



**City of St. Helena
Planning Commission
Regular Meeting
Tuesday, November 7, 2017 @ 6:00 PM
Vintage Hall Board Room - Second Floor
465 Main Street, St. Helena**

PLEASE NOTE: Any person who wishes to speak regarding an item on the agenda or make a comment under the "Oral Communication" portion of the agenda may do so, but please observe the time limit of three minutes.

Page

1. PLEDGE OF ALLEGIANCE
2. CALL TO ORDER AND ROLL CALL
Chairperson: Grace Kistner
Vice Chair: Lester Hardy
Commissioners: David Knudsen, Bobbi Monnette and John Ponte
City staff present at the meeting will be noted in the minutes.
3. PUBLIC FORUM:
This is an opportunity for the public to address the Commission on items of interest to the public that are NOT listed on the agenda. Because of restrictions imposed by the Brown Act, the Commission may not engage in discussion nor take action on matters not described on the agenda. **Please observe the time limit of three minutes.**
4. CONSENT ITEMS
Members of the Commission or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, one motion may be used to adopt all recommended actions. (Roll Call Vote)
 - 4.1. Approval of Minutes: September 19, 2017 7 - 14
[Commission Minutes 9-19-17](#)
 - 4.2. The applicant is requesting demolition permit approval to demolish an existing 346.5-sf barn on the property located at 627 Harvest Ln. in the Medium Density Residential District. 15 - 34

CEQA Determination: Exempt
Prepared By: Joseph Brockhoff, Planning Intern
Recommendation:
Staff recommends that the Planning Commission:
 - 1) Determine that the project is categorically exempt from the requirements of CEQA pursuant to CEQA Section 15301 "existing facilities" as the demolition of an accessory structure and,
 2. Accept the required findings enumerated in Municipal Code Section 17.164.050(b), and adopt a resolution approving demolition of the barn at 627 Harvest Ln.

627 Harvest Ln.- Staff Report

- 4.3. The applicant is seeking approval of a design review exemption to relocate the existing front entry doorway from the south (street facing) façade of an existing single family home to the northwest side of the residence located at 1152 Church St. in the MDR: Medium Density Residential district. 35 - 48

CEQA Determination: Exempt

Prepared By: Joseph Brockhoff, Planning Intern

Recommendation:

Staff finds that the proposed relocation of the exterior doorway raises no substantial design problems and therefore recommends that the Planning Commission:

1. Determine that the project is exempt from the requirements of CEQA pursuant to Section 15301 which exempts the minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination; and
2. Find that the project is exempt from design review and approve the relocation of the front porch and doorway at 1152 Church St.

1152 Church St.- Staff Report

5. PUBLIC HEARINGS

- 5.1. The Driscoll Residence Project includes a request for a Demolition Permit ,Design Review, and Use Permit to demolish an existing single family residence and construct a new single family residence and detached garage at 1727 Scott Street consistent with the small lot development standards and in the Medium Density Residential Zoning District. 49 - 89

CEQA Determination: Exempt from the requirements of CEQA pursuant to Section 15301(L)(1) and 15303(A) which exempts demolition of an existing single family residence and the construction of a new single family residence.

Prepared By: Lilly Bianco, Contract Planner

Recommendation:

The Planning and Community Improvement Department recommends that the Planning Commission adopt a resolution finding that:

1. The project is exempt from the requirements of CEQA pursuant to CEQA Section 15301 and 15303, and
1. Accepting the required findings and approve the requested Demolition permit, Use Permit, and Design Review for the Driscoll Residence, located at 1727 Scott St.

[1727 Scott St.- Staff Report](#)

- 5.2. Mitigated Negative Declaration, Design Review and Use Permit applications requesting approval to construct an approximately 9,500 square foot addition to an existing 111,000 square foot building to operate a custom crush winemaking facility capable of making 120,000 gallons of wine, located at 420 La Fata St/890 Dowdell Ln in southeast St Helena. 91 - 440

CEQA Determination: Mitigated Negative Declaration

Recommendation:

It is recommended by the Planning and Community Improvement Department that the Planning Commission:

1. Accept the analysis and findings identified in the Initial Study and approve the associated Mitigated Negative Declaration; and
2. Accept the required findings and approve the Use Permit and Design Review for the proposed St Helena Custom Crush project which would construct an approximately 9,500 square foot addition to an existing 111,000 square foot building to operate a custom crush winemaking facility capable of making 120,000 gallons of wine, located at 420 La Fata St/890 Dowdell Ln in southeast St Helena.

[420 La Fata St/890 Dowdell Ln. - Staff Report](#)
[Omni- Komes Custom Crush](#)

6. ADMINISTRATIVE DETERMINATION
- 6.1. Administrative Determination 441 - 442
[1153 Main St.- Admin Determination](#)
7. DEPARTMENT REPORTS
This is an opportunity for staff to report on or update the Commission on any relevant matters.
8. AGENDA FORCAST
Attached is a summary document of pending projects and up coming and items of priority and interest that will be placed on future agendas. This is also an opportunity for the Commission as a whole to request items be placed on future agendas for discussion. These items should be consistent with, and work to implement adopted Council Goals.
- 8.1. Planning Commission Tentative Agenda 443 - 446
[PC Tentative Agenda- Sept 14 2017 Update](#)
9. ADJOURNMENT
The next Regular Planning Commission meeting is scheduled for December 5, 2017, at 6:00 p.m. in the Vintage Hall Board Room located at 465 Main Street.

This agenda was posted at City Hall, 1480 Main Street, and at Vintage Hall,

465 Main Street, St. Helena, California on November 3, 2017.

A handwritten signature in black ink, appearing to read "Noah Housh", written in a cursive style.

Noah Housh, Planning Director

Appeal. A person who is dissatisfied with a decision of the Planning Commission may appeal that decision to the City Council pursuant to Municipal Code Section 17.08.180, Appeal procedure. Actions of the Planning Commission will be listed on the City Council agenda the following Tuesday to give the City Council opportunity to review the Planning Commission's decision. Absent of an appeal by the City Council or by a citizen, the appeal period will terminate two weeks after the Planning Commission hearing.

Special Assistance for the Disabled. In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please call the City Clerk's Office (707) 967-2792. Notification 48 hours prior to the meeting will enable City to make reasonable arrangements to ensure accessibility to this meeting (28 CFR35.102-35.104 ADA Title II). However, City staff will attempt to assist at any time with accessibility. The City Clerk has equipment to assist those with a hearing impairment.

PUBLIC TESTIMONY PROCEDURES

Pursuant to the Government Code Section 54954.3, the public may address the Commission on each agenda item during the Commission's consideration of that item. Each speaker has the option to state his or her name for the record before testifying. Depending on the number of speakers or the interest of the item, the Planning Commission Chairman may also restrict, at his/her discretion, the speaker's time to three minutes. The Chairman may also restrict public comments if they become irrelevant to the agenda item or repetitious of prior comments. All persons interested may appear and be heard or submit written statements prior to the Planning Commission meeting. Please note that if you challenge the City's decision on any of these matters in court, you may be limited to raising only those issues you or someone else raised at the meeting or in written correspondence delivered to the City at, or prior to, the meeting.

CHALLENGING DECISIONS OF CITY ENTITIES

The time limit within which to commence any lawsuit or legal challenge to any quasi-adjudicative decision made by the City of St. Helena is governed by Section 1094.6 of the Code of Civil Procedure, unless a shorter limitation period is specified by any other provision, including without limitation Government Code section 65009 applicable to many land use and zoning decisions, Government Code section 66499.37 applicable to the Subdivision Map Act, and Public Resources Code section 21167 applicable to the California Environmental Quality Act (CEQA). Under Section 1094.6, any lawsuit or legal challenge to any quasi-adjudicative decision made by the City must be filed no later than the 90th day following the date on which such decision becomes final. Any lawsuit or legal challenge, which is not filed within that 90-day period, will be barred. Government Code section 65009 and

66499.37, and Public Resources Code section 21167, impose shorter limitations periods and requirements, including timely service in addition to filing.

If a person wishes to challenge the above actions in court, they may be limited to raising only those issues they or someone else raised at the meeting described in this notice, or in written correspondence delivered to the City of St. Helena, at or prior to the meeting. In addition, judicial challenge may be limited or barred where the interested party has not sought and exhausted all available administrative remedies.

SUPPLEMENTAL MATERIAL RECEIVED AFTER THE POSTING OF THE AGENDA

Any supplemental writings or documents distributed to a majority of the Planning Commission regarding any item on this Agenda, after the posting of the Agenda, will be available for public review in the Planning Department's Office located at 1480 Main Street, St. Helena, California, during normal business hours. In addition, such writings or documents will be made available on the City's web site at <http://cityofstheleena.org> and will be available for public review at the respective meeting.

MINUTES
City of St. Helena
Planning Commission Meeting
Tuesday, September 19, 2017 @ Time
Vintage Hall Board Room - Second Floor
465 Main Street, St. Helena

A complete video recording of this meeting, except for closed session, can be found at <https://sthenela.civicweb.net/Portal/> or by calling the City Clerk at (707) 967-2792. The City Council video is the official record of the Council meeting.

Present: Chair Grace Kistner, Vice-Chair Lester Hardy, Commissioner David Knudsen, Commissioner Bobbi Monnette, and Commissioner John Ponte

Absent: None

Staff Present: Noah Housh, Planning & Community Improvement Director, Aaron Hecock, Senior Planner, Lilly Bianco, Contract Planner, and Xinia Gamero, Administrative Assistant

1. PLEDGE OF ALLEGIANCE

2. CALL TO ORDER AND ROLL CALL

3. PUBLIC FORUM:

No public comment received.

4. CONSENT ITEMS

Commissioner Monnette pulled item 4.1 from the Consent Calendar.

- 4.1 ~~Request by Gary Finnan on behalf of Charles Krug Winery for design review exemption approval in order to construct a new 260-sf outdoor pavilion on the Charles Krug property located at 2800 Main Street in the Winery (W) district.~~

~~CEQA Determination: Exempt from the requirements of CEQA pursuant to Section 15303.~~

~~Prepared By: Aaron Hecock, Senior Planner~~

Recommendation:

~~Staff finds that the proposed outdoor pavilion raises no substantial design problems and therefore recommends that the Planning Commission:~~

- ~~1. Determine that the project is exempt from the requirements of CEQA pursuant to Section 15303 which exempts the new construction of small structures including garages, carports, patios, swimming pools, etc.; and~~
- ~~2. Approve a resolution finding that the project is exempt~~

~~from design review and approving the new outdoor pavilion located at 2800 Main Street.~~

- 4.2 Administrative Determination finding that retail store, Gathered, may operate under the existing use permit for 1327 Main Street and in the Central Business District as it qualifies as a "continuing use" and remains consistent with the established allowances and restrictions of the existing use permit.

CEQA Determination: Not a project under CEQA
Prepared By: Lilly Bianco, Contract Planner

- 4.3 Approval of Minutes: September 5, 2017

Commissioner John Ponte moved to approve items 4.2 and 4.3 on the Consent Calendar. The motion was seconded by Commissioner Bobbi Monnette and on roll call carried by the following vote:

AYES: Grace Kistner, Lester Hardy, David Knudsen, Bobbi Monnette, and John Ponte

NOES: None

ABSENT: None

ABSTAIN: None

RECUSE: None

- 4.4 **4.1** Request by Gary Finnan on behalf of Charles Krug Winery for design review exemption approval in order to construct a new 260-sf outdoor pavilion on the Charles Krug property located at 2800 Main Street in the Winery (W) district.

CEQA Determination: Exempt from the requirements of CEQA pursuant to Section 15303.

Prepared By: Aaron Hecock, Senior Planner

Recommendation:

Staff finds that the proposed outdoor pavilion raises no substantial design problems and therefore recommends that the Planning Commission:

1. Determine that the project is exempt from the requirements of CEQA pursuant to Section 15303 which exempts the new construction of small structures including garages, carports, patios, swimming pools, etc.; and
2. Approve a resolution finding that the project is exempt from design review and approving the new outdoor pavilion located at 2800 Main Street.

Aaron Hecock, Senior Planner, reported on item.

Gary Finnan, applicant, addressed the Commission.

Commissioner Hardy disclosed meeting with applicant prior to the public hearing of the item.

Chair Kistner opened Public Comment.

No Public Comment received.

Chair Kistner closed Public Comment.

Commissioner John Ponte moved to continue item to a date uncertain. The motion was seconded by Commissioner Bobbi Monnette and on roll call carried by the following vote:

AYES: Grace Kistner, Lester Hardy, David Knudsen, Bobbi Monnette, and John Ponte

NOES: None

ABSENT: None

ABSTAIN: None

RECUSE: None

5. PUBLIC HEARINGS

Vice-Chair Hardy recused himself from the public hearing of the item due to living in close proximity to the subject property and left the dais.

- 5.1 Request by Tom Trainor on behalf of William and Lynda Tunney for adoption of a resolution approving a demolition permit (retroactive), design review and a variance in order to accommodate a partial demolition, reconstruction and addition to the historic home located at 1508 Spring Street in the MR: Medium Density Residential district.

CEQA Determination: Exempt pursuant to Sections 15301, 15303 and 15331.

Prepared By: Aaron Hecock, Senior Planner

Recommendation:

For the reasons described above, staff concludes that required findings can be made and recommends that the Planning Commission:

1. Determine that the project is exempt from the requirements of CEQA pursuant to Section 15301, which exempts the minor alteration of existing private structures; Section 15303, which exempts the construction or conversion of small structures including single-family

residences, garages, pools, etc.; and Section 15331, which exempts the rehabilitation or restoration of a historical structure when in conformance with the Secretary of the Interior's Standards.

2. Accept the required findings and approve a resolution granting demolition permit, design review, and variance approval for the proposed demolition, reconstruction and addition to the residence located at 1508 Spring Street.

Aaron Hecock, Senior Planner, reported on item.

Applicant, Tom Trainor, and owner, Bill Tunney, addressed the Commission.

Chair Kistner opened Public Comment.

Patty Phelps, Wayne Armstrong and Trish Handly addressed the Commission.

Chair Kistner closed Public Hearing.

Commissioner John Ponte moved to approve staff recommendation as amended. The motion was seconded by Commissioner David Knudsen and on roll call carried by the following vote:

AYES: Grace Kistner, David Knudsen, and John Ponte

NOES: Bobbi Monnette

ABSENT: None

ABSTAIN: None

RECUSE: Lester Hardy

Vice-Chair Hardy returned to the dais at 7:05 p.m.

Commissioner Knudsen recused himself from the public hearing of item due to living next to the subject property and left the dais.

- 5.2 Request by Carl Dene for demolition permit and design review approval to demolish an existing single family residence (SFR) and detached garage constructed c. 1954 and construct a new one-story SFR with attached garage at 1711 Pine Street in the MR: Medium Density Residential Zoning District.(File #PL17-031)

CEQA Determination: The project is exempt from the requirements of CEQA pursuant to Section 15301(L)(1) and 15303(A) which exempts demolition of an existing single family residence and the construction of a new single family residence.

Prepared By: Lilly Bianco, Contract Planner

Recommendation:

The Planning and Community Improvement Department recommends that the Planning Commission adopt a resolution finding that:

1. The project is exempt from the requirements of CEQA pursuant to CEQA Section 15303, and
2. Accept the required findings and approving the requested Demolition permit and Design Review for the Dene Residence.

Lilly Bianco, Contract Planner, reported on the item.

Carl Dene, applicant, addressed the Commission.

Chair Kistner opened Public Comment.

Lisa Cakebread, Sarah Lonsdale, and Connie Thornburg addressed the Commission.

Carl Dene provided a rebuttal statement.

Chair Kistner closed Public Comment.

Commissioner Lester Hardy moved to approve staff recommendation as amended. The motion was seconded by Commissioner John Ponte and on roll call carried by the following vote:

AYES: Grace Kistner, Lester Hardy, and John Ponte

NOES: Bobbi Monnette

ABSENT: None

ABSTAIN: None

RECUSE: David Knudsen

Commissioner Knudsen returned to the dais at 7:49 p.m.

- 5.3 Request by Suzanne Tate for a use permit to establish a wine business office and tasting salon at 1309 Main Street and in the Central Business Zoning District. (File #PL17-050)

CEQA Determination: The project is categorically exempt in accordance with CEQA Section 15301 "existing facilities" as the operation of an existing private structure involving a negligible expansion of use beyond that existing at the time of the lead agency's determination. The proposed project is not subject to any of the exceptions to the use of a categorical exemption as

outlined in CEQA Section 15300.2. The project site is not located on or near an environmentally sensitive area, is not visible from a scenic highway, is not included on a hazardous waste site, and will not impact historic resources or otherwise generate or contribute to any potentially significant impacts.

Prepared By: Lilly Bianco, Contract Planner

Recommendation:

The Planning and Community Improvement Department recommends that the Planning Commission:

1. Determine that the project is categorically exempt from the requirements of CEQA pursuant to CEQA Section 15301 "existing facilities" as the operation of a business within an existing private structure involving a negligible expansion of use beyond that existing at the time of the lead agency's determination.
2. Accept the required findings enumerated in Municipal Code Section 17.168 040 and adopt a resolution approving a Use Permit for the proposed Tate Offices and Winery Tasting Salon.

Lilly Bianco, Contract Planner, reported on item.

Suzanne Tate, applicant, addressed the Commission.

Chair Kistner opened Public Comment.

David Tate, applicant, addressed the Commission.

Chair Kistner closed Public Comment.

Commissioner Monnette moved to approve staff recommendation as amended. The motion was seconded by Chair Kistner and on roll call carried by the following vote:

AYES: Grace Kistner, Lester Hardy, John Ponte, Bobbi Monnette and David Knudsen

NOES: None

ABSENT: None

ABSTAIN: None

6. SCHEDULED MATTERS

- 6.1 City of St Helena Protocol for Committees, Commissions and Boards and Planning Commission By-Laws
CEQA Determination: Not a Project under CEQA
Prepared By: Noah Housh, Planning & Community Improvement Director

Recommendation:

It is recommended by the Planning and Community Improvement Department, that the Planning Commission review the provided Protocol and By-Law documents, formulate any questions that arise from this review and engage in a staff facilitated discussion amongst the Commission on any topics that arise from this review.

Noah Housh, Planning and Community Improvement Director,
reported on Item.

7. DEPARTMENT REPORTS

Noah Housh, Planning and Community Improvement Director,
addressed the Commission.

7.1

Commissioner Lester Hardy moved to cancel the Planning Commission meeting of November 21, 2017. The motion was seconded by Chair Grace Kistner and on roll call carried by the following vote:

AYES: Grace Kistner, Lester Hardy, David Knudsen, Bobbi Monnette, and John Ponte

NOES: None

ABSENT: None

ABSTAIN: None

RECUSE: None

8. AGENDA FORCAST

8.1 Planning Commission Tentative Agenda - Updated September 14, 2017

Prepared By: Noah Housh, Planning & Community Improvement Director

Noah Housh, Planning Director, addressed the Commission.

9. ADJOURNMENT

Chair Kistner adjourned the meeting at **8:42 p.m.**

APPROVED:

ATTEST:

Grace Kistner, Chair

Noah Housh, Planning and Community Improvement Director



PLANNING COMMISSION REPORT
Planning Commission Meeting of November 7, 2017

AGENDA SECTION: Consent

FILE NUMBER: PL17-046

SUBJECT: The applicant is requesting demolition permit approval to demolish an existing 346.5-sf barn on the property located at 627 Harvest Ln. in the Medium Density Residential District.

PREPARED BY: Joseph Brockhoff, Planning Intern

REVIEWED BY: Noah Housh, Planning & Community Improvement Director

APPROVED BY: Noah Housh, Planning & Community Improvement Director

APPLICATION FILED: 08/14/17

ACCEPTED AS COMPLETE: 09/29/17

LOCATION OF PROPERTY: 627 Harvest Ln.

APN: 009-551-013

GENERAL PLAN/ZONING: MDR/ Medium Density Residential

APPLICANT: Dario Vivan

PHONE: 707-337-1843

BACKGROUND

The subject property at 627 Harvest Ln. is a 0.43-acre residential lot located on a cul-de-sac in northeast St. Helena.

PROJECT DESCRIPTION

Applicant Dario Vivan is requesting approval to demolish an existing 346 square foot non-historically significant barn located at the rear of the property, and in accordance with Municipal Code Section 17.164.050(E). According to the applicant, the structure is in imminent need of removal as it is hanging partially over a creek bed (Sulphur Creek)

that is receding into the hillside and encroaching on the subject property. Staff has confirmed the challenges with the current barn location. The applicant is requesting permission to dismantle the barn in pieces to reclaim the timber and prevent and/or limit any debris from falling into that portion of Sulphur Creek below.

ANALYSIS

GENERAL PLAN

The property has a General Plan designation of Medium Density Residential (MDR). The MDR land use designation provides for single-family detached and attached homes, secondary residential units, public and quasi-public uses, and similar compatible uses. The MDR designation is the predominant residential designation, occurring throughout large areas of the city. The wide distribution of this designation is intended to maintain a development pattern in newly developing areas of the City that is consistent with historic development patterns.

The 1993 St. Helena General Plan and Housing Element Update 2015-2023 Goals, Policies, and Eight-Year Action Plan include the following policies that are relevant to the proposed project:

2.6.14- Encourage a mix of housing types and price ranges to allow choice for current and future generations of St. Helenians.

2.6.15- Encourage new residential development in all density ranges that is consistent with scale and character of the older residential districts of the city, particularly the neighborhoods west of Main Street.

4.3.26- Encourage residential building siting and design that is similar to that found in the older neighborhoods in town. In these areas consistent setbacks, porches, and generously landscaped front yards add to community enjoyment by all. Restrict location of driveways and garages to minimize their visual impact on the street.

Staff finds the proposed project to be consistent with these general plan policies.

ZONING

The project site is in a Medium Density Residential (MDR) Zoning District. MDR districts are established for consistency with the medium density residential general plan designation. The district provides for single-family detached homes, accessory dwelling units, limited agricultural uses and compatible uses. Residential densities shall not be less than 5.1 dwelling units per acre nor more than sixteen (16) dwelling units per acre.

Historic Significance

Although, the barn appears to be greater than 50 years old, staff has determined that the barn is not a significant historic resource given that it does not meet one or more of the criterion for listing on the California Register of Historic Resources (CRHR). According to records provided by the St. Helena Historical Society (**Attachment 4**), the

barn at 627 Harvest Lane was most likely associated with the Paulson Family during the latter part of the 19th century and early 20th century. It would have been part of a multi-use agricultural property that supported domestic uses as well as subsistence agricultural. The property is known to have supported a vineyard, a prune orchard, vegetable garden, cabinet shop, and home. The wood frame barn likely housed livestock in the lower portion with feed and/or equipment in the upper loft. Even so, because the barn is not associated with significant events, significant persons, is not architecturally significant and does not exhibit any potential to yield important information about history or prehistory, it would not qualify as a historic resource eligible for listing on the CRHR and/or under the requirements of CEQA. Furthermore, even if it were significant, the changes to the setting would preclude the resource from retaining integrity. For those reasons, the resource is determined not to be significant. For a more detailed discussion of potential significance see **Attachment 4**.

Staff Response: The proposed demolition does not conflict with zoning standards in that no changes are proposed to the existing single-family home on-site and demolition of the existing non-conforming structure will make the property more compliant with the zoning code by removing a structure that is non-complaint with the zoning ordinance rear setbacks of 5 feet for an accessory structure, and a creek setback of 20-feet from the top of the bank. The barn is currently straddling the property line in the rear and sits partially on a portion of the Sulphur Creek bank. In addition, the height of accessory buildings as regulated by chapter 17.116.30 of the St Helena Municipal code is 15 feet. Although no exact measurement has been taken of the height, staff has visually determined that the barn exceeds the 15-foot height maximum. For all of these reasons, the requested demolition is seen by staff as improveing the properties conformance with the zoning criteria.

Demolition permit

In accordance with Municipal Code Section 17.164.050(E), Except when required for the emergency protection of public health, safety, or welfare as determined by the City Manager, no permit authorizing the demolition of any building within any zoning district shall be issued until approved by the Planning Commission in accordance with the following findings:

1. That, based on the public record and testimony presented at a public hearing, the building is determined not to be a significant architectural or historical building. If a building is determined to be significant by the planning commission, no demolition will be authorized unless the following findings are made by the commission:
 1. That the building poses a threat to health, safety and general welfare if it is not demolished,
 2. That restoration of the building is not feasible or practicable using current building codes including, but not limited to, the Historic Building Code provisions of the Uniform Building Code of the state of California,
 3. That no public or other funding is available for financing renovation or purchase of the building;
2. That the **demolition** does not eliminate elements that are required to maintain the essential character of the neighborhood

3. That design review of the proposed replacement structure is approved prior to approval of the **demolition** of a housing structure.

Staff response:

1) *Staff finds, and has specified in the "historical significance" section above, and in attachment 4, that the barn is determined not to be a significant architectural or historical building.*

2) *Staff finds that the demolition of the barn alone will not eliminate any elements that are required to maintain the essential character of the neighborhood since the structure itself is not visible nor functional or useful in any capacity to the neighborhood.*

3) *Staff finds that the proposed demolition does not include any housing structures and will not be replaced by another structure.*

Although the demolition code states that design review approval of a proposed replacement structure is required prior to the approval of the demolition of a housing structure, staff finds the proposed demolition does not include any housing structures and will not be replaced by another structure.

CEQA

Staff finds the project is categorically exempt in accordance with CEQA Section 15301 "existing facilities" as the demolition of an accessory structure in that the proposed project is found to not be subject to any of the exceptions to the use of a categorical exemption as outlined in CEQA Section 15300.2. Although the project is located in a riparian area, the demolition will be done by hand and will not include the use of any heavy equipment therefore impacts to the riparian habitat are not anticipated.

WATER

Staff finds that the project does not involve any new construction and therefore is not subject to the St. Helena water neutrality Ordinance given that it is not expected to place a new demand on the City's water system beyond that which currently exists. Demolition of the existing structures is not subject to water neutrality analysis.

ISSUES

Although the demolition code states that design review approval of a proposed replacement structure is required prior to the approval of the demolition of a housing structure, staff finds the proposed demolition does not include any housing structures and will not be replaced by another structure. Therefore there are no unresolved issues identified by staff resulting from the requested Demolition.

CORRESPONDENCE

As of the completion of this report, staff has received no written comments on the proposed demolition.

STAFF RECOMMENDATION

Staff recommends that the Planning Commission:

- 1) Determine that the project is categorically exempt from the requirements of CEQA pursuant to CEQA Section 15301 “existing facilities” as the demolition of an accessory structure and,
2. Accept the required findings enumerated in Municipal Code Section 17.164.050(b), and adopt a resolution approving demolition of the barn at 627 Harvest Ln.

ATTACHMENTS

[Resolution](#)

[Plans](#)

[Photos](#)

[Memo](#)

[WRITTEN STATEMENT of Work Plan](#)

CITY OF ST. HELENA PLANNING COMMISSION

RESOLUTION PCXXXX

**RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ST. HELENA
GRANTING APPROVAL OF A DEMOLITION PERMIT
TO APPROVE DEMOLITION OF THE BARN LOCATED AT 627 HARVEST LN.**

PROPERTY OWNER: Dario Vivan

APN: 009-551-013

Recitals

- A. Whereas,** Dario Vivan submitted an application requesting approval to demolish the barn located at 627 Harvest Ln. Located in a Medium Density Residential district.
- B. Whereas,** available documentation does not indicate that the barn contributes to the significance of the property, nor is it a significant resource in its own right;
- C. Whereas,** the Planning Commission of the City of St. Helena, State of California, considered the project, staff report, and all testimony, written and spoken, at a duly noticed public hearing on November 7, 2017.
- D. Now, therefore** let it be found that, the Planning Commission approves the requested Demolition based on the following basis:

Resolution

- A.** The Planning Commission hereby finds that the project is Categorically Exempt pursuant to Section 15301, of the California Environmental Quality Act (CEQA).
- B.** The Planning Commission makes the following (Design Review) Demolition findings pursuant to Municipal Code Section 17.164.050 to support the motion to approve the Demolition:
1. *That, based on the public record and testimony presented at a public hearing, the building is determined not to be a significant architectural or historical building given that it does not meet one or more of the criterion for listing on the California Register of Historic Resources (CRHR). According to records provided by the St. Helena Historical Society (Attachment 4), the extant barn at 627 Harvest Lane was most likely associated with the Paulson Family during the latter part of the 19th century and early 20th century. It would have been part of a multi-use agricultural property that supported domestic uses as well as subsistence agricultural. The property is known to have supported a vineyard, a prune orchard, vegetable garden, cabinet shop, and home. The wood frame barn likely housed livestock in*

the lower portion with feed and/or equipment in the upper loft. Even so, because the barn is not associated with significant events, significant persons, is not architecturally significant and does not exhibit any potential to yield important information about history or prehistory, it would not qualify as a historic resource eligible for listing on the CRHR. Furthermore, even if it were significant, the changes to the setting would preclude the resource from retaining integrity. For those reasons, the resource is determined not to be significant.

2. *That the demolition does not eliminate elements that are required to maintain the essential character of the neighborhood given that the structure itself is not visible to, nor functional or useful in any capacity to the neighborhood.*
3. *That no design review of a replacement structure is required given that no housing structure is to be demolished, as identified in the provided project documentation. Although the demolition code states that design review approval of a proposed replacement structure is required prior to the approval of the demolition of a housing structure, staff finds the proposed demolition does not include any housing structures and will not be replaced by another structure.*

C. Now therefore be it further resolved that, the Demolition for the above described project is granted subject to compliance with all applicable provisions of the Zoning Code and subject to each of the following conditions. Permit shall be in conformance with all City ordinances, rules, regulations and policies in effect at the time of issuance of a building permit. The conditions noted below are particularly pertinent to this permit and shall not be construed to permit violation of other laws and policies not so listed.

1. The Demolition shall be vested within one (1) year from the date of approval. A building permit implementing the previously approved Design Review shall have been obtained within one (1) year from the effective date of the Demolition decision or this approval shall expire; provided however that the approved Demolition may be extended for up to two (2) one-year periods pursuant to the St. Helena Municipal Code, Section 17.08.030, Extension of Permits and Approvals.
2. This permit is valid for Demolition only. New permits must be applied for any change in use. These permits will expire if the use is discontinued pursuant to the existing ordinances and regulations.
3. The Demolition approval shall not become effective until fourteen (14) calendar days after approval, providing that the action is not appealed by the City Council or any other interested party within that 14-day period.
4. Any request for an extension of the Demolition must be justified in writing and received by the Planning Department at least thirty (30) days prior to expiration.

5. All required fees, including planning fees, development impact fees, building fees, retrofit fees, and St. Helena Unified School District fees shall be paid prior to issuance of building permit.
6. Compliance with all permit conditions, enumerated in this resolution shall be clearly identified on all plans submitted for building permit approval, and shall occur in accordance with specific regulations but in all cases no later than prior to occupancy or initiation of use unless another time is set by law or by this approval. Occupancy or final inspection of a project may be withheld if all conditions, including payment of fees for services rendered by the City, are not met.
7. The applicant will defend and indemnify and hold the City, its agents, officers, and employees harmless of any claim, action or proceedings to attack, set aside, void or annul an approval so long as the City promptly notifies the applicant of any such claim, action, or proceedings and the City cooperates fully in the defense of the action or proceedings.
8. Provided they are in general compliance with the approved Demolition Permit minor modifications found to be in substantial conformance with the approved design may be approved by the Planning Director.
9. The primary purpose of this review is for compliance with the General Plan and Zoning Ordinance. The owner/applicant is responsible for meeting with the Building Official / Fire Inspector to review compliance with Building and Fire Codes, including fire protection systems and the accessibility standards of Title 24.

Building Department Conditions of Approval

10. A building permit is required for all onsite demolition, construction and/or change of occupancy.
11. The applicant will be required to comply with the codes adopted at the time the applicant applies for a building permit. At this time the City of St. Helena utilizes the 2013 Title 24 codes.
12. When submitting plans for a building permit, the plans shall include all documentation listed on the building permit application checklist.
13. The applicant shall provide a construction waste management plan with the building permit application.
14. The plans for construction shall include a checklist for compliance with the California Green Buildings Standards Code, mandatory measures. Provide a reference on the checklist indicating where the mandatory measures can be found on the plans.

15. When submitting plans, the title page shall include all information referenced on the building permit application checklist Title Page requirements.
16. Building Permit application materials and plans shall include any documentation pertaining to special loads applicable to the design and the specified section of the code that addresses the condition; special inspections for any systems or components requiring special inspection; requirements for seismic resistance; and a complete list of deferred submittals at time of application. Any deferral of the required submittal items shall have prior approval of the Building Official however deferral of fire sprinkler design is not allowed.
17. Demolition work shall be performed in accordance with the applicants work plan or "written statement" (attachment 5).
18. No heavy equipment (i.e. tractor or similar heavy equipment) may be used during the demolition of the structure

I HEREBY CERTIFY that the foregoing Demolition Permit was duly and regularly approved by the Planning Commission of the City of St. Helena at a regular meeting of said Planning Commission held on October 17, 2017, by the following roll call vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

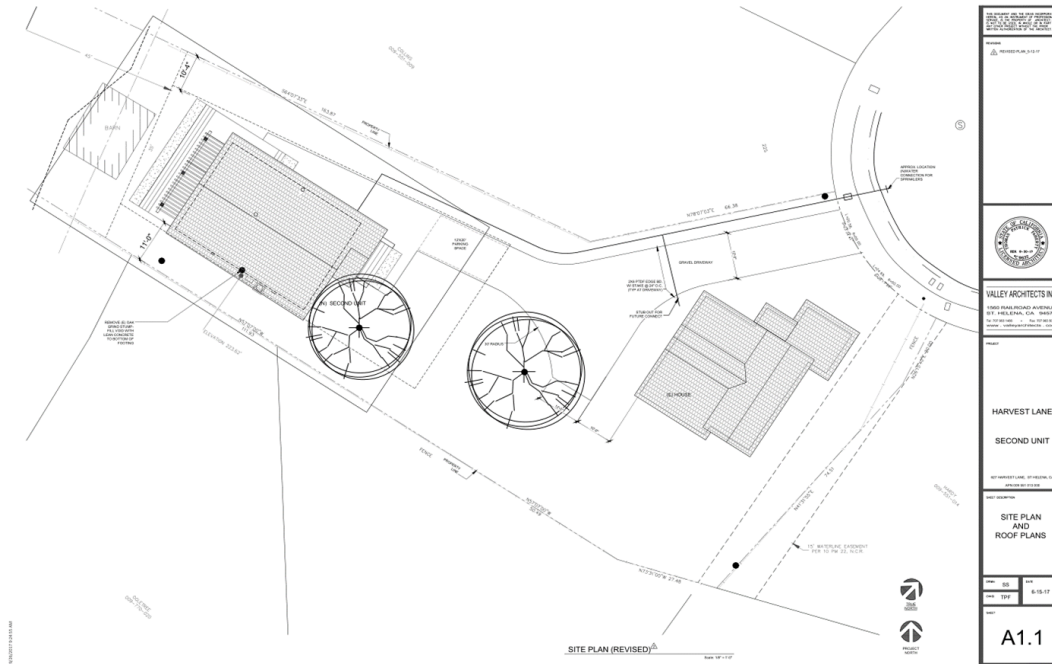
APPROVED:

ATTEST:

Grace Kinster
Chair, Planning Commission

Noah Housh,
Planning and Community
Improvement Director

Attachment 4















MEMORANDUM



DATE: June 22, 2017

TO: Aaron Hecock, Senior Planner
Noah Housh, Planning Director

FROM: Lilly Bianco, Contract Planner

RE: Historic Significance of former barn
627 Harvest Lane

To support the CEQA determination the Planning and Community Improvement Department drafted the following memo which considers the potential significance of the former shed/barn at 627 Harvest Lane against the California Register of Historic Resources (CRHR). This memo was prepared by Contract Planner, Lilly Bianco, who is a qualified Architectural Historian per the Secretary of the Interior's Professional Qualifications for Architectural History.

According to records provided by the St. Helena Historical Society (attached), the extant barn at 627 Harvest Lane was most likely associated with the Paulson Family during the latter part of the 19th century and early 20th century. It would have been part of a multi-use agricultural property that supported domestic uses as well as subsistence agricultural. As opposed to being devoted to one specific agricultural activity or crop, the property is known to have supported a vineyard, a prune orchard, vegetable garden, cabinet shop, and home. The wood frame barn likely housed livestock in the lower portion with feed and/or equipment in the upper loft.

SIGNIFICANCE

Eligibility for listing on the California Register of Historic Resources (CRHR) is determined based on how well a given property meets one or more of the following criteria. It is not required that all four criteria are met for a resource to be considered significant. The applicable criteria are listed below.

- Criterion 1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States
- Criterion 2. Associated with the lives of persons important to local, California or national history
- Criterion 3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values

MEMORANDUM

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation

Evaluation of Significance**Criterion 1: Associated with Significant Events**

Criterion 1 recognizes properties associated with single events, such as the founding of a town, or with a pattern of events, repeated activities, or historic trends, such as the gradual rise of a port city's prominence in trade and commerce. The event or trends, however, must clearly be important within the associated context— settlement, in the case of the town, or development of a maritime economy, in the case of the port city. Moreover, the property must have an important association with the event or historic trends, and it must retain historic integrity.

The subject property was formerly known as the Paulson Farm and is recorded to have included a vineyard, a prune orchard, vegetable garden, cabinet shop, and home. Louis Paulson's primary vocation, however, appears to have been cabinet making. The property and what is left of the farming operation would have been related to the agricultural development- likely as it relates to subsistence agriculture and trends of the Napa Valley; but there is nothing that indicates this property nor the extant barn were particularly important in the context of agricultural development in the Napa Valley. Furthermore, the shed/ barn is surrounded by modern suburban development which has substantially altered the setting and feeling to such an extent that the barn and former agricultural property would no longer be able to convey what significance it may have had and therefore no longer retain integrity. For those reasons, the barn does not appear eligible under Criterion 1.

Criterion 2: Associated with Significant Persons

A potential resource may be considered significant under Criterion 2 based on its association with a person whose specific contributions to history can be identified and documented. Persons "significant in our past" refers to individuals whose activities are demonstrably important within a local, State, or national historic context. The criterion is generally restricted to those properties that illustrate (rather than commemorate) a person's important achievements.

Based on available information provided by the St. Helena Historical Society, the barn is most closely associated with Louis Walter Paulson, a cabinet maker who established a farm on a 13.5 acre plot on Pope Street at some point around 1881. However, no records indicate that Louis Paulson or any others associated with the subject property were demonstrably important within a local, state, or national context. As such, the barn would not be considered significant based on its association with Louis Walter Paulson or other member of the Paulson family.

Criterion 3: Architectural or Artistic Value

Criterion 3 applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering etc. Most properties found eligible under Criterion C are those that embody "distinctive characteristics of a type" which refers to all architectural styles and construction practices. To be eligible under this portion of the Criterion, a property must clearly illustrate the physical features or traits that commonly recur in individual types, periods, or methods of construction. To be eligible, a property must clearly contain enough of those characteristics to be considered a true representative of a particular type, period, or method of construction.

MEMORANDUM

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

The former barn appears to be a vernacular wood framed, western barn, but which is not exemplary in terms of its ability to represent a particular type, period or method of construction and therefore does not appear to be eligible based on architectural or artistic value alone.

Criterion 4: Potential to yield Information

The building site does is not expected to hold significant archeological resources and the building itself does not exhibit construction methods that would be particularly important to yielding information related to prehistory or history of California. The former 13.5 acre farmstead site has been substantially disturbed as a result of modern development and therefore its ability to yield information has diminished. Accordingly, the former barn does not appear eligible under Criterion 4

Conclusion

In the absence of any strong associations with a historic theme, trend, or person and in that it does not appear to be of exemplary architectural value or hold information potential, the subject shed/ barn does not appear eligible for listing on the California Register of Historic Resources. Similarly, as ancillary feature, the barn would have been most fully understood in relation to the larger farmstead,(the associated home, outbuildings, landscape, and the relationship between those components), and therefore, in the absence of those contextual elements and given the substantial change in setting, even if the shed did exhibit some level of significance, the loss of setting, feeling, and association inhibit its ability to convey any significance it may have had and therefore it would not retain integrity.

RECEIVED
PLANNING DEPARTMENT

JUL 14 2017

City of St. Helena

MANUAL BARN REMOVAL

627 HARVEST LANE, ST. HELENA

- 1) Remove tin roof and save.
- 2) Remove roof frame members on 2nd story, one by one, and save lumber.
- 3) Remove North back wall (creek side) boards and battens, one by one, as to not fall into creek, and save lumber.
- 4) Remove East, West and South board and battens and save lumber. Brace structure, along the way, with temporary 2 x 4's and stakes.
- 5) Remove ceiling frame of main floor area and save lumber.
- 6) Remove wall frame starting North, continuing on East wall, then West and, lastly, South and save lumber.
- 7) Remove floor boards and save, if possible, as they are sitting directly on the dirt. If damaged, dispose of at recycling facility.



DARIO VIVAN
OWNER

7/10/17
DATE



PLANNING COMMISSION REPORT

Planning Commission Meeting of November 7, 2017

AGENDA SECTION: Consent

FILE NUMBER: PL17-057

SUBJECT: The applicant is seeking approval of a design review exemption to relocate the existing front entry doorway from the south (street facing) façade of an existing single family home to the northwest side of the residence located at 1152 Church St. in the MDR: Medium Density Residential district.

PREPARED BY: Joseph Brockhoff, Planning Intern

REVIEWED BY: Noah Housh, Planning & Community Improvement Director

APPROVED BY: Noah Housh, Planning & Community Improvement Director

APPLICATION FILED:08/31/17

ACCEPTED AS COMPLETE:10/03/17

LOCATION OF PROPERTY: 1152 Church Street

APN: 009-082-017

GENERAL PLAN/ZONING: MDR:Medium Density Residential

APPLICANT: Richard Slie

PHONE: (707) 257-7907

BACKGROUND

The subject property, 1152 Church St., is a developed 0.16-acre residential lot in the Medium Density Residential zoning district two blocks east of Main Street in downtown St. Helena.

PROJECT DESCRIPTION

Richard Slie, on behalf of Anthony Assereto, is requesting approval of a design review exemption in order to relocate the front entry doorway and porch which is currently

located on the south (street facing) side of the property, to the west side of the residence at 1152 Church Street in the Medium Density Residential District (MRD). According to the applicant the proposed new entryway will be built to match the appearance of the existing doorway. the new exterior doorway will be installed in the existing wall and will match existing materials and paint color.

ANALYSIS

GENERAL PLAN

The property has a General Plan designation of Medium Density Residential (MDR). The MDR land use designation provides for single-family detached and attached homes, secondary residential units, public and quasi-public uses, and similar compatible uses. The MDR designation is the predominant residential designation, occurring throughout large areas of the city. The wide distribution of this designation is intended to maintain a development pattern in newly developing areas of the City that is consistent with historic development patterns.

The 1993 St. Helena General Plan and Housing Element Update 2015-2023 Goals, Policies, and Eight-Year Action Plan include the following policy that are relevant to the proposed project:

2.6.14- Encourage a mix of housing types and price ranges to allow choice for current and future generations of St. Helenians.

Staff finds that the relocation of the doorway as proposed meets all development standards in the MDR district.

Zoning

The project site is in a Medium Density Residential (MDR) Zoning District. MDR districts are established for consistency with the medium density residential general plan designation. The district provides for single-family detached homes, accessory dwelling units, limited agricultural uses and compatible uses. Residential densities shall not be less than 5.1 dwelling units per acre nor more than sixteen (16) dwelling units per acre.

Staff Analysis

Staff finds that as a residential remodel, with no substantial changes proposed to the form, massing or style, the project appears consistent with applicable policies and would further ensure the property continues to meet the development standards imposed by the Zoning Code.

CEQA

Staff finds the project is exempt from the requirements of CEQA pursuant to Section 15301 which exempt the operation, repair, maintenance, permitting, leasing, licensing, or

minor alteration of existing public or private structures... involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

ISSUES

Staff has not identified any issues at the time of this report.

CORRESPONDENCE

Staff has not received any letters in support or opposition to this application at the time of this report.

STAFF RECOMMENDATION

Staff finds that the proposed relocation of the exterior doorway raises no substantial design problems and therefore recommends that the Planning Commission:

1. Determine that the project is exempt from the requirements of CEQA pursuant to Section 15301 which exempts the minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination; and
2. Find that the project is exempt from design review and approve the relocation of the front porch and doorway at 1152 Church St.

ATTACHMENTS

[Resolution](#)

[Plans-Sheet-1](#)

[Plans-Sheet-2](#)

[Plans-Sheet-3](#)

[Plans-Sheet-4](#)

[Photo-1](#)

[Photo-2](#)

**CITY OF ST. HELENA PLANNING COMMISSION
RESOLUTION NO. XXXX
GRANTED TO 1152 Church Street**

PROPERTY OWNER: Anthony Assereto

APN: 009-082-017

Recitals

1. On August 31st, 2017 Richard Slie on behalf of Anthony Assereto filed an application requesting a design review exemption in order to relocate the front entry doorway and porch on the south (street facing) side of the property to the west side of the residence at 1152 Church Street in the Medium Density Residential District (MR).
2. The Planning Commission of the City of St. Helena, State of California, considered the project, staff report, and all testimony, written and spoken, at a duly noticed public hearing on November 7th, 2017.

Resolution

- A. In making the findings in this Resolution, the Planning Commission relied upon and hereby incorporates by reference all of the documents referenced in this Resolution and the associated staff reports, City files for this matter, correspondence, presentations and other materials.
- B. The Planning Commission hereby finds that the project is exempt from CEQA pursuant to Section 15301, which exempts the minor alteration of existing public or private structures...involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.
- C. The Planning Commission determines the project is in compliance with the following Design Review criteria of Municipal Code Section 17.164.030:
 1. *Consistency and compatibility with applicable elements of the general plan in that it is a single-family home in a residentially designated area;*
 2. *Compatibility of design with the immediate environment of the site in that it is a minor remodel of an existing single-family home;*
 3. *Relationship of the design to the site in that it is a minor remodel to an existing home;*
 4. *That the design is compatible in areas considered by the board as having a unified design or historical character in that the home is not historical nor in an area with a unified design;*
 5. *That the design promotes harmonious transition in scale and character in areas between different designated land uses in that it is a minor remodel to an existing single-family home;*
 6. *Compatibility with future construction both on and off the site in that it is a minor remodel to an existing single-family home;*

1152 Church Street
Design Review Exemption
November 7th, 2017

7. *That the architectural design of structures and their materials and colors are appropriate to the function of the project in that the new design and materials will match the that of the existing single-family home;*
8. *That the planning and siting of the various functions and buildings on the site create an internal sense of order and provide a desirable environment for occupants, visitors and the general community in that it is a remodel to an existing single-family home;*
9. *That the amount and arrangement of open space and landscaping are appropriate to the design and the function of the structures in that it is a remodel to an existing single-family home;*
10. *Whether sufficient ancillary functions are provided to support the main functions of the project and whether they are compatible with the project's design concept in that it is a remodel to an existing single-family home;*
11. *That access to the property and circulation systems are safe and convenient for pedestrians, cyclists and vehicles in that no changes to the driveway or sidewalk will occur;*
12. *That natural features are appropriately preserved and integrated with the project in that it is a remodel to an existing single-family home;*
13. *That the materials, textures, colors and details of construction are an appropriate expression of its design concept and function and whether they are compatible with the adjacent and neighboring structure and functions in that any new construction materials used will match that of the existing single-family home;*
14. *In areas considered by the board as having a unified design character or historical character, whether the design is compatible with such character in that the home is not historical nor in an area with a unified design;*
15. *That the landscape design concept for the site, as shown by the relationship of plant masses, open space, scale, plant forms and foliage textures and colors create a desirable and functional environment and whether the landscape concept depicts an appropriate unity with the various buildings on the site in that it is a remodel to an existing single-family home;*
16. *That plant material is suitable and adaptable to the site, capable of being properly maintained on the site, and is of a variety which is suitable to the climate of St. Helena in that it is a remodel to an existing single-family home;*
17. *That sustainability and climate protection are promoted through the use of green building practices such as appropriate site/architectural design, use of green building materials, energy efficient systems and water efficient landscape materials in that it is a remodel to an existing single-family home that is required to meet current green building standards.*

Planning Department Conditions of Approval

1. The project shall be in conformance with all city ordinances, rules, regulations and policies in effect at the time of issuance of a building permit.
2. The design review exemption shall be vested within one (1) year from the date of final action. A building permit for the activities allowed under this approval shall have been obtained within one (1) year from the effective date of this action or the approval shall expire, provided however that the approval may be extended for up to two (2) one-year periods pursuant to the St. Helena Municipal Code, Section 17.08.130, Extension of Permits and Approvals. Any request for an extension of this approval shall be justified in writing and received by the Planning Department at least thirty (30) days prior to expiration.
3. The approvals shall not become effective until fourteen (14) calendar days after approval, providing that the action is not appealed by the City Council or any other interested party within that 14-day period.
4. All required fees, including planning fees, development impact fees, residential in-lieu housing fees, building fees, toilet retrofit fees, and St. Helena Unified School District fees shall be paid prior to issuance of a building permit. Fees shall be those in effect at the time of the issuance of the building permit.
5. In any action or proceeding to attack, challenge, invalidate, set aside, void or annul the City's approval of applicant's Project, in whole or in part, applicant shall defend, at its own expense and without any cost to the City, and with counsel acceptable to the City, and shall fully and completely indemnify and hold the City, its agents, officers, and employees harmless from and against any and all claims, causes of action, damages, costs, attorney's fees and liability of any kind, so long as the City reasonably promptly notifies the applicant of any such claim, action, or proceedings and the City cooperates fully in the defense of the action or proceedings.
6. Provided they are in general compliance with this approval, minor modifications may be approved by the Planning Director.
7. Pursuant to St. Helena Municipal Code Section 17.08.110, this permit shall run with the land and shall be binding upon all parties having any right, title or interest in the real property or any part thereof, their heirs, successors and assigns, and shall inure to their benefit and benefit of the City of St. Helena.
8. The primary purpose of this review is for compliance with the General Plan and Zoning Ordinance. The property owners or their designee shall be responsible for meeting with the Building Official, Fire Inspector and or Public Works Department to review compliance with Building Codes, Fire Codes and specific Public Works Standards including fire protection systems and any applicable accessibility standards of Title 24.
9. Construction shall be in compliance with plans submitted and reviewed by the Planning Commission on November 7th, 2017, except as modified herein.

1152 Church Street
Design Review Exemption
November 7th, 2017

10. To reduce disturbance of residents in the project vicinity, construction activities which generate noise that can be heard at the property line of any parcel of real property within the City limits shall be limited to 8:00 a.m. to 5:00 p.m. Monday through Saturday. Delivery of materials/equipment and cleaning and servicing of machines/equipment shall be limited to 7:00 a.m. to 6:00 p.m. Exceptions to these time restrictions may be granted by the Public Works Director for one of the following reasons: (1) inclement weather affecting work, (2) emergency work, or (3) other work, if work and equipment will not create noise that may be unreasonably offensive to neighbors as to constitute a nuisance. The City Engineer must be notified and give approval in advance of such work. No construction activities shall occur on Sundays or federal or local holidays that generate noise that can be heard at the property line of any parcel of real property within the City limits.

Building Department Conditions of Approval

11. A building permit is required for all onsite demolition, construction and/or change of occupancy.
12. The applicant will be required to comply with the codes adopted at the time the applicant applies for a building permit. At this time the City of St. Helena utilizes the 2013 Title 24 codes.
13. When submitting plans for a building permit, the plans shall include all documentation listed on the building permit application checklist.
14. The applicant shall provide a construction waste management plan with the building permit application.
15. The plans for construction shall include a checklist for compliance with the California Green Buildings Standards Code, mandatory measures. Provide a reference on the checklist indicating where the mandatory measures can be found on the plans.
16. When submitting plans, the title page shall include all information referenced on the building permit application checklist Title Page requirements.
17. Building Permit application materials and plans shall include any documentation pertaining to special loads applicable to the design and the specified section of the code that addresses the condition; special inspections for any systems or components requiring special inspection; requirements for seismic resistance; and a complete list of deferred submittals at time of application. Any deferral of the required submittal items shall have prior approval of the Building Official however deferral of fire sprinkler design is not allowed.

I HEREBY CERTIFY that the foregoing variance and design review were duly and regularly approved by the Planning Commission of the City of St. Helena at a regular

1152 Church Street
Design Review Exemption
November 7th, 2017

meeting of said Planning Commission held on November 7th, 2017 by the following roll call vote:

AYES:

NOES:

ABSENT:

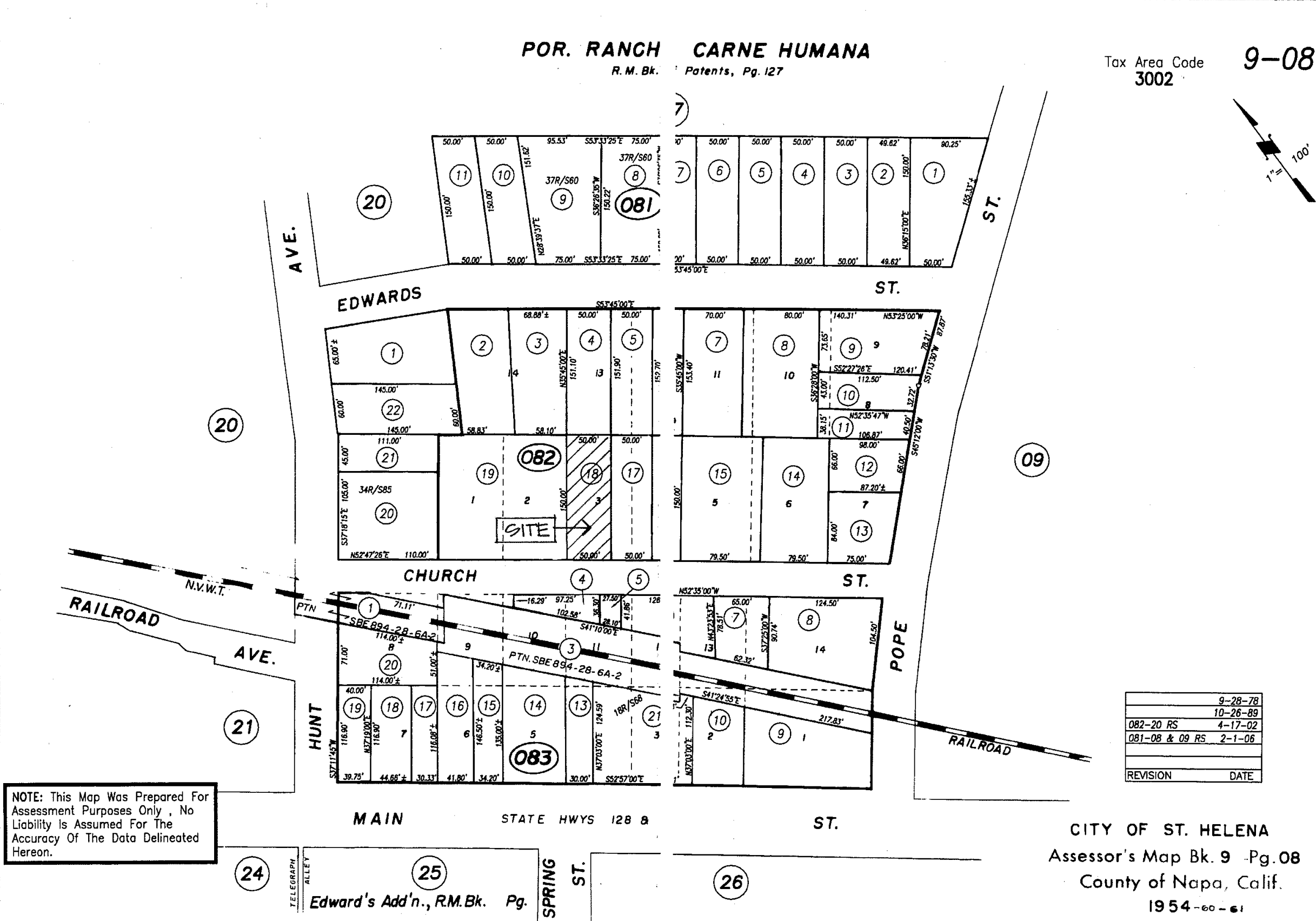
ABSTAIN:

APPROVED:

ATTEST:

Grace Kistner
Chair, Planning Commission

Noah Housh
Planning Director



PROJECT DESCRIPTION

4800 S.F. INTERIOR REMODEL OF 1600 S.F. RESIDENCE.
NEW FRENCH DOORS & CLEARESTORY WINDOWS AT REAR
NEW CLEARESTORY WINDOWS ABOVE EXISTING 16' SL. GLDR.
EXISTING ENTRY DR. & PORCH RELOCATED

PROJECT INFORMATION

OWNERS: ANTHONY & KATE ASSERETO (916) 524-5562
ELMO ST. NAPA, CA. 94558
assereto@gmail.com

SITE ADDRESS: 1152 CHURCH ST. ST. HELENA, CA.
APN: 009-082-017
ZONING: MOR SETBACKS: 20' FRONT REAR 10' SIDE
LOT SIZE: 7500 S.F. ACTUAL COVERAGE: 1500 S.F.
BLRS: OCCUPANCY: R-3
BLDG. CONSTRUCTION: V.N. NON-SPRINKLERED
STRUCTURAL DESIGN TYPE: CONVENTIONAL WOOD FRAMING
BUILDING HT.: 17'-8" ±

PROJECT CONSULTANTS

RICHARD SLIE, ARCHITECTURAL DESIGNER
1169 EGGLESTON ST. NAPA, CA. 94559
richslie@yahoo.com 257-7907

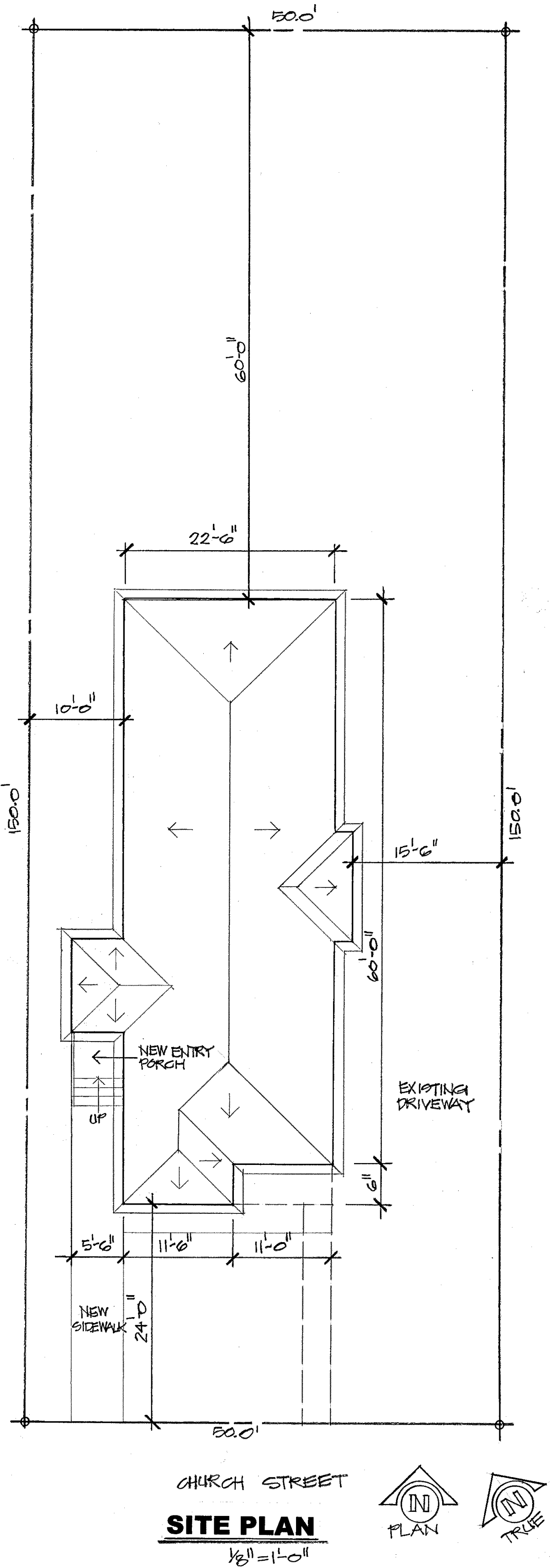
VAL PIZZINI, STRUCTURAL ENGINEERING #CE 29603
1400 GUERNEVILLE ROAD SUITE 12
SANTA ROSA, CA. 95403 527-1802

CURRENT CODES

- 2016 CRC CA. RESIDENTIAL CODE
- 2016 CRC CA. BUILDING CODE
- 2016 OEC CA. ELECTRICAL CODE
- 2016 CRC CA. PLUMBING CODE
- 2016 CMC CA. MECHANICAL CODE
- 2016 CA. FIRE CODE
- 2016 CGBSC CA. GREEN BUILDING STANDARDS CODE
- 2016 CROC CA. REFERENCED STANDARD CODE

DRAWING INDEX

#	DESCRIPTION
1	SITE PLAN PROJECT INFO VICINITY MAP
2	AS-BUILT FLOOR PLAN REMODELED FLOOR PLAN
3	EXTERIOR ELEVATIONS STRUCTURAL DETAILS
4	PREScriptive TITLE 24 CALCS.



INTERIOR REMODEL of the 1152 Church St. St. Helena, Ca. APN: 009-082-017

ASSERETO RESIDENCE

Design and Drawings by
RICHARD SLIE
257-7907 richslie@yahoo.com
1169 Eggleston St. Napa, Ca. 94559

1

Kitchen lighting: Permanently installed luminaires in kitchen shall be high efficiency luminaires (fluorescent). Up to 50% of the wattage in kitchens can be luminaires that are not high efficiency provided that these fixtures are controlled by switches separate from those controlling the high efficiency fixtures.

Bathrooms, Laundry rooms, Garages and Utility rooms: Permanently installed shall be high efficiency luminaires or permanently installed luminaires that are not efficiency must be controlled by an on/ off occupant sensor(s).

Other areas (except closets less than 70 s.f.): Permanently installed shall be high efficiency luminaires or permanently installed luminaires that are not high efficiency must be controlled by a dimmer switch or are controlled by an occupant sensor that does not turn on automatically or have an always on option.

Outdoor lighting: (not around swimming pools/ water features or other article 60 locations). Luminaires providing outdoor lighting permanently mounted to a residence or to other buildings on the same lot shall be high efficiency luminaires or controlled by occupant or motion sensors with an integral photo control certified to comply with section 119(d).

Provide arc-fault circuit interrupter protection for all branch circuits that supply 125-volt single phase 15 and 20 amp outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas. This includes lighting outlets, smoke detectors, outlets, etc.

Two small 20 amp circuits are required for the kitchen and are limited to supplying wall and counter space outlets. These circuits cannot serve anything else except counter/ wall outlets including the refrigerator.

A dedicated 20 amp circuit is required to serve the required bathroom outlets. This circuit cannot supply any other receptacles, lights, fans, etc. (except where the circuit supplies a single bathroom). Outlets for other equipment within the same bathroom shall be permitted to be supplied.

A dedicated 20 amp branch circuit shall be provided to supply the laundry receptacle outlet.

Specify all receptacle outlets in all areas specified in CEC 210.52 to be tamper resistant.

New or relocated electrical panels shall not be located in clothes closets, bathrooms, or recessed in garage firewalls.

Gas piping codes shall be provided for new and extended lines prior to inspection per CPC 1215 and 1217.2.

All new or exposed hot water supply piping 1/2" and greater shall be insulated. All new or exposed hot water supply piping from the heating source to the kitchen fixtures shall be insulated.

The range hood is to be vented directly outside exhausting a minimum of 100 c.f.m. The fan must be listed at 3 sone or less for noise. The rating is based on a water column of .25 or greater.

Water closets: <1.28 gal/ flush Single showerheads: <2.0 gpm @ 80 psi Lavatory faucets: <1.2 gpm @ 60 psi Kitchen faucets: <1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8

New shower walls shall have a smooth, hard, non-absorbent surface over a moisture resistant underlayment to a height of 70" above the drain outlet.

The shower shall be provided with individual control valves of the pressure balance or the thermostatic mixing valve type.

All bathrooms, powder rooms, and toilet compartments shall have an exhaust fan capable of 50 cfm for intermittent ventilation or 25 cfm for continuous ventilation. Ventilation air shall be exhausted directly outside.

Carbon monoxide sensors are required on every floor and at hallways leading to bedrooms. Carbon monoxide alarms shall receive their primary power from the building wiring and also have battery backup. Wiring shall be permanent and without a disconnecting switch or other than as required for overcurrent protection. Where more than one alarm is required, they shall be interconnected so that activation of one alarm will activate all of the alarms.

Install ducts in crawlspace, if provided, or use R-6 insulation or higher.

Each appliance shall meet ENERGYSTAR requirement if applicable for that appliance. Dishwashers shall be ENERGY STAR and not use more than 5.8 gallons per cycle.

Automatic irrigation system controllers installed at the time of final inspection shall be weather or soil moisture based controllers that automatically adjust irrigation in response to changes in plant needs as weather conditions change.

Weather based controllers without integral rain sensors shall have a separate wired or wireless rain sensor attached.

A water budget shall be developed for landscape irrigation use that conforms to the City of Napa Water Efficient Landscape Ordinance. This measure shall apply to landscaping with the minimum landscape areas specified in the Napa Municipal Code.

Residential structures shall be limited to a maximum of 60 psi static service pressure; sites consistently experiencing greater than 65 psi shall require the installation of a pressure regulator.

If water softeners are installed, they shall comply with NSF/ANSI Standard 44 provisions.

Post-consumer or pre-consumer recycled content value materials are used on the project with not less than a 10% content value.

Annular spaces around pipes, electrical cables, conduits, or other openings in plates at exterior walls shall be protected against the passage or rodents by closing such openings with cement mortar, concrete masonry or other similar method acceptable.

A minimum of 50% of construction waste generated at the site is diverted to recycle or salvage.

An operation and maintenance manual shall be provided to the owner.

Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with UD EPA Phase II emission limits and fireplaces shall also comply with local ordinances.

Duct openings and other related air-distribution component openings shall be covered during construction.

Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.

Paints, stains and other coatings shall be compliant with VOC limits.

Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.

Documentation shall be provided to verify that compliant VOC limit finish materials have been used.

Carpet and carpet systems shall be compliant with VOC limits.

80% of floor areas receiving resilient flooring shall comply with the VOC emission limits defined in the Collaborative for High Performance Schools, High Performance Products Database or compliant with CHPS criteria certified under the Green guard Children & Schools program or be certified under the Resilient Floor Covering Institute Floor Score program or meet the California Departments of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers".

Particleboard, medium density fiberboard and hardwood plywood used in the interior finish systems shall comply with low formaldehyde emission standards.

Moisture content of building materials used in enclosed wall and floor framing is checked before enclosure and cannot exceed 19%.

Meet the formaldehyde limits contained in Table 4.504.5 before the mandatory compliance date, or use composite wood products made with either California air resources board approved no-added formaldehyde resins or ultra-low emitting formaldehyde resins.

Install thermal insulation in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools Low-Emitting Materials List.

Vapor retarder and capillary break is installed at slab on grade foundations.

Exhaust fans which terminate outside the building are provided in every bathroom.

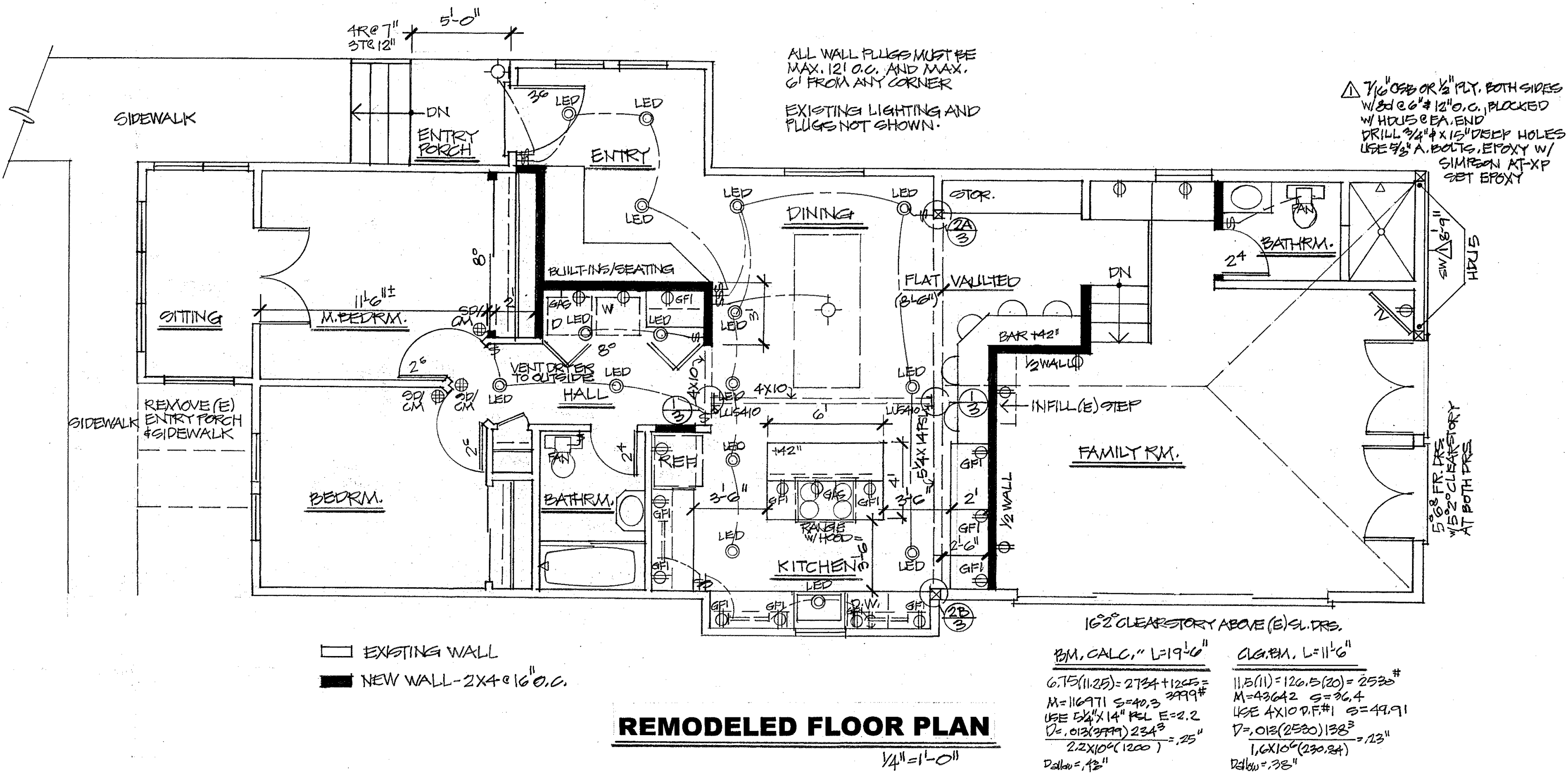
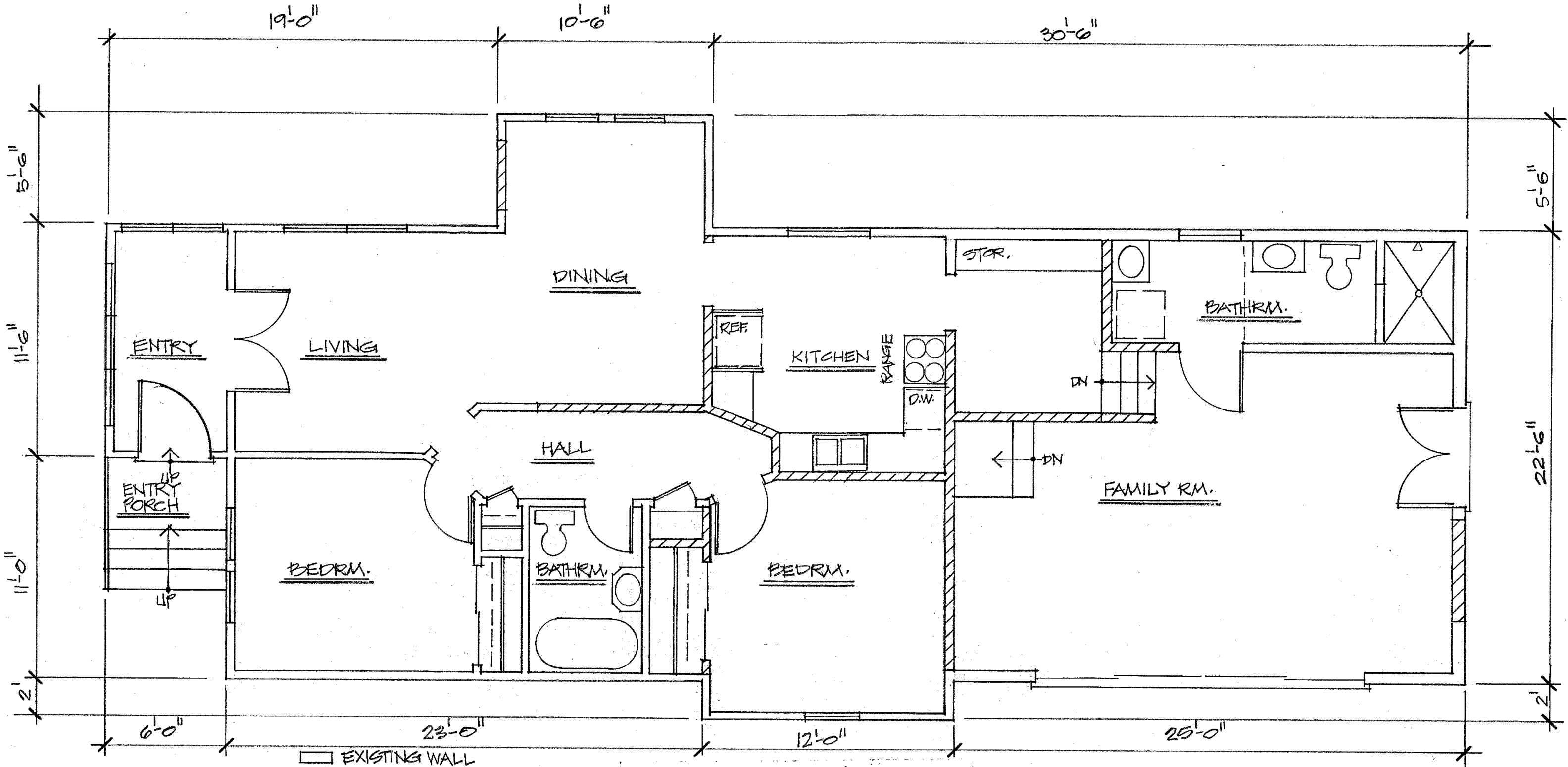
Higher than MERV6 filters are installed on central air or ventilation systems.

Whole house exhaust fans shall have insulated louvers or covers which close when the fan is off. Covers or louvers shall have a minimum insulation value of R-4.2.

Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ACCA Manual J or equivalent. 2. Size duct systems according to ACCA 29-D or equivalent. 3. Select heating and cooling equipment according to ACCA 36-S or equivalent.

HVAC system installers are trained and certified in the proper installation of HVAC systems. Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.

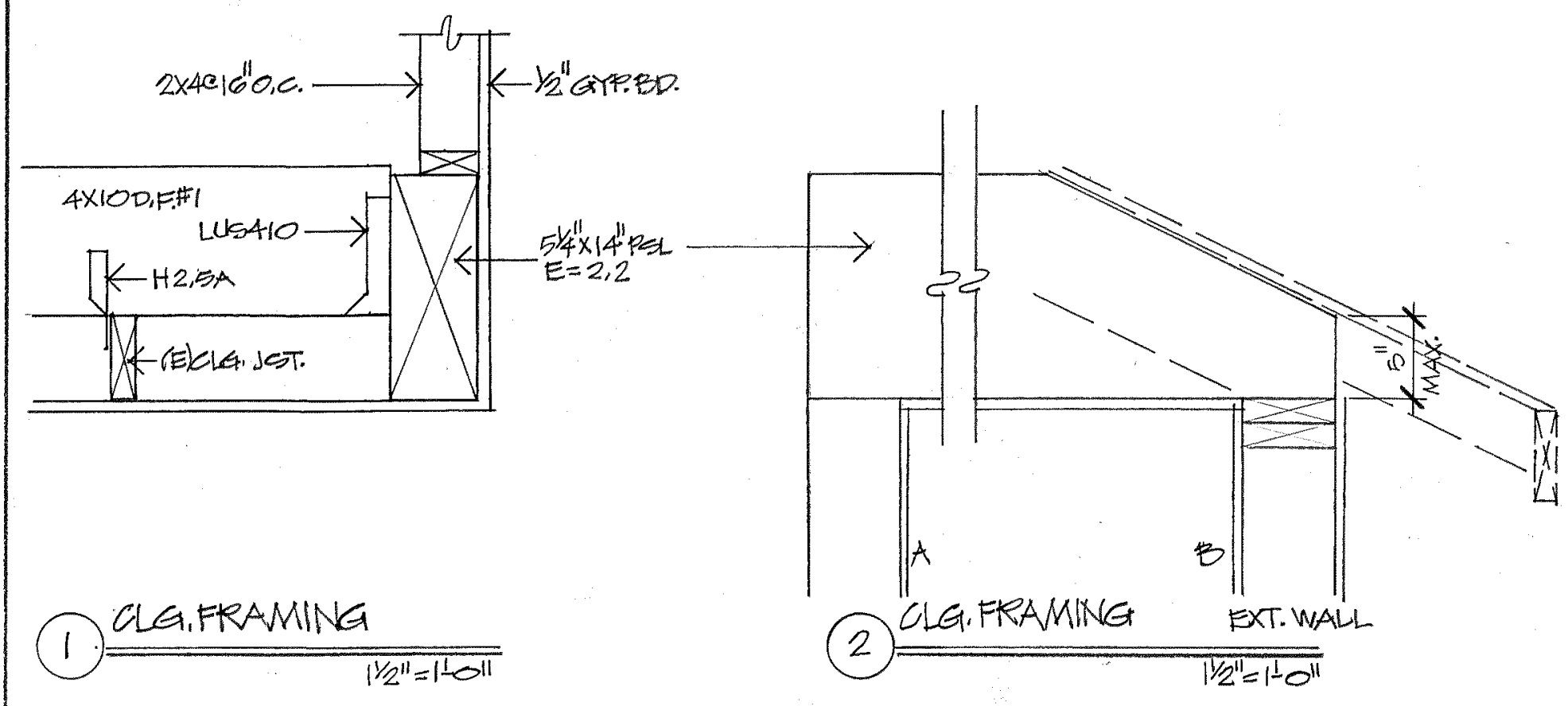
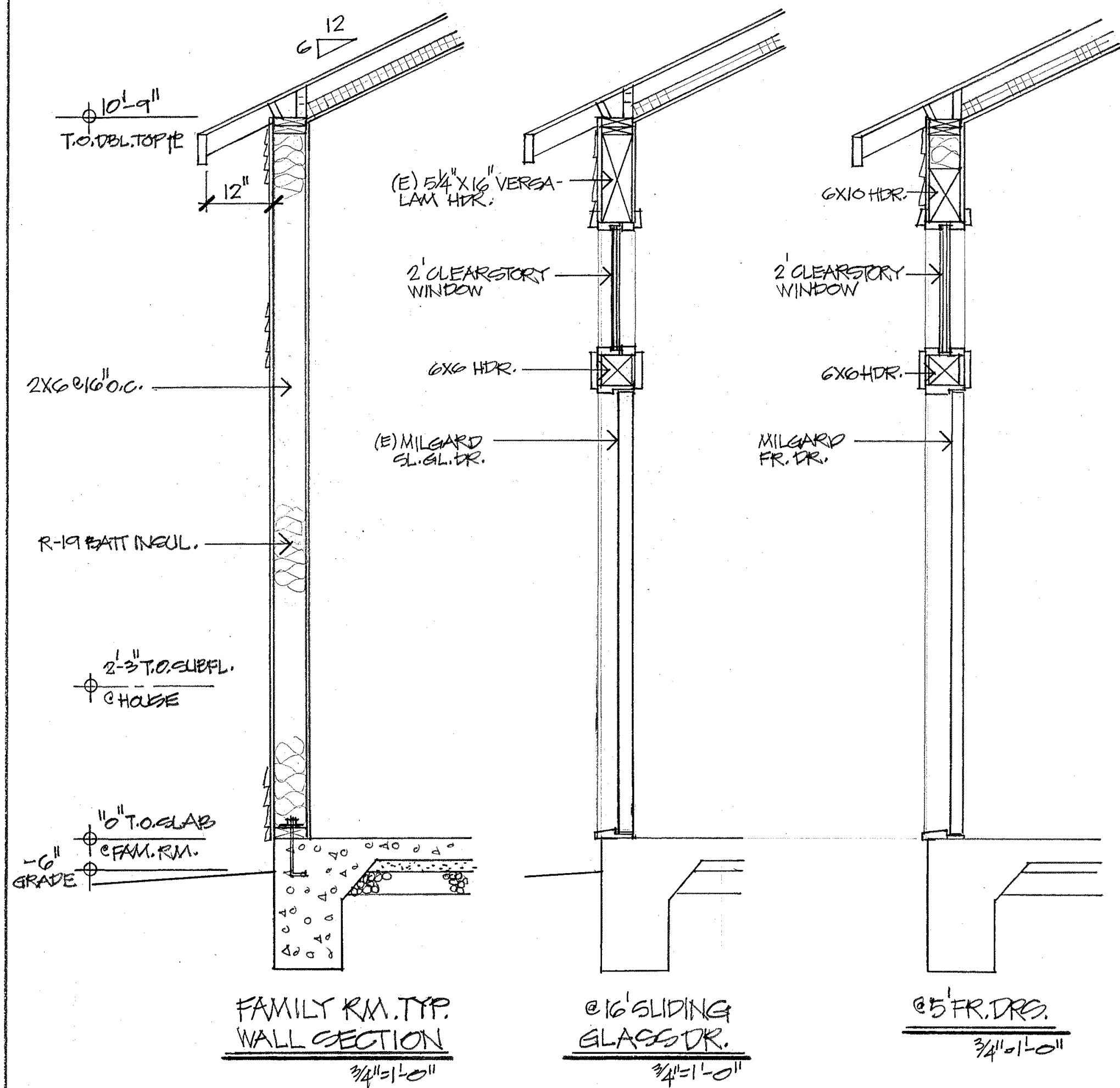
Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.



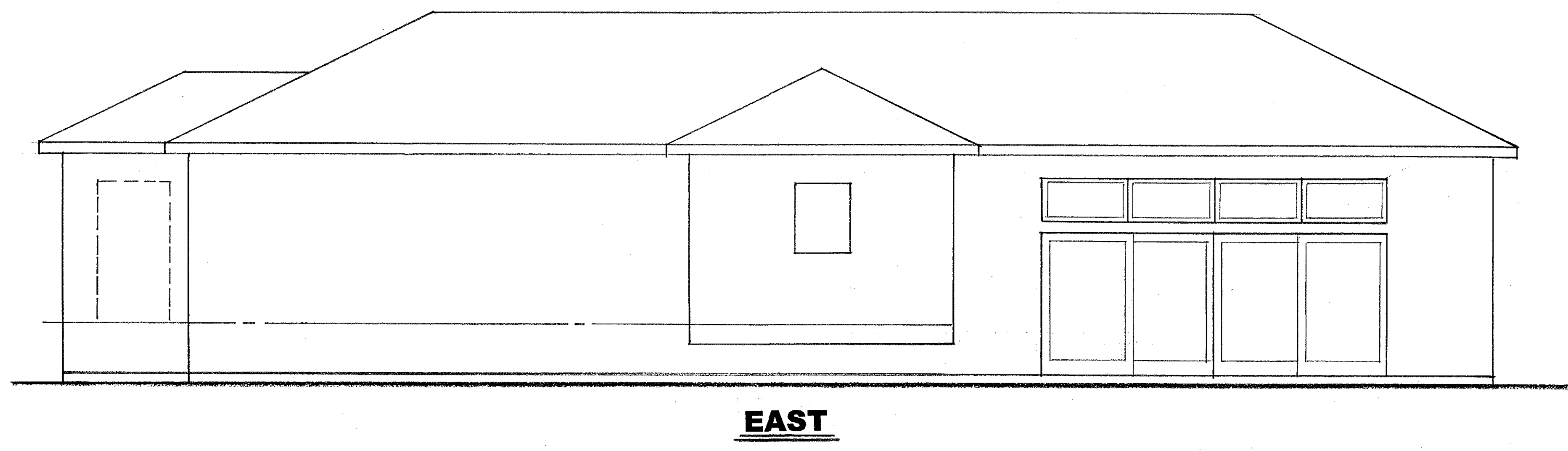
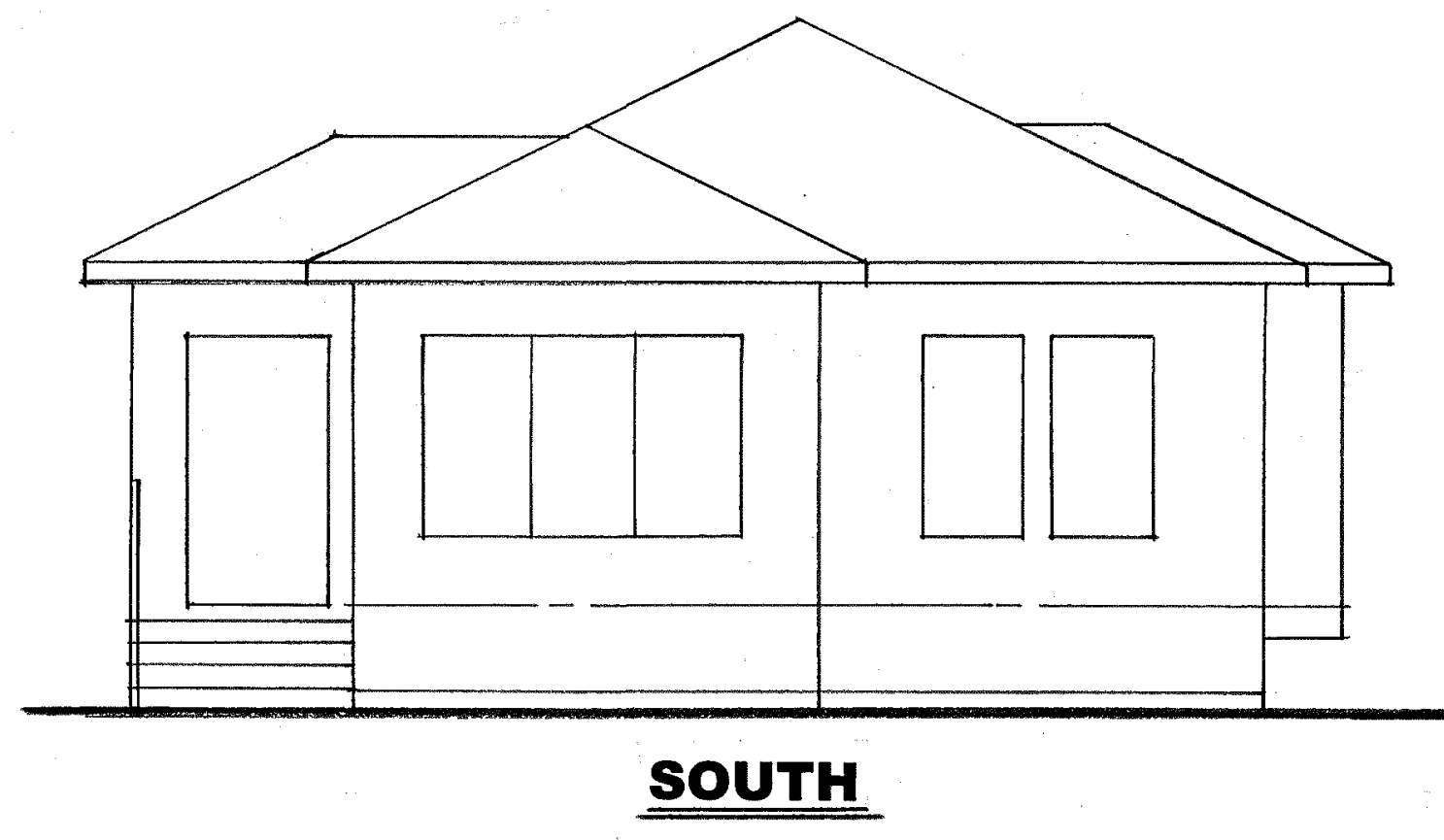
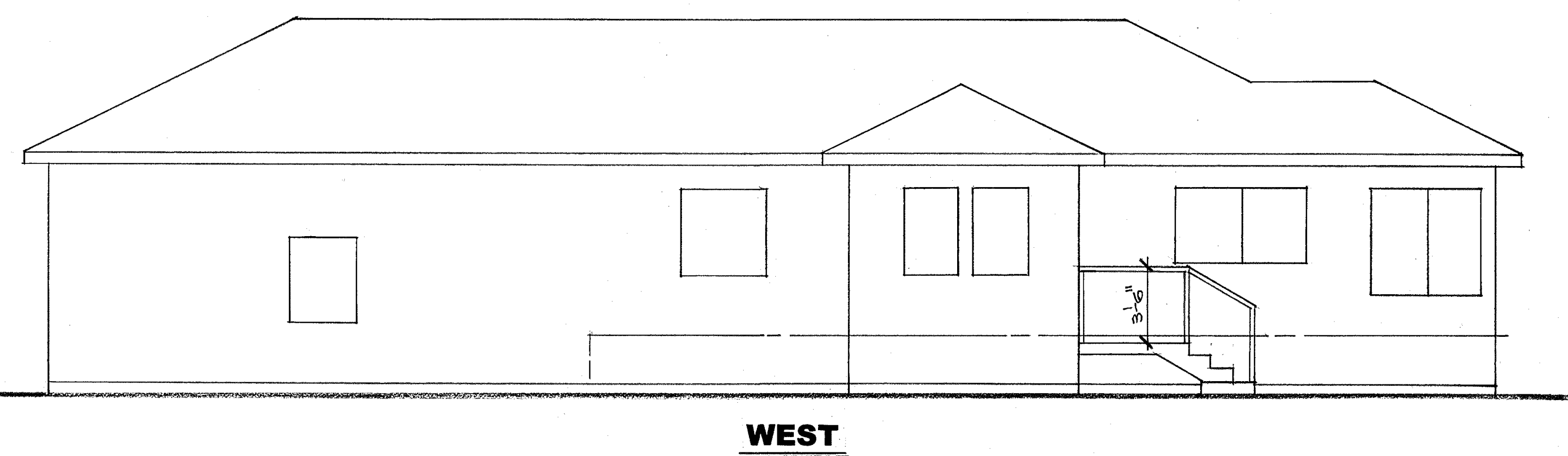
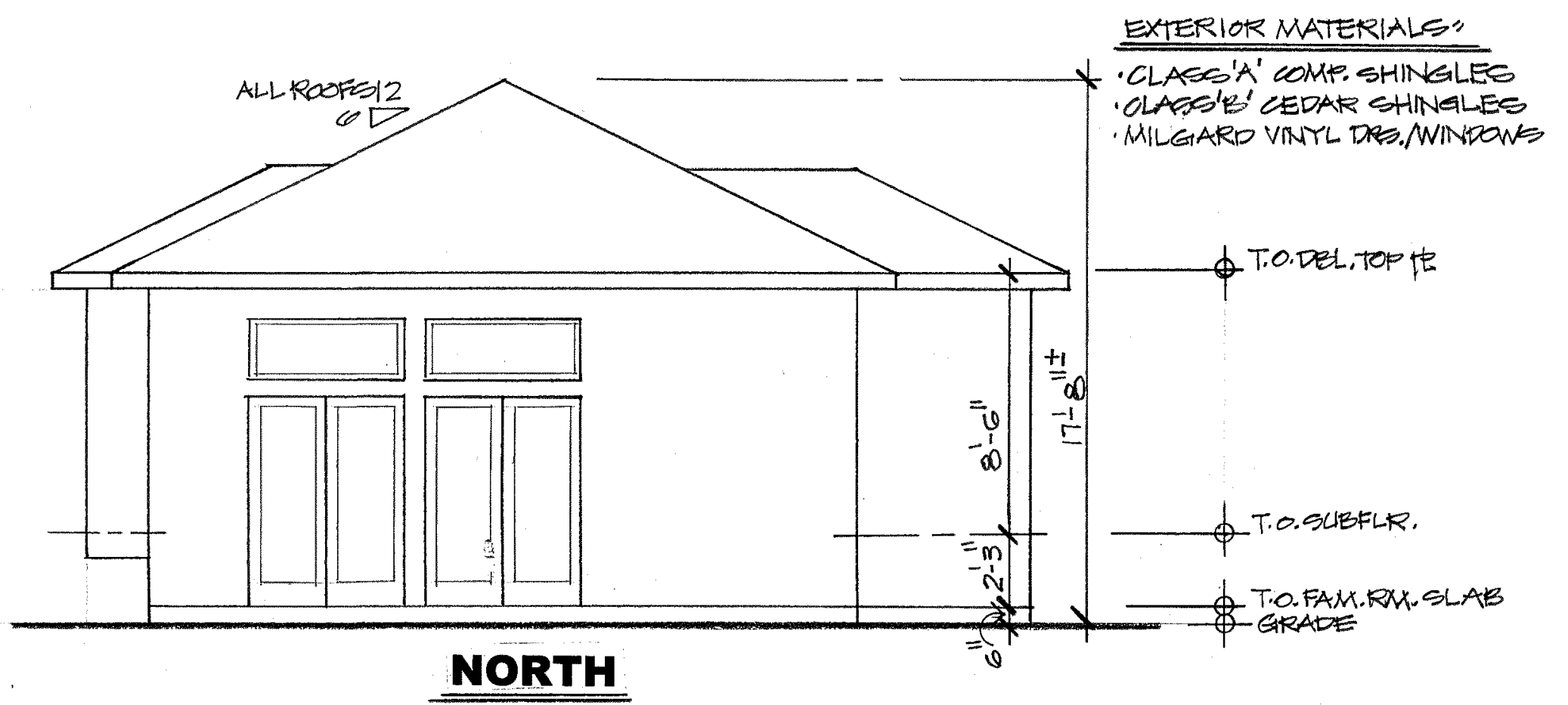
Design and Drawings by
RICHARD SLIE
257-7907 richslie@yahoo.com
1169 Eggleston St. Napa, Ca. 94559

INTERIOR REMODEL of the 1152 Church St. St. Helena, Ca. APN: 009-082-017
ASSERETO RESIDENCE

2



EXTERIOR ELEVATIONS
1/4"=1'-0"

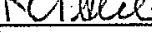


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INTERIOR REMODEL of the 1152 Church St. St. Helena, Ca. APN: 009-082-017
ASSERETO RESIDENCE

3

A. General Information					
01	Project Name:	ASSERETO RESIDENCE	02	Date Prepared:	8/14/17
03	Project Location:	1102 CHURCH ST.	04	Building Front Orientation (deg):	
05	CA City:	ST. HELENA	06	Number of Dwelling Units with Additions:	1
07	Zip Code:		08	Fuel Type:	
09	Climate Zone:		10	Total Conditioned Floor Area (ft ²) (Addition):	
11	Building Type:	Single Family	12	Slab Area (ft ²):	
13	Project Scope:	Addition: CFA =			

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT			
1. I certify that this certificate of Compliance documentation is accurate and complete.			
Documentation Author Name: RICHARD ELIE		Documentation Author Signature: 	
Company: 		Signature Date: 8/14/17	
Address: 1164 EGGLESTON ST.		CEA/HERS Certification Identification (if applicable): 	
City/State/Zip: NAPA, CA. 94559		Phone: 257-7907	
RESPONSIBLE PERSON'S DECLARATION STATEMENT			
I certify the following under penalty of perjury, under the laws of the State of California:			
1. The information provided on this Certificate of Compliance is true and correct.			
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).			
3. That the energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Parts 5 of the California Code of Regulations.			
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.			
5. I ensure that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.			
Responsible Designer Name: RICHARD ELIE		Responsible Designer Signature: 	
Company: 		Date Signed: 8/14/17	
Address: 1164 EGGLESTON ST.		License: 	
City/State/Zip: NAPA, CA. 94559		Phone: 257-7907	

[illegible]

April 2016

CFIR PAGES 3-5 AND 7-8 ARE NOT APPLICABLE TO THIS PROJECT

I. Fenestration Proposed Areas and Efficiencies																				
Notes: If meeting Exception 1 to 150.1(GA), installing 5 3R ² glass in door, it is assumed to meet the minimum required U-factor (0.32) & SHGC (0.25). If meeting Exception 1 to 150.1(GA), installing 5 3R ² tubular skylights, it is assumed to meet the minimum required U-factor (0.55) & SHGC (0.30).																				
01	02	03	04	05	06	07	08	09	10	11	12	13	14							
Tag#/D	Fenestration Type	Frame Type	Dynamic Glazing	Orientation N, S, W, E or Roof	Number of Panes	Proposed Fenestration Area ft ²	Proposed West Facing Fenestration Area ft ²	Proposed U-factor	Source	Proposed SHGC	Source	Exterior Shading Device	Combined SHGC from CF1R-ENV-03							
				NORTH EAST	2	31		.32		.25										
				EAST	2	32		.32		.25										
15	Total Proposed Fenestration Area											0.0								
16	Maximum Allowed Fenestration Area											75.0								
17	Compliance Statement		Total Proposed Fenestration Area ≤ Maximum Allowed Fenestration Area								☒ Yes	☐ No								
18	Total Proposed West-Facing Fenestration Area											0.0								
19	Maximum Allowed West-Facing Fenestration Area											60.0								
20	Compliance Statement		Total Proposed West-Facing Fenestration Area ≤ Maximum Allowed West-Facing Fenestration Area								☒ Yes	☐ No								
21	Proposed Fenestration U-factor (Windows)											0.000								
22	Required Fenestration U-factor (Windows)											0.320								
23	Compliance Statement		Proposed Fenestration U-factor ≤ Required Fenestration U-factor								☒ Yes	☐ No								
24	Proposed Fenestration SHGC (Windows)											0.000								
25	Required Fenestration SHGC (Windows)											0.250								
26	Compliance Statement		Proposed Fenestration SHGC ≤ Required Fenestration SHGC								☒ Yes	☐ No								
27	Proposed Fenestration U-factor (Skylights)											0.000								
28	Required Fenestration U-factor (Skylights)											0.320								
29	Compliance Statement		Proposed Fenestration U-factor ≤ Required Fenestration U-factor								☒ Yes	☐ No								
30	Proposed Fenestration SHGC (Skylights)											0.000								
31	Required Fenestration SHGC (Skylights)											0.250								
32	Compliance Statement		Proposed Fenestration SHGC ≤ Required Fenestration SHGC								☒ Yes	☐ No								

April 2016

[illegible]

	
	2016 Low-Rise Electrical Specialty Measures Summary
\$150.00M:J	Duct System Sealing and Air Filter Requirements. All ductwork systems that are forced-air used to supply cooling to an acceptable space must have a hole for the placement of a static pressure probe (SPSP), or a permanently installed static pressure probe (PSP) in the supply plenum. The space conditioning system also shall demonstrate airflow ≥ 250 CFM per net area of ceiling cavity covering the return air grille, and an air-balancing device shall be installed at each return air grille to ensure uniform distribution of air flow. In accordance with ASHRAE Appendix RA3.3. This applies to both single zone central air conditioning and room and energy zone for zonally controlled central forced air systems.
\$150.00O:K	Continuous Operation of Central Facility Air. All dwelling units must meet the requirements of ASHRAE Standard 92.3. Neither window operation nor continuous operation of central facility air unit handles used in central fan integrated ventilation systems are permissible methods of providing whole-building ventilation.
\$150.00Y:A	Verification and Diagnostic Testing. Whole-building ventilation airflow must be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.7.
	Pool and Spa Systems and Equipment Measures:
\$110.00G	Certification by Manufacturer. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency rating as determined by the American Efficiency Regulations; an on/off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproofed shut-off with control and operating instructions; and must not use electric components.
\$110.00I:H	Piping. Any pool or spa heating equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated return and return line, or built-in or built-up connections approved for future solar heating.
\$110.00O:G	Gases. Outdoor pools or spas that have a head pump tank must have a cover gas detector installed on the pump tank.
\$110.00F	Directional Intake Line Swallowing for Pools. Pools that have directional intake lines must have a cover gas detector installed on the pump tank that will allow all pumps to be set or programmed to run only during off-peak electricity demand periods.
\$110.00J	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
\$150.00Q	Pool Safety and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump listing, flow rate, piping, filters, and valves.
	Lighting Measures:
\$110.0	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.0.
\$110.00G	JAB High Efficiency Light Sources. To qualify as a JAB high efficiency light source for compliance with § 150.00A, a residential light source must be certified to the Energy Commission according to Reference Joint Appendix A&B.
\$150.00A:I	Luminaires Efficacy. All installed luminaires must be high efficacy in accordance with TABLE 150.00A(1).
\$150.00B	Electrical Loads. The number of electrical loads connected to a branch circuit serving the first floor and do not contain a luminaire or other device must not be greater than the number of bedroom rooms. These electrical boxes must be served by a dimmer, vacancy sensor circuit, or fan speed control.
\$150.00C:I	Reduced Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for installation control (IC) labeling; air leakage; sealing; maintenance; and control and sight light sources as described in § 150.00C(1). A JAB-2016 light source rated for adequate temperature must be installed by field inspection in all recessed downlight luminaires in ceilings.
\$150.00D	Electronic Ballast Requirements. Electronic ballasts must be labeled with a minimum output frequency and have an output frequency no less than 20 kHz.
\$150.00E	Nights. Permanently installed night lights and night lights integral to installed luminaires or exhaust fans must be used to ensure no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with § 150.00N. Night lights do not need to be controlled by vacancy sensors.
\$150.00F	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except where installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.00A.
\$150.00G	Screw-Based Luminaires. Screw-based luminaires must not be recessed downlight luminaires in ceilings and must contain labels that comply with references Joint Appendix A&B. Installed types must be marked with "JAB-2016-I" or "JAB-2016-II" as specified in Reference Joint Appendix A&B.
\$150.00H:I	Enclosed Luminaires. Light sources installed in enclosed luminaires must be JAB compliant and must be marked with "JAB-2016-I".
\$150.00A:Z	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SS.7A.
\$150.00B:Z	Interior Switches and Controls. Luminaires must be switched separately from lighting systems."
\$150.00C:G	Interior Switches and Controls. Luminaires must be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
\$150.00D:Z	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
\$150.00E:Z	Interior Switches and Controls. No control must bypass a dimmer or vacancy sensor function if the control is installed to comply with § 150.00A.
\$150.00F:Z	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.0.
\$150.00G:Z	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with dimmer requirements I: § 150.00A, and II: § 150.00B, and to comply with the Emergency Lighting Certificate requirements of § 130.0, meets all EMCS all of § 150.00L, and meets all other requirements in § 150.00U.
\$150.00H:Z	Interior Switches and Controls. An EMCS may be used to comply with vacancy sensor requirements in § 150.00H(I) if it meets all of the following: it conforms to a UL listed vacancy sensor according to § 110.0; its installation complies with requirements of § 130.0; it EMCS requires § 150.00L, and all other requirements in § 150.00K.
\$150.00I:Z	Interior Switches and Controls. A multiscene programming controller may be used to comply with dimmer requirements in § 150.00H(I) if it meets all of the following: it conforms to a UL listed scene controller according to § 110.0; its installation complies with requirements of § 130.0; it EMCS requires § 150.00L, and all other requirements in § 150.00K.

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PLANNING COMMISSION REPORT

Planning Commission Meeting of November 7, 2017

AGENDA SECTION: Public Hearing

FILE NUMBER: PL17-020

SUBJECT: The Driscoll Residence Project includes a request for a Demolition Permit ,Design Review, and Use Permit to demolish an existing single family residence and construct a new single family residence and detached garage at 1727 Scott Street consistent with the small lot development standards and in the Medium Density Residential Zoning District.

PREPARED BY: Lilly Bianco, Contract Planner

REVIEWED BY: Noah Housh, Planning & Community Improvement Director

APPROVED BY: Noah Housh, Planning & Community Improvement Director

APPLICATION FILED:03/03/17

ACCEPTED AS COMPLETE:05/20/17

LOCATION OF PROPERTY: 1727 Scott Street

APN: 009-292-014

GENERAL PLAN/ZONING: Medium Density Residential: MDR

APPLICANT: George Bevan &
Associates

PHONE: (415) 722-9217

BACKGROUND

On June 6, 2017, the Planning Commission heard the Driscoll Residence project. As ***originally*** proposed, the project involved a request for Demolition Permit, Design Review, and Use Permit to demolish an existing 1225 sq-ft single family residence (SFR) constructed c.1960 and construct a new 2,000 sq-ft two-story single family residence and detached garage with accessory dwelling above and on a 5,662 sq-ft lot and consistent with small lot development standards.

After deliberating on the merits of the project and taking public comment, the Planning Commission voted unanimously to continue the project for redesign. The Planning Commission directed the applicant to re-design the project to address concerns related to massing, siting, and privacy concerns. Suggestions as to how the applicant may address said concerns included the following:

- Decrease Square footage
- Increase (side) setbacks
- Shift garage to increase side setback
- Address privacy concerns and site lines from second story windows
- Reconsider roofline design and whether modifications can be made to further reduce massing.

PROJECT DESCRIPTION

In response to Planning Commission direction, the applicant has revised the project as follows:

Massing

- The main volume is a 1.5 story height instead of a full two story volume to create a less vertical wall surface and more sloping rooflines that elongate the house and reduce perceived massing.
- Removed upstairs dwelling unit over detached garage thereby reducing height and prominence of garage.
- Reduced depth and roof pitch of porch roof
- Replaced stair tower with shed dormer

Overall Aesthetic

- Introduced less modern elements and softer traditional aesthetic to be more in keeping with the overall residential character of St. Helena neighborhoods.

Privacy

- Removal of accessory dwelling unit above garage addresses privacy concerns associated with 1735 Scott
- Project conditioned to provide greater level of vegetative screening along east side yard to enhance privacy between proposed residence and neighboring property

Setbacks and Siting

- The main house still maintains an 35'10" setback from front property line
- Side setbacks revised to be 8+ feet along east side yard and 7+ feet along west side yard.

Asrevised, the project includes a request to demolish the existing 1225 sq-ft single family residence (SFR) constructed c.1960 and construct a new 1966 sq-ft SFR (exclusive of exempt basement area) and detached 228 sq-ft garage (200 sq-ft of which is exempt) for a total non-exempt square footage of 1994 sq-ft (1966 sq-ft + 28 sq-ft). Proposed materials for the residence consist of 6" tongue and groove wood siding, painted or stained with dark metal standing seam roofing and warm tones for trim and accent colors. The proposed residence would feature traditional farm/ranch house design features and material and would be capped with gabled roofs. Landscape will be a simplified palette of native ornamental grasses, evergreen hedges and gravel pathways. The applicant has requested a Demolition Permit (needed to demo existing house), Design Review (needed to approve design of new residence), and Use Permit (needed to apply small lot development standards).

ANALYSIS

GENERAL PLAN

The subject property exhibits a General Plan Land Use designation of Medium Density Residential. This land use designation allows single family detached and attached homes, secondary residential units, and other compatible uses including accessory structures. The Medium density residential land use designation serves as the predominant residential land use designation and is intended to perpetuate the existing development patterns exhibited by St. Helena's established neighborhoods.

Relevant General Plan policies include:

4.3.4 Strengthen community identity by appropriate building design, size, and site landscaping.

4.3.5 Require future residential development to conform to the pattern and density of older, neighboring areas of town in order to complement existing town character and ensure that densities are high enough to protect against unnecessary incursion into Vineyard agricultural areas

4.3.25 Within the primary urban area of St. Helena, encourage variety in housing types and density consistent with those found in the older neighborhoods of town. Encourage varying lot widths and configuration, but limit the allowable building envelope by parcel size to avoid overbuilt conditions

4.3.26 Encourage residential building siting and design that is similar to that found in the older neighborhoods in town. In these areas consistent setbacks, porches, and generously landscaped front yards add to community enjoyment by all. Restrict location of driveways and garages to minimize their visual impact on the street.

4.4.3 Driveways and garages should be as unobtrusive as possible, with garages preferably located at the rear of the lot.

Staff Analysis:

As revised, the proposed residence would feature quality materials and design which is more similar to the traditional residential development exhibited throughout St. Helena. Building massing would concentrate at the center/rear of the property as well as feature multiple gabled rooflines to break up the visual mass, elongate the perceived mass and encourage a greater level of compatibility. The project would also employ design elements such as open patios, front and rear porches, and trellises, bringing light and views through. While located at the front of the property, the garage would be a one car garage and limited to 13'5" in height, as measured from average grade. The garage would be visually subordinate to the primary residence and visually tied in with it, both in terms of siding materials and fenestration. For those reasons, staff supports the proposed garage placement and design meets the intent of the General Plan policies which encourage limiting the visual intrusion of garages and de-emphasizing their visual presence.

ZONING

Consistent with the GP land use designation, 1727 Scott Street exhibits a zoning designation of MR: Medium Density Residential. The MR Zoning District allows for residential construction and accessory structures insofar as they conform to the development standards prescribed by Municipal Code Section 17.40.060 and Section 17.116.010. Because the subject lot does not exhibit the typical characteristics exhibited by an MDR lot and is measurably smaller (i.e. 5,653 sq-ft) and narrower (i.e 49' 93") than a typical MDR Lot, the applicant has requested to employ the Small Lot Development Standards prescribed by Code Section 17.112.090, which may be authorized subject to a conditional use permit. As detailed below, the project exhibits an FAR within the maximum allowed and meets all other applicable standards prescribed under the Small Lot Development Standards.

FLOOR AREA RATIO**NET FLOOR AREA:**

AIR CONDITIONED SPACE 1966 SF (1,296 SQ-FT LL; 670 SQ-FT UP)

BASEMENT 866 SF

BASEMENT EXEMPTION - 866 SF

Covered Parking 228 SF

COVERED PARKING EXEMPTION - 200 SF

TOTAL 1994 SF

FLOOR AREA RATIO: $1994 / 5653 = 0.353$ (Max allowable is 0.354)

SMALL LOT STANDARDS COMPARISON TABLE

STANDARD	MDR	SMALL LOTS	PROPOSED
Lot size	7,000 sq-ft	4,000 - 6,999 sq-ft	5,653 sq-ft
Lot width	70 ft.	42 ft.	49' 93"
Setback- Front	20 ft.	20 ft.	21+ ft.
Setback-Side yard	10 ft.	5 ft.	7+ ft. 8+ ft.
Setback- Rear	20 ft.	20 ft.	20 ft.
Height	25 ft. – 30 ft.	30 ft.	23 '11"
Lot Coverage	45% (3,150 sq-ft)		26.6% (1,626 sq-ft)

In order to authorize Small lot development, a project must meet the following parameters prescribed by Code Section 17.112.090. The standards are enumerated below and followed by Staff's Response in *Italic* typeface.

A. The minimum lot size shall be four thousand (4,000) square feet.

The lot is 5,653 sq-ft and is therefore within that allowed under the small lot standards and well below that typical of an MDR lot (7000 sq-ft)

B. The minimum lot width shall be forty-two (42) feet except that the lot width may be reduced to not less than thirty-five (35) feet for attached zero lot line dwellings. A lot width greater than the minimum may be required when the lot fronts on an arterial or collector as designated in the circulation element of the general plan.

The lot is approximately 50' wide and below that considered typical of MDR Lots (70 ft)

C. Not less than eighteen (18) feet of continuous full height curb shall be provided along the public street in front of each lot, with the length established by an extension of the side lot lines to the curb. This provision is intended to provide additional parking between driveways. A curb length greater than the minimum may be required when the lot fronts on an arterial or collector as designated in the circulation element of the general plan.

There is already curb in front of the existing lot.

D. A front and side setback of fifteen (15) feet shall be observed for one story and twenty (20) feet for two or more stories (see Chapter 17.120 of this title for driveway standards: generally twenty-four (24) feet in length) except for the interior, common lot line of an attached zero lot line dwelling.

The proposed residence will be two stories in height and would exhibit a front setback of 35'10" with garage at 21'6" and rear setback of 20' to trellis (28+ feet to exterior stem wall) which meets or exceeds that required under the small lot standards and applicable to two-story residences.

E. Side yards shall have a minimum width of five feet, except for a zero lot line dwelling which may be located immediately adjacent to the side property line; provided, however, that a minimum separation of ten (10) feet (at all points) be maintained between dwellings.

As detailed on plans, the project will feature side yard setbacks of 7+ feet along west side yard and 8+ feet along east side yard.

F. On a lot with a zero lot line dwelling, any side yard opposite any zero side yard shall have a minimum width of ten (10) feet. To insure light and air and to improve its overall design and appearance, the height of the wall, parapet wall or roof eaves on the side property line shall not exceed eighteen (18) feet at any point; above this point, the building shall not encroach into a 1:1 building plane starting eighteen (18) feet above the zero side yard.

No zero lot line dwelling is proposed and therefore, this provision is not applicable.

G. Conditions, covenants and restrictions (CC&R's) permitting access for inspection, maintenance or repair to any zero lot line wall and insuring that the side yard opposite a zero side yard remain essentially open (e.g., prohibiting parking, storage, accessory buildings, etc.) shall be required.

no zero lot line is proposed.

H. On-site parking shall be provided in accord with the parking and loading requirements contained in Chapter 17.124.

The site will feature one covered parking space and one uncovered space.

I. Except as provided above, all other regulations of the underlying district and this title shall apply to small lot developments.

The project meets all other applicable development standards.

J. A fence or hedge of up to six feet in height which meets the requirements for visibility at driveways or intersections may be located within ten (10) feet of the property line in the required front or side setback with Design Review approval. Such approval may be sought at the initial time of approval of a small lot development or by individual homeowners after the establishment of a small lot development if such fences or hedges were not installed in conjunction with the initial establishment of a small lot development. (Prior code § 27.219)

This is not applicable.

Staff Analysis:

As detailed, above, the project meets the Zoning requirements and Small Lot Development Standards. These findings will be reinforced and supported by appropriate conditions of approval.

DEMOLITION PERMIT

Zoning Code Section 17.164.050 Applicability (of Design Review) specifies that “...no permit authorizing the demolition of any building within any zoning district shall be issued until approved by the Planning Commission in accordance with the following findings:

1. That, based on the public record and testimony presented at a public hearing, the building is determined not to be a significant architectural or historical building.

The property is not listed on the City’s Master Historic Resource list and there is nothing that would otherwise indicate that it may be a potentially significant historic resource.

2. That the demolition does not eliminate elements that are required to maintain the essential character of the neighborhood;

The existing residence is very simple in form and does not exhibit a character that is particularly unified with the streetscape or greater neighborhood. That being the case, the existing residence does not exhibit elements that are required to maintain the essential character of the neighborhood.

3. That design review of the proposed replacement structure is approved prior to approval of the demolition of a housing structure.

The project is subject to Design Review approval and any demolition permit approval is contingent upon the Design Review Approval of the proposed new residence.

DESIGN REVIEW

The purpose of design review is to, among other things, promote the qualities that bring value to the community and foster attractiveness and functional utility of the community as a place to live and work. The Planning Commission must find that the proposed project reasonably accounts for the design criteria prescribed by Section 17.164.030 (detailed below) and exhibits a quality of design that is compatible with adjacent development, features a siting, scale, massing and architectural style that is generally consistent with the predominant development patterns, and that does not otherwise detract or negatively affect the established character of the surrounding neighborhood. Consistency findings related to the Design Review Criteria are enumerated, below.

Design Review Criteria.

1. Consistency and compatibility with applicable elements of the general plan.

As detailed above, the project would exhibit overall consistency with the General Plan.

2. Compatibility of design with the immediate environment of the site;

Scott Street exhibits a variety of housing spanning from more traditional one-story homes dating to the early twentieth century and a number of modern homes dating to the past several years. The project site is immediately bordered on one side by a more traditional one-story residence and on the other side by a modern two-story home that

exhibits a similar scale and massing to that proposed. The revised design is of a more traditional aesthetic (relative to the original design) and more compatible with the general character exhibited throughout St. Helena neighborhoods. Further, it employs design measures such as concentrating massing towards the rear and including elements to help break of the wall planes to ease the transition and help ensure compatibility with the overall aesthetic of the streetscape.

3. Relationship of the design to the site;

Given the site constraints, the proposed project maintains an appropriate relationship to the site. As detailed by the applicant, to accommodate the new residence on the lot they are requesting small lot standards be allowed and reduced side setbacks be authorized. However, they have employed measures to ensure the project maintains a good relationship to the site and streetscape, namely, that the project will step back taller portions of the building and concentrate it in the middle of the site, it will also feature a number of major rooflines and include open patios, front and rear, porches and trellising to reduce the perceived massing and improve interaction with the street. In addition, the revised design has removed the accessory dwelling above the garage, increased side setbacks, reduced the main volume of the house by a ½ story, and reduced depth and pitch of roof porch to ensure the proposed residence is appropriate for the subject site.

4. Determination that the design is compatible in areas considered by the board as having a unified design or historical character;

Scott Street is not recognized as having a unified design or historical character.

5. Whether the design promotes harmonious transition in scale and character in areas between different designated land uses;

The proposed work would not alter the scale or transition between different land uses.

6. Compatibility with future construction both on and off the site;

Scott Street exhibits a variety of residential housing styles, a number of which are of more modern construction. Given that, the project is expected to blend in with the existing and future construction in the immediate neighborhood.

7. Whether the architectural design of structures and their materials and colors are appropriate to the function of the project;

The proposed design and materials are of a quality, color palette, and type that are appropriate for the residential nature of the project and would be consistent with the site and its surroundings. The revised design features more traditional architecture that is appropriate to the function of the project.

8. Whether the planning and siting of the various functions and buildings on the site create an internal sense of order and provide a desirable environment for occupants, visitors and the general community;

The spatial organization of the proposed residence and associated features will be typical of residential site development and are expected to promote an internal sense of

order and provide a desirable environment for occupants and neighbors. Privacy of neighboring properties is prioritized through the removal of the above-garage accessory dwelling unit and compliance with conditions of approval specifying additional vegetative screening.

9. Whether the amount and arrangement of open space and landscaping are appropriate to the design and the function of the structures;

The landscaping proposed is consistent with the residential character of the project.

10. Whether sufficient ancillary functions are provided to support the main functions of the project and whether they are compatible with the project's design concept;

The proposed residence will feature a detached garage to accommodate the covered parking needs of the primary residence.

11. Whether access to the property and circulation systems are safe and convenient for pedestrians, cyclists and vehicles;

No changes to access are proposed as part of the project; however, per condition of approval, the applicant will be required to introduce ADA compliant driveway and sidewalk improvements consistent with City of St. Helena standards.

12. Whether natural features are appropriately preserved and integrated with the project;

The few mature trees on the site, including the walnut trees, will be retained.

13. Whether the materials, textures, colors and details of construction are an appropriate expression of its design concept and function and whether they are compatible with the adjacent and neighboring structure and functions;

As revised the proposed residence features a more traditional aesthetic which is consistent with residential architecture and compatible with surrounding residential design employed throughout the City of St. Helena.

14. In areas considered by the board as having a unified design character or historical character, whether the design is compatible with such character;

Scott Street is not recognized as having a unified design or historical character.

15. Whether the landscape design concept for the site, as shown by the relationship of plant masses, open space, scale, plant forms and foliage textures and colors create a desirable and functional environment and whether the landscape concept depicts an appropriate unity with the various buildings on the site;

The proposed landscaping would consist of a variety of trees, shrubs, perennials, and grasses which would complement the proposed residential development and soften the look of the new construction and help it blend in with surroundings.

16. Whether plant material is suitable and adaptable to the site, capable of being properly maintained on the site, and is of a variety which is suitable to the climate of St. Helena;

The proposed landscaping is appropriate for the climate of St. Helena.

17. Whether sustainability and climate protection are promoted through the use of green building practices such as appropriate site/architectural design, use of green building materials, energy efficient systems and water efficient landscape materials.

The project will be conditioned to comply with all Title 24 standards and would achieve required energy metrics.

USE PERMIT

Per Zoning Code Section 17.40.030, application of the small lot development standards is subject to a conditional use permit. The purpose of a use permit is to allow the proper integration of essential or desirable uses which may be suitable only in certain locations or zoning districts in the City, or to ensure that such uses are designed or arranged on the site in a particular manner. In its review of applications for use permits, the Planning Commission shall evaluate each proposed use in order to consider its impact on the City. Pursuant to Municipal Code Section 17.168 050, no use permit shall be granted unless the following findings can be made:

1. That the proposed use would not generate odors, fumes, dust, light, glare, radiation or refuse that would be injurious to surrounding uses or to the community.

As a SFR, the project would not be injurious to surrounding uses or the community.

2. That the proposed use would not generate levels of noise that adversely affect the health, safety, or welfare of neighboring properties or uses.

The project would generate noise typical of a single family residential land use and would not be expected to cause excessive noise levels.

3. That the proposed use would not generate traffic noise in excess of the "normally acceptable" range identified in the General Plan.

The project would generate traffic at a level typical of a single family household and is not expected to generate traffic noise above the normally acceptable range.

4. That the proposed use would not make excessive demands on the provision of public services including water supply, sewer capacity, energy supply, communication facilities, police protection, and fire protection.

As a SFR replacing an existing SFR and in an area already well served by public services, the project is not expected to make excessive demands on public services or utilities.

5. That the proposed use would provide adequate ingress and egress to and from the proposed location.

As conditioned, the project would be accessible from the street in a manner that is ADA compliant and consistent with Building and Fire Codes. Therefore, the project provides adequate ingress and egress.

6. That allowing the proposed use would not conflict with the City's goal of maintaining the economic viability of a local serving economy.

The project will replace an existing SFR with a new SFR and is not expected to inhibit the economic viability of a local serving economy.

7. That the proposed use would be compatible with surrounding land uses and would not conflict with the purpose established for the district within which it would be located.

No change in land use is proposed and the zoning of the site would remain consistent with the MDR District.

8. That the proposed use would not be in conflict with the City's General Plan.

The project would exhibit overall consistency with the General Plan. It is noted that General Plan policies 4.3.26 and 4.4.3 encourage siting garages as inconspicuously as possible and limiting their visual impact. The garage has been reduced in size and the accessory dwelling above removed thereby reducing its visibility and prominence relative to the primary residence. As such, the garage achieves the intent of the GP policies by limiting the visual impact of the garage.

9. That the proposed use would not be injurious to public health, safety, or welfare.

As a SFR in what is a residential area and which is consistent with development standards, it is not expected to be injurious to health, safety, or welfare.

10. That granting the use permit would not set a precedent for the approval of similar uses whose incremental effect would be detrimental to the City or would be in conflict with the General Plan.

All use permit applications are considered individually and based on the merits of the individual project. As such, approval of a use permit needed to recognize the subject property as a small lot would not be detrimental to the City or conflict with the General Plan.

11. That, as demonstrated on a detailed plan submitted by the applicant, adequate off-street parking to accommodate the long term parking needs of employees and business owners and customers is available.

The SFR will provide one covered and one uncovered space as required under the Code.

12. That the capacity of surrounding streets is adequate to serve the automobile and delivery truck traffic generated by the proposed use.

The proposed use would not generate a level or type of traffic that surrounding streets are not equipped to handle.

WATER

Chapter 13.12.050 of the Municipal Code sets forth minimum water efficiency requirements for new development. Amongst these provisions is the requirement that any “new development” (i.e. construction that would introduce any freestanding building that contains water-using fixtures, any floor area additions to existing nonresidential structures; or any residential additions or remodeling that increases the number of independent living units) offset new demand by an amount of water equal to the new demand on the city water system using the methodology defined in Section 13.12.050. The offset must be clearly demonstrated, to the satisfaction of the Director of Public Works.

The project applicant has provided a theoretical Water Neutrality Analysis (Attachment 4, Sheet WN-1). According to the analysis, the anticipated daily proposed use would be approximately 279 gallons per day (gpd), which is below the assumed current usage of 300gpd and therefore exceeds the requirements of the water neutrality requirements.

ISSUES

While issues were raised in public comment and by Planning Commissioners at the June 6th Hearing, those issues have been responded to and addressed in the resubmittal as detailed, above. No outstanding or new issues have been identified.

CORRESPONDENCE

No comments have been received as of the writing of this staff report.

STAFF RECOMMENDATION

The Planning and Community Improvement Department recommends that the Planning Commission adopt a resolution finding that:

1. The project is exempt from the requirements of CEQA pursuant to CEQA Section 15301 and 15303, and
1. Accepting the required findings and approve the requested Demolition permit, Use Permit, and Design Review for the Driscoll Residence, located at 1727 Scott St.

ATTACHMENTS

[1727 Scott ATTCH 1. Resolution](#)

[1727 Scott ATTCH 2. APN Map](#)

[1727 Scott ATTCH 3. Aerial View](#)

[1727 Scott ATTCH 4. Revised Project Plans](#)

CITY OF ST. HELENA PLANNING COMMISSION

RESOLUTION NO.

**RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ST. HELENA
GRANTING APPROVAL OF DESIGN REVIEW
FOR THE DRISCOLL RESIDENCE LOCATED AT 1727 SCOTT STREET**

PROPERTY OWNER: Brian and Kim Driscoll

APN: 009-292-014

Recitals

1. George Bevans & Associates submitted an application requesting a Demolition Permit, Design Review, and Use Permit to demolish an existing single family residence and construct a new single family residence and detached garage at 1727 Scott Street consistent with the Small Lot Development standards and in the Medium Density Residential Zoning District.
2. A staff report dated November 7, 2017 and incorporated herein by reference analyzed the projects consistency with the Demolition Criteria enumerated in Section Code Section 17.164.050, Design Criteria enumerated in Section 17.164.030, and Use Permit criteria enumerated in Section 17.168 050 of the Zoning Code, and
3. the Planning Commission of the City of St. Helena, State of California, considered the project, staff report, and all testimony, written and spoken, at a duly noticed public hearing on November 7, 2017, and
4. Now, therefore let it be found that, the Planning Commission approves the Demolition permit, Design Review permit, and Use permit and authorizes the modifications contained in said plans based on the findings below and subject to the conditions of approval enumerated herein.

Resolution

- A. The project is exempt from the requirements of CEQA pursuant to Section 15301(L)(1) and 15303(A) which exempts demolition of an existing single family residence and the construction of a new single family residence. The proposed project is not subject to any of the exceptions to the use of a categorical exemption as outlined in CEQA Section 15300.2. The project site is not located on or near an environmentally sensitive area, is not visible from a scenic highway, is not included on a hazardous waste site, and will not impact historic resources or otherwise generate or contribute to any potentially significant impacts

B. DEMOLITION PERMIT

Zoning Code Section 17.164.050 Applicability (of Design Review) specifies that "...no permit authorizing the demolition of any building within any zoning district shall be issued until approved by the Planning Commission in accordance with the following findings:

1. That, based on the public record and testimony presented at a public hearing, the building is determined not to be a significant architectural or historical building.

The property is not listed on the City's Master Historic Resource list and there is nothing that would otherwise indicate that it may be a potentially significant historic resource.

2. That the demolition does not eliminate elements that are required to maintain the essential character of the neighborhood;

The existing residence is very simple in form and does not exhibit a character that is particularly unified with the streetscape or greater neighborhood. That being the case, the existing residence does not exhibit elements that are required to maintain the essential character of the neighborhood.

3. That design review of the proposed replacement structure is approved prior to approval of the demolition of a housing structure.

The project is subject to Design Review Approval and any demolition permit approval is contingent upon the Design Review Approval of the proposed new residence.

C. DESIGN REVIEW

The purpose of design review is to, among other things, promote the qualities that bring value to the community and foster attractiveness and functional utility of the community as a place to live and work. The Planning Commission must find that the project reasonably accounts for the design criteria prescribed by Section 17.164.030 (detailed below) and exhibits a quality of design that is compatible with adjacent development, features a siting, scale, massing and architectural style that is generally consistent with the predominant development patterns, and that does not otherwise detract or negatively affect the established character of the surrounding neighborhood. Consistency findings related to the Design Review Criteria are enumerated, below.

Design Review Criteria.

1. Consistency and compatibility with applicable elements of the general plan.
The project would exhibit overall consistency with the General Plan in that the project would feature an appropriate building design, size, and siting and would be of a traditional aesthetic that is consistent with the overall character exhibited throughout St. Helena's residential neighborhoods.

2. Compatibility of design with the immediate environment of the site;
Scott Street exhibits a variety of housing spanning from more traditional one-story homes dating to the early twentieth century and a number of modern homes dating to the past several years. The project site is immediately bordered on one side by a more traditional one-story residence and on the other side by a modern two-story home that exhibits a similar scale and massing to that proposed. The revised design is of a more traditional aesthetic and compatible with and typical of the general character exhibited throughout St. Helena neighborhoods. Further, it employs design measures such as concentrating massing towards the rear and including elements to help break of the wall planes to ease the transition and help ensure compatibility with the overall aesthetic of the streetscape.
3. Relationship of the design to the site;
Given the site constraints, the proposed project maintains an appropriate relationship to the site. As detailed by the applicant, to accommodate the new residence on the lot they are requesting small lot standards be allowed and reduced side setbacks be authorized. To ensure the project maintains a good relationship to the site and streetscape, namely, that the project will step back taller portions of the building and concentrate it in the middle of the site, it will also feature a number of major rooflines and include open patios, front and rear, porches and trellising to reduce the perceived massing and improve interaction with the street. In addition, the revised design has removed the accessory dwelling above the garage, increased side setbacks, reduced the main volume of the house by a ½ story, and reduced depth and pitch of roof porch to ensure the proposed residence is appropriate for the subject site.
4. Determination that the design is compatible in areas considered by the board as having a unified design or historical character;
Scott Street is not recognized as having a unified design or historical character.
5. Whether the design promotes harmonious transition in scale and character in areas between different designated land uses;
The proposed work would not alter the scale or transition between different land uses.
6. Compatibility with future construction both on and off the site;
Scott Street exhibits a variety of residential housing styles, a number of which are of more modern construction. Given that, the project is expected to blend in with the existing and future construction in the immediate neighborhood.
7. Whether the architectural design of structures and their materials and colors are appropriate to the function of the project;
The proposed design and materials are of a quality, color palette, and type that are appropriate for the residential nature of the project and would be consistent with the site and its surroundings. The revised design features more traditional architecture that is appropriate to the function of the project.

8. Whether the planning and siting of the various functions and buildings on the site create an internal sense of order and provide a desirable environment for occupants, visitors and the general community;
The spatial organization of the proposed residence and associated features will be typical of residential site development and are expected to promote an internal sense of order and provide a desirable environment for occupants and neighbors. Privacy of neighboring properties is prioritized through the removal of the above-garage accessory dwelling unit and compliance with conditions of approval specifying additional vegetative screening.
9. Whether the amount and arrangement of open space and landscaping are appropriate to the design and the function of the structures;
The landscaping proposed is consistent with the residential character of the project.
10. Whether sufficient ancillary functions are provided to support the main functions of the project and whether they are compatible with the project's design concept;
The proposed residence will feature a detached garage to accommodate the covered parking needs of the primary residence.
11. Whether access to the property and circulation systems are safe and convenient for pedestrians, cyclists and vehicles;
No changes to access are proposed as part of the project; however, per condition of approval, the applicant will be required to introduce ADA compliant driveway and sidewalk improvements consistent with City of St. Helena standards.
12. Whether natural features are appropriately preserved and integrated with the project;
The few mature trees, including walnut trees, would be retained.
13. Whether the materials, textures, colors and details of construction are an appropriate expression of its design concept and function and whether they are compatible with the adjacent and neighboring structure and functions;
As revised the proposed residence features a more traditional aesthetic which is consistent with residential architecture and compatible with surrounding residential design employed throughout the City of St. Helena.
14. In areas considered by the board as having a unified design character or historical character, whether the design is compatible with such character;
Scott Street is not recognized as having a unified design or historical character.
15. Whether the landscape design concept for the site, as shown by the relationship of plant masses, open space, scale, plant forms and foliage textures and colors create a desirable and functional environment and whether the landscape concept depicts an appropriate unity with the various buildings on the site;
The proposed landscaping would consist of a variety of trees, shrubs, perennials, and grasses which would complement the proposed residential development and soften the look of the new construction and help it blend in with surroundings.

16. Whether plant material is suitable and adaptable to the site, capable of being properly maintained on the site, and is of a variety which is suitable to the climate of St. Helena;

The proposed landscaping is appropriate for the climate of St. Helena.

17. Whether sustainability and climate protection are promoted through the use of green building practices such as appropriate site/architectural design, use of green building materials, energy efficient systems and water efficient landscape materials.

The project will be conditioned to comply with all Title 24 standards and would achieve required energy metrics.

D. USE PERMIT

Per Zoning Code Section 17.40.030, application of the small lot development standards is subject to a conditional use permit. The purpose of a use permit is to allow the proper integration of essential or desirable uses which may be suitable only in certain locations or zoning districts in the City, or to ensure that such uses are designed or arranged on the site in a particular manner. In its review of applications for use permits, the Planning Commission shall evaluate each proposed use in order to consider its impact on the City. Pursuant to Municipal Code Section 17.168 050, no use permit authorizing the application of small lot standards may be granted unless the following findings can be made:

1. That the proposed use would not generate odors, fumes, dust, light, glare, radiation or refuse that would be injurious to surrounding uses or to the community.

As a SFR, the project would not be injurious to surrounding uses or the community.

