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STORMWATER MANAGEMENT FACILITIES OPERATION AND MAINTENANCE AGREEMENT

This Stormwater Management Facilities Operation and Maintenance Agreement ("AGREEMENT") is made and entered into this _____ day of _____ 2019 ("Effective Date"), by and between MILPITAS – DISTRICT 1 OWNER, LLC, A DELAWARE LIMITED LIABILITY COMPANY. ("Property Owner") and the City of Milpitas, a municipal corporation of the State of California ("City").

RECITALS

This AGREEMENT is made and entered into with reference to the following facts:

A. **WHEREAS**, the Property Owner is the owner of real property more particularly depicted and described on the attached as **Exhibit A** ("Property") and fully incorporated herein by reference; and

B. **WHEREAS**, the Property Owner received entitlements from the City allowing the development of the Property, including the construction of 1 building comprising of up to 371 units with, emergency vehicle access, utilities, and associated offsite and onsite improvements landscaping, irrigation, and stormwater treatment measures on a 5.020 acre site located at 1315 McCandless Drive in Milpitas and more commonly known as District 1 – Building 1, Project No. PJ 1134, (the "Project") on the Property; and subject to conditions set forth in the following (collectively "City Approvals"):

1. Resolution No. 8165 approving Site Development Permit No. SD11- 0001,

2. Resolution No. 8165 approving Major Tentative Map No. MT11- 0002,

3. Resolution No. 8165 approving Conditional Use Permit No. UP11-0037 ; and

C. **WHEREAS**, discharges to the City's municipal separate storm sewer system ("MS4") are regulated under state and federal law pursuant to Waste Discharge Requirements and National Pollutant Discharge Elimination System permit ("MS4 Permit") issued by the Regional Water Quality Control Board, San Francisco Region ("Regional Board"); and

D. **WHEREAS**, pursuant to the requirements of the MS4 Permit and the City's Stormwater and Urban Runoff Pollution Control Ordinance as codified in Milpitas Municipal Code Chapter 16 ("Ordinance"), the City Approvals require the Property Owner to install, operate and maintain, at no cost or expense to the City, the Permanent Stormwater Pollution Prevention Measures ("BMPs") more particularly described in the City-approved Stormwater Control Operation and Maintenance Plan (sometimes referred to herein as "Plan") for the Project on file with the City as **Exhibit B** and fully incorporated herein by reference; and

E. **WHEREAS**, the Stormwater Control Operation and Maintenance Plan may be subsequently modified from time to time with City's written approval and such changes shall be fully incorporated as part of this Agreement by this reference; and

F. **WHEREAS**, the Stormwater Control Operation and Maintenance Plan includes provisions for the BMP Operation and Maintenance and an annual inspection checklist for the BMPs constructed on the Property, and

G. **WHEREAS**, this Agreement memorializes the Property Owner's maintenance, operations, and inspection obligations under the City's Ordinance and the approved Stormwater Control Operation and Maintenance Plan.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

SECTION 1. Responsibility for Operation and Maintenance:

The Property Owner, at its sole cost and expense, shall construct and install the BMPs shown in Exhibit B in accordance with the plans approved by and on file with the City. Property Owner shall diligently maintain in perpetuity the BMPs in a manner assuring peak performance at all times, shall make such changes or modifications to the BMPs, subject to City's prior approval as may be reasonably necessary for the BMPs to continue to operate as designed and approved and to accomplish its intended purpose and in good repair, and in compliance with all applicable Federal, State, County and local laws and regulations, including but not limited to the Ordinance, as the same may be amended, revised, and/or replaced from time to time. The Owner shall be responsible for the costs incurred in operating, maintaining, repairing and replacing the BMPs. Property Owner shall not destroy or remove the BMPs or modify any measure in any manner that would lessen its effectiveness. Property Owner shall make available copies of the approved Stormwater Control Operation and Maintenance Plan at the site with the facility or property manager.

SECTION 2: Inspection by Property Owner:

The Property Owner, at its sole cost and expense, shall conduct annual inspections of all permanent installed BMPs per the Plan. The annual inspection report shall include completion of the checklist described in the approved Stormwater Control Operation and Maintenance Plan. The BMPs must be inspected by a qualified independent inspector who is acceptable to the City. The Property Owner shall submit the Inspection Report on these BMPs to the City Engineer no later than July 15th of each year.

SECTION 3. Facility Inspection by the City:

(a) Right of Entry. The Property Owner, on its behalf and on behalf of its successors and assigns, grants permission to the City, the inspectors of the Regional Board, and local mosquito and vector control agency, and their authorized agents and employees, to enter the Property, and to inspect the BMPs whenever the City deems necessary to enforce provisions of the Ordinance, this Agreement, or any other local or state requirements. The City may enter the premises at any reasonable time during normal business hours and upon at least 48 hours prior written notice (except that prior written notice is not required in case of emergency) to inspect the premises related to BMPs and BMP operation and maintenance, to inspect and copy records related to storm water compliance, and to collect samples and take measurements related to BMPs. The Property Owner shall deposit and maintain a Private Job Account with the City a minimum balance of Four Thousand Dollars ($4,000) for inspection by City Staff pursuant to this Section 3. The deposit of four Thousand Dollars ($4,000.00) shall be made simultaneously with the execution of this Agreement.

(b) Security. The City may require the Owner, its successors and assigns, from time to time, to post security in a form, amount, and for a time period satisfactory to City to guarantee performance of the obligations stated herein. Should the Owner, its successors and assigns, fail to perform the obligations under this Agreement, the City may, in the case of a cash bond, act for the Owner, its successors and assigns, using the proceeds from such cash bond, or in the case of a surety bond, require the surety to perform the obligations of this Agreement.

SECTION 4. Failure to Perform Required Facility Repairs or Maintenance by the Property Owner:

(a) Enforcement Action. If the Property Owner or its successors fail to operate and maintain the BMPs in good working order and in accordance with the approved Plan and the City's Ordinance, the City may, but is not required to, pursue any enforcement action available at law or in equity to cause the completion of all maintenance and may charge the costs of such enforcement action against the Property Owner in any manner authorized by law or in equity.

(b) City Maintenance. In the event of Property Owner's failure to operate and maintain BMPs in accordance with the Plan and the City's Ordinance, the City may also, with prior written notice, enter the Property to return the BMPs to good working order; provided however that the Property Owner shall have 30 days after any such notice, or such other time provided by law, to cure the relevant failure and provided further that the Property Owner shall have such additional time after the initial 30 days to complete a cure so long as Property Owner commences the cure within the initial 30 days and diligently prosecutes the cure to completion. Notwithstanding the foregoing, City may in its sole discretion enter the Property to return the BMPs to good working order in an emergency and take any other necessary action to mitigate an emergency without any notice to Property Owner. The City is under no obligation to maintain or repair the BMPs, and this Agreement may not be construed to impose any such obligation on the City. If the City, under this Section 4 takes any action to return the BMPs to good working order, the Property Owner

shall reimburse the City for all the reasonable costs and expenses incurred by the City. The City will provide the Property Owner with an itemized invoice of the City's costs and expenses and the Property Owner shall make full payments to the City within thirty (30) days of the date of the invoice. If the Property Owners fails to pay the invoice within thirty (30) days, the City shall be entitled to cause a lien for any such unpaid maintenance expense bill to be recorded against the Property. In addition, the City shall be entitled to have the unpaid amount of the invoice placed as a special assessment on the next regular tax bill levied against the Property, after which such assessment shall be collected in the same manner as ordinary municipal taxes are collected, and shall be subject to the same penalties and same procedures under foreclosure and sale in the case of delinquency as provided for ordinary municipal taxes. The actions described in this section are in addition to and not in lieu of other legal remedies provided by law. Notwithstanding the above, it is understood that City is under no obligation to repair or maintain the BMPs, and in no event shall this Agreement be construed to impose any such obligation on City.

(c) Specific Performance. The provisions of this Agreement are expressly declared to be for the benefit of the City. The City may bring an action to obtain specific performance of this Agreement and may recover its costs, including attorney fees, incurred in bringing such action.

SECTION 5: Successors and Assigns:

Property Owner hereby declares that the Property shall be held, transferred, encumbered, used, conveyed, leased and occupied subject to the covenants, conditions, restrictions, easements and rights set forth herein for the use and benefit of each of the Lots. All of the limitations, easements, uses, obligations, covenants, restrictions and conditions stated herein shall run with the Property and shall be binding upon Property Owner, its successors and assigns, any and all parties having or acquiring any right, title or interest in or to the Property or any part thereof or interest therein and shall inure to the benefit of and be binding upon each successor-in-interest thereto.

Upon transfer of the property, the Property Owner shall provide the new owner with the current Plan and a copy of this Agreement and shall, in any event, be released from all obligations under this Agreement as of the effective date of the transfer of the Property.

SECTION 6. Indemnity:
The Property Owner, on Property Owner's behalf and on behalf of all successors in interest pursuant to Section 5 of this Agreement, shall indemnify, release, hold harmless, and defend the City and its authorized agents and employees from and against any and all demands, suits, liabilities, fines, losses, damages, accidents, casualties, occurrences or claims, including reasonable attorneys' fees, against the City which may in anyway arise or relate to the construction, operation, presence, existence or maintenance of the BMPs, or from any personal injury or property damage that may arise or relate from the City entering the property under Section 4 caused solely and exclusively by the negligence or willful misconduct of the City. If a claim is asserted against the City, its authorized agents or employees, the City shall promptly notify the Property Owner and the Property Owner shall defend the claim and any resulting litigation at its sole cost and expense, with counsel reasonably acceptable to the City. If any judgment is entered against the City, or its authorized agents or employees, the Property Owner must pay all costs and expenses to satisfy the judgment.

SECTION 7. Severability:

Invalidation of any one of the provisions of this Agreement shall in no way effect any other provisions, and all other provisions shall remain in full force and effect.

