88 (Multi-Family Medium / Soil Type D)
- Time of Concentration = 20 minutes

The criterion above was entered into Autodesk Hydraflow software to generate hydrographs for the respective storm events. In accordance with the City of Morgan Hill Stormwater Management Guidance Manual for Low Impact Development & Post-Construction Requirements and the California Regional Water Quality Control Board (CRWQCB) Post-Construction Requirements for Development Projects in the Central Coast Region, Resolution No. R3-2013-0032, the site will be required to reduce the developed flows to the pre-construction flow rates for storm events ranging from the 2-year to 10-year, 24-hour events. Per and agreement with the City of Morgan Hill, the site will also be required to reduce the developed condition discharge rate for the 10-year to the 100-year, 24-hour storm events to pre-construction rates.

An Infoworks ICM model was created to represent the proposed storm drain system. The hydrographs created using the Hydraflow software were applied as inflows to nodes in the model to analyze the system response to the various storm events and confirm proposed storm drain system has the capacity to capture, convey and mitigate the runoff from the developed site. Ther following assumptions were used to create the model:

- Rim and invert elevations and pipe lengths, sizes and slopes consistent with the preliminary grading and drainage plan.
- Bio-Retention Basin Storage Volume assumes 40% porosity in media.
- Pipe manning's friction factor, n = 0.013 for all pipes.

Existing Conditions:

The existing site, covering approximately 3.3 acres, is currently undeveloped and assumed underlying soils that have Group D hydrologic characteristics. The site is relatively flat, sloping from the northeast to southwest of the project site are approximately 1%, see the Existing Conditions DMA Map, Appendix A. The site currently drains to bio-retention facilities located on the perimeter of the site.

The SCS Method using a Type 1A rainfall distribution was used to determine the peak discharge from the site. The peak discharge rates leaving the site are summarized below, see Appendix B for the Existing Conditions Hydraflow Runoff Hydrographs:

Table 1. Summary of Peak Discharge Rates – Existing Conditions

Shed	Area (ac)	Curve Number, CN	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
XA	3.3	80	0.910	1.840	2.464	3.458

Post-Construction:

The developed site has been divided into drainage management areas as shown on the Drainage Management Area Map, see Appendix A.

The site has been designed to allow runoff from impervious areas to surface drain to bio-retention facilities that have been designed to provide stormwater treatment (PR-2) and runoff retention (PR-3) and peak flow for the 2-year through the 10-year, 24-hour storm events (PR-4) as described in the Methodology section of this report. A portion of the driveway will drain to the street and enter the roadside bio-retention basins for treatment and peak flow management.

The existing roadside basins were sized to treat the streets along the frontage of the project and the undeveloped site. A majority of the site runoff will be treated onsite. Construction of the Skipper Lane driveway will require the removal of approximately 25 square feet of bio-retention basin. The existing bio-retention basins were designed and constructed as part of the Evergreen Village Improvement Plans, the Evergreen Village Stormwater Control Plan can be seen in Appendix E. The roadside basins were designed with excess capacity, removing the runoff from project site from the existing basins will only increase the available capacity. An analysis of the existing offsite and proposed onsite DMAs is summarized in Table 2 Below:

Table 2. DMA Analysis – Developed Conditions

DMA	BMP #	Total DMA Area (sf)	DMA Impervious Area (sf)	Fraction of Tributary (Impervious) (sf)	Adjusted C-Factor	Required Retention Volume (ft^3)	Provided Retention Volume (ft^3)	Required Surface Area for Treatment (sf)	Provided Surface Area for Treatment (sf)
1	Basin #1	21,080	9,850	47%	0.32	981	1003	394	905
2	Basin #2	11,835	5,190	44%	0.30	521	540	208	470
3	Basin #3	6,105	3,915	64%	0.44	394	400	157	500
4	Basin #4	8,620	5,615	65%	0.45	567	570	225	380
5	Basin #5	14,500	11,920	82%	0.63	1,324	1,348	477	860
6	Basin #6	13,140	11,290	86%	0.67	1,291	1,292	452	760
7	Basin #7	9,535	6,650	70%	0.49	684	701	266	420
8	Basin #8	14,380	7,780	54%	0.37	769	774	312	430
9	Basin #9	25,800	14,750	57%	0.39	1,460	1,485	590	825
10	Basin #10	6,250	1,965	31%	0.23	213	1,000	79	625
11A	Basin #11	10,450	8,030	77%	0.56	859	1,176	322	980
11B[(2)]	12a – 12i	2,435	2,435	100%	0.89	317	-	98	-
Existing Offsite DMA Analysis (Revised Evergreen Stormwater Control Plan)[(1)]									
11B & 12	12a – 12i	34,195	22,185	65%	0.45	2,235	9,010	888	5,300

1- See Appendix E for the Evergreen Village Stormwater Control Plan (Evergreen Village Improvement Plans, dated 08/21/19)

2- DMA 11B (Driveway) drains to an existing bio-retention basin #12f located adjacent to Skipper Lane, south of the driveway. Runoff will enter the bio-retention basin through existing curb cuts.

Stage storage tables for each of the bio-retention basins can be seen in Appendix D. The bottom and top of the gravel layer elevations are listed on the tables. The 95th percentile storm event will be stored below the subdrain. The invert of the subdrain is also listed on each table. Based on the Addendum to Geotechnical Engineering Investigation for the Proposed Tenfold Senior Housing RCFE completed by Krazan & Associates, Inc., dated April 22, 2025, see Appendix D. A percolation test was conducted in two locations onsite. A design infiltration rate have been calculated below:

- Two percolation tests have been performed
- Percolation rates of 5 min/inch and 16 min/inch were observed.
- Using the Porchet Method, infiltration rates of 3.5 inches/hour and 2.0 inches/ hour were determined
- Average infiltration rate = 2.75 inches/hour
- The design infiltration rate = 1.375 in./hr.
    - Factor of safety = 2 applied

The volume that can be infiltrated in 72 hours has been calculated for each stage storage table in Appendix D to confirm that the volume retained during the 95th percentile storm event can infiltrate completely within 72 hours.

Infoworks software was used to model the proposed storm drain system. The storm drain system has been designed with oversized pipes to provide storage and an orifice plate installed in the most downstream structure (DI #1), to reduce the developed peak discharge rate from the site to pre-construction rates.

The orifice plate has been designed through modeling utilizing Infoworks software. The orifice plate will have three orifices that reduce developed discharge from the site to pre-construction discharge rates for the 2,-year, 10-year, 25-year and 100-year, 24-hour storm events, causing water to back up in the underground system. A 5-1/8 inch diameter orifice at the flowline of the outlet pipe will control the discharge for the 2-year, 24-hour storm event, reducing the developed discharge rate to less than the pre-construction discharge rate. A 6-1/8 inch diameter orifice will be set above the water surface elevation determined for the 2-year, 24-hour storm to control the discharge for the 10-year, 24-hour storm event, reducing the developed discharge rate to less than the pre-construction discharge rate. The third orifice will be 6-1/2 inches in diameter orifice that is set above the water surface elevation determined for the 10-year storm event. The third orifice will reduce the developed discharge from the site for the 25-year and 100-year, 24-hour storm events to pre-construction discharge rates.

Infoworks conduit reports showing the Downstream Max Flow in link downstream of the model orifice plate can be seen in Appendix D. A summary of the mitigated peak discharge rates for the developed conditions are summarized below:

Table 3. Summary of Peak Discharge Rates – Developed Conditions

Shed	Area (ac)	Curve Number, CN	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
A	3.3	88	0.904	1.809	2.448	3.194

Operations and Maintenance:

The onsite storm drain system, including the bio-retention facilities will be maintained in proper operating condition by the property owner / manager. Inspection and maintenance activities and suggested frequencies are listed in Table 3 below:

Table 4. Bio-Retention Basin Inspection and Maintenance Activities Schedule

Inspection Activities	**Suggested Frequency**
- Inspect soil and repair eroded areas	Monthly
- Inspect rock rip rap	Monthly
- Inspect perimeter fence	Monthly
- Inspect inflow / outflow pipes	Semi-Annual
- Inspect for areas of sediment accumulation	Semi-Annual
Maintenance Activities	**Suggested Frequency**
- Remove litter and debris	Monthly
- Remove accumulated sediment	As Needed
- Repair inlet and outlet structures	As Needed

Conclusion:

The proposed site and storm drain system have been designed and analyzed in accordance to the City of Morgan Hill Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements and the City of Morgan Hill Design Standards Section 4 – Storm Drain Design Standards. The preliminary design includes hydraulic modeling that that shows the proposed system meets all of the following post-construction requirements:

- PR-1 Site Design Measures
  - Roof rain leaders will be disconnected, and soil compaction will be limited in landscape areas.

- PR-2 Water Quality Treatment
  - Bio-retention facilities have been designed with surface areas greater than 4% of the impervious surface area of the contributing sub-shed.

- PR-3 Runoff Retention
  - The bio-retention basins have been designed with storage capacity to retain the runoff from the 95th percentile storm event. Stage Storage Tables can be seen in Appendix D

- PR-4 Peak Management
  - The proposed storm drain system has been designed with oversized pipes to provide storage in the system. Discharge from the site will be controlled with an orifice plate installed in the most downstream structure (DI#1). Model results have confirmed that that system has the capacity to reduce peak discharge rate from the developed site to pre-construction rates for the 2-year, 10-year, 25-year and 100-year, 24-hour storm events. Model results can be seen in Appendix D.

Table 5. Peak Discharge Rates Comparison

Shed	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
Existing	0.910	1.840	2.464	3.458
Developed	0.904	1.809	2.448	3.194

APPENDIX A

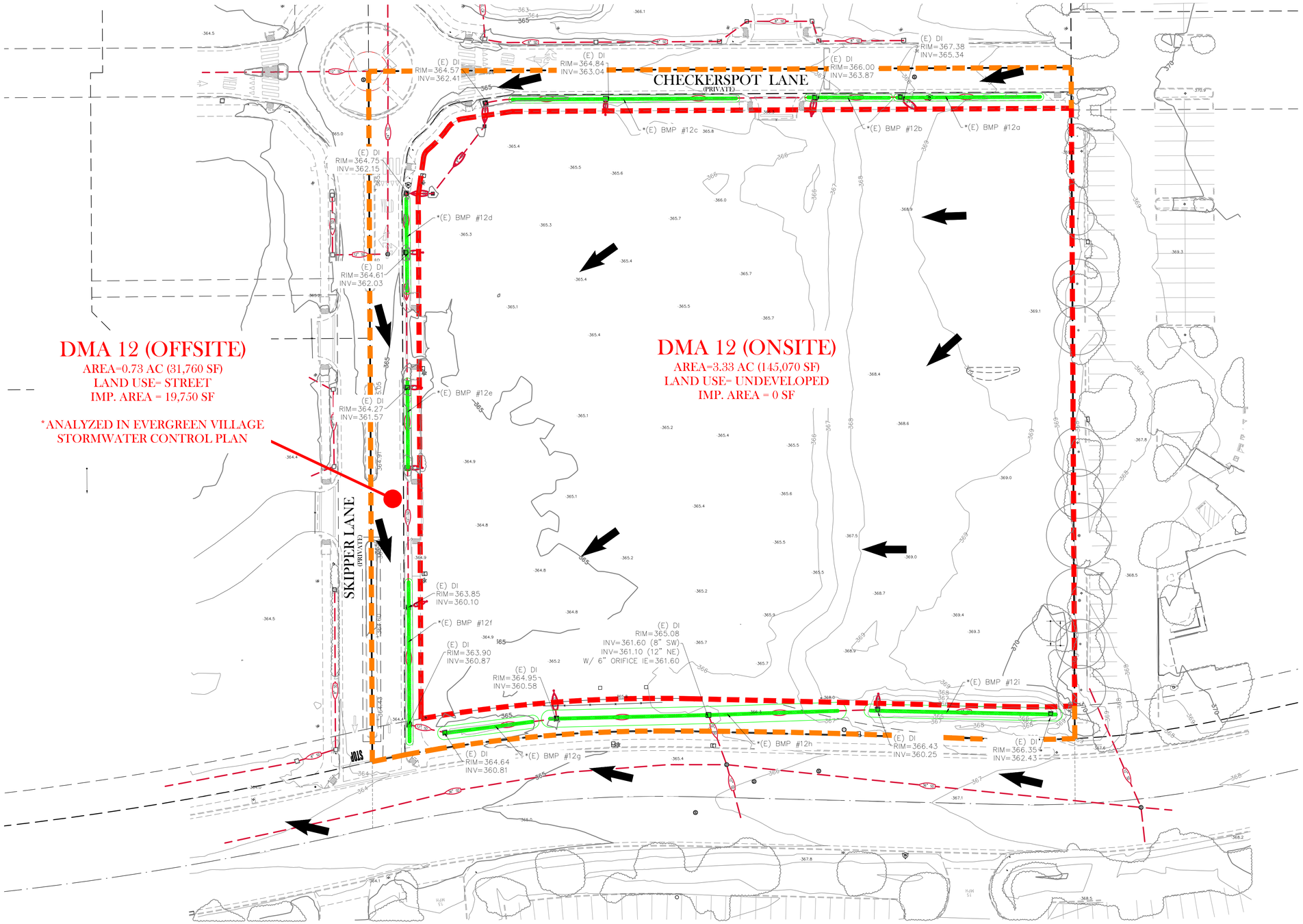
Existing Conditions Drainage Management Area Map

Post-Construction Drainage Management Area Map – Master

EXISTING CONDITIONS - DMA MAP

MORGAN HILL RCFE

MORGAN HILL, CA



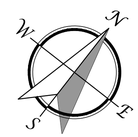
DMA 12 (OFFSITE)

AREA=0.73 AC (31,760 SF)
LAND USE= STREET
IMP. AREA = 19,750 SF

*ANALYZED IN EVERGREEN VILLAGE STORMWATER CONTROL PLAN

DMA 12 (ONSITE)

AREA=3.33 AC (145,070 SF)
LAND USE= UNDEVELOPED
IMP. AREA = 0 SF



scale: 1"=30'

30 0 15 30 60

DMA MAP
EXISTING CONDITIONS
APRIL 29, 2025

TSD ENGINEERING, INC.
expect more.
785 Orchard Drive, Suite #110
Folsom, CA 95630
Phone: (916) 608-0707
Fax: (916) 608-0701

P:\Projects\229-007\03 REPORTS\HYDROLOGY AND HYDRAULICS\Entitlements\2024-1213 Fifth Submittal\Exhibits\Sheet Maps.dwg, Marcus Lewis, 09:43:36, 04-29-25

DEVELOPED CONDITIONS - DMA MAP

MORGAN HILL RCFE

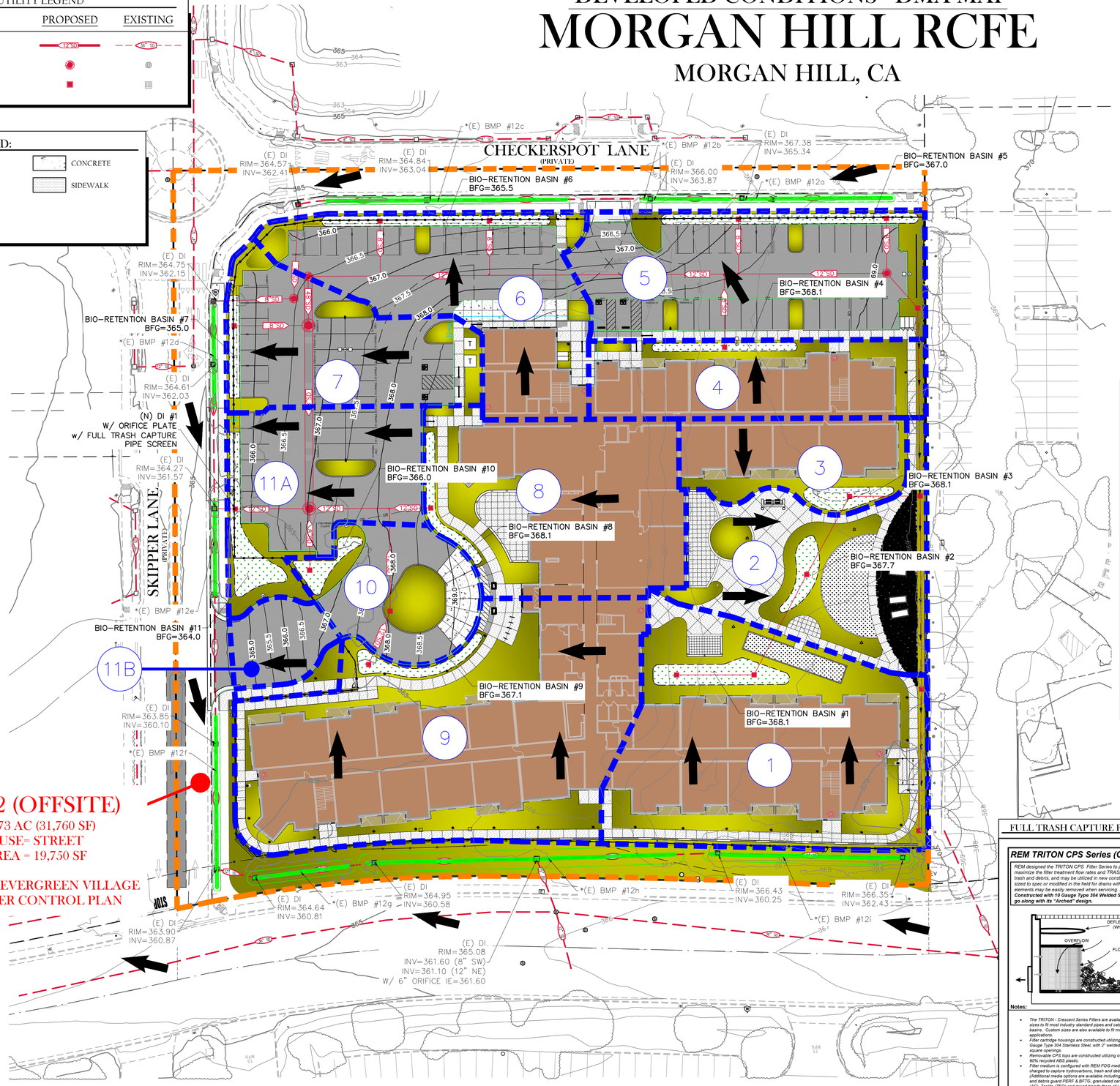
MORGAN HILL, CA

UTILITY LEGEND

DESCRIPTION	PROPOSED	EXISTING
STORM DRAIN	12"SD	36" SD
STORM DRAIN MANHOLE		
DROP INLET		

SURFACE LEGEND:

- ASPHALT PAVEMENT
- CONCRETE
- LANDSCAPE AREA
- SIDEWALK
- BUILDING AREA
- WATER QUALITY BASIN



DMA 12 (OFFSITE)
AREA=0.73 AC (31,760 SF)
LAND USE= STREET
IMP. AREA = 19,750 SF

*ANALYZED IN EVERGREEN VILLAGE STORMWATER CONTROL PLAN

ONSITE DMA ANALYSIS

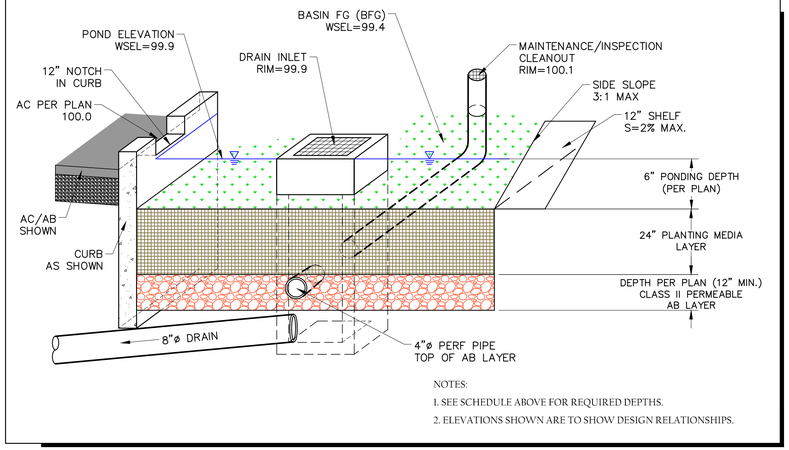
DMA	BMP #	TOTAL DMA AREA (SF)	DMA IMPERVIOUS AREA (SF)	FRACTION OF TRIBUTARY AREA (IMPERVIOUS) (i)	ADJUSTED C-FACTOR	REQUIRED LID VOLUME (FT^3)	PROVIDED LID VOLUME (FT^3)	REQUIRED SURFACE FOR TREATMENT (SF)	PROVIDED SURFACE FOR TREATMENT (SF)
1	BIO-RETENTION BASIN #1	21080	9850	0.47	0.32	981	1003	394	905
2	BIO-RETENTION BASIN #2	11835	5190	0.44	0.30	521	540	208	470
3	BIO-RETENTION BASIN #3	6105	3915	0.64	0.44	394	400	157	500
4	BIO-RETENTION BASIN #4	8620	5615	0.65	0.45	567	570	225	380
5	BIO-RETENTION BASIN #5	14500	11920	0.82	0.63	1324	1348	477	860
6	BIO-RETENTION BASIN #6	13140	11290	0.86	0.67	1291	1292	452	760
7	BIO-RETENTION BASIN #7	9535	6650	0.70	0.49	684	701	266	420
8	BIO-RETENTION BASIN #8	14380	7780	0.54	0.37	769	774	312	430
9	BIO-RETENTION BASIN #9	25800	14750	0.57	0.39	1460	1485	590	825
10	BIO-RETENTION BASIN #10	6250	1965	0.31	0.23	213	1000	79	625
11A	BIO-RETENTION BASIN #11	10450	8030	0.77	0.56	859	1176	322	980
11B	12a - 12i (OFFSITE)	2435	2435	1.00	0.89	317	-	98	-

EXISTING OFFSITE DMA ANALYSIS (REVISED)

DMA	BMP #	TOTAL DMA AREA (SF)	DMA IMPERVIOUS AREA (SF)	FRACTION OF TRIBUTARY AREA (IMPERVIOUS) (i)	ADJUSTED C-FACTOR	REQUIRED LID VOLUME (FT^3)	PROVIDED LID VOLUME (FT^3)	REQUIRED SURFACE FOR TREATMENT (SF)	PROVIDED SURFACE FOR TREATMENT (SF)
DMA #11B + DMA# 12	12a - 12i	34195	22185	0.65	0.45	2235	9010	888	5300

ASSUMPTIONS:
- VOLUME=RUNOFF COEFFICIENT x 95TH PERCENTILE RAINFALL DEPTH x TRIBUTARY AREA
- RUNOFF COEFFICIENT, C = $0.858i^3 - 0.78i^2 + 0.774i + 0.04$
- I = PERCENT IMPERVIOUS
- 95TH PERCENTILE RAINFALL DEPTH = 1.75 INCHES
- REQUIRED SURFACE AREA = 4% OF CONTRIBUTING IMPERVIOUS AREA
- EXISTING OFFSITE DMA #12 REVISED DATA FROM THE STORMWATER CONTROL PLAN FOR THE EVERGREEN VILLAGE (SWCP-EV)
  - SWCP-EV TOTAL DMA AREA = 176,039 SF
  - SWCP-EV DMA IMPERVIOUS AREA = 31,503 SF
  - SWCP-EV PROVIDED SURFACE AREA = 5,325 SF
  - SWCP-EV 95TH PERCENTILE STORAGE DEPTH = 4.25' (9,127 / 5,325 / 0.4 = 4.28')
- EXISTING BMP'S 12a - 12i ADJACENT TO JARVIS DRIVE SKIPPER LANE AND CHECKERSPOT LANE WILL REMAIN AND AND SHALL BE PROTECTED IN PLACE UNLESS OTERWISE NOTED.
  - ANALYSIS OF BMP'S 12a - 12I INCLUDES THE REMOVAL OF APPROXIMATELY 25 SF OF BIORETENTION BASIN REQUIRED TO CONSTRCUT THE MAIN DRIVEWAY

TYPICAL BIO-RETENTION BASIN DETAIL

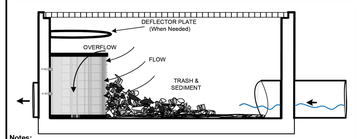


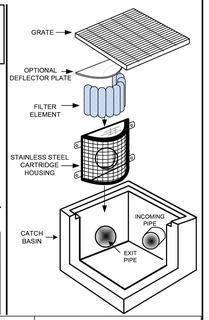
NOTES:
1. SEE SCHEDULE ABOVE FOR REQUIRED DEPTHS.
2. ELEVATIONS SHOWN ARE TO SHOW DESIGN RELATIONSHIPS.

FULL TRASH CAPTURE PIPE SCREEN DETAIL

REM TRITON CPS Series (Crescent Pipe Screen)

REM designed the TRITON CPS Filter Series to provide a highly adaptable solution that allows the flexibility to maximize the filter treatment flow rates and TRASH capturing capacity. TRITON CPS filters are designed to capture trash and debris, and may be utilized in new construction or retrofitted in existing catch basin structures. They are sized to spec or modified in the field for drains with unusual dimensions and unique frame and grates. Optional filter elements may be easily removed when servicing. Media strategy may be optimized for specific pollutant concerns. ***Constructed with 10 Gauge Type 304 Welded Stainless Steel, the REM CPS unit offers superior strength to go along with its "Arched" design.***





Notes:
- *The TRITON - Crescent Series Filters are available in sizes to fit most industry standard pipes and catch basins. Custom sizes are also available to fit most applications.*
- *Filter cartridge housings are constructed utilizing 10 Gauge Type 304 Stainless Steel, with 2" welded square openings.*
- *Removable CPS tops are constructed utilizing over 90% recycled ABS plastic.*
- *Filter medium is configured with REM FOG media, charged to capture hydrocarbons, trash and debris. (Additional media options are available including trash and debris guard PERF & BFTG, granulated carbon (AC), Zeolite (ZEO) and mixed blends there of.)*
- *Replacement Media-Pak's are easily removed for servicing.*
- *Filter designs include a high flow overflow bypass to eliminate pooling or flooding during heavy rain events.*
- *Optional Deflector Plate routes flow onto the filtering side of filter. Certain application may not need this option.*
- *See our Specifier Sheet for sizes, and flow rates.*
- *Maintenance information and replacement media packs are available upon request by contacting REM at sales@remfilters.com or (888) 526-4736.*

TRITON CPS CRESCENT PIPE SCREEN SERIES FILTER
By REM Inc. (888.526.4736)

MADE IN USA

CPS size may vary by catch basin. Taller cartridge options provide greater volume capacity and increased treatment rates.

THE DESIGN AND DETAIL OF THIS DRAWING IS THE PROPERTY OF REM INC. AND IS NOT TO BE USED EXCEPT IN CONNECTION WITH OUR WORK, DESIGN AND INVENTION RIGHTS ARE RESERVED.

PATENT PENDING

PH: (888) 526-4736

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

REM Inc.
TRITON CPS SERIES
(Crescent Pipe Screen)

DRAWN BY	FOR	REV
C.F.	Inline Filtering	
SCALE: 1/4 : 1	DATE: 3/1/2015	SHT. 1 OF 1

scale: 1"=30'

30 0 15 30 60

DMA MAP
DEVELOPED CONDITIONS
APRIL 29, 2025

TSD ENGINEERING, INC.
expect more.
785 Orchard Drive, Suite #110
Folsom, CA 95630
Phone: (916) 608-0707
Fax: (916) 608-0701

P:\Projects\229-007\03 REPORTS\HYDROLOGY AND HYDRAULICS\Entitlements\2024-1213 Fifth Submittal\Exhibits\Shed Maps.dwg, Marcus Lewis, 09:44:32, 04-29-25

APPENDIX B

Existing Hydrology

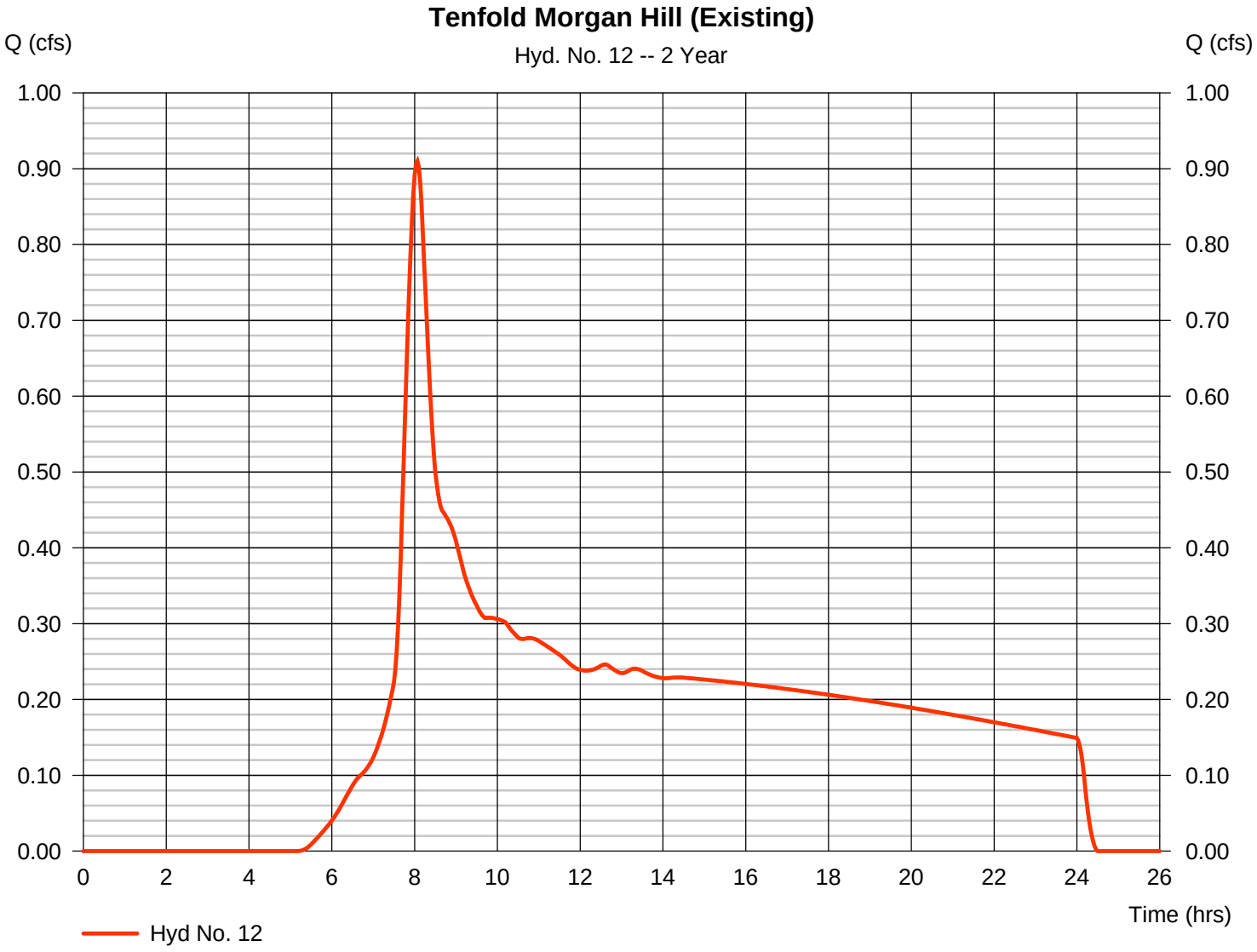
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.910 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.07 hrs
Time interval	=	2 min	Hyd. volume	=	15,787 cuft
Drainage area	=	3.300 ac	Curve number	=	80
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



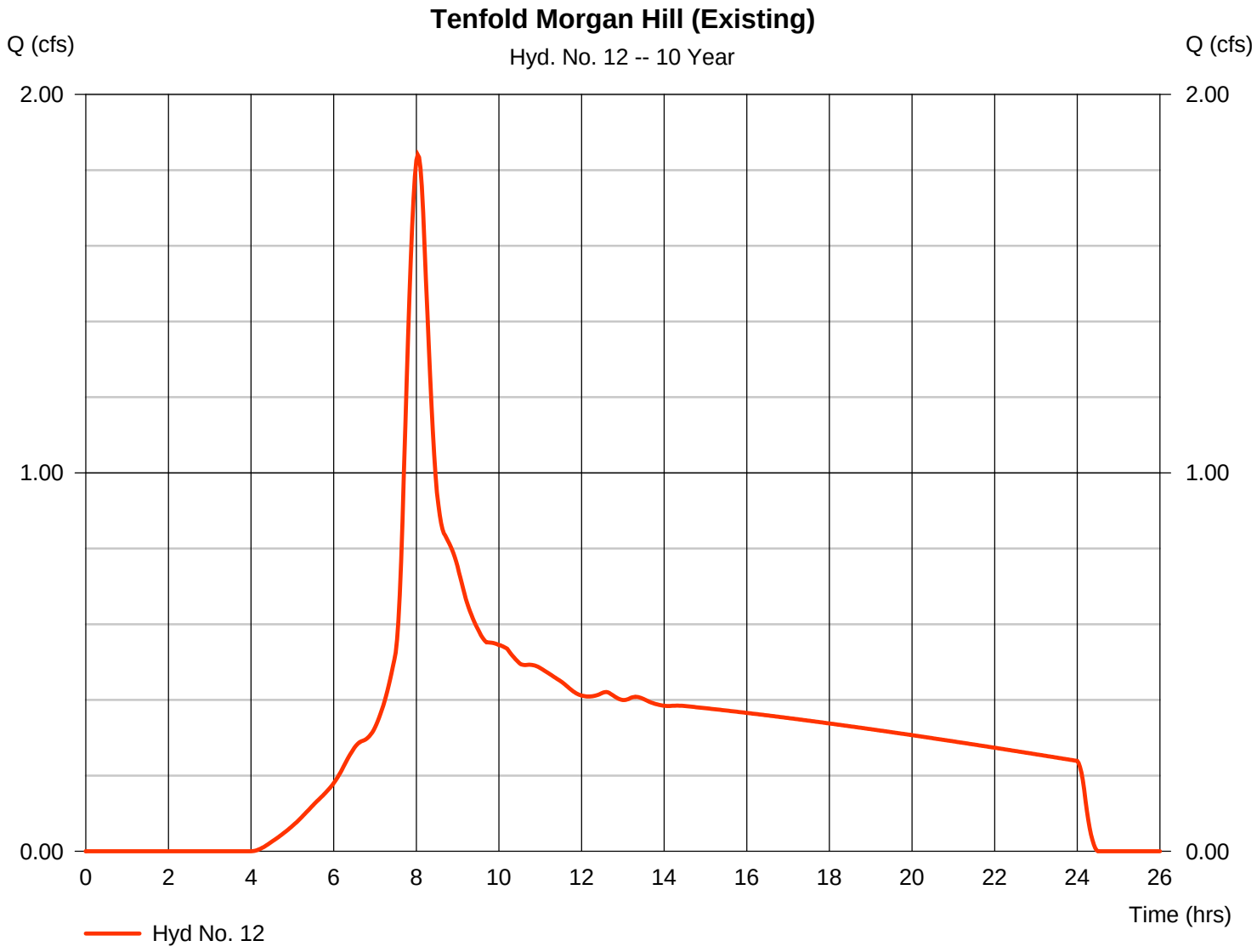
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.840 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	28,672 cuft
Drainage area	=	3.300 ac	Curve number	=	80
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



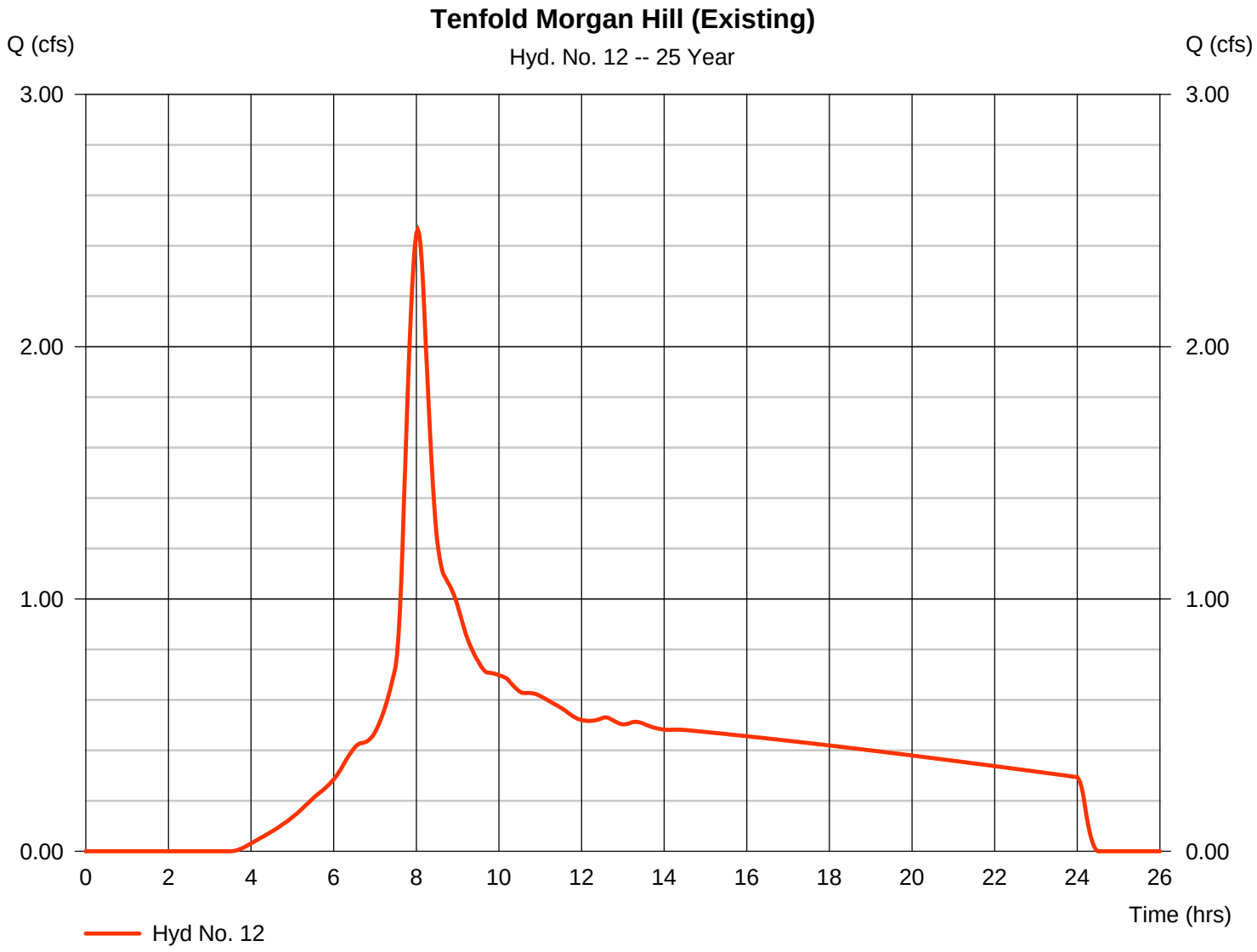
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.464 cfs
Storm frequency	= 25 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 37,174 cuft
Drainage area	= 3.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 5.24 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.458 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	50,735 cuft
Drainage area	=	3.300 ac	Curve number	=	80
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484

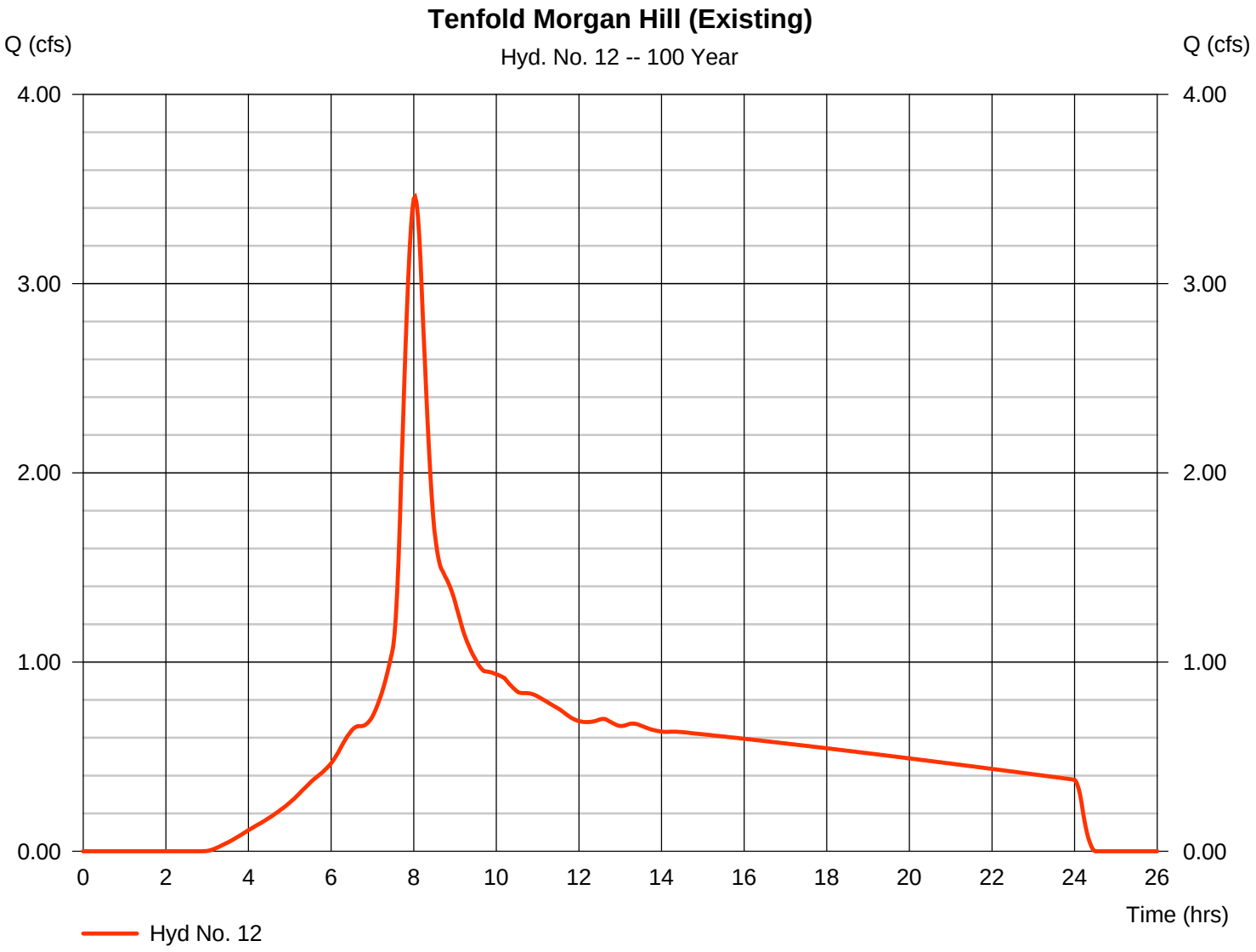


Table 3.1 Precipitation Depth-Duration-Frequency

Storm Drainage System Master Plan

City of Morgan Hill

Duration	2-Year		5-Year		10-Year		25-Year		100-Year	
	(in)	(in/hr)	(in)	(in/hr)	(in)	(in/hr)	(in)	(in/hr)	(in)	(in/hr)
5-min	0.12	1.44	0.15	1.80	0.18	2.16	0.21	2.52	0.26	3.12
10-min	0.18	1.08	0.23	1.38	0.26	1.56	0.31	1.86	0.38	2.28
15-min	0.23	0.92	0.29	1.16	0.33	1.32	0.39	1.56	0.48	1.92
30-min	0.34	0.68	0.42	0.84	0.49	0.98	0.58	1.16	0.72	1.44
1-hr	0.51	0.51	0.63	0.63	0.72	0.72	0.86	0.86	1.06	1.06
2-hr	0.75	0.38	0.93	0.47	1.07	0.54	1.27	0.64	1.58	0.79
3-hr	0.95	0.32	1.18	0.39	1.35	0.45	1.60	0.53	1.99	0.66
6-hr	1.40	0.23	1.75	0.29	2.01	0.34	2.38	0.40	2.95	0.49
12-hr	2.08	0.17	2.59	0.22	2.98	0.25	3.53	0.29	4.38	0.37
24-hr	3.09	0.13	3.85	0.16	4.42	0.18	5.24	0.22	6.50	0.27

AKEL ENGINEERING GROUP, INC.

9/6/2018

Note:

1. Source: City of Morgan Hill 2002 Storm Drainage System Master Plan

APPENDIX C

Developed Hydrology

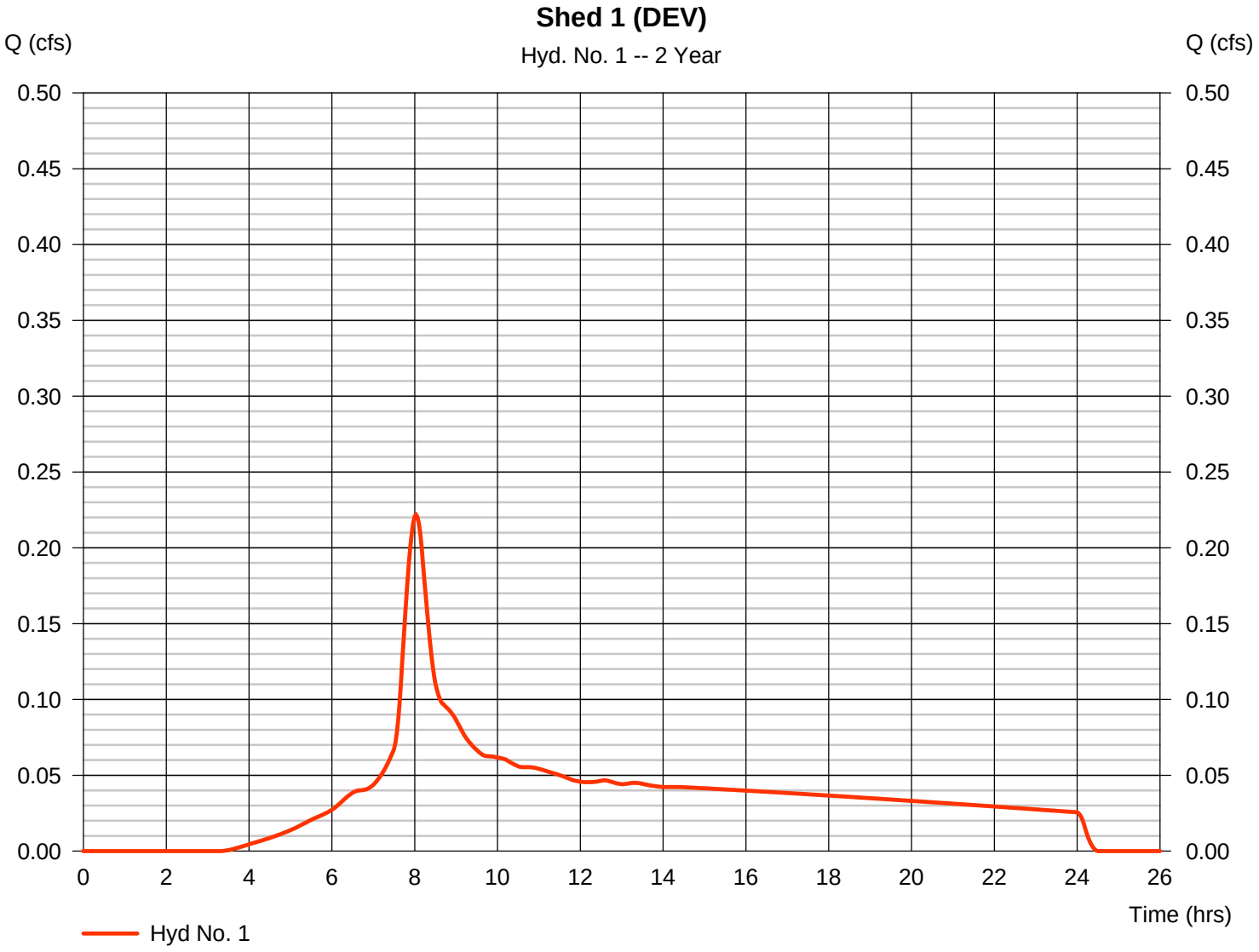
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.222 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 3,308 cuft
Drainage area	= 0.480 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



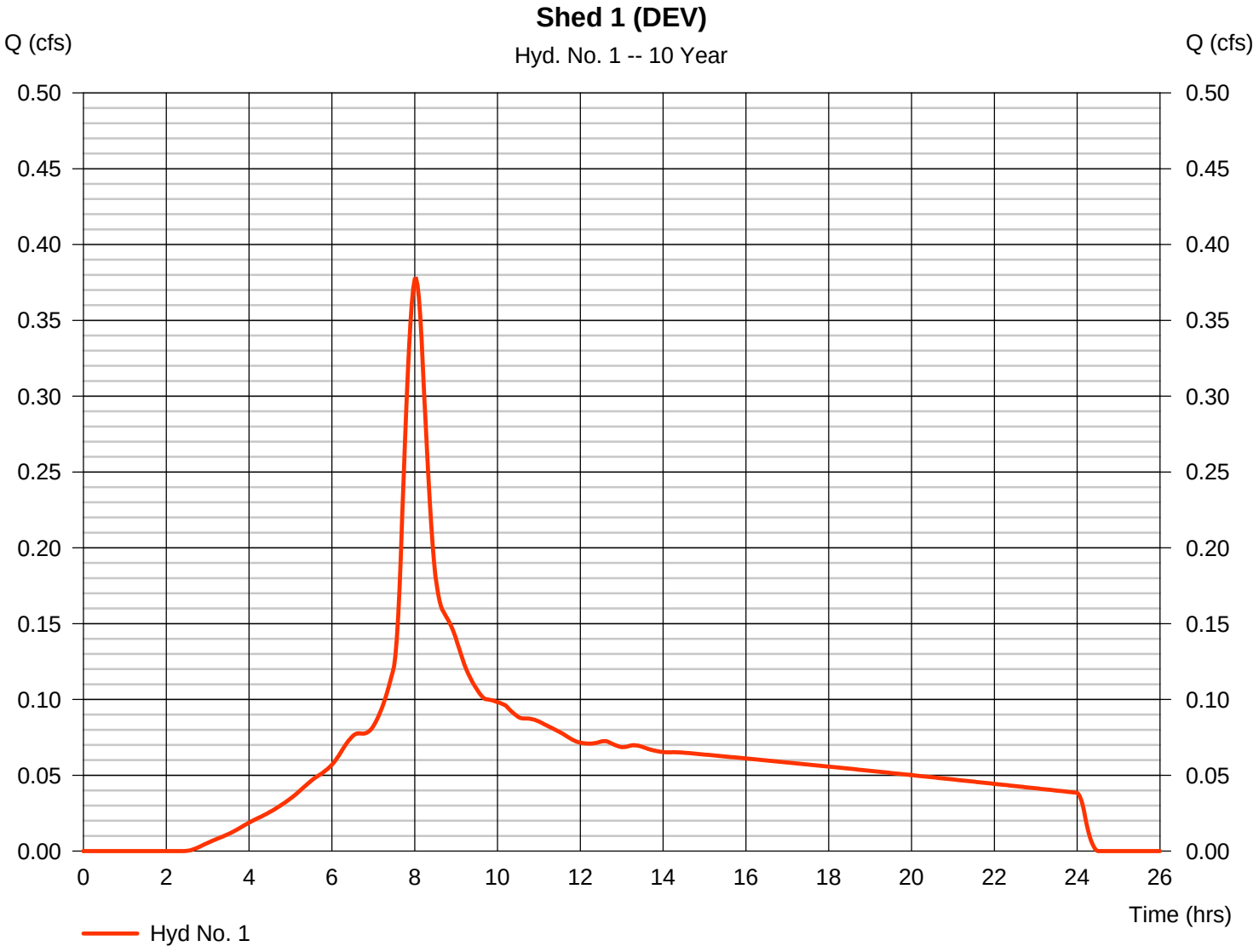
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.377 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	5,438 cuft
Drainage area	=	0.480 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



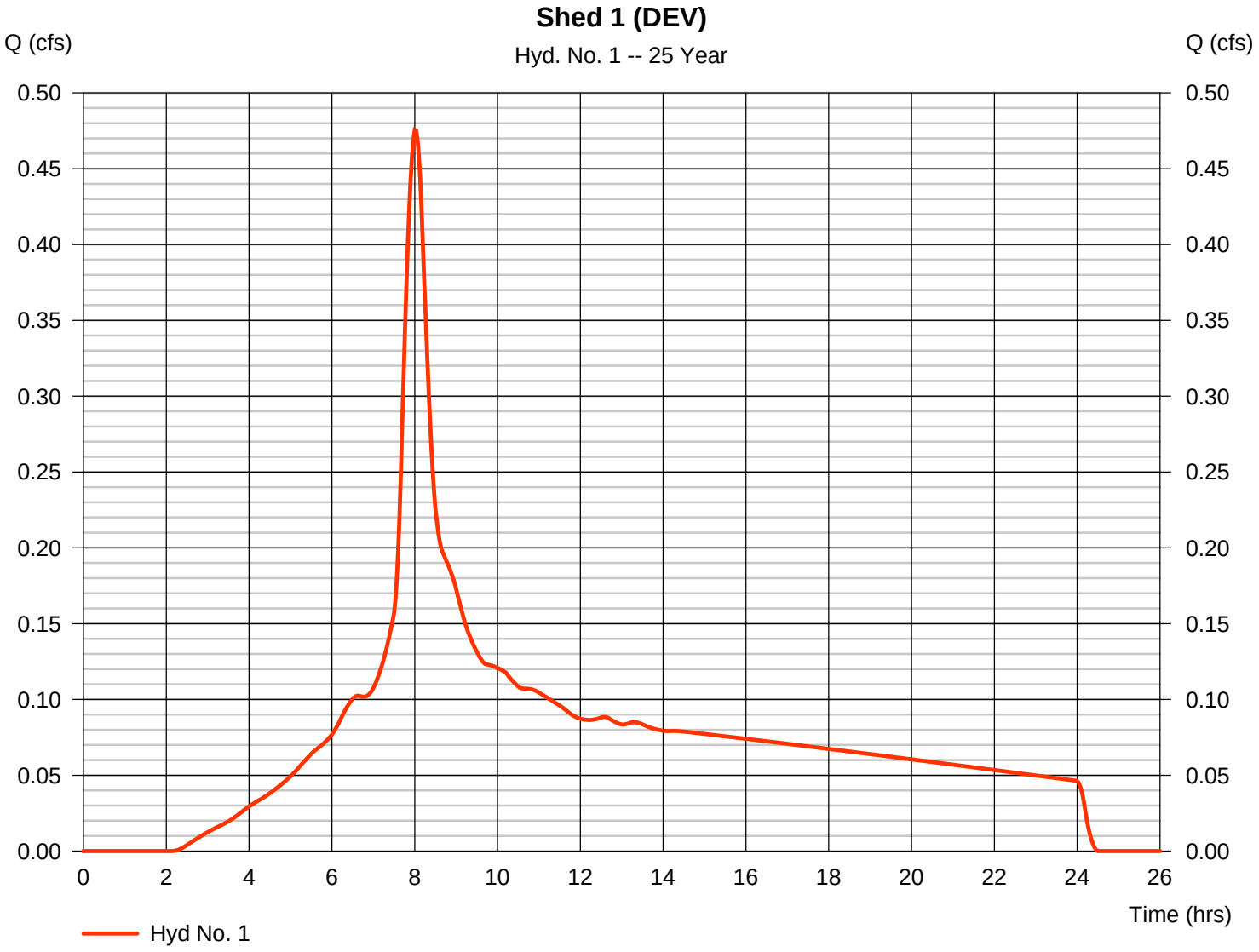
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.475 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	6,791 cuft
Drainage area	=	0.480 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



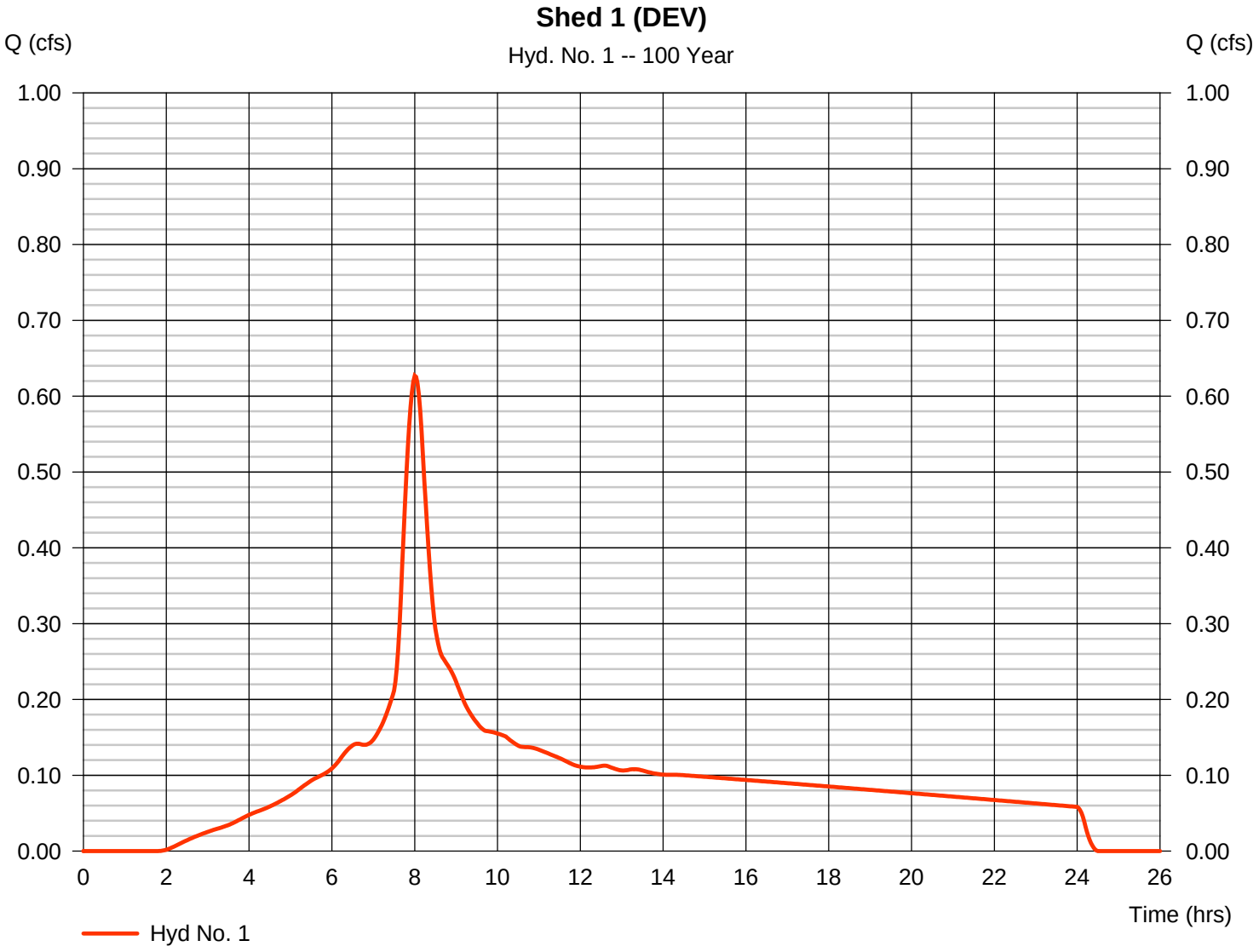
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.627 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 8,901 cuft
Drainage area	= 0.480 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



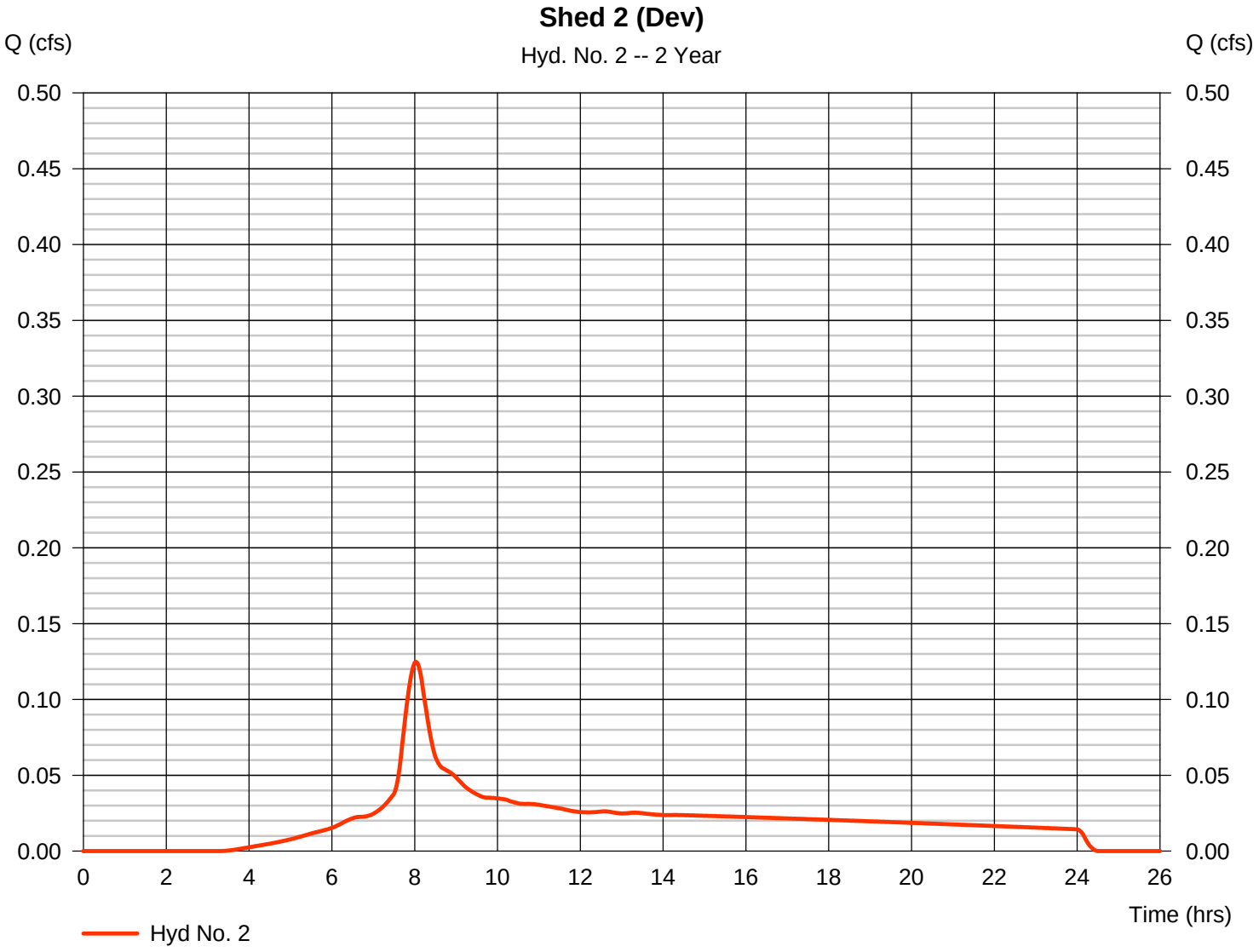
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.125 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,861 cuft
Drainage area	=	0.270 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



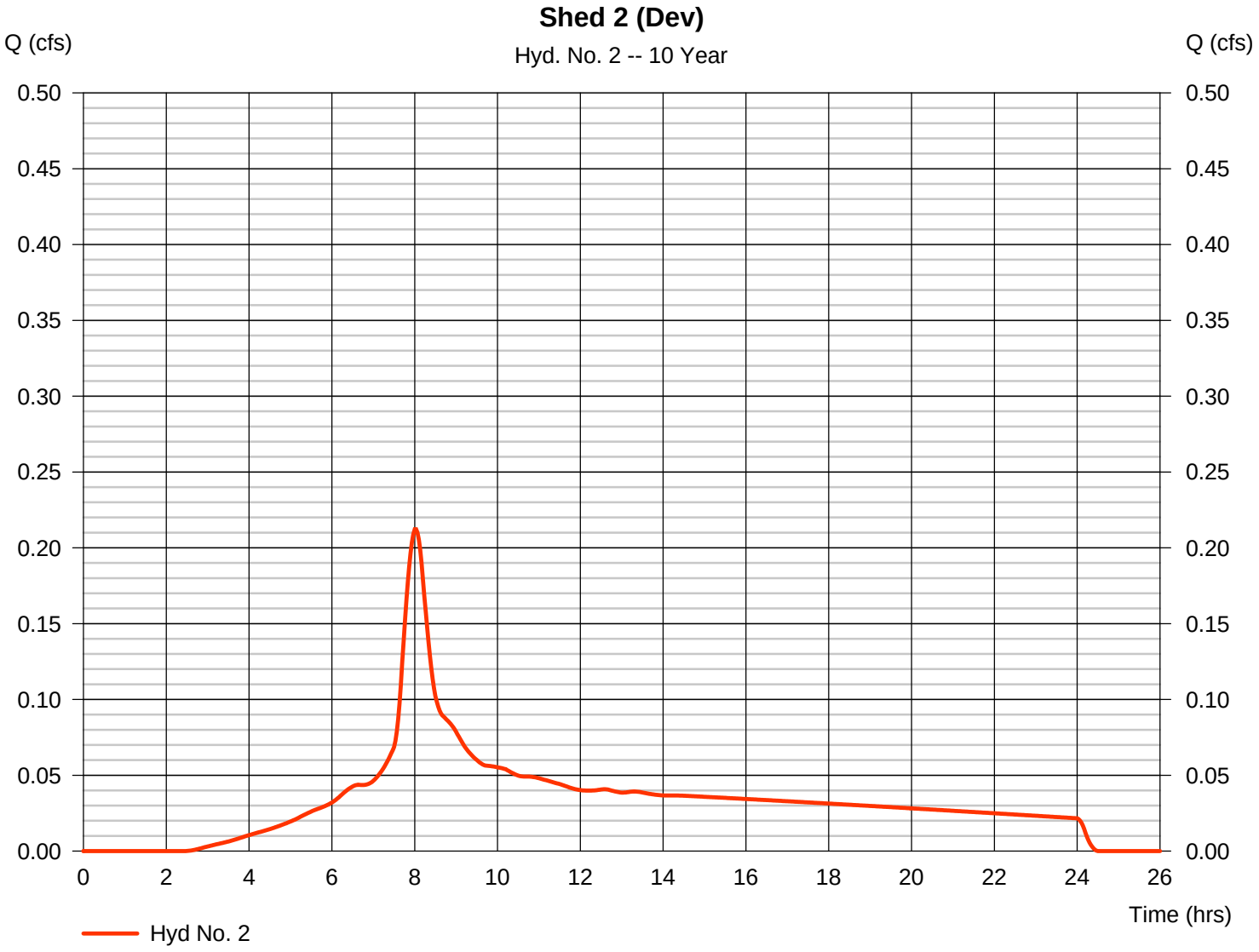
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.212 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 3,059 cuft
Drainage area	= 0.270 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.42 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



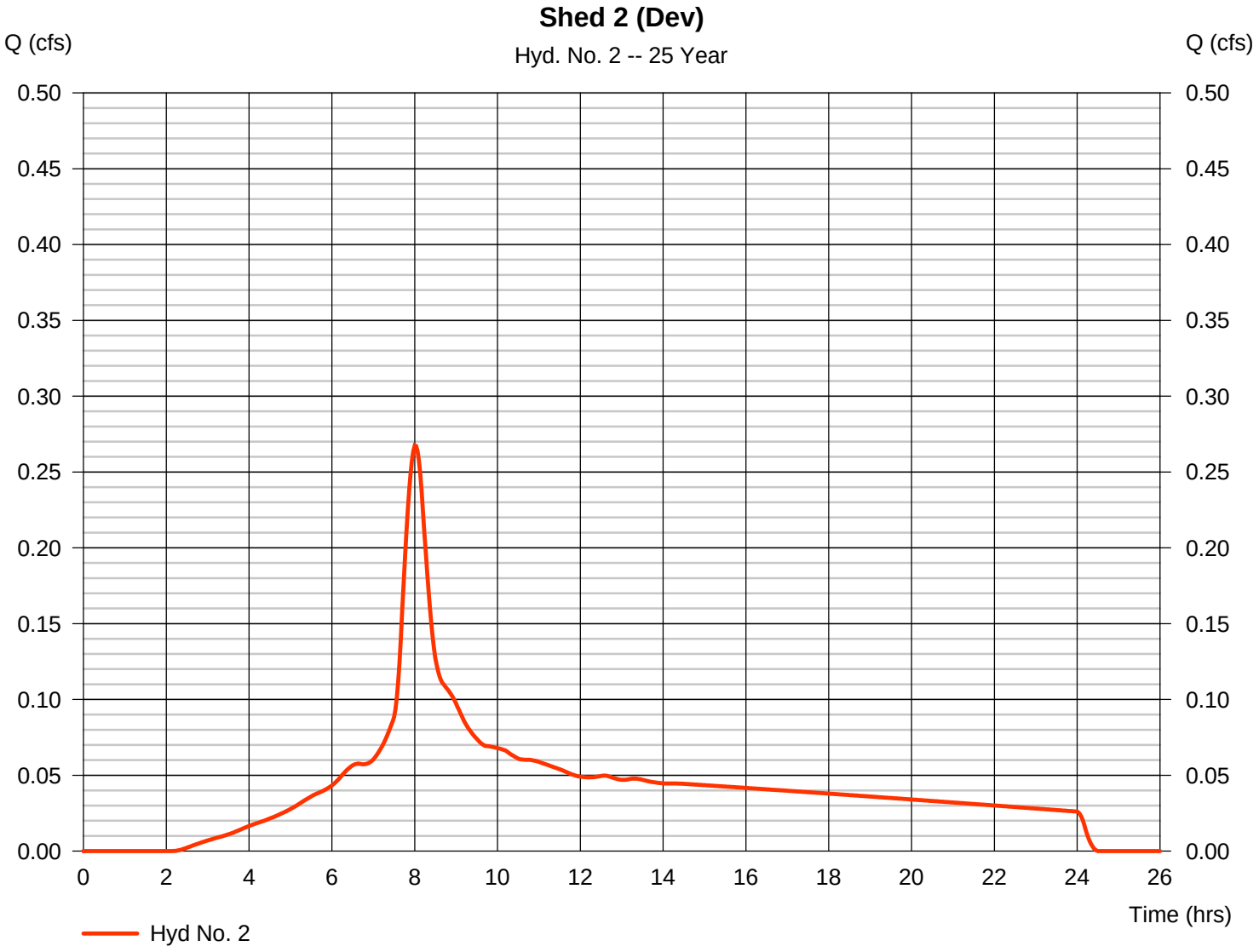
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.267 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	3,820 cuft
Drainage area	=	0.270 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484

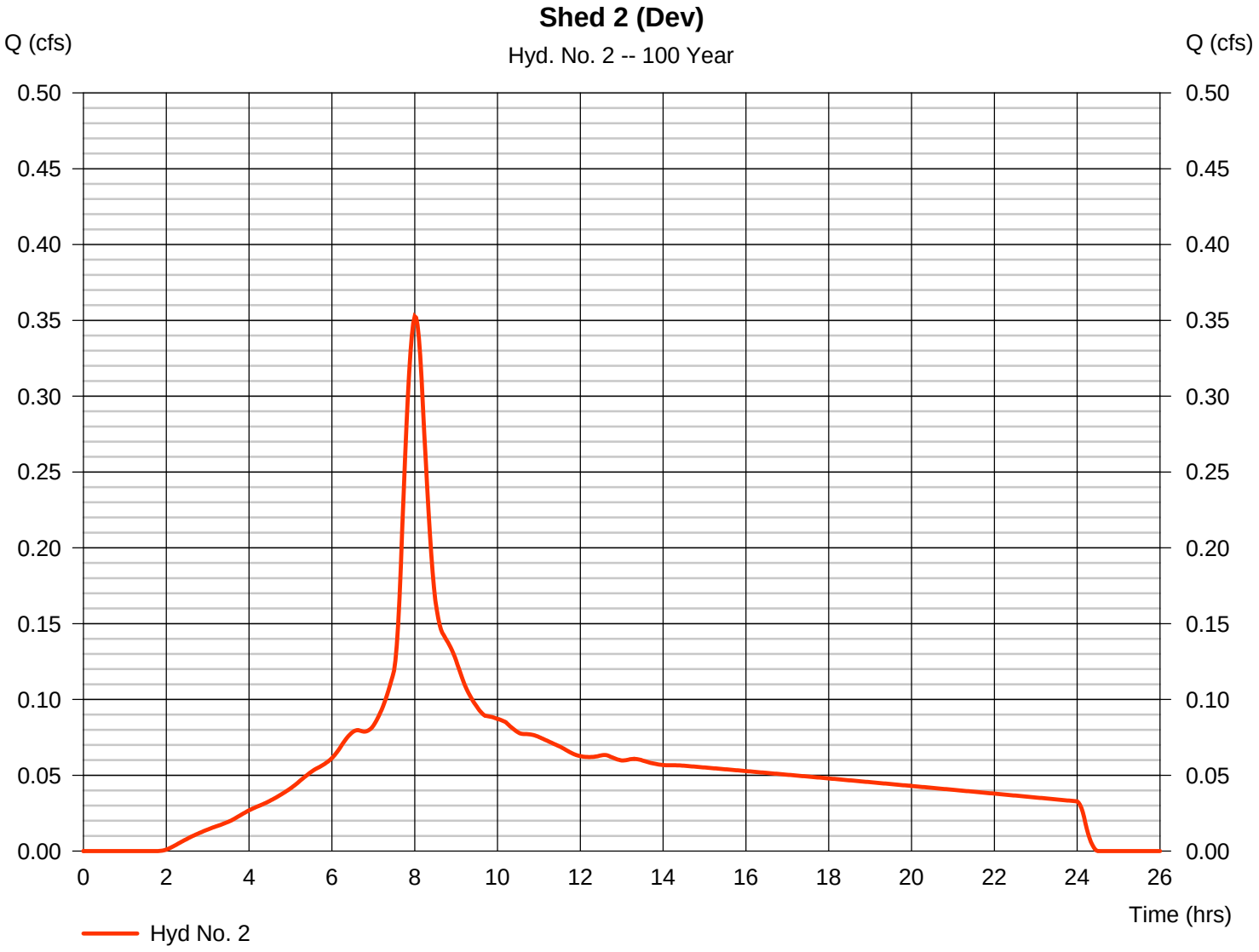


Hydrograph Report

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.353 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 5,007 cuft
Drainage area	= 0.270 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