2. That the proposed use would not generate levels of noise that adversely affect the health, safety, or welfare of neighboring properties or uses.

The project would generate noise typical of a single family residential land use and would not be expected to cause excessive noise levels.

3. That the proposed use would not generate traffic noise in excess of the "normally acceptable" range identified in the General Plan.

The project would generate traffic at a level typical of a single family household and is not expected to generate traffic noise above the normally acceptable range.

4. That the proposed use would not make excessive demands on the provision of public services including water supply, sewer capacity, energy supply, communication facilities, police protection, and fire protection.

As a SFR replacing an existing SFR and in an area already well served by public services, the project is not expected to make excessive demands on public services or utilities.

5. That the proposed use would provide adequate ingress and egress to and from the proposed location.

As conditioned, the project would be accessible from the street in a manner that is ADA compliant and consistent with Building and Fire Codes. Therefore, the project provides adequate ingress and egress.

6. That allowing the proposed use would not conflict with the City's goal of maintaining the economic viability of a local serving economy.

The project will replace an existing SFR with a new SFR and is not expected to inhibit the economic viability of a local serving economy.

7. That the proposed use would be compatible with surrounding land uses and would not conflict with the purpose established for the district within which it would be located.

No change in land use is proposed and the zoning of the site would remain consistent with the MDR District.

8. That the proposed use would not be in conflict with the City's General Plan.

The project would exhibit overall consistency with the General Plan. It is noted that General Plan policies 4.3.26 and 4.4.3 encourage siting garages as inconspicuously as possible and limiting their visual impact. The garage has been reduced in size and the previously proposed accessory dwelling above, has been removed, thereby reducing its visibility and prominence relative to the primary residence. As such, the project achieves the intent of the GP policies.

9. That the proposed use would not be injurious to public health, safety, or welfare.

As a SFR in what is a residential area and which is consistent with development standards, it is not expected to be injurious to health, safety, or welfare.

10. That granting the use permit would not set a precedent for the approval of similar uses whose incremental effect would be detrimental to the City or would be in conflict with the General Plan.

All Use permit applications are considered individually and based on the merits of the individual project. As such, approval of a Use permit needed to recognize the subject property as a small lot would not be detrimental to the City or conflict with the General Plan.

11. That, as demonstrated on a detailed plan submitted by the applicant, adequate off-street parking to accommodate the long term parking needs of employees and business owners and customers is available.

The SFR will provide one covered and one uncovered spaces as required under the Code.

12. That the capacity of surrounding streets is adequate to serve the automobile and delivery truck traffic generated by the proposed use.

The proposed use would not generate a level or type of traffic that surrounding streets are not equipped to handle.

- E. Now therefore be it further resolved** that, the Demolition permit, Design Review permit, and Use permit for the above described project is granted subject to compliance with all applicable provisions of the Zoning Code subject to each of the following conditions.

Conditions of Approval

1. The Permit shall be in conformance with all City ordinances, rules, regulations and policies in effect at the time of issuance of a building permit. The conditions noted below are particularly pertinent to this permit and shall not be construed to permit violation of other laws and policies not so listed.
2. The plans submitted for building permit review shall be in substantial conformance with the plans approved by the Planning Commission on November 7, 2017, except as modified by the following conditions.
3. The Demolition Permit, Design Review Permit, and Use permit shall be vested within one (1) year from the date of approval. A building permit for the activities allowed under this approval shall have been obtained within one (1) year from the effective date of the decision or these approvals shall expire; provided however that the approved permits may be extended for up to two (2) one-year periods pursuant to the St. Helena Municipal Code, Section 17.08.030, Extension of Permits and Approvals.
4. The Demolition permit, Design Review permit and Use permit shall become effective fourteen (14) calendar days after approval, provided that the action is not appealed by the City Council or any other interested party within that 14 day period.
5. Any request for an extension of the Demolition, Design Review or Use permit must be justified in writing and received by the Planning Department at least thirty (30) days prior to expiration.
6. All required fees, including planning fees, development impact fees, building fees, retrofit fees, and St. Helena Unified School District fees shall be paid prior to issuance of building permit.
7. Prior to issuance of construction permits, compliance with conditions of approval shall be clearly identified on all plans. A copy of approved plans with the conditions listed on said plans shall be maintained on-site during construction activities.
8. Conditions shall be achieved at such a time as determined by the City and shall be achieved at the requisite stage and before issuance of building permit or initiation of

use unless another time is set by law or by this approval. Issuance of building permit or final inspection of a project may be withheld if all conditions, including payment of fees for services rendered by the City, are not met.

9. The applicant shall defend and indemnify and hold the City, its agents, officers, and employees harmless of any claim, action or proceedings to attack, set aside, void or annul an approval so long as the City promptly notifies the applicant of any such claim, action, or proceedings and the City cooperates fully in the defense of the action or proceedings.
10. This Demolition permit, Design Review, and Use Permit approval shall run with the land and shall be binding upon all parties having any right, title or interest in the real property or any part thereof, their heirs, successors and assigns, and shall inure to their benefit and benefit of the City of St. Helena.
11. The primary purpose of this review is for compliance with the General Plan and Zoning Ordinance. The owner/applicant is responsible for meeting with the Building Official / Fire Inspector to review compliance with Building and Fire Codes, including fire protection systems and the accessibility standards of Title 24.
12. No structure shall be permitted over any existing property lines. Documentation of the location of the property lines shall be submitted with plans for building permit issuance.
13. All spaces denoted in project plans as “basement” shall remain non-habitable space as required by the Medium Density Residential Zoning Standards.
14. Vegetative screening (e.g. one or more trees) shall be added to the east side yard at a level sufficient to enhance privacy and reduce any direct site lines into the neighboring residence’s windows. A revised landscape plan detailing the enhanced landscaping shall be provided as part of the building plan set submittal for review and approval by the Planning Director prior to building permit issuance.

Public Works Department Conditions of Approval

15. Approval of this project shall be subject to the requirements of, and all improvements shall be designed and constructed in accordance with, the most current version at the time of improvement plan submittal, Caltrans Standards and Specifications, the City of St. Helena Municipal Code, the St. Helena Water and Sewer Standards, the St. Helena Street, Storm Drain and Sidewalk Standards, and all current federal, state and county codes governing such improvements.
16. For any improvements outside the existing building envelope, a grading and drainage plan showing topographic data, all easements, infrastructure onsite and directly adjoining, and an erosion control plan shall be submitted for review and approval by the City Engineer prior to the issuance of a building permit. If the project entails more than 50 cubic yards of soil disturbance, 10,000 square feet of

disturbance area, a cut or fill of 3 feet or more, or alteration of any drainage pattern, a grading permit shall be required.

17. Drainage needs to be routed to prevent inundation of neighboring properties. Grading and/or site improvement plans shall show how 2-year and 10-year storm flows shall be infiltrated on site and/or diverted at the property lines to prevent inundation of neighboring properties.
18. Erosion and sediment control plans shall conform to the latest State and City codes at a minimum.
19. Provide details of any and all proposed fencing, gates, and/or walls on all plans submitted for building permit review.
20. The applicant shall install an approved backflow device behind the existing water meter prior to Certificate of Occupancy. Any new and modified existing water laterals, meters and backflow prevention devices shall be required and constructed in accordance with the current requirements of the City of St. Helena's Water Standards and the California Department of Health Standards. Existing meter boxes located within a driveway shall be retrofitted with a traffic-rated box. New laterals shall be located perpendicular to the water main and outside any driveway/drive aisle.
21. The applicant shall conform to the City of St. Helena Water and Sewer Standards Section 6-2.10 which includes assessing the adequacy of the lateral, replacing if necessary and installing any needed cleanouts prior to Certificate of Occupancy.
22. Remodels or new construction which require fire sprinklers shall install an appropriately-sized water service with appropriate backflow and meter devices prior to Certificate of Occupancy. Fire system calculations shall be submitted with the Grading and Drainage Plan to verify fire service lateral and meter sizing. Deferred submittals are not accepted.
23. The applicant shall incorporate water conservation practices into the proposed project per the Water Neutrality Plan prepared by Bevan & Associates, dated April 28, 2017. Any and all non-conforming appliances and plumbing fixtures shall be removed from the premises. The water conservation requirements shall be replicated in full on the architectural plans.
24. All driveway approaches shall be per current City and ADA standards. Where none exists, or where deteriorating or non-standard driveway approaches exist, they shall be installed or replaced at the direction of the Public Works Department prior to Certificate of Occupancy. The driveway shall be replaced in order to conform to current ADA Standards.
25. Construct sidewalk along the property street frontage per current City and ADA standards prior to Certificate of Occupancy

26. Any missing or broken curb and gutter along the project frontage shall be constructed and/or replaced prior to Certificate of Occupancy, extent to be determined by the Public Works Department.
27. The applicant shall repair all public improvements that are damaged by the construction process in accordance with the City Water/Sewer/Street/Storm Drain/Sidewalk Standards prior to Certificate of Occupancy.
28. Existing streets being cut by new utility services will require edge grinding and an A.C. overlay per City standards, extent to be determined by the Public Works Department.
29. An encroachment permit shall be required for any work performed in the public right of way.

Building Department Conditions of Approval

30. A building permit is required for all onsite demolition, construction and/or change of occupancy.
31. The applicant will be required to comply with the codes adopted at the time the applicant applies for a building permit. At this time the City of St. Helena utilizes the 2016 Title 24 codes.
32. When submitting plans for a building permit, the plans shall include all documentation listed on the building permit application checklist.
33. The applicant shall provide a construction waste management plan with the building permit application.
34. The plans for construction shall include a checklist for compliance with the California Green Buildings Standards Code, mandatory measures. Provide a reference on the checklist indicating where the mandatory measures can be found on the plans.
35. When submitting plans, the title page shall include all information referenced on the building permit application checklist Title Page requirements.
36. Building Permit application materials and plans shall include any documentation pertaining to special loads applicable to the design and the specified section of the code that addresses the condition; special inspections for any systems or components requiring special inspection; requirements for seismic resistance; and a complete list of deferred submittals at time of application. Any deferral of the required submittal items shall have prior approval of the Building Official however deferral of fire sprinkler design is not allowed.

I HEREBY CERTIFY that the foregoing Demolition Permit, Design Review, and Use Permit were duly and regularly approved by the Planning Commission of the City of St.

Helena at a regular meeting of said Planning Commission held on November 7, 2017
by the following roll call vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

APPROVED:

ATTEST:

Grace Kistner
Chair, Planning Commission

Noah Housh,
Planning and Community
Improvement Director

9-29

POR. WORRELL AND WARD TRACT SUBDIVISION

R.M. BK. 1, PG. 52
RANCHO CARNE HUMANA
R.M. BK. D OF PATENTS, PG. 127

Tax Area Code
3000
3002



NOTE: This Map Was Prepared For Assessment Purposes Only, No Liability Is Assumed For The Accuracy Of The Data Delineated Hereon.

1	S84°11'56"W	20.12'
2	N01°57'E	3.02'

4-14-92	
4-9-93	
6-19-94	
292-12 & 13 COOs 12-28-00	
292-14 CO/MGR 12-28-00	
REVISION	DATE

CITY OF ST. HELENA

Assessor's Map Bk.9 Pg. 29

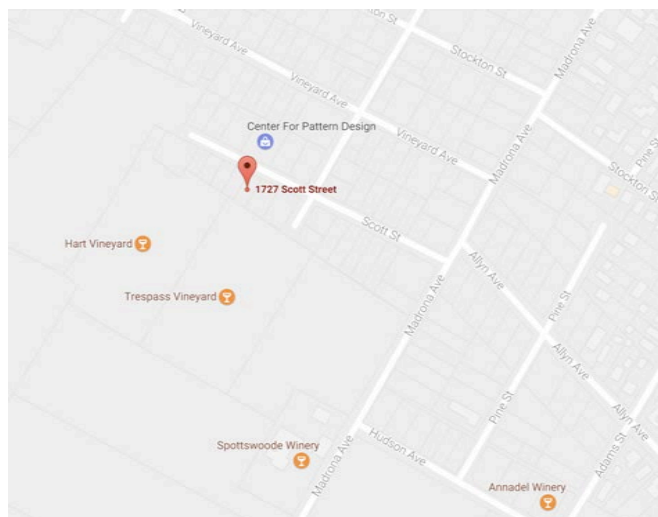
County of Napa, Calif.

1954-61

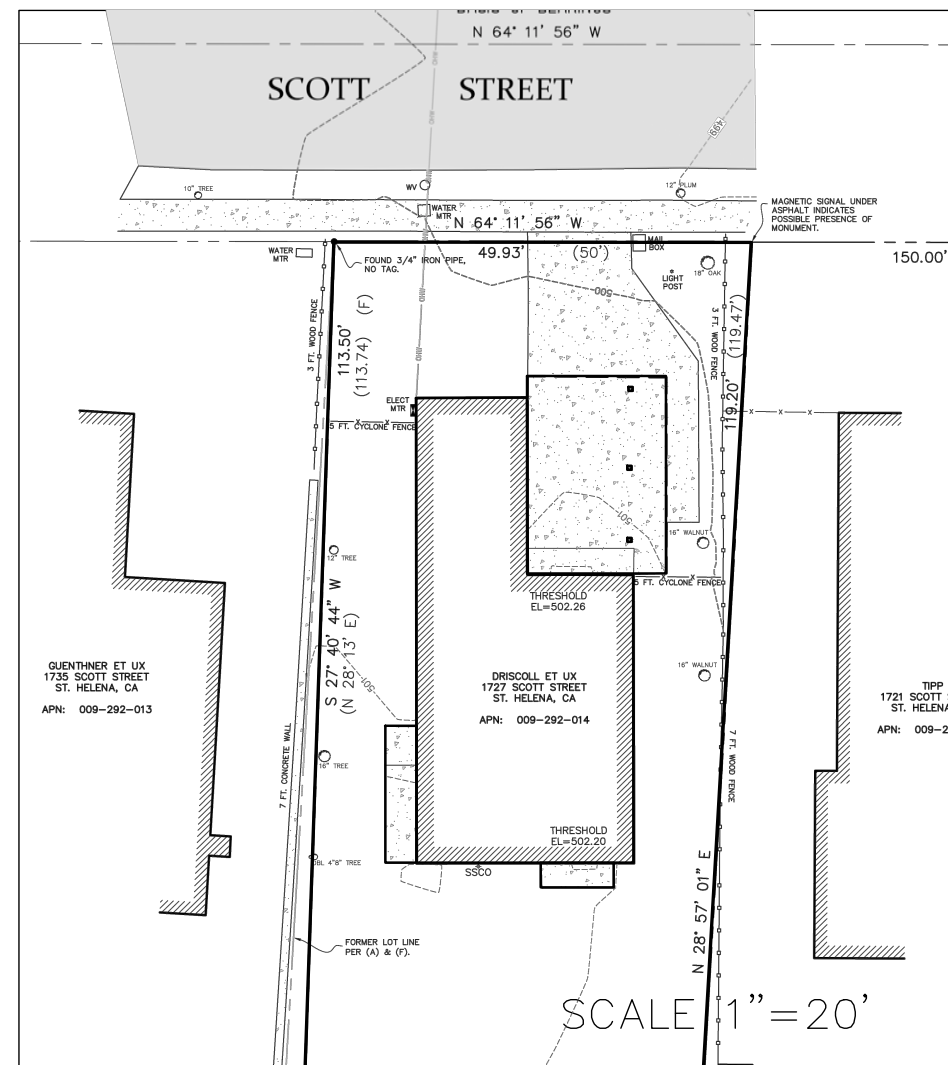
NOTE—Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles



VICINITY



PARCEL MAP



PROJECT DESCRIPTION

NEW SINGLE FAMILY HOUSE WITH THREE BEDROOMS, THREE FULL BATHS, AND A POOL.

ALL AREAS ARE MEASURED TO OUTSIDE OF STEM WALL AND/OR ENCLOSING WALLS.

MAIN HOUSE	
LOWER LEVEL AREA:	1296 SF
UPPER LEVEL AREA:	670 SF
CONDITIONED AREA:	1966 SF

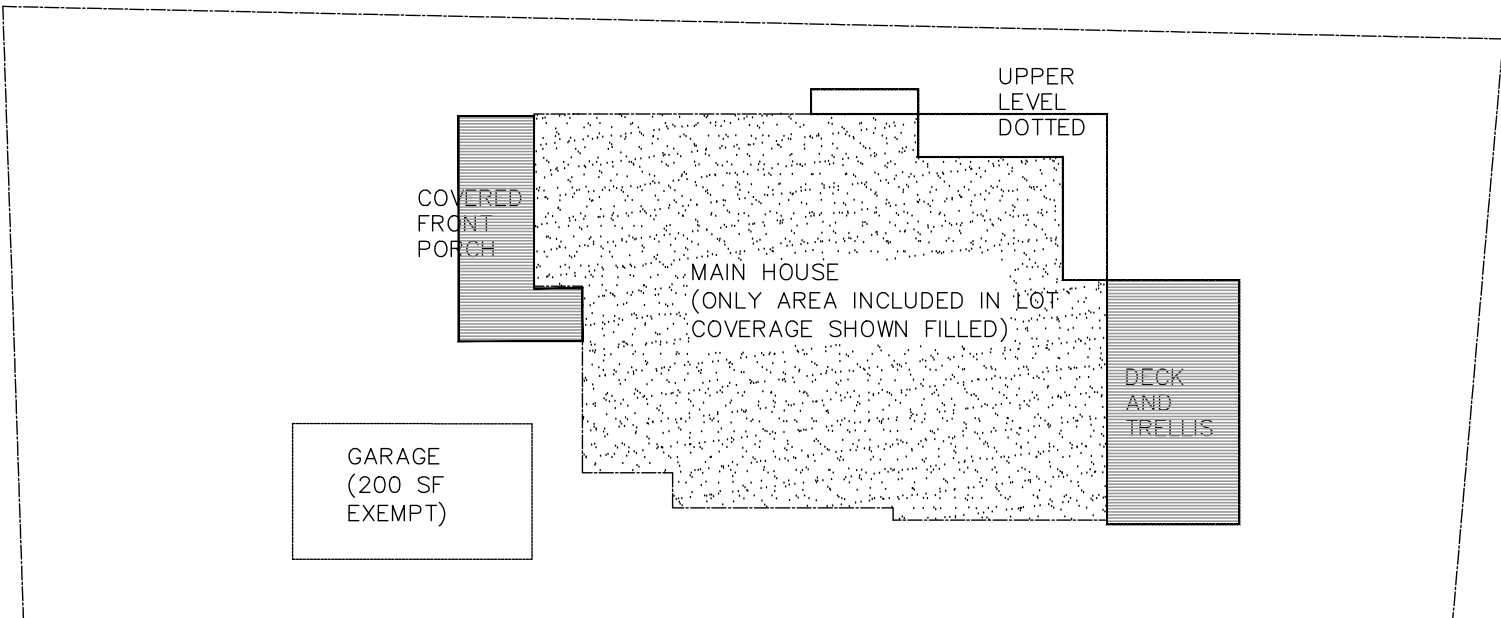
ADDITIONAL:	
BASEMENT:	866 SF – 866 SF EXEMPT FROM NET
GARAGE:	228 SF – 200 SF EXEMPT FROM NET

NET FLOOR AREA:

CONDITIONED UPPER+LOWER:	1966 SF
GARAGE (NON-EXEMPT):	28 SF

TOTAL FLOOR AREA	1994 SF
------------------	---------

LOT AREA:	5653 SF
FAR:	1994/5653= .353 (MAX ALLOW IS .358 OR 2000 SF)
LOT COVERAGE:	26.96% (45% ALLOWABLE) (COVERAGE = [1296 SF+228 SF]/5653 SF)



SHEET INDEX:

A0.0	COVER SHEET
A1.0	ARCHITECTURAL SITE # ROOF PLAN
A1.1	VIEW COMPARISON
A2.0	BASEMENT FLOOR PLAN
A2.1	LOWER FLOOR PLAN
A2.2	UPPER FLOOR PLAN
A3.0	ELEVATIONS
A3.1	SECTIONS
A3.2	VIEWS
C1.0	SITE PLAN - DEMO
C3.0	PRELIMINARY GRADING PLAN
WN.1	WATER NEUTRALITY LIVING UNIT LAYOUT
L1.0	PLANTING PLAN
L2.0	PLANTING LEGEND
L3.0	HYDROZONE PLAN
L4.0	FENCE DETAILS

PROJECT INFORMATION

OWNERS:	BRIAN AND KIM DRISCOLL
ARCHITECTURE:	BEVAN & ASSOCIATES (GEORGE BEVAN / JOEL MENDELSON)
LANDSCAPE	ROZANSKI DESIGN (ROBIN BROWN WARD)
CIVIL ENGINEERS:	BEAR FLAG ENGINEERING (CHAD MOLL)
STRUCTURAL ENGINEERS:	TBD
MECHANICAL ENGINEERS:	TBD
CONTRACTOR:	TBD

LANDSCAPE NOTES

SEE L1.0–L4.0, LANDSCAPE SHEETS

FIRE INFORMATION & DETAILS

PROPERTY INFORMATION

ADDRESS:	1727 SCOTT STREET ST. HELENA, CA 94574
APN#:	009–292–014
ACREAGE:	5656 SF / .13 ACRES
SETBACKS:	20' MIN FRONT; 7' MIN EAST (SIDE); 8' MIN WEST (SIDE) ;20' MIN REAR; 5' MIN REAR POOL
HEIGHT:	25' MAX
FAR:	.358 FAR / 2000 SF NET FL AREA
SEWER:	CITY
WATER:	CITY
(E) STRUCT:	HOUSE TO BE FULLY DEMOLISHED REQUIRED AS NEW CONSTRUCTION
FIRE SPRINKLERS:	200 SF MAX EXEMPT FROM NET
GARAGE:	ALLOWED 5' SETBACK, COVERED
POOL:	NONE
ACCESSORY BUILDINGS:	NONE

APPLICABLE CODES:

- 2016 California Building Code Volumes1 and 2 (CBC)
- 2016 California Residential Code (CRC),
- 2016 California Electrical Code (CEC),
- 2016 California Plumbing Code (CPC),
- 2016 California Mechanical Code (CMC),
- 2016 California Green Building Standards Code (CGBSC).

USE AND OCCUPANCY

LOW-MEDIUM DENSITY RESIDENTIAL = 4.1 TO 7.0 DU/AC

ZONING APPROVALS

PENDING

ADDITIONAL APPROVALS – TBD

CITY WATER NEUTRALITY INFORMATION

SEE WN PLAN, THIS SET

GENERAL NOTES

- The contract documents include the working drawings, addenda, modifications, and the conditions of the construction contract.
- The contract documents are the instruments of service and shall remain the property of the designer whether the project for which they are prepared is executed or not. The contract documents are not to be used by the owner, landlord &/or tenant for the other projects or extensions to the project nor are they to be modified in any manner whatsoever except by agreement in writing and with appropriate compensation to Bevan & Associates.
- The work will conform with the requirements of the 2016 California Residential Code, and the requirements of all other agencies having jurisdiction.
- "Designer" means Bevan & Associates / George Bevan
- "Install" means supplied by others, to be installed by contractor.
- "Provide" means furnish and install, complete and in place.
- "Similar" means comparable characteristics for conditions noted. Contractor to verify dimensions and orientation.
- "Typical" means identical for conditions noted.
- Do not scale drawings, dimensions govern. Verify dimensions with field conditions, if discrepancies are discovered between field conditions and drawings or between individual drawings, contact the designer for resolution before proceeding.
- Horizontal dimensions indicated are to/from finished face of construction, except as noted.
- Vertical dimensions are from top of floor slab, except where noted to be from above finished floor, (A.F.F.).
- Dimensions are not adjustable without approval of Architect unless noted ±.
- All work shall be erected and installed plumb, level, square and true, and in proper alignment.
- Cut and fit components for alteration of existing work and installation of new work. Patch disturbed areas to match adjacent materials and finishes.
- Coordinate and provide appropriate structural blocking/backing and reinforcing in partitions behind all wall mounted items.
- Make all necessary provisions for items to be furnished or installed by tenant. Provide protection for these provisions until completion of the project. General contractor to coordinate N.I.C. items with appropriate trades.
- Contractor shall comply with all base building requirements and design criteria.
- General contractor shall be responsible for checking contract documents, field conditions and dimensions for accuracy and confirming that work is as shown before proceeding with construction. Clarifications regarding any conflicts shall be achieved prior to related work being started.
- General contractor shall verify that no conflicts exist in locations of any and all mechanical, telephone, electrical, plumbing and sprinkler equipment (to include all pricing, duct work and conduit) and that all required clearances for installation and maintenance of all above equipment are provided. What elements are to be exposed or concealed shall be determined and reviewed with architect prior to construction proceeding.
- General contractor & Sub-contractors shall coordinate the layout and exact locations of all partitions, doors, electrical/ telephone outlets and light switches with Architect before proceeding with construction.
- General contractor is responsible for and shall provide protection for any existing finishes including to existing & adjacent buildings.
- Contractor to follow manufacturer's recommended specifications and installation procedures. If these are contrary to the contract documents, contractor shall notify the Architect, in writing immediately, to resolve discrepancies prior to proceeding.
- Exercise extreme care and precaution during construction of the work to minimize disturbances to adjacent structures and their occupants, property, public thoroughfares, etc. Contractor shall take precautions and be responsible for the safety of all building occupants from construction procedures.
- All work shall comply with the applicable codes, amendments, rules, regulations, ordinances, laws, orders, approvals, etc., that are required by public authorities. In the event of conflict, the most stringent requirements shall comply. Requirements include, but are not limited to the current applicable editions or publications of the following (or otherwise noted): 2013 CALIFORNIA BUILDING CODE; Americans with Disabilities Act, Local Municipal Ordinances and Amendments to the Codes
- Abbreviations used in referring to standards that apply to the work include, but are not necessarily limited to, the following: A. American Society for Testing Materials (ASTM), B. American Institute of Steel Construction (AISC), C. American Welding Society (AWS), D. American Concrete Institute (ACI), E. American National Standards Institute (ANSI), F. Architectural Aluminum Manufacturer's Association (AAMA), G. Aluminum Association, Inc. (AA), H. Concrete Reinforcing Steel Institute (CRSI), I. National Association of Architectural Metal Manufacturers (NAAMM), J. National Fire Protection Association (NFPA), K. National Woodwork Manufacturer's Association (NWMA), L. Woodwork Institute of California (WIC)
- In the event of conflict between data shown on drawings and data shown in the specifications, the specifications shall govern. Dimensions noted on drawings shall take precedence over scaled dimensions. Detail drawings take precedence over drawings of smaller scale. Should the contractor at any time discover an error in a drawing or specifications, or a discrepancy or variation between dimensions on drawings and measurements at site, or lack of dimensions or other information, he/she shall report at once to the designer for clarification and shall not proceed with the work affected until clarification has been made.
- Only new items of recent manufacturer, of standard quality, free from defects, will be permitted on the work. Rejected items shall be removed immediately from the work and replaced with items of the quality specified. Failure to remove rejected materials and equipment shall not relieve the contractor from the responsibility for quality and character of items used nor form any other obligation imposed on him by the contract.
- The finished work shall be firm, well anchored, in true alignment, plumb, level, with smooth, clean, uniform appearance without waves, distortions, holes, marks, cracks, stains, or discoloration. Joints shall be tight fitting, neat and well scrubbed. The finish work shall not have exposed unsightly anchors or fasteners and shall not present hazardous, unsafe corners. All work shall have the provision for expansion contraction, and shrinkage as necessary to prevent cracks, buckling and warping due to temperature and humidity conditions.

- Attachments, connections, or fastenings of any nature are to be properly and permanently secured in conformance with best practice and the contractor is responsible for improving them according to these conditions. The drawings show only special conditions to assist the contractor: they do not illustrate every such condition and detail.
- The contractor is responsible for verifying the dimensions and elevations at the site. The contractor and sub-contractors shall coordinate the layout and exact location of all partitioning, doors, electrical/telephone outlets, light switches and thermostats with the Architect in the field before proceeding with construction.
- The contractor shall continuously check architectural and structural clearances for accessibility of equipment and mechanical and electrical systems. Contractor shall verify that no conflicts exist in locations of any and all mechanical, telephone, electrical, lighting, plumbing, and sprinkler equipment (to include all piping, duct work and conduit) and that all required clearances for installation and maintenance of above equipment are provided. No allowance of any kind will be made for the contractor's negligence to note unforeseen means of installing equipment into position inside structure.
- No work defective in construction or quality, or deficient in any requirements of drawings and specifications will be acceptable in consequence of owner's or architect's failure to discover or to point out defects or deficiencies during construction, nor will presence of inspectors on work site relieve contractor from responsibility for securing, quality and progress of work as required by contract. Defective work revealed within time required by guarantees shall be replaced by work conforming with the intent of contract. No payment whether partial or final shall be construed as an acceptance of defective work or improper materials.
- Materials and workmanship specified by reference to number, symbol or title of a specification such as commercial standards, federal specifications, trade association standard, or other similar standard, shall comply with requirements in latest edition or revision thereof and with any amendment or supplement thereto in effect on date of origin on this project's contract documents. Such standard, except as modified herein, shall have full force and effect as though printed in contract documents.
- Contractor shall waive "common practice" and "common usage" as construction criteria wherever details and contract documents or governing codes, ordinances, etc., require greater quality or better quality than common practice or common usage would require.
- Contractor shall order and schedule delivery of materials in ample time to avoid delays in construction. If an item is found to be unavailable, contractor shall notify Architect immediately to allow architect a reasonable amount of time to select a reasonable substitute.
- If at any time before commencement of work, or during process thereof, contractor's methods, equipment or appliances are inefficient or inappropriate for securing quality of work, or rate of progress intended by contract documents, owner may order contractor to improve their quality or increase their efficiency. This will not relieve contractor or his sureties from their obligations to secure quality of work and rate of progress specified in contract.
- With reference to reflected ceilings, contractor shall coordinate with all trades involved and prepare composite shop drawings to insure locations and clearances for fixtures, ducts, ceilings, sprinkler heads, grilles, etc., necessary to maintain the specified finish ceiling height above the finish floor as noted on the drawings. Clarify conflicts and locations with the architect before proceeding.
- All telephone and data work shall be coordinated by the contractor with the owner's representative.
- Contractor, acting owner's designated agent in contract w/Architect for the design of this project, will exercise sole authority for determining conformance of materials, equipment and systems with the intent of the design. Review and acceptance of all items proposed by contractor for incorporation into this work will be by architect. This function of the designer will apply both to the contract as initially signed, and to changes to the contract by modification during progress of work.
- References to makes, brands, models, etc., is to establish type and quality desired; substitution of acceptable equals will not be permitted unless specifically noted otherwise or when made according to procedures for substitutions.
- The contractor shall notify the owner in writing of any deficiencies in base building work prior to the commencement of his work. Any unreported deficiencies will become the responsibility of the contractor to correct.
- Coring, drilling or other noisy work in or adjacent to occupied areas shall be performed at other than normal working hours for the affected occupancy unless otherwise approved by the owner.
- Utility outages shall be scheduled outside normal working hours for the affected occupancy unless approved by the owner.
- All work in occupied areas shall be performed at other than normal working hours unless otherwise approved. The affected premises shall be clean and restored to normal operating conditions unless otherwise indicated.
- The contractor shall take all reasonable control and precaution to eliminate dust, noise, odor, nuisance and the like to the premises and occupancy.
- The contractor shall "strike out" location of all walls, doors, mullions, soffits, raised floor grids, housekeeping and utility equipment pods, and other major elements, or as directed by Architect at the beginning of the project before proceeding with construction.
- Discrepancies between Specifications, General, Plan or Sheet Notes shall be brought to the designer's attention for clarification or resolution.
- Occasional reference to one or more specific notes within the General, Plan or Sheet Notes shall not in any way diminish or eliminate the full force and effect of all other notes, in relation to one another or not specifically referenced. CONSTRUCTION HOURS No person shall erect (including excavation and grading), demolish, alter or repair any building or structure other than between the City's specified hours except in the case of urgent necessity in the interest of public health and safety, and then only with prior written approval from the Building Official, which approval shall be granted for a period not to exceed three days. Holidays are the first day of January, the third Monday of February, the last Monday of May, the fourth day of July, the first Monday of September, the seventh day of November, the eleventh day of November, or the twenty-fifth day of December falls upon a Sunday the following Monday is a holiday. Construction hours are in accordance with CITY OF ST. HELENA Regulations.

bevan + associates
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DRISCOLL RESIDENCE

1727 SCOTT STREET
ST. HELENA, CA 94574
APN#: 009-292-014



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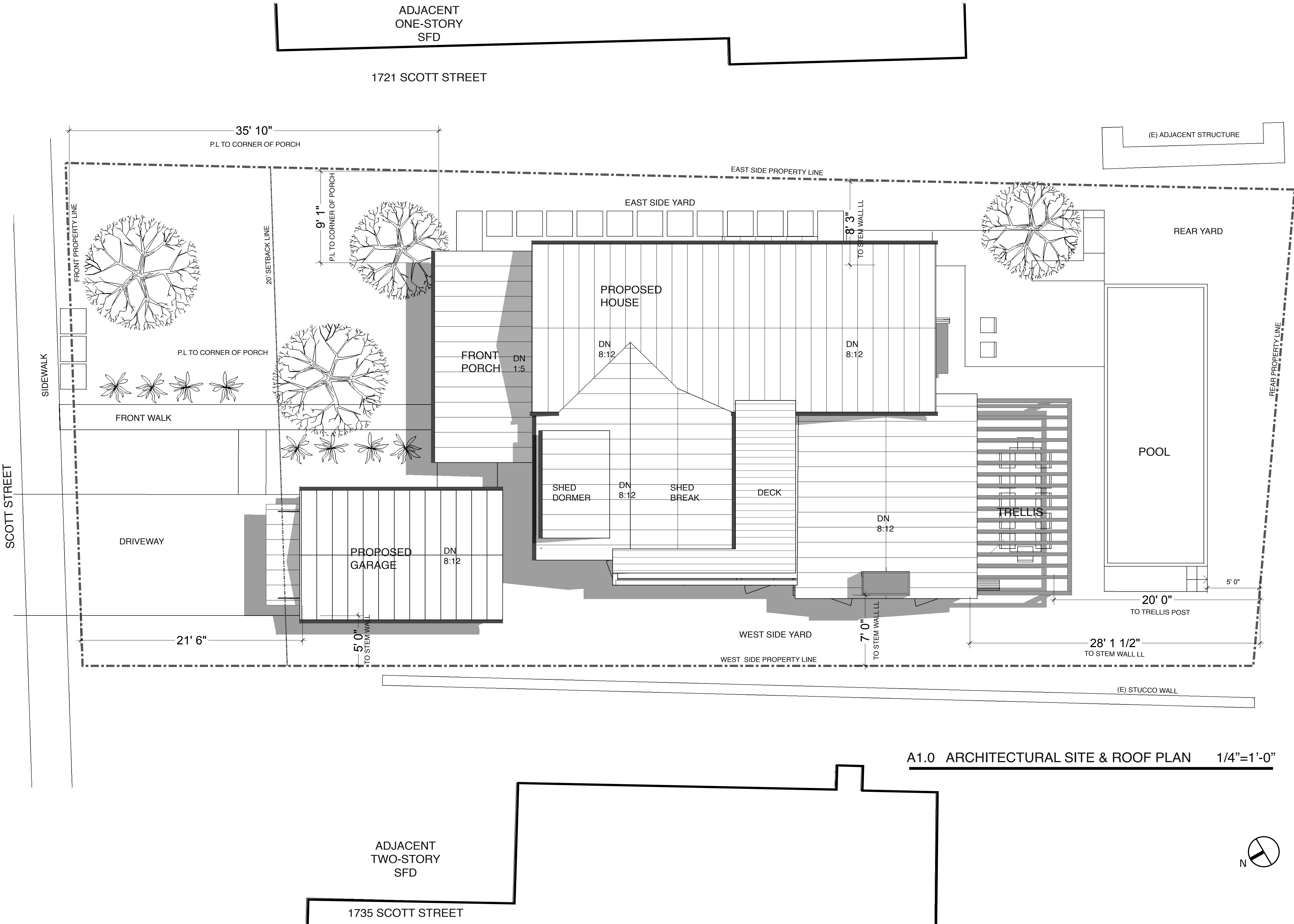
REVISIONS:

SCHEMATIC FINAL:	2/08/2017
DESIGN REVIEW:	2/22/2017
DESIGN REVIEW, RESUB #1:	4/28/2017
DESIGN REVIEW, RESUB #2:	6/20/2017
DESIGN REVIEW, RESUB #3:	9/20/2017

DRAWN BY: JM	SCALE: VARIES
DATE: 10/23/2017	CHECK: GB

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
A0.0



A1.0 ARCHITECTURAL SITE & ROOF PLAN 1/4"=1'-0"

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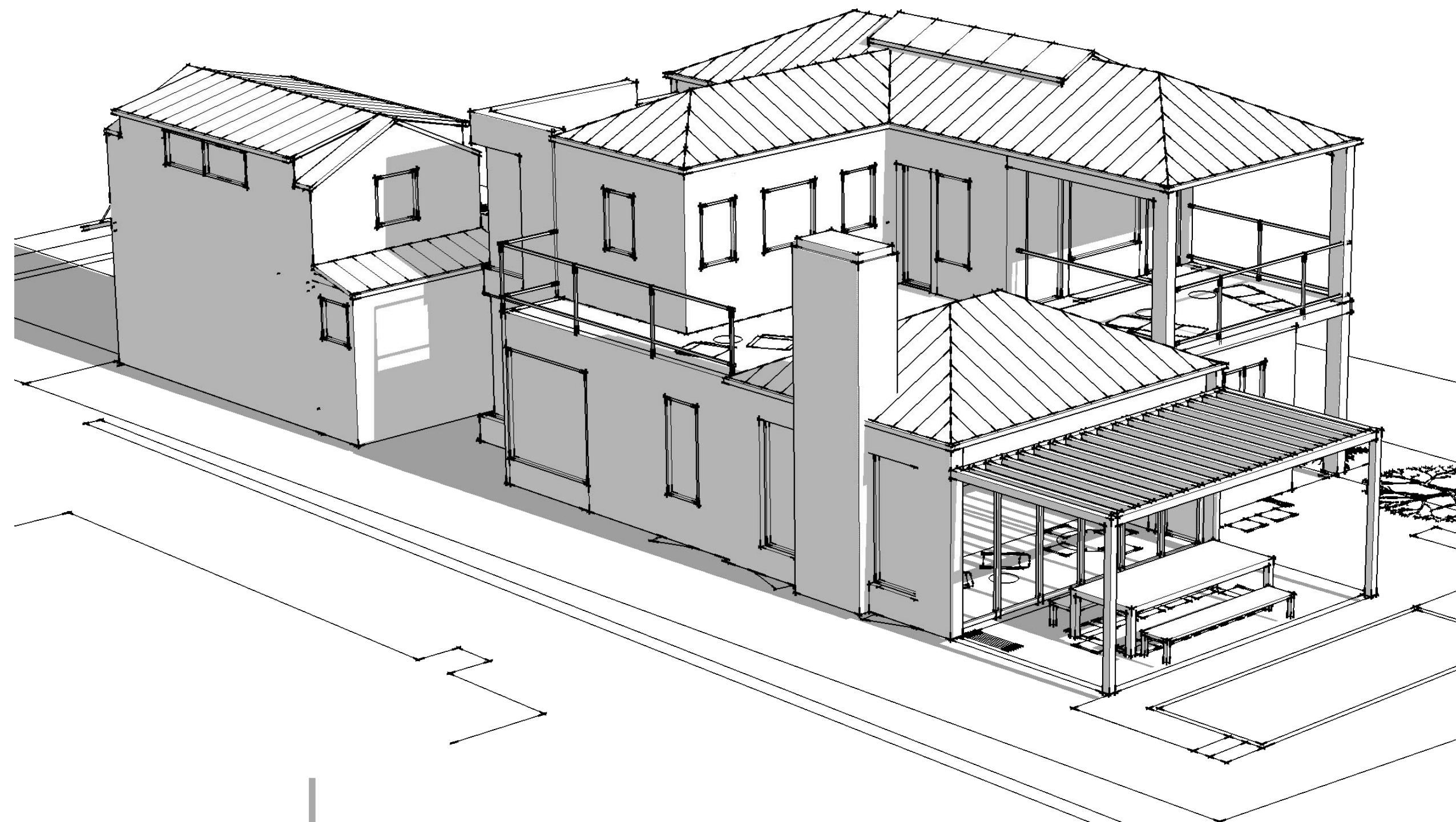
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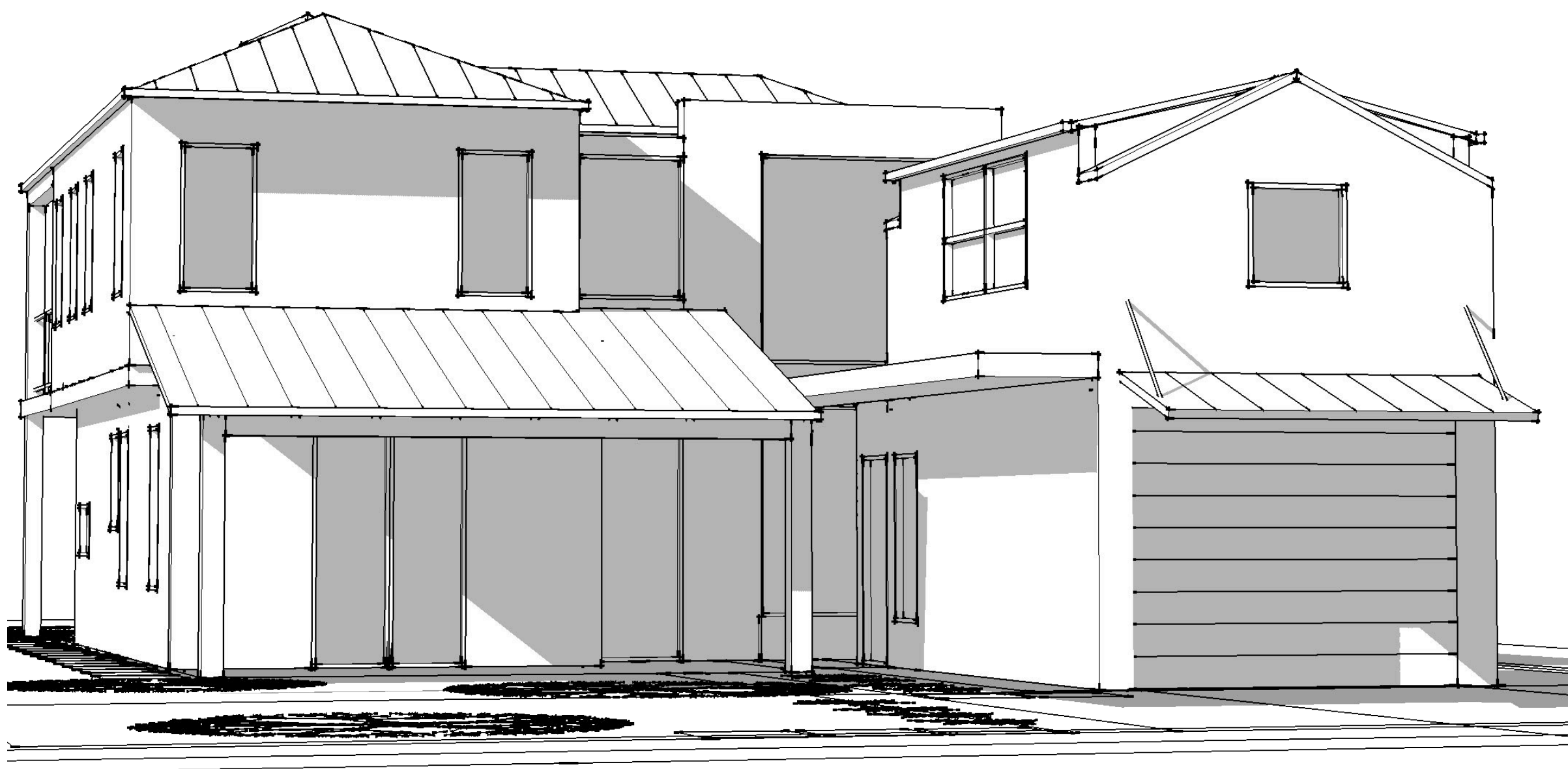
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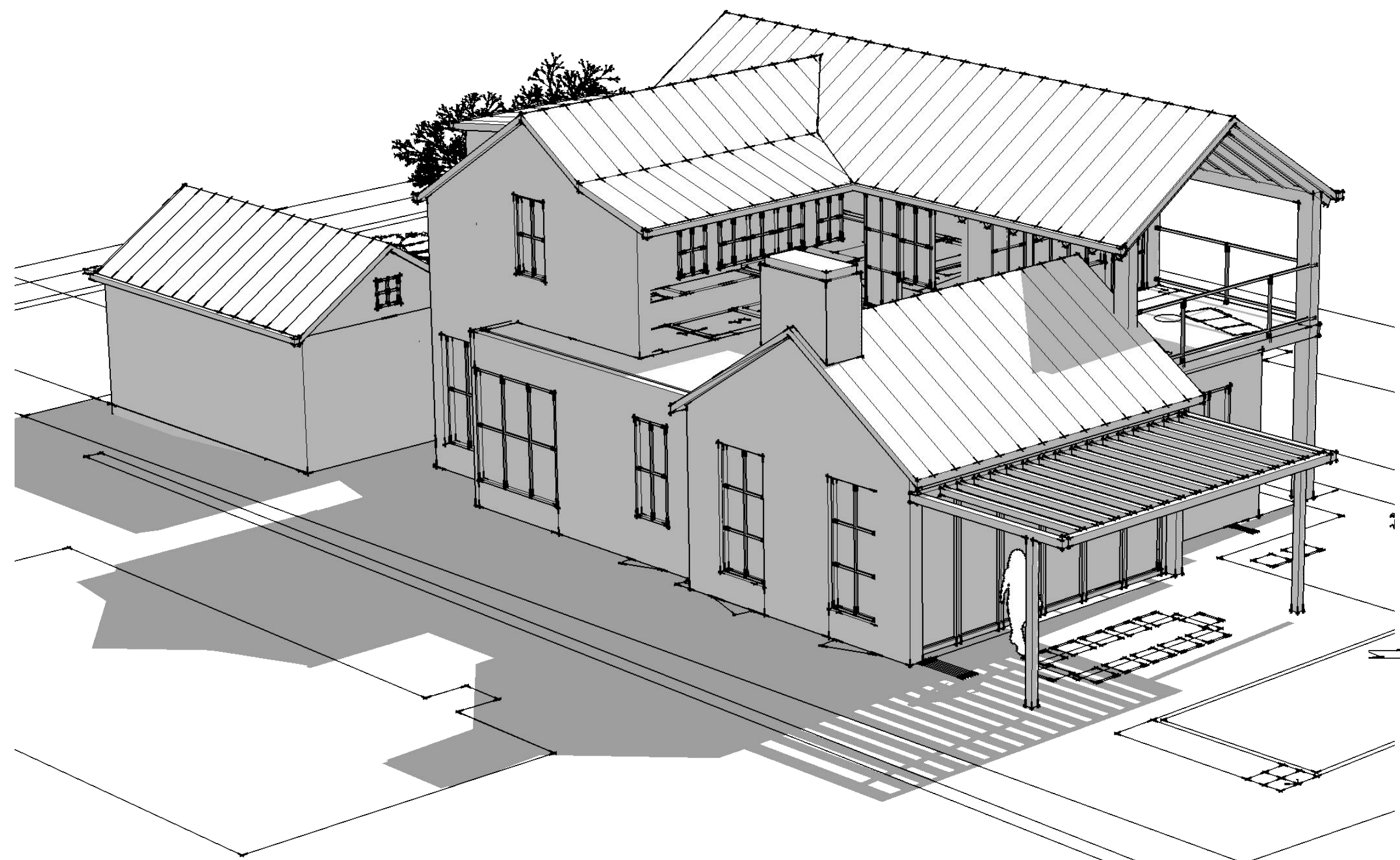
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DESIGN REVIEW, RESUB #1:	4/28/2017
DESIGN REVIEW, RESUB #2:	6/20/2017
DESIGN REVIEW, RESUB #3:	9/20/2017
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DATE: 10/23/2017	CHECK: GB
SHEET TITLE: ARCHITECTURAL SITE & ROOF PLAN	
SHEET NUMBER: A1.0	



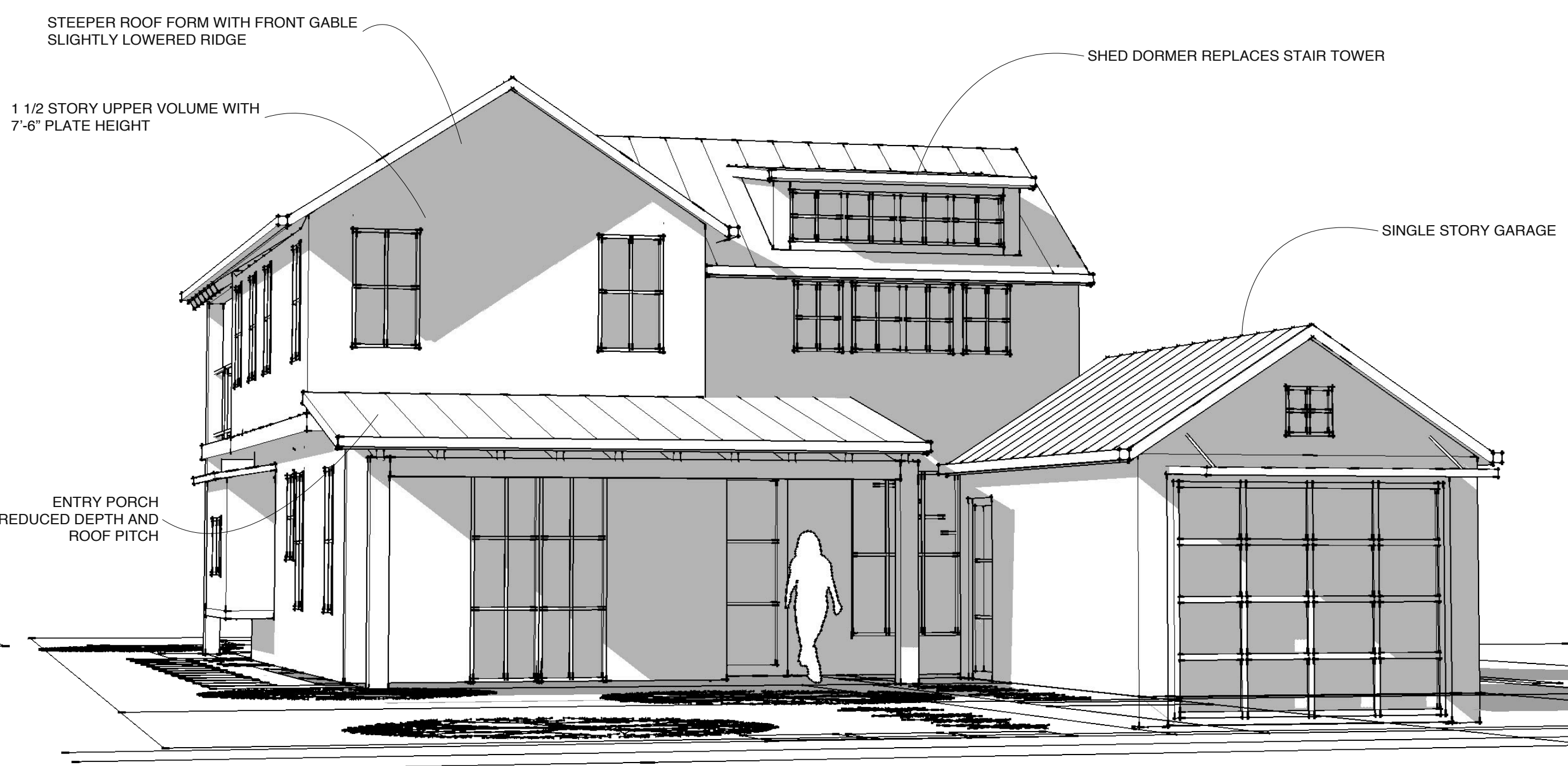
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PREVIOUS DESIGN REVIEW



A1.1.2 STREET VIEW: 06/20/17
PREVIOUS DESIGN REVIEW

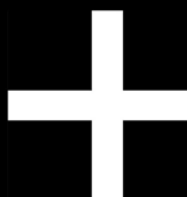


A1.1.3 AERIAL REAR VIEW: 09/20/17
PROPOSED NEW DESIGN



A1.1.1 STREET VIEW: 09/20/17
PROPOSED NEW DESIGN

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DESIGN REVIEW, RESUB #3:	9/20/2017
DRAWN BY: JM	SCALE: VARIES
DATE: 10/23/2017	CHECK: GB
SHEET TITLE: VIEW COMPARISON	
SHEET NUMBER: A1.1	



A2.0.1 BASEMENT FLOOR PLAN 1/4" 1'-0"

TOTAL GROSS 866 SF

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+

DRISCOLL RESIDENCE

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ST. HELENA, CA 94574
APN#: 009-292-014

LICENSED ARCHITECT

JOEL H. MENDELSON
No. C-32143
Joel H. Mendelson
Ren. 12/31/2017
STATE OF CALIFORNIA

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DESIGN REVIEW, RESUB #3:	9/20/2017

DRAWN BY: JM

SCALE: VARIES

DATE: 10/23/2017

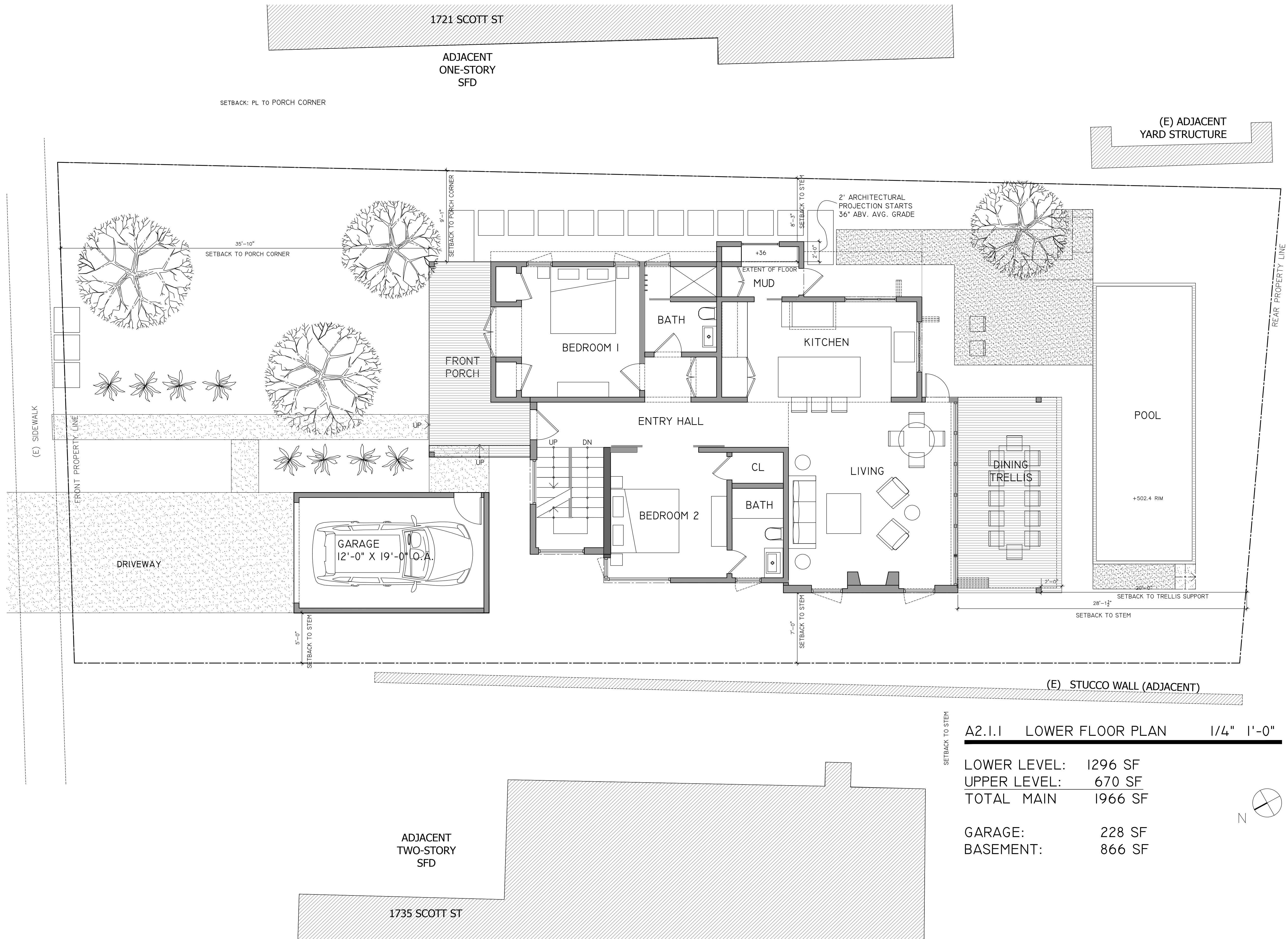
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BASEMENT FLOOR PLAN

SHEET NUMBER:

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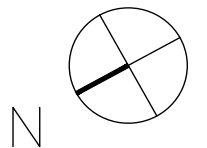


SETBACK TO STEM

A2.1.I LOWER FLOOR PLAN 1/4" 1'-0"

LOWER LEVEL: 1296 SF
UPPER LEVEL: 670 SF
TOTAL MAIN 1966 SF

GARAGE: 228 SF
BASEMENT: 866 SF



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DESIGN REVIEW, RESUB #3:	9/20/2017

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DATE: 10/23/2017 CHECK: GB

SHEET TITLE:
LOWER FLOOR PLAN

SHEET NUMBER:
A2.1

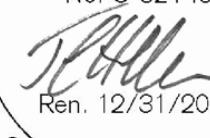
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DRISCOLL RESIDENCE

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ST. HELENA, CA 94574
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LICENSED ARCHITECT

JOEL H. MENDELSON
No. C-32143

Ren. 12/31/2017
STATE OF CALIFORNIA

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REVISIONS:

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DESIGN REVIEW:2/22/2017

DESIGN REVIEW, RESUB #1:4/28/2017

DESIGN REVIEW, RESUB #2:6/20/2017

DESIGN REVIEW, RESUB #3:9/20/2017

DRAWN BY: JMSCALE: VARIES

DATE: 10/23/2017CHECK: GB

SHEET TITLE:

UPPER FLOOR PLAN

SHEET NUMBER:

A2.2

1721 SCOTT ST

ADJACENT ONE-STORY SFD

SETBACK: PL TO PORCH CORNER

(E) ADJACENT YARD STRUCTURE

REAR PROPERTY LINE

(E) STUCCO WALL (ADJACENT)

1735 SCOTT ST

ADJACENT TWO-STORY SFD

(E) SIDEWALK

FRONT PROPERTY LINE

GARAGE ROOF

FRONT PORCH ROOF

MASTER CLOSET

MASTER BEDROOM

MASTER PORCH DECK

UPPER HALL

MASTER BATHROOM

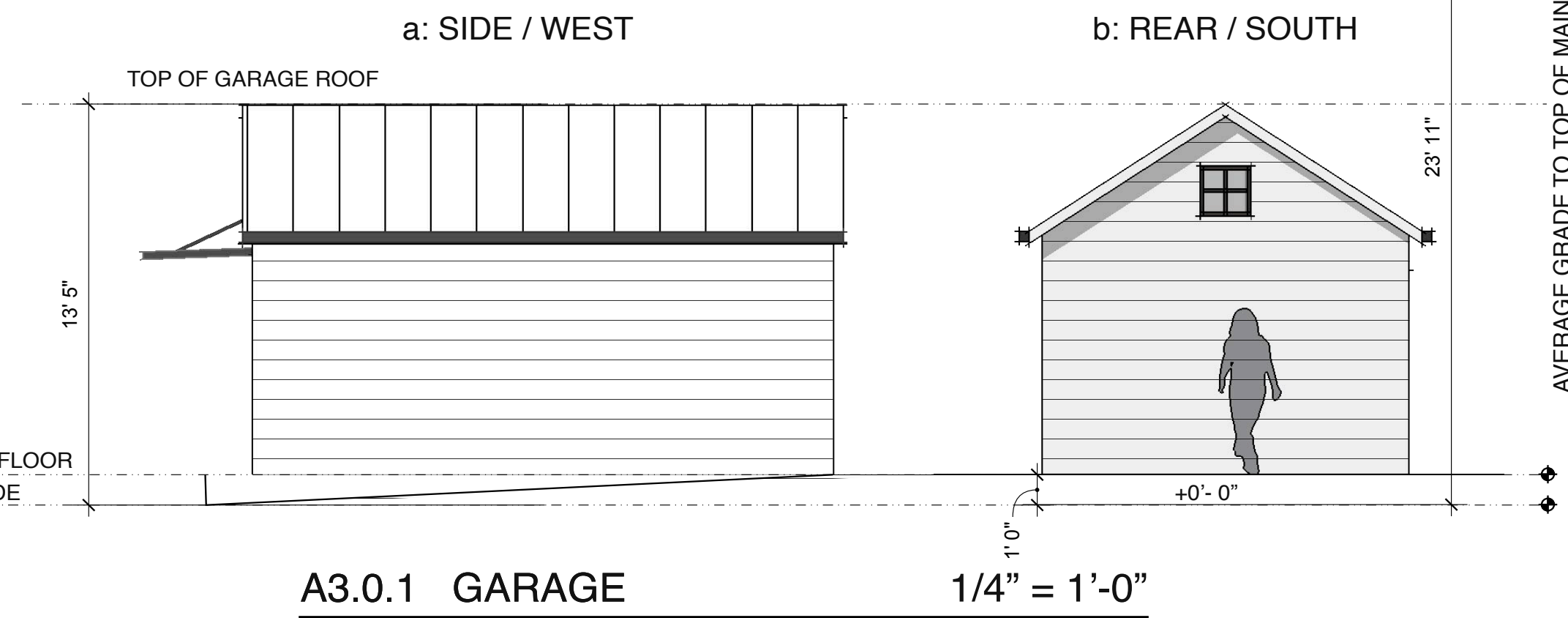
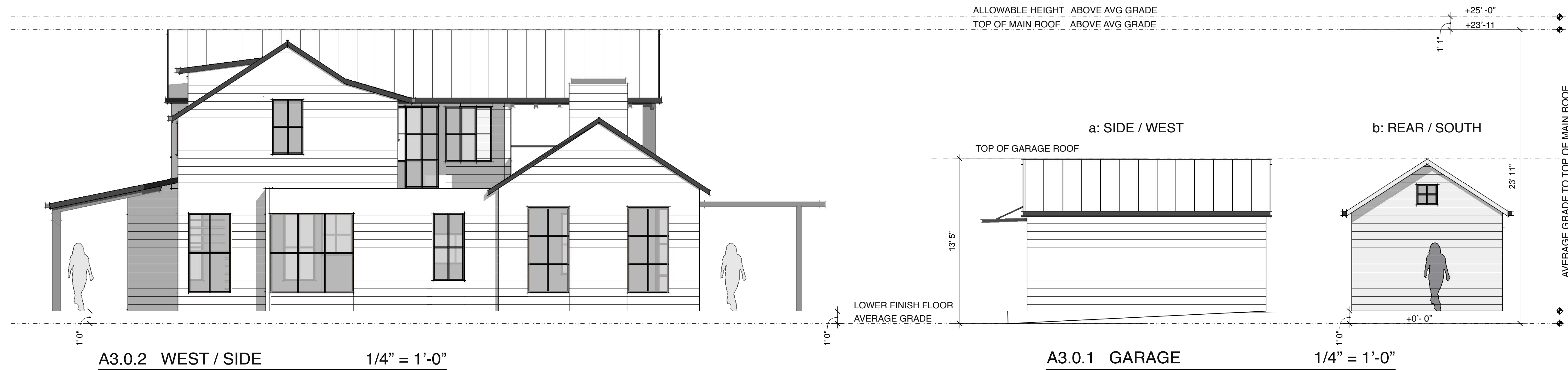
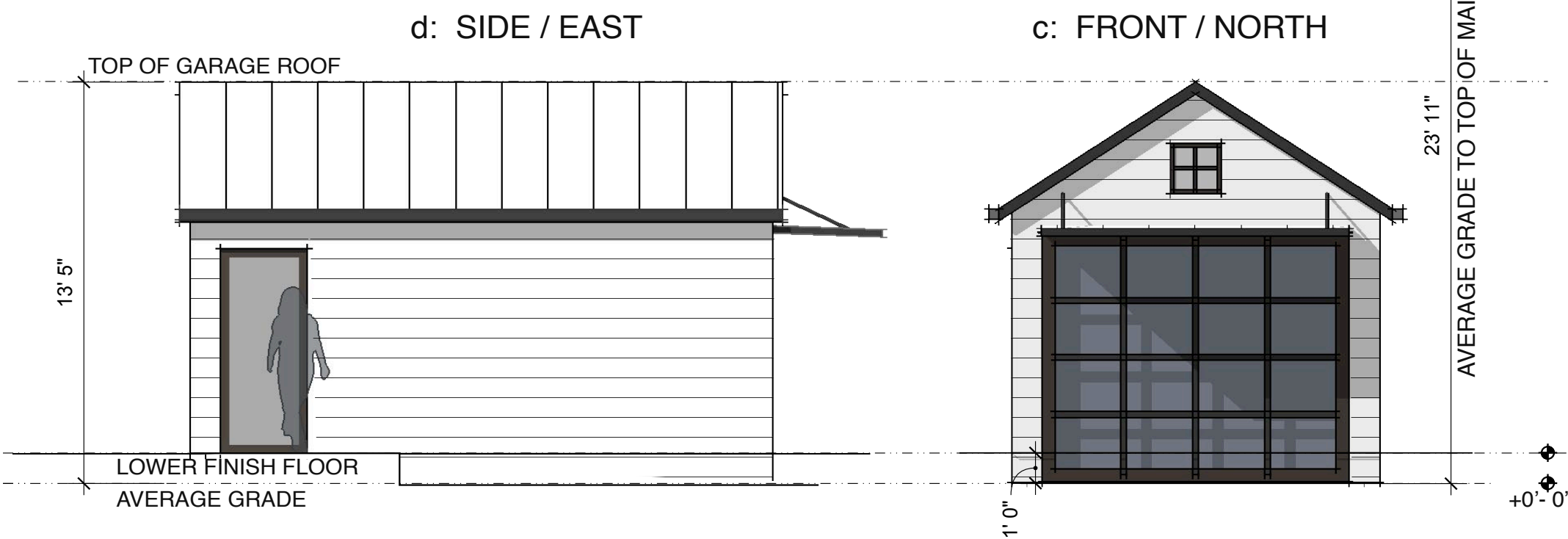
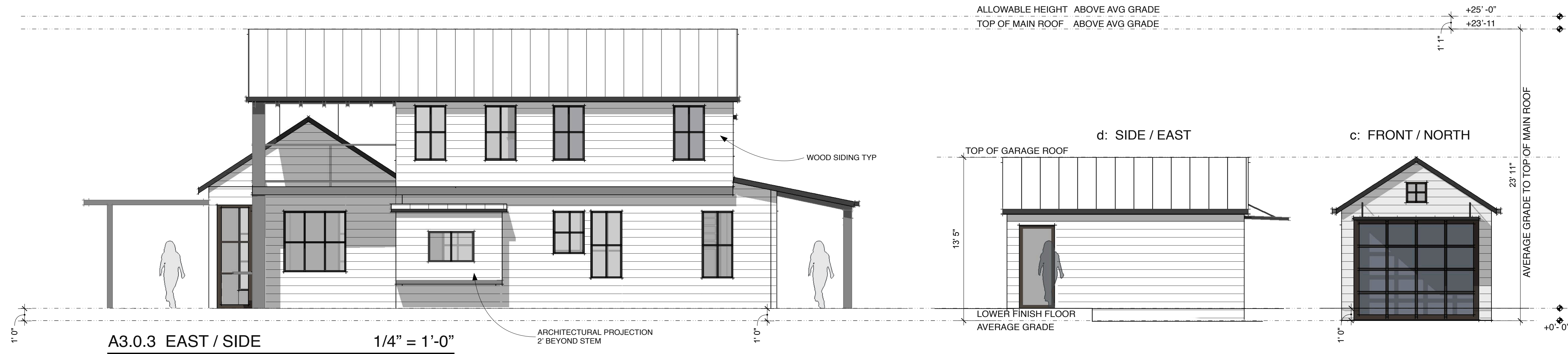
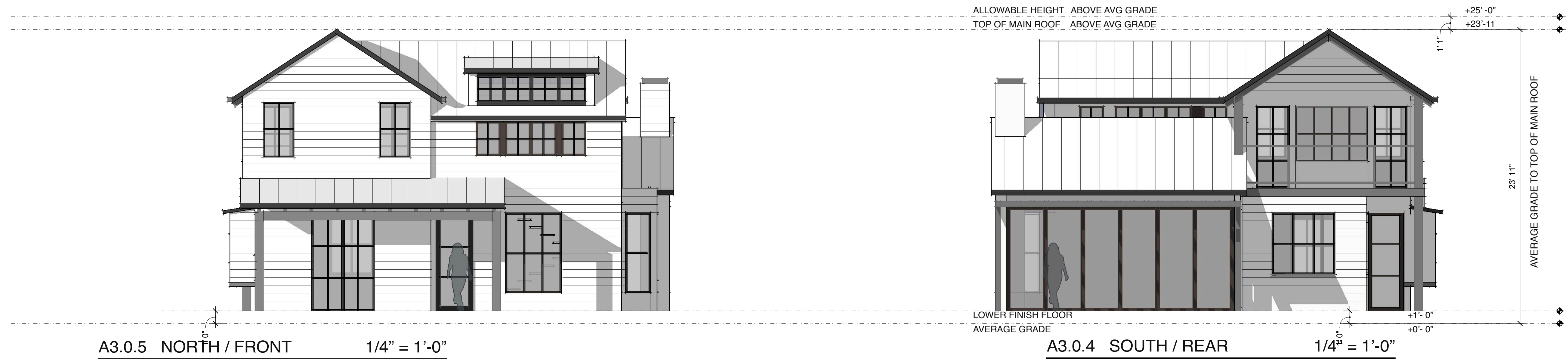
BATH DECK

LIVING ROOM ROOF

A2.2.1 UPPER FLOOR PLAN 1/4" 1'-0"

Page 79 of 446

Agenda Item #5.1



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sonoma, california

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DRISCOLL RESIDENCE

1727 SCOTT STREET
ST. HELENA, CA 94574
APN#: 009-292-014



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REVISIONS:

SCHEMATIC FINAL:	2/08/2017
DESIGN REVIEW:	2/22/2017
DESIGN REVIEW, RESUB #1:	4/28/2017
DESIGN REVIEW, RESUB #2:	6/20/2017
DESIGN REVIEW, RESUB #3:	9/20/2017

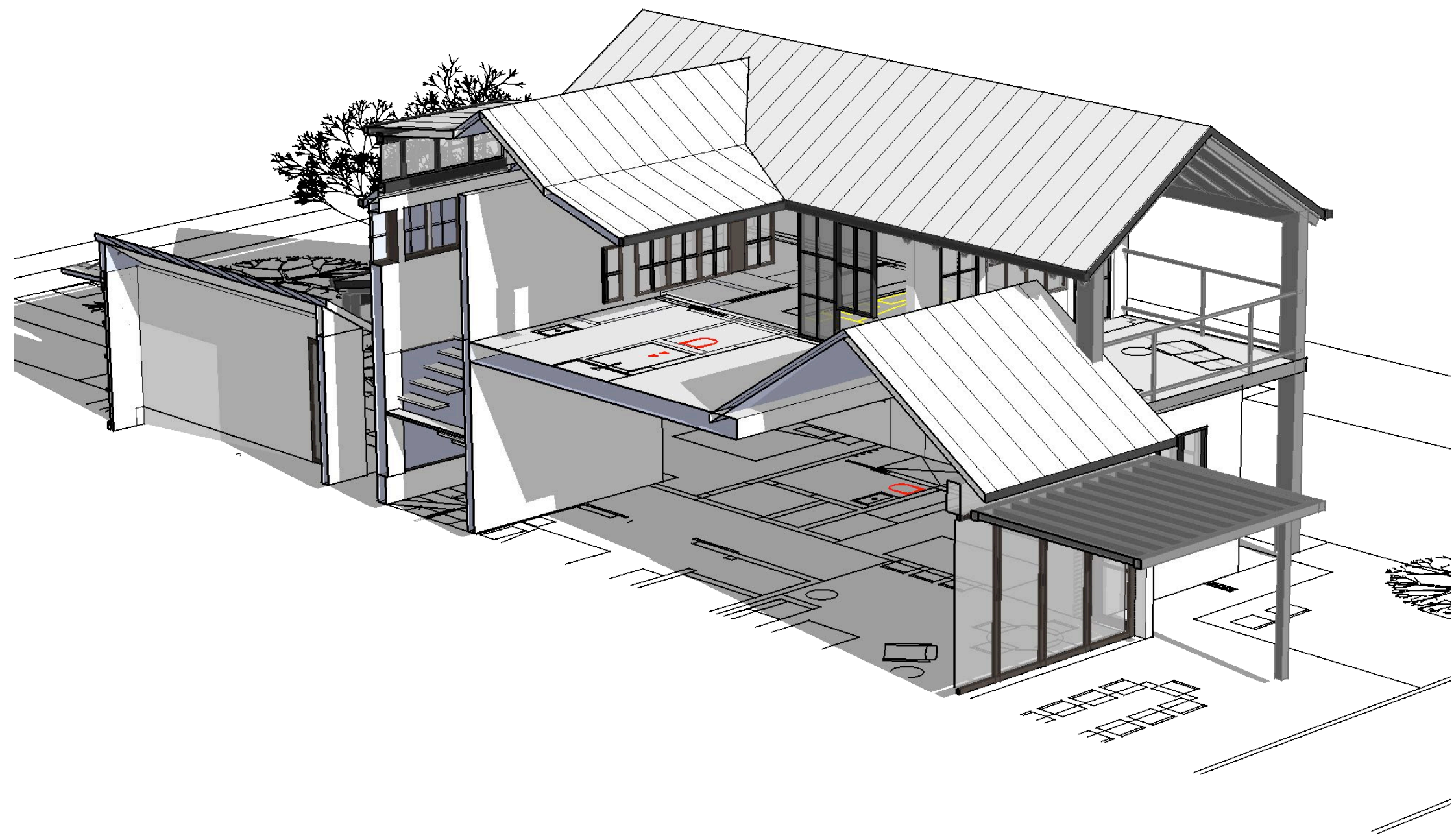
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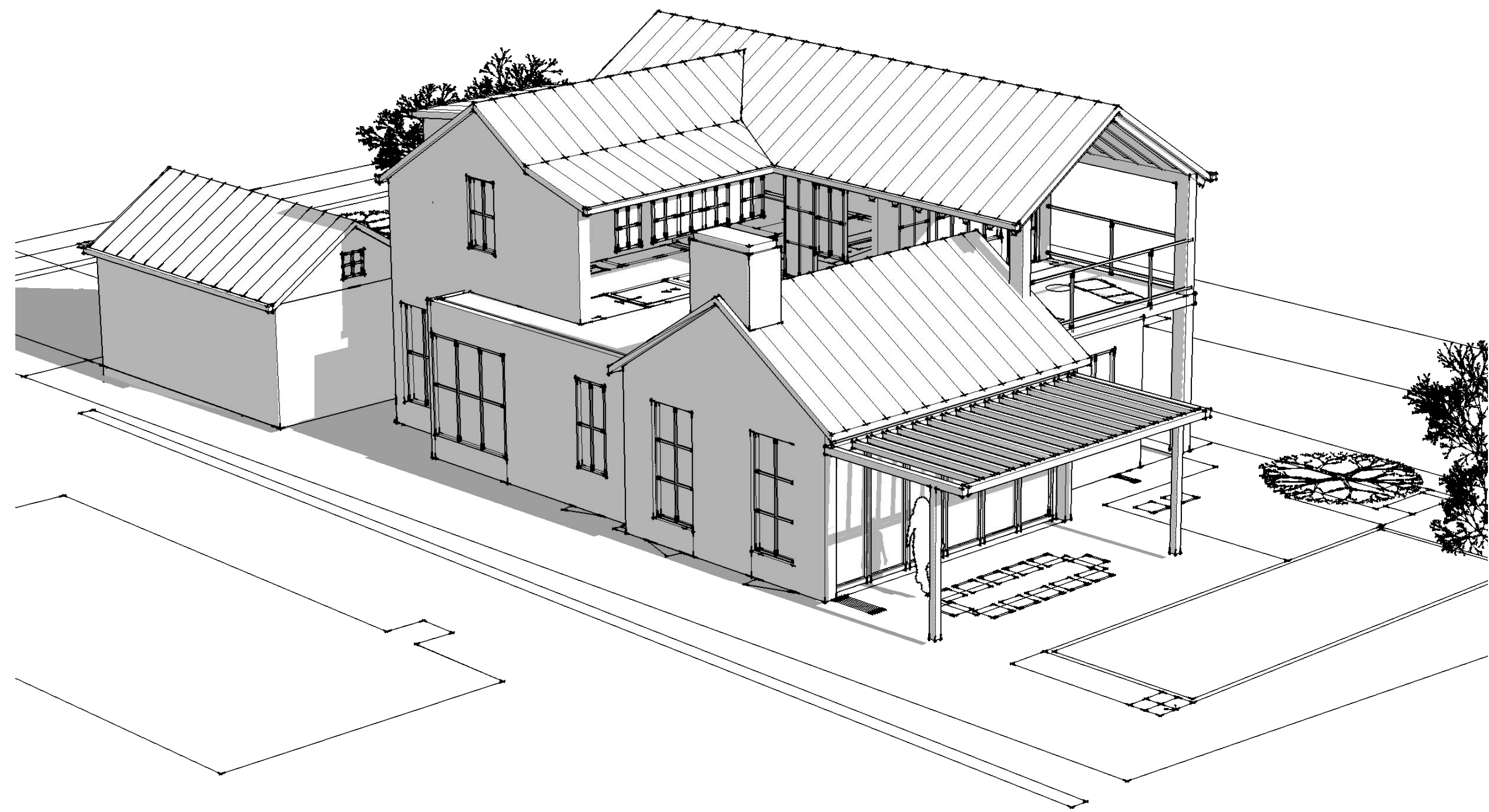
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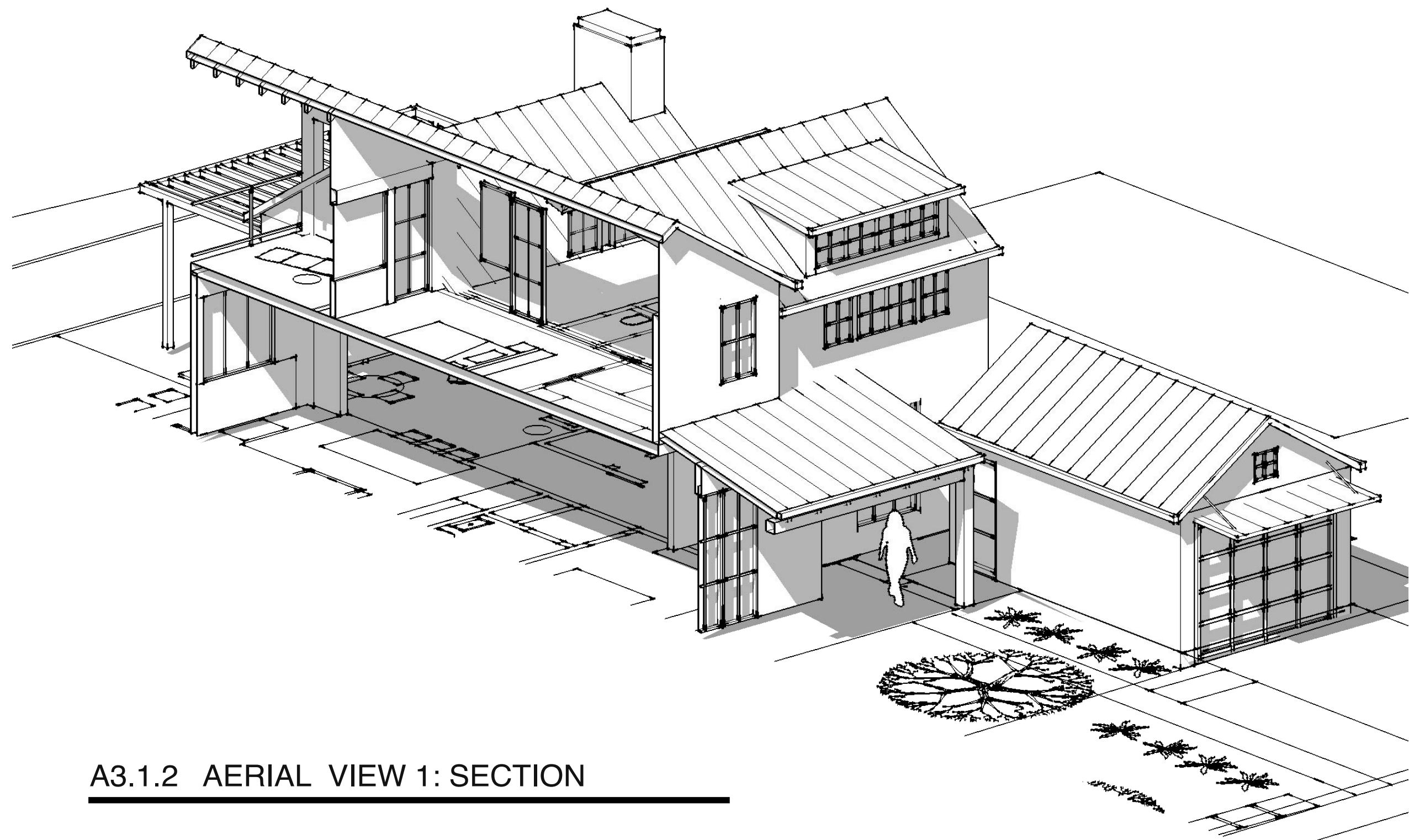
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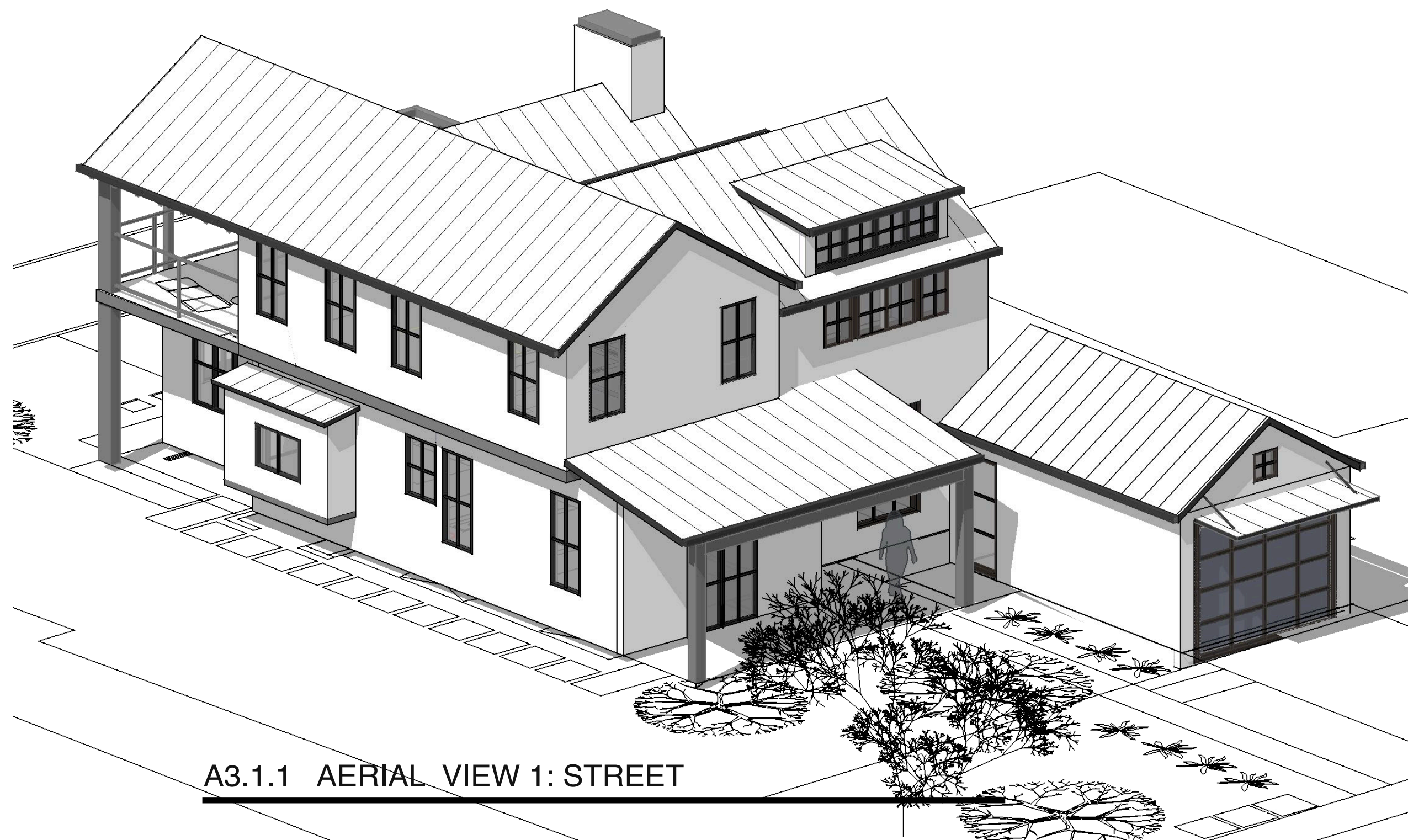
A3.1.4 AERIAL VIEW 2: SECTION



A3.1.3 AERIAL VIEW 2: REAR



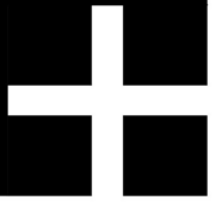
A3.1.2 AERIAL VIEW 1: SECTION



A3.1.1 AERIAL VIEW 1: STREET

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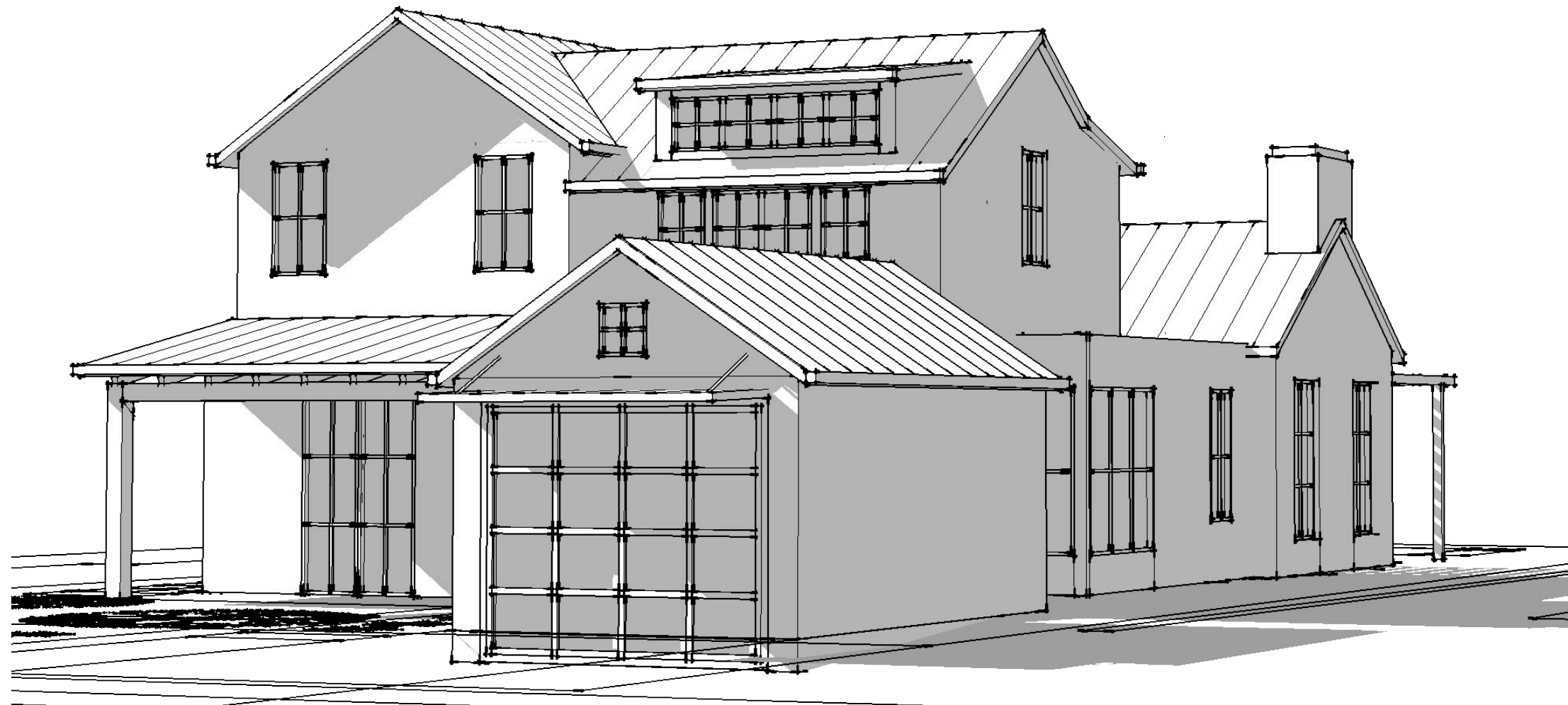
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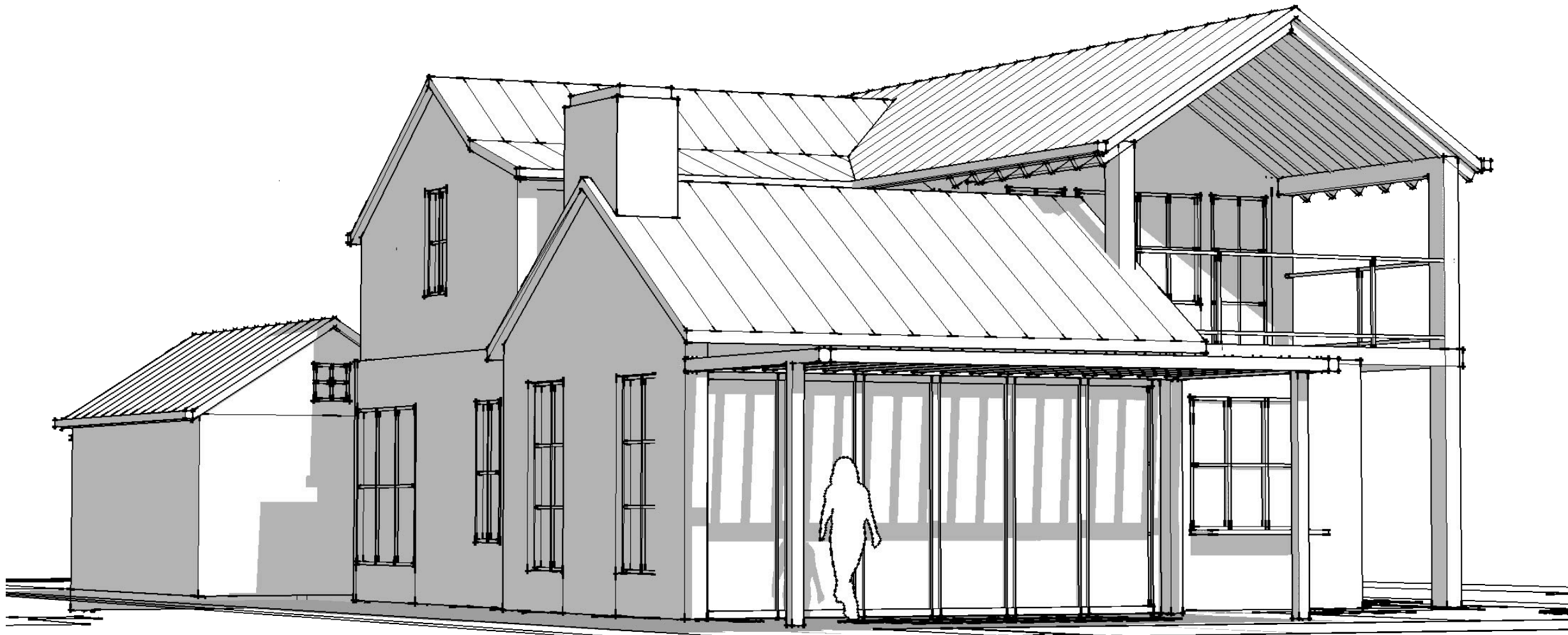
A3.1



A3.2.4 STREET VIEW



A3.2.3 STREET VIEW



A3.2.2 REAR VIEW



A3.2.1 REAR VIEW

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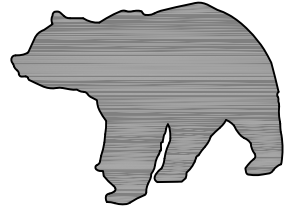
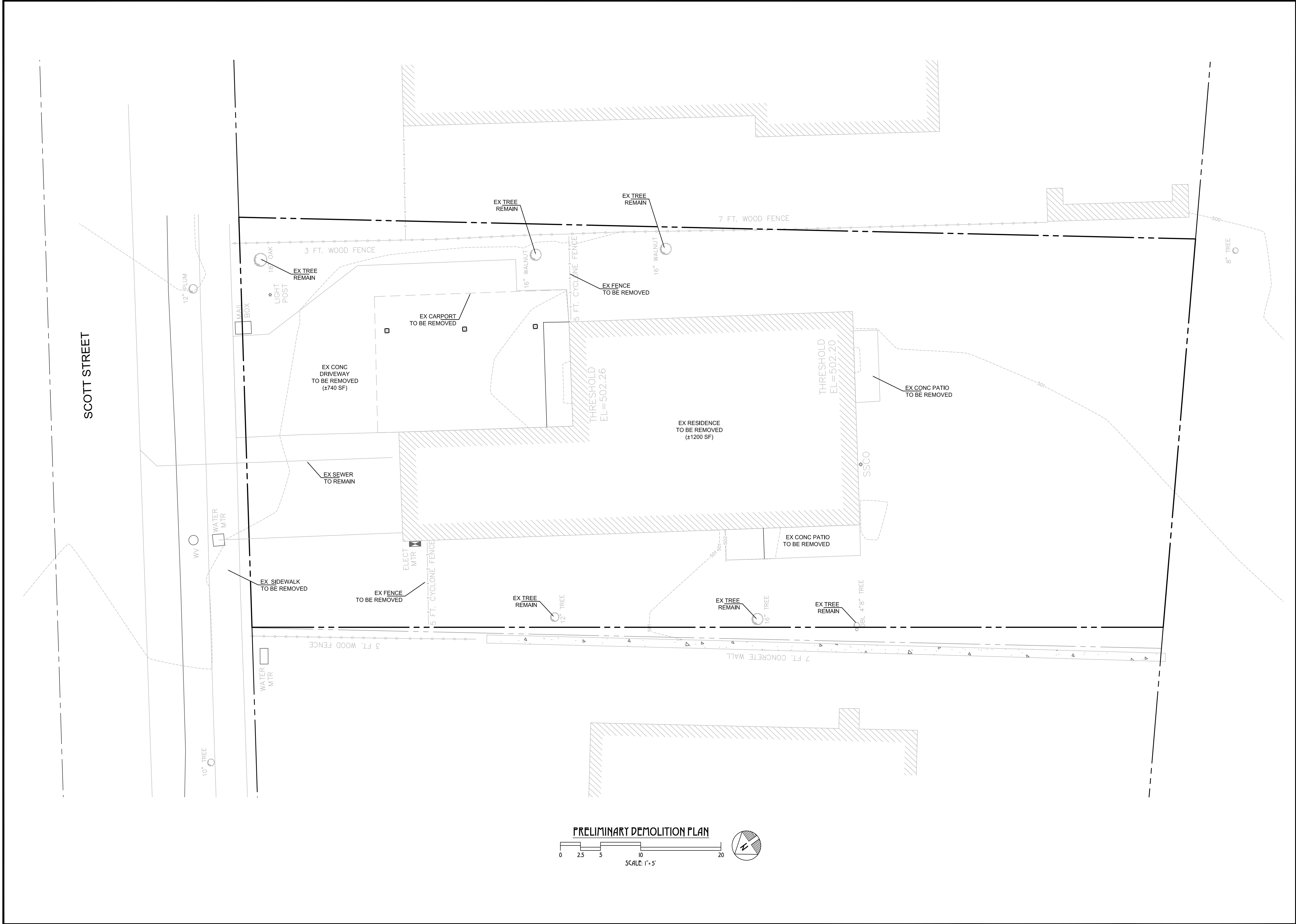
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VIEWS

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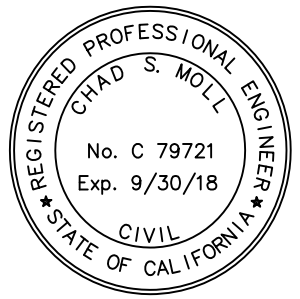
A3.2



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LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
FORENSIC ENGINEERING

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SONOMA, CA 95476
PHONE: (707) 481-9472
CHAD@BEARFLAGCIVIL.COM



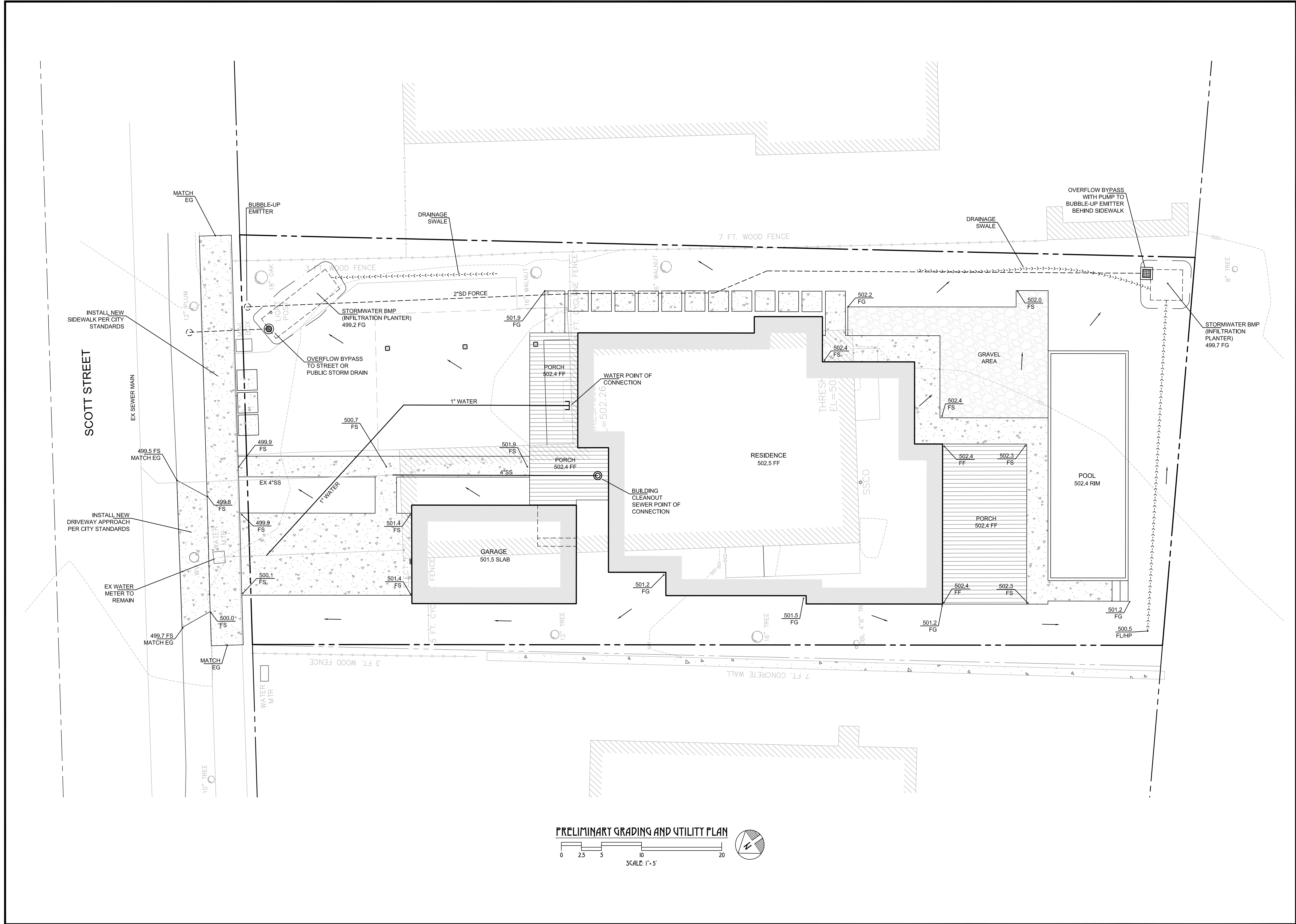
Chad Moll
CHAD S. MOLL DATE
PCE 79721

PRELIMINARY DEMOLITION PLAN
DRISCOLL RESIDENCE
1727 SCOTT STREET, ST. HELENA, CA
APN: 009-292-014

REV	DATE	DESCRIPTION

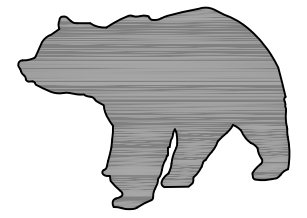
DATE: 9/20/2017
DESIGN: CSM
PROJECT: 16089

SHEET
1
OF 3 SHEETS



PRELIMINARY GRADING AND UTILITY PLAN

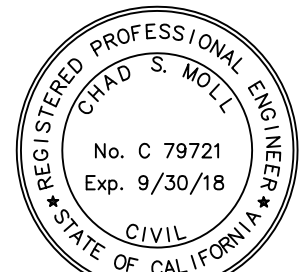
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SCALE: 1"=5'



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Chad Moll

CHAD S. MOLL DATE
RCE 7/9/21

PRELIMINARY GRADING PLAN

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APN: 009-292-014

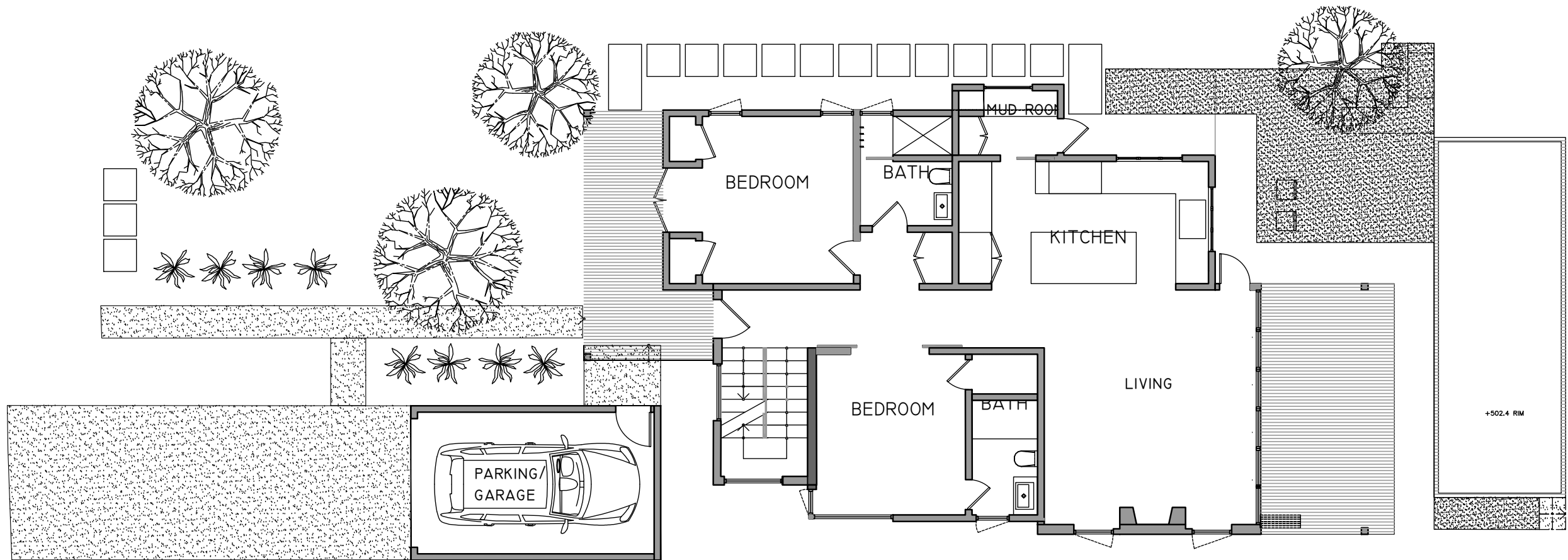
REV	DATE	DESCRIPTION

DATE: 9/20/2017
DESIGN: CSM
PROJECT: 16089

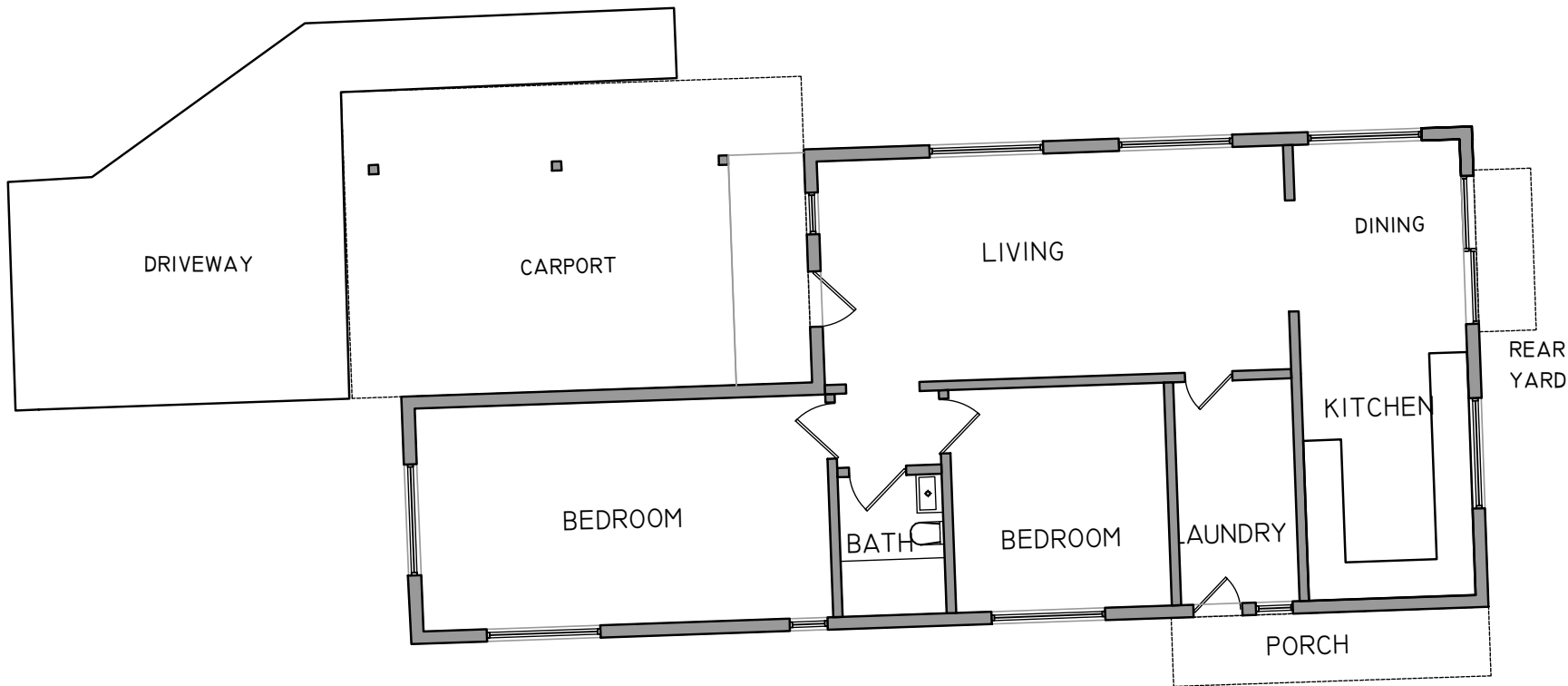
SHEET
3
OF 3 SHEETS



(N) UPPER LEVEL 1/8" 1'-0"



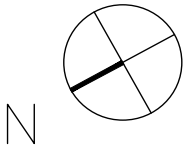
(N) LOWER LEVEL 1/8" 1'-0"



EXISTING 1/8" 1'-0"

WN.1.2 PROPOSED UNIT PLANS 1/8" 1'-0"

PROPOSED DEMAND:

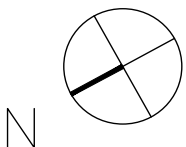


ACCEPTABLE THEORETICAL DEMAND FOR RESIDENTIAL FLOWS AND USES FROM ST HELENA WATER NEUTRAL POLICY FOR DEVELOPMENT, WHITE PAPER.					
PROPOSED OCCUPANCY IS 8 PEOPLE, BASED UPON (2) OCCUPANTS PER BEDROOM / OFFICE X (4) PROPOSED BEDROOM / OFFICE SPACES					
FIXTURE	FLOW RATE: GAL/MIN OR FLUSH	FLOW DURATION (MIN,FLUSH,LOAD)	DAILY USE PER OCCUPANT	TOTAL OCCUPANTS	GALLONS/DAY
SHOWER HEADS	2	8	1	8	128
SINK FAUCET	1.5	0.25	3	8	9
KITCHEN FAUCET	1.5	4	1	8	48
TOILET	1.3	1	3	8	31.2
CLOTHES WASHER	19.7	1	0.37	8	58.312
DISHWASHER	6.3	1	0.1	8	5.04
TOTAL DAILY PROPOSED USE					279.552

BASED UPON ACCEPTICAL THEORETICAL DEMAND AND EFFICIENT WATER-CONSERVING FIXTURES, TOTAL PROPOSED USE OF 279.552 GALLONS/DAY IS BELOW THE ASSUMED CURRENT 300 GPD USAGE.

WN.1.1 EXISTING HOUSE PLAN 1/8" 1'-0"

EXISTING USAGE:



CALCULATION IN GALLONS PER DAY (GPD) PER BEDROOM.

TWO BEDROOMS AT 150 GPD/BEDROOM = 300 GPD CURRENT USE

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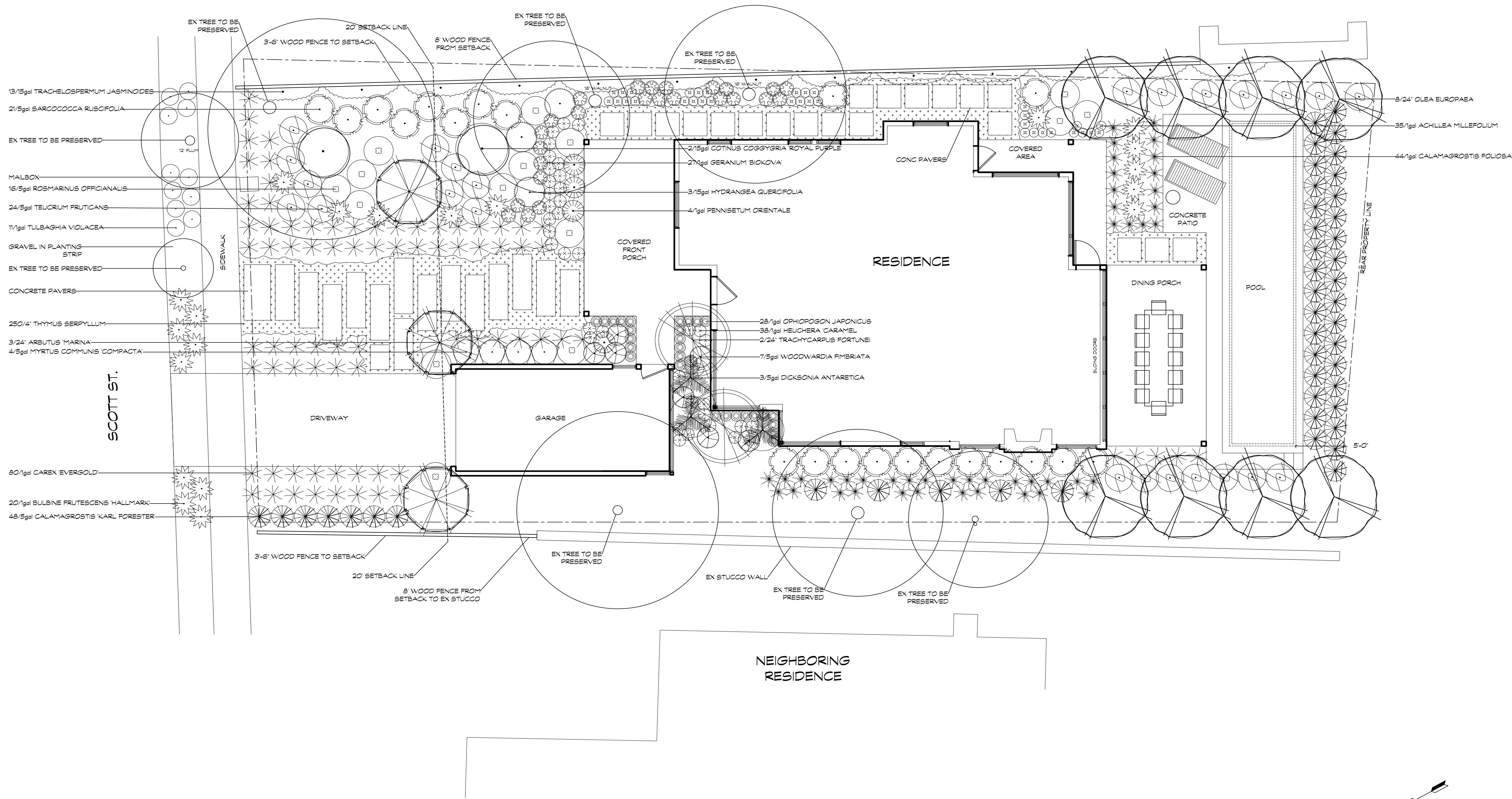
DRAWN BY: JM SCALE: VARIES
DATE: 10/23/2017 CHECK: GB

SHEET TITLE:
WATER NEUTRALITY PLAN

SHEET NUMBER:
WN-1

- PLANTING NOTES:
- LAYOUT OF PLANTING IS DIAGRAMMATIC AND MAY NEED ADJUSTING IN THE FIELD DEPENDING ON SITE CONDITIONS AND PLANT AVAILABILITY.
 - ALL PLANTS TO BE PLANTED IN THE FIELD BY ROZANSKI DESIGN.
 - ALL PLANTS TO BE PLANTED WITH PREMIUM PLANTING MIX.
 - ALL PLANTS TO BE SELECTED BY ROZANSKI DESIGN AND ALL SUBSTITUTIONS MUST BE APPROVED IN ADVANCE.
 - PLANTED AREAS SHALL BE COVERED WITH AT LEAST 3" OF ARBOR MULCH.

- SOIL & MULCH NOTES:
- THERE SHALL BE A MINIMUM OF 8" OF NON-MECHANICALLY COMPACTED SOIL IN PLANTED AREAS FOR WATER ABSORPTION AND ROOT GROWTH.
 - COMPOST SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF AT LEAST 8".
 - ALL EXPOSED SOIL SURFACES OF PLANTED AREAS SHALL BE COVERED WITH ARBOR MULCH AT A DEPTH OF AT LEAST 3".



PLANT QUALITY:

NO PLANT MATERIAL WILL BE ACCEPTED WITH ROOT DEFECTS, INCLUDING KINKING, CIRCLING, POTBANDING, OR OTHER DAMAGE. THERE SHALL BE NO ROOTS LARGER THAN 1/4" DIAMETER AT THE PERIPHERY OF THE ROOT BALL. ALL PLANTS SHALL MEET THE SPECIFICATIONS OF FEDERAL, STATE AND COUNTY REGULATIONS REQUIRING INSPECTION FOR PLANT DISEASES, INSECTS, NOXIOUS WEEDS, AND OTHER PESTS AND ABNORMALITIES. ANY INSPECTION CERTIFICATES REQUIRED BY LAW MUST ACCOMPANY EACH SHIPMENT, INVOICE, MANIFEST OR ORDER OF STOCK. TRANSPORTING, HANDLING, DELIVERY AND STORAGE OF PLANTS SHALL BE CONDUCTED TO PROTECT AT ALL TIMES FROM INJURY, DESICCATION AND FREEZING. PROTECT CONTAINERS FROM SUN EXPOSURE. SINGLE-STEMMED TREES SHALL HAVE PROPER TRUNK TAPER AND ABILITY TO STAND WITHOUT SUPPORT. THE BRANCHING STRUCTURE OF TREES SHALL BE RADIAL AND VERTICALLY WELL BALANCED WITH STRONG ATTACHMENT TO THE TRUNK. TOP GROWTH SHALL EXHIBIT GOOD VIGOR TYPICAL FOR THE SPECIES AND THE SEASON AS INDICATED BY LEAF COLOR AND SIZE, LENGTH OF TERMINAL GROWTH AND COLOR, AND CONDITION OF THE BARK. NONE OF THE PLANTS SHALL HAVE SERIOUSLY BROKEN, FROZEN, SHRIVELED OR DAMAGED LEADERS OR MAIN BRANCHES.

INSTALLATION:

AT LEAST ONE PLANT IN EACH SPECIES SHALL BE TAGGED WITH IDENTIFICATION. LOCATION OF PLANTS IS DIAGRAMMATIC. ALL CONTAINER-GROWTH PLANTS SHALL BE SET IN PLACE ACCORDING TO THE PLAN FOR APPROVAL OF THE OWNERS' REPRESENTATIVE PRIOR TO INSTALLATION. PRUNE PLANTS ONLY TO REMOVE DAMAGED LEAVES, BRANCHES AND SPENT FLOWERS AND TO IMPROVE BRANCHING STRUCTURE AND SHAPE.

DATE:	REVISION:
2/23/17	CT

driscoll residence

PLANTING PLAN

SCALE: 3/16" = 1'0"
1727 Scott St.
St. Helena CA, 94574

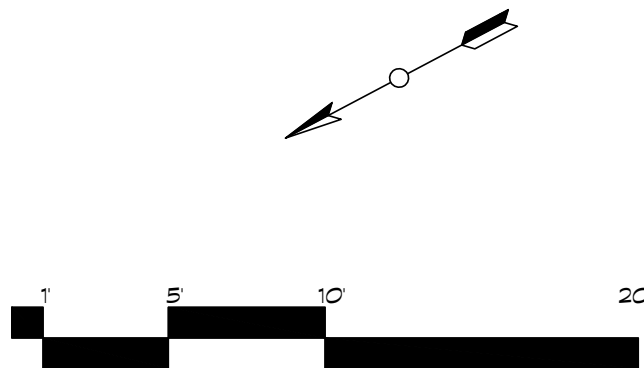
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L1

SHEET 1 OF 4

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design

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PLANTING NOTES:

- LAYOUT OF PLANTING IS DIAGRAMMATIC AND MAY NEED ADJUSTING IN THE FIELD DEPENDING ON SITE CONDITIONS AND PLANT AVAILABILITY.
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SOIL & MULCH NOTES:

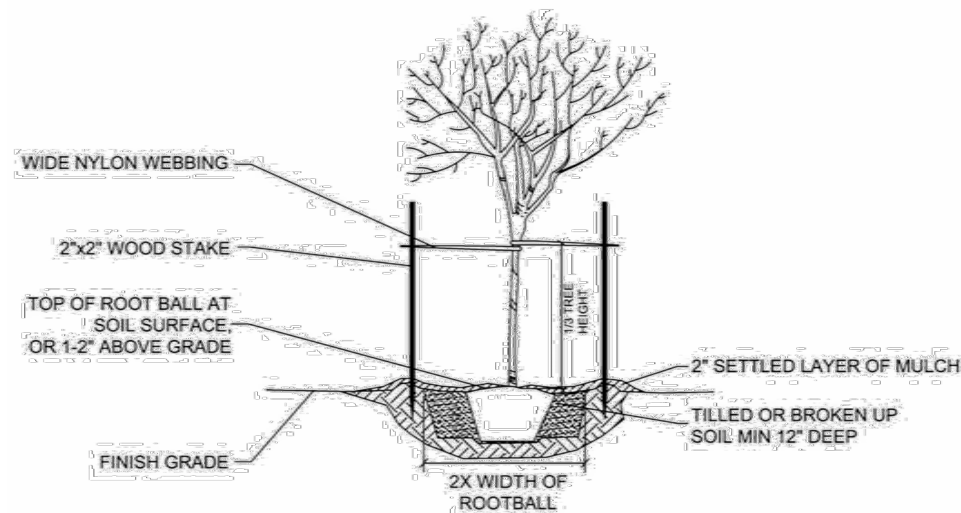
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TREE PLANTING DETAIL
SCALE: NTS

TREES				
Symbol	Qty.	Size	Botanical Name	Common Name
	3	24" box	Arbutus 'Marina'	Strawberry Tree
	8	24" box	Olea europaea	Olive
	2	24" box	Trachycarpus fortunei	Windmill Palm

PERENNIALS				
Symbol	Qty.	Size	Botanical Name	Common Name
	35	1 gal	Achillea millefolium	Yarrow
	20	1 gal	Bulbine frutescens 'Hallmark'	Orange Stalked Bulbine
	27	1 gal	Geranium 'Biokava'	Biokava Cranesbill
	38	1 gal	Heuchera 'Caramel'	Coral Bells
	250	4" pot	Thymus serpyllum	Creeping Thyme

GRASSES				
Symbol	Qty.	Size	Botanical Name	Common Name
	48	5 gal	Calamagrostis 'Karl Forester'	Reed Grass
	44	1 gal	Calamagrostis foliosa	Mendocino Reed Grass
	80	1 gal	Carex Evergold	Evergold Sedge
	28	1 gal	Ophiopogon japonicus	Mondo Grass
	4	1 gal	Pennisetum orientale	Chinese Fountain grass

SHRUBS				
Symbol	Qty.	Size	Botanical Name	Common Name
	2	20 gal	Cotinus coggygria	Smoke Tree
	3	24" box	Dicksonia antarctica	Tree Fern
	3	5 gal	Hydrangea quercifolia	Oak Leaf Hydrangea
	4	5 gal	Myrtus c. 'Compacta'	Dwarf Myrtle
	16	5	Rosmarinus officianalis	Rosemary
	21	5 gal	Sarcococca ruscifolia	Sweet Box
	11	1	Tulbaghia violacea	Society Garlic
	13	15 gal	Trachelospermum jasminoides	Star Jasmine
	24	15 gal	Teucrium fruticans	Germanier
	7	5 gal	Woodwardia fimbriata	Giant Chain Fern

DATE:	REVISION:
2-23-17	CT

driscoll residence

PLANTING LEGEND

SCALE: NTS
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St. Helena CA, 94574

APN: 009-292-006

L2

SHEET 2 OF 4

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IRRIGATION NOTES:

THE LANDSCAPE CONTRACTOR SHALL DESIGN AND INSTALL A FULLY AUTOMATIC IRRIGATION SYSTEM TO PROVIDE FULL AND THOROUGH COVERAGE TO ALL NEWLY PLANTED AREAS SHOWN ON THE PLANTING PLAN. THE SYSTEM DESIGN SHALL ACCOMMODATE THE WATER REQUIREMENTS OF THE CALIFORNIA NATIVE MATERIALS AND ORNAMENTALS, AND PROVIDE FOR SEPARATE VALVES FOR EACH EXPOSURE AND AS REQUIRED. DRIP EMITTERS WITH FLEXIBLE TUBING SHALL BE INSTALLED AT EACH PLANT. IN AREAS DENSELY PLANTED WITH 4" SIZE MATERIALS, ONE EMITTER MAY SUFFICE FOR 2 OR 3 PLANTS. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL ORDINANCES AND CODES OF THE CITY OF ST. HELENA.

ALL MAINLINE PIPING AND CONTROL WIRING SHALL BE INSTALLED IN SEPARATE SCHEDULE 40 PVC SLEEVES. NOMINAL TWO SIZES LARGER THAN THE IRRIGATION PIPE, AND NOT LESS THAN 4" IN DIAMETER. SLEEVES SHALL BE BURIED A MINIMUM OF 2'-0" BELOW FINISHED GRADE AND BACKFILLED WITH GRAVEL NOT TO EXCEED 1/2" PARTICLE SIZE. NO LARGE ROCKS OR EXTRANEIOUS MATERIALS WILL BE USED IN TRENCH BACKFILL. EXTEND SLEEVES A MINIMUM OF 4" BEYOND ALL PAVING, WALLS, ETC. THE 'HUNTER I-CORE' CONTROLLER SHALL BE INSTALLED AS DIRECTED BY THE OWNER. PROVIDE TWO SETS OF KEYS TO THE CONTROLLER TO THE OWNER, AS WELL AS FULL INSTRUCTION ON THE OPERATION OF THE CONTROLLER. THE INSTALLER SHALL REVIEW THE PLANNED SYSTEM WITH THE OWNERS' REPRESENTATIVE PRIOR TO INSTALLATION.

- HUNTER I-CORE IRRIGATION CONTROLLER WILL BE INSTALLED TO CONTROL THE IRRIGATION SCHEDULE.
- RAIN SENSOR WILL BE INSTALLED FOR THE I-CORE CONTROLLER.
- ALL VALVES WILL BE ANTI-SIPHON AND PRESSURE REGULATED.
- ALL TREES TO BE PLACED ON A SEPARATE VALVE.
- CHECK VALVE AND BACK FLOW VALVE TO BE INSTALLED.
- ALL PLANTS ARE TO IRRIGATED WITH 1/2" DRIP TUBING AND 2 GPH EMITTERS.
- TURF WILL BE IRRIGATED WITH MP ROTATORS (HUNTER), USING IN-LINE EMITTERS BETWEEN THE PAVERS.
- IRRIGATION LAYOUT IS DIAGRAMMATIC AND INTENDED TO SHOW GENERAL LOCATIONS. FIELD ADJUSTMENTS MAY BE NECESSARY.

IRRIGATION NOTES:

- HUNTER I-CORE IRRIGATION CONTROLLER WILL BE INSTALLED TO CONTROL THE IRRIGATION SCHEDULE.
- RAIN SENSOR WILL BE INSTALLED FOR THE I-CORE CONTROLLER.
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- CHECK VALVE AND BACK FLOW VALVE TO BE INSTALLED.
- ALL PLANTS ARE TO IRRIGATED WITH 1/2" DRIP TUBING AND 2 GPM EMITTERS.
- TURF WILL BE IRRIGATED WITH MP ROTATORS, USING IN-LINE EMITTERS BETWEEN THE PAVERS AND ALONG THE POOL COPING EDGE.
- IRRIGATION LAYOUT IS DIAGRAMMATIC AND INTENDED TO SHOW GENERAL LOCATIONS. FIELD ADJUSTMENTS MAY BE NECESSARY.

IRRIGATION TABLE:

HYDROZONE	IRRIGATION	PLANTING TYPE
ZONE 1	DRIP	FRONT YARD
ZONE 2	DRIP	FRONT YARD
ZONE 3	DRIP	SIDEWALK STRIP
ZONE 4	DRIP	FENCE VINES
ZONE 5	DRIP	SIDE YARD
ZONE 6	DRIP	SIDE YARD
ZONE 7	DRIP	REAR YARD
ZONE 8	N/A	POOL
ZONE 9	DRIP	FRONT PORCH
ZONE 10	DRIP	FRONT ENTRY
NOT PICTURED		
ZONE 11	DRIP	TREES FRONT
ZONE 12	DRIP	TREES BACK

IRRIGATION LEGEND:

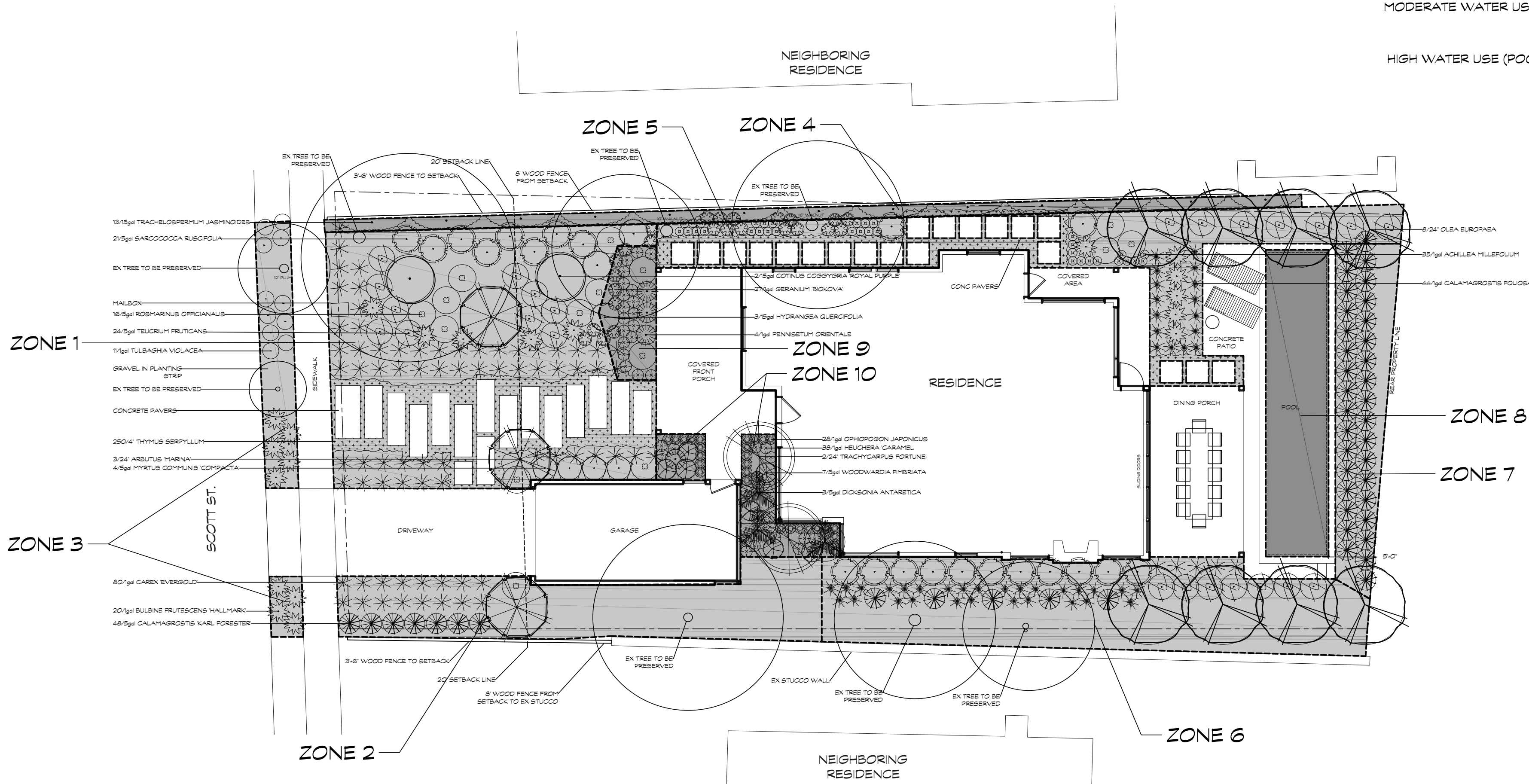
LOW WATER USE (DRIP)



MODERATE WATER USE (DRIP)



HIGH WATER USE (POOL)



WATER USE BREAKDOWN:

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)

TOTAL LANDSCAPE AREA: 3,119 SQ. FT.

MAXIMUM APPLIED WATER ALLOWANCE: 47,766 GAL

ESTIMATED TOTAL WATER USE (ETWU):

LOW WATER USE AREA 2,529 SQ. FT.
MEDIUM WATER USE AREA 345 SQ. FT.
HIGH WATER USE AREA 245 SQ. FT.