SECTION 8. Non-Discrimination:

The Property Owner shall not discriminate, in any way, against any person on the basis of race, sex, color, age, religion, sexual orientation, actual or perceived gender identity, disability, ethnicity, or national origin, in connection with or related to the performance of this Agreement.

SECTION 9. Governing Law:

City and Property Owner agree that the law governing this Agreement shall be that of the State of California and that Property Owner shall comply with all applicable laws, ordinances, codes and regulations of the federal, state and local governments.

SECTION 10. Recordation:

Property Owner shall, within 10 days after the effective date of this Agreement, record or cause the Agreement to be recorded in the Office of the Recorder, Santa Clara County, California, at the expense of the Property Owner, which recording shall constitute notice of the obligations he
rein set forth and a covenant running with the land and shall be binding upon all of the successors and assigns in title to the Property. In the event Property Owner fails to timely record this Agreement, City shall be authorized but not required to record the Agreement.

SECTION 11. Books and Records:

A. The Property Owner shall maintain any and all ledgers, books of account, invoices, vouchers, cancelled checks, and other records or documents evidencing or relating to charges for services, or expenditures and disbursements or in any way relating to the performance of this Agreement for a minimum period of three (3) years, or for any longer period required by law.

B. Any records or documents required to be maintained pursuant to this Agreement shall be made available for inspection or audit at no cost to City, at reasonable any time during regular business hours, upon at least 48 hours' prior written request by the City Attorney, City Manager, or a designated representative of any of these officers. Copies of such documents shall be provided to City for inspection at City Hall when it is practical to do so. Otherwise, unless an alternative is mutually agreed upon, the records shall be available at the Property Owner's address indicated for receipt of notices in this Agreement.

SECTION 12. Notices:

All notices and other communications required or permitted to be given under this Agreement shall be in writing and shall be personally served or mailed, postage prepaid and return receipt requested, addressed to the respective parties as follows:

To CITY:

City of Milpitas
Attn: City Engineer
455 East Calaveras Blvd.
Milpitas, CA 95035

To PROPERTY OWNER:

Attn: Michael A. Barmettler
Milpitas-District 1Owner, LLC
Lyon Management Group, Inc dba Lyon Living
4901 Birch Street
Newport Beach, CA 92660

Notice shall be deemed effective on the date personally delivered or, if mailed, three (3) days after deposit in the mail.

SECTION 13. Venue:

In the event that suit shall be brought by either party to this contract, the parties agree that venue shall be exclusively vested in the state courts of the County of Santa Clara, or if federal jurisdiction is appropriate, exclusively in the United States District Court, Northern District of California, San Jose, California.

SECTION 14. Interpretation, Prior Agreements:

This Agreement, including all Exhibits attached hereto, represents the entire understanding of the parties as to those matters contained herein. In the event that the terms specified in any of the Exhibits attached hereto conflict with any of the terms specified in the body of this Agreement, the terms specified in the body of this Agreement shall control. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This Agreement may be modified only by a written amendment duly executed by the parties to this Agreement.

[Signatures on Next Page]

IN WITNESS WHEREOF, the Parties execute this Stormwater Management Facilities Operation and Maintenance Agreement as of the last date set forth below:

PROPERTY OWNER:Milpitas – District 1 Owner, LLC,
a Delaware limited liability company

By: Milpitas – District 1 Associates, LLC,
a Delaware limited liability company,
its Sole Member

By: Lyon Housing (Milpitas – District 1) LVII, LLC,
a Delaware limited liability company,
its Managing Member

By: Lyon Housing (District Associates) LVIII, LLC
a Delaware limited liability company,
its Managing Member

By: _____
Name: Michael A. Barmettler
Its: Secretary of Managing Member

CITY:

CITY OF MILPITAS, A MUNICIPAL CORPORATION:

Recommended for approval
By:

_____
Steve Erickson, City Engineer

By:

_____
Julie Edmonds-Mares, City Manager

Approved as to form
By:

_____
Christopher Diaz, City Attorney

Approved as to content

By:

_____
Walter Rossmann, Director of Financial Services

Please note that this is a placeholder for the acknowledgement. So use the most current version of the acknowledgement

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of ORANGE)

On MAY 31, 2019, before me, JENNIFER MANIACI, a Notary Public, personally appeared MICHAEL BARMETTLER,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

JENNIFER MANIACI
Notary Public – California
Orange County
Commission # 2212705
My Comm. Expires Sep 3, 2021

Signature _____

THIS CERTIFICATE MUST BE ATTACHED TO THE DOCUMENT DESCRIBED ABOVE

"EXHIBIT A"
LEGAL DESCRIPTION

All that real property situated in the City of Milpitas, County of Santa Clara, State of California, being all of “Lot 1” and “Lot 2” as shown on the map entitled “Tract 10140, McCandless District 1”, filed August 17, 2015 in Book 885 of Maps, at Pages 26 through 29, Records of Santa Clara County, California.

EXHIBIT B

Operation and Maintenance Plan

STORM WATER CONTROL PLAN

For

McCandless Project
District 1 – Building 1

City of Milpitas,
Santa Clara County, California

Revised:
~~July 16, 2012~~
~~April 16, 2013~~
~~August 1, 2014~~
~~March 9, 2015~~
~~June 25, 2015~~
~~September 8, 2015~~
~~September 21, 2015~~
~~September 19, 2016~~
~~March 3, 2017~~
~~May 11, 2017~~
May 31, 2017

Prepared for:

Lyon Communities
4901 Birch Street
Newport Beach, CA 92660
(949) 838-1206
Contact: John E. Townsend

Engineer:

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS

8055 Camino Arroyo
Gilroy, CA 95020
(408) 848-0300
Contact: Luis Santiago-Sotelo

Table of Contents

List of Tables

List of Figures

Appendix

A. Provision C.3 Data Form
B. Infiltration / Harvesting infeasibility worksheet
C. Special Projects Worksheet
D. Soil Classification
E. MRP Calculations worksheet
F. Stormwater BMP Calculations and Details
G. Site Plan
H. Treatment Measure Details
I. Operations and Maintenance (O&M) plan
J. 3rd Party Certification

References

1. California Stormwater Quality Association, *Stormwater Best Management Practice Handbook: New Development and Redevelopment*. January 2003
2. Engeo Incorporated, *Geotechnical Assessment – McCandless Project – District 1, Building 1*. February 23, 2012
3. Natural Resources Conservation Service, *Web Soil Survey 2.0*, websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
4. Santa Clara Valley Urban Runoff Pollution Prevention Program, *C.3 Stormwater Handbook.* April 2012.

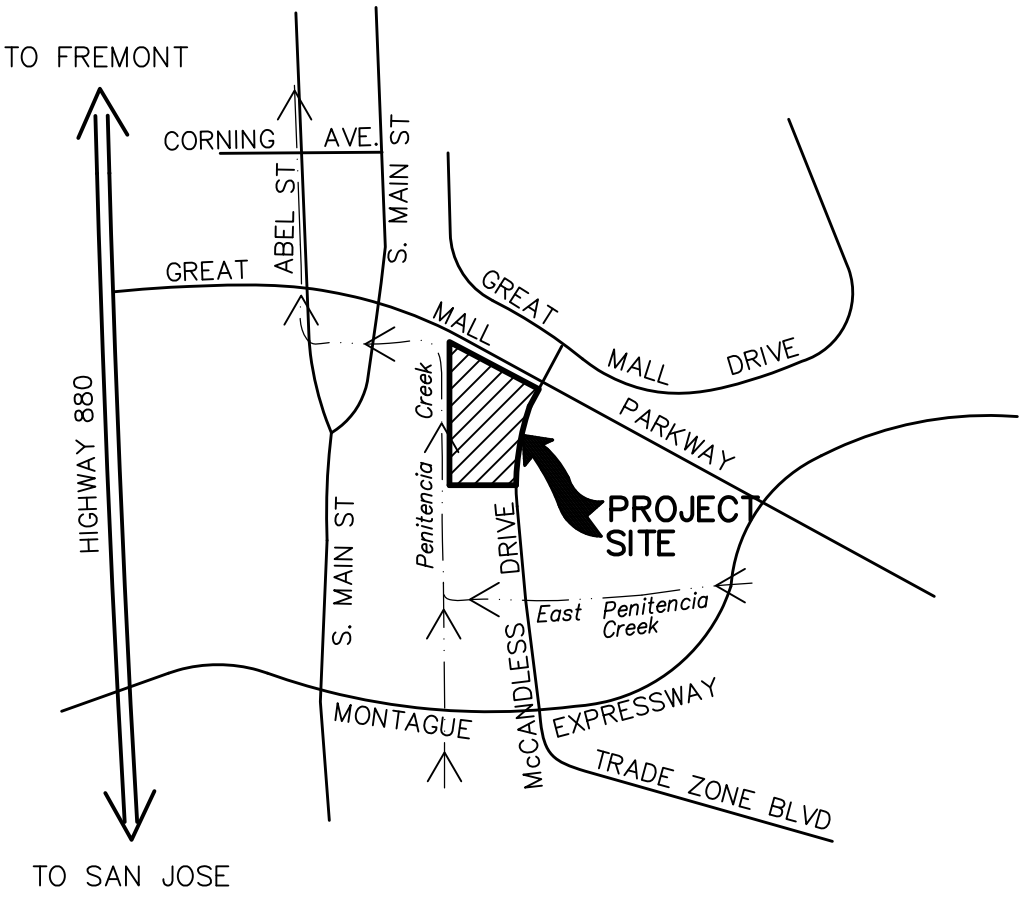

FIGURE 1
STORM WATER CONTROL PLAN
VICINITY MAP

DISTRICT 1 – BUILDING 1

MILPITAS, CALIFORNIA

JUNE 2015

RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ■ PLANNERS ■ SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

1 Project Information

1.1 Purpose of the Report

The City of Milpitas requires all new projects, major developments, and redevelopment projects to comply with the "C.3 Stormwater Handbook" prepared by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). The guidelines been developed to comply with the current *National Pollutant Discharge Elimination System* (NPDES) *Stormwater Discharge Permit* (Permit) as issued by the San Francisco Regional Water Quality Control Board.

