New Project Information

The City of Rocklin is processing the below referenced application(s) for project approval. The request is now being reviewed for compliance with the requirements and regulations of relevant City, State, and Federal agencies, and Utility providers. Once any issues have been resolved a hearing date will be set and public notice provided to alert neighbors and interested parties of the hearing date, availability of project information, the opportunity to comment on the project.

Application Received: January 23, 2020

Project Name and Requested Approvals:

THE QUARRY

DESIGN REVIEW, DR2020-0002
ZONING ORDINANCE AMENDMENT, ZOA2020-0001
TENTATIVE PARCEL MAP, DL2020-0001
CONDITIONAL USE PERMIT, U2020-0002

Staff Description of Project:

This application is a request for approval of a Design Review, Tentative Parcel Map, and Conditional Use Permit to allow construction and operation of a mixed use project with two (2) retail buildings, one (1) residential building with 22 units, and one (1) nonresidential building, to include a public market and event space. The project also includes a Zoning Ordinance Amendment to modify the boundaries of the Business Attraction, Retention, and Revitalization (BARRO) Overlay Zone to include the project property.

Location:

5255 Pacific Street. APN 010-170-026

Existing Land Use Designations:

The property is designated Mixed Use (MU) in the Rocklin General Plan and is zoned Planned Development General Retail Service Commercial (PD-C4) in the Sierra College General Development Plan area.

This project **_XX_ does / ____ does not** require modification or change of the land use designations and regulations currently applicable to the project site.

Compliance with the California Environmental Quality Act:

A preliminary review of this project pursuant to the California Environmental Quality Act (CEQA) has tentatively identified a Mitigated Negative Declaration as the appropriate level of environmental review for this project.

Applicant & Property Owner:

The applicant is Brentwood Developments Ca, Inc. and the property owner is the City of Rocklin.

Attached Information:

For additional detail, please visit the following link:
https://www.rocklin.ca.us/post/

CITY OF ROCKLIN Economic and Community Development
3970 Rocklin Rd. Rocklin, CA 95677 | **rocklin.ca.us**
P. 916.625.5120 | **F.** 916.625.5195 | **TTY.** 916.632.4013

City of Rocklin

Planning Division
3970 Rocklin Road
Rocklin, California 95677
Phone (916) 625-5160 FAX (916) 625-5195

UNIVERSAL APPLICATION FORM

NAME OF PROJECT: Big Gun site "The Quarry"

LOCATION: South of Pacific St. 5255 Pacific St.

ASSESSOR'S PARCEL NUMBERS: 010-170-026

DATE OF APPLICATION (STAFF): 1/23/2020 **RECEIVED BY (STAFF INITIALS):** NRA

FILE NUMBERS (STAFF): DR2020-002, ZOA2020-001, DL2020-001, U2020-002 **FEES:** $23,030

RECEIPT NO.: R35982

Pre-Application Meeting Requirements:

It is required that a pre-application meeting be held with a Staff Planner prior to submitting most applications for planning entitlements and permits. The purpose of the pre-application meeting is to expedite application processing by enabling staff to work with the applicant to assure that the officially submitted application materials are in the proper format and that the applicant understands the City of Rocklin's goals, policies, and ordinances that may affect the project. A copy of these and other planning provisions is available at the applicant's request.

Generally, two sets of preliminary plans and a written description of the proposed project should be brought with the applicant to the pre-application meeting. To schedule this meeting, please contact a Staff Planner at the Rocklin Community Development Department by calling (916) 625-5160.

DATE OF PRE-APPLICATION MEETING: 9/26/19

THIS APPLICATION IS FOR THE FOLLOWING ENTITLEMENTS: (CHECK APPROPRIATE SQUARES)

- ☑ General Plan Amendment (GPA) Fee:
- ☑ Tentative Subdivision Map (SD) Fee:)
- ☒ Use Permit (U)
  - ☐ Minor (PC Approval – New Bldg) Fee:
  - ☐ Minor (PC Approval – Existing Bldg) Fee:
  - ☐ Major (CC Approval) Fee:
- ☐ BARRO Zone Application (BZ) Fee:
- ☒ Rezone (Reclassification) (ZOA) Fee: Zoning Ordinance Amendment
- ☒ Tentative Parcel Map (DL) Fee:
- ☐ Variance (V) Fee:
- ☐ General Development Plan (PDG) Fee:
- ☒ Design Review (DR)
  - Commercial Fee:
  - Residential Fee:
  - Signs Fee:
- ☐ Oak Tree Preservation Plan Permit
  - Planning Commission Fee:
  - City Council Fee:
- ☑ Concurrent Application (2 or more entitlements) Fee:
- ☐ Modification to Approved Projects Fee:

File Number

Environmental Requirements: (STAFF)

- ☐ Exempt -
- ☐ Negative Declaration –
- ☒ Mitigated Negative Declaration – $5,683
- ☐ EIR – See Fee Schedule

RECEIVED
JAN 13 2020
By TM

UNIVERSAL APPLICATION FORM (CONT.)

GENERAL PLAN DESIGNATION:	PROPERTY DATA:	UTILITIES:	
		EXISTING	PROPOSED
Existing:_____	Acres: 3.38	X Pub. Sewer	X Pub. Sewer
Proposed:_____	Square Feet: 147,434 SF	____ Septic Sewer	____ Septic Sewer
Zoning:	Dimensions:_____	X Pub. Water	X Pub. Water
Existing: PD-C4	No. of Units: 4	____ Well Water	____ Well Water
Proposed: PD-C4		X Electricity	X Electricity
	Building Size:_____	X Gas	X Gas
		X Cable	X Cable
	Proposed Parking: 147		
	Required Parking: 147		
	Access:_____		

PROJECT REQUEST: See attached project request and description

(Example: Request for approval of design review to construct a 10,000 square foot office building on 1.5 acres)

NOTE: Annexations, Lot Line Adjustments, and Rocklin Ranch Industrial Park Specific Plan Use Permits require special application forms and additional submittal information available from the Planning Division.

UNIVERSAL APPLICATION FORM (CONT.)

PLEASE PRINT OR TYPE:

NAME OF PROPERTY OWNER: City of Rocklin

ADDRESS: 3970 Rocklin Rd.

CITY: Rocklin STATE: CA ZIP: 95677

PHONE NUMBER: 916.625.5000

EMAIL ADDRESS: steven.rudolph@rocklin.ca.us

FAX NUMBER: 916.625.5095

SIGNATURE OF OWNER _____

(*Signature Authorizing Application; provide owner's signature letter if signature is other than property owner.*)

NAME OF APPLICANT
(If different than owner): Brentwood Development CA. Inc.

CONTACT: Brad Griffith

ADDRES 5000 Stanford Ranch Rd Suite 210 B

CITY: Rocklin STATE: CA ZIP: 95765

PHONE NUMBER: 916 435 4180

EMAIL ADDRESS: Bradg@brentwodder.com

FAX NUMBER: 916 435 4181

SIGNATURE OF APPLICANT _____

AGENT AUTHORIZATION FORM

Property owners desiring to authorize individuals to represent them in conjunction with any application or matter before the City shall provide written authorization using this form. A separate form shall be used for each individual or firm authorized, and shall specifically note any restrictions upon the authorized person.

Project Name: Big Edn site

Location: 5255 Pacific St.

Assessors Parcel Number(s): 010 - 170 - 026

Entitlements for which authorization is applicable (use permit, variance, tentative map, etc.):
PDG subdivision map; design review

Name of person and / or firm authorized to represent property owner (Please print):
LPAS Architecture & Design

Address (Including City, State, and Zip Code):
LPAS
2454 National Park Dr. Ste 150
Sacramento CA 95833

Phone Number: 916 443 0335

Fax Number:

Email Address: CKelly@lpas.com

The above named person or firm is authorized as:

Agent (X) Buyer (_____) Lessee (_____)

The above named person or firm is authorized to (check all that are applicable):

(X) File any and all papers in conjunction with the aforementioned request, including signing the application

(X) Speak on behalf of and represent the owner at any Staff meeting and/or public hearing.

(X) Sign any and all papers in my stead, with the exception of the application form.

The duration and validity of this authorization shall be:

(X) Unrestricted (_____) Valid until:

Owners Authorization Signature & Date:

1/21/21

Owners Name (Please Print):
Brad Griffith

Owners Address (Including City, State, and Zip Code):
5990 Stanford Ranch Rd. Suite 210
Rocklin CA 95765

397 Rocklin Rd
Rocklin CA 95677

Phone Number: 916 . 435 . 4180 X 207

Email Address: brad@breitwhaldev.com

NOTIFICATION OF OWNERS OF MINERAL RIGHTS

Government Code section 6509a(a)(2) states that if the Subdivision Map Act requires notice to be given pursuant to Section 65091, in addition to noticing the surrounding property owners, notice must also be given to anyone who has filed with the County recorder's office a "notice of intent to preserve the mineral right pursuant to Section 883.230 of the Civil Code" on the subject property.

Therefore, mailing labels must be provided with this application for any owner of a mineral right pertaining to the subject real property who has recorded a notice of intent to preserve the mineral right pursuant to Section 883.230 of the Civil Code (Subdivision Map Act Section 65091(a)(2)).

See page 24 of this application for instructions on how to submit mailing labels.

Section 65091(a)(2)
"(2) When the Subdivision Map Act (Div. d 9commencing with Section 66410)) requires notice of a public hearing to be given pursuant to this section, notice shall also be given to any owner of a mineral right pertaining to the subject property who has recorded a notice of intent to preserve the mineral right pursuant to Section 883.230 of the Civil Code."

There **are / are not** (circle one) owner(s) of record of preserved mineral rights on the subject property and I, Brad Griffith, the applicant or applicant's representative, **have / have not** (circle one) provided the name and mailing address of record for any and all owners of mineral rights pursuant to Section 883.230 of the Civil Code.

Signature

1/8/20
Date

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
FILING FEES

In 1990, the State adopted a fee pursuant to AB 3158 for the review of environmental documentation by the State Department of Fish and Game. Subsequently, in 1991, the fees were challenged. Then, in June 1995, the Department of Fish and Game instructed the jurisdictions to stop collecting fees. Following a great deal of court action and in a memorandum dated February 26, 1996, the State Clearinghouse, Office of Planning and Research, stated that the fees must again be collected.

On September 29, 2006, Senate Bill 1535 was passed increasing the amounts of filing fees collected by the Department, and requires the Department to adjust the fees annually pursuant to Fish and Game Code Section 713.

As of January 1, 2020, State law requires all applicants who have a Notice of Determination filed for a Negative Declaration to pay a $2,406.75 fee and those with a Notice of Determination for an Environmental Impact Report to pay a $3,343.25 fee. Both types must pay an additional $50.00 administrative fee making the total fees $2,456.75 and $3,393.25 respectively. Applicants whose projects require the filing of a Notice of Exemption will need to pay a $50.00 administrative fee. The City will notify each applicant which of the fees must be paid.

PLEASE NOTE: Effective January 1, 2008, the fee exemption for projects determined to have a ***De Minimis Impact Finding*** has been eliminated. (Section 711.4 Fish and Game Code).

The Fish and Game filing fee must be paid prior to the filing of the Notice of Determination with the County Clerk. Since the CEQA law requires a Notice of Determination to be filed with the County within 5 days of an action by the City, all applicants must remit to the City the necessary fee amount *no later than* the day of the final scheduled public hearing for the proposed project.

PLEASE MAKE ALL CHECKS PAYABLE TO PLACER COUNTY.

If you have any questions regarding this matter, please do not hesitate to contact the Planning Department at (916) 625-5160. Upon review of the above, please sign and return this document with your application.

I, Brad Griffith, the applicant or applicant's representative, have read the information above and understand its meaning.

Signature

1/8/20
Date

HAZARDOUS WASTE AND SUBSTANCES STATEMENT

Pursuant to California Government Code Section 56962.5, I have consulted the Hazardous Waste and Substances Sites List (Cortese List), consolidated by the State of California, Environmental Protection Agency and find that;

The project, including any alternatives, _____is, ___X___is not (check which applies) located on a site which is included on the Hazardous Waste and Substances Sites List (Cortese List). If on the list, provide the following information:

Regulatory identification number:_____ Date of list:_____

Type of problem:_____

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct.

Dated: 1/9/20

Applicant: Brad Griffith

Applicants can verify this information by reviewing the Hazardous Waste and Substances Sites List (Cortese List), available for review at the City of Rocklin Planning Department counter, or at the California Department of Toxic Substance Control web site:
http://www.calepa.ca.gov/SiteCleanup/CorteseList/default.htm

MITIGATION FOR AIR QUALITY IMPACTS

The US Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established air quality standards, referred to as the National Ambient Air Quality Standards (NAAQS) and the State Ambient Air Quality Standards (SAAQS) respectively. The federal Clean Air Act and State Clean Air Act both require that areas in violation of the ambient air quality standards adopt strategies to attain these standards. The Placer County Air Pollution Control District (APCD) has primary responsibility for planning and maintenance and/or attainment of air quality standards within Placer County. California is divided into 15 air basins for the purpose of monitoring air quality. Placer County is included in the Sacramento Valley Air Basin. Areas may be classified as attainment, non-attainment, or unclassified with regard to the adopted standards. The unclassified designation is assigned in cases where monitoring data is insufficient to make a definitive determination. Under the federal standards, all of Placer County, including Rocklin, is designated as non-attainment for ozone. All other pollutants are designated unclassified in Rocklin. Under the state standards, South Placer, including Rocklin, is designated as non attainment for ozone and PM10 and unclassified for hydrogen sulfide and visibility reducing particulate.

The project would have the following short-term construction impacts, if not mitigated:

a. Construction activities, including grading, would generate a variety of pollutants, the most significant of which would be dust (PM10). This would exacerbate the existing PM10 non attainment condition if not mitigated.

b. Construction equipment would produce short-term combustion emissions, and asphalt materials used for streets and driveways would produce pollutants during curing.

The mitigation measures listed below will reduce the short term impacts to less-than-significant. In the long-term, vehicle trips to and from the project site would generate Carbon Monoxide and ozone precursor emissions, thereby contributing to the non-attainment status of the local air basin. These incremental and cumulative adverse air quality impacts cannot be completely mitigated. However, these impacts were anticipated by the City of Rocklin General Plan, and were addressed through the 1991 Rocklin General Plan EIR and the North Rocklin Circulation and Traffic Study. Findings of overriding significance were adopted for the unmitigatable and unavoidable significant air quality impacts.

Therefore, I, as the applicant for the proposed project, agree that the mitigation measures listed below are incorporated as a part of my project description in order to mitigate for the short term impacts.

MITIGATION FOR AIR QUALITY IMPACTS (CONT.)

MITIGATIONS

1. The project shall conform with the requirements of the Placer County APCD.
2. Prior to commencement of grading, the applicant shall submit a dust control plan for approval by the City Engineer and the Placer County Air Pollution Control District. The plans shall specify measures to reduce dust pollution during all phases of construction.
3. Traffic speeds on all unpaved road surfaces shall be posted at 25 m.p.h. or less.
4. All grading operations shall be suspended when wind speeds exceed 25 m.p.h.
5. All trucks leaving the site shall be washed off to eliminate dust and debris.
6. All construction equipment shall be maintained in clean condition.
7. All exposed surfaces shall be revegetated as quickly as feasible.
8. If fill dirt is brought to the construction site, tarps or soil stabilizers shall be placed on the dirt piles to minimize dust problems.
9. Apply water or dust palliatives on all exposed earth surfaces as necessary to control dust. Construction contracts shall include dust control treatment as frequently as necessary to minimize dust.
10. Construction equipment shall be properly maintained and tuned.
11. Utilize low emission mobile construction equipment where possible.
12. Open burning of vegetative material is prohibited.

Brad Griffith
Applicant's Name (printed)

Applicant's Signature — 1/8/20 Date

City of Rocklin

Planning Division
3970 Rocklin Road
Rocklin, California 95677
Phone (916) 625-5160 FAX (916) 625-5195

ENVIRONMENTAL INFORMATION SHEET
(To be completed by applicant)

LOCATION OF PROJECT (ADDRESS) 5255 Pacific St.

ASSESSORS PARCEL # 010-170-026

NAME OF PROJECT The Quarry (BIG gun site)

CONTACT/APPLICANT Brad Griffith

ADDRESS 5800 Stanford Ranch Road, Suite 210, Rocklin CA 95675

PHONE 916.435.4180 **EMAIL** bradg@brentwooddev.com

Project Description - Describe in detail. Add separate sheet if necessary.
"The Quarry" will be a horizontal mixed use development with two (retail only buildings along Pacific Street, a public market w/ 13 small vendors @ approx. 300 sq. ft. each and a events space on the second floor. The 4th building is a 3 story walk up apartment building with 22 one & two bedroom units with leasing and clubhouse amenities on the ground floor.

Property size: 147434 S.F. (Square Feet) 3.38 Acres (Acres)

Land Use: Existing PD C-4 vacant lot Proposed PD C-4

RELATED PROJECTS: If this project is a part or portion of a larger project, describe the previous project by name, general development plan number, or other project identification. Quarry Park Adventures (adjacent) within Quarry District

PREVIOUS ENVIRONMENTAL DOCUMENTS: If this project is part of a larger project for which a negative declaration or an environmental impact report has been prepared and certified, reference the document below. Include the date and SCH#, if possible: N/A

OTHER REQUIRED PERMITS OR APPROVALS:

Permit or Approval	Agency	Address	Contact Person/Phone
building permits (pending)	City of Rocklin		

PREVIOUS LAND USES: Describe existing and previous land uses of the site for the last 10 years or more: formerly the Big Gun Quarry

MITIGATION FOR AIR QUALITY IMPACTS (CONT.)

MITIGATIONS

1. The project shall conform with the requirements of the Placer County APCD.
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10. Construction equipment shall be properly maintained and tuned.
11. Utilize low emission mobile construction equipment where possible.
12. Open burning of vegetative material is prohibited.

Brad Griffith
Applicant's Name (printed)

Applicant's Signature

1/8/20
Date

SITE CHARACTERISTICS

1. What natural features (trees, rock outcroppings etc.) presently exist on the site?
   Rock outcroppings and tree per arborist report. See arborist Report for more information

2. What are the surrounding land uses?

   East PD C-4 West C-4 North PD C-4 South PD C-4

3. Is the project proposed on land which contains fill or a slope of 10% or more? Yes

4. Are there any existing erosion problems? NO

5. Is the site on expansive soils (as defined in Table 18 of the UBC) or immediately adjoining an area subject to slides, liquefaction, slope instability or other related hazards? NO
   If so, describe in detail, or refer to attached soils report.

6. Grading, excavating or filling activities - Quantity of cubic yards to be:

   a. Moved within the site 6,000 cubic yards

   b. Deposited on the site 1,500 cubic yards

   c. Removed from the site Ø

   Disposal site N/A

7. Are there any streams or permanent water courses on the site? NO
   Describe

8. Will the proposed project change drainage patterns or the quality of groundwater?
   If so explain. If not, why not. NO

9. Will the project affect any drainage channel, creek, pond or any other water body?
   Describe below: NO

10. Is any portion of the property located in a flood plain? NO
If so describe

11. Are there any jurisdictional wetlands or vernal pools on the site? If so how will they be impacted by the project? NO

12. Are there any trees or shrubs on the project site? YES, trees per arborist report
What types? Blue Oak, Int Live Oak, Cork Oak, Blue Gum, grey pine, black Locust
Are any to be removed or transplanted? No transplants 15 to be remove per report.
State the location of transplant site: no transplants
State the number & species to be removed: Quercus douglasii (2 removed) Quercus (7 removed) Eucalyptus globulus (1 removed) pinus Sabiniana (3 removed) Wislizeni

13. Will the project affect the habitat of any endangered, threatened, or other special status species?
This project doesn't have any special status species. The Blue Oak Interior Live Oak & Cork Oak trees that are impacted by the proposed development, the arborist report provided protection notes for those trees.

14. Will the project result in any new noise source, or will it place new residents in an area of high traffic noise or noise from any other source? refer to noise report for existing noise no new noise anticipated. (retail/residen

15. What type of equipment will be associated with the project during construction?
grading and or scrapers (dirt moving) trucking, excavators, compactors, possible manlift, forklifts.
During permanent operation? elevator and HVAC equipment.

16. Describe any air pollutants, other than vehicle exhaust, which would be generated by this project, both during and after construction. Dust particulates are considered pollutants.
dust during site and construction operations. will be mitigated with water.

17. Will the project produce new sources of dust, ash, smoke, fumes or objectionable odor? If yes, describe the source of the emission, methods to control emissions and means of mitigating those effects on adjacent properties: during construction and thrugh any cooking in the preparation of food

18. Will the project create any new light source, other than street lighting? If yes, describe below:
interior and exterior building lighting, parking lot lighting

19. Is this property covered by a Williamson Act contract? NO

20. Has this property ever been used for agricultural purposes? NO If so, for what purpose and when?

21. Does the project involve the use of routine transport or disposal of hazardous materials?
NO

22. Are there any known mineral resources of value to the region and the residents of the state located on the site? If so, what types? NO

23. How close is the nearest school? .5 miles Springview Middle School

24. PROPOSED BUILDING CHARACTERISTICS (BOTH RESIDENTIAL AND NON-RESIDENTIAL)
Size of new structure(s) or addition in gross square feet: 50,850 sq. ft.
Building height measured from ground to highest point in feet: 42'-9"
Number of floors/stories: 1 to 3 stories
Height of other appurtenances (antennas, steeples, mechanical equipment, etc.) measured from ground: retail Sign tower 39'-6"
Project site coverage: Building 31,179 sq.ft. 21 %
Landscaping 32,724 sq.ft. 22 %
Paving 82,808 sq.ft. 57 %
Exterior building materials: plaster, fiber cement siding, metal panel, thin brick
Exterior building colors: brick red, tan, cream, dark grey, white, black
Wall and/or fencing material: black tube steel @ rear property line
Total number of off-street parking spaces required: 190 Provided: 210
Total number of bicycle parking spaces: 21

composite shingle roofing, Metal roofing.

25. Is there any exposed mechanical equipment associated with the project? ROOFTOP
Location and screening method MECHANICAL EQUIPMENT SCREENED BY ROOF.

26. RESIDENTIAL PROJECTS
Total lots 1 Total dwelling units 22
Density/acre 6.53 Total acreage 3.37

	Single Family	Two Family	Multi-Family (More than 2 units)
Number of Units			22
Size of lot/unit			
Studio			–
1 Bedroom			12
2 Bedroom			10
3 Bedroom			–
4+ Bedroom			–

27. RETAIL, COMMERCIAL, INDUSTRIAL, INSTITUTIONAL OR OTHER PROJECT
Type of use(s): Retail, Public Market, Residential
Oriented to: Regional City retail/market Neighborhood residential
Hours of operation: 10a - 6p TBD
Total occupancy/Building capacity: 2,940
Gross floor area: 28,100 Number of fixed seats: Ø
Number of employees (total): 40 Employees per shift: 25 Number of Shifts 2
Number of visitors/customers on site at busiest time (best estimate): 150
Other occupants (specify): N/A

ALL PROJECTS

28. Approximately how many tons of solid waste will the project produce each year? TBD
Kelsey to hear back from Recology

29. Will the proposed use involve any toxic or hazardous material? No
Is the project site within 2,000 feet of an identified hazardous/toxic site? No
Is the project site within 2,000 feet of a school or hospital? No
If the project involves any hazardous material, explain: _____

30. How many new residents is the project estimated to generate? 22 units w/ 32 bedrooms

31. Will the project generate a demand for additional housing? adding retail jobs while also providing housing

32. What is the current and estimated number of motor vehicles to arrive at the site as a result of the project? 210 parking stalls provided, refer to traffic study

33. Could the project increase traffic hazards to motor vehicles, bicyclists or pedestrians? NO
If yes, explain _____

34. How close is the project to the nearest public park or recreation area? Quarry Park & Quarry Adventure park adjacent

35. What school districts will be affected by this project? Rocklin Unified School District

36. Describe energy-efficient features included in the project. solar offset per CEC code will have on site electrical generation

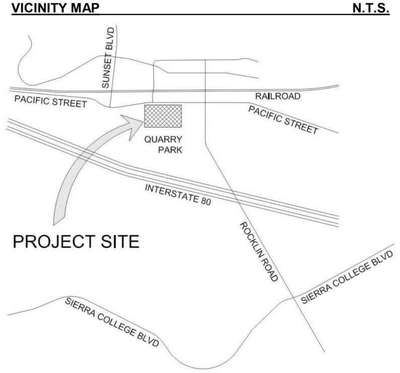
37. Describe how the following services or utilities will be provided:
Power and Natural Gas PG+E
Telephone AT&T
Water PCWA
Sewer SPMUD
Storm Drainage City of rocklin
Solid Waste recology

38. Will the project block any vista or view currently enjoyed by the public? No

39. Are there any known historic or significant building features on or near the site? If so, will the project result in any impact to the building? the remains of the Big Gun Quarry have been removed.

40. Are there any archaeological features on the site? No If so, will the project result in any impact to these features? refer to cultural study

VICINITY MAP **N.T.S.**



PROJECT TEAM

OWNER / DEVELOPER:

BRENTWOOD DEVELOPMENTS
5800 STANFORD RANCH ROAD, STE 210
ROCKLIN, CA 95765
CONTACT: KELSEY MAGNESS
916.435.4180 x207
KELSEYM@BRENTWOODDEV.COM

ARCHITECT:

LPAS ARCHITECTURE + DESIGN
2484 NATOMAS PARK DRIVE, SUITE 100
SACRAMENTO, CA 95833

CONTACT: CHRIS KELLY
916.443.0335
CKELLY@LPAS.COM

LANDACAPE ARCHITECT:

LPAS ARCHITECTURE + DESIGN
2484 NATOMAS PARK DRIVE, SUITE 100
SACRAMENTO, CA 95833

CONTACT: MICHAEL MILLETT
916.443.0335
MMILLETT@LPAS.COM

CIVIL ENGINEER:

CARTWRIGHT NOR CAL
1700 ALHAMBRA BLVD, SUITE 102
SACRAMENTO, CA 958165

CONTACT: MIKE MICHEELS
916.978.4001
MIKEM@CARTWRIGHT-AEC.COM

SHEET INDEX:

LPAS Architecture + Design

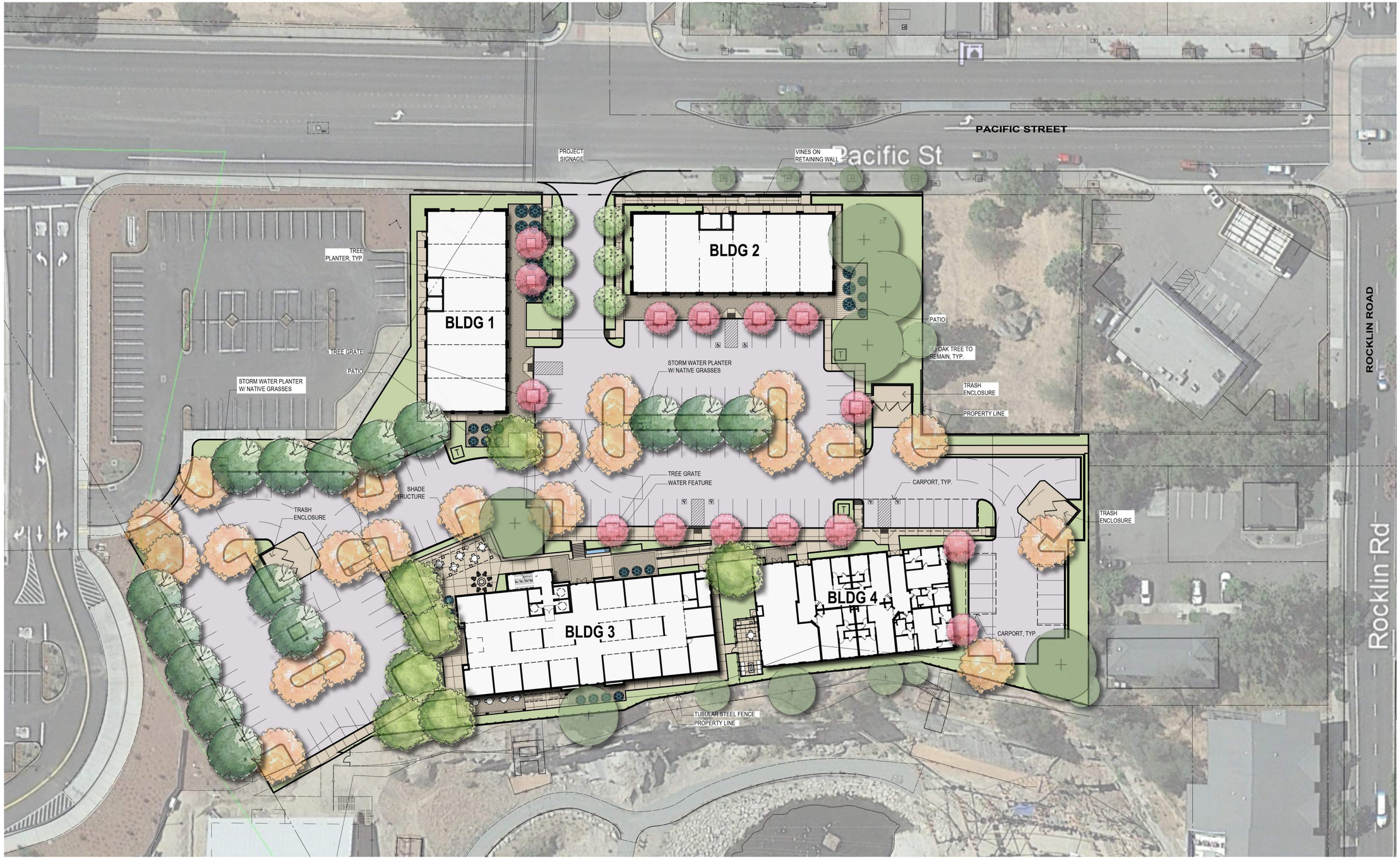
COVER SHEET

THE QUARRY | ROCKLIN, CA

A00

PROJECT NO. 1346-0001

12/20/19



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SCALE: 1" = 30'-0" FT

LPAS
Architecture + Design

COLOR SITE PLAN

QUARRY FLATS | ROCKLIN, CA

A01

PROJECT NO. 1346-0001

01/07/2020

LPAS
Architecture + Design

BUILDINGS ONE AND TWO RENDERING

THE QUARRY | ROCKLIN, CA

A02

PROJECT NO. 1346-0001

12/20/19

LPAS
Architecture + Design

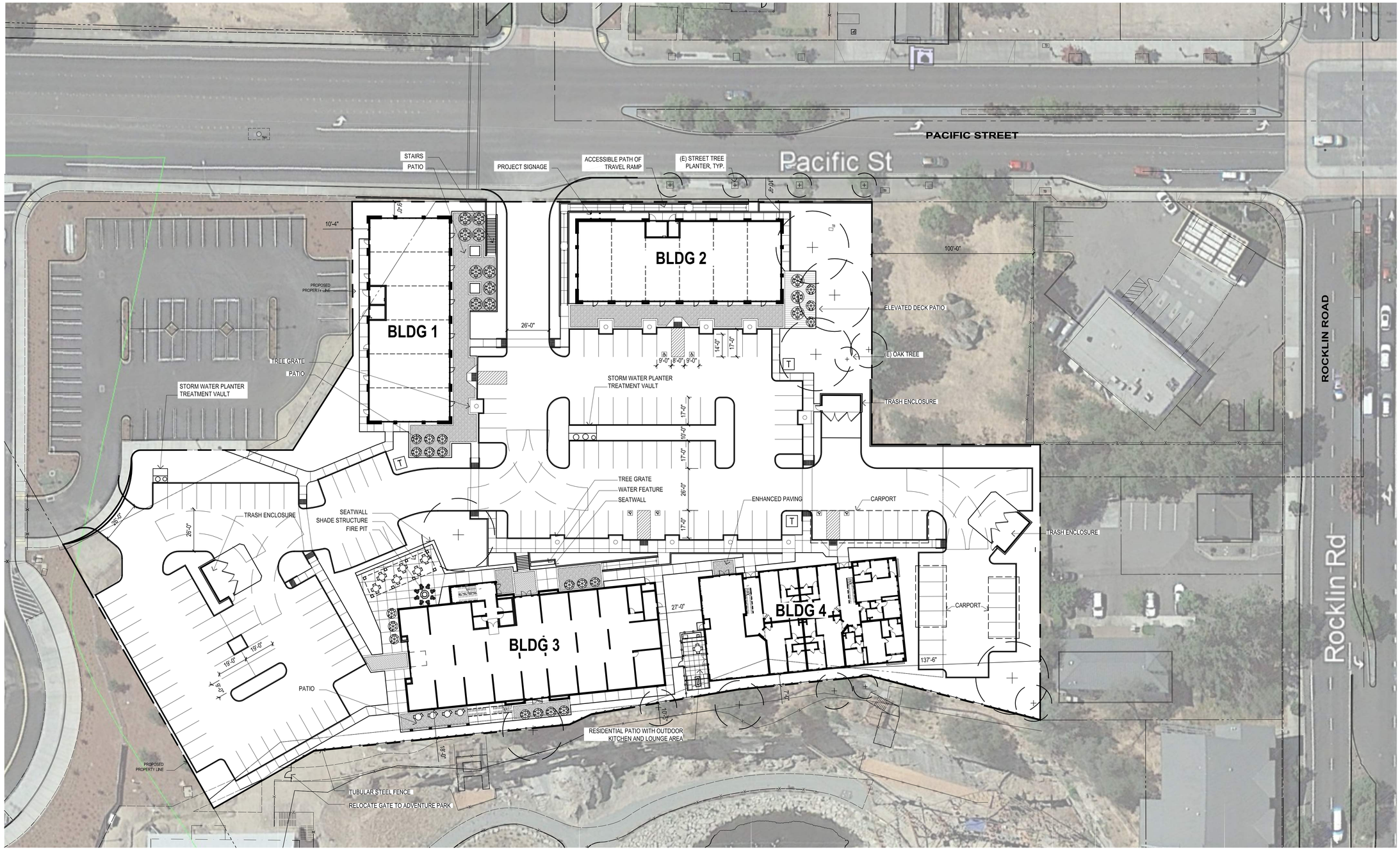
PUBLIC MARKET / BUILDING FOUR RENDERING

THE QUARRY | ROCKLIN, CA

A03

PROJECT NO. 1346-0001

12/20/19



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SCALE: 1" = 30'-0" FT

LPAS
Architecture + Design

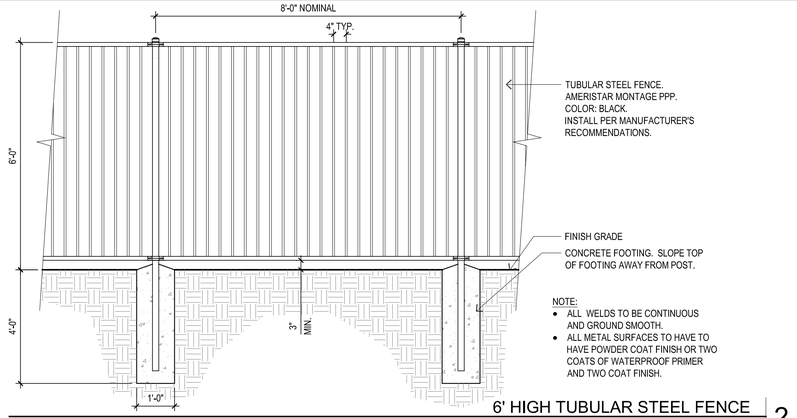
SITE PLAN

QUARRY FLATS | ROCKLIN, CA

A04

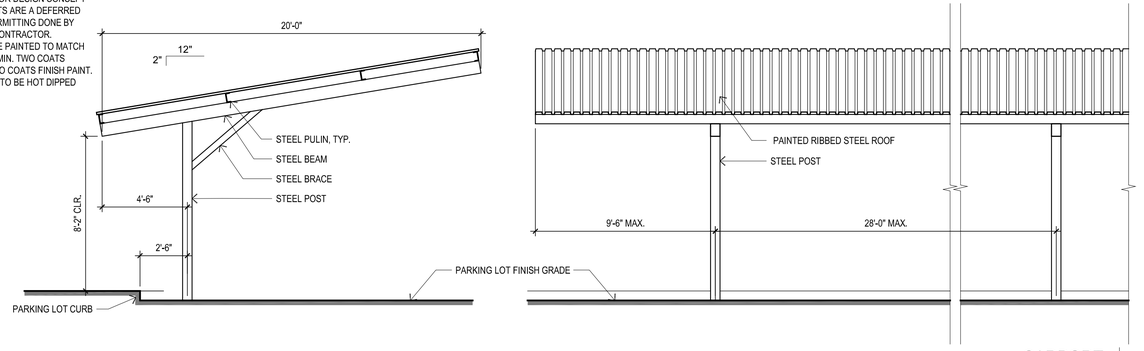
PROJECT NO. 1346-0001

01/07/2020

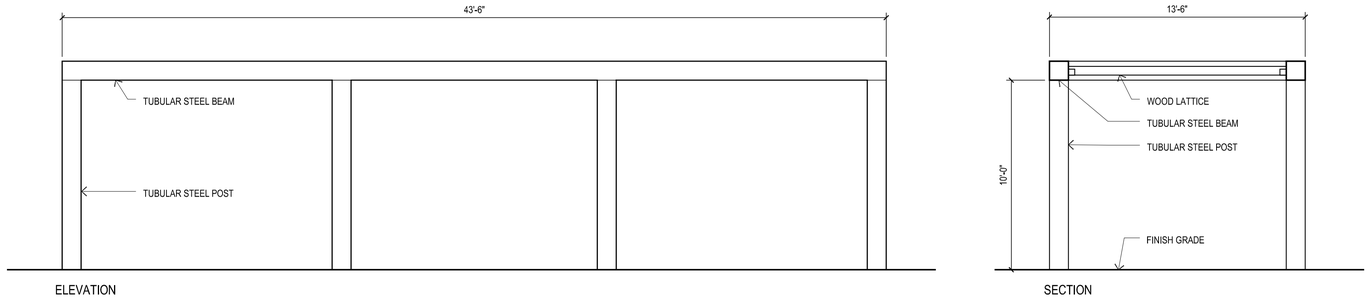


6' HIGH TUBULAR STEEL FENCE 2
1/2" = 1'-0"

NOTES:
- DETAILS AREA FOR DESIGN CONCEPT ONLY. CARPORTS ARE A DEFERRED SUBMITTAL. PERMITTING DONE BY DESIGN BUILD CONTRACTOR.
- ALL STEEL TO BE PAINTED TO MATCH BUILDING WITH MIN. TWO COATS PRIMER AND TWO COATS FINISH PAINT.
- ALL HARDWARE TO BE HOT DIPPED GALVANIZED.



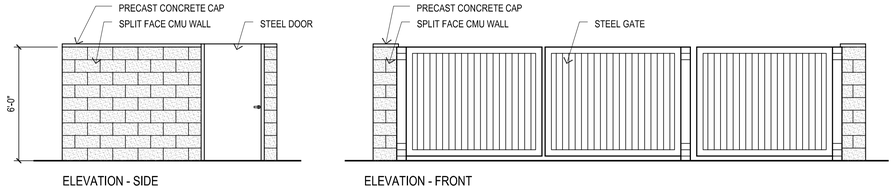
CARPORT 1
z1346-0001_sp
1/4" = 1'-0"



ELEVATION

SECTION

SHADE STRUCTURE 3
z1346-0001_sp
1/4" = 1'-0"



ELEVATION - SIDE

ELEVATION - FRONT

TRASH ENCLOSURE 4
z1346-0001_sp
1/4" = 1'-0"

LPAS
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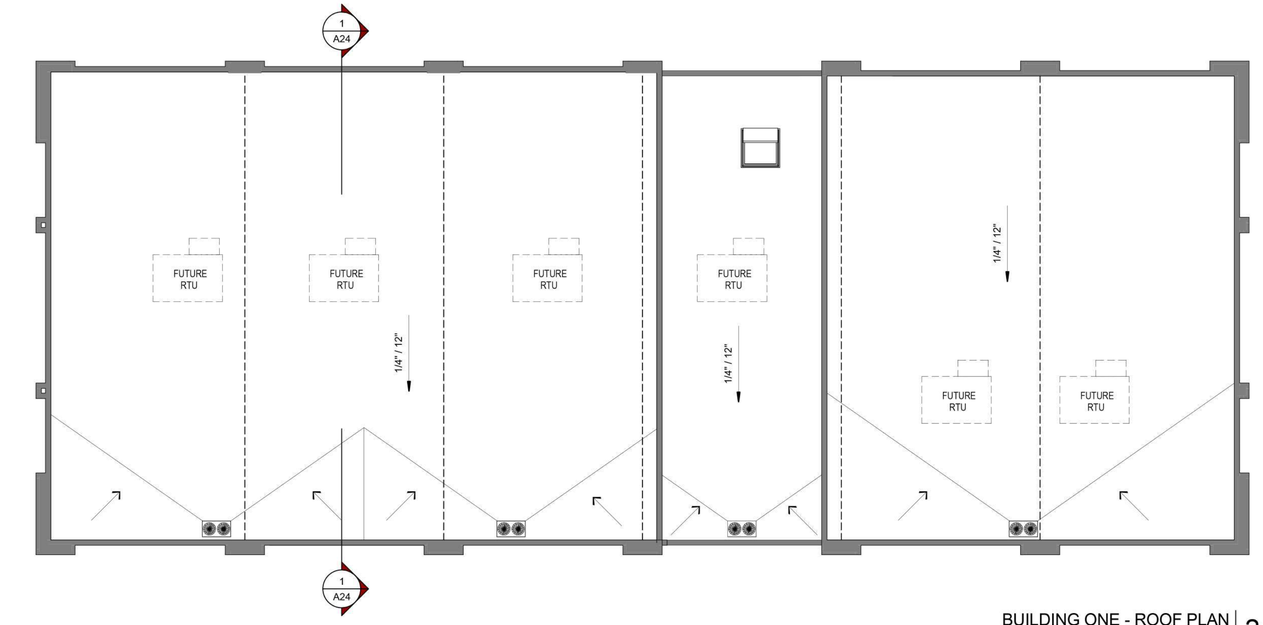
SITE DETAILS

QUARRY FLATS | ROCKLIN, CA

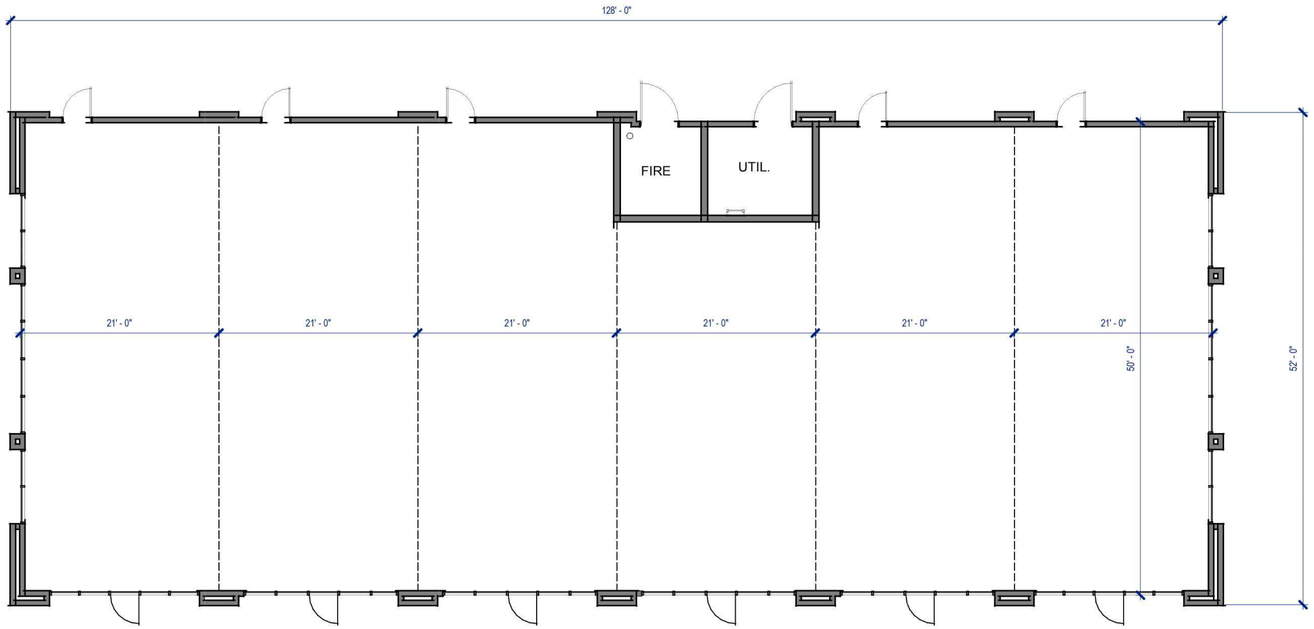
A05

PROJECT NO. 1346-0001

01/07/2020



BUILDING ONE - ROOF PLAN 2
1/8" = 1'-0"



BUILDING ONE - FIRST FLOOR PLAN 1
1/8" = 1'-0"

0 4 8 12
FT
SCALE: 1/8"=1'-0"

LPAS
Architecture + Design

BUILDING ONE FLOOR / ROOF PLANS

FIRST FLOOP PLAN / ROOF PLAN

THE QUARRY | ROCKLIN, CA

A06

PROJECT NO. 1346-0001

12/20/19

LPAS
Architecture + Design

BUILDING ONE PERSPECTIVE RENDERINGS

ELEVATION PERSPECTIVES

THE QUARRY | ROCKLIN, CA

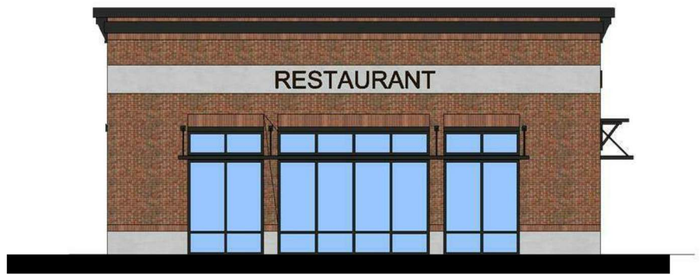
A07

PROJECT NO. 1346-0001

12/20/19

RIGHT ELEVATION

REAR ELEVATION



LEFT ELEVATION

FRONT ELEVATION

0 4 8 12
FT
SCALE: 1/8"=1'-0"

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Architecture + Design

BUILDING ONE EXTERIOR ELEVATIONS

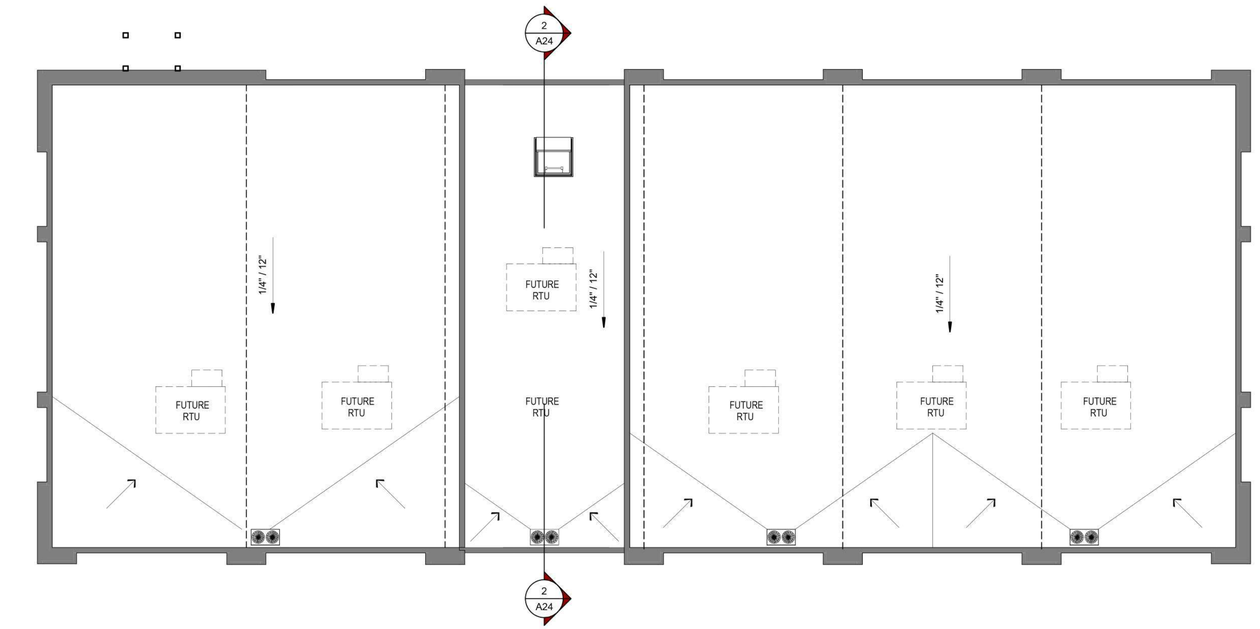
EXTERIOR ELEVATIONS

THE QUARRY | ROCKLIN, CA

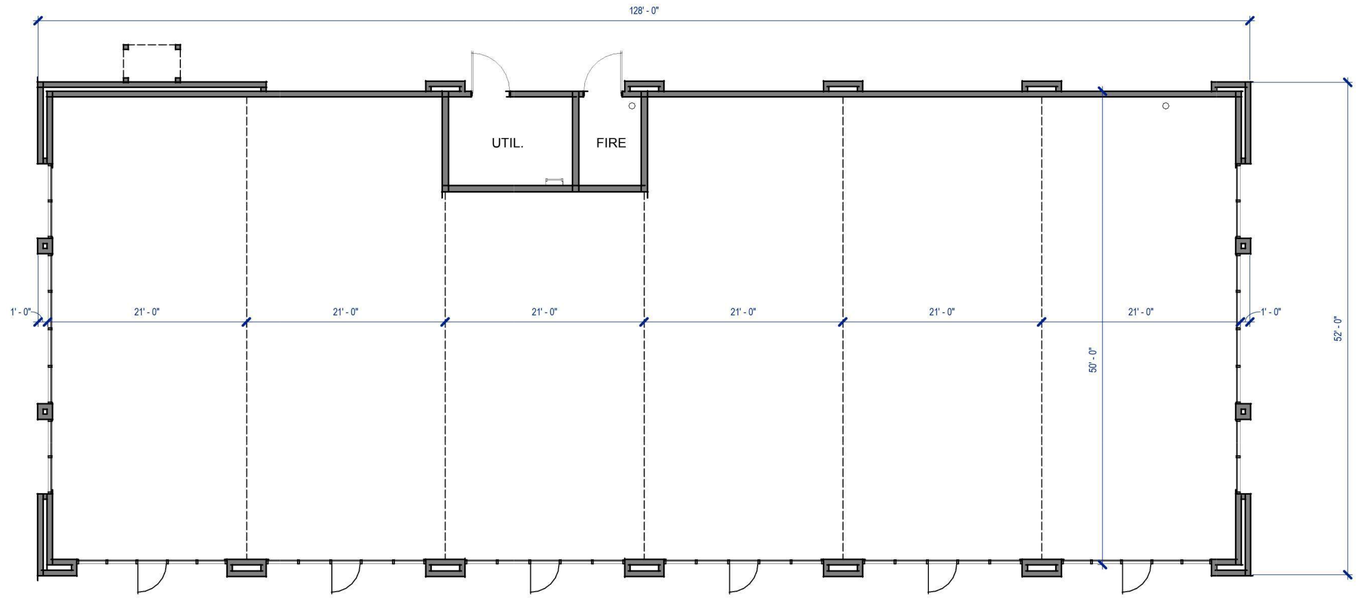
A08

PROJECT NO. 1346-0001

12/20/19



BUILDING TWO - ROOF PLAN
1/8" = 1'-0" | 2



BUILDING TWO - FIRST FLOOR PLAN
1/8" = 1'-0" | 1

0 4 8 12 FT
SCALE: 1/8"=1'-0"

LPAS
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BUILDING TWO FLOOR / ROOF PLANS

FIRST FLOOR PLAN / ROOF PLAN

THE QUARRY | ROCKLIN, CA

A09

PROJECT NO. 1346-0001

12/20/19

NORTH

EAST

WEST

SOUTH

LPAS
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BUILDING TWO PERSPECTIVE RENDERINGS

ELEVATION PERSPECTIVES

THE QUARRY | ROCKLIN, CA

A10

PROJECT NO. 1346-0001

12/20/19

RIGHT ELEVATION

REAR ELEVATION

LEFT ELEVATION

FRONT ELEVATION

0 4 8 12
SCALE: 1/8"=1'-0" FT

LPAS
Architecture + Design

BUILDING TWO EXTERIOR ELEVATIONS

EXTERIOR ELEVATIONS

THE QUARRY | ROCKLIN, CA

A11

PROJECT NO. 1346-0001

12/11/19

PUBLIC MARKET RENTABLE SPACES:

SPACE	SQ. FT.	SIZE
1	298	17'-6" x 17'-0"
2	452	26'-7" x 17'-0"
3	298	17'-6" x 17'-0"
4	298	17'-6" x 17'-0"
5	298	17'-6" x 17'-0"
6	240	12'-0" x 20'-0"
7	240	12'-0" x 20'-0"
8	308	17'-6" x 17'-7"
9	298	17'-6" x 17'-0
10	298	17'-6" x 17'-0"
11	298	17'-6" x 17'-0"
12	298	17'-6" x 17'-0"
13	298	17'-6" x 17'-0"
14	240	12'-0" x 20'-0"
15	240	12'-0" x 20'-0"
16	298	17'-6" x 17'-0"
17	298	17'-6" x 17'-0"
	4,998	

PUBLIC MARKET - FIRST FLOOR PLAN
1/8" = 1'-0" | 1

0 4 8 12 FT

LPAS Architecture + Design

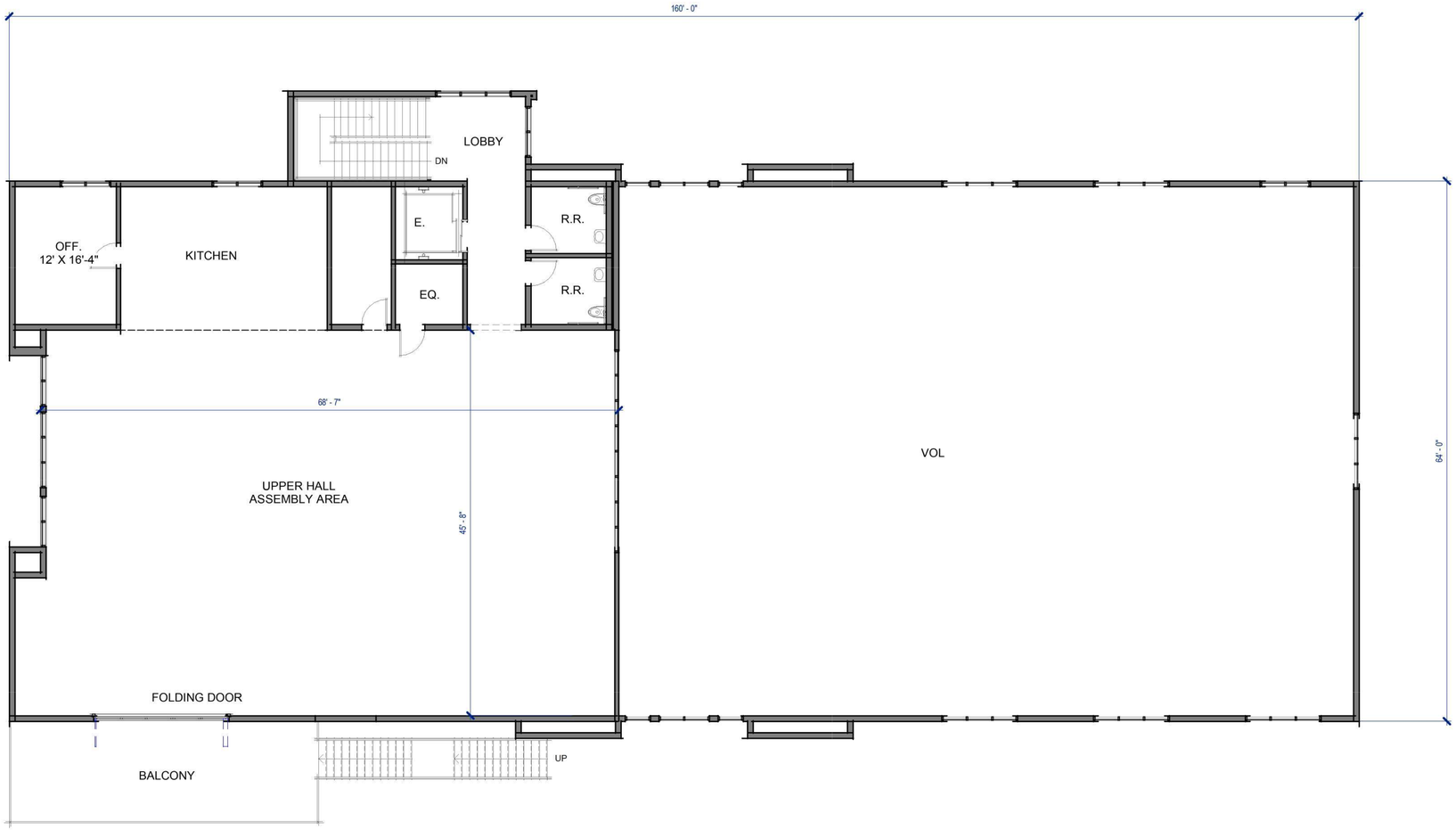
PUBLIC MARKET PLANS

FIRST FLOOR PLAN

THE QUARRY | ROCKLIN, CA | A12

PROJECT NO. 1346-0001

12/20/19



PUBLIC MARKET - SECOND FLOOR PLAN | 1
1/8" = 1'-0"