ESTIMATED TOTAL WATER USE 40,599 GAL

*SEE ATTACHED FORMS FOR COMPLETE WATER USE BREAKDOWN

driscoll residence

HYDROZONE PLAN

SCALE: 1/8" = 1'-0"
1727 Scott St.
St. Helena CA, 94574

APN: 009-292-006

L3

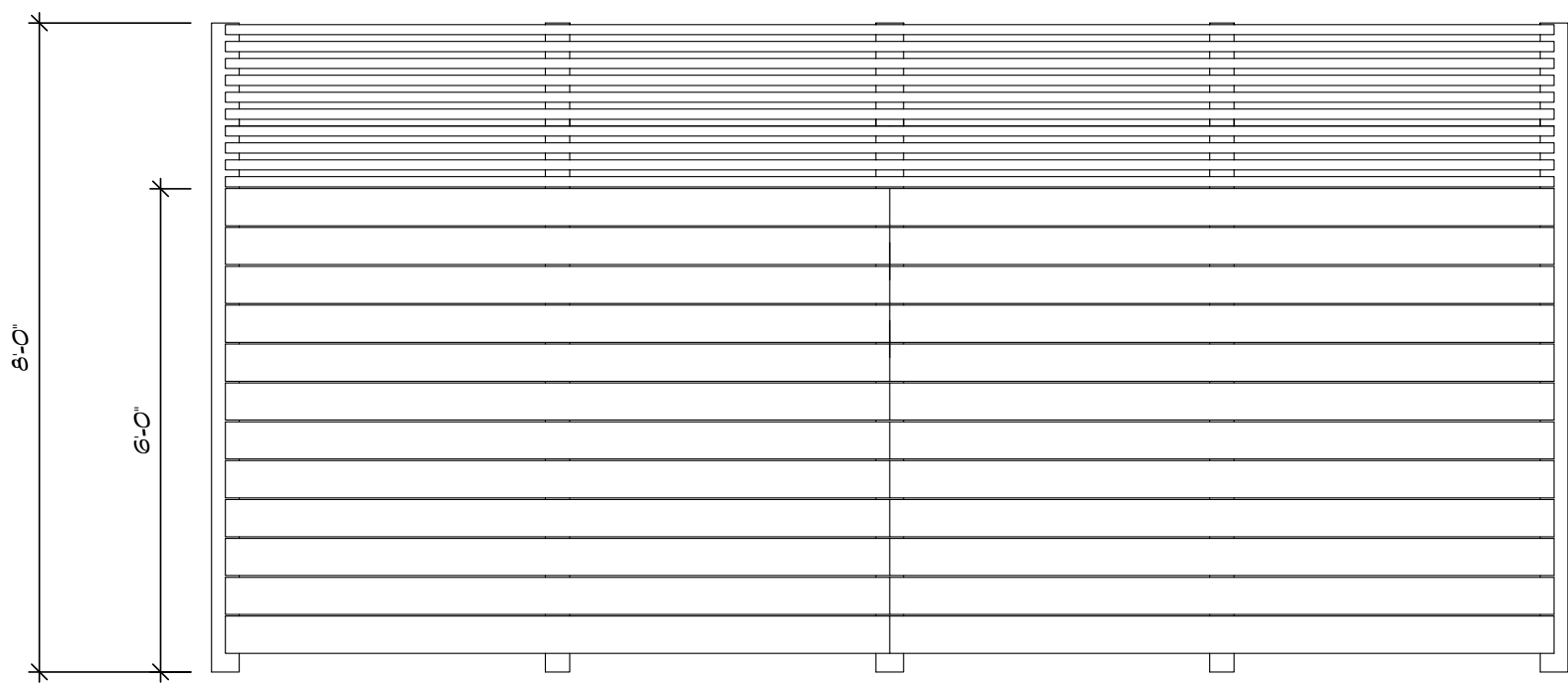
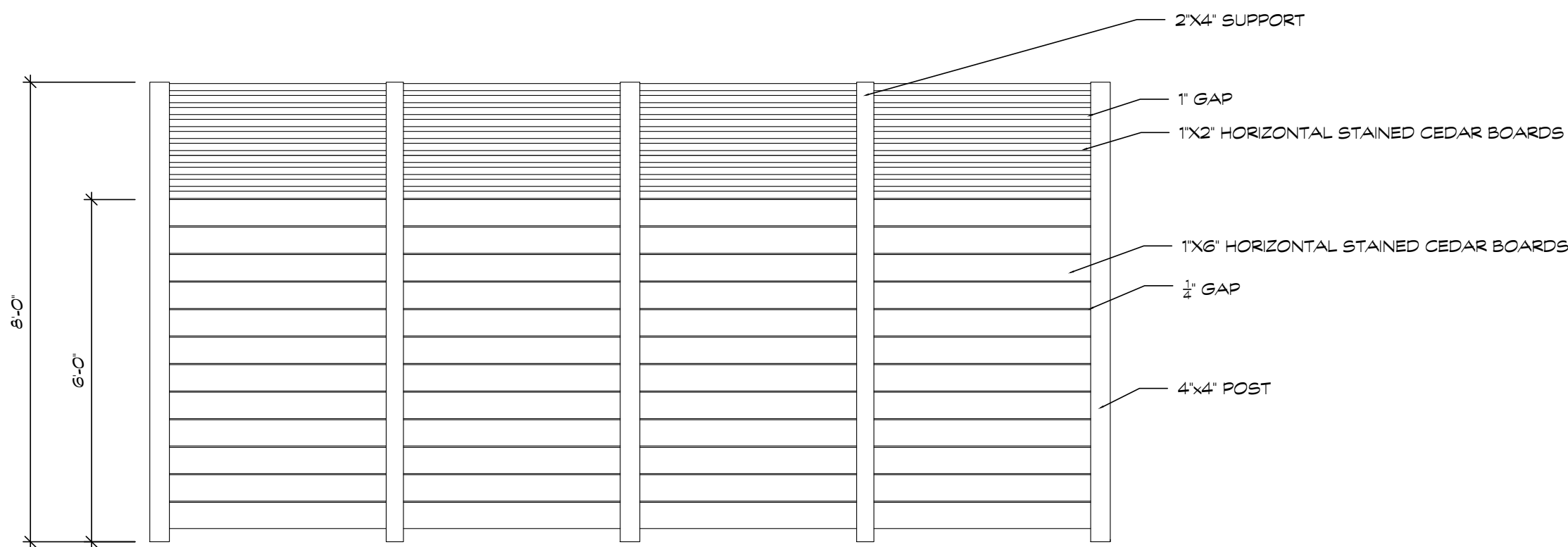
SHEET 3 OF 4

rozanski design

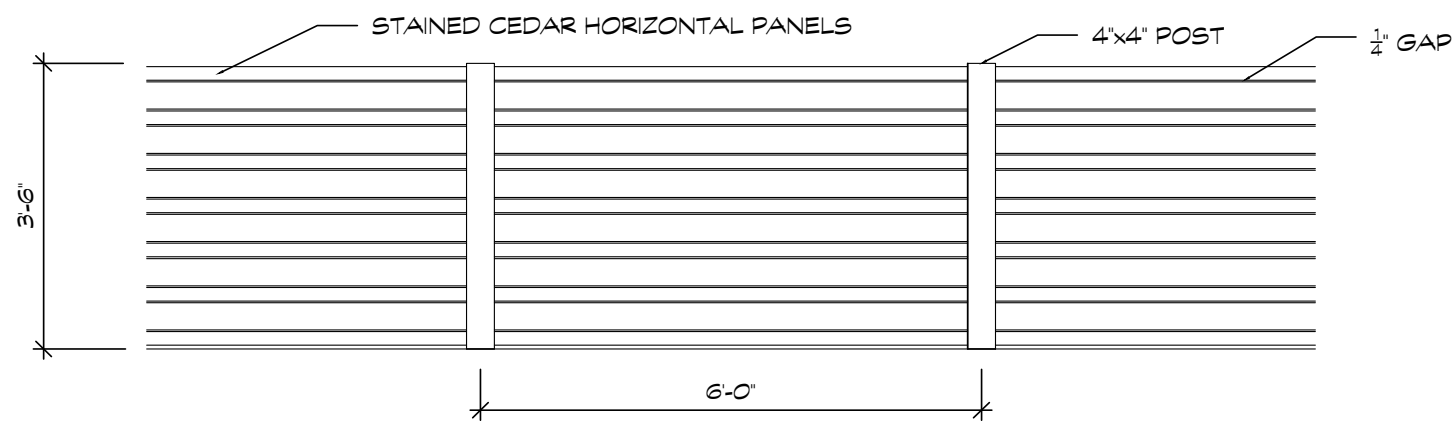
20820 broadway, suite c
sonoma, ca, 95476
707.343.1932

License #963723
www.rozanskidesign.com

DATE:	REVISION:
2/23/17	CL



REAR YARD FENCE DETAIL
SCALE: $\frac{1}{2}'' = 1'-0''$



FRONT YARD SIDE FENCE DETAIL
SCALE: $\frac{1}{2}'' = 1'-0''$

driscoll residence

FENCE DETAILS

SCALE: $\frac{1}{2}'' = 1'-0''$
1727 Scott St.
St. Helena, CA 94574
APN: 009-292-006

L4

SHEET 4 OF 4

rozanski
design

20820 broadway, suite c
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PLANNING COMMISSION REPORT

Planning Commission Meeting of November 7, 2017

AGENDA SECTION: Public Hearing

FILE NUMBER: PL16-094

SUBJECT: Mitigated Negative Declaration, Design Review and Use Permit applications requesting approval to construct an approximately 9,500 square foot addition to an existing 111,000 square foot building to operate a custom crush winemaking facility capable of making 120,000 gallons of wine, located at 420 La Fata St/890 Dowdell Ln in southeast St Helena.

APPLICATION FILED:11/15/17

ACCEPTED AS COMPLETE:07/31/17

LOCATION OF PROPERTY: 420 La Fata St/890 Dowdell Ln

APN: 009-660-004

GENERAL PLAN/ZONING: Industrial/Industrial

APPLICANT: Karen Ames

PHONE: 707-254-8598

BACKGROUND

Property Description

The proposed project is located east of State Route (SR) 29 in the eastern portion of the City of St. Helena, at 420 La Fata Street. The property is a 5.89-acre parcel (APN 009-66-004) that contains an existing industrial building, within an area bounded by Dowdell Lane, La Fata Street, and Mills Lane.

The site is currently occupied by an approximately 111,300-square-foot industrial building that contains a variety of light industrial type uses including warehouse, automotive, and other commercial and industrial land uses. The primary tenant of the existing building site is the Napa Valley Wine Warehouse. The site is improved with parking, landscaping and a storm water retention pond. An existing landscaped outdoor

seating area with gravel paths and several benches is located near the intersection of Dowdell Lane and La Fata Street.

This proposed application represents an expansion of the Napa Valley Wine Warehouse, which was initially approved in 1983 (Use Permit 96-114), amended in 1995 (Use Permit Amendment No. 95-78) and then further amended in 1996 (Use Permit Amendment 96-114). The past approvals have allowed "...a 100,000 square foot building for use as a wine warehouse and a 22,500 square foot commercial building" and have permitted "General Office" uses to operate from the existing industrial building, in addition to allowing an expansion in the wastewater volumes allowed to be produced by the tenants in the building. The proposed St. Helena Custom Crush Facility office is identified as likely to take the place of the existing space currently leased by Britton Tree Services Incorporated.

The site is adjacent to the City's Urban Limit Line, with existing vineyards to the north and east. Portions of the project site north of the existing building have been planted with grape vines. A winery warehouse facility and multi-tenant light industrial uses are located south of the project site. A PG&E substation and one-story tilt-up light industrial buildings are located to the west. Both of the adjacent streets are paved and the site is well served by all public utilities and services.

PROJECT DESCRIPTION

The proposed St. Helena Custom Crush Facility would expand the existing industrial building by constructing an approximately 9,500 square feet addition to the northwest area of the existing warehouse building and converting approximately 3,000 square feet of the existing warehouse into a barrel storage and tank room for the facility. The proposed expansion would be constructed in an area currently developed with an existing retention pond and parking. The entire custom crush operation is expected to occupy approximately 12,500 square feet.

The proposed Custom Crush Facility is proposed as an expansion of the existing Napa Valley Wine Warehouse, which currently provides wine case storage for local wineries. The proposed project would create a "one stop shop" for local vintners to crush, ferment, bottle, and store wines. When completed, the proposed facility is expected to have capacity to process approximately 120,000 tons of grapes annually (equivalent to about 50,000 cases of wine). The applicant intends to operate with four full-time and up to four part-time employees. The hours of operation will normally be from 8:00 a.m. to 5:00 p.m., Monday through Saturday. However, during the harvest season, (approximately August through November), longer hours of operation would be expected to occur.

Industrial Wastewater Treatment System

A proposed self-contained wastewater treatment system would be constructed on top of a 900-square-foot concrete slab directly north of the proposed Custom Crush Facility. Wastewater from wine production would be treated through this system and then pumped via a lift station into the existing 8- inch gravity sewer main in La Fata Street.

The wastewater treatment system would consist of a 10,000-gallon equalization tank for pre-treatment, a 10,000-gallon moving bed biofilm reactor tank, and a clarifier. A screen trellis would be installed along the northern boundary of the wastewater treatment system. The onsite system would pre-treat industrial wastewater from wine production to acceptable levels prior to discharging into the City's sewer system.

Bio-Retention Facility

A 900-square-foot bio-retention facility would be constructed near the intersection of La Fata Street and Mills Lane. All the storm water runoff from the new impervious areas will be collected by downspouts or storm drains and routed to the bio-retention facility. Downstream of the bio-retention facility, the water will be collected and conveyed through a new 2-inch storm drain to the proposed new storm water retention pond.

Retention Pond

The existing storm water retention pond located at the northwest corner of the site would be relocated and expanded. As proposed, a new approximately 9,100-square-foot retention pond would be constructed at the corner of Dowdell Lane and La Fata Street. The new retention pond, with a capacity of 41,000 cubic feet, would accommodate flows from the additional impervious areas introduced as part of the Custom Crush Facility as well as the flows generated from the existing improvements onsite. The retention pond would be excavated to a depth of six to eight feet and designed with 1-2 foot berms and a 4-foot-wide spillway to Dowdell Lane. A 5-foot tall fence would be installed along the perimeter of the new retention pond and all pond boundaries would be significantly landscaped.

Access and Parking

The project site is currently accessed from two existing driveways on La Fata Street. The two driveways provide access to 26 parking spaces and two loading docks. The project would add two new driveway entrances (for a total of four), from La Fata Street to access the project area. A total of eight new parking spaces are proposed to be added to the project site. The project also includes the restriping of a portion of the existing parking lot. Combined, the project site will provide 88-parking spaces.

Landscaping

Proposed landscaping would consist of trees and shrubs, and expands the landscaping on both La Fata Street and Dowdell Lane. A total of 30 trees would be planted on the project site, including one Redwood and two Coast live oaks. The trees and shrubs would primarily be planted along the frontage of La Fata Street, Mills Lane, and Dowdell Lane. New landscaping would also be installed around the perimeter of the new retention pond.

ANALYSIS

GENERAL PLAN

The project site is designated as Industrial by the St Helena 1993 General Plan. The Industrial (I) land use designation is described on page 2-8 and 2-26 of the General Plan as:

The I designation provides for industrial parks, warehouses, light manufacturing, auto and farm related equipment sales and repairs, viticulture support services, and similar and compatible uses. The FAR shall not exceed 0.50. This designation is found in two places: an area along Sulphur Springs Creek between Highway 29 and Valleyview Street, and an area east of Highway 29 and south of Mills Lane.

As an agricultural service center, St. Helena needs to accommodate industrial-type uses that support the region's agricultural and wine-making industries. The City also needs to accommodate warehouse uses, distribution centers, and other similar "light" industrial activities that may not be directly related to agriculture, but serve the North Valley population. The City is not striving to establish a true industrial base in the sense of heavy manufacturing or materials processing.

The Land Use Map designates the area south of Mills Lane and east of State Highway 29 for industrial-type uses. This area is flat, free of flooding, has direct access to rail and highway transportation, and is physically separated from sensitive residential or retail uses. The Plan also designates an area west of Highway 29, along the Sulphur Springs Creek corridor between the Service Commercial uses along the highway and Valleyview Street. This area has historically been occupied by industrial type uses such as the City Corporation Yard, a nursery, a gravel mining operation, and a contractor's yard.

Some of the most applicable 1993 General Plan policies include:

2.6.1 New development should be required to occur in a logical and orderly manner within well-defined boundaries, and be consistent with the ability to provide urban services.

2.6.4 Permit infill development and higher densities within currently developed areas wherever possible to minimize and postpone the need for expansion of the Urban Service Area.

2.6.53 Maintain a buffer between industrial areas and residential areas to the north.

2.6.54 Support the development of only those industries that are consistent with agricultural and environmental values and the role of the City as an agriculturally-based service center for the surrounding area.

2.6.55 Ensure that industrial projects are designed and sited so as to provide a positive image of the community. Landscaping and setbacks should be utilized to minimize visual impacts.

Staff Response: Staff finds that the proposed project implements the Industrial General Plan land use designation in that it proposes a light manufacturing use, which supports maintaining St Helena as viticulture focused agricultural service center. The project implements many of the policies of the 1993 General Plan in that the proposed addition to the existing building would expand the building in a logical manner, within the boundaries of the Urban Limit Line, the Industrial land use designation and the project site itself. It is essentially an infill development, proposing to add approximately 10-percent of floor area to an existing building on a developed parcel, surrounding be developed properties. Further, the project in no way diminishes the buffer between the industrial areas identified within the General Plan, and those residential land uses to the north. Finally, the proposed custom crush facility is a use consistent with the identified role of St Helena as an agricultural based service center for the surrounding area and the design incorporates materials and landscape elements, as well as an overall location on La Fata Street, that will improve the current image of that part of the community.

ZONING

The project site is located in the Industrial Zoning District. The Industrial zoning district is consistent with and implements the Industrial General Plan designation. Section 17.60 of the zoning code identifies the Industrial zoning District land use regulations with 17.60.010 stating that the purpose of the Industrial Zoning District is:

Purpose.

The industrial district (I) designation provides for industrial parks, warehouses, light manufacturing, auto and farm-related equipment sales and repairs, viticulture and winery support services and similar and compatible uses.

Specific to the proposed project, this section identifies that wineries (excluding retail sales and tasting=custom crush facilities) are a conditional use in this zoning district. A minimum 20-foot setback from all public streets is required; building heights are limited to a maximum of 45-feet; and a maximum floor area ratio of 0.50 (F.A.R.) is required for uses other than warehouse. Fencing is limited to three-feet in the front setback.

Zoning Code Section 17.060.070 G. identifies the landscaping criteria for the Industrial zoning District and identifies a minimum of 10-percent of the site is required to be landscaped and a minimum of 15-feet of landscape buffer is required adjacent to City streets (given it is a re-design, this applies to the areas proposed to accommodate the custom crush land use).

Parking requirements must be consistent with the provisions of 17.124 except that: Office uses shall provide 1 space per 300 square feet while General Industrial uses require 1 space per 650 square feet.

However Wine Warehouses are regulated separately. Wine warehouses shall provide at least one parking space per three hundred (300) square feet of office floor area and parking spaces for warehouse floor area as follows:

1. For warehouses up to twenty-five thousand (25,000) square feet in size: one parking space per five thousand (5,000) square feet of warehouse floor area.
2. For warehouses in excess of twenty-five thousand (25,000) square feet: five parking spaces plus one parking space for each ten thousand (10,000) square feet of warehouse floor area, in excess of twenty-five (25,000) square feet. Total parking spaces required for warehouse floor area under this section shall not exceed fifteen (15) spaces.

Staff Response-Staff finds that the proposal to expand the existing industrial building and use by constructing an approximately 9,500 square feet addition to the northwest area of the existing warehouse building to accommodate the St Helena Custom Crush facility is consistent with the intent and specific development criteria of the Industrial Zoning District. The project is a wine making facility which is consistent with the stated purpose of the Industrial Zoning district. The design of the addition proposes a 40-foot setback from La Fata Street, a maximum height of 38-feet, incorporates a significant amount of landscaping (greater than 10%) in the area of the proposed addition with the new landscaped areas being designed to meet the 15-foot landscape buffer dimension. The project proposes to provide a total of 88-parking spaces more than meeting the code requirements for all on-site uses (the parking analysis for the proposal was very conservative, breaking up the warehouse uses into separate warehouses which increased the required parking count and conservatively analyzing the parking demand for the existing uses and tenants).

CEQA

An Initial Study of the proposed project resulted in the preparation of a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Plan. Supporting the CEQA analysis and documentation of the projects potential impacts, several studies were required including storm water control plan, well yield analysis, water use analysis (including documentation of compliance with the City's Water Neutrality Ordinance), sewer capacity analysis, septic feasibility analysis and a traffic report. Copies of these documents were included as appendices to the Mitigated Negative Declaration. The results of this analysis identified potential impacts to Air Quality, Biological Resources, Cultural Resources and Hydrology and Water Quality. However, as identified in the attached document, all of these impacts were able to be mitigated to levels less-than-significant

The draft Mitigated Negative Declaration was circulated for a 30-day comment period from September 25, 2017 to October 24, 2017, and the only comment received came from CalTrans, whom requested some additional information (attached). The comments from CalTrans did not trigger any significant changes to the analysis or document.

Further, in keeping with the requirements of AB 52, Tribal consultation was sought with all Tribes which have previously requested consultation under AB 52. Only the Yocha Dehe tribe responded to the City's request for consultation, and they indicated no concerns with the proposed project and did not request any further consultation.

WATER

A theoretical Water Use Analysis was completed by Delta Consulting and Engineering for the St Helena Custom Crush Facility. Due to potential changes in the existing tenants whom current rent space at the project location, this analysis identified a variety of methods that would allow the proposed project to meet the requirements of the St Helena Water Neutrality Ordinance.

Based on this description of the proposed use, the potential changes with existing tenants at the location, the water neutrality analysis identifies the project will be in compliance with the requirements of the Ordinance either through off site retrofits of two single family homes, through changes in the current tenants at the property or lastly through an option that would require City Council approval to purchase off-site retrofits.

It is worth noting that the project utilizes an onsite well to provide a majority of the projects water needs.

DESIGN REVIEW

The purpose of design review is to, among other things, promote the qualities that bring value to the community and foster attractiveness and functional utility of the community as a place to live and work. Below (and in the attached resolution) staff has included information identifying how the following design criteria, required to be considered by the Planning Commission in review of any Design Review application (Zoning Code Section 17.164.030) are met by the proposed project design.

1. Consistency and compatibility with applicable elements of the General Plan is found in that the project proposes a land use consistent with the Industrial land use designation, within the Urban Limit Line and is accomplished through an addition to an existing structure thereby limiting the expansion of development within the community;
2. Compatibility of design with the immediate environment of the site is supported given that the design incorporates features and materials compatible with the existing development, but which also enhance the aesthetic value of the existing building;
3. Relationship of the design to the site is found to be compatible given the limited scale of the addition, the proposed setbacks and the industrial context of the surrounding neighborhood;
4. Determination that the design is compatible in areas considered by the board as having a unified design or historical character is supported given that the scale and features incorporated into the design are compatible with the surroundings and the Commission has not previously identified this area as having a unified design or historical character;

5. Whether the design promotes harmonious transition in scale and character in areas between different designated land uses is found to be given that the addition is of a size and scale that respects the existing development of the surrounding industrial properties and will serve to enhance the character through the contemporary design elements design and use of quality materials;
6. Compatibility with future construction both on and off the site given that the addition is proposed in a location which maintains the access and function of other features on the property while also respecting the context and functionality of the surrounding neighborhood;
7. Whether the architectural design of structures and their materials and colors are appropriate to the function of the project is found in that the design provides appropriate design elements and exterior features such as board and bat siding and a cupola skylight;
8. Whether the planning and siting of the various functions and buildings on the site create an internal sense of order and provide a desirable environment for occupants, visitors and the general community which the project does through appropriate setbacks and thoughtful site planning of the circulation and access locations as well as the siting of the ancillary features of the use;
9. Whether the amount and arrangement of open space and landscaping are appropriate to the design and the function of the structures which they are given the provided site plan, setback and landscaping proposed maintains existing features on site while also exceeding the landscaping square footage and dimension requirements of the zoning code;
10. Whether sufficient ancillary functions are provided to support the main functions of the project and whether they are compatible with the project's design concept which the ancillary functions such as the waste treatment, storage and disposal functions, the loading dock and the stormwater treatment infrastructure are found to be;
11. Whether access to the property and circulation systems are safe and convenient for pedestrians, cyclists and vehicles be given the parking lot design improvements, the improvements to the circulation features and the conditions placed on the project approval, including bicycle parking;
12. Whether natural features are appropriately preserved and integrated with the project which the project seeks to do through careful site planning of the detention basin, and preservation of existing redwood trees and other significant landscape features on site;

13. Whether the materials, textures, colors and details of construction are an appropriate expression of its design concept and function and whether they are compatible with the adjacent and neighboring structure and functions which they are given the siding choices, design theme and elements such as wood screening walls and decorative fencing;

14. In areas considered by the board as having a unified design character or historical character, whether the design is compatible with such character which the design is found to be as is required and necessary, given the findings, features and elements referenced above;

15. Whether the landscape design concept for the site, as shown by the relationship of plant masses, open space, scale, plant forms and foliage textures and colors create a desirable and functional environment and whether the landscape concept depicts an appropriate unity with the various buildings on the site which it does through careful and appropriate planting choices and locations, the maintenance of the significant landscape features and the extensive landscaping of the detention basin;

16. Whether plant material is suitable and adaptable to the site, capable of being properly maintained on the site, and is of a variety which is suitable to the climate of St. Helena which it is given the drought tolerant elements and existing vegetation proposed and appropriately sited;

17. Whether sustainability and climate protection are promoted through the use of green building practices such as appropriate site/architectural design, use of green building materials, energy efficient systems and water efficient landscape materials which are, based on the significant energy and water saving requirements of the California Building Code and City of St Helena development criteria, in addition to the passive lighting elements proposed in the design.

USE PERMIT

The purpose of a use permit is to allow the proper integration in the city of essential or desirable uses which may be suitable only in certain locations or zoning districts, or to ensure that such uses are designed or arranged on the site in a particular manner. In its review of applications for use permits, the planning commission shall evaluate each proposed use in order to consider its impact on the city. No use permit shall be granted unless all of the following general findings can be made (Zoning Code Section 17.168 040):

1. That the proposed use would not generate odors, fumes, dust, light, glare, radiation or refuse that would be injurious to surrounding uses or to the community in that all equipment, storage and refuse disposal areas are fully screened from public view and the storage and disposal of grape pumice has been reviewed and conditioned to reduce potential impacts during wine production.

2. That the proposed use would not generate levels of noise that adversely affect the health, safety, or welfare of neighboring properties or uses in all wine production activities will occur within the proposed addition and the use is not anticipated to generate significant increases in noise beyond those allowed in the Industrial zoning district.
3. That the proposed use would not generate traffic noise in excess of the "normally acceptable" range identified in the General Plan given that the project is not projected to significantly increase traffic levels in the industrially designated properties or on the circulation network of St Helena.
4. That the proposed use would not make excessive demands on the provision of public services including water supply, sewer capacity, energy supply, communication facilities, police protection, and fire protection given that the project has been thoroughly analyzed for potential impacts to public services and specific conditions and mitigation measures, including the construction and expansion of infrastructure to reduce these potential impacts, has been required as an element of the project CEQA review and approval.
5. That the proposed use would provide adequate ingress and egress to and from the proposed location is found to be the case given that two additional access drives are proposed to occur as a part of the project improvements and the parking lot is proposed to be restriped to further improve access to the property.
6. That allowing the proposed use would not conflict with the City's goal of maintaining the economic viability of a local serving economy is found in that the proposed use is supporting the agricultural base of the City's economy by providing additional opportunities for wine making in a way that focuses on the production of wine, without incorporating visitor serving components.
7. That the proposed use would be compatible with surrounding land uses and would not conflict with the purpose established for the district within which it would be located is supported in that the use is an industrial production facility, incorporating infrastructure improvements and features to support the industrial nature of the land uses in the area.
8. That the proposed use would not be in conflict with the City's General Plan is found given that it is an industrial use in an area designated for industrial land uses.
9. That the proposed use would not be injurious to public health, safety, or welfare is supported given that the production of wine is not generally a hazardous use and the project was not identified as having features or elements of a particularly hazardous nature.

10. That granting the use permit would not set a precedent for the approval of similar uses whose incremental effect would be detrimental to the City or would be in conflict with the General Plan is also found given that the use is conditional in the land use designation which requires individual review and action on any similar requested land use, the review of which requires analysis of incremental effects and individual project merits.
11. That, as demonstrated on a detailed plan submitted by the applicant, adequate off-street parking to accommodate the long term parking needs of employees and business owners and customers is available.
12. That the capacity of surrounding streets is adequate to serve the automobile and delivery truck traffic generated by the proposed use is found based on the proposed number of employees supporting the use, the analysis in the Traffic Report and information in other supporting sections of the CEQA document. This is further supported by the project's requirement to pay the "fair share" of its impacts on the circulation network and traffic mitigation improvements identified in the Highway 29 Specific Plan.

ISSUES

Detention Basin Location and Fence Height

The only unresolved issue with the project that has been identified by staff is the location of the stormwater detention basin and associated safety fence surrounding this feature. As state requirements for the pre-treatment of streamer have increased, the design of stormwater treatment features and infrastructure have tended toward larger pre-treatment features and locations. Several constraints on the project location, primarily the fact that the site was previously developed and efforts on the part of the design team to reduce traffic and noise impacts on adjacent properties, the available locations for stormwater infrastructure are relatively limited. These limitations and constraints resulted in the design team proposing to locate the stormwater detention basin at the intersection of La Fata St and Dowdell Ln.

In response to concerns raised by staff, the design team spent significant efforts to ensure the basin will serve both as stormwater infrastructure and a landscape amenity for the development. The design incorporates significant landscaping, including preserving several large redwood trees which serve as a visual buffer from the existing building, utilizes low berms and a decorative safety fence to ensure the visual appearance is aesthetically pleasing, and incorporates pedestrian access along the edge of the berm, between the building and adjacent roadways. The fencing surrounding the detention basin is required to be of a minimum 5-foot height to deter individuals from entering the feature (as a safety measure). The Industrial Zoning District identifies fencing in the front setback shall have a maximum height of 3.5-feet. It is the opinion of staff that the life and safety requirements of stormwater detention, take precedence over the zoning code height limitation.

Further, the proposed location of the addition and ancillary support equipment is the best place to site these elements to reduce overall project impacts (resulting from noise and circulation). The need to site these features in the location of the current detention basin forces the relocation (of the basin), and the proposed location at the intersection is the best site to allow the needs of the current and proposed development be met (parking, circulation and stormwater treatment). Given this, staff finds the issue of the detention basin and associated safety fence to have been resolved, and a condition allowing the height exception has been added to the project resolution.

CORRESPONDENCE

As of the date of the drafting of this report, one comment letter has been received from CalTrans (attached) specific to the draft Mitigated Negative Declaration.

STAFF RECOMMENDATION

It is recommended by the Planning and Community Improvement Department that the Planning Commission:

1. Accept the analysis and findings identified in the Initial Study and approve the associated Mitigated Negative Declaration; and
2. Accept the required findings and approve the Use Permit and Design Review for the proposed St Helena Custom Crush project which would construct an approximately 9,500 square foot addition to an existing 111,000 square foot building to operate a custom crush winemaking facility capable of making 120,000 gallons of wine, located at 420 La Fata St/890 Dowdell Ln in southeast St Helena.

ATTACHMENTS

[PC Reso-Use Permit and DR St Helena Custom Crush](#)

[Use permit resubmittal-Set 1](#)

[17-02-28 Lyve System Komes Winery Set 2](#)

[Side-folding-grille Set 3](#)

[Past Use Permit Approvals](#)

[public draft is-mnd st. helena custom crush 9.22.17](#)

[C. Stormwater Control Plan Rev. 9.20.17](#)

[D. Water Well Yield Test Custom Crush 03-24-2016](#)

[E. Water Use St. Helena Custom Crush 03-17-17](#)

[F. Helena Custom Crush Winery Sewer Main Analysis Rev2 09-20-17](#)

[H. Traffic Analysis Custom Crush July 2017](#)

[CalTrans Comment Letter](#)

CITY OF ST. HELENA PLANNING COMMISSION

RESOLUTION PC20xx-xx

**RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ST. HELENA
GRANTING APPROVAL OF DESIGN REVIEW AND A USE PERMIT
FOR THE ST HELENA CUSTOM CRUSH FACILITY, TO ALLOW THE
CONSTRUCTION OF A 9,500 SQUARE FOOT ADDITION TO AN EXISTING
STRUCTURE TO HOUSE A WINE PRODUCTION FACILITY PRODUCING A
MAXIMUM OF 120,000 GALLONS OF WINE, LOCATED AT 420 LA FATA STREET/890
DOWDELL LANE (File No. PL16-094)**

PROPERTY OWNER: JOHN KOMES (DOWDELL INVESTORS, LLC)

APN: 009-660-004

Recitals

A. On November 15, 2016, Karen Ames submitted an application for Design Review and Use Permit approval requesting to construct an approximately 9,500 square foot addition to an existing wine warehouse to expand the use to include a 120,000 gallon custom crush wine making facility at 420 La Fata St/890 Dowdell Ln in the Industrial Zoning District; and

B. On September 25, 2017, the City of St Helena published a draft Mitigated Negative Declaration, which analyzed the potential environmental impacts of the St Helena Custom Crush facility, for a 30-days public review and comment period; and

C. On November 7, 2017, the Planning Commission of the City of St. Helena, State of California, considered the project, staff report, and all testimony, written and spoken, at a duly noticed public hearing.

D. Now, therefore let it be found that, the Planning Commission adopts the Mitigated Negative Declaration and Mitigation and Monitoring and Reporting Program, and approves the requested Use Permit and Design Review for the St Helena Custom Crush Facility project located at 420 La Fata St and 890 Dowdell Ln on the following basis:

Resolution

A. CEQA Findings

1. The Planning Commission has independently reviewed and analyzed the Initial Study/Mitigated Negative Declaration and other information in the record and has considered the information contained therein, prior to acting upon or approving the Project,

2. The Initial Study/Mitigated Negative Declaration prepared for the Project has been completed in compliance with CEQA and consistent with state and local guidelines implementing CEQA,
3. On the basis of the whole record, there is no substantial evidence that the Project as designed, conditioned, and mitigated, will have a significant effect on the environment.
4. The Initial Study/Mitigated Negative Declaration represents the independent judgment and analysis of the City as lead agency for the Project.

B. The Planning Commission has considered the Design Review design criteria identified in Municipal Code Section 17.164.030 to support the motion to approve the Design Review given that the project has been found to demonstrate:

1. Consistency and compatibility with applicable elements of the General Plan is found in that the project proposes a land use consistent with the Industrial land use designation, within the Urban Limit Line and is accomplished through an addition to an existing structure thereby limiting the expansion of development within the community;
2. Compatibility of design with the immediate environment of the site is supported given that the design incorporates features and materials compatible with the existing development, but which also enhance the aesthetic value of the existing building;
3. Relationship of the design to the site is found to be compatible given the limited scale of the addition, the proposed setbacks and the industrial context of the surrounding neighborhood;
4. Determination that the design is compatible in areas considered by the Commission as having a unified design or historical character is supported given that the scale and features incorporated into the design are compatible with the surroundings and the Commission has not previously identified this area as having a unified design or historical character;
5. Whether the design promotes harmonious transition in scale and character in areas between different designated land use is found to be given that the addition is of a size and scale that respects the existing development of the surrounding industrial properties and will serve to enhance the character through the contemporary design elements design and use of quality materials;
6. Compatibility with future construction both on and off the site is maintained given that the addition is proposed in a location which maintains the access and function of other features on the property while also respecting the context and functionality of the surrounding neighborhood;
7. Whether the architectural design of structures and their materials and colors are appropriate to the function of the project is found in that the design provides appropriate design elements and exterior features such as board and bat siding and a cupola skylight;

8. Whether the planning and siting of the various functions and buildings on the site create an internal sense of order and provide a desirable environment for occupants, visitors and the general community which the project does through appropriate setbacks and thoughtful site planning of the circulation and access locations as well as the siting of the ancillary features of the use;
9. Whether the amount and arrangement of open space and landscaping are appropriate to the design and the function of the structures which they are given the provided site plan, setback and landscaping proposed maintains existing features on site while also exceeding the landscaping square footage and dimension requirements of the zoning code;
10. Whether sufficient ancillary functions are provided to support the main functions of the project and whether they are compatible with the project's design concept which the ancillary functions such as the waste treatment, storage and disposal functions, the loading dock and the stormwater treatment infrastructure are found to be;
11. Whether access to the property and circulation systems are safe and convenient for pedestrians, cyclists and vehicles is found to be given the parking lot design improvements, the improvements to the circulation features and the conditions placed on the project approval, including bicycle parking;
12. Whether natural features are appropriately preserved and integrated with the project which the project seeks to do through careful site planning of the detention basin, and preservation of existing redwood trees and other significant landscape features on site;
13. Whether the materials, textures, colors and details of construction are an appropriate expression of its design concept and function and whether they are compatible with the adjacent and neighboring structure and functions which they are given the siding choices, design theme and elements such as wood screening walls and decorative fencing;
14. In areas considered by the board as having a unified design character or historical character, whether the design is compatible with such character which the design is found to be as is required and necessary, given the findings, features and elements referenced above;
15. Whether the landscape design concept for the site, as shown by the relationship of plant masses, open space, scale, plant forms and foliage textures and colors create a desirable and functional environment and whether the landscape concept depicts an appropriate unity with the various buildings on the site which it does through careful and appropriate planting choices and locations, the maintenance of the significant landscape features and the extensive landscaping of the detention basin;

16. Whether plant material is suitable and adaptable to the site, capable of being properly maintained on the site, and is of a variety which is suitable to the climate of St. Helena, which it is given the drought tolerant elements and existing vegetation proposed and appropriately sited;
 17. Whether sustainability and climate protection are promoted through the use of green building practices such as appropriate site/architectural design, use of green building materials, energy efficient systems and water efficient landscape materials which are, based on the significant energy and water saving requirements of the California Building Code and City of St Helena development criteria, in addition to the passive lighting elements proposed in the design.
- C.** Let it be further resolved that the Planning Commission has considered the findings identified in Municipal Code Section 17.168.050 to support the motion to approve the Use Permit given that the project has been found to demonstrate:
- A. That the proposed use would not generate odors, fumes, light, glare, radiation or refuse that would be injurious to surrounding uses or to the community given the industrial nature of the projects surroundings and the conditions placed on the project;
 - B. That the proposed use would not generate levels of noise that adversely affect the health, safety or welfare of neighboring properties or uses given that the functions of the project are primarily located within the proposed addition and the project is not anticipated to generate excessive levels of noise;;
 - C. That the proposed use would not generate traffic noise in excess of the normally acceptable range identified in the general plan is found based on the analysis of the traffic report and the conditions placed on the project limiting idling and the location of the project within the City's industrial zoning district;
 - D. That the proposed use would not make excessive demands on the provision of public services including water supply, sewer capacity, energy supply, communication facilities, police protection and fire protection is found based on the projects use of well water, the significant pre-treatment infrastructure proposed for wastewater, the significant improvements to the energy efficiency of proposed features, the incorporation of skylights and fire sprinklers;
 - E. That the proposed use would provide adequate ingress and egress to and from the proposed location is found to be the case given that two additional access drives are proposed to occur as a part of the project improvements and the parking lot is proposed to be restriped to further improve access to the property.;
 - F. That allowing the proposed use would not conflict with the city's goal of maintaining the economic viability of a local-serving economy in that the proposed use is supporting the agricultural base of the City's economy by providing additional opportunities for wine making in a way that focuses on the production of wine, without incorporating visitor serving components;

G. That the proposed use would be compatible with surrounding land uses and would not conflict with the purpose established for the district within which it would be located is supported in that the use is an industrial production facility, incorporating infrastructure improvements and features to support the industrial nature of the land uses in the area;

H. That the proposed use would not be in conflict with the city's general plan given that it is an industrial use in an area designated for industrial land uses;

I. That the proposed use would not be injurious to public health, safety or welfare is supported given that the production of wine is not generally a hazardous use and the project was not identified as having features or elements of a particularly hazardous nature;

J. That granting the use permit would not set a precedent for the approval of similar uses whose incremental effect would be detrimental to the city or would be in conflict with the General Plan is also found given that the use is conditional in the land use designation which requires individual review and action on any similar requested land use, the review of which requires analysis of incremental effects and individual project merits;

K. That, as demonstrated on a detailed plan submitted by the applicant, adequate off-street parking to accommodate the long-term parking needs of employees and business owners and customers is available is supported given that the project meets or exceeds all of the parking requires for both the proposed custom crush wine production land use, as well as the existing uses operating from the project site as is demonstrated on plan submitted for project review and approval;

L. That the capacity of surrounding streets is adequate to serve the automobile and delivery truck traffic generated by the proposed use is found based on the proposed number of employees supporting the use, the analysis in the Traffic Report and information in other supporting sections of the CEQA document. This is further supported by the project's requirement to pay the "fair share" of its impacts on the circulation network and traffic mitigation improvements identified in the Highway 29 Specific Plan.

D. Now therefore be it further resolved that, the Use Permit and Design Review for the above described project is granted subject to compliance with all applicable provisions of the Zoning Code subject to each of the following conditions. Permit shall be in conformance with all City ordinances, rules, regulations and policies in effect at the time of issuance of a building permit. The conditions noted below are particularly pertinent to this permit and shall not be construed to permit violation of other laws and policies not so listed.

1. The Use Permit and Design Review shall be vested within one (1) year from the date of approval. A building permit for the use allowed under this approval shall have been obtained within one (1) year from the effective date of the Use Permit and Design Review decision or these approvals shall expire; provided however that the approved Use Permit and Design Review may be extended for up to two (2) one-year periods

pursuant to the St. Helena Municipal Code, Section 17.08.030, Extension of Permits and Approvals.

2. This permit is valid for this use and design only, and permits the construction of an approximately 9,500 square foot addition to accommodate the operation of a 120,000 gallon custom crush facility. New permits must be applied for any change in use. These permits will expire pursuant to the City of St Helena ordinances and regulations if the use is discontinued.
3. The Use Permit and Design Review shall not become effective until fourteen (14) calendar days after approval, providing that the action is not appealed by the City Council or any other interested party within that 14 day period.
4. Any request for an extension of the Use Permit or Design Review must be justified in writing and received by the Planning Department at least thirty (30) days prior to expiration.
5. All required fees, including planning fees, development impact fees, building fees, retrofit fees, and St. Helena Unified School District fees shall be paid prior to issuance of building permit.
6. Compliance with all permit conditions shall be clearly identified on all plans submitted for building permit approval, shall occur in accordance with specific regulations but in all cases no later than prior to occupancy or initiation of use unless another time is set by law or by this approval. Occupancy or final inspection of a project may be withheld if all conditions, including payment of fees for services rendered by the City, are not met.
7. The applicant will defend and indemnify and hold the City, its agents, officers, and employees harmless of any claim, action or proceedings to attack, set aside, void or annul an approval so long as the City promptly notifies the applicant of any such claim, action, or proceedings and the City cooperates fully in the defense of the action or proceedings.
8. Provided they are in general compliance with the approved Use Permit and Design Review, minor modifications found to be in substantial conformance with the approved design and use may be approved by the Planning Director.
9. This Use Permit and Design Review shall run with the land and shall be binding upon all parties having any right, title or interest in the real property or any part thereof, their heirs, successors and assigns, and shall inure to their benefit and benefit of the City of St. Helena.
10. The primary purpose of this review is for compliance with the General Plan and Zoning Ordinance. The owner/applicant is responsible for meeting with the Building Official / Fire Inspector to review compliance with Building and Fire Codes, including fire protection systems and the accessibility standards of Title 24.
11. Construction documents shall be in compliance with approved plans and exhibits.

12. This use permit and design review approval shall supersede the previous 1983, 1995 and 1996 Use Permits (and amendments) previously granted to the subject site. However, this approval shall not supersede, amend or affect other use permits granted for the other specific uses of spaces within the building, or legal non-conforming businesses operating from other spaces within the building.
13. All existing General Office uses are non-conforming and subject to abatement if abandoned for a specific period of time, as identified in the Zoning Code. However, offices serving Industrial businesses located within the existing building (but in other tenant spaces, or for wine wholesalers who store their wine within the warehouse at 420 La Fata, are permitted uses.
14. As a condition of approval, the applicant shall pay a fee, based on the project's contribution to cumulative traffic volumes, for the future signalization of SR 29/Dowdell Lane and/or the realignment of Mills Lane. Upon payment of said fee, the proposed project is deemed to have contributed its fair share towards overall circulation improvements in the Highway 29 Specific Plan area.
15. Construction activities and business operation shall be in compliance with all mitigation measures adopted in the Mitigated Negative Declaration and associated Mitigation Monitoring and Reporting Plan.
16. Consistent with St. Helena Municipal Code Article IV, Water Conservation Section 18.44, New Development, the applicant shall be required to retrofit up to 2 single family dwelling units prior to receiving a certificate of occupancy. Appeals to this requirement may be made pursuant to Article IV, Section 18.46. The exact number of retrofits may change dependent upon final floor area submitted for the building permit, and tenants operating from these locations at this time.
17. Compliance with all conditions of approval shall be clearly identified and included on all plans submitted for building permit review and issuance.
18. The business owner and occupant are notified that this property is located in an industrial area where impacts associated with other industrial uses may occur and/or be allowed.
19. Business hours are permitted as 8:00 am to 5:00 pm however extended hours of operation are permitted during the wine grape harvest and crush season (August through November), as necessary.
20. Existing trees proposed to be retained on site are required to be protected using boundary fencing set up along the perimeter of the dripline of each tree during all phases of construction.
21. Retail sales and on-site tasting are expressly prohibited as a component of the St Helena Custom Crush facility and associated wine warehouse.

22. Loading in the public right-of-way is prohibited. The approved use (custom crush facility and wine warehouse) is required to maintain two loading docks as long as these businesses are in operation.
23. All lighting is limited to a maximum height of 15-feet and required to incorporate cut-off lenses and shall be designed and located to prevent light trespass off of the subject property.
24. Trash enclosures shall be designed and located so as to allow vehicular access and fully screen trash bins from view.
25. Material and equipment storage is only permitted in areas fully screened from public view. This includes the primary wine making location and other material and equipment storage and operation areas. Compliance with this condition must be clearly demonstrated on all plans submitted for building permit review.
26. As a condition of approval, the applicant shall pay a fee, based on the project's contribution to cumulative traffic volumes, for the future signalization of SR 29/Dowdell Lane and/or the realignment of Mills Lane. As such, the proposed project would have contributed its fair share towards overall circulation improvements in the Highway 29 Specific Plan area.
27. Siding material of new addition is required to be board-and-bat, as indicated on project elevations.
28. All pumice must be stored in the designated waste disposal and storage area in the north-west corner of the project site (unless otherwise approved by the Planning Director) and shall be regularly removed during all phases of wine production so as to limit odor and other associated impacts.
29. Project is required to incorporate bicycle parking facilities on-site, in keeping with Zoning Code Section 17.124-060 H.
30. Planning Commission finds that the proposed 5-foot fence surrounding the storm-water detention basin is a life and safety requirement and therefore is permitted to exceed the zoning code height limitation of 3-feet for fences in the front setback.
31. Compliance with all conditions and requirements of the Napa County Department of Environmental is required.

Public Works Department Conditions of Approval

32. Approval of this project shall be subject to the requirements of, and all improvements shall be designed and constructed in accordance with, the most current version at the time of improvement plan submittal, Caltrans Standards and Specifications, the City of St. Helena Municipal Code, the St. Helena Water and Sewer Standards, the St. Helena Street, Storm Drain and Sidewalk Standards, and all current federal, state and county codes governing such improvements.

33. For any improvements outside the existing building envelope, a grading and drainage plan showing topographic data, all easements, infrastructure onsite and directly adjoining, and an erosion control plan shall be submitted for review and approval by the City Engineer prior to the issuance of a building permit. If the project entails more than 50 cubic yards of soil disturbance, 10,000 square feet of disturbance area, a cut or fill of 3 feet or more, or alteration of any drainage pattern, a grading permit shall be required.
34. Improvement plans shall incorporate all grading, drainage, and utilities shown on the approved Use Permit/Design Review package, those improvements agreed to in public hearings, the requirements of these conditions of approval, and those improvements required by any codes in effect at the time of permit plan submittal.
35. Drainage needs to be routed to prevent inundation of neighboring properties. Grading and/or site improvement plans shall show how 2-year and 10-year storm flows shall be infiltrated on site and/or diverted at the property lines to prevent inundation of neighboring properties. The applicant shall submit a drainage and hydrology analysis for the project impact, including downstream erosion potential, to the City of St. Helena Public Works Department with the Improvement Plan submittal in accordance with City of St. Helena, Napa County and State of California codes in effect at the time of improvement plan submittal.
36. Erosion and sediment control plans shall conform to the latest State and City codes at a minimum.
37. The applicant shall incorporate water conservation practices into the proposed project per the Theoretical Water Use Report prepared by Delta Consulting & Engineering, dated March 17, 2017. Any and all non-conforming appliances and plumbing fixtures shall be removed from the premises. The water conservation requirements shall be replicated in full on the architectural plans submitted for building permit review and issuance.
38. A detailed Post-Construction Stormwater Control Plan (SWCP) that identifies and sizes all permanent post-construction stormwater treatment BMPs shall be prepared and submitted for review approval. The Plan shall be prepared in accordance with the latest edition of the *Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual* and the requirements of the State Water Resources Control Board Phase II Municipal Separate Storm Water System (MS4) General Permit (Order 2013-0001 DWQ).
39. Prior to occupancy the applicant shall enter into and record a Post-Construction Stormwater Operations and Maintenance Agreement with the City.
40. Site plans submitted for the building permit review shall identify the location of any trees within the project area. Additionally, please identify all existing vegetation including location, species, and sizes and indicate what vegetation is to be protected or removed. If proposed/new landscaping involves an area greater than 500 square feet or rehabilitation of more than 2,500 square feet, the proposed landscaping shall

comply with the State's Model Water Efficient Landscape Ordinance (MWELO). MWELO compliance shall be demonstrated as part of the building permit submittal.

41. The Applicant shall keep adjoining public streets free and clean of project dirt, mud, materials, and debris during the construction period, as is found necessary by the City Engineer.
42. Any new and modified existing water laterals, meters and backflow prevention devices shall be required and constructed in accordance with the current requirements of the City of St. Helena's Water Standards and the California Department of Health Standards. Existing meter boxes located within a driveway shall be retrofitted with a traffic-rated box. New laterals shall be located perpendicular to the water main and outside any driveway/drive aisle.
43. Remodels or new construction which requires fire sprinklers shall install an appropriately-sized water service with appropriate backflow and meter devices prior to Certificate of Occupancy. Fire system calculations shall be submitted with the Grading and Drainage Plan to verify fire service lateral and meter sizing. Deferred submittals are not accepted. No construction may commence until adequate access to fire water supply is available to building sites as approved by the Fire Chief.
44. Trash areas, dumpsters and recycling containers shall be enclosed and roofed per State and County standards to prevent water run-on to the trash area and water runoff from the project site, to contain litter and trash so that it is not dispersed by the wind or run-off during waste removal. In the event that wine or food related material is disposed in these areas, the enclosed trash area shall drain to the sanitary sewer system. An area drain connected to the sanitary sewer shall be installed in the enclosure area and a structural control such as an oil/water separator or sand filter shall be included. No other area shall drain into the trash enclosure. A sign shall be posted prohibiting the dumping of hazardous materials into the sanitary sewer.
45. Unless otherwise explicitly permitted, all existing septic tanks/systems and/or underground fuel storage tanks shall be abandoned under permit and inspection of Napa County Department of Environmental Services or other designated agency. If there are none, the project engineer shall provide a letter describing the scope of the search done to make this determination.
46. The applicant shall repair all public improvements that are damaged by the construction process in accordance with the City Water/Sewer/Street/Storm Drain/Sidewalk Standards prior to Certificate of Occupancy.
47. Existing streets being cut by new utility services will require edge grinding and an A.C. overlay per City standards, extent to be determined by the Public Works Department.
48. The applicant shall be required to obtain an encroachment permit for improvements on public right-of-ways prior to receiving a grading or building permit authorizing site work or construction activities on the site.

49. All wastewater lines of the proposed use must be connected to the St. Helena sewer system and designed in accordance with the City sewer system standards. Wastewater shall not contain wine production byproducts. A sewer sampling manhole shall be installed at or near the unit cleanout per City Standards.

50. Wastewater discharged is subject to all of the requirements and limitations set forth in Chapter 13.24, Wastewater Discharge, of the St. Helena Municipal Code.

51. Apply for and obtain a Wastewater Discharge Permit from the Department of Public Works as specified in St Helena Municipal Code Section 13.24.50. The permit conditions will require:

- a. Discharge flow rate shall not exceed 5,700 gallons per day.
- b. Pretreatment of winery wastewater is required to achieve the following discharge limits for the following constituents and characteristics:

Constituent or Characteristic	Maximum Allowable Concentration (mg/L)
pH	6.0 < pH < 9.0
BOD	250
TSS	250
FOG	40

52. Prior to the occupancy and operation of the winery facilities, the owner shall install a pretreatment system consistent with the Wastewater Pretreatment System Schematic Diagram provided in the Septic Feasibility Report prepared by Delta Engineering & Consulting Engineers dated September 20, 2017.

53. The pretreatment system shall provide protection from accidental discharge of prohibited materials or other wastes regulated as defined in Chapter 13.24, Wastewater Discharge, of St. Helena Municipal Code. Such facilities shall be provided and maintained at the Owner's expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the City for review and approval prior to building permit approval.

54. Wastewater with a pH less than 6.0 or greater than 9.0 shall be automatically held in an onsite tank. This wastewater shall only be released after receiving approval to discharge from the wastewater treatment plant operator. Release of said wastewater shall then be limited to the periods from 6:00 am to 9:00 am and from 5:00 pm to 8:00 pm. The flow rate of the release or discharge shall then not exceed 4.2 gpm.

55. At the owner's expense, sampling and discharge water quality analysis shall be performed for the above listed constituents and/or characteristics at monthly

intervals by a California-certified laboratory under chain of custody documents. Such reports shall be submitted to the City by the 15th day of the following month.

56. The owner shall notify the City and take immediate corrective action upon receipt of any laboratory report or other information indicating that the concentration of any constituent listed in the table above exceeded the maximum concentration. Failure to take immediate corrective actions may result in enforcement actions as provided under the St. Helena Municipal Code or other applicable law.
57. The pretreatment system shall record daily flow totals and pH. Owner shall continuously maintain records of all daily flows and pH and all laboratory reports for a rolling three year period. Said records shall be made available to the City for review upon request.
58. The owner shall test and calibrate the pH meter and discharge pump lockdown system logic annually to confirm that they still function to hold wastewater with a pH less than 6.0. Written confirmation of the testing and results shall be submitted to the City.
59. The City shall have the right to randomly sample and test the discharge for the above listed constituents. Owner agrees to reimburse the City for the cost of such testing. The sampling manhole shall be accessible at all times. The City shall have the right to inspect all parts of the pretreatment system at any time during normal business hours.
60. In order to confirm the theoretical assumptions in the Theoretical Sewer Capacity, the applicant is required to perform 7-day flow monitoring at the downstream sanitary sewer manholes (No. 1-89 and No. 1-94) to verify that the existing sewer pipe has adequate capacity to accommodate the proposed additional flows prior to building permit approval. Peak sewer flows will not be allowed to exceed 2/3 full pipe. If the proposed wastewater discharge regimen increases peak flows to greater than 2/3 full pipe at the monitored locations and with the current infrastructure, the owner must share the cost of sewer upgrades with a dollar amount proportional to the increase in wastewater flow as a result of the site development.
61. All ground disturbing activities associated with the project are subject to the City of St. Helena's Erosion and Sediment Control Plan requirements (Chapter 13.32.090 D.3 of the Municipal Code) as a condition of project approval.
62. As a condition of approval, the applicant will be required to demonstrate the project's ability to comply with the City's "Safe Yield" specifications for municipal water use and demonstrate that any net increase in water use from the proposed project is offset.

Fire Department Conditions of Approval

63. Installation of approved interior fire sprinkler system is required, unless waived by the Fire Chief.

- 64. One hour minimum fire resistant construction on all exterior walls within 10' of property boundary. Fire resistant construction of interior walls shall be determined by type of occupancy.
- 65. Any gates installed to control vehicular access to a property are required to be setback 30-feet from the property line and/or edge of pavement, whichever is greater. No vehicle gates may be installed without Fire Department and Public Works Department review and explicit approval.

Building Department Conditions of Approval

- 66. A building permit is required for all onsite demolition, construction and/or change of occupancy.
- 67. The applicant will be required to comply with the codes adopted at the time the applicant applies for a building permit. At this time the City of St. Helena utilizes the 2016 Title 24 codes.
- 68. High Pile storage, as defined in the California Building Code, could trigger additional building code requirements.
- 69. When submitting plans for a building permit, the plans shall include all documentation listed on the building permit application checklist.
- 70. The applicant shall provide a construction waste management plan with the building permit application.
- 71. The plans for construction shall include a checklist for compliance with the California Green Buildings Standards Code, mandatory measures. Provide a reference on the checklist indicating where the mandatory measures can be found on the plans.
- 72. When submitting plans, the title page shall include all information referenced on the building permit application checklist Title Page requirements.
- 73. Building Permit application materials and plans shall include any documentation pertaining to special loads applicable to the design and the specified section of the code that addresses the condition; special inspections for any systems or components requiring special inspection; requirements for seismic resistance; and a complete list of deferred submittals at time of application. Any deferral of the required submittal items shall have prior approval of the Building Official however deferral of fire sprinkler design is not allowed.

I HEREBY CERTIFY that the foregoing Use Permit and Design Review was duly and regularly approved by the Planning Commission of the City of St. Helena at a regular meeting of said Planning Commission held on November 7, 2017 by the following roll call vote:

AYES:

NOES:

ABSENT:
ABSTAIN:

APPROVED:

ATTEST:

Grace Kistner
Chair, Planning Commission

Noah Housh,
Planning and Community
Improvement Director

ST. HELENA CUSTOM CRUSH FACILITY

890 DOWDELL LANE, ST. HELENA, CA
A.P.N. 009-660-004-000

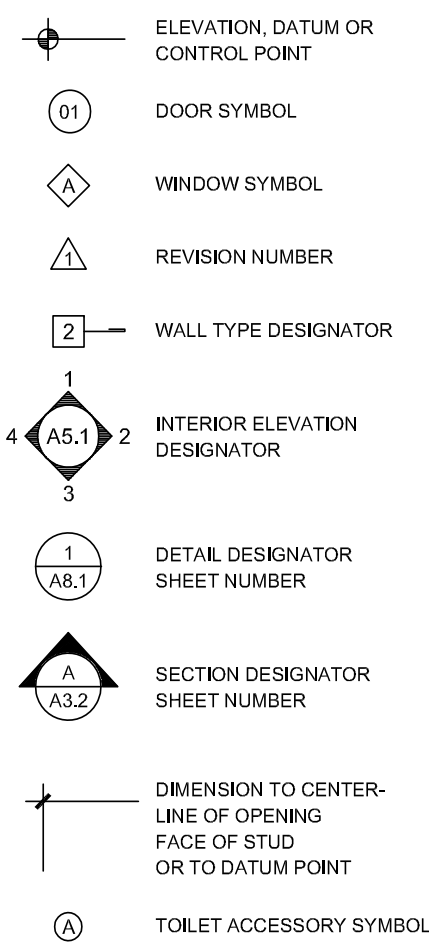
ABBREVIATIONS

ABV.	ABOVE	MIR.	MIRROR
A.F.F.	ABOVE FINISH FLOOR	MISC.	MISCELLANEOUS
A.F.S.	ABOVE FINISH SLAB	MT.	MOUNT
ADJ.	ADJACENT or ADJUSTABLE	MTD.	MOUNTED
A/C	AIR CONDITIONING	NEC	NATIONAL ELECTRICAL CODE
ALT.	ALTERNATE	NAT.	NATURAL
A.B.	ANCHOR BOLT	(N)	NEW
APPROX.	APPROXIMATE	N.I.C.	NOT IN CONTRACT
ARCH.	ARCHITECTURAL	N.T.S.	NOT TO SCALE
APN	ASSESSOR'S PARCEL NUMBER	OBSC.	OBSCURE
BSMT.	BASEMENT	O.C.	ON CENTER
BRG.	BEARING	OPNG.	OPENING
BET.	BETWEEN	OPP.	OPPOSITE
BLK.	BLOCK	O.D.	OUTSIDE DIAMETER
BLKG.	BLOCKING	OH.	OVERHEAD
BD.	BOARD	PR	PAIR
BOT.	BOTTOM	PART.	PARTITION
BULD.	BUILDING	PVMT.	PAVEMENT
CAB.	CABINET	PL LAM.	PLASTIC LAMINATE
C.I.	CAST IRON	PL.	PLATE
CLG.	CEILING	PLYWD	PLYWOOD
CEM. PLST.	CEMENT PLASTER	P.W.	PLYWOOD EDGE NAILING
CEN.	CENTER	PVC	POLYVINYL CHLORIDE
CER.	CERAMIC	PSF	POUNDS PER SQ. FT.
C.O.	CLEAN OUT	PSI	POUNDS PER SQ. IN.
CLR.	CLEAR	P.P.	POURED IN PLACE
COL.	COLUMN	P.T.	PRESSURE TREATED
COMB.	COMBUSTION	RAD.	RADIUS
COMP.	COMPOSITION	R.A.	RETURN AIR
CONC.	CONCRETE	R.	RIBER
C.M.U.	CONCRETE MASONRY UNIT	R.D.	ROOF DRAIN
CONST.	CONSTRUCTION	R.W.L.	RAIN WATER LEADER
C.J.	CONTROL JOINT	R.D.W.	REDWOOD
CONT.	CONTINUOUS	REF	REFERENCE or REFRIGERATOR
DTL.	DETAIL	REQ.	REQUIRED
DIAG.	DIAGONAL	RESIL.	RESILIENT
DI.	DIAMETER	RET.	RETAINING
DM.	DIMENSION	REV.	REVISION
DISP.	DISPENSER or DISPOSAL	R.H.	RIGHT HAND
DR.	DOOR	RM.	ROOM
DBL.	DOUBLE	R.O.	ROUGH OPENING
D.F.	DOUGLAS FIR	RND.	ROUND
DN	DOWN	S.A.F.	SELF ADHESIVE FLASHING
D.S.	DOWNSPOUT	SCH.	SCHEDULE
DWG.	DRAWING	SCHED.	SCHEDULE
D	DRYER	SCRN.	SCREEN
EA	EACH	SEC.	SECTION
ELEC.	ELECTRICAL or ELECTRIC	SECT.	SECTION
EL.	ELEVATION	S.E.D.	SEE ELECTRICAL DRAWINGS
ELEV.	ELEVATION or ELEVATOR	S.I.D.	SEE INTERIOR DES. DRAWINGS
EMER.	EMERGENCY	S.M.D.	SEE MECHANICAL DRAWINGS
ENGR.	ENGINEER	S.P.D.	SEE PLUMBING DRAWINGS
EQ.	EQUAL	S.S.D.	SEE STRUCTURAL DRAWINGS
EQUIP.	EQUIPMENT	SW	SHEAR WALL
EXH.	EXHAUST	SHT.	SHEET
EF.	EXHAUST FAN	S&P	SHELF & POLE
(E)	EXISTING	SH.	SHELF OR SHELVING
EXIST.	EXISTING	SHM.	SIMILAR
E.J.	EXPANSION JOINT	S.G.D.	SLIDING GLASS DOOR
EXT.	EXTERIOR	S.C.	SOLID CORE
FIN.	FINISH	SPEC.	SPECIFICATIONS
F.F.	FINISHED FLOOR	SQ.	SQUARE
F.S.	FINISHED SLAB	S.F.	SQUARE FEET
F.E.	FIRE EXTINGUISHER	STD.	STANDARD
FLR.	FLOOR	STL.	STEEL
F.D.	FLOOR DRAIN	STOR.	STORAGE
FLUOR.	FLUORESCENT	STR.	STRUCTURAL
F.A.U.	FORCED AIR UNIT	STRUC.	STRUCTURAL
FNDR.	FOUNDATION	SUSP.	SUSPENDED
F.O.C.	FACE OF CONCRETE	SYS.	SYSTEM
F.O.S.	FACE OF STUD	T.B.D.	TO BE DETERMINED
FP.	FIREPLACE	TEL.	TELEPHONE
FT.	FOOT OR FEET	T.V.	TELEVISION
FTG.	FOOTING	TEMP.	TEMPERED OR TEMPORARY
GALV.	GALVANIZED	THK.	THICK
G.I.	GALVANIZED IRON	TP	TOILET PAPER HOLDER
G.S.M.	GALVANIZED SHEET METAL	T&G.	TONGUE & GROOVE
GA.	GAUGE	T.O.S.	TOP OF SLAB OR STEEL
GL.	GLASS OR GLAZING	TB	TOWEL BAR
GLU-LAM	GLUE-LAMINATED	T	TREAD
G.B.	GRAB BAR	TYP	TYPICAL
GR.	GRADE	UNFIN.	UNFINISHED
GR	GROUND FAULT INTERRUPTER	USC	UNIFORM BUILDING CODE
GYP.	GYPSON	UPC	UNIFORM PLUMBING CODE
HDW.	HARDWARE	UMC	UNIFORM MECHANICAL CODE
HDWD.	HARDWOOD	UND	UNLESS NOTED OTHERWISE
HDR.	HEADER	VERT.	VERTICAL
HVAC	HEAT / VENT / AIR COND.	V.G.	VERTICAL GRAIN
HTR.	HEATER	VIN.	VINYL
HTG.	HEATING	W	WASHER
HT.	HEIGHT	W	WITH
H.C.	HOLLOW CORE	WNSCT.	WAINSCOT
HOR.	HORIZONTAL	WTR.	WATER
H.B.	HOSE BIB	WC	WATER CLOSET
HR.	HOUR	WH	WATER HEATER
IN.	INCH	WP	WATER PROOF
ID.	INSIDE DIAMETER	WR	WATER RESISTANT
I.D.D.	INTERIOR DESIGN DRAWINGS	WRC	WESTERN RED CEDAR
INS.	INSULATION	WT.	WEIGHT
INT.	INTERIOR	WIN	WINDOW
KIT.	KITCHEN	W/O	WITHOUT
LAV.	LAVATORY	WD	WOOD
L	LENGTH OR LONG		
LT.	LIGHT	&	AND
L.B.	MACHINE BOLT	@	AT
MFR.	MANUFACTURER	±	CENTER LINE
MAS.	MASONRY	Ø	DIAMETER
MAX.	MAXIMUM	#	NUMBER OR POUND
MECH.	MECHANICAL		
M.C.	MEDICINE CABINET		
MTL.	METAL		
MIN.	MINIMUM		

GENERAL NOTES

- EXTERIOR ELECTRICAL OUTLETS AND THOSE IN DAMP LOCATIONS SHALL BE PROTECTED BY GFI CIRCUITS PER THE ELECTRICAL CODE.
- RECEPTACLES SHALL BE TAMPER RESISTANT FOR ALL 15 AND 20 AMPERE RECEPTACLES IN DWELLING UNIT FAMILY, DINING, LIVING, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS AND AREAS PER CEC SEC.210.12.
- AFO PROTECTION FOR ALL 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS IN DWELLING UNIT FAMILY, DINING, LIVING, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS AND AREAS PER CEC SEC.210.12.
- CONTRACTOR SHALL INSPECT AND SATISFY HIMSELF WITH RESPECT TO RELEVANT CONDITIONS AT THE SITE PRIOR TO START OF EACH PHASE OF THE WORK.
- PREFERENCE SHALL BE GIVEN FIRST TO FIELD MEASUREMENTS, SECOND TO THE CALCULATED DIMENSIONS ON THE DRAWINGS RATHER THAN MEASUREMENTS BY SCALE. DO NOT SCALE THE DRAWINGS.
- WORK SHALL BE TOP QUALITY, PERFORMED BY WORKERS EXPERIENCED IN THEIR TRADE. SUBSTANDARD OR FLAWED WORK SHALL BE REPAIRED OR REPLACED AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN JOB SITE AND PROVIDE NECESSARY BARRIERS AND PRECAUTIONS TO MAINTAIN THE SAFETY OF THE OCCUPANTS AND UPON COMPLETION SHALL THOROUGHLY CLEAN INTERIOR AND EXTERIOR CONSTRUCTION AREAS IN A MANNER READY FOR OCCUPANCY. DEBRIS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTORS.
- NO FLOORS, WALLS OR CEILING SHALL BE COVERED UNTIL ELECTRICAL, PLUMBING, MECHANICAL INSTALLATIONS HAVE BEEN INSPECTED AND APPROVED BY OWNER, HIS AGENTS AND BUILDING INSPECTORS.
- EXTERIOR DOORS SHALL BE SOLID CORE OR HOLLOW METAL CONSTRUCTION AND WEATHERSTRIPPED FOUR SIDES.
- THE CONTRACTOR SHALL REVIEW APPROVED PLANS AND BRING TO THE ATTENTION OF THE ARCHITECT NOTES AND/OR CHANGES ON THE PLANS MADE BY THE BUILDING DEPARTMENT BEFORE ORDERING MATERIALS OR COMMENCING WORK.
- THE CONTRACTOR SHALL INSURE THAT MATERIALS USED IN THIS PROJECT ARE FREE OF HAZARDOUS MATERIALS AS DEFINED BY THE EPA, CAL-OSHA, OR DOHS.
- THE CONTRACTOR SHALL HAVE LOCATION OF JOB TRAILER, MATERIAL STOCKPILE AREA, EMPLOYEE PARKING, ETC. APPROVED BY OWNERS REPRESENTATIVES PRIOR TO COMMENCING WORK.
- WATER AND/OR DUST PALLIATIVES SHALL BE APPLIED DURING THE CONSTRUCTION PROCESS IN SUFFICIENT QUANTITIES TO REDUCE TO THE GREATEST EXTENT POSSIBLE THE AMOUNT OF DUST PRODUCED.
- PROPER AND ADEQUATE MUFFLERS SHALL BE MAINTAINED AT ALL TIMES ON ALL CONSTRUCTION EQUIPMENT UTILIZED INCLUDING, BUT NOT LIMITED TO, TRUCKS AND EARTH MOVING EQUIPMENT.
- ALL NOISE, UNSHIELDED, STATIONARY CONSTRUCTION EQUIPMENT SUCH AS COMPRESSORS AND CONCRETE MIXERS USED SHALL BE PLACED IN AN AREA AGREED TO BY OWNER.
- CONTRACTOR TO INSTALL BARRIERS TO PROTECT EXISTING TREES & SHRUBS THAT OCCUR IN THE CONSTRUCTION ZONE.
- CONTRACTOR OR SHALL EMPLOY BEST MANAGEMENT PRACTICES AS REQUIRED BY NAPA COUNTY PUBLIC WORKS IN MANAGING SEDIMENT/EROSION CONTROL, STORM WATER RUNOFF & CONCRETE WASTE.
- WHEREVER NEW SIDING IS INSTALLED, CONTRACTOR SHOULD APPLY WEATHER-RESISTIVE BARRIER UNDER EXTERIOR WALL COVERING PER CALIFORNIA RESIDENTIAL CODE (CRC) 703.
- ALL APPLIANCES IN THE KITCHEN AND BATH SHALL MEET ENERGY STAR IF AN ENERGY STAR DESIGNATION IS APPLICABLE FOR THAT APPLIANCE PER ST. HELENA MUNICIPAL CODE SECTION 15.53.030 B.

GENERAL LEGEND



PROJECT DESCRIPTION

CONSTRUCTION OF A NEW UNCONDITIONED 113'X88'-4" WINE GRAPE PROCESSING SHED BUILDING, ALSO, PROCESSED WASTE WATER TREATMENT AND DISPOSAL SYSTEM, AS WELL AS A COVERED TRASH ENCLOSURE AT EAST SIDE OF EXISTING BUILDING

OWNER(S)

JOHN KOMES
FLORA SPRINGS WINERY

SHEET INDEX

ARCHITECTURAL

A0.1	COVER SHEET
A1.0	SITE PLAN AND PARKING CALCULATIONS
A1.1	ROOF PLAN
A2.1	FLOOR PLAN
A3.1	ELEVATIONS AND SECTION
A3.2	SITE PHOTOGRAPHS
A3.3	SITE PHOTOGRAPHS
A3.4	SITE PHOTOGRAPHS

CIVIL

UP1.0	COVER SHEET
UP1.1	OVERALL SITE PLAN
UP1.2	DEMOLITION PLAN
UP2.0	HARDSCAPE PLAN
UP2.1	FACILITY GRADING PLAN
UP2.2	FACILITY CROSS SECTIONS
UP2.3	FACILITY CROSS SECTIONS
UP2.4	POND GRADING PLAN
UP2.5	POND CROSS SECTIONS
UP3.0	OVERALL UTILITY PLAN
UP3.1	UTILITY PLAN
UP3.2	CIRCULATION PLAN
UP4.0	BEST MANAGEMENT PRACTICES PLAN
UP6.0	DRAINAGE MANAGEMENT AREA PLAN DETAILS

LANDSCAPE

L1.1	INVENTORY PLAN
L2.1	PLANTING PLAN
L3.1	LAYOUT SECTION
L4.1	IRRIGATION PLAN
L4.2	IRRIGATION
L4.3	IRRIGATION
L4.4	IRRIGATION
L4.5	IRRIGATION
L4.6	IRRIGATION
L4.7	IRRIGATION PLAN DETAILS

CODE ANALYSIS

CONSTRUCTION TO COMPLY WITH THE FOLLOWING:
2016 CALIFORNIA BUILDING CODE (CBC)
2016 CALIFORNIA MECHANICAL CODE (CMC)
2016 CALIFORNIA PLUMBING CODE (CPC)
2016 CALIFORNIA ELECTRICAL CODE (CEC)
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBS)
CITY OF ST. HELENA LOCAL ORDINANCES

CONSULTANTS

CIVIL

DELTA CONSULTING AND ENGINEERING
1104 ADAMS STREET- SUITE 203
ST. HELENA, CA 94574
(707) 963-4468
CONTACT: ANDY SIMPSON

LANDSCAPE

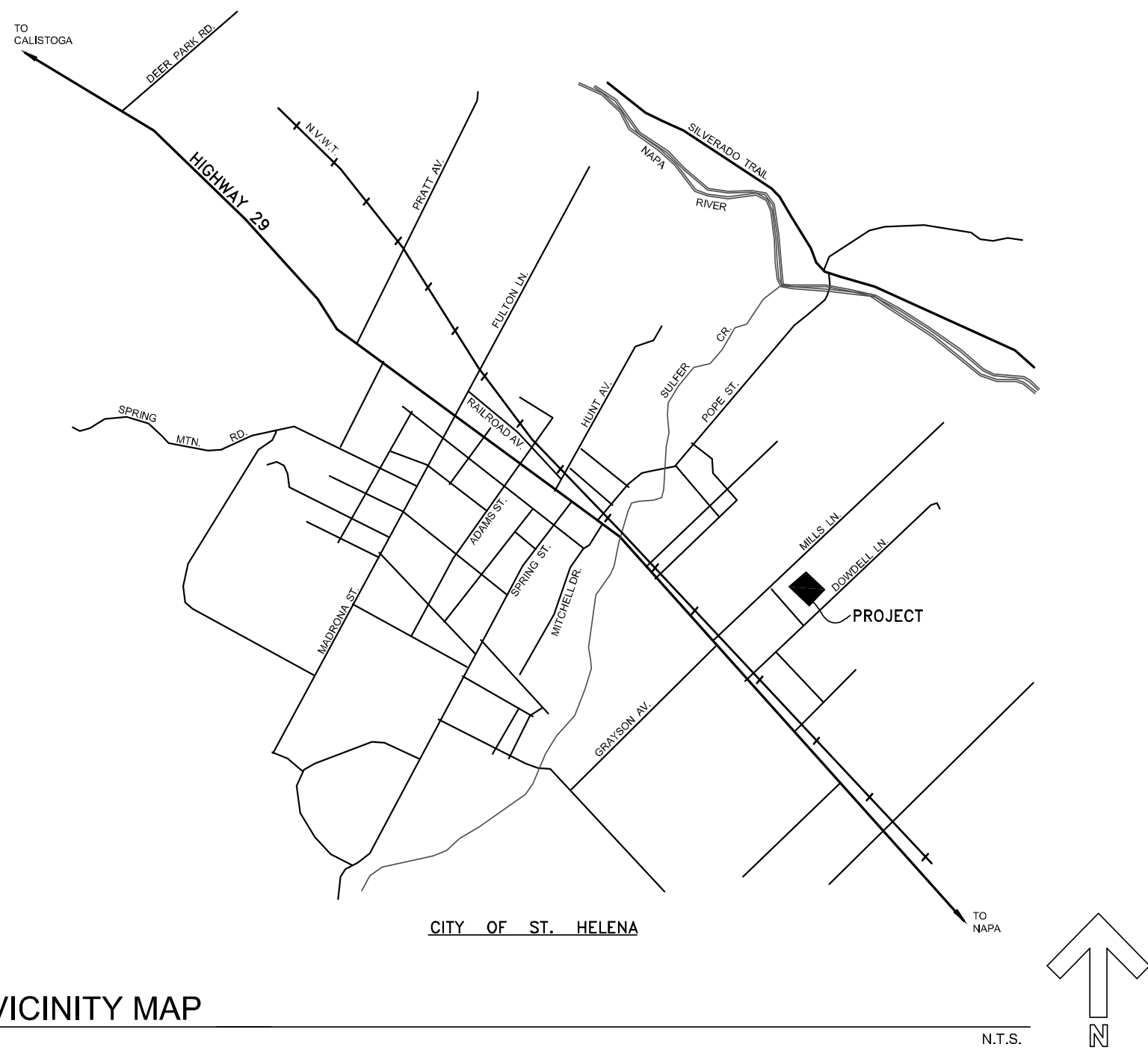
CSH DESIGN, INC.
2174 EUCLID AVE.
NAPA, CA 94558
(707) 312-0021
CONTACT: CHRISTIAN HEDBERG

MATERIALS

	CELLULOSE INSULATION
	RIGID INSULATION
	EARTH
	CONCRETE
	MASONRY
	SAND
	PLYWOOD
	WOOD BLOCKING
	WOOD CONTINUOUS

PROJECT DATA

NEW WINE GRAPE PROCESSING BUILDING:	F-2 OCC.	9,495 S.F. TOTAL 8,878 S.F. (UNCONDITIONED) 617 S.F. (CONDITIONED) SPRINKLERED
LOT AREA:		±5.7 ACRES (248,292 SQ. FT.)
ALLOWABLE INDUSTRIAL F.A.R.:		.50 248,292 SQ. FT. X .50 124,146 SQ. FT.
EXISTING FACILITY:		111,115 SQ. FT.
PROPOSED FACILITY ADDITION:		9,495 SQ. FT.
TOTAL:		120,610 SQ. FT.
		120,610 SQ. FT. < 124,146 SQ. FT.



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REVISIONS

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VALLEY ARCHITECTS INC

1560 RAILROAD AVENUE
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Tel 707 963 1468 • Fax 707 963 3027
www . valleyarchitects . com

PROJECT

ST. HELENA CUSTOM CRUSH FACILITY

JOB NUMBER 1519

USE PERMIT

420 LA FATA
ST HELENA, CA 94574

SHEET DESCRIPTION

COVER PAGE

DRAWN:

CM

DATE:

01/18/17

CHKD:

TPF

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A0.1

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SHEET DESCRIPTION

SITE PLAN
AND
PARKING
CALCULATIONS

DRWN: CM

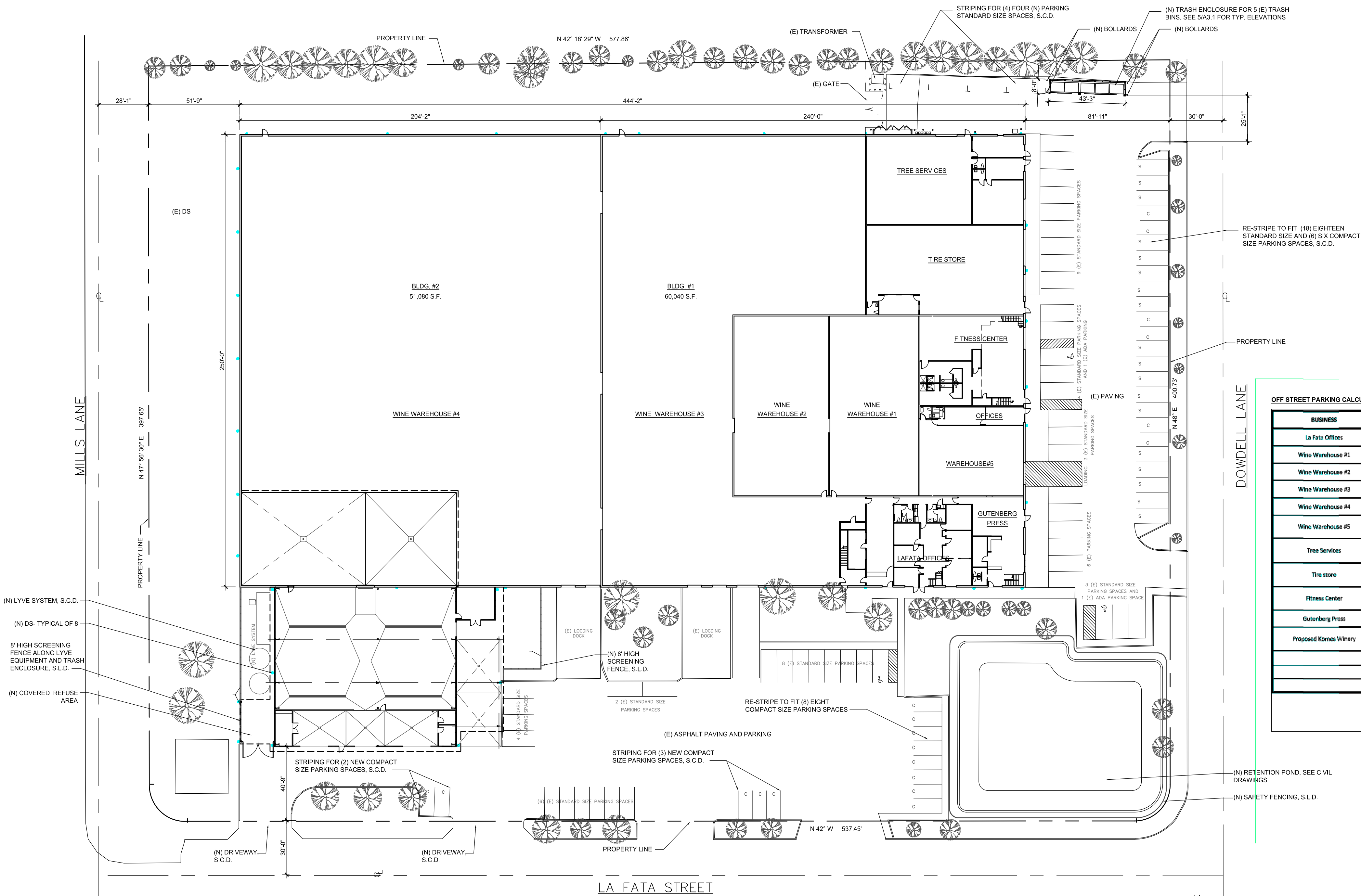
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01/18/17

SHEET

A1.0



LEGEND:

(E) TREES TO REMAIN, S.L.D.

GENERAL NOTES:

1. SEE CIVIL DRAWINGS FOR DEMOLITION, GRADING AND PAVING WORK
2. SEE CIVIL DRAWINGS FOR EXISTING TREES TO BE REMOVED AND EXISTING TREES TO REMAIN
3. SEE LANDSCAPE DRAWINGS FOR NEW LANDSCAPE AND FOR NEW FENCING

OFF STREET PARKING CALCULATIONS:

BUSINESS	OCCUPANCY	GROUND FL. AREA	SECOND FL. AREA	PARKING FACTOR	area/factor	PARKING REQUIRED
La Fata Office	Office	3,450	2130	300		19
Wine Warehouse #1	Wine Warehouse	5,870	-	1 per 5000 sf		2
Wine Warehouse #2	Wine Warehouse	5,400	-	1 per 5000 sf		2
Wine Warehouse #3	Wine Warehouse	29,550	-	5 (first 25,000)+ 1 per 10,000		6
Wine Warehouse #4	Wine Warehouse	51,080	-	5 (first 25,000)+ 1 per 10,000		8
Wine Warehouse #5	Wine Warehouse	2,315	-	1 per 5000 sf		1
Tree Services	office	468	-	300		2
	Warehouse	1440	341	300		6
Tire store	Warehouse	2898	716	1000		4
	office	265	-	300		1
	Industrial	2898	-	650		4
Fitness Center	Office	-	184	300		1
	work-out area	2,620	1366	300		13
Gutenberg Press	Office	4160	270	300		15
	office	617	-	300		2
Proposed Komes Winery	Warehouse	8878	-	1 per 5000 sf		2
TOTAL PARKING REQUIRED						87
TOTAL PARKING PROVIDED						87
COMPACT PARKING PROVIDED						19 (22%)

SITE PLAN
SCALE 1/30" = 1'-0"

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ST. HELENA
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ROOF PLAN

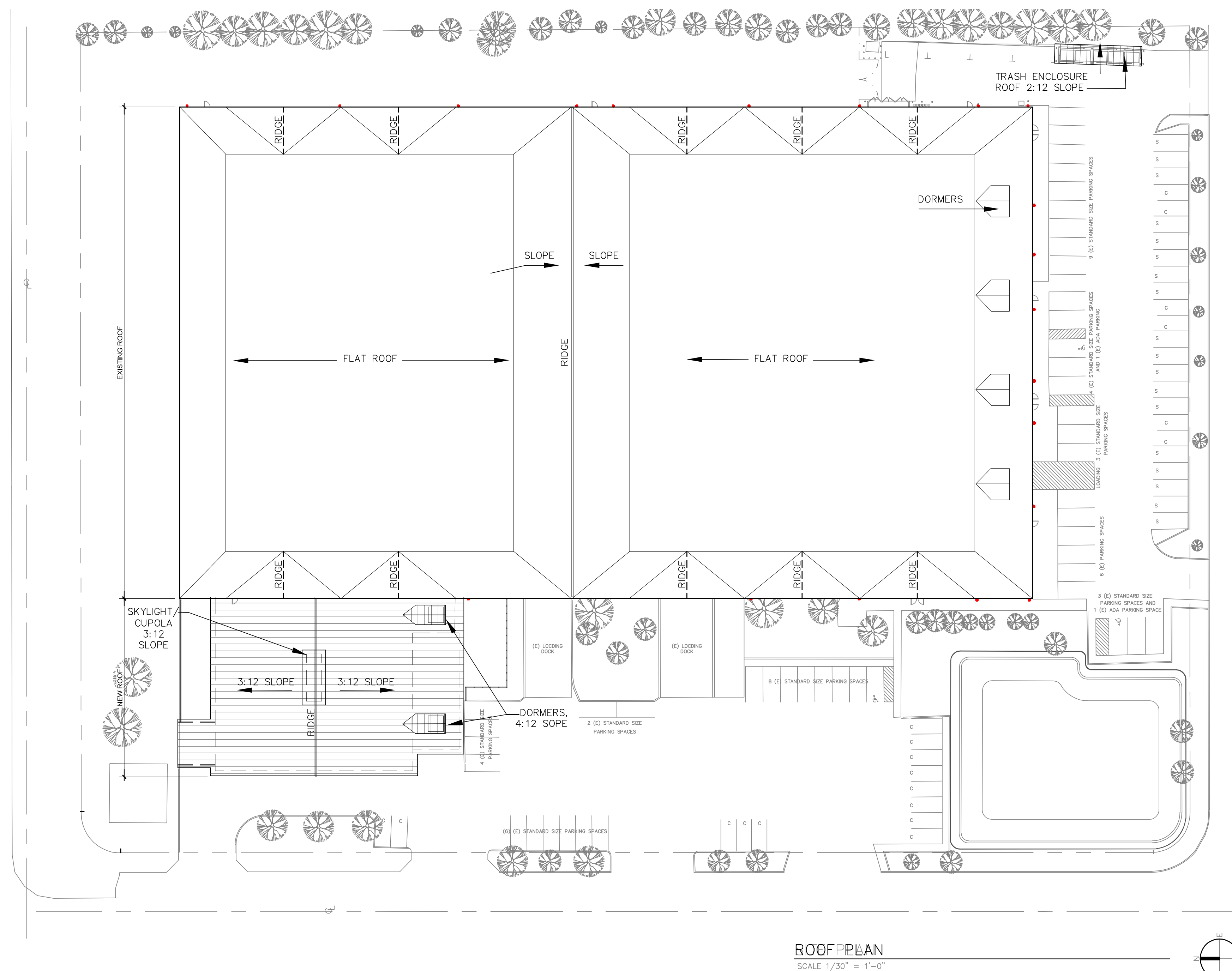
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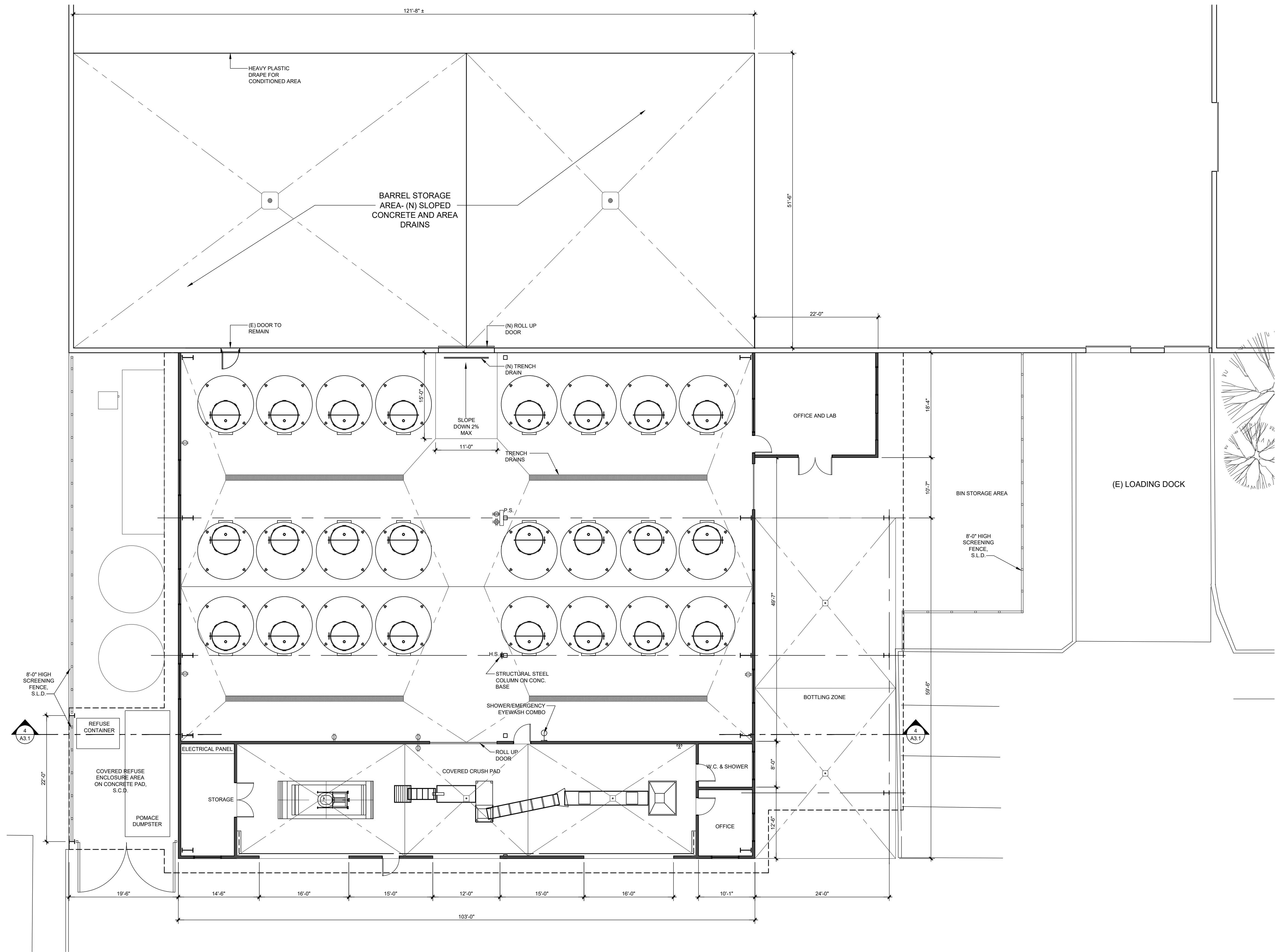
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ROOF PLAN
SCALE 1/30" = 1'-0"



PLAN

Scale: 1/8" = 1'-0"



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PROJECT

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FACILITY
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FLOOR PLAN

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ELEVATIONS
AND
SECTION

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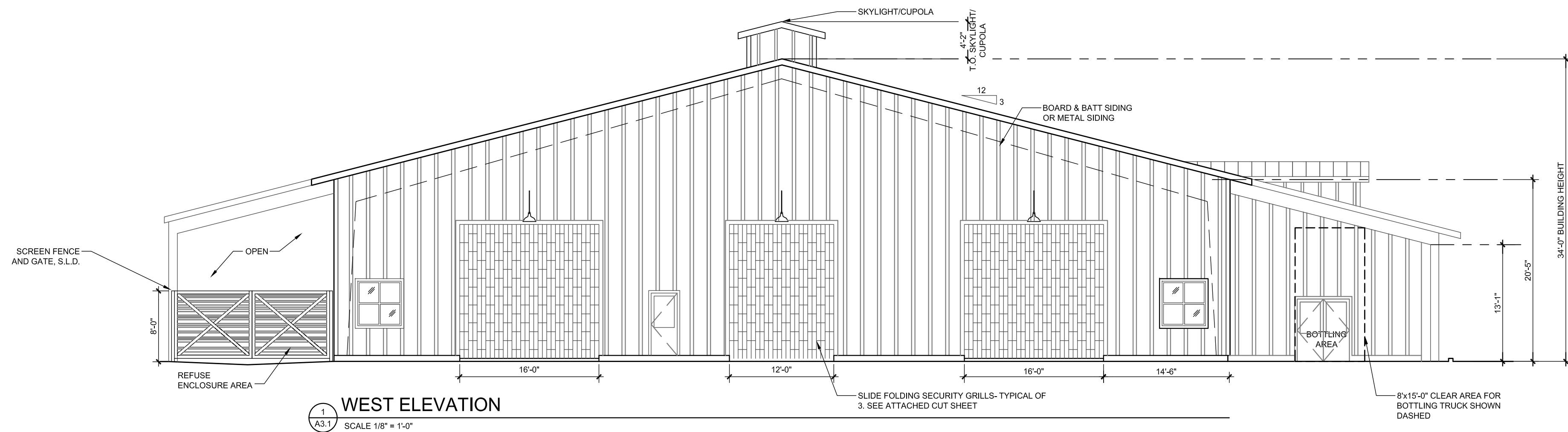
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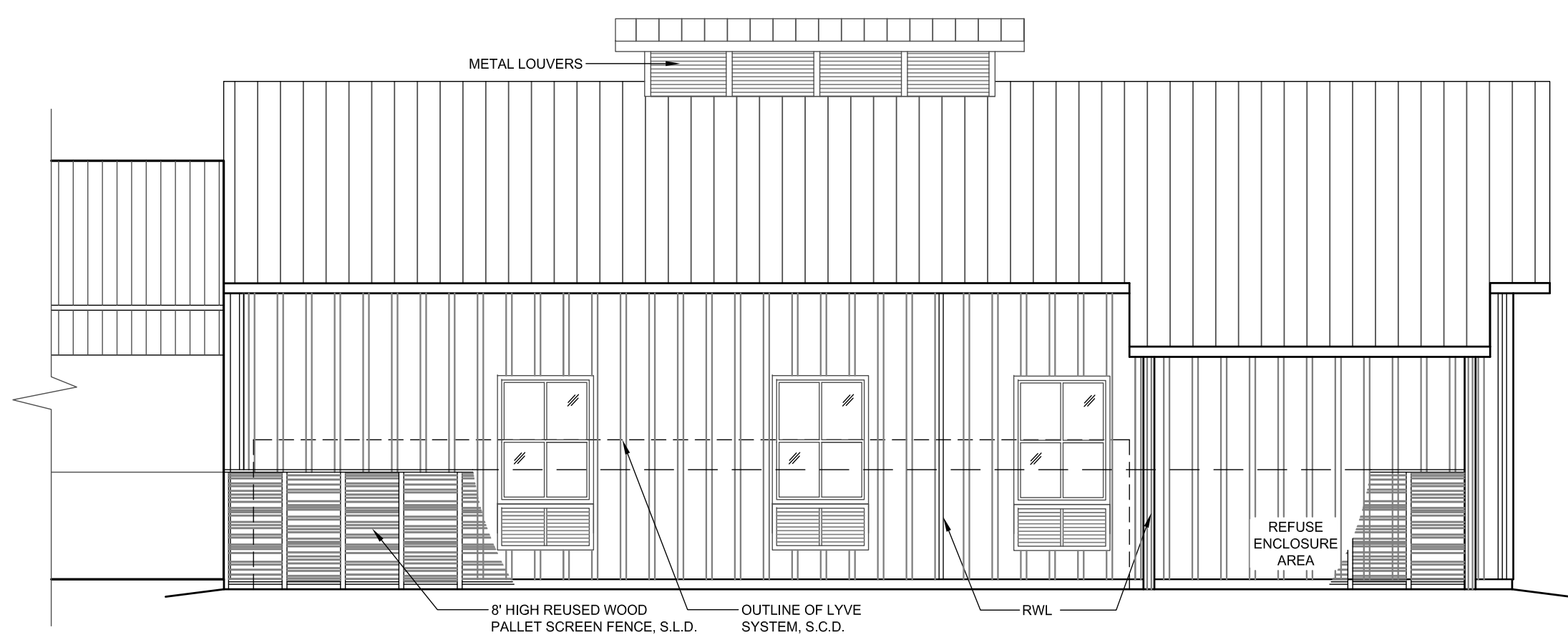
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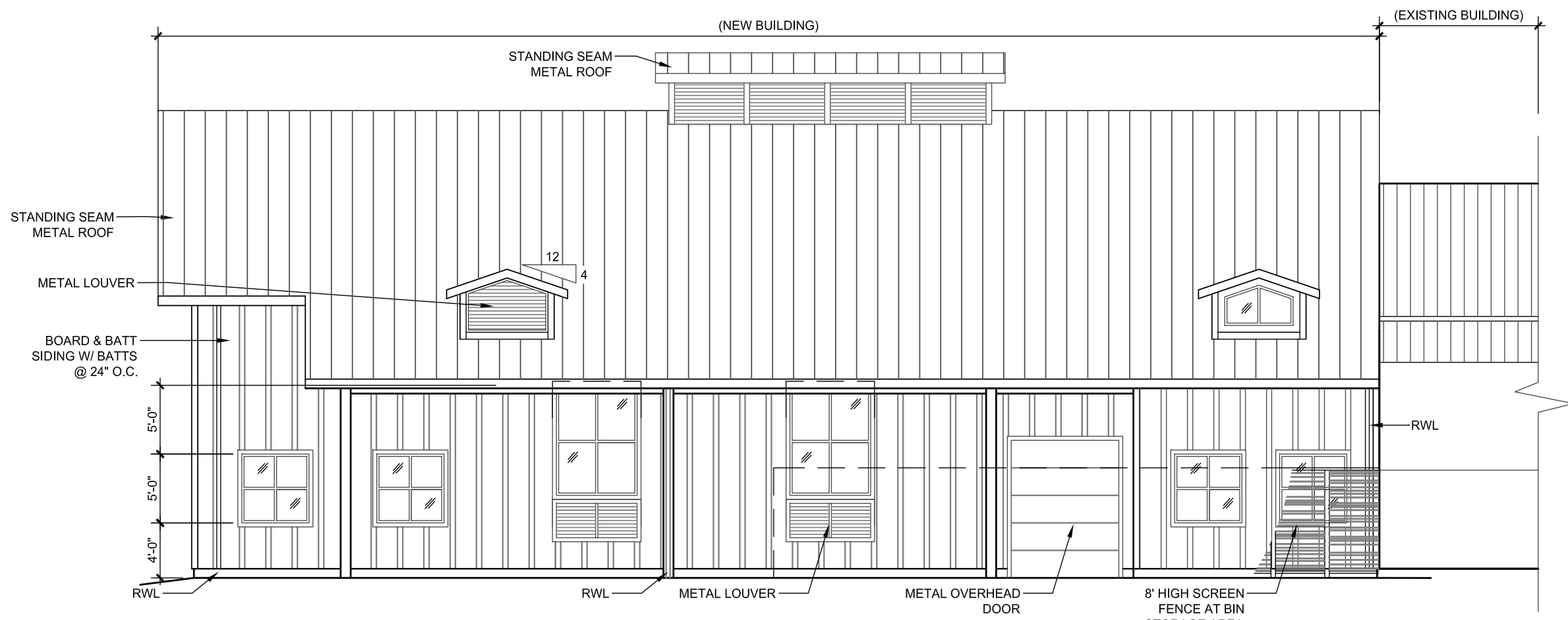
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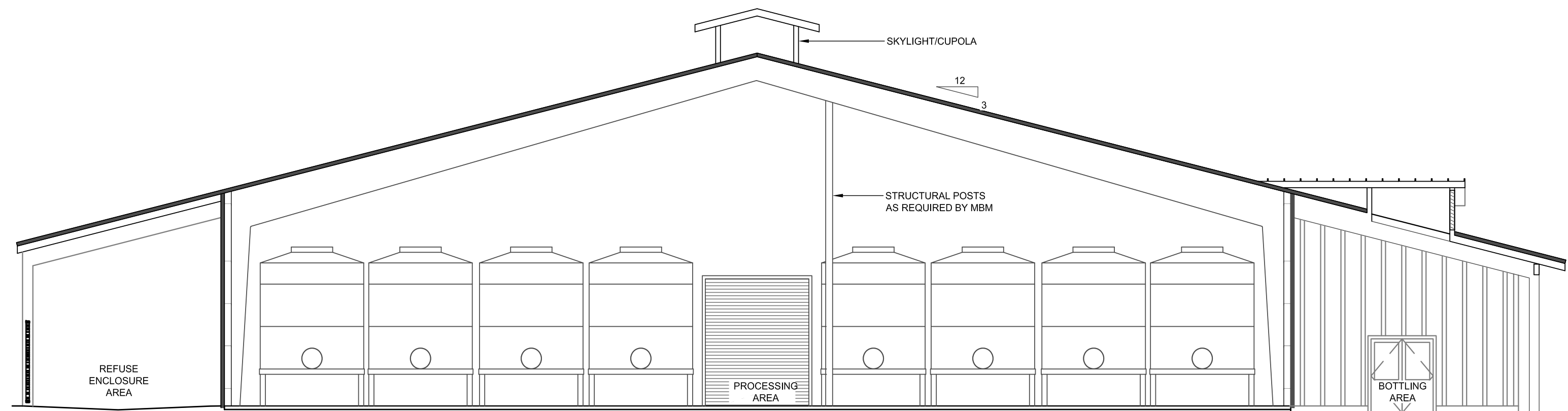
1 WEST ELEVATION
SCALE 1/8" = 1'-0"



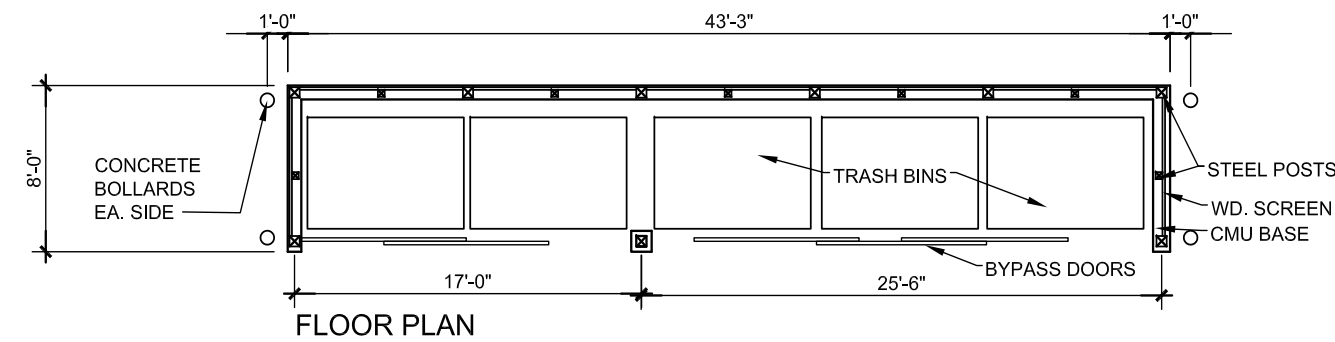
2 NORTH ELEVATION
SCALE 1/8" = 1'-0"



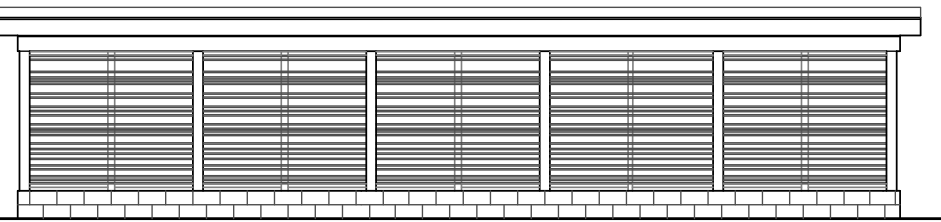
3 SOUTH ELEVATION
SCALE 1/8" = 1'-0"



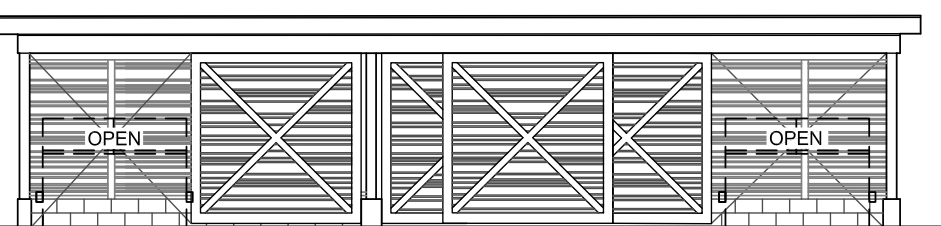
4 SECTION
SCALE 1/8" = 1'-0"



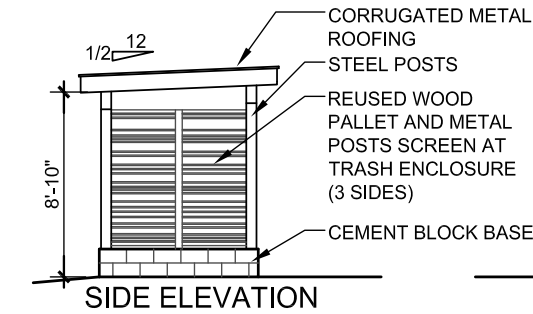
FLOOR PLAN



BACK ELEVATION



FRONT ELEVATION



SIDE ELEVATION

5 TRASH ENCLOSURE
SCALE 1/8" = 1'-0"



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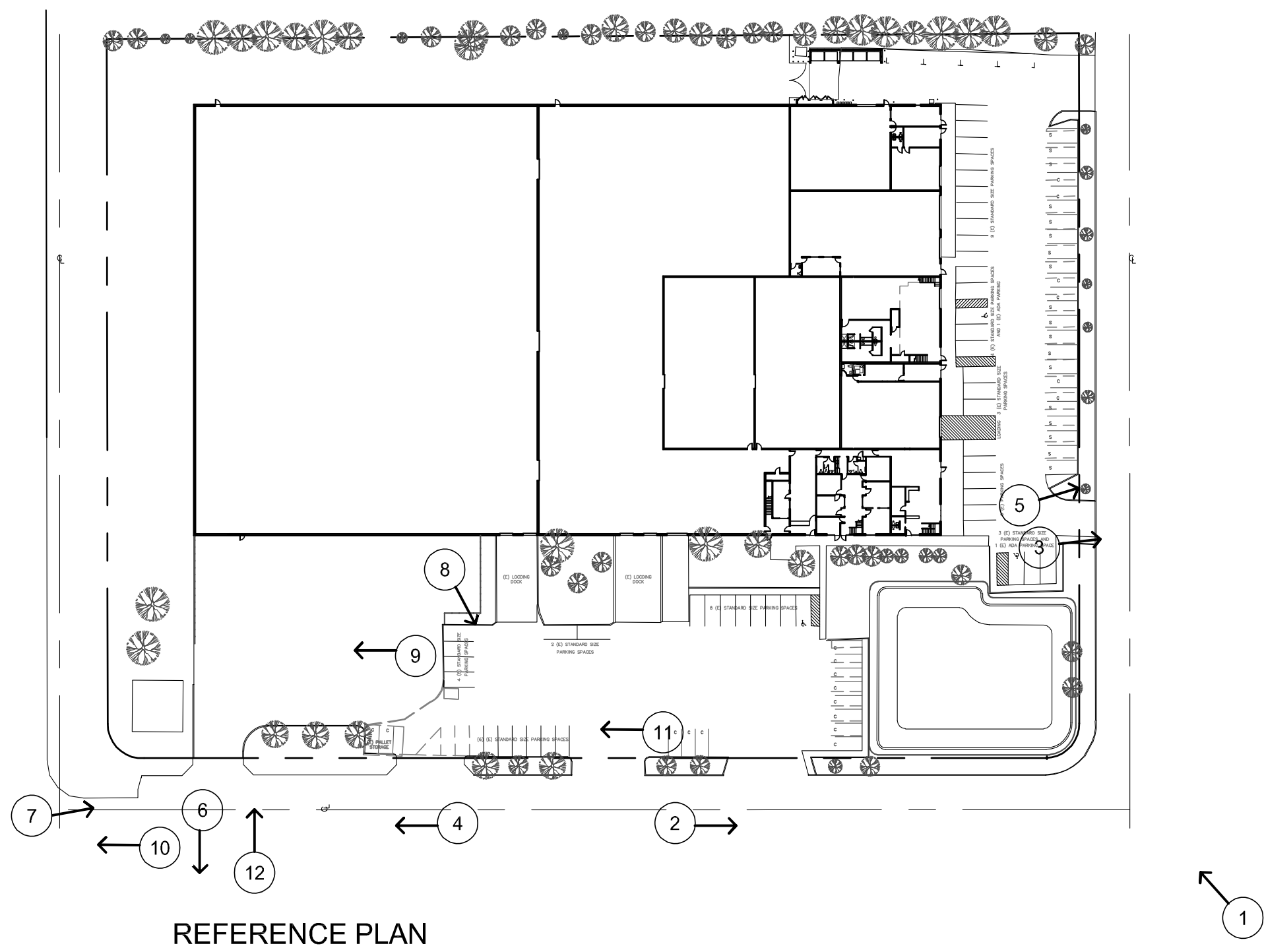
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PROJECT
**ST. HELENA
CUSTOM CRUSH
FACILITY**
JOB NUMBER 1519

USE PERMIT
420 LA FATA
ST HELENA, CA 94574

SHEET DESCRIPTION
**SITE
PHOTOGRAPHS**

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SHEET
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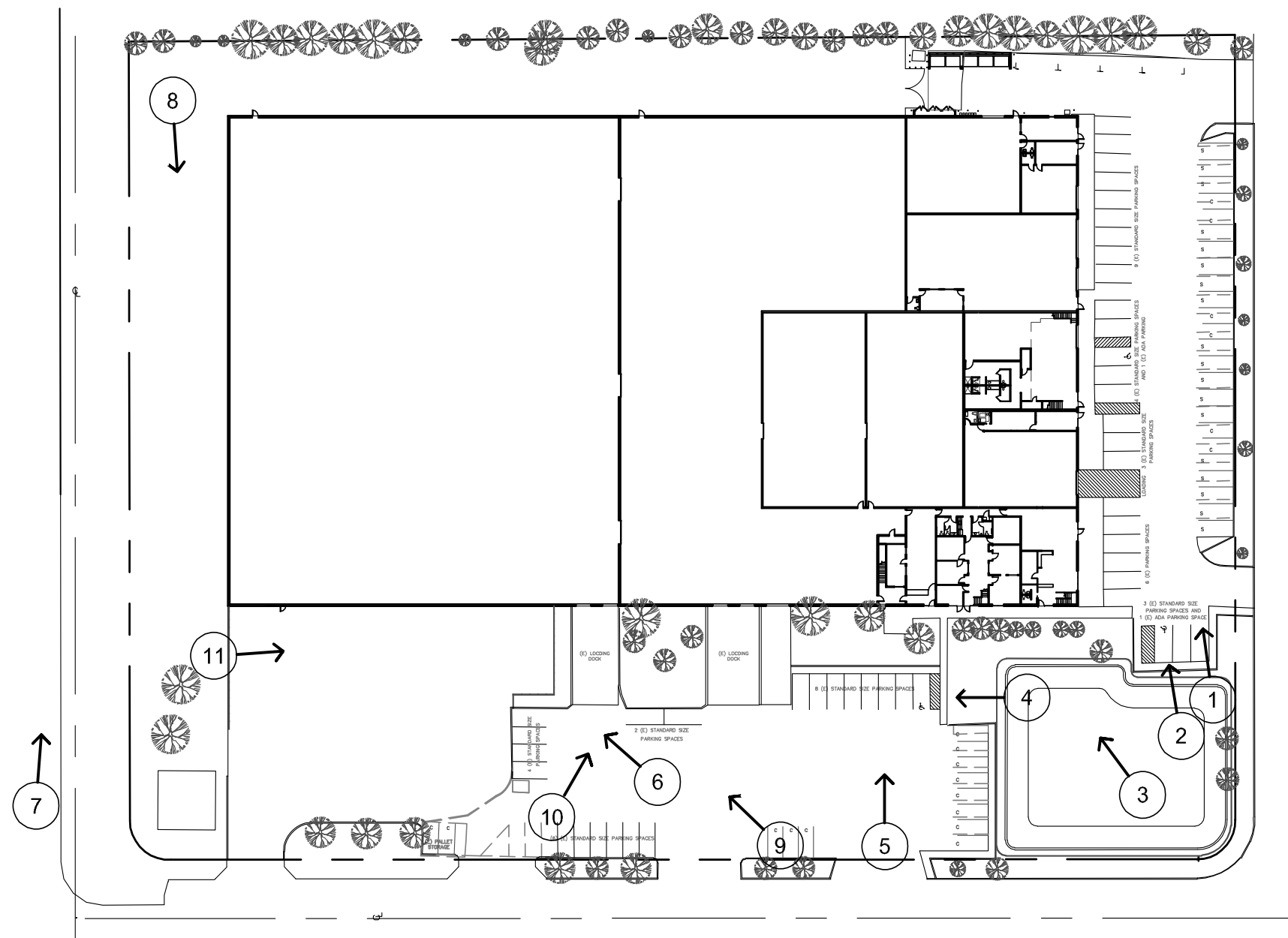
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A3.3



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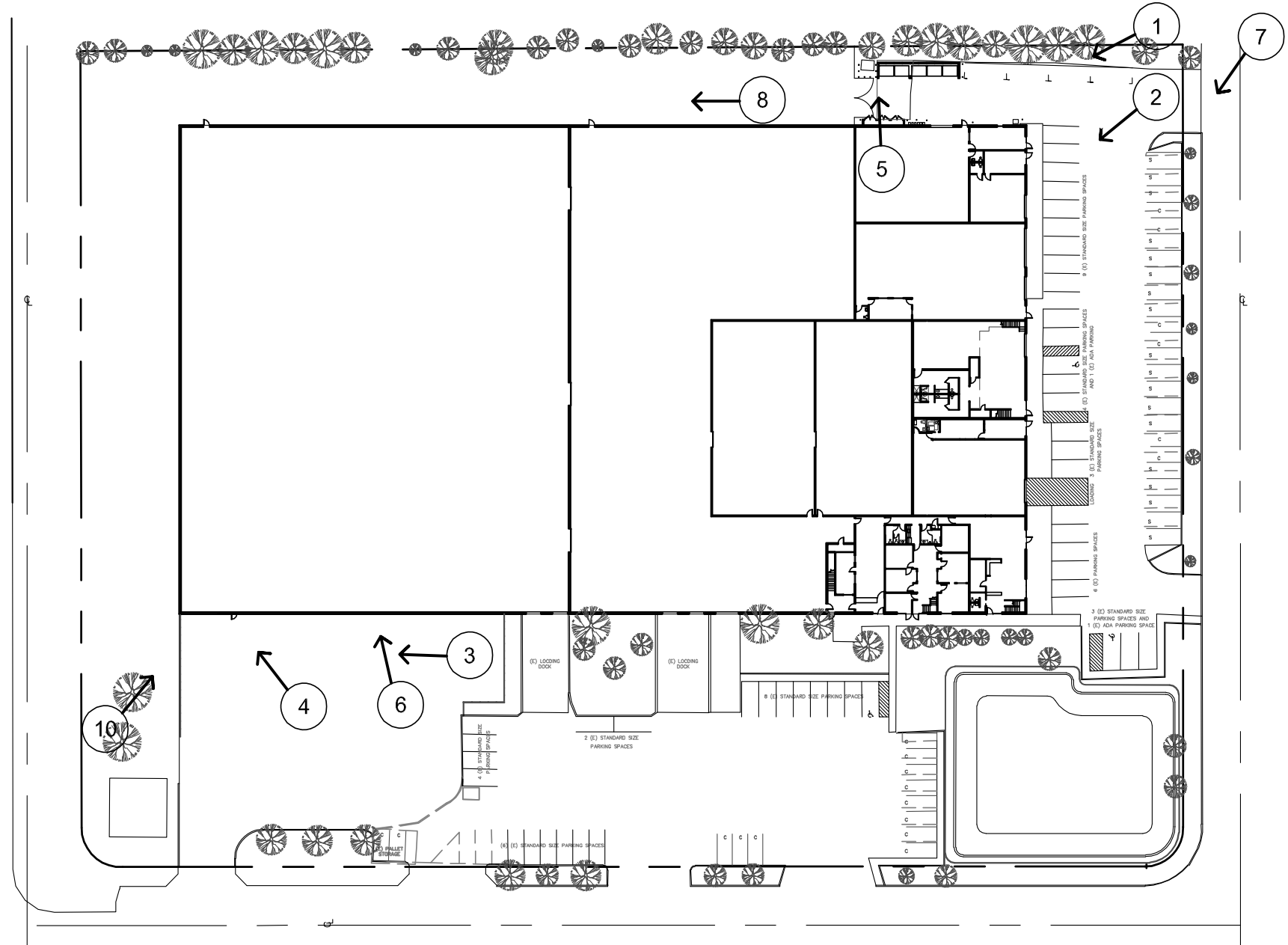
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SHEET

A3.4

GENERAL NOTES

1. ALL MATERIAL, WORKMANSHIP, AND CONSTRUCTION DETAILS SHALL CONFORM TO THE CITY OF ST. HELENA, "WATER AND SEWER STANDARDS," ADOPTED JUNE 1991, AND "STREET, STORM DRAIN & SIDEWALK STANDARDS," ADOPTED JUNE 1998, INCLUDING ALL ADDENDA, STANDARD PLAN REVISIONS, AND SPECIAL PROVISIONS.
2. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR BEING FAMILIAR WITH THE PROVISIONS AND REQUIREMENTS CONTAINED IN THE CITY OF ST. HELENA STANDARD SPECIFICATIONS, ESPECIALLY SECTION 6 - SANITARY SEWER SYSTEM. THE COMPLETE "PUBLIC WORKS CITY STANDARDS" DOCUMENT CAN BE FOUND IN THE PUBLIC WORKS SECTION OF THE CITY OF ST. HELENA'S WEBSITE. CONTRACTOR SHALL HAVE A COPY OF THE COMPLETE DOCUMENT AVAILABLE AT THE JOB SITE AT ALL TIMES.
3. CONTRACTOR SHALL REQUEST INSPECTIONS A MINIMUM OF 24 HOURS IN ADVANCE BY CALLING (707) 968-2650 8:00 A.M. TO 5:00 A.M. MONDAY THROUGH FRIDAY.
4. CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
5. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES UNLESS THE ENCROACHMENT PERMIT SPECIFICS OTHERWISE.
6. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AND THE CITY OF ST. HELENA STREETS & WATER DEPARTMENT AT (707) 967-2871 PRIOR TO START OF ANY CONSTRUCTION.
7. CONTRACTOR SHALL PROVIDE EMERGENCY TELEPHONE NUMBERS TO THE POLICE, FIRE AND PUBLIC WORKS DEPARTMENTS AND KEEP THEM INFORMED DAILY REGARDING STREETS UNDER CONSTRUCTION AND DETOURS. DETOURS SHALL NOT BE PERMITTED UNLESS APPROVED IN WRITING BY THE CITY ENGINEER. CONTRACTOR SHALL MAINTAIN 2-WAY TRAFFIC ON CRANE AVENUE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING UTILITIES IN THE FIELD. LOCATIONS OF UTILITIES AND UNDERGROUND FACILITIES SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY.
9. CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT BARRICADES TO PROVIDE FOR THE SAFETY OF THE GENERAL PUBLIC TO THE SATISFACTION OF THE CITY ENGINEER.
10. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
11. ALL UNDERGROUND UTILITY WORK IN THE STREET AREAS SHALL BE COMPLETED PRIOR TO PLACEMENT OF BASE ROCK UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL CONFORM TO EXISTING STREETS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS OR HAZARDOUS CONDITIONS. ALL IMPROVEMENTS FOR LATERAL CONSTRUCTION SHALL BE REPLACED IN-KIND.
13. CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATIONS, IF REQUIRED, WITH THE APPROPRIATE UTILITY COMPANIES.
14. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.
15. SHOULD ANY CONTRACTOR OR SUBCONTRACTOR FIND ANY DEFICIENCIES, ERRORS, OMISSIONS IN THESE PLANS AND SPECIFICATIONS OR SHOULD HE BE IN DOUBT AS TO THEIR MEANING OR INTENT, HE SHALL NOTIFY THE ENGINEER FOR A WRITTEN CLARIFICATION, ADDENDUM, ETC. IF HE FAILS TO DO SO BEFORE SUBMITTING A PROPOSAL, HE CANNOT CLAIM ADDITIONAL COMPENSATION FOR WORK REQUIRED TO COMPLETE THE PROJECT.
16. WRITTEN DIMENSIONS ALWAYS TAKE PRECEDENCE OVER SCALED DIMENSIONS. IF THERE IS A CONFLICT, NOTIFY THE ENGINEER AND OBTAIN A CLARIFICATION. NO DEVIATIONS OR SUBSTITUTIONS SHALL BE ALLOWED WITHOUT OBTAINING WRITTEN APPROVAL FROM THE ENGINEER.
17. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL SECURE CONSTRUCTION PERMITS FROM THE CITY OF ST. HELENA AND OTHER AGENCIES AS NECESSARY AND PAY ALL FEES INCLUDING INSPECTION FEES.
18. ONE WEEK PRIOR TO ANY EXCAVATION IN EXISTING STREET AREAS, THE CONTRACTOR SHALL CONTACT AND REQUEST PG&E, PG&B, BELL, CITY ENGINEER (WATER DIVISION), AND COMCAST CABLE TELEVISION COMPANY FOR MARKING THE LOCATION OF THEIR RESPECTIVE FACILITIES. COSTS OF REPAIRING ANY INJURIES OR DAMAGES CAUSED BY THE CONTRACTOR SHALL BE BORNE BY THE CONTRACTOR. VARIOUS UNDERGROUND UTILITY LINES WERE PLOTTED ON THE PLANS FROM THE INFORMATION OBTAINED FROM THE RESPECTIVE UTILITY COMPANIES. THEREFORE, NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CORRECTNESS OF THEIR LOCATION. IF A UTILITY LOCATION AND/OR ELEVATION IS UNKNOWN, POT-HOLING SHOULD BE PERFORMED.
19. A PRE-CONSTRUCTION CONFERENCE SHALL BE CALLED BY THE CONTRACTOR PRIOR TO ANY EQUIPMENT BEING MOVED ONTO THE SITE. TO BE PRESENT AT THIS CONFERENCE ARE: THE OWNER, ENGINEER, GRADING CONTRACTOR, UNDERGROUND CONTRACTOR, PG&E REPRESENTATIVE, AND THE CITY INSPECTOR (WATER & SEWER).
20. WORK DONE WITHIN THE RIGHT-OF-WAY OF ALL PUBLIC RIGHT OF WAY SHALL BE DONE UNDER AN ENCROACHMENT PERMIT ISSUED BY THE CITY OF ST. HELENA.
21. ALL STATIONS (SHOWN ON THE PLAN AND PROFILE) ARE TAKEN ALONG CENTERLINE UNLESS OTHERWISE NOTED ON PLAN, AND SHOW MEASUREMENTS IN A HORIZONTAL PLANE.
22. HOURS OF OPERATION ARE LIMITED TO 8:00 AM TO 5:00 PM MONDAY THROUGH SATURDAY. INSPECTION IS AVAILABLE 8:00 TO 3:00 WEEKDAYS ONLY, UNLESS A SPECIAL APPOINTMENT IS MADE.
23. SITE SHALL BE VISUALLY INSPECTED BY THE CONTRACTOR TO DETERMINE THE EXTENT OF CLEARING, GRUBBING AND GRADING WORK TO BE DONE.
24. TRENCHING AND BACKFILL SHALL COMPLY WITH CITY OF SAINT HELENA CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY STANDARDS FOR TRENCH SAFETY.

SURVEY NOTES

1. THE BOUNDARY ON THESE DRAWINGS DOES NOT REPRESENT A PROPERTY LINE. SURVEY, PROPERTY LINES SHOWN HEREON ARE BASED ON RECORD DATA, AND MAY NOT REPRESENT THE TRUE POSITIONS OF THE LINES.
2. THE TOPOGRAPHY IS BASED ON A FIELD SURVEY OF DECEMBER, 2015 PERFORMED BY RICHERS SPENCE AND ASSOCIATES
3. THE VERTICAL DATUM OF THE SURVEY IS NAVD83.
4. THE BENCHMARK USED IN FIELD SHALL BE THE CALTRANS BM #681. ELEVATION=240.50'
5. DELTA CONSULTING & ENGINEERING ASSUMES NO LIABILITY, REAL OR ALLEGED, REGARDING THE ACCURACY OF THE TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS.
6. CONTRACTOR SHALL PROTECT EXISTING SURVEY MONUMENTS OR REPLACE THEM AT HIS OWN EXPENSE.

DEMOLITION NOTES

1. ALL PERMITS AND ASSOCIATED FEES REQUIRED FOR ANY DEMOLITION WILL BE PROVIDED AT THE TIME OF THE CONSTRUCTION DOCUMENT PHASE.

ABBREVIATIONS

AB	AGGREGATE BASE	FI	FIRE HYDRANT	FW	PROCESS WASTE
AC	ASPHALT CONCRETE	FIM	FLOOD INSURANCE RATE MAP	R	RADIUS
AD	AREA DRAIN	FL	FLOW LINE	RC	RELATIVE COMPACTION
ABV	AB RELEASE VALVE	FM	FORCE MAIN	RT	RIGHT
BC	BEGIN CURVE	FS	FINISH SURFACE	RCP	RIGHT OF WAY
BE	BASE ELEVATION PER FIRM	GR	GRAVEL	ROW	RAIN WATER LEADER
BM	BENCHMARK	GL	GUTTER LINE	RCW	REINFORCED CONCRETE PIPE
BO	BLOWOFF	GR	GRAVEL	S	SOUTH
BCR	BEGIN CURB RETURN	IP	INVERT POINT	S	SURF (FEET/FOOT)
BVC	BEGIN VERTICAL CURVE	IE	INVERT ELEVATION	SA	SEE ARCHITECTURAL DRAWINGS
BS	BOTTOM OF CURB	INST	INVERT	SD	STORM DRAIN
BSW	BACK OF SIDEWALK	INV	INVERT	SDP	SUBURBAN PIPE
CB	CATCH BASIN	IP	IRON PIPE	SED	SEE ELECTRICAL DRAWINGS
CAG	CURB AND GUTTER	IBR	IRIGATION	SLD	SEE LANDSCAPE DRAWINGS
CMU	CONCRETE MASONRY UNIT	JP	JOINT POLE	SLV	SLEEVE
CP	CONCRETE PIPE	LF	LINEAL FEET/FOOT	SMD	SEE MECHANICAL DRAWINGS
CL	CENTERLINE	LH	LAMP HEAD	SPD	SEE PLUMBING DRAWINGS
CO	CLEANOUT	LP	LOW POINT	SS	SANITARY SEWER
COMM	COMMUNICATION	MH	MANHOLE	SSO	SANITARY SEWER CLEAN OUT
CV	CHECK VALVE	MON	MONUMENT	SSPH	SANITARY SEWER FLOOD HOLE
CW	COLD WATER	N	NORTH	SSSH	SANITARY SEWER MANHOLE
DCV	DOUBLE CHECK VALVE	NEW	NEW	STA	STATION
DG	DECOMPOSED GRANITE	OC	ON CENTER	STD	STANDARD
DP	DUCTILE IRON PIPE	OG	ORIGINAL GROUND	SW	SIDEWALK
DS	DOWNSPOUT	OH	OVERHEAD	TC	TOP OF CURB
DW	DRIVEWAY/DOMESTIC WASTE	ORL	OVERHEAD LINE	TWC	TOP FACE OF CURB
DWG	DRAWING	OP	PROPOSED	TCC	TOP OF CONCRETE
EC	END OF CURVE	PCC	PORTLAND CONCRETE CEMENT	TS	TOP OF STAIRS
(E)	EAST	PD	PRESSURE DISTRIBUTION	TP	TOP OF WALL
ED	END CURB RETURN	PI	POINT OF INTERSECTION	UG	UNDERGROUND
EG	EXISTING GROUND	PV	PORT INDICATOR VALVE	VC	VERTICAL CURVE
EGR	EDGE OF GRAVEL	PL	PROPERTY LINE	VG	VALLEY GUTTER
EP	EDGE OF PAVEMENT	PRC	POINT OF REVERSE CURVE	(W)	WEST
EVC	END VERTICAL CURVE	PSI	POUNDS PER SQUARE INCH	WM	WATER METER
FC	FACE OF CURB	PUE	PUBLIC UTILITY EASEMENT	WS	WATER SERVICE
FDC	FIRE DEPT. CONNECTION	PVC	POLYVINYL CHLORIDE	WV	WATER VALVE
FG	FRESH GRADE	PVI	POINT OF VERTICAL INTERSECTION		

UTILITY NOTES

1. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) AT 1-800-227-2600 PRIOR TO START OF ANY CONSTRUCTION.
2. ALL WORK SHALL BE IN COMPLIANCE WITH APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.) STANDARDS AS SET FORTH BY THE FEDERAL DEPARTMENT OF LABOR AND/OR THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL SECURE A TRENCH PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO EXCAVATION OF ANY TRENCH OVER FIVE (5) FEET IN DEPTH.
3. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES UNLESS THE COUNTY ENCROACHMENT PERMIT SPECIFICS OTHERWISE.
4. ONE WEEK PRIOR TO ANY EXCAVATION IN EXISTING STREET AREAS, THE CONTRACTOR SHALL CONTACT AND REQUEST PG&E, CURRENT TELEPHONE COMPANY, CITY ENGINEER (WATER DIVISION), NAPA SANITATION DISTRICT AND CURRENT CABLE PROVIDER FOR MARKING THE LOCATION OF THEIR RESPECTIVE FACILITIES. COSTS OF REPAIRING ANY INJURIES OR DAMAGES CAUSED BY THE CONTRACTOR SHALL BE BORNE BY THE CONTRACTOR. VARIOUS UNDERGROUND UTILITY LINES WERE PLOTTED ON THE PLANS FROM THE INFORMATION OBTAINED FROM THE RESPECTIVE UTILITY COMPANIES. THEREFORE, NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CORRECTNESS OF THEIR LOCATION. BURIED UTILITIES WERE NOT VERIFIED, NOR WAS ANY SUBSURFACE EXPLORATION CONDUCTED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING UTILITIES IN THE FIELD. LOCATIONS OF UTILITIES AND UNDERGROUND FACILITIES SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY. SEE NOTE 3 ABOVE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING FACILITIES AND IMPROVEMENTS FROM DAMAGE RESULTING FROM CONTRACTORS WORK. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATIONS, IF REQUIRED, WITH THE APPROPRIATE UTILITY COMPANIES AND/OR THE OWNER.
8. ALL UNDERGROUND UTILITY WORK IN THE STREET AREAS SHALL BE COMPLETED PRIOR TO PLACEMENT OF BASE ROCK UNLESS OTHERWISE NOTED.
9. TRENCHING AND BACKFILL WITHIN THE PUBLIC RIGHT OF WAY AND UNDER PRIVATE ROADS SHALL COMPLY WITH THE COUNTY OF NAPA STANDARDS. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY STANDARDS FOR TRENCH SAFETY.
10. IF ELECTRIC, GAS, TELEPHONE, CABLE T.V. LINES AND/OR OTHER SERVICES, ETC., MUST BE INSTALLED BY OTHERS, THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THESE FACILITIES WITH PG&E, CURRENT TELEPHONE COMPANY, CURRENT CABLE TV PROVIDER OR THEIR CONTRACTORS) AND COOPERATE FULLY IN THE EXECUTION OF THIS WORK CONCURRENTLY WITH THE PROGRESS OF THE REST OF THE WORK.
11. EXISTING UTILITIES SHALL BE KEPT IN SERVICE AT ALL TIMES. UTILITIES THAT INTERFERE WITH THE WORK TO BE PERFORMED SHALL BE PROTECTED AS REQUIRED BY COUNTY OF NAPA, PG&E, OTHER UTILITIES, AND THE OWNER.
12. ALL STORM DRAIN SYSTEM INSTALLATION SHALL BE COMPLETED IN ACCORDANCE WITH COUNTY OF NAPA STANDARDS. PLASTIC PIPE FOR THE STORM DRAIN SHALL COMPLY WITH SECTION 64 OF THE CALIFORNIA STANDARD SPECIFICATIONS. CORRUGATED METAL PIPE (C.M.P.) SHALL COMPLY WITH SECTION 66 OF THE CALTRANS STANDARD SPECIFICATIONS. REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE CLASS 3 PER SECTION 65 OF THE CALTRANS STANDARD SPECIFICATIONS.
13. CONTRACTOR HAS THE FOLLOWING OPTIONS FOR STORM DRAIN PIPING: REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE CLASS II PER CALTRANS STANDARD SPECIFICATIONS. POLYVINYL CHLORIDE PIPE (P.V.C.) FOR THE STORM DRAIN SHALL COMPLY WITH ANSI/ASTM D 3034-78, SDR 35 REQUIREMENTS OR CORRUGATED POLYETHYLENE PIPE SUCH AS ADVANCED DRAINAGE SYSTEMS (A.D.S.) N-12 OR APPROVED EQUAL. USE OTHER IF SPECIFIED ON THE PLANS.
14. ASBESTOS CEMENT PIPE (A.C.P.) SHALL NOT BE ALLOWED UNDER ANY CIRCUMSTANCES.
15. UTILITY LINES SHOWN IN THESE PLANS DO NOT REPRESENT EXACT LOCATION. CONTRACTOR SHALL COORDINATE WITH DESIGNER ENGINEER IF HE/SH SHE FINDS A CONFLICT IN THE FIELD DURING CONSTRUCTION.