The guidelines require qualifying developments to apply Low Impact Development (LID) techniques to the maximum extent practicable to minimize the impacts of urban runoff on receiving waters and to promote healthy watersheds. These developments are also required to prepare a *Stormwater Control Plan* (SWCP) to detail how runoff and associated water quality impacts resulting from the development will be controlled or managed. The SWCP is, at a minimum, required to provide the following information:

- Project description and location
- Description of facility activity and pollutants of concern
- Topographic base map and site plan, including drainage areas and BMP locations
- BMP description and calculations
- Site specific soils information
- Post-construction BMP maintenance schedule

This SWCP is prepared by Ruggeri-Jensen-Azar & Associates (Engineer) for Lyon Communities (Owner) for The District 1, Building 1 Project. This SWCP shall be used for the sole purpose of providing guidance in the preparation, implementation, and on-going maintenance of post-construction Stormwater Control BMP's.

1.2 Site Description

This project is located in the southwestern part of the City of Milpitas, at the intersection of Great Mall Parkway and McCandless Drive, between Penitencia Creek and McCandless Drive (see Figure 1). The project is located within the Milpitas Transit Area Specific Plan area. The project consists of a multi-story mixed use building and parking structure. A new 7 story building, with parking structure, approximately 50,700 SF of ground level commercial/retail area and 372 upper level residential apartment units. The site improvements also include a new parking lot, medians, enhanced pavement, sidewalks, open space, utilities and landscaping. The total project area consists of 5.02 acres, plus an additional city owned 0.68 city owned parcel that will be developed and used by this project for parking lot uses. For SWCP purposes, the total storm water treatment area is approximately 7.00-acres. Refer to Table 1.1 for additional project information.

Table 1.1 – General Project Information	
Project Information	**Description**
Project Name	The District Building 1
Applicant	Lyon Communities 4901 Birch Street Newport Beach, CA 92660 Contact: John E. Townsend (949) 838-1206
Project Address	1315 McCandless Drive
APN	086-33-092
Current Zoning	TASP – Very High Density Mixed Use
Existing Land Use	Industrial Park
Proposed Land Use	Mixed-Use
Project Size	5.96 acres (onsite). 0.68 acres (city right of way)
Total Percent Impervious	85%
Building Type & Use	7 Story Mixed Use Building (Wrap style building) (372 apartment units & 50,744-sf rentable retail space)
Type & Location of Parking	Outdoor parking lot and 7-story parking structure
Site Landscaping	Landscaped paseos, planter boxes, multi-use trail.
Home Owners Association/Property Management Firm	Lyon Communities
Food Preparation, Cooking, & Eating Areas	All food service/retail areas will have separate grease waste lines and grease waste interceptors connected to the sanitary sewer system.
Outdoor Material Storage Areas	n/a
Waste Generation, Car Wash, Repair, & Fueling	Trash rooms are located inside the building, covered, and floor drains are connected to the sanitary sewer system.

1.3 Existing Site Conditions

The site is currently a vacant and demolished (2013) commercial/office lot. The project lot is currently paved and the building foundation remains as remnants of a previous office building (approximately 76,000-sf and parking lot). The site is bounded by Great Mall Parkway immediately to the north, McCandless Drive to the east, Penitencia Creek to the west, and a vacant demolished commercial lot to the south. The existing site topography is generally level with slopes averaging 0.2% to 1.0%. Runoff discharges to the public storm drain system in McCandless Drive and to a 33-inch diameter storm drain discharging to Penitencia Creek to the west. Penitencia Creek is tributary to the Coyote Creek watershed and, ultimately, San Francisco Bay, approximately 4-miles downstream of the project. See Figure 2 for the existing site conditions.

The National Soil Conservation Service (NRCS) has classified the site soils as Urbanland-Hangerone, Urbanland-Campbell, and Urbanland-Newpark with zero to two percent slopes. The Hydrologic Soil Group for this type of soil is documented as Class D with very slow saturated hydraulic conductivities in the range of 0.06 to 0.6 inches per hour. Engeo, Inc. performed a geotechnical assessment of the site in January 17, 2012. The assessment identified the site soils as highly expansive fat to lean clay with 64%-99% fines in the surface soils. Groundwater was encountered in borings between 8-feet and 20-feet below ground surface. Site specific infiltration tests have not been performed for the project. However, the Geotechnical Report indicated that site soils are expected to have a low permeability value and storm water infiltration will be limited. A complete geotechnical and soils investigation report is available at City of Milpitas offices.

1.4 Opportunities and Constraints for Stormwater Control

The following is a summary of opportunities for stormwater quality:

- Existing Site BMPs – Stormwater BMPs are not present at the project site. Redevelopment of the project site and incorporation of stormwater BMPs will provide an immediate improvement to downstream water quality.
- Landscaping – The project incorporates active and passive landscaping around the buildings, providing opportunity for incorporating BMPs and micro-retention in new landscape areas.
- Impervious Surface – The project seeks to minimize impervious surface by using alternative paving materials and reduced parking lot dimensions where feasible. In addition, redevelopment of the existing site results in a reduction in total site impervious surface area and corresponding storm water runoff.
- Home Owners Associations (HOA) – The project will be managed by an HOA, which allows for consistent maintenance of stormwater facilities. The HOA can also provide educational information to future residents regarding water quality and BMPs, and implement CC&R's to control the generation and movement of stormwater pollutants.

The following is a summary of constraints for stormwater quality:

- Soil Conditions – Site soils consist of highly expansive clay with Class D hydrologic soil group classification. This type of soil not allow for effective infiltration of stormwater, so all landscape based BMPs shall be lined and outfitted with a subdrain system. The expansive soil also limits the discharge of runoff adjacent to structures and pavement to protect against heaving and cracking.
- Groundwater – Groundwater was encountered above 10-feet below ground surface in some locations at the project site. Infiltration of stormwater runoff will not be allowed due to the high water table, so all landscape based BMPs shall be lined and outfitted with a subdrain system.
- Site Density – The project is a high density urban redevelopment project, which limits the amount of available space to incorporate BMPs. While the proposed improvements enhance landscaping areas, the orientation and distribution of landscaping may not always allow for efficient incorporation of traditional BMPs.
- Flood Conditions – The project is located within FEMA Flood Zone AO (100-year flood area with 1-ft average depths). A flood study was prepared for the project to establish effective floodways through the development. As a result, the buildings are raised above the surrounding improvements, and retaining walls and grading slopes incorporated around the buildings. This reduces the amount of effective landscape area that can be used for BMPs.

1.5 Hydrograph Modification Management Requirements

The project is located in an area that is over 90% built-out with greater than 65% impervious area. Therefore, the project is not required to create a Hydrograph Modification Management Plan, per Appendix E-2 of the SCVURPPP Handbook.

1.6 Infiltration and Rainwater Harvesting Feasibility

The San Francisco Regional Water Quality Control Board (Board) places a high priority on infiltration, evapotranspiration, and rainwater harvesting as methods to manage stormwater as part of the recent NPDES Permit issued on October 14, 2009. In response to this permit, the Bay Area Stormwater Management Agencies Association (BASMAA) submitted a "Harvest and Use, Infiltration and Evapotranspiration Feasibility/Infeasibility Criteria Report" to the Board in 2011. This report outlines criteria for when infiltration/evapotranspiration and rainwater harvesting are infeasible for a project. In the event that both infiltration/evapotranspiration and rainwater harvesting are infeasible, a project is only required to implement biotreatment while maximizing infiltration opportunities. The Board has accepted this report, and as a result, requires all agencies to track the feasibility through a worksheet/checklist method and submit all findings to the Board. SCVURPPP has prepared worksheet procedures for use in determining the feasibility of infiltration/evapotranspiration and rainwater

harvesting on a project specific basis.

The completed feasibility worksheets are provided in Appendix B. Infiltration is considered infeasible since site soils have a hydraulic conductivity less than 1.6 inches/hour and are classified as Hydrologic Soil Group D. Rainwater Harvesting is considered infeasible because recycled water service is available at the project and recycled water will be used to irrigate all landscaping.

1.7 Special Project Eligibility

The San Francisco Regional Water Quality Control Board (Board) allows LID credits for three categories of "Smart Growth" development, specifically urban infill, high-density, and transit oriented developments projects, called "Special Projects". Special Projects were approved because, when considered at the watershed level, smart growth development projects can either reduce existing impervious surfaces, or create less "accessory" impervious areas and automobile-related pollutant impacts. The conclusion was that these types of projects were recognized by the Water Board as having an inherent water quality and other environmental benefits.

Projects that receive LID treatment reduction credits are allowed to use specific types of non-LID treatment, if the use of LID treatment is first evaluated and determined to be infeasible. The LID treatment reduction credit is applied to the project as a percentage of total impervious surface area allowed to be managed by non-LID treatment facilities. The types of non-LID treatment facilities that may be used are:

- High flow-rate media filters, and
- High flow-rate tree well filters.

The SCVURPPP prepared worksheet procedures for use in determining project eligibility for Special Project status and corresponding LID treatment reduction credits. The completed worksheet is provided in Appendix C. The District 1, Building 1 project is **NOT** eligible for Special Project status.