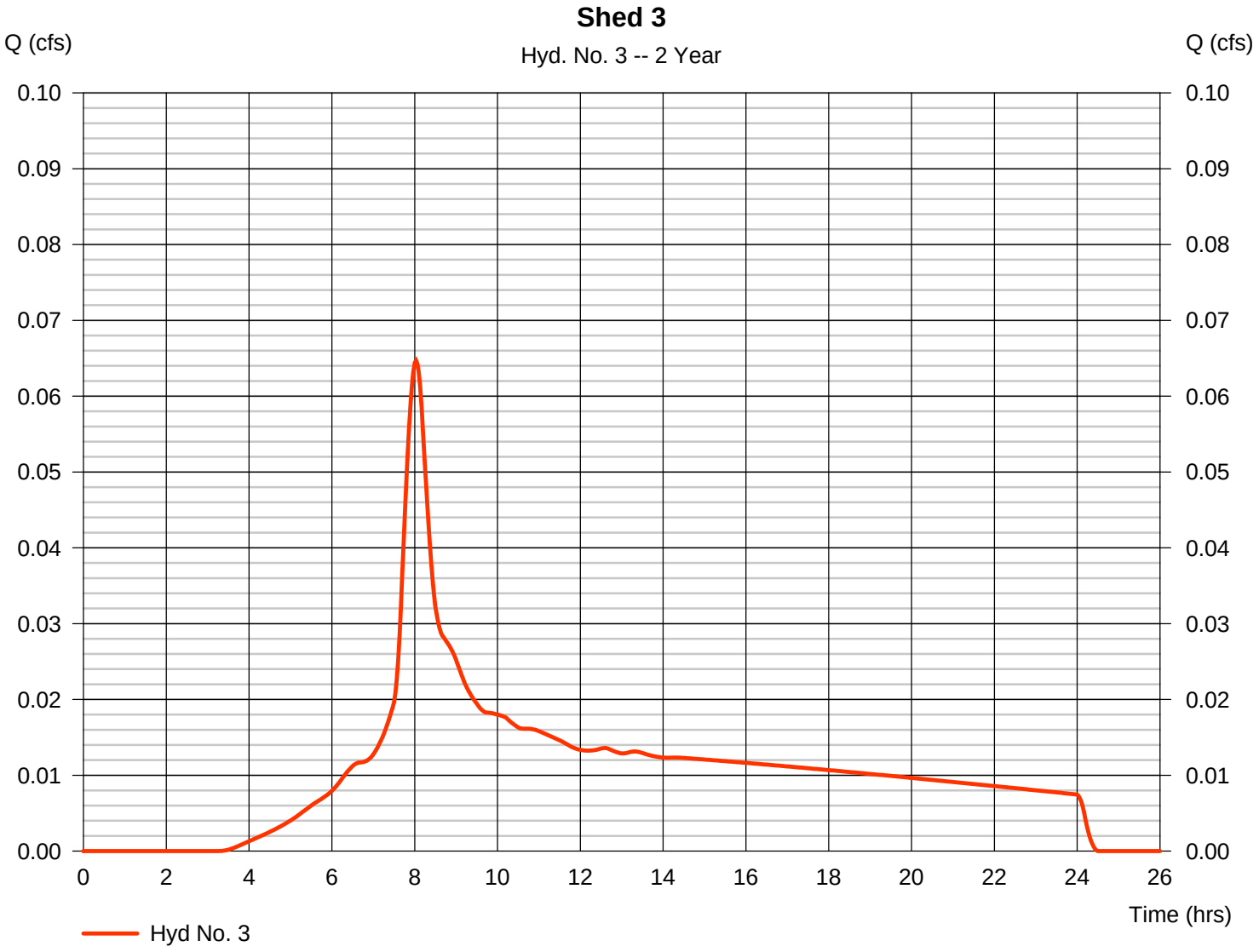
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.065 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	965 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



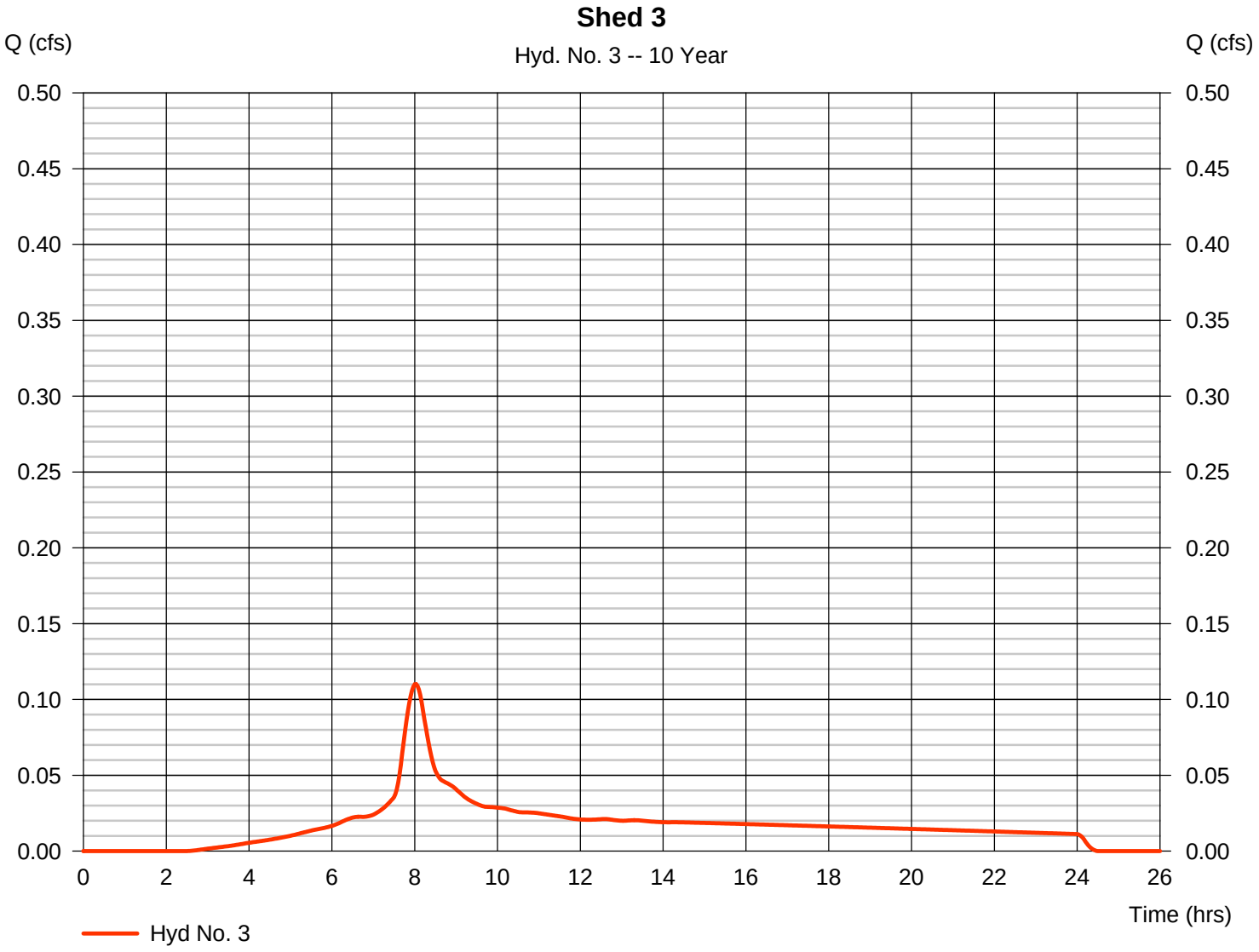
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.110 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,586 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



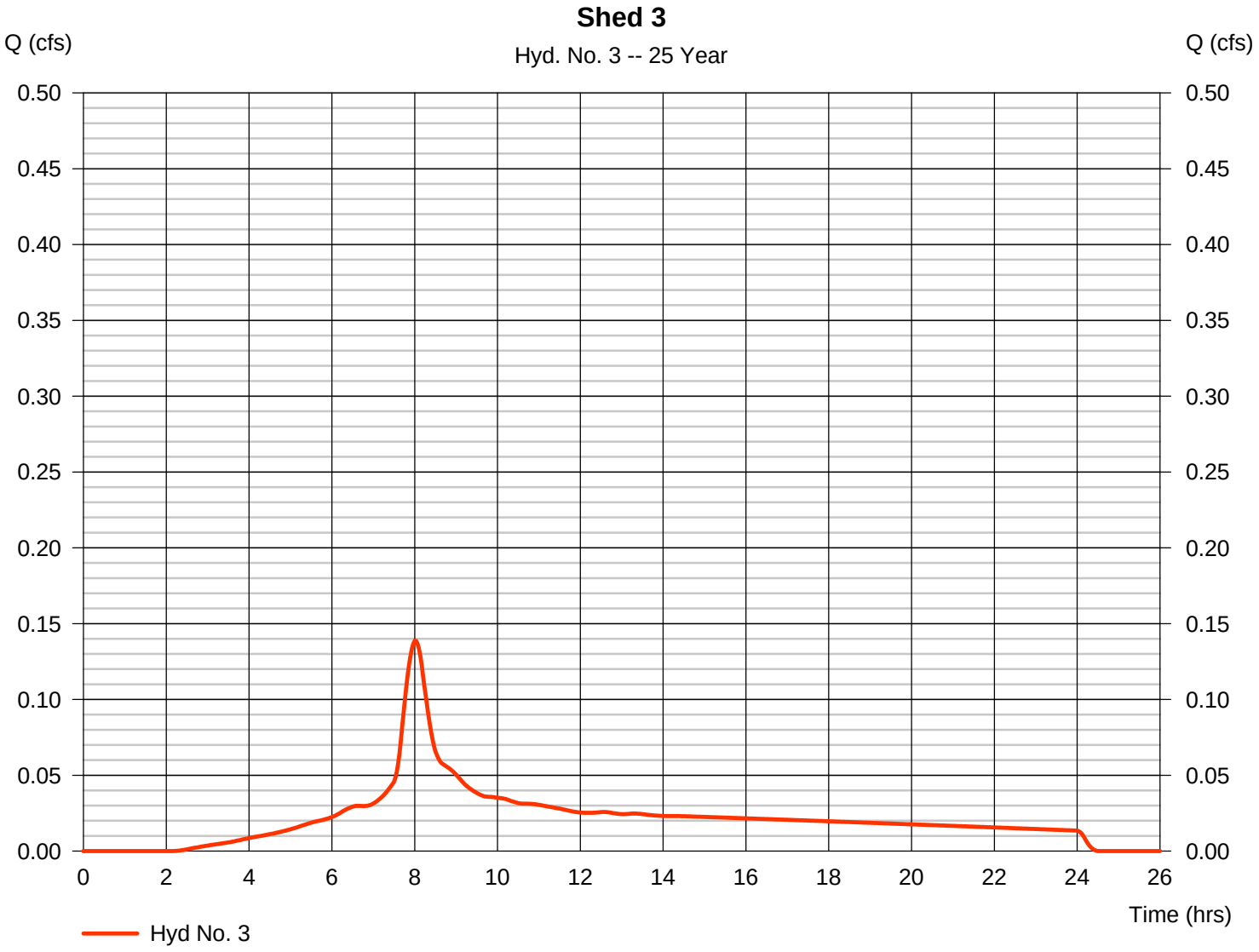
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	1,981 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



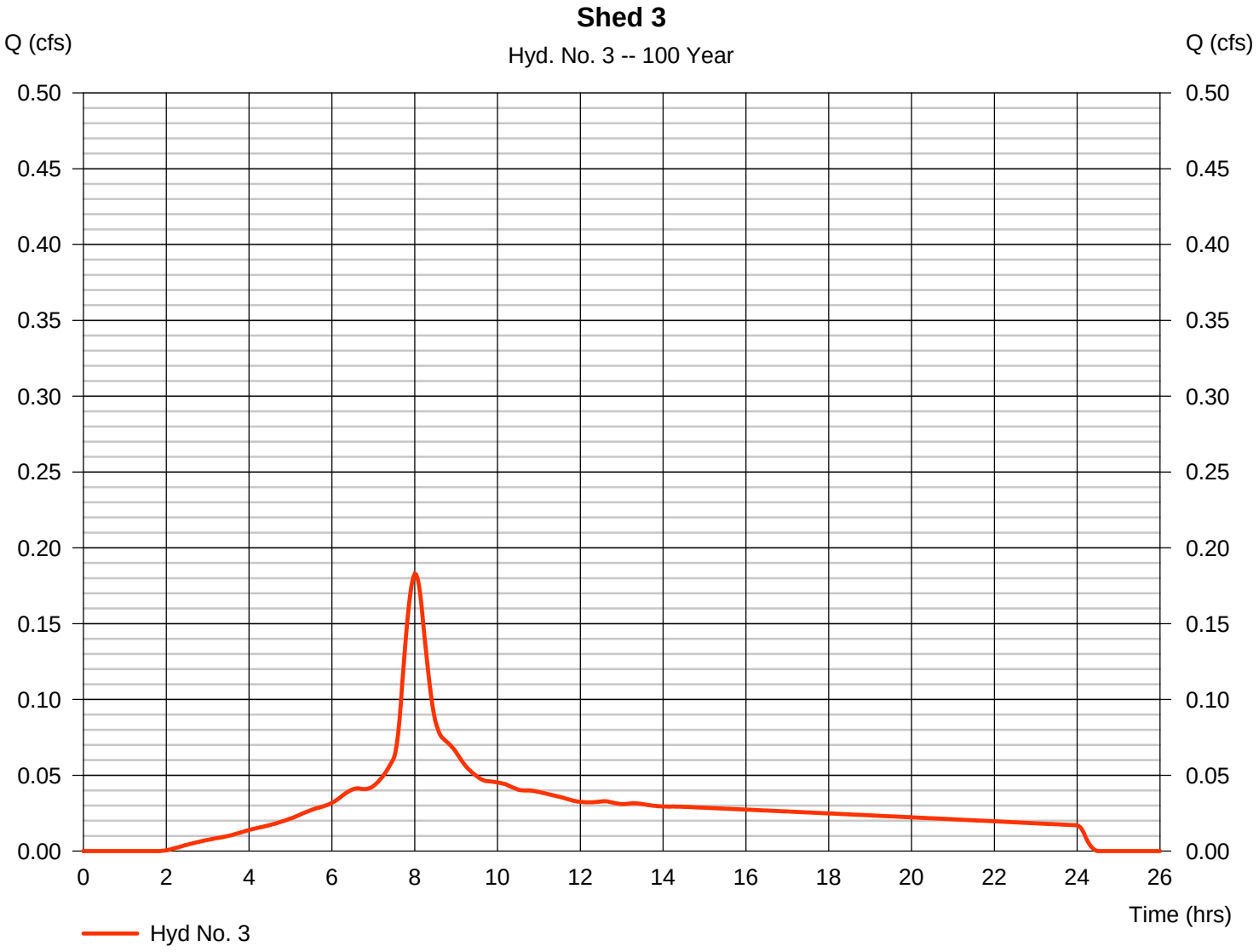
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.183 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	2,596 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



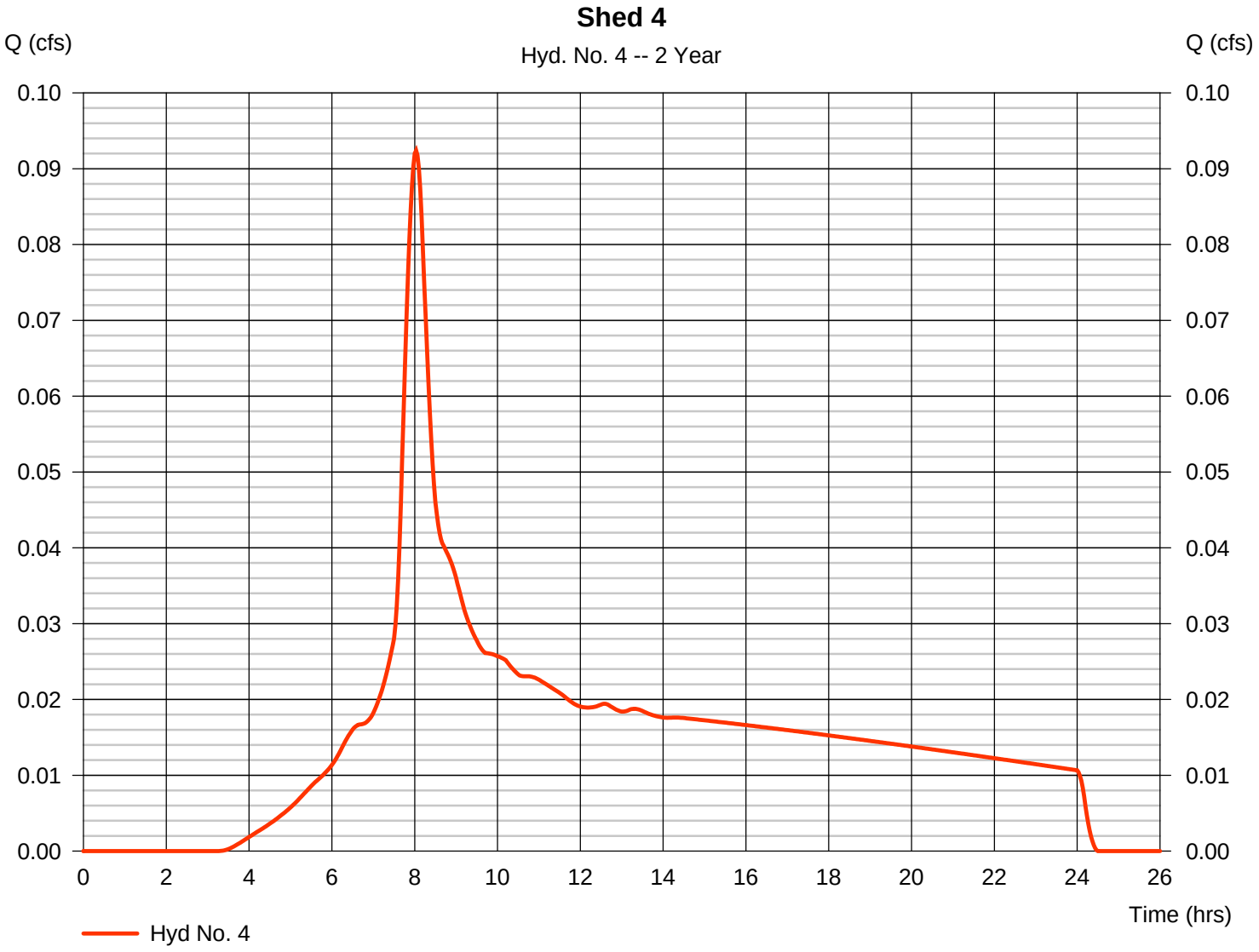
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.092 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 1,378 cuft
Drainage area	= 0.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



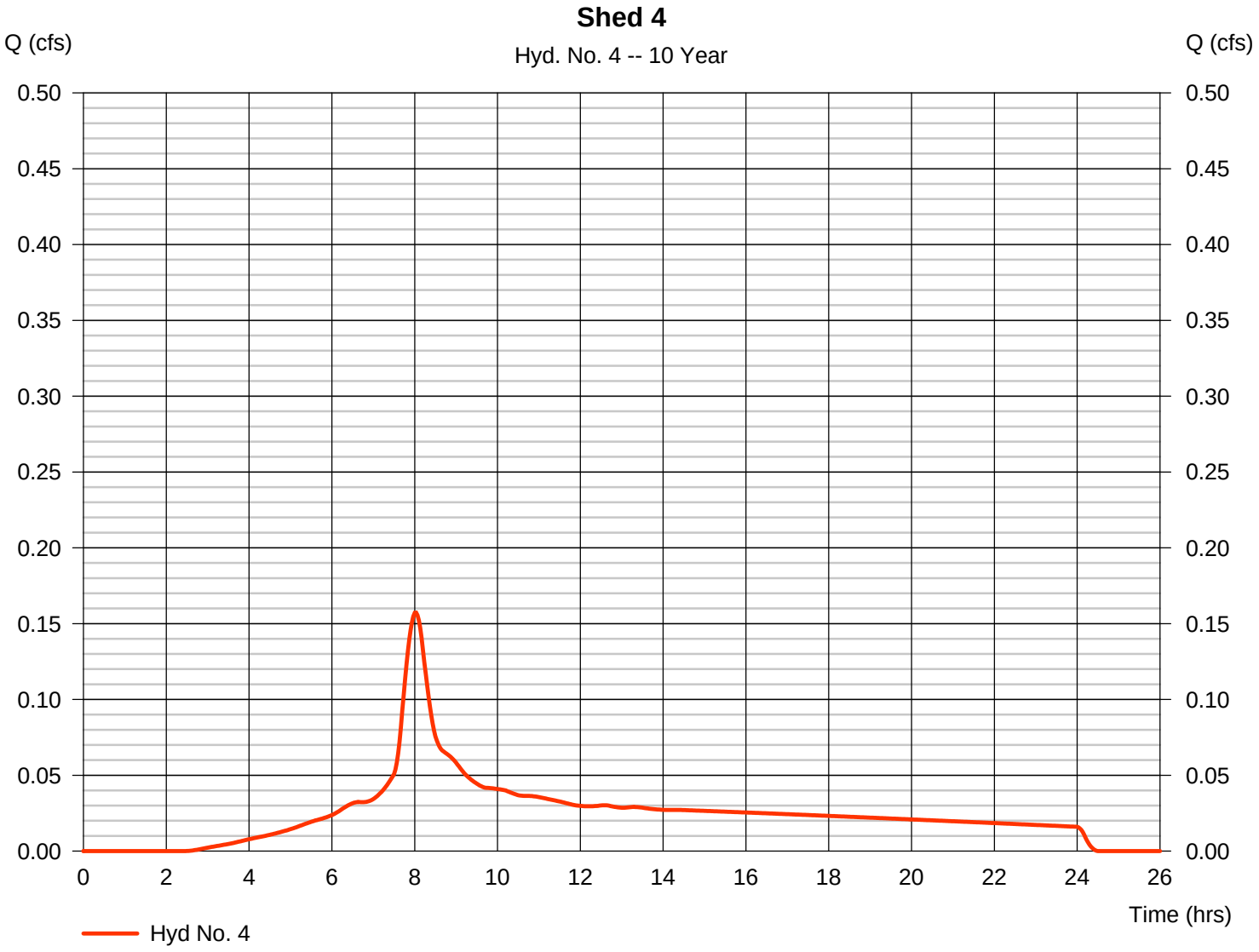
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.157 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 2,266 cuft
Drainage area	= 0.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.42 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



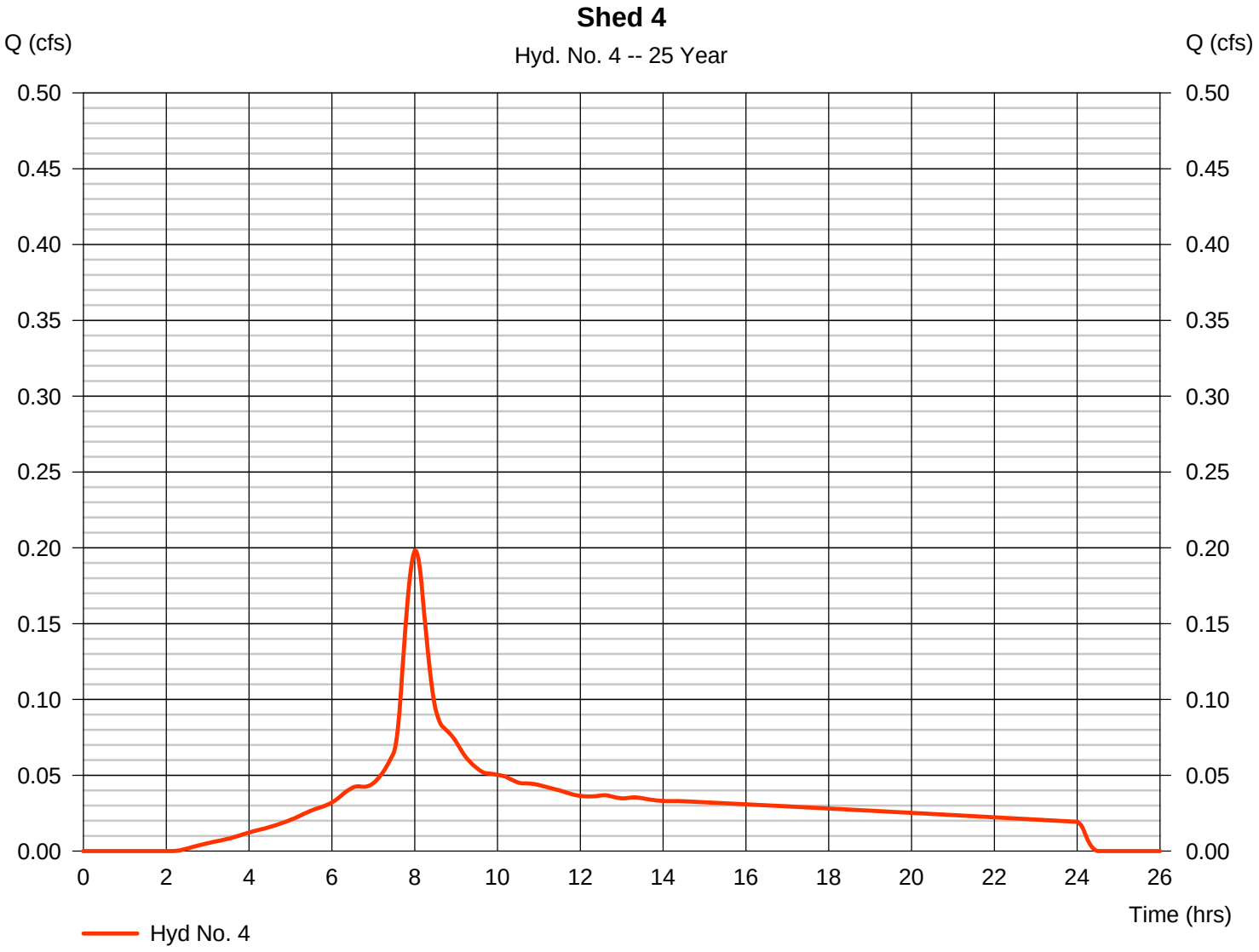
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.198 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	2,829 cuft
Drainage area	=	0.200 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



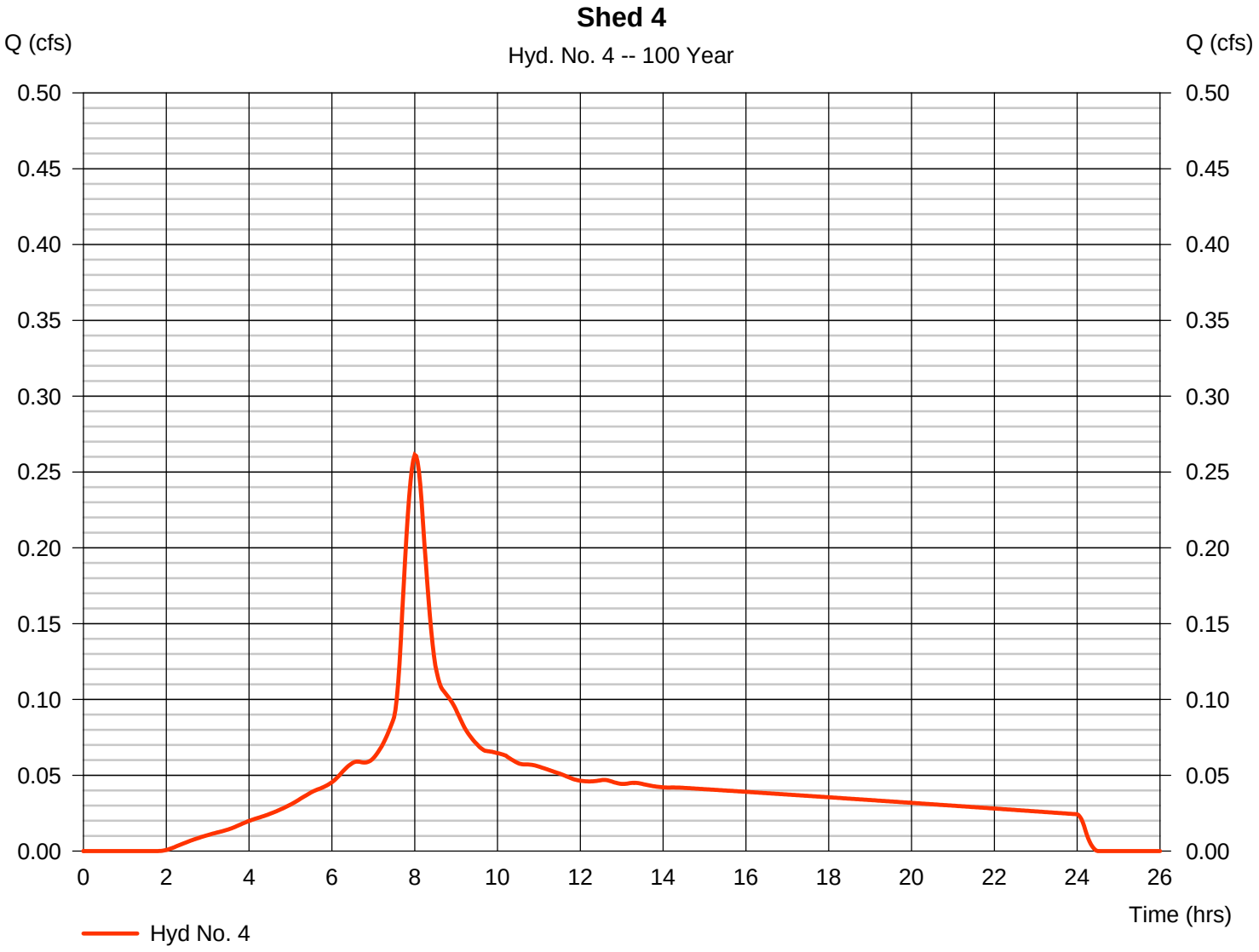
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.261 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 3,709 cuft
Drainage area	= 0.200 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



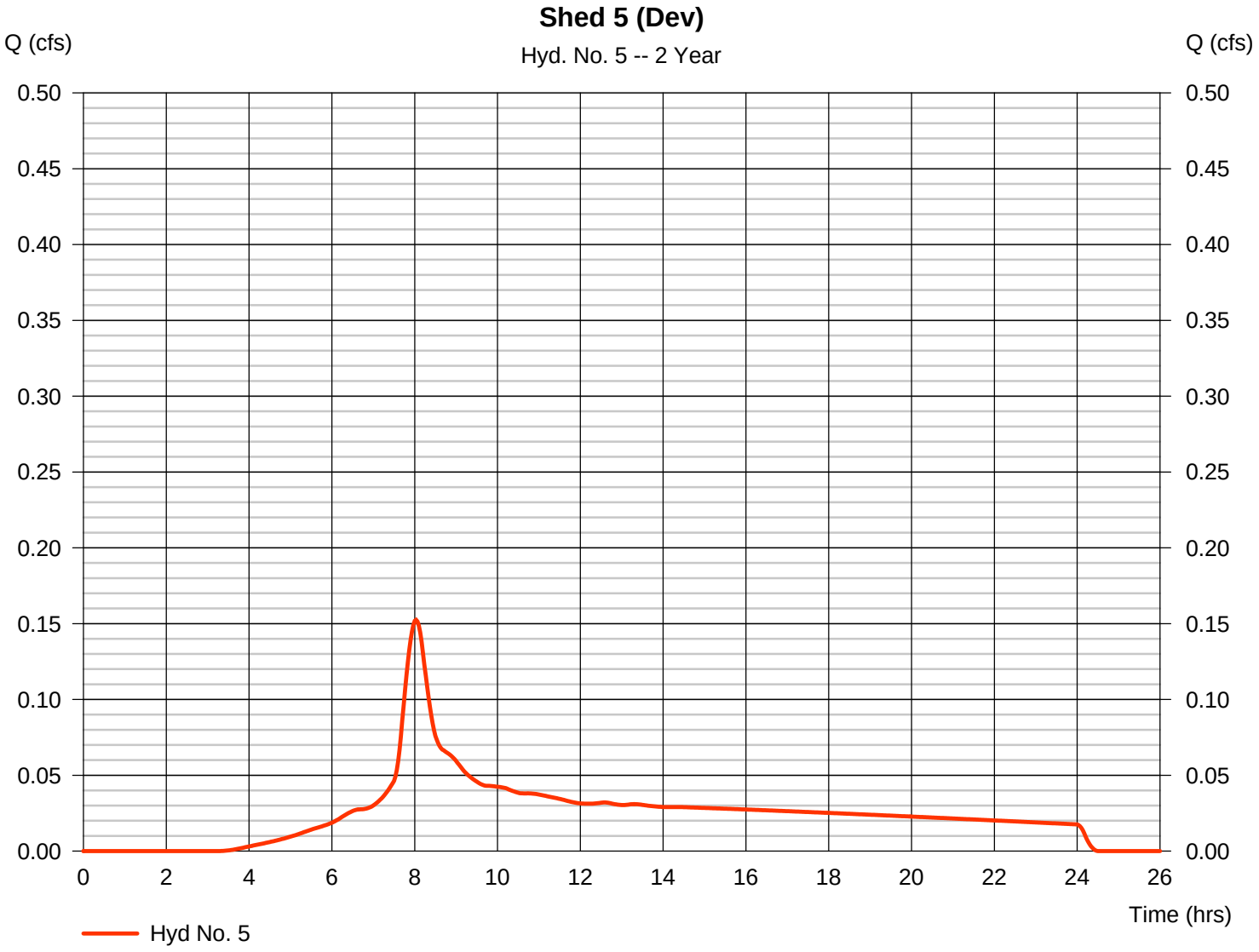
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.152 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,274 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



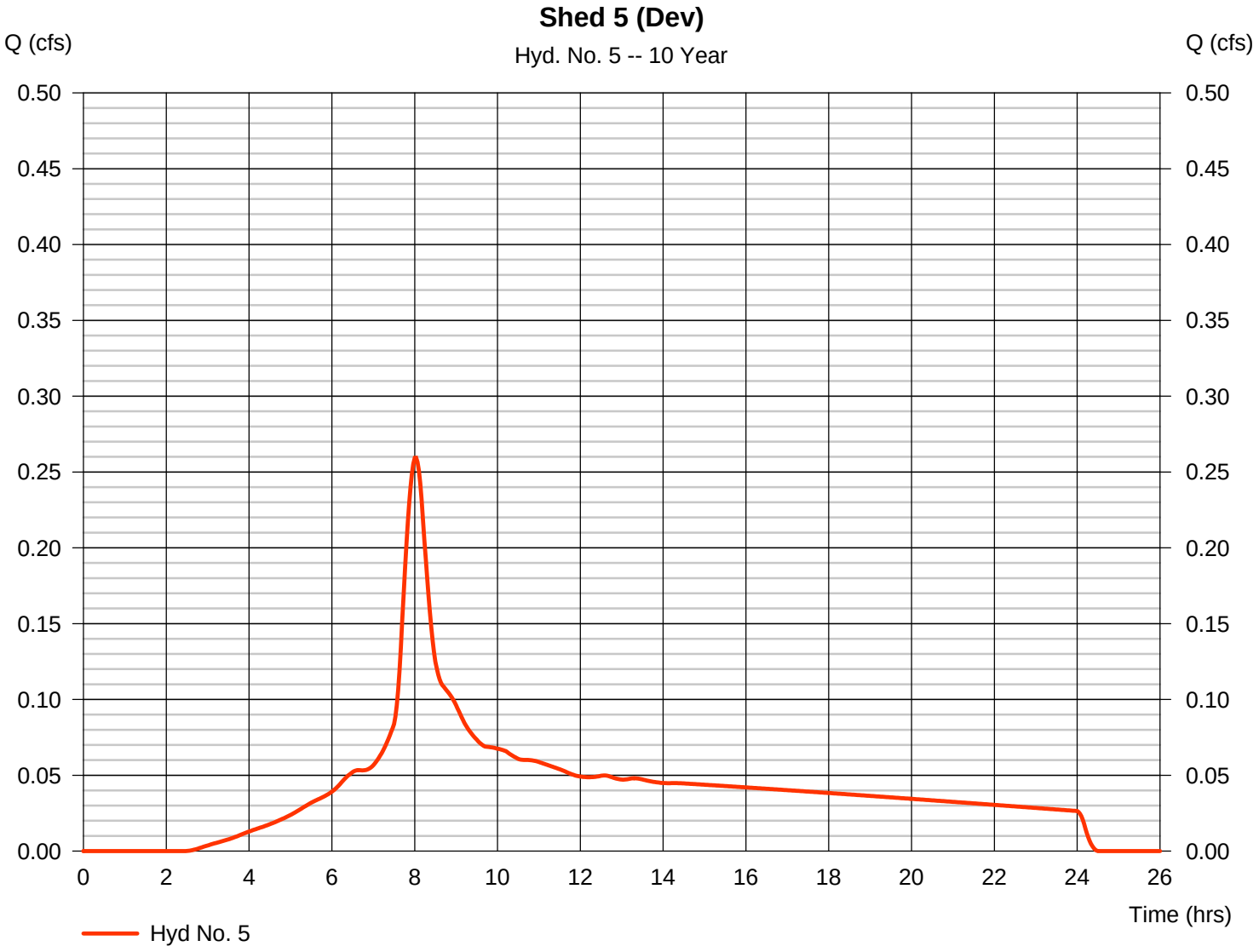
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.259 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,739 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



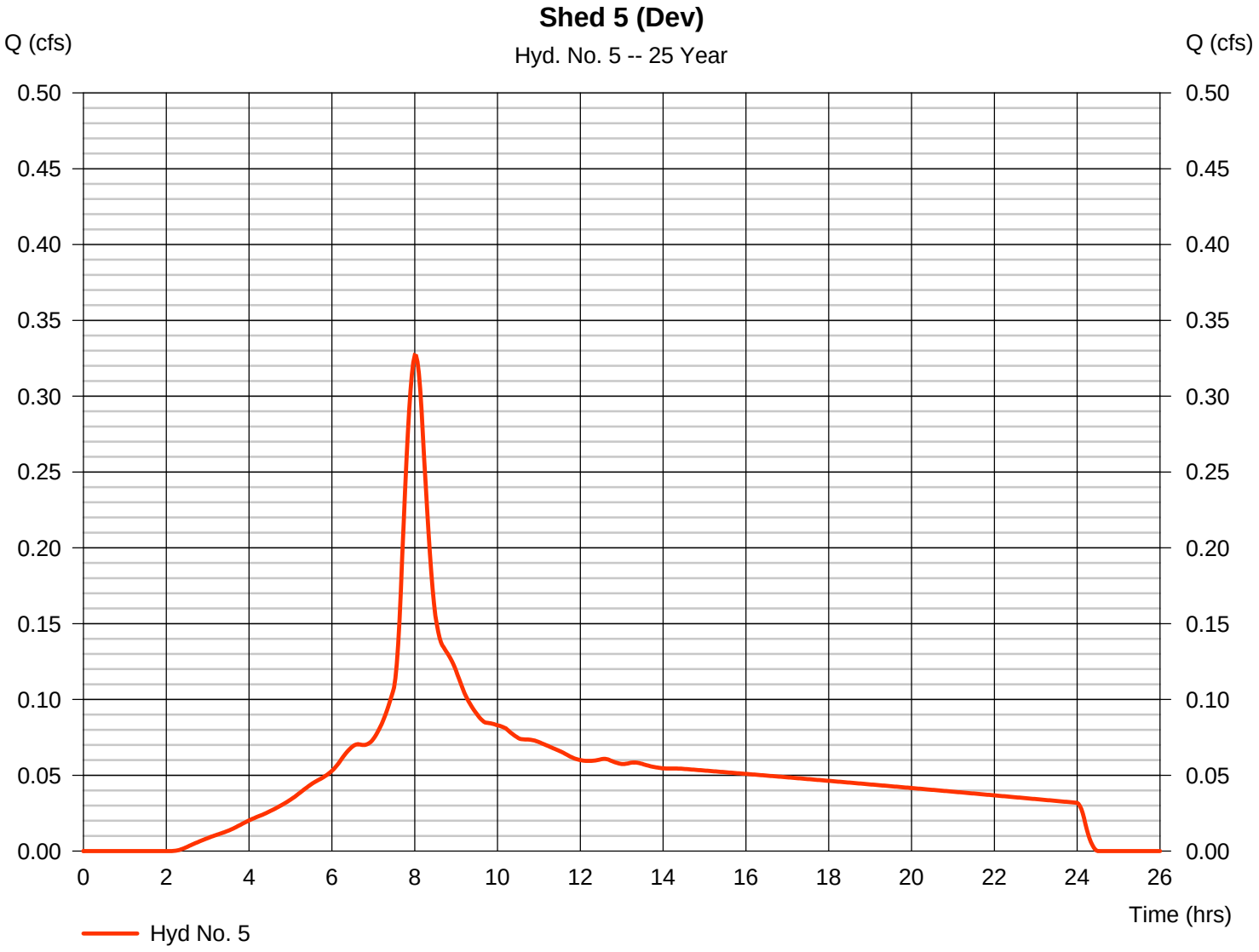
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.327 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,669 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



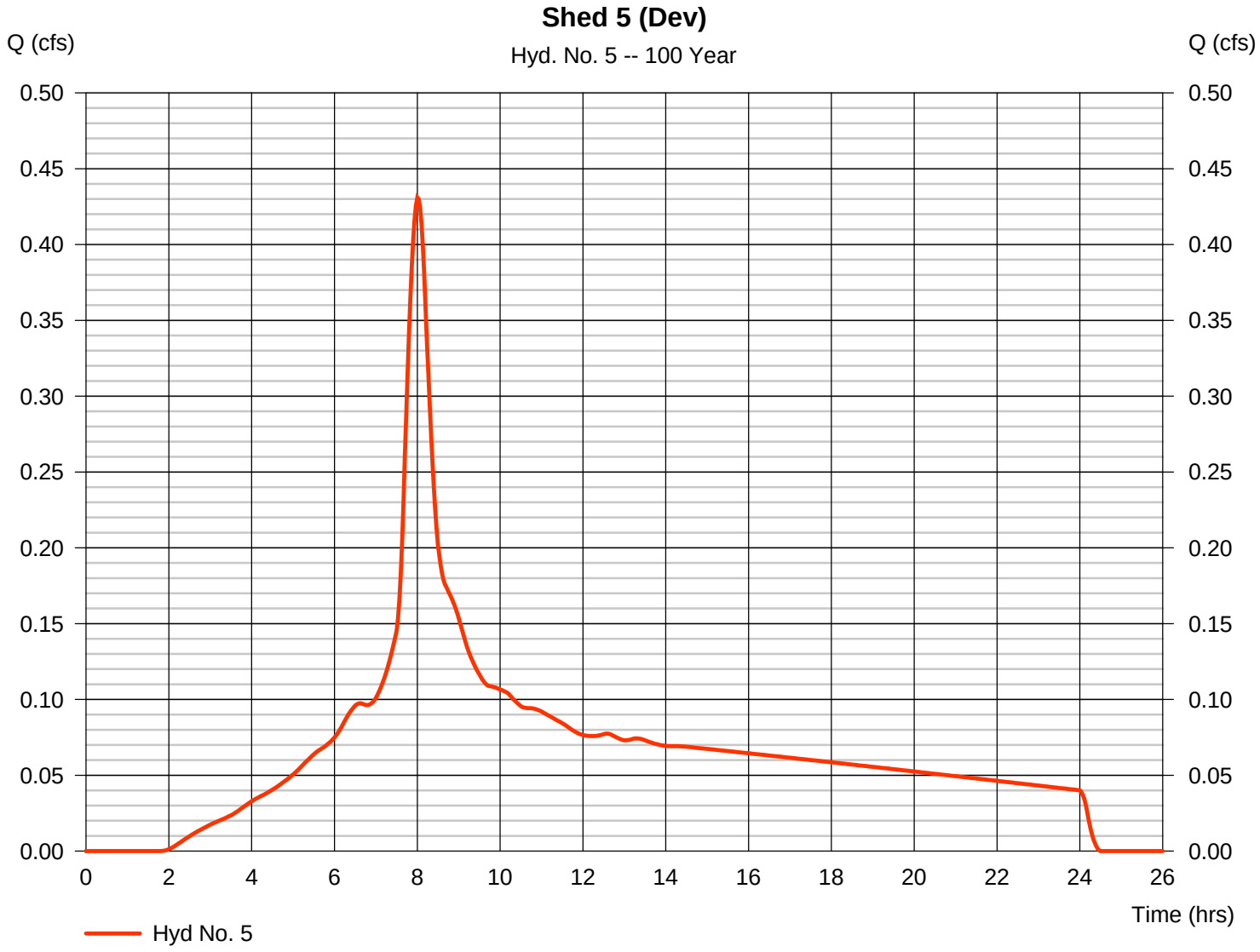
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.431 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	6,120 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



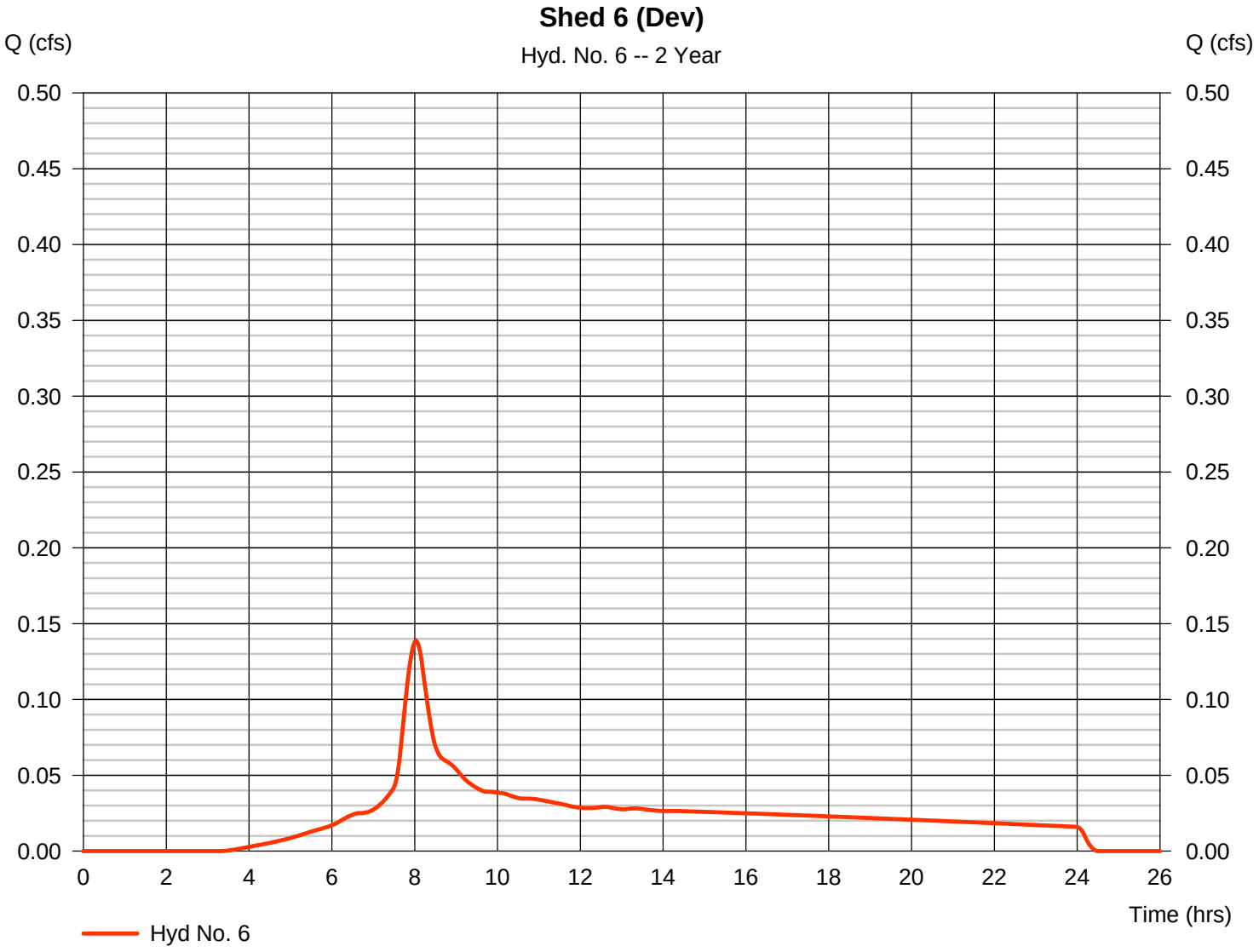
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,067 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



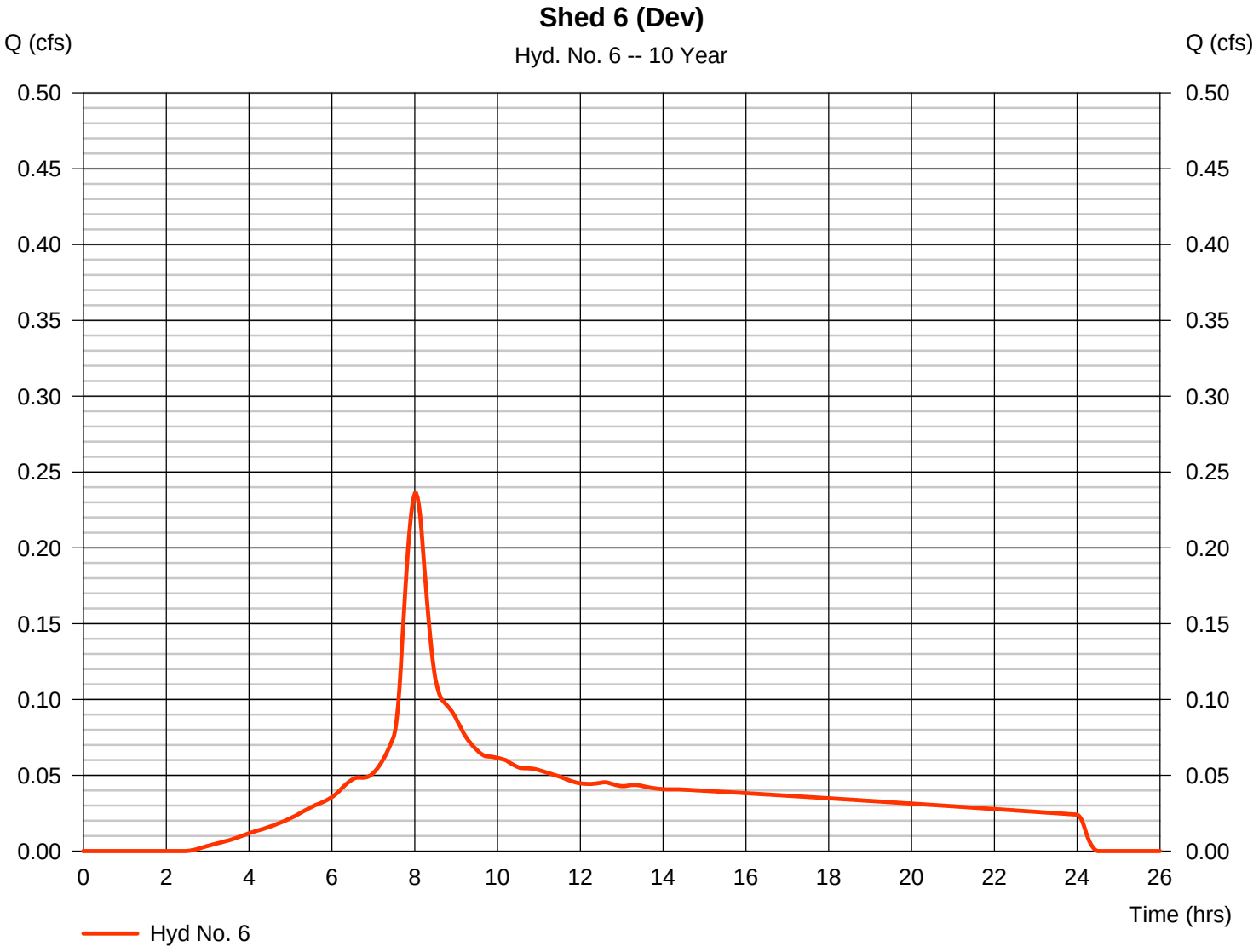
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.236 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,399 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



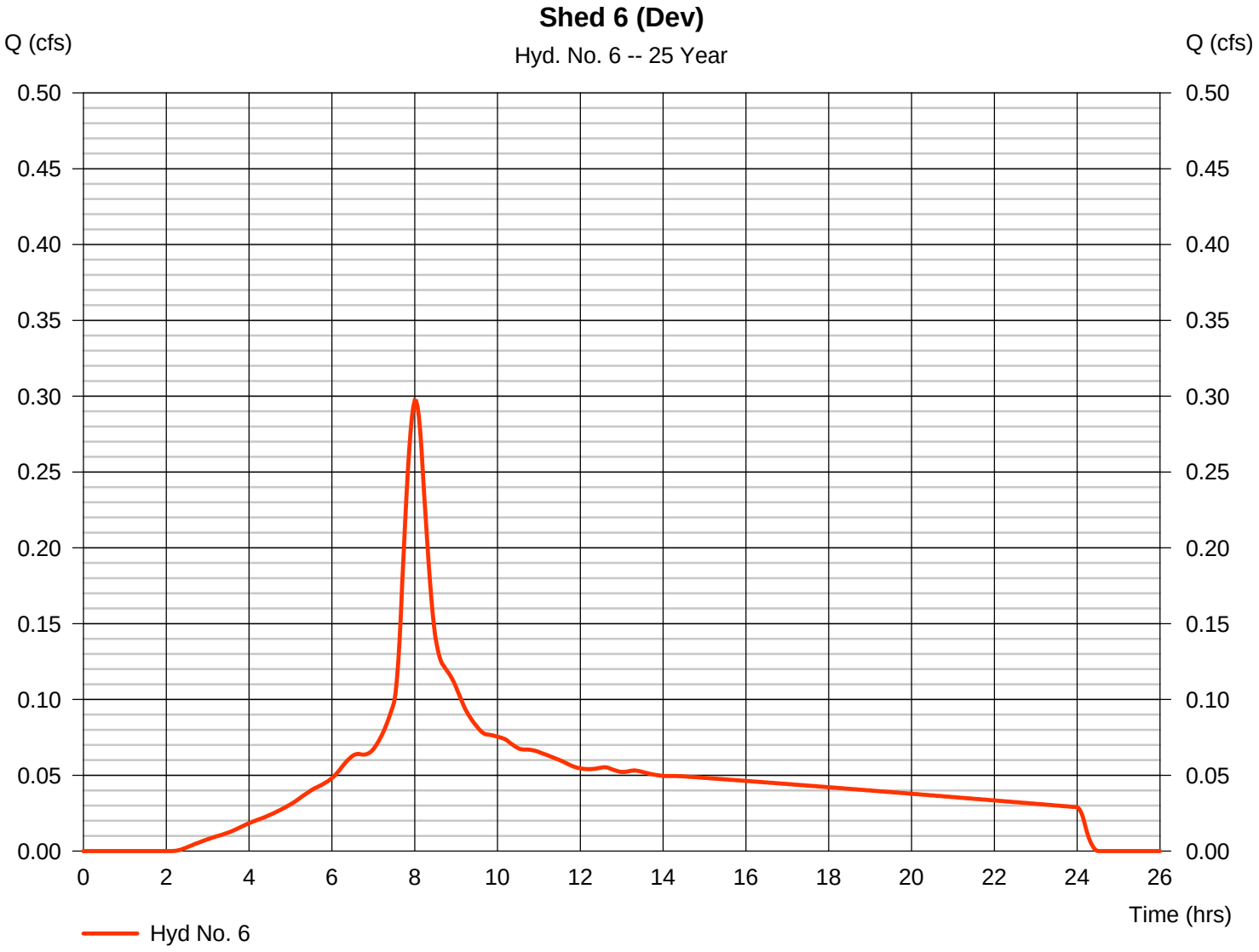
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.297 cfs
Storm frequency	= 25 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 4,244 cuft
Drainage area	= 0.300 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 5.24 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



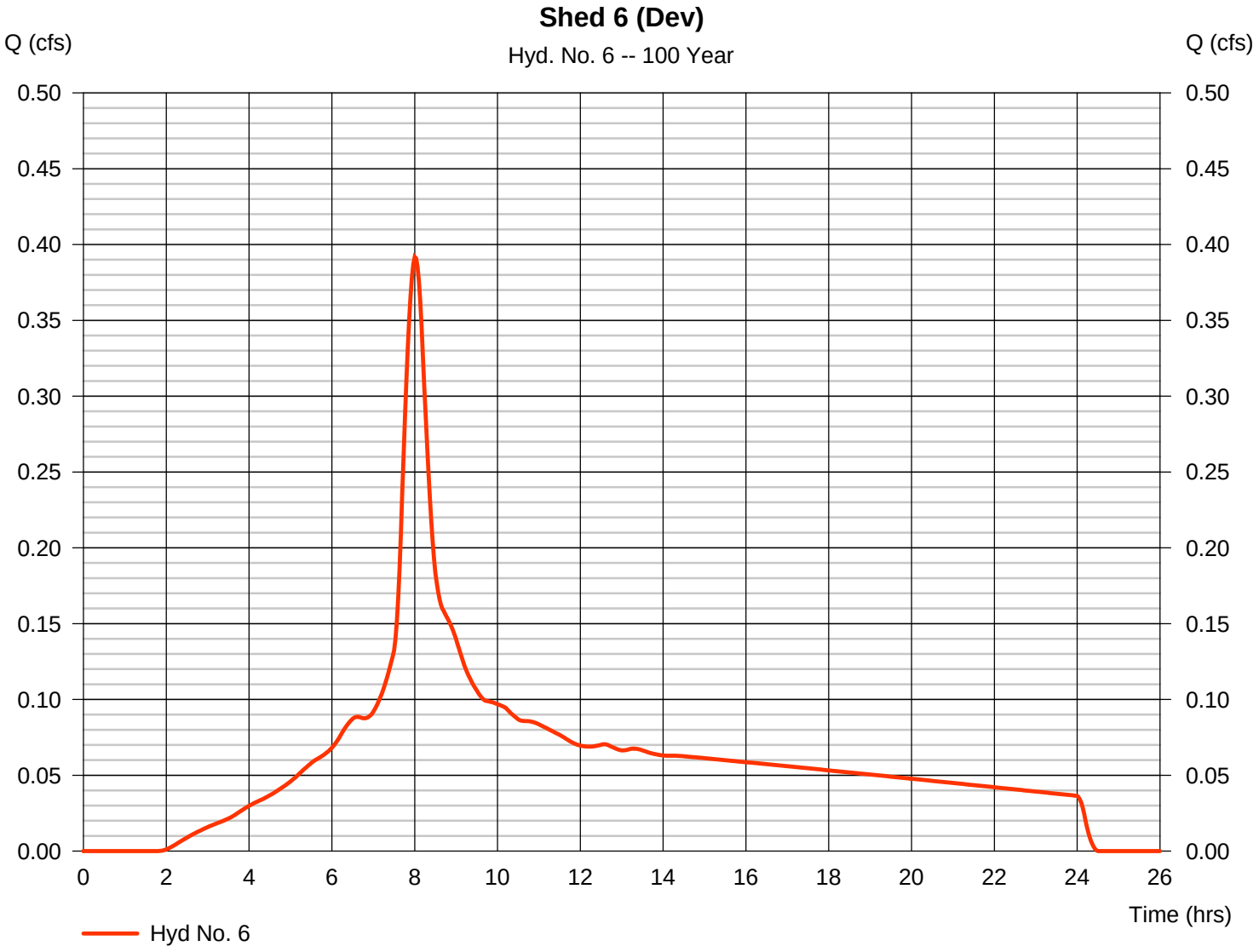
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.392 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	5,563 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



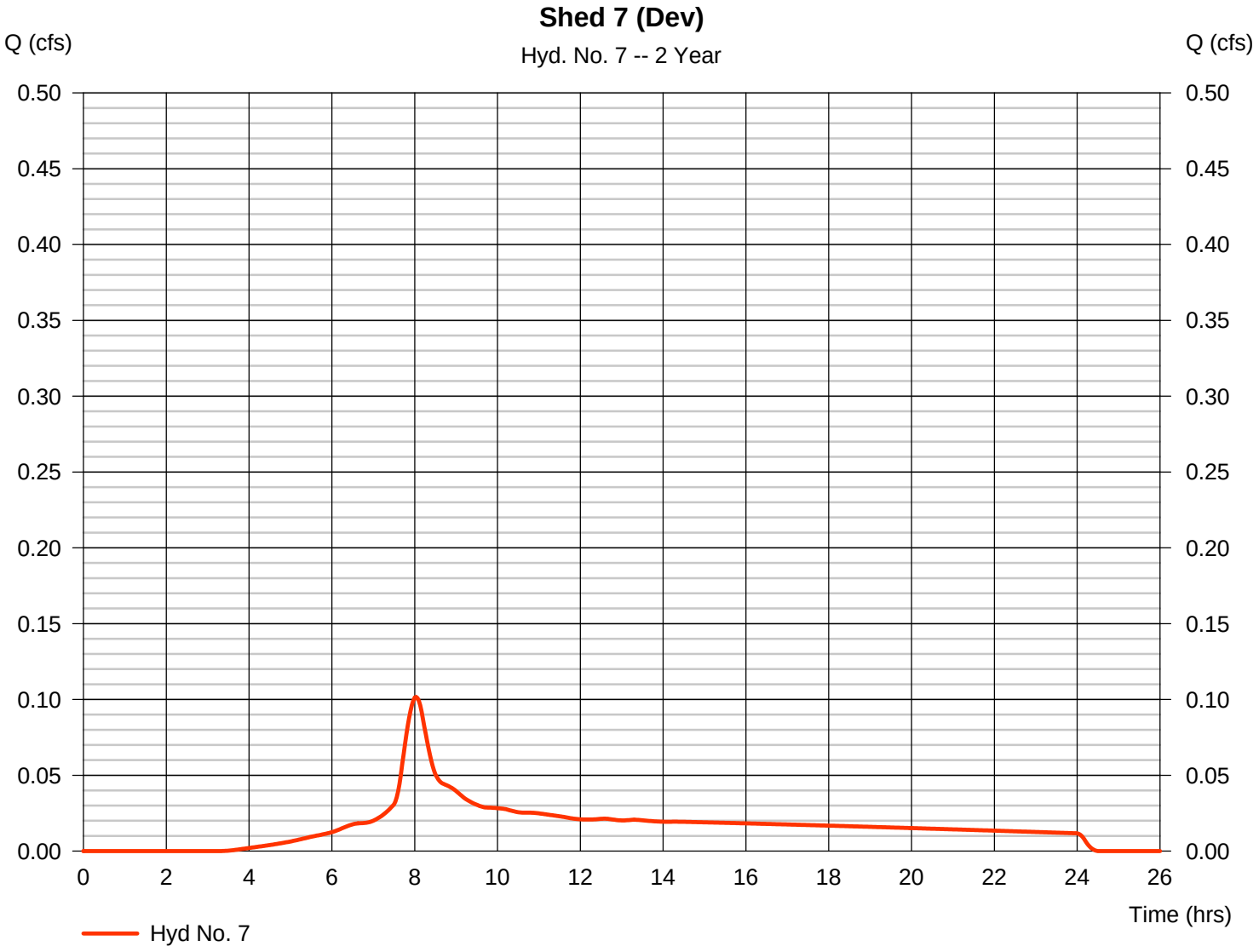
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.102 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,516 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



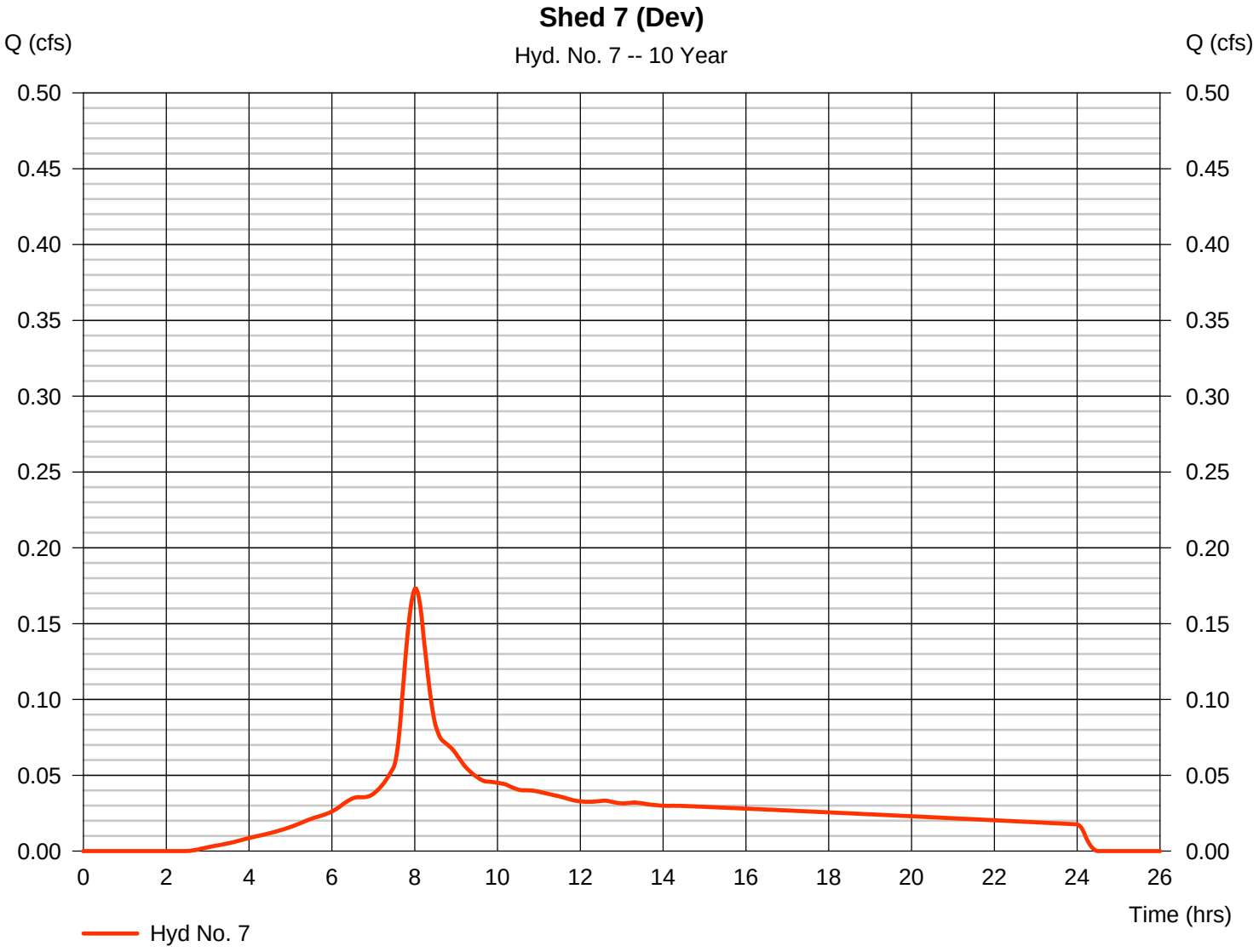
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.173 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,492 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



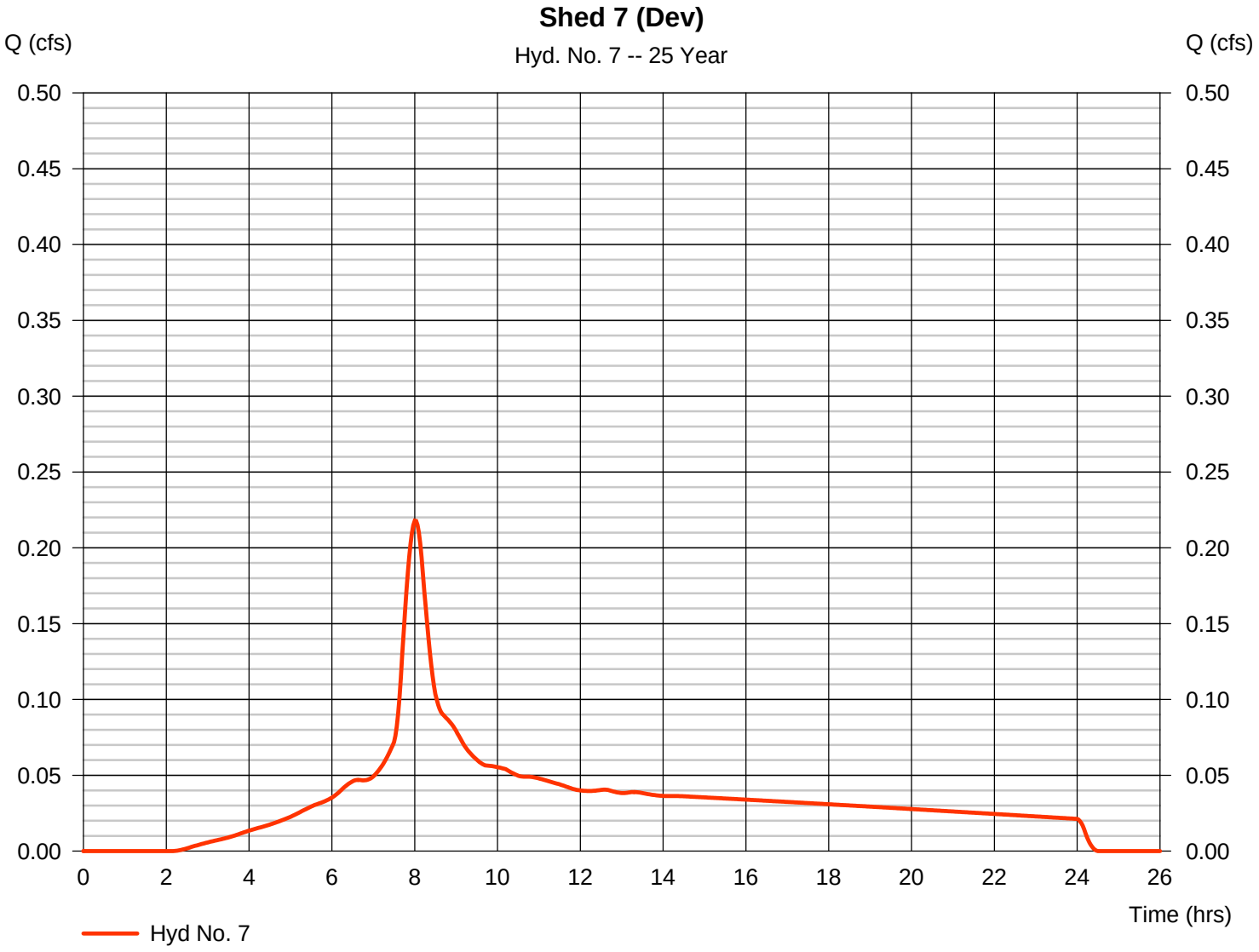
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.218 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	3,112 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