GRADING NOTES

1. ANY AND/OR ALL MOVEMENT OF EARTH SHALL COMPLY WITH THE CITY OF ST. HELENA STANDARDS AND SPECIFICATIONS (CURRENT EDITION), THE CITY ENGINEER OF NAPA CONSERVATION REGULATIONS, THE CALIFORNIA BUILDING CODE, THE PROJECT GEOTECHNICAL REPORT (IF ANY), AND THESE PLANS.
2. THE SOILS ENGINEER SHALL BE NOTIFIED AT LEAST THREE (3) DAYS IN ADVANCE OF COMMENCING WORK, INCLUDING SITE STRIPPING AND GRADING OPERATIONS. THIS WORK SHALL BE OBSERVED AND TESTED BY THE SOILS REPRESENTATIVE AT THE OWNER'S EXPENSE.
3. SITE SHALL BE VISUALLY INSPECTED BY THE CONTRACTOR TO DETERMINE THE EXTENT OF CLEARING, GRUBBING AND GRADING WORK TO BE DONE. NO ADDITIONAL GRADING BEYOND WHAT IS SHOWN ON THESE PLANS SHALL BE COMPLETED.
4. SOIL STRIPPED IN THE AREAS TO BE PAVED SHALL BE STOCKPILED FOR USE IN LANDSCAPED AREAS. CONTRACTOR SHALL COORDINATE WITH LANDSCAPE CONTRACTOR.
5. SOILS SHALL NOT BE LEFT IN PILES EITHER ON-OR OFF-SITE. RATHER IT SHALL BE REMOVED FROM OR SPREAD OUT OVER THE PROPERTY INVOLVED.
6. CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN SUCH A MANNER AS TO PRECLUDE WIND BLOWN DIRT AND DUST AND RELATED DAMAGE TO NEIGHBORING PROPERTIES. SUFFICIENT WATERING TO CONTROL DUST IS REQUIRED AT ALL TIMES. CONTRACTOR SHALL ASSUME LIABILITY FOR CLAIMS RELATED TO WIND BLOWN MATERIAL. IF THE DUST CONTROL IS INADEQUATE AS DETERMINED BY THE PUBLIC WORKS DIRECTOR OR/AND HIS DESIGNATED REPRESENTATIVE, THE CONSTRUCTION WORK SHALL BE TERMINATED UNTIL CORRECTIVE MEASURES ARE TAKEN.
THE CITY OF ST. HELENA REQUIRES THE CONTRACTOR TO:
A. WATER ALL ACTIVE CONSTRUCTION AREAS AT LEAST TWICE DAILY.
B. COVER ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS;
C. APPLY WATER THREE TIMES DAILY TO ALL UNPAVED ACCESS ROADS, PARKING AREA, AND STAGING AREAS AT THE CONSTRUCTION SITE.
D. SWEEP ADJACENT PUBLIC STREETS WITH WATER SWEEPERS IF VISIBLE SOIL MATERIAL IS CARRIED ONTO STREETS.
7. ANY SOILS GENERATED BY PROJECT CONSTRUCTION OR IMPROVED DRIVEWAY SHALL NOT BE DEPOSITED WITHIN 50 FEET OF THE TOPS OF THE BANKS OF ANY STREAM, POND, OR LAKE WITHIN THE FLOODWAY OF ANY STREAM IN THE RIPARIAN ZONE, ALONG ANY BRANCH WAY IN ANY MARSH OR WETLAND, IN ANY VERNAL POOL, OR IN ANY OTHER AREA THAT IS DETERMINED BY THE DIRECTOR OF THE CITY OF ST. HELENA CONSERVATION DEVELOPMENT AND PLANNING TO BE ECOLOGICALLY SENSITIVE. THE LOCATION OF THE SOILS DISPOSAL AREAS SELECTED FOR EACH PROJECT SHALL BE SUBMITTED TO BOTH THE CITY OF ST. HELENA PUBLIC WORKS AND PLANNING DEPARTMENTS FOR THEIR APPROVAL AT LEAST TEN (10) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY GRADING OR EXCAVATION WORK ON-SITE.
8. CONTRACTOR SHALL PROVIDE TO THE PUBLIC WORKS DEPARTMENT AN EROSION AND SEDIMENT CONTROL PLAN, AND A SCHEDULE FOR IMPLEMENTATION OF SUCH MEASURES. IF ANY LOT OR STREET GRADING IS TO BE DONE BETWEEN OCTOBER 15 THROUGH APRIL 15, HYDROSEEDING OF ALL GRADED SLOPES SHALL BE COMPLETED BY OCTOBER 15.
9. WATER AND/OR DUST PALLIATIVES SHALL BE APPLIED IN SUFFICIENT QUANTITIES DURING GRADING AND OTHER GROUND DISTURBING ACTIVITIES ON-SITE TO MINIMIZE THE AMOUNT OF DUST PRODUCED.
10. OUTDOOR NOISE PRODUCING ACTIVITIES SHALL BE LIMITED TO WEEKDAYS BETWEEN 8:00 AM AND 5:00 PM.
11. TREES AND/OR VINES THAT ARE TO BE REMOVED SHALL ALSO HAVE THEIR STAMPS AND MAJOR ROOT SYSTEMS REMOVED. AFTER A TREE, VINE, OR A STUMP IS REMOVED, THE RESULTING CAVITY SHALL BE CLEANED OR LARGER ROOTS (2 INCH DIAMETER OR LARGER). SOIL SHOULD BE REMOVED AND DISHD TO PROVIDE ACCESS FOR COMPACTION EQUIPMENT.
12. ORGANIC MATERIAL SHALL BE HAULED OFFSITE AND DISPOSED OF BY THE CONTRACTOR IN A RESPONSIBLE MANNER (COUNTY APPROVED LANDFILL OR ANOTHER COUNTY APPROVED SITE).
13. ALL EARTHWORK, SCARIFICATION, BACKFILL, AND COMPACTION SHALL BE PERFORMED PER THE PLANS AND CITY OF ST. HELENA REQUIREMENTS.
14. ALL STATIONS (SHOWN ON THE PLAN AND PROFILE) ARE TAKEN ALONG THE SEWER MAIN CENTERLINE UNLESS OTHERWISE NOTED ON PLAN, AND SHOW MEASUREMENTS IN A HORIZONTAL PLANE.

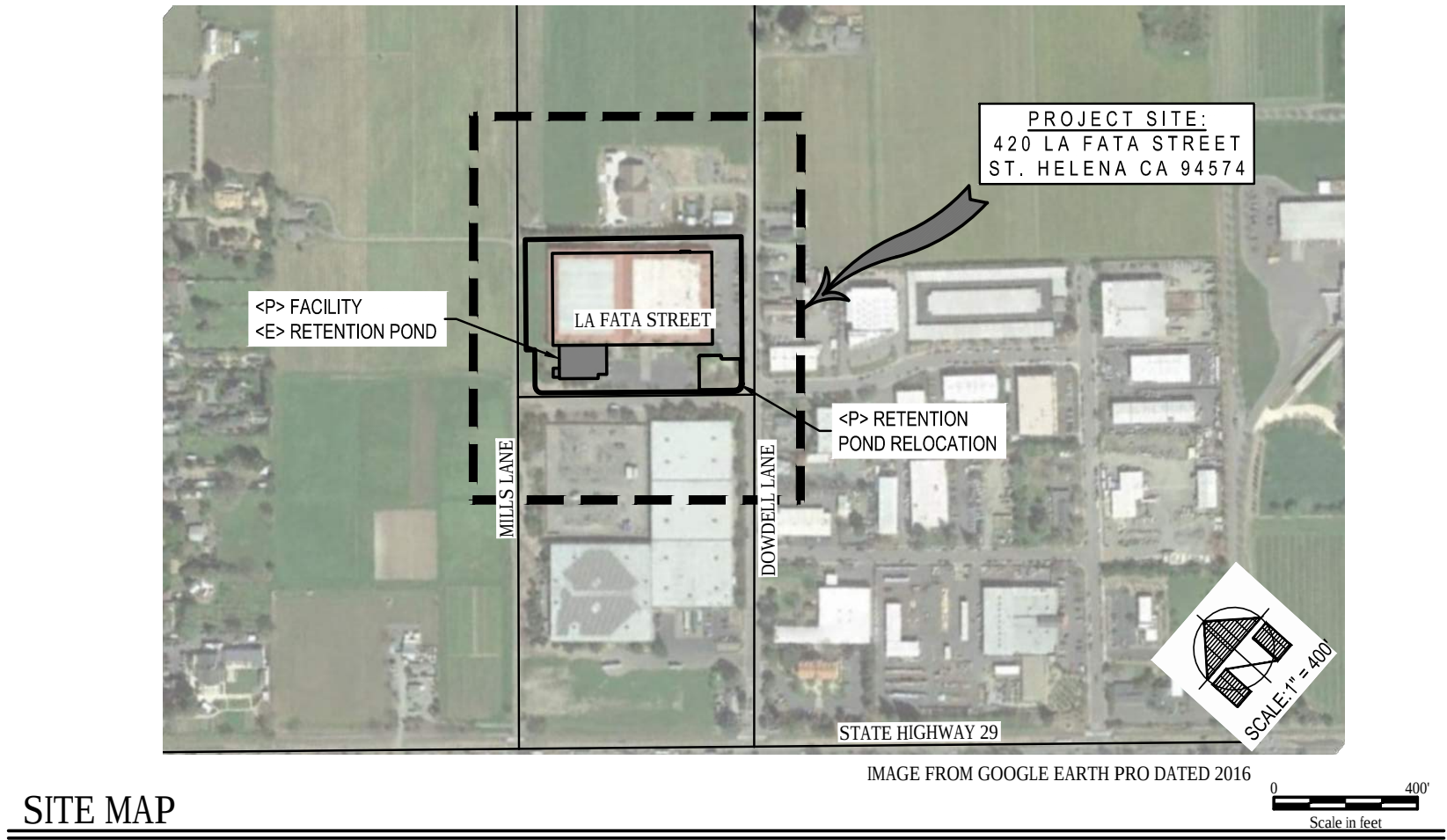
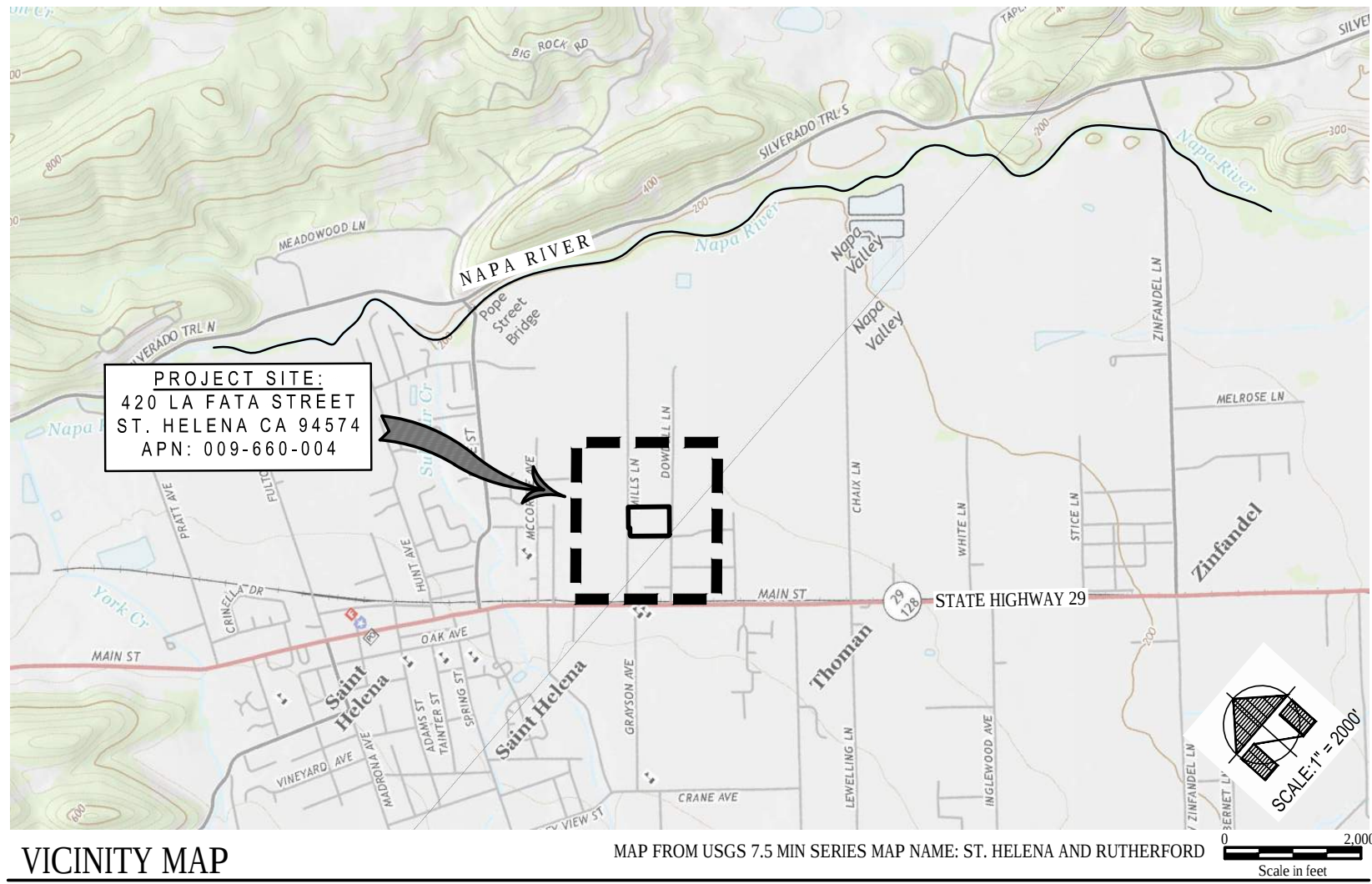
SYMBOL LEGEND

	UTILITY POLE		SEWER MANHOLE/RISE WITH ID #
	WELL TYPE MONUMENT		STORM DRAIN MANHOLE WITH ID #
	WELL		WATER VALVE
	STREET LIGHT		WATER SERVICE & DCV
	TREE		FDC/PV WITH CHECK VALVE
	TREE TO BE REMOVED		FIRE HYDRANT WITH GATE VALVE
	SANITARY SEWER		CLEANOUT
	GAS LINE		PROPOSED CONTOUR
	WATER LINE		SOLID STORM DRAIN
	EXISTING CONTOUR		PERFORATED STORM DRAIN
	TOP OF BANK GRAZERBANK		GRADE SWALE
	PROPERTY LINE		OVERLAND RELEASE ROUTE
	CENTERLINE		

PROJECT STATEMENT

THIS PROJECT IS TO OBTAIN A USE PERMIT FOR A CUSTOM CRUSH WINERY FACILITY. THE PROPOSED WINERY IS REQUESTING TO PRODUCE UP TO 120,000 GALLONS OF WINE PER YEAR, AND THE BUILDING WILL BE LOCATED WHERE THE EXISTING RETENTION POND IS CURRENTLY LOCATED (IN NORTHWEST SIDE OF THE EXISTING WAREHOUSE. THE EXISTING POND WILL BE RELOCATED TO THE SOUTHWEST CORNER OF THE PARCEL. THE FORMER RETENTION POND WILL BE FILLED AND THE PROPOSED BUILDING WILL BE CONSTRUCTED AT THIS LOCATION. THE VOLUME CAPACITY OF THE EXISTING RETENTION POND IS APPROXIMATELY 5,000 CUBIC FEET WHEREAS THE NEW PROPOSED POND WILL HOLD APPROXIMATELY 41,000 CUBIC FEET. THE PROJECT ALSO INCLUDES THE CONSTRUCTION OF A CONCRETE PAD FOR THE CONSTRUCTION OF A PROCESS WASTEWATER SYSTEM MANUFACTURE BY LIVE SYSTEMS.

USE PERMIT PLANS FOR:
ST. HELENA CUSTOM CRUSH WINERY
420 LA FATA STREET
ST. HELENA, CA, 94574



SHEET INDEX

SHEET INDEX	PROJECT INFORMATION
UP1.0 COVER SHEET	OWNER: JOHN & NAT ROMES 677 ST. HELENA HIGHWAY, ST. HELENA, CA 94574
UP1.1 OVERALL SITE PLAN	ARCHITECT: VALLEY ARCHITECTS, LLP 1590 RAILROAD AVE. ST. HELENA, CA 94574
UP1.2 DEMOLITION PLAN	TOM FAHERTY 707/963-1466
UP2.0 HARDSCAPE PLAN	
UP2.1 FACILITY GRADING PLAN	SITE ADDRESS: 420 LA FATA STREET ST. HELENA, CA 94574
UP2.2 FACILITY CROSS SECTIONS	ASSESSOR PARCEL #: 009-660-004 PARCEL SIZE: ±5.7 ACRES
UP2.3 FACILITY CROSS SECTIONS	
UP2.4 POND GRADING PLAN	
UP2.5 DETAIL POND GRADING PLAN	
UP2.6 POND CROSS SECTIONS	
UP3.0 OVERALL UTILITY PLAN	SURVEYOR: RICHERS SPENCE & ASSOCIATES 1515 4TH ST. NAPA, CA 94559 707/252-3301
UP3.1 UTILITY PLAN	
UP3.2 CIRCULATION PLAN	
UP4.0 BMP PLAN	CIVIL ENGINEER: DELTA CONSULTING & ENGINEERING, INC. 1104 ADAMS STREET, SUITE 203 ST. HELENA, CA 94574
UP5.0 DMA PLAN	ANDREW SIMPSON, P.E. LUSVYN ARAUJO 707/963-9456
UP6.0 DETAILS	

REVISIONS

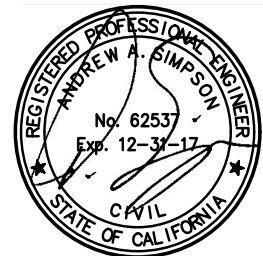
- 10/26/2016 • UPDATED COVER PER REVISION SITE PLAN
- 03/17/17 • ADDED CIRCULATION PLAN
- ADDED POND GRADING PLAN

USE PERMIT PLANS FOR:
ST. HELENA CUSTOM CRUSH WINERY
420 LA FATA STREET
ST. HELENA, CA, 94574

Delta Consulting & Engineering
of st. helena
1104 adams street, suite 203 • st. helena, california 94574
707-963-9456 • 707-963-8228 fax

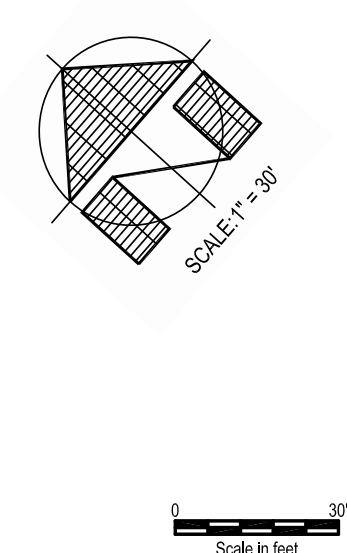
USE PERMIT PLANS
COVER SHEET

ST. HELENA CUSTOM CRUSH
420 LA FATA STREET
ST. HELENA, CA 94574
APN: 009-660-004
PROJECT C-183



DATE	ISSUE
04/06/16	USE PERMIT
11/04/16	REVISION
03/17/17	REVISION

SHEET:
UP1.0



SHEET: _____

UP1.1

THESE PLANS AND SPECIFICATIONS ARE PREPARED BY THE ENGINEER FOR THE PURPOSE OF OBTAINING PERMITS AND FOR THE PURPOSE OF CONSTRUCTION. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF THE INFORMATION PROVIDED HEREON, NOR DOES THE ENGINEER ASSUME ANY LIABILITY FOR THE CONSEQUENCES OF ANY OMISSIONS OR ERRORS. THESE PLANS ARE TO BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND THE CONTRACT DOCUMENTS. THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE DESIGN OF THE FACILITY GRADING PLAN AND THE DRAINAGE SYSTEM. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF THE INFORMATION PROVIDED HEREON, NOR DOES THE ENGINEER ASSUME ANY LIABILITY FOR THE CONSEQUENCES OF ANY OMISSIONS OR ERRORS. THESE PLANS ARE TO BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND THE CONTRACT DOCUMENTS. THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE DESIGN OF THE FACILITY GRADING PLAN AND THE DRAINAGE SYSTEM.

DELTA CONSULTING & ENGINEERING
OF ST. HELENA



1104 ADAMS STREET, SUITE 203 • ST. HELENA, CALIFORNIA 94574
707-963-8456 • 707-963-8528 FAX

USE PERMIT PLANS

FACILITY GRADING PLAN

ST. HELENA CUSTOM CRUSH

420 LA FATA STREET
ST. HELENA, CA 94574

APN: 009-860-004
PROJECT: C-163



EVERY PERSON PLANNING TO DO
ON-USE MUST REGISTER WITH
THE STATE OF CALIFORNIA

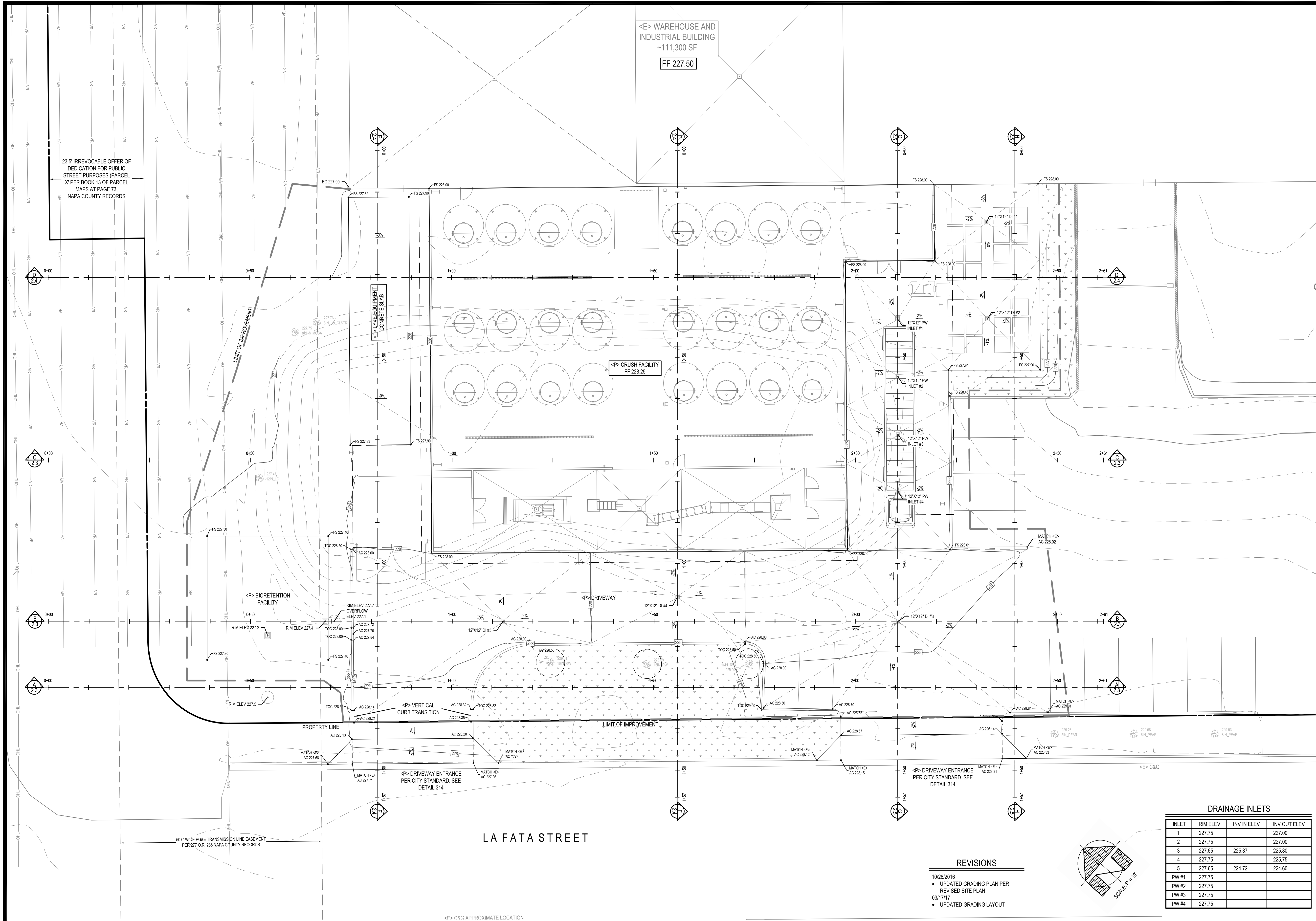
FOR MORE INFORMATION
SEE WWW.USAPERTS.ORG

DATE: 10/26/2016
11/04/16
03/17/17

ISSUE: USE PERMIT
REVISION
REVISION

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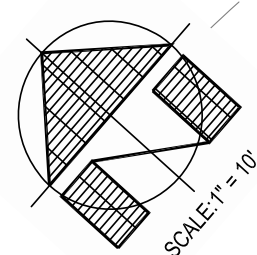
UP2.1



DRAINAGE INLETS			
INLET	RIM ELEV.	INV IN ELEV.	INV OUT ELEV.
1	227.75	227.00	227.00
2	227.75	227.00	227.00
3	227.65	225.87	225.80
4	227.75	225.87	225.75
5	227.65	224.72	224.60
PW #1	227.75		
PW #2	227.75		
PW #3	227.75		
PW #4	227.75		

REVISIONS

- 10/26/2016
- UPDATED GRADING PLAN PER REVISED SITE PLAN
- 03/17/17
- UPDATED GRADING LAYOUT



SCALE: 1" = 10'

0 10' Scale in feet

FACILITY GRADING PLAN

<F> C&G APPROXIMATE LOCATION

LA FATA STREET

23.5' IRREVOCABLE OFFER OF
DEDICATION FOR PUBLIC
STREET PURPOSES (PARCEL
X PER BOOK 13 OF PARCEL
MAPS AT PAGE 73,
NAPA COUNTY RECORDS

LIMIT OF IMPROVEMENT

<P> CRUSH FACILITY
FF 228.25

<E> WAREHOUSE AND
INDUSTRIAL BUILDING
~111,300 SF
FF 227.50

<P> BIORETENTION
FACILITY

<P> DRIVEWAY

<P> VERTICAL
CURB TRANSITION

<P> DRIVEWAY ENTRANCE
PER CITY STANDARD, SEE
DETAIL 314

<P> DRIVEWAY ENTRANCE
PER CITY STANDARD, SEE
DETAIL 314

50.0' WIDE PG&E TRANSMISSION LINE EASEMENT
PER 277 O.R. 236 NAPA COUNTY RECORDS



DATE:	ISSUE:
04/06/16	USE PERMIT
11/04/16	REVISION
03/17/17	REVISION

SHEET:

UP2.2

DELTA CONSULTING & ENGINEERING
 OF ST. HELENA

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USE PERMIT PLANS
FACILITY CROSS SECTIONS

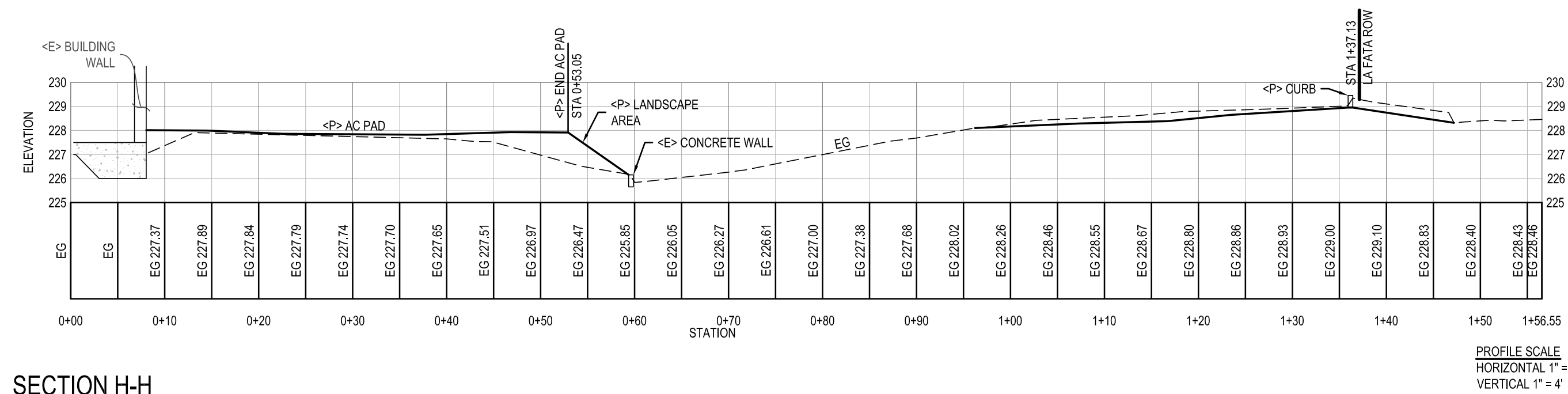
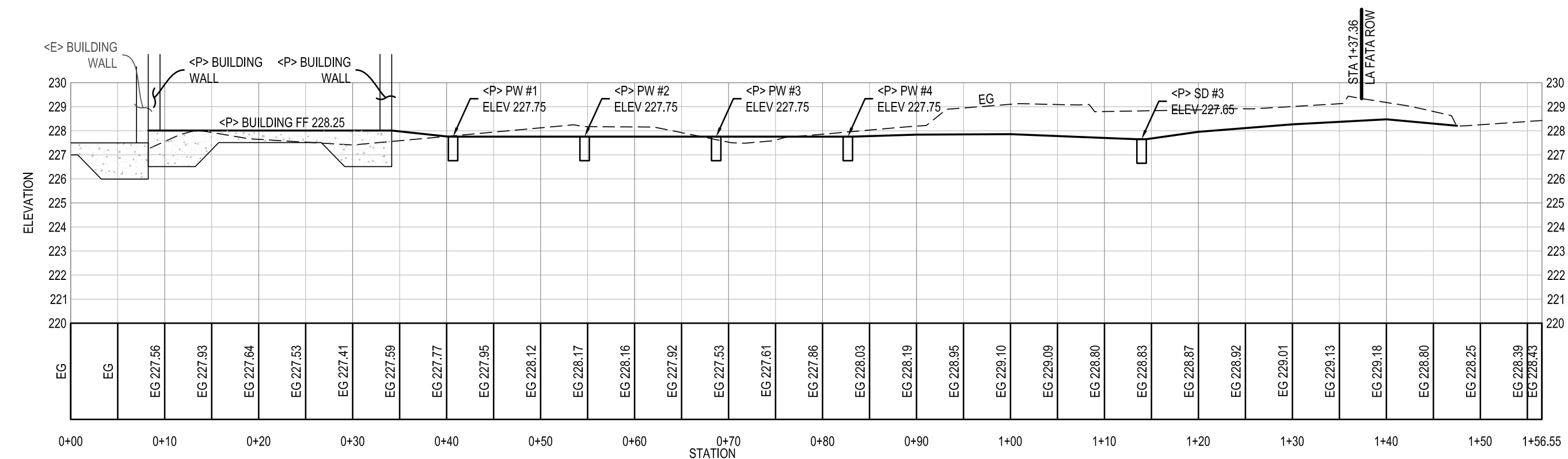
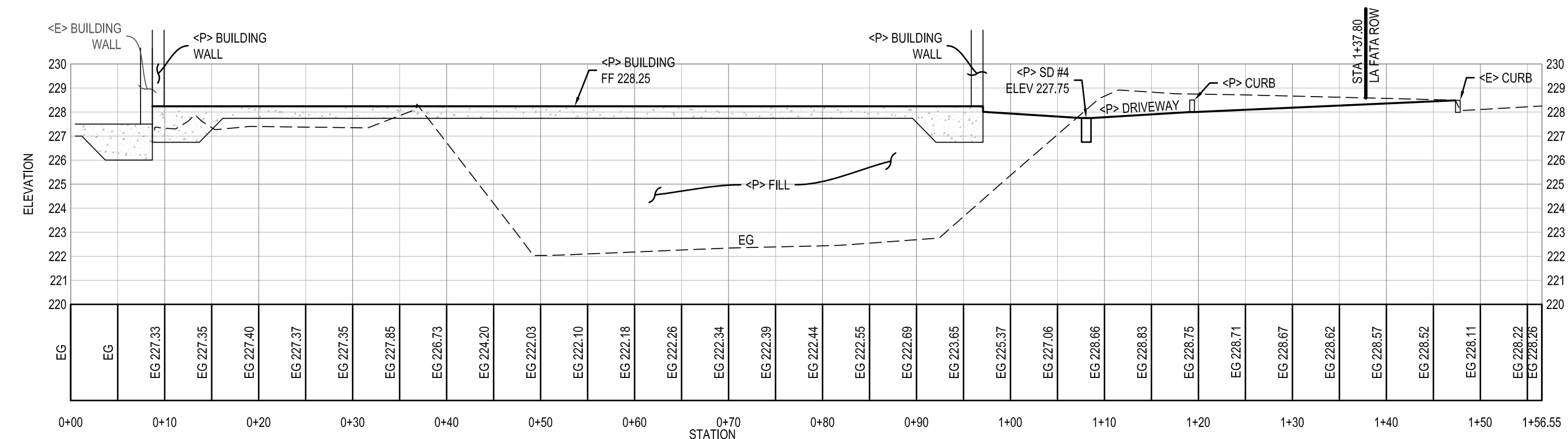
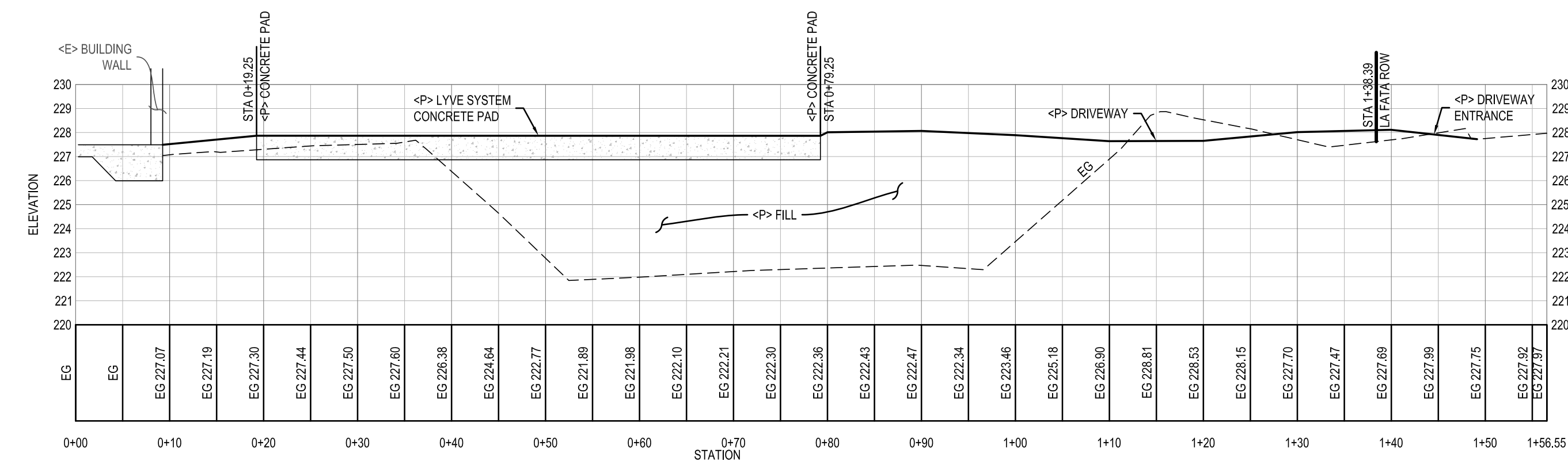
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APN: 009-660-004
PROJECT: O-163



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REVISIONS

10/26/2016	
• ADDED SHEET	
03/17/17	
• UPDATED CROSS SECTIONS	

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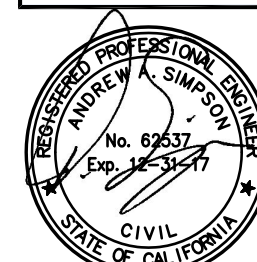
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1104 ADAMS STREET, SUITE 203 - ST.

USE PERMIT PLANS

FACILITY CROSS SECTIONS

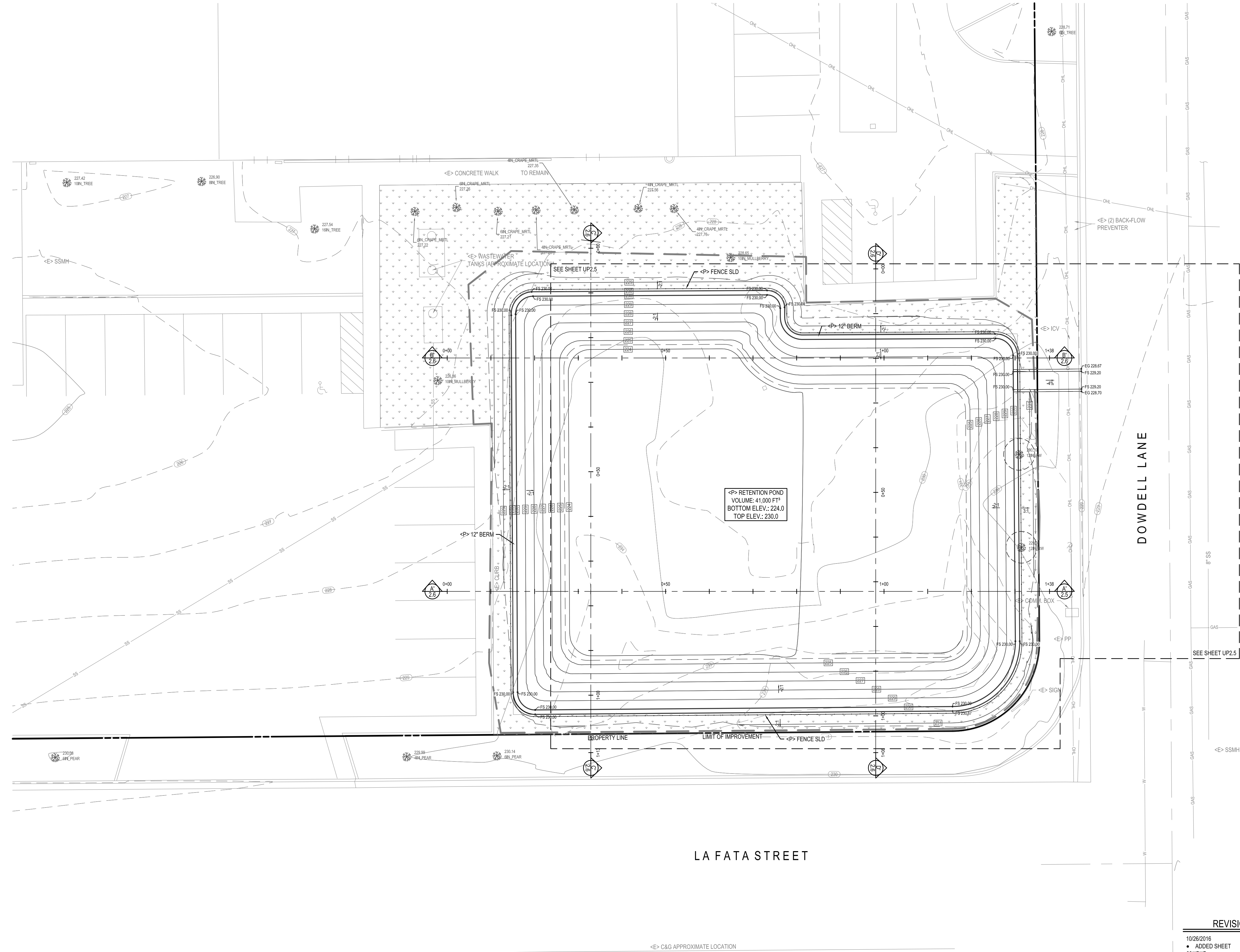
ST. HELENA CUSTOM CRUSH
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APN: 009-660-004
PROJECT: Q-163



DATE:	ISSUE:
04/06/16	USE PERMIT
11/04/16	REVISION
03/17/17	REVISION

SHEET: _____

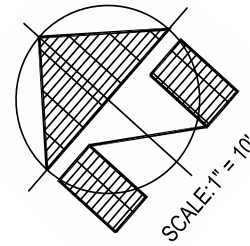
UP2.3



POND GRADING PLAN

REVISIONS

- 10/26/2016
 - 03/17/17
 - 03/17/17
 - 03/17/17
- ADDED SHEET
• UPDATED GRADING LAYOUT
• UPDATED GRADING CALLOUTS



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USE PERMIT PLANS
POND GRADING PLAN

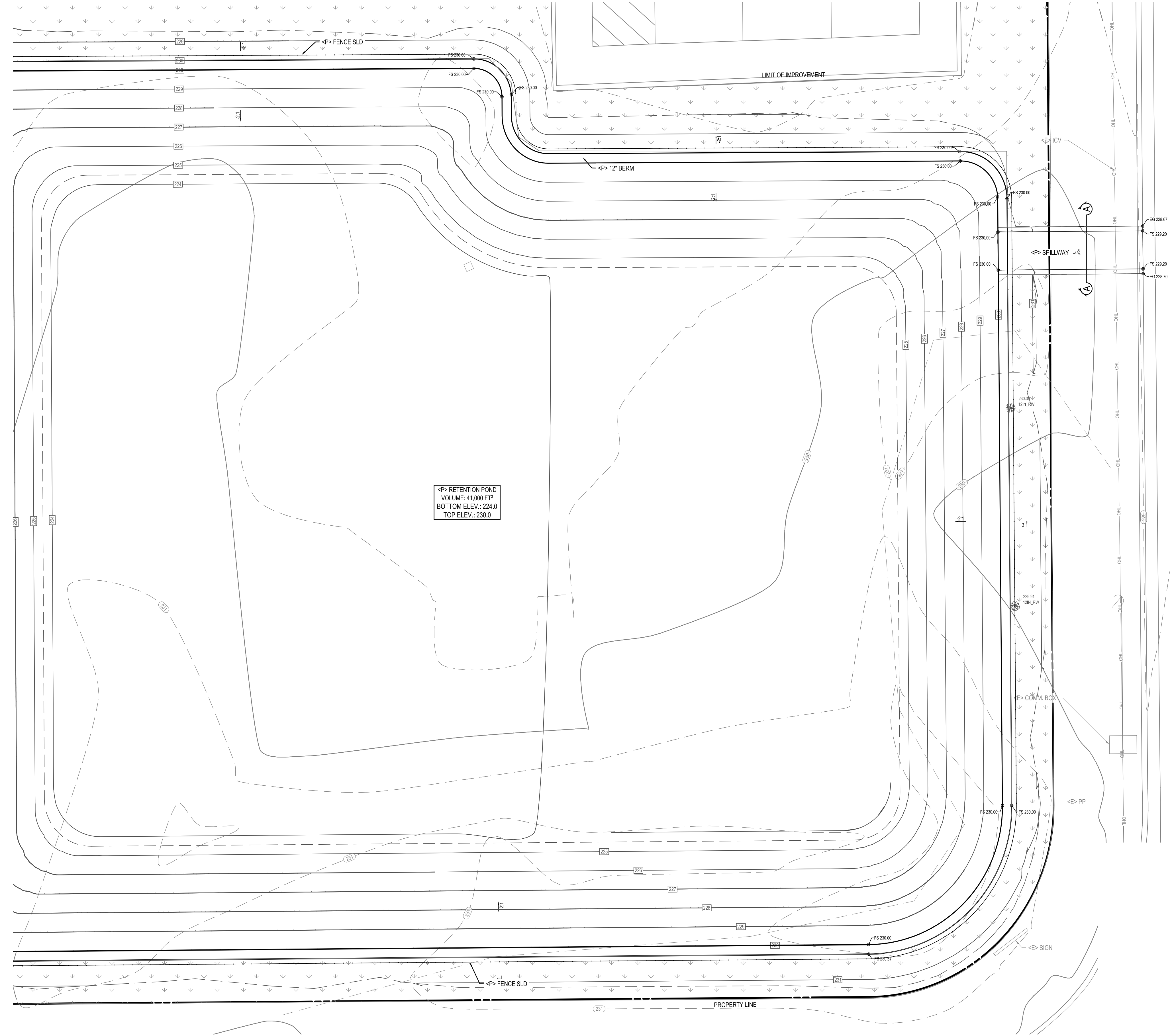
ST. HELENA CUSTOM CRUSH
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APN: 009-660-004
PROJECT: CA-163



DATE: 04/06/16
11/04/16
03/17/17

ISSUE: USE PERMIT
REVISION
REVISION

SHEET:
UP2.4

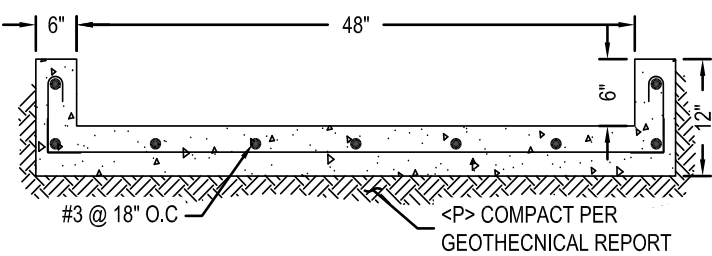


<P> RETENTION POND
VOLUME: 41,000 FT³
BOTTOM ELEV.: 224.0
TOP ELEV.: 230.0

DOWDELL LANE

REVISIONS

- 03/17/17
- ADDED THIS SHEET



- NOTES:
1. REINFORCING STEEL BARS SHALL HAVE A MINIMUM 2" CONCRETE COVER.
 2. REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60 KSI.
 3. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS OF AGE SHALL BE 3,000 PSI.

SPILLWAY CROSS SECTION

NOT TO SCALE

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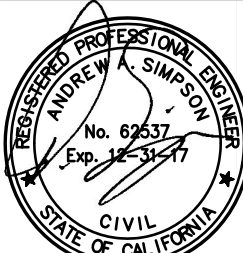
USE PERMIT PLANS

DETAIL POND GRADING PLAN

ST. HELENA CUSTOM CRUSH

420 LA FATA STREET
ST. HELENA, CA 94574
APN: 009-660-004

PROJECT: CA-163



EVERY PERSON PLANNING TO DO
ORAL WORK SHALL BE REGISTERED

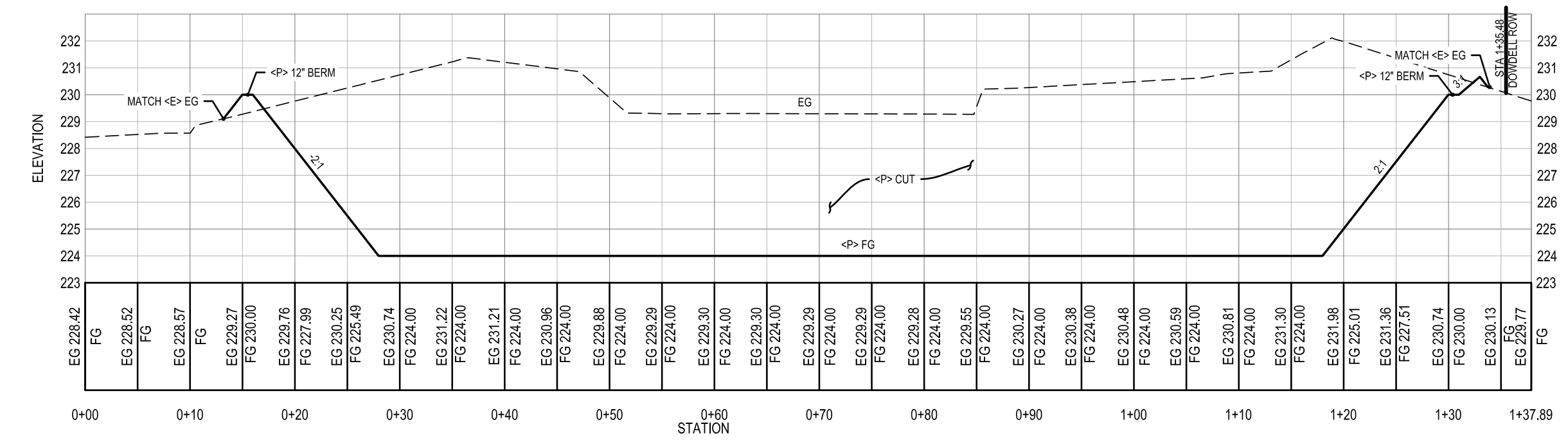


FOR MORE INFORMATION
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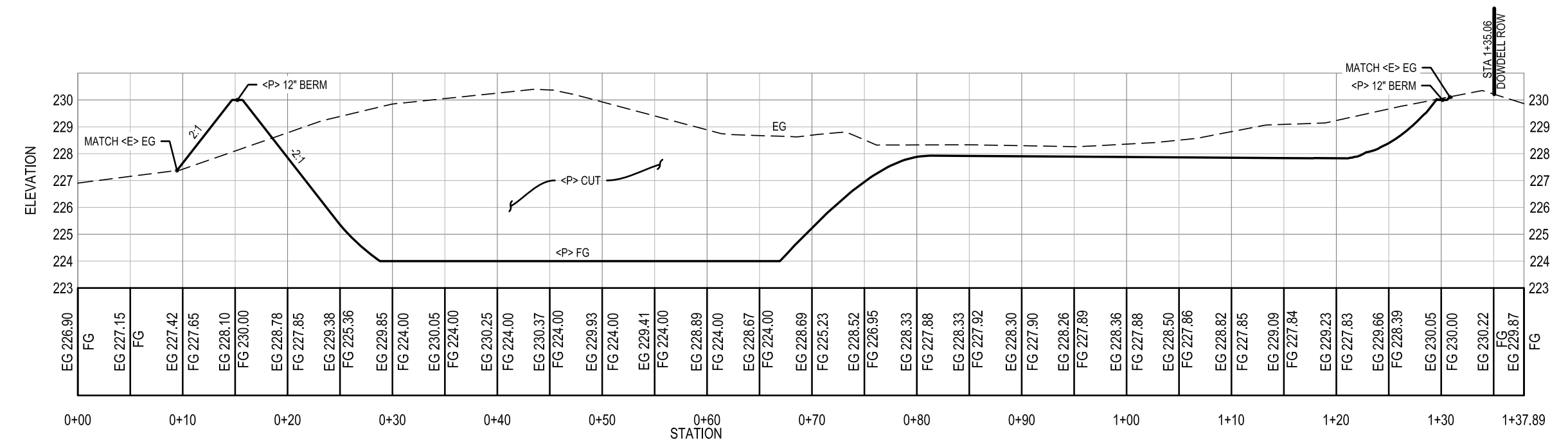
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11/04/16
03/17/17

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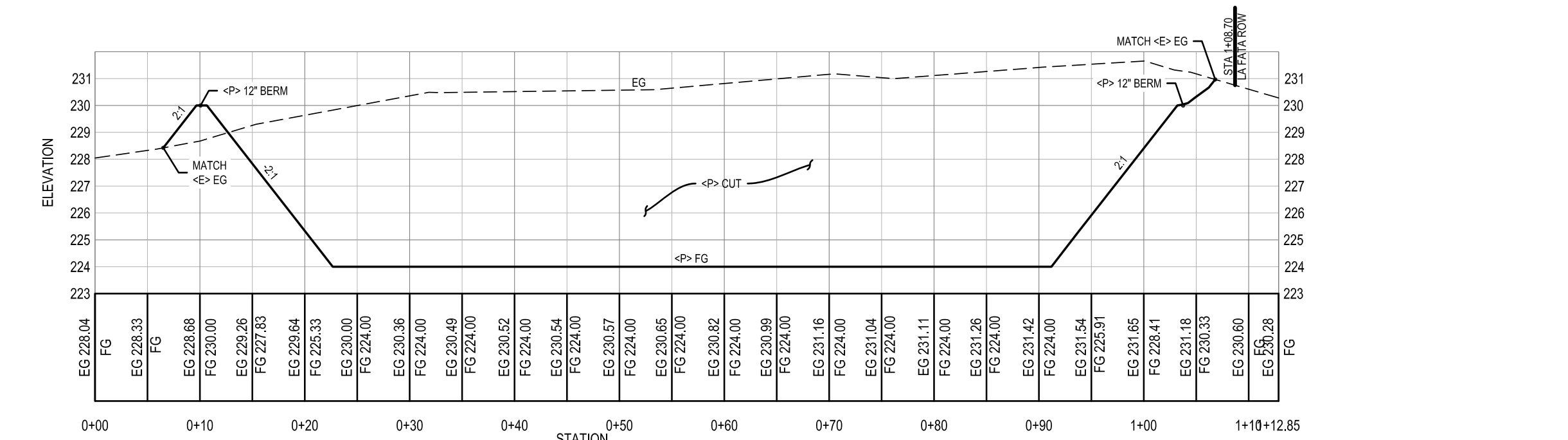
UP2.5



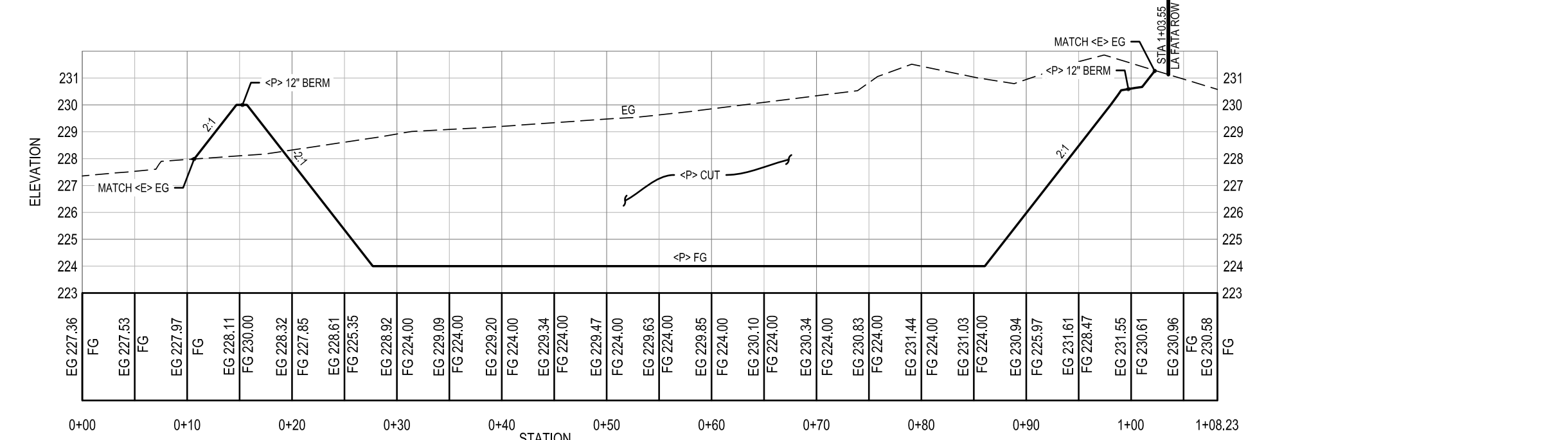
SECTION A-A'



SECTION B-B'



SECTION C-C'



SECTION D-D'

PROFILE SCALE
HORIZONTAL 1" = 10'
VERTICAL 1" = 4'

REVISIONS

- | DATE | ISSUE |
|----------|------------|
| 04/06/16 | USE PERMIT |
| 11/04/16 | REVISION |
| 03/03/17 | REVISION |
- ADDED SHEET
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POND CROSS SECTIONS

ST. HELENA CUSTOM CRUSH
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APN: 009-660-004
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MUST BE A REGISTERED PROFESSIONAL ENGINEER
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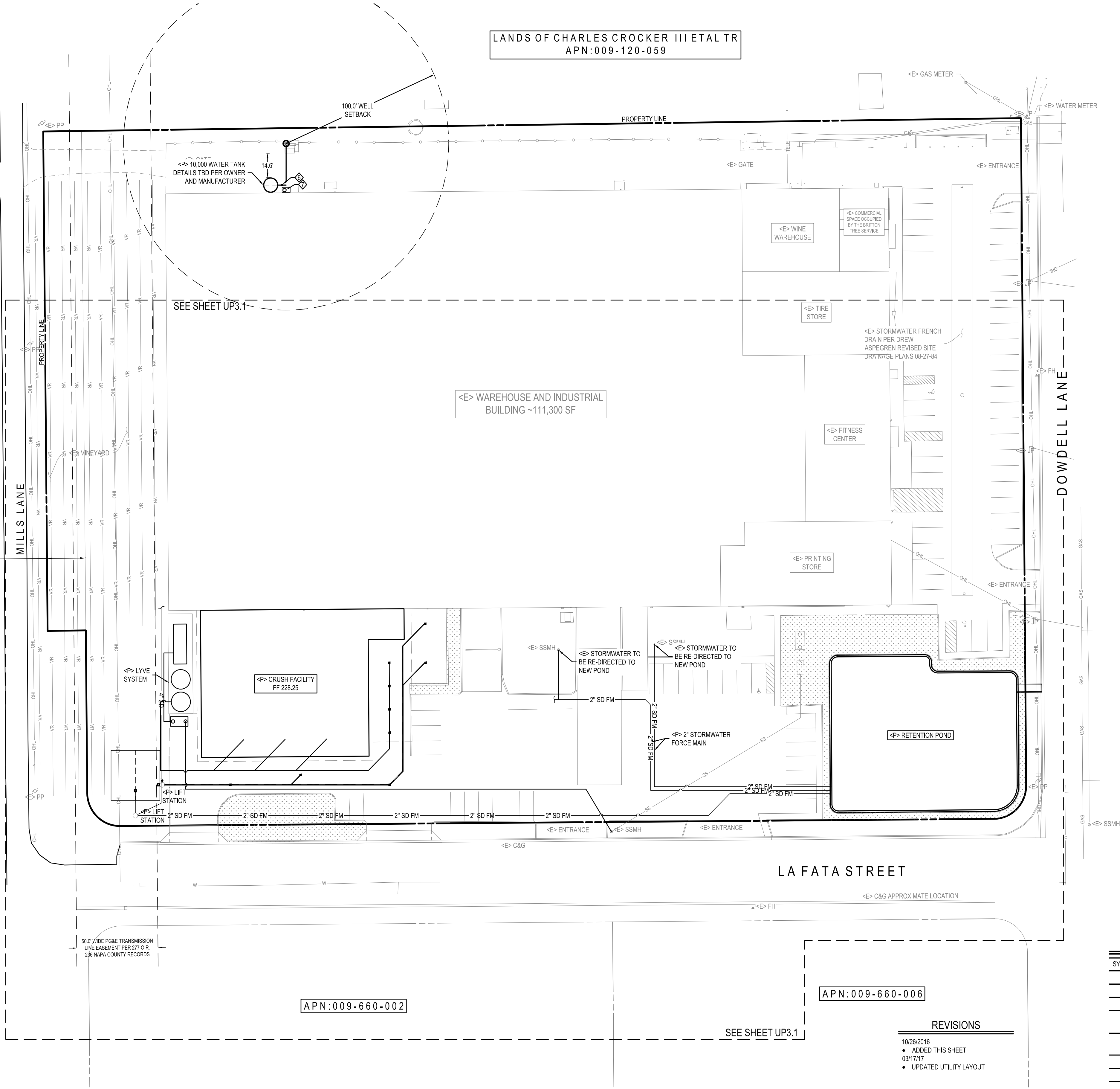
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ISSUE: 04/06/16
11/04/16
03/03/17
USE PERMIT
REVISION
REVISION

SHEET:
UP2.6

OVERALL UTILITY PLAN

APN:009-070-011

23.5' IRREVOCABLE OFFER OF DEDICATION FOR PUBLIC STREET PURPOSES (PARCEL X' PER BOOK 13 OF PARCEL MAPS AT PAGE 73. NAPA COUNTY RECORDS



APN:009-660-002

APN:009-660-006

REVISIONS

- 10/26/2016
- ADDED THIS SHEET
- 03/17/17
- UPDATED UTILITY LAYOUT

UTILITY NOTES

SYMBOL	DESCRIPTION
	P0104 IN-LINE BACKWATER VALVE
	D-3 DISTRIBUTION BOX
	1212-HDI DROP INLET WITH CAST-IN FRAME & GRATE
	SOLENOID VALVE
	PRESSURE TANK



DATE: 04/06/16 ISSUE: 11/04/16
03/17/17 REVISION: 03/17/17

SHEET: UP3.0

UP3.0

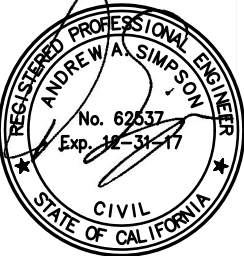
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USE PERMIT PLANS
OVERALL UTILITY PLAN

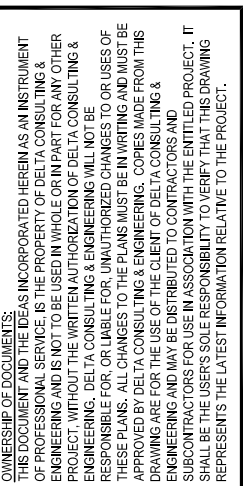
ST. HELENA CUSTOM CRUSH
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PROJECT: C-163



DATE: 04/06/16 ISSUE: 11/04/16
03/17/17 REVISION: 03/17/17

SHEET: UP3.0

UP3.0



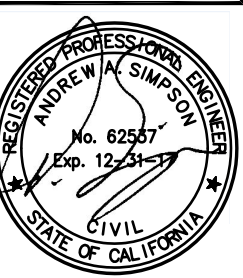
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UTILITY PLAN

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PROJECT: Q-163



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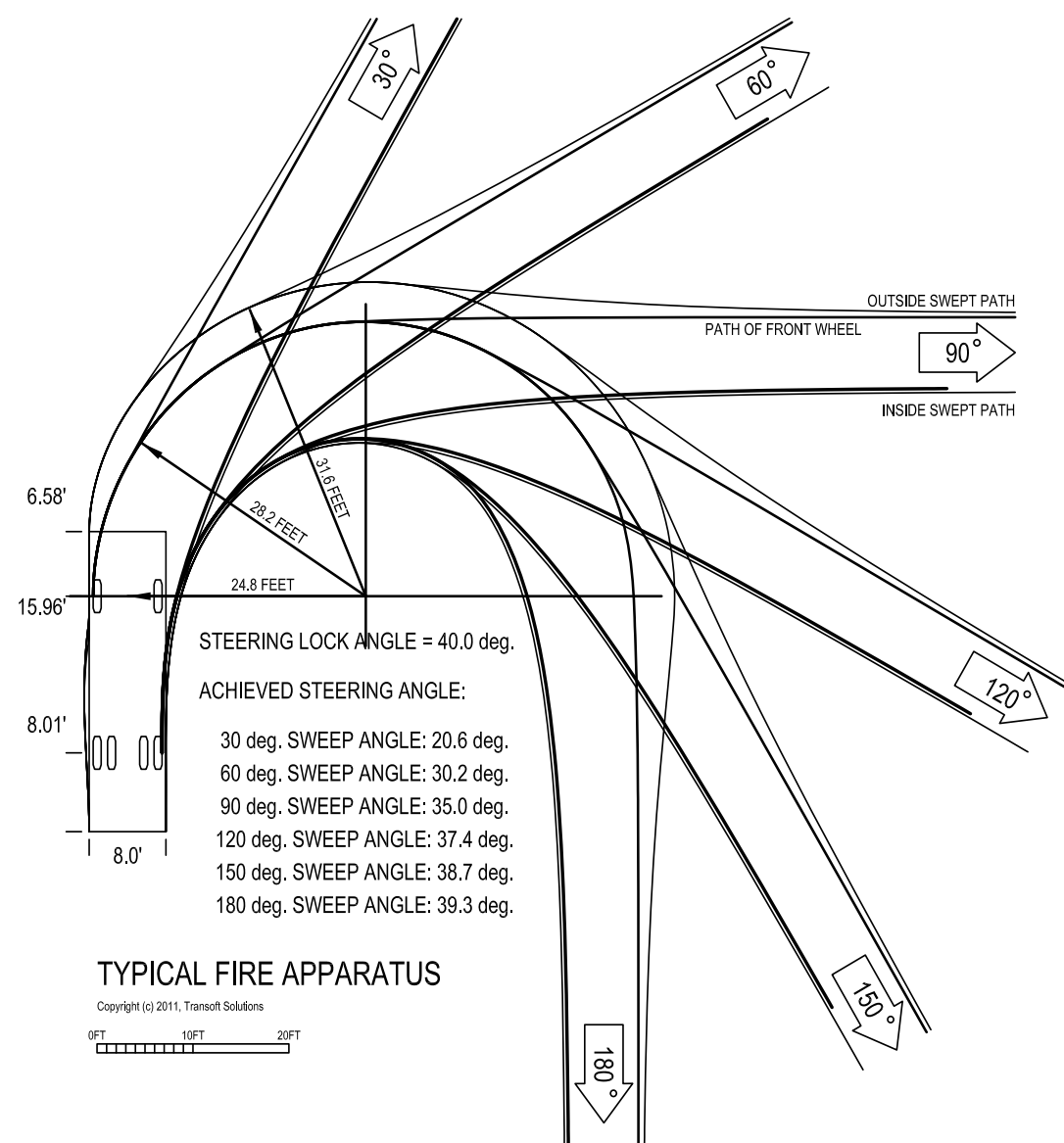
DATE	ISSUE:
6/16	USE PERMIT
4/16	REVISION
7/17	REVISION

ET:

UP3.1

NAPA COUNTY FIRE APPARATUS

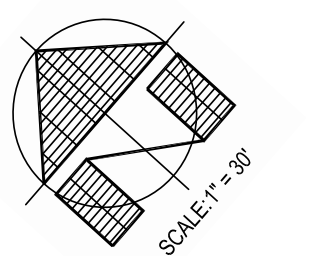
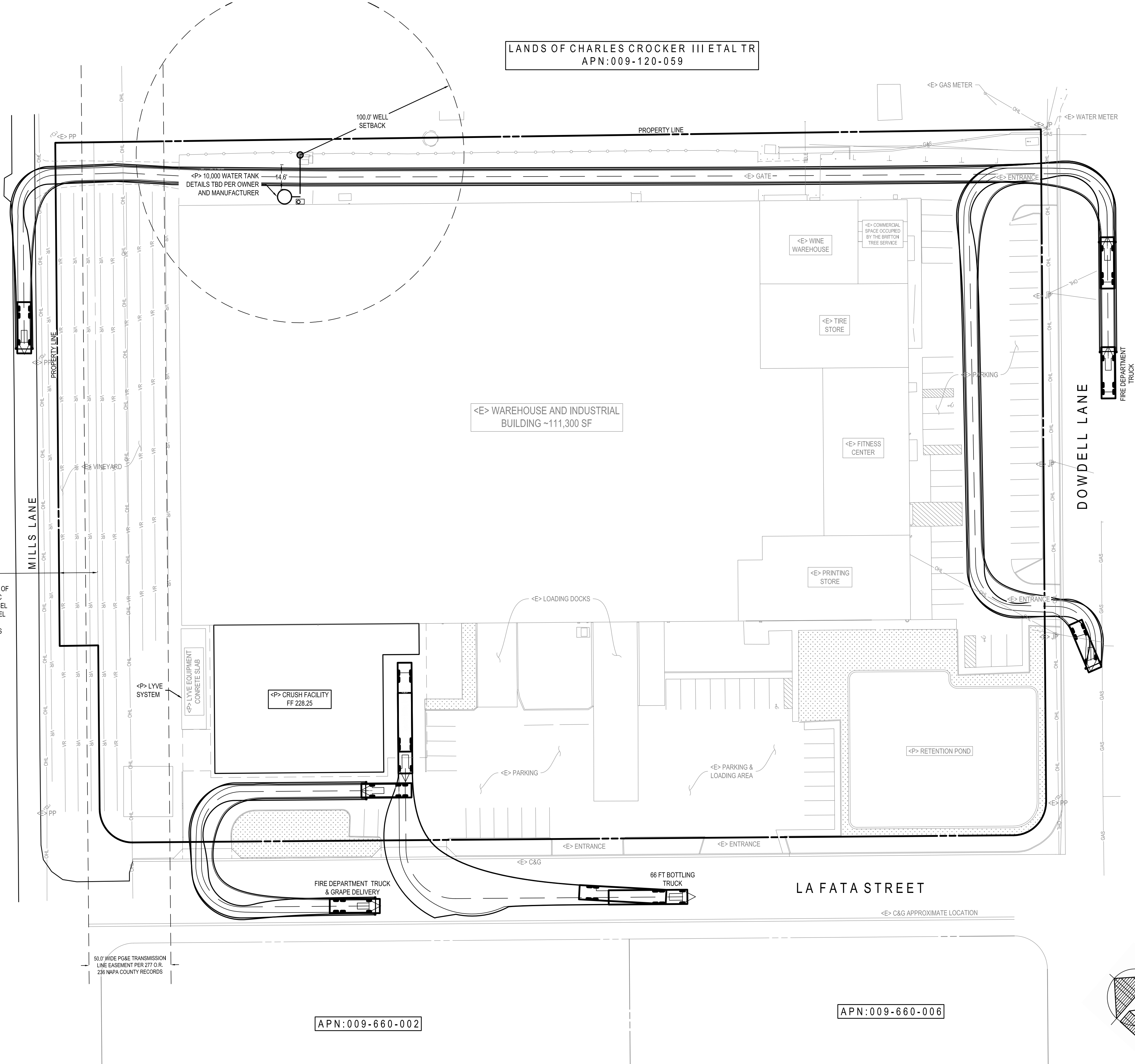
THE FOLLOWING SCHEMATIC SHOWS THE LENGTH, WIDTH, AND TURNING RADIUS OF A TYPICAL FIRE APPARATUS USED BY CAL FIRE NAPA COUNTY. THESE SCHEMATICS WERE INPUT INTO AUTOTURN SOFTWARE, DEVELOPED BY AUTODESK, INC., AND USED IN THE ANALYSIS TO DETERMINE THE PROGRESS AND EGRESS CAPABILITIES OF FIRE EQUIPMENT TO THE PROPOSED RESIDENCE. THE RESULTS OF THIS ANALYSIS CAN BE SEEN ON THIS SHEET.



23.5' IRREVOCABLE OFFER OF DEDICATION FOR PUBLIC STREET PURPOSES (PARCEL X' PER BOOK 13 OF PARCEL MAPS AT PAGE 73, NAPA COUNTY RECORDS

APN:009-070-011

LANDS OF CHARLES CROCKER III ETAL TR
APN:009-120-059



REVISIONS

03/17/17
• ADDED THIS SHEET

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USE PERMIT PLANS
CIRCULATION PLAN

ST. HELENA CUSTOM CRUSH
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ST. HELENA, CA 94574
APN: 009-660-004
PROJECT: C-163



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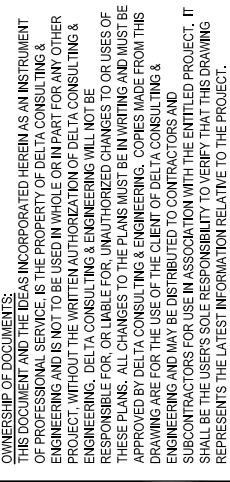
DATE: 04/06/16
11/04/16
03/17/17

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SHEET:

UP3.2

CIRCULATION PLAN



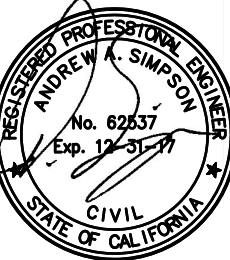
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USE PERMIT PLANS

DRAINAGE MANAGEMENT AREA PLAN

ST. HELENA CUSTOM CRUSH
420 LA FATA STREET
ST. HELENA, CA 94574
APN: 009-860-004
PROJECT: O-163



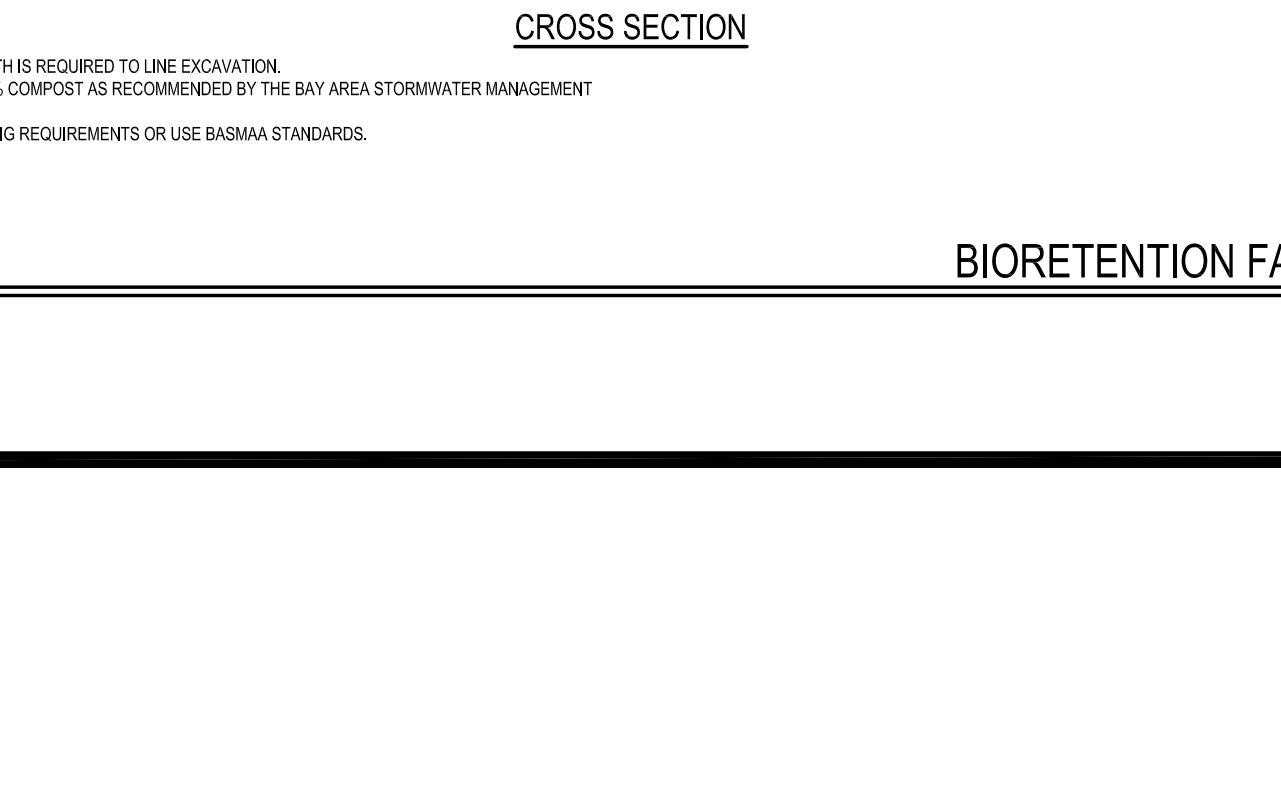
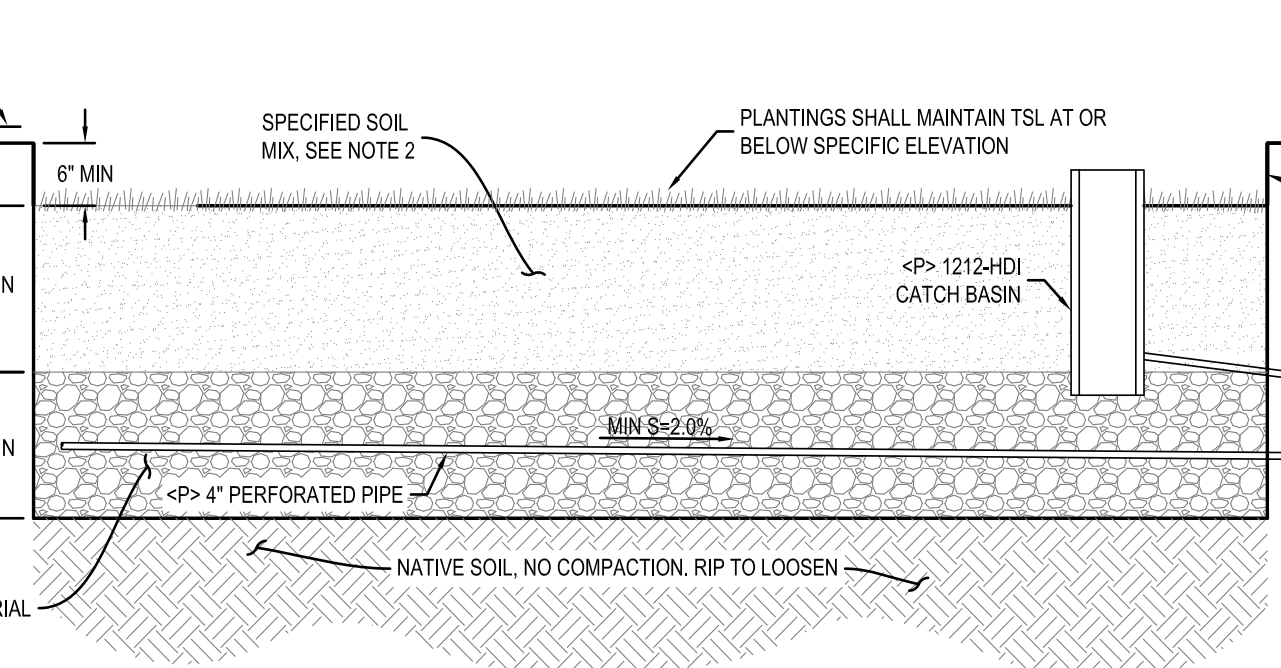
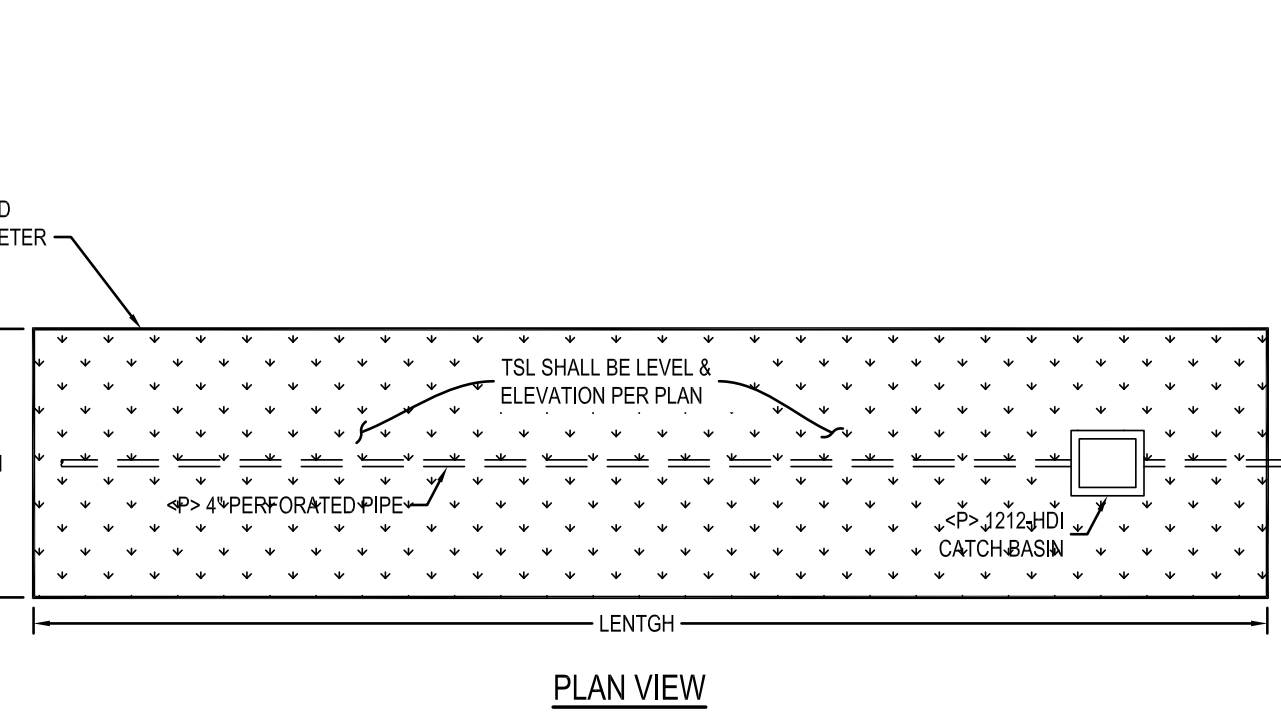
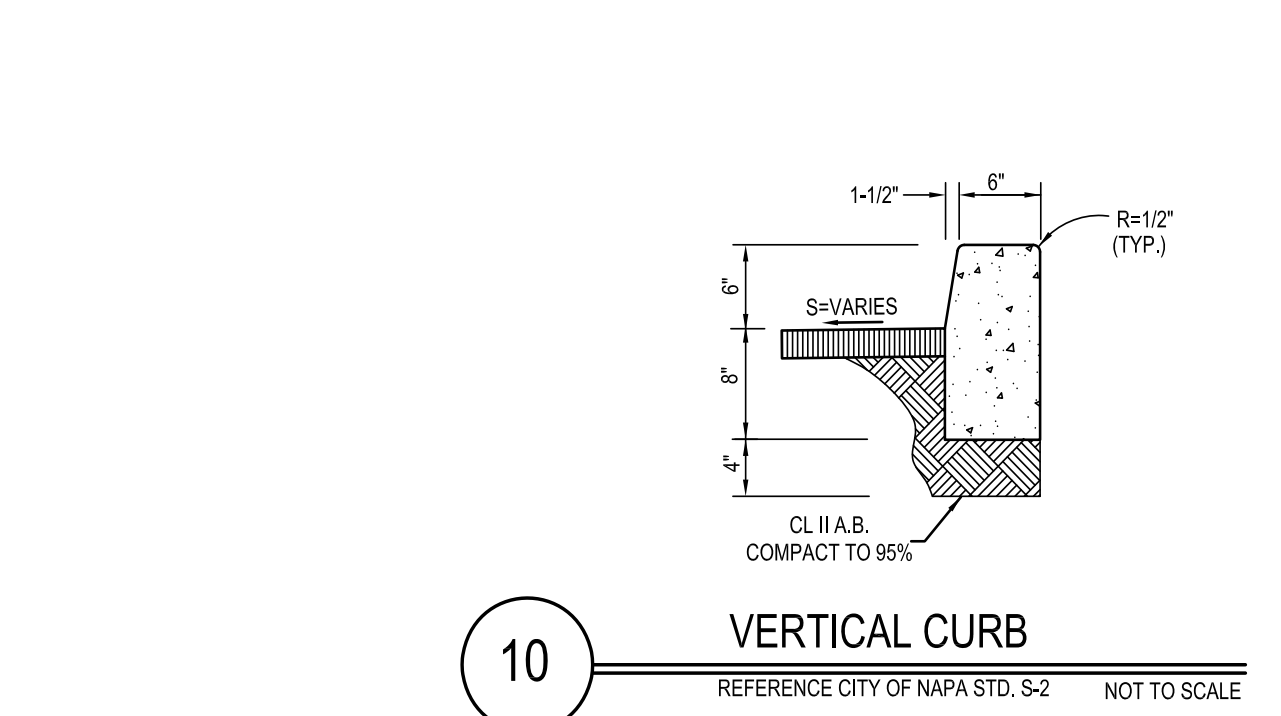
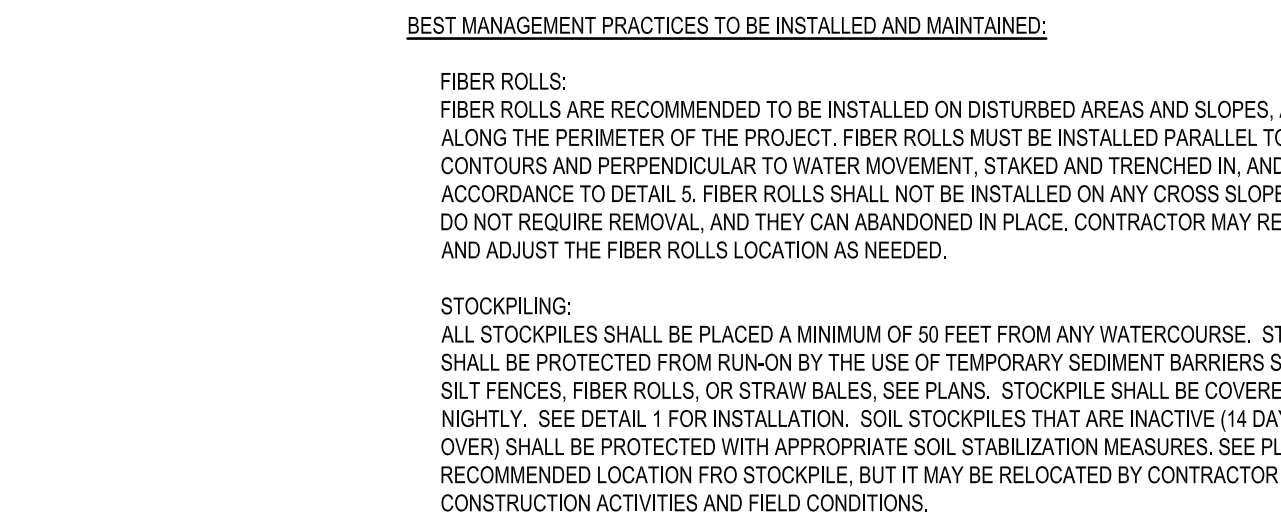
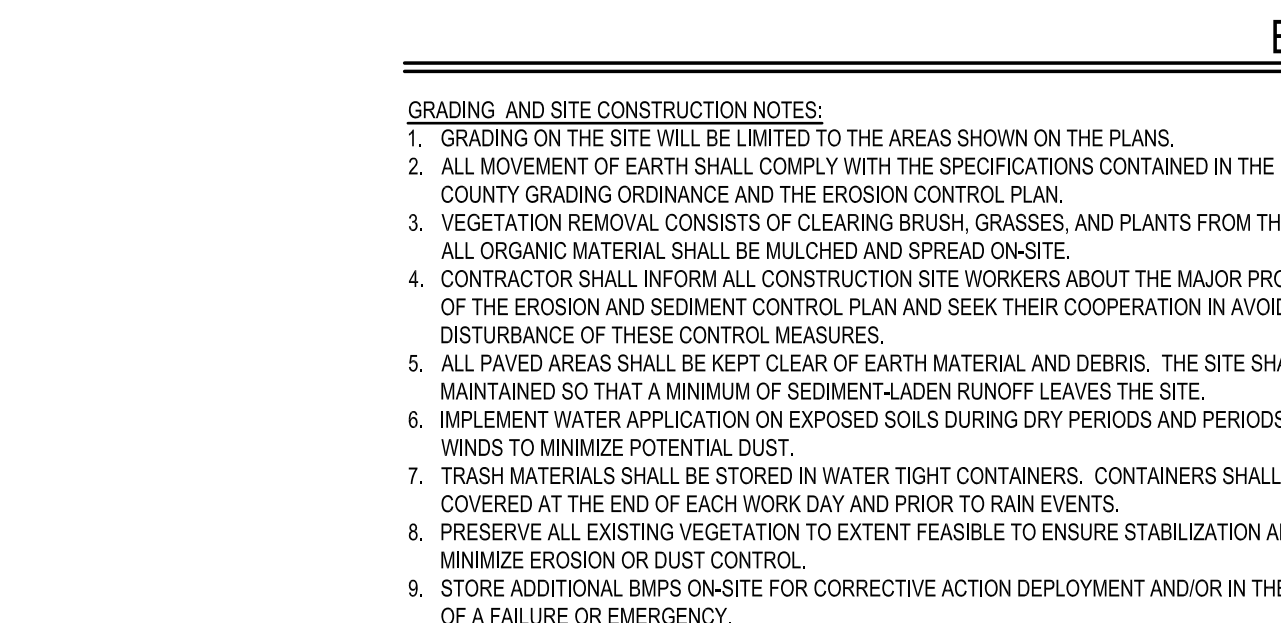
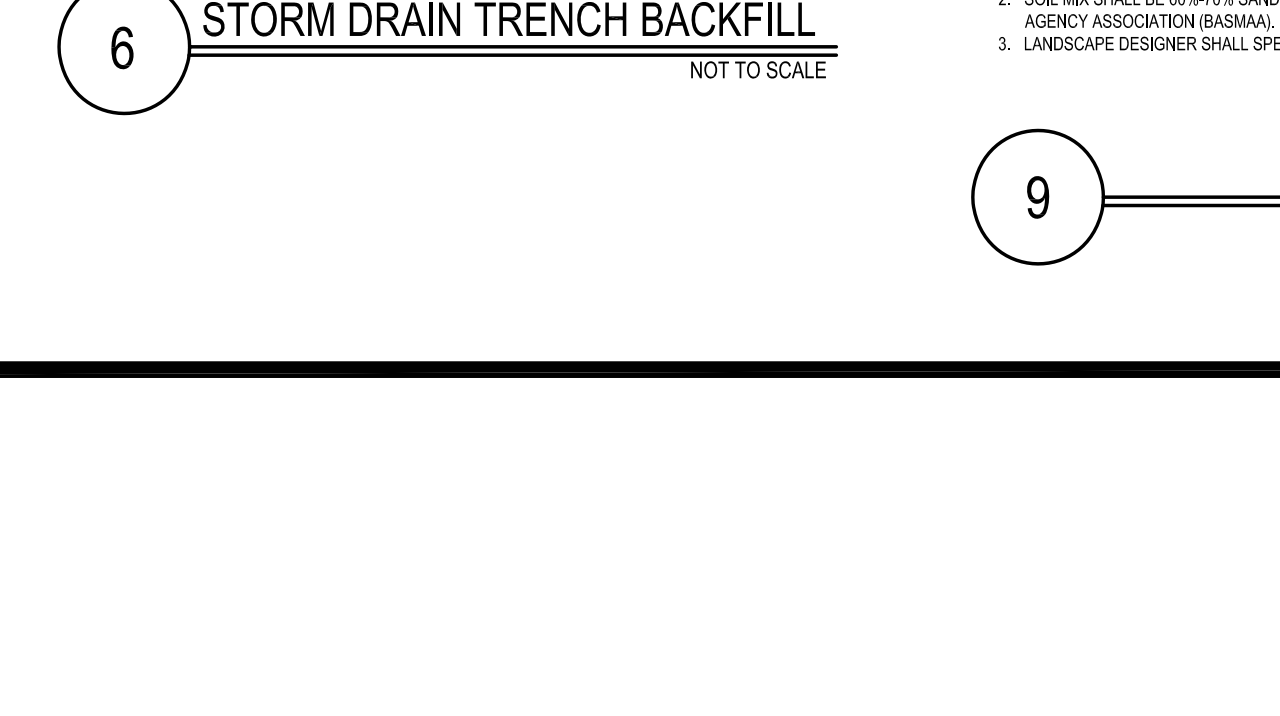
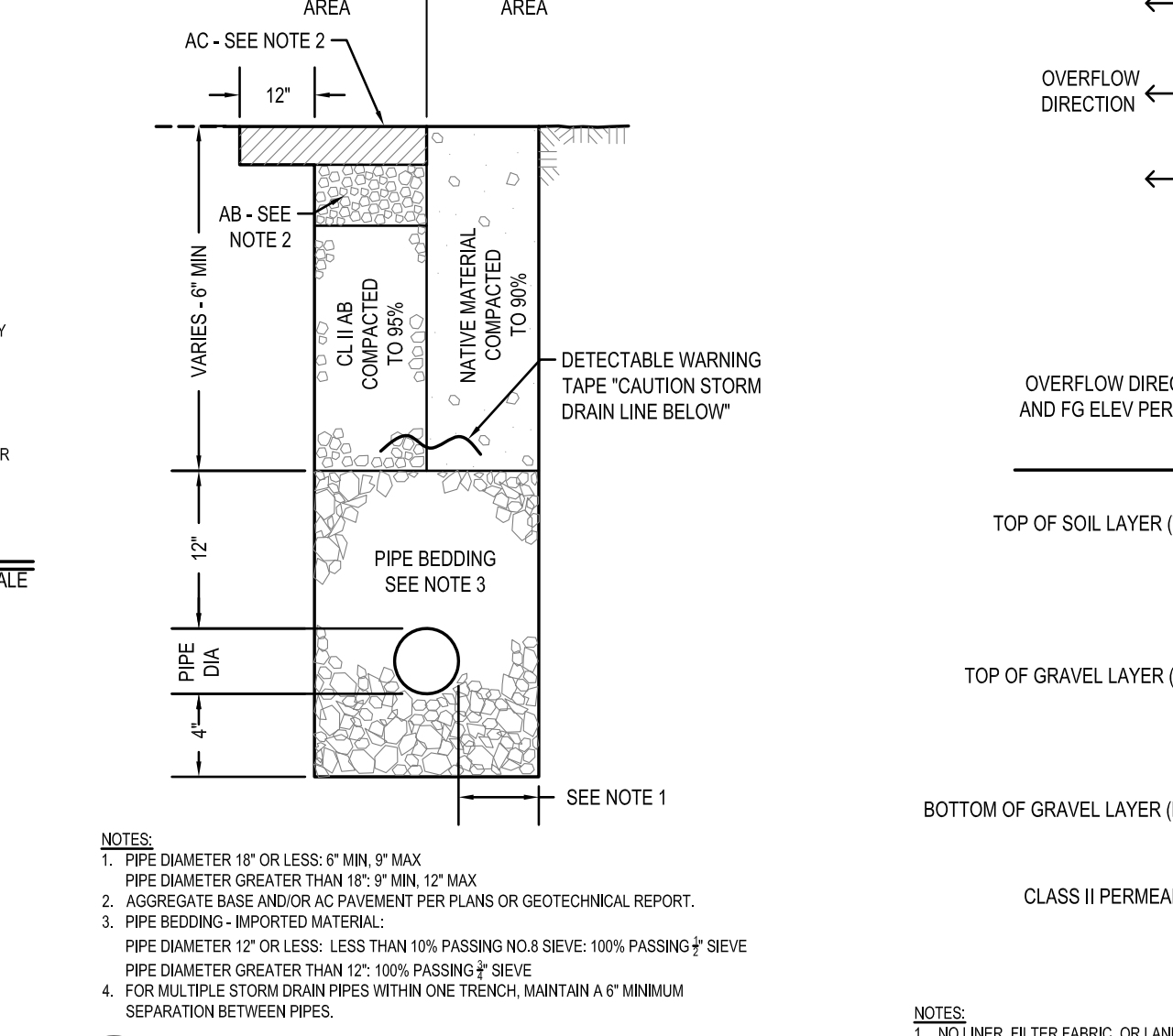
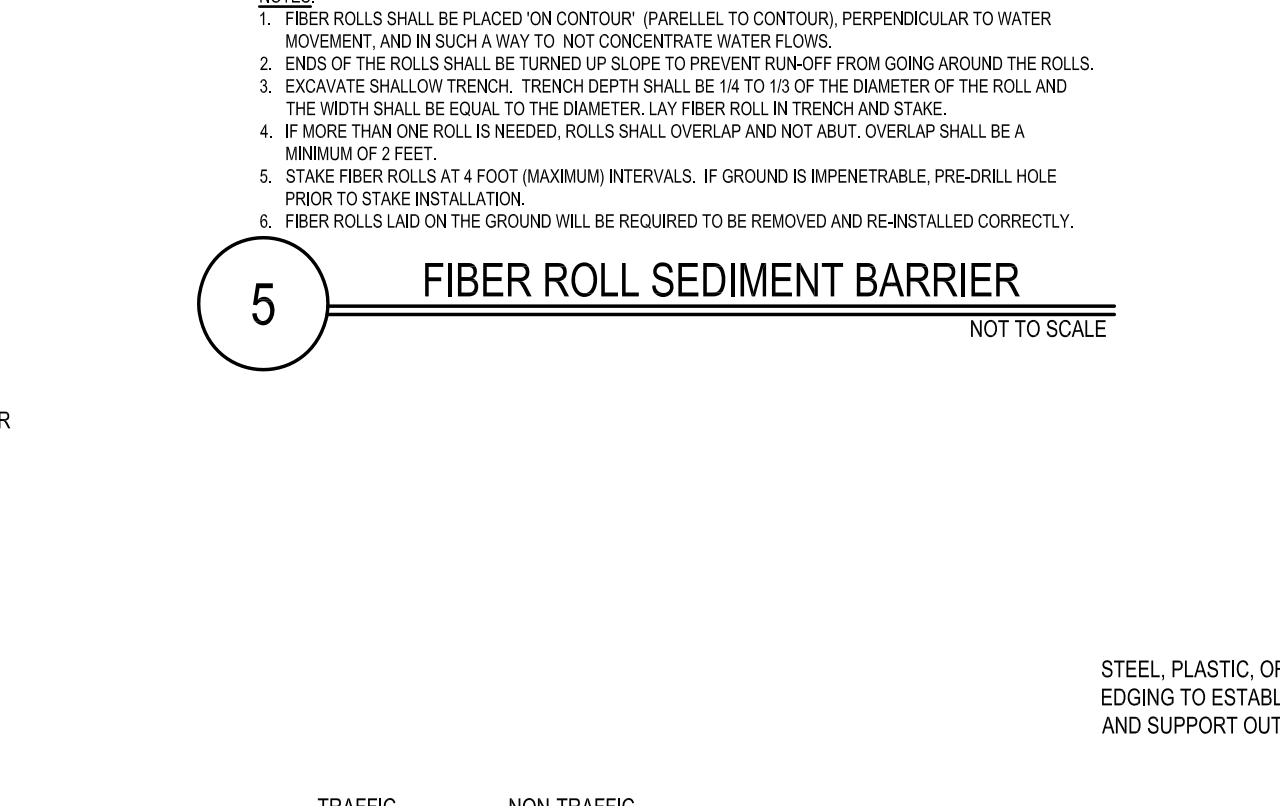
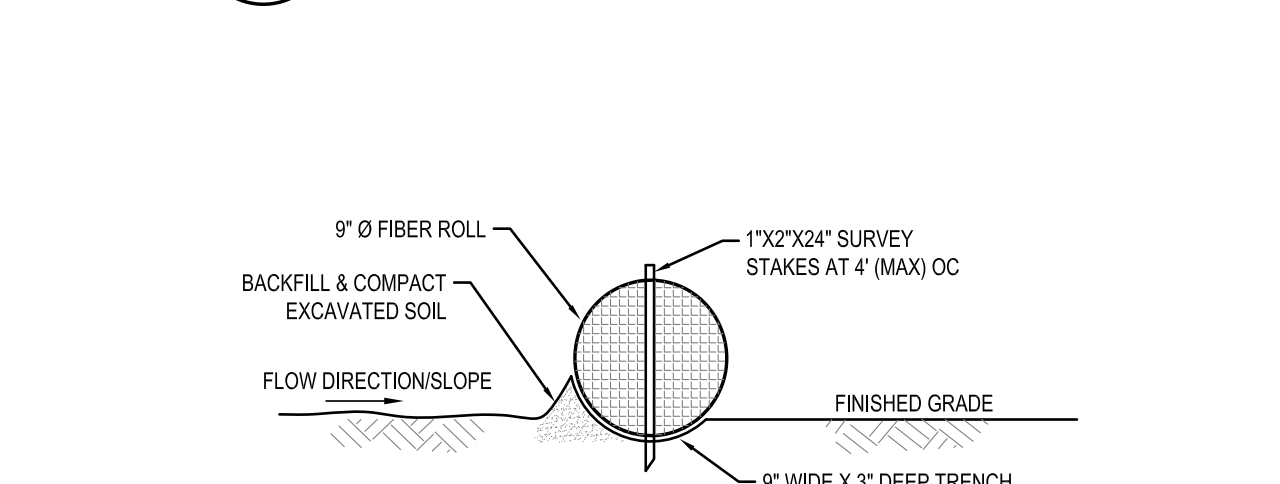
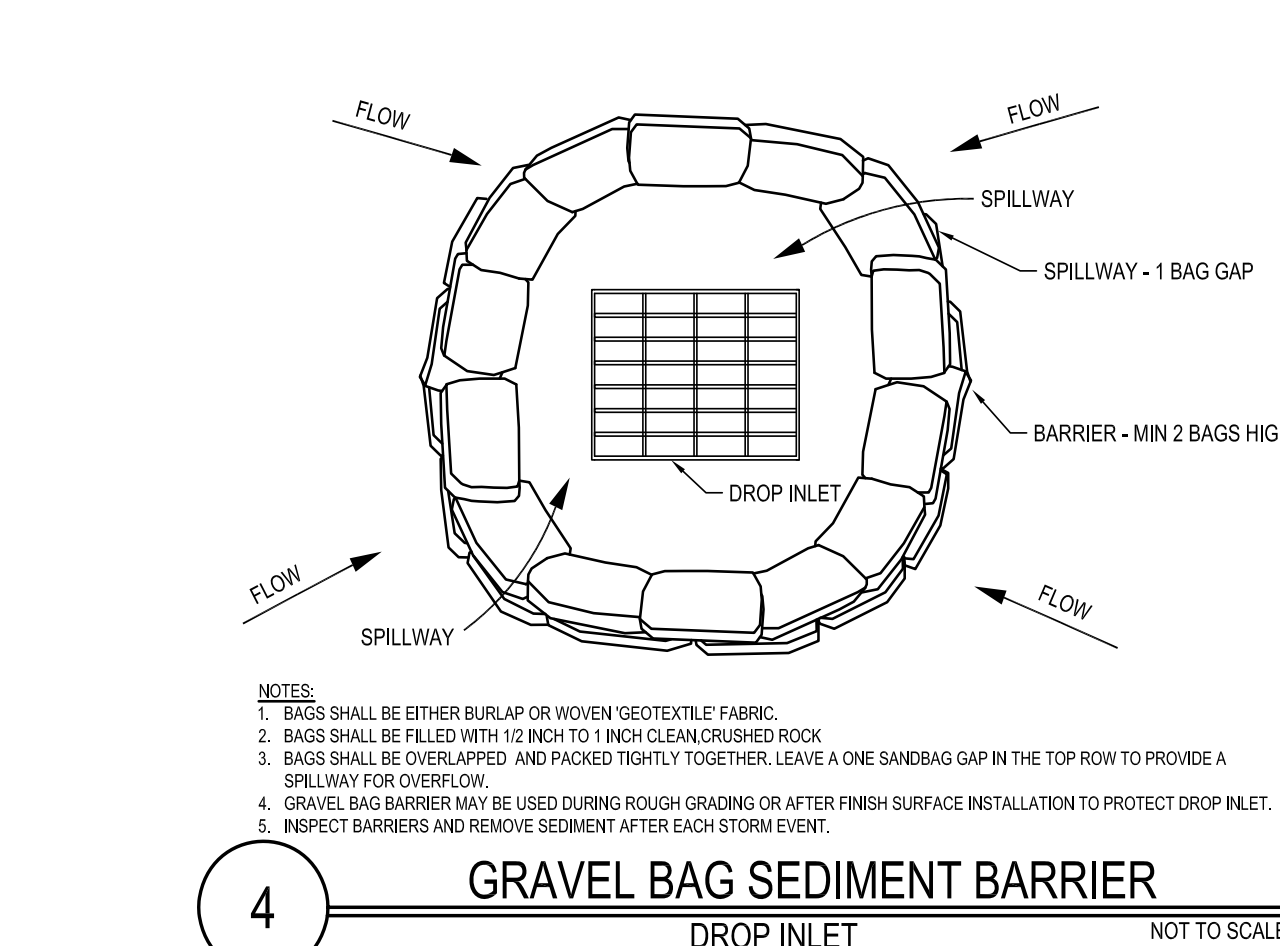
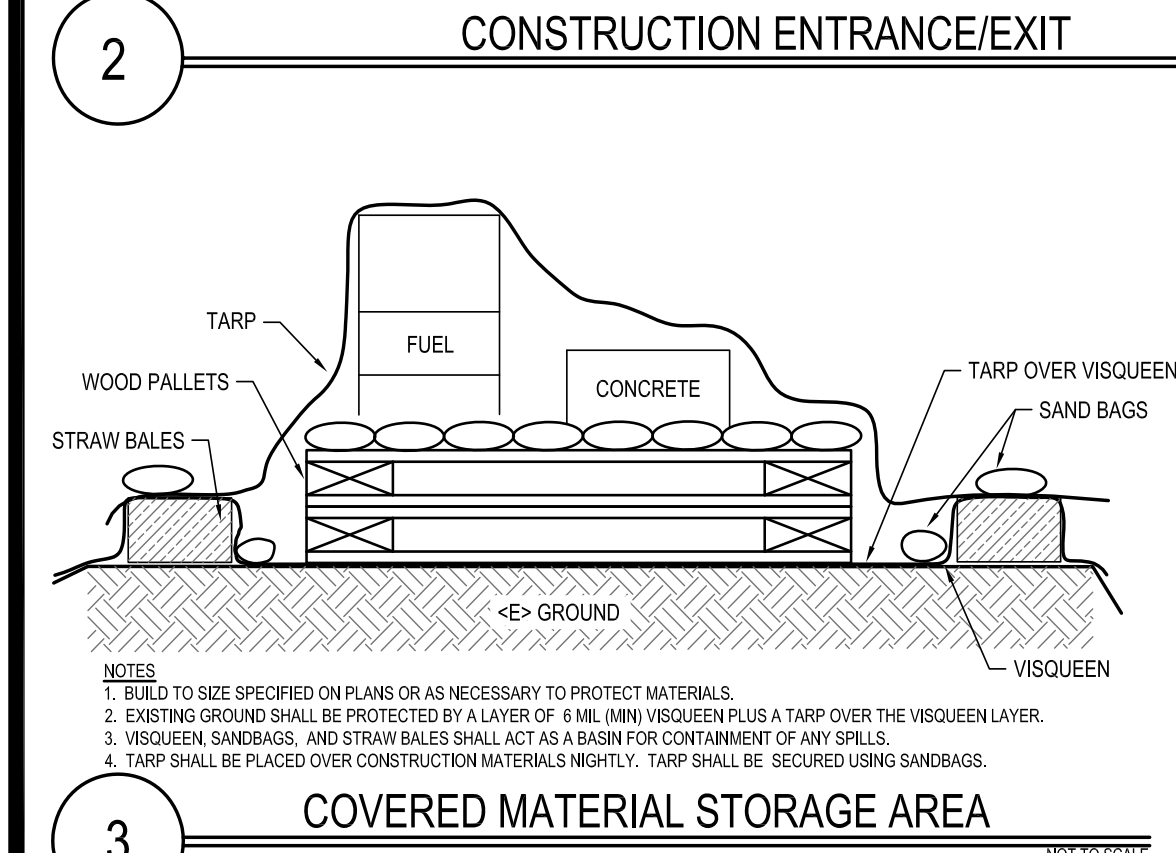
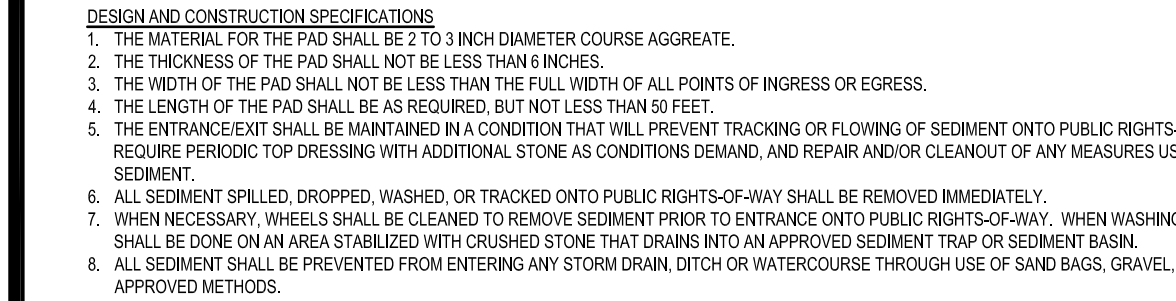
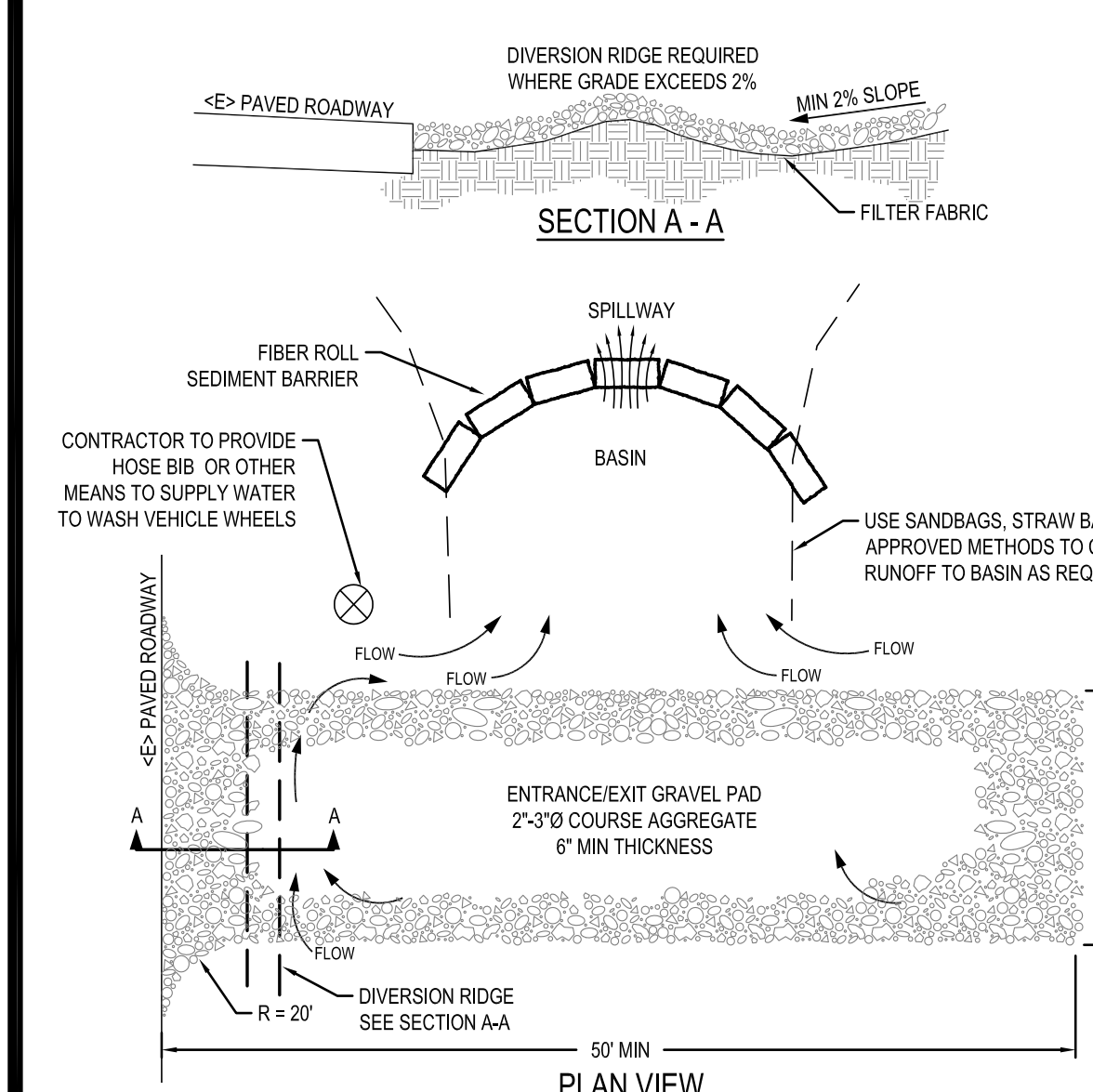
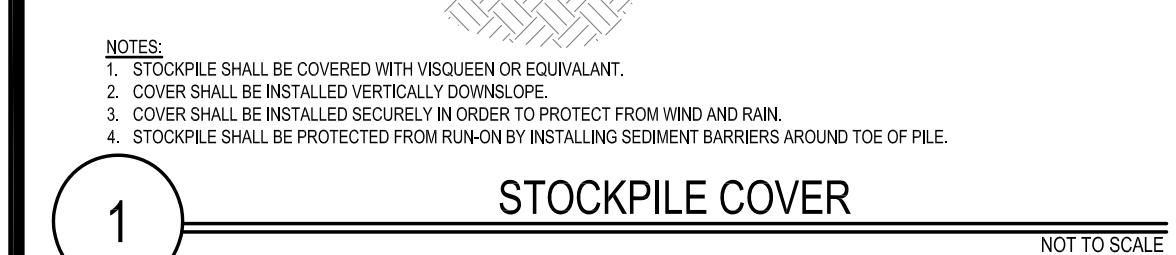
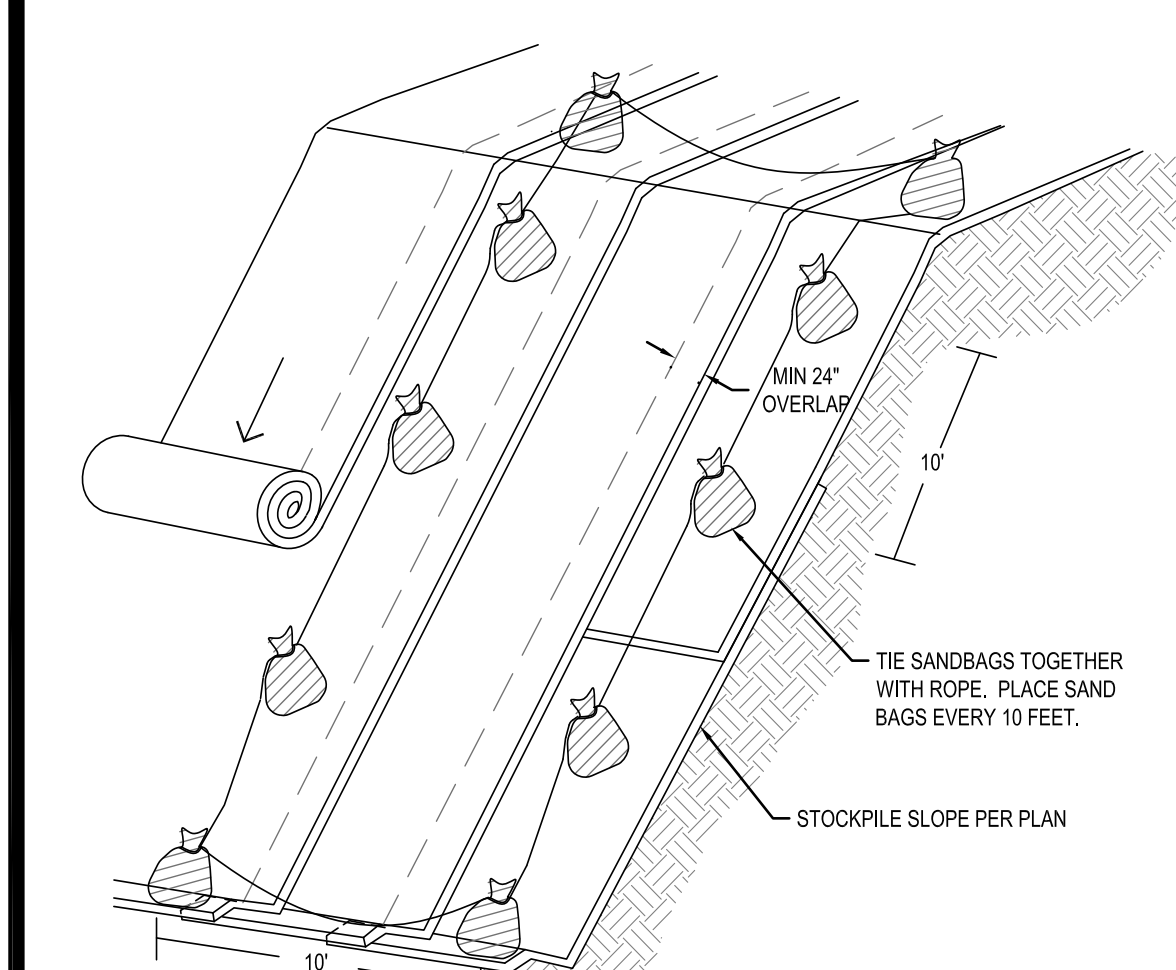
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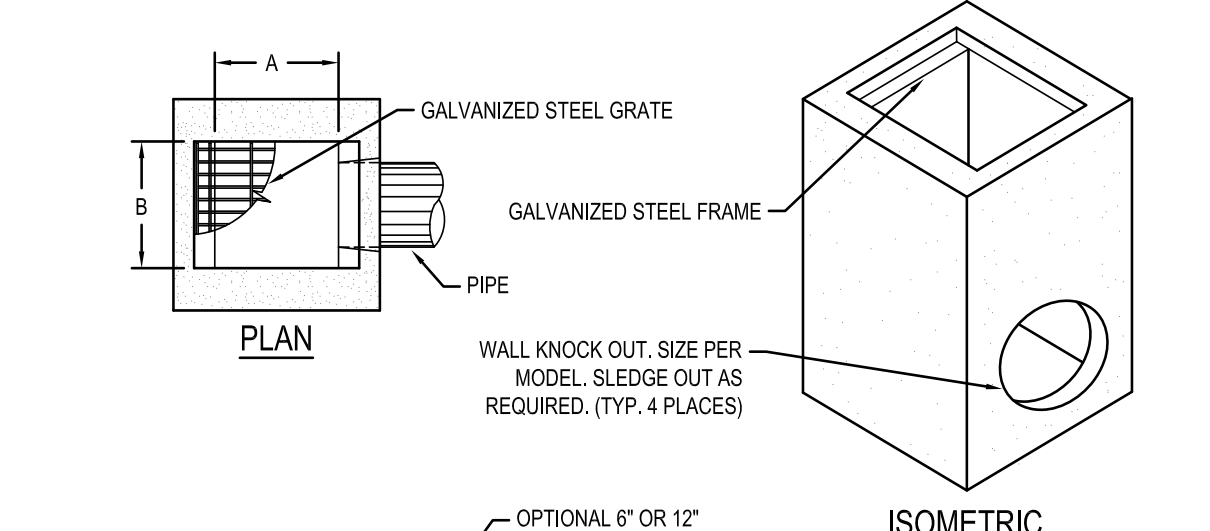
UP5.0



EROSION CONTROL NOTES

COVERED MATERIAL STORAGE AREA:
ALL CONSTRUCTION MATERIALS INCLUDING, BUT NOT LIMITED TO PLASTER, PETROLEUM PRODUCTS, ASPHALT AND CONCRETE COMPONENTS, HAZARDOUS CHEMICALS, SHALL BE STORED IN A COVERED, CONTAINED AREA, TO PREVENT POLLUTION OF ANY WATERCOURSE. SEE DETAIL 3. MATERIAL DATA SAFETY SHEETS SHALL BE AVAILABLE FOR ALL MATERIALS STORED. MATERIALS SHALL BE COVERED AND SECURED NIGHTLY. SEE PLANS FOR RECOMMENDED LOCATION, BUT AREA MAY BE RELOCATED BY CONTRACTOR PER CONSTRUCTION ACTIVITIES AND FIELD CONDITIONS.

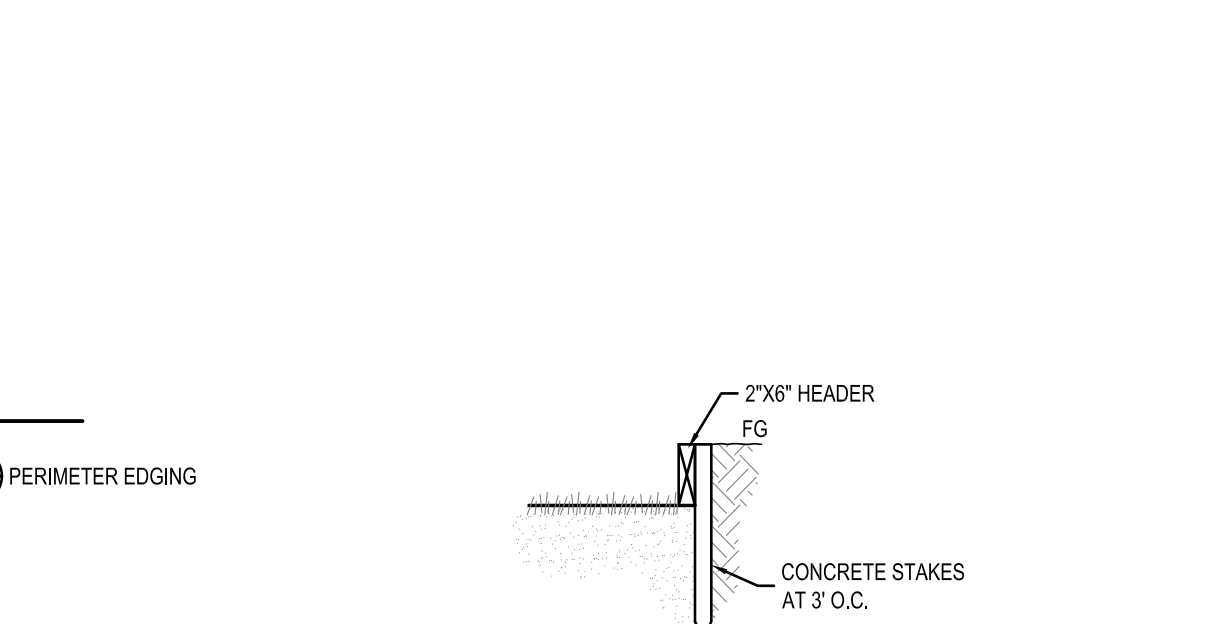
DROP INLET PROTECTORS:
EVERY DI RECEIVING STORMWATER SHALL BE PROTECTED WITH A GRAVEL BAG SEDIMENT BARRIER, SEE DETAIL 4 (DROP INLET SEDIMENT BARRIER). STRAW BALES ARE NOT EFFICIENT INLET PROTECTORS. DI INLET PROTECTORS SHALL BE INSPECTED BEFORE AND AFTER EACH STORM EVENT.



DROP INLET TABLE

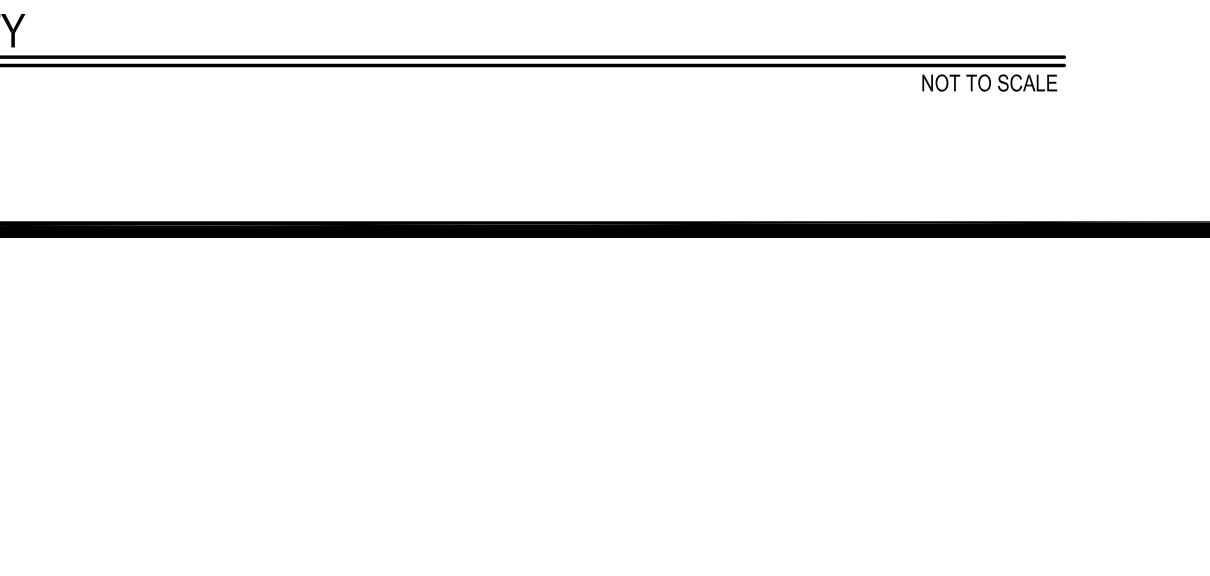
MODEL NO.	A	B	C
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1616	16"	16"	5"
1818	18"	18"	5"
2424	24"	24"	6"
2436	24"	36"	6"
2448	24"	48"	6"
3030	30"	30"	6"
3636	36"	36"	6"
3648	36"	48"	6"
4848	48"	48"	6"
6060	60"	60"	6"

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REVISIONS

DATE	REVISION
10/20/2016	ADDED SHEET
03/17/17	NO CHANGES IN THIS SHEET

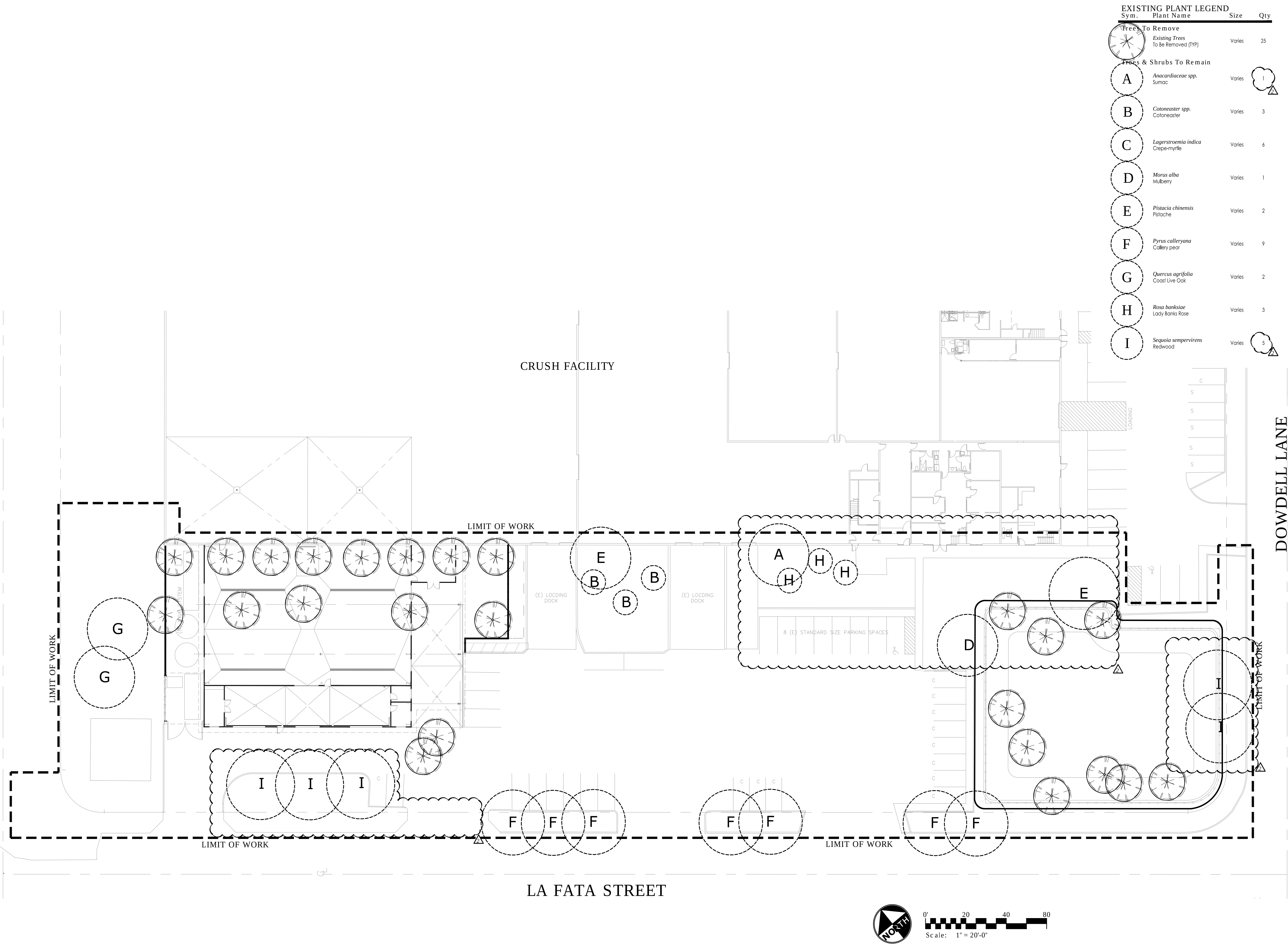


USE PERMIT PLANS
ST. HELENA CUSTOM CRUSH
420 LA FATA STREET
ST. HELENA, CA 94574
APN: 009-660-004
PROJECT C-163

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UP6.0

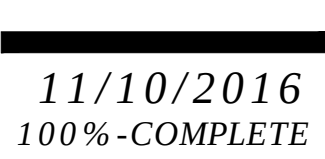
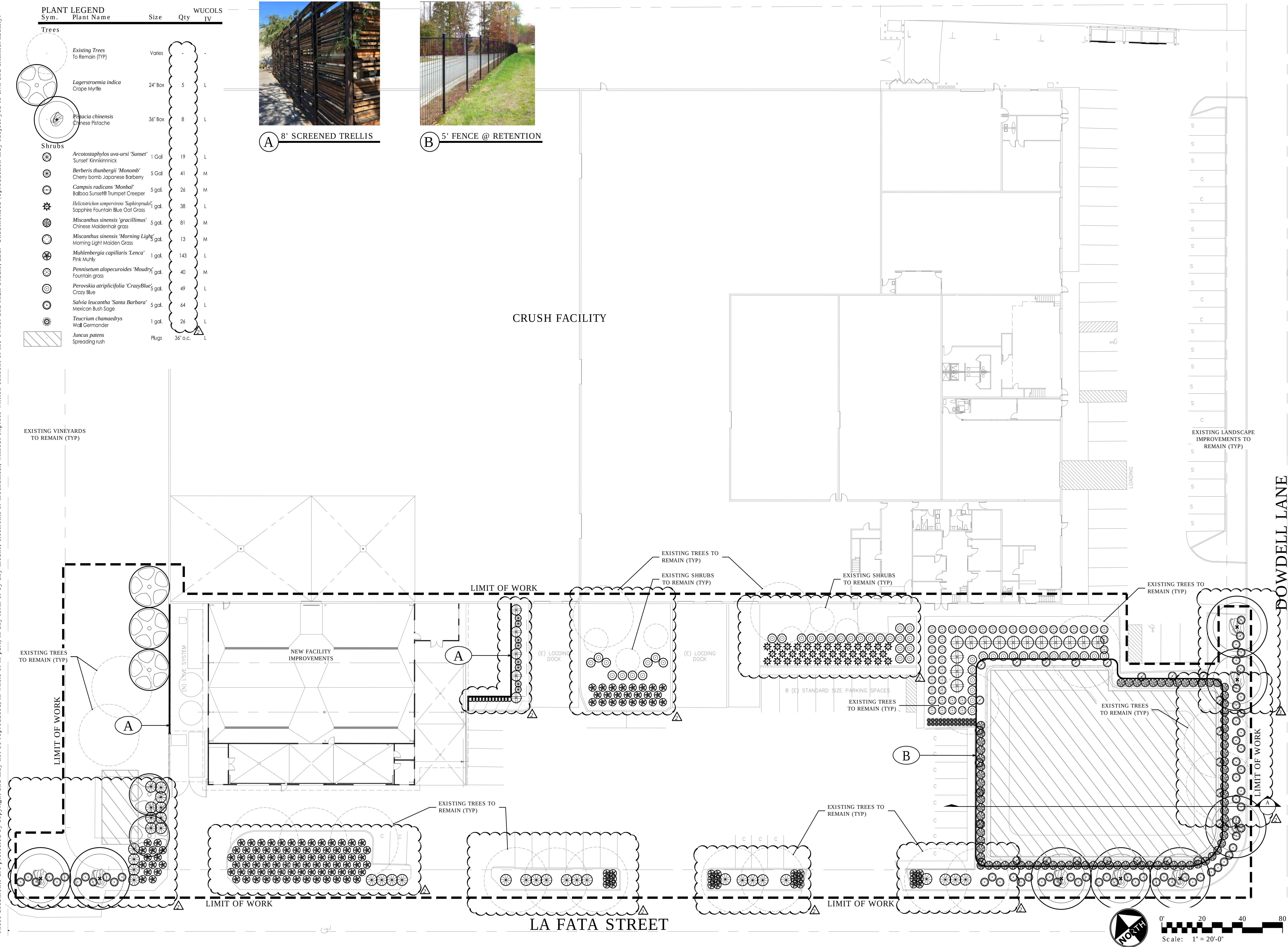
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CBH DESIGN INC
LANDSCAPE ARCHITECTURE
SANTA BARBARA / NAPA VALLEY
2174 EUCLID AVE NAPA, CA 94558
707.312.0021

PLANT SYM.	PLANT LEGEND	Size	Qty	WUCOLS IV
Trees				
	Existing Trees to Remain (117)	Varies	-	-
	<i>Lagerstroemia indica</i> Crape Myrtle	24" Box	5	L
	<i>Pistacia chinensis</i> Chinese Pistache	36" Box	8	L
Shrubs				
	<i>Arctostaphylos uva-ursi</i> 'Sunset' Sunset Kinnikinnick	1 Gal	19	L
	<i>Berberis thunbergii</i> 'Monobai' Cherry bomb Japanese Barberry	5 Gal	41	M
	<i>Campsis radicans</i> 'Honalui' Balloos Sunset® Trumpet Creeper	5 gal.	26	M
	<i>Hilacotylon sempervirens</i> 'SagelyRed' Sageflair Fountain Blue Oak Grass	1 gal.	38	L
	<i>Miscanthus sinensis</i> 'gracillimus' Chinese Maidenhair grass	5 gal.	81	M
	<i>Miscanthus sinensis</i> 'Morning Light' Morning Light Maiden Grass	5 gal.	13	M
	<i>Muhlenbergia capillaris</i> 'Lencae' Pink Muhly	1 gal.	143	L
	<i>Pennisetum alopecuroides</i> 'Moudry' Fountain grass	1 gal.	40	M
	<i>Perovskia atriplicifolia</i> 'CrazyBlue' Crazy Blue	5 gal.	49	L
	<i>Salvia leucantha</i> 'Santa Barbara' Mexican Bush Sage	5 gal.	64	L
	<i>Teucrium chamaedrys</i> Wal Germander	1 gal.	26	L
	<i>Juncus patens</i> Spreading rush	Plugs	36" o.c.	L



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**ST. HELENA CUSTOM CRUSH
PLANTING & IRRIGATION DESIGN**

420 LA FATA STREET, ST. HELENA, CA 94574
APN: 009-660-004

03-14-17 REVISION
10-25-17 TREE ADJUSTMENT

project #: CBH002 scale: PER PLAN

CITY REVIEW

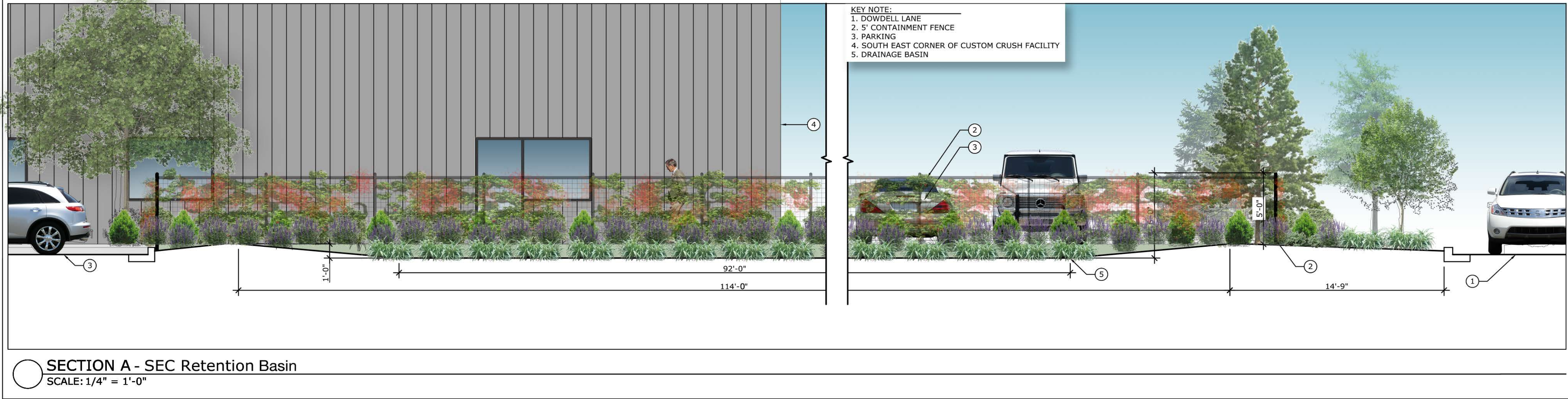
drawn by:
TEAM



drawing:
PLANTING PLAN

L2.1

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SANTA BARBARA / NAPA VALLEY
2174 EUCLID AVE NAPA, CA 94558
707.312.0021

ST. HELENA CUSTOM CRUSH
PLANTING & IRRIGATION DESIGN
420 LA FATA STREET, ST. HELENA, CA 94574
APN: 009-660-004

revisions:
03-14-17 REVISION
△
△
△
△

project #: CBH002 scale: PER PLAN
issued for: CITY REVIEW
drawn by: TEAM



drawing:
LAYOUT SECTION
L3.1
02 of 09
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IRRIGATION LEGEND

	SLEEVES: CLASS 200 PVC		QUICK COUPLING VALVE ASSEMBLY: RAINBIRD 5LRC
	MAINLINE PIPE: CLASS 200 PVC 2-INCH SIZE UNLESS OTHERWISE INDICATED		REMOTE CONTROL DRIP VALVE ASSEMBLY: RAINBIRD XC2-PRB-100-COM
	LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC 1-INCH UNLESS OTHERWISE INDICATED		INDICATES CONTROLLER AND STATION NUMBER INDICATES LATERAL DISCHARGE (GPM) INDICATES VALVE SIZE (INCHES) INDICATES LANDSCAPE APPLICATION
	LATERAL PIPE HEADER TO INLINE DRIP: CLASS 200 PVC 1-INCH UNLESS OTHERWISE NOTED		IRRIGATION CONTROLLER UNIT WITH SOLAR SYNC CONTROLLER A: HUNTER IC-600-SS: 16 STATIONS USED
	INLINE DRIP TUBING: NETAFIM TLCV26-12		CONTROL WIRES IN CONDUIT OR WITH WARNING TAPE
	UNCONNECTED PIPE CROSSING		TREE RING ASSEMBLY SEE DETAIL #9 PRESSURE 30 PSI FLOW: 0.25 GPM
	POINT-OF-CONNECTION ASSEMBLY		
	BACKFLOW PREVENTION ASSEMBLY: FEBCO 825-YA		
	MASTER VALVE ASSEMBLY: HUNTER ICV-FS		
	FLOW SENSOR ASSEMBLY: HUNTER HFS FCT-150		
	ISOLATION GATE VALVE ASSEMBLY: MATCO 514		

INSTALLATION GENERAL NOTES

1. THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF 70 PSI MINIMUM REQUIRED, AT A MAXIMUM DISCHARGE OF 25 GPM AT THE 1-INCH IRRIGATION POINT-OF-CONNECTION (POC), TAP, METER, BACKFLOW, AND MASTER VALVE SHALL ALL BE THE SAME SIZE. VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION.
2. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
3. COORDINATE UTILITY LOCATIONS ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
4. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
5. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
 - A. ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLAYING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
 - B. TREE AND SHRUB LOCATIONS AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES.
 - C. USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF TEE FITTINGS IN THE BULLNOSE CONFIGURATION, OR USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
6. PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:
 - A. TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVES.
 - B. TWO (2) OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
7. SELECT NOZZLES FOR SPRAY AND ROTARY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF COVERAGE OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE.
8. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVES. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR.
9. INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.
10. THE FOLLOWING SHOULD BE NOTED REGARDING PIPE SIZING: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN THE IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
11. INSTALL TWO (2) #14 AWG CONTROL WIRES FROM CONTROLLER LOCATION TO EACH DEAD-END MAINLINE FOR USE AS SPARES IN CASE OF CONTROL WIRE FAILURE. COIL 3 FEET OF WIRE IN VALVE BOX.