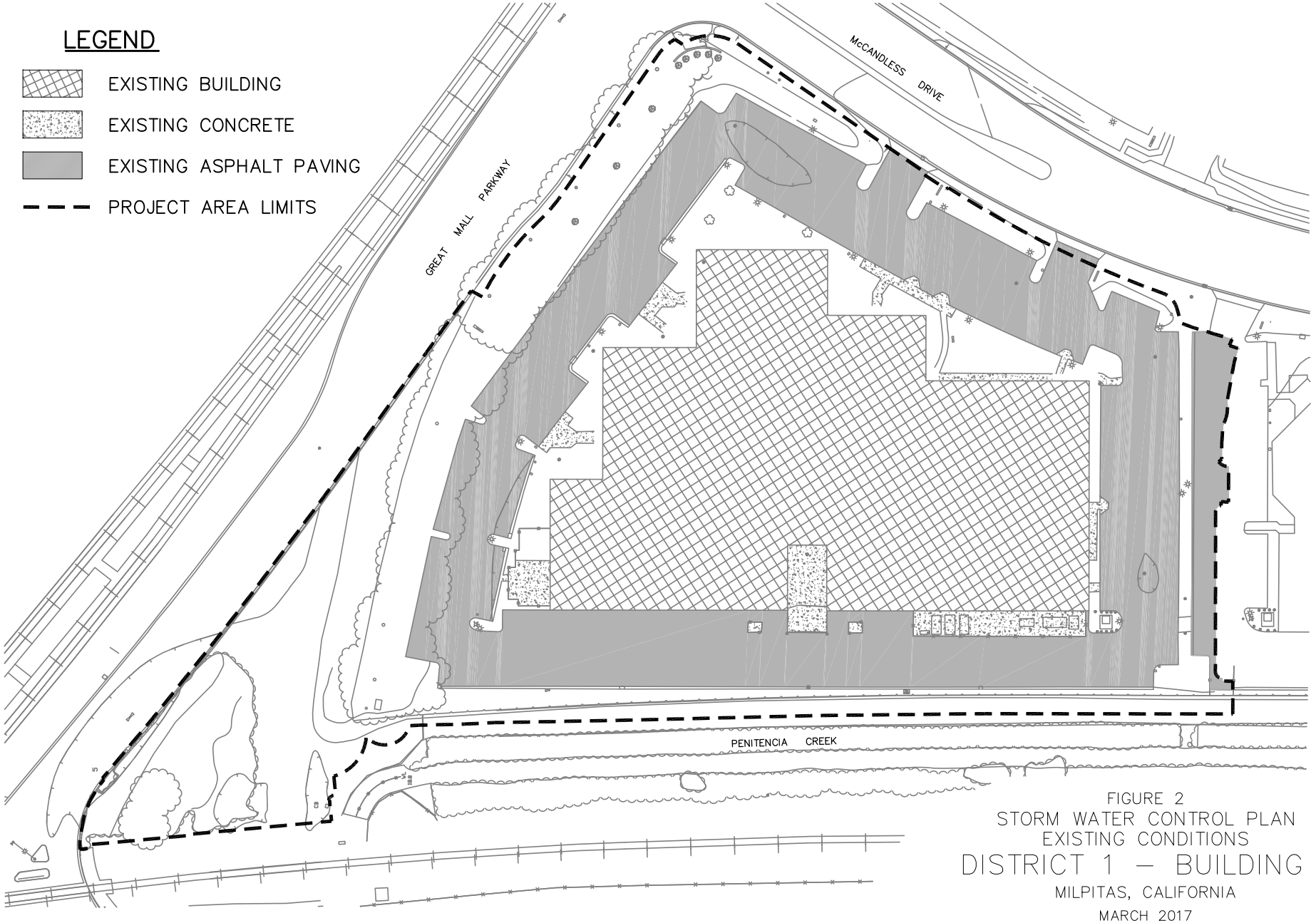

FIGURE 2
STORM WATER CONTROL PLAN
EXISTING CONDITIONS
DISTRICT 1 – BUILDING 1
MILPITAS, CALIFORNIA
MARCH 2017

TOTAL PROJECT AREA: 259,600 SF (5.96 AC)
TOTAL IMPERVIOUS SURFACE: 170,000 SF (3.90 AC, 65%)

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ENGINEERS ■ PLANNERS ■ SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

2 Stormwater Treatment Evaluation

The Project is not significantly increasing impervious surfaces from the existing condition since it is redeveloping an existing industrial/office complex. However, the high-density urban nature of the project means there is a high percentage of impervious surface, which has the potential to impact water quality by concentrating and transporting pollutants to downstream receiving waters.

Stormwater Best Management Practices (BMPs) including Low Impact Development (LID) site design strategies, Integrated Management Practices, and source controls will be used to reduce runoff volume, peak flow, and pollutant loadings. All BMP's selected for the Project shall comply with the City's Guidelines.

2.1 LID Site Design Strategies

The project implements a "Start at the Source" design through the use of LID site planning and design techniques. The following LID strategies are being used to the maximum extent practicable (MEP) to comply with stormwater control requirements:

- Limit Impervious Surfaces – The following site design measures are used to limit impervious surface to the MEP:
  - Standard parking stall widths are reduced to 8.75-ft, and 16 compact parking stalls are provided in order to reduce pavement surface.
  - Turf Block pavement is used in the Emergency Vehicle Access along the west side of the building.
  - The building design includes four internal courtyards open to the sky, which will incorporate landscaping areas to encourage evapotranspiration.
- Disconnect Impervious Surfaces – The project seeks to disconnect impervious surface to the MEP by directing impervious surface runoff and roof downspouts to landscape based BMPs.
- Incorporate Self-retaining Areas – The project incorporates self-retaining areas to the MEP by designing micro-retention into landscaping areas. The landscaping areas are designed with a concave shape and a minimum 2-inch ponding depth. Micro-retention has the benefit of reducing runoff volume while minimizing prolonged ponding and vector issues.
- Use of pumps for low flow design – The site design constraints and flat topography require the use of low flow pumps to divert stormwater runoff from various areas within the site, and pump the water to biotreatment areas. The areas receiving the "pumped" water are large open landscaped areas, which offer the most benefit for treatment.
- Landscaping Design – The project incorporates large canopy trees and shrubs where possible to promote evapotranspiration and to provide shade. The project also

incorporates drought resistant plants and efficient irrigation methods to minimize water use and avoid nuisance water as a result of excessive irrigation.

- Water Conservation – McCandless Drive contains an active 12-inch recycled water main. The project will install recycled water services for use in supplying water for landscape irrigation.
- Preserve Existing Open Space – The project preserves approximately 4,300-sf of existing open space in addition to providing large-linear open space areas along the a multi-use trail as well as other large open space buffers around the building.
- Source Control – The project reduces contact between stormwater runoff and pollutants through the use of Source Control measures (see Section 4).

2.2 Treatment Control BMPs

Due to the opportunities and constraints identified in Section 1.4 of this SWCP, the treatment control BMPs described in Table 2.1 has been selected for use in this project. As mentioned previously, micro-detention in landscape areas is also incorporated to provide additional benefits.

Table 2.1 – Selected Treatment Control BMPs

BMP	Description
Bioretention – Landscape Detention	A depressed vegetated area with porous engineered soils and subdrain system that captures, treats, and infiltrates stormwater runoff. They are suitable for removal of sediment, nutrients, trash, metals, bacteria, oil and grease, and organics. They will be used to capture and treat runoff from parking areas, building rooftops and landscaping.
Bioretention – Pumps	An underground pump collects site runoff and "lifts" water or diverts water by means of a pressure line to a designated large biotreatment area. Since the site topography and grading does not allow to direct water by gravity to the designated biotreatment areas, the use of pumps allows the site the maximum potential to treat water in the largest treatment areas offering the maximum treatment capacities. Two pumps were added to the project because of grading constraints and not being able to surface gravity runoff to the desired treatment areas. One pump is located on the south east corner of the building. Runoff surface flows and collected by storm drain pipes, outfalling into the pump vault, and water pumped to a biotreatment area immediately to the west of the pump location. A second pump is located on the north west corner of the building and collects runoff from the westerly portion of the building. Runoff is collected in storm drain pipes, outfalling into the pump vault, and water pumped to treatment areas along the north portion of the project. See Appendix G and H for treatment area details. The pumps are low flow capacity pumps, compact, and are housed in a 6' diameter commercially available vault. The storm drain pumps are designed to convey only the "low flows or "water quality" flows. The large flows (non water quality flows) will be bypassed from the pump system and continue downstream of the pump as if the pump was not present. Each pump assembly, inside the vault at each of the two locations, contains a primary pump, a backup secondary pump, and four floats. The "on" and "off" pump operations and sequences are controlled by the four floats set in accordance with the manufacturer's recommendations. The floats are controlled by the rising or lowering of the water elevation inside the pump wet well, which in turn control the pump "on" and "off" sequences. The floats are also positioned according the flow and volume design criteria for storm water quality treatment. These flows are calculated based on two times the project 85th percentile hourly rainfall intensity for flow based design (0.18 in/hr) and the

3.2 BMP Sizing Calculations

All BMPs shall be sized according to the SCVURPPP Handbook. A summary of the drainage area BMP sizing calculations are provided in Table 3.1. The complete BMP calculations and details are provided in Appendix F.

3.3 Source Control Measures

The following stormwater source control measures are anticipated to be implemented with the Project:

Table 3.1 – Selected Source Control Measures	
Potential Source	**BMP Description**
Education	Property owner is responsible to provide practical information and materials to the employees and tenants on general practices that contribute to the protection of storm water quality. Materials shall include: • Chemical use guidelines and restrictions on the property. • The proper handling of material such as fertilizers, pesticides, and cleaning solutions. • The environmental and legal impacts of illegal dumping of harmful substances into storm drains and sewers. • Hazardous waste collection programs. • Proper procedures for spill prevention and clean up. • Proper storage of materials that pose pollution risks to local waters. • Carpooling programs and public transportation alternatives to driving.
Landscape Management	Ongoing management consistent with the CASQA *Stormwater Best Management Practice Handbook: New Development and Redevelopment* BMPs SD-10 & SD-12, including limiting pesticide and fertilizer usage and minimizing irrigation and runoff.
BMP Maintenance	Property owner is responsible for the inspection and maintenance of structural BMPs consistent with this SWCP and the City of Milpitas Guidelines. (See Section 5)
Litter Control	Litter shall be routinely picked up and properly disposed. If necessary, signage shall be installed to discourage littering.
Employee Training	Property owner is responsible for training employees or hiring an outside consultant to properly implement this SWCP.
Drain Inlet Inspection	All inlets shall be marked with “No Dumping Drains to Bay” or similar message. Property owner is responsible for inspection and maintenance of all privately owned drain inlets.
Street Sweeping	Streets and parking areas will be swept weekly, weather permitting, and prior to the rainy season.
Vehicle Washing	Vehicle washing shall be strictly prohibited onsite.
Vehicle Fueling	Vehicle fueling shall be strictly prohibited onsite.
Outdoor Pesticide Use	Where possible, pest resistant plants will be used. Planting for swales will be selected to be appropriate for the soil and moisture conditions. Landscaping is to be maintained using integrated pest management principles with minimal or no use of pesticides.
Outdoor Trash Enclosures	Outdoor trash enclosures shall be covered and equipped with a drain inlet connected to the sanitary sewer system.