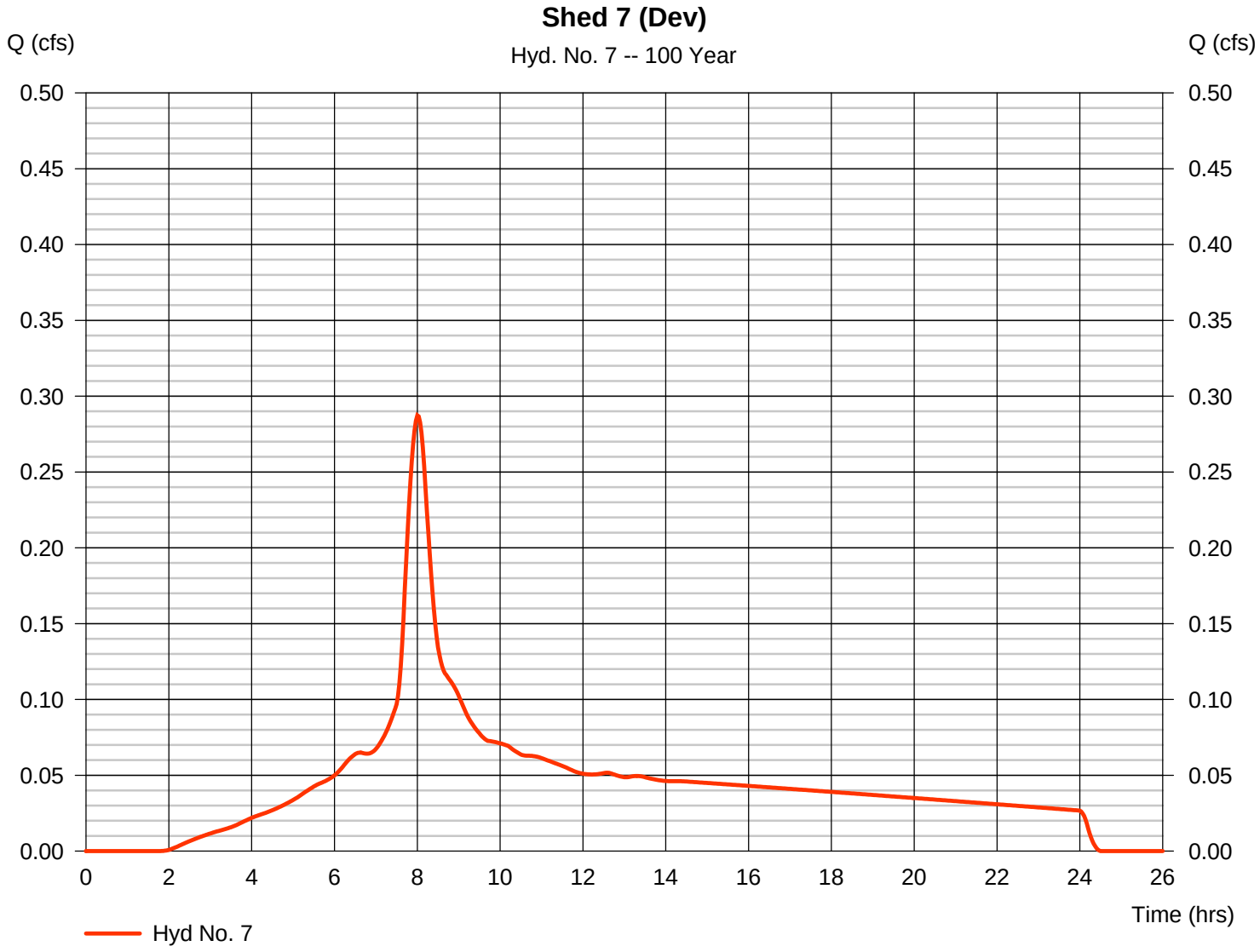
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.287 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,080 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



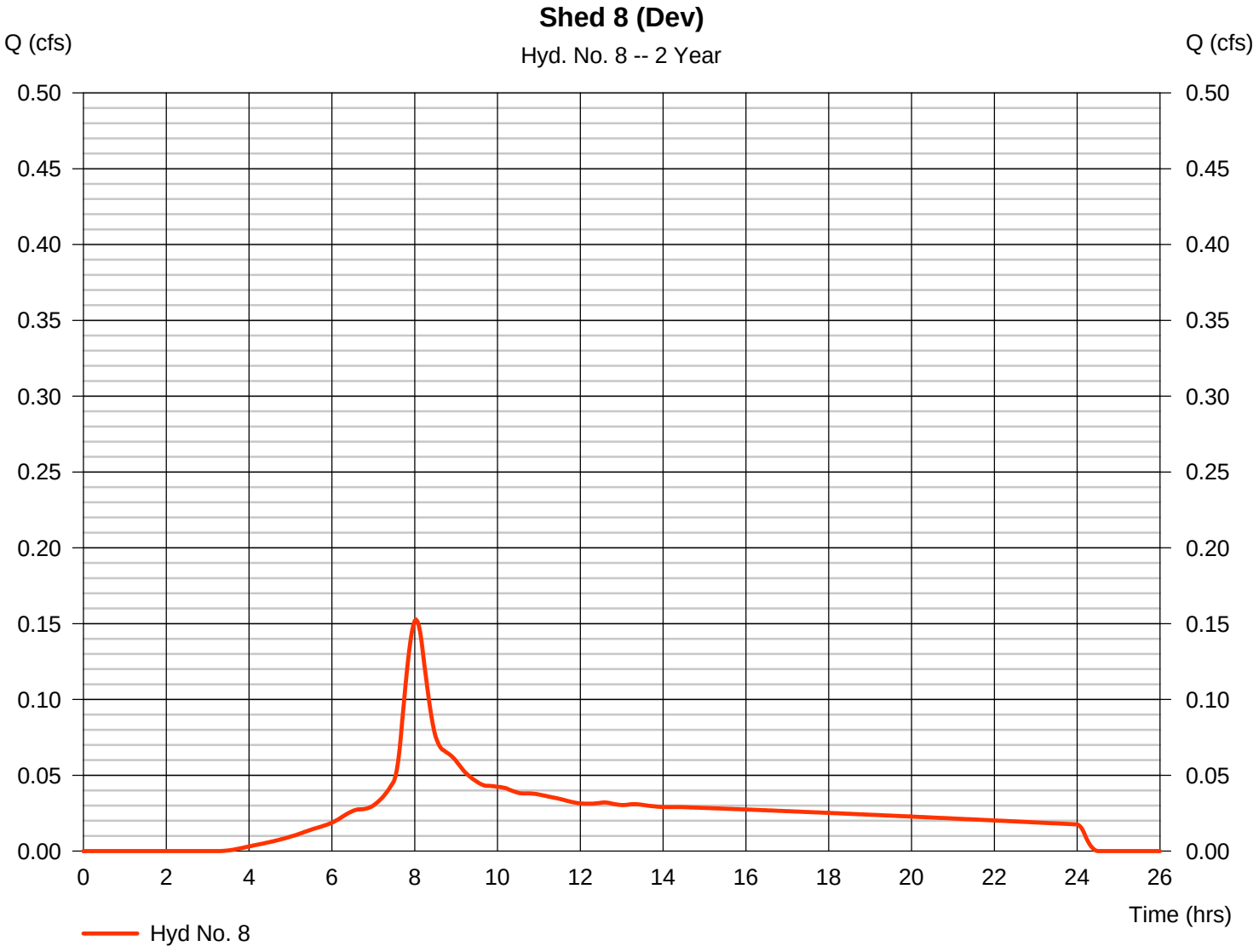
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.152 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 2,274 cuft
Drainage area	= 0.330 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



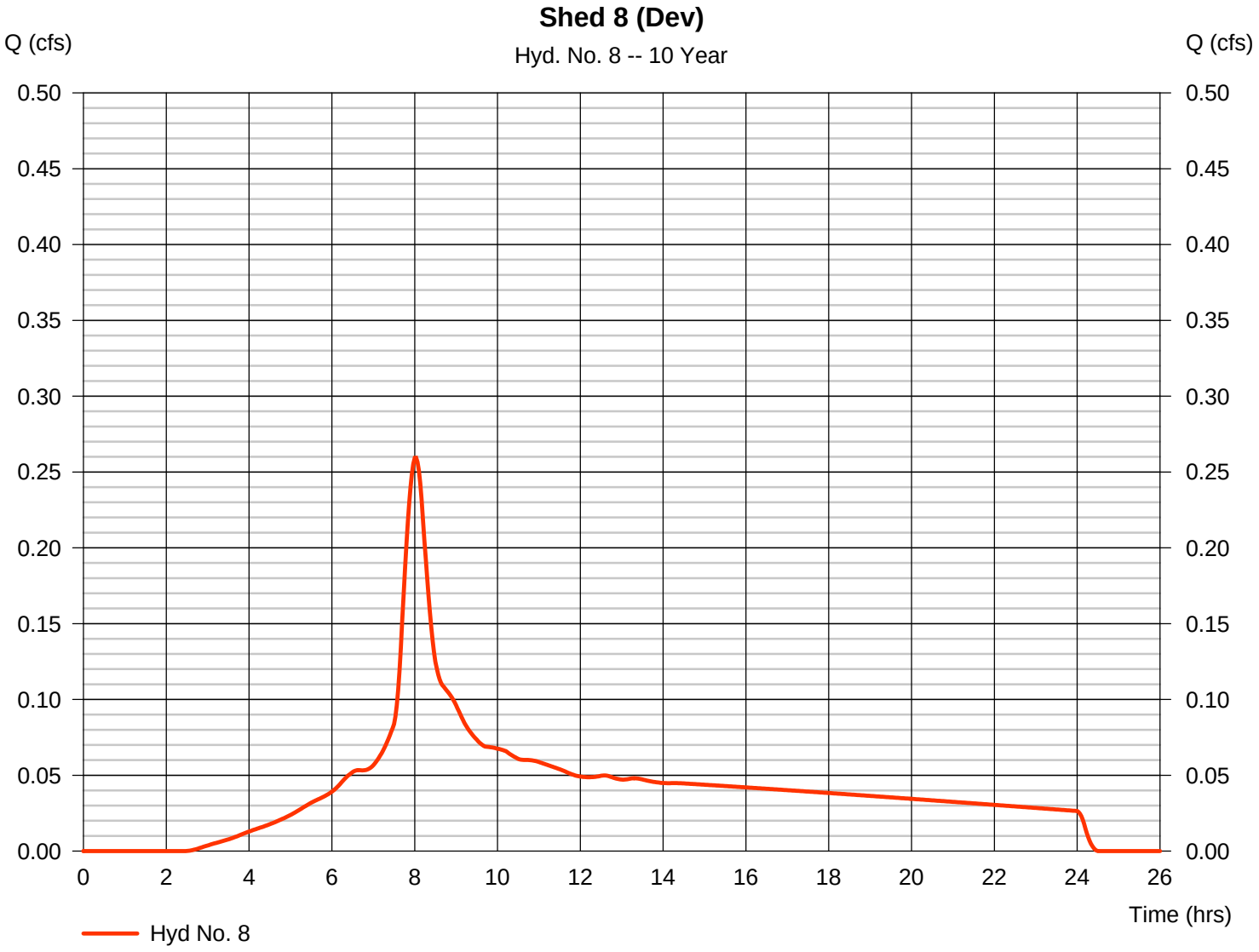
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.259 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 3,739 cuft
Drainage area	= 0.330 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.42 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



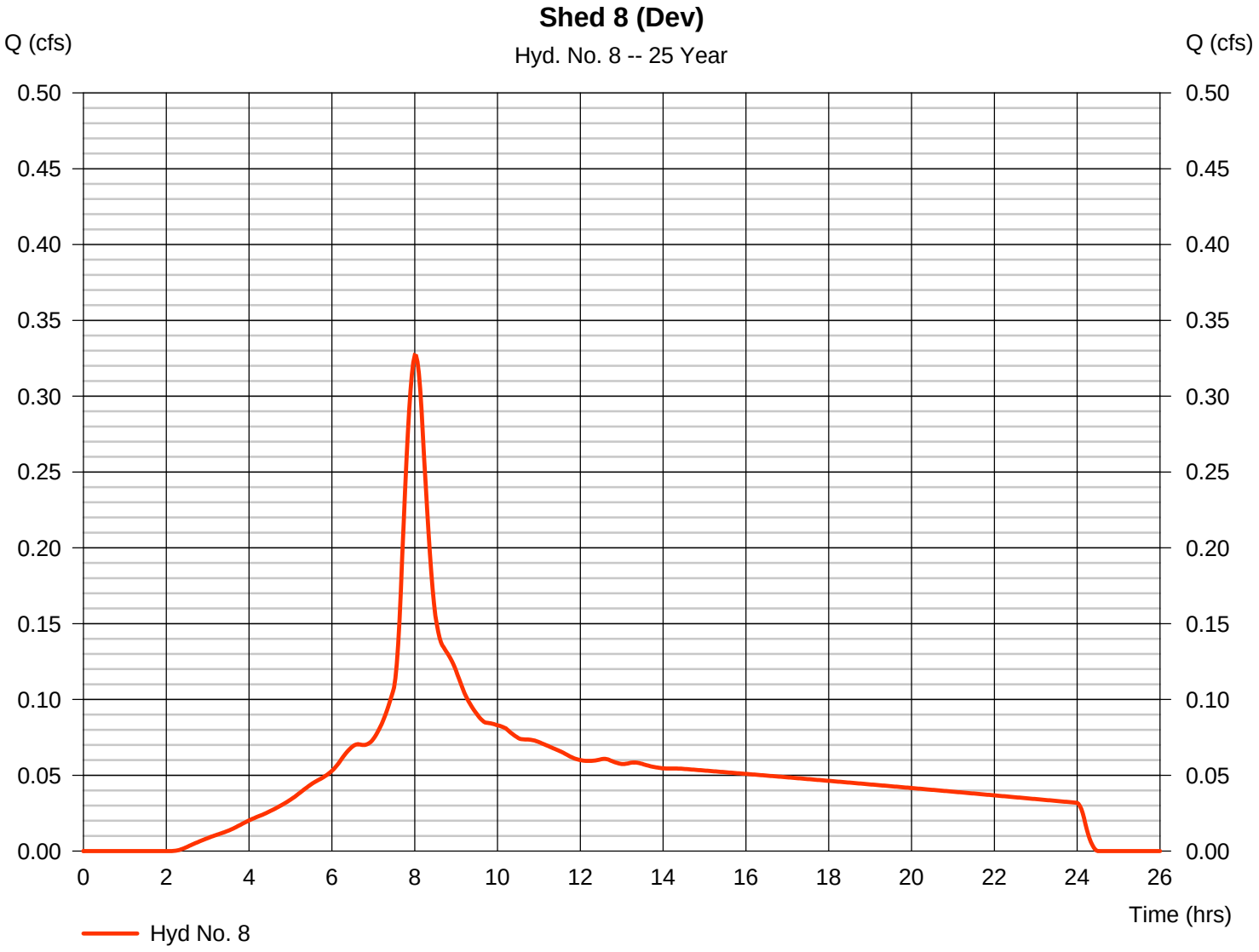
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.327 cfs
Storm frequency	= 25 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 4,669 cuft
Drainage area	= 0.330 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 5.24 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



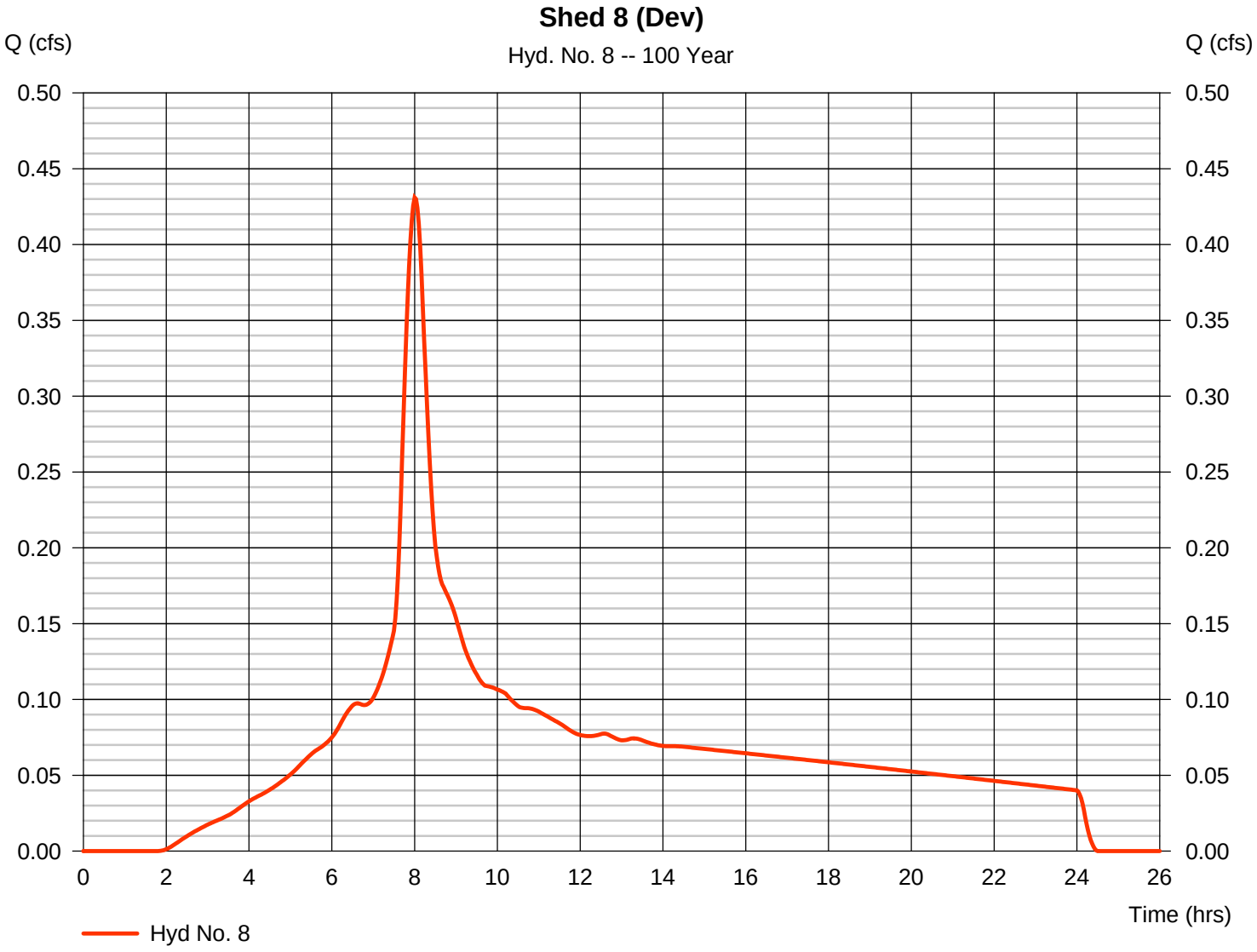
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.431 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 6,120 cuft
Drainage area	= 0.330 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



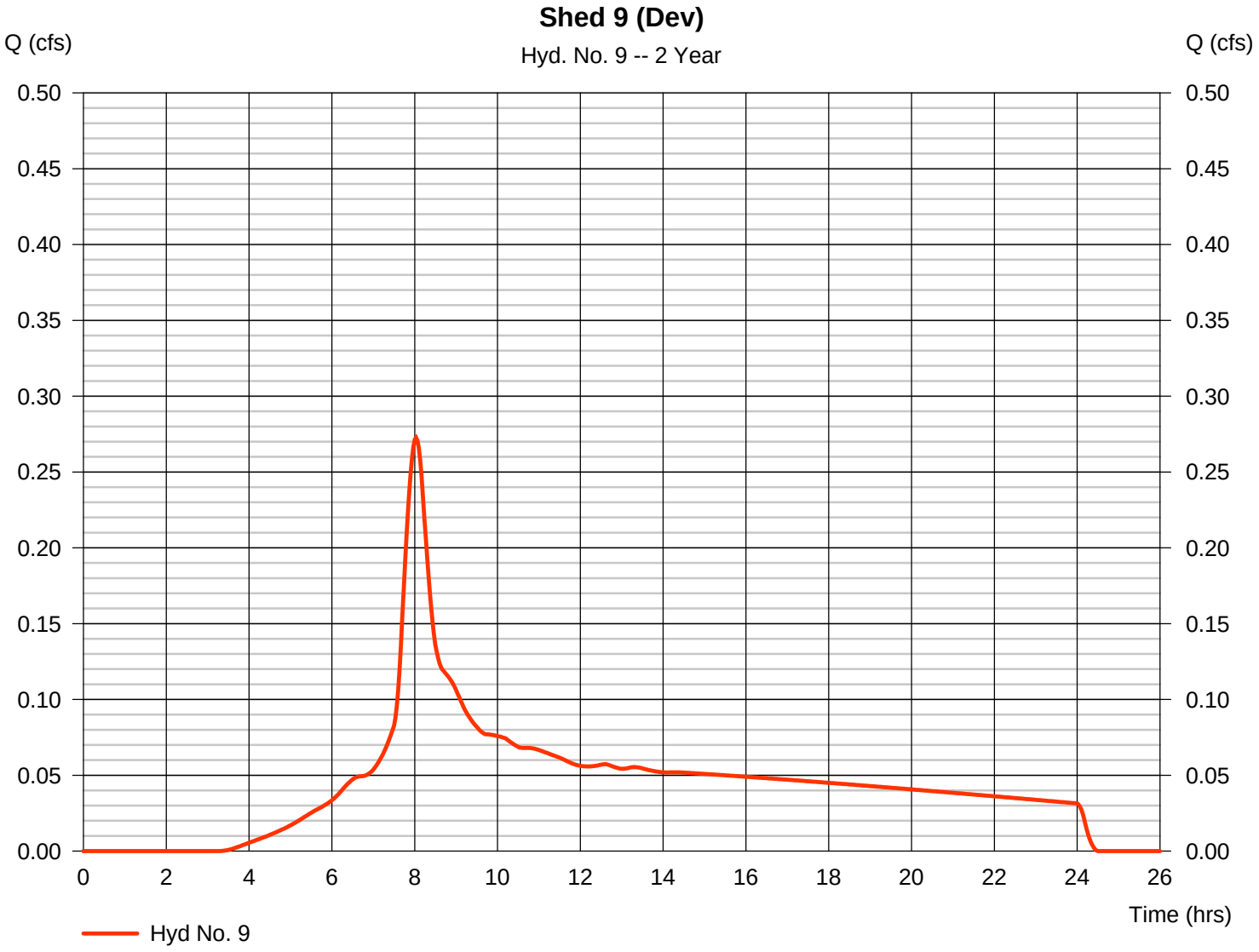
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.273 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 4,066 cuft
Drainage area	= 0.590 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



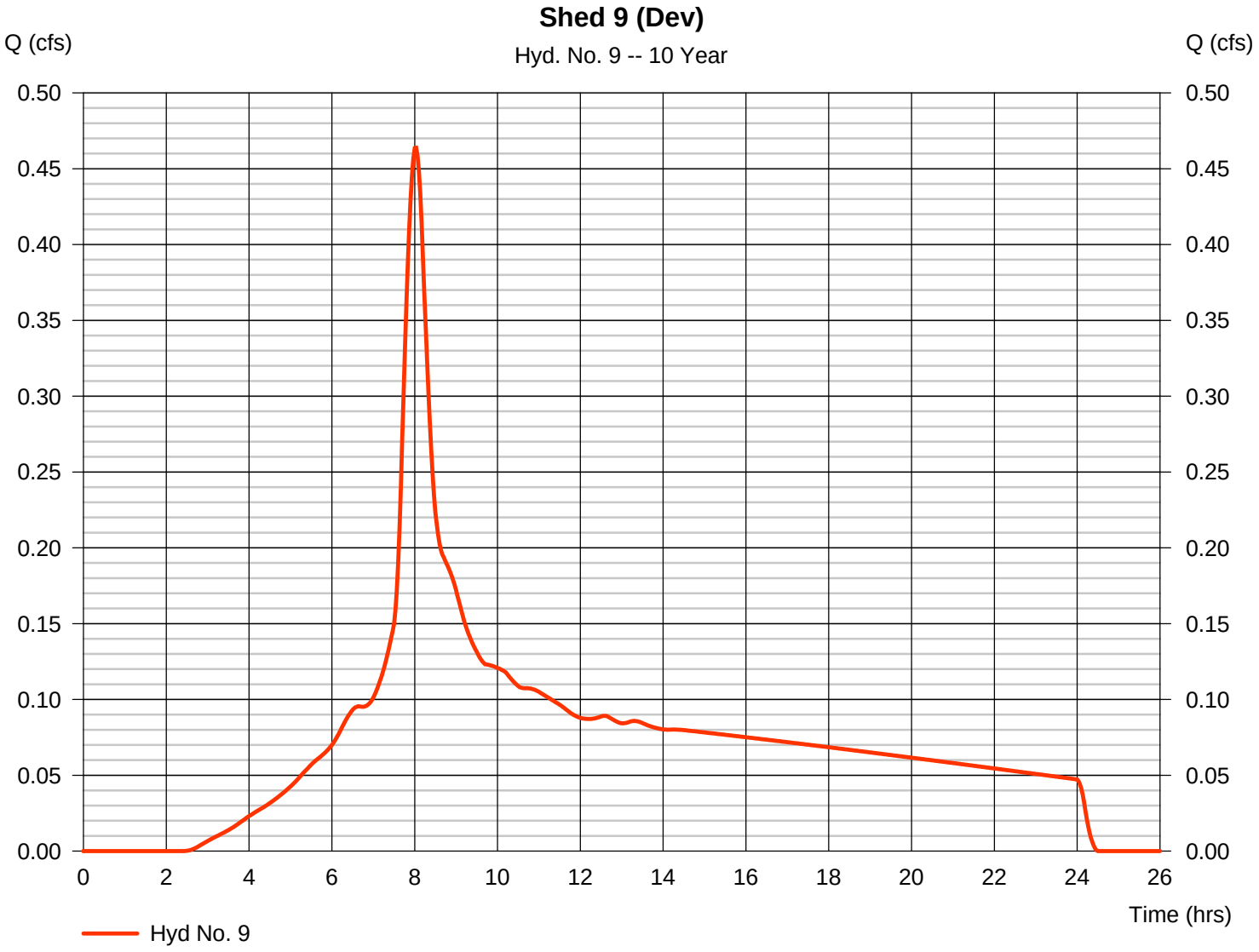
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.464 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	6,684 cuft
Drainage area	=	0.590 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



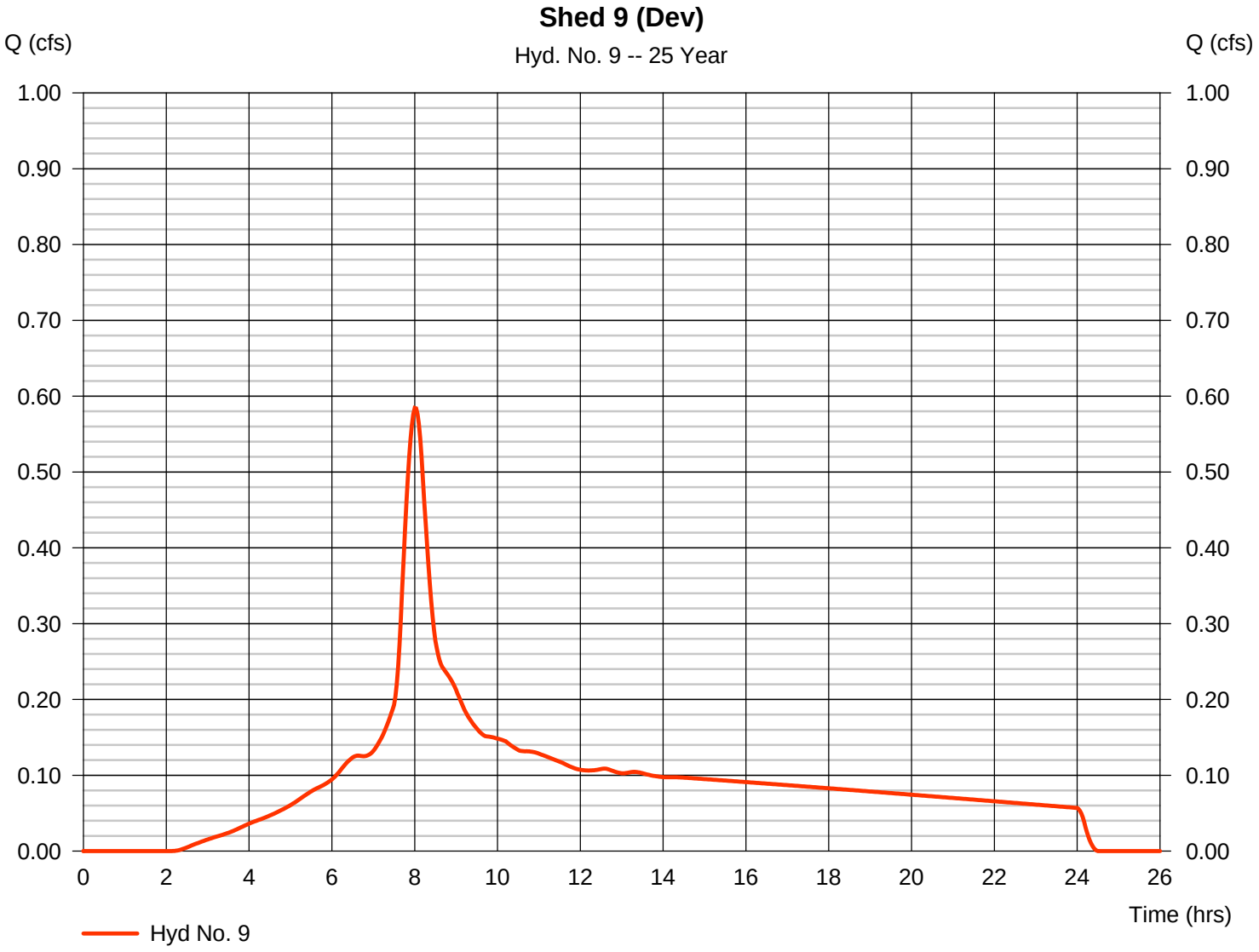
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.584 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	8,347 cuft
Drainage area	=	0.590 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



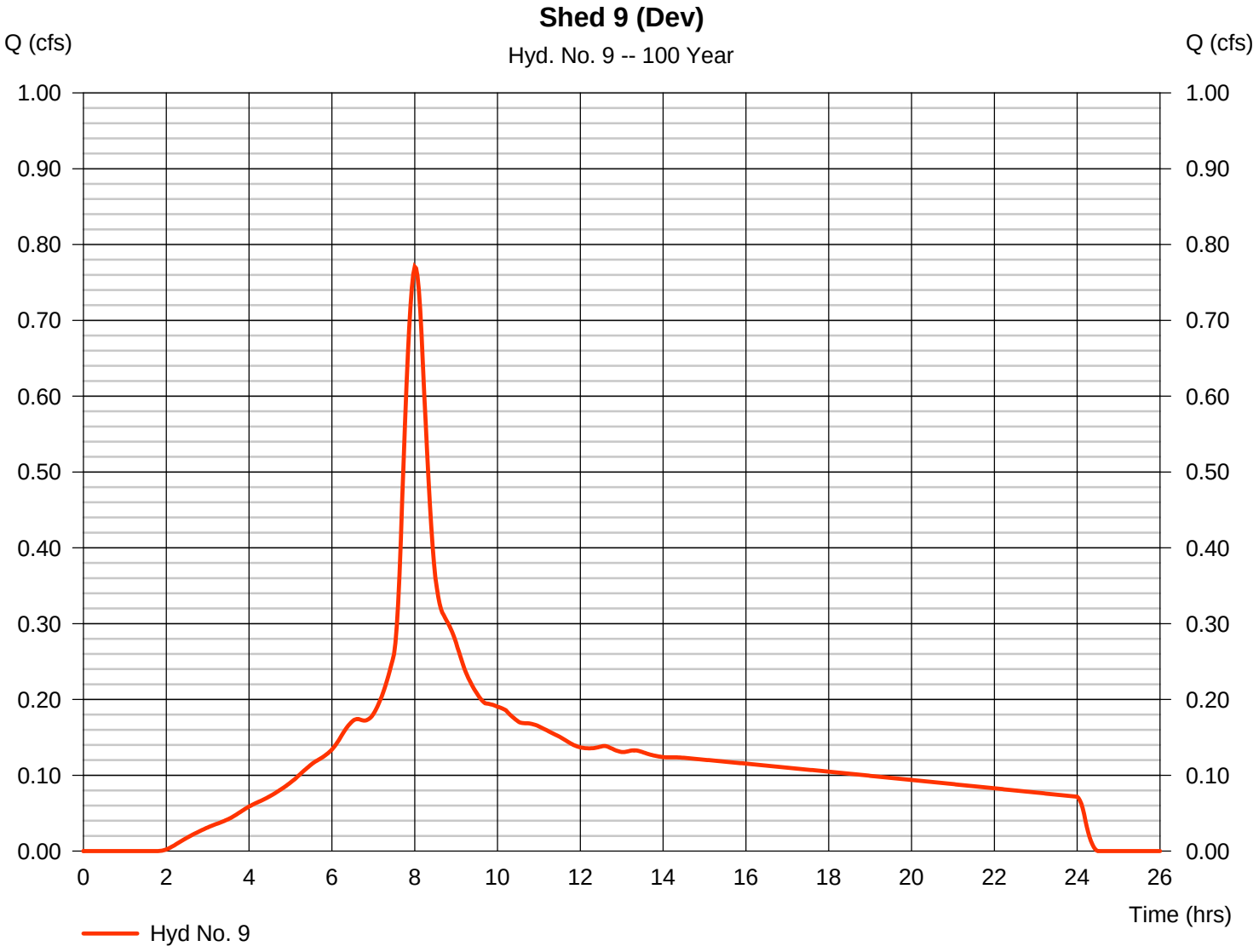
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.771 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	10,941 cuft
Drainage area	=	0.590 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



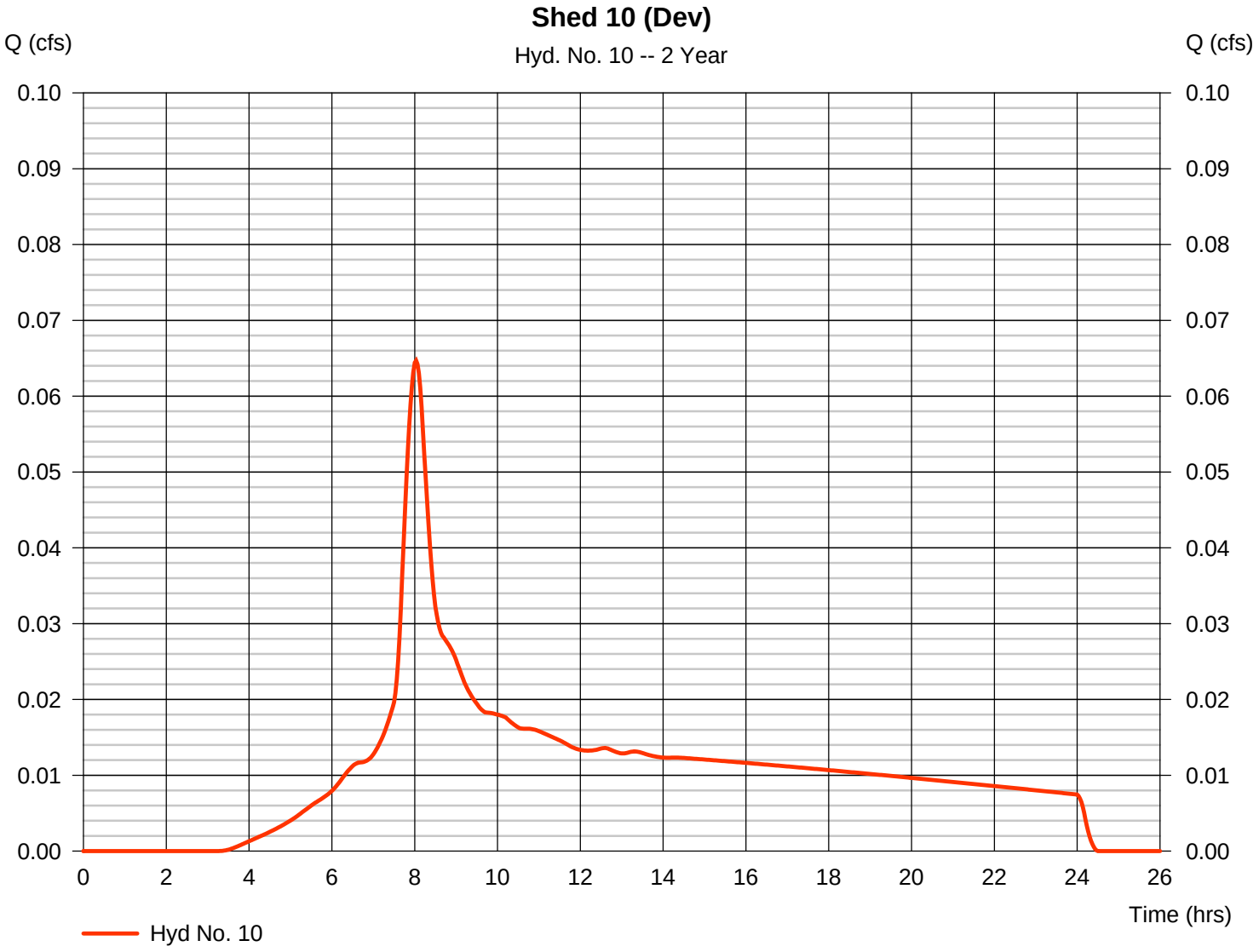
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.065 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	965 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



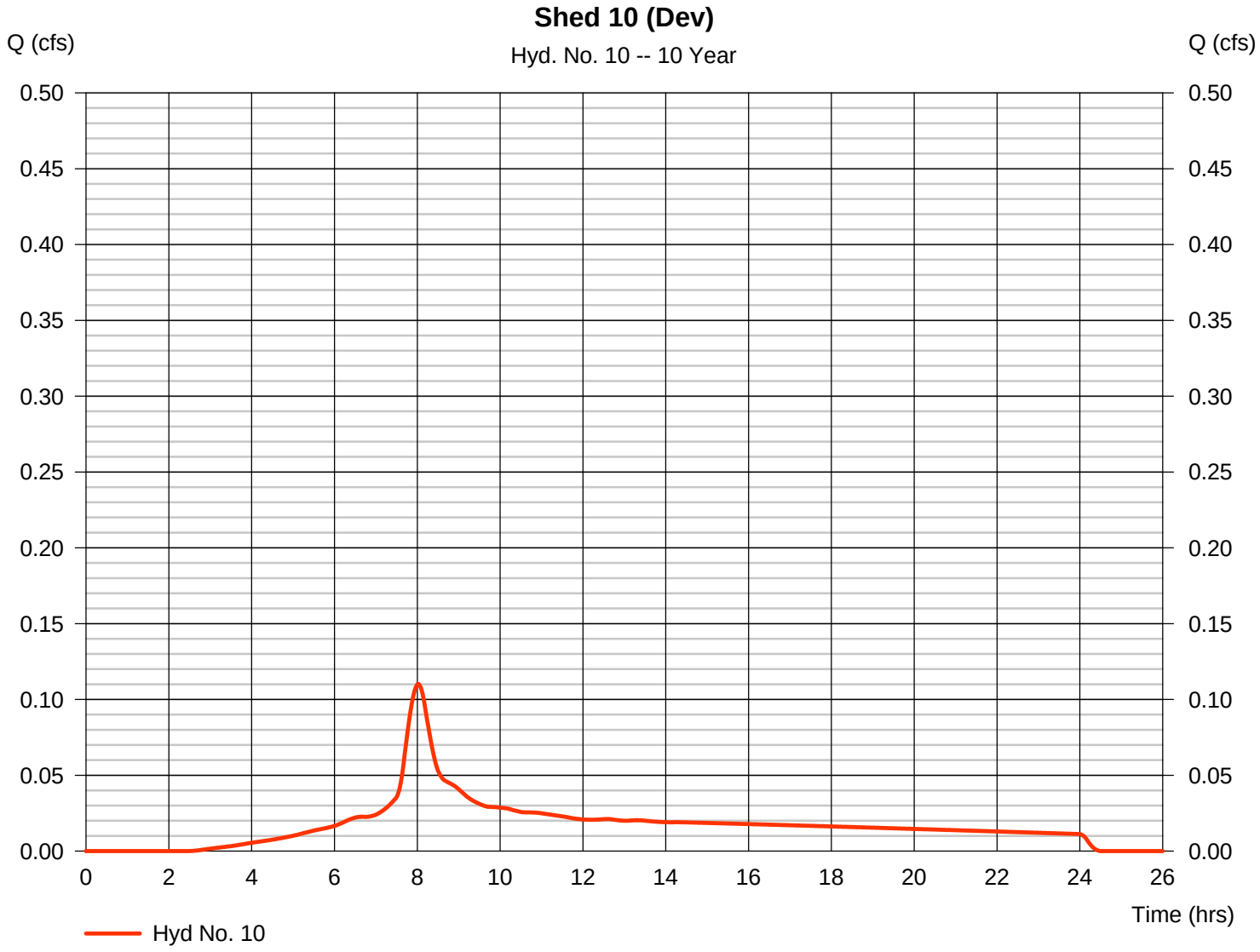
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.110 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,586 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



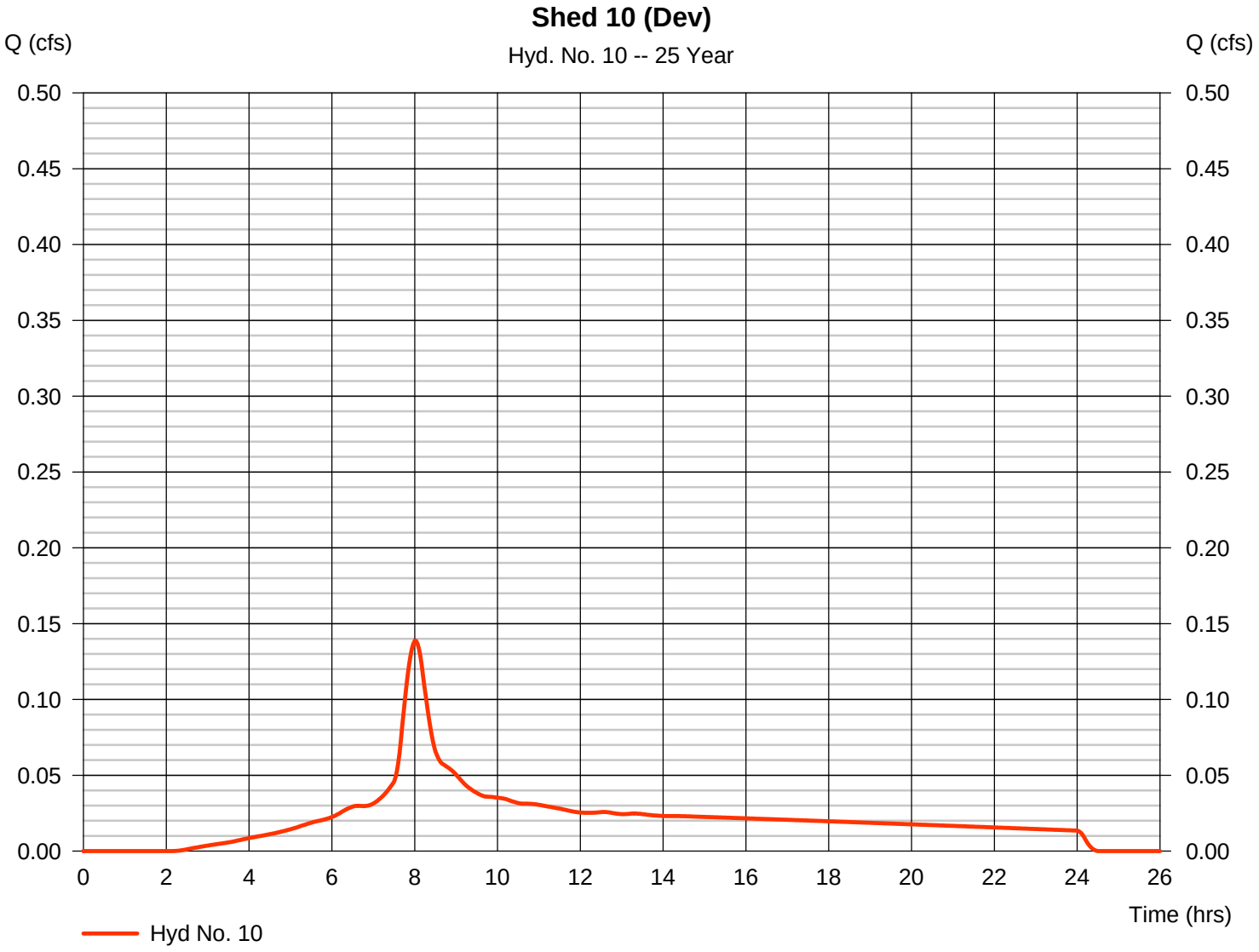
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	1,981 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



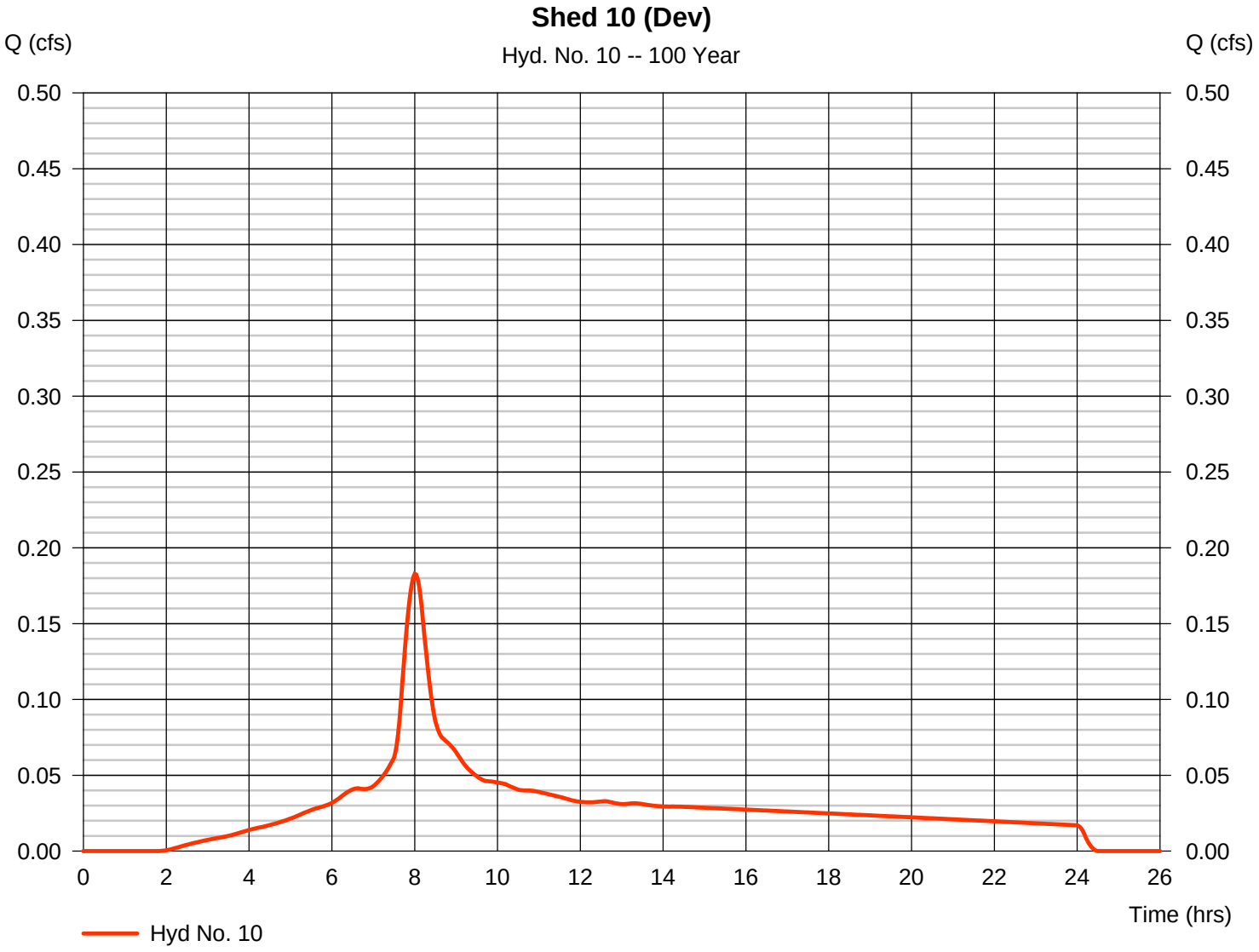
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.183 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	2,596 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



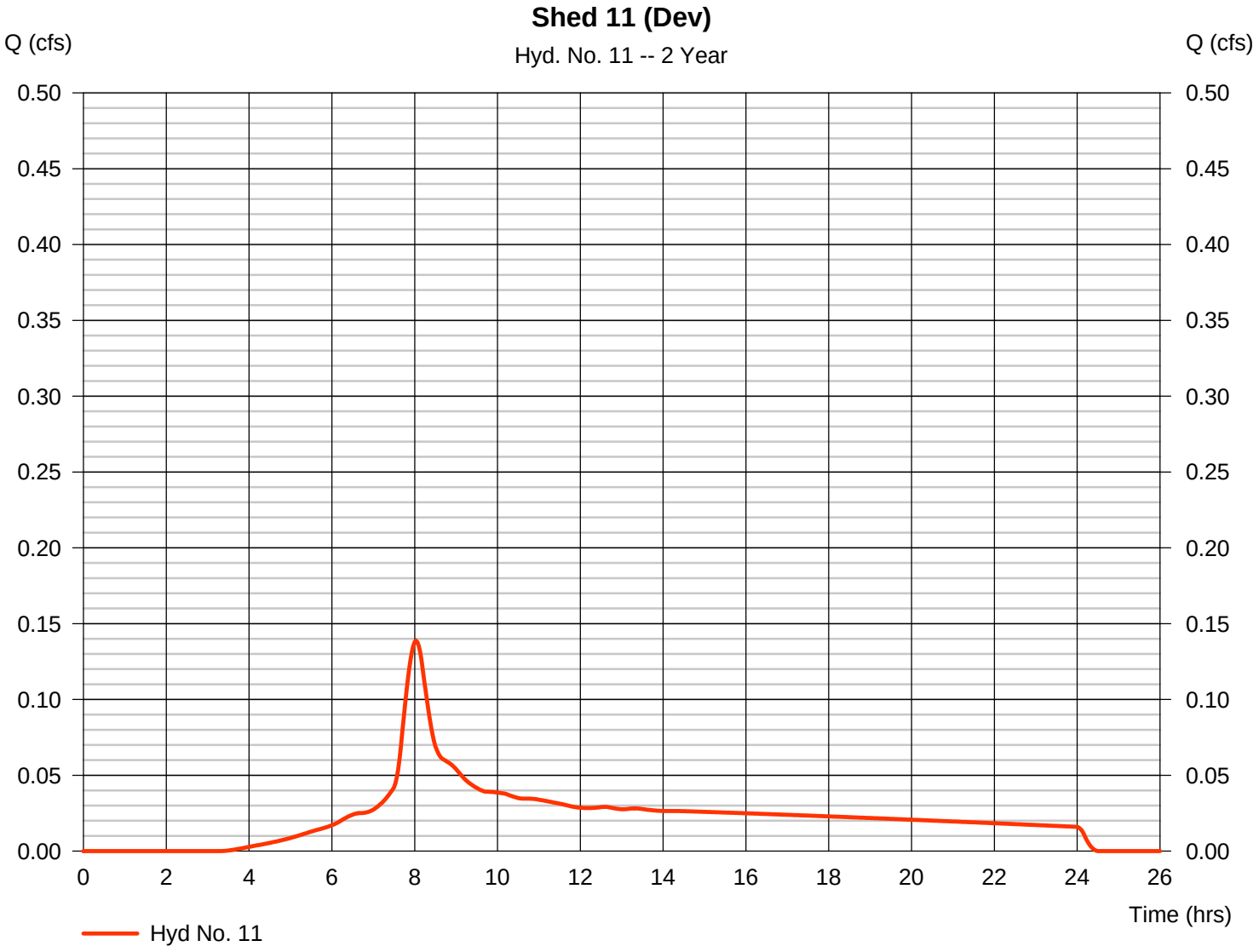
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,067 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



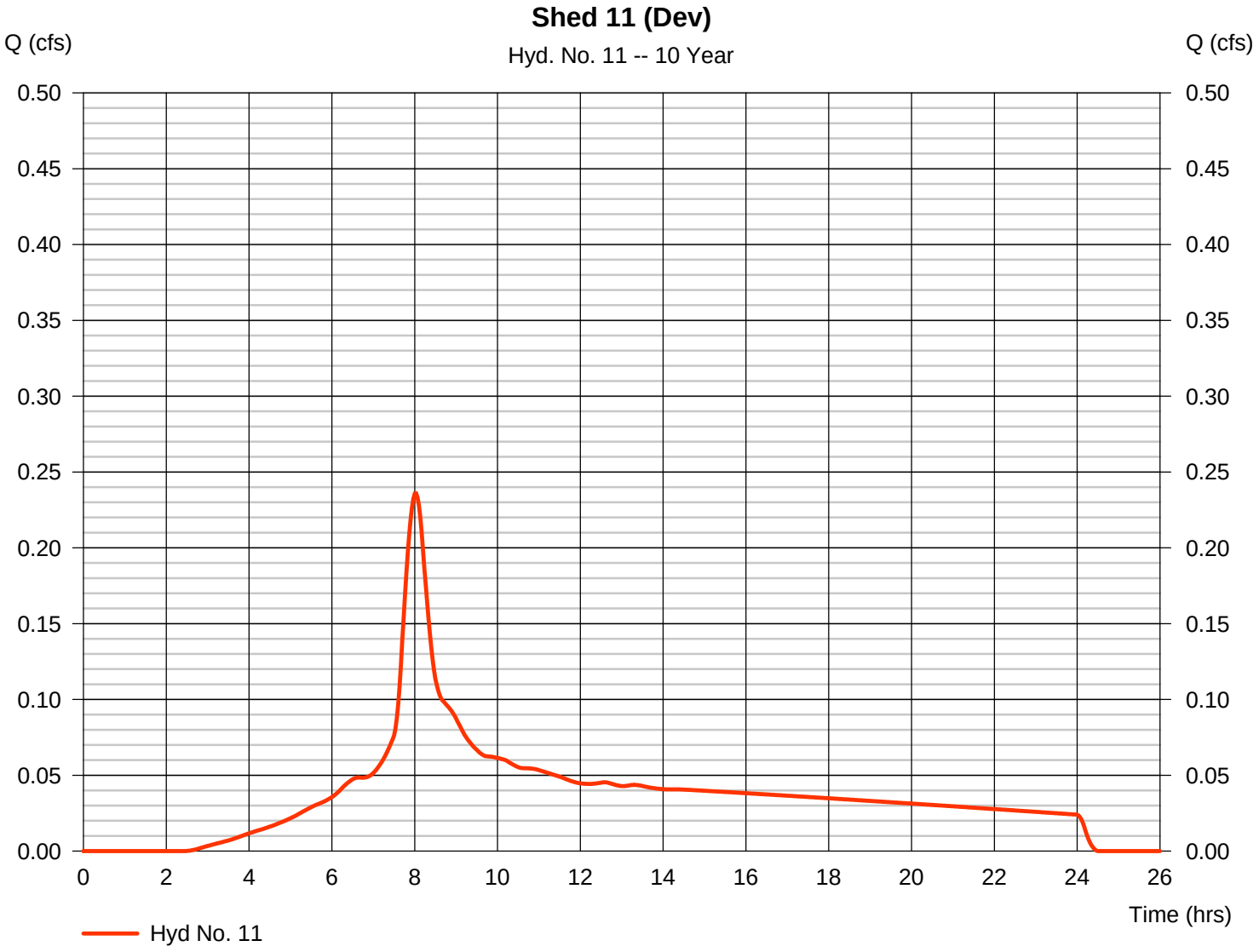
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.236 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,399 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



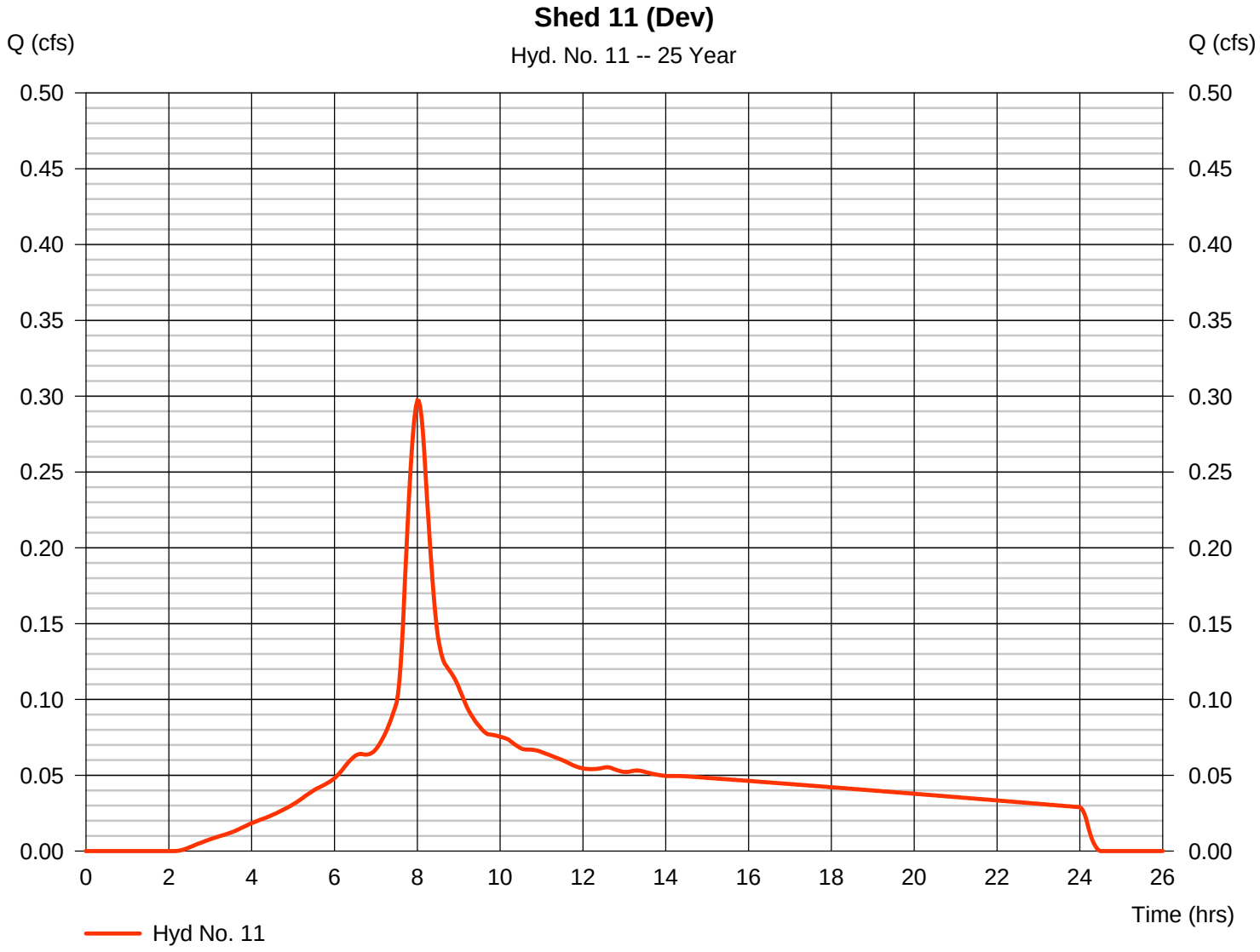
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.297 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,244 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



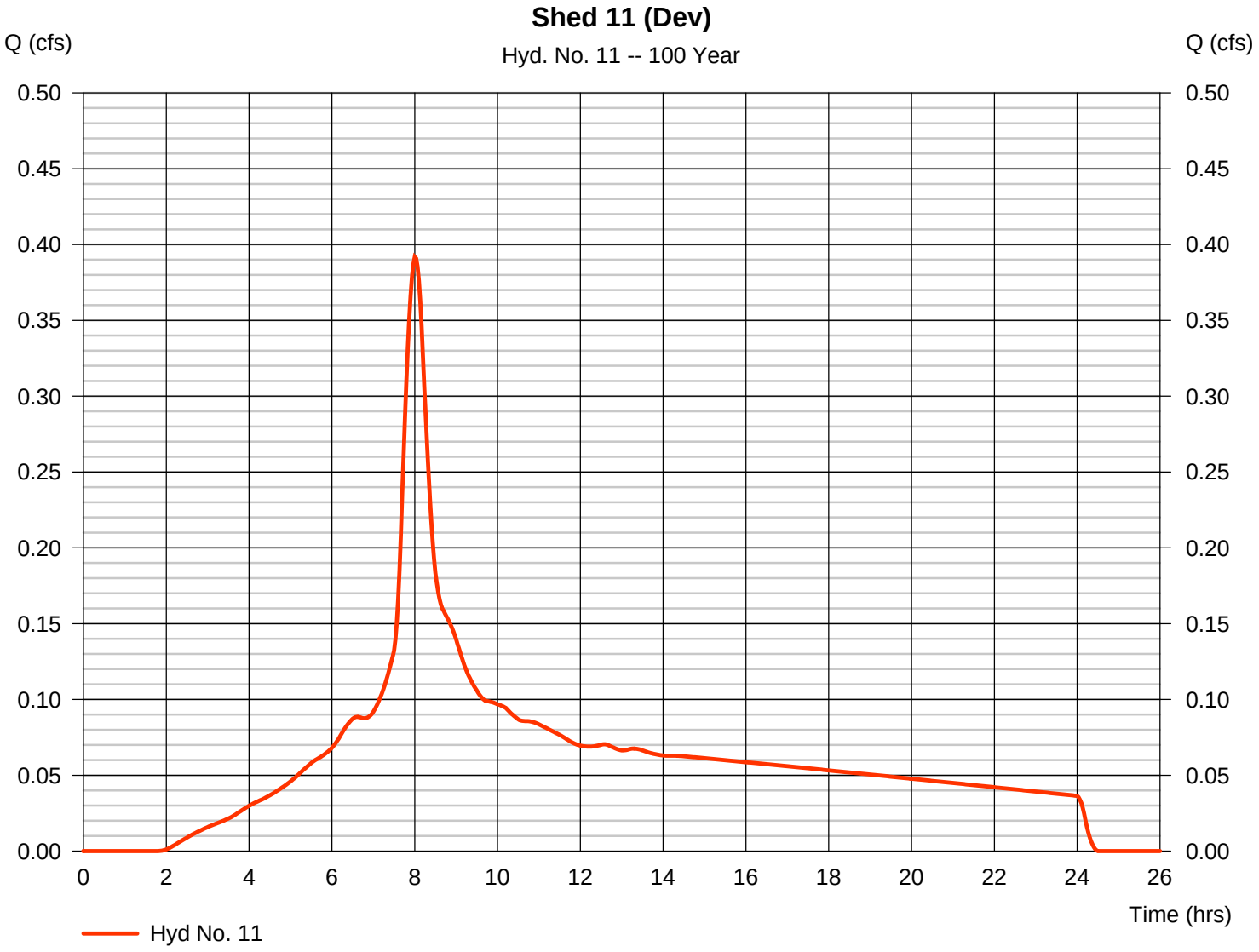
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.392 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	5,563 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



APPENDIX D

Infoworks Network

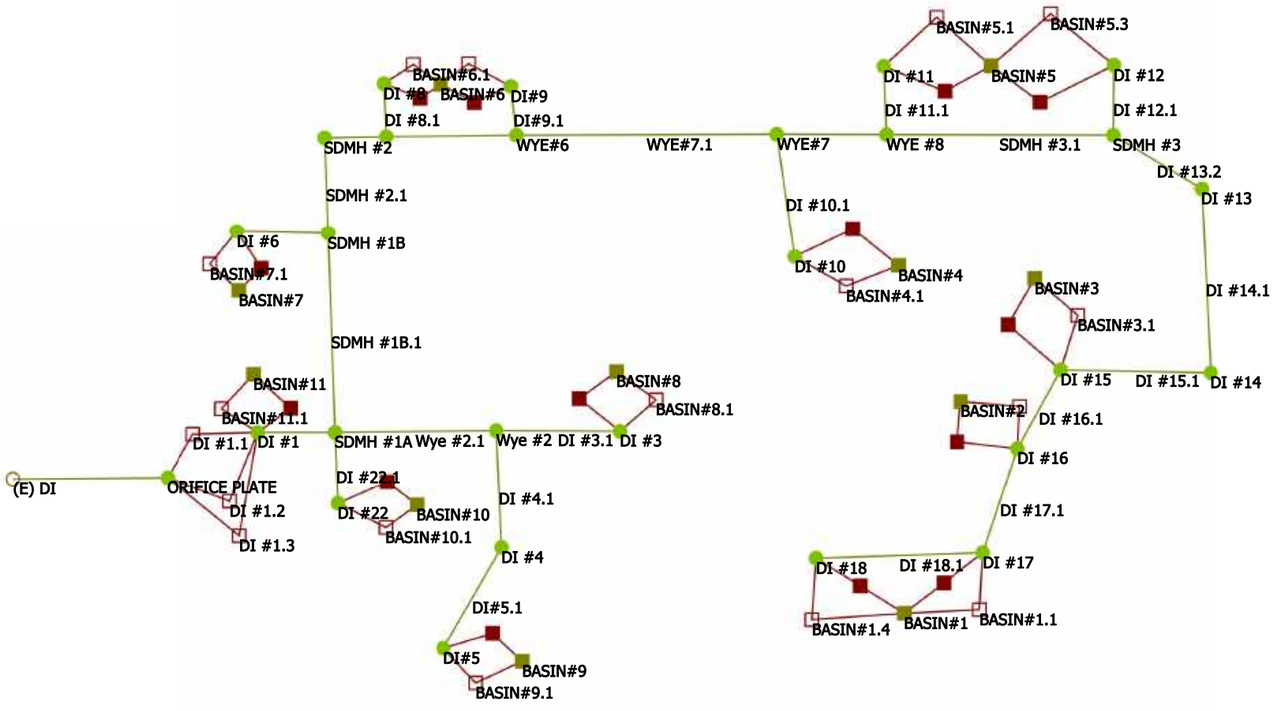
Infoworks Results Tables

Infoworks Profiles – 100-Year, 24-Hour

Bio-retention Basin Stage Storage Tables

Preliminary Orifice Plate Detail

TENFOLD MORGAN HILL



2-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	365.959	0.2218	3288.48
	BASIN#10	359.670	363.799	0.0647	959.13
	BASIN#11	363.020	362.471	0.1386	2055.29
	BASIN#2	362.620	365.575	0.1247	1849.75
	BASIN#3	363.770	365.901	0.0647	959.13
	BASIN#4	362.020	365.938	0.0924	1370.20
	BASIN#5	360.920	364.817	0.1525	2260.82
	BASIN#6	358.920	363.308	0.1386	2055.29
	BASIN#7	358.670	362.849	0.1016	1507.21
	BASIN#8	361.270	366.005	0.1525	2260.82
	BASIN#9	360.270	365.225	0.2726	4042.07
	DI #1	364.600	362.445	0.0000	0.00
	DI #10	368.700	363.115	0.0000	0.00
	DI #11	367.600	363.323	0.0000	0.00
	DI #12	367.600	363.674	0.0000	0.00
	DI #13	367.700	363.180	0.0000	0.00
	DI #14	367.600	364.113	0.0000	0.00
	DI #15	368.700	364.306	0.0000	0.00
	DI #16	368.300	364.469	0.0000	0.00
	DI #17	368.700	364.647	0.0000	0.00
	DI #18	368.700	364.741	0.0000	0.00
	DI #22	366.600	362.474	0.0000	0.00
	DI #3	368.700	362.483	0.0000	0.00
	DI #4	368.000	362.490	0.0000	0.00
	DI #6	365.600	362.474	0.0000	0.00
	DI #8	366.100	362.619	0.0000	0.00
	DI#5	367.700	362.508	0.0000	0.00
	DI#9	366.100	362.820	0.0000	0.00
	ORIFICE PLATE	364.600	360.983	0.0000	0.00
	SDMH #1A	367.000	362.474	0.0000	0.00
	SDMH #1B	366.700	362.474	0.0000	0.00
	SDMH #2	366.400	362.474	0.0000	0.00
	SDMH #3	369.100	362.920	0.0000	0.00
	Wye #2	368.250	362.483	0.0000	0.00
	WYE #5	367.000	362.483	0.0000	0.00
	WYE #8	368.500	362.548	0.0000	0.00
	WYE#6	367.750	362.493	0.0000	0.00
	WYE#7	368.400	362.540	0.0000	0.00

2-Year, 24-Hour

	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS Froude number	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	1.8094	37370.6	0.575	0.992	3.869
	DI #22	1	0.0986	1585.8	2.604	0.025	0.117
	SDMH #1A	1	1.6929	33973.3	2.609	0.315	2.004
	DI #3	1	0.2325	3738.3	1.372	0.528	1.157
	Wye #2	1	0.6047	10421.1	2.604	0.166	0.718
	DI#5	1	0.3900	6683.9	1.199	0.702	1.646
	DI #4	1	0.3853	6683.5	1.372	0.863	1.826
	DI #6	1	0.1494	2490.8	2.504	0.042	0.180
	SDMH #1B	1	1.0779	21966.7	2.604	0.173	0.362
	SDMH #2	1	1.0826	19478.8	2.504	0.158	0.399
	DI #8	1	0.1033	1714.0	2.140	0.075	0.169
	WYE #5	1	1.1524	19482.8	2.314	0.552	1.381
	DI#9	1	0.1010	1684.6	1.866	0.085	0.209
	WYE#6	1	1.0552	17770.3	2.140	0.762	1.723
	DI #10	1	0.1296	2265.9	1.279	0.141	0.411
	WYE#7	1	0.9608	16086.1	1.866	0.782	1.879
	DI #11	1	0.1113	1869.3	1.246	0.121	0.347
	WYE #8	1	0.8393	13821.1	1.279	0.773	2.311
	DI #12	1	0.1210	1869.3	0.846	0.152	0.428
	SDMH #3	1	0.7348	11951.8	1.246	0.705	2.093
	DI #13	2	0.6620	10082.4	0.846	0.763	2.236
	DI #14	1	0.6763	10082.8	0.543	1.187	3.174
	DI #15	1	0.6826	10083.0	0.349	0.974	2.796
	DI #16	1	0.5759	8497.0	0.385	0.680	2.064
	DI #18	1	0.1846	2719.0	0.296	0.362	0.947
	DI #17	1	0.3687	5438.1	0.366	0.481	1.415

10-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	366.041	0.3773	5438.08
	BASIN#10	359.670	363.856	0.1100	1585.97
	BASIN#11	363.020	363.242	0.2358	3398.73
	BASIN#2	362.620	365.663	0.2122	3058.83
	BASIN#3	363.770	365.958	0.1100	1585.97
	BASIN#4	362.020	366.011	0.1572	2265.82
	BASIN#5	360.920	364.881	0.2594	3738.55
	BASIN#6	358.920	363.391	0.2358	3398.73
	BASIN#7	358.670	363.322	0.1729	2492.37
	BASIN#8	361.270	366.243	0.2594	3738.55
	BASIN#9	360.270	365.794	0.4638	6684.30
	DI #1	364.600	363.158	0.0000	0.00
	DI #10	368.700	363.433	0.0000	0.00
	DI #11	367.600	363.454	0.0000	0.00
	DI #12	367.600	363.692	0.0000	0.00
	DI #13	367.700	363.483	0.0000	0.00
	DI #14	367.600	364.185	0.0000	0.00
	DI #15	368.700	364.395	0.0000	0.00
	DI #16	368.300	364.556	0.0000	0.00
	DI #17	368.700	364.716	0.0000	0.00
	DI #18	368.700	364.793	0.0000	0.00
	DI #22	366.600	363.265	0.0000	0.00
	DI #3	368.700	363.283	0.0000	0.00
	DI #4	368.000	363.289	0.0000	0.00
	DI #6	365.600	363.265	0.0000	0.00
	DI #8	366.100	363.301	0.0000	0.00
	DI#5	367.700	363.293	0.0000	0.00
	DI#9	366.100	363.347	0.0000	0.00
	ORIFICE PLATE	364.600	361.173	0.0000	0.00
	SDMH #1A	367.000	363.264	0.0000	0.00
	SDMH #1B	366.700	363.264	0.0000	0.00
	SDMH #2	366.400	363.264	0.0000	0.00
	SDMH #3	369.100	363.466	0.0000	0.00
	Wye #2	368.250	363.282	0.0000	0.00
	WYE #5	367.000	363.300	0.0000	0.00
	WYE #8	368.500	363.436	0.0000	0.00
	WYE#6	367.750	363.346	0.0000	0.00
	WYE#7	368.400	363.429	0.0000	0.00

10-Year, 24-Hour

	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	1.8094	37370.6	0.575	3.869
	DI #22	1	0.0986	1585.8	2.604	0.117
	SDMH #1A	1	1.6929	33973.3	2.609	2.004
	DI #3	1	0.2325	3738.3	1.372	1.157
	Wye #2	1	0.6047	10421.1	2.604	0.718
	DI#5	1	0.3900	6683.9	1.199	1.646
	DI #4	1	0.3853	6683.5	1.372	1.826
	DI #6	1	0.1494	2490.8	2.504	0.180
	SDMH #1B	1	1.0779	21966.7	2.604	0.362
	SDMH #2	1	1.0826	19478.8	2.504	0.399
	DI #8	1	0.1033	1714.0	2.140	0.169
	WYE #5	1	1.1524	19482.8	2.314	1.381
	DI#9	1	0.1010	1684.6	1.866	0.209
	WYE#6	1	1.0552	17770.3	2.140	1.723
	DI #10	1	0.1296	2265.9	1.279	0.411
	WYE#7	1	0.9608	16086.1	1.866	1.879
	DI #11	1	0.1113	1869.3	1.246	0.347
	WYE #8	1	0.8393	13821.1	1.279	2.311
	DI #12	1	0.1210	1869.3	0.846	0.428
	SDMH #3	1	0.7348	11951.8	1.246	2.093
	DI #13	2	0.6620	10082.4	0.846	2.236
	DI #14	1	0.6763	10082.8	0.543	3.174
	DI #15	1	0.6826	10083.0	0.349	2.796
	DI #16	1	0.5759	8497.0	0.385	2.064
	DI #18	1	0.1846	2719.0	0.296	0.947
	DI #17	1	0.3687	5438.1	0.366	1.415