CONSTRUCTION NOTES

- ① THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE EXISTING IRRIGATION WATER TAP AND METER INDICATED BY OTHERS AT THE APPROXIMATE LOCATION SHOWN. INSTALL BACKFLOW PREVENTING VALVE AND MASTER VALVE ASSEMBLY AS INDICATED, SAME SIZE AS POC, VERIFY EXACT LOCATION OF POC WITH OWNER'S REPRESENTATIVE.
- ② WALL MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE, AND SCREENED FROM VIEW EITHER BEHIND EXTERIOR WALLS, NEXT TO BUILDINGS, OR BEHIND PLANT MATERIAL. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.
- ③ IRRIGATION SHOWN OUT OF LANDSCAPED AREA FOR CLARITY ONLY. INSTALL IRRIGATION COMPONENTS WITHIN LANDSCAPED AREA.
- ④ CONTRACTOR SHALL FIELD LOCATE AND MAKE CONNECTION TO EXISTING IRRIGATION MAINLINE AT THE APPROXIMATE LOCATION. CONTRACTOR SHALL MAKE WIRE SPLICES TO EXISTING WIRES INSIDE 6-INCH ROUND VALVE BOX AND RUN WIRES BACK TO NEW CONTROLLER. CONTRACTOR SHALL VERIFY EXISTING CONTROL WIRE CONTINUITY TO EXISTING ZONES PRIOR TO COMPLETION.

St Helena	Name of City
44.10	ET _o (inches/year)
0	Overhead Landscape Area (ft ²)
30001	Drip Landscape Area (ft ²)
0	SLA (ft ²)
30,001	Gallons
-	Cubic Feet
-	HCF
-	Acre-feet
-	Millions of Gallons
na)	
44	ET _o (inches/year)
30,001	LA (ft ²)
0	SLA (ft ²)
36.67	Total annual precipitation (inches/year)
9.17	Eppt (in/yr)(25% of total annual precipitation)
292,395	Gallons
39,087.63	Cubic Feet
390.88	HCF
0.90	Acre-feet
0.29	Millions of Gallons

Hydrozone

Select System From the Dropdown List click on cell below

Plant Water Use Type (s) (low, medium, high)

Plant Factor (PF)

Hydrozone Area (HA) (ft²) Without SLA

Enter Irrigation Efficiency (IE)

(PF x HA (ft²))/IE

Zone 1	Drip	Low	0.40	1,923	0.81	950
Zone 2	Drip	Low	0.20	1,937	0.81	478
Zone 3	Drip	Low	0.40	1,989	0.81	982
Zone 4	Drip	Low	0.20	1,149	0.81	284
Zone 5	Drip	Low	0.40	1,153	0.81	569
Zone 6	Drip	Low	0.20	175	0.81	43
Zone 7	Drip	Low	0.20	1,292	0.81	319
Zone 8	Drip	Low	0.40	1,130	0.81	558
Zone 9	Drip	Low	0.20	2,923	0.81	722
Zone 10	Drip	Low	0.40	138	0.81	68
EX Zone 11	Drip		0.40	1,241	0.81	613
EX Zone 12	Drip		0.40	1,241	0.81	613
EX Zone 13	Drip		0.40	705	0.81	348
EX Zone 14	Drip		0.40	705	0.81	348
EX Zone 15	Drip		0.40	6,150	0.81	3,037
EX Zone 16	Drip		0.40	6,150	0.81	3,037

Results

MAWA = 292,395

ETWU = 280,893 Gallons
 37,550 Cubic Feet
 375.50 HCF
 0.88 Acre-feet
 0.28 Millions of Gallons

DESIGNER STATEMENT

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR OF WATER IN THE IRRIGATION DESIGN PLAN.

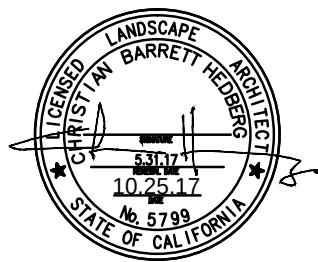
DESIGNER STATEMENT

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

Ann L. Platt

CERTIFIED IRRIGATION DESIGNER

DATE _____



11/10/2016
100%-COMPLETE



CBHDESIGN INC
LANDSCAPE ARCHITECTURE
SANTA BARBARA / NAPA VALLEY
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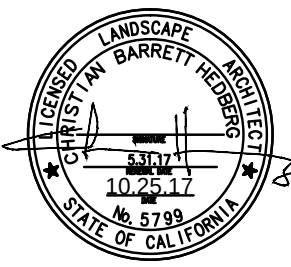
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January										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
1.2	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	8	3	7
	A2	0.2	INLINE	1937	6.87%	8.4	1	4	3	3
	A3	0.4	INLINE	198	0.70%	8.6	1	8	3	7
	A4	0.2	INLINE	1149	4.07%	5.0	1	4	3	3
	A5	0.4	INLINE	1153	4.09%	5.0	1	8	3	7
	A6	0.2	INLINE	175	0.62%	2.3	1	4	3	3
	A7	0.2	INLINE	1292	4.58%	5.6	1	4	3	3
	A8	0.4	INLINE	1130	4.01%	4.9	1	8	3	7
	A9	0.2	INLINE	2923	10.36%	10.0	1	4	3	3
	A10	0.4	INLINE	138	0.49%	0.6	1	8	3	7
	EX1	0.4	INLINE	1241	4.40%	5.3	1	7	3	7
	EX2	0.4	INLINE	1241	4.40%	5.3	1	7	3	7
	EX3	0.4	INLINE	705	2.50%	3.1	1	7	3	7
	EX4	0.4	INLINE	705	2.50%	3.1	1	7	3	7
	EX5	0.4	INLINE	6150	21.80%	10.0	1	7	3	7
	EX6	0.4	INLINE	6150	21.80%	10.0	1	7	3	7

February										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
1.5	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	10	3	9
	A2	0.2	INLINE	1937	6.87%	8.4	1	5	3	4
	A3	0.4	INLINE	198	0.70%	8.6	1	10	3	9
	A4	0.2	INLINE	1149	4.07%	5.0	1	5	3	4
	A5	0.4	INLINE	1153	4.09%	5.0	1	10	3	9
	A6	0.2	INLINE	175	0.62%	2.3	1	5	3	4
	A7	0.2	INLINE	1292	4.58%	5.6	1	5	3	4
	A8	0.4	INLINE	1130	4.01%	4.9	1	10	3	9
	A9	0.2	INLINE	2923	10.36%	10.0	1	5	3	4
	A10	0.4	INLINE	138	0.49%	0.6	1	10	3	9
	EX1	0.4	INLINE	1241	4.40%	5.3	1	9	3	9
	EX2	0.4	INLINE	1241	4.40%	5.3	1	9	3	9
	EX3	0.4	INLINE	705	2.50%	3.1	1	9	3	9
	EX4	0.4	INLINE	705	2.50%	3.1	1	9	3	9
	EX5	0.4	INLINE	6150	21.80%	10.0	1	9	3	9
	EX6	0.4	INLINE	6150	21.80%	10.0	1	9	3	9

March										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
2.8	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	19	3	16
	A2	0.2	INLINE	1937	6.87%	8.4	1	10	3	8
	A3	0.4	INLINE	198	0.70%	8.6	1	19	3	16
	A4	0.2	INLINE	1149	4.07%	5.0	1	10	3	8
	A5	0.4	INLINE	1153	4.09%	5.0	1	19	3	16
	A6	0.2	INLINE	175	0.62%	2.3	1	10	3	8
	A7	0.2	INLINE	1292	4.58%	5.6	1	10	3	8
	A8	0.4	INLINE	1130	4.01%	4.9	1	19	3	16
	A9	0.2	INLINE	2923	10.36%	10.0	1	10	3	8
	A10	0.4	INLINE	138	0.49%	0.6	1	19	3	16
	EX1	0.4	INLINE	1241	4.40%	5.3	1	16	3	16
	EX2	0.4	INLINE	1241	4.40%	5.3	1	16	3	16
	EX3	0.4	INLINE	705	2.50%	3.1	1	16	3	16
	EX4	0.4	INLINE	705	2.50%	3.1	1	16	3	16
	EX5	0.4	INLINE	6150	21.80%	10.0	1	16	3	16
	EX6	0.4	INLINE	6150	21.80%	10.0	1	16	3	16

NOTE: IRRIGATION SCHEDULES ARE FOR REFERENCE ONLY. RUN TIMES ARE BASED ON HISTORICAL ET RATES FOR THIS REGION, IDEAL SOIL PREPARATION, PLANT MATERIAL INSTALLATION, SPRINKLER PLACEMENT, ENVIRONMENTAL CONDITIONS AND OPERATION OF THE IRRIGATION CONTROLLER. ACTUAL CONDITIONS WILL LIKELY VARY FROM IDEAL CONDITIONS. THE CONTRACTOR SHALL DEVELOP A RUN TIME CHART BASED ON ACTUAL INSTALLATION CONDITIONS AND SHALL BE RESPONSIBLE FOR PLANT HEALTH AND COMPLIANCE WITH LOCAL WATERING RESTRICTIONS.



11/10/2016

100%-COMPLETE



CBHDESIGNINC

LANDSCAPE ARCHITECTURE

SANTA BARBARA / NAPA VALLEY

2174 EUCLID AVE NAPA, CA 94558

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drawn by:

TEAM

LANDSCAPE ARCHITECTURE

PLANNING

SITE DESIGN

2040 S. ALMA SCHOOL RD

SUITE #1-100

CHANDLER, AZ 85286

STUDIO

drawing:

IRRIGATION PLAN

L4.2

04 of 09

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April										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
5.1	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	35	3	29
	A2	0.2	INLINE	1937	6.87%	8.4	1	18	3	15
	A3	0.4	INLINE	198	0.70%	8.6	1	35	3	29
	A4	0.2	INLINE	1149	4.07%	5.0	1	18	3	15
	A5	0.4	INLINE	1153	4.09%	5.0	1	35	3	29
	A6	0.2	INLINE	175	0.62%	2.3	1	18	3	15
	A7	0.2	INLINE	1292	4.58%	5.6	1	18	3	15
	A8	0.4	INLINE	1130	4.01%	4.9	1	35	3	29
	A9	0.2	INLINE	2923	10.36%	10.0	1	18	3	15
	A10	0.4	INLINE	138	0.49%	0.6	1	35	3	29
	EX1	0.4	INLINE	1241	4.40%	5.3	1	29	3	29
	EX2	0.4	INLINE	1241	4.40%	5.3	1	29	3	29
	EX3	0.4	INLINE	705	2.50%	3.1	1	29	3	29
	EX4	0.4	INLINE	705	2.50%	3.1	1	29	3	29
	EX5	0.4	INLINE	6150	21.80%	10.0	1	29	3	29
	EX6	0.4	INLINE	6150	21.80%	10.0	1	29	3	29

NOTE: IRRIGATION SCHEDULES ARE FOR REFERENCE ONLY. RUN TIMES ARE BASED ON HISTORICAL ET RATES FOR THIS REGION, IDEAL SOIL PREPARATION, PLANT MATERIAL INSTALLATION, SPRINKLER PLACEMENT, ENVIRONMENTAL CONDITIONS AND OPERATION OF THE IRRIGATION CONTROLLER. ACTUAL CONDITIONS WILL LIKELY VARY FROM IDEAL CONDITIONS. THE CONTRACTOR SHALL DEVELOP A RUN TIME CHART BASED ON ACTUAL INSTALLATION CONDITIONS AND SHALL BE RESPONSIBLE FOR PLANT HEALTH AND COMPLIANCE WITH LOCAL WATERING RESTRICTIONS.



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TEAM



05 of 09

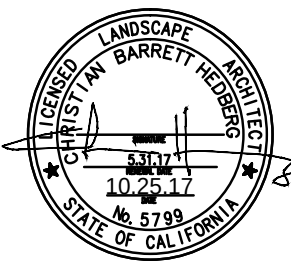
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July										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
7	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	48	3	40
	A2	0.2	INLINE	1937	6.87%	8.4	1	24	3	20
	A3	0.4	INLINE	198	0.70%	8.6	1	48	3	40
	A4	0.2	INLINE	1149	4.07%	5.0	1	24	3	20
	A5	0.4	INLINE	1153	4.09%	5.0	1	48	3	40
	A6	0.2	INLINE	175	0.62%	2.3	1	24	3	20
	A7	0.2	INLINE	1292	4.58%	5.6	1	24	3	20
	A8	0.4	INLINE	1130	4.01%	4.9	1	48	3	40
	A9	0.2	INLINE	2923	10.36%	10.0	1	24	3	20
	A10	0.4	INLINE	138	0.49%	0.6	1	48	3	40
	EX1	0.4	INLINE	1241	4.40%	5.3	1	40	3	40
	EX2	0.4	INLINE	1241	4.40%	5.3	1	40	3	40
	EX3	0.4	INLINE	705	2.50%	3.1	1	40	3	40
	EX4	0.4	INLINE	705	2.50%	3.1	1	40	3	40
	EX5	0.4	INLINE	6150	21.80%	10.0	1	40	3	40
	EX6	0.4	INLINE	6150	21.80%	10.0	1	40	3	40

August										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
6.2	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	43	3	36
	A2	0.2	INLINE	1937	6.87%	8.4	1	21	3	18
	A3	0.4	INLINE	198	0.70%	8.6	1	43	3	36
	A4	0.2	INLINE	1149	4.07%	5.0	1	21	3	18
	A5	0.4	INLINE	1153	4.09%	5.0	1	43	3	36
	A6	0.2	INLINE	175	0.62%	2.3	1	21	3	18
	A7	0.2	INLINE	1292	4.58%	5.6	1	21	3	18
	A8	0.4	INLINE	1130	4.01%	4.9	1	43	3	36
	A9	0.2	INLINE	2923	10.36%	10.0	1	21	3	18
	A10	0.4	INLINE	138	0.49%	0.6	1	43	3	36
	EX1	0.4	INLINE	1241	4.40%	5.3	1	36	3	36
	EX2	0.4	INLINE	1241	4.40%	5.3	1	36	3	36
	EX3	0.4	INLINE	705	2.50%	3.1	1	36	3	36
	EX4	0.4	INLINE	705	2.50%	3.1	1	36	3	36
	EX5	0.4	INLINE	6150	21.80%	10.0	1	36	3	36
	EX6	0.4	INLINE	6150	21.80%	10.0	1	36	3	36

September										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
4.8	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	33	3	28
	A2	0.2	INLINE	1937	6.87%	8.4	1	17	3	14
	A3	0.4	INLINE	198	0.70%	8.6	1	33	3	28
	A4	0.2	INLINE	1149	4.07%	5.0	1	17	3	14
	A5	0.4	INLINE	1153	4.09%	5.0	1	33	3	28
	A6	0.2	INLINE	175	0.62%	2.3	1	17	3	14
	A7	0.2	INLINE	1292	4.58%	5.6	1	17	3	14
	A8	0.4	INLINE	1130	4.01%	4.9	1	33	3	28
	A9	0.2	INLINE	2923	10.36%	10.0	1	17	3	14
	A10	0.4	INLINE	138	0.49%	0.6	1	33	3	28
	EX1	0.4	INLINE	1241	4.40%	5.3	1	28	3	28
	EX2	0.4	INLINE	1241	4.40%	5.3	1	28	3	28
	EX3	0.4	INLINE	705	2.50%	3.1	1	28	3	28
	EX4	0.4	INLINE	705	2.50%	3.1	1	28	3	28
	EX5	0.4	INLINE	6150	21.80%	10.0	1	28	3	28
	EX6	0.4	INLINE	6150	21.80%	10.0	1	28	3	28

NOTE: IRRIGATION SCHEDULES ARE FOR REFERENCE ONLY. RUN TIMES ARE BASED ON HISTORICAL ET RATES FOR THIS REGION, IDEAL SOIL PREPARATION, PLANT MATERIAL INSTALLATION, SPRINKLER PLACEMENT, ENVIRONMENTAL CONDITIONS AND OPERATION OF THE IRRIGATION CONTROLLER. ACTUAL CONDITIONS WILL LIKELY VARY FROM IDEAL CONDITIONS. THE CONTRACTOR SHALL DEVELOP A RUN TIME CHART BASED ON ACTUAL INSTALLATION CONDITIONS AND SHALL BE RESPONSIBLE FOR PLANT HEALTH AND COMPLIANCE WITH LOCAL WATERING RESTRICTIONS.



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LANDSCAPE ARCHITECTURE

SANTA BARBARA / NAPA VALLEY

2174 EUCLID AVE NAPA, CA 94558

707.312.0021

ST. HELENA CUSTOM CRUSH

PLANTING & IRRIGATION DESIGN

420 LA FATA STREET, ST. HELENA, CA 94574

APN: 009-660-004

revisions:

03-14-17 REVISION

10-25-17 TREE ADJUSTMENT

project #: CBH002

scale: PER PLAN

issued for: CITY REVIEW

drawn by: TEAM

LANDSCAPE ARCHITECTURE

PLANNING

SITE DESIGN

STUDIO

2040 S. ALMA SCHOOL RD

SUITE #1-100

CHANDLER, AZ 85286

drawing: IRRIGATION PLAN

L4.4

06 of 09

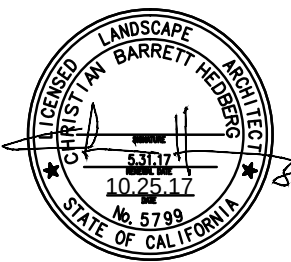
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October										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
3.1	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	21	3	18
	A2	0.2	INLINE	1937	6.87%	8.4	1	11	3	9
	A3	0.4	INLINE	198	0.70%	8.6	1	21	3	18
	A4	0.2	INLINE	1149	4.07%	5.0	1	11	3	9
	A5	0.4	INLINE	1153	4.09%	5.0	1	21	3	18
	A6	0.2	INLINE	175	0.62%	2.3	1	11	3	9
	A7	0.2	INLINE	1292	4.58%	5.6	1	11	3	9
	A8	0.4	INLINE	1130	4.01%	4.9	1	21	3	18
	A9	0.2	INLINE	2923	10.36%	10.0	1	11	3	9
	A10	0.4	INLINE	138	0.49%	0.6	1	21	3	18
	EX1	0.4	INLINE	1241	4.40%	5.3	1	18	3	18
	EX2	0.4	INLINE	1241	4.40%	5.3	1	18	3	18
	EX3	0.4	INLINE	705	2.50%	3.1	1	18	3	18
	EX4	0.4	INLINE	705	2.50%	3.1	1	18	3	18
	EX5	0.4	INLINE	6150	21.80%	10.0	1	18	3	18
	EX6	0.4	INLINE	6150	21.80%	10.0	1	18	3	18

November										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
1.4	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	10	3	8
	A2	0.2	INLINE	1937	6.87%	8.4	1	5	3	4
	A3	0.4	INLINE	198	0.70%	8.6	1	10	3	8
	A4	0.2	INLINE	1149	4.07%	5.0	1	5	3	4
	A5	0.4	INLINE	1153	4.09%	5.0	1	10	3	8
	A6	0.2	INLINE	175	0.62%	2.3	1	5	3	4
	A7	0.2	INLINE	1292	4.58%	5.6	1	5	3	4
	A8	0.4	INLINE	1130	4.01%	4.9	1	10	3	8
	A9	0.2	INLINE	2923	10.36%	10.0	1	5	3	4
	A10	0.4	INLINE	138	0.49%	0.6	1	10	3	8
	EX1	0.4	INLINE	1241	4.40%	5.3	1	8	3	8
	EX2	0.4	INLINE	1241	4.40%	5.3	1	8	3	8
	EX3	0.4	INLINE	705	2.50%	3.1	1	8	3	8
	EX4	0.4	INLINE	705	2.50%	3.1	1	8	3	8
	EX5	0.4	INLINE	6150	21.80%	10.0	1	8	3	8
	EX6	0.4	INLINE	6150	21.80%	10.0	1	8	3	8

December										
Monthly Eto	HYDROZONE INFORMATION TABLE					ESTIMATED ESTABLISHMENT IRRIGATION SCHEDULE			ESIMATED IRRIGATION SCHEDULE	
0.9	ZONE	PF	IRRIGATION METHOD	AREA (SQ. FT.)	% OF LANDSCAPE AREA	WATER DEMAND (GPM)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)	IRRIGATION EVENT FREQUENCY (DAYS)	TOTAL RUNTIME (MIN/IRRIGATION DAY)
	A1	0.4	INLINE	1923	6.82%	8.3	1	6	3	5
	A2	0.2	INLINE	1937	6.87%	8.4	1	3	3	3
	A3	0.4	INLINE	198	0.70%	8.6	1	6	3	5
	A4	0.2	INLINE	1149	4.07%	5.0	1	3	3	3
	A5	0.4	INLINE	1153	4.09%	5.0	1	6	3	5
	A6	0.2	INLINE	175	0.62%	2.3	1	3	3	3
	A7	0.2	INLINE	1292	4.58%	5.6	1	3	3	3
	A8	0.4	INLINE	1130	4.01%	4.9	1	6	3	5
	A9	0.2	INLINE	2923	10.36%	10.0	1	3	3	3
	A10	0.4	INLINE	138	0.49%	0.6	1	6	3	5
	EX1	0.4	INLINE	1241	4.40%	5.3	1	5	3	5
	EX2	0.4	INLINE	1241	4.40%	5.3	1	5	3	5
	EX3	0.4	INLINE	705	2.50%	3.1	1	5	3	5
	EX4	0.4	INLINE	705	2.50%	3.1	1	5	3	5
	EX5	0.4	INLINE	6150	21.80%	10.0	1	5	3	5
	EX6	0.4	INLINE	6150	21.80%	10.0	1	5	3	5

NOTE: IRRIGATION SCHEDULES ARE FOR REFERENCE ONLY. RUN TIMES ARE BASED ON HISTORICAL ET RATES FOR THIS REGION, IDEAL SOIL PREPARATION, PLANT MATERIAL INSTALLATION, SPRINKLER PLACEMENT, ENVIRONMENTAL CONDITIONS AND OPERATION OF THE IRRIGATION CONTROLLER. ACTUAL CONDITIONS WILL LIKELY VARY FROM IDEAL CONDITIONS. THE CONTRACTOR SHALL DEVELOP A RUN TIME CHART BASED ON ACTUAL INSTALLATION CONDITIONS AND SHALL BE RESPONSIBLE FOR PLANT HEALTH AND COMPLIANCE WITH LOCAL WATERING RESTRICTIONS.



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STUDIO

drawing:

IRRIGATION PLAN

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Agenda Item #5.2.

INSTALLATION GENERAL NOTES

1. THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF 70 PSI MINIMUM REQUIRED, AT A MAXIMUM DISCHARGE OF 25 GPM AT THE 1-INCH IRRIGATION POINT-OF-CONNECTION (POC), TAP, METER, BACKFLOW, AND MASTER VALVE SHALL ALL BE THE SAME SIZE. VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION.

2. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.

3. COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

4. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

5. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:

A. ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.

B. TREE AND SHRUB LOCATIONS AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES.

C. USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF TEE FITTINGS IN THE BULLNOSE CONFIGURATION, OR USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
6. PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:

A. TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVES.

B. TWO (2) OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.

7. SELECT NOZZLES FOR SPRAY AND ROTARY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF COVERAGE OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE.

8. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR.

9. INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.

10. THE FOLLOWING SHOULD BE NOTED REGARDING PIPE SIZING: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN THE IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.

11. INSTALL TWO (2) #14 AWG CONTROL WIRES FROM CONTROLLER LOCATION TO EACH DEAD-END OF MAINLINE FOR USE AS SPARES IN CASE OF CONTROL WIRE FAILURE. COIL 3 FEET OF WIRE IN VALVE BOX.

CONSTRUCTION NOTES

1. THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE EXISTING IRRIGATION WATER TAP AND METER INSTALLED BY OTHERS AT THE APPROXIMATE LOCATION SHOWN. INSTALL BACKFLOW PREVENTION UNIT AND MASTER VALVE ASSEMBLY AS INDICATED, SAME SIZE AS POC. VERIFY EXACT LOCATION OF POC WITH OWNER'S REPRESENTATIVE.

2. WALL MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE, AND SCREENED FROM VIEW EITHER BEHIND ENTRY WALLS, NEXT TO BUILDINGS, OR BEHIND PLANT MATERIAL. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.

3. IRRIGATION SHOWN OUT OF LANDSCAPED AREA FOR CLARITY ONLY. INSTALL IRRIGATION COMPONENTS WITHIN LANDSCAPED AREA.

4. CONTRACTOR SHALL FIELD LOCATE AND MAKE CONNECTION TO EXISTING IRRIGATION MAINLINE AT THE APPROXIMATE LOCATION. CONTRACTOR SHALL MAKE WIRE SPLICES TO EXISTING WIRES INSIDE 6-INCH ROUND VALVE BOX AND ROUTE WIRE BACK TO NEW CONTROLLER. CONTRACTOR SHALL VERIFY EXISTING CONTROL WIRE CONTINUITY TO EXISTING ZONES PRIOR TO COMPLETION.

IRRIGATION LEGEND

- SLEEVES: CLASS 200 PVC

MAINLINE PIPE: CLASS 200 PVC
2-INCH SIZE UNLESS OTHERWISE INDICATED

LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC
1-INCH UNLESS OTHERWISE INDICATED

LATERAL PIPE HEADER TO INLINE DRIP: CLASS 200 PVC
1-INCH UNLESS OTHERWISE NOTED

INLINE DRIP TUBING: NETAFIM TLOCV26-12

UNCONNECTED PIPE CROSSING

POINT-OF-CONNECTION ASSEMBLY

BACKFLOW PREVENTION ASSEMBLY: FEBCO 825-YA

MASTER VALVE ASSEMBLY: HUNTER ICV-FS

FLOW SENSOR ASSEMBLY: HUNTER HFS FCT-150

ISOLATION GATE VALVE ASSEMBLY: MATCO 514

QUICK COUPLING VALVE ASSEMBLY: RAINBIRD 5LRC

REMOTE CONTROL DRIP VALVE ASSEMBLY: RAINBIRD XCZ-PRB-100-COM

INDICATES CONTROLLER AND STATION NUMBER

INDICATES LATERAL DISCHARGE (GPM)

INDICATES VALVE SIZE (INCHES)

INDICATES LANDSCAPE APPLICATION

IRRIGATION CONTROLLER UNIT WITH SOLAR SYNC
CONTROLLER A: HUNTER IC-600-SS: 16 STATIONS USED

CONTROL WIRES IN CONDUIT OR WITH WARNING TAPE

TREE RING ASSEMBLY SEE DETAIL #9
PRESSURE: 30 PSI FLOW: 0.25 GPM

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LANDSCAPE ARCHITECTURE
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707.312.0021

ST. HELENA CUSTOM CRUSH
PLANTING & IRRIGATION DESIGN

420 LA FATA STREET, ST. HELENA, CA 94574
APN: 009-660-004

revisions:
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10-25-17 TREE ADJUSTMENT

project #: CBH002 scale: PER PLAN
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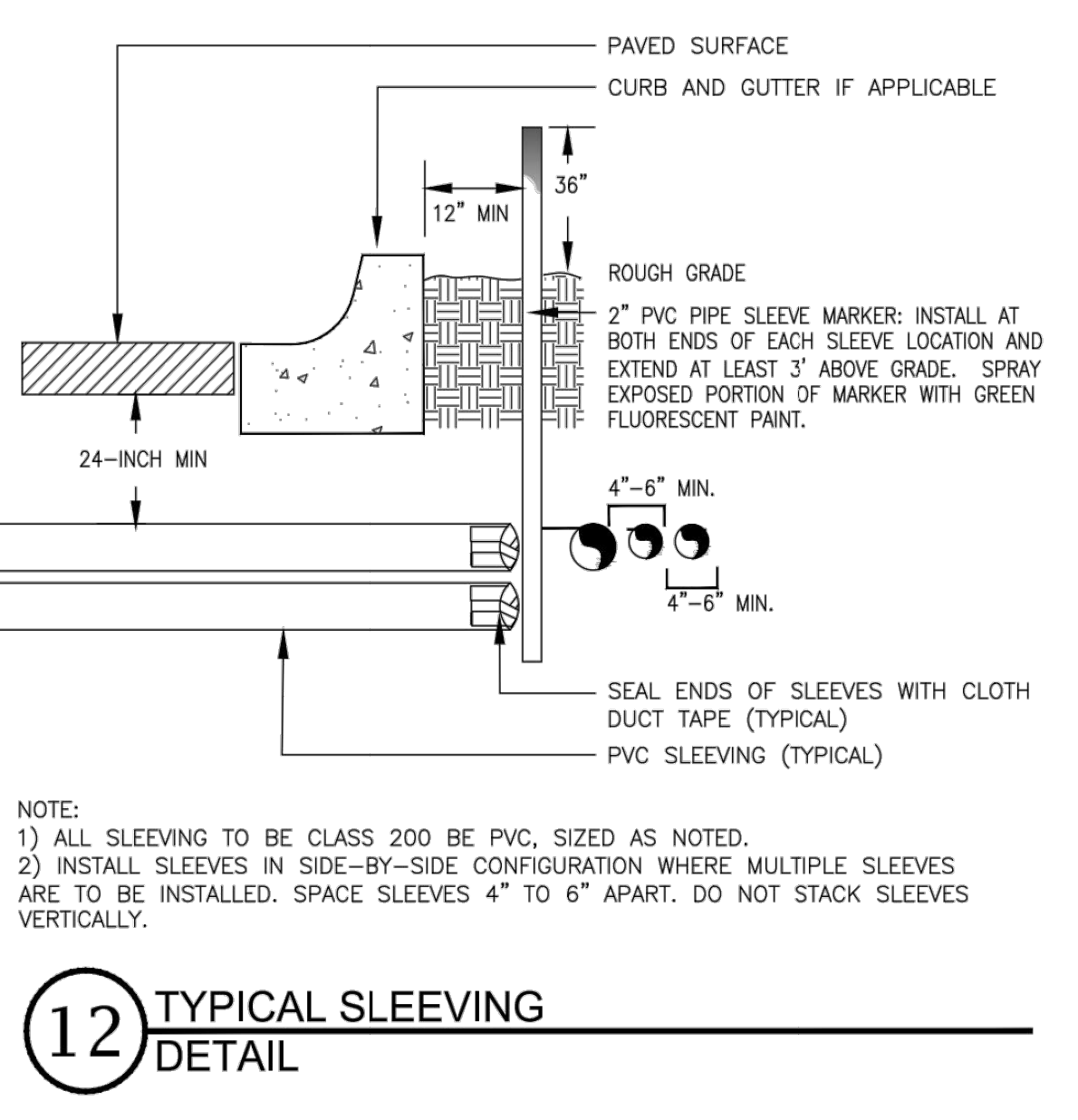
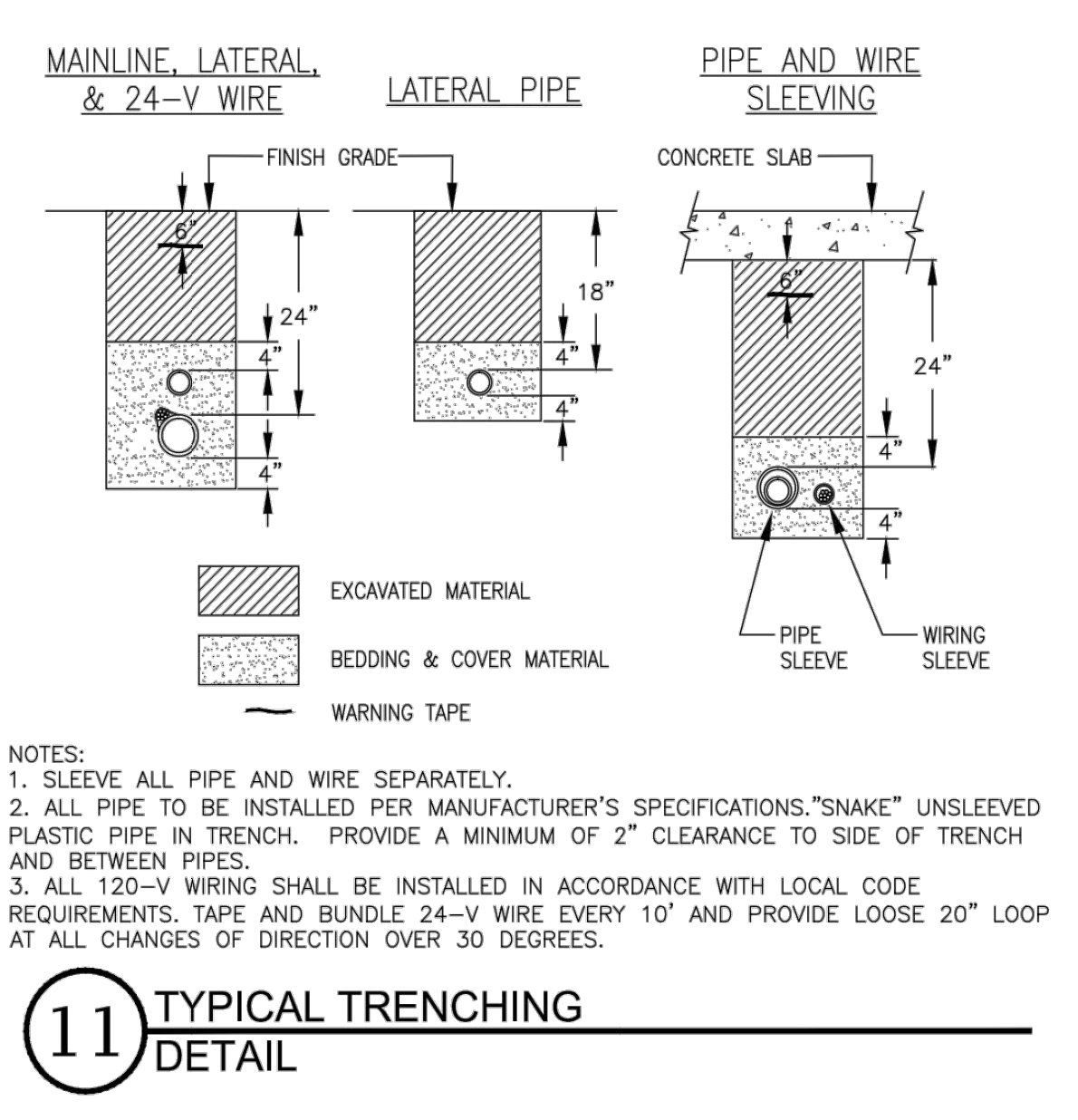
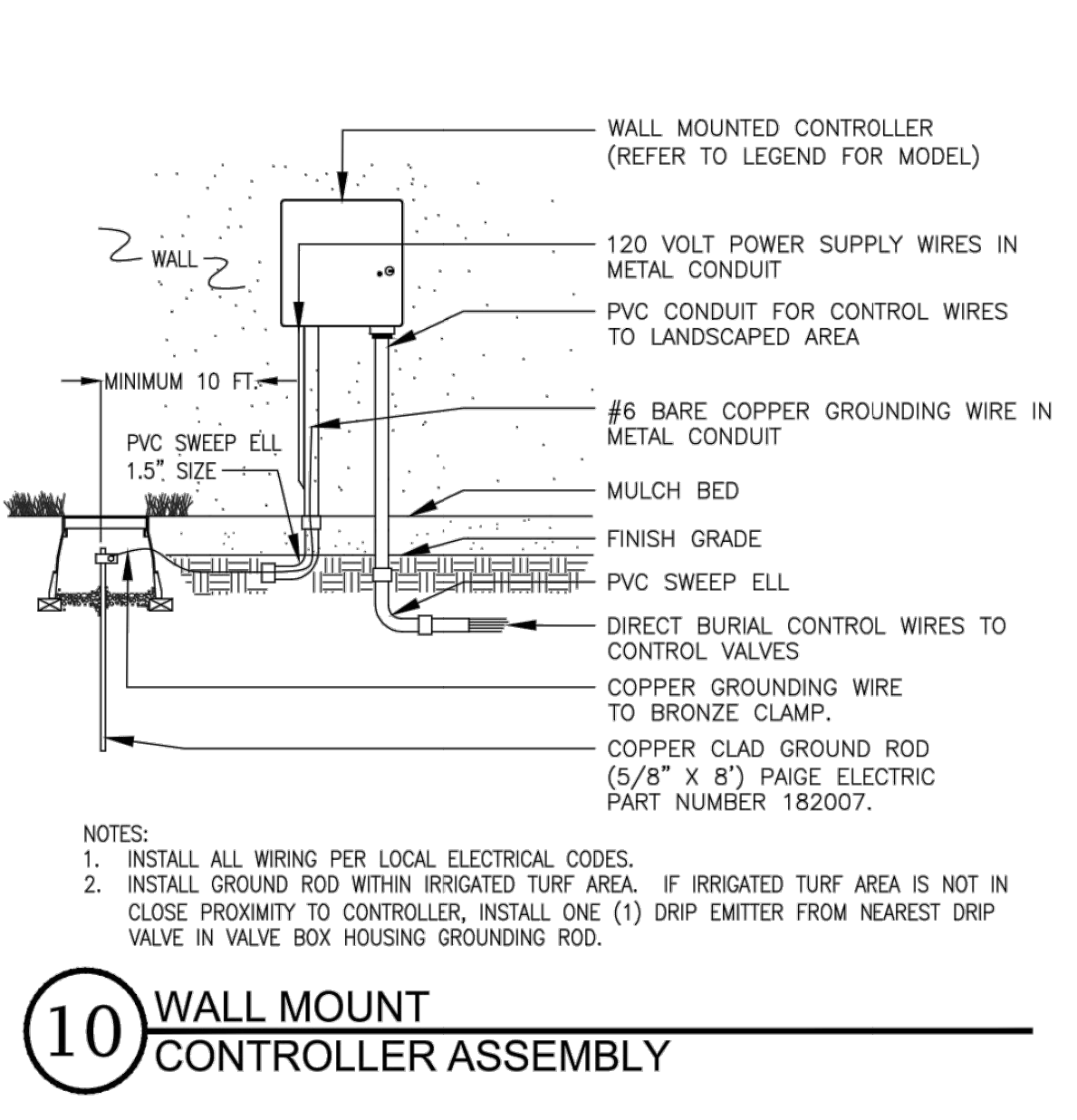
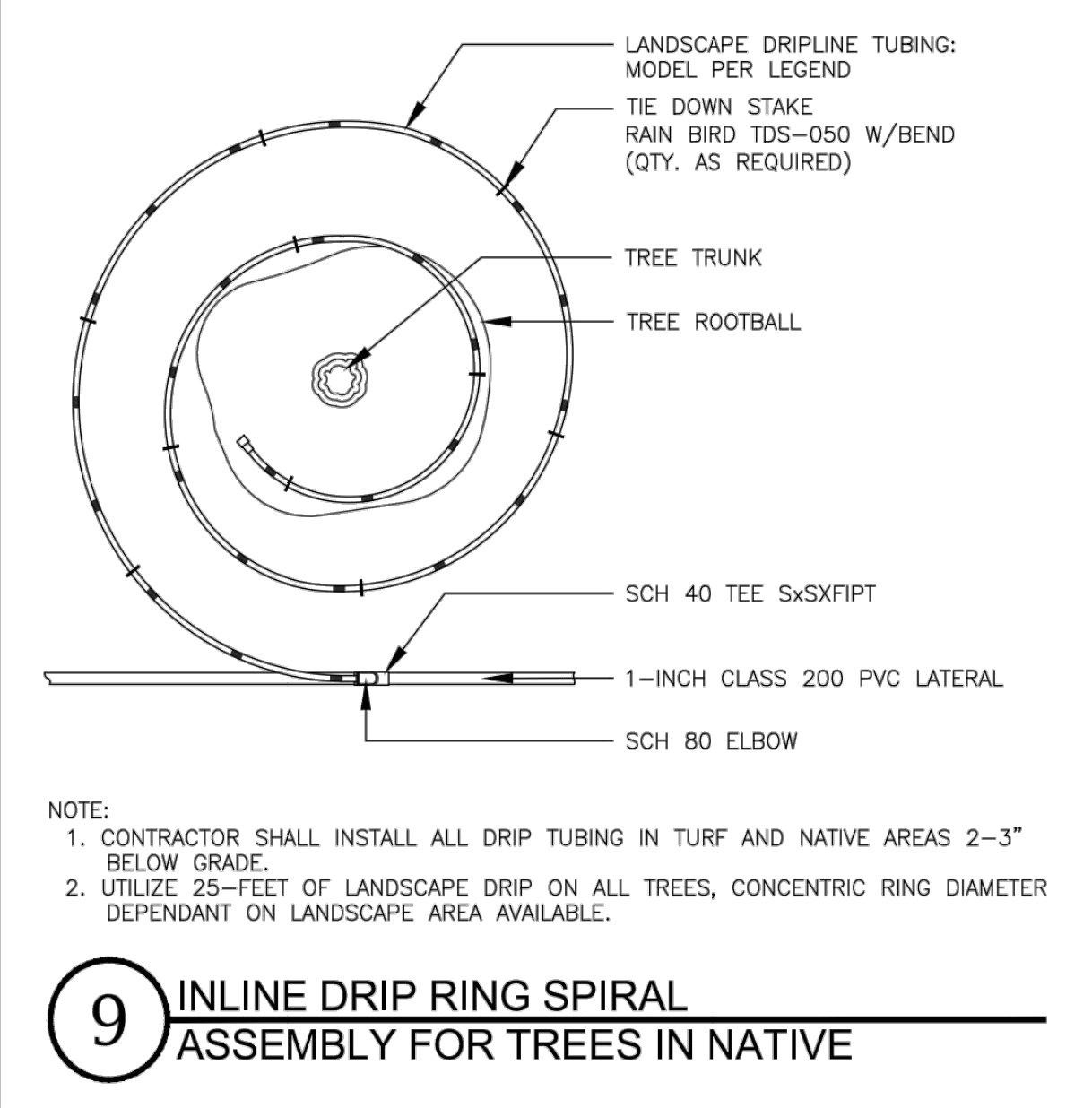
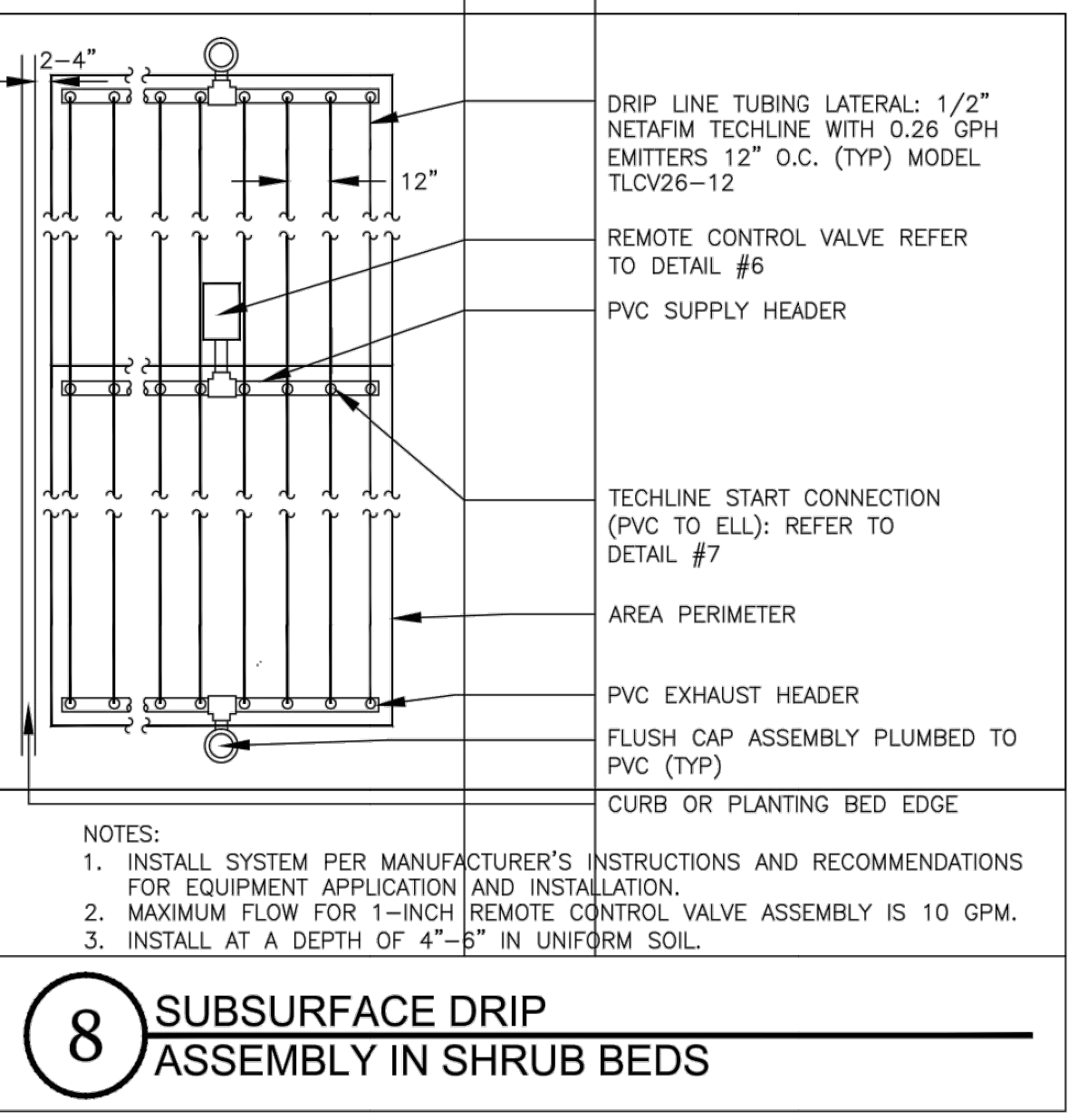
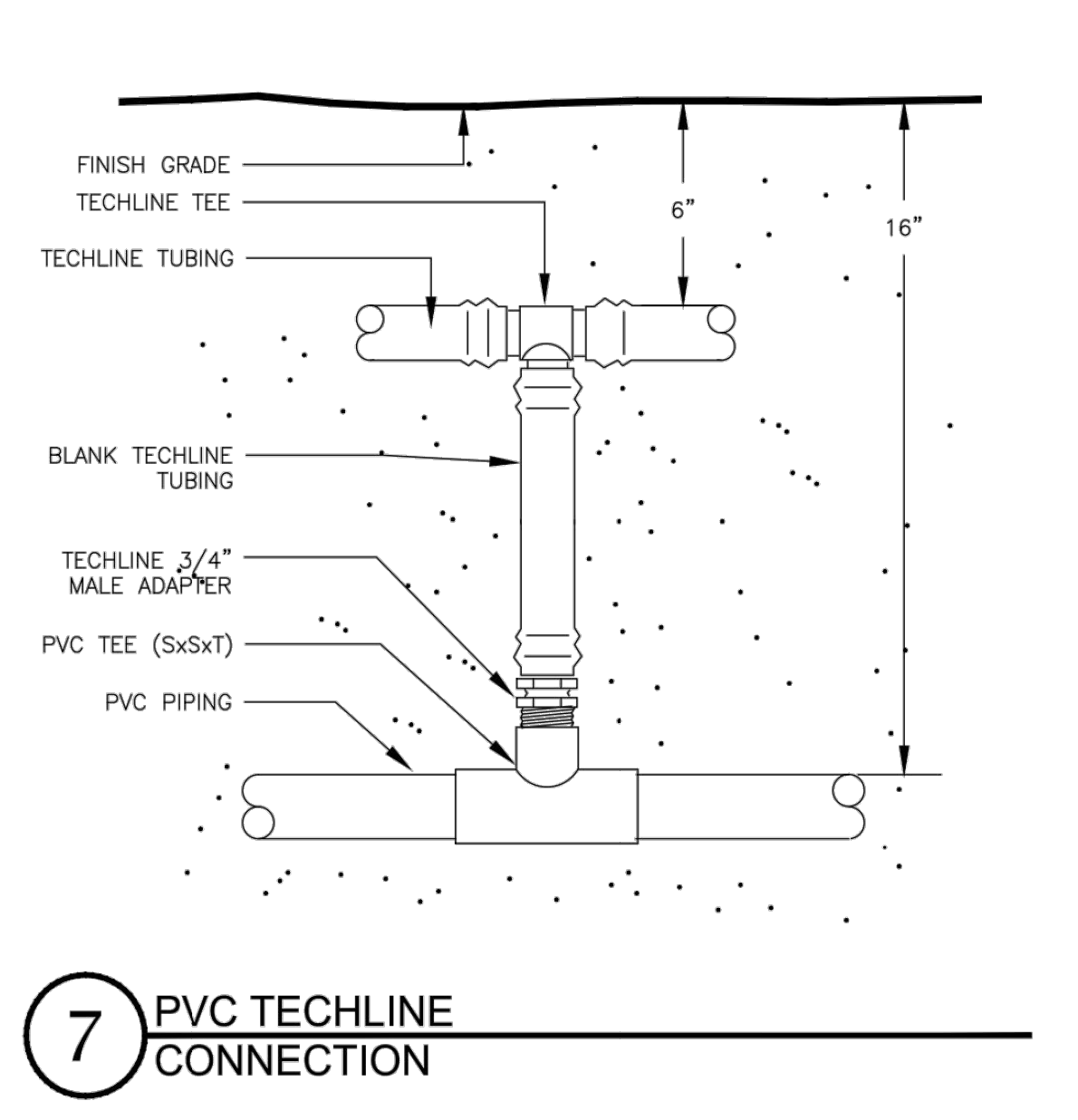
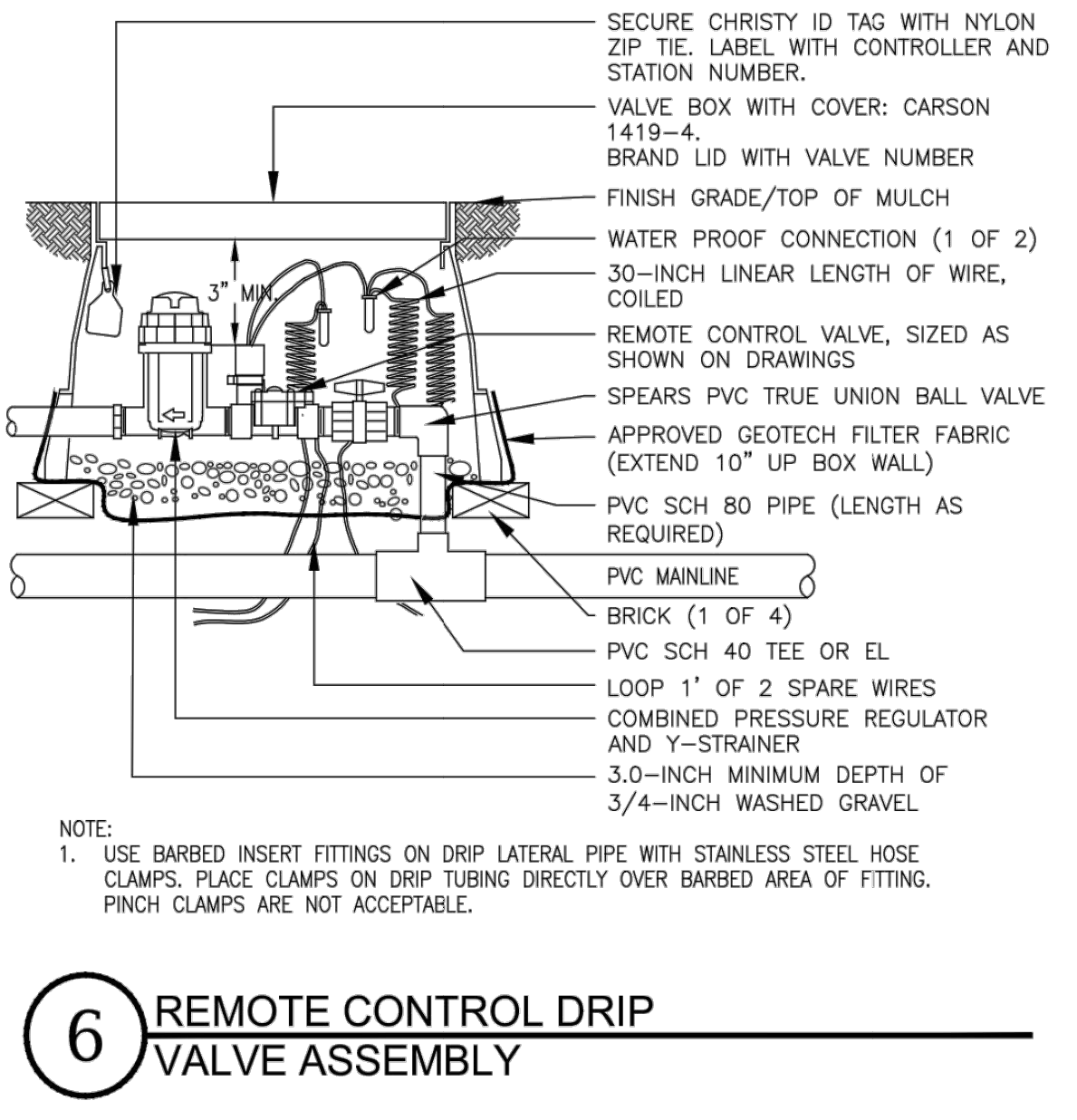
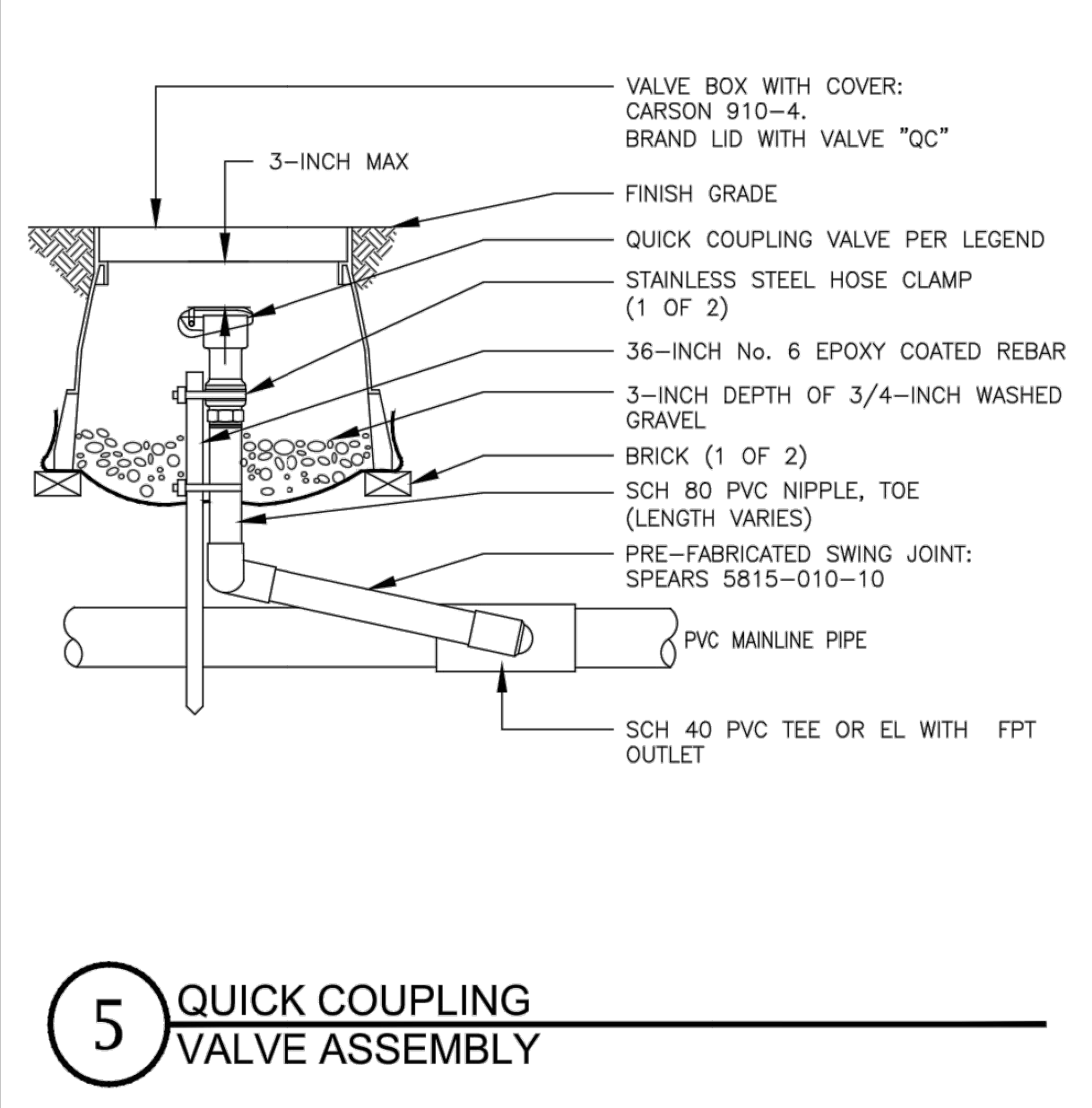
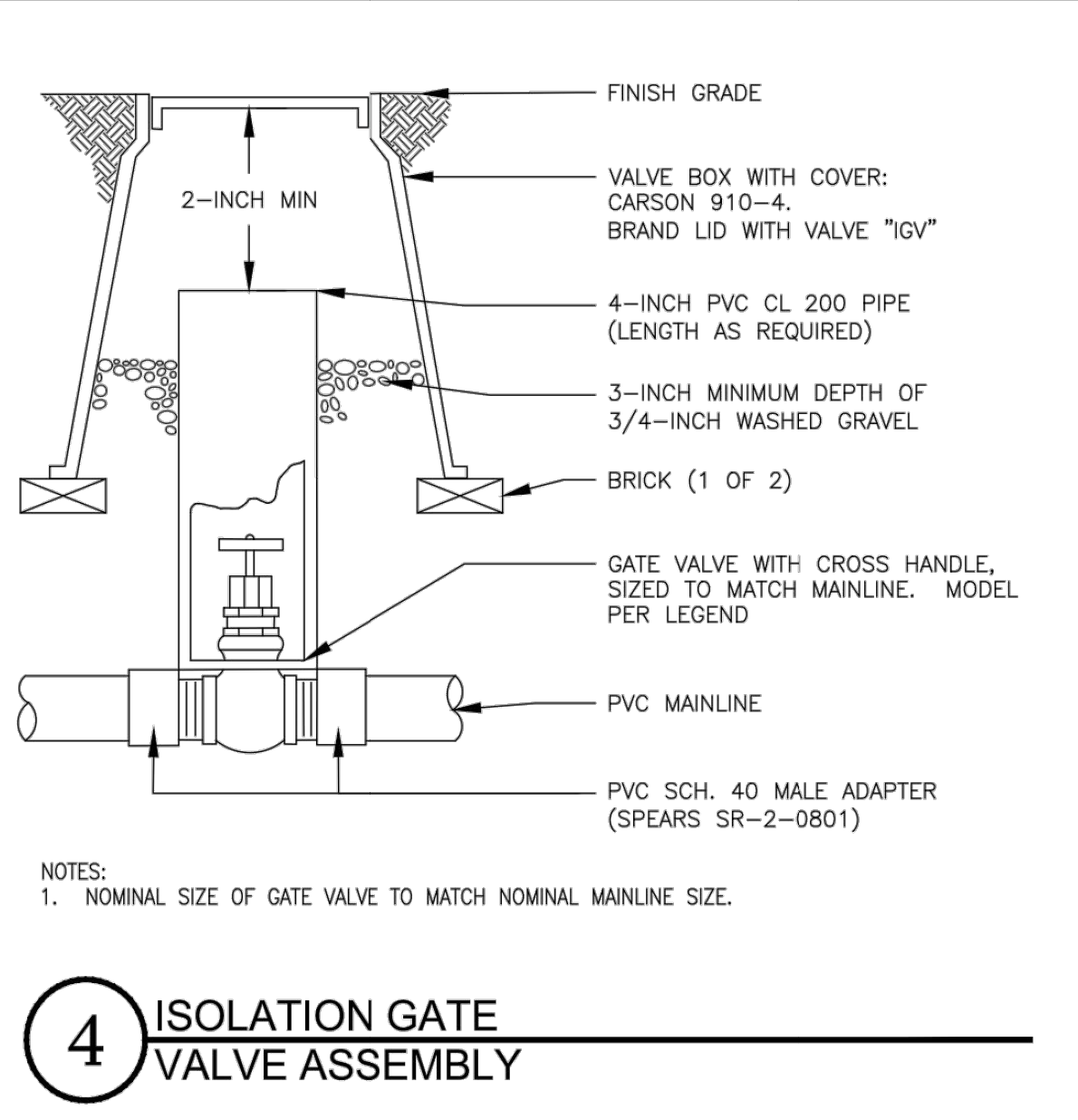
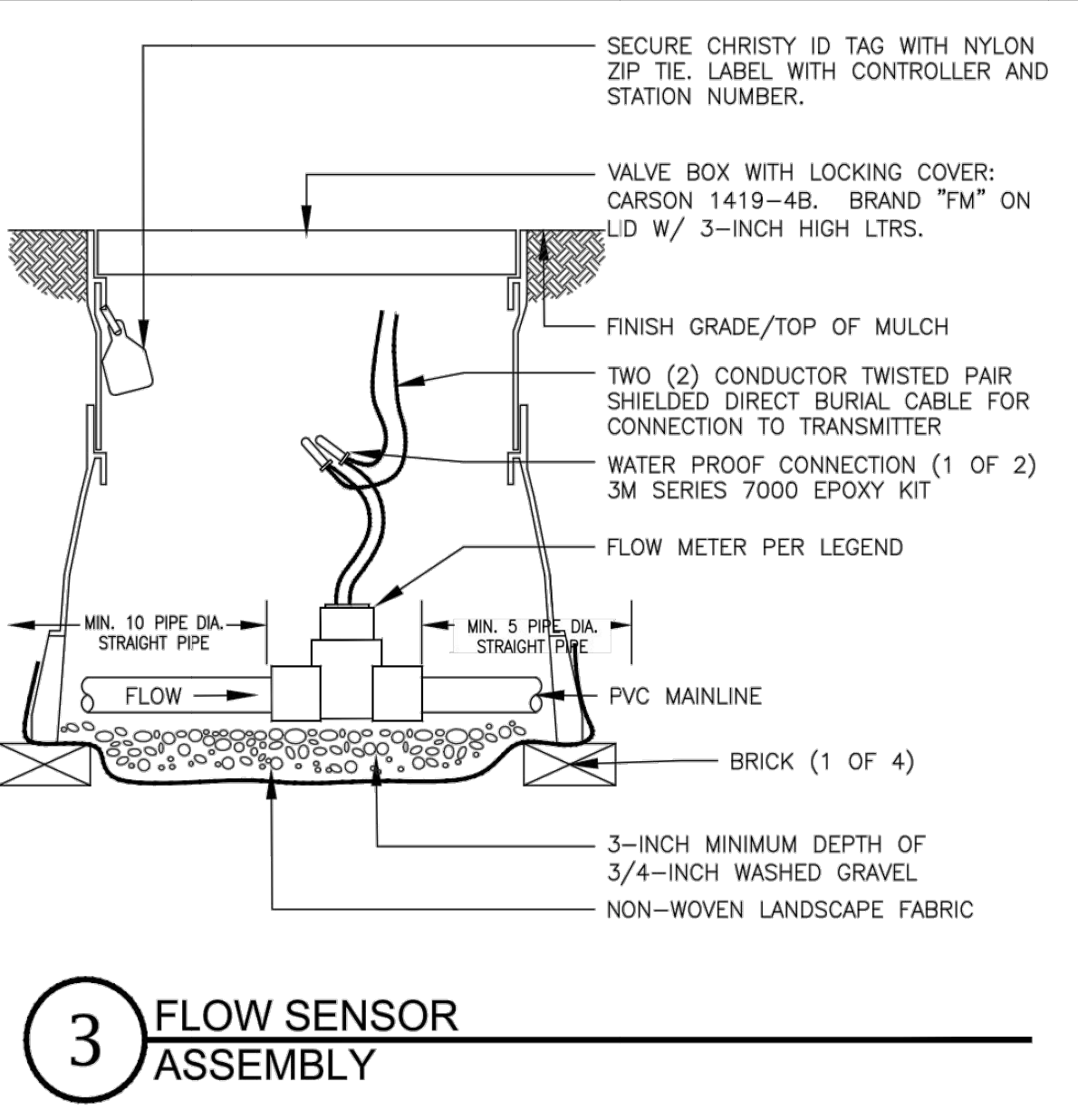
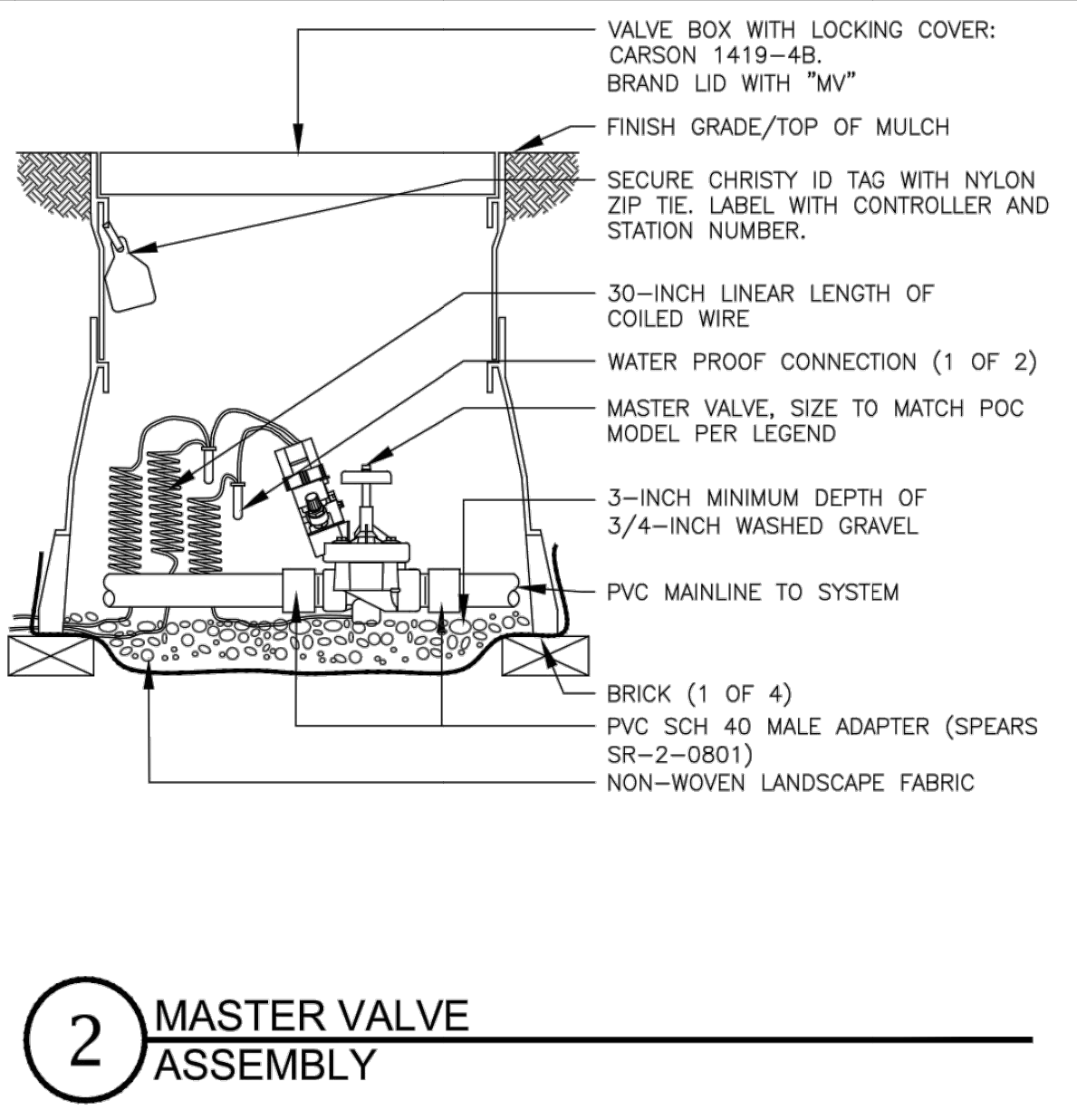
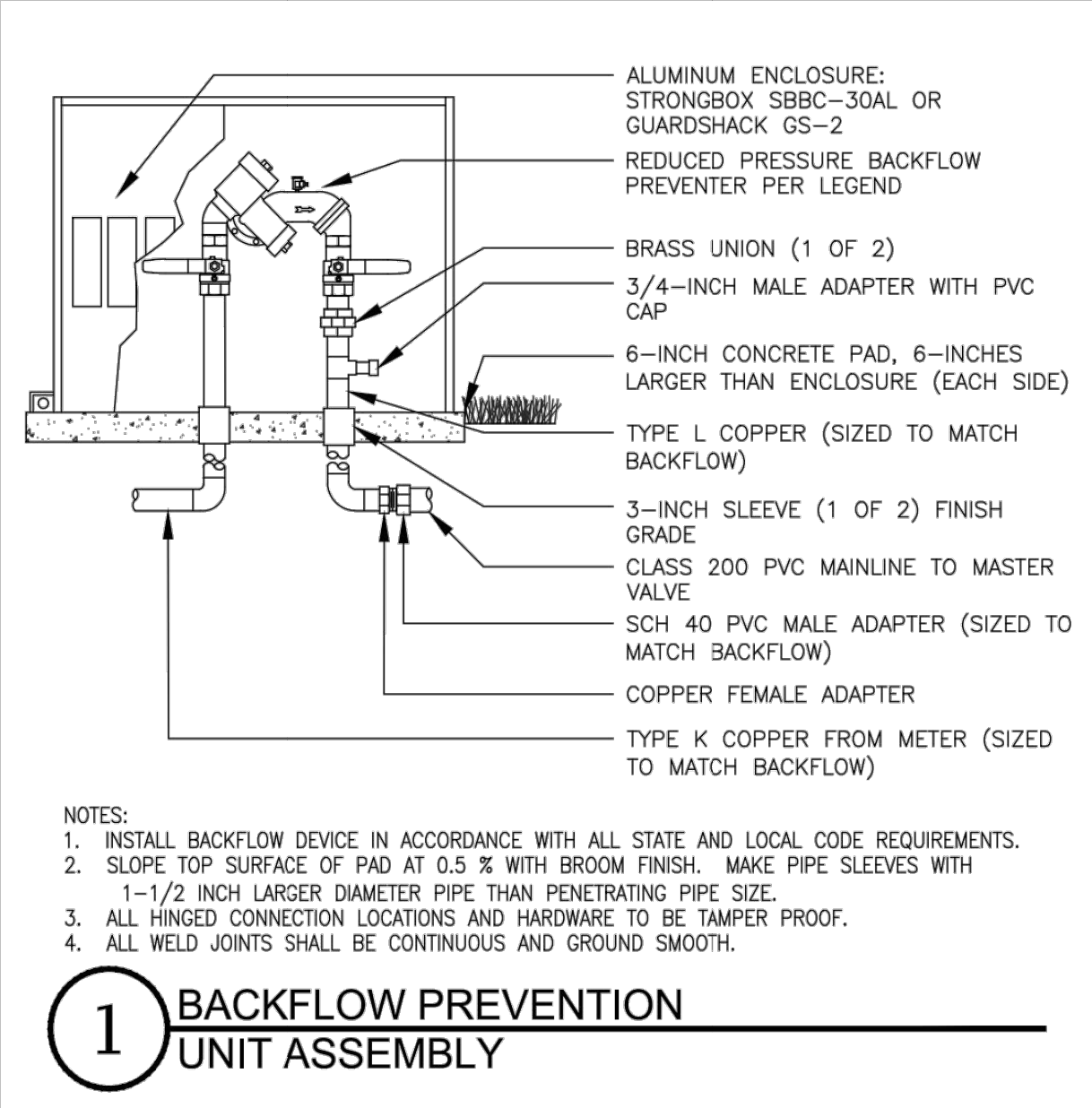
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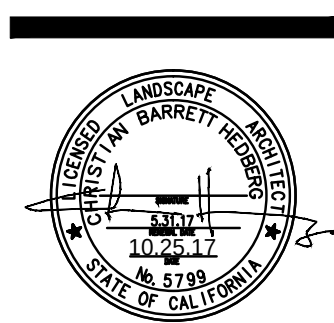
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Agenda Item #5.2.





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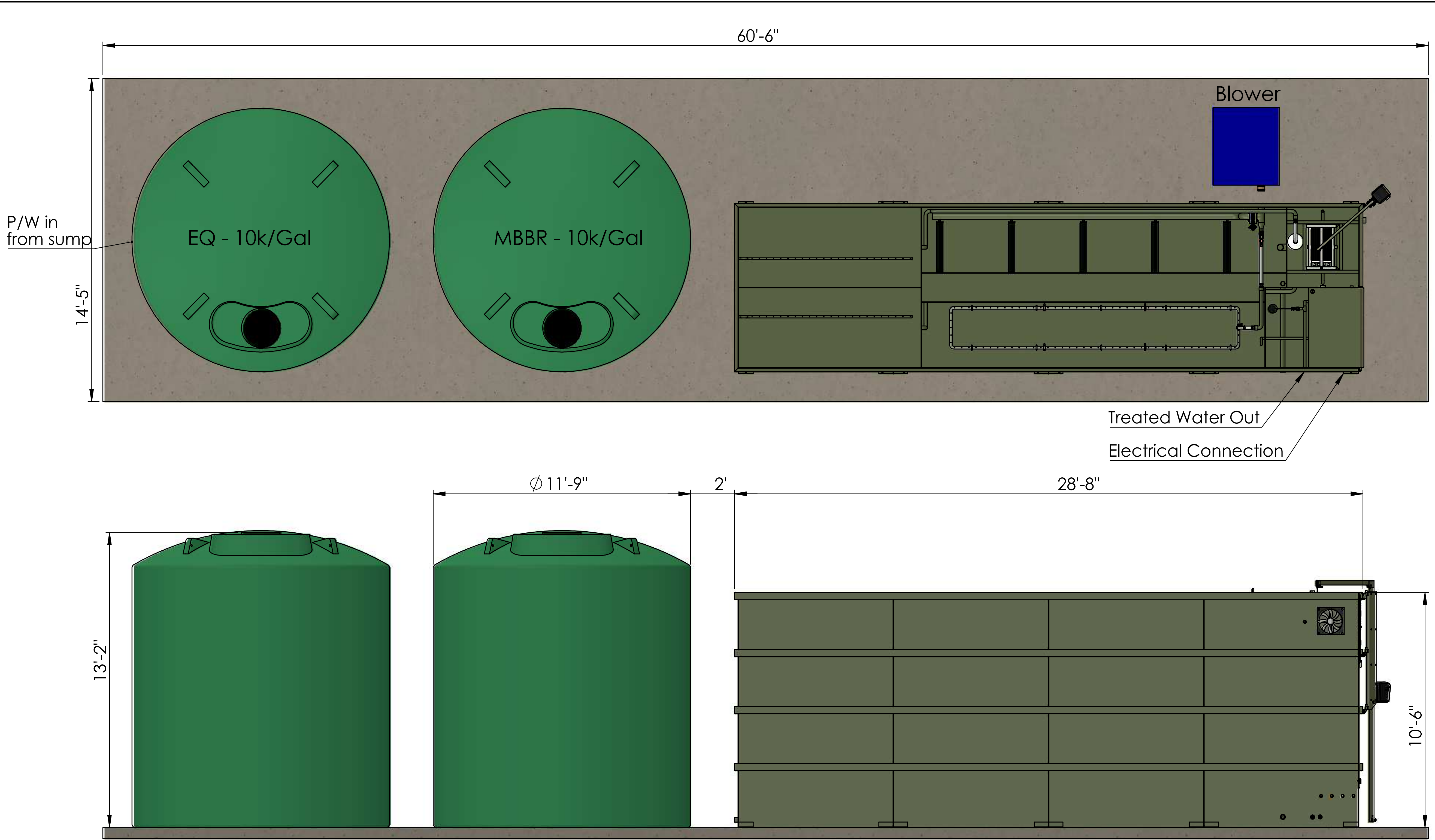
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LANDSCAPE ARCHITECTURE PLANNING SITE DESIGN

2040 S. ALMA SCHOOL RD
SUITE #1-100
CHANDLER, AZ 85226

STUDIO

drawing: IRRIGATION PLAN
L4.7
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 Lyve Systems LLC 3031 California Blvd Napa , CA 94558 Ph: 707 9315225 www.lyvesystems.com	Filename St Helena Custom Crush - Plan View				Client Details St Helena Custom Crush			Initials	Signature	Date
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							Checked By	-	-	-
							Approved By	-	-	WWTS1.0

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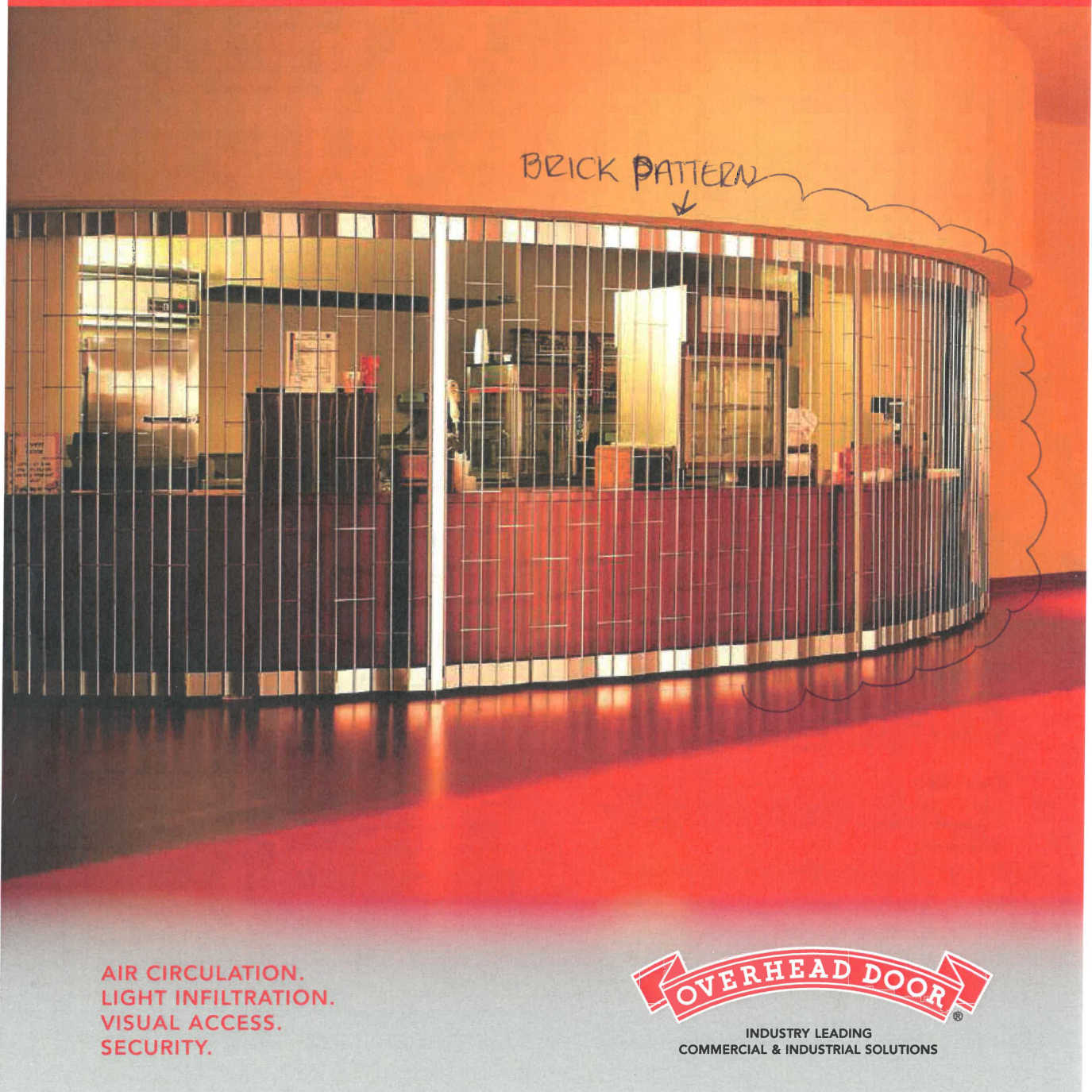
681/683

BRICK PATTERN
SEE PAGE 3.

SIDE-FOLDING SECURITY GRILLES



SECURITY GRILLE SYSTEMS



AIR CIRCULATION.
LIGHT INFILTRATION.
VISUAL ACCESS.
SECURITY.



INDUSTRY LEADING
COMMERCIAL & INDUSTRIAL SOLUTIONS

SIDE-FOLDING SECURITY GRILLES

SECURITY GRILLE SYSTEM



Cover image:
Model 683, standard body brick pattern, clear anodized aluminum;
Installation and Service: Overhead Door Company of Madison
Image above:
Model 681, wide body brick pattern, clear anodized aluminum

Standard features at a glance

Operation	Manual unless size requires chain hoist
Curtain	
Frame	Truss-like aluminum top and bottom plates; 1/8" (3 mm) thick
Panel width	7" (178 mm) standard body; 11 1/4" (286 mm) wide body
Finish	Aluminum clear anodized
Track	
Trolley assembly	1 1/8" (29 mm) Height: 1 5/8" (41 mm) Width: 1 3/8" (35 mm)
Track detail	Top-mounted, heavy-duty aluminum sections Height: 1 5/8" (41 mm) Width: 1 3/8" (35 mm)
Curves	- 90°: Standard body: 10" (254 mm) and 14" (356 mm) radius; Wide body: 22" (559 mm) radius 120°, 135° and 150°;
Radius	Standard body: 10" (254 mm) radius 14" (356 mm) standard body 22" (559 mm) wide body
Post types	
Lead post	Hook lock and wall channel; bi-part; top and bottom shoot bolts
Intermediate post	Bottom shoot bolt
Trailing end post	Traveling; fixed; hook lock and wall jamb; top and bottom shoot bolts; carrier
Locking mechanisms	
Lead post	Concealed cylinder-operated hook lock accessible from interior and exterior
Intermediate post	Concealed cylinder-operated shoot bolt accessible from one side only
Trailing end post	Attached 10' max. (3048 mm) protection plate self-locking into a steel V-Stop
Warranty	24 month OEM limited

Options

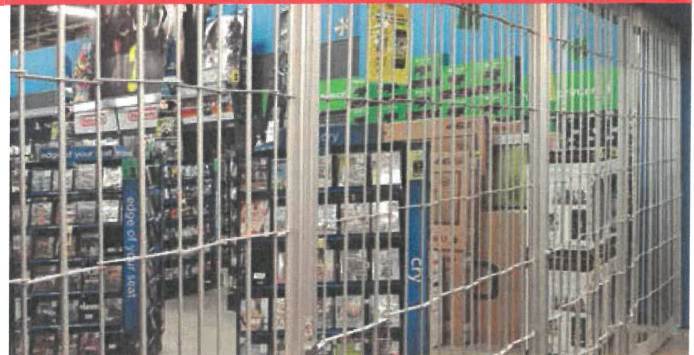
- Thumb-turn guards and protection bars
- Vertical adjustment upward or downward
- Emergency Egress Door
- Custom radii and curves

SIDE-FOLDING SECURITY GRILLES MODELS 681/683



Grilles that breathe with style

When security is a priority, but you want to maximize air circulation, light infiltration and visual access to interior spaces, models 681 and 683 are an ideal choice. Short on the space required for installation, but long on handsome good looks, these grilles secure premises and guard against theft and debris with superior compactness and nearly endless design possibilities.

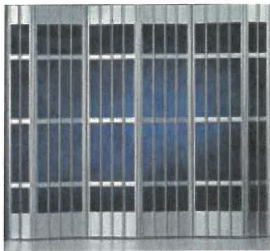


Model 683, standard body straight pattern, clear anodized finish

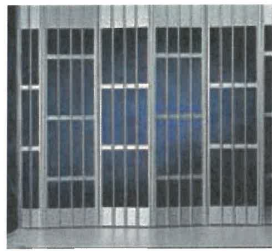
Grille patterns

Model 681 wide body

Straight pattern

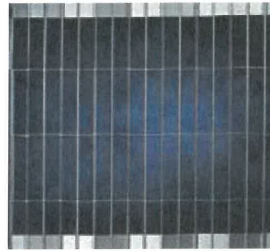


Brick pattern

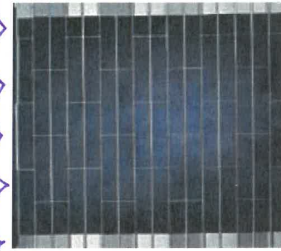


Model 683 standard body

Straight pattern



Brick pattern



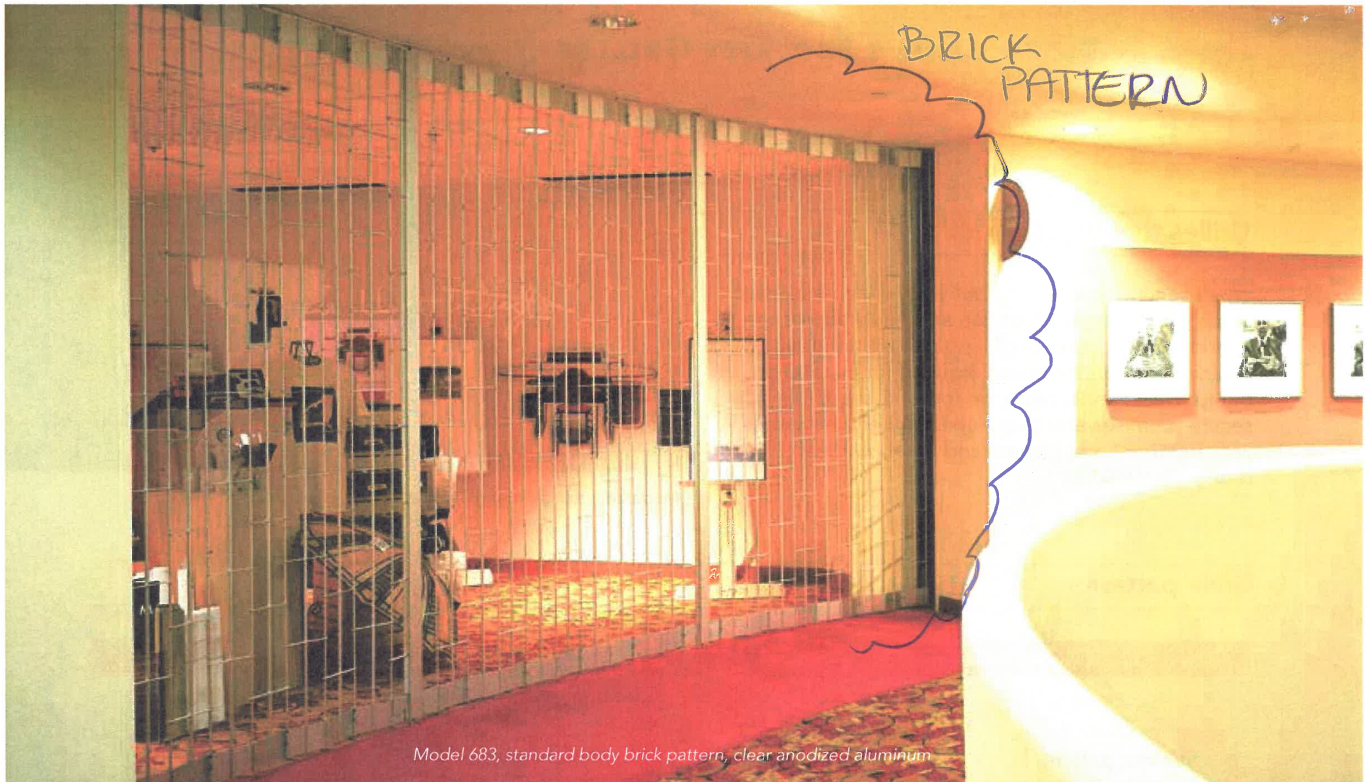
Benefits

Superior compactness

These side-folding, open-air grilles are ideal for spaces with limited headroom and sideroom. A low-profile, top-mounted track reduces headroom requirements to 1 5/8" (41 mm) and depth requirements to 1 3/8" (35 mm). Panels fold to an average 2" (51 mm) per linear foot on standard-width curtains. Wide-body curtains require an average of only 1 1/2" (38 mm) per linear foot. Minimum clear pocket widths of 8" (203 mm) on standard width grilles and 13" on wide-body models require significantly less depth. All-in-all, these grilles are the shortest-stacking, lowest-profile grilles money can buy.

Well engineered, well built

Quality engineering afford you superior design flexibility and ensure long-lasting looks and performance. Modular construction allows the grille to fit any opening width. Up to 2" (51 mm) of vertical adjustment allows field correction of uneven surfaces. Standard width and wide-body panels offers alternative stacking pocket depths.



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WHEN RECORDED MAIL TO:

Planning Director
City of St. Helena
1480 Main Street
St. Helena, CA 94574



1997 000425
OFFICIAL RECORDS OF
NAPA COUNTY
H. KATHLEEN BONDS

AT REQUEST OF: CITY OF ST. HELENA
01/08/1997 08:38 am
Fee: \$.00 Pgs: 2
TT: \$.00

EXEMPT FROM RECORDING FEES -
GOVERNMENT CODE SECTION 6103

IB VCC

USE PERMIT AMENDMENT 96-114

**USE PERMIT OF THE CITY OF ST. HELENA
STATE OF CALIFORNIA, GRANTED TO
NAPA VALLEY WINE WAREHOUSE
420 LA FATA STREET**

PROPERTY OWNER: Dowdell Investors APN: 009-660-004

Recitals

Use Permit Amendment 95-78 pertaining to uses at the Napa Valley Wine Warehouse at 420 La Fata Street limits wastewater generation for the parcel to 600 gallons per day. Legal existing uses at the parcel exceed this limit. Section 27.107 of the I: Industrial regulations requires City Council approval of a Use Permit before this limitation can be exceeded; and

The City Council of the City of St. Helena, State of California, held a noticed public hearing on November 26, 1996..

The City Council of the City of St. Helena, State of California, approves the Use Permit as follows:

Section 1. The City Council hereby finds that this project is not exempt from the California Environment California Environmental Quality Act and has determined that the Negative Declaration approved for Use Permit 96-100, approving the establishment of a Health Club and Fitness Center within this building is adequate for the purpose of approving this Use Permit Amendment to increase the wastewater generation limit.

Section 2. The City Council makes the following findings:

1. All reasonable water conservation measures have been implemented.
2. Approval of this amendment to allow wastewater generation up to 2,500 gallons per day.

(Planning/96 Projects/96-43/DR)

9700 0835 0001

END OF DOCUMENT

Section 3. The Use Permit for the above described use is granted subject to compliance with the following conditions. Permit shall be in conformance with all City ordinances, rules, regulations and policies in effect at the time of issuance of a building permit. The conditions noted below are particularly pertinent to this permit and shall not be construed to permit violation of other laws and policies not so listed.

USE PERMIT CONDITIONS

A special use permit has been approved to allow cumulative wastewater generation up to 2500 gallons per day for all uses on this parcel (APN# 009-660-004).

Section 3. The City Clerk is hereby directed to record this Use Permit at the office of the County Recorder of the County of Napa.

I HEREBY CERTIFY that the foregoing Use Permit was duly and regularly approved by the City Council of the City of St. Helena at a regular meeting of said City Council held on November 26, 1996, by the following roll call vote:

AYES: Mayor Brown, Councilmembers Gard, Heitz, Savidge, Slavens

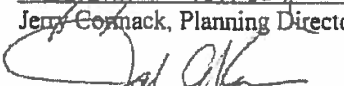
NOES: None

ABSENT: None

ABSTAIN: None

ATTEST:


Jerry Cornack, Planning Director


John Komes, Dowdell Investors
Property Owner



RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:

Planning Director
City of St. Helena
1480 Main Street
St. Helena, CA 94574

EXEMPT FROM RECORDING FEES -
GOVERNMENT CODE SECTION 6103



AT REQUEST OF:

12/15/1995 08:36 am
Fee: \$.00 Pgs: 8
TT : \$.00

1995 028111
OFFICIAL RECORDS OF
NAPA COUNTY
H. KATHLEEN BONDS

USE PERMIT AMENDMENT NO. 95-78

A USE PERMIT OF THE CITY OF ST. HELENA
STATE OF CALIFORNIA, GRANTED TO
NAPA VALLEY WINE WAREHOUSE BUILDING

PROPERTY OWNER: Dowdell Investors APN: # 009-660-004

WHEREAS, John A. Komes submitted an application for an amendment to the June 30, 1983 Use Permit granted for the construction of a 100,000 square foot wine warehouse and a 22,500 square foot commercial building with related off-street parking at the northeast corner of the intersection of Dowdell and La Fata. The purpose of the Use Permit Amendment is to clarify the uses of the building including the intent to allow general office uses within first floor area of the tenant space at 410 La Fata Street and to permit the construction of second floor area within the same tenant space; and

WHEREAS, the Planning Commission of the City of St. Helena, State of California, held a noticed public hearing on November 21, 1995,

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of the City of St. Helena as follows:

Section 1. The Planning Commission hereby finds that this project is exempt from the California Environmental Quality Act pursuant to Section 15303, Class 3 of the CEQA Guidelines which exempts new construction and conversion from one use to another of small commercial facilities.

Section 2. The Planning Commission makes the following findings:

1. That the proposed use would not generate odors, fumes, dust, light, glare, radiation or refuse that would be injurious to surrounding uses or to the community.

2. That the proposed use would not generate levels of noise that adversely affect the health, safety, or welfare of neighboring properties or uses.

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(15)

3. That the proposed use would not generate traffic noise in excess of the "normally acceptable" range identified in the General Plan.

4. That the proposed use would not make excessive demands on the provision of public services including water supply, sewer capacity, energy supply, communication facilities, police protection, and fire protection.

5. That the proposed use would provide adequate ingress and egress to and from the proposed location.

6. That allowing the proposed use would not conflict with the City's goal of maintaining the economic viability of a local serving economy.

7. That the proposed use would be compatible with surrounding land uses and would not conflict with the purpose established for the district within which it would be located.

8. That the proposed use would not be in conflict with the City's General Plan.

9. That the proposed use would not be injurious to public health, safety, or welfare.

10. That granting the use permit would not set a precedent for the approval of similar uses whose incremental effect would be detrimental to the City or would be in conflict with the General Plan.

11. That, as demonstrated on a detailed plan submitted by the applicant, adequate off-street parking to accommodate the long term parking needs of employees and business owners and customers is available.

12. That the capacity of surrounding streets is adequate to serve the automobile and delivery truck traffic generated by the proposed use.

Section 3. The Use Permit for the above described use is granted subject to compliance with the following conditions. Permit shall be in conformance with all City ordinances, rules, regulations and policies in effect at the time of issuance of a building permit. The conditions noted below are particularly pertinent to this permit and shall not be construed to permit violation of other laws and policies not so listed.

USE PERMIT CONDITIONS

1. The Use Permit must be used within one (1) year of approval or it shall expire. This permit is valid for this use only. A new permit must be applied for upon any change in use.

9502 8111 0002

(16)

The permit will expire if the use is discontinued pursuant to then existing ordinances and regulations.

2. The Use Permit shall not become effective until fourteen (14) calendar days after approval, providing that the action is not appealed by the City Council or any other interested party within that 14 day period.
3. Any request for an extension of the Use Permit must be justified in writing and received by the Planning Department at least thirty (30) days prior to expiration.
4. All required fees shall be paid prior to issuance of building permit. Compliance with all permit conditions shall occur in accordance with specific regulations but in all cases no later than prior to occupancy or initiation of use unless another time is set by law or by this approval.
5. The applicant will defend and indemnify and hold the City, its agents, officers, and employees harmless of any claim, action or proceedings to attack, set aside, void or annul an approval so long as the City promptly notifies the applicant of any such claim, action, or proceedings and the City cooperates fully in the defense of the action or proceedings.
6. Provided they are in general compliance with the Use Permit, minor modification may be approved by the Planning Director.
7. This Use Permit shall run with the land and shall be binding upon all parties having any right, title or interest in the real property or any part thereof, their heirs, successors and assigns, and shall inure to their benefit and benefit of the City of St. Helena.
8. This Use Permit Amendment supersedes the uses granted, except for the wine warehouse use, in the June 30, 1983 Use Permit granted to Larry J. Curlee, 956 Dowdell Lane, for the construction of a 100,000 square foot wine warehouse and a 22,500 square foot commercial building with related off-street parking. However, this Amendment shall not supersede, amend or affect other existing use permits granted for the specific uses of space within the building or existing legal nonconforming uses.
9. The construction of second floor area within the tenant space identified as 410 La Fata shall be constructed consistent with plans marked Exhibit B and dated 11/21/95. Building plans will be reviewed by the Building Official / Fire Marshall upon approval of the Use Permit. Construction shall be subject to inspection by and compliance with requirements of the Building Official / Fire Marshall including:

0502 8111 0003

(17)

- A. Expose all framing, electrical wiring, plumbing and fire protection system components installed within the second floor for inspection purposes after consultation with Building Official to determine the extent of exposure for inspection.
 - B. Installation of a rapid entry system (Knox Box) for the entire building. The location shall be approved by the Fire Chief.
 - C. Installation of an automatic fire extinguishing system.
- 10. Nine additional parking spaces shall be constructed. A revised parking plan consistent with City regulations shall be submitted and approved prior to issuance of a building permit and shall be constructed prior to issuance of a certificate of occupancy.
 - 11. Consistent with Ordinance 94-16, the Toilet Retrofit Program, the owner shall be required to retrofit three (3) single family dwelling units prior to receiving a certificate of occupancy for new construction.
 - 12. Except for uses currently permitted by other existing use permits and except for existing legal nonconforming uses, the future use of this property shall be consistent with the General Plan designation of Industrial which provides for industrial parks, warehouses, light manufacturing, auto and farm related equipment sales and repairs, viticulture support services, and similar and compatible uses. Specific uses shall conform to the I: Industrial zoning district. Offices for businesses located within the building that were legally established in conformance with the standards of a separate use permit or that are hereafter established in conformance with the standards of the I: Industrial zoning district are permitted, provided that:
 - A. The first floor office area of 410 La Fata, as identified in attached Exhibit A dated 11/21/95 may be occupied by general office uses because this portion of the building was specifically constructed for and has always been used for offices. General office use is non-conforming and is subject to abatement if abandoned for a period of time specified in the zoning ordinance.
 - B. The second floor area of 410 La Fata, as identified in attached Exhibit B dated 11/21/95 may be occupied by offices for other businesses located within the building which are permitted uses within the I: Industrial zoning district or for wine wholesalers who store their wine within the wine warehouse at 420 La Fata.

9502 8111 0004

(18)

13. The applicant shall provide for the enclosed storage of trash and separated recyclable materials. The design of the trash storage and recycling area shall be reviewed and approved by the Planning Director.
14. Wastewater generation for all uses on this parcel (APN # 009-660-004) shall not exceed 600 gpd. If the average wastewater generation exceeds 600 gpd during any one year period, the owner shall apply for a special use permit to exceed the limitation. If the special use permit is granted the owner shall pay the water oriented sewer and water connection.
15. Fire equipment shall be inspected annually by the Fire Department.
16. No signs, awnings, or facade modifications shall be installed or constructed without approval of a Sign Permit or Design Review.
17. The business owner and new occupants shall acknowledge that this use is located in an industrial area where impacts associated with other industrial uses may be allowed.
18. Where the I; Industrial District adjoins agricultural districts, there exists a right-to-farm the adjoining property. There is a good faith expectation that no complaints will occur regarding legal, normal agricultural activities on the adjacent land. Such activities may include day or night disbursement of chemicals, and creation of dust, noise or fumes.

Section 4. The existing uses within the building which have obtained separate use permits are Napa Valley Wine Warehouse, Montessori Family Center, and Solargraphics. The existing legal non-conforming uses within the building as of the date of this Amendment are Napa Valley Ag Supply, O.K. Tire, and the offices of Sherryl Schuh, Robert Winthrow, Payroll Masters, Karen Bulotti, and Marilyn Ryan. Britton Tree Service is a legal conforming use.

Section 5. The City Clerk is hereby directed to record this Use Permit at the office of the County Recorder of the County of Napa.

I HEREBY CERTIFY that the foregoing Use Permit was duly and regularly adopted by the Planning Commission of the City of St.

0502 0111 0005

(19)

Helena at a regular meeting of said Planning Commission held on the 21st day of November, 1995 by the following roll call vote:

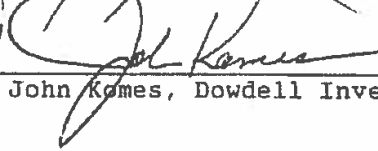
AYES: Commissioners Beatty, Potter, Chairman York

NOES: None

ABSENT: Commissioners Fanucci, Ryan




Jerry Carmack, Planning Director


John Komes, Dowdell Investors

(planning/95.PROJECTS/95-78/UPA.2)

9502 8111 0006

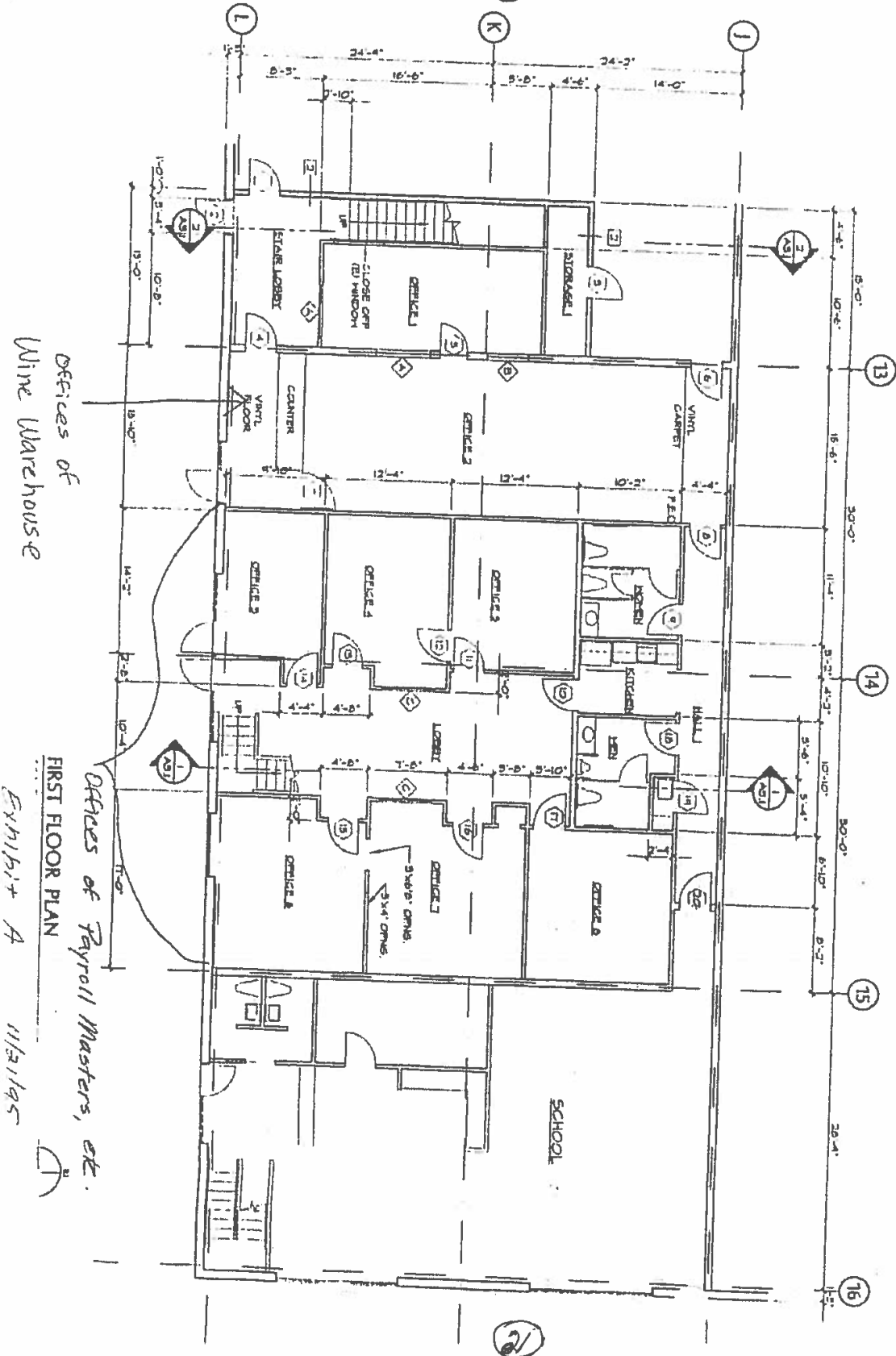
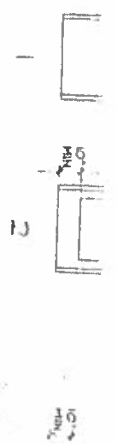
20

WINDOW TYPES

A E

C

DOOR TYPES

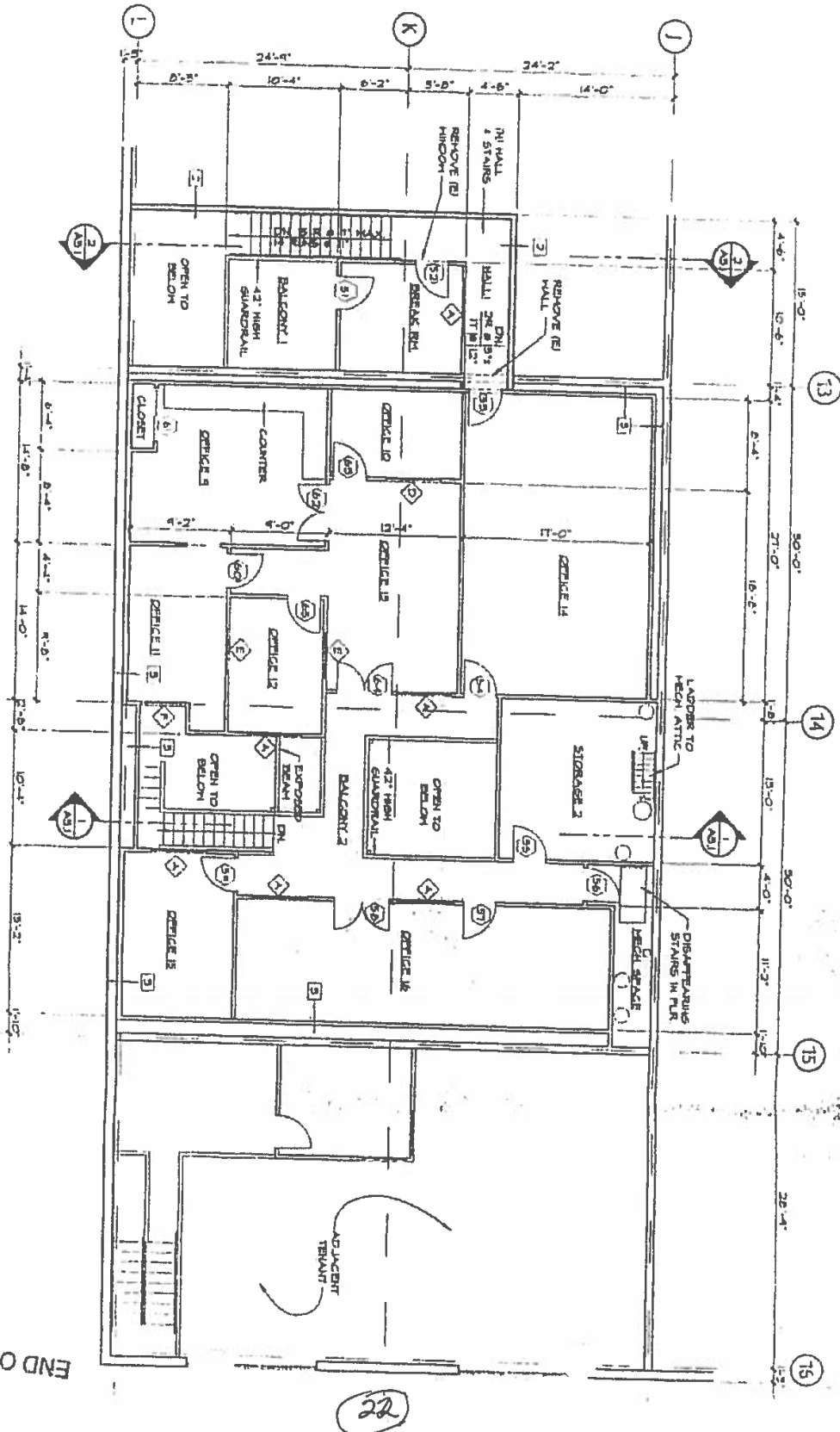


OFFICES of
Wine Warehouse

OFFICES of Payroll Masters, etc.
FIRST FLOOR PLAN
Exhibit A 11/21/95

WINDOW TYPES

DOOR TYPES



Constructed without a building permit.

SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"

Exhibit B 11/21/95



END OF DOCUMENT



OFFICE OF: City Planner

CITY HALL, 1480 MAIN STREET
ST. HELENA, CALIFORNIA 94574
(707) 963-2741

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CITY OF ST. HELENA

June 30, 1983

THE CITY OF ST. HELENA

HEREBY

GRANTS A USE PERMIT
TO
LARRY J. CURLEE
956 DOWDELL LANE
ST. HELENA, CA 94574

To conduct the following use of land in the City of
St. Helena, California:

"To construct a 100,000 square
foot building for use as a wine
warehouse and a 22,500 square foot
commercial building and related off-
street parking"

At the following location: 956 Dowdell Lane.

On Assessors Parcel Number: The westerly 300 feet of
A.P. #9-120-53, the
easterly 150.73 feet of A.P. #
9-120-52 and all of A.P. #9-580-03.

In the M-P Zoning District.

Permit shall be in conformance with all City Ordinances, rules
and regulations and policies in effect at time of issuance of
a Building Permit. The conditions listed below are those,
particularly, pertinent to this permit and should not be construed
to permit violation of other laws and policies not so listed.

1. Construction, alterations, and use to conform to plot plan
and building elevation plans entitled Exhibit "B".
2. Permit to include signs appurtenant to use in accordance with
regulations applicable thereto at time of issuance of sign
permit.

-1-

(11)

Larry J. Curlee
Use Permit

-2-

June 30, 1983

3. Permit to be void if development is not commenced by June 7, 1984 or if use or development is terminated thereafter.
4. The exercising of rights granted by this permit shall void all permits or variances issued prior to June 7, 1983.
5. Provision of off-street parking spaces as shown on Exhibit "B" and paving off-street parking area with two inch plant mix or its equivalent on a suitable base. Provide ample off-street parking for all truck/tractor rigs that may be loading/unloading or waiting.
6. Provision of trees in parking lot at a rate of sixteen (16) trees per parking lot/open space acre.
7. Minor amendment to permit may be approved by the City Planner and Major amendment to permit may be approved by the Planning Commission provided permit is still in substantial conformance with the original permit approval.
8. Landscape plan to be approved by the City Planner and Planning Commission. Landscape Plan (Exhibit C) approved at the Planning Commission Meeting of February 21, 1984.
9. Planter areas to be serviced with manual or automatic sprinkler head irrigation system.
10. Landscaped planters and parking lot shade tree wells shall be encircled by a six (6) inch high concrete curb or an equivalent approved by the City. Curbing shall be located not less than five (5) feet from the centerline of any tree.
11. Except for trees located within a building site, no trees shall be removed without the approval of the City Planner.
12. Application shall be subject to preparation of a storm drainage plan satisfactory to the City Engineer with all drainage to be contained on site.
13. That the applicant not oppose the creation of a storm drainage, sewer or bridge assessment districts should they be proposed.
14. That a septic tank agreement be executed.
15. Exterior storage of materials, supplies, pallets, etc., to be prohibited.
16. The agreement for reimbursement for facilities shall be approved by the City Council.
17. Full street improvements on Dowdell Lane including curb, gutter, and street paving of 1/2 street width plus 10 feet width on southerly side of centerline.
18. Left turn lanes be constructed on the State Highway (Main Street) at Dowdell Lane (See Attached).

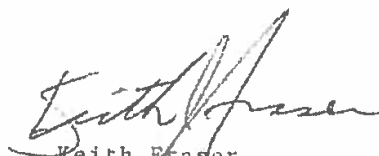
(12)

Larry J. Curlee
Use Permit

-3-

June 30, 1983

19. Extend 8 inch water line to the easterly property line.
20. Install new fire hydrants. Location to be determined by the City Engineer.
21. All plans to be approved by the City Engineer.
22. Have some strict regulation on the separation of chemicals from wine storage area, keeping emergency response personnel (Primarily fire/police) advised of stored chemicals in event of a fire or spill to avoid personnel hazards that might be encountered.
23. Permit no burning of any kind on the premises.
24. No use of the existing building, the old building, for warehousing of chemicals after construction is complete.
25. Additional trees along Mills Lane, at each berm on Dowdell Lane and LaFata.
26. No truck parking or standing on LaFata or Dowdell lane.
27. Septic System to be approved by Napa County.
28. Chemical containers to be disposed of at a legal dump site.
29. On site chemical handling, emergency spills, contamination of humans, to be approved by CAL-OSHA.
30. Before approval of the final construction plans, applicant to receive approval from the Napa County Environmental Health Department or Regional Water Quality Control Board for the disposal of water used for cleaning up of any chemical spills.
31. Final plans to be approved for chemical storage by Napa County Health or approved agency.
32. Defer any improvements on Mills lane in that no egress from LaFata to Mills Lane, at this point.
33. Join in or pay for cost of the Traffic Study.
34. Review parking spaces in commercial area on a yearly basis.


Keith Fraser
City Planner

(13)

At it's Meeting of December 20, 1983 the Planning Commission approved the subject amendment to the Use Permit at 956 Dowdell Lane as follows:

"The 22,500 square foot commercial spaces is to be used for the manufacturing, maintenance, repair and distribution of products or services which are designed to support the residents and businesses of the Napa Valley Community."

Examples of such uses are as follows:

- a. Publishing and Printing,
- b. Commercial Printing,
- c. Motor Freight Transportation,
- d. Heating and Plumbing Equipment,
- e. Electrical Supplier,
- f. Farm Equipment,
- g. Hay, Grains and Feeds,
- h. Farm and Garden Supplies,
- i. Linen Supply and Industrial Laundry,
- j. Rug Cleaning and Repair,
- k. General Warehousing and Storage,
- l. Equipment Rental and Leasing,
- m. Auto and Truck Rental,
- n. Auto Repair,
- o. Electrical Repair,
- p. Reupholstery and Furniture Repair,
- q. Medical and Dental Laboratory,
- r. Contract Construction,
- s. Animal Clinic,
- t. Tire Shops,
- u. Such other uses which the City Planner determines are similar in nature to those listed above.

Gary Gouvea
City Planner



GG:cc

At its Meeting of February 21, 1984 the Planning Commission approved the proposed landscape plans as follows:

1. Approved landscape Plan labeled "Exhibit C" for the first phase of the Wine Products Warehouse.
2. Approved an 8 foot redwood slatted cyclone fence enclosing the storage area.
3. Affirmed that the retention pond would have to be relocated to make way for the originally approved parking area adjacent to La Fata when the second phase is constructed.
4. Additional approval will be required for landscaping of the next phase of the construction.

Gary Gouvea
City Planner





ST. HELENA CUSTOM CRUSH FACILITY

ENVIRONMENTAL CHECKLIST AND INITIAL STUDY MITIGATED NEGATIVE DECLARATION

PREPARED BY:



METROPOLITAN PLANNING GROUP
1303 JEFFERSON STREET, SUITE 100-B
NAPA, CA 94559

SEPTEMBER 25, 2017

M-GROUP

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**ST. HELENA CUSTOM CRUSH FACILITY
CEQA ENVIRONMENTAL CHECKLIST AND INITIAL STUDY**

Project Title:	St. Helena Custom Crush Facility
Lead agency name and address:	City of St. Helena 1480 Main Street, St. Helena, CA 94574
Contact person and phone number:	Noah Housh, Planning and Community Improvement Director (707) 968-2792
Project Location:	420 La Fata Street, St. Helena, California (APN 009-660-004)
File Number:	PL16-018 (Use Permit) PL 16-094 (Design Review)
Project sponsor's name and address:	Karen Ames 22 Valley West Circle Napa, CA 94458
Property Owners:	Nat Komes 1974 West Zinfandel Lane St Helena, CA 94574
General Plan Designation:	Industrial
Zoning:	Industrial
Description of project:	The St. Helena Custom Crush Facility consists of custom wine production and storage facility. The facility includes a 9,500-square-foot addition and the use of 3,000 square feet of the existing building for wine storage, within an existing 111,300-square-foot industrial/commercial building. The project includes a self-contained industrial wastewater treatment system, a water storage tank, a bio-retention facility, the relocation and expansion of the existing retention pond, new access driveways, the restriping of a portion of the existing parking lot, and the installation of new landscaping.
Surrounding land uses and setting; briefly describe the project's surroundings:	The project site is surrounded by land designated as Agriculture to the north, Agriculture and Industrial to the east, Industrial to the south, and Industrial and Service Commercial to the west.
Previous CEQA Documents:	Use Permit # 96-114, June 30, 1983
Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):	Regional Water Quality Control Board; Napa County Department of Environmental Health

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ST. HELENA CUSTOM CRUSH FACILITY

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1. INTRODUCTION

Purpose and Intent

This Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed St. Helena Custom Crush Facility Project (hereinafter referred to as the "project") has been prepared by the City of St. Helena as lead agency in full accordance with the procedural and substantive requirements of the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

This IS/MND is intended to inform City decision-makers, responsible agencies, interested parties and the general public of the proposed project and its potential environmental effects. This IS/MND is also intended to provide the CEQA-required environmental documents for all city, local and state approvals or permits that might be required to implement the proposed project.

CEQA Guidelines Section 15063(c) lists the following purposes of an Initial Study:

1. Provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or a Negative Declaration.
2. Enable an Applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby possibly enabling the project to qualify for a Negative Declaration.
3. Assist in the preparation of an EIR, if one is required.
4. Facilitate environmental assessment early in the design of a project.
5. Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment.
6. Eliminate unnecessary EIRs.
7. Determine whether a previously prepared EIR could be used with the project.

The City of St. Helena, as the lead agency, has conducted an Initial Study to determine the level of environmental review necessary for the proposed project. Consistent with Section 15070(b) of the CEQA Guidelines, the Initial Study identified potentially significant effects, but:

1. Revisions in the Project plans or proposal made by or agreed to by the applicant before a proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect would occur; and
2. There is no substantial evidence, in light of the whole record before the agency, that the Project as revised may have a significant effect on the environment.

Therefore, as the lead agency, the City of St. Helena has determined that a Mitigated Negative Declaration is the appropriate level of environmental review.

Public Review

In accordance with CEQA and the state CEQA Guidelines, a 30-day public review period for the St. Helena Custom Crush Facility Project commenced on September 25, 2017 and will conclude on October 25, 2017. This IS/MND has been distributed to interested or involved public agencies, organizations, and private individuals for review. In addition, the IS/MND has been made available for general public review at the following location:

City of St. Helena
Planning Department
1480 Main Street

St. Helena, CA 94574

Hours: 9:00 a.m. to 5 p.m., Monday – Friday

During the public review period, the public will have an opportunity to provide written comments on the information contained within this IS/MND. The City will use the final IS/MND and all comments and correspondence received within the public comment period for all environmental decisions related to the proposed.

In reviewing the IS/MND and as articulated in Section 15204(a) of the CEQA Guidelines, affected public agencies and interested members of the public should focus on the sufficiency of the document in identifying and analyzing potential impacts on the environment from the proposed project, and ways in which the significant effects of the project are proposed to be avoided or mitigated. Pursuant to Section 15204(b) of the CEQA Guidelines, such public agencies and persons should focus on the proposed finding that the St. Helena Custom Crush Facility Project will not have a significant effect on the environment. If public agencies or persons believe that the proposed project may have a significant effect, they should:

1. Identify the specific effect;
2. Explain why they believe the effect would occur; and
3. Explain why they believe the effect would be significant.

Finally, per Section 105204(c), reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments.

Comments on the IS/MND should be submitted in writing and received by the City of St. Helena prior to the end of the 30-day public review period on October 25, 2017. Written comments should be submitted to:

Noah Housh, Planning and Community Improvement Director
City of St. Helena
Planning Department
1480 Main Street
St. Helena, CA 94574

Phone: (707) 968-2792

Email: nhoush@cityofsthelelena.org

2. PROJECT DESCRIPTION

Project Location

The proposed project is located east of State Route (SR) 29 in the eastern portion of the City of St. Helena, Napa County, California (see **Figure 1: Regional Location**).

The proposed St. Helena Custom Crush Facility Project would be located on an existing 5.89-acre parcel (APN 009-66-004) that contains an existing industrial building, within an area bounded by Dowdell Lane, La Fata Street, and Mills Lane (see **Figure 2: Project Vicinity**).

The site is currently occupied by an approximately 111,300-square-foot industrial building that contains a variety of light industrial type uses including warehouse, automotive, and other commercial land uses. The primary tenant of the existing building site is the Napa Valley Wine Warehouse. The site is improved with parking, landscaping and a retention pond. An existing landscaped outdoor seating area with gravel paths and several benches is located near the intersection of Dowdell Lane and La Fata Street.

This proposed application represents an expansion of the Napa Valley Wine Warehouse, which was initially approved in 1983 (Use Permit # 96-114). The proposed St. Helena Custom Crush Facility will take the place of the existing office space formerly leased by Britton Tree Services Incorporated. The site is adjacent to existing vineyards to the north and east. Portions of the project site north of the existing building have been planted with grape vines. A winery facility and multi-tenant light industrial uses are located south of the project site. A PG&E substation and one-story tilt-up light industrial buildings are located to the west. Both of the adjacent streets are paved and the site is well served by all public utilities and services.

General Plan and Zoning

The City of St. Helena General Plan provides the vision for the community's natural and built environment through a series of goals and policies. To ensure that the community's vision is realized, the General Plan has been designed to be internally consistent and cross-referenced with other documents, including the City's Zoning Ordinance, which guides, controls and regulates future growth and redevelopment. The project site exhibits a land use designation of Industrial per the General Plan Land Use Map.

The City of St. Helena Zoning Ordinance implements the goals and policies of the General Plan. Several different districts are identified in the Zoning Ordinance that are intended to, among other things, provide for a wide range of uses and implement the community's vision to preserve, protect and enhance its unique character and quality of life. The project site is zoned as (I) industrial.

Project Description

Custom Crush Facility

The proposed St. Helena Custom Crush Facility would expand the existing industrial building by introducing approximately 9,500 square feet to the northwestern corner of the building and converting approximately 3,000 square feet of the existing warehouse into a barrel storage and tank room. The proposed expansion would be constructed where the existing retention pond is currently located. The entire custom crush operation is expected to occupy approximately 12,500 square feet (see **Figure 3: Limits of Work**).

The proposed Custom Crush Facility is an expansion of the existing Napa Valley Wine Warehouse, which currently provides wine case storage for local wineries. The proposed project would create a "one stop

shop” for local vintners to crush, ferment, bottle, and store wines. When completed, the proposed facility is expected to be able to process approximately 120,000 tons of grapes annually (equivalent to about 50,000 cases of wine). The applicant intends to operate with four full-time and up to four part-time employees. The hours of operation will normally be from 8:00 a.m. to 5:00 p.m., Monday through Saturday. During the harvest season, which lasts approximately four months, longer hours of operation would be expected to occur.

Industrial Wastewater Treatment System

A proposed self-contained wastewater treatment system would be constructed on top of a 900-square-foot concrete slab adjacent to, and north of the proposed Custom Crush Facility (see **Figure 3**). Wastewater from wine production would be treated through this system and then pumped via a lift station into the existing 8-inch gravity sewer main in La Fata Street. The wastewater treatment system would consist of a 10,000-gallon equalization tank for pre-treatment, a 10,000-gallon moving bed biofilm reactor tank, and a clarifier. A screen trellis would be installed along the northern boundary of the wastewater treatment system. The onsite system would pre-treat industrial wastewater from wine production to acceptable levels prior to discharging into the City's sewer system.

Bio-Retention Facility

A 900-square-foot bio-retention facility would be constructed near the intersection of La Fata Street and Mills Lane (see **Figure 3**). All the stormwater runoff from the new impervious areas will be collected by downspouts or storm drains and routed to the bio-retention facility. Downstream of the bio-retention facility, the water will be collected and conveyed through a new 2-inch storm drain to the proposed new retention pond.

Retention Pond

The existing retention pond located at the northwest corner of the site would be relocated and expanded. As proposed, a new approximately 9,100-square-foot retention pond would be constructed at the corner of Dowdell Lane and La Fata Street (see **Figure 3**). The new retention pond, with a capacity of 41,000 cubic feet, would accommodate flows from the additional impervious areas introduced as part of the Custom Crush Facility as well as the flows generated from the existing improvements onsite. The retention pond would be excavated to a depth of six to eight feet and designed with 12-foot berms and a 4-foot-wide spillway to Dowdell Lane. A fence would be installed along the perimeter of the new retention pond.

Access and Parking

The project site is currently accessed from two existing driveways on La Fata Street. The two driveways provide access to 26 parking spaces and two loading docks. The project would add two new driveway entrances, for a total of four, from La Fata Street to access the project site. A total of eight new parking spaces would be added to the project site. The project also includes the restriping of a portion of the existing parking lot.

Landscaping

Proposed landscaping would consist of trees and shrubs. A total of 30 trees would be planted on the project site, including one Redwood and two Coast live oaks. The trees and shrubs would primarily be planted along the frontage of La Fata Street, Mills Lane, and Dowdell Lane. New landscaping would also be installed around the perimeter of the new retention pond.

Architecture

The existing building is a one story concrete tilt-up building with exposed aggregate walls and a red standing seam metal roof. The articulation on the south elevation (facing Dowdell Lane) is provided by a mansard styled roof with vent dormers. The building entrances are covered with green cloth awnings and punctuated with warehouse roll up door at loading dock bays. On the west elevation (facing La Fata Street) and the east elevation, architectural articulation is provided by large gables with round red-colored vents. The north elevation is similar to the south elevation except there are no dormer vents.

The proposed Custom Crush Facility would incorporate a standing seam metal roof and dormer vents and round gable vents consistent with the existing elevations. The project proposes to use a board and batt siding or metal siding on the exterior elevations of the building addition.