Table 3.1 – Selected Source Control Measures (cont.)	
Potential Source	**BMP Description**
Delivery Area/Loading Docks	Delivery areas and loading docks shall be covered and equipped with a drain inlet connected to the sanitary sewer system.
Outdoor Material Storage	Outdoor material storage shall be strictly prohibited onsite. All stored materials shall be sufficiently covered.
Fire Sprinklers	Sprinkler tests will drain to landscape treatment areas before entering the storm drain system.

3.4 Permitting and Code Compliance

There are no known conflicts between this SWCP and the City of Milpitas ordinances or policies. If any conflicts are found, the City's ordinances and policies will take precedence.

3.5 BMP Operation and Maintenance Plan – See Appendix I

4 Certification

SWCP Certification

The selection, sizing, and design of Stormwater BMPs and other control measures in this SWCP meet the requirements of the Regional Water Quality Control Board Order R2-2009-0074, as amended.

Owner/Developer Signature	Date
Owner/Developer Name and Title	Telephone Number
Engineer Signature	Date
Engineer Name and Title	Telephone Number

As-Constructed Confirmation

The *Engineer* confirms that this Stormwater Control Plan has been built and implemented per the approved Civil Engineer construction plans.

Owner/Developer Signature	Date
Owner/Developer Name and Title	Telephone Number
Engineer Signature	Date
Engineer Name and Title	Telephone Number

Appendix A

Provision C.3 Data Form

City of Milpitas – Stormwater Requirements C.3 Data Form

Santa Clara Valley Urban Run-Off Pollution Prevention Program

Which Projects Must Comply with Stormwater Requirements?

All projects that create and/or replace **10,000 sq. ft.** or more of impervious surface on the project site must fill out this worksheet and submit it with the development project application.

All restaurants, auto service facilities, retail gasoline outlets, and uncovered parking lot projects (stand-alone or part of another development project, including the top uncovered portion of parking structures) that create and/or replace **5,000 sq. ft.** or more of impervious surface on the project site must also fill out this worksheet.

Interior remodeling projects, routine maintenance or repair projects such as re-roofing and re-paving, and single family homes that are not part of a larger plan of development are **NOT** required to complete this worksheet.

What is an Impervious Surface?

An impervious surface is a surface covering or pavement that prevents the land's natural ability to absorb and infiltrate rainfall/stormwater. Impervious surfaces include, but are not limited to rooftops, walkways, paved patios, driveways, parking lots, storage areas, impervious concrete and asphalt, and any other continuous watertight pavement or covering. Pervious pavement, underlain with pervious soil or pervious storage material (e.g., drain rock), that infiltrates rainfall at a rate equal to or greater than surrounding unpaved areas OR that stores and infiltrates the water quality design volume specified in Provision C.3.d of the Municipal Regional Stormwater Permit (MRP) is not considered an impervious surface.

For More Information

For more information regarding selection of Best Management Practices for stormwater pollution prevention or stormwater treatment in Santa Clara County: http://www.scvurppp-w2k.com/c3_handbook_2012.shtml

1. Project Information

Project Name: McCandless Project - District 1, Building 1 **APN #** 086-33-092

Project Address: 1315 McCandless Drive, Milpitas CA

Cross Streets: McCandless Drive and Great Mall Parkway

Applicant/Developer Name: Lyon Communities

Project Phase(s): 1 of 1 **Engineer:** Ruggeri-Jensen-Azar

Project Type (Check all that apply): ☐ New Development ☐ Redevelopment

☑ Residential ☑ Commercial ☐ Industrial ☑ Mixed Use ☐ Public ☐ Institutional

☐ Restaurant ☐ Uncovered Parking ☐ Retail Gas Outlet ☐ Auto Service (SIC code)_____
(5013-5014, 5541, 7532-7534, 7536-7539)

☐ Other _____

Project Description: Multi-story mixed use building (372 units and 50,744-sf rentable retail) with parking structure, outdoor parking lot, multi-use trail, and landscaping. Refer to "Improvement Plans for McCandless Project - District 1, Building 1" for more information.

Project Watershed/Receiving Water (creek, river, or bay): Penitencia Creek

2. Project Size - LOT 1

a. Total Site Area: 5.96 acre	b. Total Site Area Disturbed: 5.86 acre (including clearing, grading, or excavating)			
	Existing Area (ft^2)	Proposed Area ($ft^{2)}$		Total Post-Project Area (ft^2)
		Replaced	New	
Impervious Area				
Roof				
Parking				
Sidewalks and Streets				
c. Total Impervious Area	170,000	170,000	47,070	217,070
d. Total new and replaced impervious area		217,070		
Pervious Area				
Landscaping				
Pervious Paving				
Other (e.g. Green Roof)				
e. Total Pervious Area	89,600	89,600	0	47,370
f. Percent Replacement of Impervious Area in Redevelopment Projects (Replaced Total Impervious Area ÷ Existing Total Impervious Area) x 100% = 100 %				

3. State Construction General Permit Applicability:

a. Is #2.b. equal to one acre or more?

☑ Yes, applicant must obtain coverage under the State Construction General Permit (i.e., file a Notice of Intent and prepare a Stormwater Pollution Prevention Plan) (see www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml for details).

☐ No, applicant does not need coverage under the State Construction General Permit.

4. MRP Provision C.3 Applicability:

a. Is #2.d. equal to **10,000** sq. ft. or more, or **5,000** sq. ft. or more for restaurants, auto service facilities, retail gas outlets, and uncovered parking?

☑ Yes, C.3. source control, site design, and treatment requirements apply.

☐ No, C.3. source control and site design requirements may apply – check with local agency

b. Is #2.f. equal to 50% or more?

☑ Yes, C.3. requirements (site design, source control, as appropriate, and stormwater treatment) apply to entire site.

☐ No, C.3. requirements only apply to impervious area created and/or replaced.

5. Hydromodification Management (HM) Applicability:

a. Does project create and/or replace one acre or more of impervious surface AND is the total post-project impervious area greater than the pre-project (existing) impervious area?

☐ Yes (continue) ☑ No – exempt from HM, go to page 3

b. Is the project located in an area of HM applicability (green area) on the HM Applicability Map? (www.scvurppp-w2k.com/hmp_maps.htm)

☐ Yes, project must implement HM requirements

☑ No, project is exempt from HM requirements

6. Selection of Specific Stormwater Control Measures: - LOT 1

Site Design Measures

- ☐ Minimize land disturbed
- ☑ Minimize impervious surfaces
- ☑ Minimum-impact street or parking lot design
- ☐ Cluster structures/ pavement
- ☑ Disconnected downspouts
- ☐ Pervious pavement
- ☐ Green roof
- ☑ Microdetention in landscape
- ☑ Other self-treating area
- ☐ Self-retaining area
- ☐ Rainwater harvesting and use (e.g., rain barrel, cistern connected to roof drains) [1]
- ☐ Preserved open space: _____ ac. or sq. ft .(circle one)
- ☐ Protected riparian and wetland areas/buffers (Setback from top of bank: _____ft.)
- ☐ Other _____

Source Control Measures

- ☑ Alternative building materials
- ☐ Wash area/racks, drain to sanitary sewer[2]
- ☑ Covered dumpster area, drain to sanitary sewer[2]
- ☐ Sanitary sewer connection or accessible cleanout for swimming pool/spa/fountain[2]
- ☑ Beneficial landscaping (minimize irrigation, runoff, pesticides and fertilizers; promotes treatment)
- ☐ Outdoor material storage protection
- ☐ Covers, drains for loading docks, maintenance bays, fueling areas
- ☑ Maintenance (pavement sweeping, catch basin cleaning, good housekeeping)
- ☑ Storm drain labeling
- ☐ Other _____

Treatment Systems

- ☐ None (all impervious surface drains to self-retaining areas)

LID Treatment

- ☐ Rainwater harvest and use (e.g., cistern or rain barrel sized for C.3.d treatment)
- ☐ Infiltration basin
- ☐ Infiltration trench
- ☐ Exfiltration trench
- ☐ Underground detention and infiltration system (e.g. pervious pavement drain rock, large diameter conduit)

Biotreatment [3]

- ☑ Bioretention area
- ☐ Flow-through planter
- ☐ Tree box with bioretention soils
- ☐ Other _____

Other Treatment Methods

- ☐ Proprietary tree box filter[4]
- ☐ Media filter (sand, compost, or proprietary media)[4]
- ☐ Vegetated filter strip[5]
- ☐ Dry detention basin[5]
- ☐ Other _____

Flow Duration Controls for Hydromodification Management (HM)

- ☐ Detention basin
- ☐ Underground tank or vault
- ☐ Bioretention with outlet control
- ☐ Other _____

[1] Optional site design measure; does not have to be sized to comply with Provision C.3.d treatment requirements.
[2] Subject to sanitary sewer authority requirements.
[3] Biotreatment measures are allowed only with completed feasibility analysis showing that infiltration and rainwater harvest and use are infeasible.
[4] These treatment measures are only allowed if the project qualifies as a "Special Project".
[5] These treatment measures are only allowed as part of a multi-step treatment process.