25-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	366.087	0.4755	6755.89
	BASIN#10	359.670	363.888	0.1387	1970.46
	BASIN#11	363.020	363.644	0.2972	4222.29
	BASIN#2	362.620	365.864	0.2674	3800.15
	BASIN#3	363.770	365.990	0.1387	1970.46
	BASIN#4	362.020	366.051	0.1981	2814.92
	BASIN#5	360.920	364.917	0.3269	4644.62
	BASIN#6	358.920	363.841	0.2972	4222.29
	BASIN#7	358.670	363.785	0.2179	3096.38
	BASIN#8	361.270	366.451	0.3269	4644.62
	BASIN#9	360.270	366.222	0.5844	8304.04
	DI #1	364.600	363.482	0.0000	0.00
	DI #10	368.700	363.969	0.0000	0.00
	DI #11	367.600	363.981	0.0000	0.00
	DI #12	367.600	364.040	0.0000	0.00
	DI #13	367.700	364.053	0.0000	0.00
	DI #14	367.600	364.259	0.0000	0.00
	DI #15	368.700	364.440	0.0000	0.00
	DI #16	368.300	364.600	0.0000	0.00
	DI #17	368.700	364.755	0.0000	0.00
	DI #18	368.700	364.822	0.0000	0.00
	DI #22	366.600	363.676	0.0000	0.00
	DI #3	368.700	363.706	0.0000	0.00
	DI #4	368.000	363.716	0.0000	0.00
	DI #6	365.600	363.676	0.0000	0.00
	DI #8	366.100	363.741	0.0000	0.00
	DI#5	367.700	363.724	0.0000	0.00
	DI#9	366.100	363.816	0.0000	0.00
	ORIFICE PLATE	364.600	361.289	0.0000	0.00
	SDMH #1A	367.000	363.675	0.0000	0.00
	SDMH #1B	366.700	363.675	0.0000	0.00
	SDMH #2	366.400	363.675	0.0000	0.00
	SDMH #3	369.100	364.037	0.0000	0.00
	Wye #2	368.250	363.704	0.0000	0.00
	WYE #5	367.000	363.739	0.0000	0.00
	WYE #8	368.500	363.979	0.0000	0.00
	WYE#6	367.750	363.815	0.0000	0.00
	WYE#7	368.400	363.967	0.0000	0.00

25-Year, 24-Hour

	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	2.4476	46103.8	0.672	4.359
	DI #22	1	0.1250	1956.4	3.015	0.147
	SDMH #1A	1	2.2788	41922.4	2.934	2.676
	DI #3	1	0.3020	4628.9	1.794	0.899
	Wye #2	1	0.7709	12882.9	3.015	0.906
	DI#5	1	0.4855	8260.6	1.626	1.572
	DI #4	1	0.4810	8257.3	1.794	1.562
	DI #6	1	0.1541	3080.5	2.915	0.185
	SDMH #1B	1	1.4541	27105.3	3.015	0.350
	SDMH #2	1	1.3273	24060.5	2.915	0.400
	DI #8	1	0.1367	2192.2	2.579	0.166
	WYE #5	1	1.3662	24069.2	2.726	1.615
	DI#9	1	0.1172	2014.0	2.335	0.200
	WYE#6	1	1.2401	21882.3	2.579	1.702
	DI #10	1	0.1777	2805.2	1.817	0.389
	WYE#7	1	1.2258	19874.6	2.335	1.862
	DI #11	1	0.1439	2312.8	1.789	0.336
	WYE #8	1	1.0568	17080.4	1.818	2.152
	DI #12	1	0.1392	2312.9	1.417	0.432
	SDMH #3	1	0.9200	14769.2	1.790	1.969
	DI #13	2	0.7891	12461.9	1.417	2.204
	DI #14	1	0.7984	12463.5	1.113	3.203
	DI #15	1	0.8453	12468.2	0.389	2.990
	DI #16	1	0.7112	10510.1	0.430	2.203
	DI #18	1	0.2330	3364.3	0.335	1.011
	DI #17	1	0.4653	6727.1	0.410	1.564

100-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	366.404	0.6270	8901.16
	BASIN#10	359.670	364.247	0.1829	2596.06
	BASIN#11	363.020	364.078	0.3919	5563.23
	BASIN#2	362.620	366.124	0.3527	5006.89
	BASIN#3	363.770	366.035	0.1829	2596.06
	BASIN#4	362.020	366.258	0.2612	3708.69
	BASIN#5	360.920	364.967	0.4311	6119.53
	BASIN#6	358.920	364.465	0.3919	5563.23
	BASIN#7	358.670	364.386	0.2874	4079.56
	BASIN#8	361.270	366.807	0.4311	6119.53
	BASIN#9	360.270	366.991	0.7706	10940.99
	DI #1	364.600	363.857	0.0000	0.00
	DI #10	368.700	364.683	0.0000	0.00
	DI #11	367.600	364.699	0.0000	0.00
	DI #12	367.600	364.791	0.0000	0.00
	DI #13	367.700	364.817	0.0000	0.00
	DI #14	367.600	364.906	0.0000	0.00
	DI #15	368.700	364.937	0.0000	0.00
	DI #16	368.300	364.963	0.0000	0.00
	DI #17	368.700	364.982	0.0000	0.00
	DI #18	368.700	364.990	0.0000	0.00
	DI #22	366.600	364.184	0.0000	0.00
	DI #3	368.700	364.230	0.0000	0.00
	DI #4	368.000	364.247	0.0000	0.00
	DI #6	365.600	364.185	0.0000	0.00
	DI #8	366.100	364.296	0.0000	0.00
	DI#5	367.700	364.259	0.0000	0.00
	DI#9	366.100	364.428	0.0000	0.00
	ORIFICE PLATE	364.600	361.424	0.0000	0.00
	SDMH #1A	367.000	364.183	0.0000	0.00
	SDMH #1B	366.700	364.183	0.0000	0.00
	SDMH #2	366.400	364.183	0.0000	0.00
	SDMH #3	369.100	364.789	0.0000	0.00
	Wye #2	368.250	364.228	0.0000	0.00
	WYE #5	367.000	364.294	0.0000	0.00
	WYE #8	368.500	364.697	0.0000	0.00
	WYE#6	367.750	364.426	0.0000	0.00
	WYE#7	368.400	364.680	0.0000	0.00

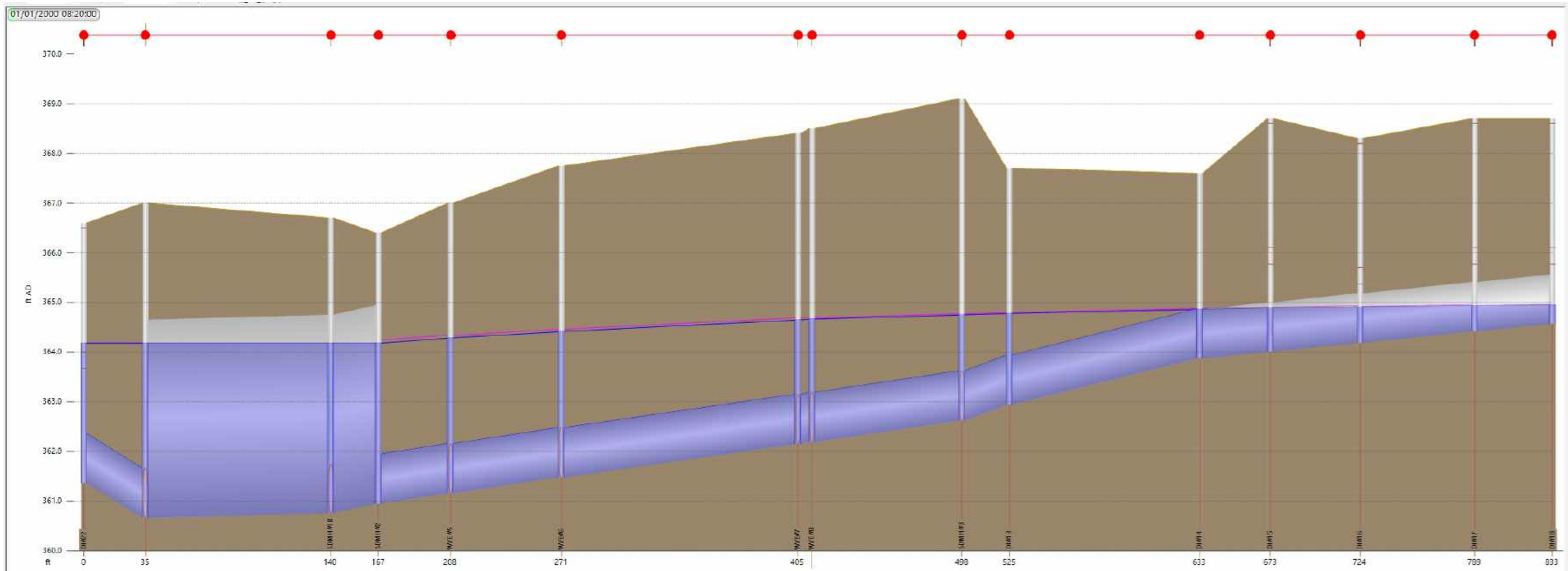
100-Year, 24-Hour

	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	3.1938	61179.1	0.767	4.939
	DI #22	1	0.1549	2595.7	3.523	0.182
	SDMH #1A	1	2.9676	55616.8	3.310	3.465
	DI #3	1	0.3971	6119.3	2.318	0.906
	Wye #2	1	0.9982	17058.8	3.523	1.160
	DI#5	1	0.6145	10940.7	2.157	1.437
	DI #4	1	0.6103	10940.3	2.318	1.583
	DI #6	1	0.2068	4077.9	3.423	0.241
	SDMH #1B	1	1.9218	35962.4	3.523	0.378
	SDMH #2	1	1.7905	31887.1	3.423	0.401
	DI #8	1	0.1800	2949.6	3.134	0.211
	WYE #5	1	1.8310	31891.1	3.234	2.141
	DI#9	1	0.1154	2613.4	2.946	0.198
	WYE#6	1	1.6554	28943.3	3.134	1.940
	DI #10	1	0.2379	3708.6	2.530	0.322
	WYE#7	1	1.5842	26330.6	2.947	1.865
	DI #11	1	0.2013	3073.3	2.507	0.278
	WYE #8	1	1.3540	22622.7	2.530	1.948
	DI #12	1	0.2007	3046.1	2.169	0.364
	SDMH #3	1	1.1586	19549.4	2.507	1.769
	DI #13	2	0.9898	16503.6	2.169	1.895
	DI #14	1	0.9930	16504.0	1.878	2.955
	DI #15	1	1.0000	16504.2	1.036	3.080
	DI #16	1	0.8630	13908.2	0.927	2.243
	DI #18	1	0.2887	4450.6	0.562	1.045
	DI #17	1	0.5632	8901.2	0.773	1.570

Link	-	DI #1.1	SDMH #1A.1	Wye #2.1	DI #3.1
Shape ID	CIRC		CIRC	CIRC	CIRC
width (in)	12.0		12.0	12.0	12.0
height (in)	12.0		12.0	12.0	12.0
us inv (ft AD)	360.550		360.660	361.910	362.000
ds inv (ft AD)	360.520		360.550	360.660	361.910
DS flow (ft3/s)	3.1938	1.1671	2.9676	0.9982	0.3971
Invert level (ft AD)		360.550			
Diameter (ft)		0.427			
Max flow (ft3/s)		35279.35			

Node	-	ORIFICE PLATE	DI #1	SDMH #1A	Wye #2	DI #3
ground (ft AD)	-	364.600	364.600	367.000	368.250	368.700
level (ft AD)		361.424	363.857	364.183	364.228	364.230

Profile 1
100-Year, 24-Hour



Link	DI #22.1	SDMH #1B.1	SDMH #2.1	WYE #5.1	WYE#6.1	WYE#7.1	-	SDMH #3.1	DI #13.2	DI #14.1	DI #15.1	DI #16.1	DI #17.1	DI #18.1
Shape ID	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	-	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC
width (in)	12.0	48.0	48.0	12.0	12.0	12.0	-	12.0	12.0	12.0	12.0	12.0	12.0	12.0
height (in)	12.0	48.0	48.0	12.0	12.0	12.0	-	12.0	12.0	12.0	12.0	12.0	12.0	12.0
us inv (ft AD)	361.360	360.760	360.950	361.160	361.460	362.150	-	362.620	362.940	363.870	364.010	364.190	364.420	364.570
ds inv (ft AD)	360.660	360.660	360.760	360.950	361.160	361.480	-	362.190	362.620	362.940	363.870	364.010	364.190	364.420
DS flow (ft3/s)	0.1549	1.9218	1.7905	1.8310	1.6554	1.5842	-	1.1586	0.9898	0.9930	1.0000	0.8630	0.5632	0.2687

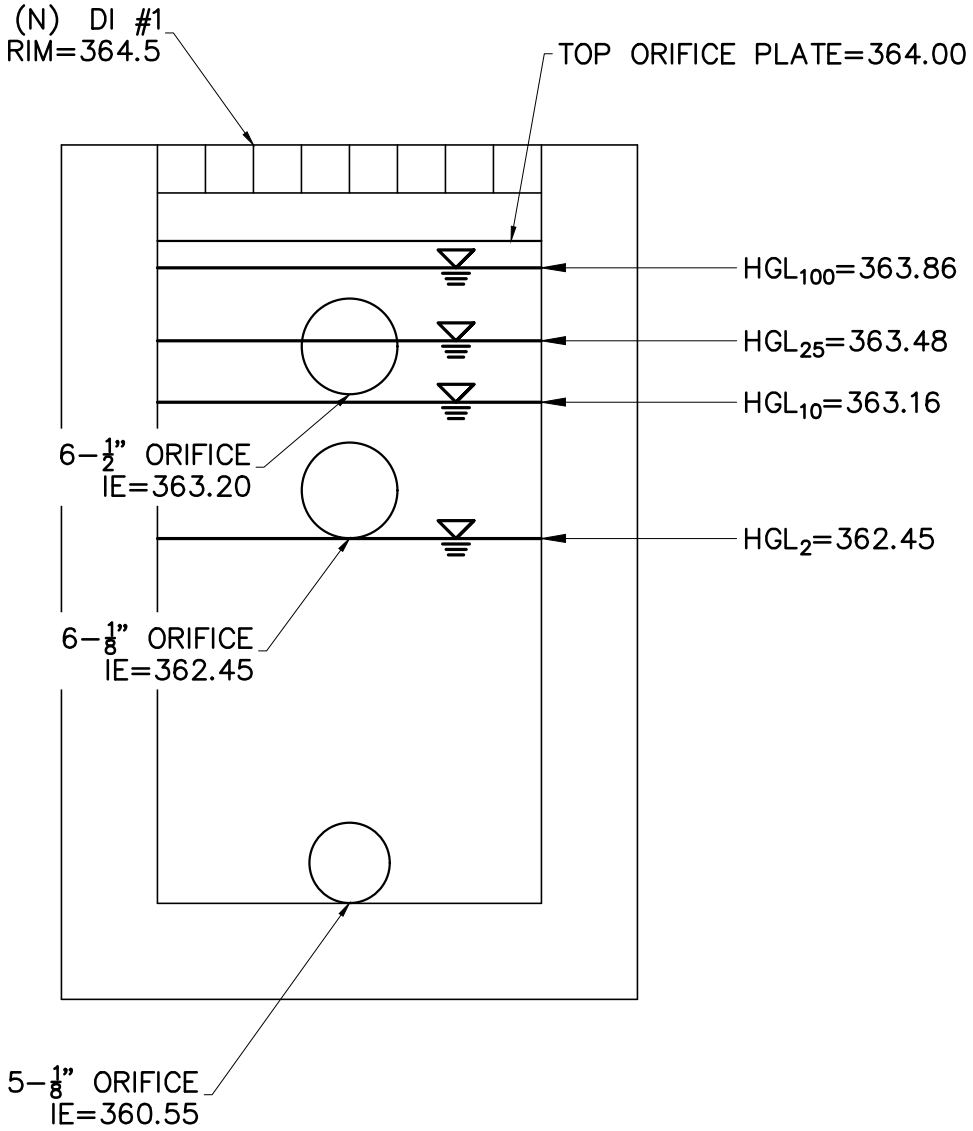
Node	-	SDMH #1A	SDMH #1B	SDMH #2	WYE #5	WYE#6	WYE#7	WYE #8	SDMH #3	DI #13	DI #14	DI #15	DI #16	DI #17	DI #18
ground (ft AD)	-	367.000	366.700	366.400	367.000	367.750	368.400	368.500	369.100	367.700	367.600	368.700	368.300	368.700	368.700
level (ft AD)	-	364.183	364.183	364.183	364.294	364.426	364.680	364.697	364.789	364.817	364.906	364.937	364.963	364.982	364.990

Profile 2
100-Year, 24-Hour

PRELIMINARY ORIFICE PLATE DETAIL

MORGAN HILL RCFE

MORGAN HILL, CA



	US node ID	Link suffix	DS node ID	Link type	Invert level (ft AD)	Diameter (ft)	Opening type
	BASIN#1	4	DI #18	ORIFIC	365.770	0.330	Side
	BASIN#1	1	DI #17	ORIFIC	365.770	0.330	Side
	BASIN#10	1	DI #22	ORIFIC	363.670	0.330	Side
	BASIN#11	1	DI #1	ORIFIC	361.670	0.330	Side
	BASIN#2	1	DI #16	ORIFIC	365.370	0.330	Side
	BASIN#3	1	DI #15	ORIFIC	365.770	0.330	Side
	BASIN#4	1	DI #10	ORIFIC	365.770	0.330	Side
	BASIN#5	3	DI #12	ORIFIC	364.670	0.330	Side
	BASIN#5	1	DI #11	ORIFIC	364.670	0.330	Side
	BASIN#6	1	DI #8	ORIFIC	363.170	0.330	Side
	BASIN#6	2	DI#9	ORIFIC	363.170	0.330	Side
	BASIN#7	1	DI #6	ORIFIC	362.670	0.330	Side
	BASIN#8	1	DI #3	ORIFIC	365.770	0.330	Side
	BASIN#9	1	DI#5	ORIFIC	364.770	0.330	Side
	DI #1	1	ORIFICE PLATE	ORIFIC	360.550	0.427	Side
	DI #1	2	ORIFICE PLATE	ORIFIC	362.450	0.510	Side
	DI #1	3	ORIFICE PLATE	ORIFIC	363.200	0.542	Side

BIO-RETENTION BASIN STAGE STORAGE TABLES

BIO-RETENTION BASIN #1

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
363.00	0	905	40	0	0	BOTTOM GRAVEL LAYER
363.50	0.50	905	40	181	181	
364.00	1.00	905	40	181	362	
364.50	1.50	905	40	181	543	
365.00	2.00	905	40	181	724	
365.50	2.50	905	40	181	905	
365.77	2.77	905	40	98	1003	95TH PERCENTILE / IE SUBDRAIN
365.96	2.96	905	40	69	1072	2-YEAR HGL
366.04	3.04	905	40	29	1100	10-YEAR HGL
366.09	3.09	905	40	18	1119	25-YEAR HGL
366.10	3.10	905	40	4	1122	TOP OF GRAVEL
366.40	3.40	905	25	68	1190	100-YEAR HGL
366.50	3.50	905	25	23	1213	
367.00	4.00	905	25	113	1326	
367.50	4.50	905	25	113	1439	
368.10	5.10	905	25	136	1575	BASIN FG
368.60	5.60	905	100	453	2027	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3733

BIO-RETENTION BASIN #2

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
362.50	0	470	40	0	0	BOTTOM GRAVEL LAYER
363.00	0.50	470	40	94	94	
363.50	1.00	470	40	94	188	
364.00	1.50	470	40	94	282	
364.50	2.00	470	40	94	376	
365.00	2.50	470	40	94	470	
365.37	2.87	470	40	70	540	95TH PERCENTILE / IE SUBDRAIN
365.58	3.08	470	40	39	579	2-YEAR HGL
365.66	3.16	470	40	15	594	10-YEAR HGL
365.70	3.20	470	40	8	602	TOP OF GRAVEL
365.86	3.36	470	25	19	620	25-YEAR HGL
366.00	3.50	470	25	16	637	
366.12	3.62	470	25	14	651	100-YEAR HGL
366.50	4.00	470	25	45	696	
367.00	4.50	470	25	59	754	
367.70	5.20	470	25	82	837	BASIN FG
368.20	5.70	470	100	235	1072	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1939

BIO-RETENTION BASIN #3

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
363.77	0	500	40	0	0	BOTTOM GRAVEL LAYER
364.00	0.23	500	40	46	46	
364.50	0.73	500	40	100	146	
365.00	1.23	500	40	100	246	
365.50	1.73	500	40	100	346	
365.77	2.00	500	40	54	400	95TH PERCENTILE / IE SUBDRAIN
365.90	2.13	500	40	26	426	2-YEAR HGL
365.96	2.19	500	40	12	438	10-YEAR HGL
365.99	2.22	500	40	6	444	25-YEAR HGL
366.04	2.27	500	40	10	454	100-YEAR HGL
366.10	2.33	500	40	12	466	TOP OF GRAVEL
366.50	2.73	500	25	50	516	
367.00	3.23	500	25	63	579	
367.50	3.73	500	25	63	641	
368.10	4.33	500	25	75	716	BASIN FG
368.60	4.83	500	100	250	966	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 2063

BIO-RETENTION BASIN #4

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
362.02	0	380	40	0	0	BOTTOM GRAVEL LAYER
362.50	0.48	380	40	73	73	
363.00	0.98	380	40	76	149	
363.50	1.48	380	40	76	225	
364.00	1.98	380	40	76	301	
364.50	2.48	380	40	76	377	
365.00	2.98	380	40	76	453	
365.77	3.75	380	40	117	570	95TH PERCENTILE / IE SUBDRAIN
365.94	3.92	380	40	26	596	2-YEAR HGL
366.01	3.99	380	40	11	606	10-YEAR HGL
366.05	4.03	380	40	6	613	25-YEAR HGL
366.10	4.08	380	40	8	620	TOP OF GRAVEL
366.26	4.24	380	25	15	635	100-YEAR HGL
366.50	4.48	380	25	38	658	
367.00	4.98	380	25	48	706	
367.50	5.48	380	25	48	753	
368.10	6.08	380	25	57	810	BASIN FG
368.60	6.58	380	100	190	1000	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1568

BIO-RETENTION BASIN #5

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
360.75	0	860	40	0	0	BOTTOM GRAVEL LAYER
361.00	0.25	860	40	86	86	
361.50	0.75	860	40	172	258	
362.00	1.25	860	40	172	430	
362.50	1.75	860	40	172	602	
363.00	2.25	860	40	172	774	
363.50	2.75	860	40	172	946	
364.00	3.25	860	40	172	1118	
364.67	3.92	860	40	230	1348	95TH PERCENTILE / IE SUBDRAIN
364.82	4.07	860	40	52	1400	2-YEAR HGL
364.88	4.13	860	40	21	1421	10-YEAR HGL
364.92	4.17	860	40	14	1434	25-YEAR HGL
364.97	4.22	860	40	17	1452	100-YEAR HGL
365.00	4.25	860	40	10	1462	TOP OF GRAVEL
365.50	4.75	860	25	108	1570	
366.00	5.25	860	25	108	1677	
366.50	5.75	860	25	108	1785	
367.00	6.25	860	25	108	1892	BASIN FG
367.50	6.75	860	100	430	2322	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3548

BIO-RETENTION BASIN #6

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
358.92	0	760	40	0	0	BOTTOM GRAVEL LAYER
359.00	0.08	760	40	24	24	
359.50	0.58	760	40	152	176	
360.00	1.08	760	40	152	328	
360.50	1.58	760	40	152	480	
361.00	2.08	760	40	152	632	
361.50	2.58	760	40	152	784	
362.00	3.08	760	40	152	936	
362.50	3.58	760	40	152	1088	
363.17	4.25	760	40	204	1292	95TH PERCENTILE / IE SUBDRAIN
363.31	4.39	760	40	43	1335	2-YEAR HGL
363.39	4.47	760	40	24	1359	10-YEAR HGL
363.50	4.58	760	40	33	1392	TOP OF GRAVEL
363.84	4.92	760	25	65	1457	25-YEAR HGL
364.00	5.08	760	25	30	1487	
364.50	5.58	760	25	95	1582	
364.47	5.55	760	25	-6	1577	100-YEAR HGL
365.00	6.08	760	25	101	1677	
365.50	6.58	760	25	95	1772	BASIN FG
366.00	7.08	760	100	380	2152	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3135

BIO-RETENTION BASIN #7

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
358.50	0	420	40	0	0	BOTTOM GRAVEL LAYER
359.00	0.50	420	40	84	84	
359.50	1.00	420	40	84	168	
360.00	1.50	420	40	84	252	
360.50	2.00	420	40	84	336	
361.00	2.50	420	40	84	420	
361.50	3.00	420	40	84	504	
362.00	3.50	420	40	84	588	
362.50	4.00	420	40	84	672	
362.67	4.17	420	40	29	701	95TH PERCENTILE / IE SUBDRAIN
362.85	4.35	420	40	30	731	2-YEAR HGL
363.00	4.50	420	40	25	756	TOP OF GRAVEL
363.32	4.82	420	25	34	790	10-YEAR HGL
363.50	5.00	420	25	19	809	
363.79	5.29	420	25	30	839	25-YEAR HGL
364.00	5.50	420	25	22	861	
364.39	5.89	420	25	41	902	100-YEAR HGL
364.50	6.00	420	25	12	914	
365.00	6.50	420	25	53	966	BASIN FG
365.50	7.00	420	100	210	1176	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1733

BIO-RETENTION BASIN #8

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
361.27	0	430	40	0	0	BOTTOM GRAVEL LAYER
361.50	0.23	430	40	40	40	
362.00	0.73	430	40	86	126	
362.50	1.23	430	40	86	212	
363.00	1.73	430	40	86	298	
363.50	2.23	430	40	86	384	
364.00	2.73	430	40	86	470	
364.50	3.23	430	40	86	556	
365.00	3.73	430	40	86	642	
365.77	4.50	430	40	132	774	95TH PERCENTILE / IE SUBDRAIN
366.01	4.74	430	40	41	815	2-YEAR HGL
366.10	4.83	430	40	15	831	TOP OF GRAVEL
366.24	4.97	430	25	15	846	10-YEAR HGL
366.45	5.18	430	25	23	868	25-YEAR HGL
366.50	5.23	430	25	5	874	
366.81	5.54	430	25	33	907	100-YEAR HGL
367.00	5.73	430	25	20	928	
367.50	6.23	430	25	54	981	
368.10	6.83	430	25	65	1046	BASIN FG
368.60	7.33	430	100	215	1261	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1774

BIO-RETENTION BASIN #9

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
360.27	0	825	40	0	0	BOTTOM GRAVEL LAYER
360.50	0.23	825	40	76	76	
361.00	0.73	825	40	165	241	
361.50	1.23	825	40	165	406	
362.00	1.73	825	40	165	571	
362.50	2.23	825	40	165	736	
363.00	2.73	825	40	165	901	
363.50	3.23	825	40	165	1066	
364.00	3.73	825	40	165	1231	
364.77	4.50	825	40	254	1485	95TH PERCENTILE / IE SUBDRAIN
365.10	4.83	825	40	109	1594	TOP OF GRAVEL
365.23	4.96	825	25	27	1621	2-YEAR HGL
365.50	5.23	825	25	56	1676	
365.79	5.52	825	25	60	1736	10-YEAR HGL
366.00	5.73	825	25	43	1780	
366.22	5.95	825	25	45	1825	25-YEAR HGL
366.50	6.23	825	25	58	1883	
366.99	6.72	825	25	101	1984	100-YEAR HGL
367.10	6.83	825	25	23	2006	BASIN FG
367.60	7.33	825	100	413	2419	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3403

BIO-RETENTION BASIN #10

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
359.67	0	625	40	0	0	BOTTOM GRAVEL LAYER
360.00	0.33	625	40	82	82	
360.50	0.83	625	40	125	207	
361.00	1.33	625	40	125	332	
361.50	1.83	625	40	125	457	
362.00	2.33	625	40	125	582	
362.50	2.83	625	40	125	707	
363.00	3.33	625	40	125	832	
363.50	3.83	625	40	125	957	
363.67	4.00	625	40	43	1000	95TH PERCENTILE / IE SUBDRAIN
363.80	4.13	625	40	32	1033	2-YEAR HGL
363.86	4.19	625	40	15	1048	10-YEAR HGL
363.89	4.22	625	40	7	1055	25-YEAR HGL
364.00	4.33	625	40	28	1083	TOP OF GRAVEL
364.25	4.58	625	25	39	1122	100-YEAR HGL
364.50	4.83	625	25	39	1161	
365.00	5.33	625	25	78	1239	
366.00	6.33	625	25	156	1395	BASIN FG
366.50	6.83	625	100	313	1708	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 2578

BIO-RETENTION BASIN #11

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
358.67	0	980	40	0	0	BOTTOM GRAVEL LAYER
359.00	0.33	980	40	129	129	
359.50	0.83	980	40	196	325	
360.00	1.33	980	40	196	521	
360.50	1.83	980	40	196	717	
361.00	2.33	980	40	196	913	
361.50	2.83	980	40	196	1109	
361.67	3.00	980	40	67	1176	95TH PERCENTILE / IE SUBDRAIN
362.00	3.33	980	40	129	1305	TOP OF GRAVEL
362.47	3.80	980	25	115	1421	2-YEAR HGL
362.50	3.83	980	25	7	1428	
363.00	4.33	980	25	123	1550	
363.24	4.57	980	25	59	1609	10-YEAR HGL
363.50	4.83	980	25	64	1673	
363.64	4.97	980	25	34	1707	25-YEAR HGL
364.00	5.33	980	25	88	1795	BASIN FG
364.08	5.41	980	100	78	1874	100-YEAR HGL
364.50	5.83	980	100	412	2285	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 4043

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

April 22, 2025 KA Project No. 042-22026

Ms. Brigid Flanigan
Tenfold Development, LLC
985 SW Disk Drive, Suite 120
Bend, Oregon 97702

RE: Addendum to Geotechnical Engineering Investigation
Proposed Tenfold Senior Housing RCFE
Jarvis Drive near Butterfield Boulevard
Morgan Hill, California

Dear Ms. Flanigan:

In accordance with the request of Mr. Marcus Lewis of TSD Engineering, Inc., we are providing this Addendum to our Geotechnical Engineering Investigation for the above-referenced project site. Krazan & Associates, Inc. had previously conducted a Geotechnical Engineering Investigation report dated July 21, 2022 (KA Project No. 042-22026). This addendum provides supplemental infiltration test results.

Two percolation tests were performed on the site. The percolation tests were performed at depths of 2 and 4 feet. Results of the tests are as follows:

Test No.	Depth (feet)	Percolation rate (min/inch)	Infiltration Rate (inches/hour)	Soil Type
P1	2	5	3.5	Silt Sand/Clayey Sand (SM/SC) w/ gravel
P2	4	16	2.0	Silt Sand/Clayey Sand (SM/SC) w/ gravel

The percolation tests were converted to infiltration rates using the Porchet Method.

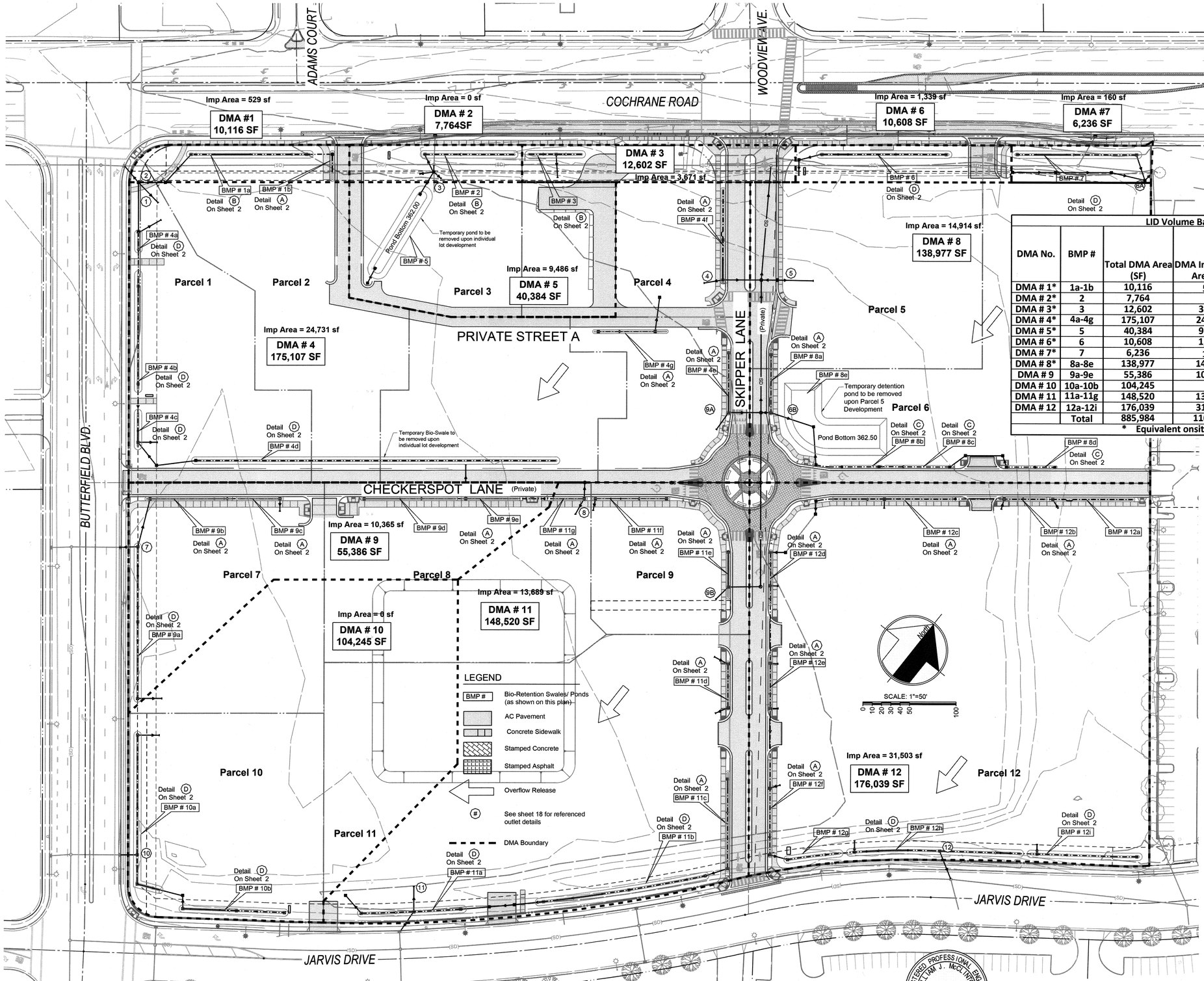
The recommendations and limitations provided in our Geotechnical Engineering Investigation report dated August 31, 2006 apply to this letter. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (925) 307-1160.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Dave R. Jarosz
Managing Engineer
RGE No. 2698/RCE No. 60185

APPENDIX E

Evergreen Village Stormwater Control Plan



LID Volume Based on 1.7" Rainfall - Phase 1								
DMA No.	BMP #	Total DMA Area (SF)	DMA Impervious Area (SF)	Fraction of Tributary Area (i)	Adjusted C-Factor	Required LID Volume (CF)	Provided LID Volume (CF)	Required Surface for Treatment (SF)	Provided Surface for Treatment (SF)
DMA # 1*	1a-1b	10,116	529	0.05	0.078	112	1,349	21	1,229
DMA # 2*	2	7,764	0	0.00	0.040	44	883	0	840
DMA # 3*	3	12,602	3,671	0.29	0.220	394	1,093	147	520
DMA # 4*	4a-4g	175,107	24,731	0.14	0.136	3,378	6,076	989	5,238
DMA # 5*	5	40,384	9,486	0.23	0.190	1,086	2,000	379	1,000
DMA # 6*	6	10,608	1,339	0.13	0.127	191	1,262	54	1,200
DMA # 7*	7	6,236	160	0.03	0.059	52	1,178	6	1,120
DMA # 8*	8a-8e	138,977	14,914	0.11	0.115	2,267	7,961	597	3,324
DMA # 9	9a-9e	55,386	10,365	0.19	0.163	1,280	4,151	415	2,809
DMA # 10	10a-10b	104,245	0	0.00	0.040	591	3,112	0	2,960
DMA # 11	11a-11g	148,520	13,689	0.09	0.105	2,217	7,113	548	3,980
DMA # 12	12a-12i	176,039	31,503	0.18	0.158	3,952	9,127	1,260	5,325
	Total	885,984	110,387			15,564	45,305	4,415	29,545

* Equivalent onsite LID treatment for Cochrane Road through subject DMAs

Notes:

1. Phase 1 storm drainage improvements shown on Stormwater Runoff Management Plan provides equivalent LID mitigation for the Cochrane Road along the project frontage.
2. The Strom Water Runoff Management plan shows some of the bio-swales with storm drain stubs not connecting to the surrounding storm drain system. This is to allow future connection to the parcel's underground drainage structures where suited best at the time when individual parcel develops. This is to avoid any future discard of storm drain improvements resulting from not knowing the exact future plan for building location.
3. Phase 1 storm control measures are required for treatment and mitigation of the backbone improvements shown on these plans. Each parcel will be responsible to treat and mitigate it's own runoff on site and limit outflow to pre-development level in compliance with the California Regional Water Quality Control Board's permit and City of Morgan Hill Drainage Standards.
4. If parcels 2,3,4,5 & 6 do not connect to the proposed phase 1 storm control measures along Cochrane Road, the project will be required to remove any unconnected SCM not being utilized and replace these areas with landscape.

CITY ENGINEER APPROVAL OF THIS IMPROVEMENT PLAN SET IS FOR THE PUBLIC IMPROVEMENTS ONLY

NO.	DESCRIPTION	DATE	BY

REVISIONS

WORK ACCEPTED: BY: DATE: INSPECTOR:

City of Morgan Hill
Public Works Department
CITY OF MORGAN HILL
17575 PEAK AVE. MORGAN HILL, CA 95037
(408) 776-6480 FAX (408) 779-7236

DRAWN: RS DESIGN: WJM HOR: 1"=50'
CHECKED: MBA DATE: 8/20/19 VERT:
APPROVED: DATE: 8/21/19 JOB NO: 214096.1
Scott C. Creer RCE 58879 CITY ENGINEER EXP. DATE 06-30-2021

SUPERVISED BY:
REGISTERED PROFESSIONAL ENGINEER * WILLIAM J. McCLINTOCK * No. 24893 EXP. 12-31-2017 * STATE OF CALIFORNIA *
SIGNATURE 8/20/19 DATE

MH engineering Co.
SUBDIVISIONS - LAND PLANNING - LAND SURVEYS
16075 VINEYARD BOULEVARD MORGAN HILL, CA 95037
(408) 779-7381 FAX: (408) 226-5712

Stormwater Control Plan
Evergreen Village
MORGAN HILL CALIFORNIA

CITY FILE NO. PWPR2018-0011
PLAN SET: 8/19
DRAWING: 17 of 25

Stormwater Control Plan
Evergreen Village

L:\Projects\PW\2-0456 - Southbay Development - Cochrane Road\Dwg\2-0456-3.57 Stormwater Control Plan Phase 1.dwg, #PWP2018-11.ctb, Plotted 8/20/2019 1:32 PM by Roman Sanz
Xrefs: 214096 TM1.dwg 214096 1.dwg (Loading 214096 TM1.dwg)

APPENDIX F

Design Checklists

PERFORMANCE REQUIREMENT NO. 1
SITE DESIGN AND RUNOFF REDUCTION

CERTIFICATION

	DESIGN STRATEGY	INCORPORATED?
1.	Limit disturbance of creeks and natural drainage features.	N/A
2.	Minimize compaction of highly permeable soils.	YES
3.	Limit clearing and grading of native vegetation at the site to the minimum area needed to build the project, allow access, and provide fire protection.	N/A
4.	Minimize impervious surfaces by concentrating improvements on the least sensitive areas of the site, while leaving the remaining land in a natural undisturbed state.	N/A
5.	Minimize stormwater runoff by implementing one or more of the following design measures:	
	a) Direct roof runoff into cisterns or rain barrels for reuse.	NO
	b) Direct roof runoff onto vegetated areas safely away from building foundations and footings.	YES
	c) Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas safely away from building foundations and footings.	YES
	d) Direct runoff from driveways and/or uncovered parking lots onto vegetated areas safely away from building foundations and footings.	YES
	e) Construct bike lanes, driveways, uncovered parking lots, sidewalks, walkways, and patios with permeable surfaces.	NO

I, Marcus Lewis, acting as the Project Engineer for Morgan Hill RCFE project, located at NEC Jarvis Drive and Skipper Lane, hereby state that the Site Design and Runoff Reduction design strategies indicated above have been incorporated into the design of the project.

Signature

4/29/2025
Date

SOURCE CONTROL CHECKLIST

ON-SITE SOURCE CONTROL MEASURES	INCORPORATED?
Wash area/racks, drain to sanitary sewer[1]	☐
Covered dumpster area, drain to sanitary sewer[1]	☑
Sanitary sewer connection or accessible cleanout for swimming pool/spa/fountain[1]	☐
Parking garage floor drains plumbed to sanitary sewer[1]	☐
Fire sprinkler test water/condensate drain lines drain to landscape/sanitary sewer[1]	☑
Interior floor drains/boiler drain lines plumbed to sanitary sewer	☑
Beneficial landscaping/IPM (minimize irrigation, runoff, pesticides and fertilizers; promotes treatment)	☑
Outdoor material storage protection	☑
Covers, drains for loading docks, maintenance bays, fueling areas	☐
Maintenance (pavement sweeping, catch basin cleaning, good housekeeping)	☑
Storm drain labeling	☑
Other[2] _____	☐

Notes:

[1] Subject to sanitary sewer authority requirements.

[2] See CASQA Stormwater BMP Handbook for New Development and Redevelopment for additional BMPs for vehicle service repair facilities, fuel dispensing areas, industrial processes, rooftop equipment and other pollutant generating activities and sources: https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook

PERFORMANCE REQUIREMENT NO. 2:
WATER QUALITY TREATMENT

CERTIFICATION

	ON-SITE WATER QUALITY TREATMENT MEASURES (IN ORDER OF PRIORITY)	INCORPORATED?
1.	Low Impact Development (LID) Treatment Systems designed to retain stormwater runoff generated by the 85th percentile 24-hour storm. Stormwater Control Measures implemented (circle all that apply, design documentation is required): • Harvesting and Use, • Infiltration, • Evapotranspiration	NO
2.	Biofiltration Treatment Systems – with the following design parameters: a) Maximum surface loading rate appropriate to prevent erosion, scour and channeling within the biofiltration treatment system itself and equal to 5 inches per hour, based on the flow of runoff produced from a rain event equal to or at least: i. 0.2 inches per hour intensity; or ii. Two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depth b) Minimum surface reservoir volume equal to the biofiltration treatment system surface area times a depth of 6 inches c) Minimum planting medium depth of 24 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials (ASTM) C33 and compost (30%-40%) may be used. A Regulated Project may utilize an alternative planting medium if it demonstrates its planting medium is equal to or more effective at attenuating pollutants than the specified planting medium mixture. d) Proper plant selection[13] e) Subsurface drainage/storage (gravel) layer with an area equal to the biofiltration treatment system surface area and having a minimum depth of 12 inches f) Underdrain with discharge elevation at top of gravel layer g) No compaction of soils beneath the biofiltration facility (ripping/loosening of soils required if compacted) h) No liners or other barriers interfering with infiltration, except for situations where lateral infiltration is not technically feasible	YES

[13] Technical guidance for designing bioretention facilities is available from the Central Coast LID Initiative. The guidance includes design specifications and plant lists appropriate for the Central Coast climate: http://www.centralcoastlidi.org/Central_Coast_LIDI/LID_Structural_BMPs.html

3.	Non-Retention Based Treatment Systems – designed to meet at least one of the following hydraulic sizing criteria:	NO
	(a) Volume Hydraulic Design Basis – Treatment systems whose primary mode of action depends on volume capacity shall be designed to treat stormwater runoff equal to the volume of runoff generated by the 85th percentile 24-hour storm event, based on local rainfall data.	
	(b) Flow Hydraulic Design Basis – Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat: (i) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or (ii) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.	

I, Marcus Lewis, acting as the Project Engineer for Morgan Hill RCFE project, located at NEC Jarvis Drive & Skipper Lane, hereby state that the On-Site Water Quality Treatment Measures indicated above have been incorporated into the design of the project.

Signature

4/29/2025

Date

PERFORMANCE REQUIREMENT NO. 3: RUNOFF RETENTION

Design Rainfall Events & Treatment Requirements for WMZs

WMZ[1]	Treatment Options & Design Rainfall	Check Applicable WMZs
WMZ 1	Via optimized infiltration[2], prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.	N/A
WMZ 2	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.	N/A
WM 4 *	Via optimized infiltration[2], prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.	N/A
WMZ 5	Via optimized infiltration[2] prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.	N/A
WMZ 6	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.	N/A
WMZ 9	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.	N/A
WMZ 10 *	Via optimized infiltration[2], prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data	✓

Notes:

* Applicable only to those areas that overlay designated Groundwater Basins

1. Includes only those WMZs contained in Santa Clara County.
2. Storage, rainwater harvesting, and/or evapotranspiration may be used when infiltration is optimized.

PERFORMANCE REQUIREMENT NO. 3: RUNOFF RETENTION

LID Site Assessment Checklist

ITEMS TO DOCUMENT:	INCLUDED?
1. Site topography	☑
2. Hydrologic features including contiguous natural areas, wetlands, watercourses, seeps, or springs	☑
3. Depth to seasonal high groundwater	☐
4. Locations of groundwater wells used for drinking water	☐
5. Depth to an impervious layer such as bedrock	☐
6. Presence of unique geology (e.g., karst)	☐
7. Geotechnical hazards	☐
8. Documented soil and/or groundwater contamination	☐
9. Soil types and hydrologic soil groups	☑
10. Vegetative cover/trees	☑
11. Run-on characteristics (source and estimated runoff from offsite which discharges to the project area)	☑
12. Existing drainage infrastructure for the site and nearby areas including the location of municipal storm drains	☑
13. Structures including retaining walls	☑
14. Utilities	☑
15. Easements	☑
16. Covenants	☑
17. Zoning/Land Use	☑
18. Setbacks	☑
19. Open space requirements	☑
20. Other pertinent overlay(s)	☑

PERFORMANCE REQUIREMENT NO. 3: RUNOFF RETENTION

LID Site Design Measures

	DESIGN MEASURE	INCORPORATED?
1.	Defining the development envelope, identifying the protected areas, and identifying areas that are most suitable for development and areas to be left undisturbed	N/A
2.	Identifying conserved natural areas, including existing trees, other vegetation, and soils (shown on the plans)	N/A
3.	Limit the overall impervious footprint of the project	YES
4.	Design of streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety or mobility uses are not compromised	YES
5.	Set back development from creeks, wetlands, and riparian habitats	N/A
6.	Design conforms the site layout along natural landforms	YES
7.	Design avoids excessive grading and disturbance of vegetation and soils	YES

I, Marcus Lewis, acting as the Project Engineer for Morgan Hill RCFE project, located at NEC Jarvis Drive & Skipper Lane, hereby state that LID Site Design Measures indicated above have been incorporated into the design of the project.

Signature

4/29/2025
Date

APPENDIX G

Supporting Data

95th Percentile Rainfall Map

Water Management Zone Map

PROJECT SITE

N

Legend

Isohyetal

- 0.1 inch interval
- 0.4 inch interval
- Roads
- Project Boundary

Precipitation (inch)

95th Percentile (1949 - 2010)

- < 0.8
- 0.8 - 0.9
- 0.9 - 1.0
- 1.0 - 1.1
- 1.1 - 1.2
- 1.2 - 1.3
- 1.3 - 1.4
- 1.4 - 1.5
- 1.5 - 1.6
- 1.6 - 1.7
- 1.7 - 1.8
- 1.8 - 1.9
- 1.9 - 2.0
- 2.0 - 2.1
- 2.1 - 2.2
- 2.2 - 2.3
- 2.3 - 2.4
- 2.4 - 2.8
- 2.8 - 3.2
- 3.2 - 3.6
- 3.6 - 4.0
- 4.0 - 4.4
- > 4.4

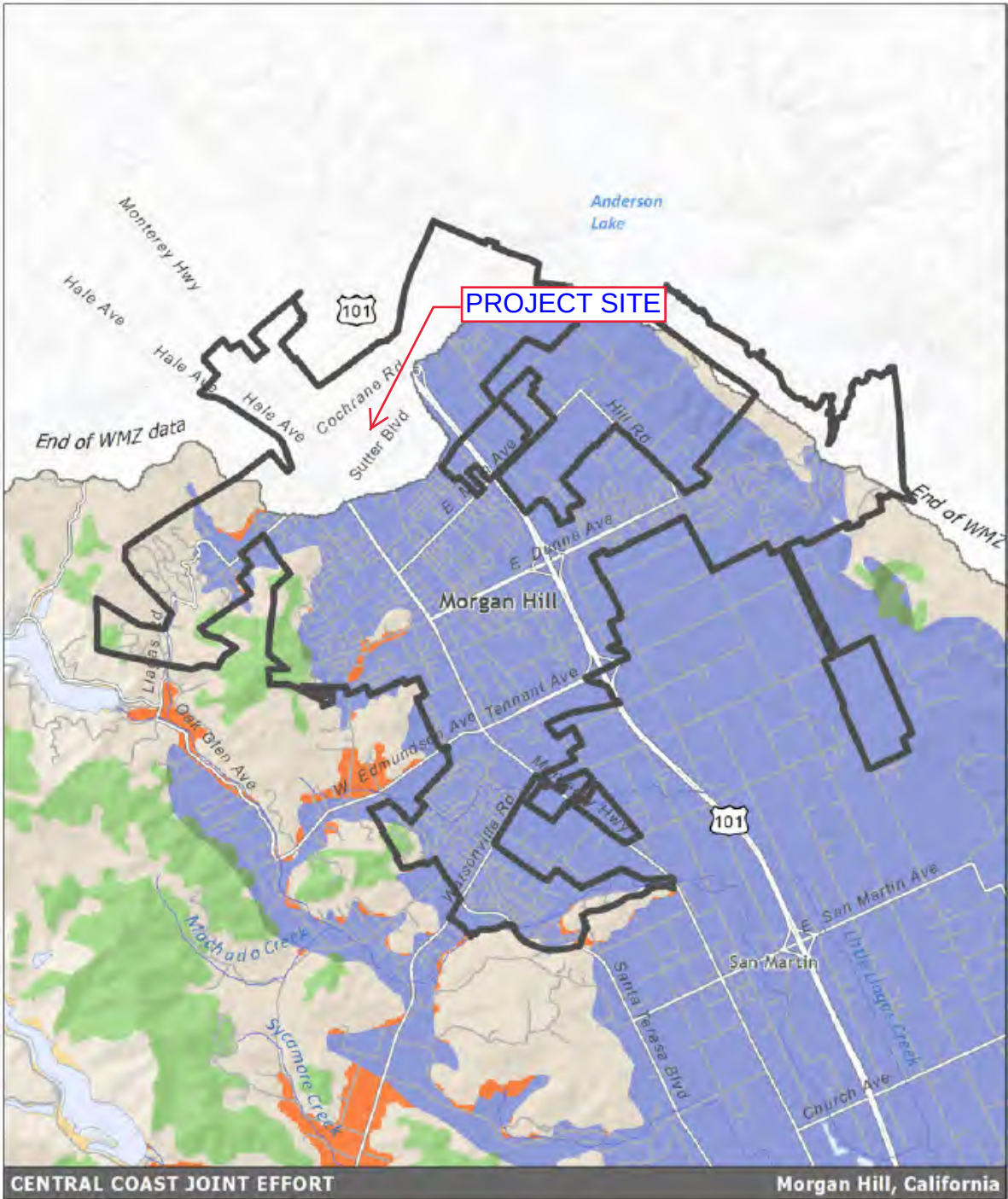
Data Source (for spatial variation):
PRISM Climate Group
Oregon State University
http://prism.oregonstate.edu

Central Coast Region
95th Percentile 24-hour Rainfall Depth

NAD 1983 California Teale Albers

0 20 40 80 Kilometers

0 20 40 80 Miles



CENTRAL COAST JOINT EFFORT — **Morgan Hill, California**

Watershed management zones

1 2 3 4 5 6 7 8 9 10

Urban area boundary

Data sources
Watershed management zones: Stillwater Sciences, 2012
Base data: ESRI 2010

0 0.25 0.5 1 Miles
0 0.5 1 2 km

N

Stillwater Sciences
www.stillwatersci.com

ATTACHMENT 6

PRELIMINARY DRAINAGE REPORT

MORGAN HILL RCFE

PRELIMINARY HYDROLOGY & HYDRAULICS

April 29, 2025

Prepared For:

Tenfold Senior Living
2115 SW Sunset Drive
Portland, OR 97239

Prepared By:

Chris Schulze, P.E. #59220
TSD Engineering, Inc.
785 Orchard Drive, Suite 110
Folsom, CA 95630

Table of Contents

Introduction **1**
Background **2**
Methodology **2**
Existing Conditions **3**
Post-Construction **3**
Conclusion 4

APPENDICIES

Appendix A – Drainage Management Maps (Existing & Post-Construction)

Appendix B – Existing Hydrology

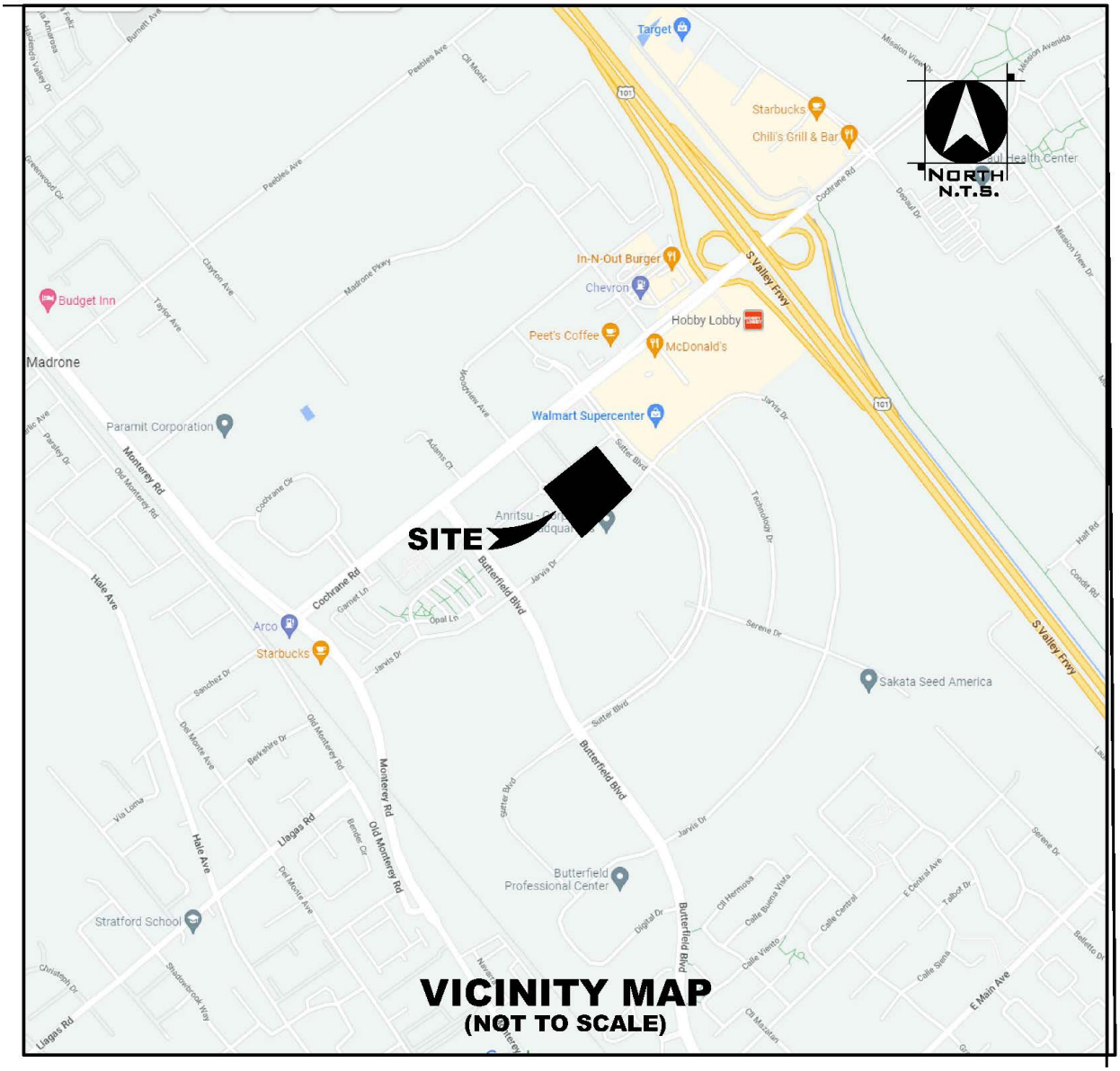
Appendix C – Developed Hydrology

Appendix D – Hydraulic Model Results / Bio-Retention Stage Storage Tables

Introduction:

This report represents the preliminary hydrology and hydraulic analysis for the Morgan Hill RCFE project, a multi-unit senior living facility. The project site is located northeast of the intersection of Jarvis Drive and Evergreen Village in the City of Morgan Hill, CA. (See Figure 1. Vicinity Map). The project will construct a senior living facility, associated drive aisles, parking, landscaping and utilities on approximately 3.3 acres of undeveloped land.

Figure 1. Vicinity Map



In accordance with the City of Morgan Hill Storm Drain Design Standards and the City of Morgan Hill Storm Drainage System Master Plan (SDMP), the proposed onsite storm drain system will be required to:

- Convey the runoff generated by the 100-year storm event through underground pipes while maintaining an HGL below the finish grade.

- Provide overland release routes that provide at least 1-foot of freeboard to the building finish floor.

- Reduce developed peak flows discharging from the site to pre-developed rates for the storm events covering the 2-year through 100-year, 24-hour storm events.

Background:

The project site is located within a larger development, Evergreen Village. The roads adjacent to the site have been designed and constructed in accordance with the Improvement Plans issued by MH Engineering Co. dated August 2019. Backbone infrastructure and bio-retention facilities have been designed and constructed to convey and treat runoff generated within the streets. The proposed onsite storm drain system has been designed to discharge treated water at pre-project flow rates to the existing storm drain system through stubs provided with construction of the backbone infrastructure. Analysis of the offsite sheds was not performed as part of this report.

The existing storm drain system conveys runoff to a regional basin that was intended to mitigate increased runoff caused by development within the contributing area. Based on conversations with the City of Morgan Hill, the existing system does not have the capacity to mitigate the increased runoff due to the development in the area in which the project site is located. At the direction of the City of Morgan Hill, the proposed storm drain system has been designed to reduce peak discharge rates from the project site to pre-construction rates for the 2-year through 100-year, 24-hour storm event.

Methodology:

The SCS method was used to determine peak discharge rate and runoff volume for the 10-year, 25-year and 100-year, 24-hour storm events. The following assumptions were used to estimate the peak runoff are listed below:

- SCS Rainfall Distribution Type 1A
- Rainfall Depths: (Per City of Morgan Hill Storm Drainage System Master Plan)
    - 2-Year, 24-Hour = 3.09 inches
    - 10-Year, 24-Hour = 4.42 inches
    - 25-Year, 24-Hour = 5.24 inches
    - 100-Year, 24-Hour = 6.50 inches
- Curve Numbers
    - Existing Conditions = 80 (Chaparral/Shrubs/Weeds / Soil Type D)
    - Developed Conditions = 88 (Multi-Family Medium / Soil Type D)
- Time of Concentration = 20 minutes

The criterion above was entered into Autodesk Hydraflow software to generate hydrographs for the respective storm events. In accordance with the City of Morgan Hill Stormwater Management Guidance Manual for Low Impact Development & Post-Construction Requirements and the California Regional Water Quality Control Board (CRWQCB) Post-Construction Requirements for Development Projects in the Central Coast Region, Resolution No. R3-2013-0032, the site will be required to reduce the developed flows to the pre-construction flow rates for storm events ranging from the 2-year to 10-year, 24-hour events. Per agreement with the City of Morgan Hill, the site will also be required to reduce the developed condition discharge rate for the 10-year to the 100-year, 24-hour storm events to pre-construction rates.

An Infoworks ICM model was created to represent the proposed storm drain system. The hydrographs created using the Hydraflow software were applied as inflows to nodes in the model to analyze the system response to the various storm events and confirm proposed storm drain system has the capacity to capture, convey and mitigate the runoff from the developed site. Ther following assumptions were used to create the model:

- Rim and invert elevations and pipe lengths, sizes and slopes consistent with the preliminary grading and drainage plan.
- Bio-Retention Basin Storage Volume assumes 40% porosity in media.
- Pipe manning's friction factor, n = 0.013 for all pipes.

Existing Conditions:

The existing site, covering approximately 3.3 acres, is currently undeveloped and assumed underlying soils that have Group D hydrologic characteristics. The site is relatively flat, sloping from the northeast to southwest of the project site are approximately 1%, see the Existing Conditions Shed Map, Appendix A. The site currently drains to bio-retention facilities located on the perimeter of the site.

The SCS Method using a Type 1A rainfall distribution was used to determine the peak discharge from the site. The peak discharge rates leaving the site are summarized below, see Appendix B for the Existing Conditions Hydraflow Runoff Hydrographs:

Table 1. Summary of Peak Discharge Rates – Existing Conditions

Shed	Area (ac)	Curve Number, CN	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
XA	3.3	80	0.910	1.840	2.464	3.458

Post-Construction:

The developed site has been divided into drainage management areas as shown on the Developed Shed Map, see Appendix A.

The proposed site will be designed to allow runoff to surface drain bio-retention basins located throughout the site. The bio-retention basins have been preliminarily designed to meet the City's low impact development and stormwater treatment requirements.

Stage storage tables for each of the bio-retention basins can be seen in Appendix D. The bottom and top of the gravel layer elevations are listed on the tables. The 95th percentile storm event will be stored below the subdrain. The invert of the subdrain is also listed on each table. Based on the Addendum to Geotechnical Engineering Investigation for the Proposed Tenfold Senior Housing RCFE completed by Krazan & Associates, Inc., dated April 22, 2025, see Appendix D. A percolation test was conducted in two locations onsite. A design infiltration rate has been calculated below:

- Two percolation tests have been performed
- Percolation rates of 5 min/inch and 16 min/inch were observed.
- Using the Porchet Method, infiltration rates of 3.5 inches/hour and 2.0 inches/ hour were determined
- Average infiltration rate = 2.75 inches/hour
- The design infiltration rate = 1.375 in./hr.
    - Factor of safety = 2 applied

The volume that can be infiltrated in 72 hours has been calculated for each stage storage table in Appendix D to confirm that the volume retained during the 95th percentile storm event can infiltrate completely within 72 hours.

The SCS Method with Type 1A rainfall distribution was used to estimate the runoff in this preliminary analysis. The storm drain system includes bio-retention basins that will be designed with the capacity to provide storm water quality treatment and oversized pipes to provide storage to reduce the developed conditions runoff generated by storm events ranging from the 2-year through 100-year, 24-hour storm events to pre-construction flow rates. Overland release routes will be provided to maintain more than 1-foot of freeboard to the finish floor in the event the storm drain system becomes clogged or inundated.

Infoworks software was used to model the proposed storm drain system. The storm drain system has been designed with oversized pipes to provide storage and an orifice plate installed in the most downstream structure (DI #1), to reduce the developed peak discharge rate from the site to pre-construction rates.

The orifice plate has been designed through modeling utilizing Infoworks software. The orifice plate will have three orifices that reduce developed discharge from the site to pre-construction discharge rates for the 2-year, 10-year, 25-year and 100-year, 24-hour storm events, causing water to back up in the underground system. A 5-1/8-inch diameter orifice at the flowline of the outlet pipe will control the discharge for the 2-year, 24-hour storm event, reducing the developed discharge rate to less than the pre-construction discharge rate. A 6-1/8-inch diameter orifice will be set above the water surface elevation determined for the 2-year, 24-hour storm to control the discharge for the 10-year, 24-hour storm event, reducing the developed discharge rate to less than the pre-construction discharge rate. The third orifice will be 6-1/2 inches in diameter orifice that is set above the water surface elevation determined for the 10-year storm event. The third orifice will reduce the developed discharge from the site for the 25-year and 100-year, 24-hour storm events to pre-construction discharge rates.

Infoworks conduit reports showing the Downstream Max Flow in link downstream of the model orifice plate can be seen in Appendix D. A summary of the mitigated peak discharge rates for the developed conditions are summarized below:

Table 2. Summary of Peak Discharge Rates – Developed Conditions

Shed	Area (ac)	Curve Number, CN	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
A	3.3	88	0.904	1.809	2.448	3.194

Conclusion:

This report discusses the analysis of the preliminary design of the proposed onsite storm drain systems. The proposed storm drain system has been designed to capture, treat and reduce peak discharge from the developed site to preconstruction rates for storm events ranging from the 2-year through 100-year, 24-hour storm events. Modeling has shown that the system has the capacity to convey the runoff and mitigate peak flows while maintaining and HGL below the finish grade onsite. Overland release routes have been designed to allow runoff surface drain from the site in the event the proposed storm drain system becomes clogged or inundated. Table 3 below illustrates the reduction in peak discharge rates under developed conditions for each storm event analyzed.

Table 3. Peak Discharge Rates Comparison

Shed	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
Existing	0.910	1.840	2.464	3.458
Developed	0.904	1.809	2.448	3.194

APPENDIX A

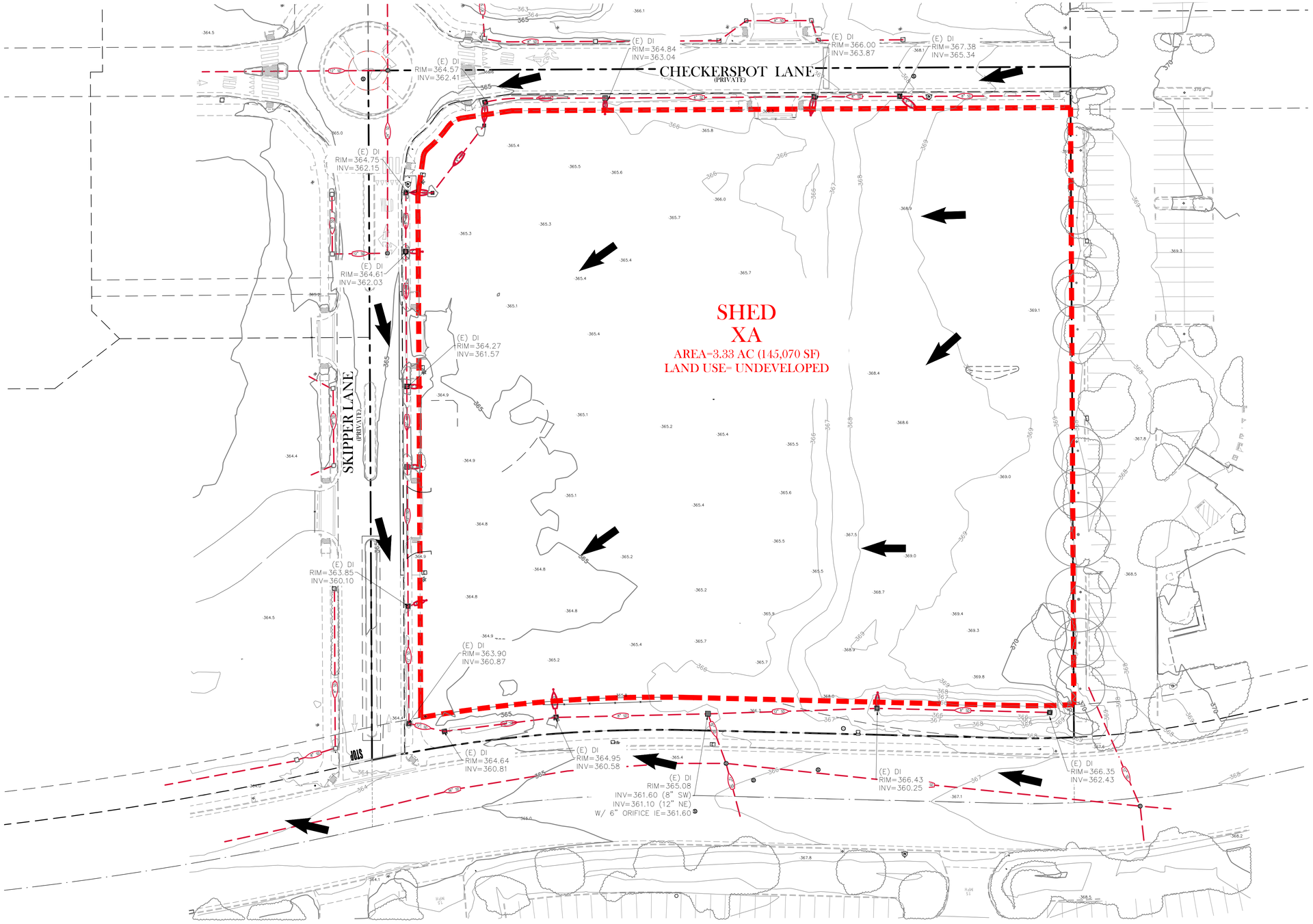
Existing Conditions Drainage Management Area Map

Post-Construction Drainage Management Area Map – Master

EXISTING CONDITIONS - SHED MAP

MORGAN HILL RCFE

MORGAN HILL, CA



UTILITY LEGEND

DESCRIPTION	PROPOSED	EXISTING
STORM DRAIN		36" SD
STORM DRAIN MANHOLE		
DROP INLET		

Table 1. Summary of Peak Discharge Rates – Existing Conditions

Shed	Area (ac)	Curve Number, CN	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
XA	3.3	80	0.910	1.840	2.464	3.458

N

scale: 1"=30'

30 0 15 30 60

SHED MAP
EXISTING CONDITIONS
APRIL 29, 2025

TSD ENGINEERING, INC.
expect more.