0 4 8 12
FT

LPAS
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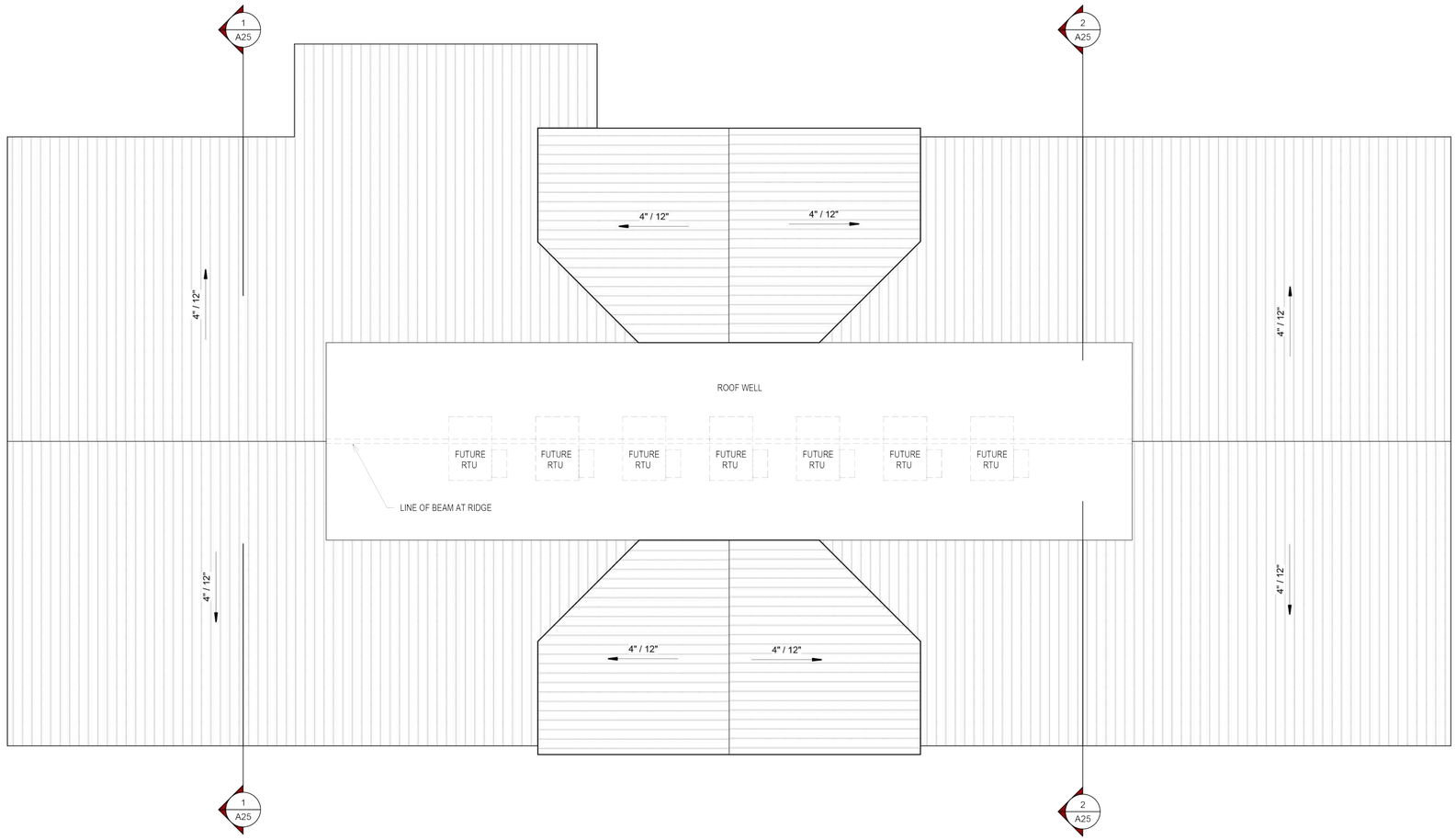
PUBLIC MARKET PLANS
SECOND FLOOR PLAN

THE QUARRY | ROCKLIN, CA

A13

PROJECT NO. 1346-0001

12/20/19



PUBLIC MARKET - ROOF PLAN 1
1/8" = 1'-0"

0 4 8 12
FT

LPAS
Architecture + Design

PUBLIC MARKET PLANS
ROOF PLAN

THE QUARRY | ROCKLIN, CA

A14

PROJECT NO. 1346-0001

12/20/19

SOUTH

WEST

EAST

NORTH WEST

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PUBLIC MARKET ELEVATION

CONCEPTUAL ELEVATION PERSPECTIVES

THE QUARRY | ROCKLIN, CA

A15

PROJECT NO. 1346-0001

12/20/19

REAR ELEVATION

LEFT ELEVATION

RIGHT ELEVATION

FRONT ELEVATION

0 4 8 12
FT
SCALE: 1/8"=1'-0"

LPAS
Architecture + Design

PUBLIC MARKET ELEVATIONS

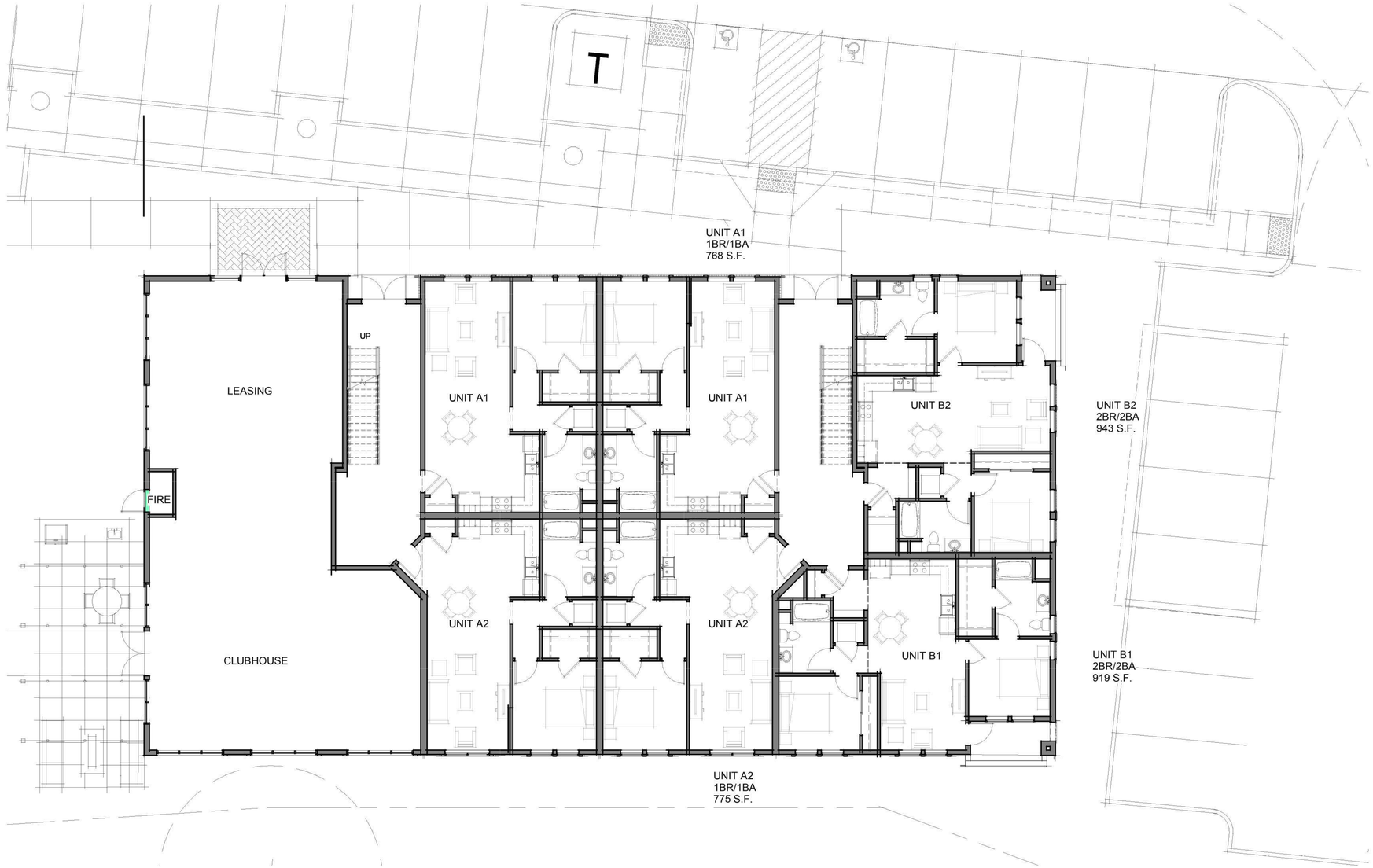
EXTERIOR ELEVATIONS

THE QUARRY | ROCKLIN, CA

A16

PROJECT NO. 1346-0001

12/20/19



BUILDING FOUR - FIRST FLOOR PLAN | 2
1/8" = 1'-0"

0 4 8 12
FT

LPAS
Architecture + Design

BUILDING FOUR PLANS

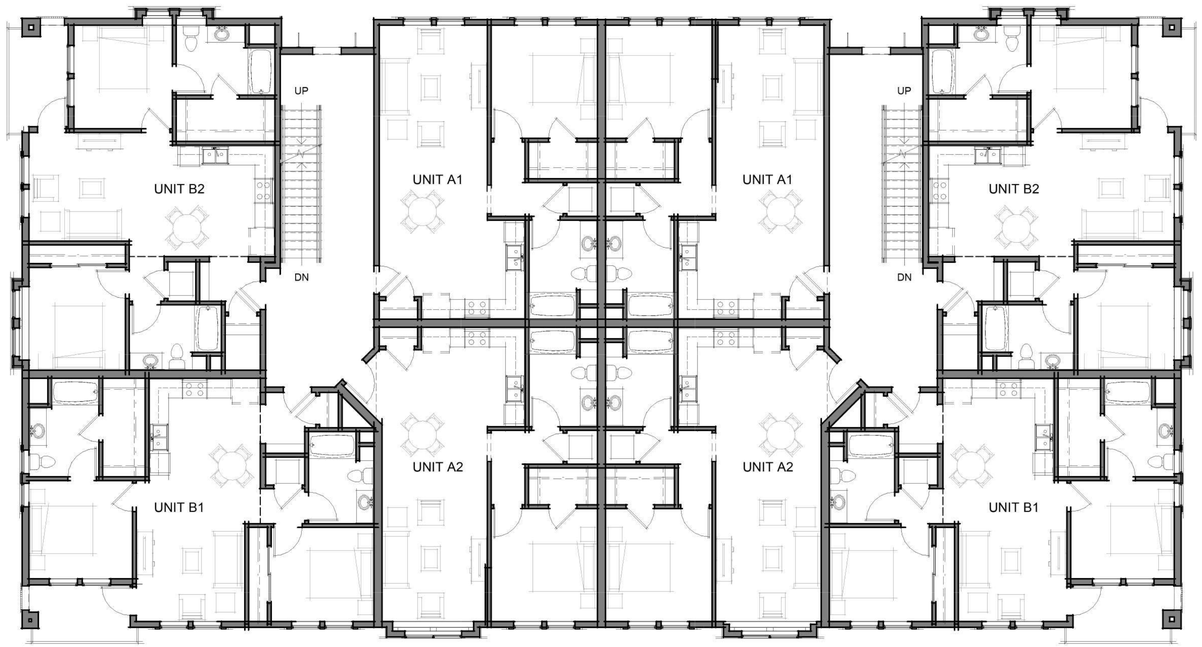
FIRST FLOOR PLAN

THE QUARRY | ROCKLIN, CA

A17

PROJECT NO. 1346-0001

12/20/19



BUILDING FOUR - SECOND FLOOR PLAN | 1
1/8" = 1'-0"

0 4 8 12
FT

LPAS
Architecture + Design

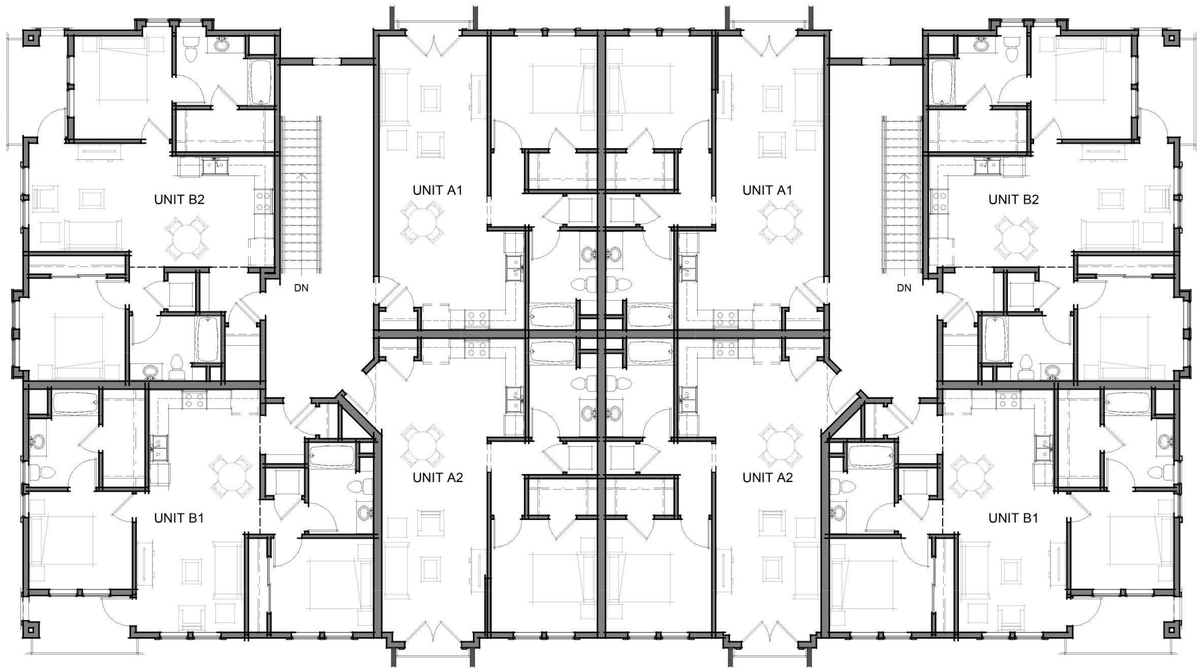
BUILDING FOUR PLANS
SECOND FLOOR PLAN

THE QUARRY | ROCKLIN, CA

PROJECT NO. 1346-0001

A18

12/20/19



BUILDING FOUR - THIRD FLOOR PLAN 1
1/8" = 1'-0"

0 4 8 12
FT

LPAS
Architecture + Design

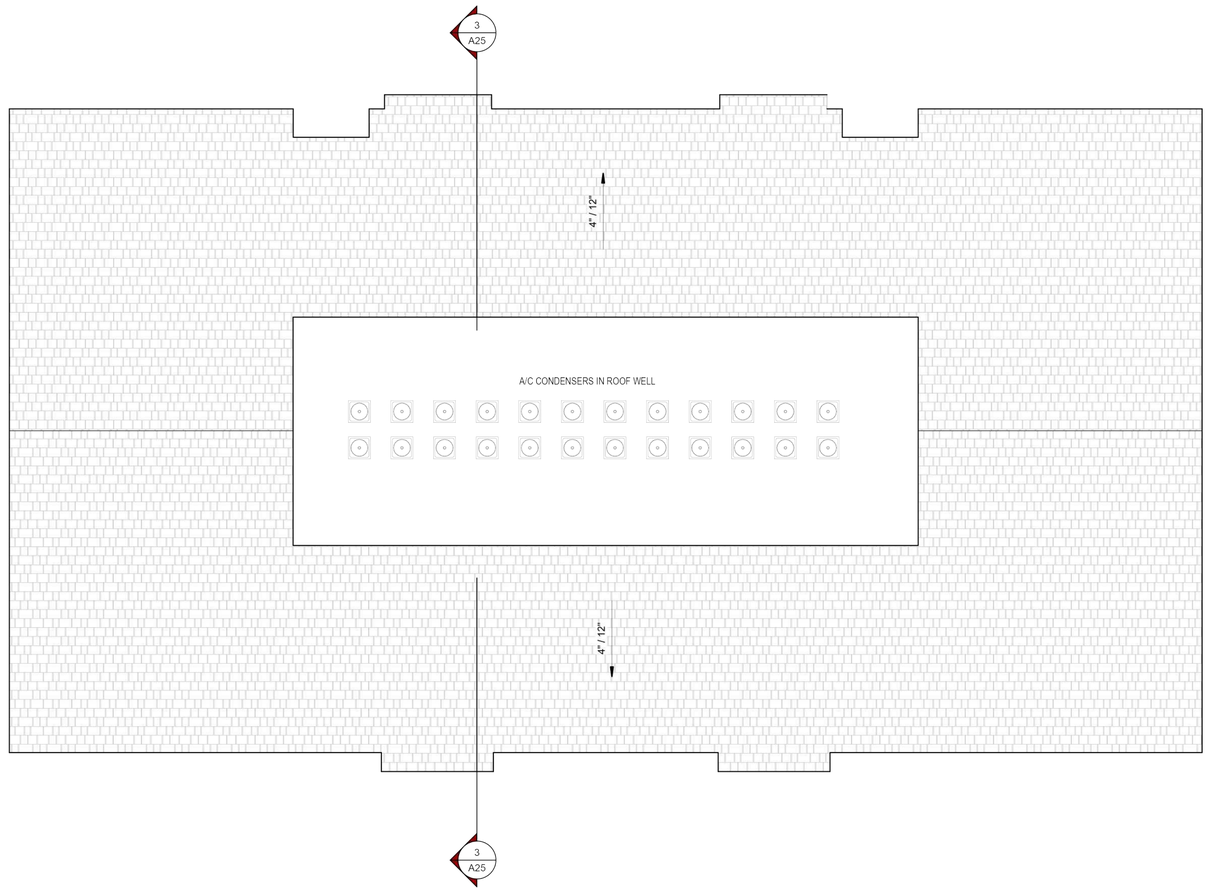
BUILDING FOUR PLANS
THIRD FLOOR PLAN

THE QUARRY | ROCKLIN, CA

A19

PROJECT NO. 1346-0001

12/20/19



BUILDING FOUR ROOF PLAN 1
1/8" = 1'-0"

0 4 8 12
FT

LPAS
Architecture + Design

BUILDING FOUR PLANS

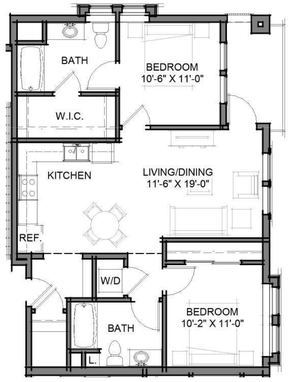
ROOF PLAN

THE QUARRY | ROCKLIN, CA

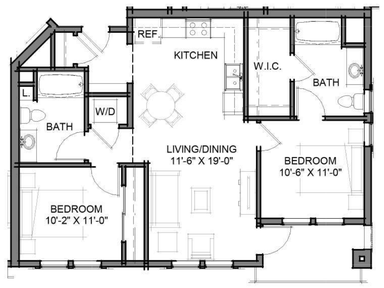
A20

PROJECT NO. 1346-0001

12/20/19



943 SQ. FT. | Unit B2 | 4
5 UNITS | 1/8" = 1'-0"



919 SQ. FT. | Unit B1 | 3
5 UNITS | 1/8" = 1'-0"

775 SQ. FT. | Unit A2 | 2
6 UNITS | 1/8" = 1'-0"

768 SQ. FT. | Unit A1 | 1
6 UNITS | 1/8" = 1'-0"

0 4 8 12 FT
SCALE: 1/8"=1'-0"

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ISH PROPERTIES FUND

BUILDING FOUR PLANS

UNIT PLANS

THE QUARRY | ROCKLIN, CA

A21

PROJECT NO. 1346-0001

12/20/19

SOUTH

WEST

NORTH

EAST

LPAS
Architecture + Design

BUILDING FOUR ELEVATIONS

CONCPTUAL ELEVATION PERSPECTIVES

THE QUARRY | ROCKLIN, CA

A22

PROJECT NO. 1346-0001

12/20/19

BUILDING 4 - SOUTH ELEVATION 4
1/8" = 1'-0"

BUILDING 4 - EAST ELEVATION 3
1/8" = 1'-0"

BUILDING 4 - NORTH ELEVATION 2
1/8" = 1'-0"

BUILDING 4 - WEST ELEVATION 1
1/8" = 1'-0"

0 2 4 6
FT

LPAS
Architecture + Design

BUILDING FOUR ELEVATIONS

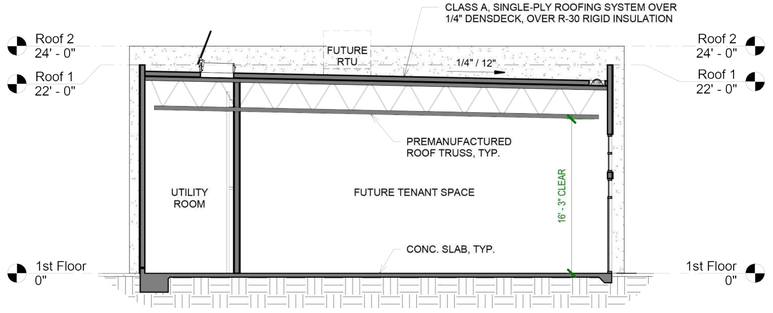
BUILDING ELEVATION

THE QUARRY | ROCKLIN, CA

A23

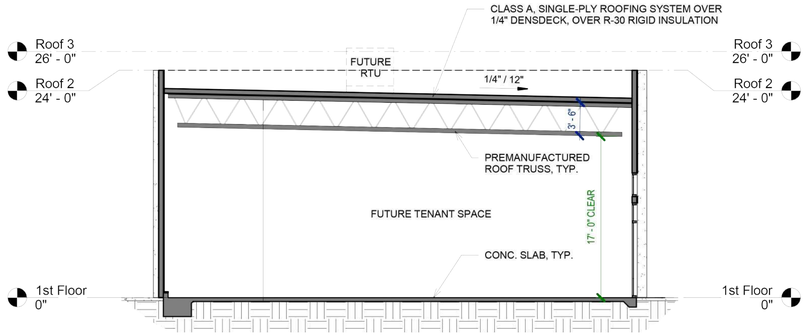
PROJECT NO. 1346-0001

12/20/19



BLDG 2 - SECTION 2 | 2

1/8" = 1'-0"



BLDG 1 - SECTION 2 | 1

1/8" = 1'-0"

0 4 8 12

FT

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

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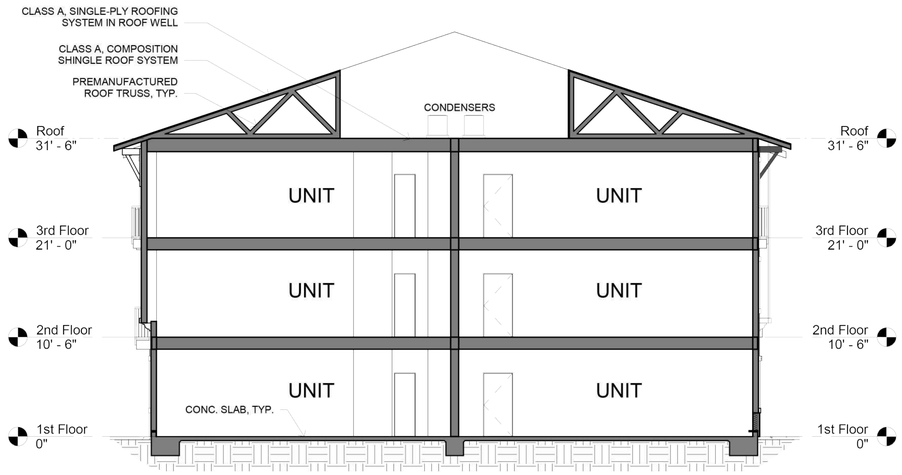
BUILDING SECTIONS

THE QUARRY | ROCKLIN, CA

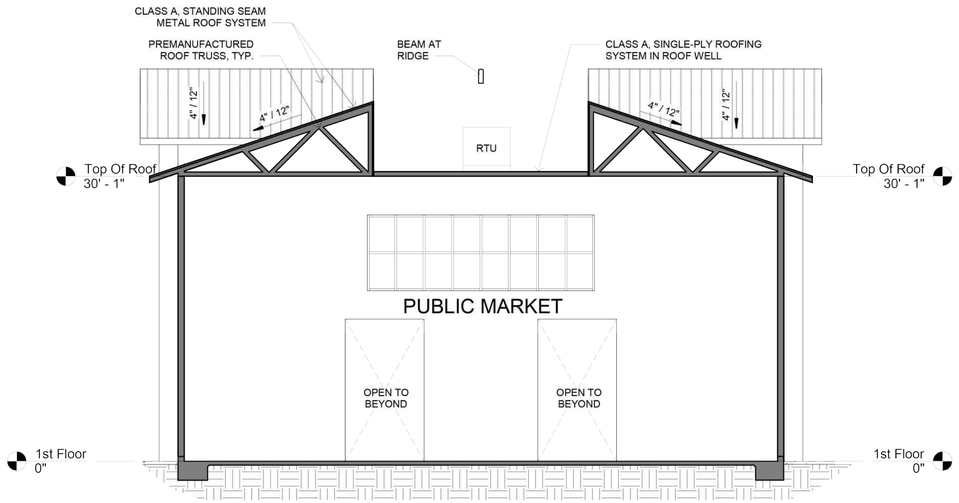
A24

PROJECT NO. 1346-0001

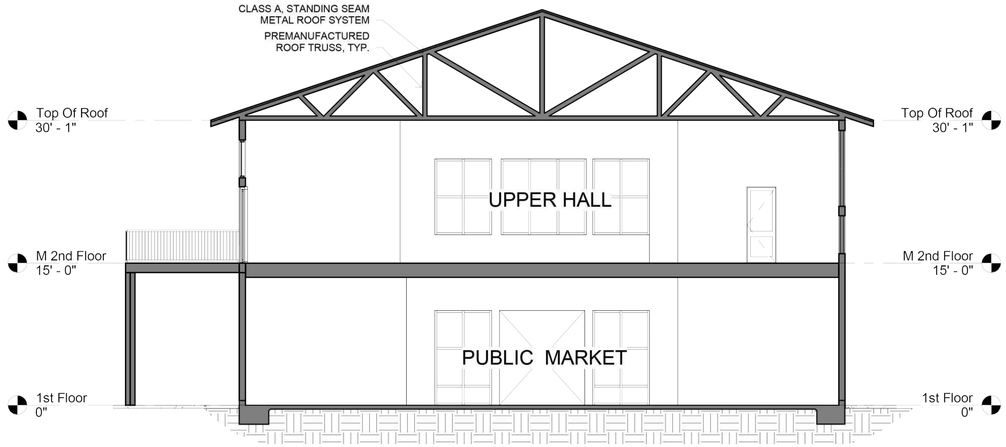
12/20/19



BUILDING FOUR - SECTION 2 | 3
1/8" = 1'-0"



PUBLIC MARKET - SECTION 3 | 2
1/8" = 1'-0"



PUBLIC MARKET - SECTION 1 | 1
1/8" = 1'-0"

0 4 8 12
FT

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Architecture + Design

BUILDING SECTIONS

THE QUARRY | ROCKLIN, CA | A25

PROJECT NO. 1346-0001

12/20/19

PUBLIC MARKET SIGNAGE:
18" TALL ILLUMINATED LETTERS MOUNTED TO TOP OF PROJECTED CANOPY

INDIVIDUAL TENANT SIGNAGE:
12" X 72" BLACK IRON PANEL WITH MAX 8" TALL LETTERS IN CONTRASTING COLOR

PUBLIC MARKET SIGN

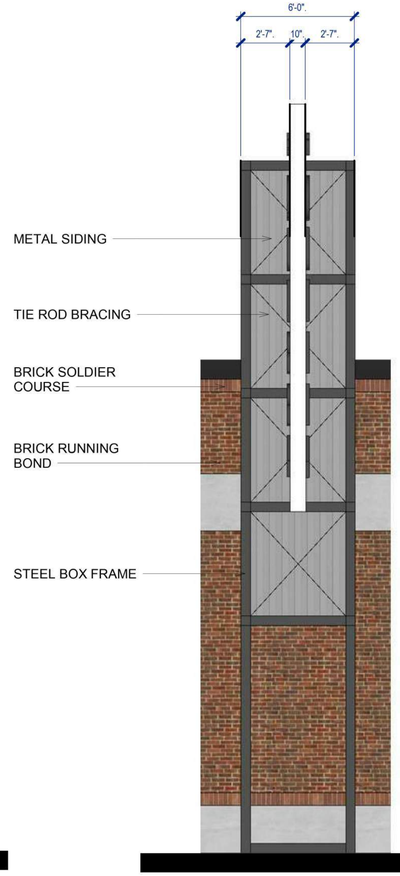
1/4" = 1'-0"

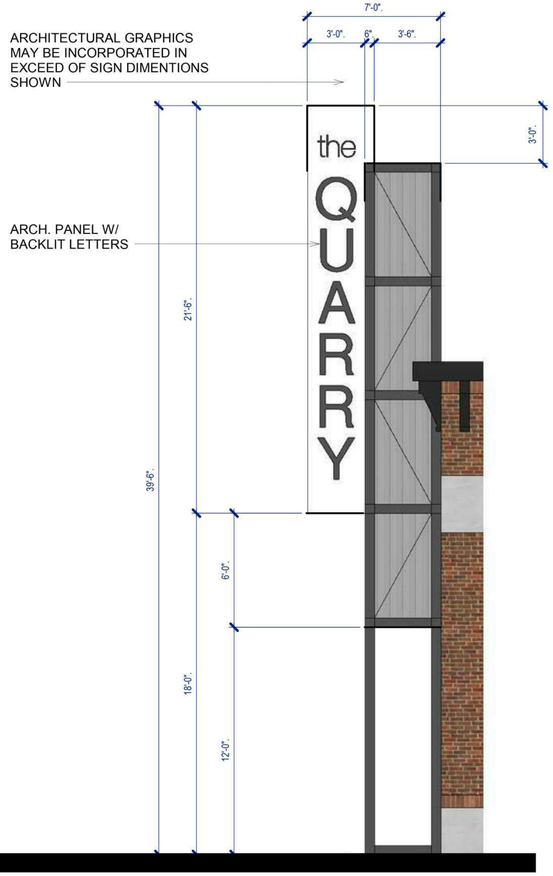
INDIVIDUAL TENANT SIGNAGE:

MAX. 2'-0" TALL WALL MOUNT LETTERING/LOGO
MAX SIGN WIDTH TO BE 80% OF LEASE FRONTAGE.
BACKLIT ILLUMINATED

SINGLE TENANT SIGN

1/4" = 1'-0"





PROJECT SIGN

1/4" = 1'-0"

0 2 4 6 FT
SCALE: 1/4"=1'-0"

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SIGNAGE

THE QUARRY | ROCKLIN, CA

A26

PROJECT NO. 1346-0001

12/20/19

THE QUARRY

12/9/2019

5255 PACIFIC STREET, ROCKLIN, CA

PROJECT DATA

SITE AREA	146,728 SF	PROJECT FAR	0.35
	3.37 ACRES	RESIDENTIAL NET DENSITY (DU/AC)	6.53
CURRENT ZONING			
PROPOSED ZONING		TOTAL PROJECT GROSS AREA	50,850 SF

BUILDING ONE		FLOOR 1		TOTAL AREA
BUILDING USE	COMMERCIAL			
CONSTRUCTION TYPE	VB			
GROSS BUILDING AREA		6,300		6,300 SF

BUILDING TWO		FLOOR 1		
BUILDING USE	COMMERCIAL			
CONSTRUCTION TYPE	VB			
GROSS BUILDING AREA		6,300		6,300 SF

PUBLIC MARKET				
BUILDING USE	COMMERCIAL			
CONSTRUCTION TYPE	VB			
		FLOOR 1	FLOOR 2	TOTAL AREA
GROSS BUILDING AREA		10,600	4,900	15,500 SF

TOTAL COMMERCIAL AREA	28,100 SF

COMMERCIAL PARKING	PARKING REQUIRED		
	0 TO 1,000 SF	5	SPACES
	ONE PER 200 ADDITIONAL SF	137	SPACES
	TOTAL PARKING REQUIRED	142	SPACES

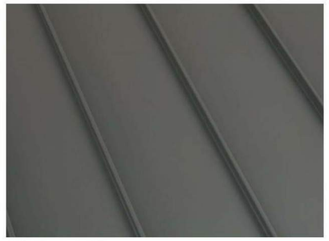
BUILDING FOUR	
BUILDING USE	RESIDENTIAL
BUILDING TYPE	VA
BUILDING AREA	22,750 SF

UNITS	SQ. FT.		FLOOR 1	FLOOR 2	FLOOR 3	TOTAL	NET RENTABLE
A1 1BR/1BA	768		2	2	2	6	4,608 SF
A2 1BR/1BA	775		2	2	2	6	4,650 SF
B1 2BR/2BA	919		1	2	2	5	4,595 SF
B2 2BR/2BA	943		1	2	2	5	4,715 SF
TOTAL UNITS	851	AVG.	6	8	8	22	18,568 SF
AMENITY AREA			1,962				1,962 SF
CIRCULATION			740	740	740		2,220 SF
GROSS BUILDING AREA							22,750 SF

TOTAL PROJECT FLOOR AREA	50,850

BUILDING FOUR PARKING	PARKING REQUIRED			
	1BR	1.5 SPACES	18	SPACES
	2BR	2.0 SPACES	20	SPACES
	GUEST	0.25 SPACES	10	SPACES
	TOTAL		48	SPACES

TOTAL PARKING REQUIRED	190	SPACES
TOTAL PARKING PROVIDED	147	SPACES
OFF SITE PARKING	63	SPACES
	210	SPACES


METAL ROOFING


COMPOSITE SHINGLE ROOFING


PARAPET TRIM CORBEL


WOOD-LOOK ROOF BRACE CORBEL


SW6258 TRICORN BLACK


SW7547 SANDBAR


METAL CANOPY WITH CORBELS


METAL CANOPY WITH TIE RODS


TEMPERED GLASS GUARD RAIL


DECORATIVE TUBE STEEL RAIL


VINYL WINDOWS


FOAM TRIM


METAL PANEL SIDING - GRAY

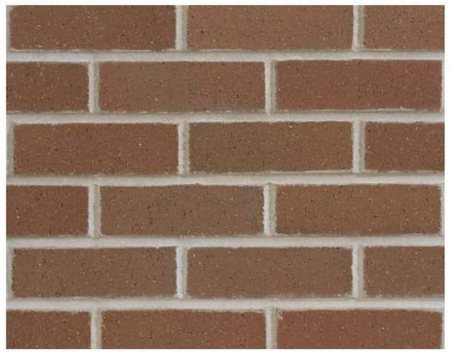

FIBER CEMENT TRIM


FIBER CEMENT TRIM - DARK GRAY

FIBER CEMENT TRIM - WHITE


STOREFRONT


FOLDING DOOR SYSTEM


BRICK VENEER - DARK


BRICK VENEER - LIGHT


FIBER CEMENT BOARD AND BATTEN SIDING


STUCCO


CONCRETE BASE


FIBER CEMENT SOLID PANEL SIDING -DARK GRAY


FIBER CEMENT SOLID PANEL SIDING - WHITE

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COLORS AND MATERIALS

THE QUARRY | ROCKLIN, CA

A28

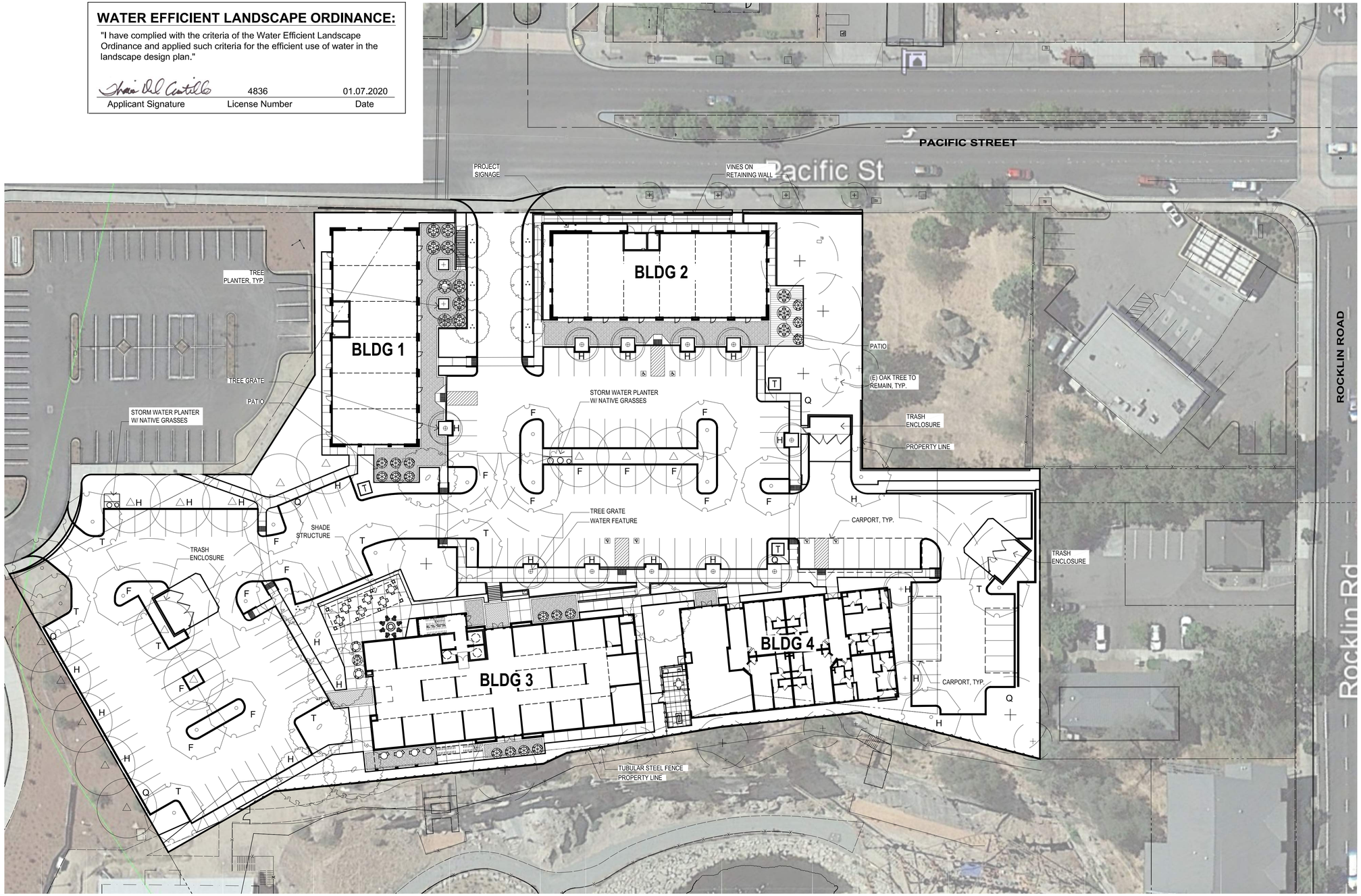
PROJECT NO. 1346-0001

12/20/19

WATER EFFICIENT LANDSCAPE ORDINANCE:

"I have complied with the criteria of the Water Efficient Landscape Ordinance and applied such criteria for the efficient use of water in the landscape design plan."

Applicant Signature	License Number	Date
	4836	01.07.2020



SCALE: 1" = 30'-0" (0, 30, 60, 90 FT)

Tree Species	Tree Size	Coverage	Qty	Area	Shade Total
Quercus lobata	35'	Full	16	962	15,392
Zelkova serrata 'Green Vase'		Three-Qtrs	8	722	5,776
Ulmus parvifolia 'Allee'		Half	11	481	5,291
Existing Tree (Southern Parking Lot)		Quarter	5	241	1,205
			Total		27,664
Lagerstroemia 'Natchez'	20'				
Olea europaea 'Swan Hill'		Full	0	314	0
		Three-Qtrs	0	236	0
		Half	12	157	1,884
SHADE TREE LEGEND		Quarter	1	79	79
			Total		1,963

SYM	DESCRIPTION
F	FULL SHADE TREE
T	THREE QUARTER SHADE TREE
H	HALF SHADE TREE
Q	QUARTER SHADE TREE

Total Tree Shaded Area Provided		29,627
Total Carport Area Provided		2,572
Precent of Parking Shaded		56.6%
Total Parking Area		56,926

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	CONT	WATER USE
	Existing Tree	--	--
	Lagerstroemia x `Natchez` Crape Myrtle	24"box	Low
	Olea europaea `Swan Hill` TM Swan Hill Olive	24"box	Low
	Quercus lobata Valley Oak	48"box	Low
	Ulmus parvifolia `Allee` Allee Lacebark Elm	24"box	Low
	Zelkova serrata `Green Vase` Green Vase Sawleaf Zelkova	24"box	Med

SHRUBS	BOTANICAL / COMMON NAME	CONT	WATER USE
	Callistemon viminalis `Better John` Dwarf Weeping Bottle Brush	5 gal	Low
	Chondropetalum tectorum Cape Rush	5 gal	Med
	Cistus x `Grayswood Pink` Rock Rose	5 gal	Low
	Galvezia speciosa Island Bush Snapdragon	5 gal	Low
	Mahonia x `Soft Caress` Soft Caress Mahonia	5 gal	Low
	Olea europaea `Little Ollie` TM Little Ollie Olive	5 gal	Low
	Pittosporum tenuifolium `Golf Ball` Golf Ball Tawhiwhi	5 gal	Med

VINE	BOTANICAL / COMMON NAME	CONT	WATER USE
	Parthenocissus tricuspidata Japanese Creeper	5 gal	Med

GROUND COVERS	BOTANICAL / COMMON NAME	CONT	WATER USE
	Bouteloua gracilis `Blonde Ambition` Blonde Ambition Blue Grama	1 gal	Low
	Bulbine frutescens `Hallmark` Stalked Bulbine	1 gal	Low
	Dianella revoluta `DR5000` TM Little Rev Flax Lily	1 gal	Low
	Lomandra longifolia `Platinum Beauty` Variegated Dwarf Mat Grass	1 gal	Low
	Rosa x `Novarospop` TM Popcorn Drift Rose	4"pot	

LPAS Architecture + Design

LANDSCAPE PLAN

QUARRY FLATS | ROCKLIN, CA

L01

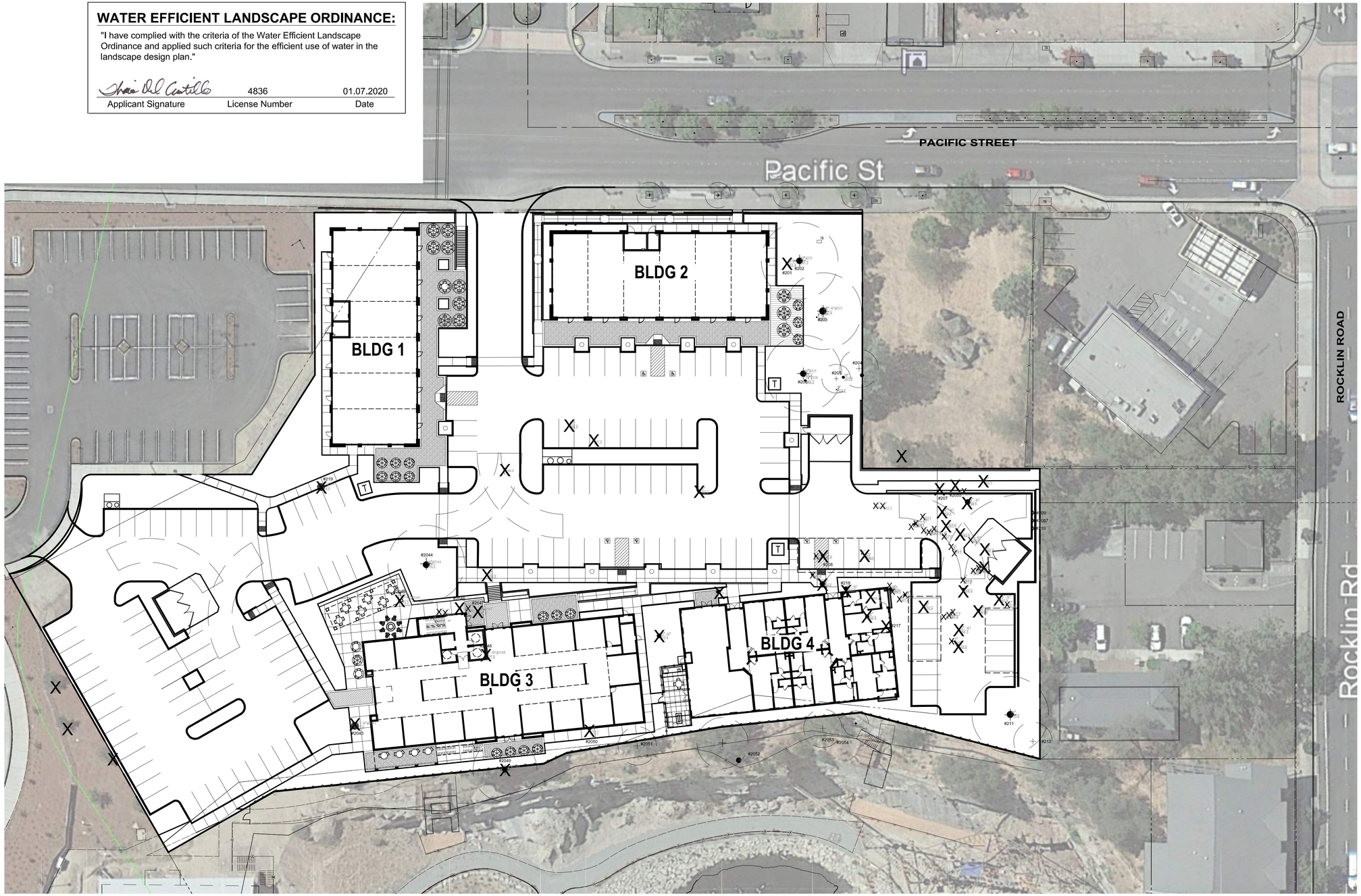
PROJECT NO. 1346-0001

01/07/2020

WATER EFFICIENT LANDSCAPE ORDINANCE:

"I have complied with the criteria of the Water Efficient Landscape Ordinance and applied such criteria for the efficient use of water in the landscape design plan."

Applicant Signature	License Number	Date
	4836	01.07.2020



SCALE: 1" = 30'-0"

0 30 60 90 FT

N

DEMOLITION LEGEND

TREES	BOTANICAL / COMMON NAME	CONT	WATER USE	MATURE SIZE	QTY
X	EXISTING TREE TO BE REMOVED	---	---	---	104
+	EXISTING TREE TO REMAIN	---	---	---	17

TREE PROTECTION NOTES:

1. PROJECT ARBORIST: CALIFORNIA TREE & LANDSCAPE CONSULTING, INC. (CALTLC) NICOLE HARRISON NICOLE@CALTLC.COM (530) 305-0165.
2. THE PROJECT ARBORIST IS REQUIRED TO INSPECT THE TREE PROTECTION FENCING PRIOR TO GRADING AND/OR GRUBBING FOR COMPLIANCE WITH THE REQUIRED PROTECTION ZONES.
3. CLEARANCE PRUNING SHOULD INCLUDE REMOVAL OF ALL THE LOWER FOLIAGE THAT MAY INTERFERE WITH EQUIPMENT PRIOR TO HAVING GRADING OR OTHER EQUIPMENT ON SITE. THE PROJECT ARBORIST SHOULD APPROVE THE EXTENT OF FOLIAGE ELEVATION AND OVERSEE THE PRUNING TO BE PERFORMED BY A CONTRACTOR WHO IS AN ISA CERTIFIED ARBORIST.
4. CHEMICAL STRESS TREATMENTS TO BE PERFORMED BY A LICENSED PESTICIDE APPLICATOR UNDER THE PROJECT ARBORIST SUPERVISION SHOULD INCLUDE A (1) TREE GROWTH REGULATOR, SUCH AS PACLOBUTRAZOL; (2) PREVENTATIVE LEAF FUNGICIDE; AND (3) PREVENTATIVE INSECTICIDES FOR LEAF FEEDING INSECTS AND BORING INSECTS UNLESS OTHERWISE DIRECTED BY THE PROJECT ARBORIST.
5. HARDWOOD MULCH IS REQUIRED INSIDE THE PROTECTION FENCING (SEE PROTECTION DETAIL). MULCH COMPOSITION IS TO BE BE FROM ONSITE MATERIALS, SUCH AS TREES TO BE REMOVED, OR ONLY AS APPROVED BY THE PROJECT ARBORIST. DECORATIVE BARK, INCLUDING CEDAR AND REDWOOD, DO NOT QUALIFY.
6. ANY AND ALL WORK TO BE PERFORMED INSIDE THE PROTECTED ROOT ZONE FENCING SHALL BE SUPERVISED BY THE PROJECT ARBORIST.
7. ALL STUMPS WITHIN THE ROOT ZONE OF TREES TO BE PRESERVED SHALL BE GROUND OUT USING A STUMP ROUTER OR LEFT IN PLACE. NO TRUNK WITHIN THE ROOT ZONE OF OTHER TREES SHALL BE REMOVED USING A BACKHOE OR OTHER PIECE OF GRADING EQUIPMENT.
8. TRENCHING INSIDE THE PROTECTED ROOT ZONE SHALL BE BY A HYDRAULIC OR AIR SPADE, PLACING PIPES UNDERNEATH THE ROOTS, OR BORING DEEPER TRENCHES UNDERNEATH THE ROOTS.
9. THE PROJECT ARBORIST WILL MONITOR THE SITE DURING (AND AFTER) CONSTRUCTION TO ENSURE PROTECTION MEASURES ARE FOLLOWED AND MAKE RECOMMENDATIONS FOR CARE OF THE TREES ON SITE, AS NEEDED.

LPAS Architecture + Design

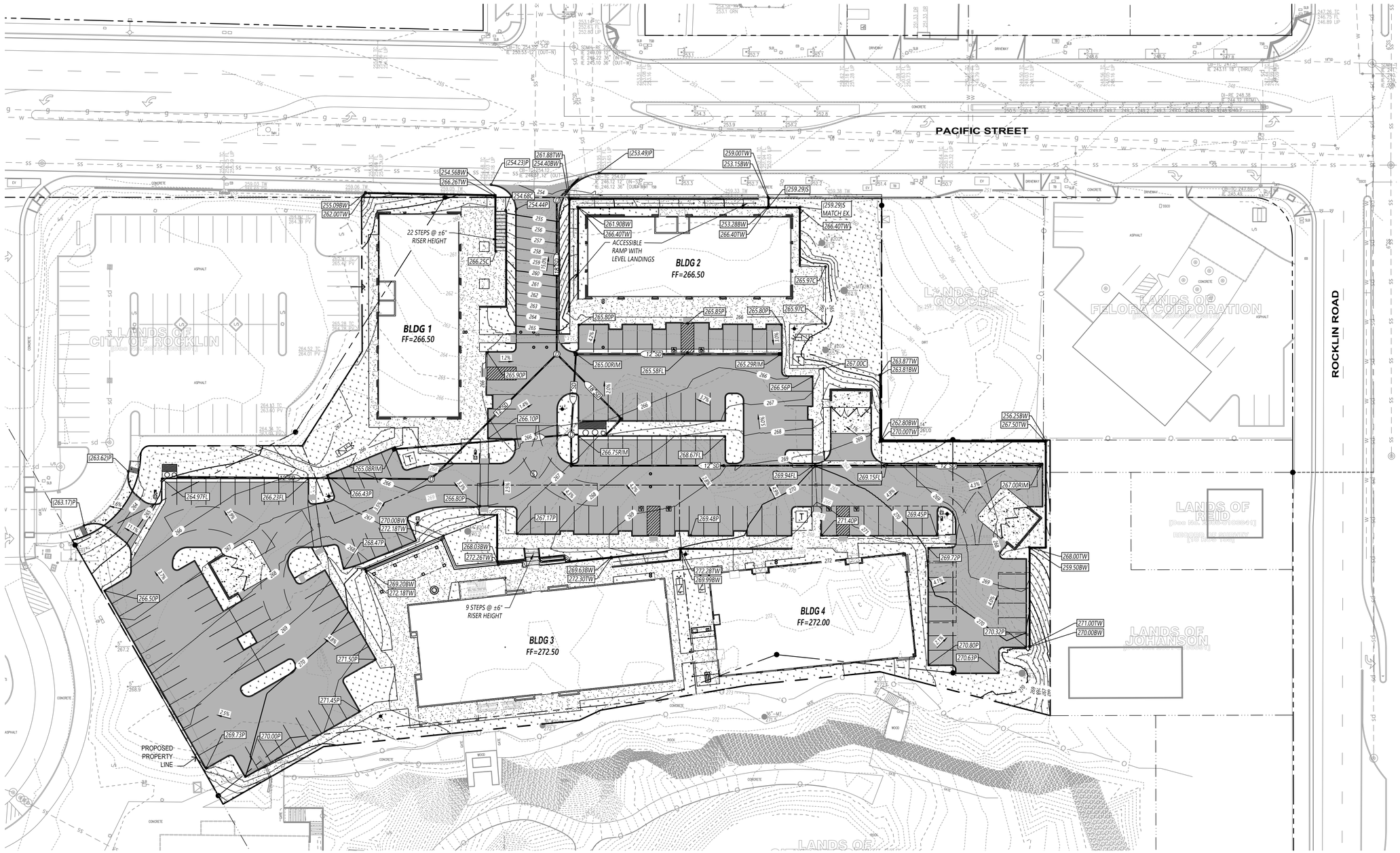
TREE PROTECTION PLAN

QUARRY FLATS | ROCKLIN, CA

L02

PROJECT NO. 1346-0001

01/07/2020



GRADING AND DRAINAGE LEGEND

- 304 — EXISTING 1-FT CONTOUR
- 305 — EXISTING 5-FT CONTOUR
- 304 — PROPOSED 1-FT CONTOUR
- 305 — PROPOSED 5-FT CONTOUR
- ???P — PAVEMENT ELEVATION
- ???TC — TOP OF CURB ELEVATION
- ???C — CONCRETE ELEVATION
- ???RIM — RIM ELEVATION
- ???FL — FLOWLINE ELEVATION
- ???S — GROUND SPOT ELEVATION
- ???LIP — LIP OF GUTTER ELEVATION
- ???S MATCH EX — MATCH EXISTING ELEVATION
- GB — GB — GRADE BREAK
- X" SD — PROPOSED STORM DRAIN LINE

ALL TC ELEVATIONS ARE EQUAL TO ADJACENT PAVEMENT (P) OR CONCRETE (C) ELEVATION PLUS 6 INCHES UNLESS OTHERWISE NOTED. TC = P OR C + 0.5'

0' 15' 30' 60'

SCALE: 1"=30'

CARTWRIGHT NOR CAL
CIVIL ENGINEERING & PROJECT MANAGEMENT
4180 DOUGLAS BLVD, SUITE 200
GRANITE BAY, CALIFORNIA 95746
T (916) 978-4001
WWW.CARTWRIGHTENGINEERS.COM

PRELIMINARY GRADING AND DRAINAGE PLAN

QUARRY FLATS
ROCKLIN, CA

C1.0

DATE: 12/26/2019
SCALE: 1"=30'
DRAWN BY: SD

Login Name: sustand
Plot Date: December 26, 2019 - 3:47 pm
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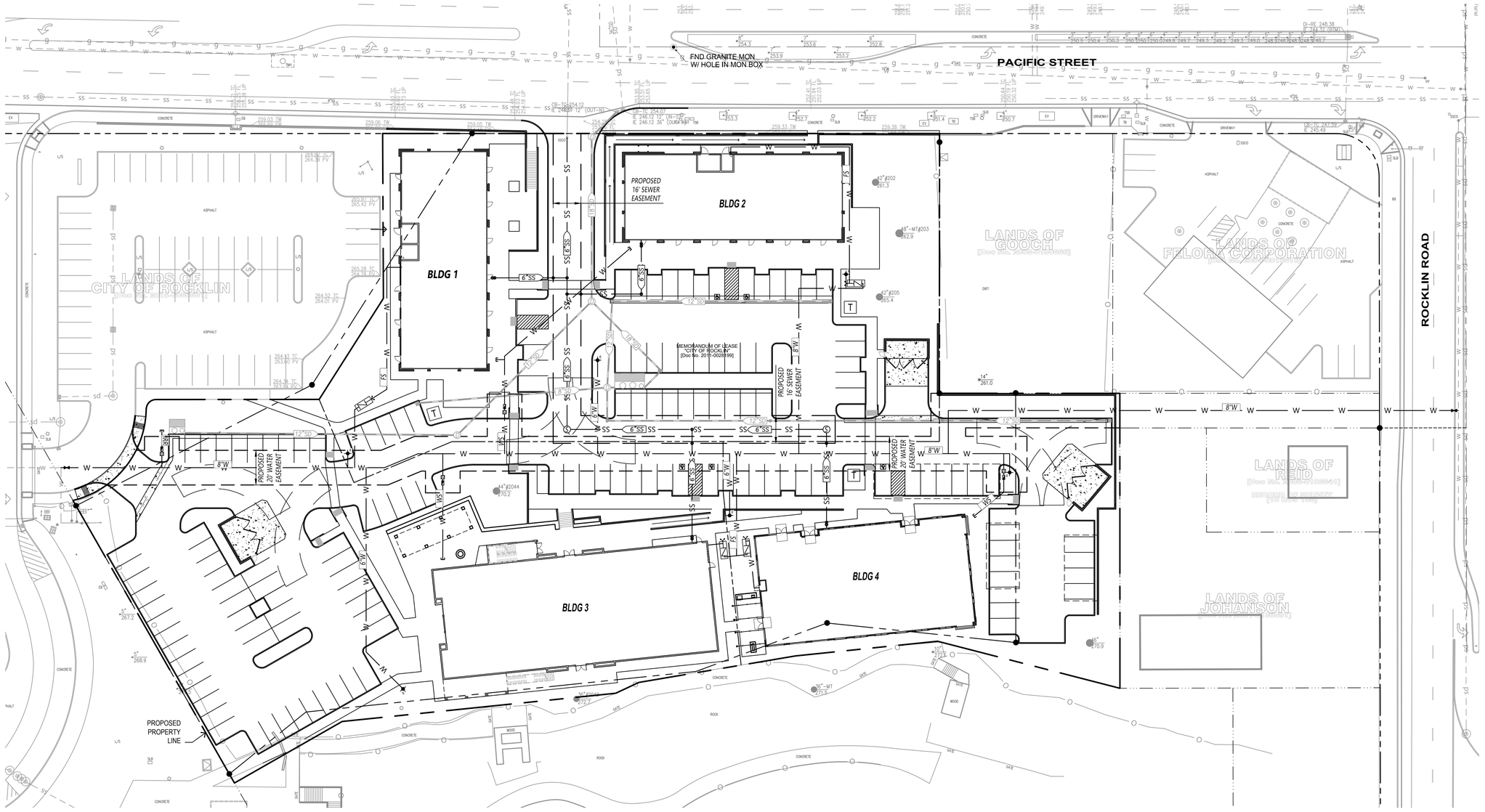