7. Treatment System Sizing for Projects with Treatment Requirements - LOT 1

Indicate the hydraulic sizing criteria used and provide the calculated design flow or volume:

Treatment System Component	Hydraulic Sizing Criteria Used[3]	Design Flow or Volume (cfs or cu.ft.)
Refer to Table F.3 of the McCandless Project - District 1, Building 1 Stormwater	3	
control plan.		

[3]Key: 1a: Volume – WEF Method
1b: Volume – CASQA BMP Handbook Method
2a: Flow – Factored Flood Flow Method
2b: Flow – CASQA BMP Handbook Method
2c: Flow – Uniform Intensity Method
3: Combination Flow and Volume Design Basis

8. Alternative Certification: Was the treatment system sizing and design reviewed by a qualified third-party professional that is not a member of the project team or agency staff?

☑ Yes ☐ No Name of Reviewer: Caitlin Gilmore - Schaaf & Wheeler

9. Operation & Maintenance Information

A. Property Owner's Name: Lyon Communities

B. Responsible Party for Stormwater Treatment/Hydromodification Control O&M:

a. Name: Lyon Communities (John E. Townsend)
b. Address: 4901 Birch Street, Newport Beach, CA 92660
c. Phone/E-mail: 949-838-1206/ JohnTownsend@lyon1.com

This section to be completed by City of Milpitas staff.

O&M Responsibility Mechanism

Indicate how responsibility for O&M is assured. Check all that apply:

☐ O&M Agreement

☐ Other mechanism that assigns responsibility (describe below):

_____

_____

Reviewed:

Planning Department	**Public Works Department**
Planning Division: _____	Land Development: _____
Other (Specify): _____	Other (Specify): _____

Appendix B

Infiltration/Harvesting infeasibility worksheet

Infiltration/Harvesting and Use Feasibility Screening Worksheet

Apply these screening criteria for C.3 Regulated Projects required to implement Provision C.3 stormwater treatment requirements. See the Glossary (Attachment 1) for definitions of terms marked with an asterisk (*). Contact municipal staff to determine whether the project meets Special Project* criteria. If the project meets Special Project criteria, it may receive LID treatment reduction credits.*

1. Applicant Info

Site Address: 1315 McCandless Drive, Milpitas , CA APN: 086-33-092

Applicant Name: Lyon Communities Phone No.: 949-838-1206

Mailing Address: 4901 Birch Street, Newport Beach, CA 92660

2. Feasibility Screening for Infiltration

Do site soils either (a) have a saturated hydraulic conductivity* (Ksat) that will NOT allow infiltration of 80% of the annual runoff (that is, the Ksat is LESS than 1.6 inches/hour), or, if the Ksat rate is not available, (b) consist of Type C or D soils?[1]

☒ Yes (continue) ☐ No – complete the Infiltration Feasibility Worksheet. If infiltration of the C.3.d amount of runoff is found to be feasible, there is no need to complete the rest of this screening worksheet.

3. Recycled Water Use

Check the box if the project is installing and using a recycled water plumbing system for non-potable water use.

☒ The project is installing a recycled water plumbing system, and installation of a second non-potable water system for harvested rainwater is impractical, and considered infeasible due to cost considerations. Skip to Section 6.

4. Calculate the Potential Rainwater Capture Area* for Screening of Harvesting and Use

Complete this section for the entire project area. If rainwater harvesting and use is infeasible for the entire site, and the project includes one or more buildings that each have an individual roof area of 10,000 sq. ft. or more, then complete Sections 4 and 5 of this form for each of these buildings.

4.1 Table 1 for (check one): ☐ The whole project ☐ Area of 1 building roof (10,000 sq.ft. min.)

Table 1: Calculation of the Potential Rainwater Capture Area*
The Potential Rainwater Capture Area may consist of either the entire project area or one building with a roof area of 10,000 sq. ft. or more.

	1	2	3	4
	Pre-Project Impervious surface[2] (sq.ft.), if applicable	Proposed Impervious Surface[2] (IS), in sq. ft.		Post-project landscaping (sq.ft.), if applicable
		Replaced[3] IS	Created[4] IS	
a. Enter the totals for the area to be evaluated:				
b. Sum of replaced and created impervious surface:	N/A			N/A
c. Area of existing impervious surface that will NOT be replaced by the project.		N/A		N/A

[1] Base this response on the site-specific soil report, if available. If this is not available, consult soil hydraulic conductivity maps in Attachment 3.
[2], Enter the total of all impervious surfaces, including the building footprint, driveway(s), patio(s), impervious deck(s), unroofed porch(es), uncovered parking lot (including top deck of parking structure), impervious trails, miscellaneous paving or structures, and off-lot impervious surface (new, contiguous impervious surface created from road projects, including sidewalks and/or bike lanes built as part of new street). Impervious surfaces do NOT include vegetated roofs or pervious pavement that stores and infiltrates rainfall at a rate equal to immediately surrounding, unpaved landscaped areas, or that stores and infiltrates the C.3.d amount of runoff*.
[3] "Replaced" means that the project will install impervious surface where existing impervious surface is removed.
[4] "Created" means the project will install new impervious surface where there is currently no impervious surface.
* For definitions, see Glossary (Attachment 1).

4.2 Answer this question ONLY if you are completing this section for the entire project area. If existing impervious surface will be replaced by the project, does the area to be replaced equal 50% or more of the existing area of impervious surface? *(Refer to Table 1, Row "a". Is the area in Column 2 > 50% of Column 1?)*

☐ Yes, C.3. stormwater treatment requirements apply to areas of impervious surface that will remain in place as well as the area created and/or replaced. This is known as the 50% rule.

☐ No, C.3. requirements apply only to the impervious area created and/or replaced.

4.3 Enter the square footage of the Potential Rainwater Capture Area*. If you are evaluating only the roof area of a building, or you answered "no" to Question 4.2, this amount is from Row "b" in Table 1. If you answered "yes" to Question 4.2, this amount is the sum of Rows "b" and "c" in Table 1.:

_____ square feet.

4.4 Convert the measurement of the Potential Rainwater Capture Area* from square feet to acres (divide the amount in Item 4.3 by 43,560):

_____ acres.

5. Feasibility Screening for Rainwater Harvesting and Use

5.1 Use of harvested rainwater for landscape irrigation:

Is the onsite landscaping LESS than 2.5 times the size of the Potential Rainwater Capture Area* (Item 4.3)? (Note that the landscape area(s) would have to be contiguous and within the same Drainage Management Area to use harvested rainwater for irrigation via gravity flow.)

☐ Yes (continue) ☐ No – Direct runoff from impervious areas to self-retaining areas* OR refer to Table 11 and the curves in Appendix F of the LID Feasibility Report to evaluate feasibility of harvesting and using the C.3.d amount of runoff for irrigation.

5.2 Use of harvested rainwater for toilet flushing or non-potable industrial use:

a. Residential Projects: Proposed number of dwelling units:_____
Calculate the dwelling units per impervious acre by dividing the number of dwelling units by the acres of the Potential Rainwater Capture Area* in Item 4.4. Enter the result here:

_____)

Is the number of dwelling units per impervious acre LESS than 100 (assuming 2.7 occupants/unit)?

☐ Yes (continue) ☐ No – complete the Harvest/Use Feasibility Worksheet.

b. Commercial/Industrial Projects: Proposed interior floor area:_____ (sq. ft.)

Calculate the proposed interior floor area (sq.ft.) per acre of impervious surface by *dividing the interior floor area (sq.ft.) by the acres of the Potential Rainwater Capture Area* in Item 4.4. Enter the result here:*

_____

Is the square footage of the interior floor space per impervious acre LESS than 70,000 sq. ft.?

☐ Yes (continue) ☐ No – complete the Harvest/Use Feasibility Worksheet

c. School Projects: Proposed interior floor area:_____ (sq. ft.)

Calculate the proposed interior floor area per acre of impervious surface by *dividing the interior floor area (sq.ft.) by the acres of the Potential Rainwater Capture Area* in Item 4.4 . Enter the result here:*

_____.

Is the square footage of the interior floor space per impervious acre LESS than 21,000 sq. ft.?

☐ Yes (continue) ☐ No – complete the Harvest/Use Feasibility Worksheet

* For definitions, see Glossary (Attachment 1).

d. Mixed Commercial and Residential Use Projects

- Evaluate the residential toilet flushing demand based on the dwelling units per impervious acre for the residential portion of the project, following the instructions in Item 5.2.a, except you will use a prorated acreage of impervious surface, based on the percentage of the project dedicated to residential use.
- Evaluate the commercial toilet flushing demand per impervious acre for the commercial portion of the project, following the instructions in Item 5.2.a, except you will use a prorated acreage of impervious surface, based on the percentage of the project dedicated to commercial use.

e. Industrial Projects: Estimated non-potable water demand (gal/day): _____

Is the non-potable demand LESS than 2,400 gal/day per acre of the Potential Rainwater Capture Area?

☐ Yes (continue) ☐ No – refer to the curves in Appendix F of the LID Feasibility Report to evaluate feasibility of harvesting and using the C.3.d amount of runoff for industrial use.

6. Use of Biotreatment

If only the "Yes" boxes were checked for all questions in Sections 2 and 5, or the project will have a recycled water system for non-potable use (Section 3), then the applicant may use appropriately designed bioretention facilities for compliance with C.3 treatment requirements. The applicant is encouraged to maximize infiltration of stormwater if site conditions allow.

7. Results of Screening Analysis

Based on this screening analysis, the following steps will be taken for the project (check all that apply):

☒ Implement biotreatment measures (such as an appropriately designed bioretention area).

☐ Conduct further analysis of infiltration feasibility by completing the Infiltration Feasibility Worksheet.

☐ Conduct further analysis of rainwater harvesting and use (check one):

- ☐ Complete the Rainwater Harvesting and Use Feasibility Worksheet for:
  - ☐ The entire project
  - ☐ Individual building(s), if applicable, describe:_____
- ☐ Evaluate the feasibility of harvesting and using the C.3.d amount of runoff for irrigation, based on Table 11 and the curves in Appendix F of the LID Feasibility Report
- ☐ Evaluate the feasibility of harvesting and using the C.3.d amount of runoff for non-potable industrial use, based on the curves in Appendix F of the LID Feasibility Report.