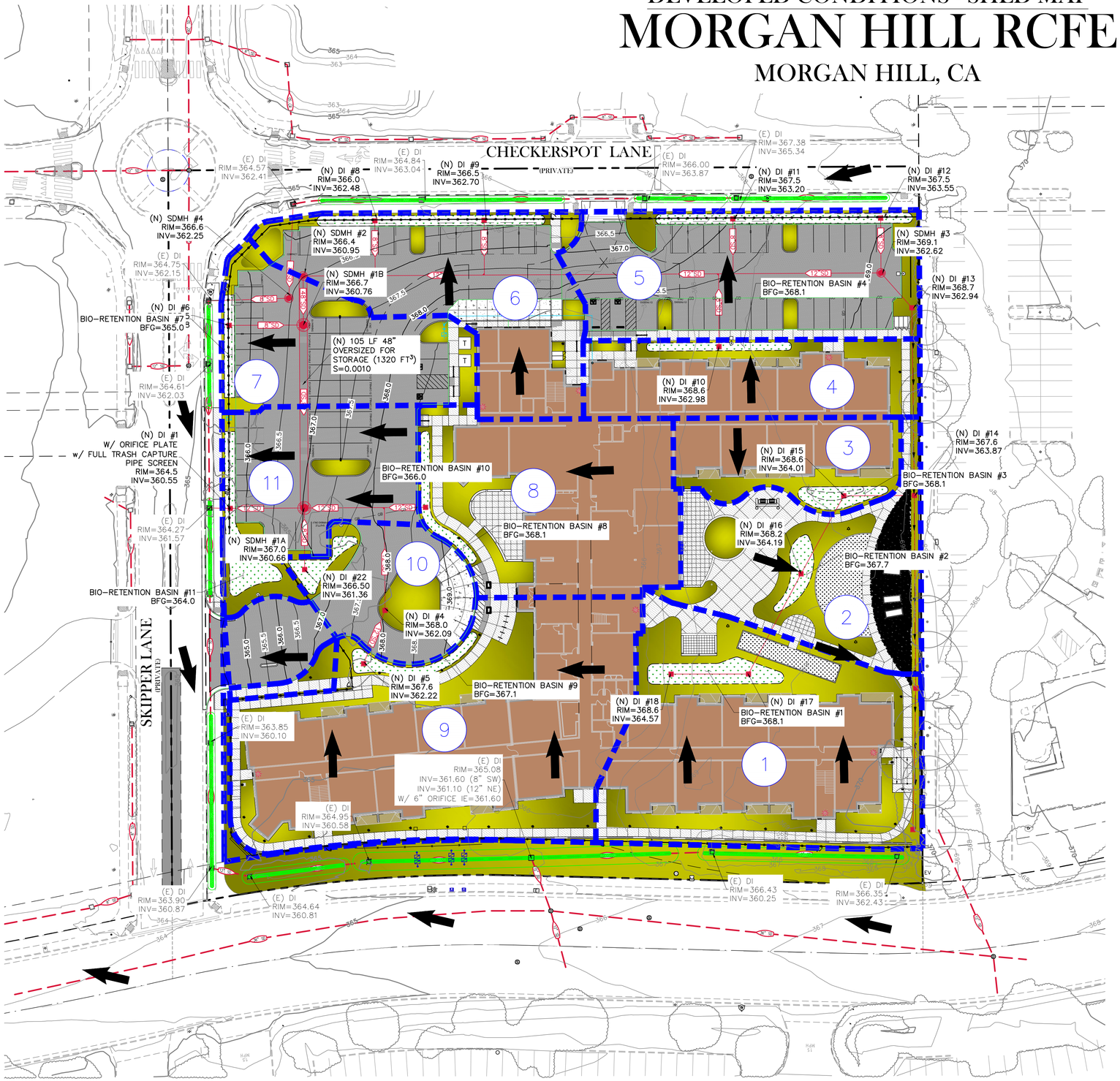
785 Orchard Drive, Suite #110
Folsom, CA 95630
Phone: (916) 608-0707
Fax: (916) 608-0701

P:\Projects\223-007\03 REPORTS\HYDROLOGY AND HYDRAULICS\Entitlements\2024-1213 Fifth Submittal\Exhibits\Shed Maps.dwg, Marcus Lewis, 10:24:36, 04-29-25

DEVELOPED CONDITIONS - SHED MAP

MORGAN HILL RCFE

MORGAN HILL, CA



UTILITY LEGEND

DESCRIPTION	PROPOSED	EXISTING
STORM DRAIN	12"SD	24" SD
STORM DRAIN MANHOLE		
DROP INLET		

SURFACE LEGEND:

- ASPHALT PAVEMENT
- CONCRETE
- LANDSCAPE AREA
- SIDEWALK
- BUILDING AREA
- WATER QUALITY BASIN

Table 2. Summary of Peak Discharge Rates – Developed Conditions

Shed	Area (ac)	Curve Number, CN	2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	100-Year (cfs)
A	3.3	88	0.904	1.809	2.448	3.194

scale: 1"=30'

30 0 15 30 60

SHED MAP
DEVELOPED CONDITIONS
APRIL 29, 2025

TSD ENGINEERING, INC.
expect more.
785 Orchard Drive, Suite #110
Folsom, CA 95630
Phone: (916) 608-0707
Fax: (916) 608-0701

P:\Projects\229-007\03 REPORTS\HYDROLOGY AND HYDRAULICS\Entitlements\2024-12\3 Fifth Submittal\Exhibits\Shed Maps.dwg, Marcus Lewis, 10:25:14, 04-29-25

APPENDIX B

Existing Hydrology

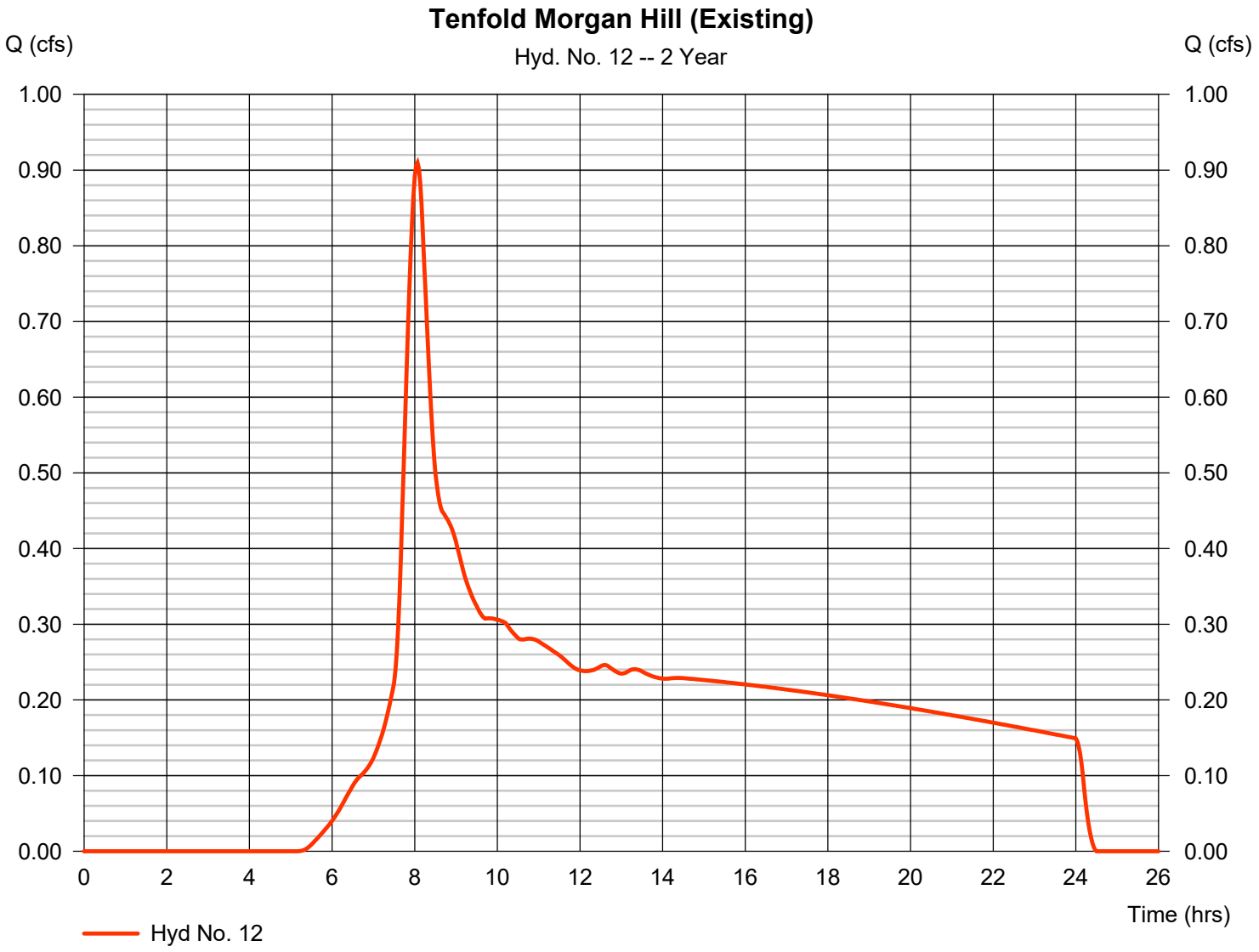
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.910 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.07 hrs
Time interval	= 2 min	Hyd. volume	= 15,787 cuft
Drainage area	= 3.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



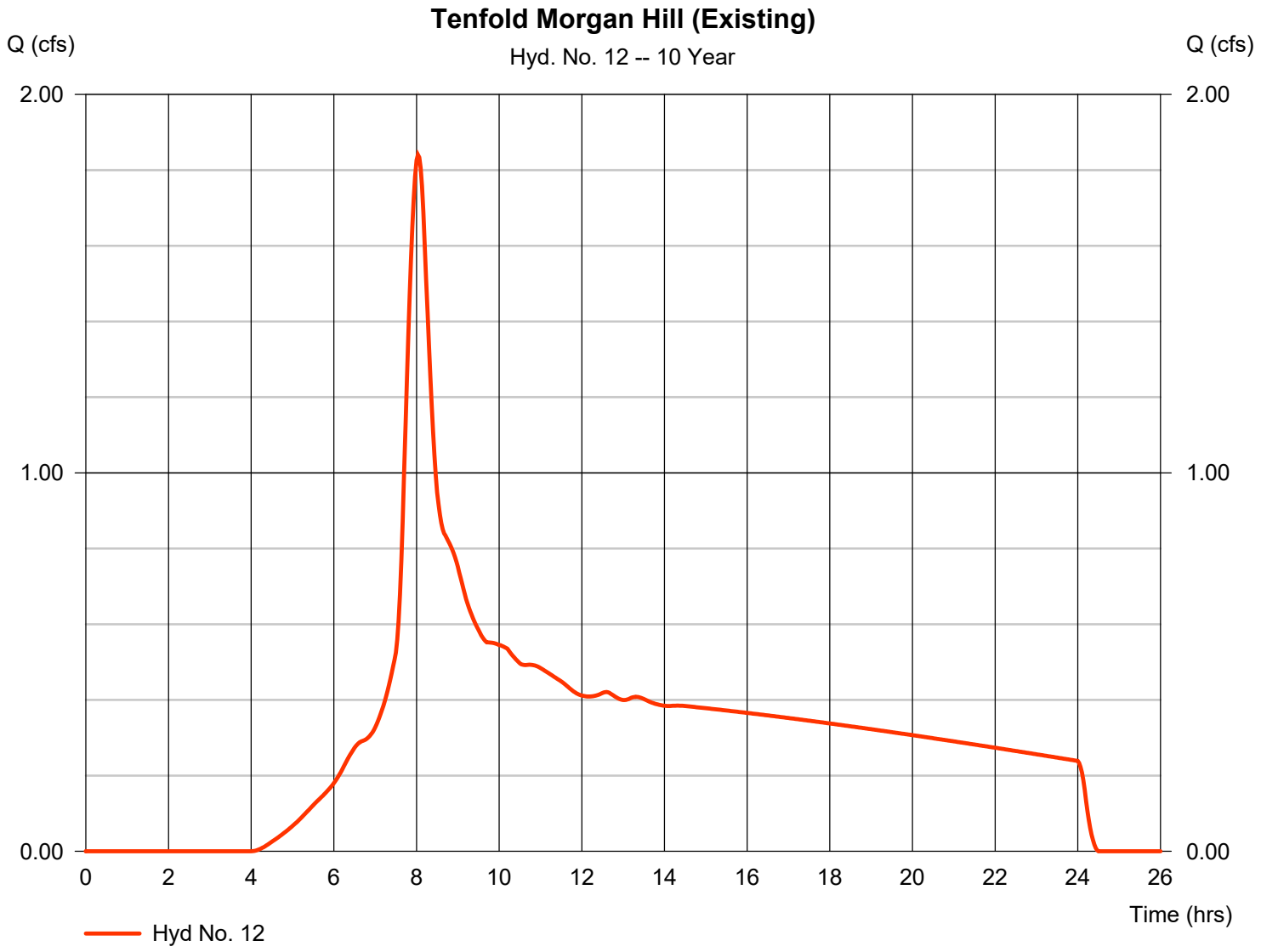
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.840 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 28,672 cuft
Drainage area	= 3.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.42 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



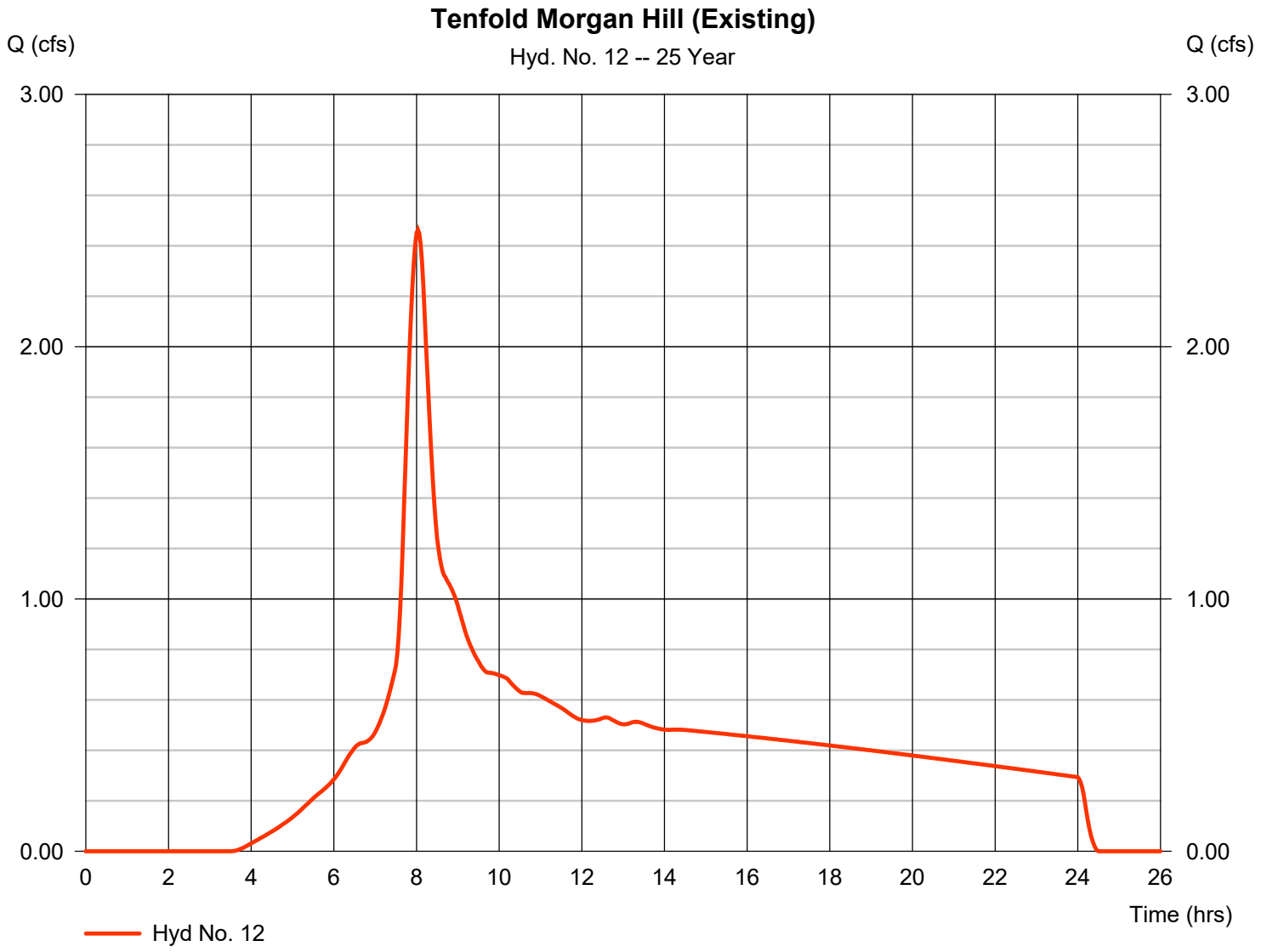
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.464 cfs
Storm frequency	= 25 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 37,174 cuft
Drainage area	= 3.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 5.24 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Monday, 09 / 9 / 2024

Hyd. No. 12

Tenfold Morgan Hill (Existing)

Hydrograph type	= SCS Runoff	Peak discharge	= 3.458 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 50,735 cuft
Drainage area	= 3.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

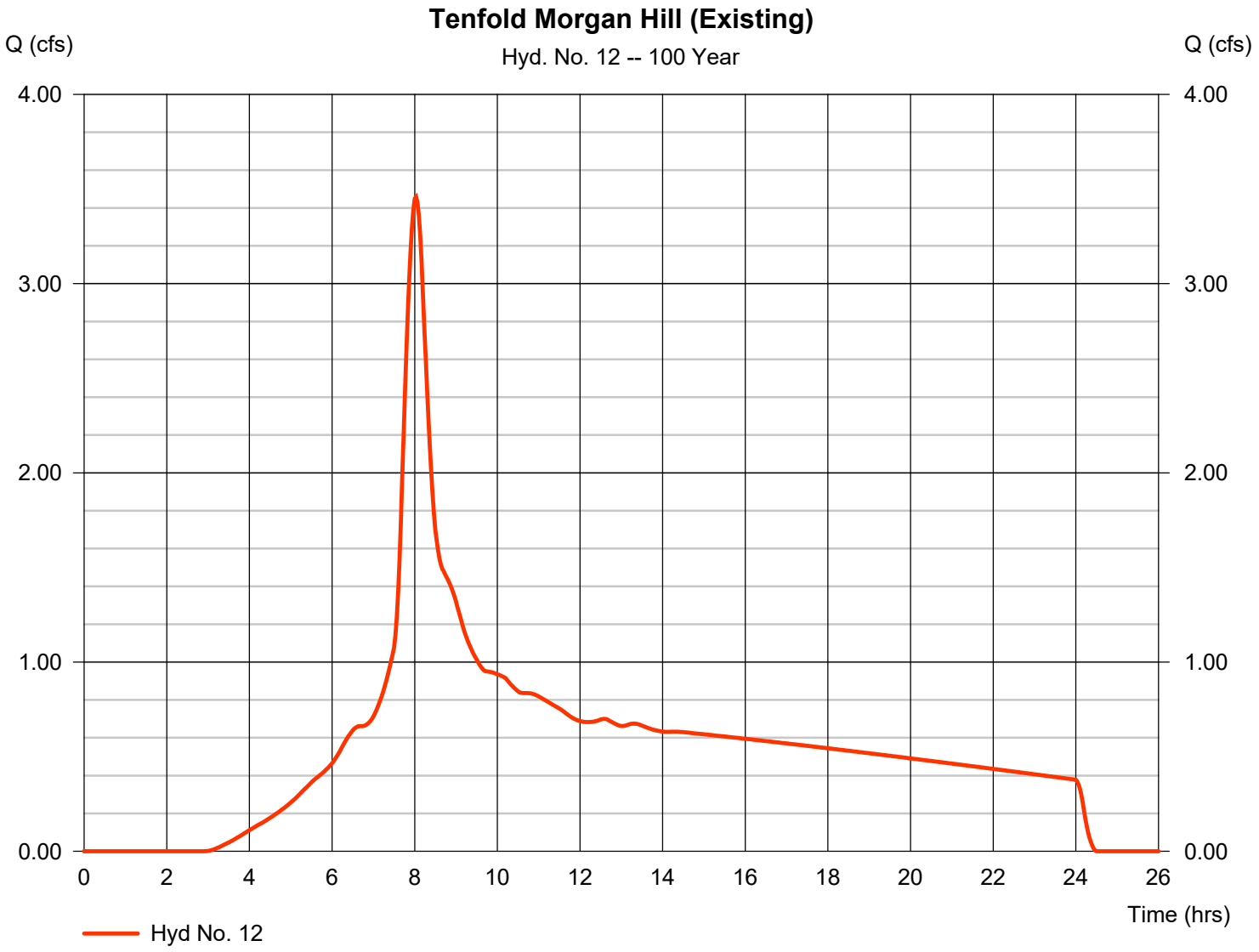


Table 3.1 Precipitation Depth-Duration-Frequency

Storm Drainage System Master Plan

City of Morgan Hill

Duration	2-Year		5-Year		10-Year		25-Year		100-Year	
	(in)	(in/hr)	(in)	(in/hr)	(in)	(in/hr)	(in)	(in/hr)	(in)	(in/hr)
5-min	0.12	1.44	0.15	1.80	0.18	2.16	0.21	2.52	0.26	3.12
10-min	0.18	1.08	0.23	1.38	0.26	1.56	0.31	1.86	0.38	2.28
15-min	0.23	0.92	0.29	1.16	0.33	1.32	0.39	1.56	0.48	1.92
30-min	0.34	0.68	0.42	0.84	0.49	0.98	0.58	1.16	0.72	1.44
1-hr	0.51	0.51	0.63	0.63	0.72	0.72	0.86	0.86	1.06	1.06
2-hr	0.75	0.38	0.93	0.47	1.07	0.54	1.27	0.64	1.58	0.79
3-hr	0.95	0.32	1.18	0.39	1.35	0.45	1.60	0.53	1.99	0.66
6-hr	1.40	0.23	1.75	0.29	2.01	0.34	2.38	0.40	2.95	0.49
12-hr	2.08	0.17	2.59	0.22	2.98	0.25	3.53	0.29	4.38	0.37
24-hr	3.09	0.13	3.85	0.16	4.42	0.18	5.24	0.22	6.50	0.27

AKEL ENGINEERING GROUP, INC.

9/6/2018

Note:

1. Source: City of Morgan Hill 2002 Storm Drainage System Master Plan

APPENDIX C

Developed Hydrology

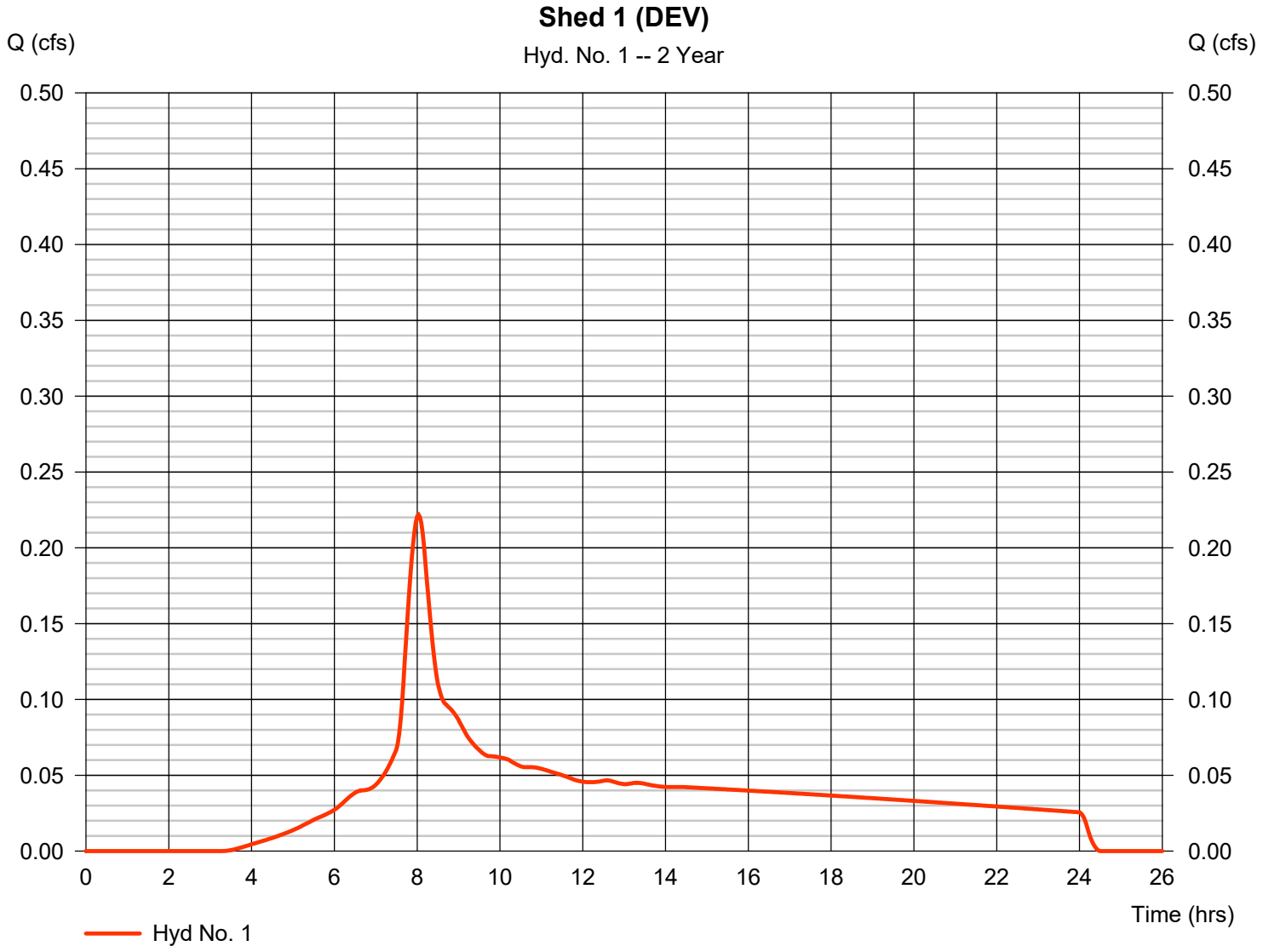
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.222 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 3,308 cuft
Drainage area	= 0.480 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



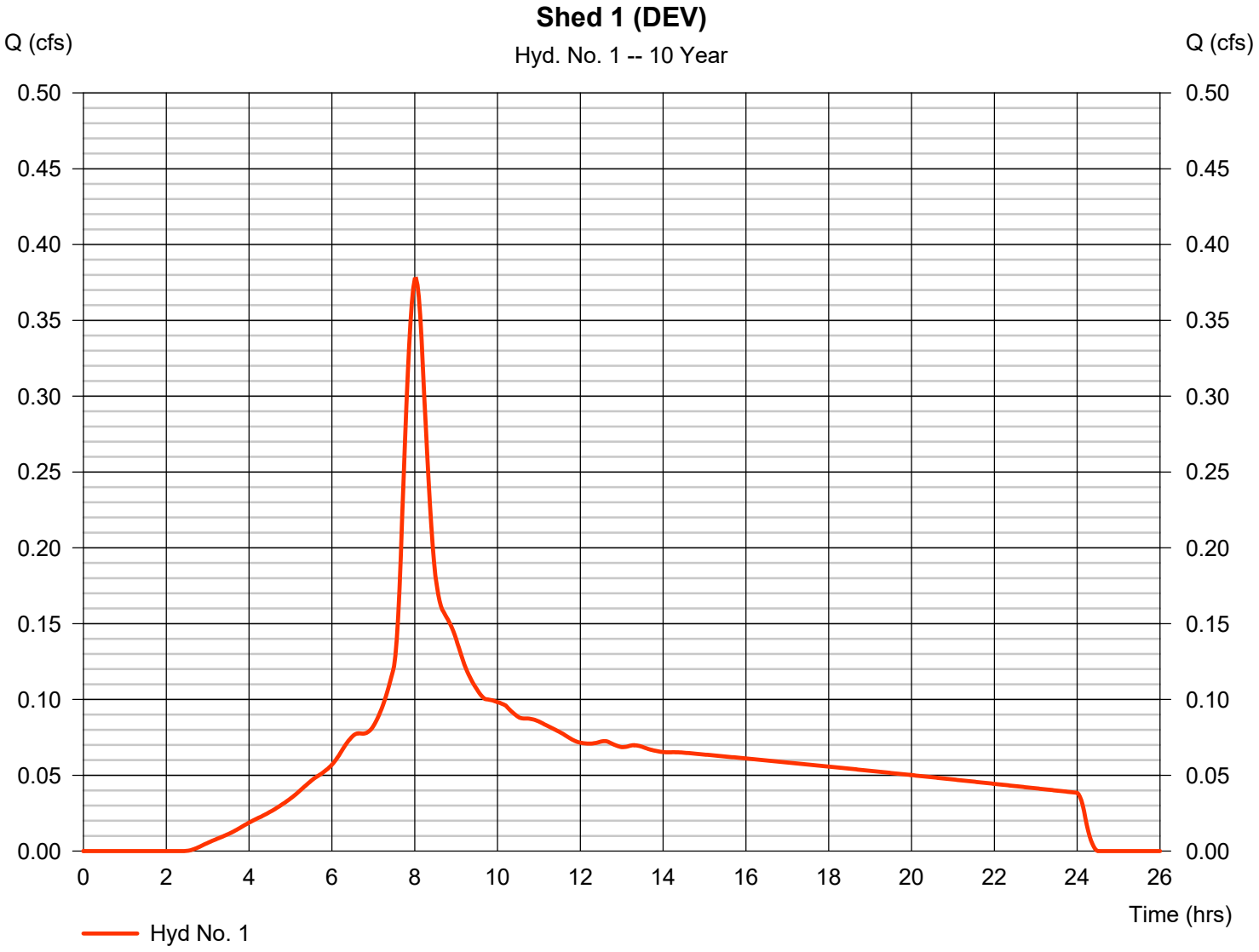
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.377 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 5,438 cuft
Drainage area	= 0.480 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.42 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



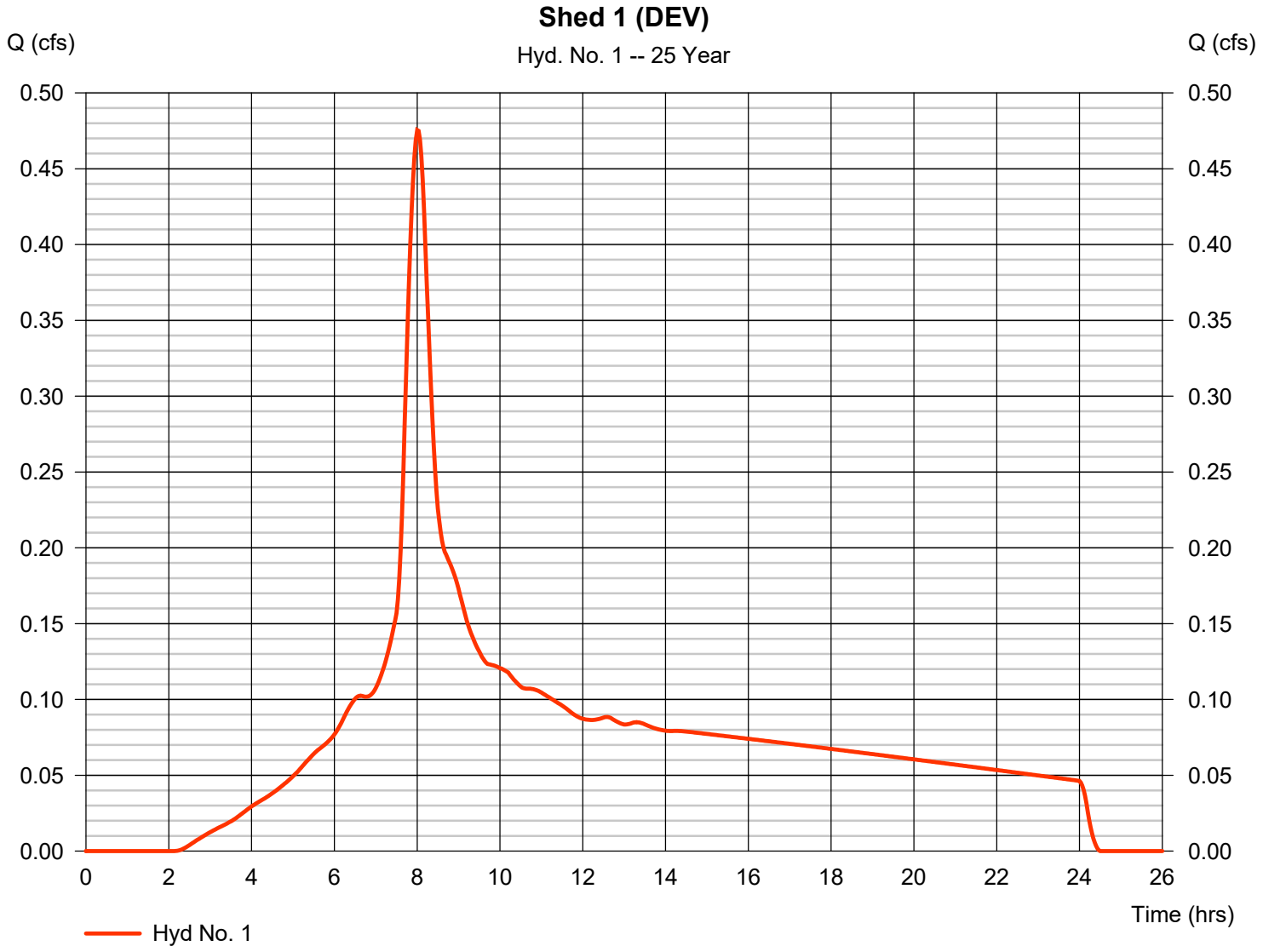
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.475 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	6,791 cuft
Drainage area	=	0.480 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



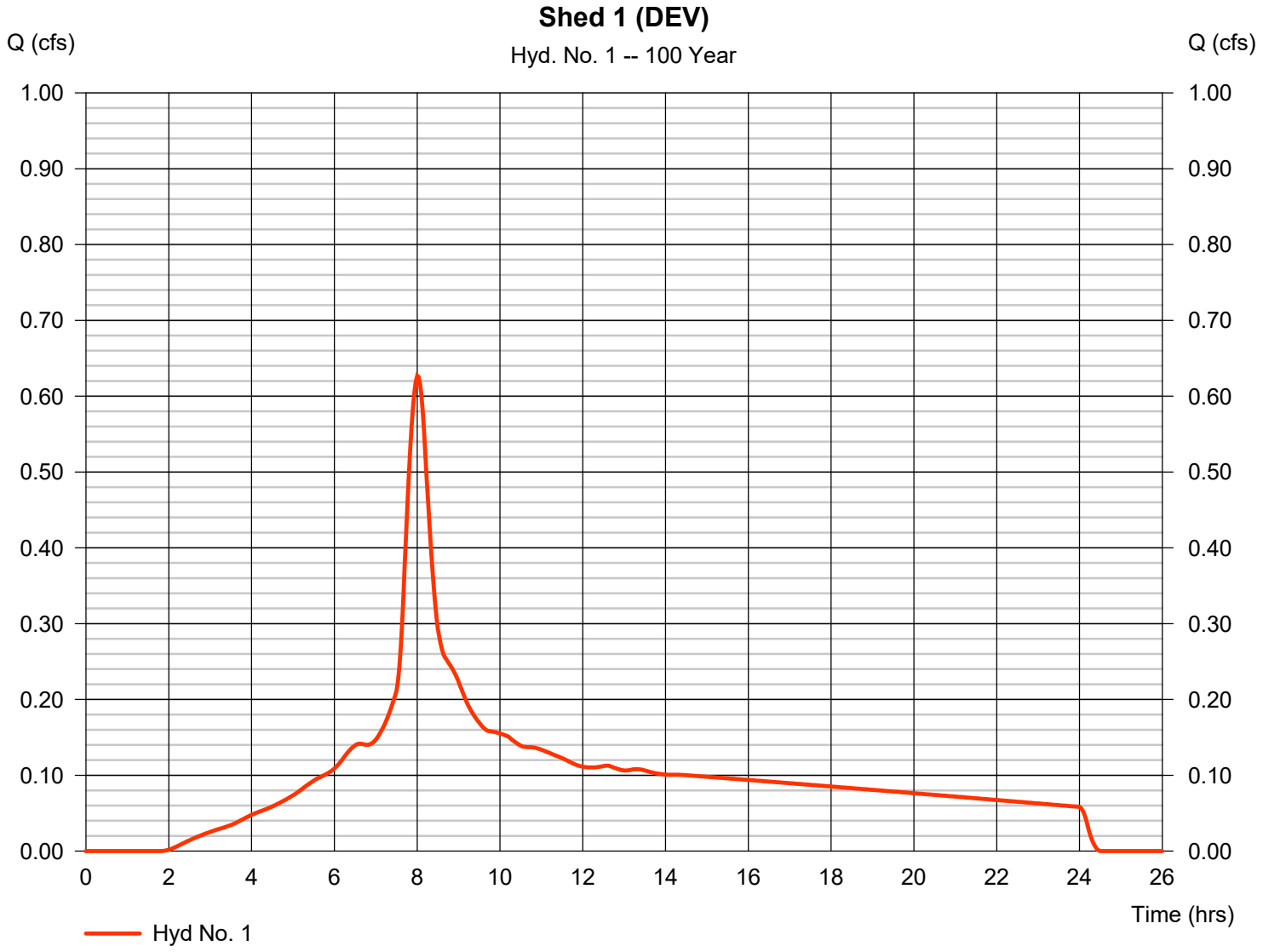
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 1

Shed 1 (DEV)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.627 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	8,901 cuft
Drainage area	=	0.480 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



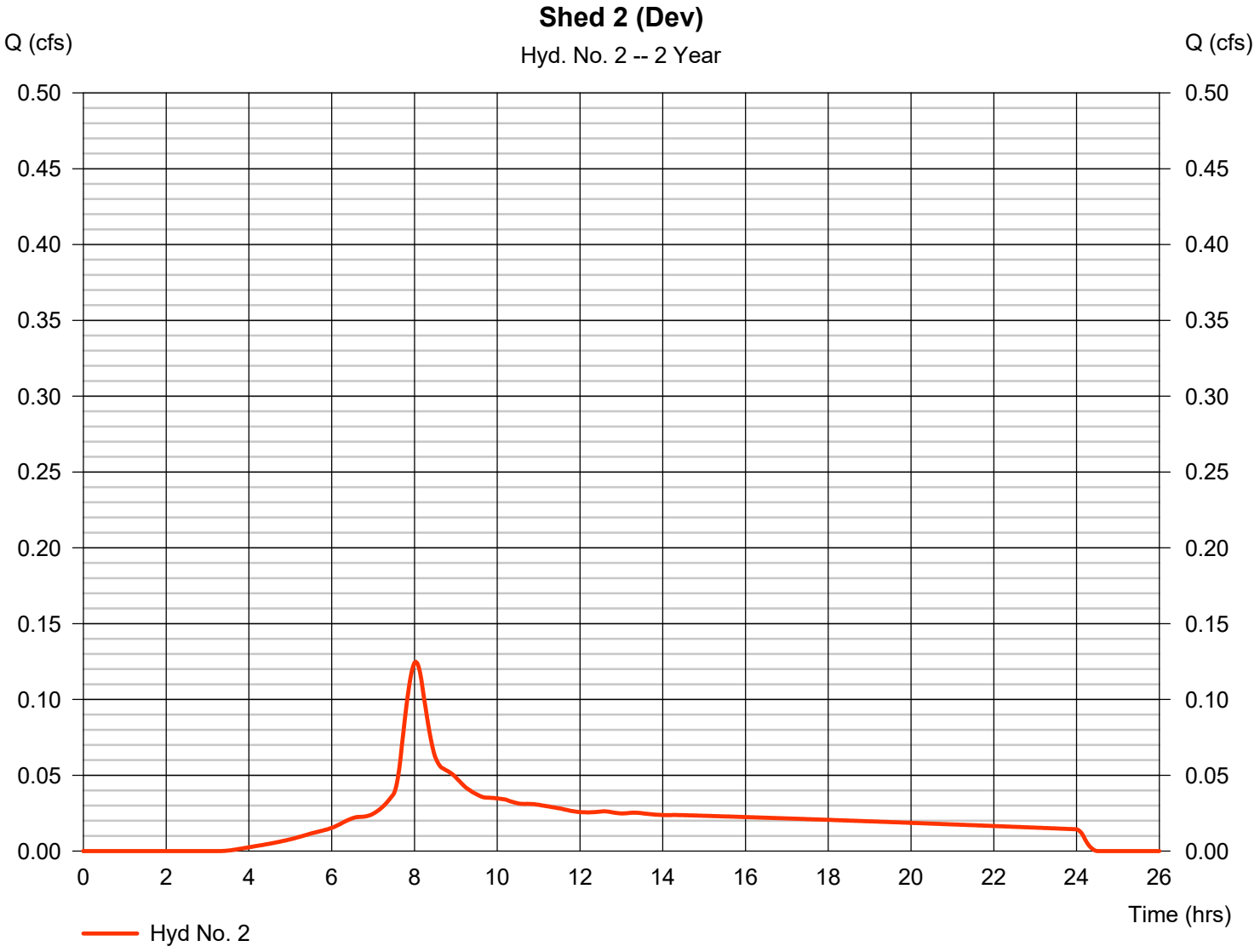
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.125 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 1,861 cuft
Drainage area	= 0.270 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



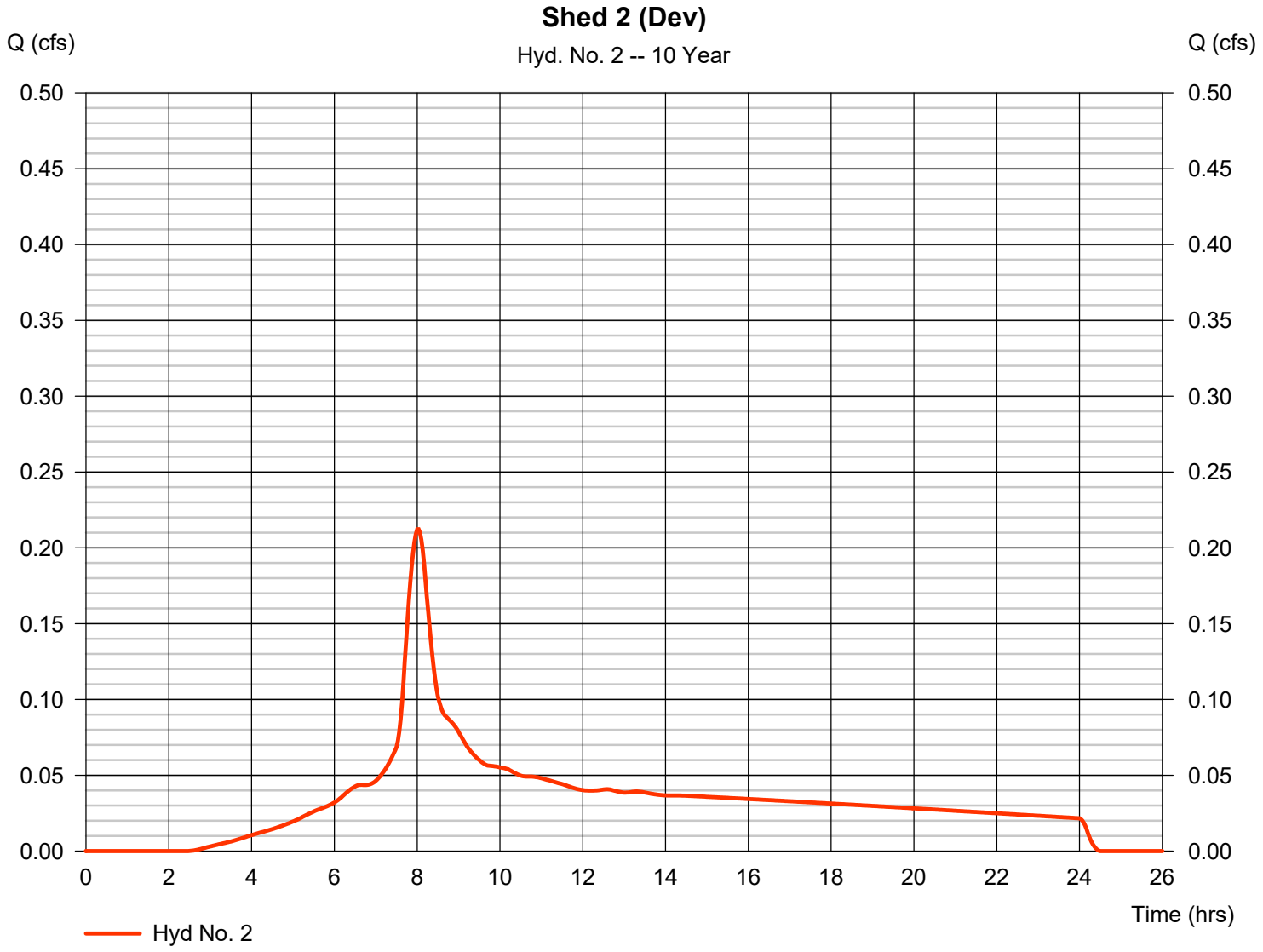
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.212 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 3,059 cuft
Drainage area	= 0.270 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.42 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



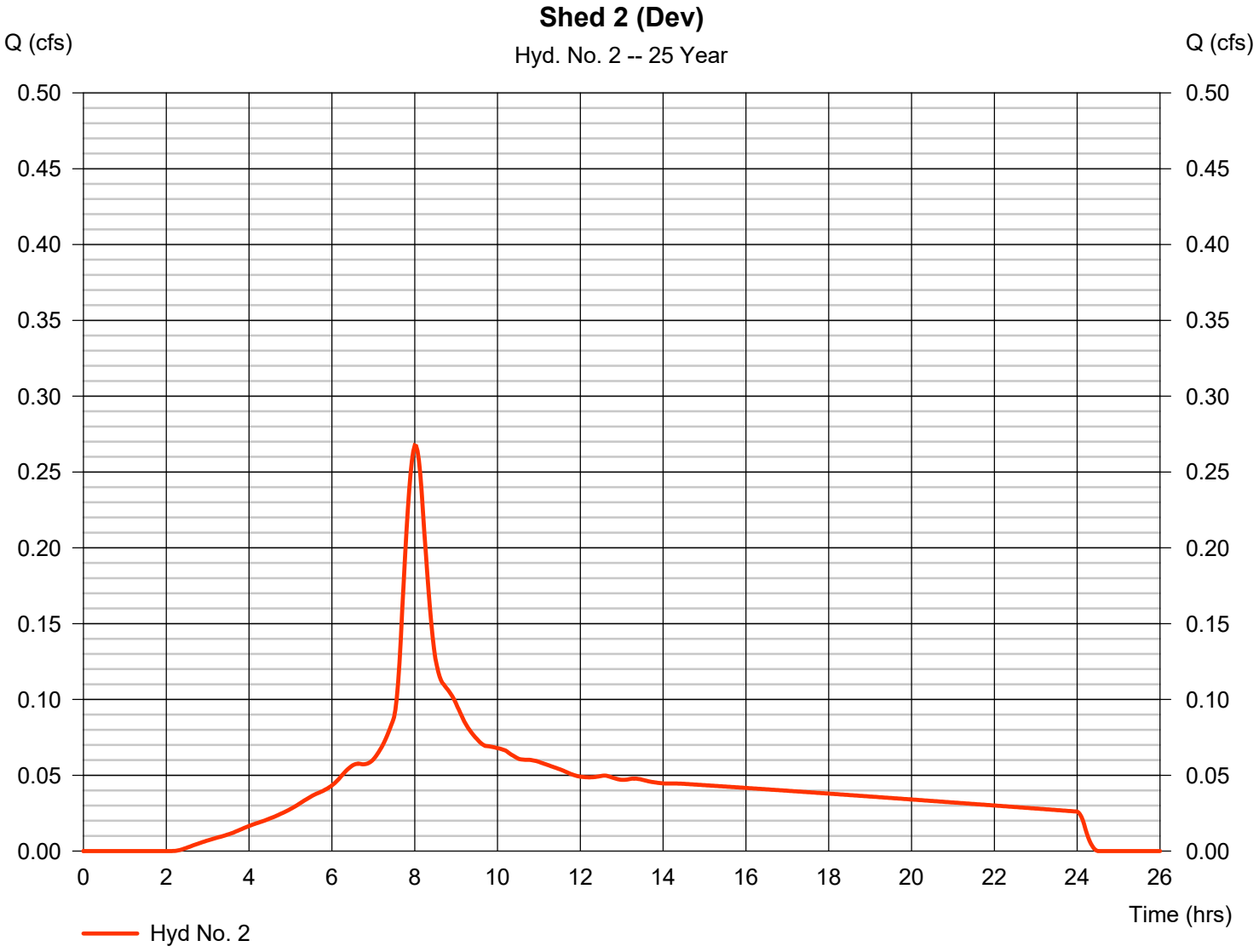
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.267 cfs
Storm frequency	= 25 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 3,820 cuft
Drainage area	= 0.270 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 5.24 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



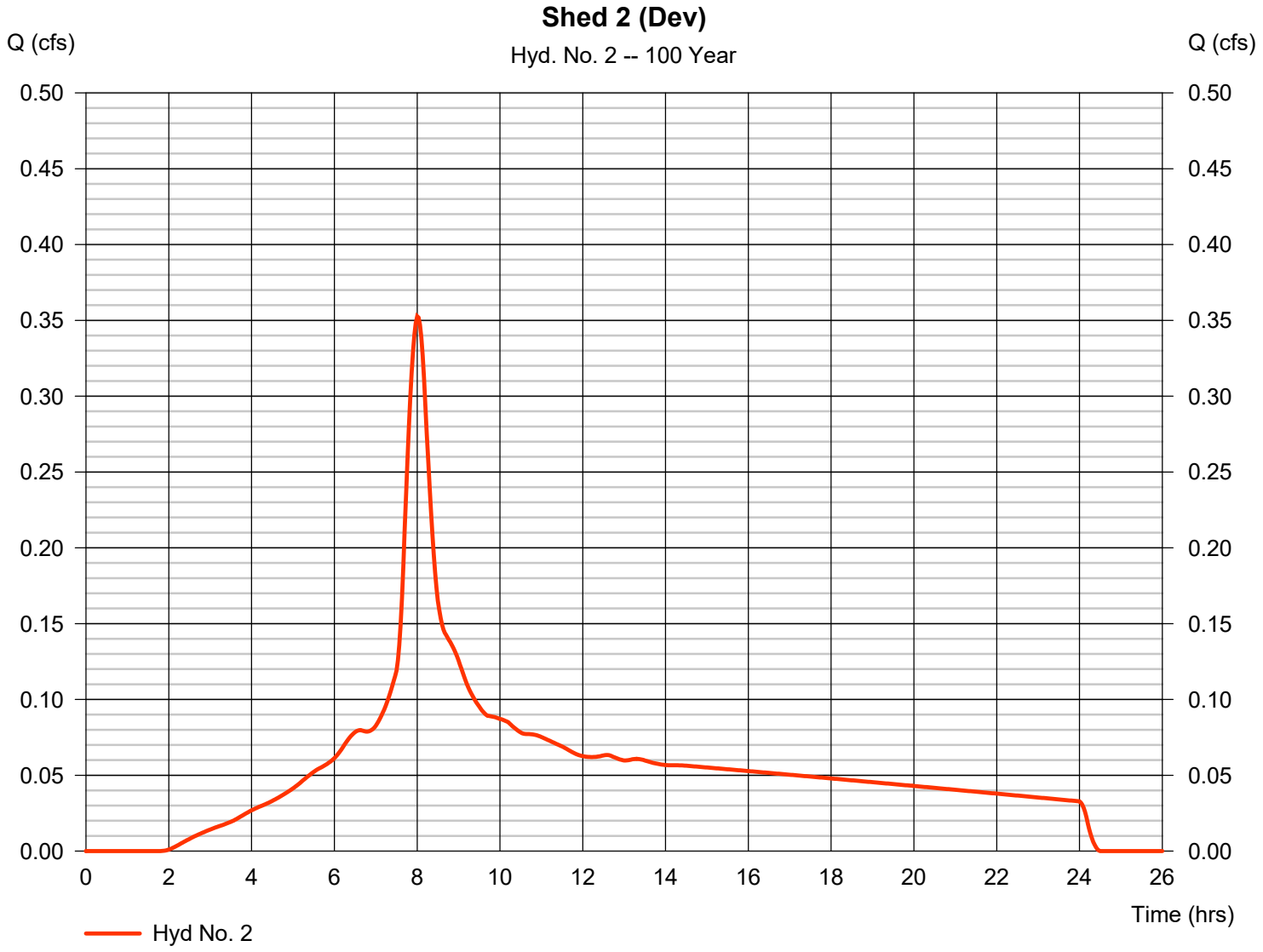
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 2

Shed 2 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.353 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 5,007 cuft
Drainage area	= 0.270 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



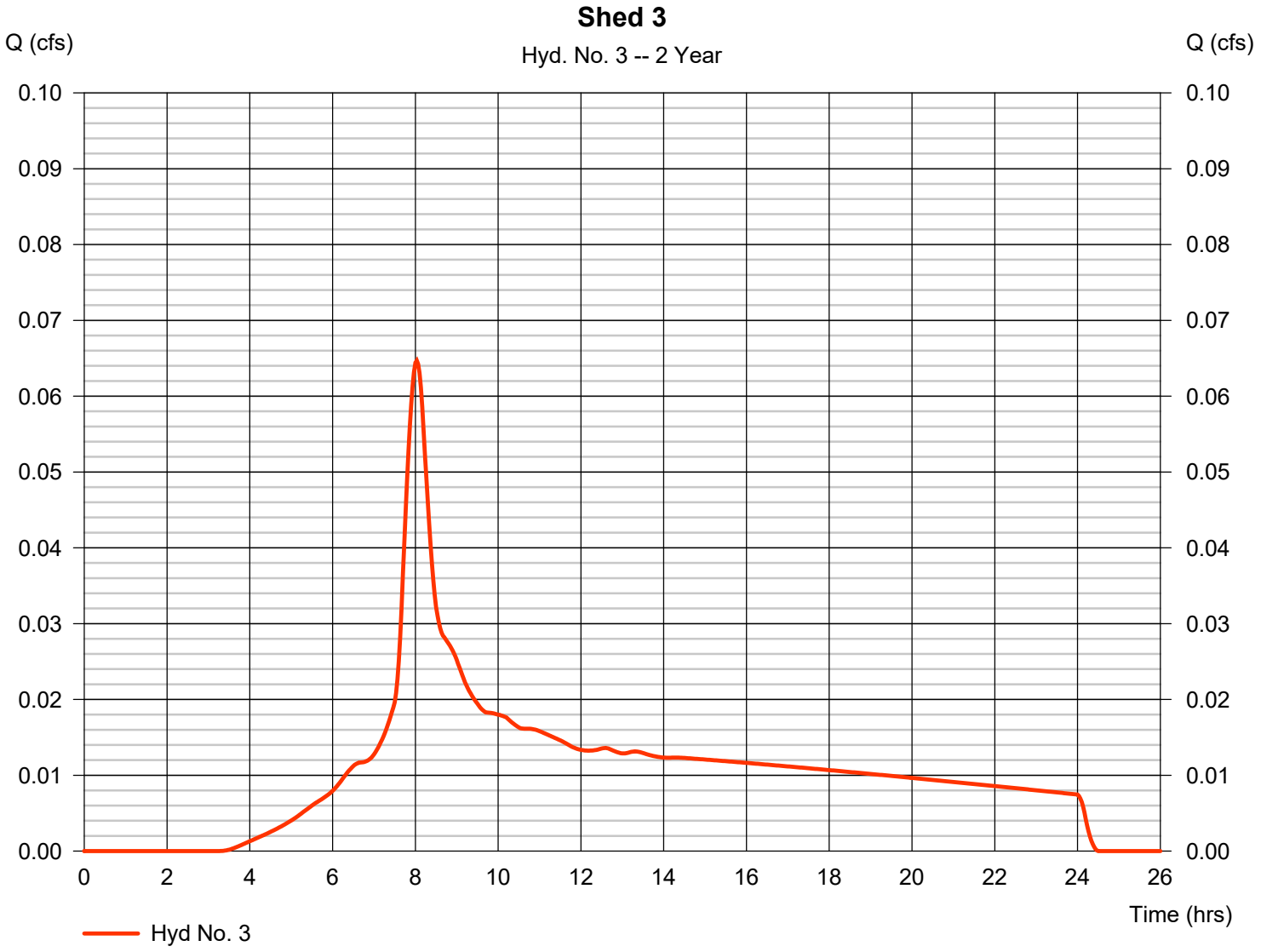
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.065 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	965 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



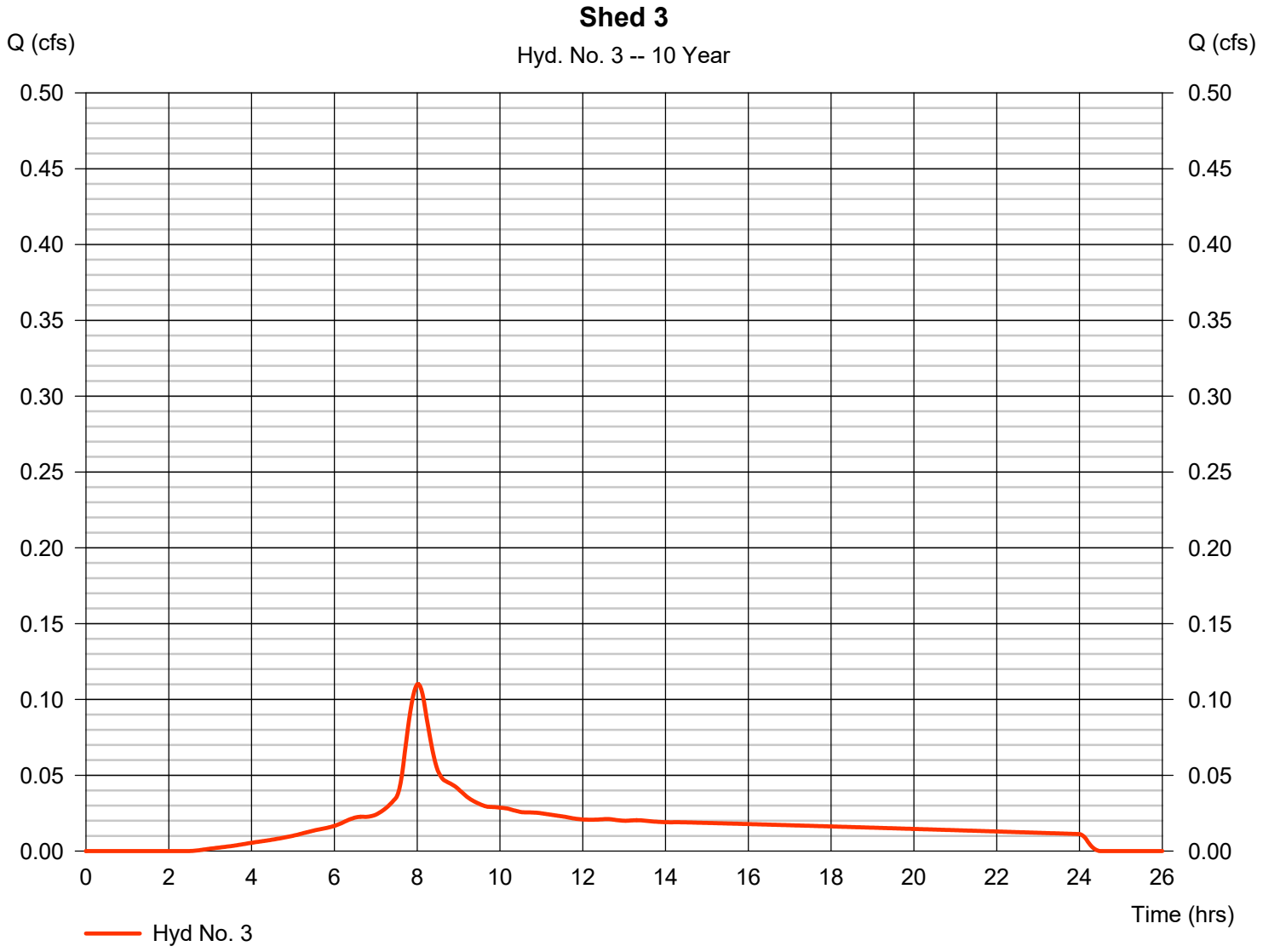
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.110 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,586 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



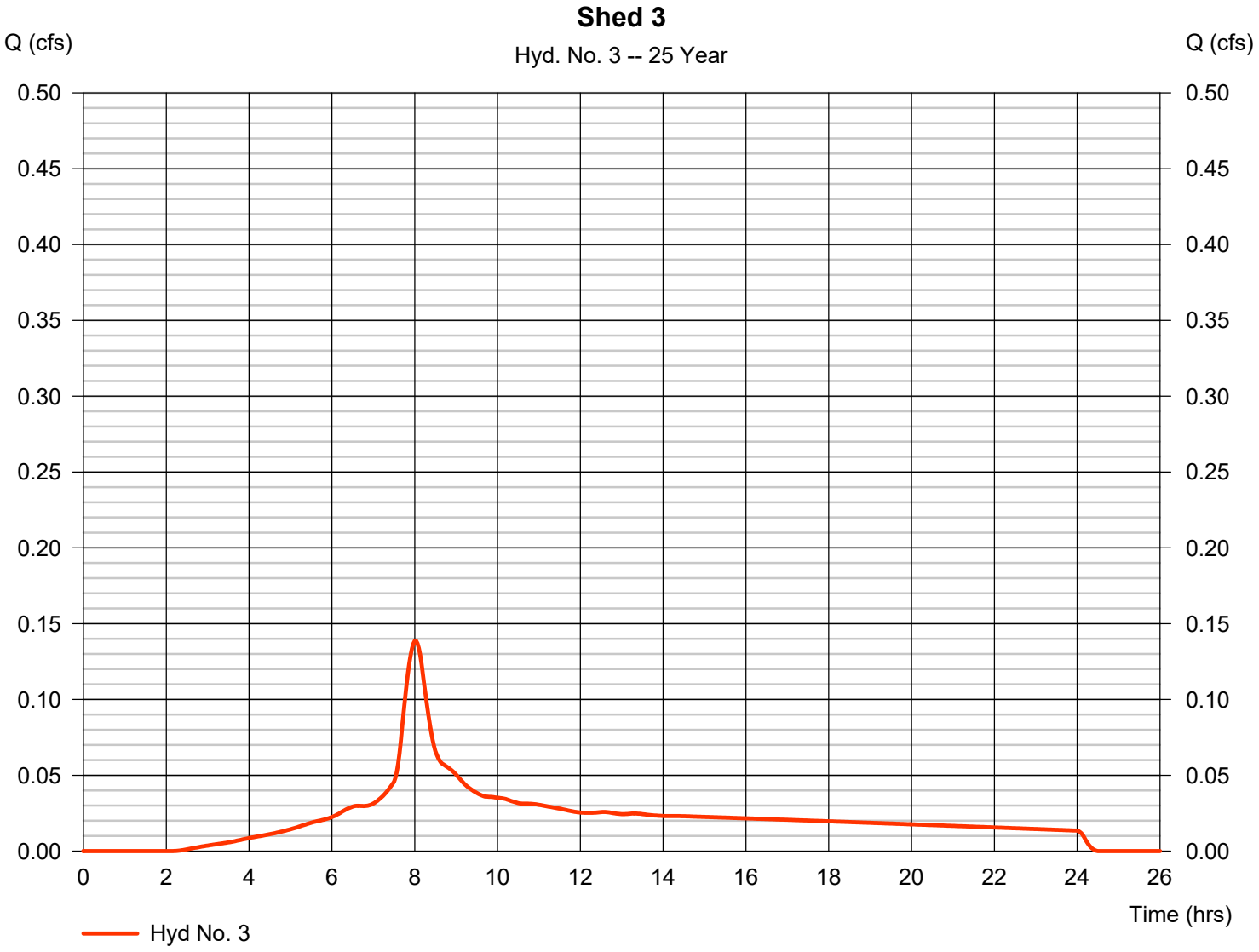
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	1,981 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



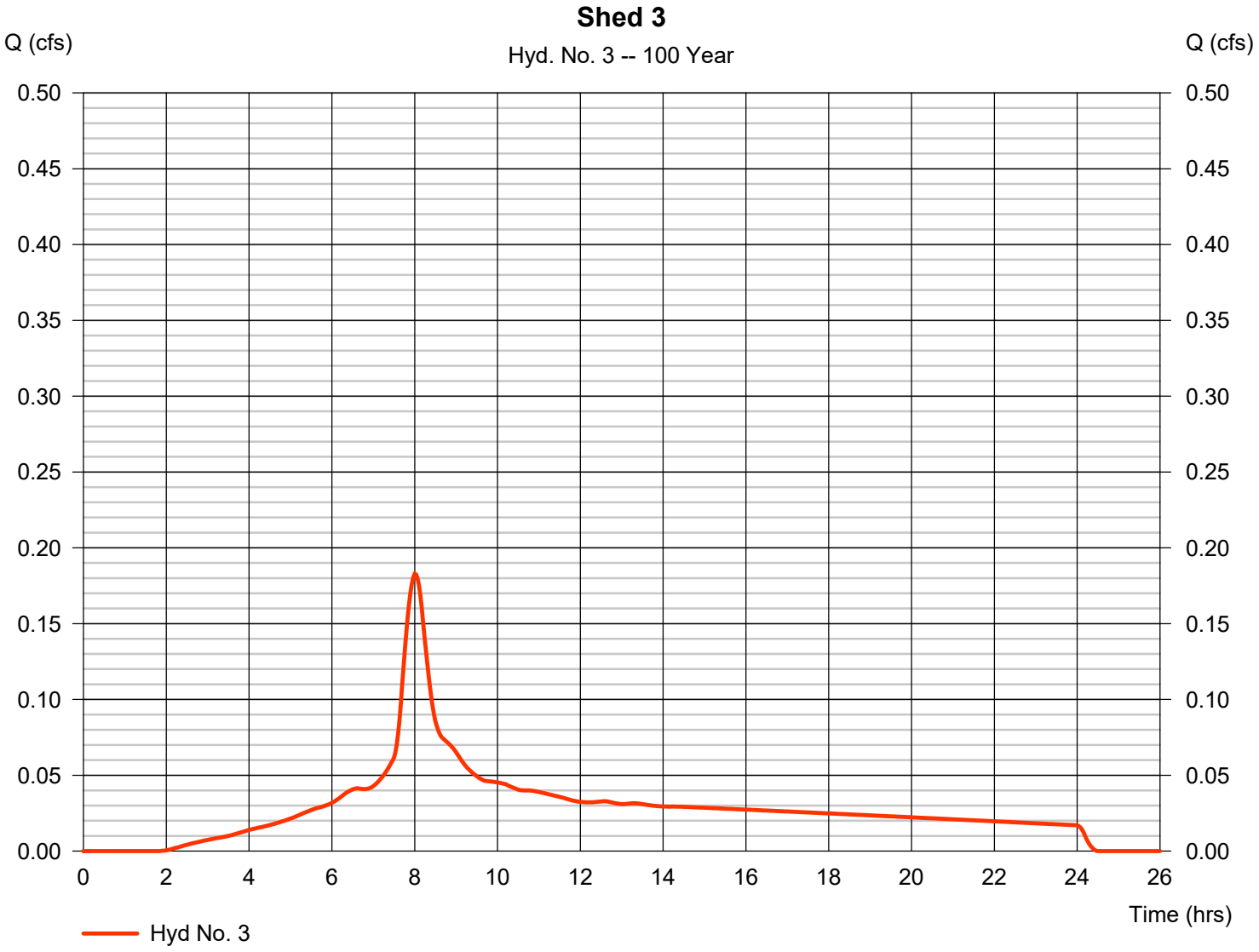
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 3

Shed 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.183 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	2,596 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



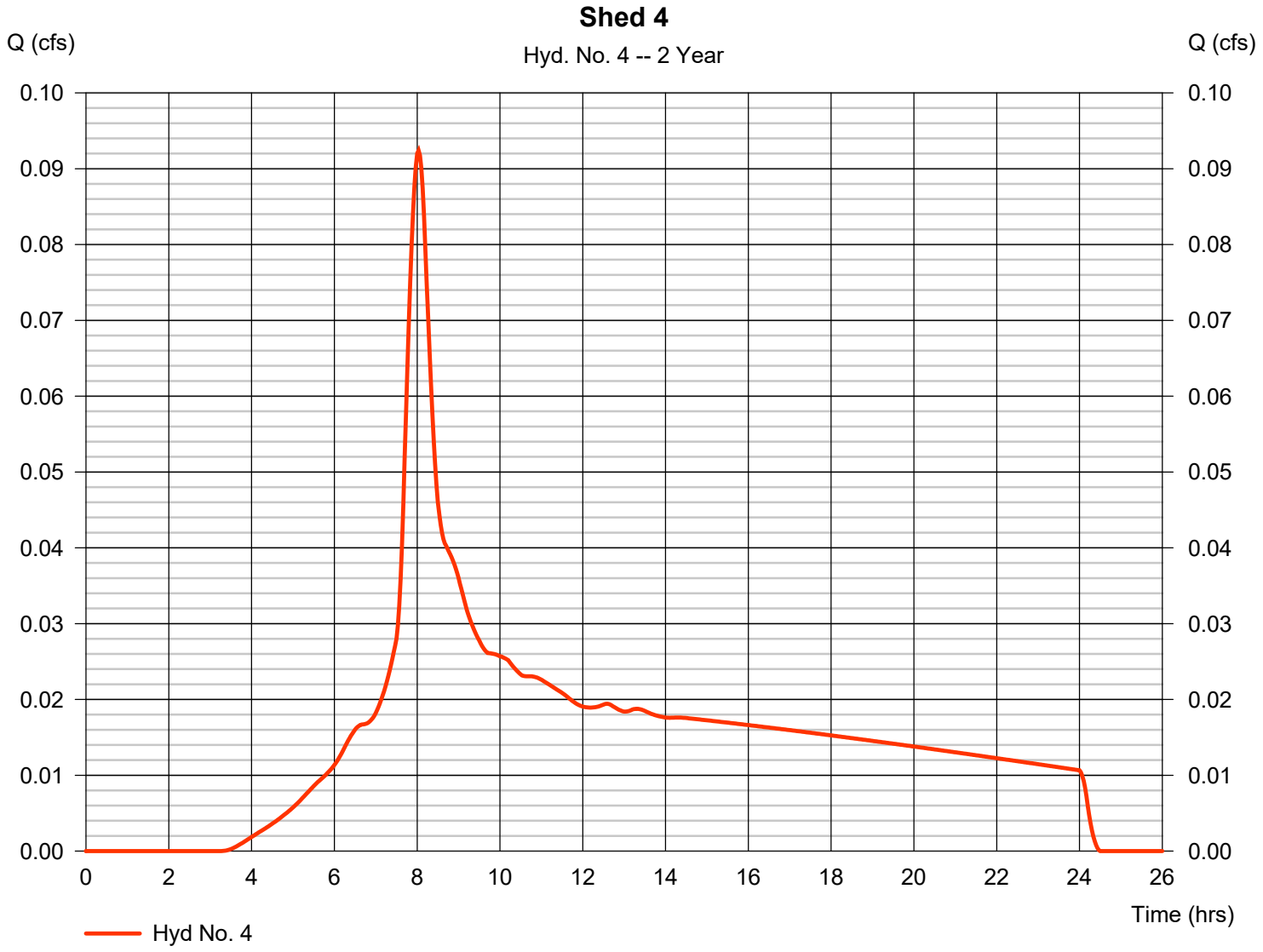
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.092 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,378 cuft
Drainage area	=	0.200 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



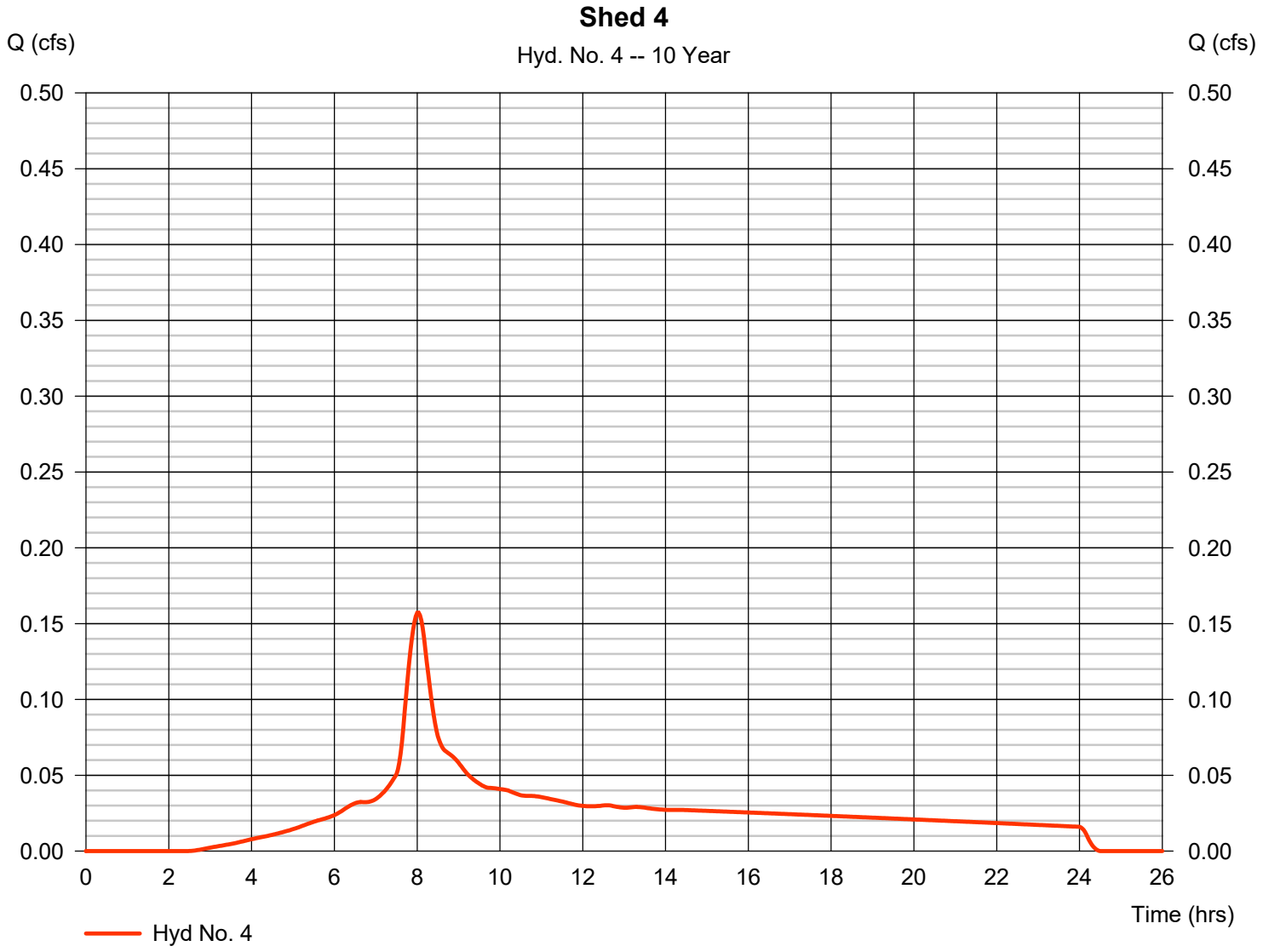
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.157 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,266 cuft
Drainage area	=	0.200 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