UTILITY LEGEND

- EXISTING JOINT TRENCH
- PROPOSED JOINT TRENCH
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING SEWER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED SANITARY SEWER LINE
- EXISTING MANHOLE
- PROPOSED DRAIN INLET
- PROPOSED WATER METER
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED CLEANOUT
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- PROPOSED BACKFLOW PREVENTOR
- PROPOSED DCDA AND FDC

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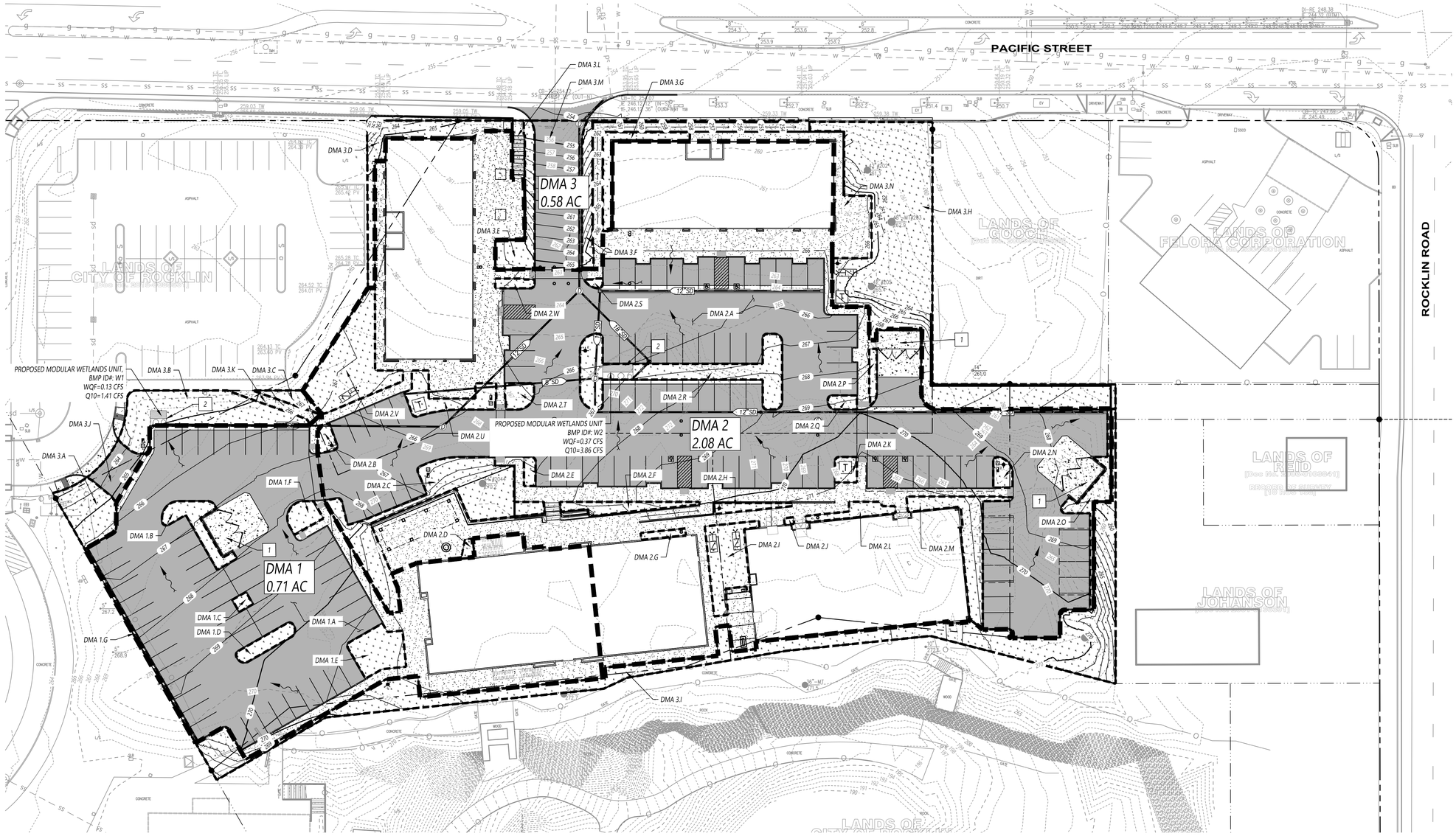
PRELIMINARY WATER AND SEWER PLAN

QUARRY FLATS
ROCKLIN, CA

C2.0

DATE: 12/26/2019
SCALE: 1"=30'
DRAWN BY: SD

Login Name: susand
Plot Date: December 26, 2019 - 3:48 pm
File Name: U:\171085-The Shoppes at the Quarry\CAD\Civil_DD\Production Drawings\171085-DD-UTIL.dwg



LEGEND:

EXISTING		PROPOSED
	PROPERTY LINE	
204	1.0-FOOT CONTOUR	204
205	5.0-FOOT CONTOUR	205
	DRAINAGE MANAGEMENT AREA NO. (DMA)	
	DMA AREA (ACRES)	DMA X X.XX AC
	DMA BOUNDARY	
	DMA SUBSHED BOUNDARY	
	FLOW ARROW	
sd -<X" sd> sd	STORM DRAIN LINE	X" SD
	STORM DRAIN INLET	
	CONCRETE SURFACE	
	AC SURFACE	
	LANDSCAPE	

STORM WATER QUALITY NOTES:

1. PROPOSED SOURCE CONTROL - SITE TRASH ENCLOSURE
2. PROPOSED BIOCLEAN MODULAR WETLANDS UNIT - SEE STORMWATER CONTROL PLAN REPORT FOR DETAILS.

NOTE: SEE STORMWATER CONTROL PLAN FOR DMA TABLES AND BIOCLEAN MODULAR WETLANDS UNIT SIZING CALCULATIONS.

N

0' 15' 30' 60'

SCALE: 1"=30'

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PRELIMINARY STORM WATER QUALITY CONTROL PLAN

QUARRY FLATS
ROCKLIN, CA

C3.0

DATE: 12/26/2019
SCALE: 1"=30'
DRAWN BY: SD

Login Name: susand
Plot Date: December 26, 2019 - 3:18 pm
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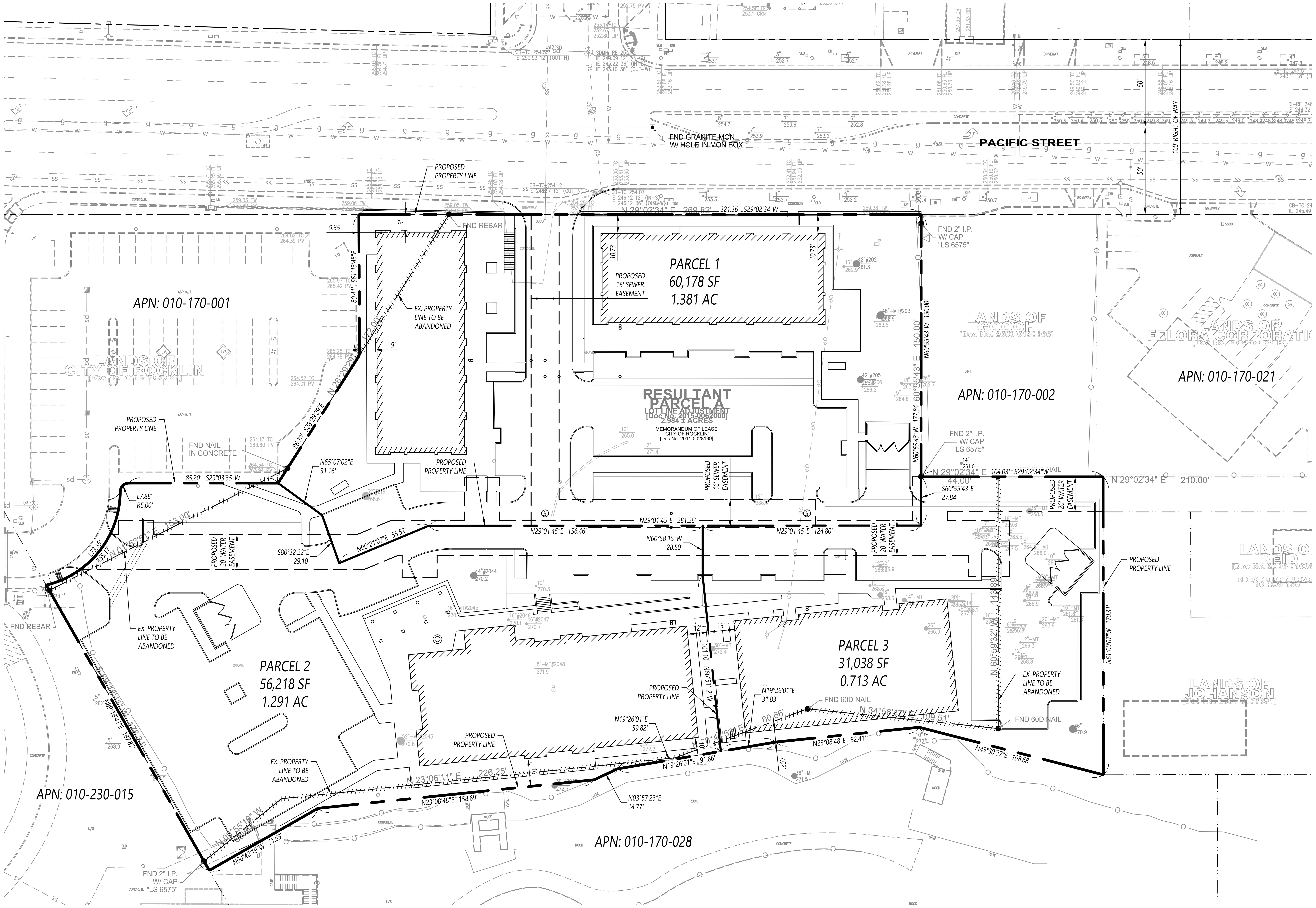
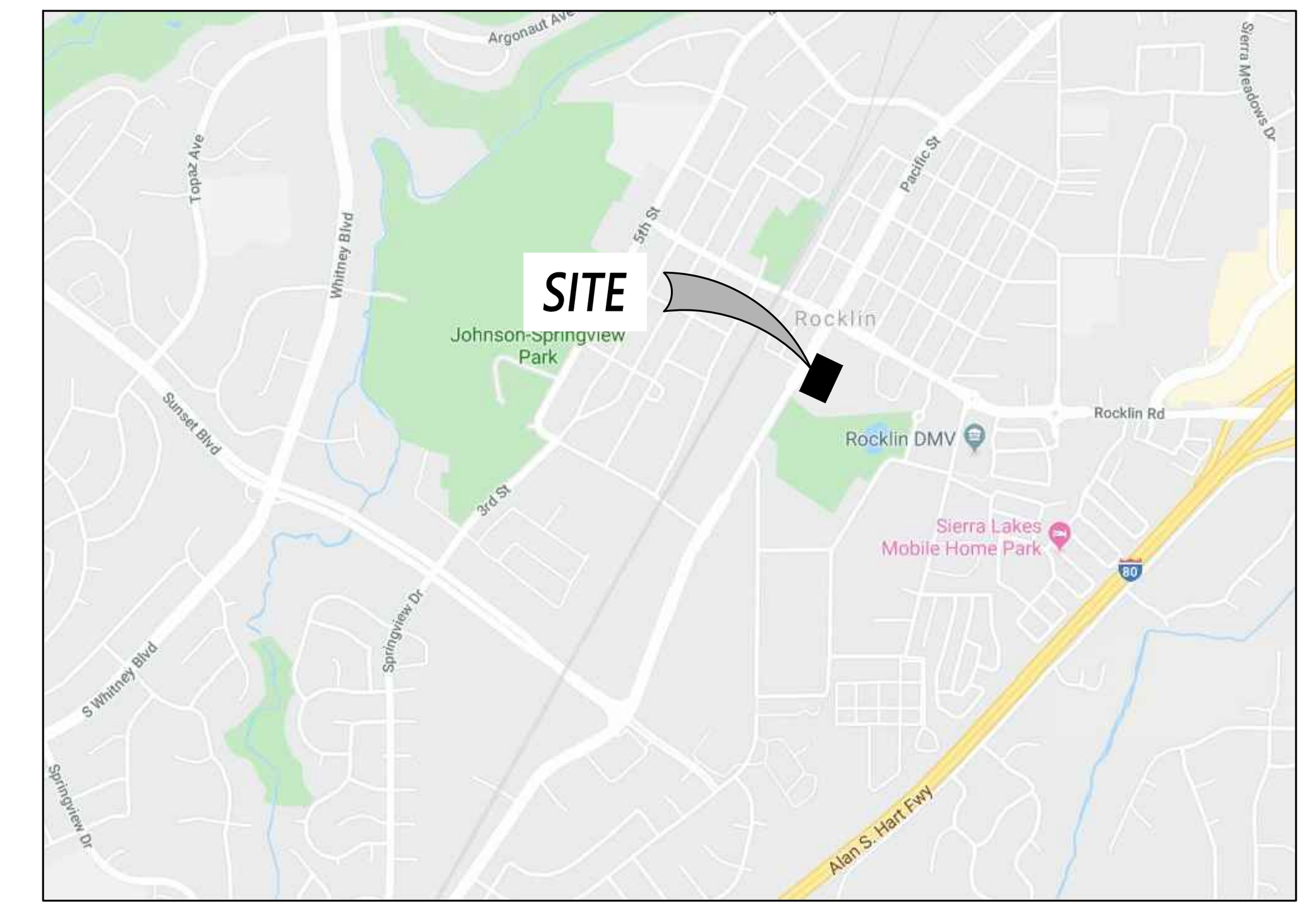
TENTATIVE PARCEL MAP FOR

QUARRY FLATS

APN: 010-170-026

CITY OF ROCKLIN, CALIFORNIA





VICINITY MAP
NOT TO SCALE

ASSESSOR'S PARCEL NUMBER (APN): 010-170-026

PD-C-4 SETBACK INFORMATION
FRONT = 5', BACK = 10', SIDE = 0', STREET = 5'

PROPERTY OWNERS / DEVELOPER
BRENTWOOD DEVELOPMENTS
5800 STANFORD RANCH ROAD, SUITE 210
ROCKLIN, CA 95765
PHONE: 916-435-4180
CONTACT: BRAD D. GRIFFITH
BRADG@BRENTWOODDEV.COM

APPLICANT
CARTWRIGHT ENGINEERS
4180 DOUGLAS BLVD. SUITE 200
GRANITE BAY, CA 95746
PHONE: 916-978-4001
CONTACT: MONICA WUEBKER-JARWIN, PE
MONICAW@CARTWRIGHTENGINEERS.COM

SITE SURVEYOR
BARBER SURVEYING, INC.
713 NACOMIS COURT
TRACY, CA, 95304
PHONE: 925-344-6461
CONTACT: SHANE BARBER
SBARBER@BARBERSURVEYING.COM

FLOOD ZONE:
ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

EXISTING & PROPOSED ZONING & USE:
PD-C-4: PLANNED DEVELOPMENT GENERAL RETAIL SERVICE COMMERCIAL

EXISTING PROPERTY
APN: 010-170-026 129,975 SF / 2.984± AC

PROPOSED PROPERTY
PROPOSED PARCEL 1 60,178 SF / 1.381± AC
PROPOSED PARCEL 2 56,218 SF / 1.291± AC
PROPOSED PARCEL 3 31,038 SF / 0.713± AC
TOTAL 147,434 SF / 3.385± AC

NOTE: EXISTING PARCEL IS VACANT. PROPOSED IMPROVEMENTS ARE SHOWN FOR REFERENCE.

REVISIONS

DELTA	DATE	DESCRIPTION
1	-	-
2		
3		
4		
5		

0' 15' 30' 60'
SCALE: 1"=30'

CITY OF ROCKLIN
COUNTY OF PLACER
DATE: 12/30/19
DRAWN BY: HK

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GRANITE BAY, CALIFORNIA 95746
T (916) 978-4001
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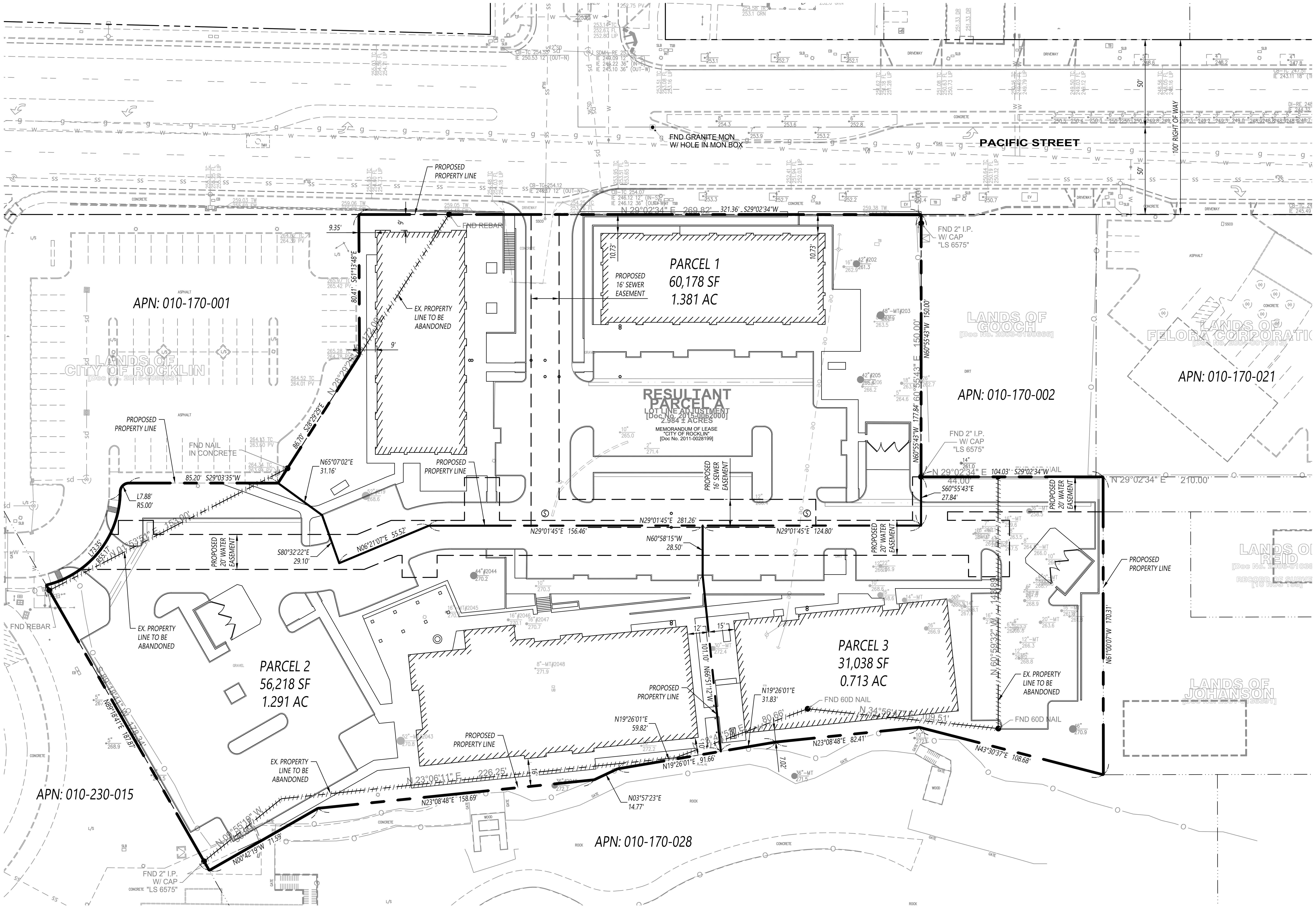
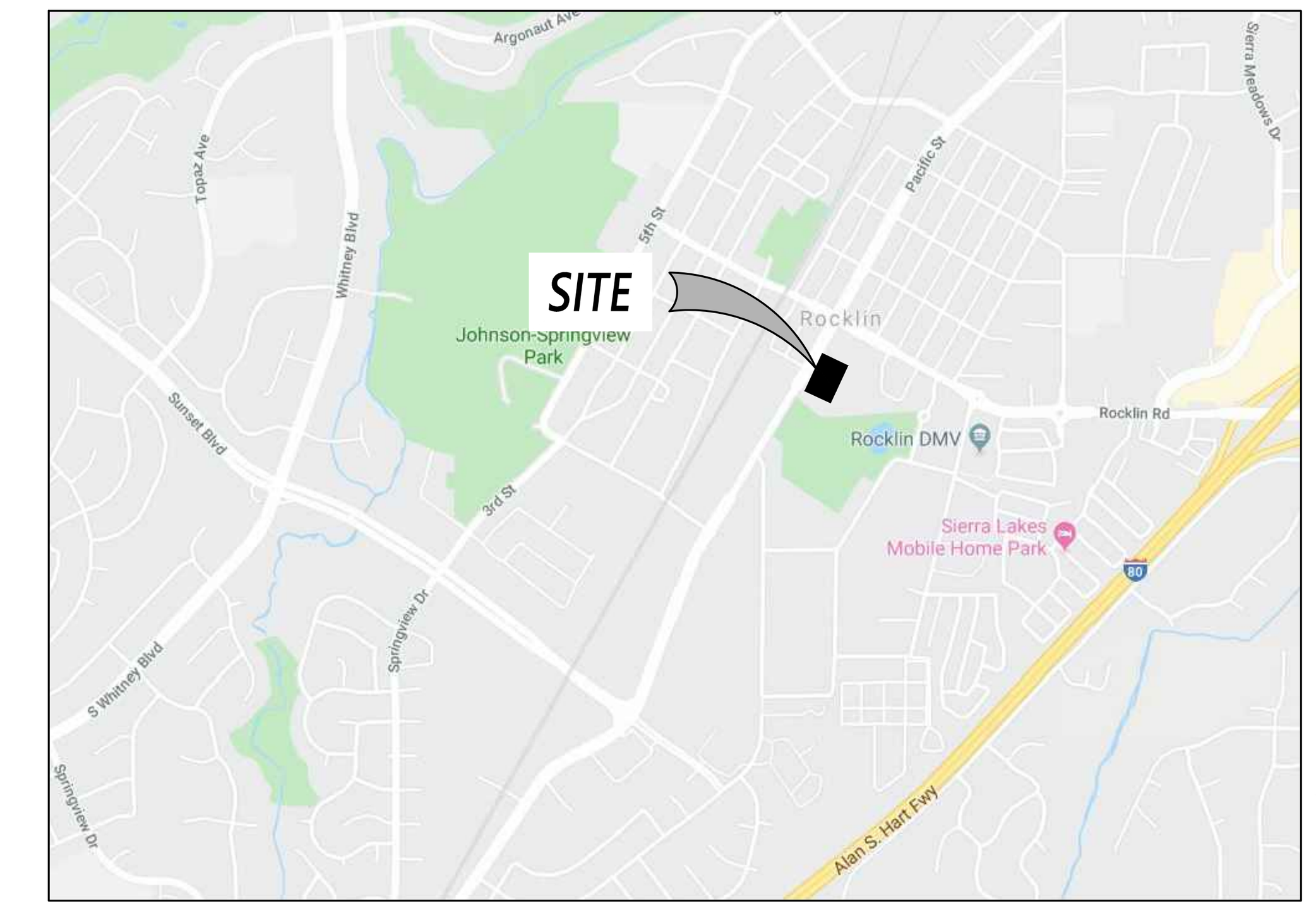
TENTATIVE PARCEL MAP FOR

QUARRY FLATS

APN: 010-170-026

CITY OF ROCKLIN, CALIFORNIA





VICINITY MAP
NOT TO SCALE

ASSESSOR'S PARCEL NUMBER (APN): 010-170-026

PD-C-4 SETBACK INFORMATION
FRONT = 5', BACK = 10', SIDE = 0', STREET = 5'

PROPERTY OWNERS / DEVELOPER
BRENTWOOD DEVELOPMENTS
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ROCKLIN, CA 95765
PHONE: 916-435-4180
CONTACT: BRAD D. GRIFFITH
BRADG@BRENTWOODDEV.COM

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PHONE: 925-344-6461
CONTACT: SHANE BARBER
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FLOOD ZONE:
ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

EXISTING & PROPOSED ZONING & USE:
PD-C-4: PLANNED DEVELOPMENT GENERAL RETAIL SERVICE COMMERCIAL

EXISTING PROPERTY
APN: 010-170-026 — 129,975 SF / 2.984± AC

PROPOSED PROPERTY
PROPOSED PARCEL 1 — 60,178 SF / 1.381± AC
PROPOSED PARCEL 2 — 56,218 SF / 1.291± AC
PROPOSED PARCEL 3 — 31,038 SF / 0.713± AC
TOTAL — 147,434 SF / 3.385± AC

NOTE: EXISTING PARCEL IS VACANT. PROPOSED IMPROVEMENTS ARE SHOWN FOR REFERENCE.

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

REVISIONS

DELTA	DATE	DESCRIPTION
1	-	-
2		
3		
4		
5		

0' 15' 30' 60'
SCALE: 1"=30'

CITY OF ROCKLIN
COUNTY OF PLACER
DATE: 12/30/19
DRAWN BY: HK

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DRAFT
Preliminary Operation and Maintenance Plan
Quarry Flats
Rocklin, CA

December 26, 2019

Brentwood Developments
5800 Stanford Ranch Road, Ste. 210
Rocklin, CA 95765

Prepared by:

Susan Dahl

Cartwright Nor Cal
4180 Douglas Blvd., Suite 200
Granite Bay, CA 95746

Table of Contents

Attachments

I. Introduction

I.A. Project Description

The project is located at 5255 Pacific St., Rocklin, CA. The proposed project will construct four retail buildings and surrounding parking lot. Stormwater treatment will be achieved through the use of two onsite Bioclean Modular Wetland units.

II. Designation of Responsible Individuals

II.A. Contact Information for Responsible Individuals

Responsible individuals will be the current owner until such time that the property is sold to new owners. Maintenance agreements will be recorded between the City and the responsible parties of the property as necessary for the maintenance of all stormwater treatment facilities proposed for the development.

Designated Contact for Operation and Maintenance	
Name: TBD	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Off-Hours or Emergency Contact	
Name: TBD	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Corporate Officer (authorized to execute contracts with the City)	
Name: TBD	Title or Position:
Address:	
Telephone:	Alternate Telephone:
Email:	

Updated contact information must be provided to the City of Rocklin whenever a property is sold or the designated responsible individuals are changed for any reason.

II.B. Initial Training of Responsible Individuals

Responsible individuals of the property should review the attached maintenance information and contact the company for questions or additional training on maintenance. Detailed maintenance information can be found in Attachment E and on Bioclean's website.

III. Facilities to Be Maintained

III.A. Facility Descriptions

Bioclean Modular Wetland units will treat the stormwater runoff from the drive aisle, concrete walks, and building roof areas. The unit will have a curb opening to allow water to flow into it and will also have pipes draining into it. There will be a bypass for large storms in excess of the water quality event. The Bioclean Modular Wetland units vary in size, see the Stormwater Control Plan exhibit for corresponding locations and sizes. See Attachment D for details of the proposed units.

III.B. Facility Locations and Tributary Drainage Areas

The Bioclean Modular Wetland units (BMP ID#: W1 & W2) will receive runoff from DMA 1 and DMA 2, respectively. See the Stormwater Control Plan for location and shed area information.

III.C. Facility Construction Details

See Attachments D for details of the Bioclean Modular Wetland unit. As Built drawings will be located in Attachment A following construction.

IV. Schedule of Maintenance Activities

IV.A. Routine Activities

Examine all facilities weekly for trash and sediment that may inhibit infiltration or clog the inlets of the Bioclean Modular Wetland unit's bypass. Also check for damages to the box structure and grate of the Bioclean Modular Wetland unit. Inspect plants and ensure they are healthy and alive.

IV.B. Following Significant Rain Events

Check for standing water that may indicate slow infiltration or clogged pipes.

IV.C. Annual Maintenance

Bioclean Modular Wetland unit:

- Remove trash from the screening device.
- Remove sediment from the separation chamber.
- Replace the cartridge filter media.
- Replace the drain down filter media.
- Trim vegetation.

See attachment E for complete Operation and Maintenance details.

V. Reporting

V.A. Annual Reporting

Once per year a copy of the annual inspection report for the previous year's activities shall be submitted to the City of Rocklin no later than January 31st. The annual inspection report shall contain at a minimum:

- A review of the Operations and Maintenance Plan for outdated information, including contact information and details on BMPs;
- A review of the inspection and maintenance log with comparison to maintenance schedule, including recommendations for changes to maintenance schedule;
- Overall condition of each BMP and any recommendations;
- A copy of the project's stormwater BMP inspection and maintenance log.

Attachment A

As-Built Drawings

Attachment B

Inspection and Maintenance Log Template

Stormwater BMP Inspection and Maintenance Log

Facility Name	
Address	
Begin Date	End Date

Date	BMP ID#	BMP Description	Inspected by:	Cause for Inspection	Exceptions Noted	Comments and Actions Taken

Instructions: Record all inspections and maintenance for all treatment BMPs on this form. Use additional log sheets and/or attach extended comments or documentation as necessary. Submit a copy of the completed log with the annual independent inspectors' report to the municipality, and start a new log at that time.