Water Supply

The proposed facility would use both municipal water and groundwater extracted from an existing groundwater well onsite. Municipal water would be used for the restroom and potable consumption. Groundwater from an existing well, located along the east property line near the northeastern corner of the building, would be used for all winemaking operations. The well is drilled to a depth of 545 feet below the ground surface. The project includes a new 2-inch-diameter pipeline of approximately 30 feet in length that would extend from the well head to the new 10,000-gallon water storage tank.

Domestic Wastewater

Domestic wastewater will continue to be discharged into the City sewer system through the existing Napa Valley Wine Warehouse sewer connection. These flows are discharged into the municipal system via the existing 10-inch sewer main in La Fata Street.

Solid Waste

A covered solid waste containment area is proposed and will contain standard 4-yard dumpsters on a permanent basis, including separate containers for recyclable refuse materials. Permanent dumpsters will be served by municipal disposal hauling services. Two seasonal 10-yard containers, one of which will be used for recyclable materials, will provide additional capacity during harvest and will be hauled to the Upper Valley Disposal and Recycling facility for disposal.

Site Preparation and Construction

For the purpose of this analysis, it is assumed that construction would occur over an approximately 12-month construction period. Site preparation will initiate with the removal of existing impervious surfaces, the fence surrounding the existing retention pond, an existing wastewater dispersal system, vegetation, and trees. A total of 25 trees ranging between 4 to 22 inches in diameter at breast height will be removed to accommodate the proposed building expansion, relocation of the retention pond and parking lot improvements.

Approximately 1,500 cubic yards of cut soil will be removed from the project site in order to create the new retention pond. No import of soil will be necessary as excess cut will be reused onsite to fill the abandoned retention pond and achieve level topography for the building pad expansion area and parking lot.

Following completion of grading activities, infrastructure improvements and building foundations would be constructed. Utilities, storm drains and catch basins would be installed. As part of the proposed expansion, focused demolition and reconstruction at the northwest corner of the building will occur. Lastly, the new driveways, sidewalks, curbs and gutters, striping, landscaping, and signage would be installed.

Construction equipment expected to be utilized during site preparation and grading includes tractors, backhoes, haul trucks, graders, pavers and water trucks. Site and foundation preparation is assumed to include the use of either auger cast piles or driven piles. All material and equipment would be staged on-site or, through issuance of an encroachment permit, at abutting right-of-ways.

Required Discretionary Actions

The proposed project requires the following discretionary entitlements from the City of St. Helena:

- Use permit for a winery (pursuant to Section 17.60.030 of the Municipal Code).
- Design Review for additions to the building and changes to the site layout (pursuant to Section 17.60.040 of the Municipal Code).

Other Public Agency Review

Other than the City of Saint Helena, there are no other public agency review or approval requires including responsible or trustee agencies that have jurisdiction over the project.

Consultation Under AB 52

In accordance with AB 52 (PRC Section 21084.2), lead agencies are required to consider Tribal Cultural Resources (TCR) including a site feature, place, cultural landscape, sacred place or object, of cultural value to the tribe and is listed on the California Register of Historic Resources (CRHR) or a local register, or the Lead agency, at its discretion, chooses to treat resources as such. AB 52 mandates that a lead agency initiate consultation with a tribe with traditional and/or cultural affiliations in the geographic area where a subject project is located if a project may cause a substantial adverse change in the significance of a tribal cultural resource. Should the tribe respond requesting formal consultation in accordance with the procedural requirements of AB 52, the lead agency must work with the tribe or representative thereof to determine the level of environmental review warranted, identify impacts, and recommend avoidance or mitigation measures to reduce any potential impacts.

In accordance with AB 52, a summary of the proposed project was mailed to the following local tribes on September 5, 2017:

- Yocha Dehe Wintun Nation Tribe
- Cortina Band of Indians
- Wappo
- Middletown Rancheria of Pomo

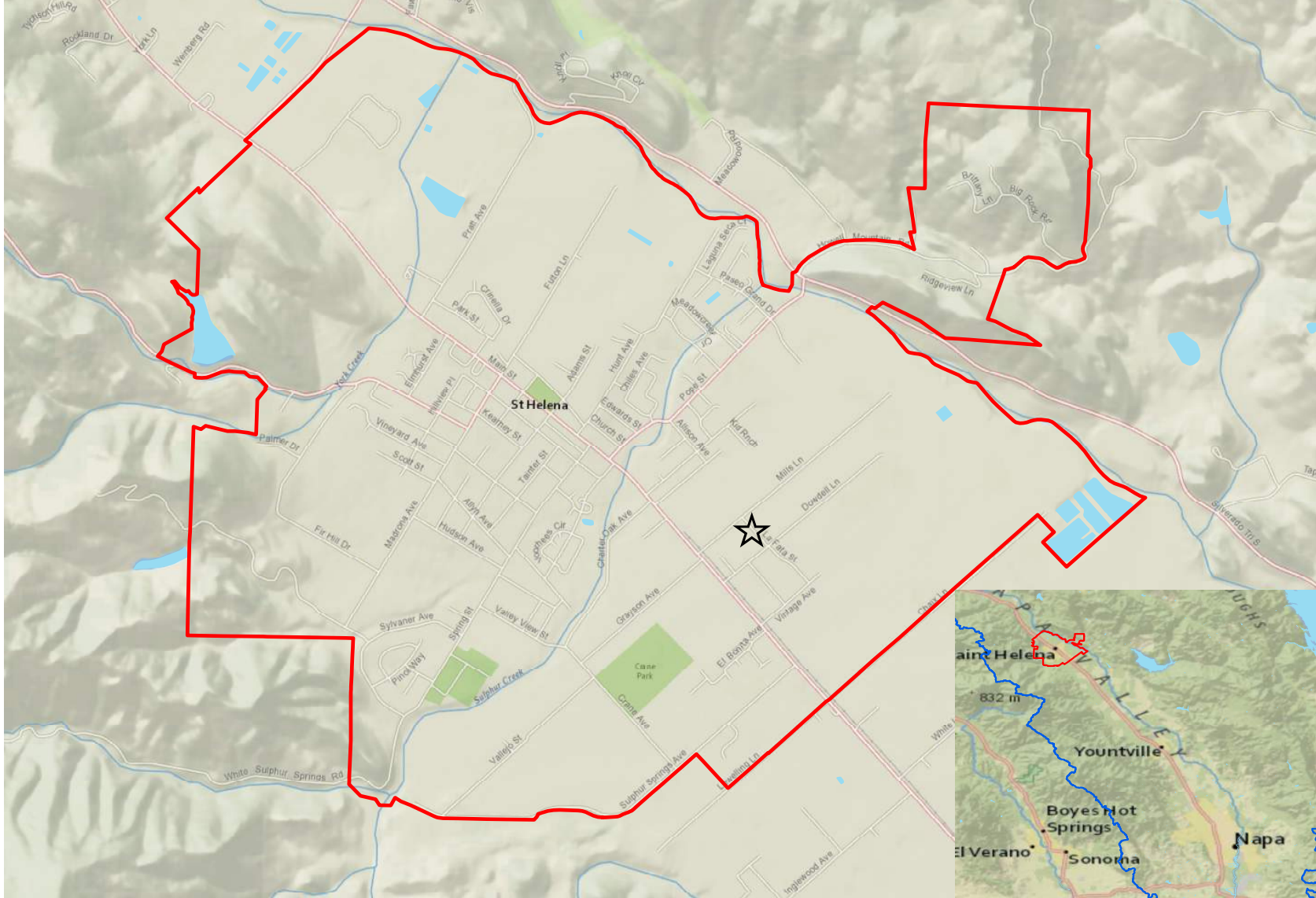
Documents Incorporated By Reference

CEQA Guidelines Section 15150 recognizes the desirability of reducing the volume of documentation necessary for environmental review and authorizes incorporation by reference any portion of relevant documents that provide general background to the environmental document. As such, this Initial Study

incorporates the following documents, which were reviewed as part of the analysis of certain topical sections provided herein:

1. City of St. Helena, 1993 General Plan;
2. City of St. Helena, 1993 General Plan EIR; and
3. City of St. Helena, Zoning Ordinance, as amended.

Additional documents not reflected in this section are identified and analyzed within the Initial Study. These documents are available for review at the City of St. Helena Planning Department, 1480 Main Street, St. Helena, CA 94574.



CUSTOM CRUSH FACILITY: REGIONAL LOCATION



- ★ Project Site
- St. Helena City Limits
- Napa County

Data source: Napa County GIS
Service Layer Credits: Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, Increment P Corp.

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CUSTOM CRUSH FACILITY: PROJECT VICINITY

 Project Site

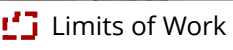


Data source: Napa County GIS; US Census Bureau
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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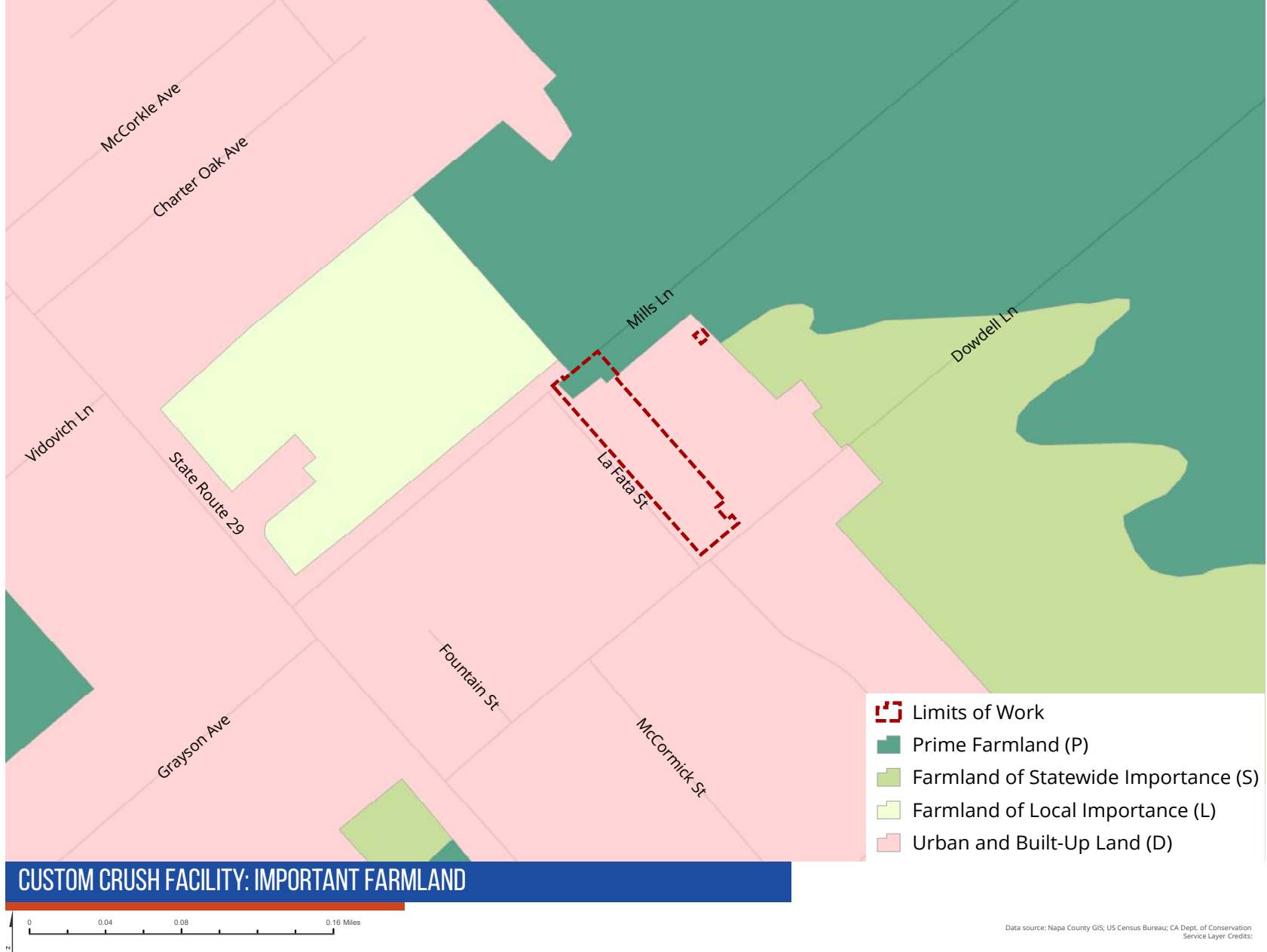


CUSTOM CRUSH FACILITY: LIMITS OF WORK



Data source: Napa County GIS; US Census Bureau
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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3. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact Unless Mitigation is Incorporated" as indicated by the checklist on the following pages.

Aesthetics		Hazards & Hazardous Materials		Recreation	
Agricultural & Forestry		Hydrology / Water Quality	X	Transportation / Traffic	
Air Quality	X	Land Use / Planning		Tribal Cultural Resources	
Biological Resources	X	Mineral Resources		Utilities / Service Systems	
Cultural Resources	X	Noise		Mandatory Findings of Significance	
Geology / Soils		Population / Housing			
Greenhouse Gases		Public Services			

The CEQA Initial Study (IS) Checklist and written explanations are provided in Section 4 below. The IS Checklist and narrative indicate the level of significance of the potential environmental effects of the proposed project upon each of the noted environmental resources.

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**4. DETERMINATION
(TO BE COMPLETED BY THE LEAD AGENCY)**

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	X
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION , including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	



Noah Housh, Planning and Community Improvement Director



Date

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5. EVALUATION OF ENVIRONMENTAL IMPACTS

The following discussion addresses the potential level of impact relating to each aspect of the environment.

5.1. AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
Sources: City of St. Helena 1993 General Plan; General Plan EIR; Project plans date stamped March 17, 2017; California Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm , Accessed May 3, 2017.				

Existing Aesthetics Setting:

The City of St. Helena is situated in the relatively narrow valley floor and framed by wooded foothills of the Mayacama and Vaca Mountain ranges located to the east and west, respectively. The valley floor undulates to the north and exhibits a gradual rise in elevation in a northerly direction of approximately 362 Feet above sea level. Foothills are readily visible from most locations in the flatland areas of the City, particularly from east/west oriented streets.

Natural features that contribute to the distinct character of St. Helena include Sulphur Creek, York Creek, the Napa River, and oak and bay wooded hillsides located at the north end of St. Helena and at the base of Howell Mountain Road, east of the Napa River. Agricultural land uses, primarily viticulture, account for approximately 48 percent of the city's land use. As such, the vineyards serve as dynamic visual features and are central in defining the visual character of the City. The long established urban form within the City limits contrasts with the surrounding natural and agricultural uses and provides for a distinct visual character. Notable visual features include distinctive architecture, tree lined streets, and the interspersed vineyards.

The project site is currently occupied by existing structures, paved areas, vineyards, trees, and ornamental landscaping. The existing retention pond, located in the northwest corner of the site contains primarily non-native grassland and is surrounded by trees. The project site is adjacent to agricultural lands and other existing developed industrial land uses.

Aesthetics Impact Discussion:

5.1(a,c) (Effect a Scenic Resource or Vista, Degrade Visual Character) Less Than Significant Impact: A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. The City has not identified any specific vistas, but rather states that the sense of a strong connection to the surrounding agricultural open space and hillsides should be and that views of Vineyards, hillsides, creeks and major landscape features should be maintained.

The subject project site is currently utilized for industrial use as a wine storage business. The site is adjacent to existing vineyards on the north and east sides. Portions of the site north of the existing building have been planted with grape vines. To the south is a combination of a winery facility and multi-tenant light industrial uses. West of the site is a PG&E substation and one-story tilt-up light industrial buildings. The proposed Custom Crush Facility, which would be located at the northwest corner of the existing building, would not impact agricultural scenic resources located to the north and east. Additionally, parcels to the south and west of the proposed project are developed with similar industrial uses.

The proposed project is subject to Design Review in order to ensure that the architectural style, massing, color and materials, and other proposed design elements of the proposed building expansion are compatible with the existing character. At a minimum, 30 trees will be planted to compensate for the proposed removal of 25 trees from the project site. Development of the proposed project is consistent with existing zoning designations and the visual character of the area. Based on limited visibility from SR 29 and the existing visual character of the area, impacts to scenic vistas and the existing visual character from the proposed project would be less than significant.

5.1(b) (Scenic Resources from Designated Scenic Highway) No Impact: There are no designated scenic highways within the City of St. Helena. The nearby SR 29 is considered eligible to be officially designated. However, the project site is located approximately 900 feet from SR 29 and not visible from the highway. As such, the proposed project will not damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings viewable from a designated (or eligible) State scenic highway. Therefore, the project will have no impacts to scenic resources.

5.1(d) (Light and Glare) Less Than Significant Impact: The project site is adjacent to existing industrial developments, which are current sources of light and contribute to the ambient light conditions. Existing uses in the project area including employees and deliveries introduce light and glare from the routine operation of vehicles as well as lighting from existing buildings and parking areas.

The project would introduce minimal new site lighting relative to the existing lighting onsite and in the project vicinity. In order to prevent light pollution and/or glare onto adjacent properties and roadways, the project must comply with St. Helena Municipal Code provision 17.68.060(F), which requires that all exterior lighting be directed or shielded so as to prevent glare onto any public roadways and properties of residential character. Further, proposed landscaping will screen the site from the adjacent properties and roadways to further obscure and/or filter light and glare. Finally, exterior parking lot (pole mounted) lights are limited to a maximum height of 15-feet. With adherence to these uniformly applied development standards, including Municipal Code provision 17.68.060(F) and with the introduction of landscaping as proposed, light and glare impacts would be less than significant.

Mitigation Measures: None Required.

5.2. AGRICULTURAL AND FORESTRY RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☒	☐
Sources: City of St. Helena 1993 General Plan: Open Space and Conservation Element (6-1), (6-3); and California Department of Conservation Farmland Mapping and Monitoring Program.				

Agricultural and Forestry Resources Setting: Agriculture remains one of the dominant land use in the City of St. Helena and the greater Napa County. Located within the northern portion of the Napa Valley; the majority of the City's land is located on the valley floor, where soils, weather, and water resources are conducive to viticulture. Viticulture serves as the most prolific agricultural use and requires relatively large parcels in contrast to other land uses in St. Helena. According to the 1993 General Plan, agricultural land comprises 47% of the incorporated area, and of that total, the majority of acres are actively cultivated with vineyards. The City of St. Helena promotes the retention of agricultural activities and discourages encroachment into agricultural lands through the application of land use designations directed to maintain large parcels for agricultural use and limiting residential and commercial development within the Urban Limit Line (ULL) and to parcels already designated for such uses.

According to California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP), Napa County supports 30,655 acres of "Prime Farmland," 9,574 acres of "Farmland of Statewide

Importance," 16,312 acres of "Unique Farmland," 18,651 acres of "Farmland of Local Importance," and 178,987 acres of "Grazing Land".¹

According to the California Department of Conservation's FMMP, the project site is mostly designated as Urban and Built-Up Land, with the vineyard portion designated as Prime Farmland (see **Figure 4: Important Farmland**). The project site is not under Williamson Act contract. The project site is zoned as (I) industrial. Lands surrounding the project site are designated as Urban and Built-Up Land, Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance.

In accordance with the definition provided in California Public Resources Code Section 12220(g), "forest land" is land that can support, under natural conditions, 10 percent native tree cover of any species, including hardwoods, and that allows for the preservation or management of forest-related resources such as timber, aesthetic value, fish and wildlife, biodiversity, water quality, recreational facilities, and other public benefits. The project site is mostly developed and contains trees planted along the periphery of the project site for visual screening. As such, the project site would not meet the definition of forest land pursuant to Section 12220(g) of the Public Resources Code. None of the land within the project site is zoned as forest land, timberland zone, or timberland zoned Timberland Production.

Agricultural and Forestry Resources Impact Discussion:

5.2(a-b) (Farmland and Agricultural Use) Less Than Significant Impact: The project site is mostly developed and contains a small area used for agricultural use (vineyard) that is designated as Prime Farmland. The site is located adjacent to lands that are currently used for agricultural production. The proposed project would convert approximately 0.2 acre of Prime Farmland to non-agricultural uses. The project will not interfere with a Williamson Act contract.

According to the California Department of Conservation's FMMP, Napa County supports 30,655 acres of "Prime Farmland." The conversion of 0.2 acre of Prime Farmland results in an approximate 0.00065 percent decrease of existing Prime Farmland in Napa County. The California Department of Conservation would consider the conversion of 0.2 acre of Prime Farmland to non-agricultural to be less than significant at a State level.² Likewise, it is expected that the City of St. Helena would consider the conversion of 0.2 acre of Prime Farmland to non-agricultural uses to be less than significant based on the extensive amount of farmland remaining within the city. Additionally, the site is zoned as (I) industrial and is located adjacent to and contiguous to existing urban uses.

The City of St. Helena General Plan contains policies regarding the preservation of agricultural lands. For example, the City maintains large parcels for agricultural use and limits residential and commercial development within the ULL and to parcels already designated for such uses.

Based on the percentage of agricultural lands converted relative to existing acreage within the County, consultation with the California Department of Conservation, and the General Plan policies in place to preserve agriculture within the City of St. Helena, impacts regarding the conversion of farmland would be considered less than significant.

¹ California Department of Conservation, Division of Land Resource Protection, Napa County 2012-2014 Land Use Conversion Table.

² Personal communication with Kerri Kisko, Land Conservation Act Program Staff, California Department of Conservation, June 9, 2017.

5.2(c-d) (Forest Land) No Impact: The site is already developed and contains a number of landscape trees. None of these trees are used for timber production and no forest resources are located onsite. As a result, the project will have no impact to timberlands or forest land.

5.2(e) (Other Conversions of Farmland or Forest Land) Less Than Significant Impact: The project site is surrounded by existing Industrial and Agricultural uses. According to the California Department of Conservation's FMMP, the project site is surrounded by lands designated as Urban and Built-Up Land, Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance. None of the lands surrounding the project site are under a Williamson Act contract.

The proposed project would convert 0.2 acre of Prime Farmland currently planted in vineyard to agricultural supporting industrial uses. The project is limited to the expansion of an existing industrial building and associated improvement including relocation of the retention pond, landscaping and parking lot improvements. The project is not expected to induce conversion of nearby farmland. The site is well served by existing utilities, services and infrastructure and does not introduce any new services that would support an expansion of use beyond the limits of the subject project site. Any future projects would require review under CEQA including an evaluation of potential agricultural impacts and mitigation to offset impacts, as warranted. Therefore, impacts from conversion of other farmlands as a result of the proposed project will be less than significant.

In the absence of forested lands within the project site, and the absence of forested lands within the vicinity, there is no potential for future development to convert existing forested land to non-forest uses or encourage the loss or conversion of forested land to another use. Therefore, the project will have no impacts associated with the conversion of forestlands.

Mitigation Measures: None Required.

5.3. AIR QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Exposure of sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
Sources: City of St. Helena 1993 General Plan; General Plan EIR; BAAQMD 2017 Bay Area Clean Air Plan; and BAAQMD CEQA Guidelines May 2017.				

Air Quality Setting: The City of St. Helena is located within the San Francisco Bay Area air basin regulated by the Bay Area Air Quality Management District (BAAQMD). Air quality within the Bay Area Air Basin is affected by natural geographical and meteorological conditions as well as human activities such as construction and development, operation of vehicles, industry and manufacturing, and other anthropogenic emission sources. The Federal Clean Air Act and the California Clean Air Act establish national and state ambient air quality standards respectively. The BAAQMD is responsible for planning, implementing, and enforcing air quality standards within the Bay Area Air Basin, including the City of St. Helena.

The Bay Area Air Basin is designated as non-attainment for both the one-hour and eight-hour state ozone standards; 0.09 parts per million (ppm) and 0.070 ppm, respectively. The Bay Area Air Basin is also in non-attainment for the PM₁₀ and PM_{2.5} state standards, which require an annual arithmetic mean (AAM) of less than 20 µg/m³ for PM₁₀ and less than 12 µg/m³ for PM_{2.5}. In addition, the Basin is designated as non-attainment for the national 24-hour fine particulate matter (PM_{2.5}) standard and will be required to prepare a State Implementation Plan (SIP) for PM_{2.5}. All other national ambient air quality standards within the Bay Area Air Basin are in attainment.

Air quality emissions of carbon monoxide (CO), ozone precursors (ROG and NO_x) and particulate matter (PM₁₀ and PM_{2.5}) from construction and operation are evaluated pursuant to the BAAQMD CEQA Air

Quality Guidelines established in May 2010³ and updated in May 2017. With release of the 2017 Bay Area Clean Air Plan (CAP) and the associated EIR, it is expected that updated thresholds and guidelines may be developed in the near term. In the absence of updated guidelines and thresholds, based upon its own judgment and analysis, the City of St. Helena recognizes these thresholds represent the best available scientific data and has elected to rely on BAAQMD Guidelines dated May 2017 in determining screening levels and significance.⁴ BAAQMD air quality thresholds are presented in **Table 1** below.

Table 1: Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82	82	15
PM _{2.5}	54	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Single-Source Health Risks and Hazards for New Sources or New Receptors			
Excess Cancer Risk	> 10.0 per one million		
Chronic or Acute Hazard Index	> 1.0		
Incremental annual average PM _{2.5}	> 0.3 µg/m ³		
Cumulative Health Risks and Hazards for Sensitive Receptors			
Excess Cancer Risk	> 100.0 per one million		
Chronic Hazard Index	> 10.0		
Annual Average PM _{2.5}	> 0.8 µg/m ³		

³ Adopted by Board of Directors of the BAAQMD in June 2010 (Resolution No. 2010-6).

⁴ In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion. The BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

Greenhouse Gas Emissions	
GHG Annual Emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons or 4.6 metric tons per capita
Source: BAAQMD's May 2017 CEQA Air Quality Guidelines Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM ₁₀ = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less; and GHG = greenhouse gas.	

Air Quality Impact Discussion:

5.3(a) (Conflict With Applicable Air Quality Plan) Less Than Significant Impact: The BAAQMD adopted the 2017 Bay Area Clean Air Plan (CAP) on April 19, 2017 to comply with state air quality planning requirements set forth in the California Health & Safety Code. 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 (PM), ozone (O₃), and toxic air contaminants (TACs); to reduce emissions of methane and other “super-greenhouse gases (GHGs)” that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The proposed control strategy for the 2017 CAP consists of 85 distinct measures targeting a variety of local, regional and global pollutants. The control measures have been developed for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the CAP. In general a project is considered consistent if a) the project supports the primary goals of the CAP, b) includes control measures and c) does not interfere with implementation of the CAP measures.

The proposed project would have a less than significant impact due to a conflict with the Clean Air planning efforts since, a) the project supports the goals of the CAP in that it would create a “one stop shop” for local vintners to crush, ferment, bottle, and store wines; b) includes control measures to protect air quality during construction by implementing best control measures set forth by BAAQMD; and c) the proposed project would generate air quality emissions well below the BAAQMD criteria pollutant thresholds (see Section 5.3(b-c) below). Therefore, the project will have less than significant impacts due to a conflict with the regional air quality plan.

5.3(b-c) (Violate Air Quality Emission Standards) Less Than Significant with Mitigation: Air quality emissions associated with the proposed project would result from short-term construction activities and ongoing operation. BAAQMD Guidelines, as adopted in 2010 and updated May 2017 include “screening criteria” that provide a conservative estimate above which a project would be considered to have a potentially significant impact to air quality. Projects that are below the screening criteria threshold are reasonably expected to result in less than significant impacts to air quality since pollutant emissions would be minimal. Additionally, when projects fall below the screening criteria levels, a quantitative analysis of the project's air quality emissions is not required.

Air quality emissions of carbon monoxide (CO), ozone precursors (ROG and NOx) and particulate matter (PM10 and PM2.5) from construction and operation are evaluated pursuant to the 2010 CEQA Guidelines. There is no carbon monoxide (CO) emissions threshold applicable to construction emissions. For carbon monoxide (CO), the operational significance threshold is 9.0 particles per minute (8-hour average) and 20.0 ppm (1-hour average). The screening level criteria for a general light industry development are shown in **Table 2** below.

Table 2: BAAQMD Screening Criteria For General Light Industry

Land Use Type	Operational Screening Size	Construction Screening Size
General Light Industry	541,000 sf (NOX)	259,000 sf (NOX)
Source: Table 3-1, pg. 3-2 Bay Area Air Quality Management District May 2017 CEQA Guidelines.		

During construction activities, the project would generate temporary air pollutant emissions associated with site preparation, ground disturbance, the operation of heavy-duty construction equipment, workers traveling to the site, and the delivery of material to the project site. These activities would create temporary emissions of fugitive dust from site grading, and the release of toxic air contaminants, particulate matter, and ozone precursors (ROG and NOx) from combustion of fuel and the operation of heavy-duty construction equipment. **Table 2** above shows that the screening level to determine significant air quality impacts from construction of general light industry development is 259,000 square feet. The project proposes the development of 9,550 square feet of new industrial uses and the reconstruction and expansion of the existing retention pond, both of which fall well below the screening level. As such, air quality emissions generated from construction activities will not approach levels that exceed BAAQMD thresholds and impacts would be less than significant.

The BAAQMD CEQA Air Quality Guidelines consider contributions of fugitive dust to be less-than-significant if best management practices (BMPs) are implemented to reduce emissions. As such, **Mitigation Measure AQ-1**, which provides for a variety of dust control measures during construction activities including watering the project site, covering haul loads, limiting idling time, and temporarily halting construction when winds are greater than 15 miles per hour, is set forth below. With the implementation of Mitigation Measure AQ-1 (BAAQMD-recommended best management practices), air quality emissions from construction activities will be further minimized and the project will have less than significant impacts to air quality.

At operation, the proposed Custom Crush Facility would continue to function in a similar manner as the existing condition, with a minor expansion of use. Air quality emissions would primarily be generated from the operation of vehicles (mobile sources). **Table 2** above indicates that the operational project level screening size for general light industry is 541,000 square feet. As the proposed project will exhibit a net increase of 9,500 square feet of new industrial uses and the relocation and expansion of the existing retention pond, the project remains well below the established screening size for operational emissions. At operation, the proposed project will not violate any air quality standard or result in a cumulatively considerable net increase of any criteria pollutant in non-attainment, namely O3, PM10, and/or PM2.5. Therefore, air quality emissions generated by the proposed project will result in less than significant impacts.

5.3(d) (Exposure sensitive receptors to Pollutant Concentrations) Less Than Significant with Mitigation: The BAAQMD defines sensitive receptors as “facilities or land uses that include members of the

population that are particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses.” Sensitive receptors may include schools, hospitals or residential areas. In St. Helena, sensitive receptors include residential land uses, elementary, junior and high schools, and hospitals, care facilities and convalescent homes. The nearest sensitive receptors, St. Helena High School and a single-family residence, are located approximately 0.2 mile from the project site. The project has the potential to generate temporary air quality impacts associated with fugitive dust emissions during construction activities.

In order to ensure that fugitive dust emissions are reduced to levels below significance **Mitigation Measure AQ-1** shall be implemented. AQ-1 is set forth pursuant to BAAQMD Basic Control Strategies and requires covering haul trucks, watering during active ground disturbance, limiting idling time, proper maintenance of equipment, and other standard measures. With implementation of AQ-1 potential impacts to sensitive receptors during construction will be reduced to levels below significance.

At operation, the project would not generate emissions that would impact sensitive receptors. Air quality emissions generated from the custom crush facility would be similar to emissions generated by the existing Napa Valley Wine Warehouse. Therefore, potential impacts related to exposure of sensitive receptors to pollutants at operation of the proposed project will remain below levels of significance.

5.3(e) (Objectionable Odors) Less Than Significant Impact: There may occasionally be localized odors during construction activities associated with construction activity. Odors associated with construction are short term in duration and will cease once construction is complete. The level of odors associated with construction will be minimal given the limited scope and scale of the project. During operation, the project has the potential to generate odors from crushing and fermenting the grapes. However, the odors would be localized and mostly contained within the indoor Custom Crush Facility. While the odors may be noticed by people working or visiting the project site or surrounding industrial areas, the odors would not affect a substantial number of people. Therefore, the project will have less than significant impacts to air quality due to objectionable odors.

Mitigation Measures:

AQ-1: Latest BAAQMD recommended Best Management Practices (BMPs) to control for fugitive dust and exhaust during all construction activities shall be incorporated into all demolition and construction plans to require implementation of the following (the following shall be augmented as warranted based on forthcoming BAAQMD updated recommended mitigation measures that may be in effect when onsite development is proposed in the future):

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered three times per day using recycled water.
2. All haul trucks transporting soil, sand, or other loose material 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 mechanic and determined to be running in proper working condition prior to operation.
8. Construction equipment staging shall occur as far as possible from existing sensitive receptors (away from the southeast property line and surrounding residences).
9. 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.

5.4. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 (Formerly Fish and Game) or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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 California Department of Fish and Wildlife (formerly Fish and Game) or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Sources: City of St. Helena 1993 General Plan: Open Space and Conservation Element (6-1), (6-2), (6-6).

Biological Resources Setting: Biological resources are protected by federal and state statutes including the Federal Endangered Species Act (FESA), the California Endangered Species Act (CESA), the Clean Water Act (CWA), and the Migratory Bird Treaty Act (MBTA). These regulations provide the legal protection for plant and animal species of concern and their habitat at the federal and state level.

As reported in the General Plan a number of plant and animal species with special-status have been recorded or are suspected to occur within the urban limits of the City of St. Helena. The city also contains species that are identified in the California Natural Diversity Database (CNDDB) due to rarity and threats, and are considered sensitive resources.

The project site supports urban habitat and is surrounded by commercial/industrial developments to the south and west. The parcels north and east of the project site are actively cultivated with vineyards. The project site has been substantially developed and currently contains an industrial building, two loading docks, parking areas, a stormwater retention pond that contains non-native grassland with trees and shrubs at the perimeter, and a landscaped outdoor seating area with gravel paths and several benches. The project site also contains vineyards, ornamental trees, and other landscaped areas.

Biological Resources Impact Discussion:

5.4(a-b) (Adverse Effects to Sensitive Species and Habitats) Less Than Significant Impact: Construction of the proposed addition would result in removal of 25 trees ranging in size between 4 and 22 inches in diameter at breast height. Onsite trees may provide perching and potential nesting opportunities to bird species including migratory birds that are protected under the MBTA. In order to avoid impacts to nesting birds, **Mitigation Measure BIO-1** requires that construction activities occur outside of the bird nesting season between September 1st and January 31st. Otherwise, a nesting bird survey shall be conducted by a qualified biologist 15 days prior to site preparation work when occurring between February 1st and August 31st. If protected nesting birds are discovered within these areas, the biologist will delineate protective nest buffers around active nest, which may range from 75 feet to 200 feet depending on the specific species. With implementation of BIO-1, potential impacts to nesting birds and species protected under the MBTA will be reduced to less-than-significant levels.

Other than established trees, the existing project site shows no evidence that wildlife habitat exists since the site has been developed with an industrial/commercial building with adjacent surface parking lots. Likewise, the project site is not known to support any rare, endangered, or special status plant species. There are no riparian habitats, wetlands or other sensitive natural communities on the subject site or nearby on the agricultural parcels to the north. Therefore, impacts to sensitive species and habitats from the proposed project would be less than significant.

5.4(c) (Adverse Effects to Jurisdictional Waters) No Impact: No federally protected wetlands, including but not limited to, marsh, vernal pools or coastal wetlands, are known to exist within project site boundary or the immediate vicinity. Construction activities are limited to the urban areas that have been previously disturbed and are void of wetland and waterways. The existing onsite retention pond serves as a stormwater basin, is regularly mowed and maintained, and is not a jurisdictional feature. Therefore, the project will have no impact to federally protected wetlands as defined by Section 404 of the Clean Water Act.

5.4(d) (Adverse Effect to Wildlife Movement) Less Than Significant Impact: There is no evidence of migratory wildlife corridors or nurseries onsite or in the project vicinity. The existing development and active agricultural lands surrounding the project sites makes it relatively inaccessible to many species and eliminates the possibility of the site functioning as a movement corridor. The proposed expansion of the site existing building and associated improvements will not interfere with the movement of any native resident or wildlife species and will not impede established wildlife corridors. Therefore, impacts due to a conflict with a movement corridor would be less than significant.

5.4(e) (Conflict with Local Ordinances) Less Than Significant Impact: The vegetation and existing trees located on the project site are predominantly ornamental trees that were planted when the existing light industrial building was developed. Construction activities would remove approximately 25 trees. The City of St. Helena does not have an existing tree preservation policy or tree protection ordinance; however, the policies of Section 6.6 of the Open Space and Conservation Element of the 1993 St. Helena General Plan require the planting of replacement trees where existing significant trees cannot be saved. At a minimum, 30 new trees will be planted to reestablish landscaping onsite. As proposed the landscaping plan complies the City's General Plan policies regarding replanting. Therefore, the project would have less than significant impacts due to the removal of trees.

5.4(f) (Conflicts with Habitat Conservation Plans) No Impact: At present, no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan exists for the City of St. Helena. The properties to the south, and west of the project site are currently fully developed. The parcels to the north and east are existing agricultural land. The project site is located within the boundaries of the urban limit line and is not designated as open space nor does it support any significant animal or plant habitat. Therefore, the project will not conflict with the provisions of an adopted Habitat Conservation Plan or any other Natural Community Conservation Plan approved by a local, regional or state body.

Mitigation Measures:

BIO-1: In order to avoid impacts to birds protected under the Migratory Bird Treaty Act, site preparation activities, including the removal of trees, should occur outside of the bird-nesting season between September 1st and January 31st. If work occurs between February 1st and August 31st, a pre-construction bird nesting survey shall be conducted no more than 15 days prior to tree removal. The bird nesting survey will include both an examination of buildings and all trees onsite and within 200 feet of the Limits of Work, which may include offsite trees or structures.

If birds are identified, then a qualified biologist will establish a temporary protective nest buffer around the nest(s). The nest buffer will be staked or fenced to establish a perimeter. The buffer shall be of sufficient size to protect the nesting site from construction-related disturbance and shall be established by a qualified ornithologist or biologist. Typically, adequate nesting buffers are 75 feet from the nest site or nest tree dripline for small birds and up to 200 feet for sensitive nesting birds such as raptors. No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1st unless it is determined by a qualified ornithologist/biologist who is monitoring nesting behavior that the young have left the nest and have attained sufficient flight skills to avoid construction zones, or that the nesting cycle is otherwise completed. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed and construction may commence.

The biologist/ornithologist conducting the surveys shall provide the City of St. Helena with a report detailing the results of the survey and any recommendations required for establishment of protective buffers, if tree removal occurs between February 1st and August 31st.

5.5. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐
Sources: City of St. Helena 1993 General Plan, Appendix A: Historic Resources, 1993; St. Helena General Plan, 7.0 Historic Resources Element, 1993; Napa County General Plan, "Cultural and Historic Resources", Community Character Section, Discussion, Dec 03, 2007 Revised Public Hearing Draft; The Archaeology of the Napa Region Edited By Robert F. Heizer Anthropological Records Vol. 12, No. 6, University of California Press, Berkeley and Los Angeles, 1953; Northwest Information Center File No. 16-1591 Dated May 4, 2017.				

Cultural Resources Setting: St. Helena and the greater Napa Valley exhibit a long record of human occupation, extending as far back as 10,000-12,000 years, when Native Americans first inhabited the Napa Valley. At the time of first contact with European settlers of the area, the Wappo had established a village near present day St. Helena known as Annakatanoma. As such, the Napa Valley is known to contain numerous traces of past human activity, ranging from early Native American sites and artifacts to the relicts of historic-era agricultural and ranching activities. Resources have been identified at many locations throughout Napa County and are protected under various federal, state, and local statutes, including the California Environmental Quality Act (CEQA).

Within the City limits, more than 200 historic resources have been identified. Two major surveys conducted in 1978 and 2006 provide the basis for most of the historic resources identified in the City. Additionally individual resources and the Downtown Commercial District are listed on the National Register of Historic Places. St. Helena's Historic Commercial District includes 35 contributing resources and 13 non-contributing resources.⁵

Cultural Resources Study

A Record Search was conducted at the Northwest Information Center (NWIC) on May 4, 2017 (NWIC File #16-1591) for the Las Alcobas Pedestrian Bridge project, located approximately 1.25 miles northwest of the

⁵ Contributing resources date from the historic period of significance established for the district. Non-contributing resources are those that, due to date of construction, alterations, or other factors, do not contribute to the district's historic significance or character.

project site. The Record Search encompasses the subject project site. The Record Search reviewed pertinent NWIC base maps that reference cultural resources records and reports, historic-period maps, and literature for Napa County (see **Appendix B**). According to information on file at the NWIC, there have been eight cultural resource studies conducted for the project area.

Based on an evaluation of the environmental setting and features associated with known sites, Native American resources in this part of Napa County have been found along rivers and creeks in areas populated by oak and buckeye. Cultural resources are also found where there is access to a variety of aquatic animal resources. The subject project site is located on a well-developed industrial site surrounded by similar industrial and agricultural uses. Since the project site has been previously disturbed when the existing development was constructed and the surrounding area does not contain rivers and/or creeks, there is a low potential for unrecorded Native American resources in the proposed project area.

Paleontological Resources

A paleontological resources search performed using the University of California Museum of Paleontology's (UCMP) Miocene Mammal Mapping Project (MioMap) indicated no previous finds of paleontological resources on or in the immediate vicinity of the project site.⁶ According to the MioMap database, the closest paleontological find is located approximately five miles northeast of the project site.

Cultural Resources Impact Discussion:

5.5(a) (Historic Resources) No Impact: The only existing structure on the project site is the existing industrial building, which was built circa 1983. The existing building is not of sufficient age to convey historic significance. Architecture and construction appear to be representative of that era and do not exhibit unique or exemplary craftsmanship. The existing building onsite is not historically significant and there are no other historic structures that would be affected by the proposed project. Therefore, the project would have no impacts to historic resources.

5.5(b) (Archaeological Resources) Less Than Significant with Mitigation: As described above, there is a low potential of encountering unrecorded Native American or historic-period archaeological resources in the project area. The proposed project would be constructed within previously disturbed areas of the project site. Therefore, it is not expected that the excavation would result in the discovery of archaeological resources.

However, given the long history of human occupation in St. Helena, ground disturbing activities still hold the potential to encounter unidentified resources. Per the grading plan, it is expected that the depth of disturbance for the Custom Crush Facility will range from approximately 4-6 feet below the ground surface. It is expected that the depth of disturbance for the new retention pond will range from approximately 6-8 feet below the ground surface.

Albeit low, given the potential for the presence of undiscovered cultural resources associated with past Prehistoric human occupation in the vicinity of the project sites, **Mitigation Measure CUL-1** is provided that in the event that archeological resources are encountered during grading or excavation, all ground disturbing activity shall be halted immediately until a qualified archaeologist can evaluate the potential resource and recommend further action. Implementation of measure CUL-1 will ensure that in the event of

⁶ University of California Museum of Paleontology, Miocene Mammal Mapping Project (MioMap), <http://www.ucmp.berkeley.edu/miomap/>, Accessed May 10, 2017.

accidental discovery the potential for the project to adversely impact or result in a change to the significance of archeological resources would be reduced to less than significant levels.

5.5(c) (Paleontological Resources) Less Than Significant with Mitigation: The St. Helena General Plan does not identify the presence of any paleontological or unique geological resources within the boundaries of the City Limits. Moreover, the areas proposed for excavation have been previously disturbed or developed and were subject to previous ground disturbance. Therefore, limited expectation exists for paleontological resources to be present on the project site. Nevertheless, the potential remains for the discovery of buried paleontological resources. Because the potential for inadvertent discovery of paleontological or unique geological resources exists, **Mitigation Measure CUL-2**, as set forth below, will be implemented. CUL-2 will ensure that proper procedures are followed in the event of a paleontological discovery; thereby reducing potential impacts to levels below significance.

5.5(d) (Discovery of Human Remains) Less Than Significant Impact: No evidence suggests that human remains have been interred within the boundaries of the project site. However, in the event that during ground disturbing activities human remains are discovered to be present, the applicant would be subject to the CA Health and Safety Code Section 7050.5, which mandates the immediate cessation of ground disturbing activities near or in any area potentially overlying adjacent human remains and contacting the Napa County Coroner. If it is determined by the Coroner that the discovered remains are of Native American descent, the Native American Heritage Commission shall be contacted immediately. If appropriate, the project sponsor shall retain a qualified archeologist to provide adequate inspection, recommendations and retrieval. Compliance with CA HSC Section 7050.5, as required under state law, and performance of actions therein, will ensure that in the event of accidental discovery of historically significant remains, all impacts will remain at levels below significance.

Mitigation Measures:

CUL-1: If during the course of ground disturbing activities, including, but not limited to excavation, grading and construction, a potentially significant prehistoric or historic resource is encountered, all work within a 100 foot radius of the find (or as otherwise directed by a qualified archeologist) shall be suspended for a time deemed sufficient for a qualified and city-approved archeologist to adequately evaluate and determine significance of the discovered resource, confer with tribal representative, as appropriate, and provide treatment recommendations. Should a significant cultural resource be identified, a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities.

CUL-2: In the event that paleontological resources, including individual fossils or assemblages of fossils, are encountered during construction activities all ground disturbing activities shall halt and a qualified paleontologist shall be procured to evaluate the discovery and make treatment recommendations.

5.6. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated 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 Publication 42.	☐	☐	☐	☒
ii. Strong Seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
Sources: City of St. Helena 1993 General Plan; General Plan EIR; Association of Bay Area Governments (ABAG), 2016 Napa County Earthquake Hazard Map, http://resilience.abag.ca.gov/earthquakes/napa/ , Accessed May 5, 2017; Santa Rosa Quadrangle, California 7.5 Minute Series (Topographic)," prepared by the Resources Agency Department of Conservation, 1982.				

Geology and Soils Setting: The Bay Area is one of the most seismically active regions in the Country. The City of St. Helena is located within the San Andreas Fault system, which is 44 miles wide and extends throughout much of the North Bay Area. The nearest active faults are: Rodgers Creek (13 miles west), Maacama Central (14 miles northwest), Hunting Creek – Berryessa (17 miles northeast), Concord-Green

Valley (18 miles southeast), West Napa (21 miles south), and San Andreas (33 miles west). No active faults directly traverse the City; however, potential exists for geologic hazards in and around the urban limit line associated with ground shaking, including: liquefaction, ground failure, and seismically-induced landslides.

Geology and Soils Impact Discussion:

5.6(a.i) (Faults) No Impact: Fault rupture occurs when the ground surface fractures as a result of fault movement during an earthquake and almost always follows preexisting fault traces, which are zones of weakness. Given that the project site is not considered part of the Alquist-Priolo Earthquake fault zone and no identified active faults traverse the site, there is no expectation that the site would be vulnerable to fault rupture. The nearest fault is the West Napa Fault, which had movement in 2014. The northern limit of rupture for the West Napa Fault was approximately 14 miles to the south of the project site. Other nearby faults with surface rupture include the Rodgers Creek Fault, located approximately 13 miles west of the City and the San Andreas Fault zone, located 33 miles west. There is no risk of fault-related ground rupture during earthquakes within the limits of the project site due to a known Alquist-Priolo Earthquake Fault Zone. Therefore, there are no impacts expected due to fault rupture at the project site.

5.6(a. ii) (Ground-Shaking) Less Than Significant Impact: The proximity of the City to the active Rodgers Creek Fault and the West Napa Fault places it within Zone VII to VIII (strong to very severe) of the Modified Mercalli Intensity Shaking Severity Level. As such, the project site holds potential to expose people or structures to substantial adverse effects resulting from strong seismic ground shaking. The resulting vibrations would likely cause primary damage to the existing building with secondary effects being ground failures in loose alluvium or poorly compacted fill. Both the primary and secondary effects pose a potential risk of loss of life or property.

Conformance with standards set forth in the Building Code of Regulations, Title 24, Part 2 (the California Building Code 3.7-20 Chapter 3: Setting, Impacts, and Mitigation Measures [CBC]) and the California Public Resources Code, Division 2, Chapter 7.8 (the Seismic Hazards Mapping Act) will ensure that potential impacts from seismic shaking are less than significant. The design specifications ensure that the proposed building expansion and associated improvements would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death as a result of seismic activity. Therefore, potential impacts from groundshaking will have a less than significant impact.

5.6(a. iii) (Seismic-related ground failure/liquefaction) Less Than Significant Impact: Liquefaction is a phenomena associated with fine-grained, loosely-packed sands and gravels subjected to ground shaking as a result of seismic activity. Liquefaction can lead to total and/or differential settlement and is largely dependent upon the intensity of ground-shaking and response of soils underlying the site. According to the Susceptibility Map of the San Francisco Bay Area, the project area is mapped as having a Moderate susceptibility to liquefaction.⁷

As previously stated, the foundation and structural design for the proposed building addition will meet the latest CBC regulations as well as state and local ordinances for seismic safety. Therefore, hazards related to ground failure and/or liquefaction will be less than significant.

5.6(a. iv) (Landslide) No Impact: The risk of landslide is dictated by several factors including precipitation conditions, soil types, steepness of slope, vegetation, seismic conditions and level of human disturbance.

⁷ USGS, Susceptibility Map of the San Francisco Bay Area, <https://geomaps.wr.usgs.gov/sfgeo/liquefaction/susceptibility.html>, Accessed May 5, 2017.

When certain conditions are present, landslides can be triggered as a result of seismic activity. Landslides have been known to occur within Napa County, but are typically confined to slopes steeper than 15% and occur in areas underlain by geologic units that have demonstrated stability problems. Based on the site's relatively flat topography, the proposed addition to the existing building and associated improvements are not located in an area susceptible to landslides. Therefore, the project will have no impacts due to loss of structures or life from landslides.

5.6(b) (Erosion) Less Than Significant Impact: Development of the project will require site preparation and grading activities that will potentially result in soil erosion or the loss of topsoil if not properly controlled. Water and wind serve as the primary catalyst of soil erosion, with steeper slopes intensifying the effects. Vegetation removal as part of the site preparation process as well as grading and ground disturbing activities associated with development can heighten the potential for and accelerate soil erosion.

Project activities are not expected to generate a substantial loss in topsoil beyond what has occurred during previous site development, but will require minimal demolition and grubbing including the removal of vegetation such as brush, trees and root systems. Accordingly, construction activities do hold the potential to result in erosion if not properly performed. All ground activities associated with the project are subject to the City of St. Helena's Erosion and Sediment Control Plan requirements (Chapter 13.32.090 D.3 of the Municipal Code) as a condition of project approval. The erosion control plan is required to identify techniques such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during construction activity on the project site.

Adherence to uniformly applied development standards, including the preparation of an Erosion and Sediment Control Plan, will ensure that any potential impacts due to erosion and sedimentation will ensure that the project does not result erosion. Therefore, the project will generate a less than significant impact related to soil erosion or loss of topsoil.

5.6(c,d) (Unstable Geologic Unit, Expansive Soils) Less than Significant Impact: Lateral spreading, lurching and associated ground failure can occur during strong ground shaking on certain soil substrate typically on slopes. Lurching generally occurs along the tops of slopes where stiff soils are underlain by soft deposits or along steep channel banks whereas lateral spreading generally occurs where liquefiable deposits flow towards a "free face," such as channel banks, during an earthquake.

The project site could contain soils that exhibit expansive potential. In general, expansive soils tend to swell with increases in soil moisture and shrink as the soil moisture decreases. Changes in soil moisture content can compromise the integrity of foundations, retaining walls and slab on grade improvements from differential movements (settlement or heave).

As previously stated, conformance with standards set forth in the Building Code of Regulations, Title 24, Part 2 (the California Building Code 3.7-20 Chapter 3: Setting, Impacts, and Mitigation Measures [CBC]) and the California Public Resources Code, Division 2, Chapter 7.8 (the Seismic Hazards Mapping Act) will ensure that potential impacts due to the presence of expansive soils or a geologic unit or soil that is unstable, or that would become unstable as a result of the project would be corrected through adherence to design level recommendations provided by the geotechnical engineer. Therefore, the project would result in a less than significant impact to do unstable or expansive soils.

5.6(e) (Septic Tanks) Less Than Significant Impact: Industrial wastewater from wine production would be treated through a new self-contained wastewater treatment system and then pumped via a lift station into the existing 8-inch gravity sewer main in La Fata Street. As stated in response 5.6 (c,d), the project site could

contain unstable soils or soils that exhibit expansive potential. However, conformance with standards set forth in the Building Code of Regulations, Title 24, Part 2 (the California Building Code 3.7-20 Chapter 3: Setting, Impacts, and Mitigation Measures [CBC]) and the California Public Resources Code, Division 2, Chapter 7.8 (the Seismic Hazards Mapping Act) will ensure that impacts would remain at less-than-significant levels.

Mitigation Measures: None Required.

5.7. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒
Sources: City of St. Helena 1993 General Plan; General Plan EIR; BAAQMD 2017 Bay Area Clean Air Plan; BAAQMD CEQA Guidelines May 2017.				

Greenhouse Gas Setting: Greenhouse gases (GHGs) are generated from natural geological and biological processes and through human activities including the combustion of fossil fuels and industrial and agricultural processes. GHGs include carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₃), chlorofluorocarbons, hydrofluorocarbons and perfluorocarbons.

While GHGs are emitted locally they have global implications. GHGs trap heat in the atmosphere, which heats up the surface of the Earth. This concept is known as global warming and is contributing to climate change. Changing climatic conditions pose several potential adverse impacts including sea level rise, increased risk of wildfires, degraded ecological systems, deteriorated public health, and decreased water supplies.

To address GHG's at the State level, the California legislature passed the California Global Warming Solutions Act in 2006 (Assembly Bill 32), which requires that statewide GHG emissions be reduced to 1990 levels by 2020. Executive Order S-3-05 provides the California Environmental Protection Agency with the regulatory authority to coordinate the State's effort to achieve GHG reduction targets. S-3-05 goes beyond AB 32 and calls for an 80 percent reduction below 1990 levels by 2050. Senate Bill 375 has also been adopted, which seeks to curb GHGs by reducing urban sprawl and vehicle miles traveled.

The BAAQMD CEQA Air Quality Guidelines, which included thresholds of significance for greenhouse gas emissions, were established in May 2010⁸ and updated in May 2017. With release of the 2017 Bay Area Clean Air Plan (CAP) and the associated EIR, it is expected that updated thresholds and guidelines may be developed in the near term. In the absence of updated guidelines and thresholds, based upon its own judgment and analysis, the City of St. Helena recognizes these thresholds represent the best available scientific data and has elected to rely on BAAQMD Guidelines dated May 2017 in determining screening levels and significance.⁹ Based on the BAAQMD Guidelines, a project is considered to have a less-than-

⁸ Adopted by Board of Directors of the BAAQMD in June 2010 (Resolution No. 2010-6).

⁹ In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California

significant impact due to GHG emissions if it:

1. Complies with an adopted Qualified GHG Reduction Strategy;
2. Emits less than 1,100 metric tons (MT) CO₂e per year; or
3. Emits less than 4.6 MT CO₂e per service population per year (residents and employees).

The City of St. Helena does not have a qualified GHG Reduction Strategy pursuant to the BAAQMD Guidelines. As such, the thresholds set forth in the BAAQMD Guidelines are used to assess significance.

Greenhouse Gas Emissions Impact Discussion:

5.7(a) (Significant GHG Emissions) Less Than Significant Impact: GHG emissions from the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic from new uses onsite.

Operational GHG Emissions

At present, the City of St. Helena does not maintain a “qualified” GHG reduction strategy pursuant to the BAAQMD Guidelines. As such, BAAQMD’s screening threshold of 1,100 metric tons (MT) of carbon dioxide equivalents per year (CO₂e/yr) is used to evaluate project level significance.

The screening size for GHG emissions is 121,000 square feet for general light industry uses. The proposed project size is below the screening threshold given that the net increase of industrial uses is 9,500 square feet. As such, operational impacts would be considered less than significant.

Construction GHG Emissions

The BAAQMD does not have an adopted Threshold of Significance for construction-related GHG emissions. Rather, BAAQMD encourages the incorporation of best management practices to reduce GHG emissions during construction. Best management practices are specified under **Mitigation Measure AQ-1**. Furthermore, construction activities associated with the proposed 9,500 square foot addition and new retention pond will be minimal. Therefore, potential impacts associated with construction of the proposed project will be less than significant.

5.7(b) (Conflict with GHG Plan) No Impact: The proposed project is consistent with all applicable local plans, policies, and regulation related to GHG emissions and does not conflict with the stipulations of AB 32, the applicable air quality plan, or any other State or regional plan, policy, or regulation of an agency for the purpose of reducing greenhouse gas emissions. The project entails a 9,500 square foot addition to an existing industrial building and ancillary improvements. Therefore, the proposed project would have no impacts due to a conflict with local, regional and statewide GHG control plans.

Mitigation Measures: None Required.

Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion. The BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

5.8. HAZARDS/HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☐	☒
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 of public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
Sources: City of St. Helena 1993 General Plan; EnviroStor Database (accessed 5/24/17); GeoTracker Database (accessed 5/24/17); Calfire Wildland Hazards Map, Adopted 11/2007.				

Hazardous Material Setting: The California Department of Toxic Substances Control (DTSC) defines a hazardous material as: “a substance or combination of substances that, because of its quantity, concentration or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or 2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.” Regulations governing the use, management, handling, transportation and disposal of hazardous waste and materials are administered by Federal, State and local governmental agencies. Pursuant to the Planning and Zoning Law, DTSC maintains a hazardous waste and substances site list, also known as the “Cortese List.” Existing hazardous materials and/or waste within St. Helena include underground storage tanks, Polychlorinated Biphenyls (PCBs), asbestos, and pesticides.

Hazardous waste management in St. Helena is administered by the Napa County Department of Environmental Management (DEM) through the Certified Uniform Program Agency. The CUPA program oversees five hazardous materials programs: Hazardous Materials Management Plans (HMMP) program, California Accidental Release Prevention (CalARP) program, underground storage tank (UST) programs, aboveground storage tank (AST) programs, and hazardous waste generation and disposal. The California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH) (formerly known as Cal/OSHA), is charged with enforcement of state regulation and the supervision of workplaces in California that are not under direct federal jurisdiction. State worker health and safety regulation applicable to construction workers include training requirements for hazardous waste operation and emergency response.

A review of available records, databases (EnviroStor and GeoTracker) and reports indicate that the project site is located approximately 0.5 mile from a PG & E Voluntary Cleanup site. There are no open “Leaking Underground Storage Tank (LUST) Cleanup Sites” and no open “Cleanup Program Sites” in the vicinity of the proposed project.

Hazards/Hazardous Materials Impact Discussion:

5.8(a,b) (Routine Transport, Upset and Accident Involving Release) Less Than Significant Impact: Site preparation and construction activities will result in the temporary presence of potentially hazardous materials including, but not limited to fuels and lubricants, paints, solvents, insulation, electrical wiring, and other construction related materials onsite. Although these potentially hazardous materials may be present onsite during construction, the applicant is required to comply with all existing federal, state and local safety regulations governing the transportation, use, handling, storage and disposal of potentially hazardous materials. Once construction is complete there will not be any ongoing use or generation of hazardous materials onsite.

During site preparation and construction activities Best Management Practices (BMPs) will be implemented in accordance with the City's Municipal Code Chapter 13.32 Stormwater and Runoff Pollution Control requirements. BMPs include measures to prevent spills and require onsite materials for cleanup. The applicant is required to comply with all federal and state regulations as overseen by Napa County's CUPA. Accordingly, compliance with all applicable local, state and federal laws will ensure that potential impacts related to the creation of a significant hazard are at less than significant levels to routine, upset or accidental release.

5.8(c) (Emit or Handle Hazardous Materials Within ¼ Mile of School) No Impact: St. Helena High School is located approximately 0.2 mile west of the project site. However, the project will not emit hazardous

emissions or handle hazardous or acutely hazardous materials, substances or waste, during operations. Therefore, the project will have no impacts due to the release or handling of hazardous materials proximate to schools.

5.8(d) (Existing Hazardous Material Sites) No Impact: The California Environmental Protection Agency (CAL-EPA) annually updates the California Hazardous Waste and Substances Site List (also known as the Cortese List⁷). The Department of Toxic Substances Control (DTSC) compiles a record of sites to be included on the list, which is then submitted to the CAL-EPA. A search of EnviroStor, performed on May 24, 2017, showed no cleanup sites within the project vicinity. A search of Geotracker, performed on May 24, 2017, showed no open “LUST Cleanup Sites” and no open “Cleanup Program Sites” in the vicinity of the proposed project. There is no indication of spills, leaks, or contaminated soils on the project site. The project will not create a significant hazard to the public or the environment by virtue of it being located on an identified Cortese site. Therefore, the project will have no impacts due to existing hazardous materials onsite or in the vicinity.

5.8(e,f) (Public Airport Land Use Plans, Private Airport Land Use Plans) No Impact: The project is not located within the boundaries of an airport land use plan or located in close proximity to a private airstrip; the nearest airport is the Napa County Airport located approximately 22 miles south of the project site. Therefore, the project would have no impacts associated with airport-related hazards.

5.8(g) (Impair Emergency Response Plan) No Impact: The project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The proposed project would not alter any existing emergency response or evacuation routes. California has developed an emergency response plan to coordinate emergency services by federal, state, and local government, including responding to hazardous materials incidents. The State Office of Emergency Services (OES) employs a Hazardous Materials (Haz Mat) Division, which enforces multiple programs that address hazardous materials. There are no aspects of the proposed project that will interfere with an adopted emergency or evacuation plan. Therefore, the project will have no impacts due to a conflict with the emergency response plan.

5.8(h) (Wildland Fire Hazards) No Impact: The City is characterized by a narrow valley floor surrounded and intermingled with steep hill terrain, containing areas which are susceptible to wildland fires. Wildland fires are of concern particularly in expansive areas of native vegetation of brush, woodland, grassland and forest. However, the project site is located within a developed area, and according to the 2007 CAL FIRE “Fire Hazard Severity Zones” Map, the site is located outside of the “Very High Fire Hazard Severity Zone” and categorized as Non-VHFHZ. Accordingly, the project will have no impacts related to the exposure of people or structure to wildland hazards.

Mitigation Measures: None Required.

5.9. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would 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 would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern on the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern on the site or area, including through the alteration of the course of a stream or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Sources: Napa County General Plan; City of St. Helena 1993 General Plan; napawatersheds.org; City of St. Helena Comprehensive Flood Protection Project, year 3 Annual Status Report, prepared by Waterways Consulting, December 15, 2013; Delta Consulting and Engineering, Stormwater Control Plan for the St. Helena Custom Crush Facility, September 20, 2017; Delta Consulting and Engineering, Theoretical Water Use Report for the St. Helena Custom Crush Facility, March 17, 2017; Delta Consulting and Engineering, Septic Feasibility Report for the St. Helena Custom Crush Facility, September 20, 2017; Doshier Gregson, Water Well Yield Test, March 24, 2016.

Hydrology and Water Quality Setting: The project site is located within the Napa River watershed, which contains an area of approximately 426 miles and extends in a northwesterly direction from San Pablo bay in the south to Mount St. Helena in the north over a distance of approximately 55 miles. The Napa River runs along the northeastern boundary of the City of St. Helena. The Napa River drains the watershed and discharges to the Napa Sonoma Marsh on the margins of the San Pablo Bay. Major tributaries serving the Napa River include York Creek and Sulphur Creek. The proposed project is located near, but outside of dam inundation areas for nearby storage facilities. The dam inundation area for the Bell Canyon Dam is approximately 0.2 mile east of the project site.¹⁰

In 2011 the City completed major structural modifications to implement the St. Helena Flood Protection Project. The Flood Protection project introduced flood control facilities and drainage improvements to mitigate the 200-year flood event in areas proximate to the Napa River and its confluence with Sulphur Creek. The Flood project included river channel improvements, a levee and floodwall construction. Subsequent to installation of flood improvements, FEMA approved a Letter of Map Revision (LOMR) effectively updating the flood insurance rate map (FIRM) and respective flood sensitive areas. The revised map went into effect on November 5, 2012.

The project site is located in FEMA Zone X, Other Areas, as delineated on maps numbered 06055C0264E and 06055C0377E. According to this designation, the project site is determined to be outside of the 0.2% annual chance floodplain.

Surface water quality is regulated by the San Francisco Bay Regional Water Quality Control Board (RWQCB) via the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan). The RWQCB is responsible for implementing Section 401 of the Clean Water Act through the issuance of a Clean Water Certification when development includes potential impacts to jurisdictional areas such as creeks, wetlands or other Waters of the State. As described in Section 5.4(c) of this document, the project site is not located within or adjacent to waters of the U.S. or state.

Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ from the State Water Resources Control Board.¹¹ Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer.

The project will be subject to the National Pollution Discharge Elimination System (NPDES) Construction General Permit, 2009-0009-DWQ (as amended by Order 2010-0014-DWQ), which establishes requirements that are applicable to grading, grubbing, and other ground disturbance activities. Construction activities on more than one acre are subject to NPDES permitting requirements including the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP includes specifications for Best Management Practices (BMPs) to be implemented during construction activities to control potential discharge of pollutants from the construction area. Additionally, the SWPPP would describe measures to prevent pollutants in runoff after construction is complete and develops a plan for inspection and maintenance of the project facilities.

¹⁰ County of Napa, Dam Inundation Areas, October 2007.

¹¹ State Water Resources Control Board, Construction General Permit Order 2009-0009-DWQ, http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml, Accessed May 16, 2017.

Hydrology and Water Quality Impact Discussion:

5.9(a,f) (Violations of Water Quality Standards, Otherwise Degrade Water Quality) Less Than Significant Impact With Mitigation: Construction activities have the potential to result in runoff that contains sediment and other pollutants that could degrade water quality if not properly controlled. Sources of potential pollution associated with construction include fuel, grease, oil and other fluids, concrete material, sediment, and litter. These pollutants have the potential to result in impacts due to chemical contamination from the release of construction equipment and materials that could pose a hazard to the environment or degrade water quality if not properly managed.

To protect water quality during construction, **Mitigation Measure HYDRO-1** would be implemented. HYDRO-1 requires that prior to construction activities, the project proponent prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) with Best Management Practices (BMPs) including but not limited to fiber roll protection at all drains, gravel at access driveways, designated washout areas, and the development and implementation of a hazardous materials spill prevention plan. These BMPs protect water quality from potential contaminants in storm water runoff emanating from construction areas and effectively reduce temporary construction related impacts to levels below significance.

In accordance with the City of St. Helena Stormwater and Runoff Pollution Control ordinance, a Stormwater Control Plan was prepared for the proposed project (see **Appendix C**). As stated in the Stormwater Control Plan, BMPs, a bio-retention facility and the relocation and expansion of the existing retention pond have been incorporated into the project's design to control the run-off rate and quality of stormwater discharged. In addition, grading and ground disturbance will only occur in the areas necessary to accommodate the proposed expansion and associated improvements.

Following the natural gradient of the existing land, stormwater runoff is largely directed to the existing retention pond or sheet flows in a northwest direction through the existing vineyard and Mills Lane right of way. Based on the Natural Resources Conservation Service (NRCS) Custom Soil Resource Report, the subject site is mainly composed of Cortina (a very gravelly loam) and a small portion of Pleasanton Loam. Stormwater runoff is minimal due to the high infiltration rate of the in-situ soils and the existing retention pond.

The installation of the bio-retention facility, relocation of the retention pond, preparation of a SWPPP (per HYDRO-1), and adherence to best management practices for erosion control during construction activities will ensure that water quality standards as prescribed by the City of St. Helena Stormwater and Runoff Pollution Control ordinance and waste discharge requirements are met. No violations of any water quality standards or waste discharge requirements are expected. Therefore, impacts to water quality would be less than significant.

5.9(b) (Groundwater Supply and Recharge) Less Than Significant Impact: The City has adequate water supply resources to accommodate development of the proposed project without depleting, degrading or altering groundwater supplies or interfering substantially with groundwater recharge. The City acquires potable water supplies from three sources: 1) Bell Canyon reservoir, a surface water source; 2) the two Stonebridge Wells (deep groundwater sources fed by the Sonoma Volcanic aquifer); and 3) the City of Napa.

There is one existing on-site groundwater well that is currently used for landscape irrigation, and will be used for wine making purposes. The well yield test prepared by Doshier Gregson in March 2016 (see **Appendix D**) indicates an existing well capacity of 19.5 gallons per minute. The proposed use is projected to generate a water demand of 9.5 gallons per minute, which is well within the capacity of the well.

Additionally, the project proposes a 10,000-gallon water storage tank, which will provide additional water capacity to meet peak demand requirements. As such, groundwater supplies are sufficient to accommodate existing uses in addition to the new demand generated by the proposed project and would not substantially deplete the groundwater table.

A Theoretical Water Use Report was prepared by Delta Consulting and Engineering for the proposed project on March 17, 2017 (see **Appendix E**) in accordance with City's "Safe Yield" specification for municipal water use. According to the report, the existing internal water use generated by Britton Tree Services and OK Tire Store employees is 330 gallons per day (0.37 acre-feet of water per year), based on a total of 22 employees and a water demand of 15 gallons per day per employee. The St. Helena Custom Crush office proposes four full-time and four part-time employees during harvest season. Assuming a maximum of eight employees' water use per day, the proposed water use is projected to be 120 gallons per day (0.13 acre-feet of water per year).

The Theoretical Water Use Report presents several options to offset the increased water use by the Custom Crush Facility to ensure that post-construction water use by the proposed project would be less than or equal to pre-construction water use. One option assumes that both Britton Tree Services and OK Tire Store leave the premises and move their businesses to a different location. Another option considers the departure of Britton Tree Services from the premises. The third option presumes that all existing users remain and off-site retrofits are performed to existing water fixtures within the city limits to offset the increased water use of 120 gallons per day. The final option includes the purchase of water credits to offset the increased water use from the proposed expansion. As detailed in the report, implementation of any of the options described therein would meet the water neutral requirements for the new facility. As a condition of approval, the applicant will be required to demonstrate the project's ability to comply with the City's "Safe Yield" specifications for municipal water use and demonstrate that any net increase in water use from the proposed project is offset.

As described above, the existing on-site groundwater well to be used for wine making purposes, and has sufficient capacity to meet the project demands. Additionally, the project proposes a 10,000-gallon water storage tank, which will provide additional water capacity to meet peak demand requirements. In addition, the applicant is required to demonstrate, through a condition of approval, that any increase in water use from the proposed Custom Crush facility is offset in accordance with the City's Safe Yield specifications. The Theoretical Water Use Report identifies four possible options to achieve compliance. Therefore, the project would not substantially deplete groundwater supplies, result in a lowering of the aquifer or otherwise interfere with groundwater recharge and impacts under this criterion would be less than significant.

5.9(c-e) (Drainage Pattern, Runoff and Storm Drain Capacity) Less Than Significant Impact: The proposed project will not alter the course of a stream or river. Following the natural gradient of the existing land, stormwater runoff is currently directed to the existing retention pond or travels as a sheet flow into the vineyards on the northwest side of the parcel.

As stated in the Stormwater Control Plan, the existing industrial development currently contains approximately 182,740 square feet of impervious surfaces. The total post-project impervious surface area would be 200,316 square feet. As a result, approximately 17,576 square feet of new impervious surfaces area will be added onsite as a result of the proposed project. Approximately, 1,900 square feet of impervious surface area will be replaced.

All the stormwater runoff from the new constructed impervious area will be collected by downspouts or storm drains. The stormwater will be routed to the bio-retention facility. Downstream of the bio-retention

facility, the water will be collected and pumped to the new proposed retention pond. As previously stated, the potential for stormwater runoff is expected to be minimal due to the high infiltration rate of the in-situ soils.

The general direction and pattern of drainage following construction will match pre-development conditions. While the proposed project would introduce new impervious surfaces onsite, implementation of the Stormwater Control Plan would ensure that the proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Therefore, the project will not result in a drainage pattern that causes substantial erosion or siltation on- or off-site nor will it result in flooding on- or off-site. Impacts to the drainage pattern, storm drain system and runoff as a result of the proposed project would be less than significant.

5.9(g-h) (Flood Hazards) No Impact: Based on the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) Panel 06055C0264E and 06055C0377E, the project site is located in Zone X, Other Areas. According to this designation, the project site is determined to be outside of the 0.2% annual chance floodplain. No housing construction is proposed as a part of the project. As such, the proposed project will not place residences or structures in a location with a significant risk due to flooding. Therefore, there would be no impacts due to flooding.

5.9(i) (Levee or Dam) Less Than Significant Impact: The project site is not located within an area that could be affected a levee breach or dam failure. The proposed project is located near, but outside of dam inundation areas. The dam inundation area for the Bell Canyon Dam is approximately 0.2 mile east of the project site. Therefore, potential impacts from levee or dam failure would be less than significant.

5.9(j) (Seiche, Tsunami, Mudflow) No Impact: The project site is not located within an area that could be affected by seiche, tsunami, or mudflow. There are no substantial water bodies in the immediate vicinity of the project site that could impact the project site by seiche, tsunami or mudflow. Furthermore, according to the California Department of Conservation, the project site is not located tsunami inundation map.¹² Therefore, there will be no impact from inundation related to seiche, tsunami, or mudflow as a result of project implementation.

Mitigation Measures:

HYDRO-1: In accordance with the National Pollution Discharge Elimination System regulation, the applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) prior to construction. The SWPPP shall address erosion and sediment controls, proper storage of fuels, temporary erosion control including fiber rolls, staked straw bales, geofabric, and sandbag, and identification for use and cleanup of hazardous materials. Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures. A Notice of Intent, fees, and other required documentation shall be filed with the Regional Water Quality Control Board. During construction, a monitoring report shall be conducted weekly during dry conditions and three times a day during storms that produce more than 1/2" of precipitation.

¹² California Department of Conservation, Napa County Tsunami Inundation USGS 24K Quads, http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Napa, Accessed May 17, 2017.

5.10. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
Sources: City of St. Helena 1993 General Plan and 6.0 Open Space & Conservation Element; City of St. Helena Zoning Map, 2000.				

Land Use and Planning Setting: The City of St. Helena is divided into two distinct areas: a developed “urban service area” and a more, rural, agricultural and industrial area located around the periphery such that the City exhibits a landscape whereby commercial land uses are concentrated in the City center and along SR 29, with residential development radiating outwards to the northeast and southwest. The outer edge of the urban service area is demarcated by the urban limit line (ULL), which is a parcel specific boundary that marks the limit of allowed urban development. The intent of the ULL is to discourage urban sprawl and promote sensitive development that preserves the rural and agricultural lands around the City. The project site is located within the City of St. Helena’s Urban Limit Line (ULL). The parcel exhibits a General Plan Land Use Designation of Industrial and is zoned as (I) Industrial. The project site is surrounded by land designated as Agriculture to the north and east, and Industrial to the south and west.

Land Use and Planning Impact Discussion:

5.10(a) (Divide An Established Community) No Impact: Division of an established community typically occurs when a new physical feature, in the form of an interstate or railroad, physically transects an area, thereby removing mobility and access within an established community. The division of an established community can also occur through the removal of an existing road or pathway, which would reduce or remove access between a community and outlying areas. The proposed project would not introduce a new physical feature that would remove mobility and access within an established community. Likewise, the project does not propose the removal of an existing road or pathway that could reduce or remove access between a community and outlying areas. Therefore, the project would have no impact due to the physical division of an established community.

5.10(b) (Land Use Plan, Policy, Regulation Conflict) Less Than Significant Impact: The proposed project is required to comply with various policy documents, including the 1993 St. Helena General Plan, and the City of St. Helena's Zoning Ordinance. The proposed project does not involve any changes to land uses or zoning within the project site. The proposed Custom Crush Facility is compatible with the current land use and zoning designations for the project site, which are both designated as Industrial. Overall, the proposed project is consistent with the general objectives and guiding policies of the City of St. Helena. Therefore, potential impacts due to conflicts with City of St. Helena regulations are considered to be less than significant.

5.10(c) (Habitat Conservation Plan) No Impact: The project is not located in an area that is subject to a habitat conservation plan or a natural community conservation plan. There are no conservation plans that apply to the City of St. Helena. Therefore, the project will have no impact to any conservation plan or natural community plan.

Mitigation Measures: None Required.

5.11. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒
Sources: City of St. Helena 1993 General Plan: Open Space and Conservation Element (6-5), (6-6); SMARA Maps, Napa County, 2008.				

Mineral Resources Setting:

The California Surface Mining and Reclamation Act of 1975 (SMARA) identifies mineral resources within California. These maps identify and classify mineral resources based on their relative value for extraction. According to the 1993 General Plan, surface materials in the St. Helena area are classified as "recent alluvium." The depth of the alluvium is likely to be in the range of 250 to 500 feet. Additionally, the General Plan states that there are no known mineral deposits of significance within the City with the exception of the aggregate (gravel) being mined from the stream bed of Sulphur Springs, which is west of SR 29 and not proximate to the project site. To date, no aggregate mineral resources or other significant mineral resources have been mapped within the City of St. Helena.

Mineral Resources Impact Discussion:

5.11(a-b) (Mineral Resources or Resource Plans) No Impact: The project site has not been delineated as a locally-important mineral resource recovery site on any plans, nor are mineral resources known to be present. Furthermore, the site is presently occupied by an existing industrial building and would not support mineral extraction. As such, the proposed project, as an expansion of an existing industrial building would not result in the loss of availability of a known resource, including locally important mineral resources. Therefore, the project will have no impact to mineral resources.

Mitigation Measures: None Required.

5.12. NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
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, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Sources: City of St. Helena 1993 General Plan: Public Health and Safety Element (8-3).

Noise Setting: Noise is generally defined as unwanted sound. It is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). The sound pressure level is the most common descriptor used to

characterize the loudness of an ambient (existing) sound level. The decibel (dB) scale is used to quantify sound intensity, but given that the human ear is not equally sensitive to all frequencies in the entire spectrum, noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called "A-weighting," written as "dBA" and referred to as "A-weighted decibels". In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling the sound level.

The primary noise sources within the St. Helena City limits include vehicular traffic, the Napa Valley Wine Train, and agricultural activities (e.g. Vineyard frost fans, pumps in isolated areas, fixed machinery, and heavy vehicle traffic during harvest). Noise sources also include hot air balloon flyovers and limited industrial activities, particularly the Sulphur Springs gravel mining operation on Sulphur Springs Creek.

The City of St. Helena Municipal Code Section 8.24.010 (C), limits construction activities which generate noise that can be heard at the property line of any parcel within the city limits to between the hours of 8:00 a.m. to 5:00 p.m. and delivery of materials/equipment and cleaning and servicing of machines/equipment limited to 7:00 a.m. to 6:00 p.m. Exceptions to these time restrictions may be granted by the public works director. No construction activities which generate noise that can be heard at the property line of any parcel of real property within the city limits are allowed on Sundays or Holidays. Operational noise levels are addressed by the General Plan's Noise Element according to land use type. For example, industrial and agricultural land uses are considered completely compatible with noise exposures less than 70 dBA and tentatively compatible in noise exposure areas of up to 80 dBA.

Noise Impact Discussion:

5.12(a,d) (Noise Standards, Temporary or Periodic Noise Increase) Less Than Significant Impact: Traffic is the primary noise generator in the vicinity of the project site. The project site is also subject to noise generated by agricultural activities on adjacent properties. The nearest sensitive receptors, St. Helena High School and a single-family residence, are located approximately 0.2 mile from the project site.

Construction of the proposed project would result in temporary and intermittent noise increases in the vicinity from the use of heavy equipment and truck traffic for material delivery and off-haul of materials. Construction noise associated with the proposed project would be perceptible to established uses in the existing industrial building including workers and customers. Onsite and surrounding activities include existing industrial and agricultural uses, which are not considered noise sensitive receptors. Construction activities would be limited to weekdays from 7:00 a.m. to 6:00 p.m. and nighttime construction is not proposed. The proposed project would therefore comply with the requirements of the City of St. Helena Municipal Code Section 8.24.010 (C), as construction would not occur during the restricted times. Construction-related noise impacts would be temporary and cease once construction is complete. Therefore, construction-related impacts from noise would be less than significant.

At operation, the proposed project is expected to add approximately 11 trips during the AM and PM weekday peak hours and 16-18 trips during the Saturday mid-day peak hour. This would constitute a negligible increase in traffic noise of less than 0.5 dB, which falls well below the threshold of a perceptible change of 3 dB. As such, implementation of the proposed project will not substantially increase traffic noise in the area, and noise impacts from operation of the project would be less than significant.

5.12(b) (Groundborne Vibration and Noise) Less Than Significant Impact: Operation of heavy construction equipment, particularly pile driving and other impact devices such as pavement breakers

create seismic waves that radiate along the surface of the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

The proposed project will require minor construction activities that would not generate excessive groundborne vibration or noise. Although construction activities may result in temporarily perceptible groundborne vibration, the periods of perceptible vibration would be brief and limited to the immediate construction area. Therefore, the project is not expected to expose people or structures to excessive groundborne vibration and impacts would be less than significant.

5.12(c) (Increase Ambient Noise Levels) Less Than Significant Impact: As stated above, operation of the proposed Custom Crush Facility could generate additional noise from an increase in truck trips to the new facility as well as activities associated with the onsite operations including new mechanical equipment. However, since the proposed project would be located in an existing industrial area away from the residential neighborhoods and other sensitive receptors, operational noise impacts would be negligible. The new facility is not expected to introduce onsite equipment that would substantially alter the ambient noise environment. Therefore, the project's contribution to the existing ambient noise levels would be minimal and would result in less-than-significant impacts.

5.12(e-f) (Airport Noise) No Impact: The proposed project is not located within two miles of a public airport, nor is it located near a private airstrip and does not expose people residing or working in the project area to excessive noise levels. Residents or visitors onsite would not be exposed to excessive noise levels generated by airport noise and no impacts due to excessive noise exposure would occur.

Mitigation Measures: None required.

5.13. POPULATION AND HOUSING:

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial 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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
Sources: City of St. Helena 1993 General Plan.				

Population and Housing Setting: A project will normally have a significant environmental effect if it will displace a large number of people or induce substantial growth or concentration of population. The proposed project involves the construction of a 9,500-square-foot addition to an existing wine warehouse building and ancillary improvements.

Population and Housing Impact Discussion:

5.13(a) (Substantial Growth) No Impact: The proposed project would not result in substantial changes to land uses within the project site or in the vicinity of the project area. Implementation of the project would not substantially change development density or intensity, nor does it propose new housing units that would induce population growth. Therefore, the proposed addition would have no impact, either directly or indirectly, on population growth in the area.

5.13(b-c) (Housing or Person Displacement) No Impact: As an expansion to an existing industrial building, the proposed project would not displace people or existing housing that would require the construction of replacement housing elsewhere. No impacts will occur due to the displacement of housing or people.

Mitigation Measures: None Required.

5.14. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒
Sources: City of St. Helena 1993 General Plan.				

Public Services Setting: The City of St. Helena is well served by established public services including fire and police protection, schools and parklands. In order to offset the cost of improving or expanding City services to accommodate the demand generated by new development the City charges one-time impact fees on new private development. Development impact fees are necessary in order to finance required public service improvements and to pay for new development's fair share of the costs necessary to maintain acceptable levels of service related to fire and police protection services, open space, parkland and other such public services.

Public Services Impact Discussion:

5.14(a-e) (Fire & Police Protection, Schools, Parks, Other Public Facilities) No Impact: The project includes the construction of the Custom Crush Facility as an addition to an existing wine warehouse. As stated in **Section 5.13 Population and Housing**, the project will not induce growth in the area, either directly or indirectly. As such, the proposed project will not result in any substantial adverse physical impacts to existing fire and police protection, schools, parks, or other public facilities. Additionally, the project will not generate a substantial increase in demands that would warrant the expansion or construction of new public facilities. Therefore, no impacts related to fire and police protection, schools, parks, or other public facilities would occur.

Mitigation Measures: None Required.

5.15. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Sources: City of St. Helena 1993 General Plan: Parks and Recreation Element; St Helena General Plan, Appendix C: Inventory of Recreation Resources.

Recreation Setting: St. Helena provides twenty acres dedicated to recreational activities at five locations within the city's limits. Elementary school and high school facilities within the ULL are also utilized to meet the community's recreational needs. Two nearby adjacent California State Parks offer an additional 1,900 acres of camping, swimming, and hiking trails for local residents and tourists.

The Parks Division of the Public Works Department maintains ten parks, four pathways, street trees, benches, and parking lots. These parks include a variety of recreational open spaces including walking trails, playgrounds, and picnic areas. The nearest park to the project site is Jacob Meily Park, located approximately 0.4 mile to the northwest. Crane Park is located approximately 0.7 mile southwest of the project site.

Recreation Impact Discussion:

5.15(a) (Deterioration of Parks) No Impact: The project includes the construction of the Custom Crush Facility as an addition to an existing wine warehouse. As stated in **Section 5.13 Population and Housing**, the project will not induce substantial growth in the area, either directly or indirectly. As such, the proposed project will not result in any new uses that would substantially increase park or recreational facility usage. Therefore, there would be no impacts due to deterioration of existing parks.

5.15(b) (Additional Recreational Facilities) No Impact: The proposed Custom Crush Facility does not warrant the need for additional recreational facilities. Implementation of the proposed project will not result in any adverse impacts related to the construction or expansion of recreational facilities as none are needed. Therefore, the project will have no impacts due to the need for additional recreational facilities.

Mitigation Measures: None Required.

5.16. TRANSPORTATION AND CIRCULATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
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?	☐	☐	☐	☒
Sources: City of St. Helena 1993 General Plan; St. Helena Bicycle Plan, January 2012; Highway 29 Specific Plan, prepared by TJKM Associates and SP2 Engineering, Inc., February 22, 2005; and Focused Traffic Analysis for the proposed Komes Custom Crush Project, prepared by Omni Means Engineering Solutions, July, 2017.				

Transportation and Circulation Setting: The City of St. Helena lies on a north-west/south-east axis, with SR 29 serving as the main route for intercity and regional travel. SR 29 is a two- to four-lane rural highway that stretches through Napa County from Vallejo at Napa County's southern border to Lake County in the north. Within the City of St. Helena, SR 29 is confined to two travel lanes. Since SR 29 is a major north-south thoroughfare for Napa County, heavy through traffic is typical along Main Street. The street network to the

west of SR 29 is a grid pattern of residential blocks connected to SR 29 by a series of east-west streets connecting residential areas. To the east of SR 29, the grid network is discontinuous due to the lack of parallel facilities to SR 29 to connect the east-west roadways.

The proposed project would involve the temporary use of existing roadways by construction workers and construction equipment in order to access the project site. Construction traffic would primarily use SR 29 to access the project site. At operation, the project would contribute to the traffic volumes along project area roadways. In order to assess potential traffic impacts due to the proposed project, a project specific focused traffic analysis was prepared and informs the following discussion. The Focused Traffic Analysis prepared by Omni Means Engineering Solutions (July 2017) is included as **Appendix H**.

Rail Activity

Railroad tracks currently parallel SR 29, approximately 25 feet east of the highway crossing over Dowdell Lane and Mills Lane in the project area. The rail crossing at Dowdell Lane is controlled by automated gates and flashing red lights. The Mills Lane crossing has recently been improved with new concrete paving, flashing red lights and warning signs. This single-track rail line serves the Napa Valley Wine Train. Based on discussions with Wine Train staff, there is one (1) train per day on weekdays and two (2) trains per day on weekends that travel through the project vicinity.

Public Transit

Public transit service is readily available throughout Napa County. The primary transit service in Napa County is provided by the VINE, a fixed-route bus service providing service to Calistoga, St. Helena, Napa, American Canyon, Yountville, and parts of unincorporated Napa County. Two routes pass through St. Helena along SR 29: routes 10 and 29. Route 10 provides service from Calistoga to Napa, including stops in St. Helena, Rutherford and Oakville, running seven days a week, all day and including weekends. Route 29, the Vine Express, is a commuter bus operating from early morning through late afternoon, Monday through Friday. The Vine Express extends from Calistoga to the Vallejo Ferry Terminal and El Cerrito BART. Service hours are Monday through Friday, 5:20 am to 9:10 pm, Saturday 6:00 am to 8:10 pm, and Sundays 8:30 am to 7:00 pm.

Bike and Pedestrian Facilities

Currently, there are no pedestrian or bicycle facilities on La Fata Street and Dowdell Lane along the project site frontages. Existing pedestrian sidewalks are located on the south side of Dowdell Lane both east and west of La Fata Street and on La Fata Street (both sides) south of Dowdell Lane.

The St. Helena Bicycle Plan was developed as a component of the Napa County Transportation Authority's Countywide Bicycle Plan Update. The Plan is intended to guide and influence the development of bikeways, bicycle policies, bicycle programs and bicycle facility design standards to make bicycling throughout St. Helena and Napa County more safe, comfortable, convenient and enjoyable for all bicyclists. The overarching goal of the Bicycle Plan is to increase the number of persons who bicycle throughout St. Helena and Napa County for transportation to work, school, utilitarian purposes, and recreation.

In the vicinity of the project site, a Class II Bike Lane is proposed along Mills Lane. State Route 29 in the vicinity of the project site is an existing Primary Class II Bike Route and is proposed to have a Class II Bike Lane. A Class I Multi-Use Path is also proposed adjacent to, and east of SR 29.

Highway 29 Specific Plan

The purpose of the Highway 29 Specific Plan is to guide and support the future development of properties located in the Highway 29 Specific Plan area. The Highway 29 Specific Plan implements 1993 St. Helena General Plan Policies 2.6.43 and 2.6.44, which require preparation and approval of a Specific Plan for the properties included in the Highway 29 Specific Plan area prior to the approval of new development in this portion of the community.

The Highway 29 Specific Plan encompasses an area generally located south of Sulphur Creek, along the east and west sides of South Main Street (State Highway 29) and north of Grayson Avenue (west side of Highway 29) and Dowdell Lane (east side of Highway 29). The planning area consists of 108 acres of land.

The Land Use plan includes anticipated future development of a combination of Service Commercial, Light Industrial, High Density Residential, Low Density Residential and other land uses as currently shown in the 1993 St. Helena General Plan and similarly zoned.

The Circulation concept includes the north-south extension of Oak Avenue between Grayson Avenue and Charter Oak, the relocation and reconstruction of the intersection of Grayson Avenue/Mills Lane and Highway 29 with the addition of a traffic signal at this intersection, the northerly extension of Fountain Street to intersect with Mills Lane, and the widening of Mills Lane through the Specific Plan area. A second traffic signal at the intersection of Dowdell Lane and Highway 29 is also identified.

The Highway 29 Channelization Project was completed by Caltrans in 2016. The project implements the Highway 29 Specific Plan between Mee Lane and Charter Oak Avenue. The project included a new traffic signal at the Grayson Avenue/SR 29 intersection. The project also included a separate northbound left-turn lane on SR 29 at Grayson Avenue, a separate southbound left-turn on SR 29 at Mills Lane, pavement rehabilitation, widening of northbound and southbound shoulders, and an improved railroad crossing at Whitehall Lane along SR 29.

Circulation improvements in the project study area related to Highway 29 Specific Plan that have not been completed to date (July 2017) include the following:

- Realignment of Mills Lane south to Grayson Avenue
- Signalization of the Highway 29/Dowdell Lane intersection

City Roadway and Intersection Impact Criteria

The 1993 St. Helena General Plan prescribed the following City Roadway and Intersection Impact Criteria to identify potential impacts from proposed development projects:

- (a) All signalized intersections in St. Helena should maintain [Level of Service] LOS C except along Main Street, where LOS D is permitted. Exceptions to this policy are that lower service levels shall be permitted at any location where the existing LOS does not meet this standard and in which case the LOS cannot be worsened any further.
- (b) All unsignalized intersections must maintain LOS C. If the LOS degrades below LOS C, an evaluation of the need for traffic signalization shall be undertaken according to standard Caltrans signal

warrants as described below. If signals are not initially warranted, the location shall continue to be monitored for signal warrants on a regular basis.

Transportation and Circulation Impact Discussion:

5.16(a) (Conflicts with Plans, Policies, Ordinances) Less Than Significant Impact:

Trip Generation

The proposed Custom Crush Facility would consist of a production winery (120,000 gallons/year) and would generate vehicle trips associated with this use, employees, and deliveries. The Custom Crush Facility would employ four full-time and four part-time employees. However, the Focused Traffic Analysis is based on four full-time and eight part-time employees. As such, the discussion below represents a more conservative traffic analysis.

The crush period for processing fruit would likely occur over a four-month period and represents the greatest trip generation potential. During this crush period, there would be 40 trucks (per season) or 80 truck trips. The total estimated truck trips would include bottling trucks to/from the site. As such, on a daily basis the number of truck trips in/out of the project site would be relatively low during the crush season. At most, the project would result in an additional 1-2 truck trips per day over the course of a four-month period.

With the proposed facility having no visitation or marketing events, the project trip generation would result from production, employment, and associated truck deliveries. Based on proposed project, the following weekday AM and PM and weekend (Saturday) trip generation have been estimated:

Weekday:

AM Peak Hour: 11 trips (9 in, 2 out)

PM Peak Hour: 11 trips (2 in, 9 out)

Weekend (Saturday):

Saturday Mid-Day Peak Hour (non-Crush): 16 trips (8 in, 8 out)

Saturday Mid-Day Peak Hour (Crush): 18 trips (9 in, 9 out)

Existing Conditions

Existing weekday and weekend peak hour LOS (adjusted for peak seasonal crush/harvest conditions) are shown in **Table 2** below and consider 4 study area intersections (3 of which are stop way controlled and one is signalized). The SR 29/Dowdell Lane intersection is currently operating at LOS C (17-19 seconds of delay) during all three peak hour periods. The LOS C for the SR 29/Dowdell Lane intersection represents overall vehicle delay for the stop sign controlled westbound left-turn and right-turn movements from Dowdell Lane onto SR 29. The Mills Lane and Grayson Avenue intersections at SR 29 are operating at LOS C or better during all three peak hour periods.

The new signal, operational as of November 2016, at the SR 29/Grayson Avenue intersection has improved overall vehicle delays at this location. The new signal helps to provide additional “gaps” in SR 29 north-south traffic that allows the adjacent intersections of Dowdell Lane and Mills Lane to operate more efficiently. However, significant north-south vehicle queuing on SR 29 still occurs during peak weekday and weekend periods. For this reason, it is likely that calculated vehicle delays at project study intersections along SR 29

may be longer than calculated.

The La Fata Street/Dowdell Lane intersection is operating at LOS A (9-10 seconds of delay) during the same weekday and weekend time periods for the northbound and southbound stop sign controlled movements. Under the plus project condition, all study area intersections continue to operate acceptably.

Table 2: Existing Harvest Conditions Intersection LOS

	Intersection	Weekday AM		Weekday PM		Saturday Peak	
		No Project	Plus Project Conditions	No Project	Plus Project Conditions	No Project	Plus Project Conditions
1	SR 29/Mills Lane (TWSC)	C 15.7	C 15.7	B 14.9	C 15.0	B 13.9	B 14.0
2	SR 29/Grayson Ave (Signal)	B 12.4	B 12.4	A 8.6	A 8.6	A 8.4	A 8.4
3	SR 29/Dowdell Lane (TWSC)	C 17.9	C 18.1	C 18.4	C 18.6	C 16.9	C 17.3
4	La Fata St./ Dowdell Lane (TWSC)	A 9.3	A 9.5	A 9.5	A 9.6	A 8.9	A 9.0

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for signalized and unsignalized intersections and yields a vehicle delay in seconds. TWSC = two-way stop-controlled.

Based on the California Manual on Uniform Traffic Control Devices for peak hour signal warrant criteria, the SR 29/Dowdell Lane intersection was evaluated for signalization. (The SR 29/Mills Lane and La Fata Street/Dowdell Lane intersections do not qualify for peak hour signal warrant satisfaction under existing conditions.) The peak hour warrant is one of several standards to help determine if installation of a traffic signal may be appropriate. Qualifying for signalization using the peak hour warrant does not necessarily mean a signal should be installed. The SR 29/Dowdell Lane intersection qualifies for signalization under the peak hour warrant using existing PM peak hour volumes. However, signalization of the SR 29/Dowdell Lane intersection is not recommended at this time due to the following circulation improvements and proposed project characteristics:

- The installation of a two-way-left-turn-lane on SR 29 at Dowdell Lane (per Highway 29 Channelization Project) has improved vehicle access to Dowdell Lane to/from SR 29 and overall vehicle delays. The new two-way-left-turn-lane allows stop-sign controlled outbound vehicles (making a left-turn) to merge more safely onto SR 29 by providing a refuge lane to merge into southbound through-traffic. Similarly, the two-way-left-turn-lane allows southbound motorists on SR 29 to make a left-turn (inbound) to Dowdell Lane without delaying through-traffic on the highway. Indirectly, the new signal at the SR 29/Grayson Avenue intersection just south of Mills Lane also benefits traffic at Dowdell Lane (at times) by providing more “gaps” in southbound traffic.
- The proposed project does not include any guest visitation or marketing events (just this fact alone greatly reduces the overall traffic generation). Therefore, project trip generation would result from production, employment, and associated truck deliveries.

Near-Term Year 2020 Conditions

Near-term traffic conditions represent existing and other approved/pending development that can reasonably be assumed to generate traffic in the short-term. Based on previous development studies conducted in the City of St. Helena, the year 2020 was established for near-term conditions. Weekday and weekend peak hour approved development trips were based on traffic projections provided for recently updated City of St. Helena General Plan Circulation Element and specific development projects as follows:

- Crocker-Star Winery: The winery is located just east of the project site on the north side of Dowdell Lane (700 Dowdell Lane). The winery is currently under construction and would produce 25,000 gallons per year. Tasting and visitation would be small with a maximum of 12 guests during a typical weekday and 16 guests on a Saturday. Employment would range from seven full-time and three part-time employees.
- Davies Winery: The winery is located north of the proposed project site on Main Street at northwest corner of Main Street/Grayson Avenue intersection (555 Main Street). The winery is currently being modified to produce 75,000 gallons per year. Tasting and visitation would consist of 160 guests per day weekday and weekend. Employment would range from 15 full-time employees with an additional 30 part-time employees (harvest season).
- Redmon Winery: This winery is located on Dowdell Lane east of La Fata Street and (like the proposed project) would be a production-only winery. The winery would produce 24,000 gallons per year with 2 full-time and 2 part-time employees (4 part-time during crush). An associated commercial kitchen would employ 2 full-time and 1 part-time employees.
- Culinary Institute of America Campus Master Plan (Greystone Campus & Vineyard Lodge Housing): The CIA is located at 2555 Main Street and 830 Pratt Avenue. The initial study/mitigated negative declaration indicates a net reduction in project trips from proposed uses (or transfer of uses) from this development.

Larger development projects located outside of St. Helena and other infill project traffic are contained within the General Plan Update volume projections. The weekday and weekend peak hour approved/pending development trips were added to existing (seasonal) volumes at the study intersections.

As mentioned above, Caltrans has completed construction of the SR 29 St. Helena Lane Channelization project in the study area. Specifically, the project goal was to “rehabilitate the pavement, widen the shoulders, construct a two-way-left-turn-lane, and improve the bicycle/railroad crossing at Whitehall Lane.” The new traffic signal at the SR 29/Grayson Avenue intersection was installed in conjunction with the Highway 29 Channelization project and was activated in November 2016. No other roadway/intersection improvements are scheduled for the project study area at this time.

The near-term LOS at study area intersections both with and without the project is shown in **Table 3**. With new circulation improvements on SR 29, the minor street stop-sign controlled intersections of SR 29/Mills Lane and SR 29/Dowdell Lane would operate at acceptable conditions. During the three peak periods, overall intersection operation would be LOS C. The creation of two-way-left-turn lane on SR 29 allows outbound vehicles from Dowdell Lane (turning left) to merge into through-traffic in a safer manner by providing a “refuge” area. The remaining intersections of SR 29/Grayson Avenue and La Fata Street/Dowdell Lane would continue to operate at LOS A-B during all three peak hour periods under the no project, near term scenario and would continue to operate at acceptable LOS under the plus project condition.

Table 3: Near-Term Harvest Conditions Intersection LOS

	Intersection	Weekday AM		Weekday PM		Saturday Peak	
		2020 No Project	2020 plus Project Conditions	2020 No Project	2020 plus Project Conditions	2020 No Project	2020 plus Project Conditions
1	SR 29/Mills Lane (TWSC)	C 20.2	C 20.2	C 19.8	C 18.8	C 17.1	C 17.2
2	SR 29/Grayson Ave (Signal)	B 13.3	B 13.3	A 9.9	A 9.9	A 9.8	A 9.9
3	SR 29/Dowdell Lane (TWSC)	C 19.4	C 19.6	C 20.8	C 21.3	C 18.6	C 20.5
4	La Fata St./ Dowdell Lane (TWSC)	A 9.5	A 9.6	A 9.6	A 9.7	A 9.0	A 9.2

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for signalized and unsignalized intersections and yields a vehicle delay in seconds. TWSC = two-way stop-controlled.

As described under the existing conditions scenario above, under the near-term scenario the SR 29/Dowdell Lane would continue to meet the peak hour signal warrant. However, in light of the current circulation improvements (two-way left-turn-lane) installed on SR 29 and improved operations at the stop-sign controlled intersection, a signal would not be recommended for this location at this time.

Cumulative Year 2035 Projections Conditions

The long-term cumulative year 2035 conditions were derived from traffic projections provided for the City of St. Helena General Plan update (Circulation Element). The Year 2035 volumes reflect projected traffic growth with buildout of the City's General Plan. The long-term cumulative volumes include the Year 2020 harvest season volumes calculated for the near-term approved development scenario plus an added growth rate of 2.25 percent per year to year 2035 (15 years). It is noted that traffic growth related to General Plan buildout was applied to through traffic volumes on SR 29. Future traffic growth on La Fata Street and Dowdell Lane was generated from local approved/pending project-specific volumes.

The cumulative Year 2035 intersection LOS is shown in **Table 4**. Under the no project scenario, SR 29/Mills Lane and SR 29/Dowdell Lane intersections would operate at LOS D during all three study periods for the Mills Lane and Dowdell Lane outbound (westbound) approaches at SR 29. The two-way-left-turn lane on SR 29 would continue to allow outbound vehicles from Mills Lane and Dowdell Lane (turning left) to merge into through-traffic in a safer manor by allowing a "refuge" area. The remaining intersections of SR 29/Grayson Avenue and La Fata Street/Dowdell Lane and Project Driveway/Dowdell Lane would operate at LOS B or better during all three time periods with cumulative (no project) traffic.

Table 4: Year 2035 Harvest Conditions Intersection LOS

	Intersection	Control Type	Weekday AM		Weekday PM		Saturday Peak	
			2035 No Project	2035 plus Project Conditions	2035 No Project	2035 plus Project Conditions	2035 No Project	2035 plus Project Conditions
1	SR 29/Mills Lane	TWSC	D 27.0	D 27.0	D 25.0	D 25.2	C 22.9	C 23.0
2	SR 29/Grayson Ave	Signal	B 17.2	B 17.4	B 12.7	B 12.7	B 14.2	B 14.4
3	SR 29/Dowdell Lane	TWSC	D 27.2	D 27.8	D 31.2	D 31.2	D 25.5	D 26.4
4	La Fata St./Dowdell Lane	TWSC	A 9.5	A 9.6	A 9.0	A 9.7	A 8.7	A 9.2

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for signalized and unsignalized intersections and yields a vehicle delay in seconds. TWSC = two-way stop-controlled.

The Year 2035 plus project intersection LOS are provided in **Table 4** above. The SR 29/Mills Lane and SR 29/Dowdell Lane intersections would continue to operate at LOS D during the weekday AM and PM and Saturday peak hours, with delay increases of less than one second. The proposed project trips would not constitute a significant impact, as the delay increases would be less than the significance threshold of one second at the SR-29 (Main Street) intersection. The remaining study intersections of SR 29/Grayson Avenue and La Fata Street/Dowdell Lane operate at LOS A-B with cumulative plus project volumes.

Highway 29 Specific Plan

In addition to cumulative highway operation on SR 29 (Main Street), the City of St. Helena's Highway 29 Specific Plan has been reviewed for planned circulation improvements in the project study area. The proposed project site would be located within the Specific Plan area on the east side of Main Street. Specifically, the east side of the plan area encompasses Dowdell Lane from Main Street extending east of La Fata Street. The plan area then extends north past Mills Lane before extending west back to Main Street. On the west side of Main Street, the plan area extends along Grayson Avenue from Main Street west to Crane Avenue before extending north along Sulphur Creek and back to Main Street.

One of the prime circulation objectives of the Plan is to "Improve circulation and access for the easterly portion of the Specific Plan area through upgrading existing roads and providing for the installation of new traffic signals at the intersection of Highway 29/Grayson Avenue/Mills Lane and the intersection of Highway 29/Dowdell Lane." Specific components of Plan include the following:

- A traffic signal at Highway 29 and Grayson Avenue for any new development on both the east and west sides of Highway 29 (completed);
- A traffic signal at Highway 29 and Dowdell Lane for any new development on the east side of Highway 29; and
- Realignment of Mills Lane (south to Grayson Avenue), for any new development on the east side of Highway 29.

As part of the above circulation improvements, additional right-of-way and turn lanes would be required as follows:

- Installation of a traffic signal at the reconfigured intersection (Highway 29/Grayson Avenue/Mills Lane) constructed to Caltrans standards that will include a westbound (northbound) left-turn lane onto Grayson Avenue (partially completed);
- Installation of an northbound right-turn lane from Highway 29 onto realigned Mills Lane to minimize back-up of turning vehicle on Highway 29;
- Installation of acceleration and deceleration lanes at the intersection of Highway 29 and Mills Lane. This will require acquisition of additional right-of-way at the intersection to accommodate these new lanes.

As previously noted, Caltrans has completed the Highway 29 St. Helena Lane Channelization project in the study area. The limits of the Channelization Project extend between Mee Lane and Charter Oak Avenue. In coordination with the City of St. Helena, a new traffic signal was activated at the Grayson Avenue/SR 29 as part of this overall lane channelization project on SR 29 in November 2016. Channelization introduced a separate northbound left-turn lane on Highway 29 at Grayson Avenue. In addition, a separate southbound left-turn has been installed on Highway 29 at Mills Lane (these northbound/southbound left-turns lanes at Grayson Avenue and Mills Lane were designed as part of the overall Highway 29 Lane Channelization project).

Circulation improvements in the project study area related to Highway 29 Specific Plan that have not been completed include the following:

- Realignment of Mills Lane south to Grayson Avenue; and
- Signalization of the Highway 29/Dowdell Lane intersection.

The Highway 29 Specific Plan recommends the potential funding mechanisms for remaining circulation improvements in the study as follows:

Mills Lane Realignment: For that portion of the Specific Plan area lying east of SR 29 and adjacent to Mills Lane, new and upgraded improvement costs are estimated at \$1,926,000, which does not include right-of-way costs. These improvements shall be borne by benefitting development north and south of Mills Lane. Anticipated improvements include realignment of Mills Lane, the extension of Fountain Street and relocation of the existing Napa Valley Wine Train railroad crossing at Mills Lane and SR 29.

Highway 29/Dowdell Lane Traffic Signal: Although this signal location is outside of the Specific Plan area, it will serve existing and new development on the east side of SR 29 and is planned to operate in synchronization with the Highway 29/Grayson Avenue/Mills Lane intersection. The City of St. Helena collected fees specifically for the installation of the SR 29/Grayson Avenue/Mills Lane signal from development that occurred on the east side of SR 29 in the 1980's. These funds may be supplemented by City of St. Helena traffic mitigation funds. New development elsewhere in the community may be required to pay their fair share of the traffic signal costs based on their contribution of traffic to this intersection in addition to City-wide traffic impact fees.

Given that the Highway 29 Specific Plan circulation improvements for the Mills Lane realignment and signalization of the SR 29/Dowdell Lane intersection have yet to be completed (or funded), the proposed

project will contribute a “fair share” contribution to these Highway 29 Specific Plan circulation improvements based on their contribution to cumulative year 2035 volumes at this roadway/intersection.

Using the weekday PM peak hour proposed project trip generation (worst case), the project would contribute 11 PM peak hour trips to the roadway and intersection network at SR 29. Based on a net increase between existing and cumulative year 2035 PM peak hour volumes at the SR 29/Dowdell Lane intersection, the proposed project contribution would represent 1.7% of cumulative traffic volumes (11 project trips / 632 net cumulative traffic increase). As a condition of approval, the applicant shall pay a fee, based on the project’s contribution to cumulative traffic volumes, for the future signalization of SR 29/Dowdell Lane and/or the realignment of Mills Lane. As such, the proposed project would have contributed its fair share towards overall circulation improvements in the Highway 29 Specific Plan area.

Conclusion

As described above, the project will not degrade any of the intersections to the next lowest level of service, particularly those exhibiting an LOS C or better, nor will the project generate volumes such that signal warrant criteria would be satisfied. Proposed project traffic would add less than one (1) second of overall vehicle delay to the four study intersections: SR 29/Mills Lane; SR 29/Grayson Avenue; SR 29/Dowdell Lane; and La Fata Street/Dowdell Lane. Proposed project traffic would typically make up less than one (1) percent of overall peak hour volumes for unsignalized intersections on SR 29, with the exception of the SR 29/Dowdell Lane intersection, where proposed project trips would make up 1.1% of overall traffic volumes during the weekend mid-day peak hour. As such, the project would have less than significant impacts due to a conflict with the circulation network.

5.16(b) (Congestion Management Plan) No Impact: Napa County has not adopted a Congestion Management Plan. As such, the proposed project would not exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways. No further analysis of this issue is required.

5.16(c) (Air Traffic Patterns) No Impact: There are no airports in St. Helena. The closest airports to the project site are the Angwin-Parrett Field (6 miles away), a public use general aviation airport located in Angwin; Charles M. Schulz Airport (19 miles away), a public airport located in Santa Rosa; and Napa County Airport, a public airport located in Napa (22 miles away). The project will have no impact on air traffic patterns, given the nature and location of the project, which is well outside of the airport influence area.

5.16(d) (Design Feature Hazard) No Impact: Sight distances for vehicles turning in/out of the winery driveways were evaluated as part of the Focused Traffic Analysis. The desired vehicle visibility or “corner sight distance” is a function of the travel speeds on the primary street. Caltrans design standards indicate that for appropriate corner sight distance, “a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the cross road and the driver of an approaching vehicle in the right lane of the main highway.” The speed limit on La Fata Street is 25 mph but traffic flows are generally lower given the relatively short segment of roadway between Mills Lane and Dowdell Lane.

Based on the Caltrans design standards, the La Fata Street project driveway(s) require a sight distance of about 150 feet. Visibility on La Fata Street to the north and south is approximately 150 feet from the mid-block driveway; as such, the sight distance is adequate. Therefore, no impacts would due to the project introducing a hazardous design feature.

5.16(e) (Emergency Access) Less Than Significant Impact: The minimal increase of construction vehicles traveling to and from the project site on a temporary basis would not result in inadequate emergency access. In order to construct the project, road closure is not anticipated. The project's internal circulation plan has been reviewed and meets all requirements of the St. Helena Public Works & Utilities and Fire Departments. Site circulation was determined to be adequate, including sufficient street widths to allow for fire truck turn around and sufficient access to the existing and proposed building expansion. Therefore emergency vehicle access is adequate and potential impacts will be less than significant.

5.16(f) (Transit, Bicycle, Pedestrian Facilities) No Impact: Currently, there are no pedestrian or bicycle facilities on La Fata Street and Dowdell Lane along the proposed project frontages. Existing pedestrian sidewalks are located on the south side of Dowdell Lane both east and west of La Fata Street and on La Fata Street (both sides) south of Dowdell Lane. There is no proposed aspect of the project that would directly decrease performance or safety of existing alternative transportation facilities. Therefore, no impacts to transit, bicycle and pedestrian facilities are anticipated.

Mitigation Measures: None Required.

5.17. TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project 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:				
i) 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	☐	☐	☐	☒
ii) 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 the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐
Sources: City of St. Helena 1993 General Plan and General Plan EIR; Sharaya Souza, Native American Heritage Commission, letter to M-Group, May 15, 2017.				

Tribal Cultural Resources Setting:

Tribal Cultural Resources are defined as follows:

1. Sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe that are either (A) included or determined to be eligible for inclusion in the CRHR, or (B) included in a local register of historical resources as defined in subdivision (k) of §5020.1.; or,
2. A resource that the lead agency chooses, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of §5024.1 - taking into account the significance of the resource to a California Native American tribe.

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed for the area of potential project effect for the Las Alcobas Pedestrian Bridge project, located approximately 1.25 miles northwest of the project site, with negative results.¹³ Since the St. Helena Custom Crush Facility is located in the same USGS Quadrangle as the Las Alcobas Pedestrian Bridge project, the Sacred Lands File search is applicable to the proposed project.

In accordance with the provisions of Public Resources Code §2080.3.1(d) and Assembly Bill 52, the City of St. Helena notified Tribes having jurisdiction over all or part of the project sites of the proposed project in a letter post stamped September 5, 2017. The following tribes were contacted: Cortina Band of Indians, Middletown Rancheria of Pomo, Wappo, and Yocha Dehe Wintun Nation. In accordance with Public Resources Code §21083.3.1, 21083.3.2, and 21083.3 the Tribes have thirty (30) days to request consultation.

Tribal Cultural Resources Impact Discussion:

5.17(a.i) (Listed or Eligible for Listing) No Impact: As stated above, a search of the Sacred Lands file was conducted for a nearby project within the same search area and did not indicate the presence of a Native American Sacred Site within or in the immediate vicinity of the project site. Additionally, the subject project is located on a site that is occupied by an existing industrial building and has been previously developed. The site is not located in an area with elevated potential for tribal resources. Therefore, the project would have no impact on a tribal cultural resource that is 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).

5.17(a.ii) (Significant Tribal Resource) Less Than Significant Impact: The City of St. Helena has not identified any tribal cultural resources and there are no known concerns associated with the proposed project impacting tribal cultural resources.

Ground disturbing activities will be limited to previously disturbed areas on a site that is developed with an existing industrial building and associated improvements. Given the disturbed and built up nature of the project site, and surrounding land uses that are developed with industrial and agricultural uses, it is unlikely that tribal cultural resources will be encountered. Additionally, mitigation set forth under the Cultural Resources discussion above, provides protection of cultural resources in the event of accidental discovery. Therefore, the proposed project would have less than significant impacts on Tribal Cultural Resources.

Mitigation Measures: None Required.

¹³ Sharaya Souza, Native American Heritage Commission, letter to M-Group, May 15, 2017.

5.18. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable San Francisco Bay Regional Quality Control Board?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Sources: Delta Consulting and Engineering, Stormwater Control Plan for the St. Helena Custom Crush Facility, March 17, 2017; Delta Consulting and Engineering, Theoretical Water Use Report for the St. Helena Custom Crush Facility, March 17, 2017; Delta Consulting and Engineering, Septic Feasibility Report for the St. Helena Custom Crush Facility, September 20, 2017; Delta Consulting and Engineering, Theoretical Sewer Capacity Analysis for the St. Helena Custom Crush Facility, September 20, 2017; Cal Recycle, <http://www.calrecycle.ca.gov/SWFacilities/Directory/28-AA-0002/Detail/>, accessed May 11, 2017.

Utilities and Service Systems Setting:

The proposed project is located within an urbanized environment within the City of St. Helena where utility infrastructure is in place and currently provided to the project site. The proposed project would not include any elements that would adversely affect utility services (water, wastewater, electricity, solid waste disposal).

The project site is currently well served by the following service providers:

- Water supply and distribution: City of St. Helena
- Wastewater collection and treatment: City of St. Helena
- Storm drainage: City of St. Helena
- Solid waste service: Upper Valley Disposal and Recycling
- Electrical and natural gas power: Pacific Gas and Electric Co.

Wastewater

The project site currently discharges effluent to the City of St. Helena's wastewater treatment system. The City's existing wastewater treatment plant capacity is limited by permit to 0.5 mgd per day during the three dry months of the year. The City has been notified by the Regional Water Quality Control Board that treatment plant upgrades and an amended permit are required. The capacity issues of the wastewater treatment plant are a function of nutrient load (intensity of effluent) and dry weather flow (amount of effluent). The Regional Water Quality Control Board has not requested that there be a moratorium on new connections to the treatment plant.

Water

The City of St. Helena provides domestic water to the project site. A Theoretical Water Use Report was prepared by Delta Consulting and Engineering for the proposed project on March 17, 2017 (see **Appendix E**). According to the report, the St. Helena Custom Crush office proposes four full-time and four part-time employees during harvest season. Assuming a maximum of eight employees' water use per day, the proposed water use is projected to be 120 gallons per day (0.13 acre-feet of water per year).

Solid Waste

Solid waste (including recyclable material) generated during project construction would be collected by Upper Valley Disposal and Recycling and delivered to the Clover Flat Landfill outside of Calistoga. The landfill is permitted to receive 600 tons per day and as of September 2012 had 2,870,000 cubic yards of capacity remaining.

Utilities and Service Systems Impact Discussion:

5.18(a,b) (Exceed Wastewater Treatment Requirements, New On-Site Water or Wastewater Treatment Facilities) Less Than Significant Impact: A Theoretical Sewer Capacity Analysis was prepared by Delta Consulting and Engineering for the proposed project on September 20, 2017 (see **Appendix F**). Delta Consulting and Engineering also prepared a Septic Feasibility Report on September 20, 2017 for the proposed project (see **Appendix G**).

Municipal wastewater for the project site would be discharged to the city's municipal sewer system. An existing 10-inch-diameter sewer main is located at the intersection of La Fata Street and Dowdell Lane. The 10-inch sewer main flows from a manhole located at the intersection of Dowdell Lane and La Fata Street in a southwestern direction to a manhole located at the intersection of La Fata Street and Vintage Avenue. At this intersection, the sewer main outfalls to and joins the Vintage Avenue sewer main which flows northeast towards the City of St. Helena Wastewater Treatment Plant.

According to the City of St. Helena Public Work Department, the maximum capacity of a gravity sewer main shall be based on the pipe flowing 2/3 full. Per the sewer capacity calculations outlined in the Sewer Capacity Analysis, the 10-inch sewer main in the vicinity of the project site has the capacity to convey

approximately 1.6 cubic feet per second (cfs) or 710 gallons per minute (gpm) when the pipe is flowing 2/3 full.

Currently, the sole source of wastewater flowing to the manhole at the La Fata Street and Dowdell Lane intersection and corresponding downstream 10-inch sewer main is from the existing Napa Valley Wine Warehouse. The Napa Valley Wine Warehouse consists of several different businesses which releases wastewater to a lift-station located at the southwest side of the building. The lift-station conveys the building's effluent via a force main to the manhole located in the La Fata Street right of way, approximately 280 feet northwest of the manhole located in the intersection of Dowdell Lane and La Fata Street. The 8-inch sewer main conveys wastewater to the manhole at the intersection of La Fata Street and Dowdell Lane where it outfalls to the subject 10-inch sewer main. The new Custom Crush Facility would connect to the existing 8-inch sewer main.

The Napa Valley Wine Warehouse was approved under the Use Permit Amendment 96-114 to generate up to 2,500 gallons per day (gpd). Based on water meter readings, the peak water use of 35,156 gallons occurred in the month of March 2015. Assuming all the water which passes through the meter generates effluent on a one-to-one ratio, and based on a typical 8-hour workday, approximately 1,172 gallons gpd (3 gpm) is generated from the existing facility. As such, the Napa Valley Wine Warehouse is only generating about half of their approved wastewater amount. The subject 10-inch sewer main capacity of 710 gpm vastly exceeds the currently estimated peak flow rate of 3 gpm from the existing warehouse.

The Custom Crush Facility is applying for a use permit to produce 120,000 gallons of wine per year. Calculations to develop wastewater flow rates based on this production capacity are described in the project's Septic Feasibility Report. The report estimated a peak daily wastewater flow generated from the Custom Crush Facility to be 5,700 gpd. The peak daily flow was averaged over a typical harvest day, which is spread over twelve (12) hours. This resulted in a peak flow rate of approximately 8 gpm, which will outfall to the proposed onsite pre-treatment facility that will process wine production wastewater. The pre-treatment facility includes a pH monitoring system that would adjust the pH when required to maintain a pH value between 6.5 and 8.5.

Following pre-treatment, the water would move to the bed biofilm reactor tank, where bacteria metabolize dissolved compounds. The bacteria produce a gel-like substance that allows them to agglomerate and form "flocs." These flocs are bound clusters of bacteria that gather fine inert particles called suspended solids.

The water would then flow to the clarifier, where the bacterial flocs, along with any suspended solids, would be separated from the pre-treated wastewater. The flocs are heavier than the water and sink to the bottom of the clarifier, and the pre-treated water would flow over weirs. Some of the separated biological solids, referred to as sludge, would be returned to the bed biofilm reactor tank to replenish the bacterial population. A smaller proportion of the biological solids, along with the pre-treated water, would be pumped via a lift station at 4.2 gpm into the existing 8-inch gravity sewer main in La Fata Street.

Delta Consulting and Engineering performed a similar Sewer Capacity Analysis for the Redmon Ranch Winery Use Permit, which proposes to contribute a flow to the same 10-inch sewer main in La Fata Street. The Redmon Sewer Capacity Analysis estimated a discharge flow rate between 10-40 gpm. The discharge range is due to the pending pump final design for the Redmon Ranch Winery project. Assuming the maximum flow rates, a combined wastewater discharge of 44.2 gpm (4.2 + 40) will be added to the 10-inch sewer main pipe in La Fata Street.

As previously stated, the capacity of the existing 10-inch sewer main in La Fata Street, downstream of the manhole at the intersection of La Fata Street and Dowdell Lane, has the capacity to convey 710 gpm when the pipe is flowing 2/3 full. The current wastewater flowing through this pipe is estimated to be 3.25 gpm. The project proposes to connect to the sewer system with an additional rate of 4.2 gpm. Redmon Ranch Winery is estimated to contribute an additional maximum peak flow of 40 gpm. A summation of the existing and proposed wastewater generation results in a total peak flow of 47.45 gpm. Based on this analysis, the existing 10-inch sewer main in La Fata Street is adequate to accommodate the proposed wastewater flows from development of the Custom Crush Facility. The 10-inch sewer main in La Fata will have an additional 662.55 gpm or 93% remaining capacity after development of both the proposed project and the Redmon Ranch Winery Project.

As discussed in response 5.18 (d) below, construction and operation of the Custom Crush Facility will not result in an increase in water use over existing baseline conditions. Therefore, implementation of the project would not require the construction of new water facilities or the expansion of existing water facilities.

In conclusion, the project is not expected to exceed wastewater treatment requirements set forth by the Regional Water Quality Control Board. While the project will include a self-contained wastewater treatment system, the estimated wastewater generation of the proposed project falls within the capacity of the existing sanitary sewer lines and the City's wastewater treatment plant as discussed in subsections 5.18 (b) and (e) below. Although the project will include industrial uses that would generate wastewater requiring special treatment the project include a pre-treatment facility onsite. Therefore, the project would not exceed wastewater treatment requirements nor require the construction of new water or wastewater treatment facilities or expansion of existing facilities. As such, impacts would be less than significant.

5.18(c) (Require New Stormwater Facilities) Less Than Significant Impact: Approximately 17,576 square feet of new impervious surfaces area will be added to the project site under the proposed expansion of the existing building and ancillary improvements. New storm drains, a bio-retention facility, and a retention pond would be installed to accommodate stormwater flows at the project site. The proposed stormwater facilities would follow the "Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties (DGSTC)", prepared for the Bay Area Stormwater Management Agencies Association (BASMAA). Bio-retention Low Impact Development (LID) Facilities would be sized at a minimum of 4% of the equivalent tributary area, as specified in the Phase II Stormwater National Pollutant Discharge Elimination System (NPDES) Permit. These facilities would be designed in accordance with the Bioretention Facility Design Criteria beginning on Page 4-3 of the DGSTC.

Storm drains would be utilized throughout the project site to direct stormwater from impervious areas, to the bioretention facilities at locations specified in the Stormwater Control Plan. To treat the stormwater derived within the project area, a bio-retention facility and a retention pond are proposed. The bio-retention facility is proposed to comprise 4% of the new impervious tributary area. The new retention pond will a slightly expanded capacity relative to the existing retention pond in order to accommodate additional stormwater runoff from new impervious areas. All stormwater runoff conveyed to the retention pond will be allowed to evaporate, infiltrate into the ground, or during heavy rain events spill directly over the spillway into the gutter on Dowdell Lane and La Fata Street.

In addition, the City of St. Helena collects Storm Drainage Impact Fees, which are assessed based on the square footage of new impervious surfaces as a means to mitigating any potential storm drainage impacts generated by development. The proposed project is not expected to significantly increase runoff relative to the existing condition since the project site will be improved with an onsite storm drain system that conveys runoff to the proposed bioretention facilities. Therefore, the project is expected to result in less than

significant impacts due to the expansion of existing storm water drainage facilities or construction of new facilities.

5.18(d) (Sufficient Water Supplies) Less Than Significant Impact: During construction, water would be required primarily for dust suppression and would also be used for soil compaction. Construction water volumes would be minimal and would not require new or expanded water supplies or entitlements.

As stated above, the existing baseline water use is approximately 240 gallons per day or 0.18 acre-feet of water per year. By adding a new winery production building and re-purposing an existing commercial office space, the proposed potable water use will be approximately 240 gallons per day or 0.18 acre-feet of water per year. As such, the Custom Crush Facility's water use will remain water neutral. In addition, to municipal water supplies, the proposed Custom Crush Facility will utilize the existing groundwater well onsite for production. As such, during project operation, no new or expanded entitlements to provide potable water would be required. Therefore, impacts to water supplies would be less than significant.

5.18(e) (Wastewater Treatment Capacity) Less Than Significant Impact: As previously discussed under item 5.18 (a), the proposed project would result in a net increase of 4.2 gpm in flows conveyed and treated at the City of St. Helena Wastewater Treatment Plant. The City's existing wastewater treatment plant capacity is limited by permit to 0.5 mgd during the three dry months of the year. The City has been notified by the Regional Water Quality Control Board that treatment plant upgrades and an amended permit are required. The capacity issues of the wastewater treatment plant are a function of nutrient load (intensity of effluent) and dry weather flow (amount of effluent). The Regional Water Quality Control Board has not requested that there be a moratorium on new connections to the treatment plant. As such, the City of St. Helena Wastewater Treatment Plant has sufficient operating capacity to handle the additional wastewater flows generated at the project site. Therefore, the project will have less than significant impacts related to the adequacy or capacity of wastewater treatment facilities.

5.18(f-g) (Landfill Capacity) Less Than Significant Impact: During construction, the project would generate solid waste from concrete and asphalt from the removal of existing improvements and vegetation waste from tree removal. Consistent with the 2016 Cal Green Tier 1 Mandatory Measures, the applicant will be required to recycle or salvage at least 65 percent of nonhazardous construction and demolition waste and prepare a Construction Waste Management Plan that documents the diversion of materials as required by CalGreen.¹⁴ Accordingly, impacts associated with construction waste will be less than significant.

At operation, the project would continue to generate additional solid waste. Although the waste stream generated by the project is expected to increase during construction and operation, it is not expected to exceed landfill capacity and is not expected to result in violations of federal, state, or local statutes and regulations related to solid waste. Therefore, implementation of the project will result in less than significant impacts to the local landfill's permitted capacity for solid waste disposal, as well as federal, state, and local statutes and regulations.

Mitigation Measures: None Required.

¹⁴ 2016 California Green Building Standards Code, Effective January 2, 2017.

5.19. MANDATORY FINDINGS OF SIGNIFICANCE (CAL. PUB. RES. CODE §15065)

A focused or full environmental impact report for a project may be required where the project has a significant effect on the environment in any of the following conditions:

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Mandatory Findings Discussion:

5.19(a) (Degrade the Environment): Less Than Significant Impact: The project is consistent with the General Plan Land Use and goals, policies and programs of the City of St. Helena. With implementation of mitigation measures set forth above under Air Quality, Biological Resources and Cultural Resources, the project's potential impacts would be reduced to levels below significance. As such, the project will not degrade the quality of the environment, reduce habitat, or adversely affect cultural resources. Therefore, the project will have less than significant impacts due to degradation of the environment.

5.19(b) (Cumulatively Affect the Environment) Less Than Significant Impact: The CEQA Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or increase in environmental impacts. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the proposed project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (Guidelines, Section 15355(a)(b)).

The analysis of cumulative impacts for each environmental factor can employ one of two methods to establish the effects of other past, current, and probable future projects. A lead agency may select a list of projects, including those outside the control of the agency, or, alternatively, a summary of projections. These projections may be from an adopted general plan or related planning document, or from a prior environmental document that has been adopted or certified, and these documents may describe or evaluate the regional or area-wide conditions contributing to the cumulative impact.

This Initial Study evaluates cumulative impacts using the General Plan EIR. As described in the analysis above, potential environmental impacts are expected to remain at, or be mitigated to, less than significant levels. The project does not increase the severity of any of the cumulatively considerable impacts from the levels identified and analyzed in the General Plan EIR. Therefore, the project's cumulative impacts will be less than significant.

5.19(c) (Substantial Adverse Effect on Humans) Less Than Significant Impact: As reflected in the analysis above for each environmental topic, the project does not have the potential to result in substantial adverse impacts to humans. Therefore the project will have less than significant impacts due to substantial adverse environmental effects.

6. REFERENCE DOCUMENTS

Technical Appendices

The following resources were prepared in order to further identify project specific parameters. Copies of these technical documents are incorporated herein by reference and are available for review during normal business hours at the City of St. Helena. Questions or requests to review any of the technical appendices listed below may be directed to Noah Housh, Planning and Community Improvement Director, at nhoush@cityofsthelena.org.

- A. Use Permit Plans, prepared by Delta Consulting and Engineering, March 17, 2017.
- B. *Northwest Information Center File No. 16-1591*, May 4, 2017.
- C. *Stormwater Control Plan for the St. Helena Custom Crush Facility*, prepared by Delta Consulting and Engineering, September 20, 2017.
- D. *Water Well Yield Test*, prepared by Doshier Gregson, March 24, 2016.
- E. *Theoretical Water Use Report for the St. Helena Custom Crush Facility*, prepared by Delta Consulting and Engineering, March 17, 2017.
- F. *Theoretical Sewer Capacity Analysis for the St. Helena Custom Crush Facility*, prepared by Delta Consulting and Engineering, September 20, 2017.
- G. *Septic Feasibility Report for the St. Helena Custom Crush Facility*, prepared by Delta Consulting and Engineering, September 20, 2017.
- H. *Focused Traffic Impact Analysis for the St. Helena Custom Crush Facility*, prepared by Omni Means Engineering Solutions, July 2017.

Other Documents Referenced

- 1. *2016 Napa County Earthquake Hazard Map*, prepared by the Association of Bay Area Governments, <http://resilience.abag.ca.gov/earthquakes/napa/>, Accessed May 5, 2017.
- 2. *BAAQMD 2017 Bay Area Clean Air Plan*, prepared by the Bay Area Air Quality Management District, April 2017.
- 3. *California Department of Conservation Farmland Mapping and Monitoring Program*.
- 4. *California Environmental Quality Act Air Quality Guidelines*, prepared by the Bay Area Air Quality Management District, May 2017.
- 5. *California Scenic Highway Mapping System*, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, Accessed May 3, 2017.

6. *CalRecycle Central Disposal Site*, <http://www.calrecycle.ca.gov/SWFacilities/Directory/28-AA-0002/Detail/>, Accessed May 11, 2017.
7. City of St. Helena 1993 General Plan EIR.
8. City of St. Helena 1993 General Plan.
9. *Highway 29 Specific Plan*, prepared by TJKM Associates and SP2 Engineering, Inc., February 22, 2005.
10. *Napa County Tsunami Inundation USGS 24K Quads*, prepared by California Department of Conservation, http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Napa, Accessed May 17, 2017.
11. *St. Helena Bicycle Plan*, prepared by the Napa County Transportation & Planning Agency and the City of St. Helena, January 2012.
12. *Susceptibility Map of the San Francisco Bay Area*, prepared by U.S. Geological Survey, <https://geomaps.wr.usgs.gov/sfgeo/liquefaction/susceptibility.html>, Accessed May 5, 2017.
13. *University of California Museum of Paleontology, Miocene Mammal Mapping Project (MioMap)*, <http://www.ucmp.berkeley.edu/miomap/>, Accessed May 10, 2017.

7. MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Monitoring and Reporting Program

Custom Crush Facility
420 La Fata Street

Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring Schedule	Verification
<u>AIR QUALITY</u>				
AQ-1: Latest BAAQMD recommended Best Management Practices (BMPs) to control for fugitive dust and exhaust during all construction activities shall be incorporated into all demolition and construction plans to require implementation of the following (the following shall be augmented as warranted based on forthcoming BAAQMD updated recommended mitigation measures that may be in effect when onsite development is proposed in the future): 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered three times per day using recycled water. 2. All haul trucks transporting soil, sand, or other loose material 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	Project Applicant	St. Helena Planning and Building Department St. Helena City Engineer	Prior to issuance of grading permit and ongoing throughout project construction	

Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring Schedule	Verification
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 mechanic and determined to be running in proper working condition prior to operation. 8. Construction equipment staging shall occur as far as possible from existing sensitive receptors (away from the southeast property line and surrounding residences). 9. 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.				
<u>BIOLOGICAL RESOURCES</u> BIO-1: In order to avoid impacts to birds protected under the Migratory Bird Treaty Act, site preparation activities, including the removal of trees, should occur outside of the bird-nesting season between September 1st and January 31st. If work occurs between February 1st and August 31st, a pre-construction bird nesting survey shall be conducted no more than 15 days prior to tree removal. The bird nesting survey will include both an examination of buildings and all trees onsite and within 200 feet of the Limits of Work, which may include offsite trees or structures.	Project Applicant Project Biologist	St. Helena Planning and Building Department	Prior to construction activities Ongoing throughout project construction	

Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring Schedule	Verification
If birds are identified, then a qualified biologist will establish a temporary protective nest buffer around the nest(s). The nest buffer will be staked or fenced to establish a perimeter. The buffer shall be of sufficient size to protect the nesting site from construction-related disturbance and shall be established by a qualified ornithologist or biologist. Typically, adequate nesting buffers are 75 feet from the nest site or nest tree dripline for small birds and up to 200 feet for sensitive nesting birds such as raptors. No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1st unless it is determined by a qualified ornithologist/biologist who is monitoring nesting behavior that the young have left the nest and have attained sufficient flight skills to avoid construction zones, or that the nesting cycle is otherwise completed. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed and construction may commence. The biologist/ornithologist conducting the surveys shall provide the City of St. Helena with a report detailing the results of the survey and any recommendations required for establishment of protective buffers, if tree removal occurs between February 1st and August 31st.				
<u>CULTURAL RESOURCES</u> CUL-1: If during the course of ground disturbing activities, including, but not limited to excavation, grading and construction, a potentially significant prehistoric or historic resource is encountered, all work within a 100 foot radius of the find (or as otherwise directed by a qualified archeologist) shall be suspended for a time deemed sufficient for a qualified and city-approved archeologist to adequately evaluate and determine significance of the discovered resource,	Project Applicant	St. Helena Planning and Building Department	Ongoing throughout project construction	

Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring Schedule	Verification
confer with tribal representative, as appropriate, and provide treatment recommendations. Should a significant cultural resource be identified, a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. CUL-2: In the event that paleontological resources, including individual fossils or assemblages of fossils, are encountered during construction activities all ground disturbing activities shall halt and a qualified paleontologist shall be procured to evaluate the discovery and make treatment recommendations.	Project Applicant	St. Helena Planning and Building Department	Ongoing throughout project construction	
<u>HYDROLOGY AND WATER QUALITY</u> HYDRO-1: In accordance with the National Pollution Discharge Elimination System regulation, the applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) prior to construction. The SWPPP shall address erosion and sediment controls, proper storage of fuels, temporary erosion control including fiber rolls, staked straw bales, geofabric, and sandbag, and identification for use and cleanup of hazardous materials. Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures. A Notice of Intent, fees, and other required documentation shall be filed with the Regional Water Quality Control Board. During construction, a monitoring report shall be conducted weekly during dry conditions and three times a day during storms that produce more than 1/2" of precipitation.	Project Applicant	St. Helena Planning and Building Department	Prior to construction activities Ongoing throughout project construction	



STORMWATER CONTROL PLAN (SCP)

REGULATED PROJECT

FOR THE

ST. HELENA CUSTOM CRUSH WINERY USE PERMIT

PROJECT LOCATED AT

420 LA FATA STREET
ST. HELENA, CA 94574

COUNTY: NAPA
APN: 009-660-004

INITIAL SUBMITTAL: APRIL 6TH 2016
REVISION #1 SUBMITTAL: MARCH 17, 2017
REVISION #2 SUBMITTAL: SEPTEMBER 20, 2017

PREPARED FOR REVIEW BY:

CITY OF ST. HELENA
1480 MAIN STREET
ST. HELENA, CA 94574



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INTRODUCTION AND GENERAL REQUIREMENTS

This Stormwater Control Plan (SCP) has been prepared in coordination with Appendix D of the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual dated July 14th, 2014, Titled "Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties.

On February 5, 2013, California's State Water Resources Control Board reissued the Phase II Stormwater National Pollutant Discharge Elimination System (NPDES) Permit for Small Separate Storm Sewer System (MS4s). To assist applicants in demonstrating project compliance with the NPDES permit requirements. As detailed in the BAASMA Post Construction Manual, projects can fall into one of four classifications:

- Exempt due to creation or replacement of less than 2,500 square feet (SF) of impervious area.
- Single Family Homes which create or replace 2,500 square feet (SF) or more of impervious surface.
- Small Projects which create or replace between 2,500 and 5,000 SF of impervious surface.
- Regulated Projects which create or replace 5,000 SF or more of impervious surface.

This project was concluded to be a "Regulated Project" due to the construction of impervious areas above 5,000 sf. This Stormwater Control Plan (SCP) has been prepared per Chapters 3, 4, and 5 of the BASMAA Post-Management Manual and in conjunction with the Best Management Practices (BMPs) as shown on the revised Used Permit Plans prepared by this office dated March 17, 2017.



PROJECT DATA FORM

Project Name / Number	St. Helena Custom Crush Winery
Application Submittal Date	September 20, 2017 (Revision #2)
Project Location	420 La Fata Street, St. Helena CA 94574
Project Phase Number	N/A
Project Type & Description	The project includes the construction of a building on the northwest side of the existing warehouse along with an uncovered asphalt area for bin storage, and the construction of a concrete slab to install a waste water treatment system.
Total Project Site Area (Acres)	5.7 Acres
Total New or Replaced Impervious Surface Area (Square Feet)	New 17,576 sf Replaced 1,900 sf
Total Pre-Project Impervious Surface Area	182,740 sf
Total Post-Project Impervious Surface Area	200,316 sf



PROJECT SITE DESCRIPTION

Project Location and Description

The parcel is approximately 5.7 acres with relatively flat slopes ranging from 0 to 3 percent, and it is accessible via Dowdell Lane which intersects State Highway 29.

The project proposes to construct a new winery building on the northwest side of the existing warehouse which includes an open area of asphalt concrete that will be used to storage macro bins and other equipment as necessary. On the northeast side of the new building, a concrete slab will be constructed to support a waste water treatment system (WWTS). This WWTS will be used to treat the process waste water from the proposed facility. In addition, the project includes the relocation of the existing stormwater retention pond to the intersection of the parcel. Approximately 17,576 square feet of new impervious surfaces area will be added to the parcel.

Existing Site Features and Conditions

The parcel is approximately 5.7 acres. It has an existing vineyard, a driveway two parking lots, a retention pond, a picnic area, and a warehouse with approximately 112,000 sf of foot print. The vineyard is located parallel to Mills Lane on the northwest side of the parcel. The driveway located on the northeast side of the parcel with a mainly purpose to serve access and maintenance to the utility feature of the parcel. The parking lots with a capacity of approximately 70 vehicles are mainly to serve customers for the existing warehouse and commercial spaces in the property. One parking lot is located parallel to Dowdell Lane and the second one is located parallel to La Fata Street. The existing retention pond located on the northeast side of the parcel with approximately 41,000 cf, will be to the parcel corner by the intersection of Dowdell and La Fata. This new retention pond will have a slightly higher capacity than the existing one to support the new improvements. The picnic area will be improved and modified in order to accommodate the retention pond. The warehouse has some commercial spaces by Dowdell Lane of which they were mentioned in the project description.

Stormwater Control: Opportunities and Constraints

To minimize the impact from the proposed constructions, the implementations of Best Management Practices (BMPs), a bio-retention facility, and the relocation of the existing pond have been incorporated into the design to control the run-off rate and quality of stormwater discharged. In addition to the previous measures, grading and land clearing will only occur in the necessary areas for the development.

Following the natural gradient of the existing land, stormwater runoff currently travels as a sheet flow into the vineyards on the northwest side of the parcel. Based on the Natural Resources Conservation Service (NRCS) Custom Soil Resource Report, the subject parcel is mainly composed of Cortina (a very gravelly loam) and a small portion of Pleasanton Loam. Based on this information, the potential for stormwater runoff is expected to be minimal due to the high infiltration rate of the in-situ soils.

The relatively flat slopes on the subject parcel was one of the most difficult constraints to work with, so for this reason the implementation of two duplex sump/pump lift stations are being proposed to treat the stormwater runoff. For a complete detail on this system see utility plans attached to this application.



Stormwater Outfall Structures within Jurisdiction of DFG, RWQCB, and/or ACE

N/A

Slopes and Distances between Project Footprint and Open Stormwater Conveyance Systems

All the stormwater runoff derived from the new constructed impervious area will be collected by downspouts or storm drains. The stormwater will be routed to the bio-retention facility. Downstream of the bio-retention facility, the water will be collected and pumped to the new proposed retention pond. See Section D3 for information on stormwater conveyance into the bio-retention facility.

LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

Site Layout Optimization

Site Design BMP	Activity
Limit Development Envelope	One new building will be added to the parcel. The extension of the driveway will comply with the fire department standard for this new facility. The relocation of the retention pond (with slightly higher capacity as the existing) will reduce and minimize the stormwater runoff on the site.
Preserve Natural Drainage Features	Construction shall occur to minimize the disturbance of natural areas and to maximize the remaining natural land condition. An additional landscape area will be added to the surrounding of the new retention pond.
Minimize Impervious Areas	The proposed site plan proposes regrade part of the existing pavement area and reroute the stormwater into the new bio-retention facility.
Use of Drainage as a Design Element	The natural topography the land is relatively flat. For this reason, a bio-retention facility and the relocation of the retention pond are proposed to be constructed on site. Storm drain pipes will route stormwater runoff into a stormwater pump lift station that will convey it to the bio-retention facility and to the retention pond.



Use of Permeable Pavements

N/A

Dispersal of Runoff to Pervious Areas

At completion of the project, approximately 80% of the parcel will be covered with impervious areas. The existing impervious areas are already directed to an infiltration bed and to the retention pond. The new impervious or reconstructed areas will be directed to a new bio-retention facility. The bio-retention facility will collect and treat the stormwater runoff collected via downspouts and drop inlets from the building and from the uncovered asphalt area. Due to the relatively flat surface, a duplex sump/pump lift station will be proposed to collect the stormwater runoff and convey it into the bio-retention facility. A second duplex sump/pump lift station will deliver the excess stormwater into the new retention pond. See plans prepared by Delta Engineering for additional details on the proposed stormwater pumping system.

Stormwater Control Measures

To treat the stormwater derived within the project area, a bio-retention facility and a retention pond are proposed. The bio-retention facility shall comprise of a 4% of the new impervious tributary area. The new retention pond shall have approximately the same capacity as the existing retention pond. All stormwater runoff conveyed to the retention pond will be allowed to evaporate, infiltrate into the ground, or during heavy rainy events spill directly over the spillway into the gutter on Dowdell Lane and La Fata Street.

DRAINAGE DESIGN

Drainage Study

A. Drainage Management Areas

In order to analyze the impact of the impervious areas related to the project, the development area was divided into Drainage Management Areas (DMAs). Each DMA is associated with a specific storm water outfall location that will receive storm water runoff from an impervious or landscaped area.

DMA #1 is associated with the new proposed facility building, the uncovered area on the right side of the proposed building, and the new proposed driveway. DMA #2 is associated with the concrete slab that will support the wastewater treatment system.



B. Bioretention Facility Design

There is one DMA that requires a bio-retention facility. The sizing factor for the bio-retention facility is based on 4% of the total impervious area draining to the facility. See Table 1 below for stormwater runoff factors for the proposed bio-retention facility.

Table 1 Runoff Factors for small storms	
Roofs and paving	1.0
Landscaped areas	0.1
Bricks or solid pavers on sand base	0.5
Pervious concrete or asphalt	0.0
Turfblock or gravel	0.0

DMA #1 consists of three main areas.

- New building 11,428 sf.
- Storage area 1,175 sf.
- New and reconstructed driveway 5,973 sf.

Total impervious area of 18,576 sf.

The post-project surfaces consist of roof and asphalt paving with a runoff factor of 1.0. From the previous table, the minimum square footage required for the bio-retention facility is $18,576 \text{ sf} \times 4\% = 743 \text{ sf}$. A 900 sf bio-retention facility will be installed as part of the project design. For complete details on the calculations see Table 2 below.

Table 2 Bio-Retention Facility #1						
DMA name	DMA Area (square feet)	Post-project surface type	DMA Runoff Factor	DMA Area x runoff factor	Facility Name: Bio-Retention Facility #1	
1	18,576	Roofs and Asphalt	1	18,576	Sizing Factor	Minimum Facility Area (SF)
Total>				18,576	0.04	743
						900

C. Draining to Self-Retaining Areas

DMA #2 has a total impervious area of 900 sf, consisting of the concrete slab for the WWTS. The stormwater runoff will sheet flow toward the northeast and infiltrate into the existing vineyards.



SOURCE CONTROL MEASURES

Source Control BMPs

Please see below for a summary of the Source Control BMP Selection Worksheet which identifies all anticipated activities and potential pollutant sources associated with the project's use.

- a. Roads and Driveways – The new proposed driveway shall be paved with asphalt or similar material which shall minimize any dust generation. The driveway shall be sloped according to plans to help direct the storm water to its intended destination.
- b. Interior Storm Drain Inlets – Owner shall inspect and maintain drain inlets to prevent blockages and overflow.
- c. Landscaping – Minimal landscaping is proposed for the project due to the desire to maintain the existing woods surrounding the parcel. The existing woods and natural ground cover of the project site shall encourage infiltration and plant uptake.
- d. Roofs, Gutters and Downspouts – Gutters and downspouts shall be connected to the closed storm water system. See "New or Reconstructed Storm Water Conveyance Systems" for further details.
- e. Outdoor Storage Areas – Shall be keep clean and free of debris that might cause blockages in storm drains inlets.
- f. Processing Areas – Winery process area is undercover to keep rainwater out. Area shall be graded to prevent run-on and drains are plumbed to the wastewater system.
- g. Interior Floor Drains – All interior floor drains shall be plumbed to the sewer system and not connected to the storm drain system.



POST-CONSTRUCTION BMP IMPLEMENTATION AND MAINTENANCE AGREEMENT

The owners of the property shall work directly with the City of St. Helena on establishing a BMP Maintenance Agreement. This agreement shall be recorded with the City of St. Helena once the project construction has been completed. In this agreement, the owners agree to finance the maintenance required of the bio-retention facility described in this report. The Maintenance Agreement shall contain a plan including, but not limited to, all the best management practices described in this report. Construction documents for this project shall serve as the Implementation Agreement for the installation of the best management practices described in this report.

- General maintenance for bio-retention facilities: The following activities should be completed at least annually however the frequency should be adjusted in response to the needs of each facility.
- Clean up: Remove any soil or debris blocking the inlets or overflows. Remove trash that typically collects near inlets or gets caught in vegetation.
- Prune or cut back plants: To ensure flow into inlets and across the surface of the facility. Remove and replant as necessary. When replanting, maintain the design surface elevation and minimize the introduction of soil.
- Control weeds: Performed by manual methods and soil amendment. In response to problem areas or threatening invasions, corn gluten, white vinegar, vinegar-based products, or non-selective natural herbicides such as Burnout or Safer's Sharpshooter may be used.
- Add mulch (also called compost mulch): Reduces the ability of weeds to establish, keeps soil moist, and replenishes soil nutrients. Mulch is added from time to time as necessary to maintain a mulch layer thickness (some agencies require 3"). However, ensure the underlying soil surface beneath the mulch layer is a minimum 6" below the overflow elevation, consistently throughout the surface area of the facility. In particular, ensure that the top of the mulch layer is below the facility overflow, so that as the facility fills during a major storm, the entire surface is become wetted before the overflow elevation is reached.

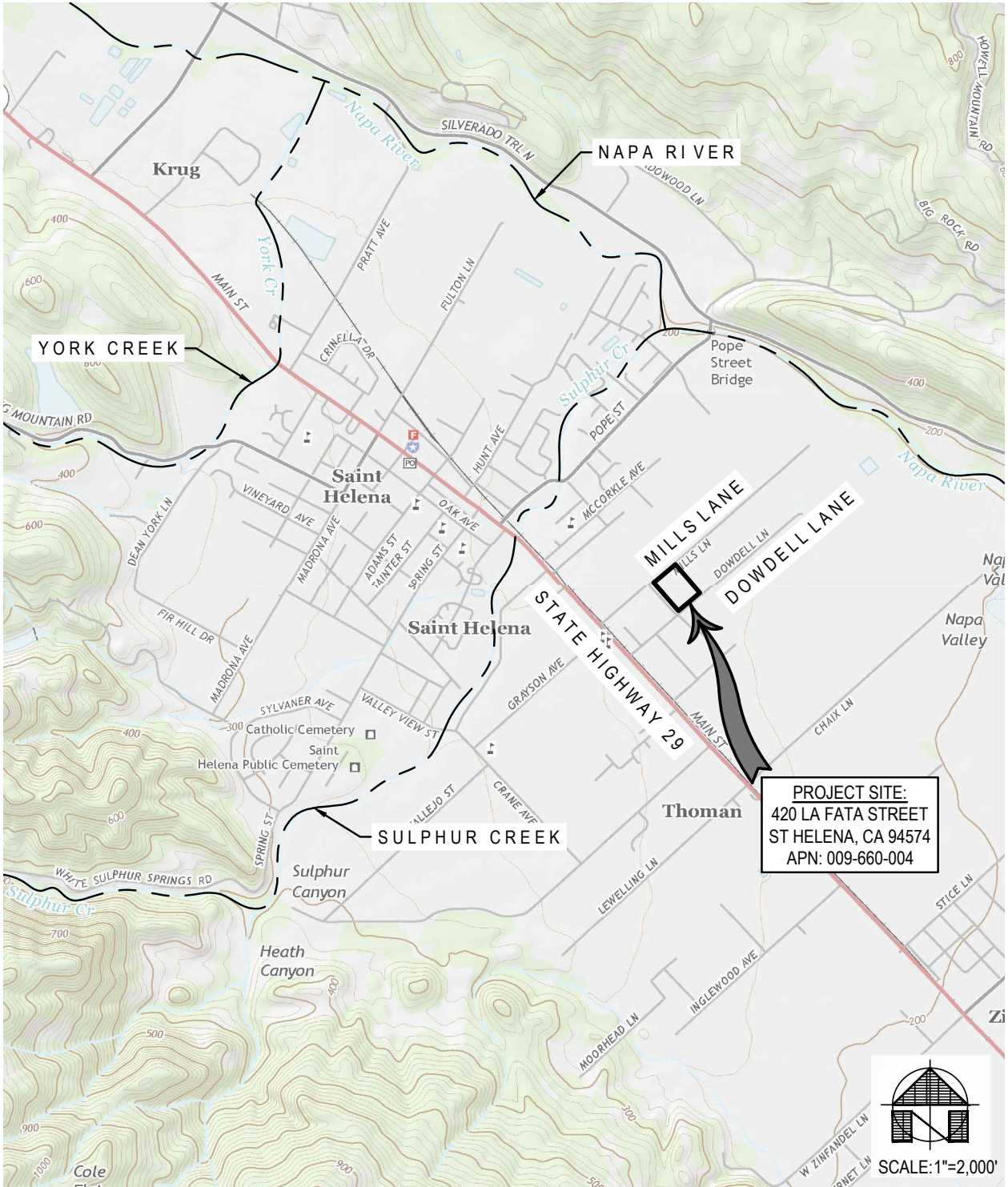
Landscape maintenance personnel should be aware of the following:

- Do not add fertilizer to bio-retention facilities: Compost tea, available from various nurseries and garden supply retailers, may be applied at a recommended rate of 5 gallons mixed with 15 gallons of water per acre, up to two weeks prior to planting and once per year between March and June. Do not apply when temperatures are below 50°F or above 90°F or when rain is forecast in the next 48 hours.
- Do not use synthetic pesticides on bio-retention facilities: Beneficial nematodes and non-toxic controls may be used. Acceptable natural pesticides include Safer® products and Neem oil.



APPENDIX A

VICINITY MAP



MAP IS FROM USGS 7.5 MIN SERIES MAP: RUTHERFORD & ST. HELENA

ST. HELENA CUSTOM CRUSH WINERY
VICINITY MAP

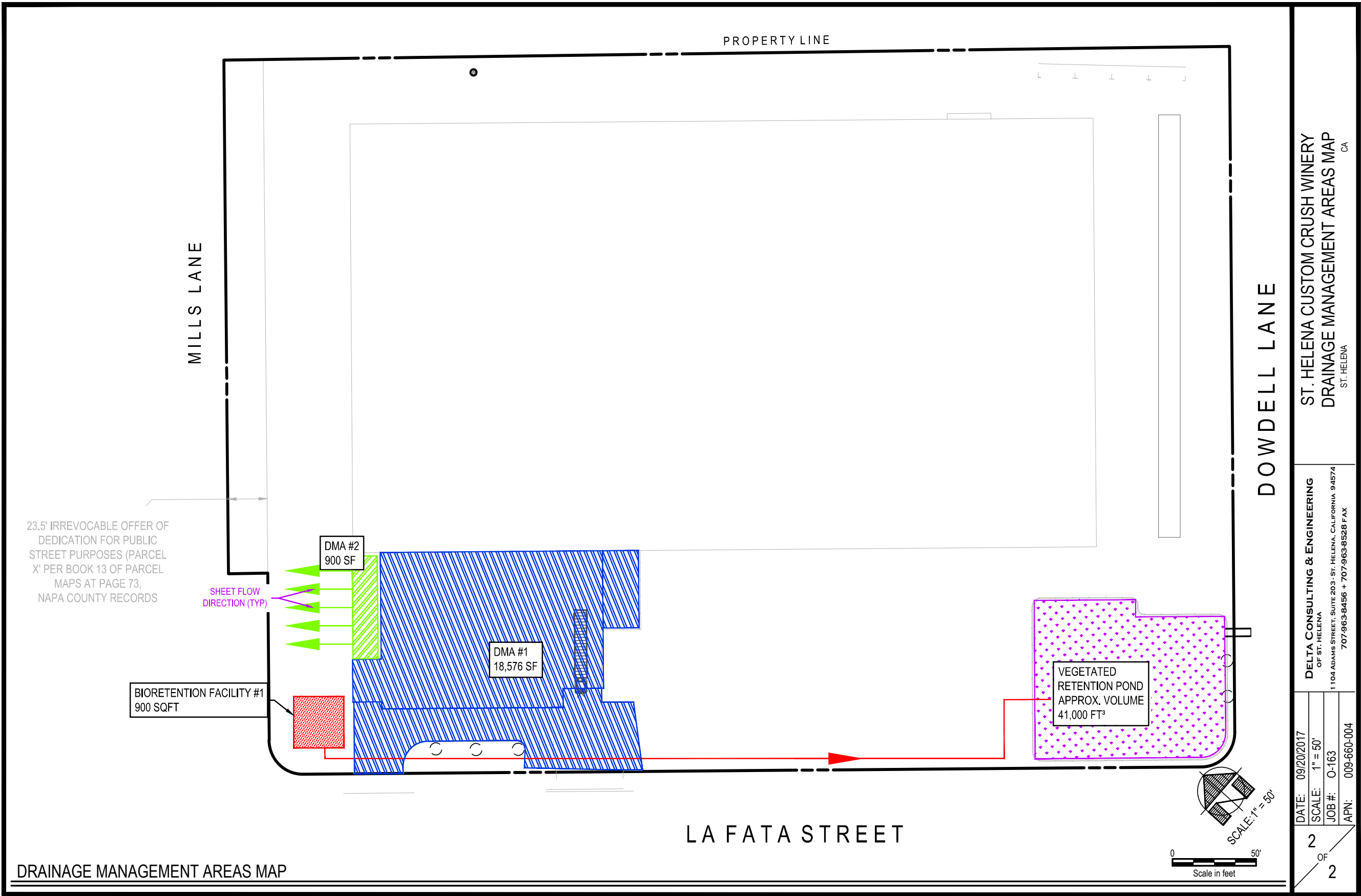
DELTA CONSULTING & ENGINEERING OF ST. HELENA 1104 ADAMS STREET, SUITE 203 - ST. HELENA, CALIFORNIA 94574 707-963-8456 + 707-963-8528 FAX	
DATE: 09/20/17	JOB # O-163
SCALE: 1"=2,000'	APN: 009-660-004

SHEET
1
OF
2



APPENDIX B

DRAINAGE MANAGEMENT AREA SITE MAP





5365 BROADWAY STREET
AMERICAN CANYON, CA 94503-9678
Contractor's License #258826

Napa (707) 226-9698 Vallejo (707) 642-9698

FAX (707) 226-1648

Report of Water Well Test

To: Napa Valley Wine Warehouse
420 La Fata
St. Helena, Ca. 94574

Site: 420 La Fata
St. Helena, Ca. 94574

Date/Time	Gallons per minute	Pumping Level	Psi	Water Clarity
03/24/16 7:30 am	22		35	
7:45	22	50'	35	
8:00	21	62'	35	
8:15	21	68'	35	
8:30	21	74'	35	
8:45	21	79'	35	
9:00	21	82'	35	
9:15	21	85'	35	
9:30	21	87'	35	
9:45	21	89'	35	
10:00	21	91'	35	
10:15	20	92'	50	
10:30	20	93'	50	
10:45	20	95'	50	
11:00	20	97'	50	
11:15	19.5	97'	50	
11:30	19.5	97'	50	
11:45	19.5	98'	50	
12:00 pm	19.5	98'	50	
12:15	19.5	98'	50	
12:30	19.5	98'	50	
12:45	19.5	98'	50	
1:00	19.5	98'	50	
1:15	19.5	98'	50	continued to next page

All Major Brands Available



5365 BROADWAY STREET
AMERICAN CANYON, CA 94503-9678
Contractor's License #258826

Napa (707) 226-9698 Vallejo (707) 642-9698

FAX (707) 226-1648

Report of Water Well Test

To: Napa Valley Wine Warehouse
420 La Fata
St. Helena, Ca. 94574

Site: 420 La Fata
St. Helena, Ca. 94574

Date/Time	Gallons per minute	Pumping Level	Psi	Water Clarity
Continued from previous page:				
03/24/16 1:30 pm	19.5	98'	50	
Recovery:				
1:31 pm		85'		
1:32		75'		
1:33		70'		
1:34		66'		
1:35		60'		
1:40		55'		
1:45		52'		
1:50		49'		
1:55		46'		
2:00		43'		
2:15		35'		
2:30		30'		
2:45		27'		
3:00		24'		
3:15		22'		
3:30 pm		21'		
These are the results after a 6 hour test and 2 hour recovery using existing equipment. Gallons per minute produced at time of final test: 19.5 Results of above reported test not warranted beyond this date.				

All Major Brands Available



5365 BROADWAY STREET
AMERICAN CANYON, CA 94503-9678
Contractor's License #258826

Napa (707) 226-9698 Vallejo (707) 642-9698

FAX (707) 226-1648

Surface Inspection Report

Job Site: 420 La Fata St. Helena, Ca. 94574 Date: 03/24/16

Well: Drilled: Yes Dug: _____ WO# 32127

Casing: Material: PVC Diameter: 6" Depth: 545'

Sanitary Seal: (inground) Yes Well Cap: Yes Condition: _____

Height above grade: 20" Comments: Good Condition: Good

Pump & Motor: Make: Grundfos & Franklin Model: 16S30-24 Date Code: 89

Horsepower: 3HP Phase: Three

N.P. Voltage: 460 N.P. Amps: 4.8 S. F.: 1.15

Pump Condition: Good Shut Off Head: 500'

Flow Rate: Open Discharge: 22 G.P.M. Operating Pressure: 19

Motor Continuity: (10) R-Y: _____ Y-B: _____ R-B: _____ (30)RX-1 3

Motor Ground: (RX100K): Good Amps (actual): _____

Amps: Open discharge: 4.9 Amps: Operating Pressure: 4.8

30 Balance: L1 4.9 L2 4.9 L3 4.8 Stinger: _____

Electrical Voltage: 484 Phase: Three Fuse Size: 10A FRS

Breaker Size & Brand: _____ Transformer Size: _____ Quantity: _____

Controls & Panels:

1. 12x12x6 RT Box Condition: Good 3. 30A GE Disconnect Condition: Good

2. Size 1 Furnas Starter Condition: Good 4. FYG-2 M1 Condition: Good

Wire: Size: 10 + 12 Condition: Good Distance: _____

Sub Wire: Size: 14-4 Condition: Good Distance: _____

Plumbing: Material: Galv. & PVC Sizes: 1-1/4" + 1-1/2" Condition: Good

Storage Tank: Material: _____ Size: _____ Condition: _____

Pressure Tanks: Material: Metal Model: 302 XTrol Quantity: 2

Condition: Good Air Pressure: 39 + 40 Pressure Switch Setting: 42-62

Comments:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Mechanic Allen Gaab

All Major Brands Available



**THEORETICAL
WATER USE REPORT**

FOR THE
ST. HELENA CUSTOM CRUSH WINERY
USE PERMIT

LOCATED AT

420 LA FATA STREET
ST. HELENA, CA 94574

COUNTY: NAPA
APN: 009-660-004

INITIAL SUBMITTAL: APRIL 6TH 2016
REVISION SUBMITTAL: OCTOBER 31ST 2016
REVISION SUBMITTAL: MARCH 17TH 2017

PREPARED FOR REVIEW BY:

CITY OF ST. HELENA
1480 MAIN STREET
ST. HELENA, CA 94574

1104 ADAMS STREET, SUITE 203, ST. HELENA, CALIFORNIA 94574
707-963-8456 TELE + WWW.DELTACIVIL.COM + 707-963-8528 FAX



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BACKGROUND AND INTRODUCTION

Pursuant to the City of St. Helena's Council meeting of March 22, 2011, the City council adopted the definition of "Safe Yield" as proposed by the Safe Water Yield Committee. The ordinance mandates post-construction water use of the given project to be less than or equal to the pre-construction water use.

The subject parcel is located on 420 Lafata Street in St. Helena and is comprised of a warehouse that includes multiple tenants. The warehouse's tenants are the following: Britton Tree Services (910 Dowdell Lane), OK Tire Store (890 Dowdell), St. Helena Fitness (930 Dowdell), Gutenberg Printing (960 Dowdell), and Napa Valley Winery Warehouse (NVWW, 420 Lafata Street). The owner of the warehouse is seeking to obtain a use permit to crush, ferment, age, and bottle up to 120,000 gallons of wine per year. A new crush facility building will be constructed at the northwest corner of the warehouse. No changes are planned for the existing warehouse. The water related to the wine production will be provided from the existing well and all domestic water use will be from the City of St. Helena municipal water system.

For the purpose of this report, there will be no mention of St. Helena Fitness, Gutenberg Printing, and NVWW as it is assumed there will be no changes to these tenants' future water use.

This report discusses the existing and proposed internal water demand for the new crush building facility, OK Tire Store, and St. Helena Fitness. Due to possible changes in the tenants at OK Tire Store and Britton Tree Services, a water neutral feasibility analysis will be presented instead of a direct comparison between the existing and proposed water usage. The feasibility analysis will review the possibility of each tenant staying or vacating and other alternatives to comply with the safe water yield. Additionally, there are no proposed changes to the external water use, therefore it is not analyzed in this report.

WATER USE ANALYSIS

Baseline Water Use

Current Internal Water Use

Using the current St. Helena Water Policy, the existing internal baseline flow for the project was able to be estimated using Table 4 from the Napa County Department of Environmental Management (NCDEM) Regulations for Design, Construction, and Installation of Alternative Sewage Treatment Systems Appendix B. These regulations specify the effluent flow for an office employee as 15 gallons per day per employee.

Britton Tree Services has four (4) full time and twelve (12) part time employees. Assuming a maximum of sixteen (16) employees contributing to water use per day over approximately 250 days per year, the baseline water use by Britton Tree Services is summarized in the table below:

EXISTING BASELINE WATER USE-BRITTON TREE SERVICES			
	Gallons		Acre Feet
	Daily	Annual	Annual
Employees (16)	240	87,600	0.27
Total	240	87,600	0.27



Based on the above table, the existing baseline water use from Britton Tree Services is approximately 240 gallons per day.

OK Tire Store has six (6) full time employees. Utilizing the same table from NCDEM, OK Tire Store's baseline water use by OK Tire store is summarized in the table below:

EXISTING BASELINE WATER USE-OK TIRE STORE			
	Gallons		Acre Feet
	Daily	Annual	Annual
Employees (6)	90	32,850	0.10
Total	90	32,850	0.10

Based on the above table, the existing baseline water use from OK Tire Store is approximately 90 gallons per day.

Analyzing both OK Tire Store and Britton Tree Services, the existing baseline is summarized in the table below:

EXISTING BASELINE WATER USE			
	Gallons		Acre Feet
	Daily	Annual	Annual
Britton Tree Services	240	87,600	0.27
OK Tire Store	90	32,850	0.10
Total	330	120,450	0.37

Based on the table, the combined baseline is approximately 330 gallons per day.

Proposed Water Demand

The new crush facility building proposes to have four (4) full time and four (4) part time employees. Assuming a maximum of eight (8) employees contributing to water use per day over approximately 250 days per, the proposed water use for the new crush facility building is summarized in the table below:

PROPOSED WATER USE-CRUSH FACILITY			
	Gallons		Acre Feet
	Daily	Annual	Annual
Employees (8)	120	43,800	0.13
Total	120	43,800	0.13

Utilizing the information above, the proposed water use for the crush facility is estimated at 120 gallons per day.



Existing and Proposed Water Demand Comparison

As mentioned earlier in this report, several options will be analyzed to provide alternatives to mitigate the increased water use from the crush facility building. At the time of the building permit, the owners shall work with the City of St. Helena to determine the best option to comply with water use requirements.

Option 1: Britton Tree Service and OK Tire Store vacant

In this option, Britton Tree Service and OK Tire Store may leave the premise and take their business elsewhere. The vacant space in both tenant spaces will be converted to a storage space for the crush facility building. By doing so, the baseline credit of 330 gallons per day will be available to be applied to the proposed water use contributing from the new crush facility building. See the table below for a summary of the uses:

WATER USE COMPARISON-OPTION 1			
	Gallons		Acre Feet
	Daily	Annual	Annual
(Existing) Britton Tree Services	240	87600	0.27
(Existing) OK Tire Store	90	32850	0.10
(Proposed) Crush Facility	120	43800	0.13
Water Use Savings	210	76,650	0.24

With both Britton Tree Service and OK Tire Store vacant, there will be a net water credit of 210 gallons per day after the crush facility building is built.

Option 2: Britton Tree Service vacant

In this option, only Britton Tree Service will leave the premise. No changes will be made to OK Tire Store. The vacant space in Britton Tree Service will be converted to a storage space for the crush facility building. By doing so, only the baseline credit from Britton Tree Service of 240 gallons per day will be available to be applied to the proposed water use contributing from the new crush facility. See below for a table that summarizes the uses:

WATER USE COMPARISON-OPTION 2			
	Gallons		Acre Feet
	Daily	Annual	Annual
(Existing) Britton Tree Services	240	87600	0.27
(Proposed) Crush Facility	120	43800	0.13
Water Use Savings	120	43,800	0.13

With Britton Tree Service vacant, there will be a net water credit of 120 gallons per day after the crush facility is built.



Option 3: Offsite Retrofits

In this option, both Britton Tree Service and OK Tire Store will remain on site with no corresponding changes associated in water use. The owners propose to go off site within the city limits and perform retrofits to existing water fixtures required to offset the increased water use of 120 gallons per day.

For the purpose of this report, it is assumed that a standard residential home consists of three bedrooms with one and a half bathroom and each bedroom is occupied by two people. Furthermore, it is assumed that only the bathroom and kitchen water fixtures will be retrofitted. See below for a table that summarizes the water savings from retrofitting a standard residential home to a low flow fixture residential home:

STANDARD HOME DAILY WATER USE (NOT LOW FLOW)							
	Average Flow	Duration	Daily Use	Occupants	Total Daily Water Use	Total Annual Water Use	Total Annual Water Use
2 Toilet	1.60 gpf		3	6	28.8 gal	10,512 gal	0.03 af
2 Lavatory Faucet	2.2 gpm	0.25 min	3	6	9.90 gal	3,613.50 gal	0.01 af
1 Kitchen Faucet	2.2 gpm	4 min	1	6	52.8 gal	19,272 gal	0.06 af
1 Shower Head	2.5 gpm	8 min	1	6	120 gal	43,800 gal	0.13 af
Total					212 gal	77,198 gal	0.24 af

STANDARD HOME DAILY WATER USE WITH LOW FLOW FIXTURES							
	Average Flow	Duration	Daily Use	Occupants	Total Daily Water Use	Total Annual Water Use	Total Annual Water Use
2 Toilet	1.28 gpf		3	6	23.0 gal	8,410 gal	0.03 af
2 Lavatory Faucet	1.5 gpm	0.25 min	3	6	6.75 gal	2,463.75 gal	0.01 af
1 Kitchen Faucet	1.5 gpm	4 min	1	6	36.0 gal	13,140 gal	0.04 af
1 Shower Head	1.5 gpm	8 min	1	6	72 gal	26,280 gal	0.08 af
Total					138 gal	50,293 gal	0.15 af

PROPOSED WATER USE SAVINGS			
	Gallons		Acre Feet
	Daily	Annual	Annual
Standard Home (Not Low Flow)	212	77,198	0.24
Standard Home (Low Flow)	138	50,293	0.15
Savings	74	127,491	0.39

Based on the above calculations, it is estimated that there will be an approximate savings of 74 gallons per day per home. Given that the crush facility is estimated to use 120 gallons per day, it is estimated that the owners will need to retrofit two (2) standard homes which will save the City of St. Helena approximately 148 gallons of water per day.

At the time the building permit, the owners shall work with the City of St. Helena staff to address permitting fees, scheduling, and timeline for the retrofitting process.

Option 4: Purchase water credits

In this option, the owners shall coordinate with private developers within the city limits to purchase excess water credits to offset the increased water use of 120 gallons per day. One example would be to purchase water credits from Brad Oldenbrook, managing partner of Exclusive Holdings LLC, for the project located 601 and 603 Fulton



Lane. Brad Oldenbrook had retrofitted several sweat-equity homes and deed-restricted homes located on the south side of Voorhees Circle to meet their water neutral requirements for 601 and 603 Fulton Lane. After all retrofits have been completed, they have an excess water credit available.

These agreements are between the private parties and the City is not involved. The City requires verification of the consummated transfer of credits. The owners shall discuss the City's water neutral requirements prior to consummating any transfer agreement. Because this is a side deal with a third party that has a lot of variables unknown at this time, the details of the agreement shall be provided to the City of St. Helena at a later time from the owner.

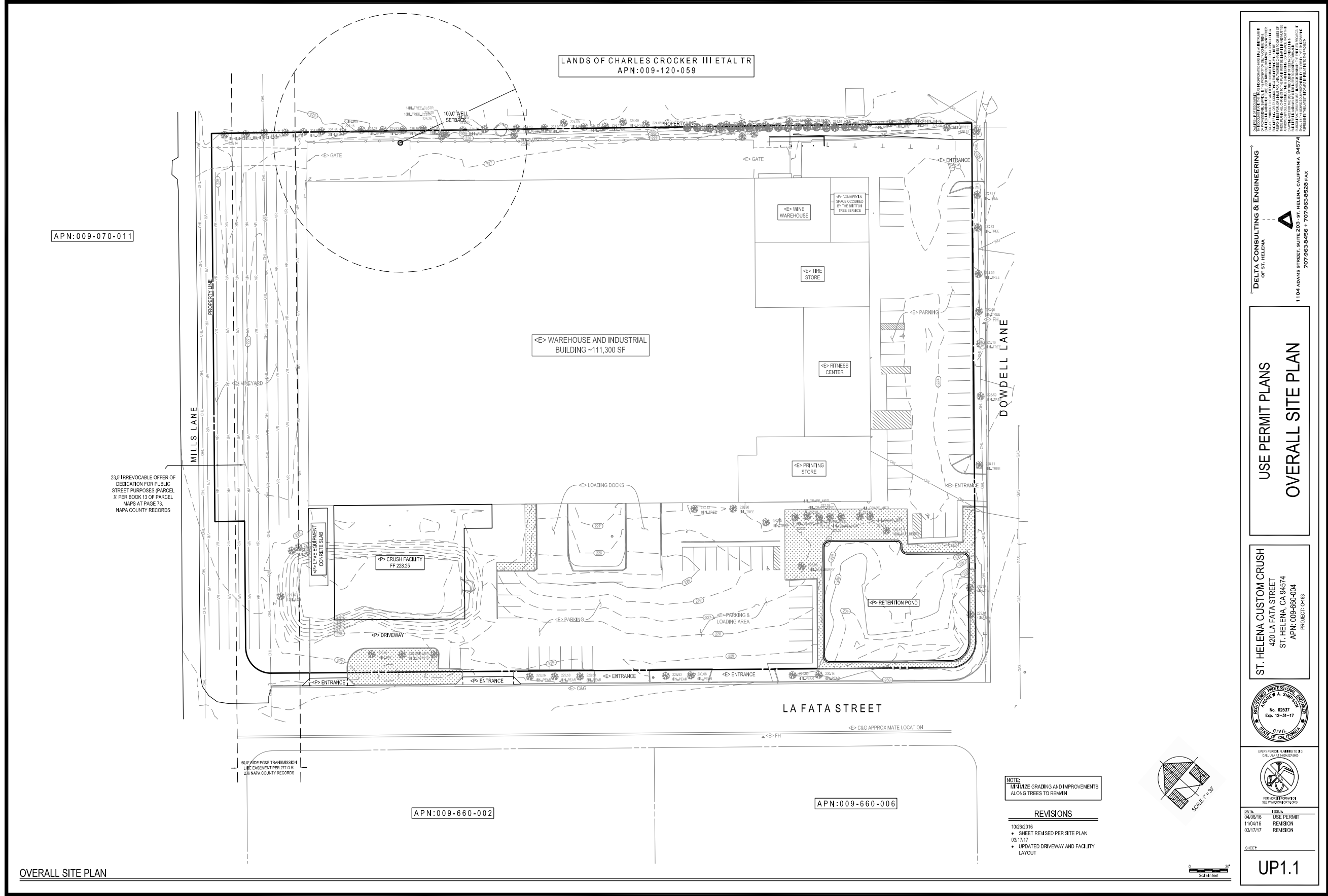
CONCLUSION

The construction of the new crush facility building is not expected to increase the water-use on the property if the recommendations of any of the options are followed. The owner shall work with the City of St. Helena to determine the best option to meet the water neutral requirements for the new crush facility building.



APPENDIX A

ST. HELENA CUSTOM CRUSH PROPOSED SITE PLAN





APPENDIX B

NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT TABLE 4

TABLE 4

TYPE OF OCCUPANCY	GALLONS PER DAY
Airports	5 per passenger
Campgrounds:	
Campground with central comfort station	35 per person
Campground with flush toilet, no showers	25 per person
Day Camps (no meals)	15 per person
Luxury Camp, private bath	100 per person
Summer and seasonal	50 per person
Churches (sanctuary)	5 per seat
With kitchen wastes	7 per seat
Country Club	125 per person
Factories	35 per person per shift
Hospitals	250 per bed space
Kitchen waste only	25 per bed
Laundry waste only	40 per bed
Hotels/Motels with private bathroom (no kitchen waste)	60 per two person room
Hotels/Motels without private bathroom (no kitchen waste)	50 per two person room
Hotel/Motel with private bath and kitchen	75 gallons per person
Institutions other than hospitals	125 per bed space
Movie Theaters	5 per seat
Offices	20 per employee
Picnic parks with toilets and showers	10 per person
Picnic parks with toilet waste only	5 per person
Resort camps with limited plumbing	50 gallons per person
Restaurants:	
Kitchen waste (multi-use utensils)	5 per meal served
Kitchen waste (disposable utensils)	3 per meal served
And add the following for type of facility present:	
Conventional sit down	10 per person
Short Order	8 per person
Bar and Cocktail	3 per person
School (non-boarding)	20 per student
With gym and showers add	5 per student
With cafeteria using disposable utensils	3 per meal served
Self service laundries	50 gallons per wash
Service station	10 gallons per vehicle served
Retail stores	20 per employee
For public restrooms add	1 per 10 square feet
Swimming pools and bathhouses	10 per person
Tourist camps or mobile home parks with individual bath units	100 per person
Tourist camps or trailer parks with central bathhouse	75 per person
Work or construction camps (semi-permanent)	50 per person
Wine tasting facility (no meals served)	3 per person
Employee	15 per employee



**THEORETICAL
SEWER CAPACITY ANALYSIS**

FOR THE

**ST. HELENA CUSTOM CRUSH WINERY
USE PERMIT**

PROJECT LOCATED AT

420 LA FATA STREET
ST. HELENA, CA 94574

COUNTY: NAPA
APN: 009-660-004

INITIAL SUBMITTAL: APRIL 6, 2016
REVISION #1 SUBMITTAL: OCTOBER 31, 2016
REVISION #2 SUBMITTAL: SEPTEMBER 20, 2017

PREPARED FOR REVIEW BY:

CITY OF ST. HELENA
1480 MAIN STREET
ST. HELENA, CA 94574

1104 ADAMS STREET, SUITE 203 - ST. HELENA, CALIFORNIA 94574
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BACKGROUND AND INTRODUCTION

St. Helena Custom Crush winery is applying to the City of St. Helena for a Use Permit to construct and operate a winery facility. As the project is proposing to outfall the pretreated effluent to the city municipal sewer system, the City Public Works staff requested a capacity review and analysis of a downstream portion of the existing sewer system in the project vicinity. The City's sewer system map identified a 10-inch diameter sewer main located at the intersection of La Fata Street and Dowdell Lane. This downstream section of the main shall be analyzed to its theoretical capacity.

This report describes the sewer main layout in the project vicinity and analyzes the capacity of the existing 10-inch sewer main impact of the estimated existing peak daily flow demand and the future peak daily flow demand based on the proposed development of the custom crush building.

The existing sewer main information presented herein is based on the following:

- City of St. Helena Sewer System Map dated October 2003.
- Field survey of the parcel located at 420 La Fata Street prepared by RSA+ dated December 2015.
- Project site meeting with Bryan Jackson, Delta Consulting & Engineering and Glenn Price, City of St. Helena Street and Sewer Division Supervisor on December 9, 2015.

This report will analyze both the existing and the proposed flow demand from the new improvements under the Use Permit, and compare the total/sum flow to the capacity of the existing 10-inch sewer main. Based on the collected information, this office will determine if the existing conditions will support the future peak demand.



EXISTING SEWER SYSTEM AND SEWER MAIN CAPACITY

System Layout

Based on the sources noted above, the existing 10-inch sewer main coming out from La Fata Street flows from a manhole located at the intersection of Dowdell and La Fata Street in a southwestern direction to a manhole located at the intersection of La Fata Street and Vintage Avenue. At this intersection, sewer main outfalls to and joins the Vintage Avenue sewer main which flows northeast towards the City of St. Helena Wastewater Treatment Plant. See Appendix A-Sewer System Map for a schematic of the existing sewer mains.

System Capacity

According to directions provided by City of St. Helena Public Work Department staff, the maximum capacity of a gravity sewer main shall be based on the pipe flowing 2/3 full. Based on industry standards, Manning's Equation is a viable method used to calculate the flow rate of water through a partially full pipe in gravity flow conditions. Per the sewer capacity calculations outline in Appendix D for the subject 10-inch sewer main, this section of pipe has the capacity to convey approximately 1.6 cubic feet per second (cfs) or 710 gallons per minute (gpm) when the pipe is flowing 2/3 full.

St. Helena Custom Crush is proposing to connect to the 8-inch sewer main at the manhole in La Fata Street located approximately 280 feet northwest of the manhole located in the intersection of La Fata Street and Dowdell Lane. From the La Fata/Dowdell manhole, the sewer main exits via a 10-inch diameter PVC pipe which will be the focus of this analysis.

EXISTING SEWER MAIN DEMAND

Currently existing, the sole source of wastewater flowing to the manhole at the La Fata Street and Dowdell Lane intersection and corresponding downstream 10-inch sewer main is from the Napa Valley Wine Warehouse (NVWW) (subject parcel). The NVWW consists of several different businesses which outfalls to a lift-station located at the southwest side of the building. The lift-station conveys the building's effluent via a force main to the manhole located in the La Fata Street right of way approximately 280ft northwest of the manhole located in the intersection of Dowdell Lane and La Fata Street. The 8-inch sewer main conveys wastewater to the manhole at the intersection of La Fata Street and Dowdell Lane where it outfalls to the subject 10-inch sewer main.

Karen Ames, General Manager of (NVWW), provided the 2015 annual water use in monthly readings for the entire building. See Appendix C for the breakdown of the monthly water usage for 2015. The NVWW was approved under the Use Permit Amendment 96-114 to generate up to 2,500 gallons per day. Based on the water meter readings provided, the peak water use of 35,156 gallons occurred in the month of March. Assuming all the water which passes through the meter generates effluent on a one-to-one ratio, and based on a typical 8-hour work day. This translates to roughly 1,172 gallons per day (gpd) or approximately 3 gallons per minute (gpm). Currently the NVWW is only generating about half of their approved wastewater amount. The subject 10-inch sewer main capacity of 710 gpm vastly exceeds the currently estimated peak flow rate of 3 gpm from the NVWW.



PROPOSED SEWER MAIN DEMAND

The increase in wastewater flows entering the 10-inch sewer main on La Fata Street comes from the proposed St. Helena Custom Crush wine production activities. The employees at St. Helena Custom Crush are not considered in the wastewater calculations because the St. Helena Custom Crush will replace the Britton Tree Services Incorporated with a reduced number of employees. For purposes of this report, wastewater generated by the St. Helena Custom Crush will be conservatively estimated as equal to the existing conditions.

St. Helena Custom Crush winery is applying for a use permit to produce 120,000 gallons of wine per year. Calculations to develop wastewater flow rates based on this production capacity are described in the project's Septic Feasibility Report prepared by this office dated September 20st, 2017, and was submitted with the Use Permit Application. The report estimated a peak daily wastewater flow generated from St. Helena Custom Crush to be 5,700 gpd.

The peak daily flow was averaged over a typical harvest day which is spread over twelve (12) hours. This resulted in a peak flow rate of approximately 8 gpm which will outfall to a flow equalization tank for pre-treatment. The process wastewater will subsequently flow into a pre-treatment unit where after treatment will be pumped via a lift station at 4.2 gpm into the existing 8-inch gravity sewer main in La Fata Street. Based on this analysis, wastewater generated at the St. Helena Custom Crush site will result in a flow rate of 4.2 gpm entering the 8-inch sewer main in La Fata Street.

This office preformed a similar Sewer Capacity Analysis for the Redmon Ranch Winery Use Permit of which proposes to contribute a flow to the same 10-inch sewer main in La Fata Street. The Redmon Sewer Capacity Analysis estimated a discharge flow rate between 10-40 gpm. The discharge range is due to the pending pump final design for the Redmon Ranch Winery project.

Assuming the maximum flow rates from both facilities, a combined wastewater discharge of 44.2 gpm will be added to the 10-inch Sewer Pipe Main in La Fata Street to the 10-inch pipe.

CONCLUSION

The capacity of the existing 10-inch sewer main in La Fata Street, downstream of the manhole at the intersection of La Fata Street and Dowdell Lane, was analyzed in this report. This section of the sewer system is the concentration point of all wastewater generated upstream. Based on an analysis using Manning's Equation, this section has the capacity to convey 710 gpm when the pipe is flowing 2/3 full.

The current wastewater flowing through this pipe is estimated to be 3 gpm. The project proposes to connect to the sewer system with an additional rate of 4.2 gpm. Redmon Ranch Winery is estimated to contribute an additional maximum peak flow of 40 gpm. A summation of the existing and proposed wastewater generation results in a total peak flow of 47.2 gpm.

Based on this analysis, the existing 10-inch sewer main in La Fata Street is adequate to accommodate the proposed wastewater flows from the St. Helena Custom Crush development. The 10-inch sewer main in La Fata will have an additional 662.8 GPM or 93% capacity after development.

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OF ST. HELENA



APPENDIX A

CITY OF ST. HELENA SEWER SYSTEM MAP

CITY OF ST. HELENA

SEWER SYSTEM

DECEMBER 2000
OCTOBER 2003

LEGEND

---	CITY LIMITS
---	ROAD/RIGHT OF WAY
---	PROPERTY LINE
---	PRIVATE ROAD
---	RIVER/CREEK
---	SEWER MANHOLE, LINE, SIZE & DIRECTION
---	FORCE MAIN, SIZE & DIRECTION
---	PRIVATE MANHOLE, LINE & DIRECTION
---	MANHOLE ID NUMBER
---	CLEANOUT
---	LAMPHOLE



Coastland Civil Engineering, Inc.
2292 Northpoint Parkway, Santa Rosa, CA 95407
707.571.8805 707.571.8337 Fax

PROJECT SITE:
420 LA FATA STREET
ST. HELENA CA 94574

GRAYSON AVENUE

STATE HIGHWAY 29

GRAPHIC SCALE

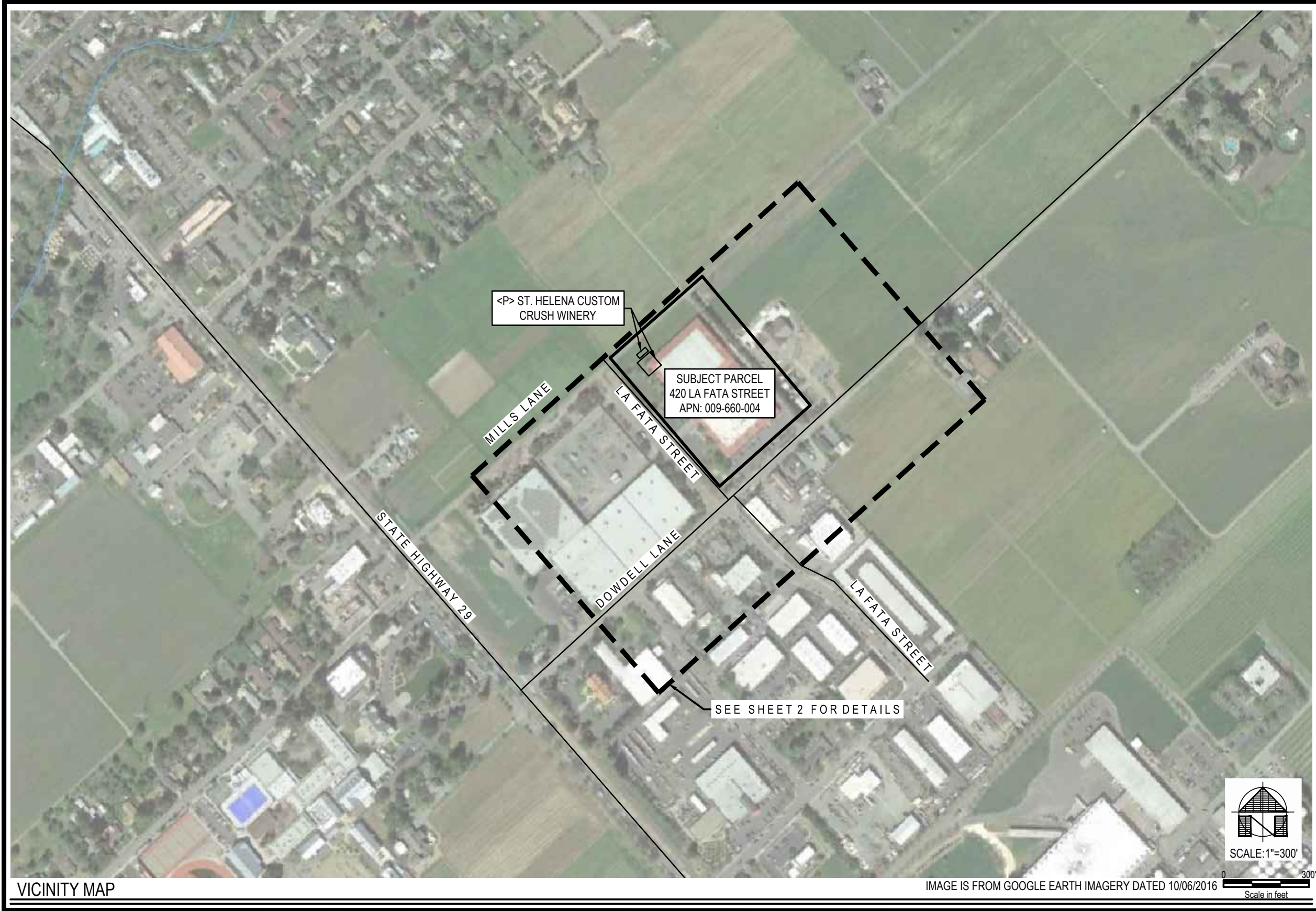
(IN FEET)
1 Inch = 500 Ft.



DELTA CONSULTING & ENGINEERING
OF ST. HELENA

APPENDIX B

VICINITY MAP: LA FATA STREET SEWER MAIN LAYOUT



ST. HELENA CUSTOM CRUSH WINERY
LA FATA STREET SEWER MAIN ANALYSIS
ST. HELENA, CA

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OF ST. HELENA
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DATE: 10/31/2016
SCALE: 1"=300'
JOB #: O-163
APN: 009-660-004

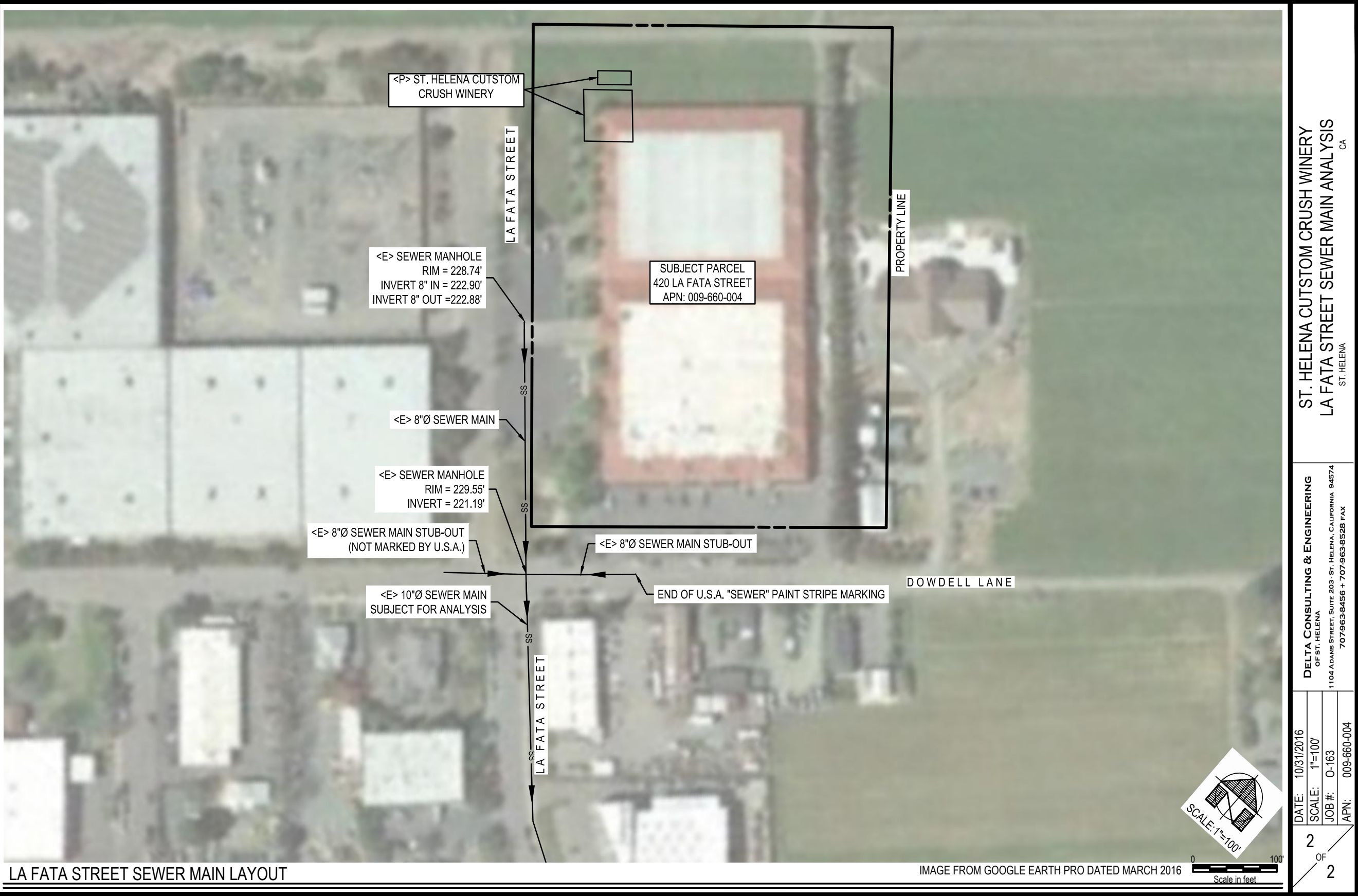
1 OF 2

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APPENDIX C

LA FATA STREET 2015 WATER USE





APPENDIX D

CALCULATIONS

Manning's Equation

$$Q = (1.49 / n) * A * Rh^{(2/3)} * S^{(1/2)} \quad Rh = A / Pw$$

Where:

Q = Flow Rate (Cubic Feet / Second)

1.49 = Constant (When using English Units)

n = Manning's Coefficient (Based on Pipe Material)

A = Cross-Sectional Area of Water in Pipe (Square Feet)

Rh = Hydraulic Radius (Feet)

Pw = Wetted Perimeter (Feet)

S = Slope (Feet / Feet)

Manning's Equation Component Calculations – Circular Pipe Flowing Partially Full (More than Half)

$$\theta = 2 * \arcsin [(r - h) / r]$$

$$A = \pi * r^2 - [r^2 * (\theta - \sin\theta)] / 2$$

$$Pw = 2 * \pi * r - r * \theta$$

Where:

θ = Angle between radial lines from pipe center to the two high water level points in pipe (Radians)

π = 3.14 (Pi Constant)

h = Distance between pipe crown and high water level in pipe (Feet)

r = Radius (Feet)

Solved Manning's Equation for 2/3 Full Flow in 10-inch Sewer Main in La Fata Street:

Known Components

n = 0.01 (PVC Pipe – Smooth Inner Walls)

r = 0.4167 Feet (Radius of 10-inch Diameter Pipe)

h = 0.277 Feet (Upper 1/3 Vertical Distance of 10-inch Diameter Pipe)

S = 0.005 Feet / Feet

Inputting Known Components into Above Component Calculations Yields:

θ = 2.462 Radians

A = 0.387 Square Feet

Pw = 1.592 Feet

Rh = 0.243 Square Feet

Q = 1.586 Cubic Feet / Second

Q = 710 Gallons / Minute

Focused Traffic Impact Analysis for
the Proposed:

Komes Custom Crush Winery Project

Prepared for:

City of St. Helena

At the request of:

Komes Wineries

Draft Report

July, 2017

Prepared by:



PROPOSED KOMES CUSTOM CRUSH WINERY PROJECT

**Prepared For:
Komes Wineries**

**Prepared By:
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1901 Olympic Boulevard, Suite 120
Walnut Creek, CA 94596
925.935.2230**

JULY, 2017

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Weekday AM and PM and Saturday Mid-Day Intersection Level-of-Service Calculation Sheets

Weekday Signal Warrant (PM Peak Hour)

1. Executive Summary

The proposed Komes Custom Crush Winery project would consist of a production winery (120,000 gallons/yr.) and associated employees located at 420 La Fata Street in St. Helena. Since the proposed winery would be located in the City's industrial zoned area, there would be no guest tasting, tours, or marketing events associated with the proposed project. The proposed project would generate 11 AM and 11 PM weekday peak hour trips and 18 Saturday peak hour trips. The project vehicle trips were added to existing, near-term, and cumulative background volumes. The SR-29/Mills Lane and SR-29/Dowdell Lane intersections would be operating at LOS C or better under existing and near-term conditions during the weekday AM and PM and weekend time periods with proposed project traffic. The SR-29/Grayson Avenue and La Fata Street/Dowdell Lane intersections would operate at LOS B or better during the same time periods. Proposed project traffic would add less than one (1) second of overall vehicle delay to the intersections and would make up less than one (1) percent of overall peak hour volumes at this intersection consistent with City of St. Helena significance thresholds for unsignalized intersections on Main Street (SR-29). The exception would be under existing conditions where proposed project volumes would represent 1.1% of overall volumes at the SR-29/Dowdell Lane intersection during the weekend mid-day peak hour. However, further mitigation at the SR-29/Dowdell Lane intersection is not recommended at this time for the following reasons:

1. The completion of the St. Helena SR-29 Channelization Project. It is understood that the SR-29/Dowdell Lane intersection currently meets the peak hour signal warrant under existing conditions. However, the installation of a two-way-left-turn-lane on SR-29 at Dowdell Lane greatly improves vehicle access to Dowdell Lane to/from SR-29 and reduces overall vehicle delays. The new two-way-left-turn-lane allows stop-sign controlled outbound vehicles (making a left-turn) to merge more safely onto SR-29 by providing a refuge lane to merge into southbound through-traffic. Similarly, the TWLTL also allows southbound motorists on SR-29 to make a left-turn (inbound) to Mills Lane and Dowdell Lane without delaying through-traffic on the highway. Indirectly, the signal at the SR-29/Grayson Avenue intersection just north of Dowdell Lane benefits minor street stop-sign controlled traffic (at times) by providing more "gaps" in southbound traffic;
2. The proposed project description does not include any guest visitation or marketing events what-so-ever (just this fact alone greatly reduces the overall traffic generation). The project description focuses on employment and truck deliveries related to proposed winery production uses. Again, there would be no tastings, tours, or marketing events.

All remaining study intersections on SR-29 and La Fata Street would continue to operate within accepted City of St. Helena LOS thresholds with proposed project traffic. Primary access to the proposed project site would be provided directly by La Fata Street through three (3) driveways along the project frontage. Vehicle sight distance to the north and south from proposed project driveway(s) on La Fata Street meets the recommended sight distance of 150 feet based on vehicle speeds of 25 mph.

With regard to driveway access; given that multiple driveways would provide access to various winery production facilities it is recommended that truck deliveries use the first and third driveways (respectively). These driveways would be connected by an internal parking and circulation area. Trucks could enter one driveway (southern-most) and exit out the northern-most driveway without having to turn around on-site.

The City St. Helena's Highway 29 Specific Plan was reviewed for the project study area and for additional circulation improvements for the Dowdell Lane, Grayson Avenue, and Mills Lane intersections at Highway 29 (see Section 7. Highway 29 Specific Plan). Based on a review of the recommended Plan circulation improvements, the following information and proposed project mitigation is recommended:

The Highway 29 Specific Plan recommends the potential funding mechanisms for remaining circulation improvements in the study as follows:

Mills Lane Realignment: For that portion of the Specific Plan area lying east of Highway 29 and adjacent to Mills Lane, new and upgraded improvement costs are estimated at \$1,926,000, which does not include ROW costs. These improvements shall be borne by benefitting development north and south of Mills Lane. Anticipated improvements include realignment of Mills Lane, the extension of Fountain Street and relocation of the existing Napa Valley Wine Train railroad crossing at Mills Lane and Highway 29;

Highway 29/Dowdell Lane Traffic Signal: Although this signal location is outside of the Specific Plan area, it will serve existing and new development on the east side of Highway 29 and is planned to operate in synchronization with the Highway 29/Grayson Avenue/Mills Lane intersection. The City of St. Helena collected fees specifically for the installation of this signal from development that occurred on the east side of Highway 29 in the 1980's. These funds may be supplemented by City of St. Helena traffic mitigation funds. New development elsewhere in the community may be required to pay their fair share of the traffic signal costs based on their contribution of traffic to this intersection in addition to City-wide traffic impact fees.

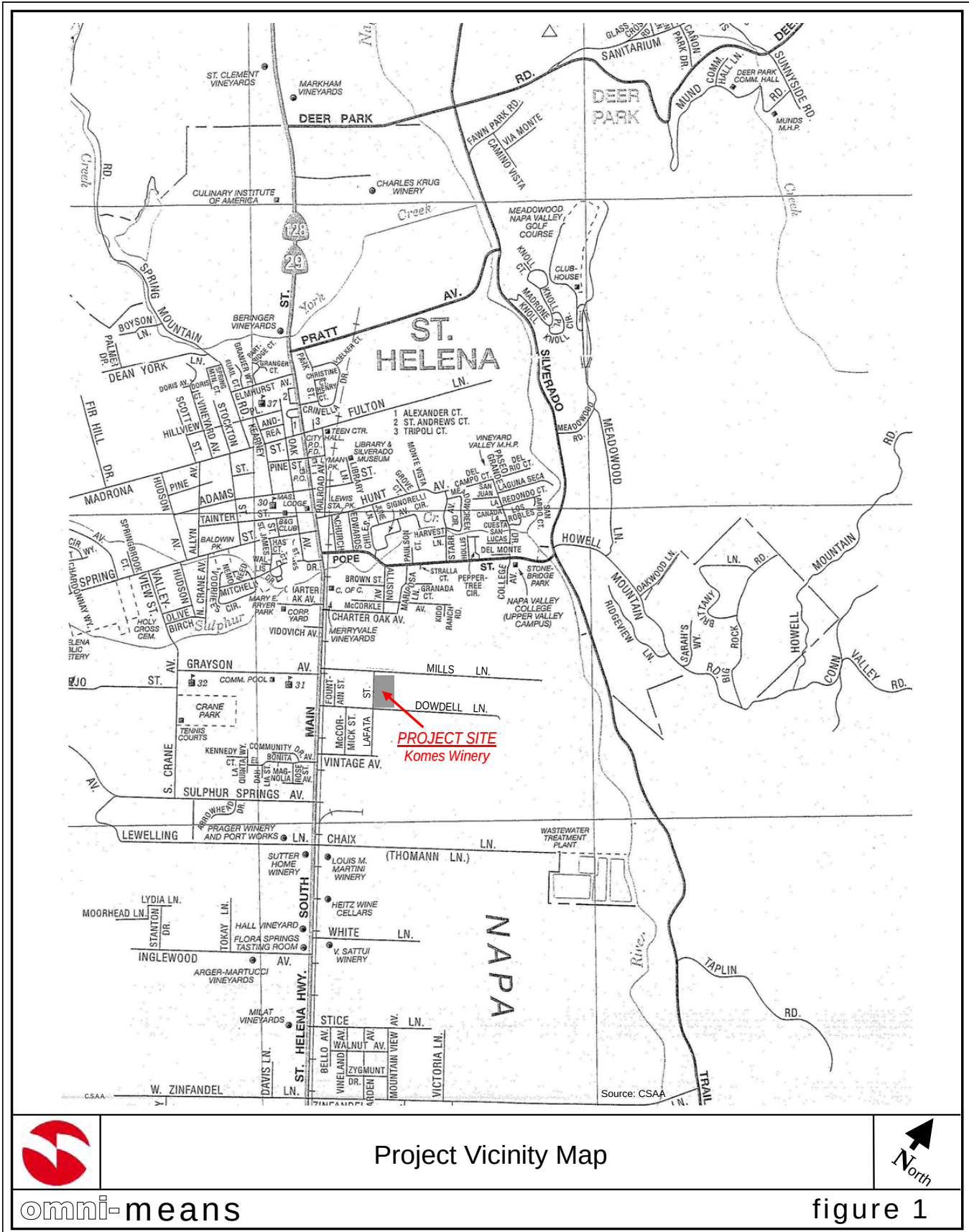
3. Given that the Highway 29 Specific Plan circulation improvements for the Mills Lane realignment and signalization of the Highway 29/Dowdell Lane intersection have yet to be completed (or funded); it is recommended that the proposed project contribute a "fair share" contribution to these Highway 29 Specific Plan circulation improvements based on their contribution to cumulative year 2035 volumes at this roadway/intersection. Using the weekday PM peak hour proposed project trip generation (worst case), the project would contribute 11 PM peak hour trips to the roadway and intersection network at Highway 29. Based on a net increase between existing and cumulative year 2035 PM peak hour volumes at the Highway 29/Dowdell Lane intersection; the proposed project contribution would represent 1.7% of cumulative traffic volumes (11 project trips / 632 net cumulative traffic increase). At such time in the future the City determines that the Mills Lane realignment and/or signalization of the Highway 29/Dowdell Lane is necessary; the proposed project would have contributed their fair share towards overall circulation improvements in the Highway 29 Specific Plan area. Should the City determine other funding mechanisms appropriate (such as a special assessment district encompassing businesses along Dowdell Lane); total cumulative volumes on Dowdell Lane just west of SR-29 during the PM peak would total 199 vehicles. Again, the proposed project's proportional share of these PM peak hour volumes on Dowdell Lane would be 5.5% (11 project trips / 199 total cumulative volumes).

2. Introduction

The following report provides a focused traffic analysis for the proposed Komes Custom Crush Winery project located at 420 La Fata Street in the City of St. Helena (see Figure 1—Project Vicinity Map). The proposed project would consist of constructing a new on-site building on the northwest portion of the project site (88' x 108' or 9,504 sq. ft.) adjacent to the Napa Valley Wine Warehouse building. A portion of this warehouse (3,000 sq. ft.) would be converted into a barrel storage and tank room. The total existing and on-site development would total approximately 12,500 square feet when completed. The project statement indicates that winery related activities would include crush, fermentation, barrel storage, and bottling to support local wineries that otherwise would not have crush capabilities. Existing on-site parking includes two parking fields on the south and west sides of the building(s) totaling 70 spaces with three (3) ADA spaces accessible from Dowdell Lane and La Fata Street. Trucks would access the site from La Fata Street via driveway modifications that would allow convenient one-way ingress and egress. One of key components of the proposed project as it relates to potential traffic generation; the applicant proposes no winery visitation and no marketing events for these facilities. Traffic generation would primarily consist of production, employment, and delivery components associated with the proposed winery and custom crush activities during the seasonal crush/harvest period. It is noted that the proposed project has the potential to reduce traffic on SR-29 by focusing crush activities at the project site rather than at individual wineries spread throughout the St. Helena Area. In addition, office components associated with proposed project uses would replace existing office uses currently occupied by Britton Tree Services, Inc. At this time, it is not known where Britton Tree Services would re-locate their business. For the purpose of this study, it is assumed Britton Tree Services would stay in the industrial area off of Dowdell Lane. Therefore, overall trip generation associated with proposed project employment would be conservative in nature since vehicle traffic associated Britton Tree Services is still assumed to be to/from Dowdell Lane and would not leave the study area.

Proposed project analysis is based on our discussions with the applicant's consultant, winery information provided by the project applicant, and our familiarity with the study area in and around Dowdell Lane and State Route 29. Some of the key traffic issues related to proposed project development would be as follows:

- Existing and future traffic conditions at key study intersections along Dowdell Lane and SR-29;
- Unique characteristics of proposed custom crush winery uses related to employees, hours of operation for different project components, and truck deliveries;
- Proposed project daily and peak hour trip generation associated with proposed winery and crush uses during the weekday and weekend peak periods;
- Project access and circulation from proposed (existing) driveways off Dowdell Lane and La Fata Street;
- Future traffic projections and/or circulation improvements based on the Updated St. Helena General Plan Circulation Element.



3. Existing Conditions

Proposed Project Site

The proposed Komes Custom Crush Winery project would be located at 420 La Fata Street on the east side of the roadway immediately north of Dowdell Lane. As noted, there are existing uses (Napa Valley Wine Warehouse) on-site in addition to fitness (St. Helena Health & Fitness Center) and automobile (O K Tire Store) uses. These latter business front Dowdell Lane. The site is served by four existing driveways with two on Dowdell Lane and two on La Fata Street. The building and site modifications proposed by the applicant would occur in the northwest quadrant of the parcel. On-street vehicle parking is allowed on Dowdell Lane and La Fata Street study area. La Fata Street extends in a north-south direction east of SR-29 between Mills Lane and Vintage Avenue that would provide direct and indirect access to the site. A description of both local and state roadway facilities in the project study area is provided as follows:

Roadways

Main Street (State Route 29/128), also referred to as the St. Helena Highway, is the primary north-south travel route through the Napa Valley and extends between St. Helena and Rutherford in the project area. Beyond the study area, SR 29 provides access north through the town of Calistoga and south through the towns of Yountville, Napa, and American Canyon. It is classified as a two-lane rural arterial road and in the immediate project area consists of two 12-foot wide travel lanes with a new two-way-left-turn lane, small striped shoulder areas (2-4 feet) and no street parking. The speed limit on Main Street is 35 mph in the project area. It is noted that construction on SR-29 for the "Highway 29 Channelization Project" in the vicinity of Dowdell Lane has been completed.

Grayson Avenue extends in an east-west between SR-29 and South Crane Avenue. Located approximately 540 feet north of Dowdell Lane, Grayson Avenue provides access to commercial, institutional (schools), and residential areas west of SR-29. A two-lane street, Grayson Avenue has on-street parking along its south side with some limited area parking (where curb and gutter exist) on its north side. The speed limit is 15 mph consistent with school-area proximity. It is noted that a new traffic signal was activated at Grayson Avenue/SR-29 intersection in November, 2016.

Dowdell Lane extends east from SR-29 for approximately 0.95 miles and provides access to commercial-retail, light-industrial, residential, and agricultural areas. A two-lane street, the roadway is paved for approximately the first 0.30 mile segment and is about 38-40 feet wide. This segment provides access primarily to commercial and light-industrial areas and parking is allowed on both sides of the street. Once past the project site, the roadway narrows significantly (10-20 feet) and is unimproved. This segment provides access to agricultural and residential areas. The speed limit on Dowdell Lane is 25 mph and this roadway would provide direct access to the project site.

La Fata Street extends in a north-south direction between Mills Lane and Vintage Avenue approximately and would provide direct access to the proposed project site. A two-lane street, La Fata Street provides access to commercial-retail and light-industrial areas. Similar to the improved segment of Dowdell Lane, La Fata Street is approximately 38-feet wide with parallel parking on both sides of the street. It is noted that at its intersection with Dowdell Lane, the north and south legs of La Fata Street is slightly off-set by approximately 18 feet. However, field observations indicate no significant operational issues given the low traffic volumes on the roadway. Access to the proposed project site can be gained indirectly using Mills Lane or Vintage Avenue to La Fata Street.

Vintage Avenue is located south of the project site and extends in an easterly direction from SR-29 for approximately 0.25 miles. A two-lane street, Vintage Avenue provides access to light-industrial and commercial areas with vehicle parking on both sides of the street (38-foot width) and a 25 mph speed limit.

Mills Lane is located immediately north of the project site and extends in an easterly direction from SR-29 for approximately 0.83 miles. The roadway is paved to La Fata Street with unimproved sections further east adjacent to agricultural and residential areas. The roadway width is narrow (approximately 15-feet) and does not readily accommodate two-way traffic flow. However, roadway shoulders are not improved and vehicles can pull to the side to allow passing traffic. Traffic calming measures (large boulders) have been placed at its intersection with La Fata Street to prevent large vehicles (trucks) from turning through the Mills Lane/La Fata Street intersection.

Rail Activity

Railroad tracks currently parallel SR-29 approximately 25 feet east of the highway crossing over Dowdell Lane and Mills Lane in the project study area. The rail crossing at Dowdell Lane is controlled by automated gates and flashing red lights. The Mills Lane crossing has recently been improved with new concrete paving with flashing red lights and warning signs. This single-track rail line serves the Napa Valley Wine Train. Based on discussions with Wine Train staff, there is one (1) train per day on weekdays and two (2) trains per day on weekends travelling through the study area between St. Helena and points south.

Construction Activity

Caltrans has completed the Highway 29 St. Helena Lane Channelization project in the study area. The project limits extend between Mee Lane and Charter Oak Avenue. Work on the entire project was expected to be tentatively completed in early 2017. In coordination with the City of St. Helena, a new traffic signal was activated at the Grayson Avenue/SR-29 as part of this overall lane channelization project on SR-29 in November (2016). Field observations indicate that during peak commute periods, north-south through-traffic on SR-29 does queue past Mills Lane and Dowdell Lane dependent on the amount of outbound (eastbound) traffic from Grayson Avenue.

Existing Volumes

For the purpose of this traffic analysis, new weekday and weekend peak period intersection counts were conducted at the following intersections:

<u>Intersection</u>	<u>Control</u>
1. SR-29/Mills Lane	Stop-Sign (Mills Ln.)
2. SR-29/Grayson Avenue	Signal
3. SR-29/Dowdell Lane	Stop-Sign (Dowdell Ln.)
4. La Fata Street/Dowdell Lane	Stop-Sign (La Fata St.)

The counts (conducted in February 2017) were adjusted upward to reflect peak harvest season conditions by comparing them to peak seasonal volumes identified in the Caltrans traffic volumes for SR-29. The peak periods during the weekday AM commute period (7:00-9:00 am), PM commute period (4:00-6:00 pm), and Saturday afternoon peak period (Noon-6:00 pm) were evaluated. From these peak period counts, the highest peak hour volumes were utilized for

analysis: AM 7:45-8:45 am, PM 4:30-5:30 pm, and Saturday 2:00-3:00 pm. Similarly, the highest peak hour of project trips generated during the same periods were applied to the “plus project” conditions.

Traffic conditions along SR-29 (particularly south of Pope Street) are also influenced by northbound vehicle queues, which can extend from Pope Street beyond Mills Lane and Dowdell Lane. During these times, traffic flows reflect “stop-and-go” conditions with vehicle speeds below 25 mph. Field observations noted that traffic flows on SR-29 near Dowdell Lane fluctuated between relatively free-flow conditions and stop-and-go conditions dependent on the day (weekday or weekend) and time period. With the new traffic signal activated at Grayson Avenue, vehicle queues on SR-29 can now extend slightly further south from previous levels. However, the construction of the two-way-left-turn lane on SR-29 allows motorists from stop-sign controlled minor streets to access to/from the highway in a safer manor causing less delay for through-traffic.

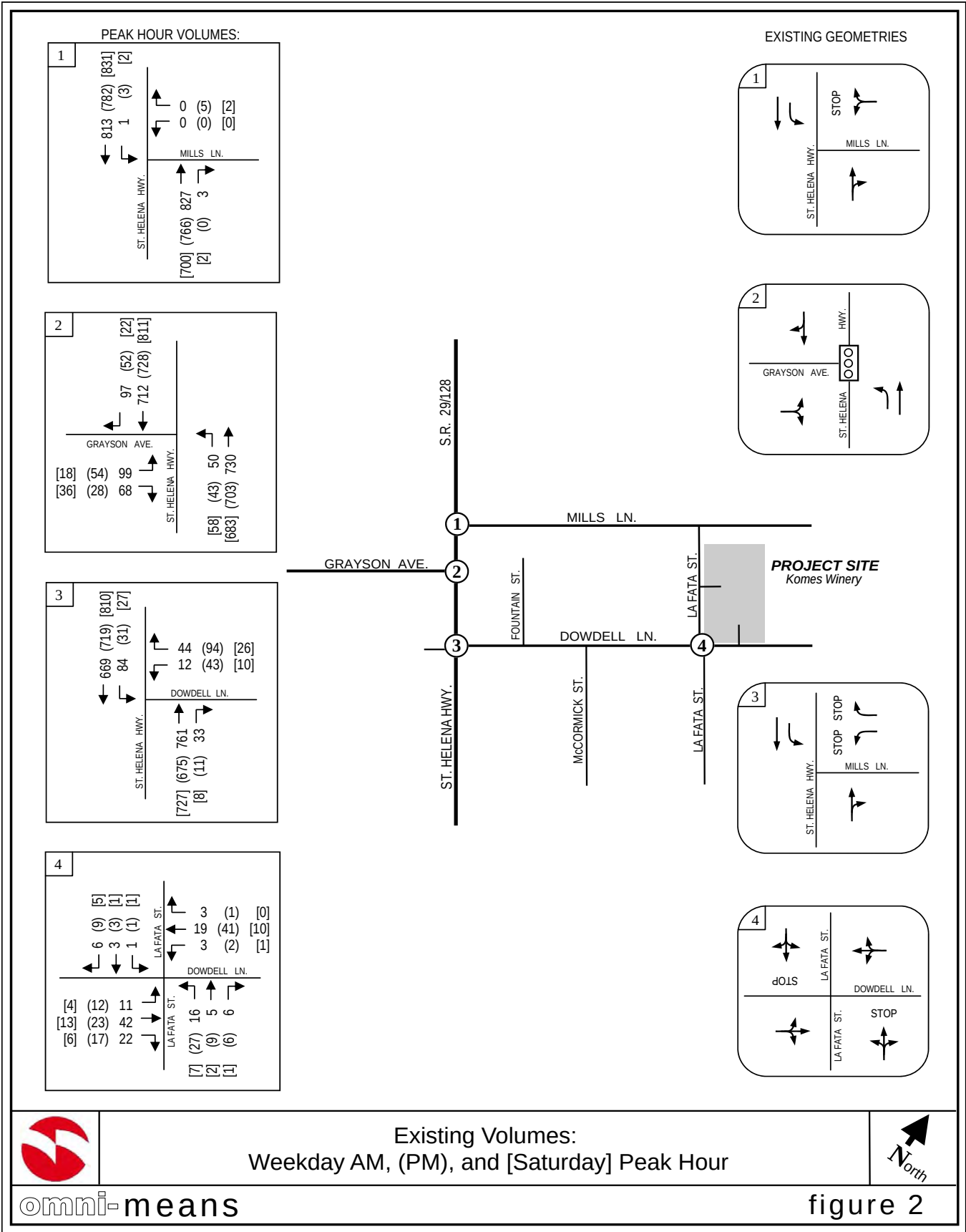
Seasonally adjusted existing weekday AM and PM and weekend mid-day intersection volumes are shown in Figure 2.

Existing Intersection Operation

Intersection traffic operating conditions are measured by Level of Service (LOS), which applies a letter ranking to successive levels of intersection performance. LOS ‘A’ represents optimum conditions with free-flow travel and no congestion. LOS ‘F’ represents severe congestion with long delays at the approaches. The operating conditions were evaluated using the Highway Capacity Manual (*HCM 2010*) operations methodology for signalized and unsignalized intersections. Minor street stop-sign controlled intersection LOS (such as evaluated in this analysis) typically reflect delays experienced by the minor street approach. Level of service definitions are shown in Table 1.

Existing weekday and weekend peak hour LOS (adjusted for peak seasonal crush/harvest conditions) are shown in Table 2. As calculated, the SR-29/Dowdell Lane intersection is operating at LOS C (17-19 seconds of delay) during all three peak hour periods. The calculated LOS of C for the SR-29/Dowdell Lane intersection represents overall vehicle delay for the stop-sign controlled westbound left-turn *and* right-turn movements from Dowdell Lane onto SR-29. The remaining Mills Lane and Grayson Avenue intersections at SR-29 are operating at LOS B or better during all three peak hour periods. It is noted that new signal operation at the Grayson Avenue/SR-29 intersection has improved overall vehicle delays at this location. The new signal helps to provide additional “gaps” in SR-29 north-south traffic that allows the adjacent intersections of Dowdell Lane and Mills Lane to operate more efficiently. However, significant north-south vehicle queuing on SR-29 still occurs during peak weekday and weekend periods. For this reason, it is likely that calculated vehicle delays at project study intersections along SR-29 may be longer than calculated.

The La Fata Street/Dowdell Lane intersection is operating at LOS A (9-10 seconds of delay) during the same weekday and weekend time periods for the northbound and southbound stop-sign controlled movements.



**TABLE 1
INTERSECTION LEVEL-OF-SERVICE DEFINITIONS**

Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle (sec)	
				Signalized/ Roundabouts	Unsignalized/ All-Way Stop
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	< 10.0	< 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10.0 and < 20.0	>10.0 and < 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20.0 and < 35.0	>15.0 and < 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35.0 and < 55.0	>25.0 and < 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55.0 and < 80.0	>35.0 and < 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0	> 50.0

References: 2010 Highway Capacity Manual

TABLE 2
EXISTING HARVEST (NO PROJECT) CONDITIONS: PEAK HOUR INTERSECTION LOS

	Intersection	Control Type	Wkdy. AM		Wkdy. PM		Saturday Peak	
			LOS	Delay	LOS	Delay	LOS	Delay
1	SR-29 / Mills Lane	TWSC	C	15.7	B	14.9	B	13.9
2	SR-29 / Grayson Avenue	Signal	B	12.4	A	8.6	A	8.4
3	SR-29 / Dowdell Lane	TWSC	C	17.9	C	18.4	C	16.9
3	La Fata Street / Dowdell Lane	TWSC	A	9.3	A	9.5	A	8.9

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for signalized and unsignalized intersections and yields a vehicle delay in seconds.

Signal Warrants

Based on the California Manual on Uniform Traffic Control Devices (CAMUTCD) for peak hour signal warrant criteria, the SR-29/Dowdell Lane intersection was evaluated for signalization.¹ The peak hour warrant is one of several standards to help determine if installation of a traffic signal may be appropriate. Qualifying for signalization using the peak hour warrant does not necessarily mean a signal should be installed. The SR-29/Dowdell Lane intersection qualifies for signalization under the peak hour warrant using existing PM peak hour volumes. As previously noted, the construction of the Highway 29 Channelization project has improved vehicle access to/from SR-29 and Dowdell Lane in addition to the new signal at Grayson Avenue. For these reasons, it is not recommended that a signal be installed at the SR-29/Dowdell Lane intersection at this time. The SR-29/Mills Lane and La Fata Street/Dowdell Lane intersections do not qualify for peak hour signal warrant satisfaction under existing conditions.

¹ California Manual on Uniform Traffic Control Devices (CAMUTCD), Chapter 4C, Peak hour signal warrant (#3), 2014.

4. Near-Term Year 2020 (No Project) Conditions

Near-Term Methodology

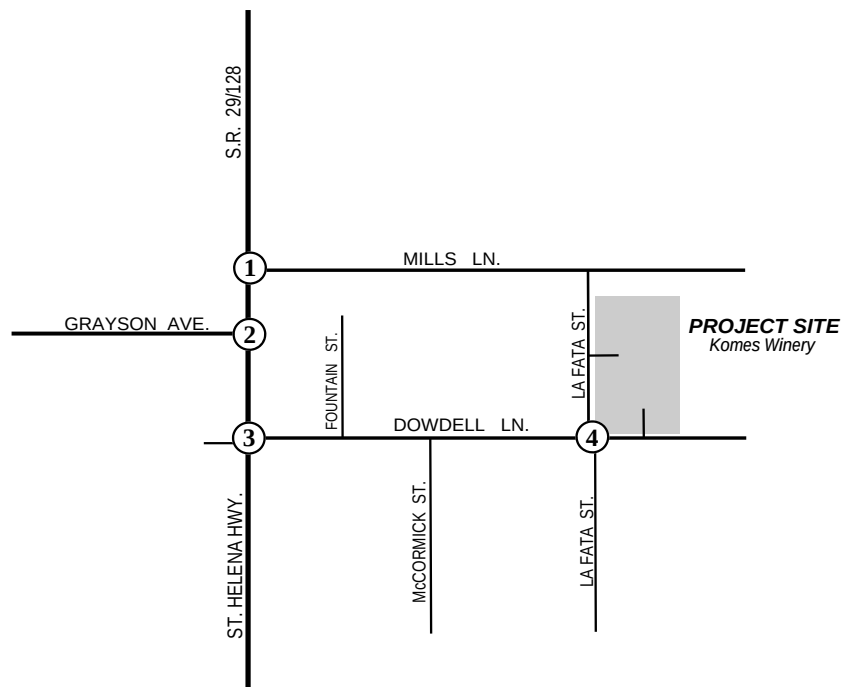
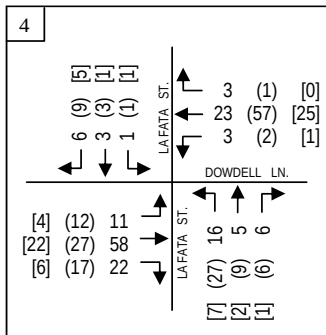
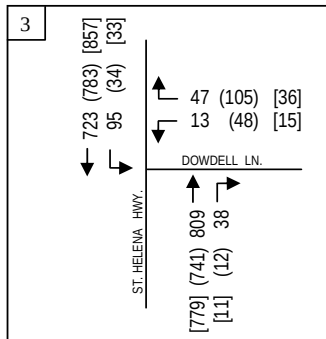
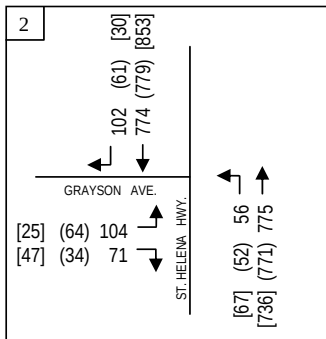
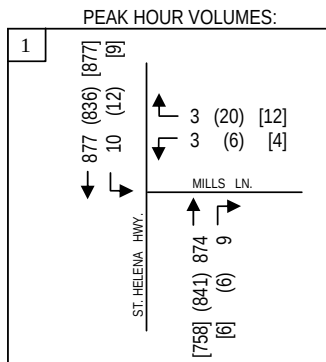
Near-term traffic conditions represent existing and other approved/pending development traffic that can reasonably be assumed to be generated in the short-term horizon. Based on previous development studies conducted in the City of St. Helena, the horizon year 2020 was established for near-term conditions.² Weekday and weekend peak hour approved development trips were based on traffic projections provided for recently updated City of St. Helena General Plan Circulation Element and specific development projects as follows:

- Crocker-Star Winery: The winery is located just east of the project site on the north side of Dowdell Lane (700 Dowdell Lane). The winery is currently under construction and would produce 25,000 gallons per year. Tasting and visitation would be small with a maximum of 12 guests during a typical weekday and 16 guests on a Saturday. Employment would range from seven full-time and three part-time employees.
- Davies Winery: The winery is located north of the proposed project site on Main Street at northwest corner of Main Street/Grayson Avenue intersection (555 Main Street). The winery is currently being modified to produce 75,000 gallons per year. Tasting and visitation would consist of 160 guests per day weekday and weekend. Employment would range from 15 full-time employees with an additional 30 part-time employees (harvest season).
- Redmon Winery: This winery is located on Dowdell Lane east of La Fata Street and (like the proposed project) would be a production-only winery. The winery would produce 24,000 gallons per year with 2 full-time and 2 part-time employees (4 part-time during crush). An associated commercial kitchen would employ 2 full-time and 1 part-time employees.
- Culinary Institute of America Campus Master Plan (Greystone Campus & Vineyard Lodge Housing): The CIA is located at 2555 Main Street and 830 Pratt Avenue. The initial study/mitigated negative declaration indicates a net reduction in project trips from proposed uses (or transfer of uses) from this development.³

Larger development projects located outside of St. Helena and other infill project traffic are contained within the General Plan update volume projections. The weekday and weekend peak hour approved/pending development trips were added to existing (seasonal) volumes at the study intersections. The forecast weekday AM, PM, and Saturday peak hour near-term traffic volumes are shown in Figure 3.

²Omni-Means Engineering Solutions, *Traffic Impact Analysis for the Proposed Davies Vineyards Winery Use Permit Modification*, City of St. Helena, August 19, 2014.

³ City of St. Helena, *Culinary Institute of America Campus Master Plan (Greystone Campus 2555 Main Street & Vineyard Lodge Housing 830 Pratt Avenue)*, IS/MND, Crane Transportation Group, December 9, 2016.



Near Term Without Project Volumes:
Weekday AM, (PM), and [Saturday] Peak Hour



omni-means

figure 3

Near-Term Roadway Improvements

As noted previously, Caltrans has completed constructing the Highway 29 St. Helena Lane Channelization project in the study area. Specifically, the project goal was to “rehabilitate the pavement, widen the shoulders, construct a two-way-left-turn-lane, and improve the bicycle/railroad crossing at Whitehall Lane.”

The new traffic signal at the Main Street/Grayson Avenue intersection was installed in conjunction with the Highway 29 Channelization project and was activated in November, 2016. No other roadway/intersection improvements are scheduled for the project study area at this time.

Near-Term (No Project) Intersection Operation

With near-term (no project) volumes, study intersection LOS have been calculated and are shown in Table 3. With new circulation improvements on SR-29, the minor street stop-sign controlled intersections of SR-29/Mills Lane and SR-29/Dowdell Lane would operate at acceptable conditions. During the three peak periods, overall intersection operation would be LOS C. The creation of two-way-left-turn lane on SR-29 allows outbound vehicles from Dowdell Lane (turning left) to merge into through-traffic in a safer manor by allowing a “refuge” area. The remaining intersections of SR-29/Grayson Avenue and La Fata Street/Dowdell Lane would continue to operate at LOS A-B during all three time periods with near-term (no project) traffic.

Signal Warrants

The SR-29/Dowdell Lane would continue to meet the peak hour signal warrant with near-term (no project) traffic volumes. However, in light of the current circulation improvements (two-way-left-turn-lane) installed on SR-29 and improved operations at the stop-sign controlled intersection; a signal would not be recommended for this location at this time. In addition, the signal at the SR-29/Grayson Avenue intersection located approximately 540 feet north of Dowdell Lane provides “gaps” in southbound through-traffic on SR-29 allowing greater opportunity for outbound left-turning vehicles to merge into traffic.

TABLE 3
NEAR-TERM (NO PROJECT) HARVEST CONDITIONS: PEAK HOUR INTERSECTION LOS

	Intersection	Control Type	Wkdy. AM		Wkdy. PM		Saturday Peak	
			LOS	Delay	LOS	Delay	LOS	Delay
1	SR-29 / Mills Lane	TWSC	C	20.2	C	19.8	C	17.1
2	SR-29 / Grayson Avenue	Signal	B	13.3	A	9.9	A	9.8
3	SR-29 / Dowdell Lane	TWSC	C	19.4	C	20.8	C	18.6
3	La Fata Street / Dowdell Lane	TWSC	A	9.5	A	9.6	A	9.0

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for signalized and unsignalized intersections and yields a vehicle delay in seconds.

5. Proposed Project Impacts

Significance Criteria

The significance criteria applied in this study are based on the City of St Helena's General Plan Circulation Element documentation for roadway and intersection operations. Based on this information, the significance criteria are provided as follows:

The City's current LOS standard is LOS D for signalized intersections on Main Street (SR 29/128) and LOS C elsewhere. Based on City of St. Helena and CEQA standards, a project's impact would be considered significant if any of the following conditions occur:

- If operating conditions at a signalized intersection on Main Street (SR 29/128) deteriorate from LOS D without the project to LOS E or F with the project.
- If operating conditions at a signalized intersection on Main Street (SR 29/128) operating at LOS E without the project deteriorate to LOS F with the project.
- If the average intersection delays at a signalized intersection operating at LOS E or F without the project increases by more than five seconds with the project.
- If operating conditions at an unsignalized intersection on Main Street (SR 29/128) operating at LOS D or better without the project degrade to LOS E or F with the project and the volumes would qualify for signalization under the Caltrans peak hour volume warrants for signalization. If operating conditions at an unsignalized intersection not on Main Street operating at LOS C or better without the project degrade to LOS D, E, or F with the project and the volumes would qualify for signalization under the Caltrans peak hour volume warrants for signalization.
- If average delay at an unsignalized intersection on Main Street (SR 29/128) operating at LOS E or F without the project increases by five or more seconds with the project and the volumes qualify for signalization under the Caltrans peak hour volume warrants for signalization. If average delay at an unsignalized intersection not on Main Street operating at LOS D, E, or F without the project increases by five or more seconds with the project and the volumes qualify for signalization under the Caltrans peak hour volume warrants for signalization.
- If traffic volumes at an unsignalized intersection meet the peak hour signal warrant thresholds, then a significant impact is considered if volumes increase by one percent with the project.
- For vehicle queuing, if the lane storage length sufficiently accommodates the 95th percentile vehicle queue length without the project and the vehicle queue length would increase to exceed the available storage with the project. If the 95th percentile queue length exceeds the available storage length without the project and the turning movement volume would increase by three percent or more with the project and increase the total intersection volume by one percent.

Project Components

The proposed Komes Custom Crush Winery project would consist of wine production, employment, and associated truck deliveries. There would be absolutely no wine tasting, tours, or marketing events associated with the proposed use permit. Therefore, the proposed project would consist of the following vehicle trip generation components:

Proposed Winery Components:

- Winery production: 120,000 gallons per year;
- Employment: 4 full-time and 8 part-time employees during the weekday and weekend periods. This employment reflects peak harvest/crush activity (weekday/weekend) during the eight-week period;
- Trucks: 1 truck per day (non-crush periods). 2 trucks per day (harvest/crush period).

Project Trip Generation

The proposed project's weekday and weekend peak hour traffic volumes have been calculated and are shown in Table 4. The trip generating components of the project are based on information supplied by the project applicant's planning consultant (Project Statement) in combination with winery production and employment trip ratios research by Napa County (Napa County Planning, Building, and Environmental Services Department Use Permit trip rates).^{4 5} Discussions with the applicant's assistant winemaker indicated that their crush period for processing fruit would likely occur over a four-month period. During this crush period, there would be 40 trucks (per season) or 80 truck trips. Total estimated truck trips would include bottling trucks to/from the site. Therefore, on a daily basis the number of truck trips in/out of the project site would be quite low during the crush season. At most, 1-2 trucks per day over the course of a four-month season.

With the proposed winery having no visitation or marketing events, the project trip generation would represent just production, employment, and associated truck deliveries. Based on proposed project components, the following weekday AM and PM and weekend (Saturday) trip generation has been estimated:

Weekday:

AM Peak Hour:	11 trips (9 in, 2 out)
PM Peak Hour:	11 trips (2 in, 9 out)

Weekend (Saturday):

Saturday Mid-Day Peak Hour (non-Crush):	16 trips (8 in, 8 out)
Saturday Mid-Day Peak Hour (Crush):	18 trips (9 in, 9 out)

⁴ Ms. Donna Oldford, Winery Entitlement Consultant/Planner, St. Helena Custom Crush Winery, Project Statement, APN 009-660-004, 420 La Fata Street, St. Helena, May, 2016.

⁵ County of Napa, Conservation, Development, and Planning Department, "Use Permit Application Package," Winery Traffic Information/Trip Generation Sheet (page 15), June 8, 2015.

TABLE 4
DAILY AND PEAK HOUR PROJECT TRIP GENERATION:
PROPOSED KOMES CUSTOM CRUSH WINERY PROJECT

Weekday Daily, AM & PM Peak Hour Traffic:

Daily Trips:

4 full time employees x 3.05 one-way trips	=	12.2 daily trips
8 part-time employees x 1.90 one-way trips	=	15.2 daily trips
120,000 gallons/1,000 x .009 trucks x 2 o-w trips	=	<u>2.2 daily trips</u>
Total Weekday Daily Trips	=	29.6 daily trips

Total AM and PM Peak Hour Trips:

29.6 daily trips x 0.38% (80% in, 20% out—AM Peak)=	11 (9 in, 2 out)
29.6 daily trips x 0.38% (20% in, 80% out—PM Peak)=	11 (2 in, 9 out)

Weekend (Saturday) Daily and Mid-Day Peak Hour Traffic:

Daily Trips:

4 full time employees x 3.05 one-way trips	=	12.2 daily trips
8 part-time employees x 1.90 one-way trips	=	<u>15.2 daily trips</u>
Total Weekend (Saturday) Daily Trips	=	27.4 daily trips

Total Saturday Mid-Day Peak Hour Trips:

27.4 daily trips x 0.57% (50% in, 50% out—M-D Peak)=	16 (8 in, 8 out)
--	-------------------------

Weekend Crush (Saturday) Daily & Mid-Day Peak Hour Traffic:

Daily Trips:

4 full time employees x 3.05 one-way trips	=	12.2 daily trips
8 part-time employees x 1.90 one-way trips	=	15.2 daily trips
120,000 gallons/1,000 x .009 daily trucks x 2 trips	=	2.16 daily trips
40 trucks / 84 days x 2 trips	=	<u>1.0 daily trips</u>
Total Crush Saturday Daily Trips	=	31.0 daily trips

Total Crush Saturday Mid-Day Peak Hour Trips:

31.0 daily trips x 0.57% (50% in, 50% out- M-D peak)=	18 (9 in, 9 out)
---	-------------------------

Source: Production, employee, and truck data provided by Ms. Donna Oldford (Planning Consultant), March, 2017. Daily and peak hour calculations based on County of Napa, Conservation, Development, and Planning Department, "Use Permit Application Package," Napa County Winery Traffic Generation Characteristics, June 2015.

Overall project trip generation compares favorably with total winery and kitchen employment for weekday and weekend (12 employees, respectively) and related trucks associated for each use. For proposed winery uses there would be a maximum of one (1) delivery truck per day under normal (non-crush conditions). As noted for crush activities, the winery would be producing 120,000 gallons of wine per year. The applicant's winemaker estimates a total of 40 trucks during a four-month crush period or 80 truck trips. This production would result in approximately 5 truck trips per week. However, crush activities tend to represent a bell curve where production can occur slowly then reach a peak before beginning to ease down over the four-month crush period. Therefore, a peak crush activity of one-two trucks per day has been assumed for peak crush activities as a conservative measure. In addition, proposed project trip generation characteristics are driven by employment and truck deliveries and not visitation or marketing events. For this reason, proposed project traffic tends to peak during the weekday AM and PM and weekend mid-late afternoon hours when employees are either traveling to or from the site.

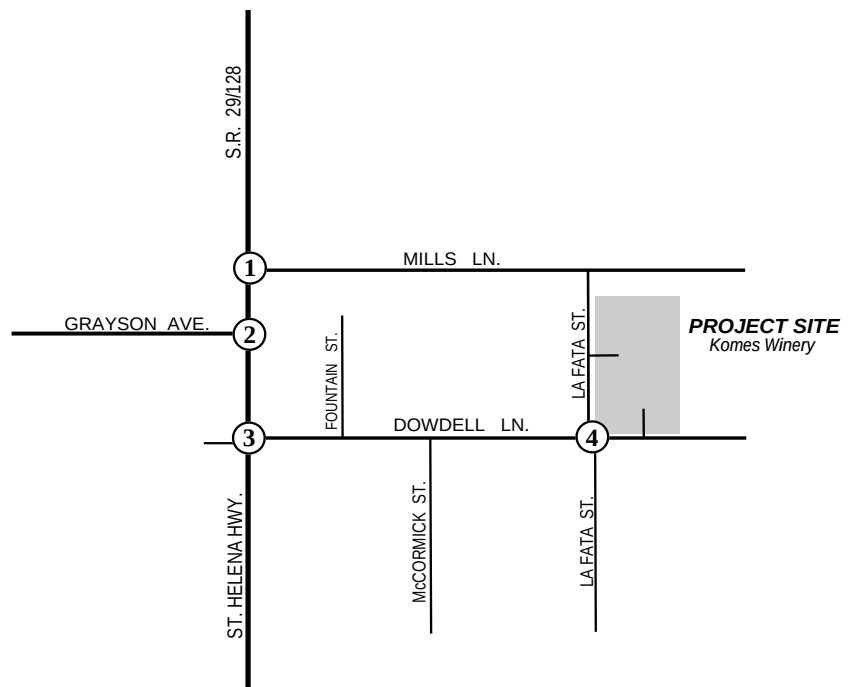
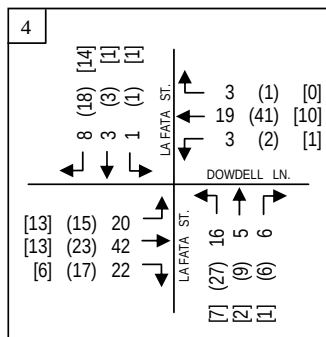
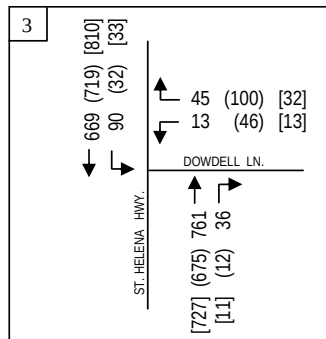
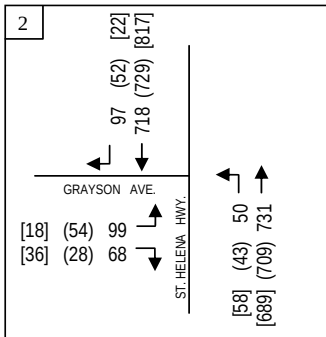
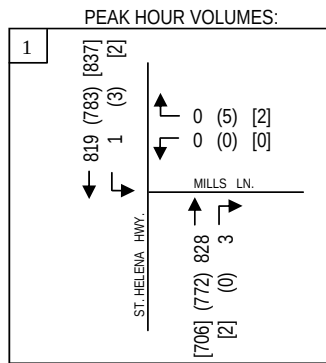
Project Trip Assignment

The proposed project would gain access directly from La Fata Street via three driveways (two existing driveways currently serve existing site uses and a new driveway). The most direct route to/from the proposed project site is via Dowdell Lane from SR-29. However, indirect access to site can also be gained via Mills Lane (to the north) or Vintage Avenue (to the south) to access SR-29. It is noted that no large trucks are permitted to/from Mills Avenue via La Fata Street. As a conservative measure, all project trips have been routed to/from SR-29 via Dowdell Lane with 70% to/from the north and 30% to/from the south on SR-29. Proposed project distribution is based on existing traffic flows at the SR-29/Dowdell Lane intersection, previous transportation studies, and the unique employee characteristics associated with the project (no guest visitation or marketing events).

Existing plus project weekday AM and PM and weekend peak hour intersection volumes have been shown in Figure 4.

Existing plus Project Conditions

With proposed project traffic added to existing harvest season traffic, study intersection LOS was calculated and is shown in Table 5. As calculated, the four study intersections would continue to operate at acceptable conditions (LOS C or better) with very slight increases in vehicle delay. In addition, proposed project trips would represent less than one (1) percent of the overall peak hour volumes at the SR-29/Dowdell Lane intersection during the weekday AM and PM peak hours. During the weekend mid-day peak hour, overall project volumes would represent 1.1% of overall volumes at the SR-29/Dowdell Lane intersection. However, overall intersection operations would continue at LOS C during this time period. The SR-29/Dowdell Lane intersection would continue to meet the peak hour signal warrant. With recent circulation improvements on SR-29 a signal is not recommended for the intersection at this time. As a conservative measure, proposed project trips accessing the project site to/from Dowdell Lane were assumed to use the project driveways on La Fata Street (please see Project Site Access for a discussion of driveway access).



Existing Plus Project Volumes:
Weekday AM, (PM), and [Saturday] Peak Hour



omni-means

figure 4

TABLE 5
EXISTING PLUS PROJECT HARVEST CONDITIONS: PEAK HOUR INTERSECTION LOS

	Intersection	Control Type	Wkdy. AM		Wkdy. PM		Saturday Peak	
			LOS	Delay	LOS	Delay	LOS	Delay
1	SR-29 / Mills Lane	TWSC	C	15.7	C	15.0	B	14.0
2	SR-29 / Grayson Avenue	Signal	B	12.4	A	8.6	A	8.4
3	SR-29 / Dowdell Lane	TWSC	C	18.1	C	18.6	C	17.3
3	La Fata Street / Dowdell Lane	TWSC	A	9.5	A	9.6	A	9.0

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for unsignalized intersections and yields a vehicle delay in seconds.

Near-Term plus Project Conditions

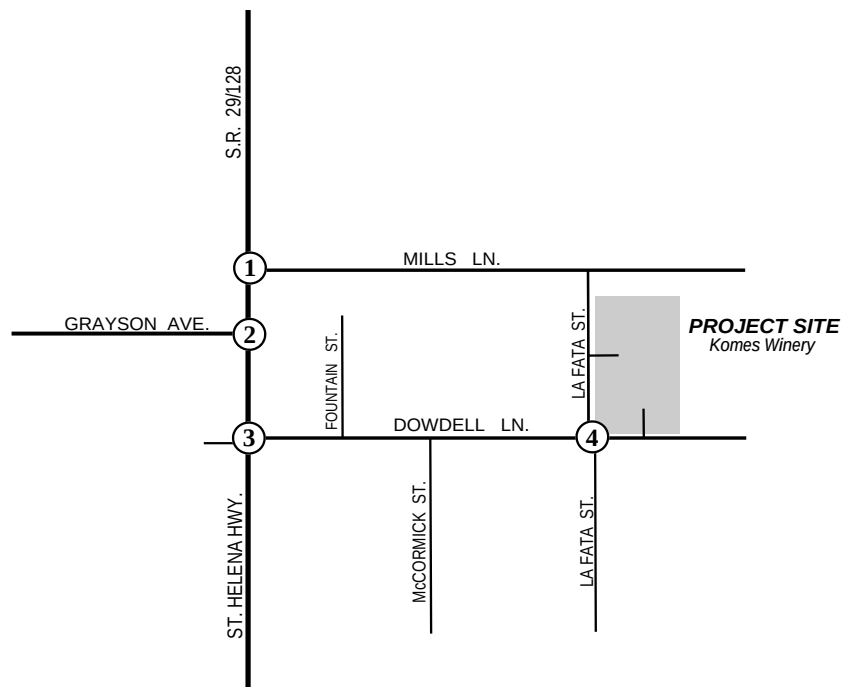
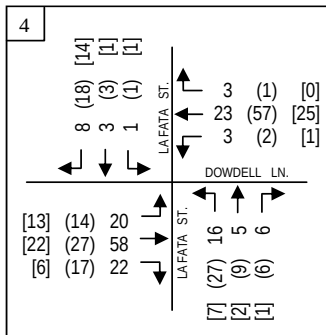
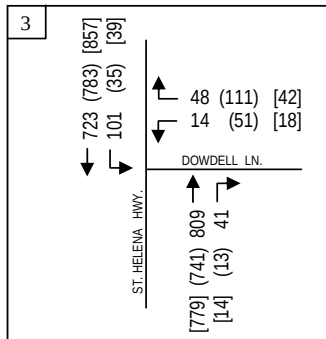
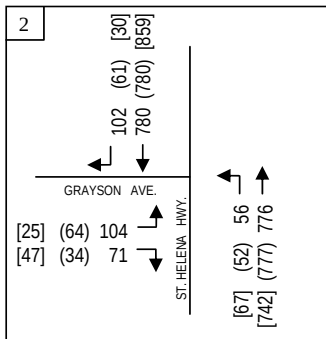
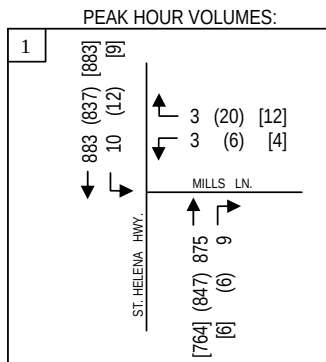
Proposed project trips were added to near-term (no project) intersection volumes for the weekday AM and PM and weekend mid-day peak hours and are shown in Figure 5.

With near-term plus project volumes, study intersection LOS has been calculated and are shown in Table 6. During the three peak periods overall intersection operations at the SR-29/Mills Lane and SR-29/Dowdell Lane would continue at LOS C with proposed project trips adding less than one second of vehicle delay. As noted previously, the creation of a two-way-left-turn lane on SR-29 allows outbound vehicles from Dowdell Lane (turning left) to merge into through-traffic in a safer manner by allowing a “refuge” area. The remaining intersections of SR-29/Grayson Avenue and La Fata Street/Dowdell Lane would continue to operate at LOS A-B during all three time periods with near-term (no project) traffic. Proposed project trips would make up less than one (1) percent of overall traffic volumes at the SR-29/Dowdell Lane intersection.

TABLE 6
NEAR-TERM PLUS PROJECT HARVEST CONDITIONS: PEAK HOUR INTERSECTION LOS

	Intersection	Control Type	Wkdy. AM		Wkdy. PM		Saturday Peak	
			LOS	Delay	LOS	Delay	LOS	Delay
1	SR-29 / Mills Lane	TWSC	C	20.2	C	18.8	C	17.2
2	SR-29 / Grayson Avenue	Signal	B	13.3	A	9.9	A	9.9
3	SR-29 / Dowdell Lane	TWSC	C	19.6	C	21.3	C	20.5
3	La Fata Street / Dowdell Lane	TWSC	A	9.6	A	9.7	A	9.2

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for unsignalized intersections and yields a vehicle delay in seconds.



Near Term Plus Project Volumes:
Weekday AM, (PM), and [Saturday] Peak Hour



omni-means

figure 5

6. Cumulative Conditions

Cumulative Year 2035 Projections

The long-term cumulative year 2035 conditions were derived from traffic projections provided for the City of St. Helena General Plan update (Circulation Element). The Year 2035 volumes reflect projected traffic growth with buildout of the City's General Plan. The long-term cumulative volumes include the Year 2020 harvest season volumes calculated for the near-term approved development scenario plus an added growth rate of 2.25 percent per year to year 2035 (15 years). It is noted that traffic growth related to General Plan buildout was applied to through-traffic volumes on SR-29. Future traffic growth on La Fata Street and Dowdell Lane was generated from local approved/pending project-specific volumes.

Cumulative Year 2035 (No Project) Conditions

The cumulative Year 2035 (no project) peak hour volumes are shown in Figure 6 and the intersection LOS are shown in Table 7. As calculated, the SR-29/Mills Lane and SR-29/Dowdell intersections would operate at LOS D during all three study periods for the Mills Lane and Dowdell Lane outbound (westbound) approaches at SR-29. The two-way-left-turn lane on SR-29 would continue to allow outbound vehicles from Mills Lane and Dowdell Lane (turning left) to merge into through-traffic in a safer manor by allowing a "refuge" area. The remaining intersections of SR-29/Grayson Avenue and La Fata Street/Dowdell Lane and Project Driveway/Dowdell Lane would operate at LOS B or better during all three time periods with cumulative (no project) traffic.

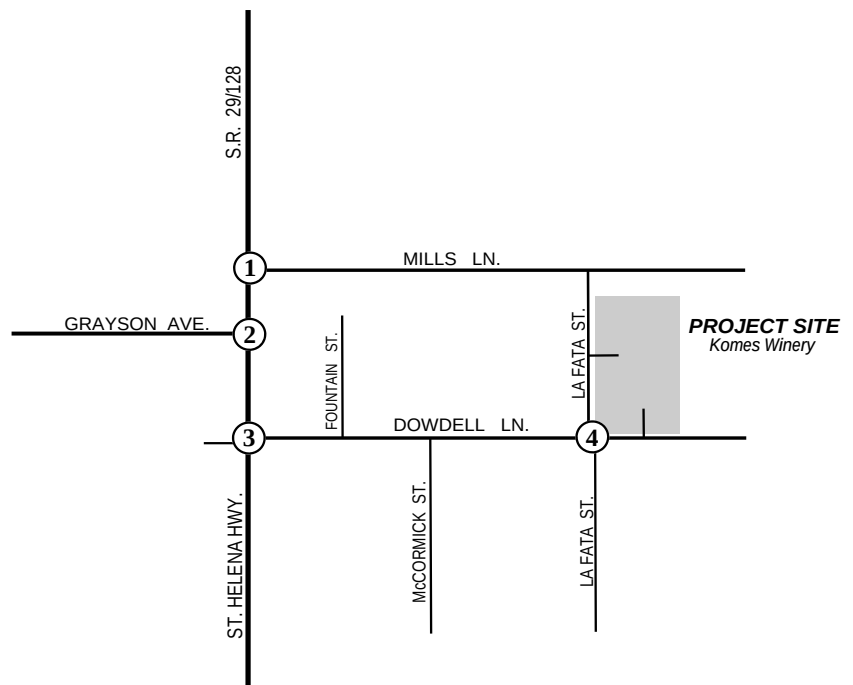
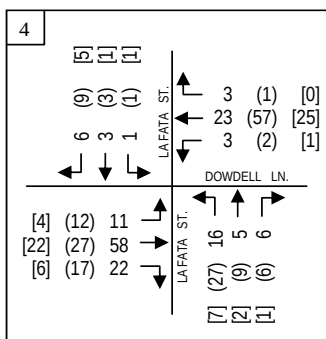
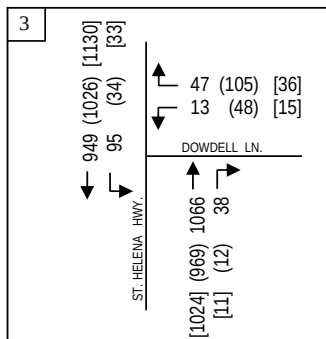
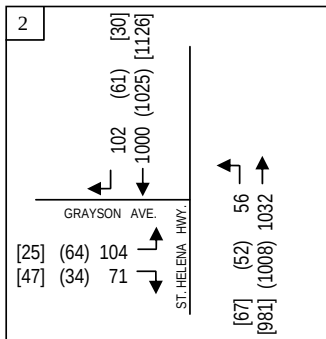
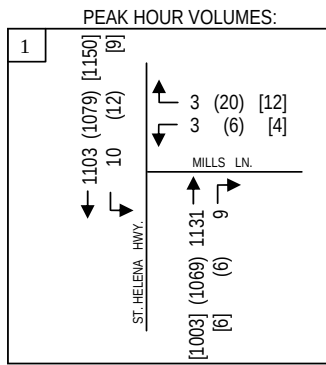
Cumulative Year 2035 plus Project Conditions

The Year 2035 plus project volumes are presented in Figure 7 and the calculated intersection LOS are listed in Table 7. The SR-29/Mills Lane and SR-29/Dowdell Lane intersections would continue to operate at LOS D' during the weekday AM and PM and Saturday peak hours, with delay increases of less than one second. The proposed project trips would not constitute a significant impact, as the delay increases would be less than the significance threshold of one second at the SR-29 (Main Street) intersection. The remaining study intersections of SR-29/Grayson Avenue and La Fata Street/Dowdell Lane operate at LOS A-B with cumulative plus project volumes.

TABLE 7
YEAR 2035 NO PROJECT AND PLUS PROJECT HARVEST CONDITIONS: PEAK HOUR INTERSECTION LOS

	Intersection	Control Type	Wkdy. AM		Wkdy. PM		Saturday Peak	
			2035 NP	2035 + Prj	2035 NP	2035 + Prj	2035 NP	2035 + Prj
1	SR-29 / Mills Lane	TWSC	D 27.0	D 27.0	D 25.0	D 25.2	C 22.9	C 23.0
2	SR-29 / Grayson Avenue	Signal	B 17.2	B 17.4	B 12.7	B 12.7	B 14.2	B 14.4
3	SR-29 / Dowdell Lane	TWSC	D 27.2	D 27.8	D 31.2	D 31.2	D 25.5	D 26.4
4	La Fata Street / Dowdell Lane	TWSC	A 9.5	A 9.6	A 9.0	A 9.7	A 8.7	A 9.2

Intersection LOS based on Highway Capacity Manual (HCM 2010) operations methodology for unsignalized intersections and yields a vehicle delay in seconds.

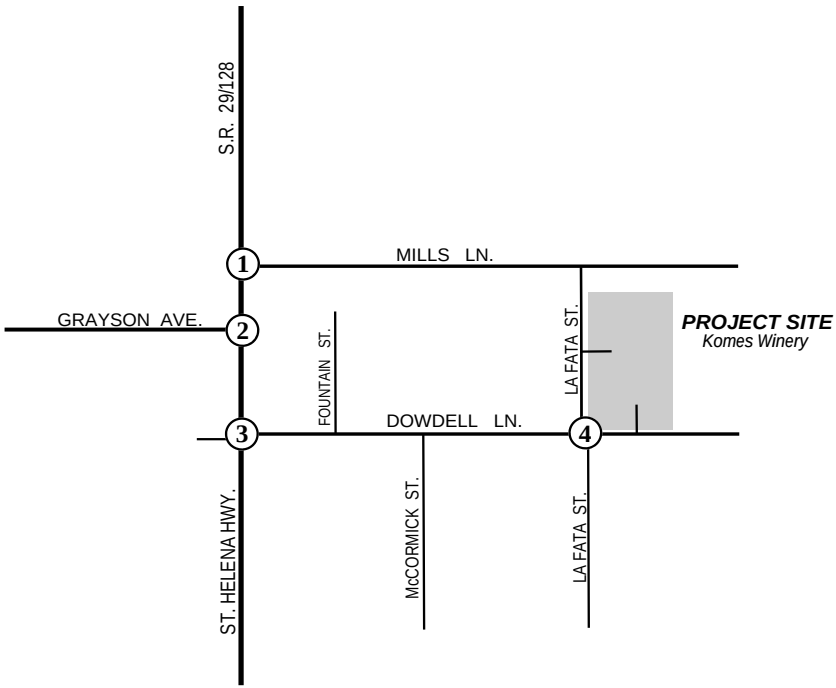
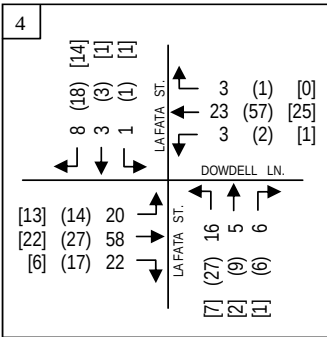
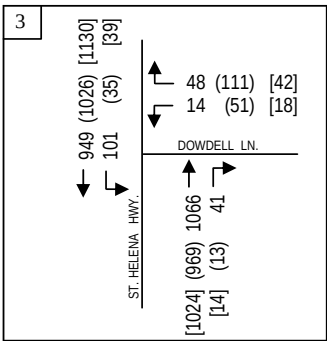
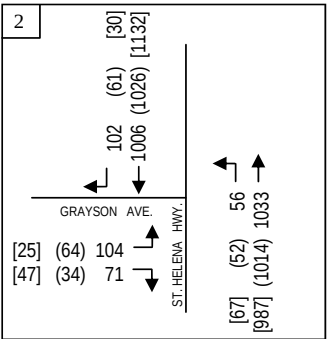
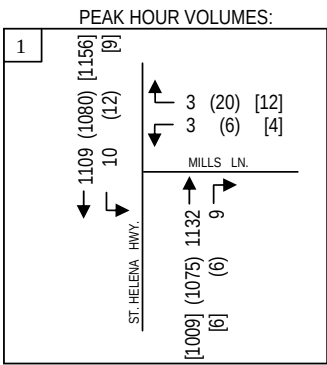


Cumulative Without Project Volumes:
Weekday AM, (PM), and [Saturday] Peak Hour



omni-means

figure 6



omni-means

Cumulative Plus Project Volumes:
Weekday AM, (PM), and [Saturday] Peak Hour



figure 7

7. Highway 29 Specific Plan

Planned SR-29 Specific Plan Circulation Improvements

In addition to cumulative highway operation on State Route 29 (Main Street); The City of St. Helena's Highway 29 Specific Plan has been reviewed for planned circulation improvements in the project study area.⁶ The proposed project site would be located within the Specific Plan area on the east side of Main Street. Specifically, the east side of the plan area encompasses Dowdell Lane from Main Street extending east of La Fata Street. The plan area then extends north past Mills Lane before extending west back to Main Street. On the west side of Main Street, the plan area extends along Grayson Avenue from Main Street west to Crane Avenue before extending north along Sulphur Creek and back to Main Street.

One of the prime circulation objectives of the Plan is to "Improve circulation and access for the easterly portion of the Specific Plan area through upgrading existing roads and providing for the installation of new traffic signals at the intersection of Highway 29/Grayson Avenue/Mills Lane and the intersection of Highway 29/Dowdell Lane." Specific components of Plan include the following:

- A traffic signal at Highway 29 and Grayson Avenue for any new development on both the east and west sides of Highway 29 (completed);
- A traffic signal at Highway 29 and Dowdell Lane for any new development on the east side of Highway 29;
- Realignment of Mills Lane (south to Grayson Avenue), for any new development on the east side of Highway 29.

As part of the above circulation improvements, additional ROW and turn lanes would be required as follows:

- Installation of a traffic signal at the reconfigured intersection (Highway 29/Grayson Avenue/Mills Lane) constructed to Caltrans standards that will include a westbound (northbound) left-turn lane onto Grayson Avenue (partially completed);
- Installation of an northbound right-turn lane from Highway 29 onto realigned Mills Lane to minimize back-up of turning vehicle on Highway 29;
- Installation of acceleration and deceleration lanes at the intersection of Highway 29 and Mills Lane. This will require acquisition of additional ROW at the intersection to accommodate these new lanes.

SR-29 Specific Plan Circulation Improvements Completed-to-Date

As previously noted, Caltrans has completed the Highway 29 St. Helena Lane Channelization project in the study area. The project limits extended between Mee Lane and Charter Oak Avenue. In coordination with the City of St. Helena, a new traffic signal was activated at the Grayson Avenue/SR-29 as part of this overall lane channelization project on SR-29 in November (2016). This project includes a separate northbound left-turn lane on Highway 29 at Grayson Avenue. In addition, a separate southbound left-turn has been installed on Highway

⁶ City of St. Helena, Highway 29 Specific Plan, Jerry Haag & TJKM Associates, February 22, 2005.

29 at Mills Lane (these northbound/southbound left-turns lanes at Grayson Avenue and Mills Lane were designed as part of the overall Highway 29 Lane Channelization project).

Circulation improvements in the project study area related to Highway 29 Specific Plan that have not been completed include the following:

- Realignment of Mills Lane south to Grayson Avenue;
- Signalization of the Highway 29/Dowdell Lane intersection.

Potential Funding Mechanisms

The Highway 29 Specific Plan recommends the potential funding mechanisms for remaining circulation improvements in the study as follows:

Mills Lane Realignment: For that portion of the Specific Plan area lying east of Highway 29 and adjacent to Mills Lane, new and upgraded improvement costs are estimated at \$1,926,000, which does not include ROW costs. These improvements shall be borne by benefitting development north and south of Mills Lane. Anticipated improvements include realignment of Mills Lane, the extension of Fountain Street and relocation of the existing Napa Valley Wine Train railroad crossing at Mills Lane and Highway 29;

Highway 29/Dowdell Lane Traffic Signal: Although this signal location is outside of the Specific Plan area, it will serve existing and new development on the east side of Highway 29 and is planned to operate in synchronization with the Highway 29/Grayson Avenue/Mills Lane intersection. The City of St. Helena collected fees specifically for the installation of this signal from development that occurred on the east side of Highway 29 in the 1980's. These funds may be supplemented by City of St. Helena traffic mitigation funds. New development elsewhere in the community may be required to pay their fair share of the traffic signal costs based on their contribution of traffic to this intersection in addition to City-wide traffic impact fees.

Given that the Highway 29 Specific Plan circulation improvements for the Mills Lane realignment and signalization of the Highway 29/Dowdell Lane intersection have yet to completed (or funded); it is recommended that the propose project contribute a "fair share" contribution to these Highway 29 Specific Plan circulation improvements based on their contribution to cumulative year 2035 volumes at this roadway/intersection. Using the weekday PM peak hour proposed project trip generation (worst case), the project would contribute 11 PM peak hour trips to the roadway and intersection network at Highway 29. Based on a net increase between existing and cumulative year 2035 PM peak hour volumes at the Highway 29/Dowdell Lane intersection; the proposed project contribution would represent 1.7% of cumulative traffic volumes (11 project trips / 632 net cumulative traffic increase). At such time in the future the City determines that the Mills Lane realignment and/or signalization of the Highway 29/Dowdell Lane is necessary; the proposed project would have contributed their fair share towards overall circulation improvements in the Highway 29 Specific Plan area.

8. Project Site Access, Circulation, and Design Parameters

Access/Onsite Circulation

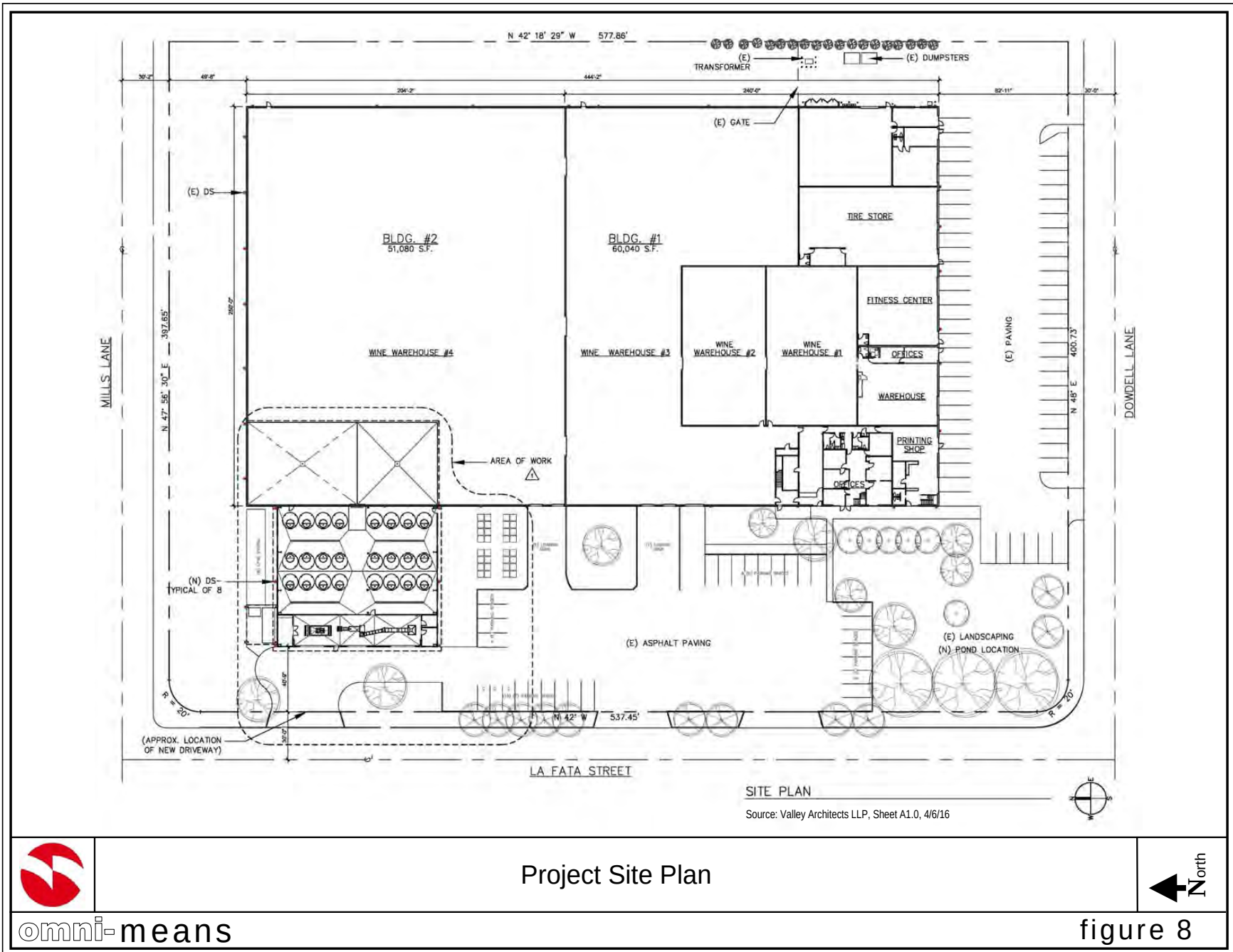
The project site plan is illustrated in Figure 8. There are currently four (4) driveways serving the proposed project site; two driveways off Dowdell Lane and two driveways off of La Fata Street. With all proposed project improvements located off of La Fata Street in the northwest quadrant of the site, it is very likely that all project trips associated with proposed winery activities would use these driveways and parking areas. As part of proposed project improvements, a third driveway access to La Fata Street would be added adjacent to the crush pad and processing areas. This third driveway would be located approximately 90 feet south of Mills Lane and would allow larger trucks to access in/out of the crush and/or loading dock areas without having to use the same entry driveways on La Fata Street. Based on correspondence from the project architect, "Grape deliveries and other shipping and receiving activities will be adjacent to and make use of existing truck traffic areas on the west side of the building adjacent to La Fata Street. All trucks will arrive and leave the production area on La Fata Street. The ingress will make use of an existing driveway at the existing driveway at the existing truck docks, and the egress from the production area would be via proposed northern-most driveway on La Fata Street."⁷ Actual peak period project trips at these driveways off La Fata Street would be quite low with 11 vehicle trips to/from the site during the weekday AM and PM peak hours and 18 vehicle trips to/from the site during the weekend harvest/crush periods.