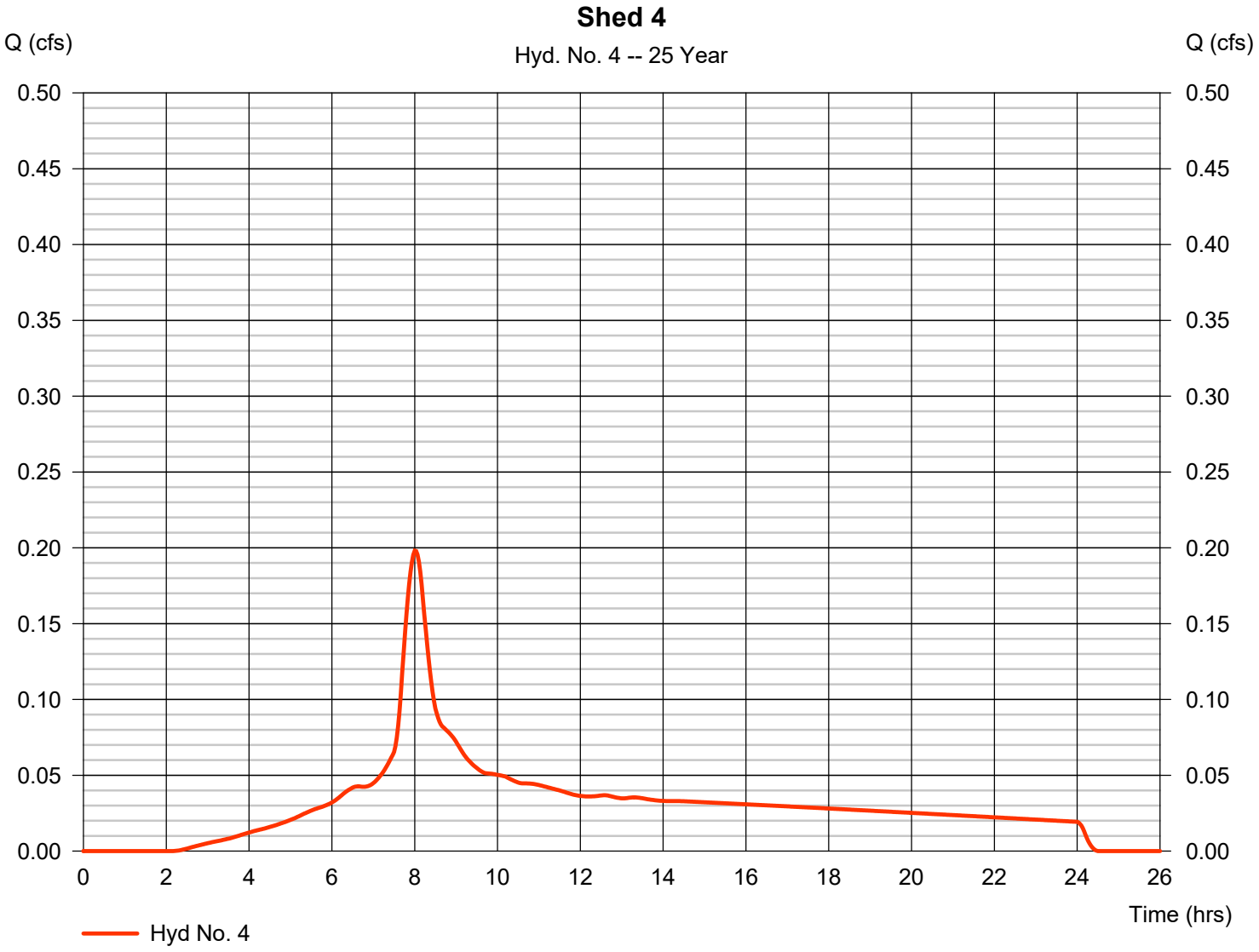
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.198 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	2,829 cuft
Drainage area	=	0.200 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



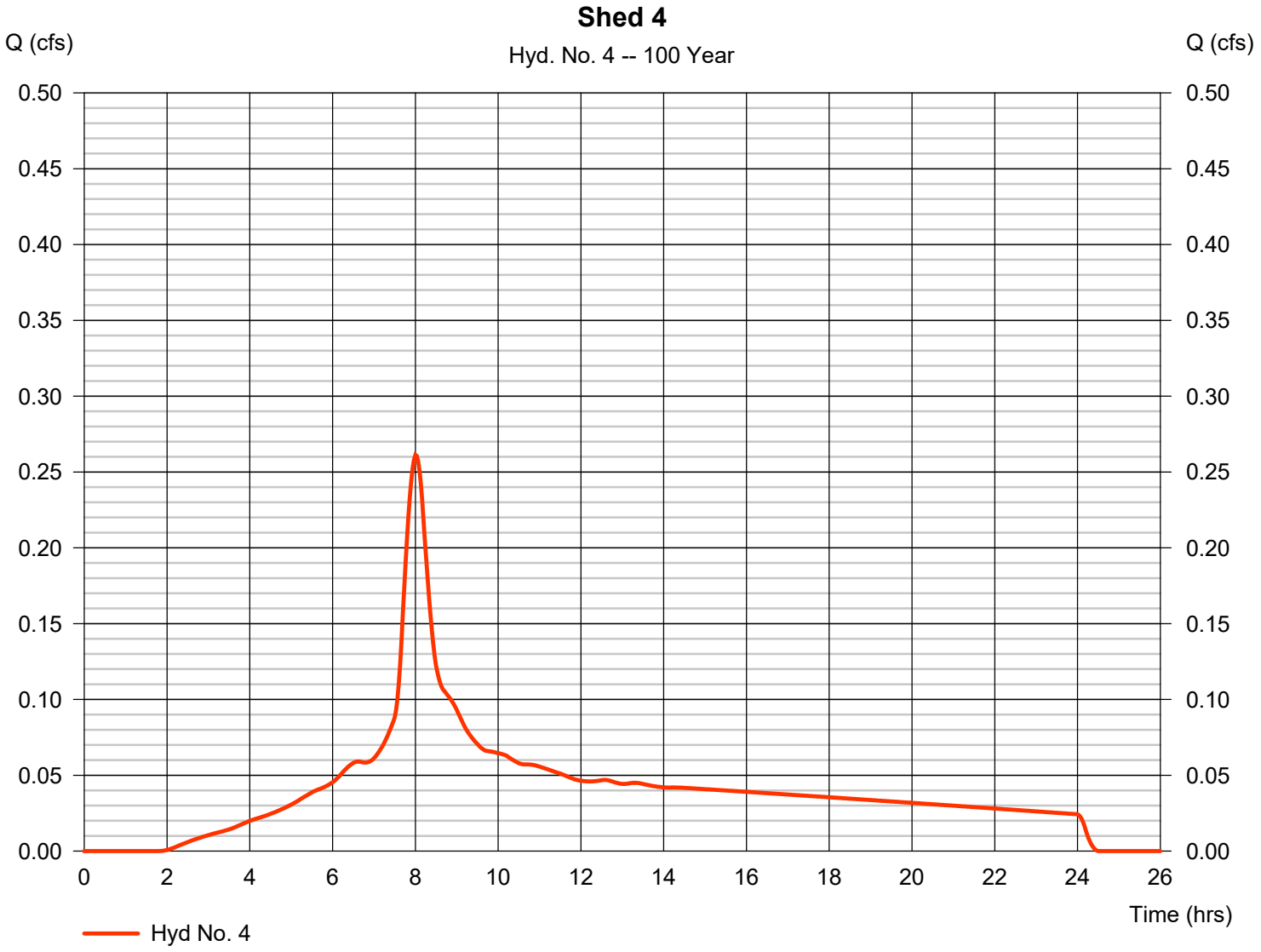
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 4

Shed 4

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.261 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	3,709 cuft
Drainage area	=	0.200 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



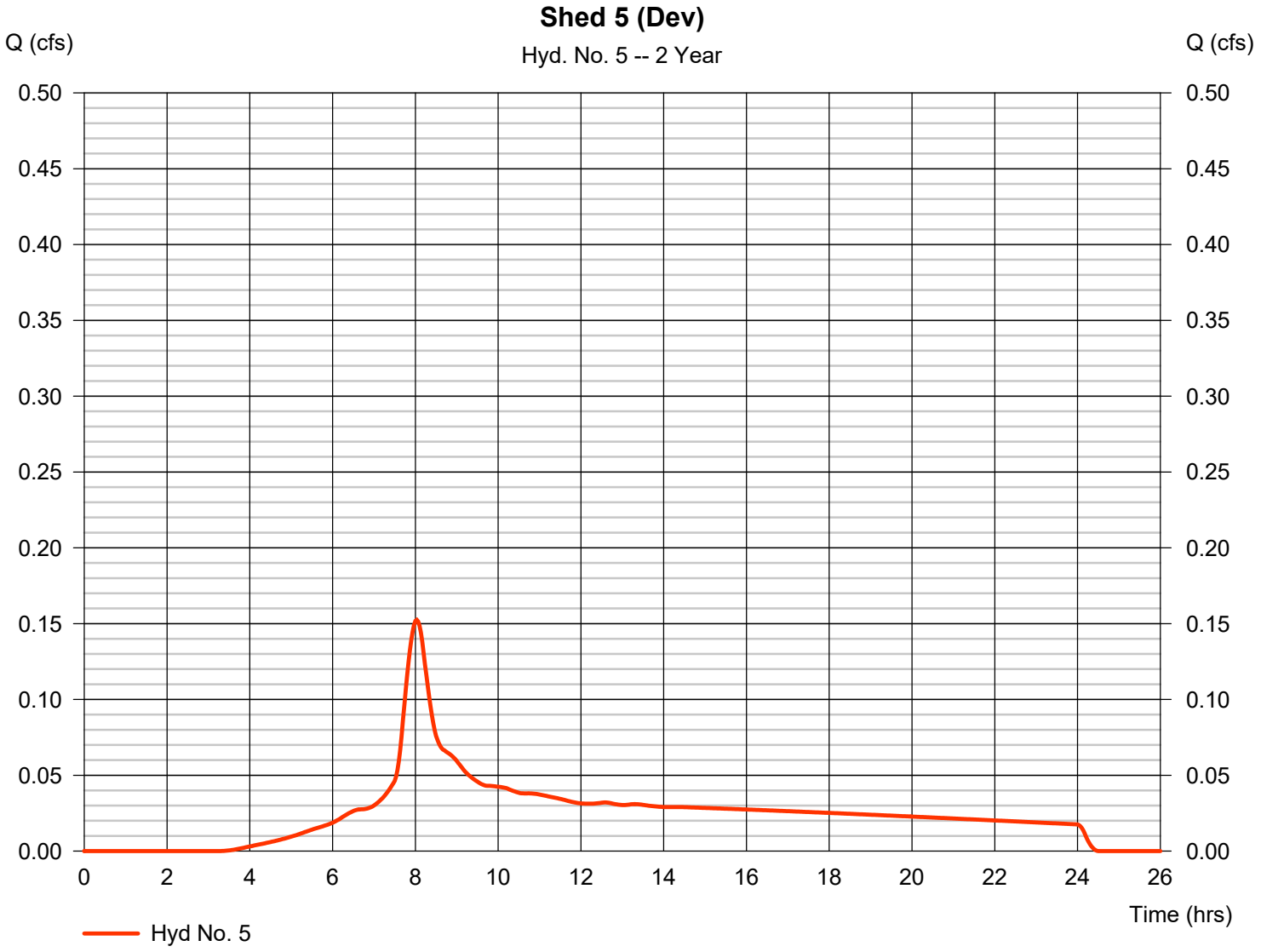
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.152 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,274 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



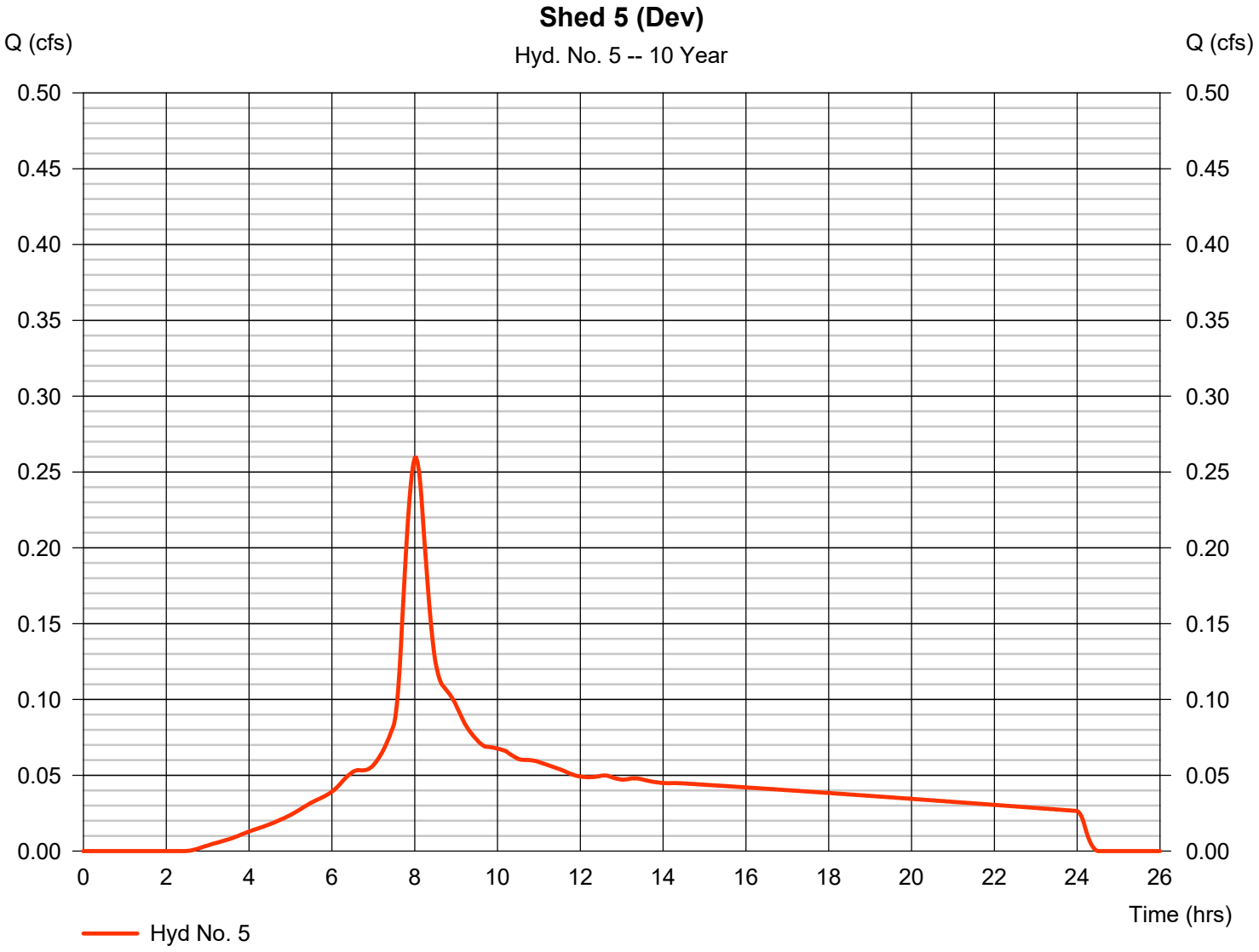
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.259 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,739 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



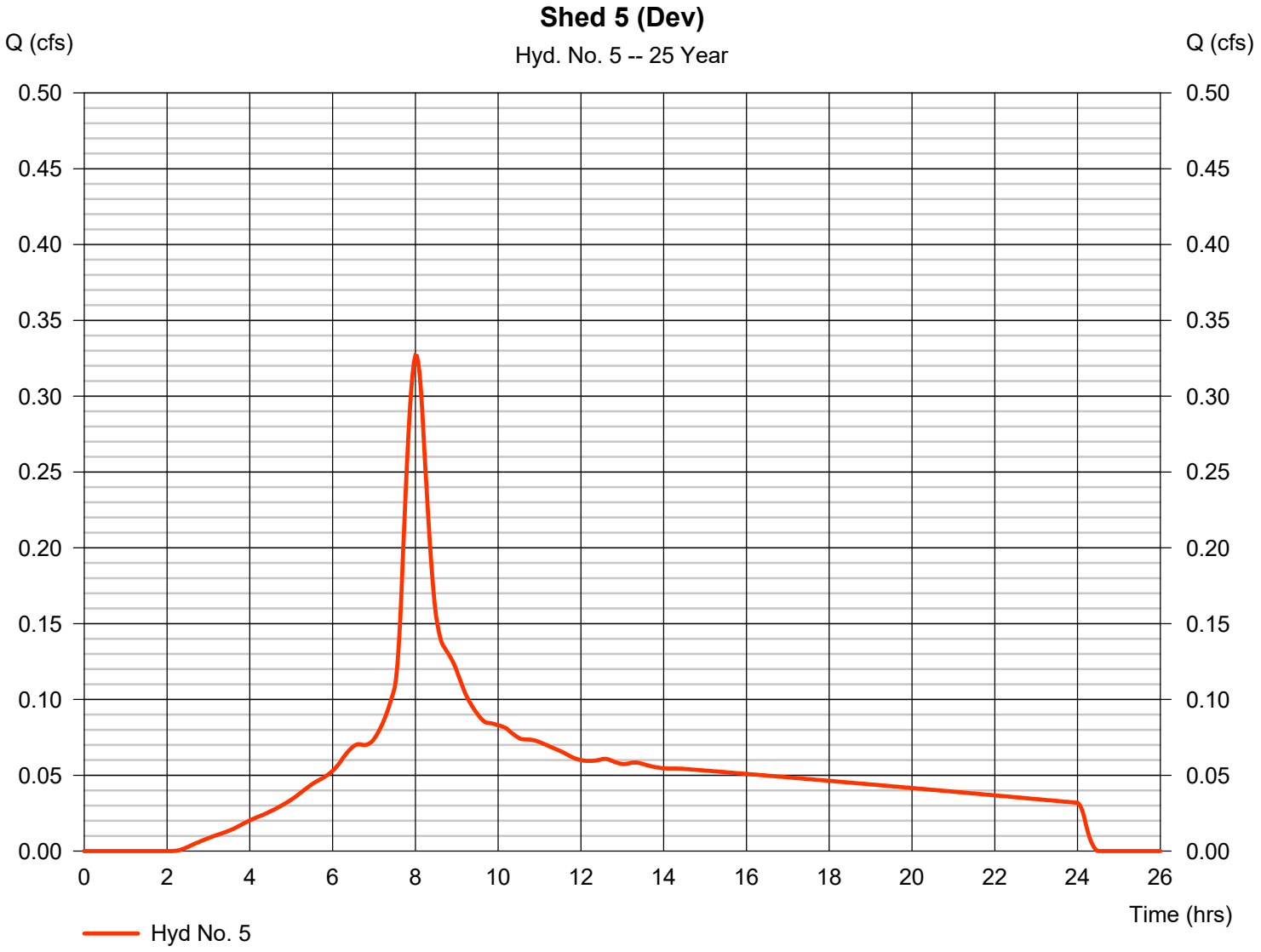
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.327 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,669 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



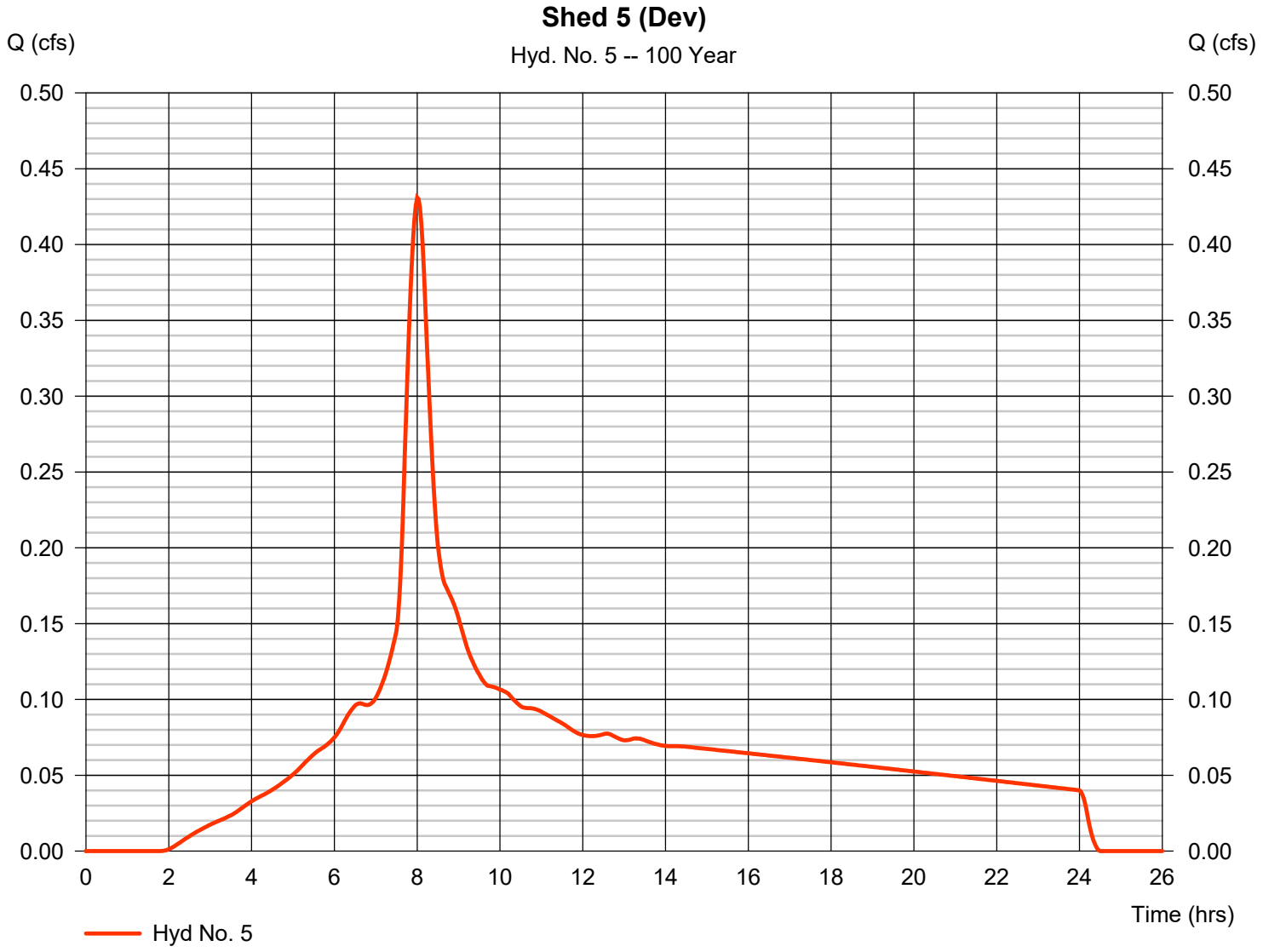
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 5

Shed 5 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.431 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	6,120 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



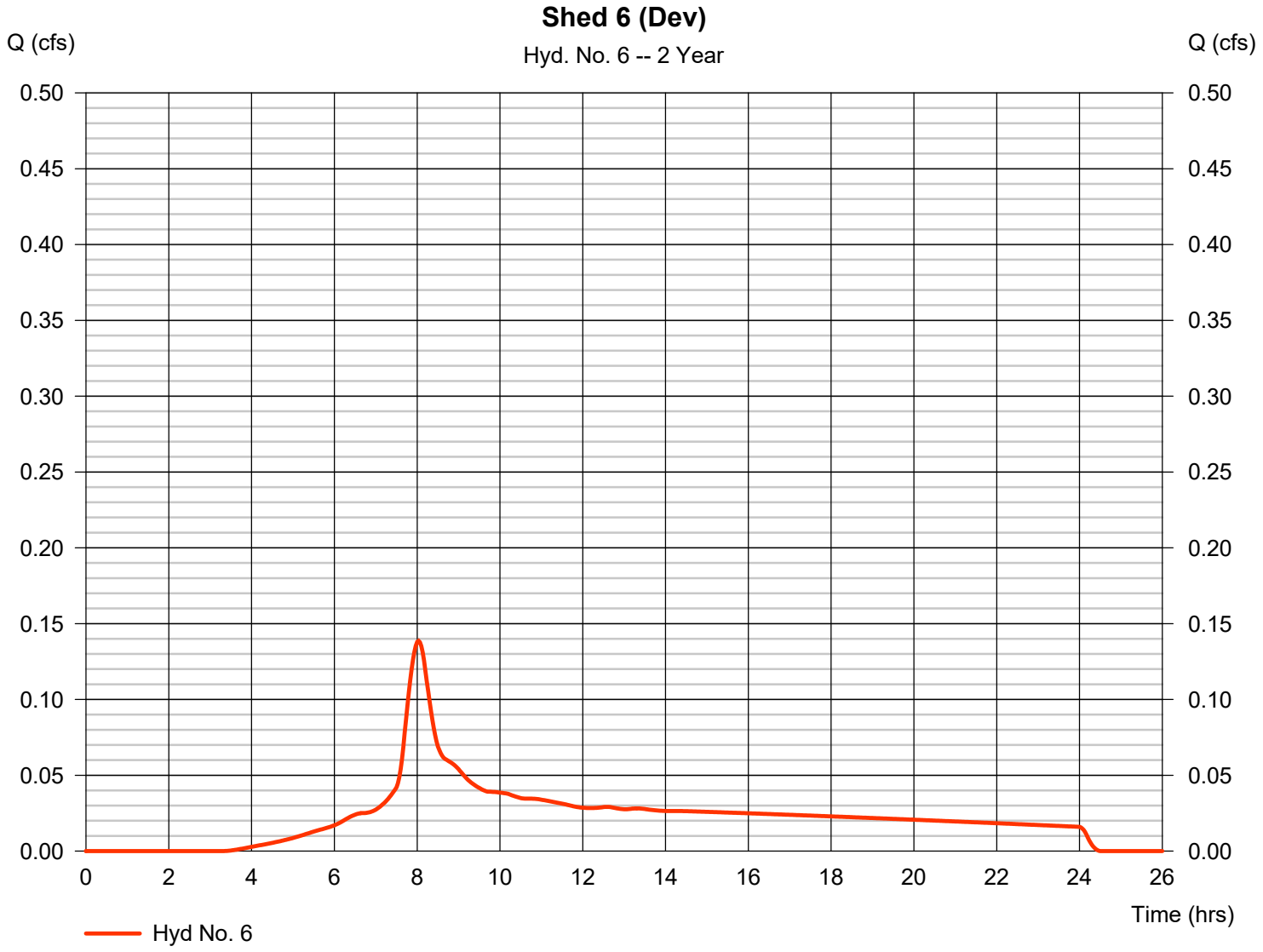
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,067 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



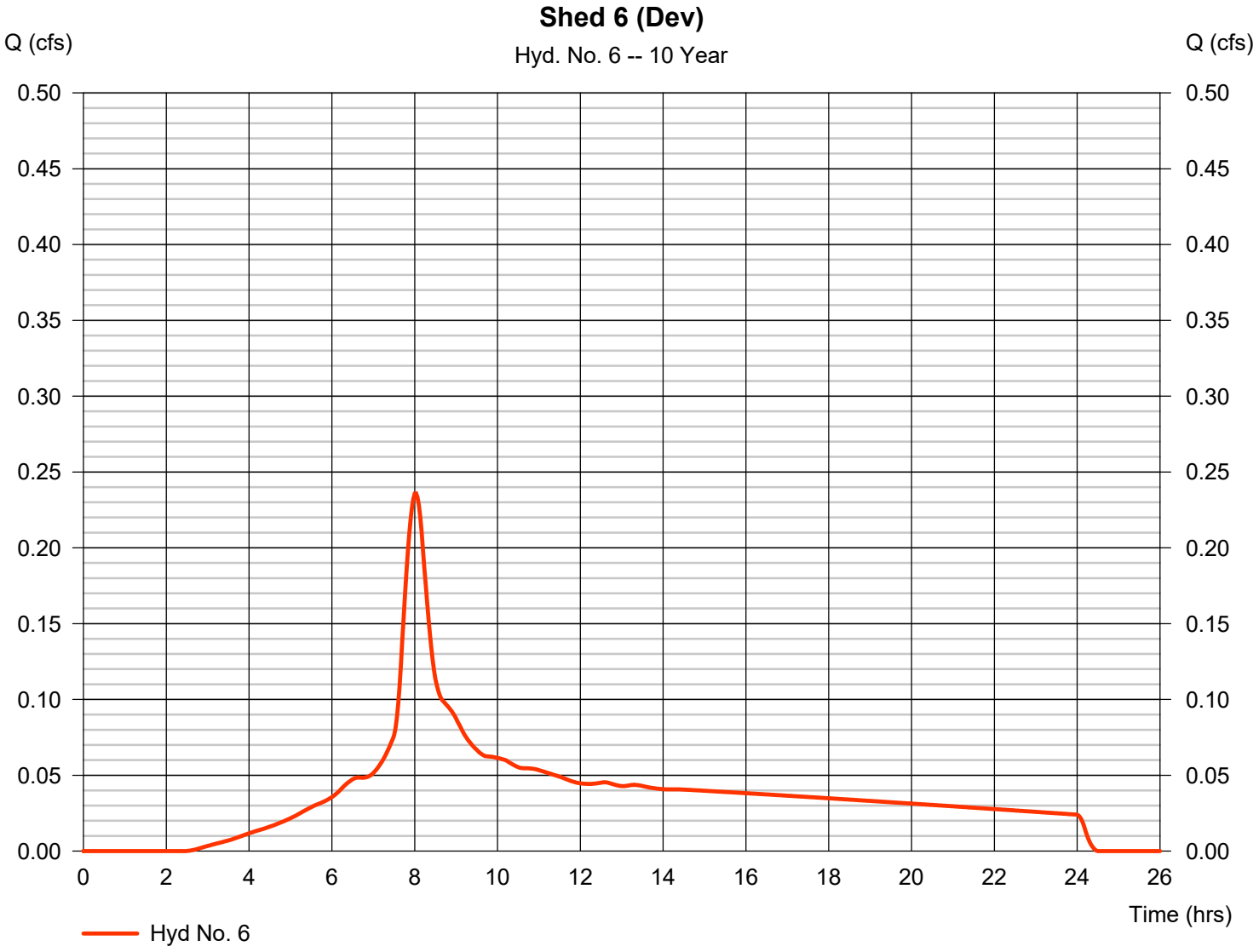
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.236 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,399 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



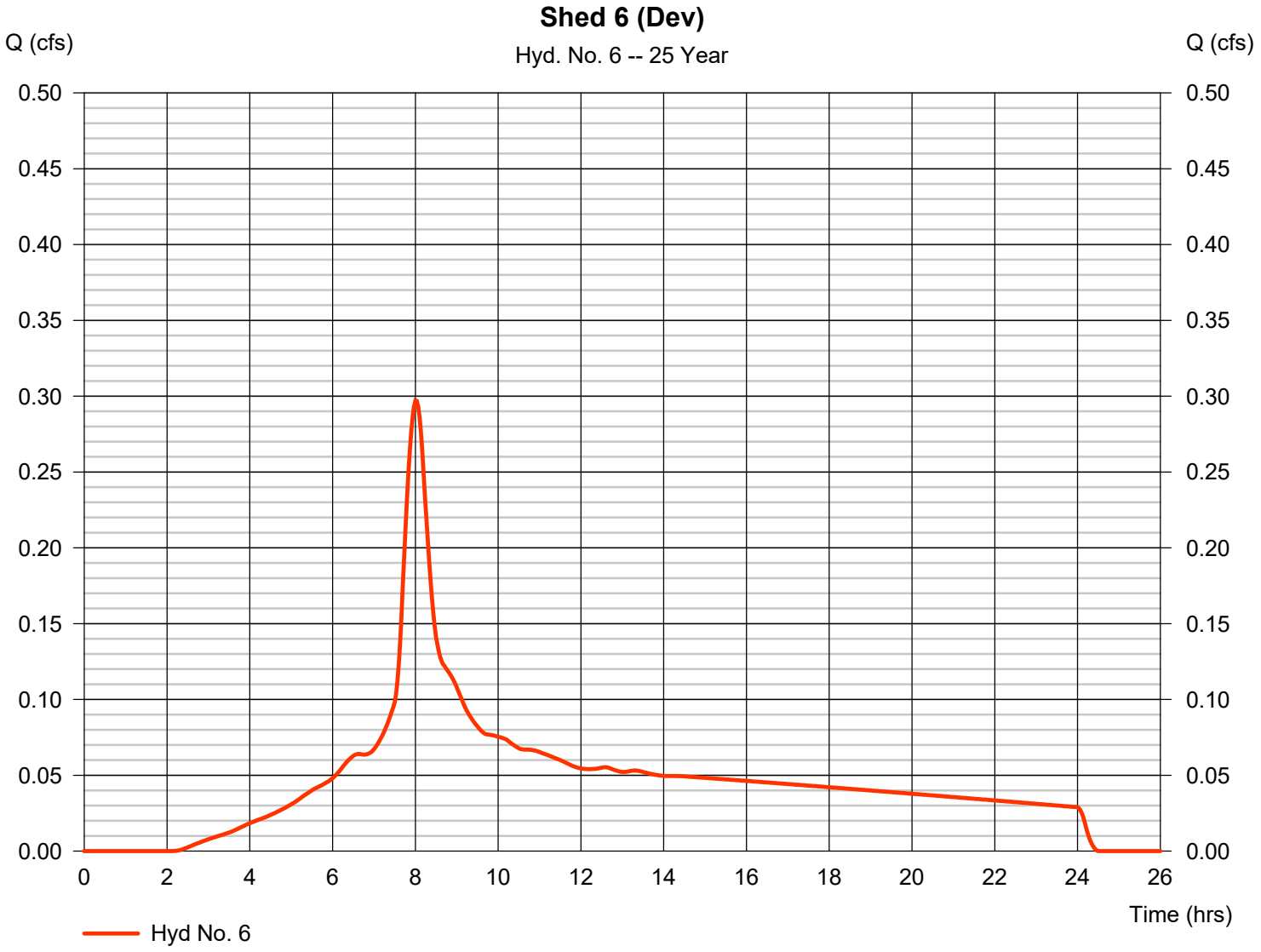
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.297 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,244 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



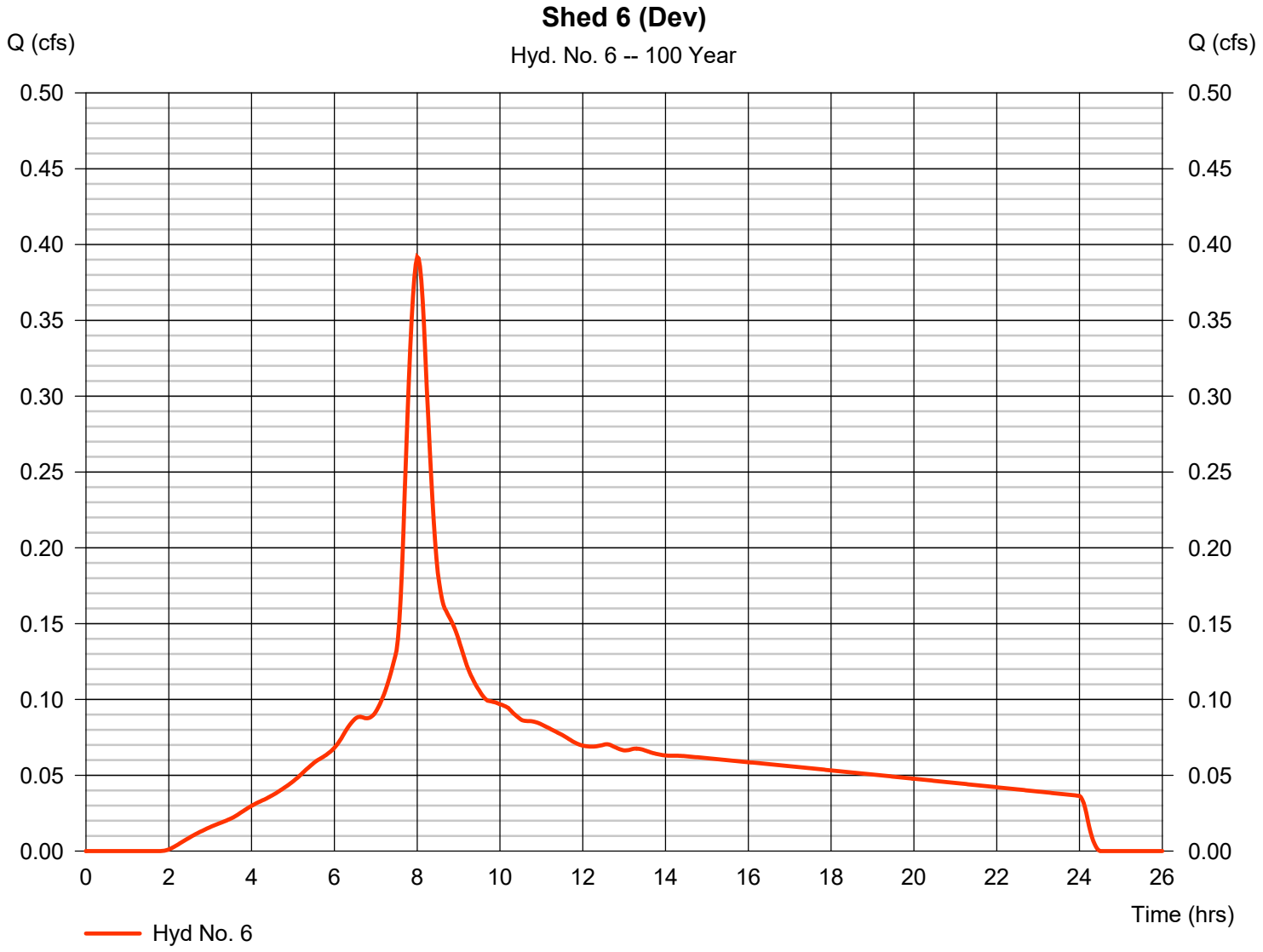
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 6

Shed 6 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.392 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	5,563 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



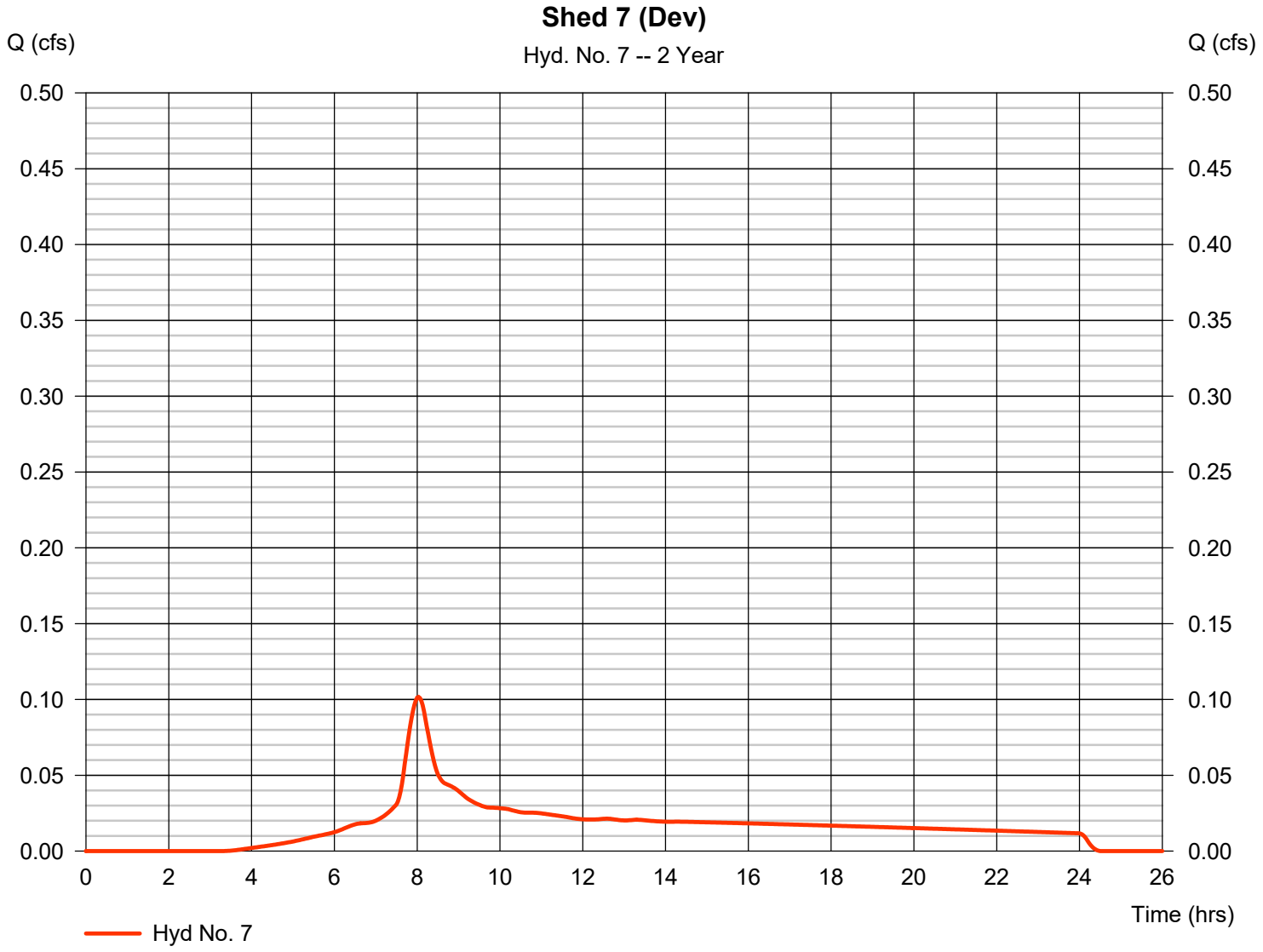
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.102 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,516 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



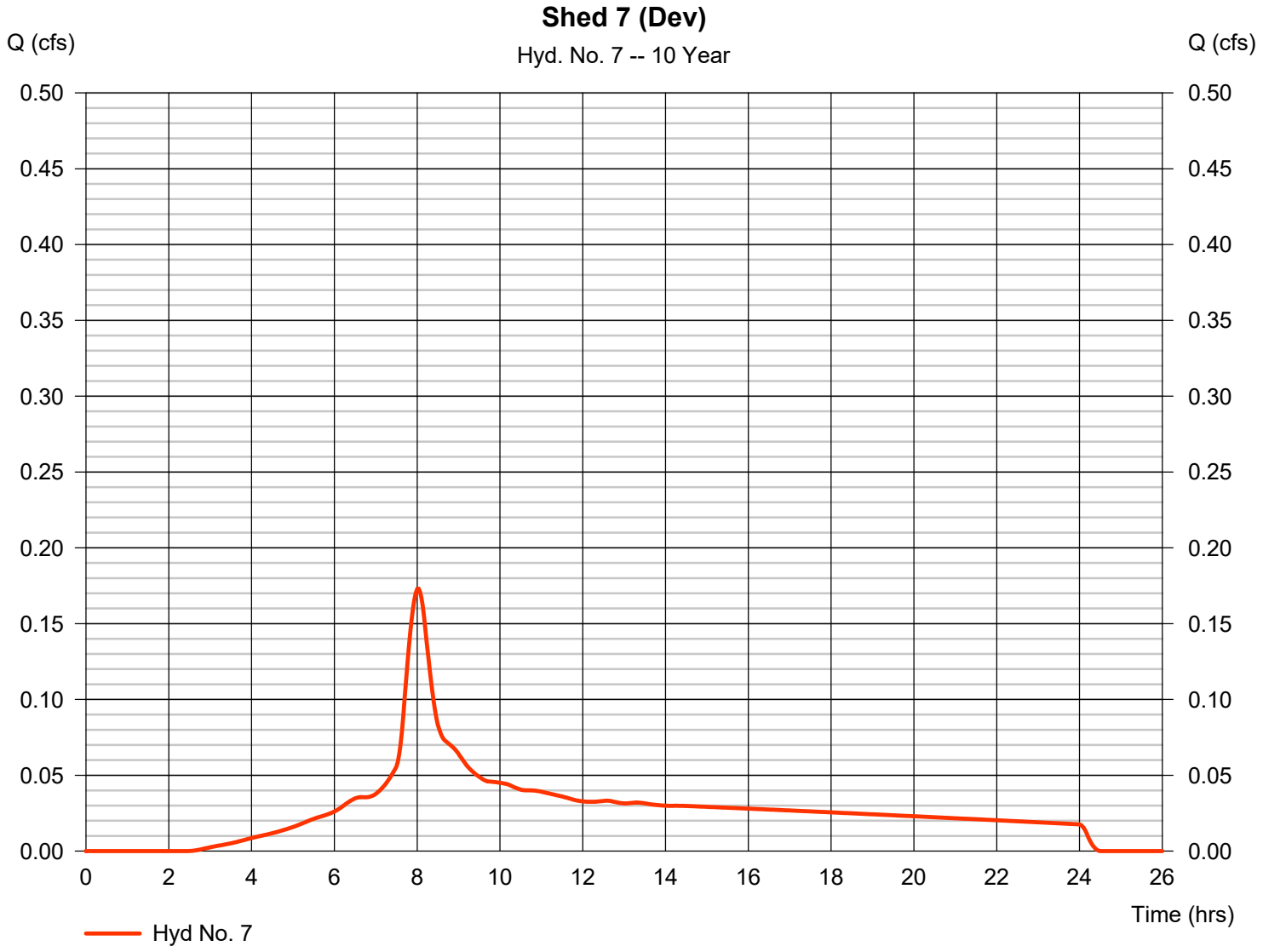
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.173 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,492 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



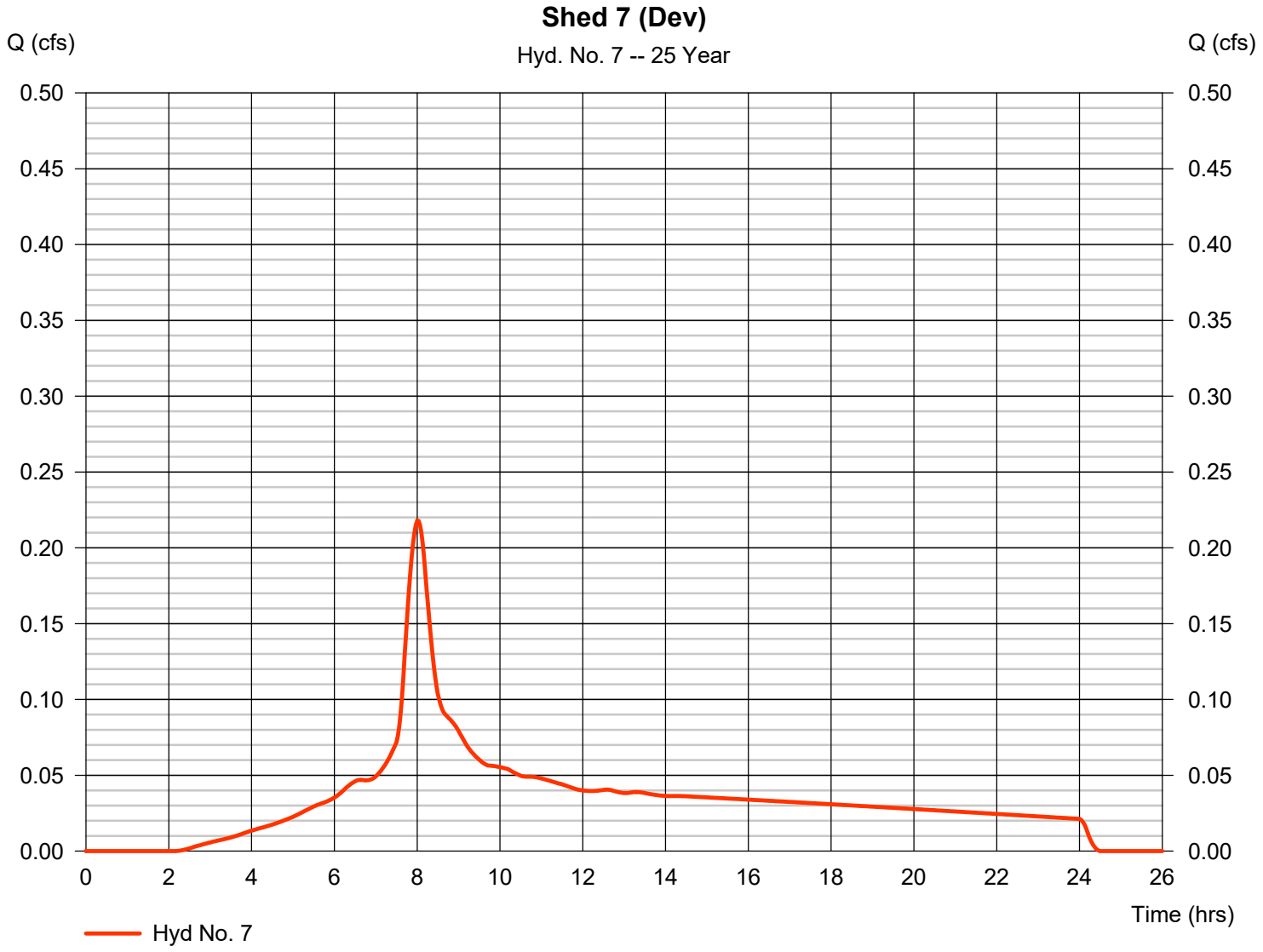
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.218 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	3,112 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



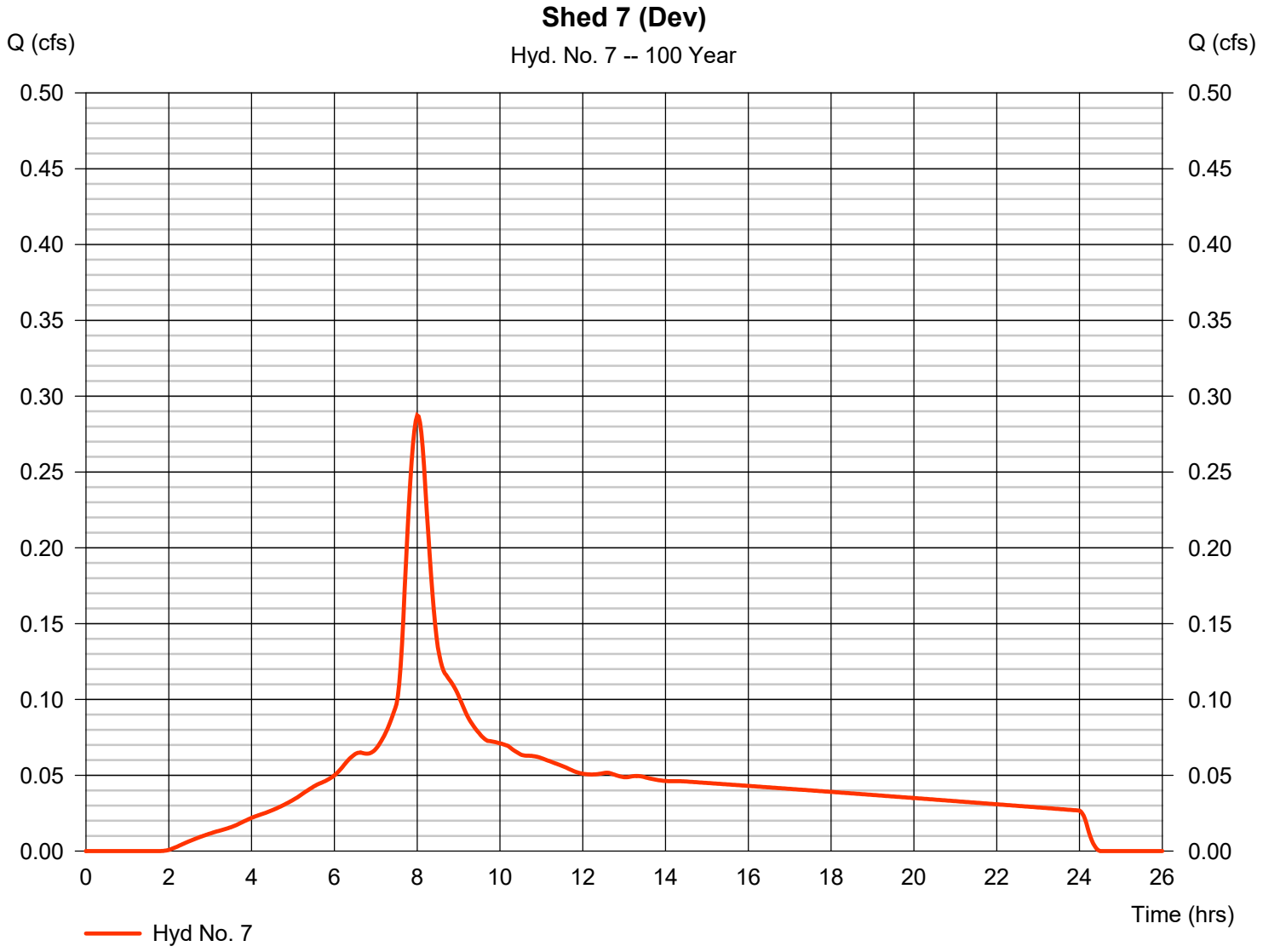
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 7

Shed 7 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.287 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,080 cuft
Drainage area	=	0.220 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



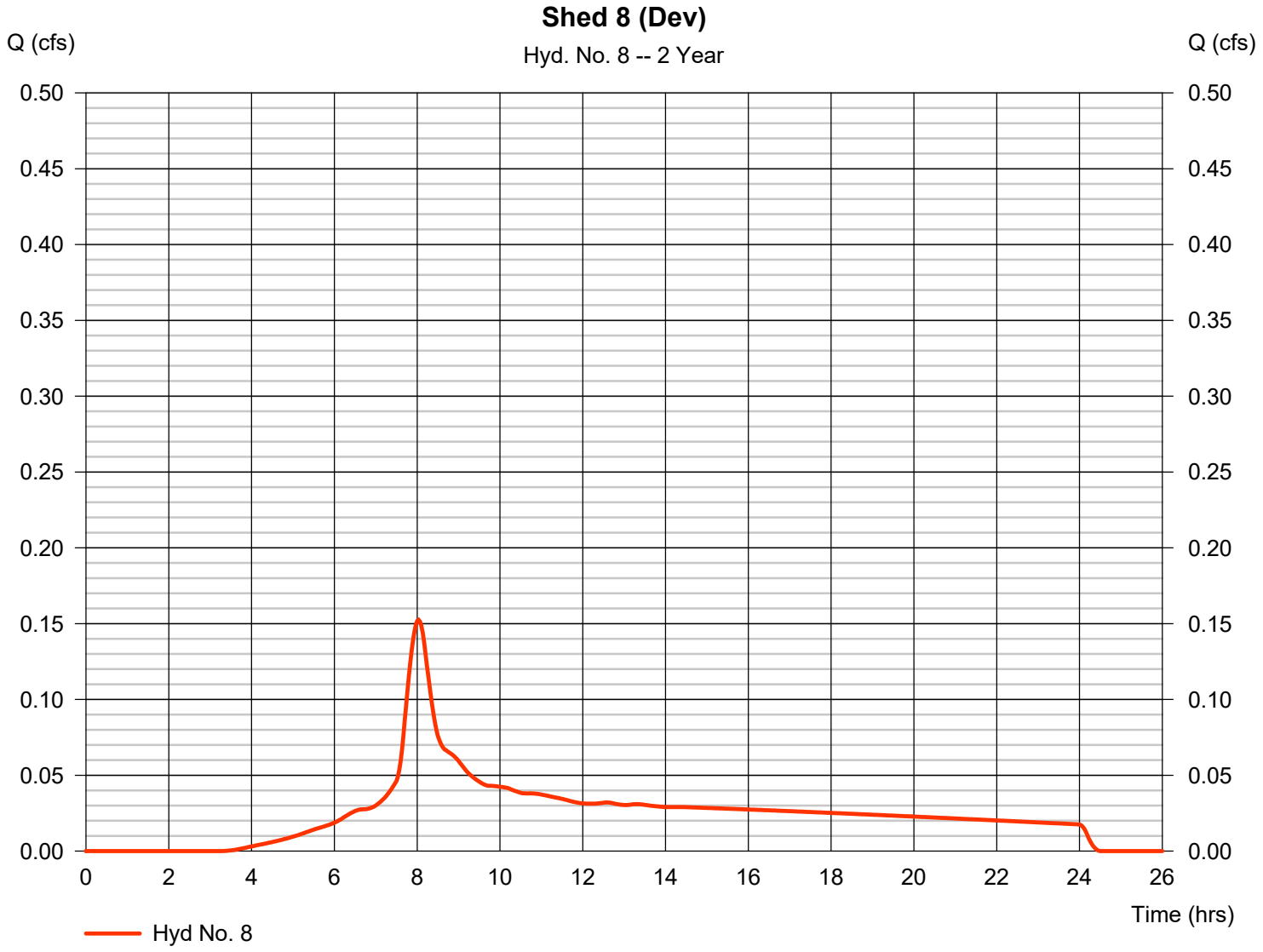
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.152 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,274 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



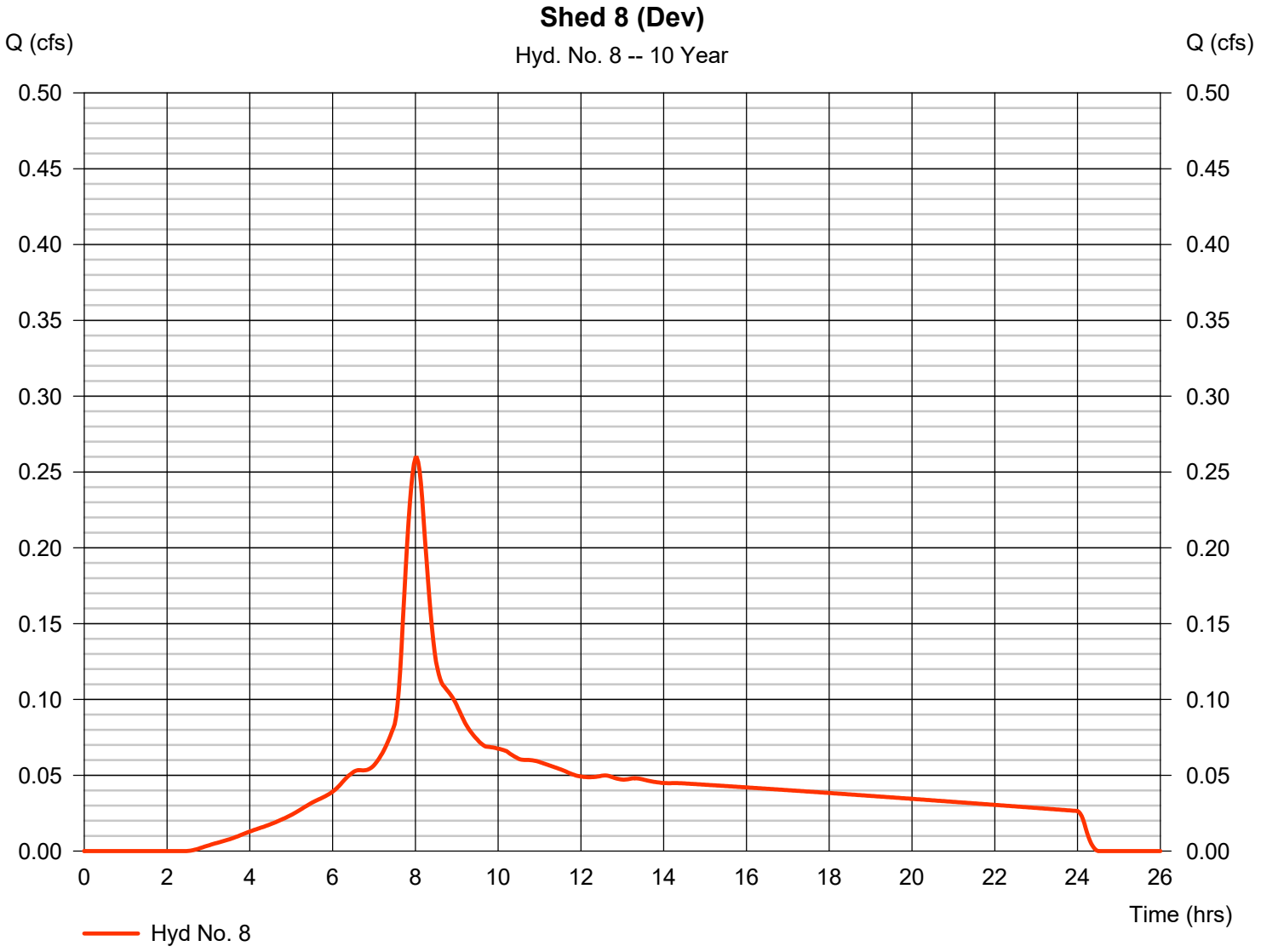
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.259 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,739 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



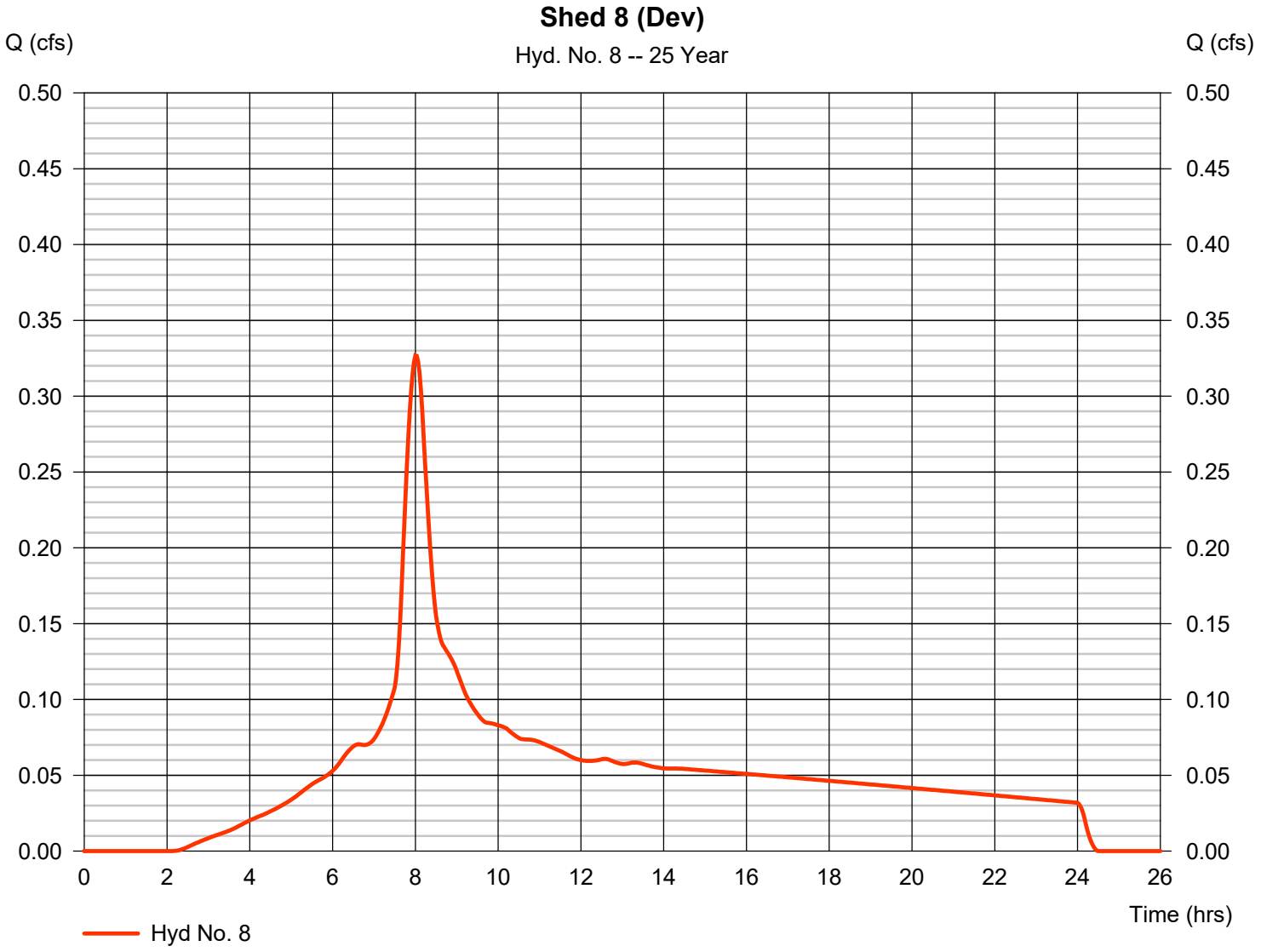
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.327 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,669 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



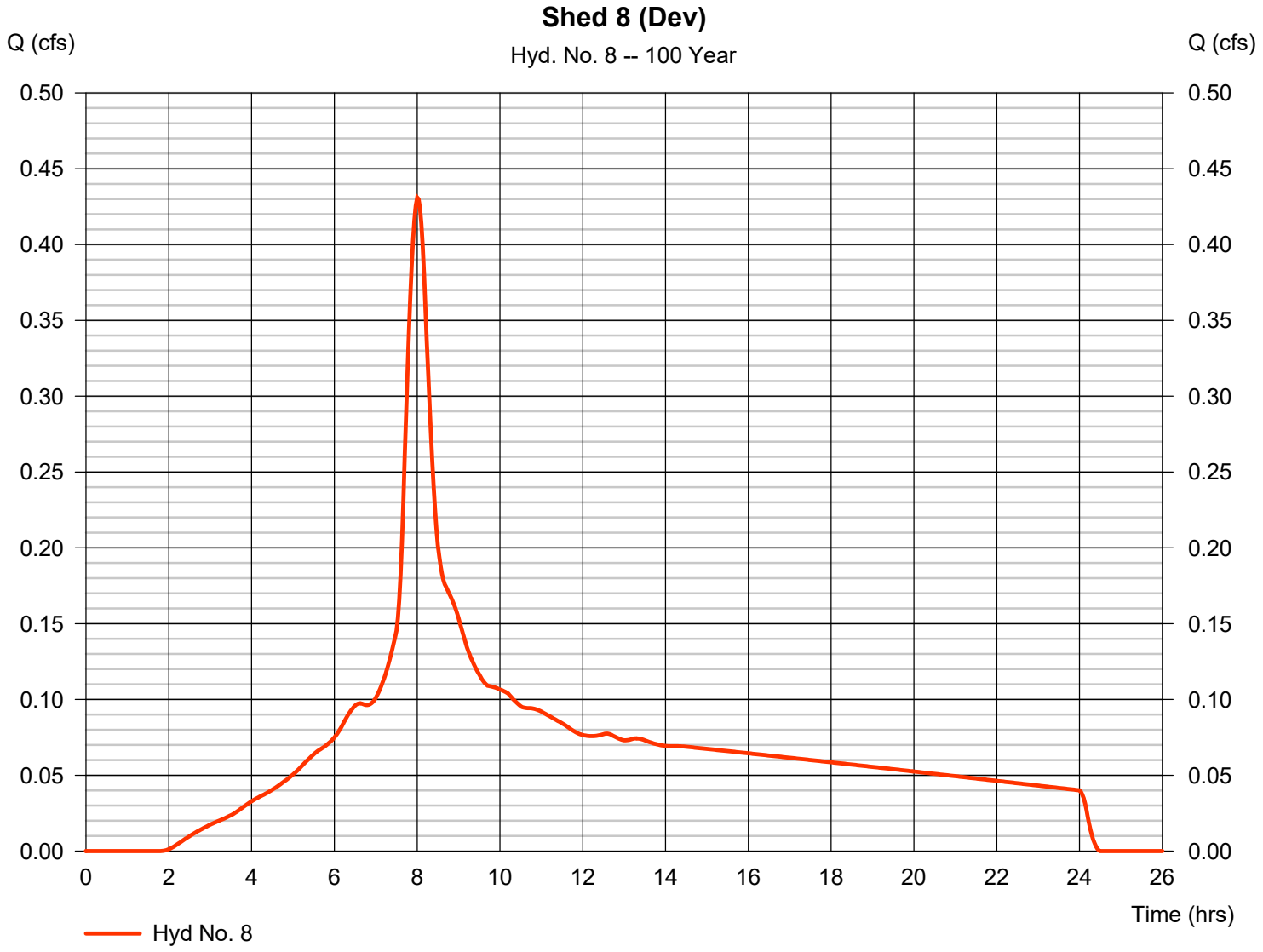
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Tuesday, 09 / 3 / 2024

Hyd. No. 8

Shed 8 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.431 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	6,120 cuft
Drainage area	=	0.330 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



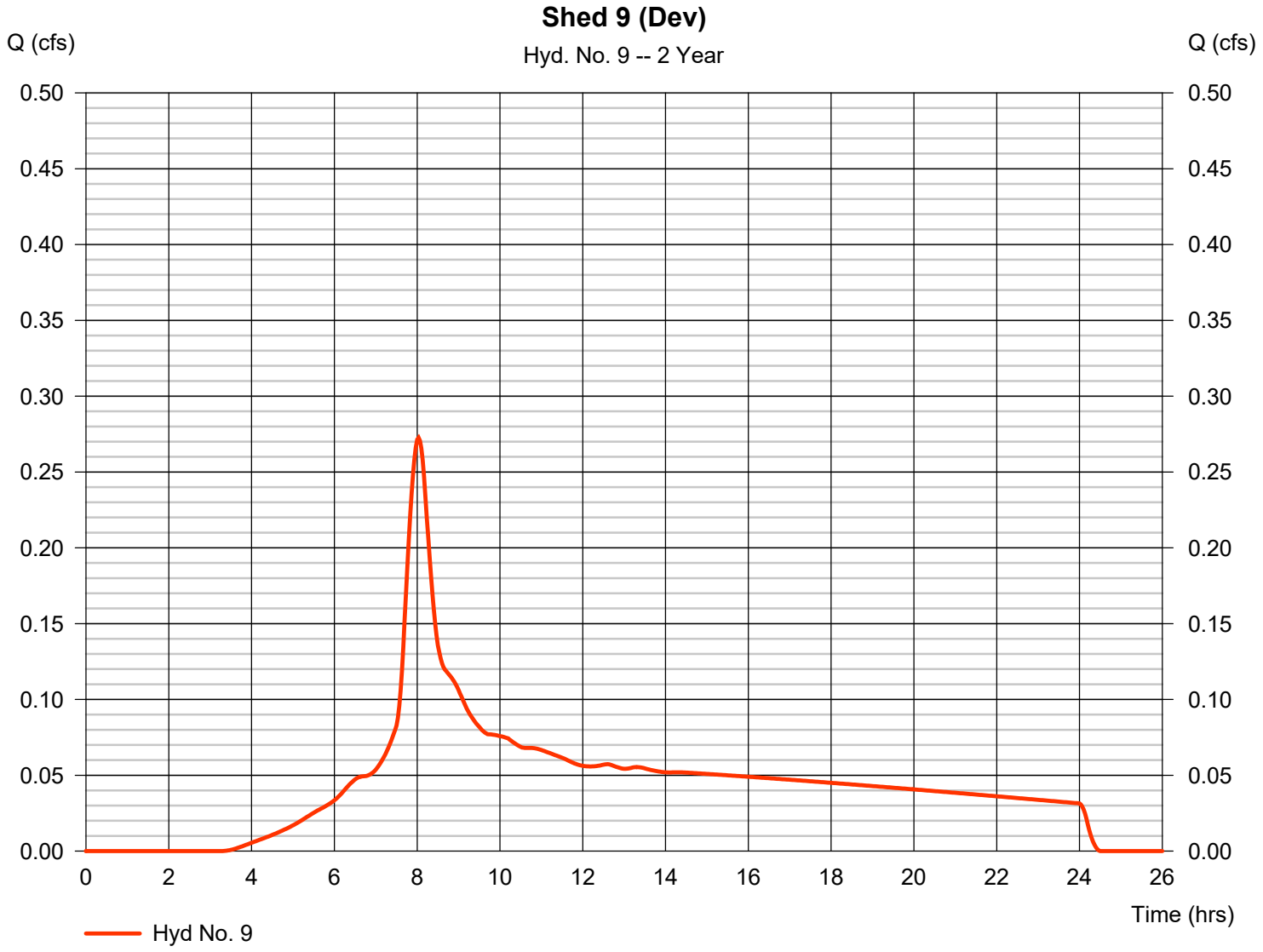
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.273 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	4,066 cuft
Drainage area	=	0.590 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