- BMP ID# — Always use ID# from the Operation and Maintenance Manual.
- Inspected by — Note all inspections and maintenance on this form, including the required independent annual inspection.
- Cause for inspection — Note if the inspection is routine, pre-rainy-season, post-storm, annual, or in response to a noted problem or complaint.
- Exceptions noted — Note any condition that requires correction or indicates a need for maintenance.
- Comments and actions taken — Describe any maintenance done and need for follow-up.

Attachment C

Change of Designated Responsible Individuals Form

Designation of Individuals Responsible for Stormwater Treatment BMP Operation and Maintenance	
Date Change Completed	
Facility Name	
Facility Address	
Designated Contact for Operation and Maintenance	
Name:	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Off-Hours or Emergency Contact	
Name:	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Corporate Officer (authorized to execute contracts with the City)	
Name:	Title or Position:
Address:	
Telephone:	Alternate Telephone:
Email:	

Attachment D

Bioclean Modular Wetland Detail

SITE SPECIFIC DATA			
PROJECT NUMBER		----	
PROJECT NAME		----	
PROJECT LOCATION		----	
STRUCTURE ID		----	
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	----	PVC	8"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	----	PVC	8"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	----	----	----
SURFACE LOAD	PARKWAY	OPEN PLANTER	PARKWAY
FRAME & COVER	ø30"	N/A	ø24"
WETLANDMEDIA VOLUME (CY)			TBD
WETLANDMEDIA DELIVERY METHOD			PER CONTRACT
ORIFICE SIZE (DIA. INCHES)			TBD

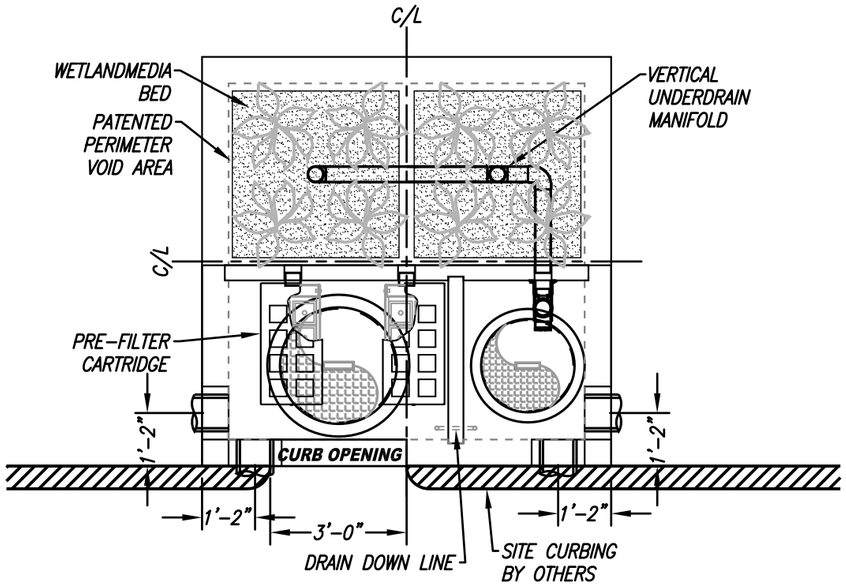
NOTES:

INSTALLATION NOTES

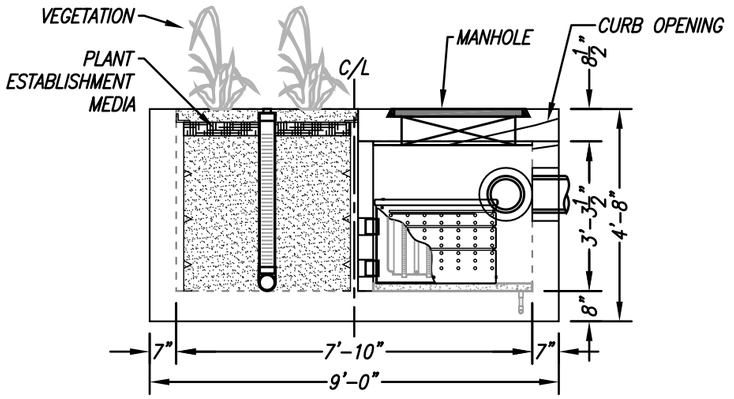
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON–SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING MODULAR WETLANDS FOR ACTIVATION OF UNIT. MANUFACTURES WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A MODULAR WETLANDS REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.

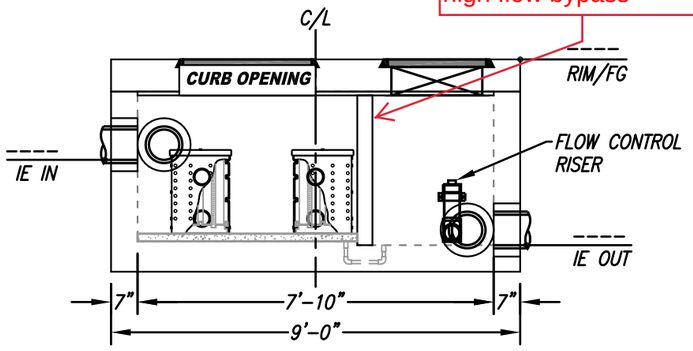


PLAN VIEW

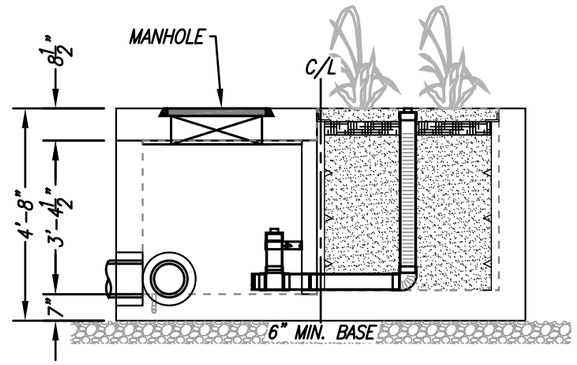


LEFT END VIEW

wier to be lowered for high flow bypass



ELEVATION VIEW



RIGHT END VIEW

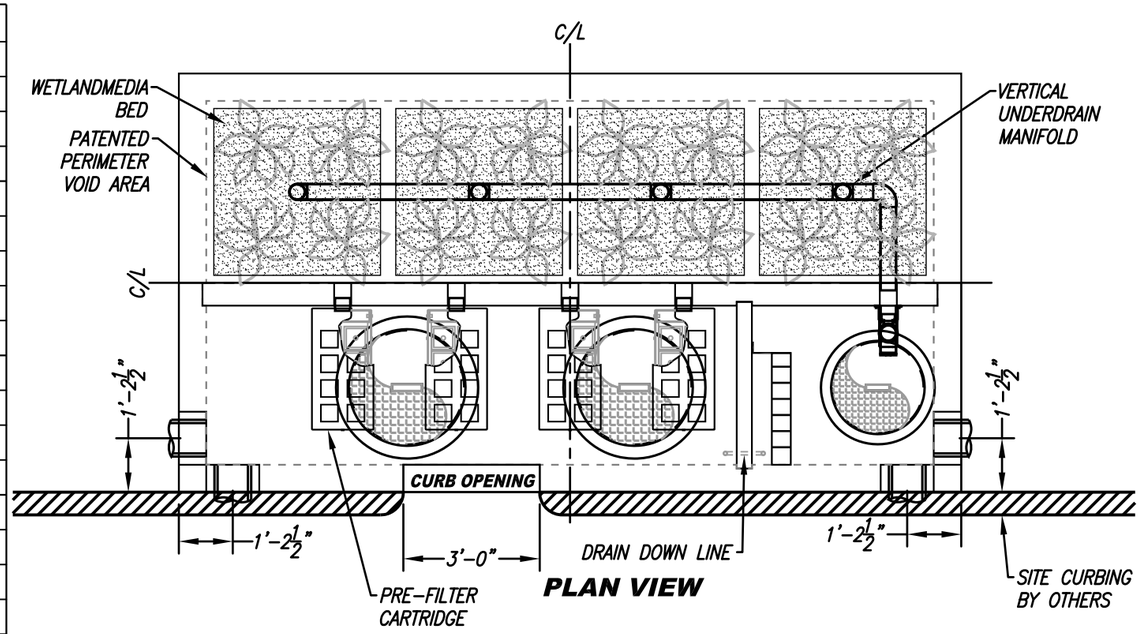
TREATMENT FLOW (CFS)	0.231
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	2.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MODULAR WETLANDS
www.ModularWetlands.com | (855) 5MOD-WET

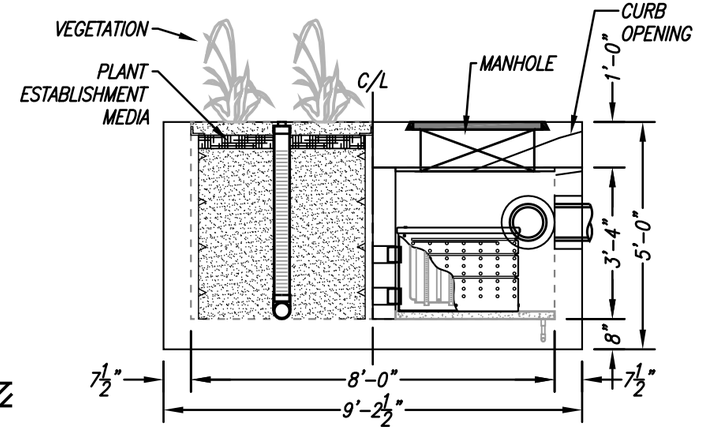
MWS-L-8-8-C
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

1/5/17 HAYDEN

SITE SPECIFIC DATA			
PROJECT NUMBER		----	
PROJECT NAME		----	
PROJECT LOCATION		----	
STRUCTURE ID		----	
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	----	PVC	8"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	----	PVC	8"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	----	----	----
SURFACE LOAD	PARKWAY	OPEN PLANTER	PARKWAY
FRAME & COVER	2 EA ø30"	N/A	ø24"
WETLANDMEDIA VOLUME (CY)			TBD
WETLANDMEDIA DELIVERY METHOD			PER CONTRACT
ORIFICE SIZE (DIA. INCHES)			TBD
NOTES:			



PLAN VIEW



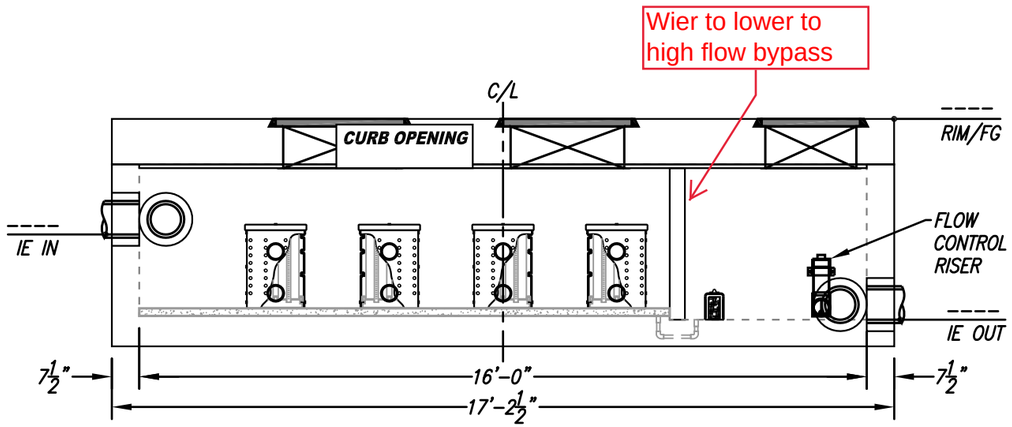
LEFT END VIEW

INSTALLATION NOTES

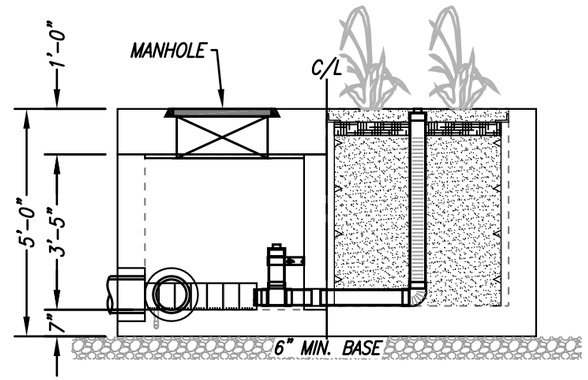
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING MODULAR WETLANDS FOR ACTIVATION OF UNIT. MANUFACTURES WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A MODULAR WETLANDS REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.462
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	2.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

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www.ModularWetlands.com | (855) 5MOD-WET

MWS-L-8-16-C
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

1/5/17/HAYDEN

Attachment E

Bioclean Modular Wetland System Installation and Maintenance Guidelines

INSTALLATION

MWS – Linear

Hybrid Stormwater Filtration System

Bio Clean

A Forterra Company

Bio Clean
398 Via El Centro
Oceanside, CA 92058

www.BioCleanEnvironmental.com
P 855-566-3938
F 760-433-3179

Installation Guidelines for Modular Wetland System

Delivery & Unloading/Lifting

1. Bio Clean shall deliver the unit(s) to the site in coordination with the Contractor.

2. The Contractor will require spreader bars and chains/cables to safely and securely lift the main structure, risers a set of suitable lifting hooks, knuckles, shackles and eye bolts.

3. The main structure and lid can be lifted together or separately.

   Please see Modular Wetland Weights and Lifting Details. Contact Bio Clean for additional lifting details.

Inspection

1. Inspection of the Modular Wetland unit and all parts contained in or shipped outside of the unit shall be inspected at time of delivery by the site Engineer/Inspector and the Contractor. Any non-conformance to approved drawings or damage to any part of the system shall be documented on the Modular Wetland shipping ticket. Damage to the unit during and after unloading shall be corrected at the expense of the Contractor. Any necessary repairs to the Modular Wetland unit shall be made to the acceptance of the Engineer/Inspector.

Site Preparation

1. The Contractor is responsible for providing adequate and complete site/inlet protection when the Modular Wetland unit is installed prior to final site stabilization (full landscaping, grass cover, final paving, and street sweeping completed).

2. The Contractor shall adhere to all jurisdictional and/or OSHA safety rules in providing temporary shoring of the excavation.

3. The Contractor or Owner is responsible for appropriately barricading the Modular Wetland unit from traffic (in accordance with local codes).

Installation Guidelines for Modular Wetland System

Installation

1. Each unit shall be constructed at the locations and elevations according to the sizes shown on the approved drawings. Any modifications to the elevation or location shall be at the direction of and approved by the Engineer.

2. The unit shall be placed on the compacted sub-grade with a minimum 6-inch gravel base matching the final grade of the curb line in the area of the unit. The unit is to be placed such that the unit and top slab match the grade of the curb in the area of the unit. Compact undisturbed sub-grade materials to 95% of maximum density at +1% to 2% of the optimum moisture. Unsuitable material below sub-grade shall be replaced to site engineer's approval. Please see Modular Wetlands Weights and Lifting Details. Contact Bio Clean for guidance where slope exceeds 0.5%.

3. Once the unit is set, the internal wooden forms and protective silt fabric cover must be left intact (if WetlandMedia pre-installed). The top lid(s) should be sealed onto the box section before backfilling, using a non-shrink grout, butyl rubber or similar waterproof seal. The boards on the top of the lid and boards sealed in the unit's throat must NOT be removed. The Supplier will remove these sections at the time of activation.

4. Outlet connections shall be aligned and sealed to meet the approved drawings with modifications necessary to meet site conditions and local regulations. The correct outlet will be marked on the Modular Wetland unit.

5. Backfilling should be performed in a careful manner, bringing the appropriate fill material up in 6-inch lifts on all sides. Precast sections shall be set in a manner that will result in a watertight joint. In all instances, installation of the Modular Wetland unit shall conform to ASTM specification C891 "Standard Practice for Installation of Underground Precast Utility Structures" unless specified otherwise in contract documents.

6. It is the responsibility of the Contractor to provide curb and gutter and transition to the Modular Wetland unit for proper stormwater flow into the system through the throat, pipe or grate opening. A standard drawing of the throat and gutter detail is available in the following section; however the plans and contract documents supersede all standard drawings. Several variations of the standard design are available. Effective bypass for the Modular Wetland System is essential for correct operation (i.e. bypass to an overflow at lower elevation).

Installation Procedure

The contractor **MUST** provide all rigging And lifting apparatus, such as all cables, chains or straps and a set of lifting hooks, shackles, knuckles and eye bolts.

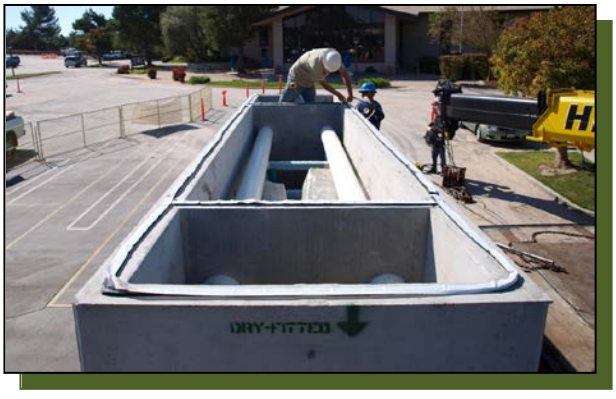
It is the contractor's responsibility to provide suitable lifting equipment to off-load the Modular Wetland unit.

Modular Wetland units are designed to be off-loaded using the contractor's spreader bar.

1. Apply Butyl Tape Seal

Apply butyl tape seal along the top of the box section. Butyl tape seal is provided with every unit.

Modular Wetland installed protective throat board and installed silt fabric must be left in place to protect the unit from construction sediment.



2. Unload and Set Box

Unload the Modular Wetland unit
the prepared hole with appropriate sub-grade.*

* Compacted sub-grade with a minimum
of six inches of gravel base which must match
the final grade of curb line the area of the unit.

3. Set Top On Box

Set the top slab on the box.

The Contractor is responsible for providing
adequate and complete site/inlet protection
when the Modular Wetland is installed prior
to final site stabilization (full landscaping,
grass cover, final paving, and street sweeping
completed).

4. Connect Outfall Pipe

The correct outlet will be marked on the
Modular Wetland.

Invert of outlet pipe **MUST** be even
with the floor of the system.

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5. Install Curb & Gutter

It is the responsibility of the Contractor to provide curb and gutter and transition to the Modular Wetland for proper flow into the system through a 5”- 7” throat opening. A standard drawing of the throat and gutter detail in the following section. CONTRACTOR RESPONSIBLE FOR GROUTING IN ANY VISIBLE LIFTING POINTS.

6. Activation

Activation is performed **ONLY** by Bio Clean personnel.

Activation can occur once the project site is fully stabilized (full landscaping, grass cover, final paving and street sweeping completed) and there is a 5” - 7” throat opening.

Call 855-566-3938 to schedule your activation.

NOTE: WetlandMedia Installation

For Larger models (MWS-L-4-13 and above) the system will be delivered without WetlandMedia pre-installed to minimize pick weight and prevent contamination of the media during construction. For these models the WetlandMedia will be delivered in bulk or in super sacks. It will be responsibility of the contractor to fill the system with the WetlandMedia during the installation process. Installation of the WetlandMedia can be done after the unit is fully installed to avoid contamination. See following pages for details.

WetlandMedia Install (if applicable)

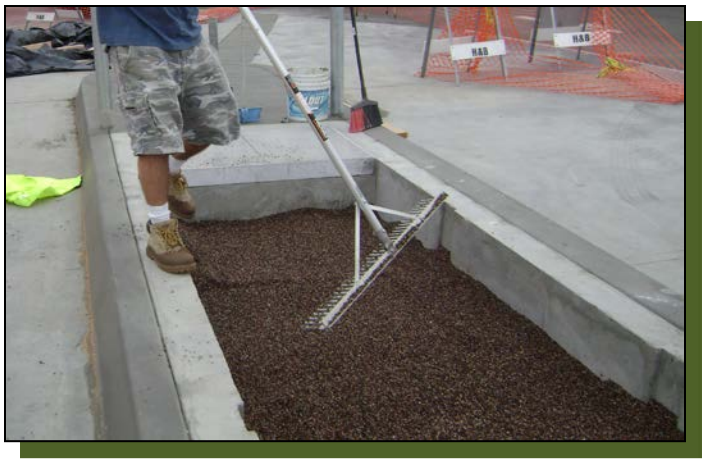
1. Fill WetlandMedia

Position super sack of WetlandMedia over wetland chamber. Bottom of sack should not be more than 2' above top of system. Open sack and fill evenly*.

* One to several hundred cubic yards of WetlandMedia will be required based upon the model number and size of the system. For large scale jobs WetlandMedia will be delivered in bulk and will require a bobcat of similar to fill the system. All equipment is the responsibility of the contractor.

2. Install Plant Propagation Layer

Fill WetlandMedia up to 9" below the top of the wetland chamber. Level out the WetlandMedia as shown. Ensure that the level does not vary more than one inch or plant growth will be affected.



3. Install Plant Propagation Layer

Utilize plant propagation blocks provided by the manufacturer. Each block is approximately 40" by 6" by 3" thick. Blocks shall be placed side by side and end to end and cover the entire length and width of the wetland chamber unless specified.

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4. Finish Filling WetlandMedia

After plant propagation blocks are installed repeat step 1 and fill the system to the top of the wetland chamber as shown. WetlandMedia must be filled within 2” of the top of the unit.

5. Planting

After system is filled with WetlandMedia planting of vegetation can begin. Utilizing 1 gallon plants dig down until The plant propagation blocks are reached. Remove plant and it’s root ball from the container. Set the bottom of the root ball on the tops of the blocks. Fill hole back in with WetlandMedia. After planting a thorough watering of the plants is necessary. The plant propagation blocks must be saturated to provide a water source for the plants during the establishment phase. It is recommended that hand watering is done three times a week for the first two months. Hand water can be supplemented with drip or spray irrigation after the second week. Please call the manufacturer for more details on plants, planting arrangement and irrigation options.

NOTE: planting is required on all units, including units delivered with WetlandMedia pre-installed.

PLANT PROPAGATION LAYER INSTALL

MWS-LINEAR 2.0

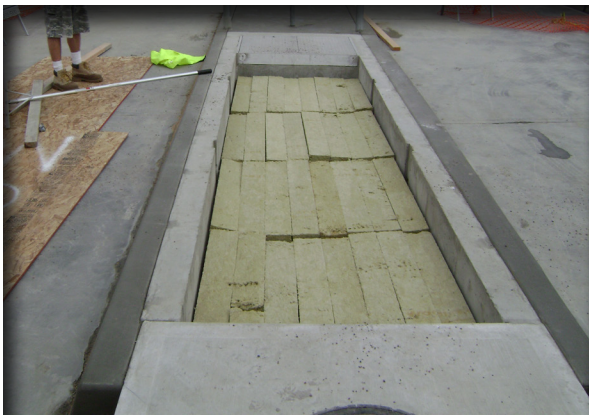
Patented Process: Ensures plant growth and establishment

Modular Wetland System Linear 2.0 (MWS-L 2.0) utilizes an advanced “organic free” biofiltration media called WetlandMedia. The nutrients needed for initial plant establishment are already present in the soil contained within the pot which the vegetation is removed from before planting. To enusre rapid and successful plant establishment a patented layer of “plant propagation” media is installed 6” below the surface. When vegetation is installed in the system the root ball of the plant is set on this layer of propagation media. This media holds large amounts of moisture and provides the optimal water/air ratio for rapid root penentration. Once the plant as established it will shoot roots through propagation media to the biofiltration media below. This media contains high amounts of silica which is necessary for root establishment and plant growth rates. The passing stormwater entering the system will provide the long term nutrient source for the plants.

Instructions for Installation:

STEP 1
Fill up biofiltration media to 9” below top of unit. Even out media so it’s flat.

STEP 2
Place 3” thick plant propagation meda over the biofiltration media.



STEP 3
Cover entire chamber with propagation media.

STEP 4
Continue filling chamber to the top with biofiltration media.

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F 760-433-3179

Connection Details

Bio Clean
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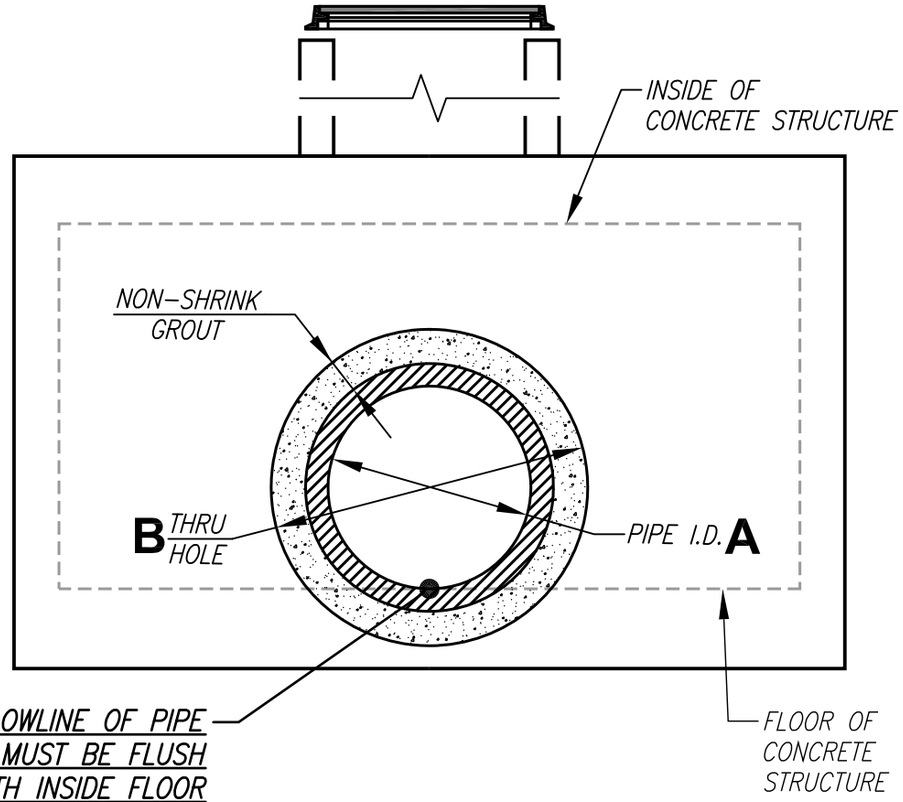
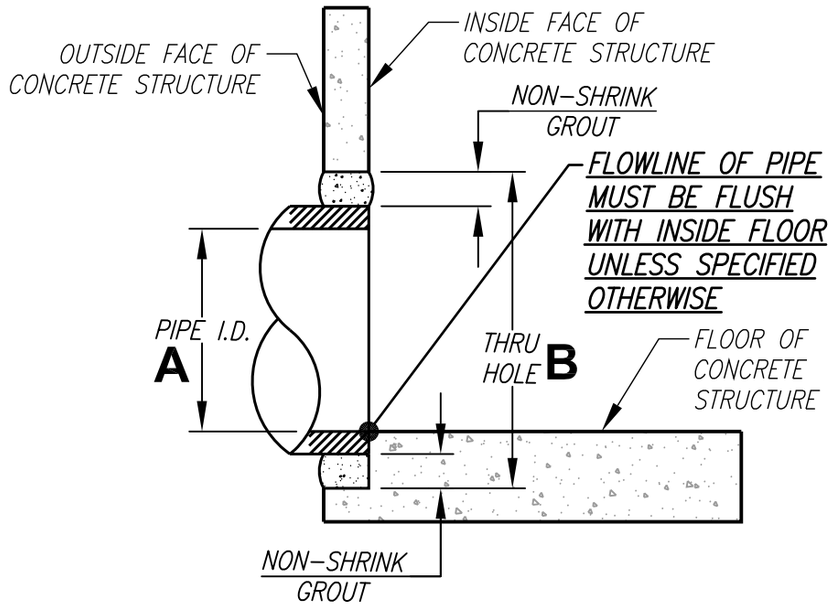
E. Info@BioCleanEnvironmental.com



END VIEW



ELEVATION VIEW

INSTALLATION NOTES

1. ALL CONNECTION PIPES SUPPLIED AND INSTALLED BY CONTRACTOR. MODULAR WETLAND UNIT WILL BE DELIVERED WITH A THRU HOLE AND ITS THE CONTRACTORS RESPONSIBILITY TO SUPPLY PIPE, AND ALL LABOR AND MATERIAL TO CONNECT PIPE AND SEAL UNIT WATER TIGHT INCLUDING BUT NOT LIMITED TO GROUT, CONCRETE LUG, REBAR, PLUG, ANCHORS, COUPLER, FITTINGS AND/OR ALL SUPPORT AND CONNECTING HARDWARE.
2. ALL CONNECTIONS ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE. (CAN NOT INTRUDE BEYOND FLUSH) ALL PIPE FLOWLINES SHALL BE FLUSH WITH INSIDE FLOOR UNLESS SPECIFIED OTHERWISE.
3. ALL GROUT AND/OR CONCRETE SHALL BE NON–SHRINK AND MEET OR EXCEED LOCAL PIPE CONNECTION STANDARDS.
4. REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE.
5. IF CONNECTING TO AN EXISTING PIPE CONTRACTOR MUST POT HOLE PIPE AND VERIFY EXISTING PIPE CONNECTION ELEVATION PRIOR TO APPROVING MODULAR WETLAND SUBMITTALS.