Currently, there are no pedestrian or bicycle facilities on La Fata Street and Dowdell Lane along the proposed project frontages. Existing pedestrian sidewalks are located on the south side of Dowdell Lane both east and west of La Fata Street and on La Fata Street (both sides) south of Dowdell Avenue.

La Fata Street--Dowdell Lane Operations

Weekday peak hour and weekend mid-day peak hour trips estimated for proposed project uses have all been assigned to La Fata Street and Dowdell Lane via SR-29. As with proposed project driveways, this would equate to 11 weekday AM and PM peak hour trips and 18 mid-day weekend peak hour trips. However, it is likely that some employee trips may use Mills Lane or Vintage Avenue as an alternative to Dowdell Lane to reach SR-29. On a daily basis, the proposed project is expected to add 29 weekday and 31 weekend trips (harvest/crush season). The La Fata Street/Dowdell Lane intersection would continue to operate at LOS A during the weekday and weekend peak hour time periods. With respect to truck trips, the project would generate approximately 2 truck trips during the weekday (non-harvest) and about 2-4 daily truck trips on Dowdell Lane during the crush/harvest season.

⁷ Mr. Thomas Faherty, Architect, Valley Architects, Letter to Mr. Noah Housh, Planning and Community Improvement Director, City of St. Helena, 890 Dowdell Lane, Custom Crush Facility, file PL16-018, November 8, 2016.



Sight Distance

Sight distances for vehicles turning in/out of the winery driveways were evaluated. The desired vehicle visibility or "corner sight distance" is a function of the travel speeds on the primary street. Caltrans design standards indicate that for appropriate corner sight distance, "a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the cross road and the driver of an approaching vehicle in the right lane of the main highway."⁸ The speed limit on La Fata Street is 25 mph (prima facie) but traffic flows are generally lower given the relatively short segment of roadway between Mills Lane and Dowdell Lane.

Based on the Caltrans design standards, the La Fata Street project driveway(s) require a sight distance of about 150 feet. Visibility on La Fata Street to the north and south is approximately 150 feet from the mid-block driveway, therefore the sight distance is adequate.

9. Conclusions/Recommendations

The proposed Komes Custom Crush Winery project's weekday and weekend peak hour trip generation would not significantly affect intersection LOS on La Fata Street or Dowdell Lane. The SR-29/Mills Lane and SR-29/Dowdell Lane intersections would be operating at LOS C during the weekday AM and PM and weekend time periods with proposed project traffic under existing and near-term conditions. Proposed project traffic would add less than one (1) second of overall vehicle delay to the intersections and would typically make up less than one (1) percent of overall peak hour volumes consistent with City of St. Helena significance thresholds for unsignalized intersections on Main Street (SR-29). The exception would be at the SR-29/Dowdell Lane intersection where proposed project trips would make up 1.1% of overall traffic volumes during the weekend mid-day peak hour. Additional mitigation at the SR-29/Dowdell Lane intersection is not recommended at this time due to the following circulation improvements and proposed project characteristics:

1. The completion of the St. Helena SR-29 Channelization Project; It is understood that the SR-29/Dowdell Lane intersection currently meets the peak hour signal warrant under existing conditions. However, the installation of a two-way-left-turn-lane on SR-29 at Dowdell Lane has improved vehicle access to Dowdell Lane to/from SR-29 and overall vehicle delays. The new two-way-left-turn-lane allows stop-sign controlled outbound vehicles (making a left-turn) to merge more safely onto SR-29 by providing a refuge lane to merge into southbound through-traffic. Similarly, the TWLTL allows southbound motorists on SR-29 to make a left-turn (inbound) to Dowdell Lane without delaying through-traffic on the highway. Indirectly, the signal at the SR-29/Grayson Avenue intersection just south of Mills Lane would also benefit traffic at Dowdell Lane (at times) by providing more "gaps" in southbound traffic;
2. The proposed project description does not include any guest visitation or marketing events what-so-ever (just this fact alone greatly reduces the overall traffic generation). The project description focuses on employment and truck deliveries related to proposed winery production and commercial kitchen uses. Again, there would be no tastings, tours, or marketing events.

⁸ Caltrans, *Highway Design Manual, Sixth Edition, July 1, 2014.*

The proposed project is estimated to generate 11 AM weekday peak hour trips and 11 PM weekday peak hour trips. During the weekend harvest/crush season (worst case), the project is estimated to generate 18 mid-day (late afternoon) peak hour trips. Truck delivery trips would include 2 daily trips during non-harvest conditions and 2-4 daily truck trips during the harvest/crush period. All study intersections on La Fata Street and Dowdell Lane would continue to operate within accepted City of St. Helena LOS thresholds with proposed project traffic.

Vehicle sight distance to the north and south on La Fata Street from proposed project driveway(s) on Dowdell Lane meets the recommended sight distance of 150 feet based on vehicle speeds of 25 mph or less.

With regard to driveway access on La Fata Street; it is recommended that proposed winery-related employees use the associated parking areas to various winery production facilities. By using proposed project driveways off La Fata Street, proposed project activities would not interfere with existing business on the south side of the building that fronts Dowdell Lane and its associated parking areas.

The Highway 29 Specific Plan recommends the potential funding mechanisms for remaining circulation improvements in the study as follows:

Mills Lane Realignment: For that portion of the Specific Plan area lying east of Highway 29 and adjacent to Mills Lane, new and upgraded improvement costs are estimated at \$1,926,000, which does not include ROW costs. These improvements shall be borne by benefitting development north and south of Mills Lane. Anticipated improvements include realignment of Mills Lane, the extension of Fountain Street and relocation of the existing Napa Valley Wine Train railroad crossing at Mills Lane and Highway 29;

Highway 29/Dowdell Lane Traffic Signal: Although this signal location is outside of the Specific Plan area, it will serve existing and new development on the east side of Highway 29 and is planned to operate in synchronization with the Highway 29/Grayson Avenue/Mills Lane intersection. The City of St. Helena collected fees specifically for the installation of this signal from development that occurred on the east side of Highway 29 in the 1980's. These funds may be supplemented by City of St. Helena traffic mitigation funds. New development elsewhere in the community may be required to pay their fair share of the traffic signal costs based on their contribution of traffic to this intersection in addition to City-wide traffic impact fees.

4. Given that the Highway 29 Specific Plan circulation improvements for the Mills Lane realignment and signalization of the Highway 29/Dowdell Lane intersection have yet to be completed (or funded); it is recommended that the proposed project contribute a "fair share" contribution to these Highway 29 Specific Plan circulation improvements based on their contribution to cumulative year 2035 volumes at this roadway/intersection. Using the weekday PM peak hour proposed project trip generation (worst case), the project would contribute 11 PM peak hour trips to the roadway and intersection network at Highway 29. Based on a net increase between existing and cumulative year 2035 PM peak hour volumes at the Highway 29/Dowdell Lane intersection; the proposed project contribution would represent 1.7% of cumulative traffic volumes (11 project trips / 632 net cumulative traffic increase). At such time in the future the City determines that the Mills Lane realignment and/or signalization of the Highway 29/Dowdell Lane is necessary; the proposed project would have contributed their fair share towards overall

circulation improvements in the Highway 29 Specific Plan area. Should the City determine other funding mechanisms appropriate (such as a special assessment district encompassing businesses along Dowdell Lane); total cumulative volumes on Dowdell Lane just west of SR-29 during the PM peak would total 199 vehicles. Again, the proposed project's proportional share of these PM peak hour volumes on Dowdell Lane would be 5.5% (11 project trips / 199 total cumulative volumes).

1.

TECHNICAL APPENDICES:

- Weekday PM and Weekend Mid-Day Intersection LOS Calculation Sheets
- Signal Warrant Sheets (SR-29/Dowdell Lane)

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM Existing Conditions
03/22/2017

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	827	3	1	813
Future Vol, veh/h	0	1	827	3	1	813
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	899	3	1	884

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1787	901	0 0 902 0
Stage 1	901	-	- - - -
Stage 2	886	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	89	337	- - 754 -
Stage 1	396	-	- - - -
Stage 2	403	-	- - - -
Platoon blocked, %	-	-	- - - -
Mov Cap-1 Maneuver	89	337	- - 754 -
Mov Cap-2 Maneuver	223	-	- - - -
Stage 1	396	-	- - - -
Stage 2	402	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	337	754	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s)	-	-	15.7	9.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

AM Existing Conditions
02/25/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	99	68	50	730	712	97		
Future Volume (veh/h)	99	68	50	730	712	97		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	108	74	54	793	774	105		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	149	133	71	1543	1196	162		
Arrive On Green	0.08	0.08	0.04	0.83	0.74	0.74		
Sat Flow, veh/h	1774	1583	1774	1863	1606	218		
Grp Volume(v), veh/h	108	74	54	793	0	879		
Grp Sat Flow(s), veh/h/ln	1774	1583	1774	1863	0	1824		
Q Serve(g_s), s	6.1	4.6	3.1	13.0	0.0	24.3		
Cycle Q Clear(g_c), s	6.1	4.6	3.1	13.0	0.0	24.3		
Prop In Lane	1.00	1.00	1.00			0.12		
Lane Grp Cap(c), veh/h	149	133	71	1543	0	1358		
V/C Ratio(X)	0.73	0.56	0.76	0.51	0.00	0.65		
Avail Cap(c_a), veh/h	798	712	573	1543	0	1358		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.8	45.1	48.7	2.6	0.0	6.5		
Incr Delay (d2), s/veh	6.6	3.6	15.5	1.2	0.0	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.3	4.2	1.8	6.9	0.0	12.9		
LnGrp Delay(d),s/veh	52.4	48.8	64.3	3.9	0.0	8.8		
LnGrp LOS	D	D	E	A		A		
Approach Vol, veh/h	182			847	879			
Approach Delay, s/veh	50.9			7.7	8.8			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		13.1	8.6	80.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		15.0		8.1	5.1	26.3		
Green Ext Time (p_c), s		22.7		0.6	0.1	13.1		
Intersection Summary								
HCM 2010 Ctrl Delay			12.4					
HCM 2010 LOS			B					

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM Existing Conditions
02/25/2017

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	12	44	761	33	84	669
Future Vol, veh/h	12	44	761	33	84	669
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	48	827	36	91	727

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1755	845	0
Stage 1	845	-	-
Stage 2	910	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	94	363	779
Stage 1	421	-	-
Stage 2	393	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	83	363	779
Mov Cap-2 Maneuver	211	-	-
Stage 1	421	-	-
Stage 2	347	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	211	363	779	-
HCM Lane V/C Ratio	-	-	0.062	0.132	0.117	-
HCM Control Delay (s)	-	-	23.2	16.4	10.2	-
HCM Lane LOS	-	-	C	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	0.4	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

AM Existing Conditions
02/25/2017

Intersection												
Int Delay, s/veh		3.2										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	42	22	3	19	3	16	5	6	1	3	6
Future Vol, veh/h	11	42	22	3	19	3	16	5	6	1	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	46	24	3	21	3	17	5	7	1	3	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	70	0	0	116	112	58	117	122	22
Stage 1	-	-	-	-	-	-	82	82	-	29	29	-
Stage 2	-	-	-	-	-	-	34	30	-	88	93	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1591	-	-	1531	-	-	861	778	1008	859	768	1055
Stage 1	-	-	-	-	-	-	926	827	-	988	871	-
Stage 2	-	-	-	-	-	-	982	870	-	920	818	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1591	-	-	1531	-	-	846	770	1008	842	760	1055
Mov Cap-2 Maneuver	-	-	-	-	-	-	846	770	-	842	760	-
Stage 1	-	-	-	-	-	-	919	820	-	980	869	-
Stage 2	-	-	-	-	-	-	970	868	-	901	811	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.9	9.3	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	861	1591	-	-	1531	-	-	924
HCM Lane V/C Ratio	0.034	0.008	-	-	0.002	-	-	0.012
HCM Control Delay (s)	9.3	7.3	0	-	7.4	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM Existing Conditions
02/25/2017

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		U		W	U
Traffic Vol, veh/h	0	5	766	0	3	782
Future Vol, veh/h	0	5	766	0	3	782
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	833	0	3	850

Major/Minor	Minor	Major1	Major2
Conflicting Flow All	1690	833	0
Stage 1	833	-	-
Stage 2	857	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	103	369	800
Stage 1	427	-	-
Stage 2	416	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	103	369	800
Mov Cap-2 Maneuver	239	-	-
Stage 1	427	-	-
Stage 2	414	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	369	800	-
HCM Lane V/C Ratio	-	-	0.015	0.004	-
HCM Control Delay (s)	-	-	14.9	9.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

PM Existing Conditions
02/25/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	54	28	43	703	728	52		
Future Volume (veh/h)	54	28	43	703	728	52		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	59	30	47	764	791	57		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	90	80	65	1599	1333	96		
Arrive On Green	0.05	0.05	0.04	0.86	0.78	0.78		
Sat Flow, veh/h	1774	1583	1774	1863	1717	124		
Grp Volume(v), veh/h	59	30	47	764	0	848		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1841		
Q Serve(g_s), s	3.2	1.8	2.6	9.7	0.0	18.9		
Cycle Q Clear(g_c), s	3.2	1.8	2.6	9.7	0.0	18.9		
Prop In Lane	1.00	1.00	1.00			0.07		
Lane Grp Cap(c), veh/h	90	80	65	1599	0	1429		
V/C Ratio(X)	0.66	0.37	0.72	0.48	0.00	0.59		
Avail Cap(c_a), veh/h	827	738	594	1599	0	1429		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	46.1	45.4	47.1	1.7	0.0	4.6		
Incr Delay (d2), s/veh	7.9	2.9	14.0	1.0	0.0	1.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	1.7	1.5	5.3	0.0	10.1		
LnGrp Delay(d),s/veh	54.0	48.3	61.2	2.7	0.0	6.4		
LnGrp LOS	D	D	E	A		A		
Approach Vol, veh/h	89			811	848			
Approach Delay, s/veh	52.1			6.1	6.4			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		9.5	8.1	81.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		11.7		5.2	4.6	20.9		
Green Ext Time (p_c), s		21.0		0.3	0.1	14.4		
Intersection Summary								
HCM 2010 Ctrl Delay			8.6					
HCM 2010 LOS			A					

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM Existing Conditions
02/25/2017

Intersection

Int Delay, s/veh 1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑	↑	↑		↑	↑
Traffic Vol, veh/h	43	94	675	11	31	719
Future Vol, veh/h	43	94	675	11	31	719
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	102	734	12	34	782

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1589	740	0 0 746 0
Stage 1	740	-	- - - -
Stage 2	849	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	119	417	- - 862 -
Stage 1	472	-	- - - -
Stage 2	419	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	114	417	- - 862 -
Mov Cap-2 Maneuver	250	-	- - - -
Stage 1	472	-	- - - -
Stage 2	402	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	18.4	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	250	417	862	-
HCM Lane V/C Ratio	-	-	0.187	0.245	0.039	-
HCM Control Delay (s)	-	-	22.7	16.4	9.3	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	1	0.1	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

PM Existing Conditions
02/25/2017

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	12	23	17	2	41	1	27	9	6	1	3	9
Future Vol, veh/h	12	23	17	2	41	1	27	9	6	1	3	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	25	18	2	45	1	29	10	7	1	3	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	46	0	0	43	0	0	116	110	34	117	119	45
Stage 1	-	-	-	-	-	-	60	60	-	49	49	-
Stage 2	-	-	-	-	-	-	56	50	-	68	70	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1562	-	-	1566	-	-	861	780	1039	859	771	1025
Stage 1	-	-	-	-	-	-	951	845	-	964	854	-
Stage 2	-	-	-	-	-	-	956	853	-	942	837	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1562	-	-	1566	-	-	844	772	1039	839	763	1025
Mov Cap-2 Maneuver	-	-	-	-	-	-	844	772	-	839	763	-
Stage 1	-	-	-	-	-	-	942	837	-	955	853	-
Stage 2	-	-	-	-	-	-	942	852	-	917	829	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.3	9.5	8.9
HCM LOS	A	A	A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	850	1562	-	-	1566	-	-	935
HCM Lane V/C Ratio	0.054	0.008	-	-	0.001	-	-	0.015
HCM Control Delay (s)	9.5	7.3	0	-	7.3	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD (Saturday) Existing Conditions
02/25/2017

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		↑		↑	↑
Traffic Vol, veh/h	0	2	700	2	2	831
Future Vol, veh/h	0	2	700	2	2	831
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	761	2	2	903

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1670	762	0 0 763 0
Stage 1	762	-	- - - -
Stage 2	908	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	106	405	- - 850 -
Stage 1	461	-	- - - -
Stage 2	393	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	106	405	- - 850 -
Mov Cap-2 Maneuver	241	-	- - - -
Stage 1	461	-	- - - -
Stage 2	392	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBT	NBR	WBL	SBL	SBT
Capacity (veh/h)	-	-	405	850	-
HCM Lane V/C Ratio	-	-	0.005	0.003	-
HCM Control Delay (s)	-	-	13.9	9.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

MD (Saturday) Existing Conditions
02/25/2017

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	36	58	683	811	22
Future Volume (veh/h)	18	36	58	683	811	22
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	20	39	63	742	882	24
Adj No. of Lanes	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	72	65	83	1615	1398	38
Arrive On Green	0.04	0.04	0.05	0.87	0.77	0.77
Sat Flow, veh/h	1774	1583	1774	1863	1805	49
Grp Volume(v), veh/h	20	39	63	742	0	906
Grp Sat Flow(s), veh/h/ln	1774	1583	1774	1863	0	1854
Q Serve(g_s), s	1.1	2.4	3.4	8.6	0.0	21.1
Cycle Q Clear(g_c), s	1.1	2.4	3.4	8.6	0.0	21.1
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	72	65	83	1615	0	1436
V/C Ratio(X)	0.28	0.60	0.76	0.46	0.00	0.63
Avail Cap(c_a), veh/h	835	746	600	1615	0	1436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.5	46.2	46.1	1.4	0.0	4.9
Incr Delay (d2), s/veh	2.0	8.7	13.3	0.9	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.2	2.0	4.5	0.0	11.4
LnGrp Delay(d),s/veh	47.6	54.9	59.4	2.4	0.0	7.0
LnGrp LOS	D	D	E	A		A
Approach Vol, veh/h	59			805	906	
Approach Delay, s/veh	52.4			6.8	7.0	
Approach LOS	D			A	A	
Timer	1	2	3	4	5	6
Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		89.4		8.5	9.1	80.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3
Max Q Clear Time (g_c+I1), s		10.6		4.4	5.4	23.1
Green Ext Time (p_c), s		22.2		0.2	0.1	14.1
Intersection Summary						
HCM 2010 Ctrl Delay			8.4			
HCM 2010 LOS			A			

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD (Saturday) Existing Conditions
02/25/2017

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰	↰	↰	↰
Traffic Vol, veh/h	10	26	727	8	27	810
Future Vol, veh/h	10	26	727	8	27	810
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	28	790	9	29	880

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1734	795	0 0 799 0
Stage 1	795	-	- - - -
Stage 2	939	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	96	388	- - 824 -
Stage 1	445	-	- - - -
Stage 2	380	-	- - - -
Platoon blocked, %	-	-	- - - -
Mov Cap-1 Maneuver	93	388	- - 824 -
Mov Cap-2 Maneuver	226	-	- - - -
Stage 1	445	-	- - - -
Stage 2	367	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.3
HCM LOS	C	-	-

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	226	388	824	-
HCM Lane V/C Ratio	-	-	0.048	0.073	0.036	-
HCM Control Delay (s)	-	-	21.7	15	9.5	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.1	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fata St. & Dowdell Ln.

MD (Saturday) Existing Conditions
02/25/2017

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	4	13	6	1	10	0	7	2	1	1	1	5
Future Vol, veh/h	4	13	6	1	10	0	7	2	1	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	14	7	1	11	0	8	2	1	1	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	11	0	0	21	0	0	42	39	17	41	42	11
Stage 1	-	-	-	-	-	-	26	26	-	13	13	-
Stage 2	-	-	-	-	-	-	16	13	-	28	29	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1608	-	-	1595	-	-	961	853	1062	963	850	1070
Stage 1	-	-	-	-	-	-	992	874	-	1007	885	-
Stage 2	-	-	-	-	-	-	1004	885	-	989	871	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1608	-	-	1595	-	-	952	850	1062	957	847	1070
Mov Cap-2 Maneuver	-	-	-	-	-	-	952	850	-	957	847	-
Stage 1	-	-	-	-	-	-	989	871	-	1004	884	-
Stage 2	-	-	-	-	-	-	997	884	-	983	868	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.7	8.9	8.6
HCM LOS	A	A	A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	939	1608	-	-	1595	-	-	1015
HCM Lane V/C Ratio	0.012	0.003	-	-	0.001	-	-	0.007
HCM Control Delay (s)	8.9	7.2	0	-	7.3	0	-	8.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM Near-Term (NP) Conditions
02/26/2017

Intersection						
Int Delay, s/veh		0.1				
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	3	3	874	9	10	877
Future Vol, veh/h	3	3	874	9	10	877
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	950	10	11	953

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1930	955	0
Stage 1	955	-	-
Stage 2	975	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	73	313	717
Stage 1	374	-	-
Stage 2	366	-	-
Platoon blocked, %	-	-	-
Mov. Cap-1 Maneuver	72	313	717
Mov. Cap-2 Maneuver	200	-	-
Stage 1	374	-	-
Stage 2	360	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBL	SBL	SBT
Capacity (veh/h)	-	-	244	717	-
HCM Lane V/C Ratio	-	-	0.027	0.015	-
HCM Control Delay (s)	-	-	20.2	10.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

AM Near-Term (NP) Conditions
02/26/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	104	71	56	775	774	102		
Future Volume (veh/h)	104	71	56	775	774	102		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	113	77	61	842	841	111		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	154	137	80	1538	1188	157		
Arrive On Green	0.09	0.09	0.05	0.83	0.74	0.74		
Sat Flow, veh/h	1774	1583	1774	1863	1612	213		
Grp Volume(v), veh/h	113	77	61	842	0	952		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1825		
Q Serve(g_s), s	6.4	4.8	3.5	14.8	0.0	29.5		
Cycle Q Clear(g_c), s	6.4	4.8	3.5	14.8	0.0	29.5		
Prop In Lane	1.00	1.00	1.00			0.12		
Lane Grp Cap(c), veh/h	154	137	80	1538	0	1345		
V/C Ratio(X)	0.73	0.56	0.76	0.55	0.00	0.71		
Avail Cap(c_a), veh/h	795	710	571	1538	0	1345		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.8	45.1	48.5	2.9	0.0	7.4		
Incr Delay (d2), s/veh	6.6	3.5	13.7	1.4	0.0	3.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.4	4.3	2.0	8.1	0.0	15.7		
LnGrp Delay(d),s/veh	52.4	48.6	62.3	4.3	0.0	10.6		
LnGrp LOS	D	D	E	A		B		
Approach Vol, veh/h	190			903	952			
Approach Delay, s/veh	50.9			8.2	10.6			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		13.4	9.1	80.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I), s		16.8		8.4	5.5	31.5		
Green Ext Time (p_c), s		26.6		0.6	0.1	11.5		
Intersection Summary								
HCM 2010 Ctrl Delay	13.3							
HCM 2010 LOS	B							

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM Near-Term (NP) Conditions
02/26/2017

Intersection

Int Delay, s/veh 1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰	↰	↰	↰
Traffic Vol, veh/h	13	47	809	38	95	723
Future Vol, veh/h	13	47	809	38	95	723
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	51	879	41	103	786

Major/Minor	Minor	Major1	Major2
Conflicting Flow All	1892	900	0
Stage 1	900	-	-
Stage 2	992	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	77	337	741
Stage 1	397	-	-
Stage 2	359	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	66	337	741
Mov Cap-2 Maneuver	188	-	-
Stage 1	397	-	-
Stage 2	309	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBL1	WBL2	SBL	SBT
Capacity (veh/h)	-	-	188	337	741	-
HCM Lane V/C Ratio	-	-	0.075	0.152	0.139	-
HCM Control Delay (s)	-	-	25.7	17.6	10.6	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	0.5	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

AM Near-Term (NP) Conditions
02/26/2017

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	11	58	22	3	23	3	16	5	6	1	3	6
Future Vol, veh/h	11	58	22	3	23	3	16	5	6	1	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	63	24	3	25	3	17	5	7	1	3	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	87	0	0	137	134	75	138	144	27
Stage 1	-	-	-	-	-	-	99	99	-	33	33	-
Stage 2	-	-	-	-	-	-	38	35	-	105	111	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1509	-	-	834	757	986	833	747	1048
Stage 1	-	-	-	-	-	-	907	813	-	983	868	-
Stage 2	-	-	-	-	-	-	977	866	-	901	804	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1585	-	-	1509	-	-	820	749	986	817	740	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	820	749	-	817	740	-
Stage 1	-	-	-	-	-	-	900	806	-	975	866	-
Stage 2	-	-	-	-	-	-	965	864	-	882	798	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.8	9.5	9
HCM LOS	A	A	A	A

Minor Lane/Major Mvmt	NBL	EBL	EBT	EBR	WBL	WBT	WBR	SBL
Capacity (veh/h)	837	1585	-	-	1509	-	-	909
HCM Lane V/C Ratio	0.035	0.008	-	-	0.002	-	-	0.012
HCM Control Delay (s)	9.5	7.3	0	-	7.4	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM Near-Term (NP) Conditions
02/26/2017

Intersection: SR-29 & Mills Ln

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	20	841	6	12	836
Future Vol, veh/h	6	20	841	6	12	836
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	22	914	7	13	909

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1852	917	0	0	921	0
Stage 1	917	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.12	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	57	330	-	-	741	-
Stage 1	326	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	56	330	-	-	741	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	326	-	-	-	-	-
Stage 2	312	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	19.8		0		0.1	
HCM LOS	C					

Minor Lane/Major Mvmt	NBT	NBR	WBL	SBL	SBT
Capacity (veh/h)	-	-	272	741	-
HCM Lane V/C Ratio	-	-	0.104	0.018	-
HCM Control Delay (s)	-	-	19.8	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

PM Near-Term (NP) Conditions
02/26/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SEB		
Lane Configurations								
Traffic Volume (veh/h)	64	34	52	771	779	61		
Future Volume (veh/h)	64	34	52	771	779	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	70	37	57	838	847	66		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	104	93	75	1585	1303	102		
Arrive On Green	0.06	0.06	0.04	0.85	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1706	133		
Grp Volume(v), veh/h	70	37	57	838	0	913		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1839		
Q Serve(g_s), s	3.9	2.2	3.2	12.1	0.0	23.2		
Cycle Q Clear(g_c), s	3.9	2.2	3.2	12.1	0.0	23.2		
Prop In Lane	1.00	1.00	1.00			0.07		
Lane Grp Cap(c), veh/h	104	93	75	1585	0	1405		
V/C Ratio(X)	0.67	0.40	0.76	0.53	0.00	0.65		
Avail Cap(c_a), veh/h	820	732	589	1585	0	1405		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	46.0	45.3	47.3	2.0	0.0	5.5		
Incr Delay (d2), s/veh	7.3	2.7	14.7	1.3	0.0	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	2.1	1.9	6.6	0.0	12.3		
LnGrp Delay(d),s/veh	53.3	48.0	62.0	3.3	0.0	7.9		
LnGrp LOS	D	D	E	A		A		
Approach Vol, veh/h	107			895	913			
Approach Delay, s/veh	51.5			7.0	7.9			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		10.3	8.7	80.7		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		14.1		5.9	5.2	25.2		
Green Ext Time (p_c), s		25.3		0.3	0.1	14.3		
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM Near-Term (NP) Conditions
02/26/2017

Intersection

Int Delay, s/veh 2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	48	105	741	12	34	783
Future Vol, veh/h	48	105	741	12	34	783
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	114	805	13	37	851

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1737	812	0	0	818	0
Stage 1	812	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	96	379	-	-	810	-
Stage 1	437	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	92	379	-	-	810	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	368	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	20.8		0		0.4
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	224	379	810	-
HCM Lane V/C Ratio	-	-	0.233	0.301	0.046	-
HCM Control Delay (s)	-	-	25.9	18.5	9.7	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	0.9	1.2	0.1	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

PM Near-Term (NP) Conditions
02/26/2017

Intersection												
Int Delay, s/veh		3.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	12	27	17	2	57	1	27	9	6	1	3	9
Future Vol, veh/h	12	27	17	2	57	1	27	9	6	1	3	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	29	18	2	62	1	29	10	7	1	3	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	48	0	0	138	132	39	140	141	62
Stage 1	-	-	-	-	-	-	65	65	-	67	67	-
Stage 2	-	-	-	-	-	-	73	67	-	73	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540	-	-	1559	-	-	833	759	1033	830	750	1003
Stage 1	-	-	-	-	-	-	946	841	-	943	839	-
Stage 2	-	-	-	-	-	-	937	839	-	937	833	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1559	-	-	816	751	1033	810	743	1003
Mov Cap-2 Maneuver	-	-	-	-	-	-	816	751	-	810	743	-
Stage 1	-	-	-	-	-	-	937	833	-	935	838	-
Stage 2	-	-	-	-	-	-	923	838	-	912	826	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.2	9.6	9
HCM LOS			A	A

Minor Lane/Minor Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	825	1540	-	-	1559	-	-	913
HCM Lane V/C Ratio	0.055	0.008	-	-	0.001	-	-	0.015
HCM Control Delay (s)	9.6	7.4	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD Near-Term (NP) Conditions
02/26/2017

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	12	758	6	9	877
Future Vol, veh/h	4	12	758	6	9	877
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	13	824	7	10	953

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1800	827	0 0 830 0
Stage 1	827	-	- - - -
Stage 2	973	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	88	371	- - 802 -
Stage 1	430	-	- - - -
Stage 2	366	-	- - - -
Platoon blocked, %	-	-	- - - -
Mov Cap-1 Maneuver	87	371	- - 802 -
Mov Cap-2 Maneuver	218	-	- - - -
Stage 1	430	-	- - - -
Stage 2	361	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	17.1	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBR	WBL	SBL	SBR
Capacity (veh/h)	-	-	316	802	-
HCM Lane V/C Ratio	-	-	0.055	0.012	-
HCM Control Delay (s)	-	-	17.1	9.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

MD Near-Term (NP) Conditions
02/26/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	25	47	67	736	853	30		
Future Volume (veh/h)	25	47	67	736	853	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	27	51	73	800	927	33		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	85	76	96	1604	1361	48		
Arrive On Green	0.05	0.05	0.05	0.86	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1788	64		
Grp Volume(v), veh/h	27	51	73	800	0	960		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1852		
Q Serve(g_s), s	1.5	3.1	4.0	10.3	0.0	25.4		
Cycle Q Clear(g_c), s	1.5	3.1	4.0	10.3	0.0	25.4		
Prop In Lane	1.00	1.00	1.00			0.03		
Lane Grp Cap(c), veh/h	85	76	96	1604	0	1409		
V/C Ratio(X)	0.32	0.67	0.76	0.50	0.00	0.68		
Avail Cap(c_a), veh/h	829	740	595	1604	0	1409		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.4	46.2	46.0	1.7	0.0	5.8		
Incr Delay (d2), s/veh	2.1	9.9	11.6	1.1	0.0	2.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	2.9	2.3	5.6	0.0	13.6		
LnGrp Delay(d),s/veh	47.5	56.1	57.6	2.8	0.0	8.5		
LnGrp LOS	D	E	E	A		A		
Approach Vol, veh/h	78			873	960			
Approach Delay, s/veh	53.1			7.4	8.5			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		9.2	9.8	79.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		12.3		5.1	6.0	27.4		
Green Ext Time (p_c), s		25.8		0.2	0.2	13.4		
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD Near-Term (NP) Conditions
02/26/2017

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	15	36	779	11	33	857
Future Vol, veh/h	15	36	779	11	33	857
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	39	847	12	36	932
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1856	853	0	0	859	0
Stage 1	853	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	81	359	-	-	782	-
Stage 1	418	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	77	359	-	-	782	-
Mov Cap-2 Maneuver	206	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	18.6		0		0.4	
HCM LOS	C					
Minor Lane / Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	206	359	782	-
HCM Lane V/C Ratio	-	-	0.079	0.109	0.046	-
HCM Control Delay (s)	-	-	24	16.3	9.8	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	0.1	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fata St. & Dowdell Ln.

MD Near-Term (NP) Conditions
02/26/2017

Intersection												
Int Delay, s/veh		2.5										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	4	22	6	1	25	0	7	2	1	1	1	5
Future Vol, veh/h	4	22	6	1	25	0	7	2	1	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	24	7	1	27	0	8	2	1	1	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	30	0	0	69	65	27	66	68	27
Stage 1	-	-	-	-	-	-	36	36	-	29	29	-
Stage 2	-	-	-	-	-	-	33	29	-	37	39	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1583	-	-	923	826	1048	927	823	1048
Stage 1	-	-	-	-	-	-	980	865	-	988	871	-
Stage 2	-	-	-	-	-	-	983	871	-	978	862	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1587	-	-	1583	-	-	914	823	1048	921	820	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	914	823	-	921	820	-
Stage 1	-	-	-	-	-	-	977	862	-	985	870	-
Stage 2	-	-	-	-	-	-	976	870	-	972	859	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	9	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	906	1587	-	-	1583	-	-	989
HCM Lane V/C Ratio	0.012	0.003	-	-	0.001	-	-	0.008
HCM Control Delay (s)	9	7.3	0	-	7.3	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM E+Prj. Conditions
03/11/2017

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	1	W	3	W	W
Traffic Vol, veh/h	0	1	828	3	1	819
Future Vol, veh/h	0	1	828	3	1	819
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	900	3	1	890
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1794	902	0	0	903	0
Stage 1	902	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	89	336	-	-	753	-
Stage 1	396	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	89	336	-	-	753	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15.7	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBL	SBL	SBT	
Capacity (veh/h)	-	-	336	753	-	
HCM Lane V/C Ratio	-	-	0.003	0.001	-	
HCM Control Delay (s)	-	-	15.7	9.8	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

AM E+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	99	68	50	731	718	97		
Future Volume (veh/h)	99	68	50	731	718	97		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	108	74	54	795	780	105		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	149	133	71	1543	1197	161		
Arrive On Green	0.08	0.08	0.04	0.83	0.74	0.74		
Sat Flow, veh/h	1774	1583	1774	1863	1608	216		
Grp Volume(v), veh/h	108	74	54	795	0	885		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1825		
Q Serve(g_s), s	6.1	4.6	3.1	13.1	0.0	24.7		
Cycle Q Clear(g_c), s	6.1	4.6	3.1	13.1	0.0	24.7		
Prop In Lane	1.00	1.00	1.00			0.12		
Lane Grp Cap(c), veh/h	149	133	71	1543	0	1359		
V/C Ratio(X)	0.73	0.56	0.76	0.52	0.00	0.65		
Avail Cap(c_a), veh/h	798	712	573	1543	0	1359		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.8	45.1	48.7	2.6	0.0	6.5		
Incr Delay (d2), s/veh	6.6	3.6	15.5	1.2	0.0	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.3	4.2	1.8	6.9	0.0	13.0		
LnGrp Delay(d),s/veh	52.4	48.8	64.3	3.9	0.0	8.9		
LnGrp LOS	D	D	E	A		A		
Approach Vol, veh/h	182			849	885			
Approach Delay, s/veh	50.9			7.7	8.9			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		13.1	8.6	80.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+1), s		15.1		8.1	5.1	26.7		
Green Ext Time (p_c), s		23.0		0.6	0.1	13.0		
Intersection Summary								
HCM 2010 Ctrl Delay	12.4							
HCM 2010 LOS	B							

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM E+Prj. Conditions
03/11/2017

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	13	45	761	36	90	669
Future Vol, veh/h	13	45	761	36	90	669
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	49	827	39	98	727
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1770	847	0	0	866	0
Stage 1	847	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	92	362	-	-	777	-
Stage 1	420	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	80	362	-	-	777	-
Mov Cap-2 Maneuver	207	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	18.1		0		1.2	
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	207	362	777	-
HCM Lane V/C Ratio	-	-	0.068	0.135	0.126	-
HCM Control Delay (s)	-	-	23.7	16.5	10.3	-
HCM Lane LOS	-	-	C	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	0.4	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

AM E+Prj. Conditions
03/11/2017

Intersection:

Int Delay, s/veh 3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	20	42	22	3	19	3	16	5	6	1	3	8
Future Vol, veh/h	20	42	22	3	19	3	16	5	6	1	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	46	24	3	21	3	17	5	7	1	3	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	70	0	0	136	131	58	136	142	22
Stage 1	-	-	-	-	-	-	101	101	-	29	29	-
Stage 2	-	-	-	-	-	-	35	30	-	107	113	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1591	-	-	1531	-	-	835	760	1008	835	749	1055
Stage 1	-	-	-	-	-	-	905	811	-	988	871	-
Stage 2	-	-	-	-	-	-	981	870	-	898	802	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1591	-	-	1531	-	-	815	748	1008	815	737	1055
Mov Cap-2 Maneuver	-	-	-	-	-	-	815	748	-	815	737	-
Stage 1	-	-	-	-	-	-	892	800	-	974	869	-
Stage 2	-	-	-	-	-	-	967	868	-	874	791	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.9	9.5	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	837	1591	-	-	1531	-	-	932
HCM Lane V/C Ratio	0.035	0.014	-	-	0.002	-	-	0.014
HCM Control Delay (s)	9.5	7.3	0	-	7.4	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM E+Prj. Conditions
03/11/2017

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	0	5	772	0	3	783
Future Vol, veh/h	0	5	772	0	3	783
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	839	0	3	851

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1697	839	0	0	839	0
Stage 1	839	-	-	-	-	-
Stage 2	858	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	102	366	-	-	796	-
Stage 1	424	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	102	366	-	-	796	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	15		0		0
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBRWB	Ln1	SBL	SBT
Capacity (veh/h)	-	-	366	796	-
HCM Lane V/C Ratio	-	-	0.015	0.004	-
HCM Control Delay (s)	-	-	15	9.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

PM E+Prj. Conditions
03/11/2017

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	↖	↗	↖	↑	↓	↗
Lane Configurations	↖	↗	↖	↑	↓	↗
Traffic Volume (veh/h)	54	28	43	709	729	52
Future Volume (veh/h)	54	28	43	709	729	52
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	59	30	47	771	792	57
Adj No. of Lanes	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	90	80	65	1599	1333	96
Arrive On Green	0.05	0.05	0.04	0.86	0.78	0.78
Sat Flow, veh/h	1774	1583	1774	1863	1717	124
Grp Volume(v), veh/h	59	30	47	771	0	849
Grp Sat Flow(s), veh/h/ln	1774	1583	1774	1863	0	1841
Q Serve(g_s), s	3.2	1.8	2.6	9.9	0.0	18.9
Cycle Q Clear(g_c), s	3.2	1.8	2.6	9.9	0.0	18.9
Prop In Lane	1.00	1.00	1.00			0.07
Lane Grp Cap(c), veh/h	90	80	65	1599	0	1429
V/C Ratio(X)	0.66	0.37	0.72	0.48	0.00	0.59
Avail Cap(c_a), veh/h	827	738	594	1599	0	1429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	45.4	47.1	1.7	0.0	4.6
Incr Delay (d2), s/veh	7.9	2.9	14.0	1.0	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.7	1.5	5.4	0.0	10.2
LnGrp Delay(d),s/veh	54.0	48.3	61.2	2.7	0.0	6.4
LnGrp LOS	D	D	E	A		A
Approach Vol, veh/h	89			818	849	
Approach Delay, s/veh	52.1			6.1	6.4	
Approach LOS	D			A	A	
Timer	1	2	3	4	5	6
Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		89.4		9.5	8.1	81.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3
Max Q Clear Time (g_c+I1), s		11.9		5.2	4.6	20.9
Green Ext Time (p_c), s		21.2		0.3	0.1	14.5
Intersection Summary						
HCM 2010 Ctrl Delay			8.6			
HCM 2010 LOS			A			

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM E+Prj. Conditions
03/11/2017

Intersection:

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	46	100	675	12	32	719
Future Vol, veh/h	46	100	675	12	32	719
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	109	734	13	35	782

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1591	740	0 0 747 0
Stage 1	740	-	- - - -
Stage 2	851	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	118	417	- - 861 -
Stage 1	472	-	- - - -
Stage 2	419	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	113	417	- - 861 -
Mov Cap-2 Maneuver	249	-	- - - -
Stage 1	472	-	- - - -
Stage 2	402	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	249	417	861	-
HCM Lane V/C Ratio	-	-	0.201	0.261	0.04	-
HCM Control Delay (s)	-	-	23.1	16.6	9.4	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	1	0.1	-

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

PM E+Prj. Conditions
03/11/2017

Intersection												
Int Delay, s/veh		4.4										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	15	23	17	2	41	1	27	9	6	1	3	18
Future Vol, veh/h	15	23	17	2	41	1	27	9	6	1	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	25	18	2	45	1	29	10	7	1	3	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	46	0	0	43	0	0	128	117	34	124	125	45
Stage 1	-	-	-	-	-	-	67	67	-	49	49	-
Stage 2	-	-	-	-	-	-	61	50	-	75	76	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1562	-	-	1566	-	-	845	773	1039	850	765	1025
Stage 1	-	-	-	-	-	-	943	839	-	964	854	-
Stage 2	-	-	-	-	-	-	950	853	-	934	832	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1562	-	-	1566	-	-	819	764	1039	829	756	1025
Mov Cap-2 Maneuver	-	-	-	-	-	-	819	764	-	829	756	-
Stage 1	-	-	-	-	-	-	933	830	-	953	853	-
Stage 2	-	-	-	-	-	-	927	852	-	907	823	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0.3	9.6	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	831	1562	-	-	1566	-	-	968
HCM Lane V/C Ratio	0.055	0.01	-	-	0.001	-	-	0.025
HCM Control Delay (s)	9.6	7.3	0	-	7.3	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD (Saturday) E+Prj. Conditions
03/11/2017

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBL	NBR	SBL	SBT
Lane Configurations	W		W		W	W
Traffic Vol, veh/h	0	2	706	2	2	837
Future Vol, veh/h	0	2	706	2	2	837
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	767	2	2	910

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1682	768	0	0	770	0
Stage 1	768	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	104	402	-	-	844	-
Stage 1	458	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	104	402	-	-	844	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	390	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	14		0		0	
HCM LOS	B					

Minor Lane/Major Mvmt	NBL	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	402	844	-	
HCM Lane V/C Ratio	-	-	0.005	0.003	-	
HCM Control Delay (s)	-	-	14	9.3	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

MD (Saturday) E+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	18	36	58	689	817	22		
Future Volume (veh/h)	18	36	58	689	817	22		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	20	39	63	749	888	24		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	72	65	83	1615	1398	38		
Arrive On Green	0.04	0.04	0.05	0.87	0.77	0.77		
Sat Flow, veh/h	1774	1583	1774	1863	1805	49		
Grp Volume(v), veh/h	20	39	63	749	0	912		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1854		
Q Serve(g_s), s	1.1	2.4	3.4	8.7	0.0	21.4		
Cycle Q Clear(g_c), s	1.1	2.4	3.4	8.7	0.0	21.4		
Prop In Lane	1.00	1.00	1.00			0.03		
Lane Grp Cap(c), veh/h	72	65	83	1615	0	1436		
V/C Ratio(X)	0.28	0.60	0.76	0.46	0.00	0.63		
Avail Cap(c_a), veh/h	835	746	600	1615	0	1436		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.5	46.2	46.1	1.4	0.0	4.9		
Incr Delay (d2), s/veh	2.0	8.7	13.3	1.0	0.0	2.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	2.2	2.0	4.8	0.0	11.5		
LnGrp Delay(d),s/veh	47.6	54.9	59.4	2.4	0.0	7.0		
LnGrp LOS	D	D	E	A		A		
Approach Vol, veh/h	59			812	912			
Approach Delay, s/veh	52.4			6.8	7.0			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		8.5	9.1	80.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+1), s		10.7		4.4	5.4	23.4		
Green Ext Time (p_c), s		22.6		0.2	0.1	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			8.4					
HCM 2010 LOS			A					

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD (Saturday) E+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰	↱	↰	↱
Traffic Vol, veh/h	13	32	727	11	33	810
Future Vol, veh/h	13	32	727	11	33	810
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	35	790	12	36	880

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1748	796	0
Stage 1	796	-	-
Stage 2	952	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	95	387	822
Stage 1	444	-	-
Stage 2	375	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	91	387	822
Mov Cap-2 Maneuver	222	-	-
Stage 1	444	-	-
Stage 2	359	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	222	387	822	-
HCM Lane V/C Ratio	-	-	0.064	0.09	0.044	-
HCM Control Delay (s)	-	-	22.3	15.2	9.6	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.1	-

HCM 2010 TWSC
4: La Fata St. & Dowdell Ln.

MD (Saturday) E+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	13	13	6	1	10	0	7	2	1	1	1	14
Future Vol, veh/h	13	13	6	1	10	0	7	2	1	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	14	7	1	11	0	8	2	1	1	1	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	11	0	0	21	0	0	67	59	17	60	62	11
Stage 1	-	-	-	-	-	-	46	46	-	13	13	-
Stage 2	-	-	-	-	-	-	21	13	-	47	49	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1608	-	-	1595	-	-	926	832	1062	936	829	1070
Stage 1	-	-	-	-	-	-	968	857	-	1007	885	-
Stage 2	-	-	-	-	-	-	998	885	-	967	854	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1608	-	-	1595	-	-	905	824	1062	926	821	1070
Mov Cap-2 Maneuver	-	-	-	-	-	-	905	824	-	926	821	-
Stage 1	-	-	-	-	-	-	959	849	-	998	884	-
Stage 2	-	-	-	-	-	-	982	884	-	955	846	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0.7	9	8.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	901	1608	-	-	1595	-	-	1040
HCM Lane V/C Ratio	0.012	0.009	-	-	0.001	-	-	0.017
HCM Control Delay (s)	9	7.3	0	-	7.3	0	-	8.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM N-T+Prj. Conditions
03/11/2017

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		↑		W	↑
Traffic Vol, veh/h	3	3	875	9	10	883
Future Vol, veh/h	3	3	875	9	10	883
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	951	10	11	960

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1938	956	0	0	961	0
Stage 1	956	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	72	313	-	-	716	-
Stage 1	373	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	71	313	-	-	716	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	373	-	-	-	-	-
Stage 2	357	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	20.2		0		0.1	
HCM LOS	C					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	243	716	-
HCM Lane V/C Ratio	-	-	0.027	0.015	-
HCM Control Delay (s)	-	-	20.2	10.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

AM N-T+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	104	71	56	776	780	102		
Future Volume (veh/h)	104	71	56	776	780	102		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	113	77	61	843	848	111		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	154	137	80	1538	1189	156		
Arrive On Green	0.09	0.09	0.05	0.83	0.74	0.74		
Sat Flow, veh/h	1774	1583	1774	1863	1614	211		
Grp Volume(v), veh/h	113	77	61	843	0	959		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1825		
Q Serve(g_s), s	6.4	4.8	3.5	14.8	0.0	30.0		
Cycle Q Clear(g_c), s	6.4	4.8	3.5	14.8	0.0	30.0		
Prop In Lane	1.00	1.00	1.00			0.12		
Lane Grp Cap(c), veh/h	154	137	80	1538	0	1345		
V/C Ratio(X)	0.73	0.56	0.76	0.55	0.00	0.71		
Avail Cap(c_a), veh/h	795	710	571	1538	0	1345		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.8	45.1	48.5	2.9	0.0	7.5		
Incr Delay (d2), s/veh	6.6	3.5	13.7	1.4	0.0	3.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.4	4.3	2.0	8.1	0.0	15.9		
LnGrp Delay(d),s/veh	52.4	48.6	62.3	4.3	0.0	10.8		
LnGrp LOS	D	D	E	A		B		
Approach Vol, veh/h	190			904	959			
Approach Delay, s/veh	50.9			8.2	10.8			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		13.4	9.1	80.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+1), s		16.8		8.4	5.5	32.0		
Green Ext Time (p_c), s		26.9		0.6	0.1	11.3		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM N-T+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰		↰	↱
Traffic Vol, veh/h	14	48	809	41	101	723
Future Vol, veh/h	14	48	809	41	101	723
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	52	879	45	110	786

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1907	902	0 0 924 0
Stage 1	902	-	- - - -
Stage 2	1005	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	75	336	- - 739 -
Stage 1	396	-	- - - -
Stage 2	354	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	64	336	- - 739 -
Mov Cap-2 Maneuver	185	-	- - - -
Stage 1	396	-	- - - -
Stage 2	301	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	19.6	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	185	336	739	-
HCM Lane V/C Ratio	-	-	0.082	0.155	0.149	-
HCM Control Delay (s)	-	-	26.2	17.7	10.7	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.5	0.5	-

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

AM N-T+Prj. Conditions
03/11/2017

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	20	58	22	3	23	3	16	5	6	1	3	8
Future Vol, veh/h	20	58	22	3	23	3	16	5	6	1	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	63	24	3	25	3	17	5	7	1	3	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	87	0	0	157	153	75	157	163	27
Stage 1	-	-	-	-	-	-	118	118	-	33	33	-
Stage 2	-	-	-	-	-	-	39	35	-	124	130	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1509	-	-	809	739	986	809	729	1048
Stage 1	-	-	-	-	-	-	887	798	-	983	868	-
Stage 2	-	-	-	-	-	-	976	866	-	880	789	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1585	-	-	1509	-	-	789	726	986	789	717	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	789	726	-	789	717	-
Stage 1	-	-	-	-	-	-	874	786	-	968	866	-
Stage 2	-	-	-	-	-	-	962	864	-	855	777	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.8	9.6	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	812	1585	-	-	1509	-	-	917
HCM Lane V/C Ratio	0.036	0.014	-	-	0.002	-	-	0.014
HCM Control Delay (s)	9.6	7.3	0	-	7.4	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM N-T+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P		W	W
Traffic Vol, veh/h	6	20	847	6	12	837
Future Vol, veh/h	6	20	847	6	12	837
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	22	921	7	13	910

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1860	924	0	0	927	0
Stage 1	924	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	81	327	-	-	737	-
Stage 1	387	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	80	327	-	-	737	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	375	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	18.8		0		0.1
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBL	WBR	SBL	SBT
Capacity (veh/h)	-	-	290	737	-	-
HCM Lane V/C Ratio	-	-	0.097	0.018	-	-
HCM Control Delay (s)	-	-	18.8	10	-	-
HCM Lane LOS	-	-	C	A	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-	-

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

PM N-T+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	64	34	52	777	780	61		
Future Volume (veh/h)	64	34	52	777	780	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	70	37	57	845	848	66		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	104	93	75	1585	1304	101		
Arrive On Green	0.06	0.06	0.04	0.85	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1706	133		
Grp Volume(v), veh/h	70	37	57	845	0	914		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1839		
Q Serve(g_s), s	3.9	2.2	3.2	12.3	0.0	23.3		
Cycle Q Clear(g_c), s	3.9	2.2	3.2	12.3	0.0	23.3		
Prop In Lane	1.00	1.00	1.00			0.07		
Lane Grp Cap(c), veh/h	104	93	75	1585	0	1405		
V/C Ratio(X)	0.67	0.40	0.76	0.53	0.00	0.65		
Avail Cap(c_a), veh/h	820	732	589	1585	0	1405		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	46.0	45.3	47.3	2.0	0.0	5.5		
Incr Delay (d2), s/veh	7.3	2.7	14.7	1.3	0.0	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	2.1	1.9	6.7	0.0	12.3		
LnGrp Delay(d),s/veh	53.3	48.0	62.0	3.3	0.0	7.9		
LnGrp LOS	D	D	E	A		A		
Approach Vol, veh/h	107			902	914			
Approach Delay, s/veh	51.5			7.0	7.9			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		10.3	8.7	80.7		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+11), s		14.3		5.9	5.2	25.3		
Green Ext Time (p_c), s		25.5		0.3	0.1	14.4		
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM N-T+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	51	111	741	13	35	783
Future Vol, veh/h	51	111	741	13	35	783
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	121	805	14	38	851

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1740	813	0
Stage 1	813	-	-
Stage 2	927	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	96	378	809
Stage 1	436	-	-
Stage 2	385	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	91	378	809
Mov Cap-2 Maneuver	223	-	-
Stage 1	436	-	-
Stage 2	367	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.3	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	223	378	809	-
HCM Lane V/C Ratio	-	-	0.249	0.319	0.047	-
HCM Control Delay (s)	-	-	26.4	18.9	9.7	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	0.9	1.4	0.1	-

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

PM N-T+Prj. Conditions
03/11/2017

Intersection												
Int Delay, s/veh		4										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	14	27	17	2	57	1	27	9	6	1	3	18
Future Vol, veh/h	14	27	17	2	57	1	27	9	6	1	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	29	18	2	62	1	29	10	7	1	3	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	48	0	0	147	136	39	144	145	62
Stage 1	-	-	-	-	-	-	69	69	-	67	67	-
Stage 2	-	-	-	-	-	-	78	67	-	77	78	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540	-	-	1559	-	-	821	755	1033	825	746	1003
Stage 1	-	-	-	-	-	-	941	837	-	943	839	-
Stage 2	-	-	-	-	-	-	931	839	-	932	830	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1559	-	-	796	747	1033	805	738	1003
Mov Cap-2 Maneuver	-	-	-	-	-	-	796	747	-	805	738	-
Stage 1	-	-	-	-	-	-	932	829	-	934	838	-
Stage 2	-	-	-	-	-	-	908	838	-	906	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.2	9.7	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	811	1540	-	-	1559	-	-	946
HCM Lane V/C Ratio	0.056	0.01	-	-	0.001	-	-	0.025
HCM Control Delay (s)	9.7	7.4	0	-	7.3	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD N-T+Prj. Conditions
03/11/2017

Intersection:

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑		↔	↑
Traffic Vol, veh/h	4	12	764	6	9	883
Future Vol, veh/h	4	12	764	6	9	883
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	13	830	7	10	960

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1813	834	0 0 837 0
Stage 1	834	-	- - - -
Stage 2	979	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	86	368	- - 797 -
Stage 1	426	-	- - - -
Stage 2	364	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	85	368	- - 797 -
Mov Cap-2 Maneuver	216	-	- - - -
Stage 1	426	-	- - - -
Stage 2	359	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	17.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBL	SBL	SBT
Capacity (veh/h)	-	-	313	797	-
HCM Lane V/C Ratio	-	-	0.056	0.012	-
HCM Control Delay (s)	-	-	17.2	9.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

MD N-T+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	25	47	67	742	859	30		
Future Volume (veh/h)	25	47	67	742	859	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	27	51	73	807	934	33		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	85	76	96	1604	1361	48		
Arrive On Green	0.05	0.05	0.05	0.86	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1788	63		
Grp Volume(v), veh/h	27	51	73	807	0	967		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1852		
Q Serve(g_s), s	1.5	3.1	4.0	10.5	0.0	25.7		
Cycle Q Clear(g_c), s	1.5	3.1	4.0	10.5	0.0	25.7		
Prop In Lane	1.00	1.00	1.00			0.03		
Lane Grp Cap(c), veh/h	85	76	96	1604	0	1409		
V/C Ratio(X)	0.32	0.67	0.76	0.50	0.00	0.69		
Avail Cap(c_a), veh/h	829	740	595	1604	0	1409		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.4	46.2	46.0	1.7	0.0	5.9		
Incr Delay (d2), s/veh	2.1	9.9	11.6	1.1	0.0	2.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	2.9	2.3	5.7	0.0	14.0		
LnGrp Delay(d),s/veh	47.5	56.1	57.6	2.8	0.0	8.6		
LnGrp LOS	D	E	E	A		A		
Approach Vol, veh/h	78			880	967			
Approach Delay, s/veh	53.1			7.4	8.6			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		9.2	9.8	79.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		12.5		5.1	6.0	27.7		
Green Ext Time (p_c), s		26.3		0.2	0.2	13.4		
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD N-T+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰		↰	↱
Traffic Vol, veh/h	18	42	779	14	39	857
Future Vol, veh/h	18	42	779	14	39	857
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	46	847	15	42	932

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1870	854	0	0	862	0
Stage 1	854	-	-	-	-	-
Stage 2	1016	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.12	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	55	358	-	-	780	-
Stage 1	353	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	53	358	-	-	780	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	272	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	20.5		0		0.4
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	164	358	780	-
HCM Lane V/C Ratio	-	-	0.119	0.128	0.054	-
HCM Control Delay (s)	-	-	29.9	16.5	9.9	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.4	0.2	-

HCM 2010 TWSC
4: La Fata St. & Dowdell Ln.

MD N-T+Prj. Conditions
03/11/2017

Intersection												
Int Delay, s/veh		3.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	13	22	6	1	25	0	7	2	1	1	1	14
Future Vol, veh/h	13	22	6	1	25	0	7	2	1	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	24	7	1	27	0	8	2	1	1	1	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	30	0	0	93	84	27	86	88	27
Stage 1	-	-	-	-	-	-	55	55	-	29	29	-
Stage 2	-	-	-	-	-	-	38	29	-	57	59	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1583	-	-	891	806	1048	900	802	1048
Stage 1	-	-	-	-	-	-	957	849	-	988	871	-
Stage 2	-	-	-	-	-	-	977	871	-	955	846	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1587	-	-	1583	-	-	870	798	1048	890	794	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	870	798	-	890	794	-
Stage 1	-	-	-	-	-	-	948	841	-	979	870	-
Stage 2	-	-	-	-	-	-	961	870	-	943	838	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.3	9.2	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	869	1587	-	-	1583	-	-	1016
HCM Lane V/C Ratio	0.013	0.009	-	-	0.001	-	-	0.017
HCM Control Delay (s)	9.2	7.3	0	-	7.3	0	-	8.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM Cumulative (NP) Conditions
03/04/2017

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	3	3	1131	9	10	1103
Future Vol, veh/h	3	3	1131	9	10	1103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	1229	10	11	1199

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2455	1234	0
Stage 1	1234	-	-
Stage 2	1221	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	34	215	-
Stage 1	275	-	-
Stage 2	279	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	33	215	-
Mov Cap-2 Maneuver	140	-	-
Stage 1	275	-	-
Stage 2	274	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWB	N1	SBL	SBT
Capacity (veh/h)	-	-	170	562	-
HCM Lane V/C Ratio	-	-	0.038	0.019	-
HCM Control Delay (s)	-	-	27	11.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

AM Cumulative (NP) Conditions
03/04/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	104	71	56	1032	1000	102		
Future Volume (veh/h)	104	71	56	1032	1000	102		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	113	77	61	1122	1087	111		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	154	137	80	1538	1225	125		
Arrive On Green	0.09	0.09	0.05	0.83	0.74	0.74		
Sat Flow, veh/h	1774	1583	1774	1863	1663	170		
Grp Volume(v), veh/h	113	77	61	1122	0	1198		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1833		
Q Serve(g_s), s	6.4	4.8	3.5	27.2	0.0	51.1		
Cycle Q Clear(g_c), s	6.4	4.8	3.5	27.2	0.0	51.1		
Prop In Lane	1.00	1.00	1.00			0.09		
Lane Grp Cap(c), veh/h	154	137	80	1538	0	1350		
V/C Ratio(X)	0.73	0.56	0.76	0.73	0.00	0.89		
Avail Cap(c_a), veh/h	795	710	571	1538	0	1350		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.8	45.1	48.5	3.9	0.0	10.3		
Incr Delay (d2), s/veh	6.6	3.5	13.7	3.1	0.0	8.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.4	4.3	2.0	14.7	0.0	28.6		
LnGrp Delay(d),s/veh	52.4	48.6	62.3	7.0	0.0	19.2		
LnGrp LOS	D	D	E	A		B		
Approach Vol, veh/h	190			1183	1198			
Approach Delay, s/veh	50.9			9.9	19.2			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		13.4	9.1	80.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+l1), s		29.2		8.4	5.5	53.1		
Green Ext Time (p_c), s		40.8		0.6	0.1	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			17.2					
HCM 2010 LOS			B					

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM Cumulative (NP) Conditions
03/04/2017

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	13	47	1066	38	95	949
Future Vol, veh/h	13	47	1066	38	95	949
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	51	1159	41	103	1032

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2417	1179	0
Stage 1	1179	-	-
Stage 2	1238	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	36	232	-
Stage 1	292	-	-
Stage 2	274	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	30	232	-
Mov Cap-2 Maneuver	130	-	-
Stage 1	292	-	-
Stage 2	226	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.2	0	1.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	130	232	582	-
HCM Lane V/C Ratio	-	-	0.109	0.22	0.177	-
HCM Control Delay (s)	-	-	36	24.8	12.5	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.8	0.6	-

Existing

Synchro 9 Report
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HCM 2010 TWSC

4: La Fala St. & Dowdell Ln.

AM Cumulative (NP) Conditions

03/04/2017

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	11	58	22	3	23	3	16	5	6	1	3	6
Future Vol, veh/h	11	58	22	3	23	3	16	5	6	1	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	63	24	3	25	3	17	5	7	1	3	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	87	0	0	137	134	75	138	144	27
Stage 1	-	-	-	-	-	-	99	99	-	33	33	-
Stage 2	-	-	-	-	-	-	38	35	-	105	111	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1509	-	-	834	757	986	833	747	1048
Stage 1	-	-	-	-	-	-	907	813	-	983	868	-
Stage 2	-	-	-	-	-	-	977	866	-	901	804	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1585	-	-	1509	-	-	820	749	986	817	740	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	820	749	-	817	740	-
Stage 1	-	-	-	-	-	-	900	806	-	975	866	-
Stage 2	-	-	-	-	-	-	965	864	-	882	798	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.8			9.5			9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	837	1585	-	-	1509	-	-	909
HCM Lane V/C Ratio	0.035	0.008	-	-	0.002	-	-	0.012
HCM Control Delay (s)	9.5	7.3	0	-	7.4	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM Cumulative (NP) Conditions
03/04/2017

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗		↖		↖	↗
Traffic Vol, veh/h	6	20	1069	6	12	1079
Future Vol, veh/h	6	20	1069	6	12	1079
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	22	1162	7	13	1173

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2364	1165	0
Stage 1	1165	-	-
Stage 2	1199	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	39	236	-
Stage 1	297	-	-
Stage 2	286	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	38	236	-
Mov Cap-2 Maneuver	149	-	-
Stage 1	297	-	-
Stage 2	280	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBL	SBL	SBT
Capacity (veh/h)	-	-	208	598	-
HCM Lane V/C Ratio	-	-	0.136	0.022	-
HCM Control Delay (s)	-	-	25	11.2	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

PM Cumulative (NP) Conditions
03/04/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	64	34	52	1008	1025	61		
Future Volume (veh/h)	64	34	52	1008	1025	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	70	37	57	1096	1114	66		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	104	93	75	1585	1330	79		
Arrive On Green	0.06	0.06	0.04	0.85	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1741	103		
Grp Volume(v), veh/h	70	37	57	1096	0	1180		
Grp Sat Flow(s), veh/h/ln	1774	1583	1774	1863	0	1845		
Q Serve(g_s), s	3.9	2.2	3.2	21.2	0.0	41.8		
Cycle Q Clear(g_c), s	3.9	2.2	3.2	21.2	0.0	41.8		
Prop In Lane	1.00	1.00	1.00			0.06		
Lane Grp Cap(c), veh/h	104	93	75	1585	0	1409		
V/C Ratio(X)	0.67	0.40	0.76	0.69	0.00	0.84		
Avail Cap(c_a), veh/h	820	732	589	1585	0	1409		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	46.0	45.3	47.3	2.7	0.0	7.7		
Incr Delay (d2), s/veh	7.3	2.7	14.7	2.5	0.0	6.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	2.1	1.9	11.5	0.0	23.0		
LnGrp Delay(d),s/veh	53.3	48.0	62.0	5.2	0.0	13.8		
LnGrp LOS	D	D	E	A		B		
Approach Vol, veh/h	107			1153	1180			
Approach Delay, s/veh	51.5			8.0	13.8			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		10.3	8.7	80.7		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		23.2		5.9	5.2	43.8		
Green Ext Time (p_c), s		42.3		0.3	0.1	3.3		
Intersection Summary								
HCM 2010 Ctrl Delay			12.7					
HCM 2010 LOS			B					

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM Cumulative (NP) Conditions
03/04/2017

Intersection						
Int Delay, s/veh		2.3				
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	48	105	969	12	34	1026
Future Vol, veh/h	48	105	969	12	34	1026
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	114	1053	13	37	1115
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2249	1060	0	0	1066	0
Stage 1	1060	-	-	-	-	-
Stage 2	1189	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 46	272	-	-	654	-
Stage 1	333	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 43	272	-	-	654	-
Mov Cap-2 Maneuver	156	-	-	-	-	-
Stage 1	333	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	31.2	0		0.3		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	156	272	654	-
HCM Lane V/C Ratio	-	-	0.334	0.42	0.057	-
HCM Control Delay (s)	-	-	39.3	27.5	10.8	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	1.4	2	0.2	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

PM Cumulative (NP) Conditions
03/04/2017

Intersection												
Int Delay, s/veh		3.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	12	27	17	2	57	1	27	9	6	1	3	9
Future Vol, veh/h	12	27	17	2	57	1	27	9	6	1	3	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	29	18	2	62	1	29	10	7	1	3	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	48	0	0	138	132	39	140	141	62
Stage 1	-	-	-	-	-	-	65	65	-	67	67	-
Stage 2	-	-	-	-	-	-	73	67	-	73	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540	-	-	1559	-	-	833	759	1033	830	750	1003
Stage 1	-	-	-	-	-	-	946	841	-	943	839	-
Stage 2	-	-	-	-	-	-	937	839	-	937	833	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1559	-	-	816	751	1033	810	743	1003
Mov Cap-2 Maneuver	-	-	-	-	-	-	816	751	-	810	743	-
Stage 1	-	-	-	-	-	-	937	833	-	935	838	-
Stage 2	-	-	-	-	-	-	923	838	-	912	826	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.2	9.6	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	825	1540	-	-	1559	-	-	913
HCM Lane V/C Ratio	0.055	0.008	-	-	0.001	-	-	0.015
HCM Control Delay (s)	9.6	7.4	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD Cumulative (NP) Conditions
03/04/2017

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	12	1003	6	9	1150
Future Vol, veh/h	4	12	1003	6	9	1150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	13	1090	7	10	1250

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2363	1093	0
Stage 1	1093	-	-
Stage 2	1270	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	39	261	-
Stage 1	321	-	-
Stage 2	264	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	38	261	-
Mov Cap-2 Maneuver	148	-	-
Stage 1	321	-	-
Stage 2	260	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBL	SBL	SBT
Capacity (veh/h)	-	-	219	636	-
HCM Lane V/C Ratio	-	-	0.079	0.015	-
HCM Control Delay (s)	-	-	22.9	10.7	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Existing

Synchro 9 Report
Page 1

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

MD Cumulative (NP) Conditions
03/04/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	25	47	67	981	1126	30		
Future Volume (veh/h)	25	47	67	981	1126	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	27	51	73	1066	1224	33		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	85	76	96	1604	1374	37		
Arrive On Green	0.05	0.05	0.05	0.86	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1805	49		
Grp Volume(v), veh/h	27	51	73	1066	0	1257		
Grp Sat Flow(s), veh/h/ln	1774	1583	1774	1863	0	1854		
Q Serve(g_s), s	1.5	3.1	4.0	18.4	0.0	49.6		
Cycle Q Clear(g_c), s	1.5	3.1	4.0	18.4	0.0	49.6		
Prop In Lane	1.00	1.00	1.00			0.03		
Lane Grp Cap(c), veh/h	85	76	96	1604	0	1411		
V/C Ratio(X)	0.32	0.67	0.76	0.66	0.00	0.89		
Avail Cap(c_a), veh/h	829	740	595	1604	0	1411		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.4	46.2	46.0	2.2	0.0	8.7		
Incr Delay (d2), s/veh	2.1	9.9	11.6	2.2	0.0	8.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	2.9	2.3	9.9	0.0	28.2		
LnGrp Delay(d),s/veh	47.5	56.1	57.6	4.4	0.0	17.5		
LnGrp LOS	D	E	E	A		B		
Approach Vol, veh/h	78			1139	1257			
Approach Delay, s/veh	53.1			7.8	17.5			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		9.2	9.8	79.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+11), s		20.4		5.1	6.0	51.6		
Green Ext Time (p_c), s		45.6		0.2	0.2	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			14.2					
HCM 2010 LOS			B					

Existing

Synchro 9 Report
Page 2

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD Cumulative (NP) Conditions
03/04/2017

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	15	36	1024	11	33	1130
Future Vol, veh/h	15	36	1024	11	33	1130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	39	1113	12	36	1228

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2419	1119	0
Stage 1	1119	-	-
Stage 2	1300	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	36	252	621
Stage 1	312	-	-
Stage 2	255	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	34	252	621
Mov Cap-2 Maneuver	139	-	-
Stage 1	312	-	-
Stage 2	240	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.5	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	139	252	621	-
HCM Lane V/C Ratio	-	-	0.117	0.155	0.058	-
HCM Control Delay (s)	-	-	34.3	21.9	11.2	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.5	0.2	-

Existing

Synchro 9 Report
Page 3

HCM 2010 TWSC
4: La Fata St. & Dowdell Ln.

MD Cumulative (NP) Conditions
03/04/2017

Intersection												
Int Delay, s/veh		2.5										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	4	22	6	1	25	0	7	2	1	1	1	5
Future Vol, veh/h	4	22	6	1	25	0	7	2	1	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	24	7	1	27	0	8	2	1	1	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	30	0	0	69	65	27	66	68	27
Stage 1	-	-	-	-	-	-	36	36	-	29	29	-
Stage 2	-	-	-	-	-	-	33	29	-	37	39	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1583	-	-	923	826	1048	927	823	1048
Stage 1	-	-	-	-	-	-	980	865	-	988	871	-
Stage 2	-	-	-	-	-	-	983	871	-	978	862	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov. Cap-1 Maneuver	1587	-	-	1583	-	-	914	823	1048	921	820	1048
Mov. Cap-2 Maneuver	-	-	-	-	-	-	914	823	-	921	820	-
Stage 1	-	-	-	-	-	-	977	862	-	985	870	-
Stage 2	-	-	-	-	-	-	976	870	-	972	859	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	9	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	906	1587	-	-	1583	-	-	989
HCM Lane V/C Ratio	0.012	0.003	-	-	0.001	-	-	0.008
HCM Control Delay (s)	9	7.3	0	-	7.3	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Existing

Synchro 9 Report
Page 4

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM C+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		T	T
Traffic Vol, veh/h	3	3	1132	9	10	1109
Future Vol, veh/h	3	3	1132	9	10	1109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	1230	10	11	1205

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2462	1235	0 0 1240 0
Stage 1	1235	-	- - - -
Stage 2	1227	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	34	215	- - 562 -
Stage 1	274	-	- - - -
Stage 2	277	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	33	215	- - 562 -
Mov Cap-2 Maneuver	140	-	- - - -
Stage 1	274	-	- - - -
Stage 2	272	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	27	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	170	562	-
HCM Lane V/C Ratio	-	-	0.038	0.019	-
HCM Control Delay (s)	-	-	27	11.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

AM C+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	104	71	56	1033	1006	102		
Future Volume (veh/h)	104	71	56	1033	1006	102		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	113	77	61	1123	1093	111		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	154	137	80	1538	1226	124		
Arrive On Green	0.09	0.09	0.05	0.83	0.74	0.74		
Sat Flow, veh/h	1774	1583	1774	1863	1664	169		
Grp Volume(v), veh/h	113	77	61	1123	0	1204		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1833		
Q Serve(g_s), s	6.4	4.8	3.5	27.2	0.0	51.8		
Cycle Q Clear(g_c), s	6.4	4.8	3.5	27.2	0.0	51.8		
Prop In Lane	1.00	1.00	1.00			0.09		
Lane Grp Cap(c), veh/h	154	137	80	1538	0	1350		
V/C Ratio(X)	0.73	0.56	0.76	0.73	0.00	0.89		
Avail Cap(c_a), veh/h	795	710	571	1538	0	1350		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.8	45.1	48.5	3.9	0.0	10.4		
Incr Delay (d2), s/veh	6.6	3.5	13.7	3.1	0.0	9.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.4	4.3	2.0	14.7	0.0	29.2		
LnGrp Delay(d),s/veh	52.4	48.6	62.3	7.0	0.0	19.6		
LnGrp LOS	D	D	E	A		B		
Approach Vol, veh/h	190			1184	1204			
Approach Delay, s/veh	50.9			9.9	19.6			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		13.4	9.1	80.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+11), s		29.2		8.4	5.5	53.8		
Green Ext Time (p_c), s		40.9		0.6	0.1	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			17.4					
HCM 2010 LOS			B					

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM C+Prj. Conditions
03/11/2017

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	14	48	1066	41	101	949
Future Vol, veh/h	14	48	1066	41	101	949
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	52	1159	45	110	1032
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2432	1181	0	0	1203	0
Stage 1	1181	-	-	-	-	-
Stage 2	1251	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	35	231	-	-	580	-
Stage 1	291	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	28	231	-	-	580	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	291	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	27.8		0		1.2	
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	127	231	580	-
HCM Lane V/C Ratio	-	-	0.12	0.226	0.189	-
HCM Control Delay (s)	-	-	37.2	25.1	12.7	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.8	0.7	-

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

AM C+Prj. Conditions
03/11/2017

Intersection												
Int Delay, s/veh		3.2										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	20	58	22	3	23	3	16	5	6	1	3	8
Future Vol, veh/h	20	58	22	3	23	3	16	5	6	1	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	63	24	3	25	3	17	5	7	1	3	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	87	0	0	157	153	75	157	163	27
Stage 1	-	-	-	-	-	-	118	118	-	33	33	-
Stage 2	-	-	-	-	-	-	39	35	-	124	130	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1509	-	-	809	739	986	809	729	1048
Stage 1	-	-	-	-	-	-	887	798	-	983	868	-
Stage 2	-	-	-	-	-	-	976	866	-	880	789	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1585	-	-	1509	-	-	789	726	986	789	717	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	789	726	-	789	717	-
Stage 1	-	-	-	-	-	-	874	786	-	968	866	-
Stage 2	-	-	-	-	-	-	962	864	-	855	777	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.8	9.6	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	812	1585	-	-	1509	-	-	917
HCM Lane V/C Ratio	0.036	0.014	-	-	0.002	-	-	0.014
HCM Control Delay (s)	9.6	7.3	0	-	7.4	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM C+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	20	1075	6	12	1080
Future Vol, veh/h	6	20	1075	6	12	1080
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	22	1168	7	13	1174

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2372	1172	0 0 1175 0
Stage 1	1172	-	- - - -
Stage 2	1200	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	38	234	- - 594 -
Stage 1	294	-	- - - -
Stage 2	285	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	37	234	- - 594 -
Mov Cap-2 Maneuver	148	-	- - - -
Stage 1	294	-	- - - -
Stage 2	279	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	25.2	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	206	594	-
HCM Lane V/C Ratio	-	-	0.137	0.022	-
HCM Control Delay (s)	-	-	25.2	11.2	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

PM C+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	64	34	52	1014	1026	61		
Future Volume (veh/h)	64	34	52	1014	1026	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	70	37	57	1102	1115	66		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	104	93	75	1585	1330	79		
Arrive On Green	0.06	0.06	0.04	0.85	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1741	103		
Grp Volume(v), veh/h	70	37	57	1102	0	1181		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1845		
Q Serve(g_s), s	3.9	2.2	3.2	21.5	0.0	41.9		
Cycle Q Clear(g_c), s	3.9	2.2	3.2	21.5	0.0	41.9		
Prop In Lane	1.00	1.00	1.00			0.06		
Lane Grp Cap(c), veh/h	104	93	75	1585	0	1409		
V/C Ratio(X)	0.67	0.40	0.76	0.70	0.00	0.84		
Avail Cap(c_a), veh/h	820	732	589	1585	0	1409		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	46.0	45.3	47.3	2.7	0.0	7.7		
Incr Delay (d2), s/veh	7.3	2.7	14.7	2.5	0.0	6.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	2.1	1.9	11.8	0.0	23.1		
LnGrp Delay(d),s/veh	53.3	48.0	62.0	5.2	0.0	13.8		
LnGrp LOS	D	D	E	A		B		
Approach Vol, veh/h	107			1159	1181			
Approach Delay, s/veh	51.5			8.0	13.8			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		10.3	8.7	80.7		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		23.5		5.9	5.2	43.9		
Green Ext Time (p_c), s		42.4		0.3	0.1	3.2		
Intersection Summary								
HCM 2010 Ctrl Delay			12.7					
HCM 2010 LOS			B					

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM C+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	51	111	969	13	35	1026
Future Vol, veh/h	51	111	969	13	35	1026
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	121	1053	14	38	1115

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2251	1060	0
Stage 1	1060	-	-
Stage 2	1191	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	~ 46	272	-
Stage 1	333	-	-
Stage 2	288	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	~ 43	272	-
Mov Cap-2 Maneuver	156	-	-
Stage 1	333	-	-
Stage 2	271	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.1	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	156	272	653	-
HCM Lane V/C Ratio	-	-	0.355	0.444	0.058	-
HCM Control Delay (s)	-	-	40.3	28.4	10.9	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	1.5	2.1	0.2	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC
4: La Fala St. & Dowdell Ln.

PM C+Prj. Conditions
03/11/2017

Intersection												
Int Delay, s/veh		4										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	14	27	17	2	57	1	27	9	6	1	3	18
Future Vol, veh/h	14	27	17	2	57	1	27	9	6	1	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	29	18	2	62	1	29	10	7	1	3	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	48	0	0	147	136	39	144	145	62
Stage 1	-	-	-	-	-	-	69	69	-	67	67	-
Stage 2	-	-	-	-	-	-	78	67	-	77	78	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540	-	-	1559	-	-	821	755	1033	825	746	1003
Stage 1	-	-	-	-	-	-	941	837	-	943	839	-
Stage 2	-	-	-	-	-	-	931	839	-	932	830	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1559	-	-	796	747	1033	805	738	1003
Mov Cap-2 Maneuver	-	-	-	-	-	-	796	747	-	805	738	-
Stage 1	-	-	-	-	-	-	932	829	-	934	838	-
Stage 2	-	-	-	-	-	-	908	838	-	906	822	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.8			0.2			9.7			8.9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	811	1540	-	-	1559	-	-	946
HCM Lane V/C Ratio	0.056	0.01	-	-	0.001	-	-	0.025
HCM Control Delay (s)	9.7	7.4	0	-	7.3	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD C+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		T	T
Traffic Vol, veh/h	4	12	1009	6	9	1156
Future Vol, veh/h	4	12	1009	6	9	1156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	13	1097	7	10	1257

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2376	1100	0 0 1103 0
Stage 1	1100	-	- - - -
Stage 2	1276	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	38	258	- - 633 -
Stage 1	319	-	- - - -
Stage 2	262	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	37	258	- - 633 -
Mov Cap-2 Maneuver	147	-	- - - -
Stage 1	319	-	- - - -
Stage 2	258	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	23	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	633	-
HCM Lane V/C Ratio	-	-	0.08	0.015	-
HCM Control Delay (s)	-	-	23	10.8	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

HCM 2010 Signalized Intersection Summary
2: SR-29 & Grayson Ave.

MD C+Prj. Conditions
03/11/2017

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	25	47	67	987	1132	30		
Future Volume (veh/h)	25	47	67	987	1132	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	27	51	73	1073	1230	33		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	85	76	96	1604	1374	37		
Arrive On Green	0.05	0.05	0.05	0.86	0.76	0.76		
Sat Flow, veh/h	1774	1583	1774	1863	1806	48		
Grp Volume(v), veh/h	27	51	73	1073	0	1263		
Grp Sat Flow(s), veh/h/ln	1774	1583	1774	1863	0	1854		
Q Serve(g_s), s	1.5	3.1	4.0	18.6	0.0	50.3		
Cycle Q Clear(g_c), s	1.5	3.1	4.0	18.6	0.0	50.3		
Prop In Lane	1.00	1.00	1.00			0.03		
Lane Grp Cap(c), veh/h	85	76	96	1604	0	1411		
V/C Ratio(X)	0.32	0.67	0.76	0.67	0.00	0.89		
Avail Cap(c_a), veh/h	829	740	595	1604	0	1411		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	45.4	46.2	46.0	2.3	0.0	8.8		
Incr Delay (d2), s/veh	2.1	9.9	11.6	2.2	0.0	9.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	2.9	2.3	10.2	0.0	28.5		
LnGrp Delay(d),s/veh	47.5	56.1	57.6	4.5	0.0	17.9		
LnGrp LOS	D	E	E	A		B		
Approach Vol, veh/h	78			1146	1263			
Approach Delay, s/veh	53.1			7.9	17.9			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		9.2	9.8	79.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.9		46.1	33.1	47.3		
Max Q Clear Time (g_c+I1), s		20.6		5.1	6.0	52.3		
Green Ext Time (p_c), s		45.9		0.2	0.2	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			14.4					
HCM 2010 LOS			B					

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD C+Prj. Conditions
03/11/2017

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰		↰	↱
Traffic Vol, veh/h	18	42	1024	14	39	1130
Future Vol, veh/h	18	42	1024	14	39	1130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	46	1113	15	42	1228

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2434	1121	0 0 1128 0
Stage 1	1121	-	- - - -
Stage 2	1313	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	35	251	- - 619 -
Stage 1	311	-	- - - -
Stage 2	252	-	- - - -
Platoon blocked, %	-	-	- - - -
Mov Cap-1 Maneuver	33	251	- - 619 -
Mov Cap-2 Maneuver	137	-	- - - -
Stage 1	311	-	- - - -
Stage 2	235	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	26.4	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	137	251	619	-
HCM Lane V/C Ratio	-	-	0.143	0.182	0.068	-
HCM Control Delay (s)	-	-	35.6	22.5	11.2	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.7	0.2	-

HCM 2010 TWSC
4: La Fata St. & Dowdell Ln.

MD C+Prj. Conditions
03/11/2017

Intersection												
Int Delay, s/veh		3.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	13	22	6	1	25	0	7	2	1	1	1	14
Future Vol, veh/h	13	22	6	1	25	0	7	2	1	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	24	7	1	27	0	8	2	1	1	1	15

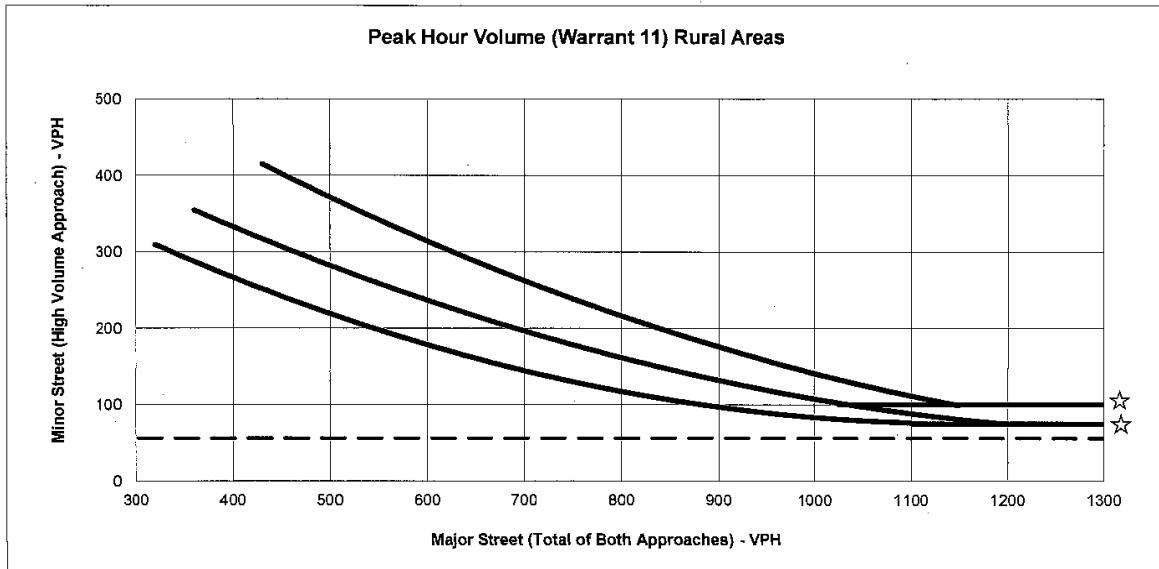
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	30	0	0	93	84	27	86	88	27
Stage 1	-	-	-	-	-	-	55	55	-	29	29	-
Stage 2	-	-	-	-	-	-	38	29	-	57	59	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1583	-	-	891	806	1048	900	802	1048
Stage 1	-	-	-	-	-	-	957	849	-	988	871	-
Stage 2	-	-	-	-	-	-	977	871	-	955	846	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1587	-	-	1583	-	-	870	798	1048	890	794	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	870	798	-	890	794	-
Stage 1	-	-	-	-	-	-	948	841	-	979	870	-
Stage 2	-	-	-	-	-	-	961	870	-	943	838	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.3	9.2	8.6
HCM LOS	A	A	A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	869	1587	-	-	1583	-	-	1016
HCM Lane V/C Ratio	0.013	0.009	-	-	0.001	-	-	0.017
HCM Control Delay (s)	9.2	7.3	0	-	7.3	0	-	8.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

* Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation

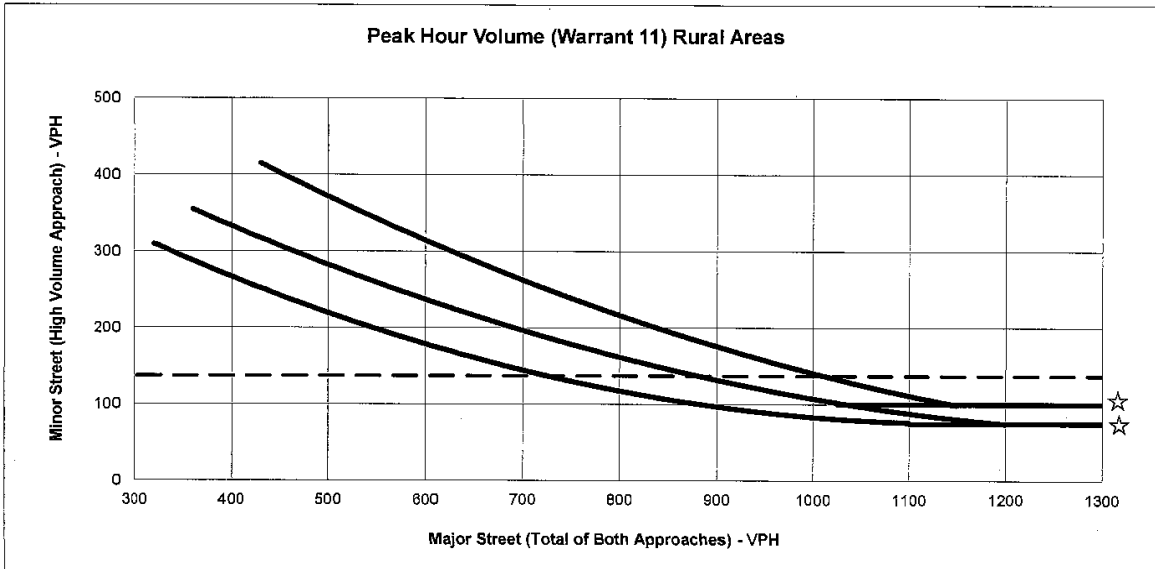


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET
APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER
THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: SR-29 / Dowdell Lane
Scenario: Existing AM Peak Hour Conditions
Minor St. Volume: 56
Major St. Volume: 1547
Warrant Met?: NO

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

* Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation



☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: SR-29 / Dowdell Lane
 Scenario: Existing PM Peak Hour Conditions
 Minor St. Volume: 137
 Major St. Volume: 1436
 Warrant Met?: YES

DEPARTMENT OF TRANSPORTATION
 DISTRICT 4
 OFFICE OF TRANSIT AND COMMUNITY PLANNING
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October 24, 2017

SCH # 2017092073
 GTS # 04-NAP-2017-00069
 NAP / 29 / 28.03
 GTS ID: 7944

Noah Housh
 City of St. Helena
 1480 Main Street
 St. Helena, CA 94574

Komes Custom Crush – Mitigated Negative Declaration (MND)

Dear Mr. Housh:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Komes Custom Crush project. In tandem with the Metropolitan Transportation Commission's (MTC) Sustainable Communities Strategy (SCS), Caltrans' mission signals a modernization of our approach to evaluate and mitigate impacts to the State Transportation Network (STN). Caltrans' *Strategic Management Plan 2015-2020* aims to reduce Vehicle Miles Traveled (VMT) by tripling bicycle and doubling both pedestrian and transit travel by 2020. Our comments are based on the September 25, 2017 Mitigated Negative Declaration (MND). Additional comments may be forthcoming pending final review.

Project Understanding

The proposed St. Helena Custom Crush Facility would expand the existing industrial building by introducing approximately 9,500 square-feet to the northwestern corner of the building and converting approximately 3,000 square-feet of the existing warehouse into a barrel storage and tank room. The proposed expansion would be constructed where the existing retention pond is currently located. The entire custom crush operation is expected to occupy approximately 12,500 square-feet.

The proposed Custom Crush Facility is an expansion of the existing Napa Valley Wine Warehouse, which currently provides wine case storage for local wineries. The proposed project would create a "one stop shop" for local vintners to crush, ferment, bottle, and store wines. When completed, the proposed facility is expected to be able to process approximately 120,000 tons of grapes annually (equivalent to about 50,000 cases of wine). The applicant intends to operate with four full-time and up to four part-time employees. The hours of operation will normally be from

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Mr. Housh, City of St. Helena
 October 24, 2017
 Page 2

8:00 a.m. to 5:00 p.m., Monday through Saturday. During the harvest season, which lasts approximately four months, longer hours of operation would be expected to occur.

The project will include a 900 square-foot bio-retention facility, and the relocation and expansion of an existing retention pond to have a capacity of 41,000 cubic-feet, which will be located at the corner of Dowdell Lane and Lafata Street. The project site is currently accessed from two existing driveways on Lafata Street. The two driveways provide access to 26 parking spaces and two loading docks. The project would add two new driveway entrances, for a total of four, from Lafata Street to access the project site. A total of eight new parking spaces would be added to the project site. The project also includes the restriping of a portion of the existing parking lot. Access to the project site from the STN is achieved via State Route (SR) 29, which intersects with both Dowdell Lane and Mills Lane about 1000 feet from the project site.

Lead Agency

As the Lead Agency, the City St. Helena is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Operational Analysis

Recent restriping of SR 29 has altered the alignment to prohibit left turns from Mills Lane onto SR 29. Please revise analysis omitting west-to-south movement off Mills Lane throughout the analysis.

Vehicle Trip Reduction

From Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the project site is identified as **Place Type 5b: Rural Settlements and Agricultural Land** where location efficiency factors, such as community design, are very low and regional accessibility is low.

Given the low transportation efficiency factors of this place type, the project should include a Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions. Such measures will be critical in order to facilitate efficient transportation access to and from the project location and reduce transportation impacts associated with the project. The measures listed below will promote smart mobility and reduce regional VMT.

- Charging stations and designated parking spaces for electric vehicles;
- Carpool and clean-fuel parking spaces;
- Showers, changing rooms and clothing lockers for employees that commute via active transportation;
- Emergency Ride Home program;
- Secured bicycle storage facilities;
- Fix-it bicycle repair station(s);
- Bicycle route mapping resources;

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Mr. Housh, City of St. Helena
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Transportation Demand Management programs should be documented with annual monitoring reports by an onsite TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets. Also, reducing parking supply can encourage active forms of transportation, reduce regional VMT, and lessen future transportation impacts on State facilities. These smart growth approaches are consistent with the MTC's Regional Transportation Plan/SCS goals and would meet Caltrans Strategic Management Plan sustainability goals.

Encroachment Permit

Please be advised that any work or traffic control that encroaches onto the state ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating state ROW must be submitted to: Office of Permits, California DOT, District 4, P.O. Box 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process. See the website link below for more information. <http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Jake Freedman at 510-286-5518 or jake.freedman@dot.ca.gov.

Sincerely,



PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse



November 3, 2017

Ms. Patricia Maurice
 District Branch Chief
 Local Development – Intergovernmental Review
 Department of Transportation, District 4
 Office of Transit and Community Planning
 P.O. Box 23660, MS-10D
 Oakland, CA 94623-0660

RE: Department of Transportation Comments on “Komes Custom Crush” Mitigated Negative Declaration (MND).

Dear Ms. Maurice:

Thank you for your review of the Komes Custom Crush - Mitigated Negative Declaration (MND) dated September 25, 2017. The following responses are provided to address the transportation-related comments you presented in your letter to Mr. Noah Housh of the City of St. Helena, dated October 24, 2017 (letter attached for reference).

Operational Analysis

Comment: Recent restriping of SR 29 has altered the alignment to prohibit left turns from Mills Lane onto SR 29. Please revise analysis omitting west-to-south movement off Mills Lane throughout the analysis.

Response: Regarding left turn trips from Mills Lane onto southbound SR 29, the traffic analysis evaluated existing, near-term (representing approved developments yet to be constructed), and long-term cumulative conditions without the project as well as with the added project trips. For existing conditions without the project, the report identified no west-to-south volumes from Mills Lane onto SR 29 during the weekday a.m., weekday p.m., and weekend peak hours of the day. The proposed project would not add any left turn trips from Mills Lane onto SR 29. Therefore, the existing conditions analysis presented in the traffic report would remain unchanged.

For near-term conditions without the project, the traffic report identified a low number of vehicle trips generated by approved developments making left turns from Mills Lane onto SR 29. Specifically, the traffic report identified 3 weekday a.m. peak hour, 6 weekday p.m. peak hour, and 4 weekend peak hour trips turning left from westbound Mills Lane onto southbound SR 29. As noted, no trips from the proposed project were added to the west-to-south movement from Mills Lane.

Given the recent restriping of SR 29 which now prohibits left turns from Mills Lane, the near-term volumes identified in the report would be redistributed to Dowdell Lane. As a result, there would be zero peak hour trips from Mills Lane onto southbound SR 29 and 3-6 additional peak hour trips added to the Dowdell Lane left turn movement onto southbound SR 29.

Ms. Patricia Maurice
November 3, 2017

Page 2

The level of service conditions have been re-evaluated. The traffic report identified near-term operating conditions at the Mills Lane/SR 29 intersection and the Dowdell Lane/SR 29 intersection of LOS C during all three peak hour periods (a.m., p.m., and weekend). With the left turn volumes removed, the Mills Lane/SR 29 conditions would remain the same or improve. The intersection would operate at LOS C during all three peak hour periods with incremental improvements to overall vehicle delays (see LOS calculation sheets for all with and without project scenarios—attached).

With the redistributed trips from Mills Lane added to Dowdell Lane, the Dowdell Lane/SR 29 intersection would experience only incremental increases in delays. The intersection would continue to operate at LOS C during the peak hour periods.

The traffic report also evaluated long-term cumulative conditions and identified operating conditions at the Mills Lane/SR 29 and Dowdell Lane/SR 29 intersections of LOS C or better. With the trips from Mills Lane redistributed onto Dowdell Lane, the Mills Lane/SR 29 intersection would continue to operate at LOS C or better, and the Dowdell Lane/SR 29 intersection would operate at LOS D.

Therefore, accounting for the recent restriping of SR 29 prohibiting left turns from Mills Lane, level-of-service conditions without the proposed project would remain acceptable at the Mills Lane/SR 29 and Dowdell Lane/SR 29 intersections. Conditions would also remain acceptable with the project, since there were no project trips added to the Mills Lane left turn movement onto SR 29.

Vehicle Trip Reduction

Comment: The project site is identified as Place Type 5b: Rural Settlements and Agricultural Land where location efficiency factors, such as community design, are very low and regional accessibility is low. Given the low transportation efficiency factors of this place type, the project should include a Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions.

Response: The proposed project would be considered a “production only” winery. In this regard, there would be no tastings or tours associated with the proposed winery. In addition, there would be no annual marketing events associated with the winery. These factors alone (production winery only), result in a **significant reduction** in overall vehicle trips during weekday AM, PM, and weekend (Saturday) mid-day peak hours. During the weekday AM and PM peak commute periods the proposed winery would generate just 11 peak hour trips. During the most intense weekend (Saturday) crush period, the proposed winery would generate 18 mid-day peak hour trips.

As indicated in the proposed project description, the production winery would have just four (4) full-time employees during the year with eight (8) part-time employees (primarily related to crush activities and other winery-related needs). As part of a focused TDM plan and consistent with Napa Countywide Bicycle Plan; it is suggested the proposed project strive to provide the following TDM measures for its employees:



Ms. Patricia Maurice
November 3, 2017

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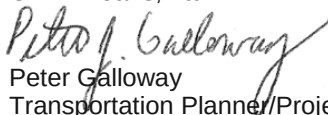
- Bicycle racks for employees (secure facilities if possible);
- On-site changing rooms and/or shower facilities;
- Bicycle route mapping resources for local/regional routes (from Countywide Bicycle Plan);
- Encouragement of carpooling and/or ridesharing for employees living within close local/regional proximity;
- Emergency ride home program.

With the above measures focused on proposed project employments, the overall number of peak hour employee trips could be reduced to improve overall vehicle miles traveled (VMT) and greenhouse gas emissions.

We trust this letter helps to provide further transportation information related to the proposed Komes Custom Crush Winery---Mitigated Negative Declaration (MND). Please contact us if you have any questions.

Sincerely,

Omni-Means, Ltd.


Peter Galloway

Transportation Planner/Project Manager

Enc: Caltrans Comment Letter Komes Custom Crush MND (October 24, 2017)
Mills Ln./SR-29 & Dowdell Ln./SR-29 Intersection LOS Calculation Sheets

cc: Ms. Donna Olford, Plans for Wine
Mr. George W. Nickelson, P.E.
Ms. Olivia Ervin, M-Group

C2281LTR001.docx / 11145031



DEPARTMENT OF TRANSPORTATION
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October 24, 2017

SCH # 2017092073
 GTS # 04-NAP-2017-00069
 NAP / 29 / 28.03
 GTS ID: 7944

Noah Housh
 City of St. Helena
 1480 Main Street
 St. Helena, CA 94574

Komes Custom Crush – Mitigated Negative Declaration (MND)

Dear Mr. Housh:

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The proposed Custom Crush Facility is an expansion of the existing Napa Valley Wine Warehouse, which currently provides wine case storage for local wineries. The proposed project would create a "one stop shop" for local vintners to crush, ferment, bottle, and store wines. When completed, the proposed facility is expected to be able to process approximately 120,000 tons of grapes annually (equivalent to about 50,000 cases of wine). The applicant intends to operate with four full-time and up to four part-time employees. The hours of operation will normally be from

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Mr. Housh, City of St. Helena
 October 24, 2017
 Page 2

8:00 a.m. to 5:00 p.m., Monday through Saturday. During the harvest season, which lasts approximately four months, longer hours of operation would be expected to occur.

The project will include a 900 square-foot bio-retention facility, and the relocation and expansion of an existing retention pond to have a capacity of 41,000 cubic-feet, which will be located at the corner of Dowdell Lane and Lafata Street. The project site is currently accessed from two existing driveways on Lafata Street. The two driveways provide access to 26 parking spaces and two loading docks. The project would add two new driveway entrances, for a total of four, from Lafata Street to access the project site. A total of eight new parking spaces would be added to the project site. The project also includes the restriping of a portion of the existing parking lot. Access to the project site from the STN is achieved via State Route (SR) 29, which intersects with both Dowdell Lane and Mills Lane about 1000 feet from the project site.

Lead Agency

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Mr. Housh, City of St. Helena
October 24, 2017
Page 3

Transportation Demand Management programs should be documented with annual monitoring reports by an onsite TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets. Also, reducing parking supply can encourage active forms of transportation, reduce regional VMT, and lessen future transportation impacts on State facilities. These smart growth approaches are consistent with the MTC's Regional Transportation Plan/SCS goals and would meet Caltrans Strategic Management Plan sustainability goals.

Encroachment Permit

Please be advised that any work or traffic control that encroaches onto the state ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating state ROW must be submitted to: Office of Permits, California DOT, District 4, P.O. Box 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process. See the website link below for more information. <http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Jake Freedman at 510-286-5518 or jake.freedman@dot.ca.gov.

Sincerely,



PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM Near-Term (NP) Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.1

Movement

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	0	3	874	9	10	877
Future Vol, veh/h	0	3	874	9	10	877
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	950	10	11	953

Major/Minor

	Minor1	Major1	Major2
Conflicting Flow All	1930	955	0
Stage 1	955	-	-
Stage 2	975	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	73	313	-
Stage 1	374	-	-
Stage 2	366	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	72	313	-
Mov Cap-2 Maneuver	200	-	-
Stage 1	374	-	-
Stage 2	360	-	-

Approach

	WB	NB	SB
HCM Control Delay, s	16.6	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt

	NBT	NBR/WBLn1	SBL	SBT
Capacity (veh/h)	-	-	313	717
HCM Lane V/C Ratio	-	-	0.01	0.015
HCM Control Delay (s)	-	-	16.6	10.1
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0	0

Existing

Synchro 9 Report
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HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM Near-Term (NP) Conditions
11/03/2017

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰	↱	↰	↱
Traffic Vol, veh/h	16	47	809	38	95	723
Future Vol, veh/h	16	47	809	38	95	723
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	51	879	41	103	786

Major/Minor	Minor1	Major1	Major2	Major3	Major4
Conflicting Flow All	1892	900	0	0	921
Stage 1	900	-	-	-	-
Stage 2	992	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	77	337	-	-	741
Stage 1	397	-	-	-	-
Stage 2	359	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	66	337	-	-	741
Mov Cap-2 Maneuver	188	-	-	-	-
Stage 1	397	-	-	-	-
Stage 2	309	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.8	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	188	337	741	-
HCM Lane V/C Ratio	-	-	0.093	0.152	0.139	-
HCM Control Delay (s)	-	-	26.1	17.6	10.6	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.5	0.5	-

Existing

Synchro 9 Report
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HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM Near-Term (NP) Conditions
11/03/2017

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	0	20	841	6	12	836
Future Vol, veh/h	0	20	841	6	12	836
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	914	7	13	909

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1852	917	0	0	921	0
Stage 1	917	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	81	330	-	-	741	-
Stage 1	390	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	80	330	-	-	741	-
Mov Cap-2 Maneuver	211	-	-	-	-	-
Stage 1	390	-	-	-	-	-
Stage 2	375	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT
Capacity (veh/h)	-	- 330	741	-
HCM Lane V/C Ratio	-	- 0.066	0.018	-
HCM Control Delay (s)	-	- 16.7	9.9	-
HCM Lane LOS	-	- C	A	-
HCM 95th %tile Q(veh)	-	- 0.2	0.1	-

Existing

Synchro 9 Report
Page 1

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM Near-Term (NP) Conditions
11/03/2017

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	54	105	741	12	34	783
Future Vol, veh/h	54	105	741	12	34	783
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	114	805	13	37	851

Major/Minor	Minor1	Major1	Major2	Major3	Major4
Conflicting Flow All	1737	812	0	0	818
Stage 1	812	-	-	-	-
Stage 2	925	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	96	379	-	-	810
Stage 1	437	-	-	-	-
Stage 2	386	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	92	379	-	-	810
Mov Cap-2 Maneuver	224	-	-	-	-
Stage 1	437	-	-	-	-
Stage 2	368	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.3	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	224	379	810	-
HCM Lane V/C Ratio	-	-	0.262	0.301	0.046	-
HCM Control Delay (s)	-	-	26.7	18.5	9.7	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	1	1.2	0.1	-

Existing

Synchro 9 Report
Page 1

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD Near-Term (NP) Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	12	758	6	9	877
Future Vol, veh/h	0	12	758	6	9	877
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	824	7	10	953

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1800	827	0
Stage 1	827	-	-
Stage 2	973	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	88	371	-
Stage 1	430	-	-
Stage 2	366	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	87	371	-
Mov Cap-2 Maneuver	218	-	-
Stage 1	430	-	-
Stage 2	361	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT
Capacity (veh/h)	-	- 371	802	-
HCM Lane V/C Ratio	-	- 0.035	0.012	-
HCM Control Delay (s)	-	- 15.1	9.5	-
HCM Lane LOS	-	- C	A	-
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Existing

Synchro 9 Report
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HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD Near-Term (NP) Conditions
11/03/2017

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	36	779	11	33	857
Future Vol, veh/h	19	36	779	11	33	857
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	39	847	12	36	932

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1856	853	0	0	859
Stage 1	853	-	-	-	-
Stage 2	1003	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	81	359	-	-	782
Stage 1	418	-	-	-	-
Stage 2	355	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	77	359	-	-	782
Mov Cap-2 Maneuver	206	-	-	-	-
Stage 1	418	-	-	-	-
Stage 2	339	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	206	359	782	-
HCM Lane V/C Ratio	-	-	0.1	0.109	0.046	-
HCM Control Delay (s)	-	-	24.4	16.3	9.8	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	0.1	-

Existing

Synchro 9 Report
Page 1

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM N-T+Prj. Conditions
11/03/2017

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	0	3	875	9	10	883
Future Vol, veh/h	0	3	875	9	10	883
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	951	10	11	960

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1938	956	0
Stage 1	956	-	-
Stage 2	982	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	72	313	-
Stage 1	373	-	-
Stage 2	363	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	71	313	-
Mov Cap-2 Maneuver	199	-	-
Stage 1	373	-	-
Stage 2	357	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	313	716	-
HCM Lane V/C Ratio	-	-	0.01	0.015	-
HCM Control Delay (s)	-	-	16.6	10.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM N-T+Prj. Conditions
11/03/2017

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	48	809	41	101	723
Future Vol, veh/h	17	48	809	41	101	723
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	52	879	45	110	786

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1907	902	0
Stage 1	902	-	-
Stage 2	1005	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	75	336	-
Stage 1	396	-	-
Stage 2	354	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	64	336	-
Mov Cap-2 Maneuver	185	-	-
Stage 1	396	-	-
Stage 2	301	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	185	336	739	-
HCM Lane V/C Ratio	-	-	0.1	0.155	0.149	-
HCM Control Delay (s)	-	-	26.6	17.7	10.7	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.5	0.5	-

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM N-T+Prj. Conditions
11/03/2017

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	847	6	12	837
Future Vol, veh/h	0	20	847	6	12	837
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	921	7	13	910

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1860	924	0
Stage 1	924	-	-
Stage 2	936	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	81	327	-
Stage 1	387	-	-
Stage 2	382	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	80	327	-
Mov Cap-2 Maneuver	210	-	-
Stage 1	387	-	-
Stage 2	375	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	327	737	-
HCM Lane V/C Ratio	-	-	0.066	0.018	-
HCM Control Delay (s)	-	-	16.8	10	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM N-T+Prj. Conditions
11/03/2017

Intersection

Int Delay, s/veh 2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	111	741	13	35	783
Future Vol, veh/h	57	111	741	13	35	783
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	121	805	14	38	851

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1740	813	0	0	820
Stage 1	813	-	-	-	-
Stage 2	927	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	96	378	-	-	809
Stage 1	436	-	-	-	-
Stage 2	385	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	91	378	-	-	809
Mov Cap-2 Maneuver	223	-	-	-	-
Stage 1	436	-	-	-	-
Stage 2	367	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.7	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	223	378	809	-
HCM Lane V/C Ratio	-	-	0.278	0.319	0.047	-
HCM Control Delay (s)	-	-	27.2	18.9	9.7	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	1.1	1.4	0.1	-

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD N-T+Prj. Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.2

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations	↖		↗		↖	↗
Traffic Vol, veh/h	0	12	764	6	9	883
Future Vol, veh/h	0	12	764	6	9	883
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	830	7	10	960

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	1813	834	0	0	837	0
Stage 1	834	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	86	368	-	-	797	-
Stage 1	426	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	85	368	-	-	797	-
Mov Cap-2 Maneuver	216	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	359	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s	15.1	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt NBT NBRWBLn1 SBL SBT

Capacity (veh/h)	-	-	368	797	-
HCM Lane V/C Ratio	-	-	0.035	0.012	-
HCM Control Delay (s)	-	-	15.1	9.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD N-T+Prj. Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	42	779	14	39	857
Future Vol, veh/h	22	42	779	14	39	857
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	46	847	15	42	932

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1870	854	0
Stage 1	854	-	-
Stage 2	1016	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	79	358	-
Stage 1	417	-	-
Stage 2	350	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	75	358	-
Mov Cap-2 Maneuver	202	-	-
Stage 1	417	-	-
Stage 2	331	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	202	358	780	-
HCM Lane V/C Ratio	-	-	0.118	0.128	0.054	-
HCM Control Delay (s)	-	-	25.2	16.5	9.9	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.4	0.2	-

HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM Cumulative (NP) Conditions
11/03/2017

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	0	3	1131	9	10	1103
Future Vol, veh/h	0	3	1131	9	10	1103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	1229	10	11	1199

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2455	1234	0
Stage 1	1234	-	-
Stage 2	1221	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	34	215	-
Stage 1	275	-	-
Stage 2	279	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	33	215	-
Mov Cap-2 Maneuver	140	-	-
Stage 1	275	-	-
Stage 2	274	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	215	562	-
HCM Lane V/C Ratio	-	-	0.015	0.019	-
HCM Control Delay (s)	-	-	22	11.5	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0	0.1	-

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM Cumulative (NP) Conditions
11/03/2017

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰		↰	↱
Traffic Vol, veh/h	16	47	1066	38	95	949
Future Vol, veh/h	16	47	1066	38	95	949
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	51	1159	41	103	1032

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2417	1179	0 0 1200 0
Stage 1	1179	-	- - - -
Stage 2	1238	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	36	232	- - 582 -
Stage 1	292	-	- - - -
Stage 2	274	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	30	232	- - 582 -
Mov Cap-2 Maneuver	130	-	- - - -
Stage 1	292	-	- - - -
Stage 2	226	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	27.9	0	1.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	130	232	582	-
HCM Lane V/C Ratio	-	-	0.134	0.22	0.177	-
HCM Control Delay (s)	-	-	36.9	24.8	12.5	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.8	0.6	-

Existing

Synchro 9 Report
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HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM Cumulative (NP) Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	1069	6	12	1079
Future Vol, veh/h	0	20	1069	6	12	1079
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	1162	7	13	1173

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2364	1165	0 0 1168 0
Stage 1	1165	-	- - - -
Stage 2	1199	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	39	236	- - 598 -
Stage 1	297	-	- - - -
Stage 2	286	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	38	236	- - 598 -
Mov Cap-2 Maneuver	149	-	- - - -
Stage 1	297	-	- - - -
Stage 2	280	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	21.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT
Capacity (veh/h)	-	- 236	598	-
HCM Lane V/C Ratio	-	- 0.092	0.022	-
HCM Control Delay (s)	-	- 21.8	11.2	-
HCM Lane LOS	-	- C	B	-
HCM 95th %tile Q(veh)	-	- 0.3	0.1	-

Existing

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HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM Cumulative (NP) Conditions
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Intersection

Int Delay, s/veh 2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	54	105	969	12	34	1026
Future Vol, veh/h	54	105	969	12	34	1026
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	114	1053	13	37	1115

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2249	1060	0 0 1066 0
Stage 1	1060	-	- - - -
Stage 2	1189	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	~ 46	272	- - 654 -
Stage 1	333	-	- - - -
Stage 2	289	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	~ 43	272	- - 654 -
Mov Cap-2 Maneuver	156	-	- - - -
Stage 1	333	-	- - - -
Stage 2	273	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	32.2	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	156	272	654	-
HCM Lane V/C Ratio	-	-	0.376	0.42	0.057	-
HCM Control Delay (s)	-	-	41.4	27.5	10.8	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	1.6	2	0.2	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Existing

Synchro 9 Report
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HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD Cumulative (NP) Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗		↖		↖	↗
Traffic Vol, veh/h	0	12	1003	6	9	1150
Future Vol, veh/h	0	12	1003	6	9	1150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	1090	7	10	1250

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2363	1093	0
Stage 1	1093	-	-
Stage 2	1270	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	39	261	-
Stage 1	321	-	-
Stage 2	264	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	38	261	-
Mov Cap-2 Maneuver	148	-	-
Stage 1	321	-	-
Stage 2	260	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	261	636	-
HCM Lane V/C Ratio	-	-	0.05	0.015	-
HCM Control Delay (s)	-	-	19.5	10.7	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Existing

Synchro 9 Report
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HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD Cumulative (NP) Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰		↰	↱
Traffic Vol, veh/h	19	36	1024	11	33	1130
Future Vol, veh/h	19	36	1024	11	33	1130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	39	1113	12	36	1228

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	2419	1119	0	0	1125
Stage 1	1119	-	-	-	-
Stage 2	1300	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	36	252	-	-	621
Stage 1	312	-	-	-	-
Stage 2	255	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	34	252	-	-	621
Mov Cap-2 Maneuver	139	-	-	-	-
Stage 1	312	-	-	-	-
Stage 2	240	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.6	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	139	252	621	-
HCM Lane V/C Ratio	-	-	0.149	0.155	0.058	-
HCM Control Delay (s)	-	-	35.4	21.9	11.2	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.5	0.2	-

Existing

Synchro 9 Report
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HCM 2010 TWSC
1: SR-29 & Mills Ln.

AM C+Prj. Conditions
11/03/2017

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↗		↘	↗
Traffic Vol, veh/h	0	3	1132	9	10	1109
Future Vol, veh/h	0	3	1132	9	10	1109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	1230	10	11	1205
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2462	1235	0	0	1240	0
Stage 1	1235	-	-	-	-	-
Stage 2	1227	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	34	215	-	-	562	-
Stage 1	274	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	33	215	-	-	562	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	274	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	22	0	0.1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	215	562	-	
HCM Lane V/C Ratio	-	-	0.015	0.019	-	
HCM Control Delay (s)	-	-	22	11.5	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	0	0.1	-	

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

AM C+Prj. Conditions
11/03/2017

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	48	1066	41	101	949
Future Vol, veh/h	17	48	1066	41	101	949
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	52	1159	45	110	1032

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2432	1181	0 0 1203 0
Stage 1	1181	-	- - - -
Stage 2	1251	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	35	231	- - 580 -
Stage 1	291	-	- - - -
Stage 2	270	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	28	231	- - 580 -
Mov Cap-2 Maneuver	127	-	- - - -
Stage 1	291	-	- - - -
Stage 2	219	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	28.5	0	1.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	127	231	580	-
HCM Lane V/C Ratio	-	-	0.145	0.226	0.189	-
HCM Control Delay (s)	-	-	38.1	25.1	12.7	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.8	0.7	-

HCM 2010 TWSC
1: SR-29 & Mills Ln.

PM C+Prj. Conditions
11/03/2017

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	0	20	1075	6	12	1080
Future Vol, veh/h	0	20	1075	6	12	1080
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	1168	7	13	1174

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2372	1172	0 0 1175 0
Stage 1	1172	-	- - - -
Stage 2	1200	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	38	234	- - 594 -
Stage 1	294	-	- - - -
Stage 2	285	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	37	234	- - 594 -
Mov Cap-2 Maneuver	148	-	- - - -
Stage 1	294	-	- - - -
Stage 2	279	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	22	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	234	594	-
HCM Lane V/C Ratio	-	-	0.093	0.022	-
HCM Control Delay (s)	-	-	22	11.2	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

PM C+Prj. Conditions
11/03/2017

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Vol, veh/h	57	111	969	13	35	1026
Future Vol, veh/h	57	111	969	13	35	1026
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	121	1053	14	38	1115

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2251	1060	0 0 1067 0
Stage 1	1060	-	- - - -
Stage 2	1191	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	~ 46	272	- - 653 -
Stage 1	333	-	- - - -
Stage 2	288	-	- - - -
Platoon blocked, %		-	- - - -
Mov Cap-1 Maneuver	~ 43	272	- - 653 -
Mov Cap-2 Maneuver	156	-	- - - -
Stage 1	333	-	- - - -
Stage 2	271	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	33.2	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR/WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	156 272	653	-
HCM Lane V/C Ratio	-	-	0.397 0.444	0.058	-
HCM Control Delay (s)	-	-	42.5 28.4	10.9	-
HCM Lane LOS	-	-	E D	B	-
HCM 95th %tile Q(veh)	-	-	1.7 2.1	0.2	-

Notes					
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon					

HCM 2010 TWSC
1: SR-29 & Mills Ln.

MD C+Prj. Conditions
11/03/2017

Intersection

Int Delay, s/veh 0.2

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations	Y					
Traffic Vol, veh/h	0	12	1009	6	9	1156
Future Vol, veh/h	0	12	1009	6	9	1156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	1097	7	10	1257

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	2376	1100	0	0	1103	0
Stage 1	1100	-	-	-	-	-
Stage 2	1276	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	38	258	-	-	633	-
Stage 1	319	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	37	258	-	-	633	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	258	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s	19.7	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt NBT NBRWBLn1 SBL SBT

Capacity (veh/h)	-	-	258	633	-
HCM Lane V/C Ratio	-	-	0.051	0.015	-
HCM Control Delay (s)	-	-	19.7	10.8	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

HCM 2010 TWSC
3: SR-29 & Dowdell Ln.

MD C+Prj. Conditions
11/03/2017

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	42	1024	14	39	1130
Future Vol, veh/h	22	42	1024	14	39	1130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	46	1113	15	42	1228

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2434	1121	0 0 1128 0
Stage 1	1121	-	- - - -
Stage 2	1313	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	35	251	- - 619 -
Stage 1	311	-	- - - -
Stage 2	252	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	33	251	- - 619 -
Mov Cap-2 Maneuver	137	-	- - - -
Stage 1	311	-	- - - -
Stage 2	235	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	27.4	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	137	251	619	-
HCM Lane V/C Ratio	-	-	0.175	0.182	0.068	-
HCM Control Delay (s)	-	-	36.8	22.5	11.2	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.7	0.2	-

ADMINISTRATIVE DETERMINATION



DATE: November 3, 2017

TO: Neighboring Property Owners and Interested Citizens

FROM: Noah Housh, Planning and Community Improvement Director

RE: Administrative Determination that a request from Joel Gott to open and operate the convenience store at 1153 Main Street qualifies as a continuing (non-conforming-due to lack of a Use Permit) land use and therefore can occupy the tenant space at 1153 Main Street, previously occupied by Napa Valley Petroleum, also a convenience store.

PROJECT DESCRIPTION

Joel Gott has requested approval of a business license to occupy the vacant Napa Valley Petroleum convenience store tenant space at 1153 Main Street as a continuing convenience store use. Zoning Code Section 17.140.020 F. states:

F. When a nonconforming use which has been operating in conformance with a previously approved use permit is abandoned, the same use which previously existed may be resumed, reestablished, or reopened within a six month time period from the date of abandonment in accordance with the following criteria:

1. *Written notice of the date of reestablishment shall be given to the planning director prior to reestablishment of the use.*
2. *A city business license shall be obtained.*
3. *All permits/approvals from any agency regulating the nonconforming use shall be obtained.*
4. *A fictitious business name shall be filed with Napa County if required by state regulations.*
5. *All required information shall be filed with the State Board of Equalization.*
6. *If a building permit is requested to remodel the existing building, the use permit remains vested, provided the building permit has been issued, construction consistent with the building permit has commenced, and construction is actively pursued toward completion prior to the six-month time period defining abandonment.*

When it has been determined that the use has been resumed, reestablished, or reopened consistent with this criteria, the use is deemed vested.

Given that the previous operators have provided documentation identifying continuance of their convenience store use within the six-months prior to the request for a business license, staff has determined that the convenience store land use was not "abandoned", and therefor can be re-established as a continuing use.

The continuing convenience store land use is subject to the zoning code criteria identified in Section 17.136.080 B., which states:

*Administrative Determination
1153 Main Street
October 31, 2017*

B. The following criteria shall be met prior to approval of a service station:

- 1. That the site is not closer than one hundred (100) feet to any R district;*
- 2. That no block would have more than two service station sites;*
- 3. That all operations and display of merchandise would be kept within an approved structure, except those directly required for the dispensing of gasoline, water and air, and the replenishment of oil;*
- 4. That the minimum landscaping requirements established in the zoning district in which the use is located have been incorporated into the design of the proposed use;*
- 5. That the use does not include the sale of staple grocery items nor does it include a mini market, but may include the sale of snack foods, drinks, and convenience foods. (Ord. 93-16 § 1; prior code § 27.277)*

APPEALS

This determination is subject to a 14-day appeal period. Anyone interested in appealing this Determination shall file an appeal with the Planning Director within 14-days of the date of this letter. The letter of appeal must state: (1) the specific action objected to; (2) the action appellant requests the city council to take; (3) the reason for the appeal; and (4) the name, address, and telephone number of the appellant or contact person if there are multiple appellants and be accompanied by the appropriate fee.

Notice of this Determination will be provided to the Planning Commission at their next regularly scheduled meeting November 7, 2017.

Thank you for your attention to this matter.



Noah Housh
Planning and Community Improvement Director
City of St Helena.

Administrative Determination
1153 Main Street
October 31, 2017

Tentative Planning Commission Agenda Updated: September 14, 2017

CURRENT AND PENDING MATTERS

September/October Planning Commission (PC) and City Council (CC) Likely Items:	
1.	PL17-037 1508 Spring St- DR for new SFD-Result of Code Enforcement- Aaron Hecock-Continued from 9-5-17 Meeting
2.	PL17-027 2800 Main St DR for Exterior Accessory Structure-Aaron Hecock
3.	PL17-050 1309 Main St-UP for Winery Business Office and Tasting Room-Lilly Bianco
4.	PL17-031 1711 Pine St Demo and DR for New SFD-Lilly Bianco
5.	Planning Commission Protocol and By-Law Discussion
6.	Annual Housing Allocation Ordinance Update-October 10 CC Meeting
7.	PL17-049 917 Charter Oak Ave-Demolition of Existing Accessory Structure-Intern Joseph Brockhoff October 3, 2017 Meeting
8.	Design Guidelines draft Work Plan October 17 PC Meeting
Active/Pending Projects In Process	
1.	TSM 2010-40 Vacant Parcel-2010-40 Hunter Subdivision and EIR-Noah Housh
2.	PL14-041 741 McCorkle-Tentative Map and Use Permit-Under Review-Aaron Hecock
3.	PL14-10 1701 Madrona-Final Map and Tentative Map Extension-Frozen by Applicant
4.	PL16-012 633 Main St-UP to convert existing SFD into 2-room Hotel-Frozen by Applicant-Noah Housh
5.	PL16-018 & PL16-094 890 Dowdell Ln and 420 Lafata St. Mitigated Negative Declaration, UP and DR for a new custom crush winemaking facility-Noah Housh
6.	PL16-081 thru -083 1003 Charter Oak Subdivision and 2 SFDs; Under Review -Aaron Hecock
7.	PL16-097 563 Main St Admin Determination; Frozen by Applicant-Noah Housh
8.	PL16-025 661 Main St LLA-Frozen by Applicant-Noah Housh
9.	PL16-048 576 Pope St-DR for new SFD-Frozen by Applicant
10.	PL17-006 1000 Mills Ln Use Permit, LLA and Design Review for a new Farmstead Hotel-Application under review and CEQA in process-Aaron Hecock
11.	PL17-007 1178 Hudson Design Review Aaron Hecock
12.	PL17-015 1136 Main TPM Extension
13.	PL17-017 995 Vintage Ave, Suite 100 Use Permit
14.	PL17-019 Design Review, Demo and CUP for demolition and re-construction of a new SFD on a small lot at 1734 Scott St-Continued-Date Uncertain-Lilly Bianco
15.	PL17-020 1727 Scott St DR & Demolition for New SFD and Second Unit-Lilly Bianco
16.	PL17-021 1764 Spring St New Short Term Rental-Aaron Hecock
17.	PL17-022 1351 Main St Use Permit Amendment-
18.	PL17-023 1237 Main St New Short Term Rental Renewal
19.	PL17-024 1830 Main St Remodel and Addition to a Historic Home-Lilly Bianco
20.	PL17-026 STR Permit Renewal-Aaron Hecock

21. PL17-030 APN 009-362-015 LLA-Aaron Hecock
22. PL17-035 940 Brown St STR Renewal-In Process-Aaron Hecock
23. PL17-036 738 Main St Farmstead UP Amendment In Process-Aaron Hecock
24. PL17-038 880 College DR for New Montessori School Building-In Process-Aaron Hecock
25. PL17-040 1030 Fulton Ln DR for 2 new Office Buildings (9290 sq ft and x 4000 sq ft) with related site improvements-Review In Process-Noah Housh
26. PL17-043 CIA Use Permit and Design Review 2555 Main St-Request to increase the total number of students enrolled at the Greystone Facility to 300-Review in process-Lilly Bianco
27. PL17-044 1761 Stockton St DR for Residential Remodel and Addition-Under Review-Aaron Hecock
28. PL17-046-627 Harvest Ln, Demolition of an Existing Barn –Aaron Hecock Oct. 3 PC Meeting
29. PL17-047-1916 Vineyard Ave-Demo and DR requesting to demolish existing SFD and construct a new SFD-Under Review -Aaron Hecock
30. PL17-048 1843 Spring Mt Ct-DR for Exterior Building and Site Modifications-Lilly Bianco
31. PL17-052 1335 Sulphur Springs-Final Map for Approved Subdivision-Noah Housh
32. PL17-053 1301 Allyn Ave-DR for Remodel of Existing Accessory Structure for Residential Use-Noah Housh
33. PL17-054 1407 Kearney St-STR Renewal –Aaron Hecock
34. PL17-055 1380 Main St-Sign Permit-Aaron Hecock
35. PL17-056 1915 Main St-Appeal of DR Approval for Las Alcobas Pedestrian Bridge-Lilly Bianco
36. PL17-057 1152 Church St-DR for Exterior Modifications to Existing Structure
Citywide PC/CC Assignments Prioritized by Staff and Planning Commission 9-5-17:
Tier 1 Priorities-2017-2018
1. General Plan Update and General Plan EIR-On Going
2. Initiate Creation of Design Guidelines
3. Comprehensive Zoning Code Update
3a. F.A.R. Review-To be conducted with Zoning Code Update
3b. Demolition Permit Review/ Limit on Demolition Permits
3c. Temporary Use Permit-Create Process-Ordinance and ZC Amendments
3d. Update Daycare Zoning Regs-Consistent with State Law
3e. Food Truck Ordinance
3f. Review Permitted/Conditional Uses in SC and CB Zoning Districts (CC Assigned 8/22/17)
3g. Review process for existing winery changes (PC assigned 8/22/17)
4. Pre-Application/Concept Design Review Meeting prior to Submittal (CC Assigned 3/28/17)
Tier 2 Priorities 2018 +
1. Housing Strategic Plan-“Housing First” and Workforce Housing Study and Determine What Uses Generate Housing Needs (CC Assigned 8/22/17)

2. Review and Update Noise Ordinance
3. Code Enforcement Policy and Procedures Update
4. Pools-Drought Policy Changes. Phase 1?
Other PC/CC Assignments for Planning Department
1. Facilities Assessment RFP (CC Assigned 7-11-17) RFP Issued 8-31-17
2. Water Update/Report from PW
Other Items of Interest to Planning Commission
1. Lot Line Adjustment Code Update-Potential
Required & On Going Items and Issues of Interest to Staff
1. Calderon Settlement Agreement Implementation and Monitoring-On Going
3. Short-Term Rental Ordinance Enforcement-On Going
4. Code Enforcement-On Going
5. PG&E Parking Lot Negotiation-On Going-Noah Housh
6. Cell Towers Ordinance-Update Current Code -State and Fed Laws
7. Growth Management Code Language Update and Annual Review (Sept)-Noah Housh
8. Fee Study-Pending
9. Review and Comment-Draft Tree Ordinance
10. AB 52 CEQA Process Implementation-Native American Consultation-On Going
12. PW & Planning - Ordinance to Amend Municipal Code Related to Exterior Fire Sprinklers
13. Affordable Housing Assistance; Contract Review; Term Negotiation; Etc-On Going Noah Housh
Recent Actions
1. PL17-003 1335 Main Street- "Richie Building" Design Review-Lilly Bianco-Approved 5-2-17
2. 1764 Spring St STR Permit-Aaron Hecock May 16, 2017 PC Review-Approved 05-02-17
3. Discretionary Review Process Discussion with PC-Noah Housh, May 16, 2017
4. Review of Tentative Agenda to Prioritize PC/CC Assignments to Staff-PC Reviewed and gave direction May 2, 2017
5. PL17-018 1050 Charter Oak Sign Permit-PC Approved
6. PL16-074 Money Way Bathrooms-Aaron Hecock/Tobias Barr PC Review May 16, 2017-PC Approved
7. Zoning Code Update to address changes in State Law-Recreational Marijuana-In Process-Noah Housh CC to Review May 9, 2017 (PC Recommended-April 28, 2017) May 29, 2017-CC Approved
8. PL16-043 830 Pratt Ave CIA DR, Variance and CUP for Dormitory Expansion-PC Review date Feb 21, 2017-Lilly Bianco-Denied by PC; Appealed to CC Continued to May 23, 2017-Council Denied Appeal
9. PL17-009 1380 Main St Sign Permit-Approved Aaron Hecock
10. PL17-010 609 McCorkle DR for Pool House-PC Approved-Aaron Hecock

11.PL17-011 2140 Dean York DR for Bathroom Addition-PC Approved-Aaron Hecock
12.PL17-012 1230 Allyn Avenue DR for Addition to Existing Home-PC Approved-Aaron Hecock
13.Turley Flats Final Loan Document Review by CC-June 13, 2017-Noah Housh-Approved
14.1351 Main St Use Permit-Eating and Drinking Establishment Aaron Hecock, May 16, 2017 PC-Approved, Pending CC Review June 13, 2017-Noah Housh-Approved
15.PL17-014 1000 Pratt Ave, DR for Beringer Winery Production Modifications April 18, 2017 Lilly Bianco-Approved- DR Appealed to the City Council 5-3-17 (PL17-032 1000 Pratt Ave) CC Review June 13, 2017-Appeal Denied by CC-Lilly Bianco
16.Zoning Code Update to Address Changes in State Law-Second Dwelling Units-Noah Housh- CC Pending for June 13, 2017 (PC Recommended May 2, 2017)-Approved
17.PL17-021 STR Permit 1764 Spring Street-Aaron Hecock-PC Approved
18.OTSH Concept for Affordable Housing on Railroad Property (CC Assigned 3/28/17) Presented to the CC
19.RFP Selection Committee Recommendation on Adams Street RFP responses. Presented to the CC June 27, 2017.
20.PL17-045-1380 Main St-Sign Permit for New West Knife Works-Staff Approved-Aaron Hecock
21.PL17-039 1427 Kearney St DR for SFD Remodel + Addition –PC Approved-Lilly Bianco
22.PL17-019 1734 Scott St DR for Home and Second Unit Remodel-PC approved June 20, 2017 Lilly Bianco
23.PL17-028 1660 Kearney St DR for Residential Remodel + 455 Sq ft Addition-PC approved June 20, 2017Lilly Bianco
24.Joint PC/CC Meeting-August 22-Land Use 101CC and PC Reviewed 8-22-17
25.City Facilities Assessment RFP-CC to Review and Direct staff-Noah Housh CC Reviewed 8-22-17
26.HOME Grant Acceptance and Administration Contract-CC to Review and Act-Noah Housh-CC Approved 8-22-17
27.OTSH Fee Waiver Request-CC To Review and Provide Direction to Staff-Noah Housh-CC Approved 8-8-17
28.PL17-013 1915 Main St DR for Pedestrian Bridge over York Creek extending from Las Alcobas Hotel to Historic Beringer winery (2000 Main St)-Lilly Bianco-Approved 8-15-17
29.PL16-055 1045 Pratt Avenue-DR for new SFD on existing undeveloped flag lot. Lilly Bianco-Continued for Re-Approved 9-5-17
30.PL17-051 1057 Pratt Ave Second Extension for approved DR and Demo-Approved 9-5-17

*This document is intended as a courtesy and is only updated periodically. Therefore it may not reflect the most current project status. Please contact planning staff with questions about specific projects or properties at 707-967-2792.