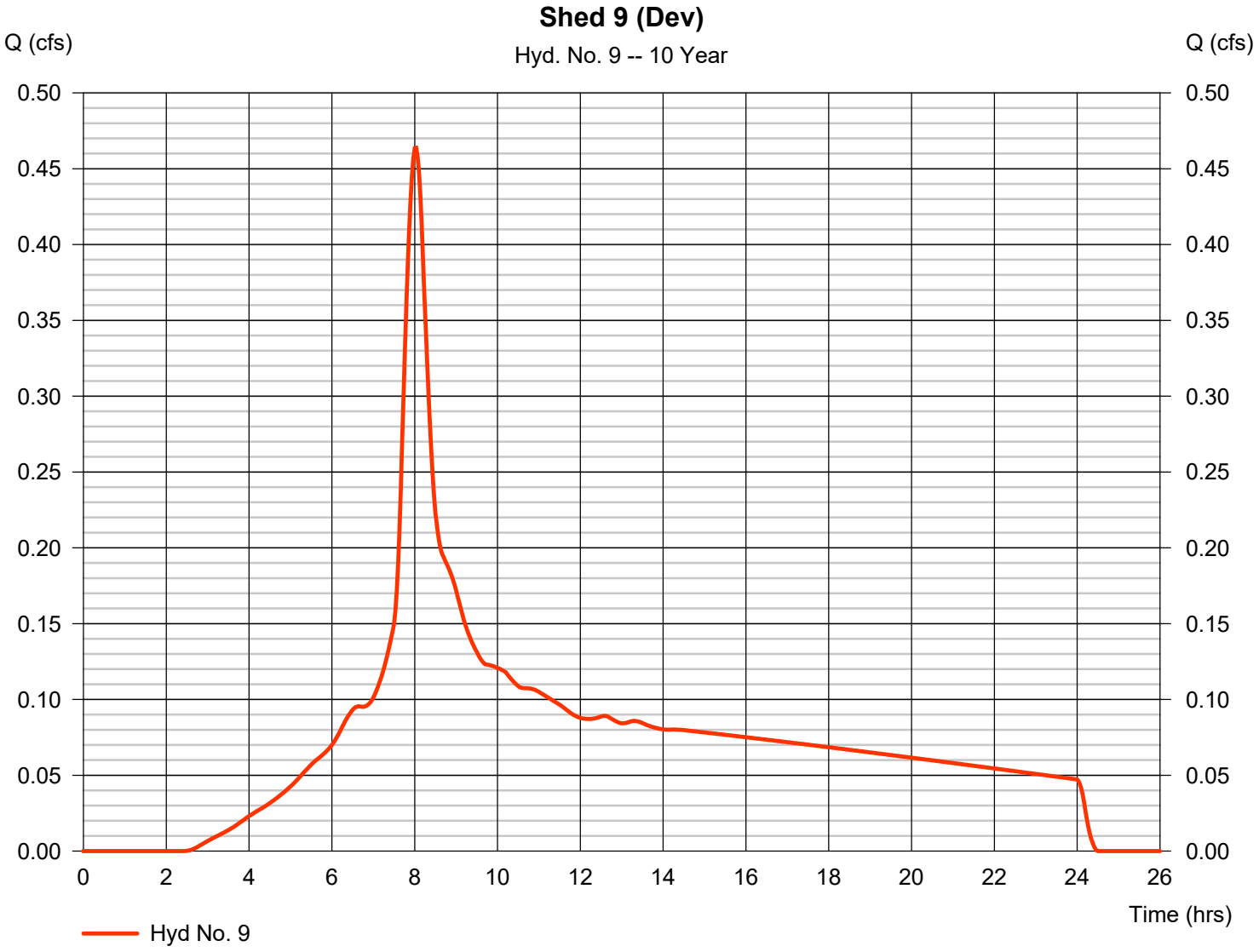
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.464 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 6,684 cuft
Drainage area	= 0.590 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.42 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



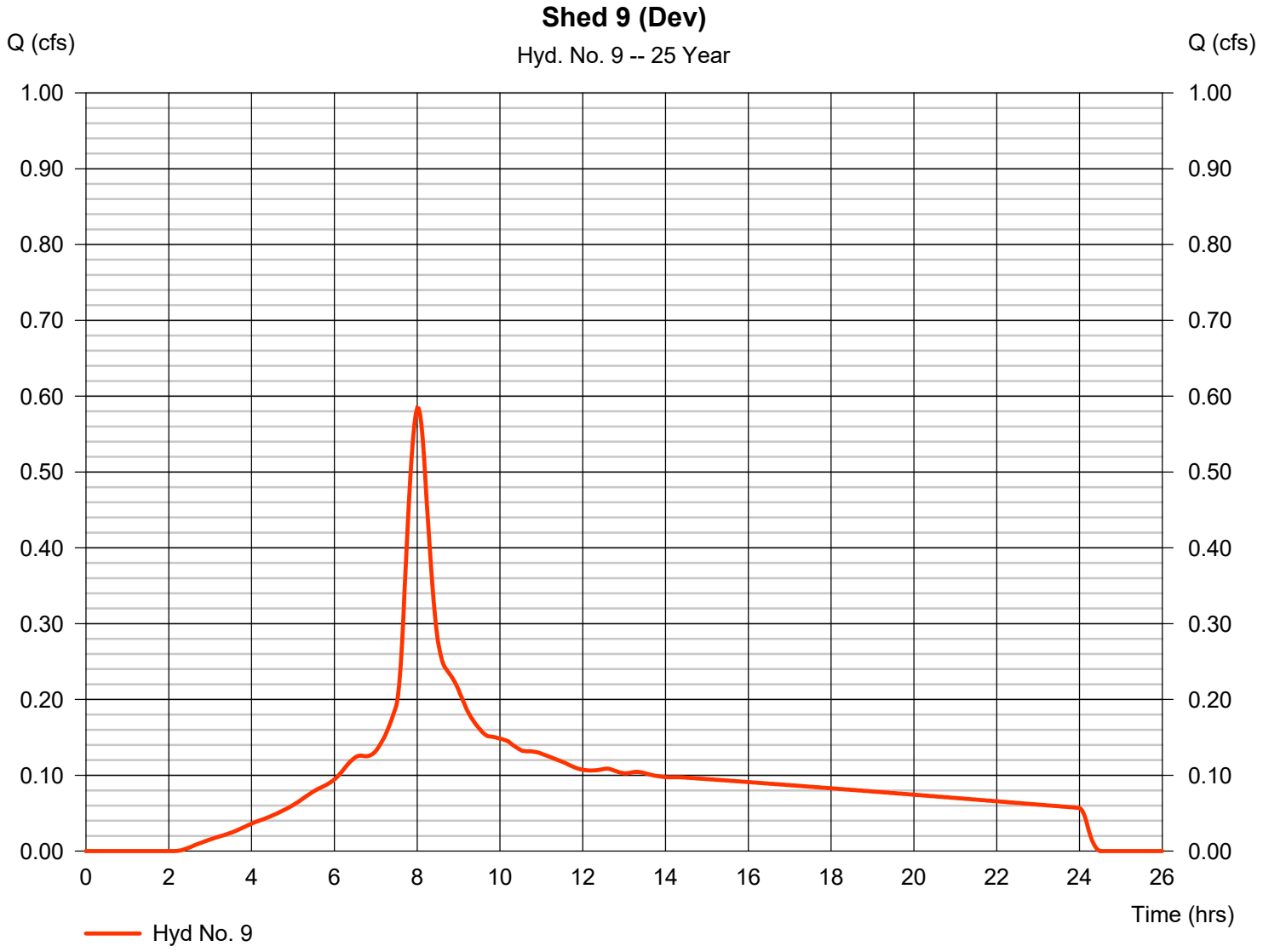
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.584 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	8,347 cuft
Drainage area	=	0.590 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



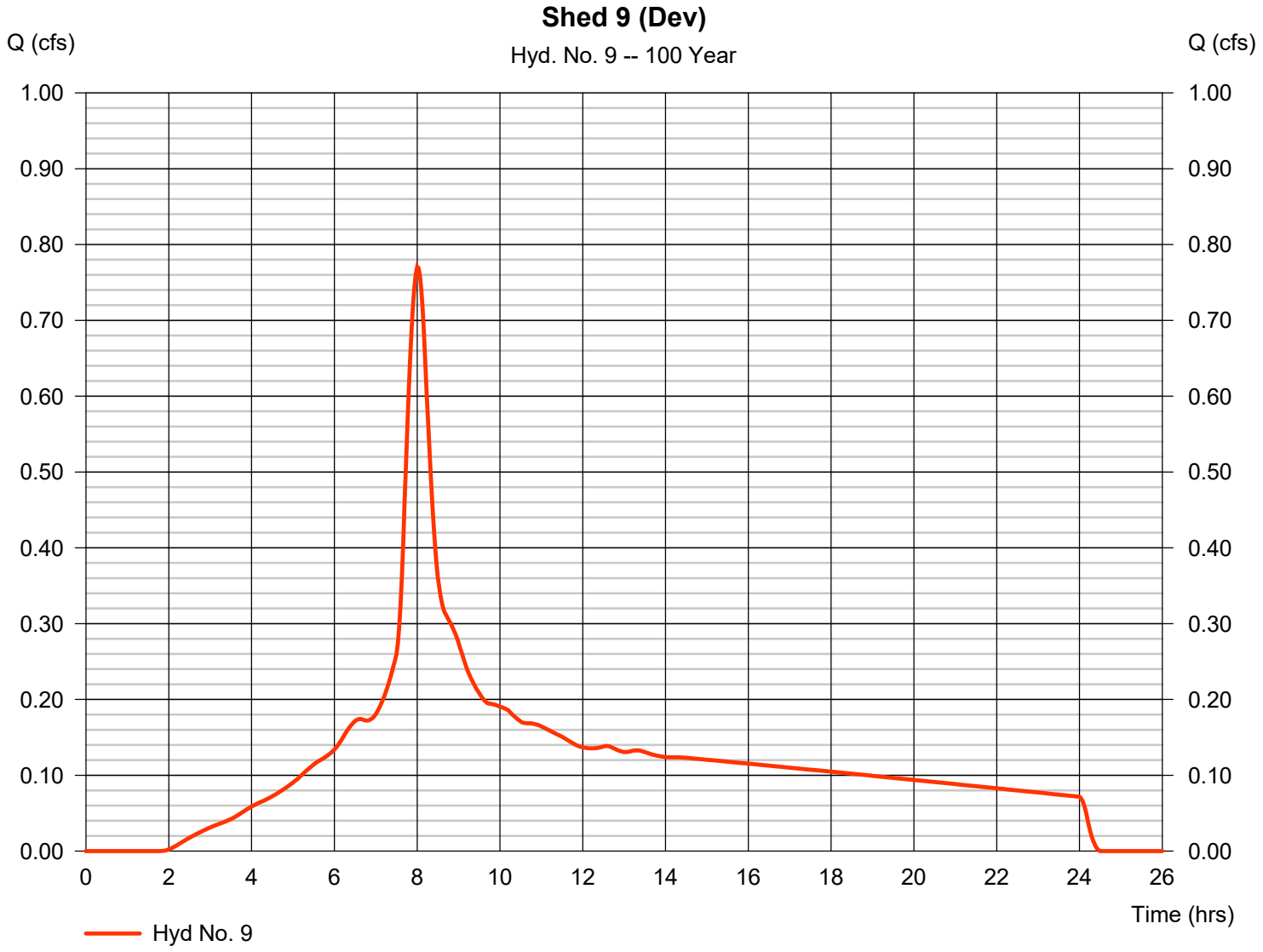
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 9

Shed 9 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.771 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	10,941 cuft
Drainage area	=	0.590 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.50 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



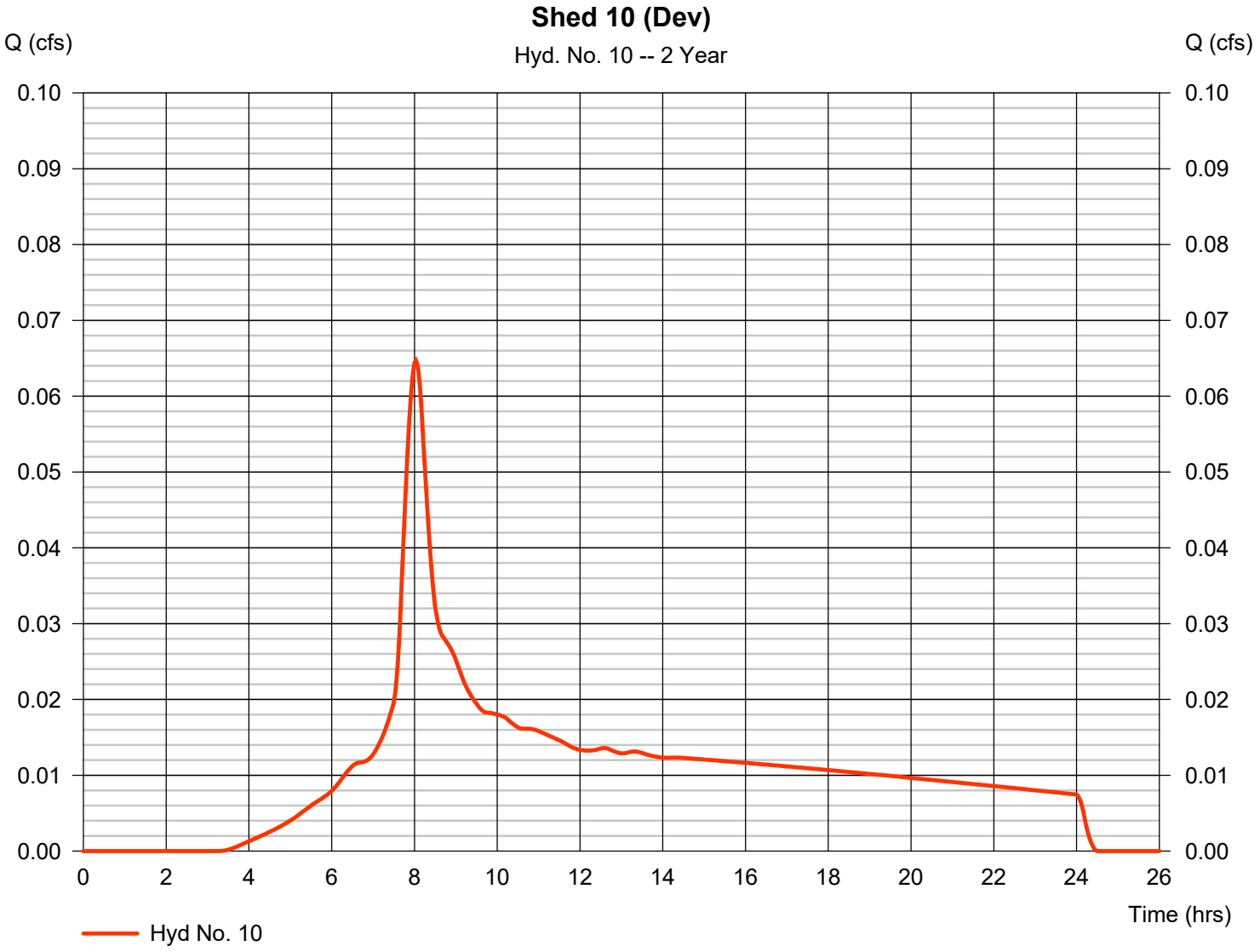
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.065 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.03 hrs
Time interval	= 2 min	Hyd. volume	= 965 cuft
Drainage area	= 0.140 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.09 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



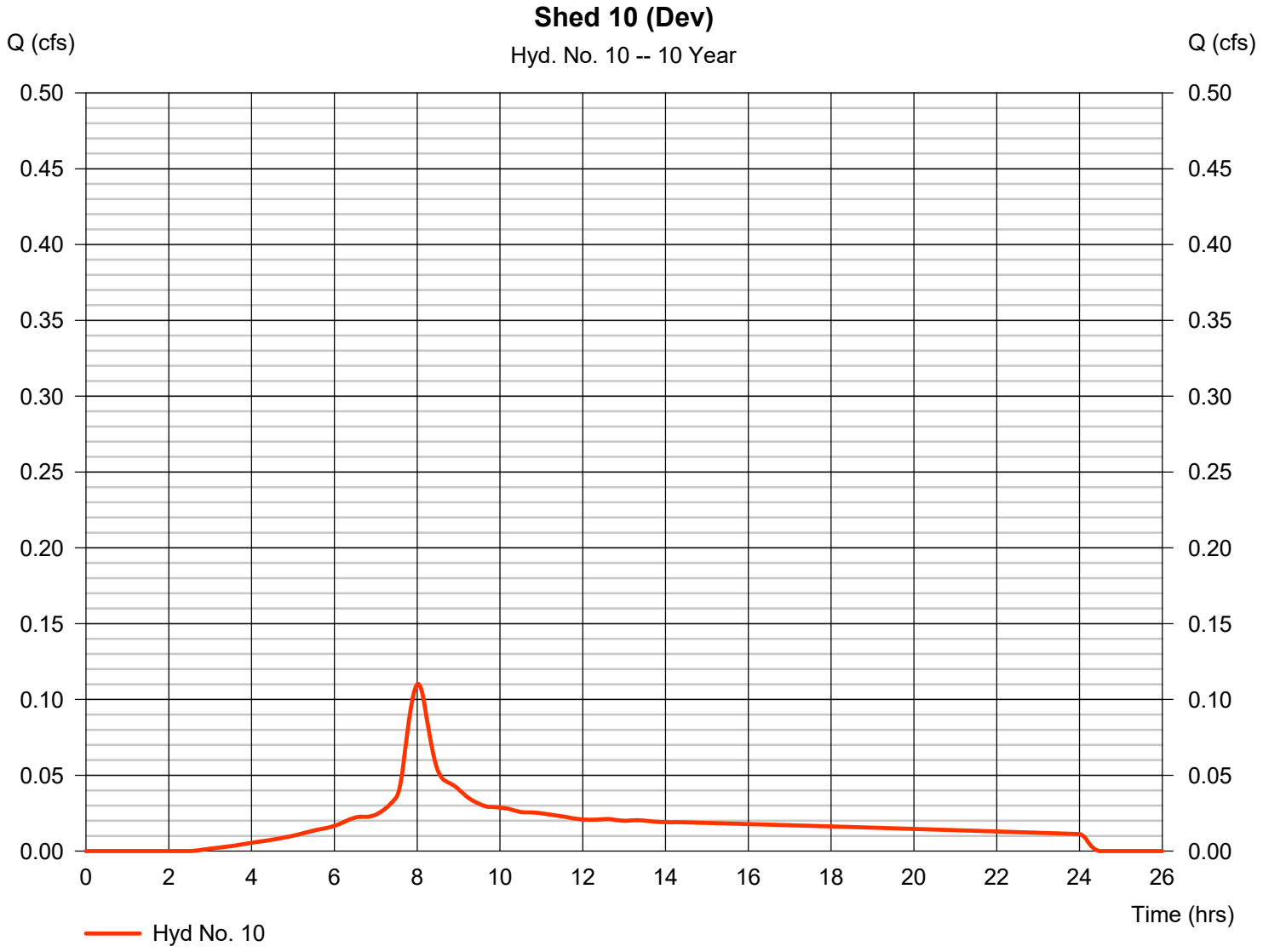
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.110 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,586 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



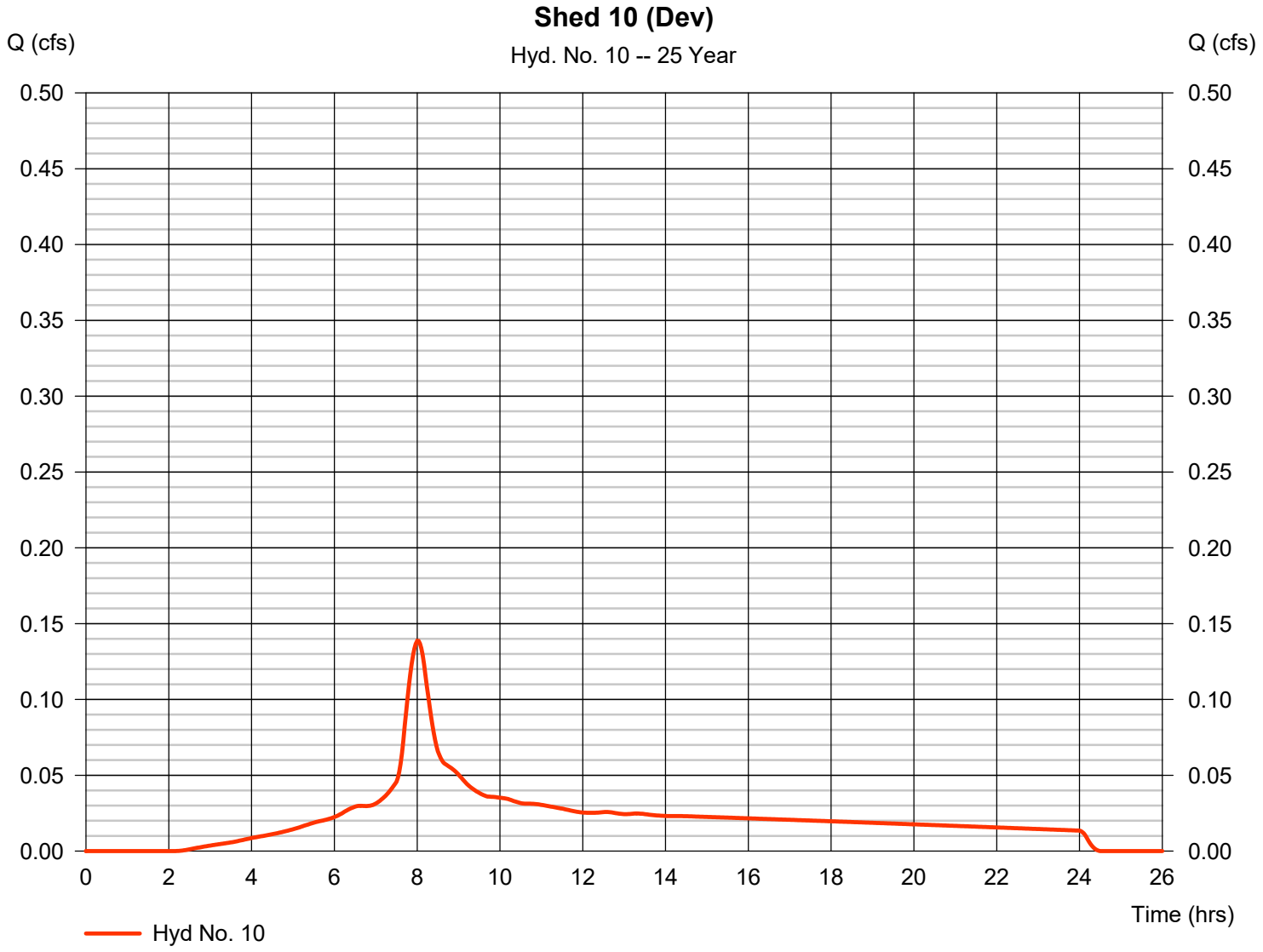
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	1,981 cuft
Drainage area	=	0.140 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



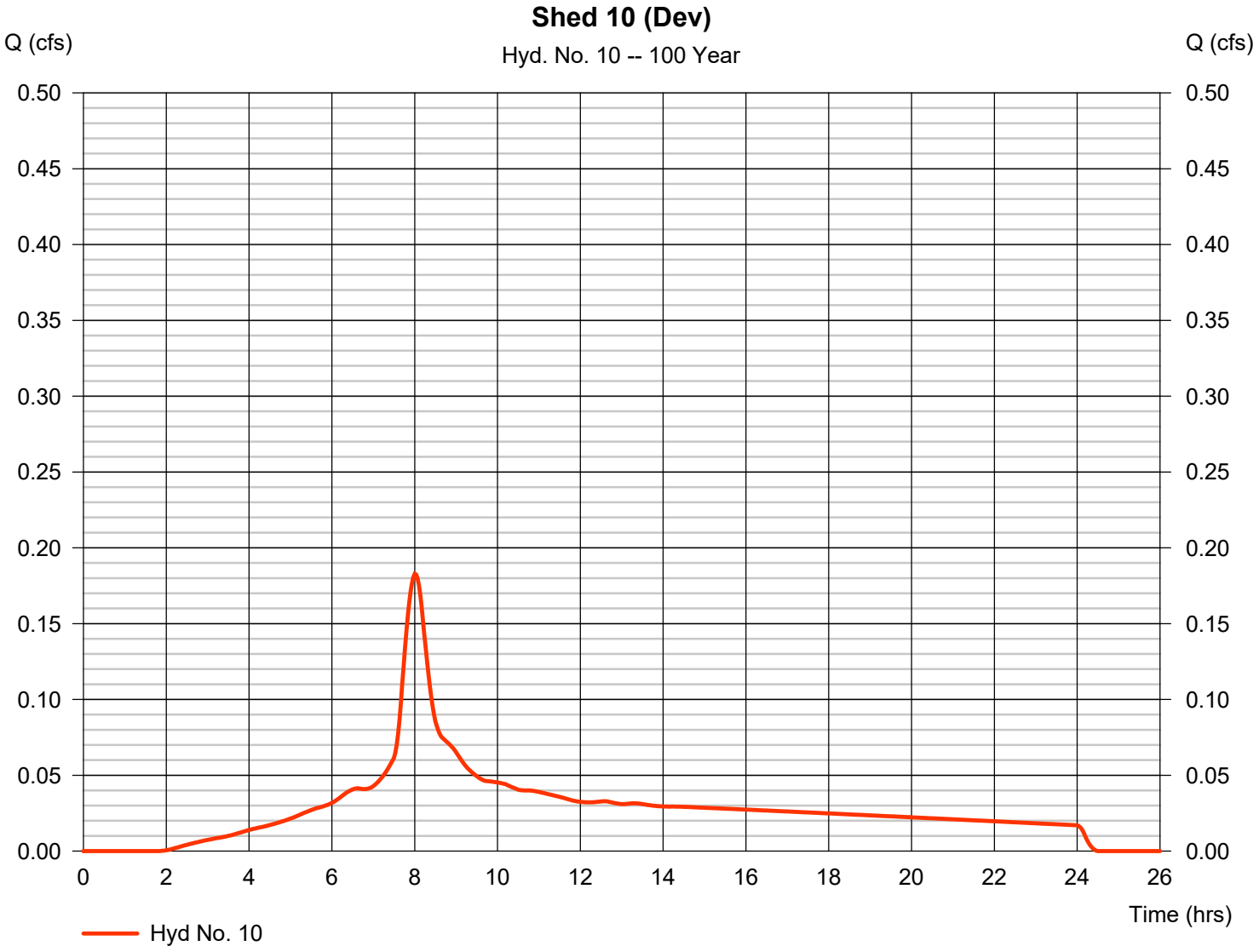
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 10

Shed 10 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.183 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 2,596 cuft
Drainage area	= 0.140 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



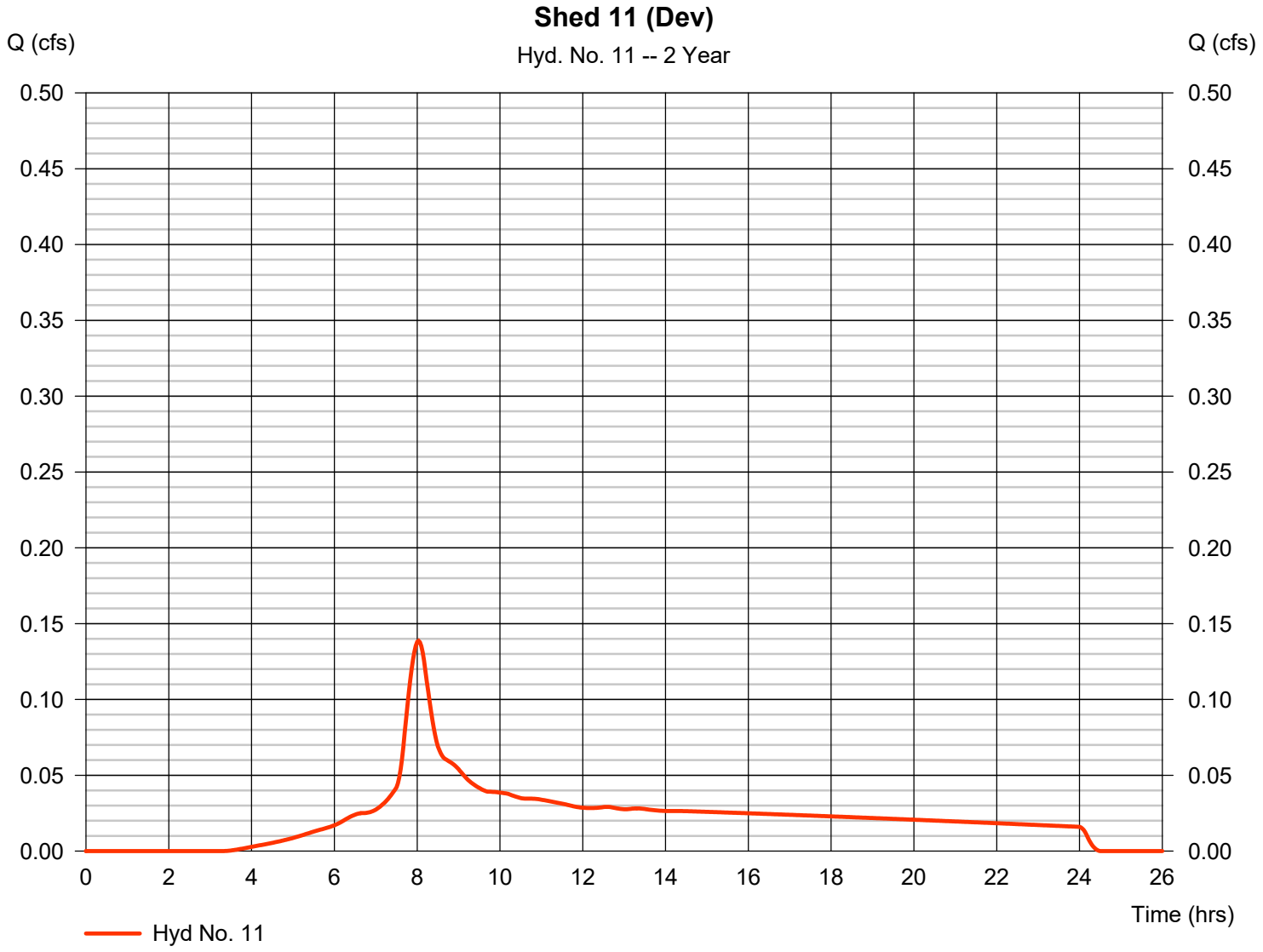
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.139 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	2,067 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.09 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



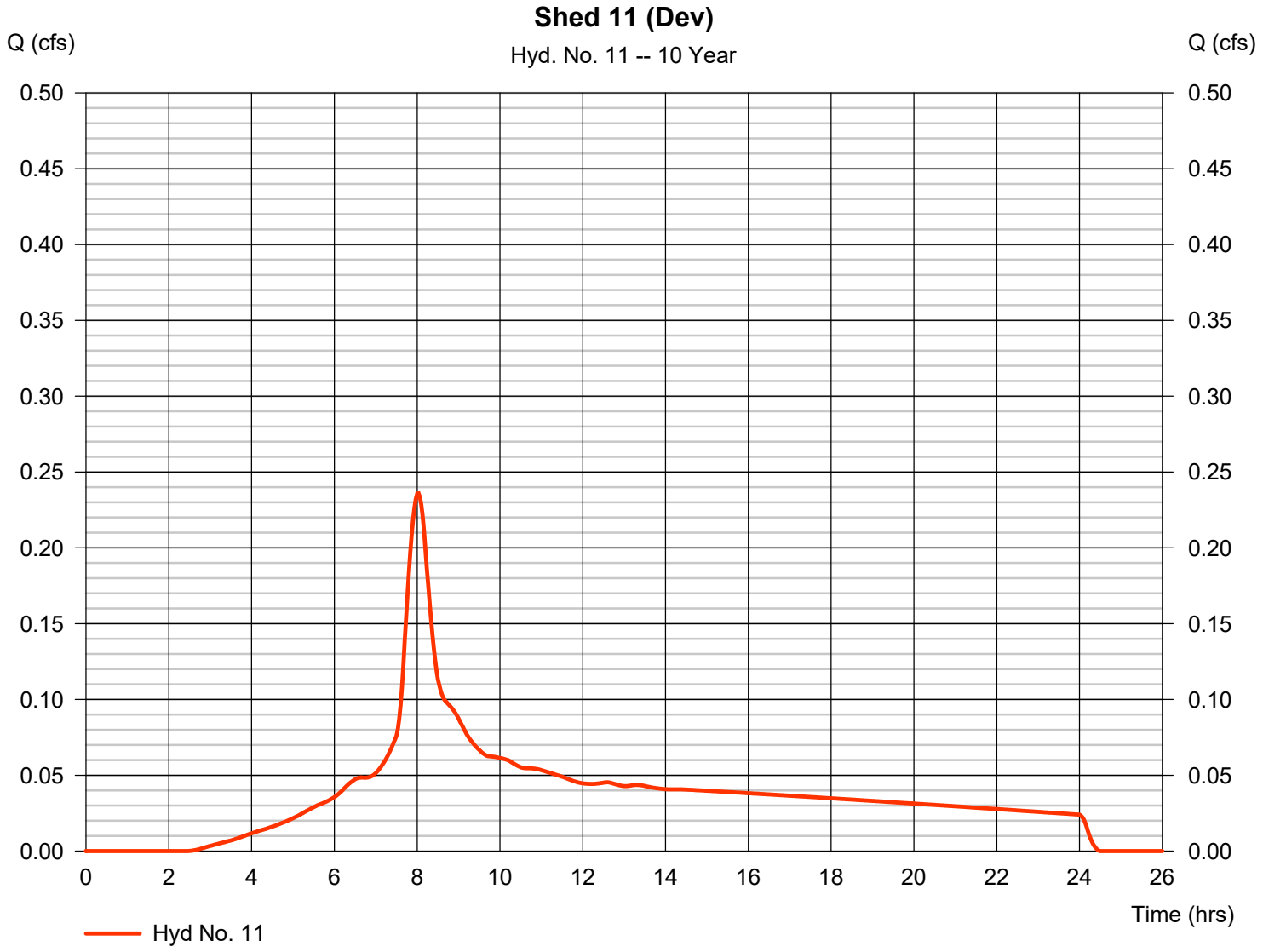
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.236 cfs
Storm frequency	=	10 yrs	Time to peak	=	8.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,399 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	4.42 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



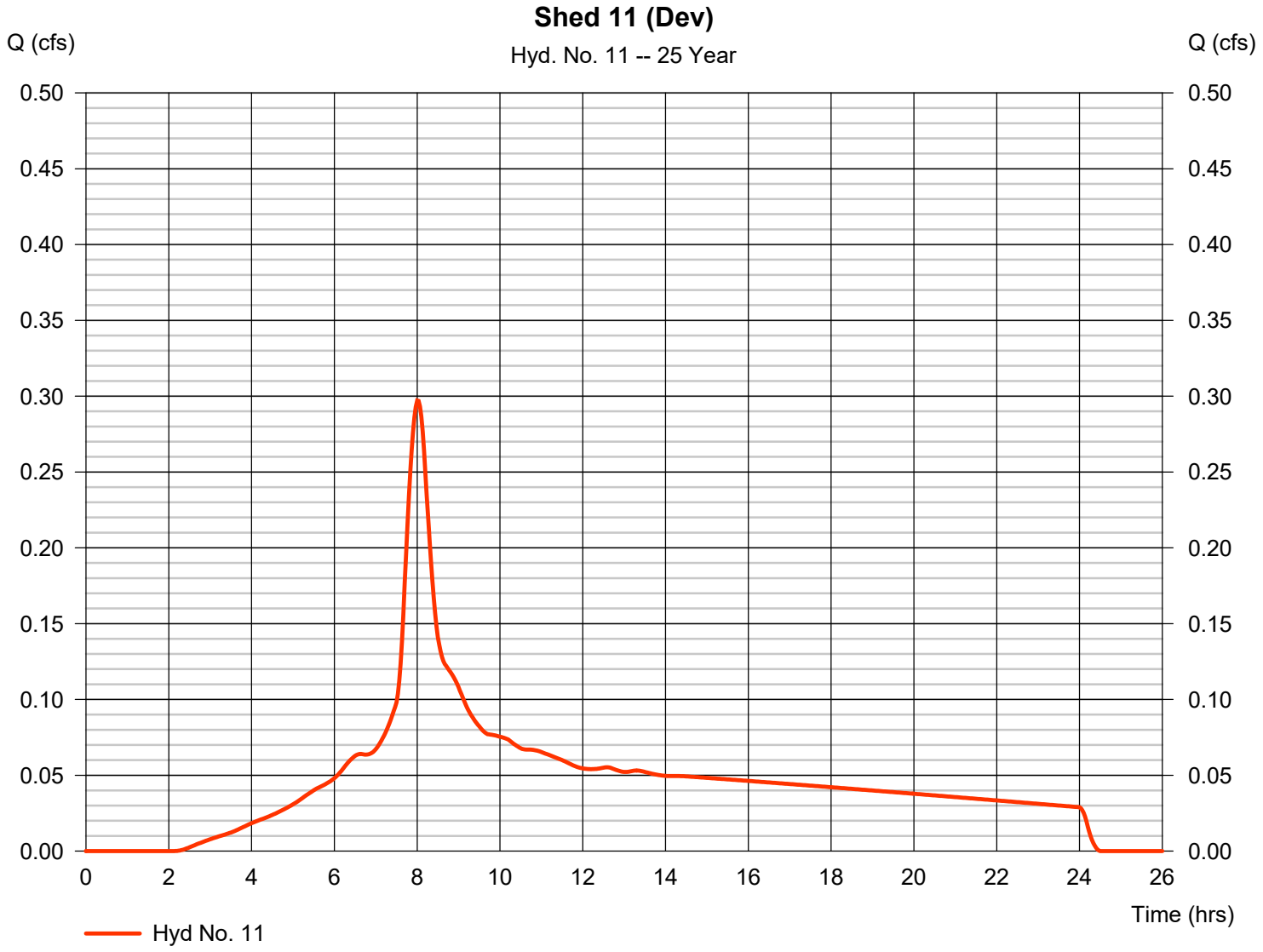
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.297 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	4,244 cuft
Drainage area	=	0.300 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	5.24 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



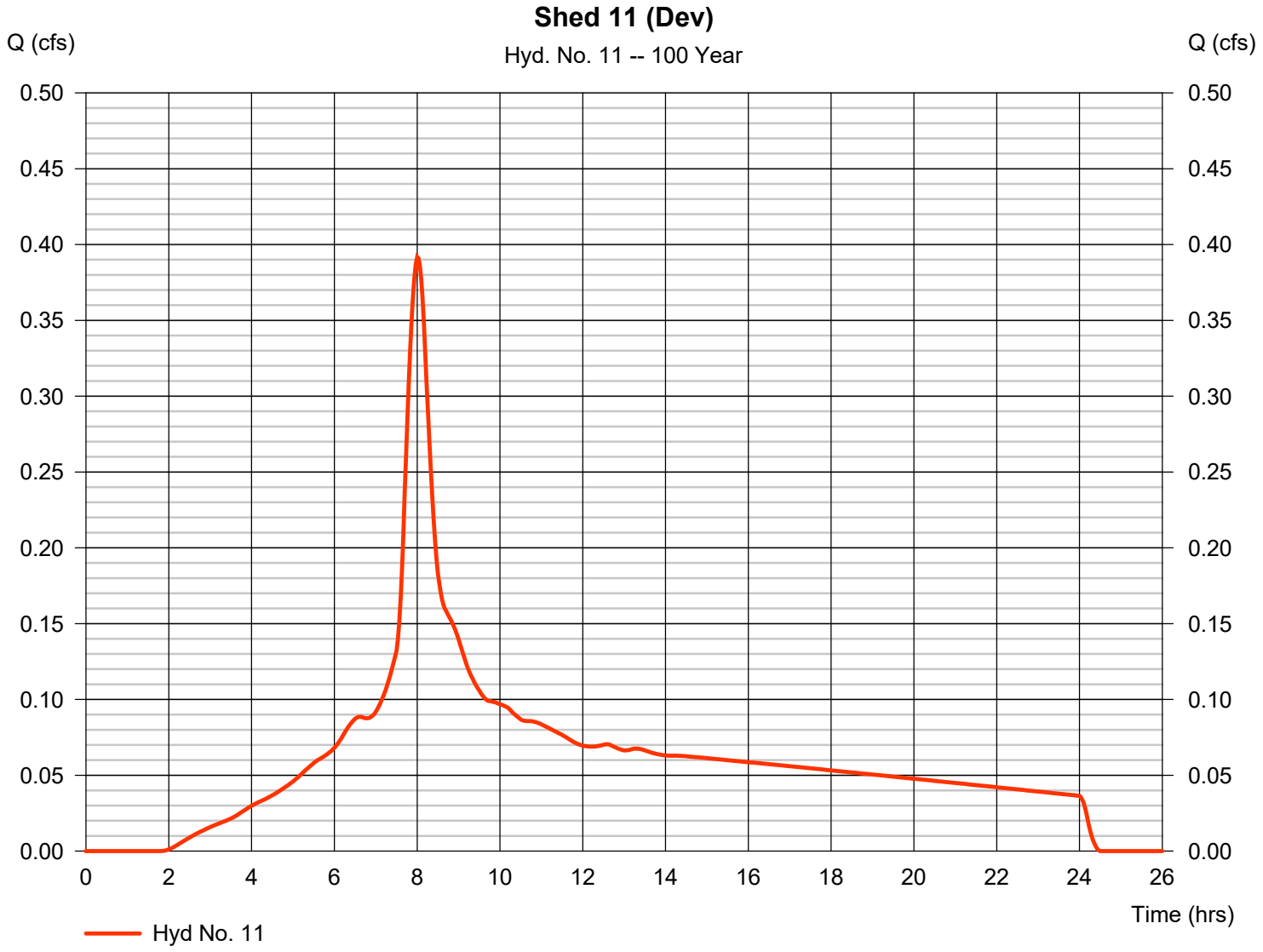
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Wednesday, 09 / 4 / 2024

Hyd. No. 11

Shed 11 (Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.392 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 5,563 cuft
Drainage area	= 0.300 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 6.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



APPENDIX D

Infoworks Network

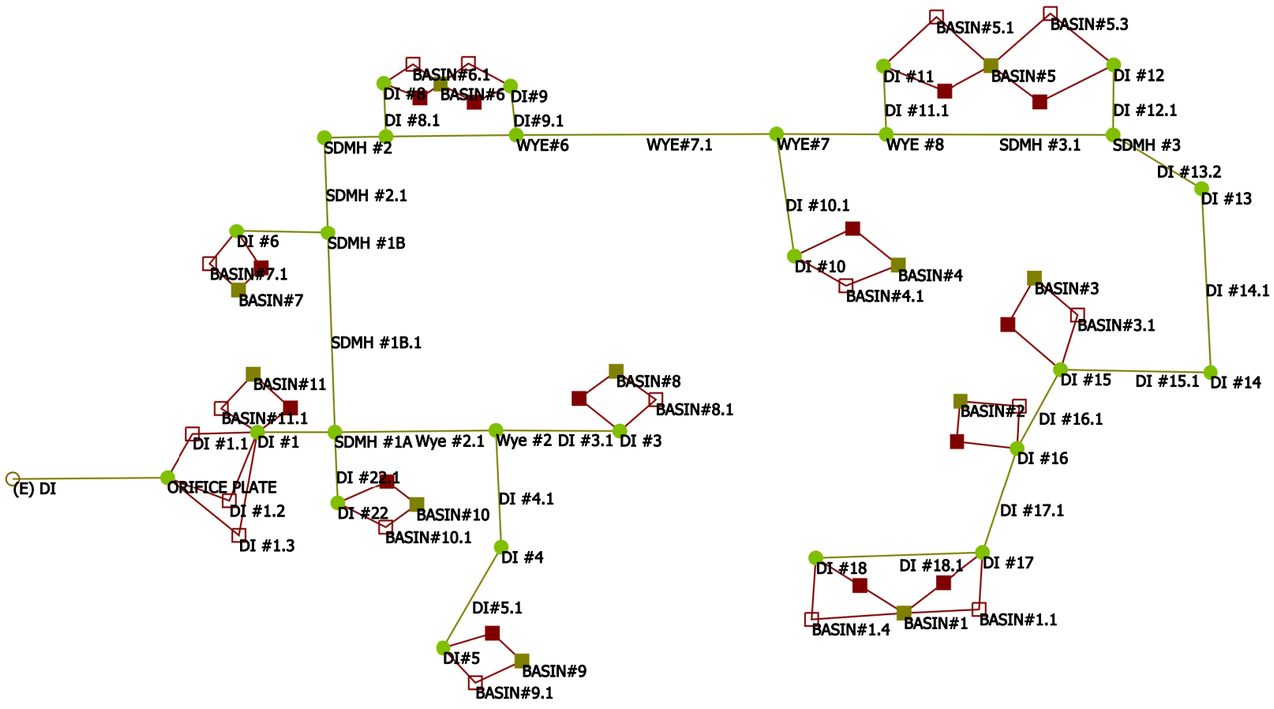
Infoworks Results Tables

Infoworks Profiles – 100-Year, 24-Hour

Bio-retention Basin Stage Storage Tables

Preliminary Orifice Plate Detail

TENFOLD MORGAN HILL



2-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	365.959	0.2218	3288.48
	BASIN#10	359.670	363.799	0.0647	959.13
	BASIN#11	363.020	362.471	0.1386	2055.29
	BASIN#2	362.620	365.575	0.1247	1849.75
	BASIN#3	363.770	365.901	0.0647	959.13
	BASIN#4	362.020	365.938	0.0924	1370.20
	BASIN#5	360.920	364.817	0.1525	2260.82
	BASIN#6	358.920	363.308	0.1386	2055.29
	BASIN#7	358.670	362.849	0.1016	1507.21
	BASIN#8	361.270	366.005	0.1525	2260.82
	BASIN#9	360.270	365.225	0.2726	4042.07
	DI #1	364.600	362.445	0.0000	0.00
	DI #10	368.700	363.115	0.0000	0.00
	DI #11	367.600	363.323	0.0000	0.00
	DI #12	367.600	363.674	0.0000	0.00
	DI #13	367.700	363.180	0.0000	0.00
	DI #14	367.600	364.113	0.0000	0.00
	DI #15	368.700	364.306	0.0000	0.00
	DI #16	368.300	364.469	0.0000	0.00
	DI #17	368.700	364.647	0.0000	0.00
	DI #18	368.700	364.741	0.0000	0.00
	DI #22	366.600	362.474	0.0000	0.00
	DI #3	368.700	362.483	0.0000	0.00
	DI #4	368.000	362.490	0.0000	0.00
	DI #6	365.600	362.474	0.0000	0.00
	DI #8	366.100	362.619	0.0000	0.00
	DI#5	367.700	362.508	0.0000	0.00
	DI#9	366.100	362.820	0.0000	0.00
	ORIFICE PLATE	364.600	360.983	0.0000	0.00
	SDMH #1A	367.000	362.474	0.0000	0.00
	SDMH #1B	366.700	362.474	0.0000	0.00
	SDMH #2	366.400	362.474	0.0000	0.00
	SDMH #3	369.100	362.920	0.0000	0.00
	Wye #2	368.250	362.483	0.0000	0.00
	WYE #5	367.000	362.483	0.0000	0.00
	WYE #8	368.500	362.548	0.0000	0.00
	WYE#6	367.750	362.493	0.0000	0.00
	WYE#7	368.400	362.540	0.0000	0.00

2-Year, 24-Hour

	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS Froude number	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	1.8094	37370.6	0.575	0.992	3.869
	DI #22	1	0.0986	1585.8	2.604	0.025	0.117
	SDMH #1A	1	1.6929	33973.3	2.609	0.315	2.004
	DI #3	1	0.2325	3738.3	1.372	0.528	1.157
	Wye #2	1	0.6047	10421.1	2.604	0.166	0.718
	DI#5	1	0.3900	6683.9	1.199	0.702	1.646
	DI #4	1	0.3853	6683.5	1.372	0.863	1.826
	DI #6	1	0.1494	2490.8	2.504	0.042	0.180
	SDMH #1B	1	1.0779	21966.7	2.604	0.173	0.362
	SDMH #2	1	1.0826	19478.8	2.504	0.158	0.399
	DI #8	1	0.1033	1714.0	2.140	0.075	0.169
	WYE #5	1	1.1524	19482.8	2.314	0.552	1.381
	DI#9	1	0.1010	1684.6	1.866	0.085	0.209
	WYE#6	1	1.0552	17770.3	2.140	0.762	1.723
	DI #10	1	0.1296	2265.9	1.279	0.141	0.411
	WYE#7	1	0.9608	16086.1	1.866	0.782	1.879
	DI #11	1	0.1113	1869.3	1.246	0.121	0.347
	WYE #8	1	0.8393	13821.1	1.279	0.773	2.311
	DI #12	1	0.1210	1869.3	0.846	0.152	0.428
	SDMH #3	1	0.7348	11951.8	1.246	0.705	2.093
	DI #13	2	0.6620	10082.4	0.846	0.763	2.236
	DI #14	1	0.6763	10082.8	0.543	1.187	3.174
	DI #15	1	0.6826	10083.0	0.349	0.974	2.796
	DI #16	1	0.5759	8497.0	0.385	0.680	2.064
	DI #18	1	0.1846	2719.0	0.296	0.362	0.947
	DI #17	1	0.3687	5438.1	0.366	0.481	1.415

10-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	366.041	0.3773	5438.08
	BASIN#10	359.670	363.856	0.1100	1585.97
	BASIN#11	363.020	363.242	0.2358	3398.73
	BASIN#2	362.620	365.663	0.2122	3058.83
	BASIN#3	363.770	365.958	0.1100	1585.97
	BASIN#4	362.020	366.011	0.1572	2265.82
	BASIN#5	360.920	364.881	0.2594	3738.55
	BASIN#6	358.920	363.391	0.2358	3398.73
	BASIN#7	358.670	363.322	0.1729	2492.37
	BASIN#8	361.270	366.243	0.2594	3738.55
	BASIN#9	360.270	365.794	0.4638	6684.30
	DI #1	364.600	363.158	0.0000	0.00
	DI #10	368.700	363.433	0.0000	0.00
	DI #11	367.600	363.454	0.0000	0.00
	DI #12	367.600	363.692	0.0000	0.00
	DI #13	367.700	363.483	0.0000	0.00
	DI #14	367.600	364.185	0.0000	0.00
	DI #15	368.700	364.395	0.0000	0.00
	DI #16	368.300	364.556	0.0000	0.00
	DI #17	368.700	364.716	0.0000	0.00
	DI #18	368.700	364.793	0.0000	0.00
	DI #22	366.600	363.265	0.0000	0.00
	DI #3	368.700	363.283	0.0000	0.00
	DI #4	368.000	363.289	0.0000	0.00
	DI #6	365.600	363.265	0.0000	0.00
	DI #8	366.100	363.301	0.0000	0.00
	DI#5	367.700	363.293	0.0000	0.00
	DI#9	366.100	363.347	0.0000	0.00
	ORIFICE PLATE	364.600	361.173	0.0000	0.00
	SDMH #1A	367.000	363.264	0.0000	0.00
	SDMH #1B	366.700	363.264	0.0000	0.00
	SDMH #2	366.400	363.264	0.0000	0.00
	SDMH #3	369.100	363.466	0.0000	0.00
	Wye #2	368.250	363.282	0.0000	0.00
	WYE #5	367.000	363.300	0.0000	0.00
	WYE #8	368.500	363.436	0.0000	0.00
	WYE#6	367.750	363.346	0.0000	0.00
	WYE#7	368.400	363.429	0.0000	0.00

10-Year, 24-Hour

	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	1.8094	37370.6	0.575	3.869
	DI #22	1	0.0986	1585.8	2.604	0.117
	SDMH #1A	1	1.6929	33973.3	2.609	2.004
	DI #3	1	0.2325	3738.3	1.372	1.157
	Wye #2	1	0.6047	10421.1	2.604	0.718
	DI#5	1	0.3900	6683.9	1.199	1.646
	DI #4	1	0.3853	6683.5	1.372	1.826
	DI #6	1	0.1494	2490.8	2.504	0.180
	SDMH #1B	1	1.0779	21966.7	2.604	0.362
	SDMH #2	1	1.0826	19478.8	2.504	0.399
	DI #8	1	0.1033	1714.0	2.140	0.169
	WYE #5	1	1.1524	19482.8	2.314	1.381
	DI#9	1	0.1010	1684.6	1.866	0.209
	WYE#6	1	1.0552	17770.3	2.140	1.723
	DI #10	1	0.1296	2265.9	1.279	0.411
	WYE#7	1	0.9608	16086.1	1.866	1.879
	DI #11	1	0.1113	1869.3	1.246	0.347
	WYE #8	1	0.8393	13821.1	1.279	2.311
	DI #12	1	0.1210	1869.3	0.846	0.428
	SDMH #3	1	0.7348	11951.8	1.246	2.093
	DI #13	2	0.6620	10082.4	0.846	2.236
	DI #14	1	0.6763	10082.8	0.543	3.174
	DI #15	1	0.6826	10083.0	0.349	2.796
	DI #16	1	0.5759	8497.0	0.385	2.064
	DI #18	1	0.1846	2719.0	0.296	0.947
	DI #17	1	0.3687	5438.1	0.366	1.415

25-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	366.087	0.4755	6755.89
	BASIN#10	359.670	363.888	0.1387	1970.46
	BASIN#11	363.020	363.644	0.2972	4222.29
	BASIN#2	362.620	365.864	0.2674	3800.15
	BASIN#3	363.770	365.990	0.1387	1970.46
	BASIN#4	362.020	366.051	0.1981	2814.92
	BASIN#5	360.920	364.917	0.3269	4644.62
	BASIN#6	358.920	363.841	0.2972	4222.29
	BASIN#7	358.670	363.785	0.2179	3096.38
	BASIN#8	361.270	366.451	0.3269	4644.62
	BASIN#9	360.270	366.222	0.5844	8304.04
	DI #1	364.600	363.482	0.0000	0.00
	DI #10	368.700	363.969	0.0000	0.00
	DI #11	367.600	363.981	0.0000	0.00
	DI #12	367.600	364.040	0.0000	0.00
	DI #13	367.700	364.053	0.0000	0.00
	DI #14	367.600	364.259	0.0000	0.00
	DI #15	368.700	364.440	0.0000	0.00
	DI #16	368.300	364.600	0.0000	0.00
	DI #17	368.700	364.755	0.0000	0.00
	DI #18	368.700	364.822	0.0000	0.00
	DI #22	366.600	363.676	0.0000	0.00
	DI #3	368.700	363.706	0.0000	0.00
	DI #4	368.000	363.716	0.0000	0.00
	DI #6	365.600	363.676	0.0000	0.00
	DI #8	366.100	363.741	0.0000	0.00
	DI#5	367.700	363.724	0.0000	0.00
	DI#9	366.100	363.816	0.0000	0.00
	ORIFICE PLATE	364.600	361.289	0.0000	0.00
	SDMH #1A	367.000	363.675	0.0000	0.00
	SDMH #1B	366.700	363.675	0.0000	0.00
	SDMH #2	366.400	363.675	0.0000	0.00
	SDMH #3	369.100	364.037	0.0000	0.00
	Wye #2	368.250	363.704	0.0000	0.00
	WYE #5	367.000	363.739	0.0000	0.00
	WYE #8	368.500	363.979	0.0000	0.00
	WYE#6	367.750	363.815	0.0000	0.00
	WYE#7	368.400	363.967	0.0000	0.00

25-Year, 24-Hour

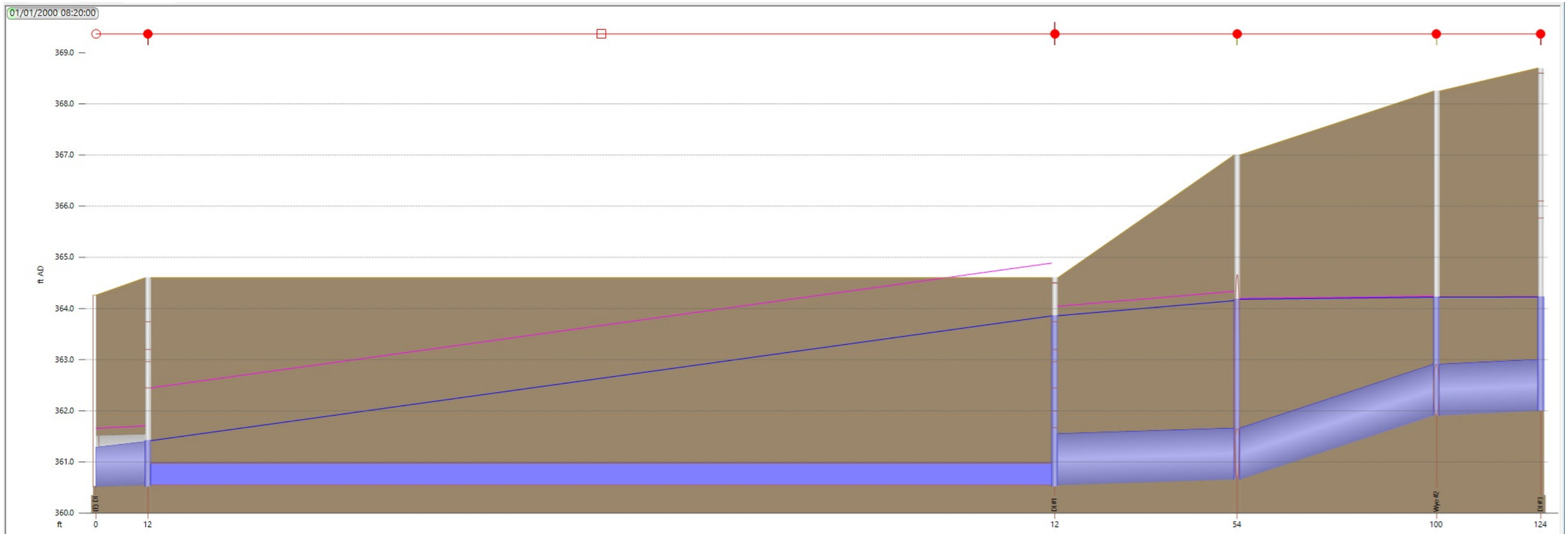
	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	2.4476	46103.8	0.672	4.359
	DI #22	1	0.1250	1956.4	3.015	0.147
	SDMH #1A	1	2.2788	41922.4	2.934	2.676
	DI #3	1	0.3020	4628.9	1.794	0.899
	Wye #2	1	0.7709	12882.9	3.015	0.906
	DI#5	1	0.4855	8260.6	1.626	1.572
	DI #4	1	0.4810	8257.3	1.794	1.562
	DI #6	1	0.1541	3080.5	2.915	0.185
	SDMH #1B	1	1.4541	27105.3	3.015	0.350
	SDMH #2	1	1.3273	24060.5	2.915	0.400
	DI #8	1	0.1367	2192.2	2.579	0.166
	WYE #5	1	1.3662	24069.2	2.726	1.615
	DI#9	1	0.1172	2014.0	2.335	0.200
	WYE#6	1	1.2401	21882.3	2.579	1.702
	DI #10	1	0.1777	2805.2	1.817	0.389
	WYE#7	1	1.2258	19874.6	2.335	1.862
	DI #11	1	0.1439	2312.8	1.789	0.336
	WYE #8	1	1.0568	17080.4	1.818	2.152
	DI #12	1	0.1392	2312.9	1.417	0.432
	SDMH #3	1	0.9200	14769.2	1.790	1.969
	DI #13	2	0.7891	12461.9	1.417	2.204
	DI #14	1	0.7984	12463.5	1.113	3.203
	DI #15	1	0.8453	12468.2	0.389	2.990
	DI #16	1	0.7112	10510.1	0.430	2.203
	DI #18	1	0.2330	3364.3	0.335	1.011
	DI #17	1	0.4653	6727.1	0.410	1.564

100-Year, 24-Hour

	Node ID	Ground level (ft AD)	Max Level (ft AD)	Max Inflow (ft3/s)	Cumulative inflow (ft3)
	BASIN#1	363.020	366.404	0.6270	8901.16
	BASIN#10	359.670	364.247	0.1829	2596.06
	BASIN#11	363.020	364.078	0.3919	5563.23
	BASIN#2	362.620	366.124	0.3527	5006.89
	BASIN#3	363.770	366.035	0.1829	2596.06
	BASIN#4	362.020	366.258	0.2612	3708.69
	BASIN#5	360.920	364.967	0.4311	6119.53
	BASIN#6	358.920	364.465	0.3919	5563.23
	BASIN#7	358.670	364.386	0.2874	4079.56
	BASIN#8	361.270	366.807	0.4311	6119.53
	BASIN#9	360.270	366.991	0.7706	10940.99
	DI #1	364.600	363.857	0.0000	0.00
	DI #10	368.700	364.683	0.0000	0.00
	DI #11	367.600	364.699	0.0000	0.00
	DI #12	367.600	364.791	0.0000	0.00
	DI #13	367.700	364.817	0.0000	0.00
	DI #14	367.600	364.906	0.0000	0.00
	DI #15	368.700	364.937	0.0000	0.00
	DI #16	368.300	364.963	0.0000	0.00
	DI #17	368.700	364.982	0.0000	0.00
	DI #18	368.700	364.990	0.0000	0.00
	DI #22	366.600	364.184	0.0000	0.00
	DI #3	368.700	364.230	0.0000	0.00
	DI #4	368.000	364.247	0.0000	0.00
	DI #6	365.600	364.185	0.0000	0.00
	DI #8	366.100	364.296	0.0000	0.00
	DI#5	367.700	364.259	0.0000	0.00
	DI#9	366.100	364.428	0.0000	0.00
	ORIFICE PLATE	364.600	361.424	0.0000	0.00
	SDMH #1A	367.000	364.183	0.0000	0.00
	SDMH #1B	366.700	364.183	0.0000	0.00
	SDMH #2	366.400	364.183	0.0000	0.00
	SDMH #3	369.100	364.789	0.0000	0.00
	Wye #2	368.250	364.228	0.0000	0.00
	WYE #5	367.000	364.294	0.0000	0.00
	WYE #8	368.500	364.697	0.0000	0.00
	WYE#6	367.750	364.426	0.0000	0.00
	WYE#7	368.400	364.680	0.0000	0.00

100-Year, 24-Hour

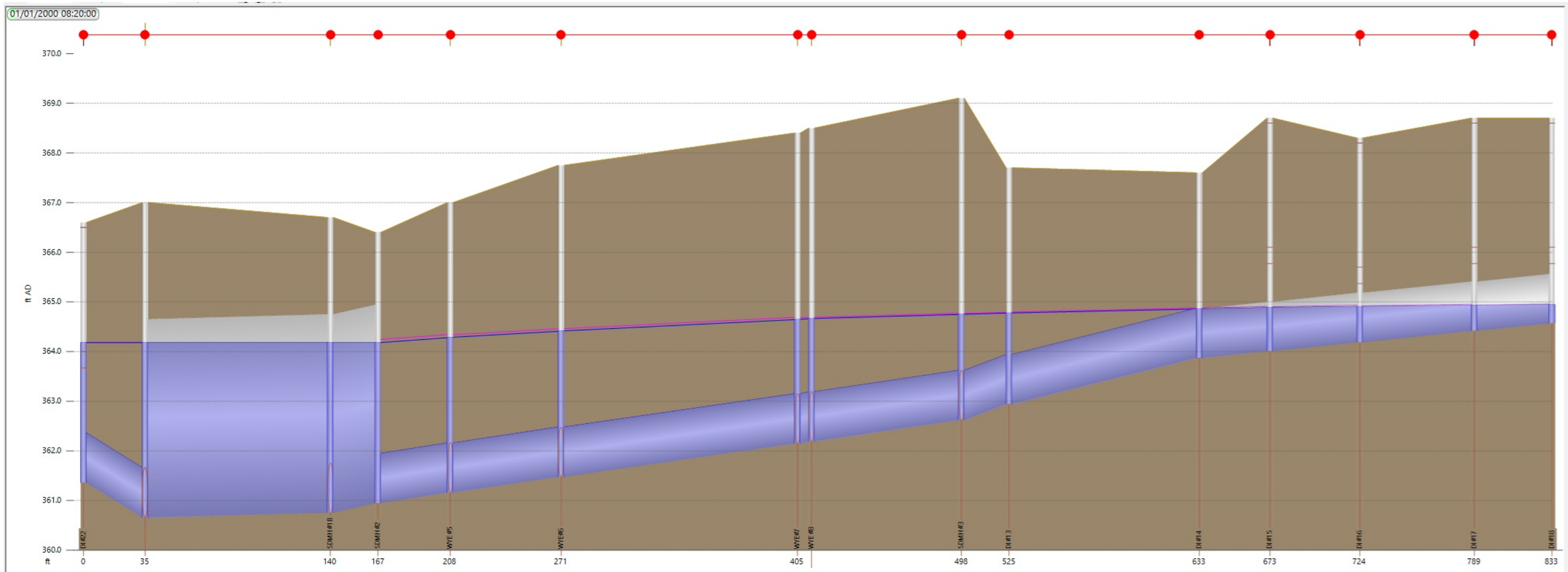
	US node ID	Link suffix	Max DS flow (ft3/s)	DS cumulative flow (ft3)	Max DS depth (ft)	Max DS velocity (ft/s)
▶	ORIFICE PLATE	1	3.1938	61179.1	0.767	4.939
	DI #22	1	0.1549	2595.7	3.523	0.182
	SDMH #1A	1	2.9676	55616.8	3.310	3.465
	DI #3	1	0.3971	6119.3	2.318	0.906
	Wye #2	1	0.9982	17058.8	3.523	1.160
	DI#5	1	0.6145	10940.7	2.157	1.437
	DI #4	1	0.6103	10940.3	2.318	1.583
	DI #6	1	0.2068	4077.9	3.423	0.241
	SDMH #1B	1	1.9218	35962.4	3.523	0.378
	SDMH #2	1	1.7905	31887.1	3.423	0.401
	DI #8	1	0.1800	2949.6	3.134	0.211
	WYE #5	1	1.8310	31891.1	3.234	2.141
	DI#9	1	0.1154	2613.4	2.946	0.198
	WYE#6	1	1.6554	28943.3	3.134	1.940
	DI #10	1	0.2379	3708.6	2.530	0.322
	WYE#7	1	1.5842	26330.6	2.947	1.865
	DI #11	1	0.2013	3073.3	2.507	0.278
	WYE #8	1	1.3540	22622.7	2.530	1.948
	DI #12	1	0.2007	3046.1	2.169	0.364
	SDMH #3	1	1.1586	19549.4	2.507	1.769
	DI #13	2	0.9898	16503.6	2.169	1.895
	DI #14	1	0.9930	16504.0	1.878	2.955
	DI #15	1	1.0000	16504.2	1.036	3.080
	DI #16	1	0.8630	13908.2	0.927	2.243
	DI #18	1	0.2887	4450.6	0.562	1.045
	DI #17	1	0.5632	8901.2	0.773	1.570



Link	-	DI #1.1	SDMH #1A.1	Wye #2.1	DI #3.1
Shape ID	CIRC		CIRC	CIRC	CIRC
width (in)	12.0		12.0	12.0	12.0
height (in)	12.0		12.0	12.0	12.0
us inv (ft AD)	360.550		360.660	361.910	362.000
ds inv (ft AD)	360.520		360.550	360.660	361.910
DS flow (ft3/s)	3.1938	1.1671	2.9676	0.9982	0.3971
Invert level (ft AD)		360.550			
Diameter (ft)		0.427			
Max flow (ft3/s)		35279.35			

Node	-	ORIFICE PLATE	DI #1	SDMH #1A	Wye #2	DI #3
ground (ft AD)	-	364.600	364.600	367.000	368.250	368.700
level (ft AD)		361.424	363.857	364.183	364.228	364.230

Profile 1
100-Year, 24-Hour



Link	DI #22.1	SDMH #1B.1	SDMH #2.1	WYE #5.1	WYE#6.1	WYE#7.1	-	SDMH #3.1	DI #13.2	DI #14.1	DI #15.1	DI #16.1	DI #17.1	DI #18.1
Shape ID	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	-	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC	CIRC
width (in)	12.0	48.0	48.0	12.0	12.0	12.0	-	12.0	12.0	12.0	12.0	12.0	12.0	12.0
height (in)	12.0	48.0	48.0	12.0	12.0	12.0	-	12.0	12.0	12.0	12.0	12.0	12.0	12.0
us inv (ft AD)	361.360	360.760	360.950	361.160	361.480	362.150	-	362.620	362.940	363.870	364.010	364.190	364.420	364.570
ds inv (ft AD)	360.660	360.660	360.760	360.950	361.160	361.480	-	362.190	362.620	362.940	363.870	364.010	364.190	364.420
DS flow (ft3/s)	0.1549	1.9218	1.7905	1.8310	1.6554	1.5842	-	1.1586	0.9898	0.9930	1.0000	0.8630	0.5632	0.2887

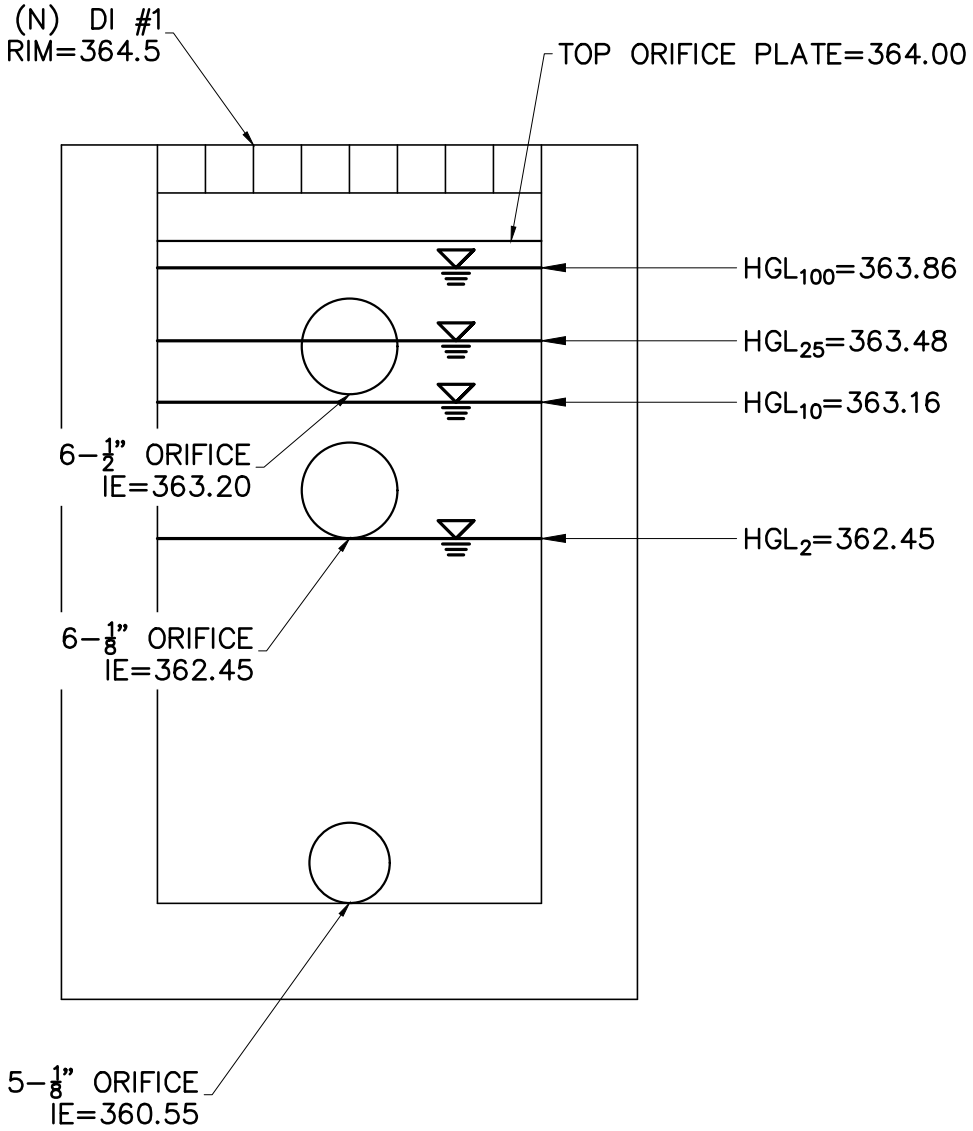
Node	-	SDMH #1A	SDMH #1B	SDMH #2	WYE #5	WYE#6	WYE#7	WYE #8	SDMH #3	DI #13	DI #14	DI #15	DI #16	DI #17	DI #18
ground (ft AD)	-	367.000	366.700	366.400	367.000	367.750	368.400	368.500	369.100	367.700	367.600	368.700	368.300	368.700	368.700
level (ft AD)	-	364.183	364.183	364.183	364.294	364.426	364.680	364.697	364.789	364.817	364.906	364.937	364.963	364.982	364.990

Profile 2
100-Year, 24-Hour

PRELIMINARY ORIFICE PLATE DETAIL

MORGAN HILL RCFE

MORGAN HILL, CA



	US node ID	Link suffix	DS node ID	Link type	Invert level (ft AD)	Diameter (ft)	Opening type
	BASIN#1	4	DI #18	ORIFIC	365.770	0.330	Side
	BASIN#1	1	DI #17	ORIFIC	365.770	0.330	Side
	BASIN#10	1	DI #22	ORIFIC	363.670	0.330	Side
	BASIN#11	1	DI #1	ORIFIC	361.670	0.330	Side
	BASIN#2	1	DI #16	ORIFIC	365.370	0.330	Side
	BASIN#3	1	DI #15	ORIFIC	365.770	0.330	Side
	BASIN#4	1	DI #10	ORIFIC	365.770	0.330	Side
	BASIN#5	3	DI #12	ORIFIC	364.670	0.330	Side
	BASIN#5	1	DI #11	ORIFIC	364.670	0.330	Side
	BASIN#6	1	DI #8	ORIFIC	363.170	0.330	Side
	BASIN#6	2	DI#9	ORIFIC	363.170	0.330	Side
	BASIN#7	1	DI #6	ORIFIC	362.670	0.330	Side
	BASIN#8	1	DI #3	ORIFIC	365.770	0.330	Side
	BASIN#9	1	DI#5	ORIFIC	364.770	0.330	Side
	DI #1	1	ORIFICE PLATE	ORIFIC	360.550	0.427	Side
	DI #1	2	ORIFICE PLATE	ORIFIC	362.450	0.510	Side
	DI #1	3	ORIFICE PLATE	ORIFIC	363.200	0.542	Side