PIPE THRU HOLE NOTE:

ALL UNITS WITH PRECAST THRU HOLES WILL HAVE THE GIVEN THRU HOLE DIAMETER PER THE PRECAST THRU HOLE CHART HERON. IF A DIFFERENT THRU HOLE SIZE IS REQUIRED IT MUST BE CLEARLY MARKED ON THE APPROVED SUBMITTALS.

PRECAST THRU HOLE CHART

A PIPE INSIDE DIAMETER (INCHES)	B THRU HOLE DIAMETER (INCHES)
4	8
6	10
8	14
10	16
12	18
15	21
18	26
24	33
30	41
36	48
42	56
48	64

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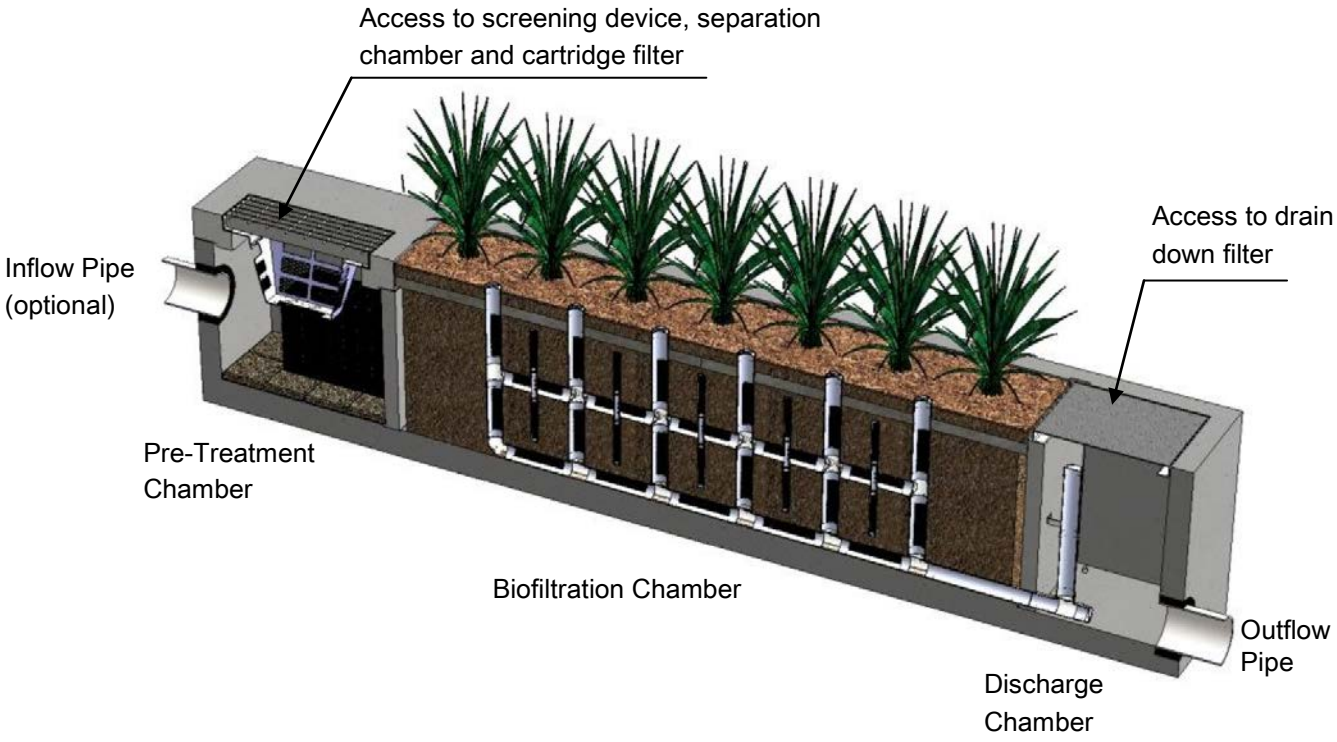
PIPE CONNECTION
STANDARD DETAIL

Maintenance Guidelines for Modular Wetland System - Linear

Maintenance Summary

- Remove Trash from Screening Device – average maintenance interval is 6 to 12 months.
  - (*5 minute average service time*).
- Remove Sediment from Separation Chamber – average maintenance interval is 12 to 24 months.
  - (*10 minute average service time*).
- Replace Cartridge Filter Media – average maintenance interval 12 to 24 months.
  - (*10-15 minute per cartridge average service time*).
- Replace Drain Down Filter Media – average maintenance interval is 12 to 24 months.
  - (*5 minute average service time*).
- Trim Vegetation – average maintenance interval is 6 to 12 months.
  - (*Service time varies*).

System Diagram



Maintenance Procedures

Screening Device

1. Remove grate or manhole cover to gain access to the screening device in the Pre-Treatment Chamber. Vault type units do not have screening device. Maintenance can be performed without entry.
2. Remove all pollutants collected by the screening device. Removal can be done manually or with the use of a vacuum truck. The hose of the vacuum truck will not damage the screening device.
3. Screening device can easily be removed from the Pre-Treatment Chamber to gain access to separation chamber and media filters below. Replace grate or manhole cover when completed.

Separation Chamber

1. Perform maintenance procedures of screening device listed above before maintaining the separation chamber.
2. With a pressure washer spray down pollutants accumulated on walls and cartridge filters.
3. Vacuum out Separation Chamber and remove all accumulated pollutants. Replace screening device, grate or manhole cover when completed.

Cartridge Filters

1. Perform maintenance procedures on screening device and separation chamber before maintaining cartridge filters.
2. Enter separation chamber.
3. Unscrew the two bolts holding the lid on each cartridge filter and remove lid.
4. Remove each of 4 to 8 media cages holding the media in place.
5. Spray down the cartridge filter to remove any accumulated pollutants.
6. Vacuum out old media and accumulated pollutants.
7. Reinstall media cages and fill with new media from manufacturer or outside supplier. Manufacturer will provide specification of media and sources to purchase.
8. Replace the lid and tighten down bolts. Replace screening device, grate or manhole cover when completed.

Drain Down Filter

1. Remove hatch or manhole cover over discharge chamber and enter chamber.
2. Unlock and lift drain down filter housing and remove old media block. Replace with new media block. Lower drain down filter housing and lock into place.
3. Exit chamber and replace hatch or manhole cover.

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Maintenance Notes

1. Following maintenance and/or inspection, it is recommended the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.

2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.

3. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.

4. Entry into chambers may require confined space training based on state and local regulations.

5. No fertilizer shall be used in the Biofiltration Chamber.

6. Irrigation should be provided as recommended by manufacturer and/or landscape architect. Amount of irrigation required is dependent on plant species. Some plants may require irrigation.

Maintenance Procedure Illustration

Screening Device

The screening device is located directly under the manhole or grate over the Pre-Treatment Chamber. It's mounted directly underneath for easy access and cleaning. Device can be cleaned by hand or with a vacuum truck.

Separation Chamber

The separation chamber is located directly beneath the screening device. It can be quickly cleaned using a vacuum truck or by hand. A pressure washer is useful to assist in the cleaning process.

Cartridge Filters

The cartridge filters are located in the Pre-Treatment chamber connected to the wall adjacent to the biofiltration chamber. The cartridges have removable tops to access the individual media filters. Once the cartridge is open media can be easily removed and replaced by hand or a vacuum truck.

Drain Down Filter

The drain down filter is located in the Discharge Chamber. The drain filter unlocks from the wall mount and hinges up. Remove filter block and replace with new block.

Trim Vegetation

Vegetation should be maintained in the same manner as surrounding vegetation and trimmed as needed. No fertilizer shall be used on the plants. Irrigation per the recommendation of the manufacturer and or landscape architect. Different types of vegetation requires different amounts of irrigation.

Inspection Form

Bio Clean
P. 855-566-3938
F. 760-433-3176
E. Info@BioCleanEnvironmental.com

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Inspection Report
Modular Wetlands System

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ___/___/___ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Inspection Checklist

Modular Wetland System Type (Curb, Grate or UG Vault): _____ Size (22', 14' or etc.): _____

Structural Integrity:	**Yes**	**No**	**Comments**
Damage to pre-treatment access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Damage to discharge chamber access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Does the MWS unit show signs of structural deterioration (cracks in the wall, damage to frame)?			
Is the inlet/outlet pipe or drain down pipe damaged or otherwise not functioning properly?			
Working Condition:			
Is there evidence of illicit discharge or excessive oil, grease, or other automobile fluids entering and clogging the unit?			
Is there standing water in inappropriate areas after a dry period?			
Is the filter insert (if applicable) at capacity and/or is there an accumulation of debris/trash on the shelf system?			
Does the depth of sediment/trash/debris suggest a blockage of the inflow pipe, bypass or cartridge filter? If yes, specify which one in the comments section. Note depth of accumulation in in pre-treatment chamber.			Depth:
Does the cartridge filter media need replacement in pre-treatment chamber and/or discharge chamber?			Chamber:
Any signs of improper functioning in the discharge chamber? Note issues in comments section.			
Other Inspection Items:			
Is there an accumulation of sediment/trash/debris in the wetland media (if applicable)?			
Is it evident that the plants are alive and healthy (if applicable)? Please note Plant Information below.			
Is there a septic or foul odor coming from inside the system?			

Waste:	**Yes**	**No**
Sediment / Silt / Clay		
Trash / Bags / Bottles		
Green Waste / Leaves / Foliage		

Recommended Maintenance	
No Cleaning Needed	
Schedule Maintenance as Planned	
Needs Immediate Maintenance	

Plant Information	
Damage to Plants	
Plant Replacement	
Plant Trimming	

Additional Notes: _____

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Maintenance Report

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Cleaning and Maintenance Report
Modular Wetlands System

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____/____/____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Insert	Manufacturer / Description / Sizing	Trash Accumulation	Foliage Accumulation	Sediment Accumulation	Total Debris Accumulation	Condition of Media 25/50/75/100 (will be changed @ 75%)	Operational Per Manufactures' Specifications (If not, why?)
	Lat: Long:	MWS Catch Basins						
		MWS Sedimentation Basin						
		Media Filter Condition						
		Plant Condition						
		Drain Down Media Condition						
		Discharge Chamber Condition						
		Drain Down Pipe Condition						
		Inlet and Outlet Pipe Condition						

Comments:

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Section [_____]
Modular Subsurface Flow Wetland System

PART 1 – GENERAL

01.01.00 Purpose
The purpose of this specification is to establish generally acceptable criteria for Modular Subsurface Flow Wetland Systems used for biofiltration of stormwater runoff including dry weather flows and other contaminated water sources. It is intended to serve as a guide to producers, distributors, architects, engineers, contractors, plumbers, installers, inspectors, agencies and users; to promote understanding regarding materials, manufacture and installation; and to provide for identification of devices complying with this specification.

01.02.00 Description
Modular Subsurface Flow Wetland Systems (MSFWS) are used for filtration of stormwater runoff including dry weather flows. The MSFWS is a pre-engineered biofiltration system composed of a pretreatment chamber containing filtration cartridges, a horizontal flow biofiltration chamber with a peripheral void area and a centralized and vertically extending underdrain, the biofiltration chamber containing a sorptive media mix which does not contain any organic material and a layer of plant establishment media, and a discharge chamber containing an orifice control structure . Treated water flows horizontally in series through the pretreatment chamber cartridges, biofiltration chamber and orifice control structure.

01.03.00 Manufacturer
The manufacturer of the MSFWS shall be one that is regularly engaged in the engineering design and production of systems developed for the treatment of stormwater runoff for at least (10) years, and which have a history of successful production, acceptable to the engineer of work. In accordance with the drawings, the MSFWS(s) shall be a filter device Manufactured by Bio Clean or assigned distributors or licensees. Bio Clean can be reached at:

Corporate Headquarters:
Bio Clean
398 Via El Centro
Oceanside, CA 92058
Phone: (855) 566-3938
Fax: (760) 433-3176
www.biocleanenvironmental.com

01.04.00 Submittals

01.04.01 Shop drawings are to be submitted with each order to the contractor and consulting engineer.

01.04.02 Shop drawings are to detail the MSFWS and all components required and the sequence for installation, including:

- System configuration with primary dimensions
- Interior components
- Any accessory equipment called out on shop drawings

01.04.03 Inspection and maintenance documentation submitted upon request.

01.05.00 Work Included

01.05.01 Specification requirements for installation of MSFWS.

01.05.02 Manufacturer to supply components of the MSFWS(s):

- Pretreatment chamber components (pre-assembled)
- Concrete Structure(s)
- Biofiltration chamber components (pre-assembled)
- Flow control discharge structure (pre-assembled)

01.06.00 Reference Standards

ASTM C 29	Standard Test Method for Unit Weight and Voids in Aggregate
ASTM C 88	C 88 Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C131	C 131 Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregates by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	C 136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C 330	C 330 Standard Specification for Lightweight Aggregate for Structural Concrete
ASTM D 698	Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft.-lbf/ft3 (600 kN-m/m3)
ASTM D 1621	10 Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
ASTM D 1777	ASTM D1777 - 96(2007) Standard Test Method for Thickness of Textile Materials
ASTM D 4716	Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
AASHTO T 99-01	Standard Method of Test for Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in) Drop
AASHTO T 104	Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
AASHTO T 260	Standard Method of Test for Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials.
AASHTO T 288	Standard Method of Test for Determining Minimum Laboratory Soil Resistivity
AASHTO T 289	Standard Method of Test for Determining ph of Soil for Use in Corrosion Testing
AASHTO T 291	Standard Method of Test for Determining Water Soluble Chloride Ion Content in Soil
AASHTO T 290	T 290 Standard Method of Test for Determining Water Soluble Sulfate Ion Content in Soil

PART 2 – COMPONENTS

The Modular Subsurface Flow Wetland Systems (MSFWS) and all of its components shall be self-contained within a concrete structure constructed of concrete with a minimum 28 day compressive strength of 5,000 psi, with reinforcing per ASTM A 615, Grade 60, and supports and H20 loading as indicated by AASHTO. Each Chamber shall have appropriate access hatches for easy maintenance and sized to allow removal of all internal components without disassembly. All water transfer system components shall conform with the following;

- Filter netting shall be 100% Polyester with a number 16 sieve size, and strength tested per ASTM D 3787.
- Drainage cells shall be manufactured of lightweight injection-molded plastic and have a minimum compressive strength test of 6,000 psi and a void area along the surface making contact with the filter media of 75% or greater. The cells shall be at least 2" in thickness and allow water to freely flow in all four directions.

02.01.00 Pretreatment Chamber Components

02.01.01 Filter Cartridges shall operate at a loading rate not to exceed 3 gallons per minute per square foot surface area.

02.01.02 Drain Down System shall include a pervious floor that allows water to drain into the underdrain pipe that is connected to the discharge chamber.

02.02.00 Biofiltration Chamber Components

02.02.01 Media shall consist of ceramic material produced by expanding and vitrifying select material in a rotary kiln. Media must be produced to meet the requirements of ASTM C330, ASTM C331, and AASHTO M195. Aggregates must have a minimum 24-hour water absorption of 10.5% mass. Media shall not contain any organic material. Flow through media shall be horizontal from the outer perimeter of the chamber toward the centralized and vertically extending underdrain. The retention time in the media shall be at least 3 minutes. Downward flow filters are not acceptable alternatives. The thickness of the media shall be at least 19" from influent end to effluent end. The loading rate on the media shall not exceed 1.1 gallons per minute per square foot surface area. Media must be contained within structure that spaces the surface of the media at least 2" from all vertically extending walls of the concrete structure.

02.02.02 Planting shall be native, drought tolerant species recommend by manufacturer and/or landscape architect.

02.02.03 Plant Support Media shall be made of a 3" thick moisture retention cell that is inert and contains no chemicals or fertilizers, is not made of organic material and has an internal void percentage of 80%.

02.03.00 Discharge Chamber

The discharge device shall house a flow control orifice plate that restricts flows greater than designed treatment flow rate. All piping components shall be made of a high-density polyethylene. The discharge chamber shall also contain a drain down filter if specified on the drawing.

PART 3 – PERFORMANCE

03.01.00 General

03.01.01 Function - The MSFWS has no moving internal components and functions based on gravity flow, unless otherwise specified. The MSFWS is composed of a pretreatment chamber, a biofiltration chamber and a discharge chamber. The pretreatment device houses cartridge media filters, which consist of filter media housed in a perforated enclosure. The untreated runoff flows into the system via subsurface piping and or surface inlet. Water entering the system is forced through the filter cartridge enclosures by gravity flow. Then the flow contacts the filter media. The flow through the media is horizontal toward the center of each individual media filter. In the center of the media shall be a round slotted PVC pipe of no greater than 1.5" in diameter. The slotted PVC pipe shall extend downward into the water transfer cavity of the cartridge. The slotted PVC pipe shall be threaded on the bottom to connect to the water transfer cavity. After pollutants have been removed by the filter media the water discharges the pretreatment chamber and flows into the water transfer system and is conveyed to the biofiltration chamber. Once runoff has been filtered by the biofiltration chamber it is collected by the vertical underdrain and conveyed to a discharge chamber equipped with a flow control orifice plate. Finally the treated flow exits the system.

03.01.02 Pollutants - The MSFWS will remove and retain debris, sediments, TSS, dissolved and particulate metals and nutrients including nitrogen and phosphorus species, bacteria, BOD, oxygen demanding substances, organic compounds and hydrocarbons entering the filter during frequent storm events and continuous dry weather flows.

03.01.03 Treatment Flow Rate and Bypass - The MSFWS operates in-line. The MSFWS will treat 100% of the required water quality treatment flow based on a minimum filtration capacities listed in section 03.02.00. The size of the system must match those provided on the drawing to ensure proper performance and hydraulic residence time.

Minimum Treatment Capabilities

• System must be capable of treating flows to the specified treatment flow rate on the drawings. The flow rate shall be controlled by an orifice plate.

PART 4 - EXECUTION

04.01.00 General

The installation of the MSFWS shall conform to all applicable national, state, state highway, municipal and local specifications.

04.02.00 Installation

The Contractor shall furnish all labor, equipment, materials and incidentals required to install the (MSFWS) device(s) and appurtenances in accordance with the drawings and these specifications.

04.02.01 Grading and Excavation site shall be properly surveyed by a registered professional surveyor, and clearly marked with excavation limits and elevations. After site is marked it is the responsibility of the contractor to contact local utility companies and/or DigAlert to check for underground utilities. All grading permits shall be approved by governing agencies before commencement of grading and excavation. Soil conditions shall be tested in accordance with the governing agencies requirements. All earth removed shall be transported, disposed, stored, and handled per governing agencies standards. It is the responsibility of the contractor to install and maintain proper erosion control measures during grading and excavation operations.

04.02.02 Compaction – All soil shall be compacted per registered professional soils engineer's recommendations prior to installation of MSFWS components.

04.02.03 Backfill shall be placed according to a registered professional soils engineer's recommendations, and with a minimum of 6" of gravel under all concrete structures.

04.02.04 Concrete Structures – After backfill has been inspected by the governing agency and approved the concrete structures shall be lifted and placed in proper position per plans.

04.02.05 Subsurface Flow Wetland Media shall be carefully loaded into area so not to damage the Wetland Liner or Water Transfer Systems. The entire wetland area shall be filled to a level 9 inches below finished surface.

04.02.06 Planting layer shall be installed per manufacturer's drawings and consist of a minimum 3" grow enhancement media that ensures greater than 95% plant survival rate, and 6" of wetland media. Planting shall consist of native plants recommended by manufacturer and/or landscape architect. Planting shall be drip irrigated for at least the first 3 months to insure long term plant growth. No chemical herbicides, pesticides, or fertilizers shall be used in the planting or care and maintenance of the planted area.

04.03.00 Shipping, Storage and Handling

04.03.01 Shipping – MSFWS shall be shipped to the contractor's address or job site, and is the responsibility of the contractor to offload the unit(s) and place in the exact site of installation.

04.03.02 Storage and Handling– The contractor shall exercise care in the storage and handling of the MSFWS and all components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted and unloading has commenced shall be born by the contractor. The MSFWS(s) and all components shall always be stored indoors and transported inside the original shipping container until the unit(s) are ready to be installed. The MSFWS shall always be handled with care and lifted according to OSHA and NIOSA lifting recommendations and/or contractor's workplace safety professional recommendations.

04.04.00 Maintenance and Inspection

04.04.01 Inspection – After installation, the contractor shall demonstrate that the MSFWS has been properly installed at the correct location(s), elevations, and with appropriate components. All components associated with the MSFWS and its installation shall be subject to inspection by the engineer at the place of installation. In addition, the contractor shall demonstrate that the MSFWS has been installed per the manufacturer's specifications and recommendations. All

components shall be inspected by a qualified person once a year and results of inspection shall be kept in an inspection log.

04.04.02 Maintenance – The manufacturer recommends cleaning and debris removal maintenance of once a year and replacement of the Cartridge Filters as needed. The maintenance shall be performed by someone qualified. A Maintenance Manual is available upon request from the manufacturer. The manual has detailed information regarding the maintenance of the MSFWS. A Maintenance/Inspection record shall be kept by the maintenance operator. The record shall include any maintenance activities preformed, amount and description of debris collected, and the condition of the filter.

04.04.03 Material Disposal - All debris, trash, organics, and sediments captured by the MSFWS shall be transported and disposed of at an approved facility for disposal in accordance with local and state requirements. Please refer to state and local regulations for the proper disposal of toxic and non-toxic material.

PART 5 – QUALITY ASSURNACE

05.01.00 Warranty

The Manufacturer shall guarantee the MSFWS against all manufacturing defects in materials and workmanship for a period of (5) years from the date of delivery to the _____. The manufacturer shall be notified of repair or replacement issues in writing within the warranty period. The MSFWS is limited to recommended application for which it was designed.

05.02.00 Performance Certification

The MSFWS manufacturer shall submit to the Engineer of Record a “Manufacturer’s Performance Certificate” certifying the MSFWS is capable of achieving the specified removal efficiency for suspended solids, phosphorous and dissolved metals.

Preliminary Stormwater Control Plan

Quarry Flats

Rocklin, CA

December 26, 2019

Brentwood Developments
5800 Stanford Ranch Road, Ste. 210
Rocklin, CA 95765

Prepared by:

Susan Dahl
Cartwright Nor Cal
4180 Douglas Blvd., Suite 200
Granite Bay, CA 95746

Table of Contents

Tables

Attachments

This Stormwater Control Plan was prepared using the template dated November 2014.

I. Project Data

Table 1. Project Data Form

Project Name/Number	Quarry Flats
Application Submittal Date	12/2019
Project Location	5255 Pacific St., Rocklin, CA – APN: 010-170-026
Project Phase No.	n/a
Project Type and Description	Four retail buildings with associated parking lot improvements.
Total Project Site Area (acres)	3.14 AC
Total New and Replaced Impervious Surface Area	113,903 SF
Total Pre-Project Impervious Surface Area	822 SF
Total Post-Project Impervious Surface Area	113,903 SF

II. Setting

II.A. Project Location and Description

The project is located at 5255 Pacific St., Rocklin, CA, at the southern corner of the intersection of Rocklin Rd. and Pacific St. Attachment A contains a Vicinity Map for reference. The site is bordered by Quarry Park Adventures to the south, southeast, and southwest. Pacific St. borders the northwest, vacant land to the north, and a church is located to the northwest. There will be four retail buildings and surrounding parking lot improvements. Access will be off Pacific St. where the current driveway will be widened and also through the adjacent Quarry Park Adventures Parking Lot.

Refer to the Stormwater Control Plan Exhibit in Attachment B.

II.B. Existing Site Features and Conditions

The existing parcel was previously the site of buildings serving the adjacent quarry. Those buildings have been removed and the site was most recently being used as a construction staging area. Fill is present from the past operations. There are short grasses, oak and pine trees on the site. The site grade varies but generally sits several feet above Pacific St.

Groundwater conditions were not observed in the excavated test pit locations according to the Geotechnical Engineering Study prepared by Youngdahl Consulting Group, Inc., dated November, 2017. Subsurface soil consists of fill overlying native silty sand. The underlying native soil is in a medium dense to dense and moderately to strongly cemented condition.

The existing site drains west towards Pacific St., and to the north and south, from the high point located near the middle of the eastern property line. The existing site surface consists of gravel, grasses, and trees. The existing driveway entrance is the only impervious area on the site. There is an existing 36" storm drain system in Pacific St. which originates near the existing site driveway entrance and drains northwest through Bush St.

II.C. Opportunities and Constraints for Stormwater Control

The site opportunities for stormwater control are the landscape areas proposed on-site. However, due to existing soil conditions outlined in the Geotech report, infiltration is not feasible. The site has opportunities to install Bioclean Modular Wetland units to treat the stormwater runoff and the site is elevated sufficiently to allow for the depth of the units and gravity drainage to the downstream point of connection.

III. Low Impact Development Design Strategies

III.A. Optimization of Site Layout

III.A.1. Limitations of Development Envelope

Most of the site will be developed except for some of areas on the perimeter where existing trees are proposed to remain.

III.A.2. Preservation of Natural Drainage Features

A portion of the existing site drains towards the drain inlets located on Pacific St. at the existing driveway entrance. The proposed site will connect into this inlet to drain the majority of the site. Some perimeter landscape areas will maintain their existing drainage direction onto adjacent offsite property.

III.A.3. Setbacks from Creek, Wetlands, and Riparian Habitats

There are no on-site or adjacent Creeks, Wetlands, or Riparian Habitats.

III.A.4. Minimization of Imperviousness

Impervious surfaces will be minimized by incorporating landscaped areas throughout the site where feasible.

III.A.5. Use of Drainage as a Design Element

Drainage will be designed to sheet flow and discharge to landscape area if feasible. If this cannot be achieved, runoff will drain to Bioclean Modular Wetlands units for treatment.

III.B. Use of Permeable Pavements

Permeable pavements will not be used because infiltration is not feasible on this site.

III.C. Dispersal of Runoff to Pervious Areas

Some runoff will be dispersed into adjacent pervious areas where it is not feasible to route into a Bioclean Modular Wetlands unit.

III.D. Stormwater Control Measures

Except for the areas draining to self-retaining areas, runoff from the remaining impervious areas on the site will drain to a Bioclean Modular Wetlands unit for treatment. The Bioclean Modular Wetlands unit will have greater or equal performance compared to bioretention facilities with respect to the amount of runoff infiltrated/evapotranspired, pollutant removal, protection against shock loadings/spills, and accessibility/maintenance.

IV. Documentation of Drainage Design

IV.A. Descriptions of Each Drainage Management Area

Table 2, shown below, contains the overall DMA areas and surface types for the project.

IV.A.1. Table of Drainage Management Areas

Table 2. Project DMA Summary

DMA NAME	SURFACE TYPE	AREA (SF)
1	CONCRETE, ASPHALT DRIVE, ROOF AND LANDSCAPE	30,950
2	CONCRETE, ASPHALT DRIVE, ROOF AND LANDSCAPE	90,379
3	CONCRETE, ASPHALT DRIVE, AND LANDSCAPE	25,383

IV.A.2. Drainage Management Area Descriptions

DMA 1 (30,950 sf) consists of concrete, asphalt drive aisle, roof, and landscape area. Runoff is ultimately drained to a Bioclean Modular Wetlands unit, BMP ID#: W1 .

DMA 1.A (28,999 sf) consists of all the impervious area from DMA 1: concrete sidewalk/trash enclosure apron, roof, and the asphalt drive aisle. Runoff sheet flows to the curb and gutter where it enters the Bioclean Modular Wetlands unit in DMA 1.

DMA 1.B (499 sf) consists of landscape area and drains to Bioclean Modular Wetlands Unit, BMP ID#: W1, in DMA 1.

DMA 1.C (72 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W1, in DMA 1.

DMA 1.D (285 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W1, in DMA 1.

DMA 1.E (660 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W1, in DMA 1.

DMA 1.F (247 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W1, in DMA 1.

DMA 1.G (188 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W1, in DMA 1.

DMA 2 (90,379 sf) consists of concrete, asphalt drive aisle, roof and landscape area. Runoff is ultimately drained to a Bioclean Modular Wetlands unit, BMP ID#: W2.

DMA 2.A (78,987 sf) consists of all impervious area from DMA 2: concrete sidewalk/trash enclosure apron, roof, and asphalt drive aisle. Runoff either sheet flows into drain inlets and is piped underground to the Bioclean Modular Wetlands unit (BMP ID#: W2) or drains directly into the unit via curb and gutter.

DMA 2.B (144 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.C (2,516 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.D (64 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.E (107 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.F (383 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.G (101 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.H (182 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.I (961 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.J (20 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.K (131 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.L (279 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.M (1,022 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.N (168 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.O (537 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.P (126 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.Q (125 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.R (1,792 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.S (42 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.T (224 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.U (580 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.V (1,769 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 2.W (119 sf) consists of landscape area and drains to the Bioclean Modular Wetlands Unit, BMP ID#: W2, in DMA 2.

DMA 3 (25,383 sf) consists of the concrete sidewalk, asphalt driveway, and landscape area at the perimeter of the site that drains offsite. All landscape area in DMA 3 is considered self-treating.

DMA 3.A (882 sf) consists of landscape area and drains offsite.

DMA 3.B (1,913 sf) consists of landscape area and drains offsite.

DMA 3.C (202 sf) consists of landscape area and drains offsite.

DMA 3.D (1,176 sf) consists of landscape area and drains offsite.

DMA 3.E (748 sf) consists of landscape area and drains offsite.