* For definitions, see Glossary (Attachment 1).

LID Feasibility Worksheet
Attachment 1: Glossary

Biotreatment

A type of low impact development treatment allowed under Provision C.3.c of the *MRP**, if infiltration, evapotranspiration and rainwater harvesting and use are infeasible. As required by Provision C.3.c.i(2)(vi), biotreatment systems shall be designed to have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate and shall use biotreatment soil as specified in the biotreatment soil specifications submitted by the MRP co-permittees to the Regional Water Quality Control Board on May 1, 2011, or equivalent.

C.3 Regulated Projects:

Development projects as defined by Provision C.3.b.ii of the *MRP**. This includes public and private projects that create and/or replace 10,000 square feet or more of impervious surface, and restaurants, retail gasoline outlets, auto service facilities, and uncovered parking lots (stand-alone or part of another use) that create and/or replace 5,000 square feet or more of impervious surface. Single family homes that are not part of a larger plan of development are specifically excluded.

C.3.d Amount of Runoff

The amount of stormwater runoff from C.3 Regulated Projects that must receive stormwater treatment, as described by hydraulic sizing criteria in Provision C.3.d of the *MRP**.

Heritage Tree

An individual tree of any size or species given the 'heritage tree' designation as defined by the municipality's tree ordinance or other section of the municipal code.

Infiltration Devices

Infiltration facilities that are deeper that they are wide and designed to infiltrate stormwater runoff into the subsurface and, as designed, bypass the natural groundwater protection afforded by surface soil. These devices include dry wells, injection wells and infiltration trenches (includes French drains).

Infiltration Facilities

A term that refers to both infiltration devices and measures.

Infiltration Measures

Infiltration facilities that are wider than they are deep (e.g., bioinfiltration, infiltration basins and shallow wide infiltration trenches and dry wells).

Low Impact Development (LID) Treatment

Removal of pollutants from stormwater runoff using the following types of stormwater treatment measures: rainwater harvesting and use, infiltration, evapotranspiration, or, where these are infeasible, biotreatment.

Municipal Regional Stormwater Permit (MRP)

The municipal stormwater NPDES permit under which discharges are permitted from municipal separate storm sewer systems throughout the NPDES Phase I jurisdictions within the San Francisco Bay Region.

Potential Rainwater Capture Area

The impervious area from which rainwater may be potentially be captured, if rainwater harvesting and use were implemented for a project. If the entire site is evaluated for rainwater harvesting and use feasibility, this consists of the impervious area of the proposed project; for redevelopment projects that replace 50% or more of the existing impervious surface, it also includes the areas of existing impervious surface that are not modified by the project. If only a roof area or designated impervious area is evaluated for rainwater harvesting and use feasibility, the potential rainwater capture area consists only of the applicable impervious area.

Screening Density

A threshold of density (e.g., number of units or interior floor area) per acre of impervious surface, associated with a certain potential demand for non-potable water, for C.3 regulated projects. The screening density varies by municipality, according to location (see Attachment 2.) If the screening density is met or exceeded, the Rainwater Harvesting and Use Feasibility Worksheet must be completed for the project.

Self-Retaining Area

A portion of a development site designed to retain the first one inch of rainfall (by ponding and infiltration and/or evapotranspiration) without producing stormwater runoff. Self-retaining areas must have at least a 2:1 ratio of contributing area to a self-retaining area and a 3" ponding depth. Self-retaining areas may include graded depressions with landscaping or pervious pavement.

Areas that Contribute Runoff to Self-Retaining Areas are impervious or partially pervious areas that drain to self-retaining areas.

Self-Treating Area

A portion of a development site in which infiltration, evapotranspiration and other natural processes remove pollutants from stormwater. Self-treating areas may include conserved natural open areas, areas of landscaping, green roofs and pervious pavement. Self-treating areas treat only the rain falling on them and do not receive stormwater runoff from other areas.

Special Projects

Certain types of smart growth, high density and transit oriented development projects that are allowed, under Provision C.3.e.ii of the MRP, to receive LID treatment reductions. The specific development project types will be described in an amendment to the MRP, anticipated in Fall 2011.

Total Project Cost

Total project cost includes the construction (labor) and materials cost of the physical improvements proposed; however, it does not include land, transactions, financing, permitting, demolition, or off-site mitigation costs.

LID Feasibility Worksheet
Attachment 2: Toilet-Flushing Demand for Harvested Rainwater[1] Required for Rainwater Harvesting Feasibility per Impervious Acre (IA) [2]

Table 1 - Alameda County:

Rain Gauge[3]	Required Demand (gal/day/IA)[4]	Residential		Office/Retail[5]		Schools[6]	
		No. of residents per IA[7]	Dwelling Units per IA[8]	Employees per IA[9]	Interior Floor Area (sq.ft./IA)[10]	Employees[11] per IA	Interior Floor Area (sq.ft./IA)[12]
Berkeley	5,900	690	255	860	172,000	170	51,000
Dublin	4,100	480	177	590	118,000	120	36,000
Hayward	4,800	560	207	700	140,000	140	42,000
Palo Alto	2,900	340	125	420	84,000	90	27,000
San Jose	2,400	280	103	350	70,000	70	21,000

Table 2 - Santa Clara County:

Rain Gauge[3]	Required Demand (gal/day/IA)[4]	Residential		Office/Retail[5]		Schools[6]	
		No. of residents per IA[7]	Dwelling Units per IA[8]	Employees per IA[9]	Interior Floor Area (sq.ft./IA)[10]	Employees[11] per IA	Interior Floor Area (sq.ft./IA)[12]
Morgan Hill	6,500	760	260	940	188,000	190	57,000
Palo Alto	2,900	340	116	420	84,000	90	27,000
San Jose	2,400	280	96	350	70,000	70	21,000

Table 3 – San Mateo County:

Rain Gauge[3]	Required Demand (gal/day/IA)[4]	Residential		Office/Retail[5]		Schools[6]	
		No. of residents per IA[7]	Dwelling Units per IA[8]	Employees per IA[9]	Interior Floor Area (sq.ft./IA)[10]	Employees[11] per IA	Interior Floor Area (sq.ft./IA)[12]
Palo Alto	2,900	340	124	420	84,000	90	27,000
San Francisco	4,600	530	193	670	134,000	140	42,000
SF Oceanside	4,300	500	182	620	124,000	130	39,000

Table 4 – Contra Costa County:

Rain Gauge[3]	Required Demand (gal/day/IA)[4]	Residential		Office/Retail[5]		Schools[6]	
		No. of residents per IA[7]	Dwelling Units per IA[8]	Employees per IA[9]	Interior Floor Area (sq.ft./IA)[10]	Employees[11] per IA	Interior Floor Area (sq.ft./IA)[12]
Berkeley	5,900	690	254	860	172,000	170	51,000
Brentwood	4,200	490	180	610	122,000	120	36,000
Dublin	4,100	480	176	590	118,000	120	36,000
Martinez	5,900	690	254	860	172,000	170	51,000

Table 5 – Solano County:

Rain Gauge[3]	Required Demand (gal/day/IA)[4]	Residential		Office/Retail[5]		Schools[6]	
		No. of residents per IA[7]	Dwelling Units per IA[8]	Employees per IA[9]	Interior Floor Area (sq.ft./IA)[10]	Employees[11] per IA	Interior Floor Area (sq.ft./IA)[12]
Lake Solano	9,000	1,050	362	1,300	260,000	270	81,000
Martinez	5,900	690	238	860	172,000	170	51,000

Notes:

1. Demand thresholds obtained from the "Harvest and Use, Infiltration and Evapotranspiration Feasibility/Infeasibility Criteria Report" (LID Feasibility Report) submitted to the Regional Water Board on May 1, 2011.
2. Toilet flushing demands assume use of low flow toilets per the California Green Building Code.
3. See Attachment 3 to identify the rain gauge that corresponds to the project site.
4. Required demand per acre of impervious area to achieve 80% capture of the C.3.d runoff volume with the maximum allowable drawdown time for cistern of 50,000 gallons or less, from Table 9 of the LID Feasibility Report.
5. "Office/Retail" includes the following land uses: office or public buildings, hospitals, health care facilities, retail or wholesale stores, and congregate residences.
6. "Schools" includes day care, elementary and secondary schools, colleges, universities, and adult centers.
7. Residential toilet flushing demand identified in Table 10 of the LID Feasibility Report.
8. Residential toilet flushing demand divided by the countywide average number of persons per household (US Census data reported on www.abag.org), as follows: Alameda County: 2.71 persons per household; Santa Clara County: 2.92; San Mateo County: 2.74; Contra Costa County: 2.72; Solano County: 2.90.
9. Office/retail employee toilet flushing demand identified in Table 10 of the LID Feasibility Report.
10. Interior floor area required for rainwater harvest and use feasibility per acre of impervious area is based on the number of employees in Column 5 multiplied by an occupant load factor of 200 square feet per employee (reference: 2010 California Plumbing Code, Chapter 4, Plumbing Fixtures and Fitting Fixtures, Table A, page 62.)
11. School employee toilet flushing demand identified in Table 10 of the LID Feasibility Report. Each school employee represents 1 employee and 5 "visitors" (students and others).
12. Interior floor area required for rainwater harvest and use feasibility per acre of impervious area is based on the number of employees in Column 7 multiplied by 6 to account for visitors, then multiplied by an occupant load factor of 50 square feet per employee (reference: 2010 California Plumbing Code).

Appendix C

Special Projects Worksheet

Special Projects Worksheet

Project Name: District 1 - Building 1

Project Address: 1315 McCandless Drive, Milpitas

Applicant/Developer Name: Lyon Communities

1. "Special Project" Determination:

Special Project Category "A"

Does the project have ALL of the following characteristics?