BIO-RETENTION BASIN STAGE STORAGE TABLES

BIO-RETENTION BASIN #1

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
363.00	0	905	40	0	0	BOTTOM GRAVEL LAYER
363.50	0.50	905	40	181	181	
364.00	1.00	905	40	181	362	
364.50	1.50	905	40	181	543	
365.00	2.00	905	40	181	724	
365.50	2.50	905	40	181	905	
365.77	2.77	905	40	98	1003	95TH PERCENTILE / IE SUBDRAIN
365.96	2.96	905	40	69	1072	2-YEAR HGL
366.04	3.04	905	40	29	1100	10-YEAR HGL
366.09	3.09	905	40	18	1119	25-YEAR HGL
366.10	3.10	905	40	4	1122	TOP OF GRAVEL
366.40	3.40	905	25	68	1190	100-YEAR HGL
366.50	3.50	905	25	23	1213	
367.00	4.00	905	25	113	1326	
367.50	4.50	905	25	113	1439	
368.10	5.10	905	25	136	1575	BASIN FG
368.60	5.60	905	100	453	2027	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3733

BIO-RETENTION BASIN #2

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
362.50	0	470	40	0	0	BOTTOM GRAVEL LAYER
363.00	0.50	470	40	94	94	
363.50	1.00	470	40	94	188	
364.00	1.50	470	40	94	282	
364.50	2.00	470	40	94	376	
365.00	2.50	470	40	94	470	
365.37	2.87	470	40	70	540	95TH PERCENTILE / IE SUBDRAIN
365.58	3.08	470	40	39	579	2-YEAR HGL
365.66	3.16	470	40	15	594	10-YEAR HGL
365.70	3.20	470	40	8	602	TOP OF GRAVEL
365.86	3.36	470	25	19	620	25-YEAR HGL
366.00	3.50	470	25	16	637	
366.12	3.62	470	25	14	651	100-YEAR HGL
366.50	4.00	470	25	45	696	
367.00	4.50	470	25	59	754	
367.70	5.20	470	25	82	837	BASIN FG
368.20	5.70	470	100	235	1072	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1939

BIO-RETENTION BASIN #3

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
363.77	0	500	40	0	0	BOTTOM GRAVEL LAYER
364.00	0.23	500	40	46	46	
364.50	0.73	500	40	100	146	
365.00	1.23	500	40	100	246	
365.50	1.73	500	40	100	346	
365.77	2.00	500	40	54	400	95TH PERCENTILE / IE SUBDRAIN
365.90	2.13	500	40	26	426	2-YEAR HGL
365.96	2.19	500	40	12	438	10-YEAR HGL
365.99	2.22	500	40	6	444	25-YEAR HGL
366.04	2.27	500	40	10	454	100-YEAR HGL
366.10	2.33	500	40	12	466	TOP OF GRAVEL
366.50	2.73	500	25	50	516	
367.00	3.23	500	25	63	579	
367.50	3.73	500	25	63	641	
368.10	4.33	500	25	75	716	BASIN FG
368.60	4.83	500	100	250	966	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 2063

BIO-RETENTION BASIN #4

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
362.02	0	380	40	0	0	BOTTOM GRAVEL LAYER
362.50	0.48	380	40	73	73	
363.00	0.98	380	40	76	149	
363.50	1.48	380	40	76	225	
364.00	1.98	380	40	76	301	
364.50	2.48	380	40	76	377	
365.00	2.98	380	40	76	453	
365.77	3.75	380	40	117	570	95TH PERCENTILE / IE SUBDRAIN
365.94	3.92	380	40	26	596	2-YEAR HGL
366.01	3.99	380	40	11	606	10-YEAR HGL
366.05	4.03	380	40	6	613	25-YEAR HGL
366.10	4.08	380	40	8	620	TOP OF GRAVEL
366.26	4.24	380	25	15	635	100-YEAR HGL
366.50	4.48	380	25	38	658	
367.00	4.98	380	25	48	706	
367.50	5.48	380	25	48	753	
368.10	6.08	380	25	57	810	BASIN FG
368.60	6.58	380	100	190	1000	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1568

BIO-RETENTION BASIN #5

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
360.75	0	860	40	0	0	BOTTOM GRAVEL LAYER
361.00	0.25	860	40	86	86	
361.50	0.75	860	40	172	258	
362.00	1.25	860	40	172	430	
362.50	1.75	860	40	172	602	
363.00	2.25	860	40	172	774	
363.50	2.75	860	40	172	946	
364.00	3.25	860	40	172	1118	
364.67	3.92	860	40	230	1348	95TH PERCENTILE / IE SUBDRAIN
364.82	4.07	860	40	52	1400	2-YEAR HGL
364.88	4.13	860	40	21	1421	10-YEAR HGL
364.92	4.17	860	40	14	1434	25-YEAR HGL
364.97	4.22	860	40	17	1452	100-YEAR HGL
365.00	4.25	860	40	10	1462	TOP OF GRAVEL
365.50	4.75	860	25	108	1570	
366.00	5.25	860	25	108	1677	
366.50	5.75	860	25	108	1785	
367.00	6.25	860	25	108	1892	BASIN FG
367.50	6.75	860	100	430	2322	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3548

BIO-RETENTION BASIN #6

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
358.92	0	760	40	0	0	BOTTOM GRAVEL LAYER
359.00	0.08	760	40	24	24	
359.50	0.58	760	40	152	176	
360.00	1.08	760	40	152	328	
360.50	1.58	760	40	152	480	
361.00	2.08	760	40	152	632	
361.50	2.58	760	40	152	784	
362.00	3.08	760	40	152	936	
362.50	3.58	760	40	152	1088	
363.17	4.25	760	40	204	1292	95TH PERCENTILE / IE SUBDRAIN
363.31	4.39	760	40	43	1335	2-YEAR HGL
363.39	4.47	760	40	24	1359	10-YEAR HGL
363.50	4.58	760	40	33	1392	TOP OF GRAVEL
363.84	4.92	760	25	65	1457	25-YEAR HGL
364.00	5.08	760	25	30	1487	
364.50	5.58	760	25	95	1582	
364.47	5.55	760	25	-6	1577	100-YEAR HGL
365.00	6.08	760	25	101	1677	
365.50	6.58	760	25	95	1772	BASIN FG
366.00	7.08	760	100	380	2152	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3135

BIO-RETENTION BASIN #7

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
358.50	0	420	40	0	0	BOTTOM GRAVEL LAYER
359.00	0.50	420	40	84	84	
359.50	1.00	420	40	84	168	
360.00	1.50	420	40	84	252	
360.50	2.00	420	40	84	336	
361.00	2.50	420	40	84	420	
361.50	3.00	420	40	84	504	
362.00	3.50	420	40	84	588	
362.50	4.00	420	40	84	672	
362.67	4.17	420	40	29	701	95TH PERCENTILE / IE SUBDRAIN
362.85	4.35	420	40	30	731	2-YEAR HGL
363.00	4.50	420	40	25	756	TOP OF GRAVEL
363.32	4.82	420	25	34	790	10-YEAR HGL
363.50	5.00	420	25	19	809	
363.79	5.29	420	25	30	839	25-YEAR HGL
364.00	5.50	420	25	22	861	
364.39	5.89	420	25	41	902	100-YEAR HGL
364.50	6.00	420	25	12	914	
365.00	6.50	420	25	53	966	BASIN FG
365.50	7.00	420	100	210	1176	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1733

BIO-RETENTION BASIN #8

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
361.27	0	430	40	0	0	BOTTOM GRAVEL LAYER
361.50	0.23	430	40	40	40	
362.00	0.73	430	40	86	126	
362.50	1.23	430	40	86	212	
363.00	1.73	430	40	86	298	
363.50	2.23	430	40	86	384	
364.00	2.73	430	40	86	470	
364.50	3.23	430	40	86	556	
365.00	3.73	430	40	86	642	
365.77	4.50	430	40	132	774	95TH PERCENTILE / IE SUBDRAIN
366.01	4.74	430	40	41	815	2-YEAR HGL
366.10	4.83	430	40	15	831	TOP OF GRAVEL
366.24	4.97	430	25	15	846	10-YEAR HGL
366.45	5.18	430	25	23	868	25-YEAR HGL
366.50	5.23	430	25	5	874	
366.81	5.54	430	25	33	907	100-YEAR HGL
367.00	5.73	430	25	20	928	
367.50	6.23	430	25	54	981	
368.10	6.83	430	25	65	1046	BASIN FG
368.60	7.33	430	100	215	1261	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 1774

BIO-RETENTION BASIN #9

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
360.27	0	825	40	0	0	BOTTOM GRAVEL LAYER
360.50	0.23	825	40	76	76	
361.00	0.73	825	40	165	241	
361.50	1.23	825	40	165	406	
362.00	1.73	825	40	165	571	
362.50	2.23	825	40	165	736	
363.00	2.73	825	40	165	901	
363.50	3.23	825	40	165	1066	
364.00	3.73	825	40	165	1231	
364.77	4.50	825	40	254	1485	95TH PERCENTILE / IE SUBDRAIN
365.10	4.83	825	40	109	1594	TOP OF GRAVEL
365.23	4.96	825	25	27	1621	2-YEAR HGL
365.50	5.23	825	25	56	1676	
365.79	5.52	825	25	60	1736	10-YEAR HGL
366.00	5.73	825	25	43	1780	
366.22	5.95	825	25	45	1825	25-YEAR HGL
366.50	6.23	825	25	58	1883	
366.99	6.72	825	25	101	1984	100-YEAR HGL
367.10	6.83	825	25	23	2006	BASIN FG
367.60	7.33	825	100	413	2419	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 3403

BIO-RETENTION BASIN #10

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
359.67	0	625	40	0	0	BOTTOM GRAVEL LAYER
360.00	0.33	625	40	82	82	
360.50	0.83	625	40	125	207	
361.00	1.33	625	40	125	332	
361.50	1.83	625	40	125	457	
362.00	2.33	625	40	125	582	
362.50	2.83	625	40	125	707	
363.00	3.33	625	40	125	832	
363.50	3.83	625	40	125	957	
363.67	4.00	625	40	43	1000	95TH PERCENTILE / IE SUBDRAIN
363.80	4.13	625	40	32	1033	2-YEAR HGL
363.86	4.19	625	40	15	1048	10-YEAR HGL
363.89	4.22	625	40	7	1055	25-YEAR HGL
364.00	4.33	625	40	28	1083	TOP OF GRAVEL
364.25	4.58	625	25	39	1122	100-YEAR HGL
364.50	4.83	625	25	39	1161	
365.00	5.33	625	25	78	1239	
366.00	6.33	625	25	156	1395	BASIN FG
366.50	6.83	625	100	313	1708	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 2578

BIO-RETENTION BASIN #11

ELEVATION (FT)	STAGE ELEVATION (FT)	SURFACE AREA (SF)	POROSITY (%)	INCREMENTAL STORAGE (FT^3)	TOTAL STORAGE (FT^3)	NOTES
358.67	0	980	40	0	0	BOTTOM GRAVEL LAYER
359.00	0.33	980	40	129	129	
359.50	0.83	980	40	196	325	
360.00	1.33	980	40	196	521	
360.50	1.83	980	40	196	717	
361.00	2.33	980	40	196	913	
361.50	2.83	980	40	196	1109	
361.67	3.00	980	40	67	1176	95TH PERCENTILE / IE SUBDRAIN
362.00	3.33	980	40	129	1305	TOP OF GRAVEL
362.47	3.80	980	25	115	1421	2-YEAR HGL
362.50	3.83	980	25	7	1428	
363.00	4.33	980	25	123	1550	
363.24	4.57	980	25	59	1609	10-YEAR HGL
363.50	4.83	980	25	64	1673	
363.64	4.97	980	25	34	1707	25-YEAR HGL
364.00	5.33	980	25	88	1795	BASIN FG
364.08	5.41	980	100	78	1874	100-YEAR HGL
364.50	5.83	980	100	412	2285	RIM ELEVATION

72 HOUR INFILTRATION(FT^3)= ((1.375/2)/12)*AREA *72= 4043

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

April 22, 2025 KA Project No. 042-22026

Ms. Brigid Flanigan
Tenfold Development, LLC
985 SW Disk Drive, Suite 120
Bend, Oregon 97702

RE: Addendum to Geotechnical Engineering Investigation
Proposed Tenfold Senior Housing RCFE
Jarvis Drive near Butterfield Boulevard
Morgan Hill, California

Dear Ms. Flanigan:

In accordance with the request of Mr. Marcus Lewis of TSD Engineering, Inc., we are providing this Addendum to our Geotechnical Engineering Investigation for the above-referenced project site. Krazan & Associates, Inc. had previously conducted a Geotechnical Engineering Investigation report dated July 21, 2022 (KA Project No. 042-22026). This addendum provides supplemental infiltration test results.

Two percolation tests were performed on the site. The percolation tests were performed at depths of 2 and 4 feet. Results of the tests are as follows:

Test No.	Depth (feet)	Percolation rate (min/inch)	Infiltration Rate (inches/hour)	Soil Type
P1	2	5	3.5	Silt Sand/Clayey Sand (SM/SC) w/ gravel
P2	4	16	2.0	Silt Sand/Clayey Sand (SM/SC) w/ gravel

The percolation tests were converted to infiltration rates using the Porchet Method.

The recommendations and limitations provided in our Geotechnical Engineering Investigation report dated August 31, 2006 apply to this letter. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (925) 307-1160.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Dave R. Jarosz
Managing Engineer
RGE No. 2698/RCE No. 60185

ATTACHMENT 7

TRANSPORTATION IMPACT STUDY

P24120

Tenfold Residential Care Facility for the Elderly (RCFE) Project
Transportation Impact Study, and
Local Transportation Study

Morgan Hill, California

City of Morgan Hill;
Bruceville Point, LLC; and
Raney Planning and Management, Inc

Prepared By

T. KEAR
TRANSPORTATION PLANNING
& MANAGEMENT, INC.

Contact: Tom Kear PhD, PE,
tkear@tkearinc.com,
(916) 340-4811
www.tkearinc.com

Draft April 10, 2025

(This page intentionally left blank)

REVISION HISTORY

Date	Title	Comment
April 10, 2025	Draft TIS	

EXECUTIVE SUMMARY

This report is divided into three main sections:

- Introduction in Section 1,
- California Environmental Quality Act (CEQA) analysis in Section 2, and
- Local Transportation Analysis (LTA) which addresses General Plan and local analysis needs in Section 3.

After a brief description of the Project and analysis methods, this executive summary presents findings. Those findings are supported by sections 2.1, 2.2, 2.3, and 3.2 of this report.

Project Description

The Tenfold Residential Care Facility for the Elderly (RCFE) Project (the Project) is located southeast of the intersection of Skipper Lane and Checkerspot Lane in the City of Morgan Hill, California. The approximately 4.05-acre Project site (APN 726-58-012) is undeveloped and is located in the southeastern quadrant of the 20.25-acre Evergreen Village Development Master Plan (Evergreen Village) area. The Project site is known as Parcel 12 within the Evergreen Village area. The Evergreen Village development area is bounded by Cochrane Road to the north, Sutter Boulevard to the east, Jarvis Drive to the south, and Butterfield Boulevard to the west. In addition, the Evergreen Village development area is bisected north-south by Skipper Lane and east-west by Checkerspot Lane.

The applicant is proposing to develop a three-story, 136,085-sf residential care facility with 115 independent/assisted senior living suites and a total of 139 beds. The Project parcel is designated as Commercial (C) by the General Plan and zoned as Planned Unit Development (PUD). Ancillary uses include two dining rooms, an on-site bistro/café, gym, movie theater, salon, crafts room, physical therapy room, various seating and gathering areas, a courtyard, multi-purpose lawn, and community garden beds. 85 on-site parking spaces, 10 short-term bicycle spaces and five long-term bicycle lockers are proposed. Primary access will be provided via a full-access driveway to Skipper Lane, with a secondary access via an exit only driveway to Checkerspot Lane. Both driveways will be gated.

The Project is anticipated to generate 361 daily vehicle trips, 31 AM peak hour vehicle trips, and 46 PM peak hour vehicle trips. the Project location is shown in **Figure ES-1** below, and the site plan is shown in **Figure ES-2**.

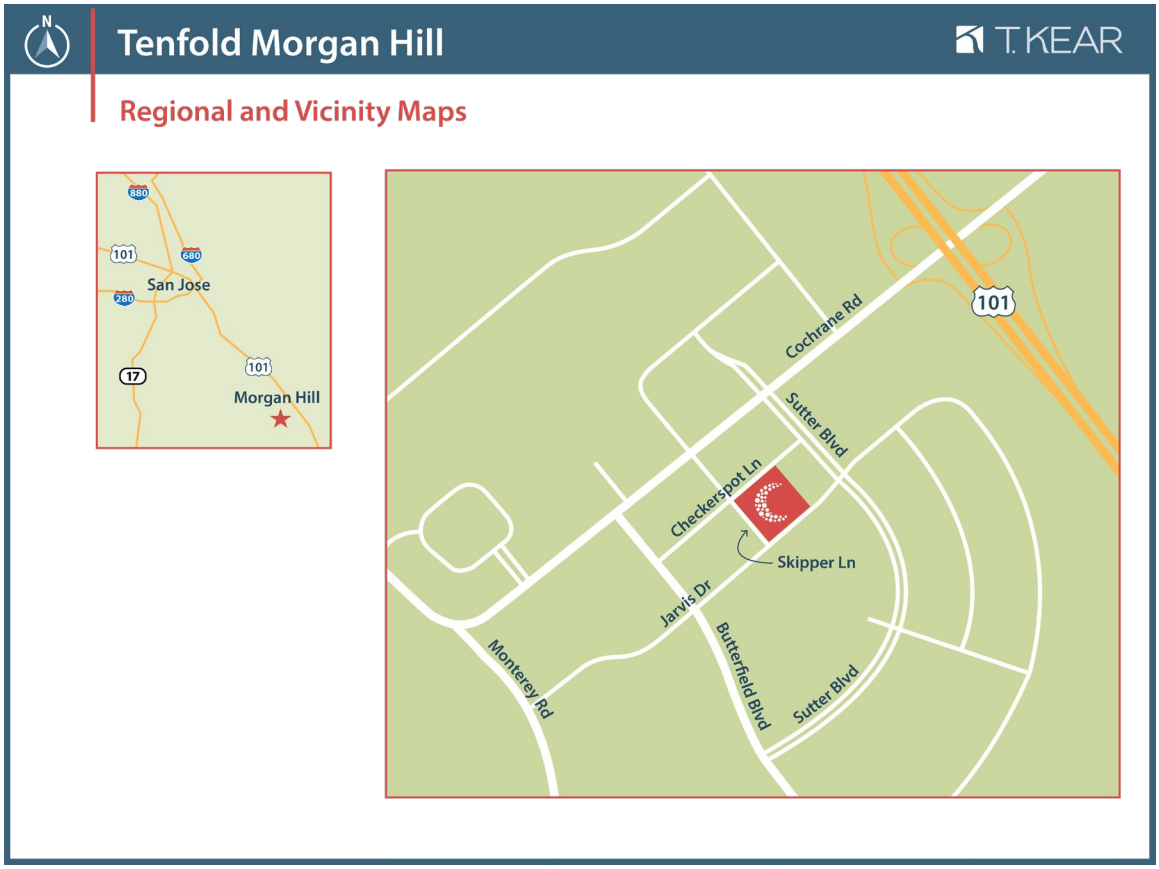


Figure ES-1. Project location, with the Project denoted by Tenfold's logo

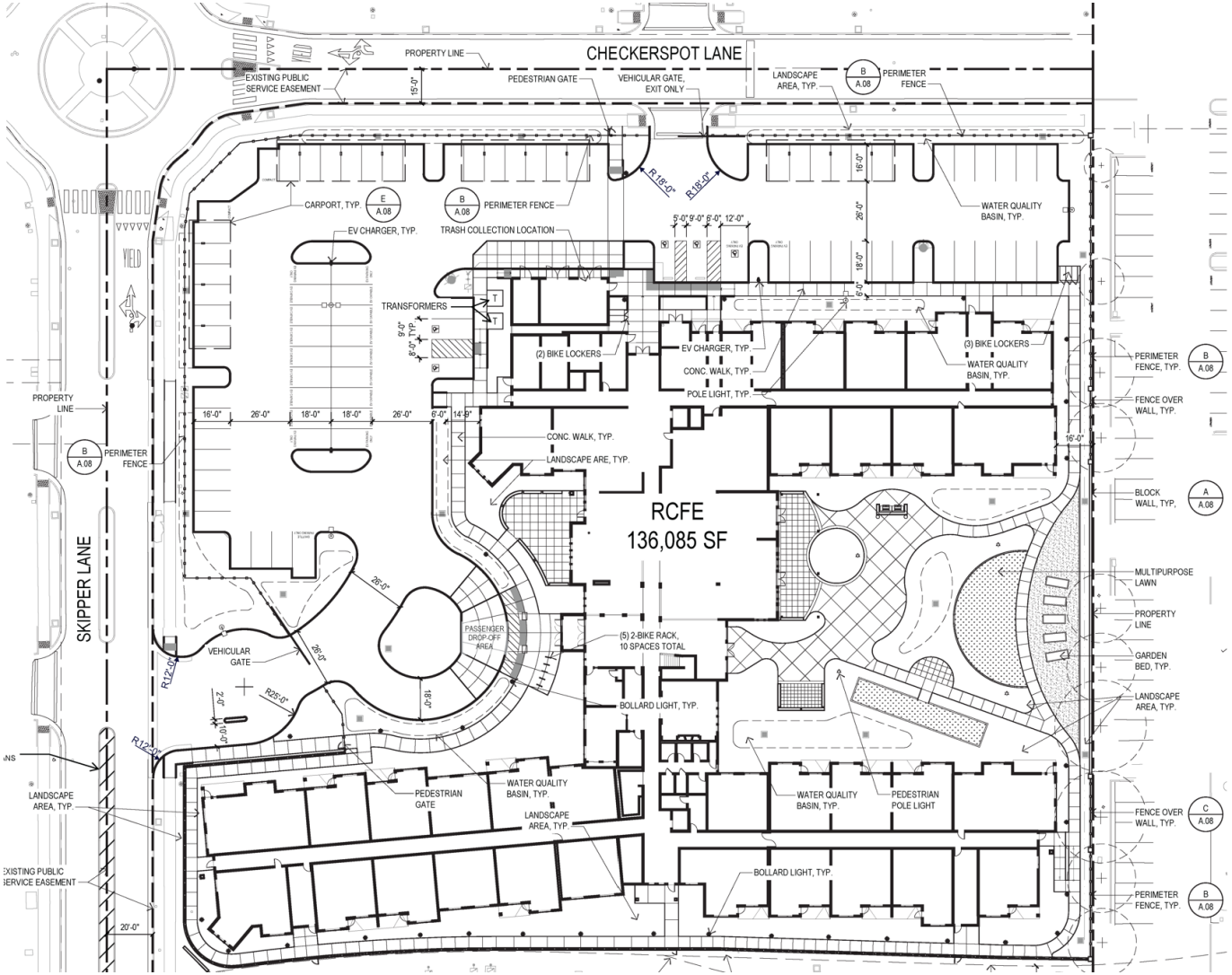


Figure ES-2. Preliminary site plan.

Analysis Methods

CEQA:

- VMT was analyzed using the Santa Clara Countywide VMT Evaluation Tool – Version 2 [1].
- Bicycle, pedestrian and transit were evaluated based on the Project's (lack of) impact to existing facilities and the Project's consistency with planned improvements.
- Safety impacts were evaluated through a review of 5-years of crash history on nearby streets and intersections.

Local Transportation Analysis (LTA)

Morgan Hill is part of the Santa Clara Valley Transportation Authority (VTA), which manages the congestion management program for Santa Clara County. Projects that Generate 100 or more peak-hour trips require a Local Transportation Analysis focused on transportation operations, multi-modal site access, and circulation using both the VTA guidelines for transportation analysis, and City of Morgan Hill Guidance. The Project is anticipated to generate less than half of VTA's 100 peak-hour trip trigger and is therefore not subject to VTA's requirements but must still consider site access and internal circulation checks under the City's requirements for Local Transportation Analysis[2]. This LTA specifically reviews: parking; entry gate queues (with required driveway throat depth); Emergency vehicle and California legal tractor-trailer access; and site distance at corner driveways. These reviews were made based on requirements of the City of Morgan Hill Municipal Code, the Caltrans Highway Design Manual, and standard practice for the evaluation of entry gates.

CEQA Findings

The following findings are supported in **Section** 2.1, **Section** 2.2, and **Section** 2.3 of this report:

- CEQA VMT finding: The Project is anticipated to have a less-than-significant impact on VMT.
- CEQA bicycle and pedestrian finding: The Project is anticipated to have a less-than-significant impact on bicycle and pedestrian facilities.
- CEQA transit finding: The Project is anticipated to have a less-than-significant impact on transit.
- Crash History/Safety Finding: The Project is not anticipated to worsen crash rates on adjacent roads or intersections and therefore is anticipated to have a less-than-significant impact on crash rates/safety under CEQA.

[1] VTA (2025) Santa Clara Countywide VMT Evaluation Tool – Version 2, Santa Clara Countywide VMT Evaluation Tool | Association of Bay Area Governments, accessed March 10, 2025.
[2] Morgan Hill (2010) Guidelines for Preparation of Transportation Impact Reports, May 28, 2008, amended February 24, 2010.

LTA Findings and Recommended Conditions of Approval

The following findings are supported by section 3.2 of this report. As noted below the LTA identified apparent deficiencies related to emergency vehicle access, recommended conditions of approval are provided.

- Parking Finding: The Project provides adequate vehicle parking and long and short-term bicycle parking.
- Entry Gate Queueing and Driveway Throat Depth Finding: The driveway throat-depth, which is the space available to store entering vehicles without blocking traffic on the public right-of-way) is adequate to store the anticipated 95% entry queue.
- Emergency vehicle Access Finding: The center island on Skipper Lane likely inhibits southbound fire trucks, and California legal tractor-trailer access .The swept path for those southbound vehicles is inadequate for either the 56-foot outer radius identified on the plan set, or the 50-foot outer radius required by most communities and necessary to accommodate a California legal tractor-trailer combination.

  Recommended Condition of Approval "T-1": The Applicant shall reduce the length of the Skipper Lane center island to the north of the Project's entry driveway to the City Engineer's satisfaction so that fire apparatus and California legal tractor-trailers may enter the site without mounting the median.
- Sight Distance Finding: sight distance at the Project driveways is adequate.

Additionally, MHMC section 18.72.090 defines required loading spaces for retail, hotel, warehousing, manufacturing, and similar uses that involve the frequent receipt or delivery of materials or merchandise. Residential care facilities, such as the Project, do not require loading spaces. The "Project data table" on the cover sheet of the December 13, 2024 plan set identifies one loading space. However, the site plan shows only a passenger loading space with no material loading spaces. It is recommended that the Applicant clarify in the "Project data table" that there are no material loading spaces provided or show the location of any material loading spaces on the site plan.

Contents

REVISION HISTORY 1
EXECUTIVE SUMMARY 1
1. INTRODUCTION 1
1.1 Project Description 1
1.2 Report Organization 4
2. CEQA Analysis 5
2.1 VMT Methodology, Thresholds, Results, and Findings 6
VMT Methodology and Thresholds 6
VMT Results and Findings 6
2.2 Bicycle/Pedestrian/Transit Facilities 7
Thresholds-of-Significance 10
CEQA Bicycle and Pedestrian Facilities Analysis and Results 10
CEQA Transit Analysis and Results 10
2.3 Crash History Thresholds, Results, and Findings 10
3. Local Transportation Analysis (LTA) 14
3.1 Project Traffic 14
3.2. LTA Internal Circulation/Access Site Plan Review 14
Parking Requirements 14
Entry Gate Queueing and Driveway Throat Depth 16
Emergency vehicle Access 16
Sight Distance at Project Driveways 17
APPENDIX: SCC VMT EVALUATION TOOL OUTPUTS 18

1. INTRODUCTION

This report documents anticipated deficiencies and impacts of the proposed Tenfold Residential Care Facility for the Elderly (RCFE) Project (the Project) on the motorized and unmotorized transportation systems in the City of Morgan Hill, California. After the executive summary and introduction this report contains two key parts:

- A transportation impact study (TIS) addressing the requirements of the California Environmental Quality Act (CEQA), including vehicle miles traveled (VMT).
- A local transportation analysis (LTA) addressing City of Morgan Hill General Plan transportation element policies.

This two-part format helps to separate any potential CEQA impacts, from any potential deficiencies that are only relevant to General Plan policies.

1.1 Project Description

The Project is located southeast of the intersection of Skipper Lane and Checkerspot Lane in the City of Morgan Hill, California. The approximately 4.05-acre Project site (APN 726-58-012) is undeveloped and is located in the southeastern quadrant of the 20.25-acre Evergreen Village Development Master Plan (Evergreen Village) area. The Project site is known as Parcel 12 within the Evergreen Village area. The Evergreen Village development area is bounded by Cochrane Road to the north, Sutter Boulevard to the east, Jarvis Drive to the south, and Butterfield Boulevard to the west. In addition, the Evergreen Village development area is bisected north-south by Skipper Lane and east-west by Checkerspot Lane.

The applicant is proposing to develop a three-story, 136,085-sf residential care facility with 115 independent/assisted senior living suites and a total of 139 beds. The Project parcel is designated as Commercial (C) by the General Plan and zoned as Planned Unit Development (PUD). Ancillary uses include two dining rooms, an on-site bistro/café, gym, movie theater, salon, crafts room, physical therapy room, various seating and gathering areas, a courtyard, multi-purpose lawn, and community garden beds. 85 on-site parking spaces (plus 1 shuttle space), 10 short-term bicycle spaces and five long-term bicycle lockers are proposed. Primary access will be provided via a full-access driveway to Skipper Lane, with a secondary access via an exit only driveway to Checkerspot Lane. Both driveways will be gated. A vicinity map is provided as **Figure 1** and a preliminary site plan is provided as **Figure 2**.

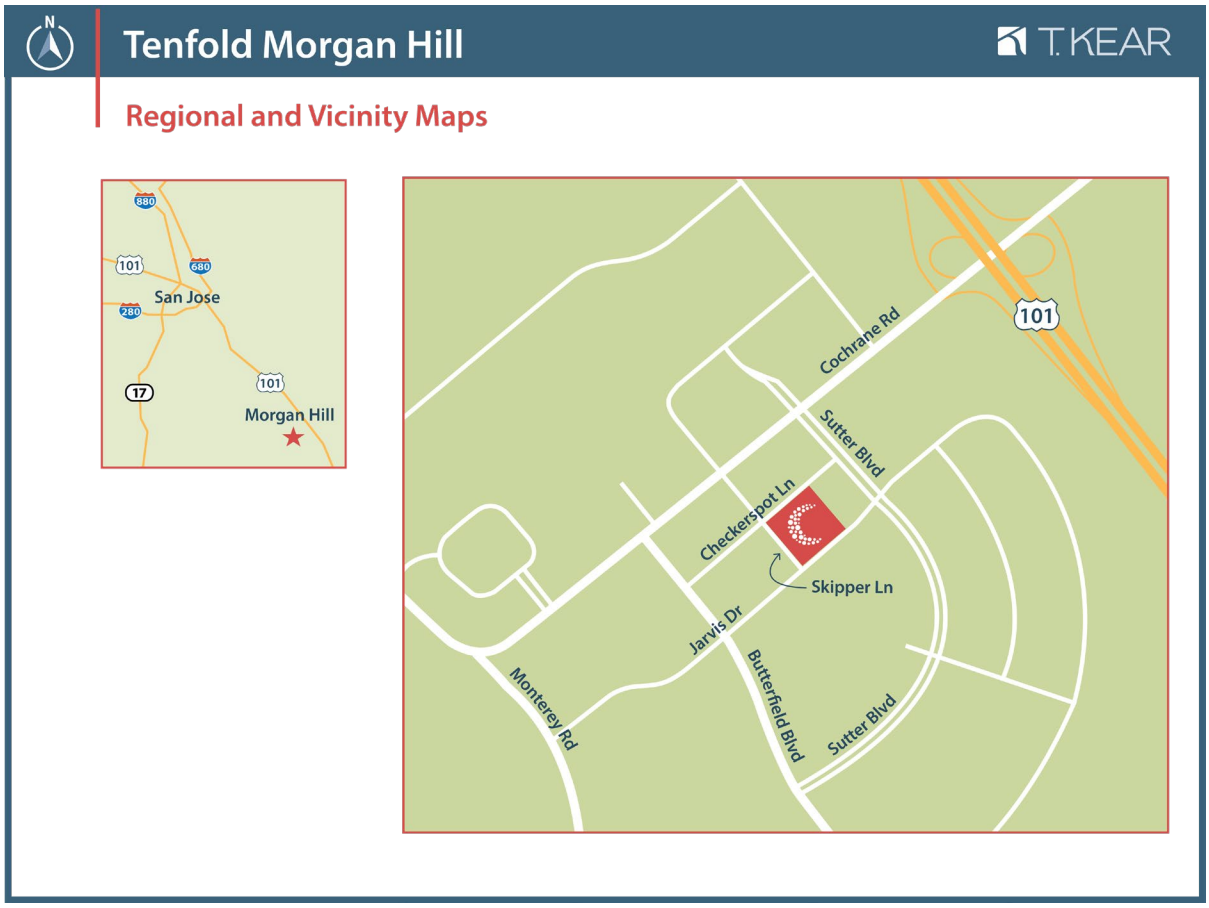


Figure 1. Project location, with the Project denoted by Tenfold's logo

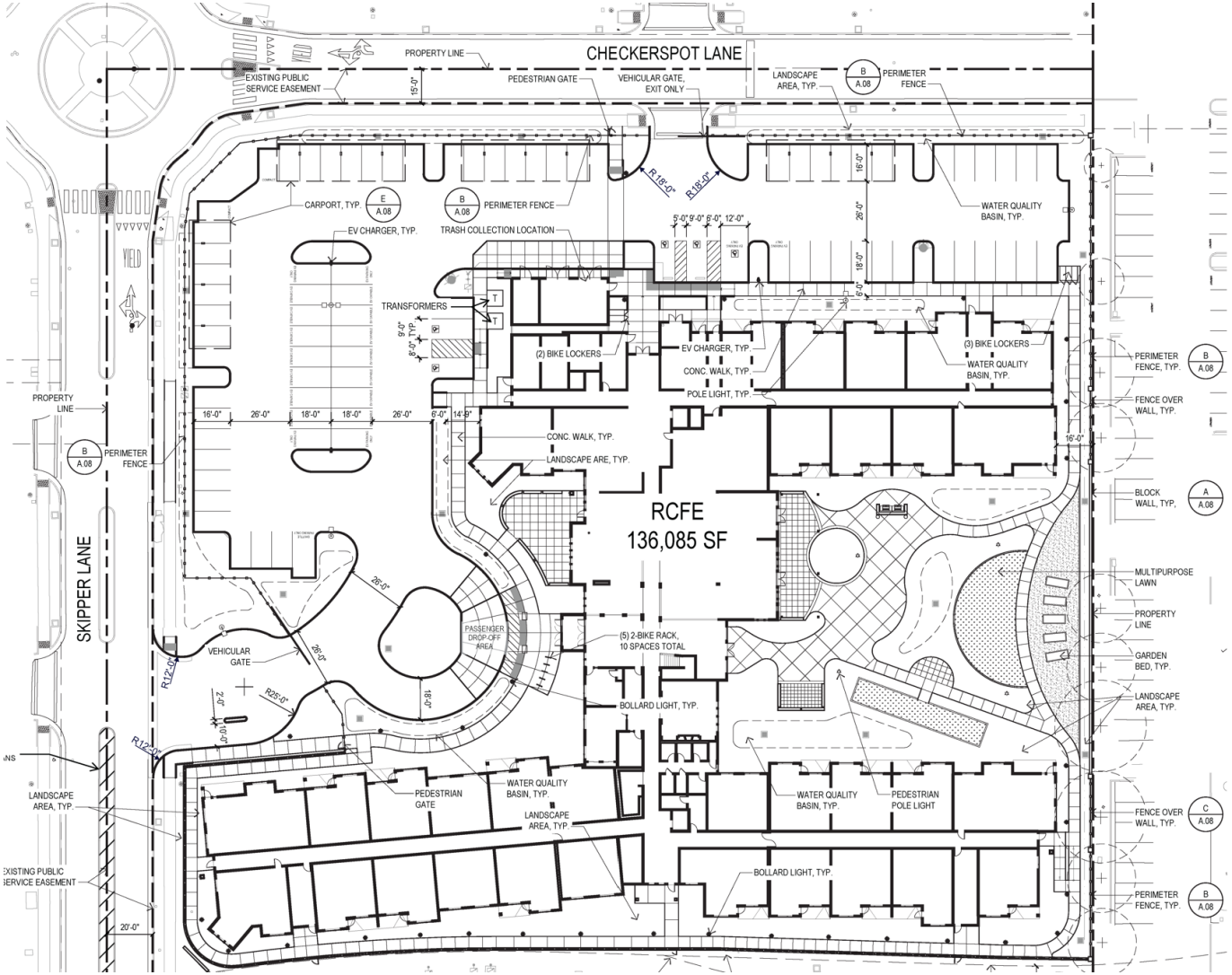


Figure 2. Preliminary site plan.

1.2 Report Organization

The following sections are discussed after this Introduction:

- Section 2, focused on CEQA transportation analysis for the Project, including:
  - Analysis requirements,
  - Methodology,
  - Significance criteria,
  - Results, and findings.
- Section 3 focused on the LTA, including:
  - Analysis requirements,
  - Methodology,
  - Deficiency criteria,
  - Results, and findings.

The CEQA analysis is intended to identify any potentially significant impacts under CEQA (if any) and appropriate mitigation measures (if needed). The Project is then determined to have either a less-than-significant impact or a significant-unavoidable impact (if any) on VMT, bicycle infrastructure, pedestrian infrastructure, and safety.

The LTA analysis identifies Project related "deficiencies" (if any) relative to General Plan policies and "abatements" to remedy those Project related deficiencies (if any). The use of the deficiencies and abatements terminology in the LTA is intended to emphasis that those items are unique from impacts and mitigations under CEQA.

2. CEQA Analysis

The CEQA Transportation Impact Analysis (TIA) focuses on the effect the Project is anticipated to have on:

- Pedestrian, bicycle, and transit infrastructure (either existing or planned);
- Safety; and
- Vehicle miles traveled. (As explained below, level-of-service was replaced with vehicle miles of travel (VMT) as of July 1, 2020.)

A project that removes existing or makes infeasible proposed pedestrian, bicycle, and transit impacts is considered to have a significant impact on the effected facilities under CEQA. Safety is typically evaluated by a review of crash history in the project vicinity and if the project would be anticipated to increase accident rates beyond statewide averages for similar facilities. VMT is used as a measure of the extent to which project trips directly impact overall mobility and the accessibility of other destinations in the community.

Legislation enacted in 2013[3], codified in 2018[4], and effective as of July 1, 2020, removed level-of-service from transportation analysis under CEQA and replaced it with vehicle miles of travel (VMT). (Note that while level-of-service no longer constitutes a significant environmental impact under CEQA, it is still utilized to evaluate non-CEQA related impacts for discretionary planning applications in accordance with the General Plan.) On November 6, 2024, the City of Morgan Hill adopted Resolution 24-039, supported by substantial evidence implementing locally derived VMT thresholds of significance[5].

A project results in a significant project-generated VMT impact if:

1. For residential projects, project VMT per capita exceeds Morgan Hill's baseline VMT per capita.
2. For office and industrial projects, project net VMT per employee exceeds Morgan Hill's baseline VMT per employee.
3. For all other uses, including commercial/retail uses over the 50,000 square foot local threshold, a net increase in total VMT within Morgan Hill would be considered a significant impact.

Additionally, Resolution 24-039 included screening criteria to streamline CEQA determinations where applicable:

- **Project Size Screening**: Projects that generate less than 110 average daily trips.
- **Locally Serving Retail Screening**: Retail projects that are less than 50,000 square feet (includes fast-food/quick-serve restaurants).
- **Affordable Housing Screening**: 100 percent affordable residential development (or the residential component of a mixed-use development). (Please note, under AB1449 effective January 1, 2024, 100 percent affordable residential or mixed-use projects that meet certain criteria are exempt from CEQA).
- **Active Transportation Projects**: Transportation projects that promote active transportation, such as transit, bicycle, and pedestrian facilities.

[3] Senate Bill 743, Steinberg, 2013.
[4] Section 15064.3 of the State's CEQA Guidelines.
[5] Resolution 24-039, adopted November 6, 2024.

Note that two additional screening criteria were considered by Morgan Hill and explicitly removed from resolution 24-039 at the time of adoption. The removed criterion were screened based on "Low VMT Area Screening" where maps are used to identify and screen projects in areas with inherently low VMT per capita; and "Transit Proximity Screening" which screens projects within a ½ mile of existing or planned major transit stops.

The City of Morgan Hill does allow use of the Santa Clara Countywide VMT Evaluation Tool – Version 2 (SCC VMT Evaluation Tool)[6]; that tool estimates multiple VMT metrics for both the community and Project. While some of the SCC VMT Evaluation Tool's inputs and results are presented using maps, the SCC VMT Evaluation Tool directly uses travel demand model results to quantitatively evaluate the citywide VMT baseline and project area VMT estimates.

2.1 VMT Methodology, Thresholds, Results, and Findings

VMT Methodology and Thresholds

The Project was analyzed using the SCC VMT Evaluation Tool. The data in the SCC VMT Evaluation Tool include two main components: (1) base year and horizon/cumulative year VMT values and (2) other data used in certain VMT reduction calculations. In general, VMT values are an output of travel demand models maintained by regional and county-level agencies and some cities to estimate travel behavior within a certain geographic area now and in the future. The other data used in the VMT reduction calculations are a combination of inputs to the travel demand model (such as the number of households or employees in each zone) and outputs from the model (such as the number of trips by each mode of transportation originating in each zone).

The data listed in the SCC VMT Evaluation Tool as "VTA Countywide Model December 2019" were produced from VTA's travel demand model for a base year of 2015, and calibrated and validated in 2019. The data listed in the SCC VMT Evaluation Tool as "CSJ 2015 Model" were produced by the City of San José from the City's travel demand model for a base year of 2015, in late 2017. It is important to note that both the VTA and City of San José travel demand models are trip-based models, which estimate VMT differently than an activity-based model like the Metropolitan Transportation Commission travel demand model.

In screening analysis, The SCC VMT Evaluation Tool estimates home-based light duty vehicle VMT per capita for residential projects both the City of Morgan Hill, and The travel analysis zone (TAZ) where the Project is located. 34 TAZs make up the City of Morgan Hill in the VTA travel demand model, and within the City each TAZ can generally be thought of representing a neighborhood size portion of the community.

VMT Results and Findings

VMT analysis output from the SCC VMT Evaluation Tool is provided in **Appendix A** of this report, and summarized here. Residential care facilities can be evaluated as a commercial land use (based on commute trip VMT per employee), or as a residential use (based on home-based VMT per capita). In this analysis home-based VMT per capita was used because the Cal Green 2022 building code identifies hotels and assisted living, and similar land uses, as residential for certain traffic and vehicular purposes. Though analyzing the Project as employment, based on VMT per employee, would not alter the finding.

[6] VTA (2025) Santa Clara Countywide VMT Evaluation Tool – Version 2, Santa Clara Countywide VMT Evaluation Tool | Association of Bay Area Governments, accessed March 10, 2025.

- Baseline home-based VMT per capita for the City of Morgan Hill is 24.64.
- Home based VMT per capita for the TAZ where the Project is located is 23.77.
- For residential projects, VMT is considered to be a significant impact when Project VMT per capita exceeds Morgan Hill's baseline VMT per capita.

CEQA VMT finding: The Project is anticipated to have a less-than-significant impact on VMT.

2.2 Bicycle/Pedestrian/Transit Facilities

Figure 3 and **Figure 4** depict the existing bike and transit facilities in the Project's vicinity.

There are existing class II bike lanes on Cochrane Dr, Sutter Blvd, and Butterfield Blvd. Sidewalks are provided along most adjacent roads, with the exception of Sutter Blvd (which the Project does not front). Transit service in the vicinity is provided by "express" route 121, "rapid" route 568, "frequent" route 68, "local" route 87; Caltrain also serves the City of Morgan Hill, with one station located approximately 1.25 miles south of the Project. "Rapid" route 568 and "local" route 87 both have stops within ¼ mile of the Project.

The City's Bikeways, Trails, Parks and Recreation Master Plan[7] calls for converting the class II bike lanes on Cochrane Dr and Butterfield Blvd to buffered bike lanes, and multimodal intersection improvements to increase the separation between bikes, pedestrians, and motorized vehicles. The 2024 transportation Master Plan[8] further clarifies that multimodal intersection improvements include the elimination of right turn lanes at signalized intersections.

The 2024 transportation Master Plan further identifies improvements as either "Tier 1", "Tier 2", or "Other" improvements for the local roadway network; with Tier 1 improvements having a higher priority. Improvements along Butterfield Blvd and signalization of the Sutter Blvd/Jarvis Dr intersection are identified as Tier 1 improvements.

There are no identified changes in transit service or facilities adjacent to the Project.

[7] City of Morgan hill (2017) Bikeways, Trails, Parks and Recreation Master Plan, accessed March 26, 2025, https://www.morganhill.ca.gov/1429/Master-Plan-for-Parks-Trails-and-Bikeway.
[8] City of Morgan hill (2024) Transportation Master Plan, accessed March 26, 2025, https://morganhill.ca.gov/2423/Transportation-Master-Plan-Update.

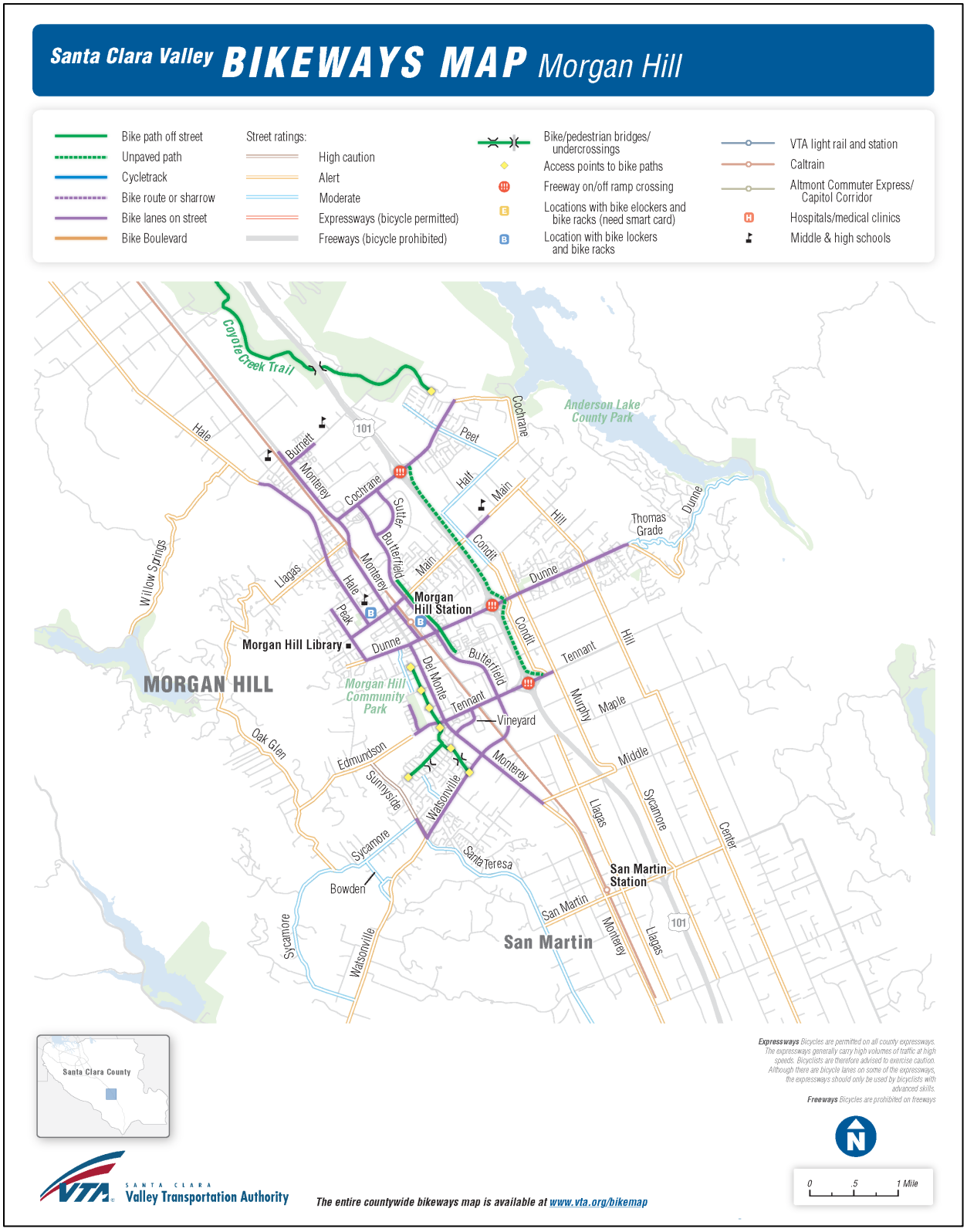


Figure 3. Existing bicycle network (source: VTA route maps)

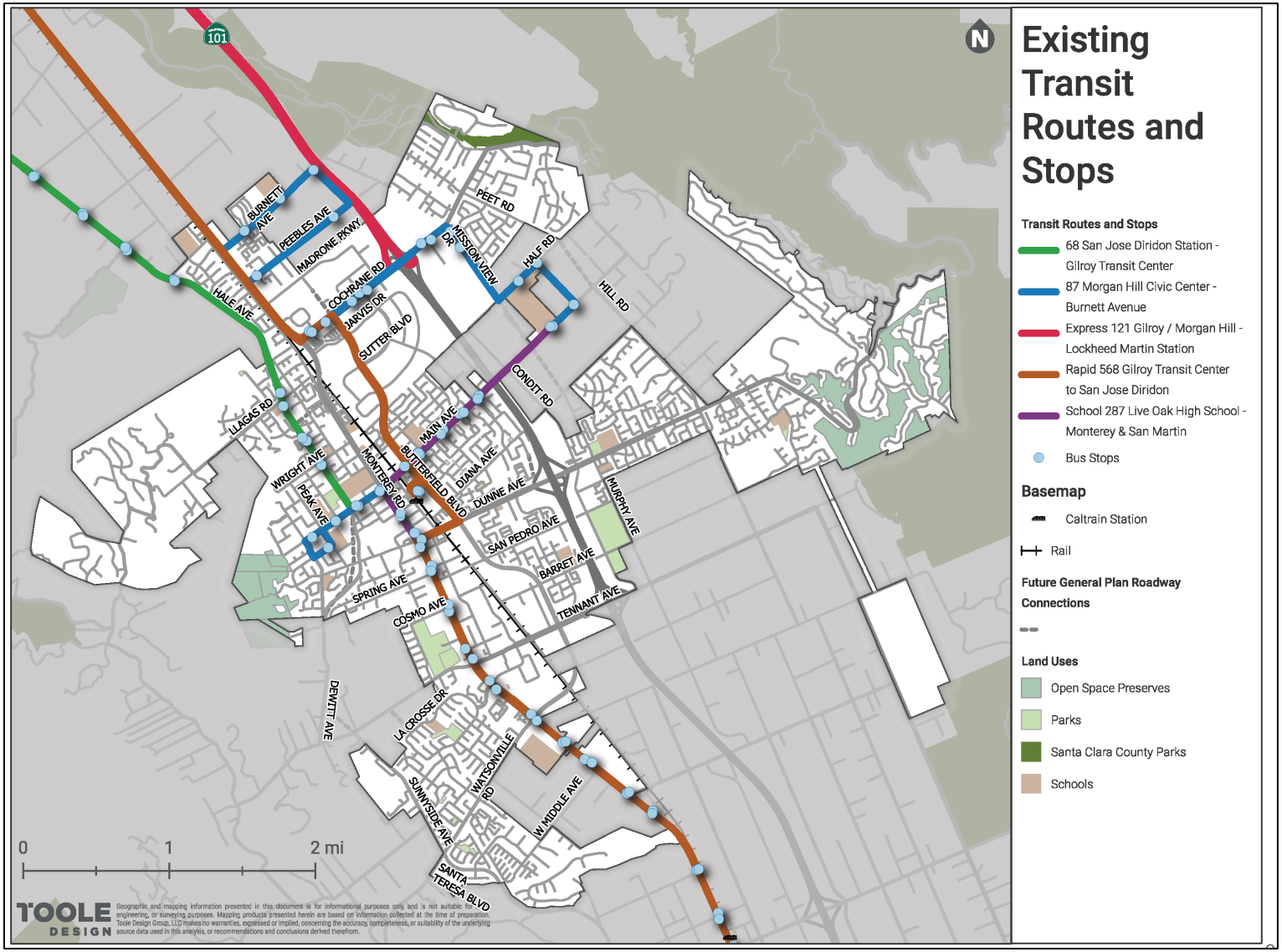


Figure 4. Transit Map (Source City of Morgan Hill (2024) Transportation Master Plan)

Thresholds-of-Significance

A project is considered to have a significant impact under CEQA if it would:

- Eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use;
- Interfere with the implementation of a planned bikeway as shown in the General Plan or other adopted City plan; or
- Fail to provide adequate access for bicyclists and pedestrians, resulting in unsafe conditions, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts.

Transit impacts are evaluated in a similar manner. A project is generally considered to have a significant impact on transit if it would:

- Inhibit the use of transit facilities;
- Eliminate existing transit facilities; or
- Prevent the implementation of planned transit facilities.

CEQA Bicycle and Pedestrian Facilities Analysis and Results

The Project does not eliminate or adversely affect an existing bikeway or pedestrian facility, or interfere with the implementation of a planned bikeway and pedestrian improvements. Sidewalk connectivity to bike and transit facilities is provided between the Project and nearby bike lanes and transit stops.

CEQA Bicycle and Pedestrian finding: The Project is anticipated to have a less-than-significant impact on bicycle and pedestrian facilities.

CEQA Transit Analysis and Results

The Project does not inhibit the use of transit facilities, eliminate existing transit facilities, or prevent the implementation of planned transit facilities.

CEQA Transit finding: The Project is anticipated to have a less-than-significant impact on Transit.

2.3 Crash History Thresholds, Results, and Findings

A crash history review was made using data available from the Statewide Integrated Traffic Records System (SWITRS) database, accessed through the Transportation Injury Mapping system[9].

Crash history for smaller projects, where the project does not affect multi-mile long road segments, is performed by reviewing individual accidents to identify potentially dangerous locations and assessing if the particular accident types observed would be negatively impacted by project traffic. The project is considered to have a significant impact if the project would worsen crash rates. Note that projects that merely add traffic to a dangerous location might alter the total number of crashes without effecting the crash rate. For example, adding traffic to an intersection with protected left turn movements would not be expected to increase the accident rate; while adding traffic to an intersection with permissive left turn movements and a history of broadside crashes would be expected to increase accident rates.

[9] TIMS (2025) Transportation Injury Mapping system, online at https://tims.berkeley.edu/, accessed February 7, 2025.

Over the five-year period from 2019 through 2024 there were 15 crashes on the roads/intersections within one block (approximately 1,000 feet) of the Project. Nine of those crashes occurred on Cochrane Rd; which the City of Morgan Hill's 2024 transportation master plan identified as having elevated crash rates. **Figure 5** depicts the location of five years of crash history adjacent to the Project, with crashes analyzed for this study circled and labeled with the crash ID numbers. Details of those crashes are then listed in **Table 1**, along with a determination as to if the Project would be anticipated to increase the frequency of each type of crash.

Crash History/Safety Finding: The Project is not anticipated to worsen crash rates on adjacent roads or intersections and therefore is anticipated to have a less-than-significant impact on crash rates/safety under CEQA.

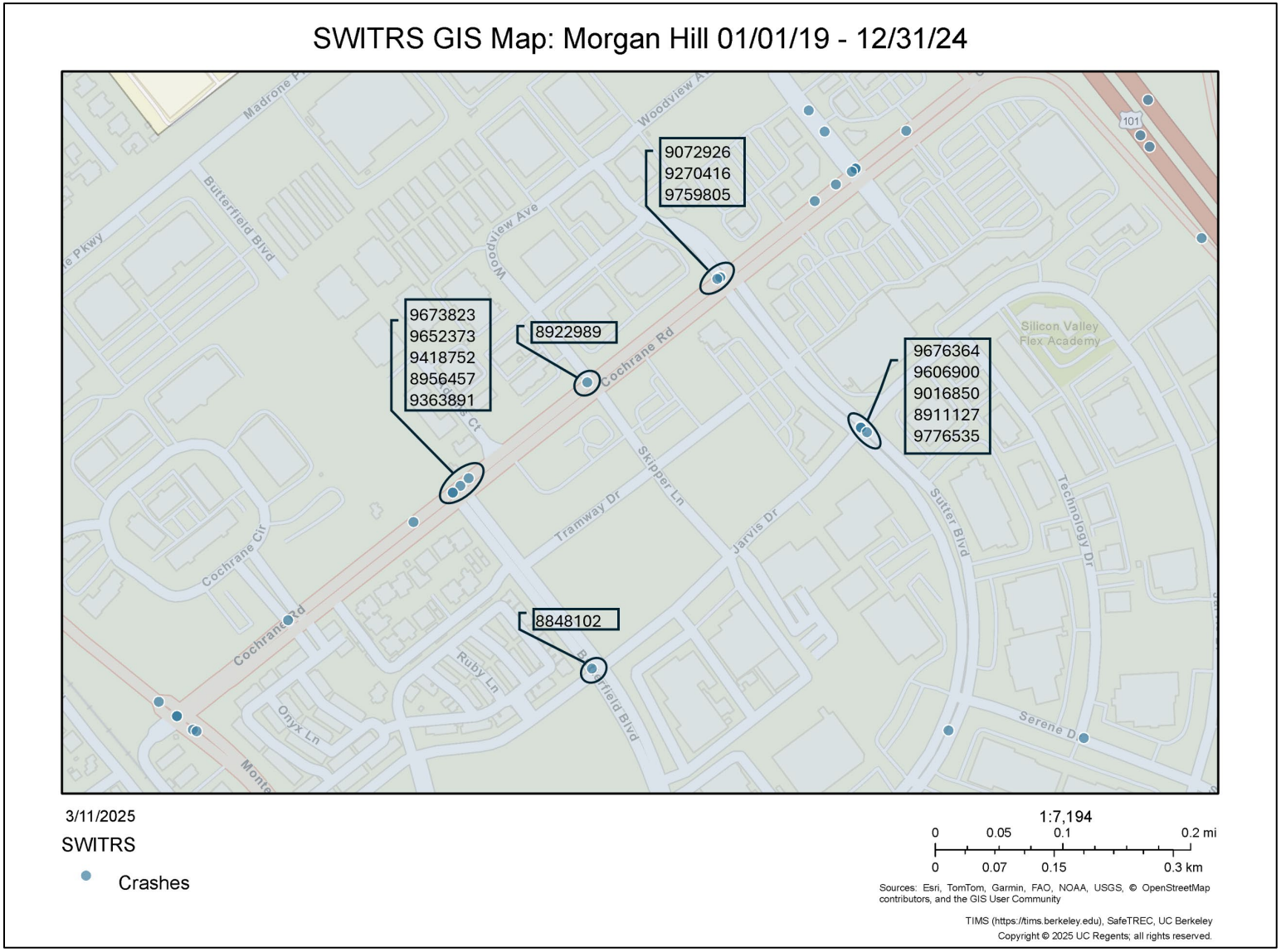


Figure 5. Location of nearby crashes (2019-2024) with ID numbers for crashes analyzed for this study

Table 1. Crash Analysis

Location	ID	Date (time)	Crash Type	Intersection control	Cause	Impact on Crash Rate
Cochrane Rd & Butterfield Bl	9673823	1/12/2024 (17:08)	Sideswipe	Signal with Protected left turns	DUI	Project not anticipated to increase crash rate
	9652373	1/4/2024 (15:30)	Broadside		Traffic signals and signs	Project not anticipated to increase crash rate
	9418752	2/5/2022 (19:58)	Broadside		Traffic signals and signs	Project not anticipated to increase crash rate
	8956457	9/27/2019 (15:09)	hit fixed object		Unsafe speed	Project not anticipated to increase crash rate
	9363891	11/12/2021 (02:00)	Rear End (hit parked vehicle)		Improper turning and DUI	Project not anticipated to increase crash rate
Cochrane Rd & Skipper Lane	8922989	8/3/2019 (17:20)	Broadside	Signal installed in 2020 with protected EB/WB left turns and permissive NB/SB left turns	Improper turning	Accident occurred prior to signalization
Cochrane Rd & Sutter Bl	9072926	3/13/2020 (17:16)	Vehicle/Pedestrian	Signal with Protected left turns	Pedestrian right of way	Project not anticipated to increase crash rate
	9270416	5/21/2021 (19:51)	Vehicle/Pedestrian		Unsafe starting or backing	Project not anticipated to increase crash rate
	9759805	12/1/2024 (18:30)	Broadside		Traffic signals and signs	Project not anticipated to increase crash rate
Sutter Bl & Jarvis Dr	9676364	12/20/2023 (12:13)	Broadside	Side Street	Traffic signals and signs	Project not anticipated to increase crash rate
	9606900	8/11/2023 (12:05)	Rear end		Unsafe speed	Project not anticipated to increase crash rate
	9016850	1/24/2020 (14:59)	Broadside		Automobile right of way	Project not anticipated to increase crash rate
	8911127	1/13/2020 (10:58)	Broadside		Traffic signals and signs	Project not anticipated to increase crash rate
	9776535	11/20/2024 (19:55)	Broadside		Traffic signals and signs and DUI	Project not anticipated to increase crash rate
Butterfield Bl & Jarvis Dr	8848102	4/4/2019 (05:41)	hit fixed object		Improper turning	Project not anticipated to increase crash rate

3. Local Transportation Analysis (LTA)

Morgan Hill is part of the Santa Clara Valley Transportation Authority (VTA), which manages the congestion management program for Santa Clara County. Projects that Generate 100 or more peak-hour trips require a Local Transportation Analysis focused on transportation operations, multi-modal site access, and circulation using both the VTA guidelines for transportation analysis, and City of Morgan Hill Guidance. The Project is anticipated to generate less than half of VTA's 100 peak-hour trip trigger and is therefore not subject to VTA's requirements but must still consider site access and internal circulation checks under the City's requirements for Local Transportation Analysis[10]. Anticipated Project trip generation is documented in **Section 3.1** below.

3.1 Project Traffic

Anticipated Project trip generation based on the Institute of Transportation Engineers Trip Generation Manual (11 Ed.) is presented in **Table 2** below.

Table 2. Anticipated Project Trip Generation

ITE land Use 254 " Assisted Living" for 139 beds				
Metric	**In**	**Out**	**Total**	**Notes**
Daily				
Rate	50%	50%	2.6 Trips/Bed	
Trips	181	180	361	Average Rate
AM Peak Hour of Generator				
Rate	66%	34%	0.22 Trips/Bed	
Trips	20	11	31	Average Rate
PM Peak Hour of Generator				
Rate	45%	55%	0.33 Trips/Bed	
Trips	21	25	46	Average Rate

3.2. LTA Internal Circulation/Access Site Plan Review

A preliminary site plan was provided as **Figure 2**. This section reviews parking, driveway throat-depth, on-site emergency vehicle access, and pedestrian access.

Parking Requirements

Parking requirements are defined in the City of Morgan Hill municipal code:

- MHMC section 18.72.030 defines requirements for the number of vehicle parking spaces at Residential Care Facilities at 0.6 spaces per bedroom. The 139-bedroom project

[10] Morgan Hill (2010) Guidelines for Preparation of Transportation Impact Reports, May 28, 2008, amended February 24, 2010.

therefore requires 83.4 parking spaces, and 85 spaces are provided. Therefore, adequate vehicle parking is provided.

- MHMC section 18.72.080 defines requirements for the number of short-term bicycle parking spaces. Short-term bicycle parking provides shoppers, customers, messengers and other visitors who generally park for two hours or less a convenient and readily accessible place to park bicycles. 1 short-term bicycle parking space is required per every 10 required vehicle spaces. With 83.4 required vehicle spaces, the Project is required to provide 8.34 short-term parking spaces. 10 short-term bicycle parking spaces are provided in a rack near the main entrance. Therefore, adequate short-term bicycle parking is provided.

- MHMC section 18.72.080 also defines requirements for the number of long-term bicycle parking spaces. Long-term bicycle parking provides employees, residents, visitors and others who stay for more than a couple of hours with a secure and weather-protected place to park bicycles. 1 long-term bicycle parking space is required per every 20 required vehicle spaces. With 83.4 required vehicle spaces, the Project is required to provide 4.2 long-term parking spaces. Long-term bicycle parking spaces are provided in lockers near the northeast corner of the building. Five bike lockers are shown on the site plan (3 near the northeast corner of the building and 2 near the trash enclosure bay the main eastern door). adequate long-term bicycle parking is provided.

- MHMC section 18.72.090 defines required loading spaces for retail, hotel, warehousing, manufacturing, and similar uses that involve the frequent receipt or delivery of materials or merchandise. Residential care facilities, such as the Project, do not require loading spaces. The “Project data table” on the cover sheet of the December 13, 2024, plan set identifies one loading space. However, the site plan shows only a passenger loading space with no material loading spaces. It is recommended that the Applicant clarify in the “Project data table” that there are no loading spaces provided or show the location of any material loading spaces on the site plan.

Parking Finding: The Project provides adequate vehicle parking and bicycle parking.

Entry Gate Queueing and Driveway Throat Depth

Entry gate queues were evaluated assuming random vehicle arrival rates based on a Poisson distribution, and a gate cycling time of 1 minute[11].

- The 95% entry queue during the PM peak-hour (the busiest hour) is anticipated to be 1 car length (25 feet). The 95% percentile queue length is the queue length of the queue that is only exceeded 5% of the time. 95% queue lengths are the standard for sizing the storage area for vehicle queues.
- More than 50' of vehicle storage is provided between the back edge of the sidewalk and the entry gate, there is also additional storage for 1 vehicle on the right side of the driveway before the gate (i.e., where a visitor might enter a key-code or intercom to gain entry).

Entry Gate Queueing and Driveway Throat Depth Finding: The driveway throat-depth, which is the space available to store entering vehicles without blocking traffic on the public right-of-way) is adequate to store the anticipated 95% entry queue.

Emergency vehicle Access.

Emergency vehicles general require a swept turning path with a minimum 25-foot inner radius and 50-foot outer radius; the "fire exhibit" in the December 13, 2024, plan set identifies a larger swept path with an inner radius of 36 feet and an outer radius of 56 feet. A clear fire lane accommodating those radii throughout the parking isles is provided and identified as a fire lane.

However, the center island on Skipper Lane, just north of the entrance driveway, does not allow adequate space for southbound fire trucks to enter the Project without mounting a portion of the island.

Emergency vehicle Access Finding: the center island on Skipper Lane likely inhibits southbound fire trucks, and California legal tractor-trailers. The swept path for those southbound vehicles is inadequate for either the 56-foot outer radius identified on the plan set, or the 50-foot outer radius required by most communities and necessary to accommodate a California legal tractor-trailer combination.

Recommended Condition of Approval "T-1": The Applicant shall reduce the length of the Skipper Lane center island to the north of the Project's entry driveway to the City Engineer's satisfaction so that fire apparatus and California legal tractor-trailers may enter the site without mounting the median.

[11] The site plan specifies a 26-foot sliding gate on the entry driveway. Commercial slighting gates have an operating speed on about one-foot per second. Therefore, the gate is anticipated to be able to close and reopen in less than 1 minute, or open in less than 30 seconds.

Sight Distance at Project Driveways

Urban driveways, such as the Project's, require adequate stopping site distance on the public road[12]. Skipper Lane and Checkerspot Lane are local roads, which provide direct access to properties and generally operate at or below 25 mph (given the proximity of adjacent intersections and parking access.

Stopping sight distance at 25 mph is 150-feet, and, drops to 100' at 15 mph[13]. there are clear lines of sight for 150' in both directions at the Project driveways.

Sight Distance Finding: Sight distance at the Project driveways is adequate.

[12] Caltrans (2019) highway Design Manual - 7th Edition, Index 405.1(2)(d), https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm, accessed April 9, 2025.
[13] Caltrans (2019) highway Design Manual - 7th Edition, Table 201.1, https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm, accessed April 9, 2025.

APPENDIX: SCC VMT EVALUATION TOOL OUTPUTS

Santa Clara Countywide VMT Evaluation Tool - Version 2 - Report

Valley Transportation Authority

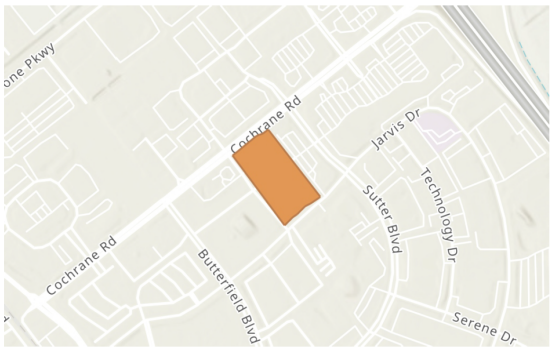
Project Details

Timestamp of Analysis	March 10, 2025, 04:40:54 PM
Project Name	Tenfold Residential Care Facility
Project Description	Approximately 136 KSf residential care facility with 115 independent/assisted living suites and a total of 139 beds. Located in the southeast quadrant of the intersection of Skipper Lane and Checkerspot Lane.

Project Location Map

Jurisdiction:
Morgan Hill

APN	TAZ
72632021	336



Analysis Details

Data Version	VTA Countywide Model December 2019
Analysis Methodology	TAZ
Baseline Year	2015

Project Land Use

Residential:

Single Family DU:	
Multifamily DU:	
Total DUs:	0

Non-Residential:

Office KSF:	
Local Serving Retail KSF:	
Industrial KSF:	

Residential Affordability (percent of all units):

Extremely Low Income:	0 %
Very Low Income:	0 %
Low Income:	0 %

Parking:

Motor Vehicle Parking:	
Bicycle Parking:	

Proximity to Transit Screening

Inside a transit priority area? No (Fail)

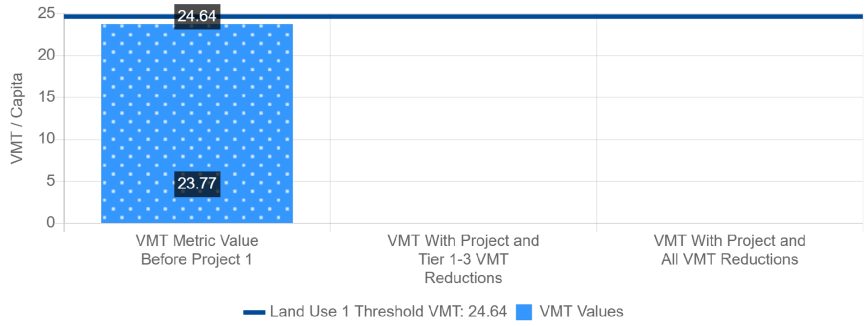
Santa Clara Countywide VMT Evaluation Tool - Version 2 - Report

Valley Transportation Authority

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Metric 1:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1 / Threshold Value 1:	Citywide Threshold (-0%) / 24.64
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	23.77		
Low VMT Screening Analysis	Yes (Pass)		



ATTACHMENT 8

ADDENDUM TO THE GEOTECHNICAL ENGINEERING INVESTIGATION

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

April 22, 2025 KA Project No. 042-22026

Ms. Brigid Flanigan
Tenfold Development, LLC
985 SW Disk Drive, Suite 120
Bend, Oregon 97702

RE: Addendum to Geotechnical Engineering Investigation
Proposed Tenfold Senior Housing RCFE
Jarvis Drive near Butterfield Boulevard
Morgan Hill, California

Dear Ms. Flanigan:

In accordance with the request of Mr. Marcus Lewis of TSD Engineering, Inc., we are providing this Addendum to our Geotechnical Engineering Investigation for the above-referenced project site. Krazan & Associates, Inc. had previously conducted a Geotechnical Engineering Investigation report dated July 21, 2022 (KA Project No. 042-22026). This addendum provides supplemental infiltration test results.

Two percolation tests were performed on the site. The percolation tests were performed at depths of 2 and 4 feet. Results of the tests are as follows:

Test No.	Depth (feet)	Percolation rate (min/inch)	Infiltration Rate (inches/hour)	Soil Type
P1	2	5	3.5	Silt Sand/Clayey Sand (SM/SC) w/ gravel
P2	4	16	2.0	Silt Sand/Clayey Sand (SM/SC) w/ gravel

The percolation tests were converted to infiltration rates using the Porchet Method.

The recommendations and limitations provided in our Geotechnical Engineering Investigation report dated August 31, 2006 apply to this letter. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (925) 307-1160.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Dave R. Jarosz
Managing Engineer
RGE No. 2698/RCE No. 60185