DMA 3.F (570 sf) consists of landscape area and drains offsite.

DMA 3.G (525 sf) consists of landscape area and drains offsite.

DMA 3.H (7,179 sf) consists of landscape area and drains offsite.

DMA 3.I (6,271 sf) consists of landscape area and drains offsite.

DMA 3.J (522 sf) consists of asphalt driveway and drains offsite.

DMA 3.K (235 sf) consists of concrete sidewalk and drains offsite.

DMA 3.L (239 sf) consists of concrete sidewalk/stairs that lead to Pacific St. ROW and drains offsite.

DMA 3.M (2,303 sf) consists of asphalt driveway and drains offsite.

DMA 3.N (2,618 sf) consists of concrete patio area and accessible concrete ramp. The patio drains into adjacent landscape area DMA 3.H and the ramp drains offsite.

IV.B. Tabulation and Sizing Calculations

IV.B.1. Information Summary for Bioclean Modular Wetlands Facility Design

DMA 1 and DMA 2 will be treated using a Bioclean Modular Wetlands unit, BMP ID#: W1 and BMP ID#: W2, respectively. The Rational Method was used to calculate the WQF and 10-year storm event flow rate (Q_{10}) for sizing the Bioclean Modular Wetlands units. Rainfall intensities of 0.2 in/hr and 2.1 in/hr to calculate the WQF and Q_{10} were used from NOAA Atlas 14 and Table 5-A-3 of the Placer County Flood Control District Stormwater Management Manual, respectively. The Bioclean Modular Wetlands unit sizes were selected by Bioclean to ensure that the Modular Wetland unit treatment flow rate is greater than the required WQF. See attachment B for the proposed location of the units and attachment C for the project specific details of the Bioclean Modular Wetlands unit. The subshed DMA areas and required WQF is shown in Section IV.B.4., Table 4 and Table 5 of this report.

IV.B.2. Self-Treating Areas

Landscaped areas bordering the project site act as self-treating areas which drain off-site to Pacific Street and the adjacent properties. These areas are located along all sides of the property. Table 3

below lists the areas of DMA 3 which include self-treating landscape area, as well as 5 subsheds that are untreated impervious areas which are not feasible to collect and treat due to the grade difference between the site and surrounding property.

Table 3. Self-Treating DMA Areas

Self-Treating DMAs		
DMA SUBSHED NO.	DMA AREA (SF)	POST-PROJECT SURFACE TYPE
3.A	882	LANDSCAPE
3.B	1,913	LANDSCAPE
3.C	202	LANDSCAPE
3.D	1,176	LANDSCAPE
3.E	748	LANDSCAPE
3.F	570	LANDSCAPE
3.G	525	LANDSCAPE
3.H	7,179	LANDSCAPE
3.I	6,271	LANDSCAPE
SUBTOTAL	19,466	
Untreated Impervious DMAs		
3.J	522	ASPHALT DRIVEWAY
3.K	235	CONCRETE SIDEWALK
3.L	239	CONCRETE SIDEWALK
3.M	2,303	ASPHALT DRIVEWAY
3.N	2,618	CONCRETE SIDEWALK
SUBTOTAL	5,917	
TOTAL	25,383	

IV.B.3. Self-Retaining Areas

There are no self-retaining areas proposed for the project.

IV.B.4. Areas Draining to Bioclean Modular Wetlands Facilities

DMA 1 and DMA 2 drain to two separate Bioclean Modular Wetlands units, BMP ID#: W1 and W2, respectively. Tables 4 and 5 below contain subshed areas and sizing calculations for each DMA.

Table 4. DMA 1 Area Summary

DMA SUBSHED NO.	DMA AREA (SF)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR (SF)	FACILITY NAME			
1.A	28,999	ROOF/PAVEMENT	1	28,999	MODULAR WETLAND UNIT			
1.B	499	LANDSCAPE	0.1	50				
1.C	72	LANDSCAPE	0.1	7				
1.D	285	LANDSCAPE	0.1	29	WQF @ i=0.2			
1.E	660	LANDSCAPE	0.1	66			MINIMUM	PROPOSED
1.F	247	LANDSCAPE	0.1	25	in/hr	Q_{10} @ i=2.1 in/hr (cfs)	FACILITY SIZE (CFS)	FACILITY SIZE (CFS)
1.G	188	LANDSCAPE	0.1	19	(cfs)			
TOTAL	30,950			29,194	0.13	1.41	0.13	0.231

Table 5. DMA 2 Area Summary

DMA 2								
DMA SUBSHED NO.	DMA AREA (SF)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR (SF)	FACILITY NAME			
2.A	78,987	ROOF/PAVEMENT	1	78,987	MODULAR WETLAND UNIT			
2.B	144	LANDSCAPE	0.1	14				
2.C	2,516	LANDSCAPE	0.1	252				
2.D	64	LANDSCAPE	0.1	6				
2.E	107	LANDSCAPE	0.1	11				
2.F	383	LANDSCAPE	0.1	38				
2.G	101	LANDSCAPE	0.1	10				
2.H	182	LANDSCAPE	0.1	18				
2.I	961	LANDSCAPE	0.1	96				
2.J	20	LANDSCAPE	0.1	2				
2.K	131	LANDSCAPE	0.1	13				
2.L	279	LANDSCAPE	0.1	28				
2.M	1,022	LANDSCAPE	0.1	102				
2.N	168	LANDSCAPE	0.1	17				
2.O	537	LANDSCAPE	0.1	54				
2.P	126	LANDSCAPE	0.1	13				
2.Q	125	LANDSCAPE	0.1	13				
2.R	1,792	LANDSCAPE	0.1	179				
2.S	42	LANDSCAPE	0.1	4	WQF @ i=0.2			
2.T	224	LANDSCAPE	0.1	22			MINIMUM	PROPOSED
2.U	580	LANDSCAPE	0.1	58	in/hr	Q_{10} @ i=2.1 in/hr (cfs)	FACILITY SIZE (CFS)	FACILITY SIZE (CFS)
2.V	1,769	LANDSCAPE	0.1	177	(cfs)			
2.W	119	LANDSCAPE	0.1	12				
TOTAL	90,379			80,126	0.37	3.86	0.37	0.462

V. Source Control Measures

V.A. Site Activities and Potential Sources of Pollutants

On-site activities that could potentially produce stormwater pollutants include:

- Driveways and parking lots
- Landscaping
- Trash Management

Table 6 below contains potential sources of runoff pollutants on-site and appropriate BMPs to be

implemented.

Table 6. Source Control Table

Potential source of runoff pollutants	Permanent source control BMPs	Operational source control BMPs
Inlets (including Bioclean Modular Wetlands units)	All inlets will be marked with "No Dumping! Flows to Local Waterways" or similar	Markings will be regularly inspected and repainted or replaced as needed. Lease agreements will include the following provision: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
Landscape maintenance	Landscaping will minimize irrigation and runoff and be selected for pest resistance, and will minimize the need for fertilizers and pesticides. Plants will be selected appropriate to site soils, slopes, climate, sun, wind rain, land use, air movement, ecological consistency, and plant interactions.	Landscaping will be maintained using minimal or no pesticides.
Refuse area	Refuse and recycled materials will be stored in the appropriate bins. Bins will be stored inside the homes garage.	
Sidewalks, and drive aisle		Sidewalks and driving surfaces will be swept regularly. Debris and wash water from periodic pressure washing will be collected and disposed of into the sanitary sewer system.

V.B. Features, Materials, and Methods of Construction of Source Control BMPs

The construction source BMP's that shall be used during construction include:

- Stabilized construction entrance
- Concrete washout
- Refuse area
- Equipment and materials storage area
- Storm drain inlet protection
- Sweeping of drive aisles to clean tracked material and prevent sediment transport

VI. Stormwater Facility Maintenance

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

Maintenance of stormwater facilities will be the responsibility of the property owners as outlined in a maintenance agreement to be completed during the Construction Document phase. The owner shall commit to execute any necessary agreements and shall accept the responsibility for interim operation and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

Regular maintenance of the Modular Wetland units is required to ensure the facility treats stormwater effectively. See the project O&M plan for complete maintenance information. See the list below for a summary of maintenance procedures.

- Remove trash from screening device (6-12 months)
- Remove sediment from the separation chamber (12-24 months)
- Replace cartridge filter media (12-24 months)
- Replace drain down filter media (12-24 months)
- Trim vegetation (6-12 months)

VII. Construction Checklist

Table 7 below contains a checklist of source control and treatment control measures to be implemented on the project site. The table will be shown on the construction document plan sheet.

Table 7. Construction Plan C.3 Checklist

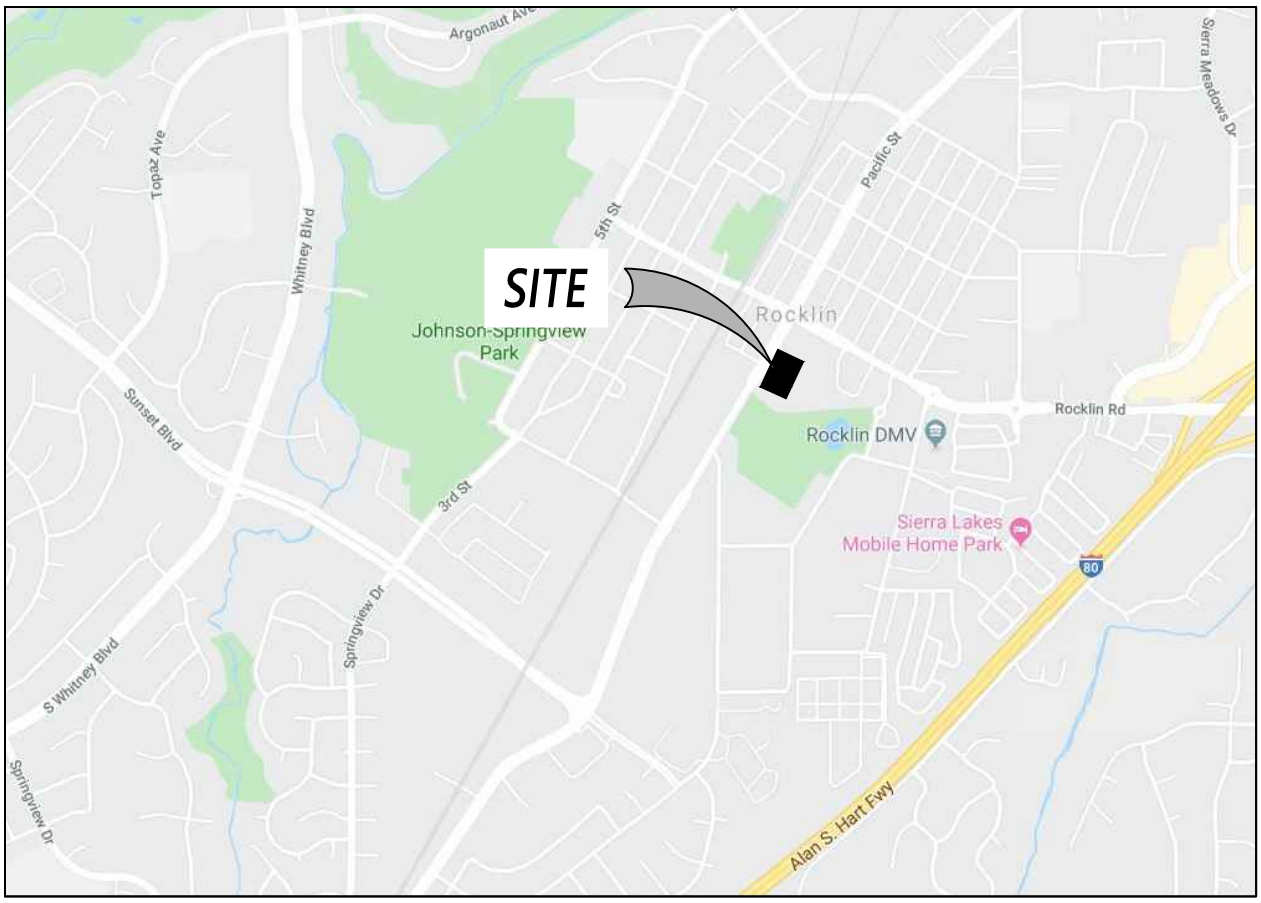
SCP Page #	Source Control or Treatment Control Measure	See Plan Sheet #s
SCP-Attachment B	Bioclean Modular Wetlands unit (BMP ID#: W1 and W2)	C3.0
Section V.B.	Landscape selection to minimize irrigation and pesticide use	TBD

VIII. Certifications

The design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the City of Rocklin *Post-Construction Manual.*

Attachment A

Vicinity Map



CARTWRIGHT NOR CAL
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4180 DOUGLAS BLVD, SUITE 200
GRANITE BAY, CALIFORNIA 95746
T (916) 978-4001
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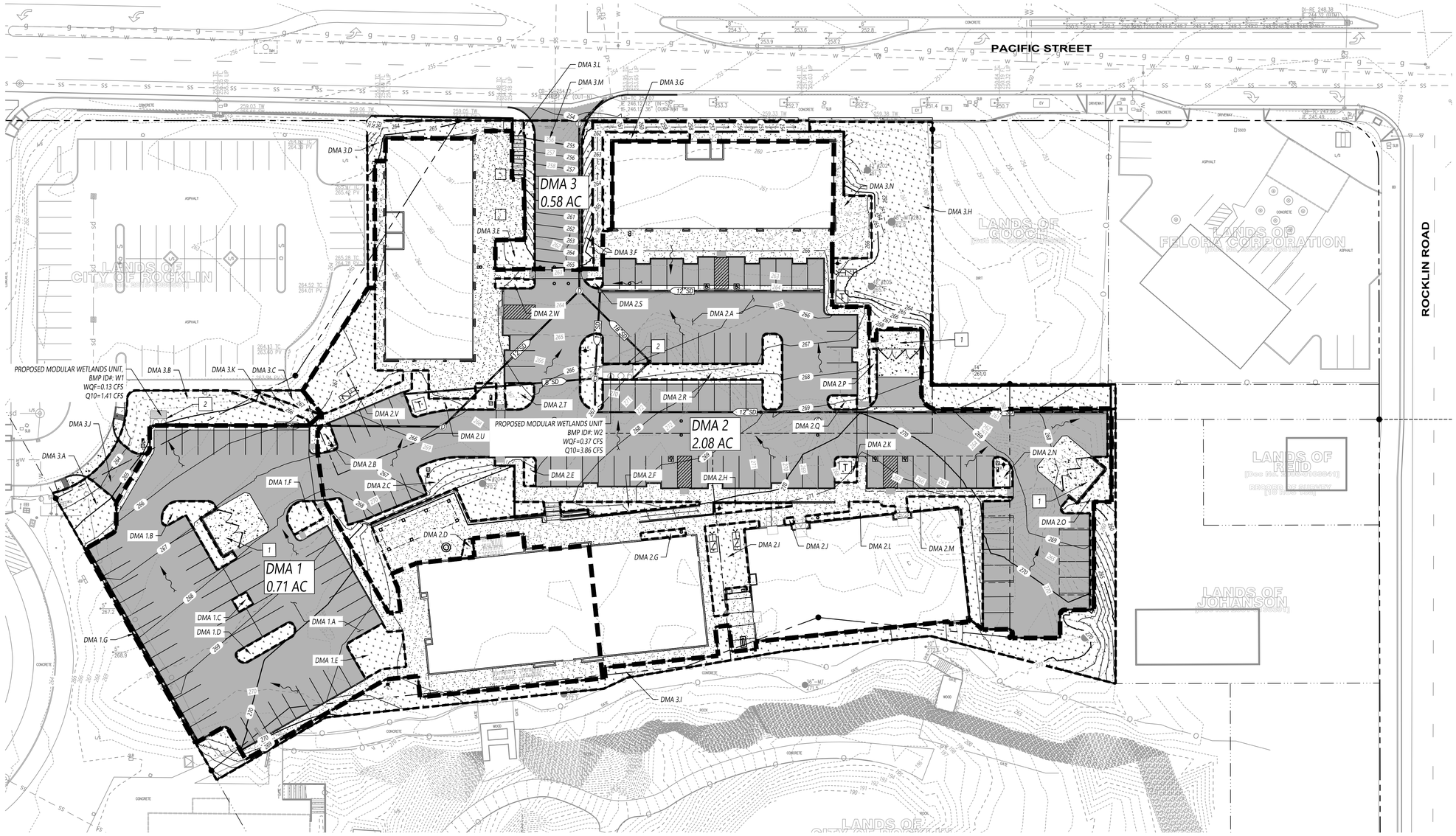
VICINITY MAP

QUARRY RETAIL
ROCKLIN, CA

DATE: 12/18/2019
SCALE: NTS
DRAWN BY: WY

Attachment B

Stormwater Control Plan Exhibit



LEGEND:

EXISTING		PROPOSED
	PROPERTY LINE	
204	1.0-FOOT CONTOUR	204
205	5.0-FOOT CONTOUR	205
	DRAINAGE MANAGEMENT AREA NO. (DMA)	
	DMA AREA (ACRES)	DMA X X.XX AC
	DMA BOUNDARY	
	DMA SUBSHED BOUNDARY	
	FLOW ARROW	
sd -<X" sd> sd	STORM DRAIN LINE	X" SD
	STORM DRAIN INLET	
	CONCRETE SURFACE	
	AC SURFACE	
	LANDSCAPE	

STORM WATER QUALITY NOTES:

1. PROPOSED SOURCE CONTROL - SITE TRASH ENCLOSURE
2. PROPOSED BIOCLEAN MODULAR WETLANDS UNIT - SEE STORMWATER CONTROL PLAN REPORT FOR DETAILS.

NOTE: SEE STORMWATER CONTROL PLAN FOR DMA TABLES AND BIOCLEAN MODULAR WETLANDS UNIT SIZING CALCULATIONS.

0' 15' 30' 60'

SCALE: 1"=30'

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PRELIMINARY STORM WATER QUALITY CONTROL PLAN

QUARRY RETAIL
ROCKLIN, CA

C3.0

DATE: 12/26/2019
SCALE: 1"=30'
DRAWN BY: SD

Login Name: susand
Plot Date: December 26, 2019 - 3:18 pm
File Name: U:\2170651-The Shoppes at the Quarry\CAD\Civil_SDV\Production Drawings\2170651-SD-SWQP.dwg

Attachment C

Bioclean Modular Wetlands Detail

SITE SPECIFIC DATA			
PROJECT NUMBER		----	
PROJECT NAME		----	
PROJECT LOCATION		----	
STRUCTURE ID		----	
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	----	PVC	8"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	----	PVC	8"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	----	----	----
SURFACE LOAD	PARKWAY	OPEN PLANTER	PARKWAY
FRAME & COVER	ø30"	N/A	ø24"
WETLANDMEDIA VOLUME (CY)			TBD
WETLANDMEDIA DELIVERY METHOD			PER CONTRACT
ORIFICE SIZE (DIA. INCHES)			TBD

NOTES:

INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
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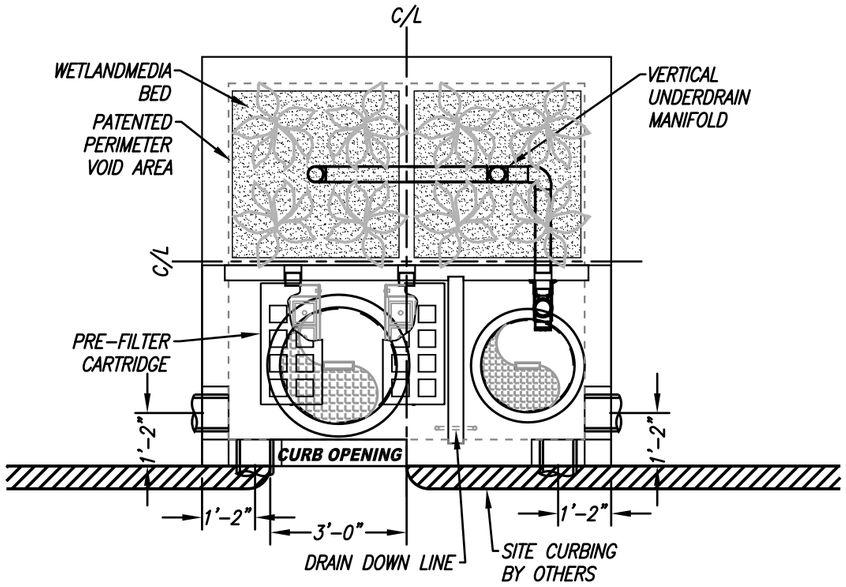
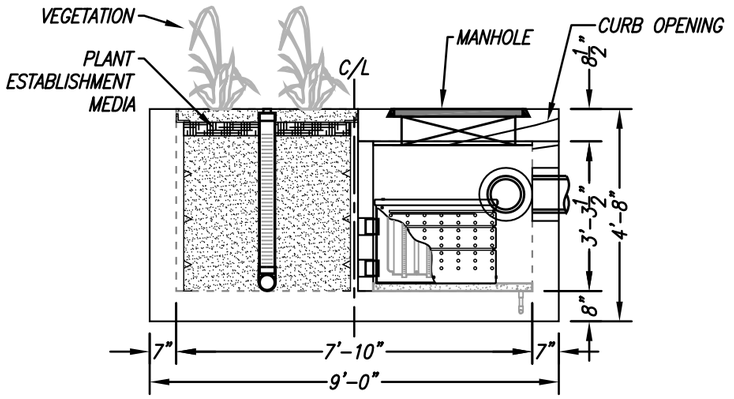
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING MODULAR WETLANDS FOR ACTIVATION OF UNIT. MANUFACTURES WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A MODULAR WETLANDS REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.

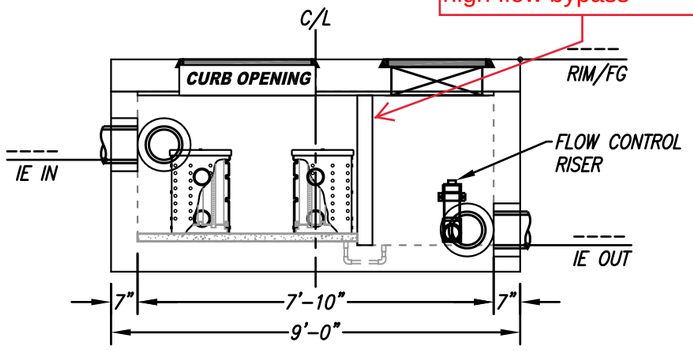


PLAN VIEW

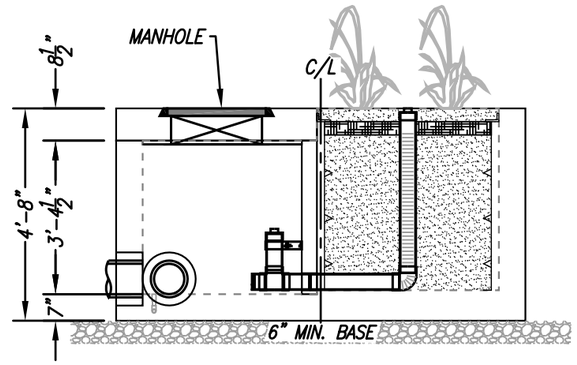


LEFT END VIEW

wier to be lowered for high flow bypass



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.231
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	2.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

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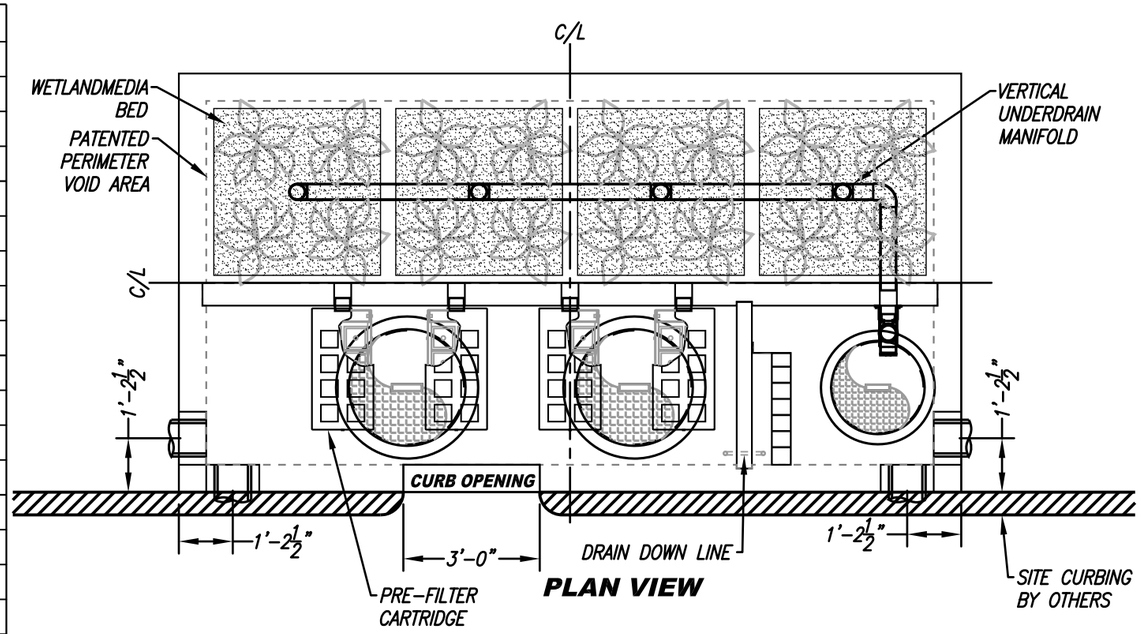
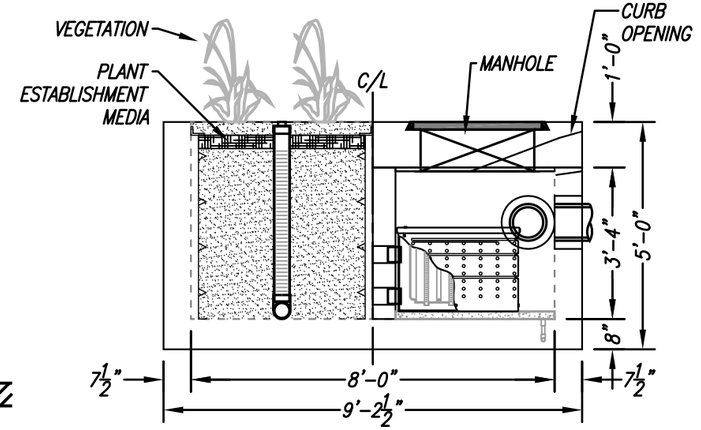
MWS-L-8-8-C
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

1/5/17 HAYDEN

SITE SPECIFIC DATA			
PROJECT NUMBER		----	
PROJECT NAME		----	
PROJECT LOCATION		----	
STRUCTURE ID		----	
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	----	PVC	8"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	----	PVC	8"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	----	----	----
SURFACE LOAD	PARKWAY	OPEN PLANTER	PARKWAY
FRAME & COVER	2 EA ø30"	N/A	ø24"
WETLANDMEDIA VOLUME (CY)			TBD
WETLANDMEDIA DELIVERY METHOD			PER CONTRACT
ORIFICE SIZE (DIA. INCHES)			TBD
NOTES:			



PLAN VIEW



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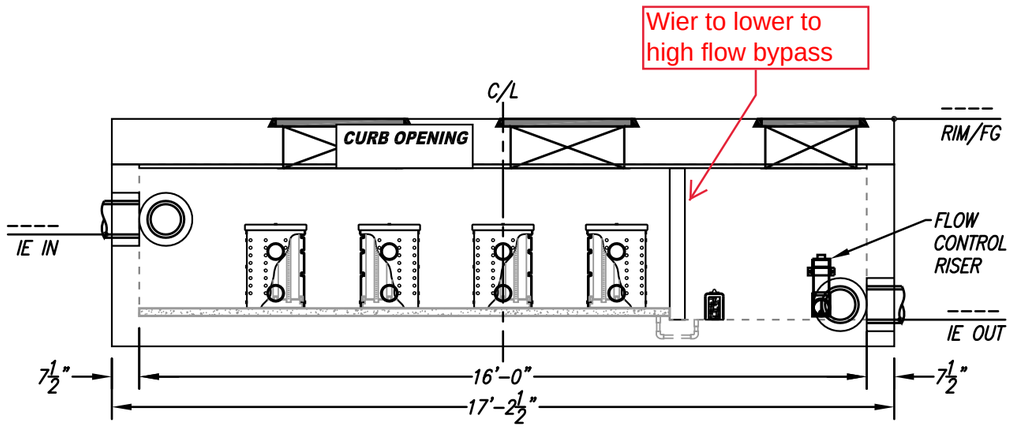
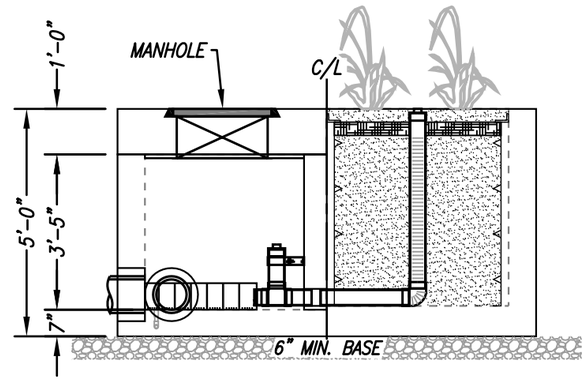


ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.462
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	2.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

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MWS-L-8-16-C
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1/5/17/HAYDEN