- ☐ Located in a municipality's designated central business district, downtown core area or downtown core zoning district, neighborhood business district or comparable pedestrian-oriented commercial district, or historic preservation site and/or district[1];
- ☐ Creates and/or replaces 0.5 acres or less of impervious surface;
- ☐ Includes no surface parking, except for incidental parking for emergency vehicle access, ADA access, and passenger or freight loading zones;
- ☐ Has at least 85% coverage of the entire site by permanent structures. The remaining 15% portion of the site may be used for safety access, parking structure entrances, trash and recycling service, utility access, pedestrian connections, public uses, landscaping and stormwater treatment.

☒ No (continue) ☐ Yes – complete Section 2 of the Special Project Worksheet

Special Project Category "B"

Does the project have ALL of the following characteristics?

- ☐ Located in a municipality's designated central business district, downtown core area or downtown core zoning district, neighborhood business district or comparable pedestrian-oriented commercial district, or historic preservation site and/or district[1];
- ☐ Creates and/or replaces an area of impervious surface that is greater than 0.5 acres, and no more than 2.0 acres;
- ☐ Includes no surface parking, except for incidental parking for emergency access, ADA access, and passenger or freight loading zones;
- ☐ Has at least 85% coverage of the entire site by permanent structures. The remaining 15% portion of the site may be used for safety access, parking structure entrances, trash and recycling service, utility access, pedestrian connections, public uses, landscaping and stormwater treatment;
- ☐ Minimum density of either 50 dwelling units per acre (for residential projects) or a Floor Area Ratio (FAR) of 2:1 (for commercial or mixed use projects)

☒ No (continue) ☐ Yes – complete Section 2 of the Special Project Worksheet

Special Project Category "C"

Does the project have ALL of the following characteristics?

- ☒ At least 50% of the project area is within 1/2 mile of an existing or planned transit hub[2] or 100% within a planned Priority Development Area[3];
- ☒ The project is characterized as a non-auto-related use[4]; and
- ☐ Minimum density of either 25 dwelling units per acre (for residential projects) or a Floor Area Ratio (FAR) of 2:1 (for commercial or mixed use projects)

☒ No ☐ Yes – complete Section 2 of the Special Project Worksheet

---

[1] And built as part of a municipality's stated objective to preserve/enhance a pedestrian-oriented type of urban design.

[2] "Transit hub" is defined as a rail, light rail, or commuter rail station, ferry terminal, or bus transfer station served by three or more bus routes. (A bus stop with no supporting services does not qualify.)

[3] A "planned Priority Development Area" is an infill development area formally designated by the Association of Bay Area Government's / Metropolitan Transportation Commission's FOCUS regional planning program.

[4] Category C specifically excludes stand-alone surface parking lots; car dealerships; auto and truck rental facilities with onsite surface storage; fast-food restaurants, banks or pharmacies with drive-through lanes; gas stations; car washes; auto repair and service facilities; or other auto-related project unrelated to the concept of transit oriented development.

2. LID Treatment Reduction Credit Calculation:

Category	Impervious Area Created/Replaced (acres)	Site Coverage (%)	Project Density or FAR	Density/Criteria	Allowable Credit (%)	Applied Credit (%)
A			N.A.	N.A.	100%	
B				Res ≥ 50 DU/ac or FAR ≥ 2:1	50%	
				Res ≥ 75 DU/ac or FAR ≥ 3:1	75%	
				Res ≥ 100 DU/ac or FAR ≥ 4:1	100%	
C	4.92 acres	81%		**Location credit (select one)[5]:**		
			< 1/2 mile	Within ¼ mile of transit hub	50%	
				Within ½ mile of transit hub	25%	
				Within a planned PDA	25%	
				Density credit (select one):		
				Res ≥ 30 DU/ac or FAR ≥ 2:1	10%	
				Res ≥ 60 DU/ac or FAR ≥ 4:1	20%	
				Res ≥ 100 DU/ac or FAR ≥ 6:1	30%	
				Parking credit (select one):		
			8,700-sf = ±3%	≥ 10% at-grade surface parking[6]	10%	
				No surface parking	20%	
				TOTAL TOD CREDIT =		0

[5] To qualify for the location credit, at least 50% of the project's site must be located within the ¼ mile or ½ mile radius of an existing or planned transit hub, as defined on page 1, footnote 2. A planned transit hub is a station on the MTC's Regional Transit Expansion Program list, per MTC's Resolution 3434 (revised April 2006), which is a regional priority funding plan for future transit stations in the San Francisco Bay Area. To qualify for the PDA location credit, 100% of the project site must be located within a PDA, as defined on page 1, footnote 3.

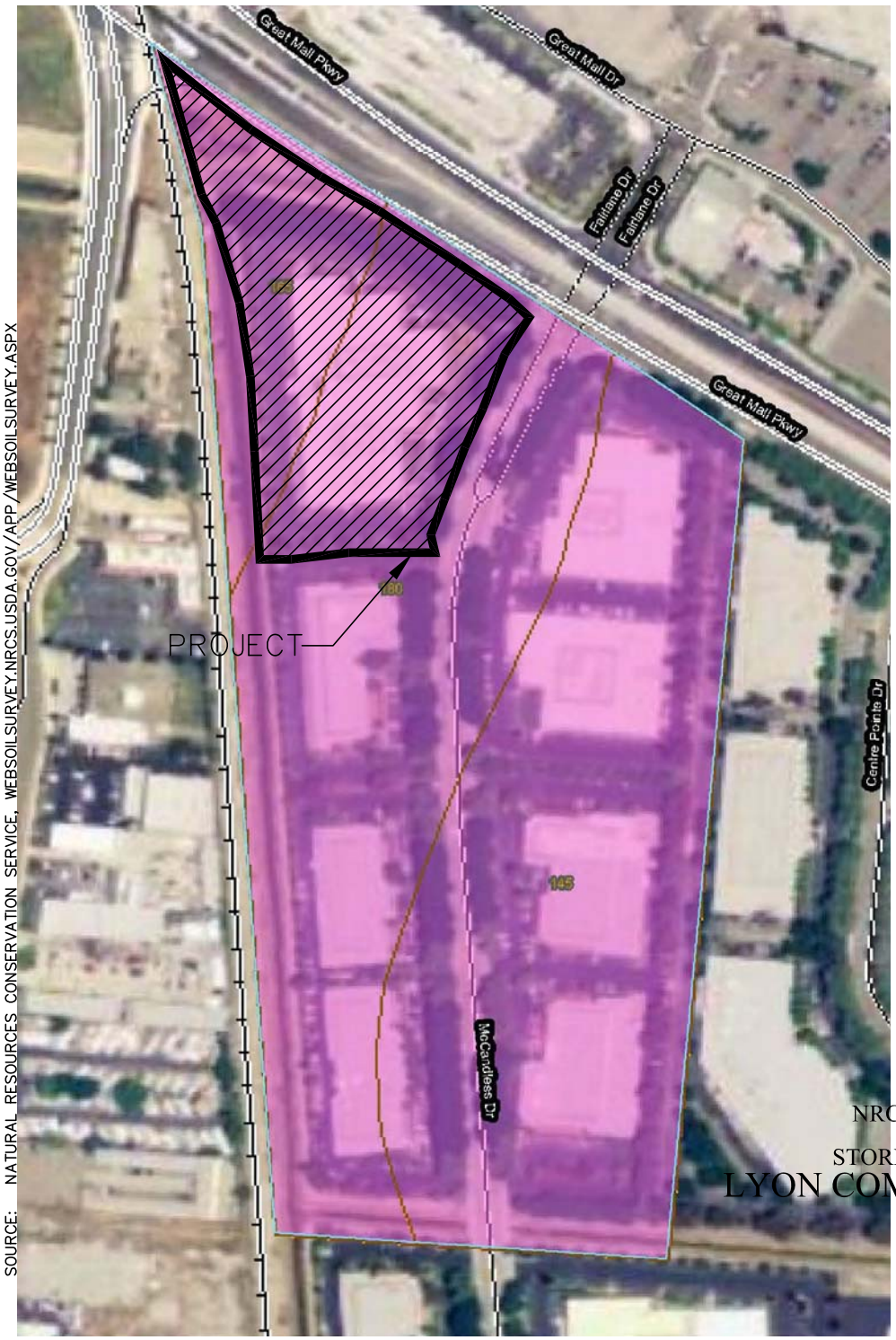
[6] The at-grade surface parking must be treated with LID treatment measures.

Appendix D

Soil Properties

Hydrologic Soil Group— Summary by Map Unit — Santa Clara Area, California, Western Part (CA641)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
145	Urbanland-Hangerone complex, 0 to 2 percent slopes, drained	D	14.5	44.4%
165	Urbanland-Campbell complex, 0 to 2 percent slopes, protected	D	3.8	11.7%
180	Urbanland-Newpark complex, 0 to 2 percent slopes	D	14.4	44.0%

APPROXIMATE SATURATED HYDRAULIC CONDUCTIVITY PER NRCS
= 0.06 INCHES PER HOUR TO 0.6 INCHES PER HOUR (VARIES)



MAP LEGEND

- Area of Interest (AOI)
  - Area of Interest (AOI)
- Soils
  - Soil Map Units
- Soil Ratings
  - A
  - A/D
  - B
  - B/D
  - C
  - C/D
  - D
  - Not rated or not available
- Political Features
  - Cities
- Water Features
  - Streams and Canals

N

NOT TO SCALE

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE, WEBSOILSURVEY.NRCS.USDA.GOV/APP/WEBSOILSURVEY.ASPX

FIGURE 3
NRCS SOIL CLASSIFICATION

STORM WATER CONTROL PLAN
LYON COMMUNITIES - DISTRICT 1
MILPITAS, CALIFORNIA

JUNE 2015

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
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Appendix E

MRP Calculations Worksheet

Section II. Sizing for Volume-Based Treatment Measures, continued

Section II.B. — Sizing Volume-Based Treatment Measures based on the Adapted CASQA Stormwater BMP Handbook Approach

The equation that will be used to size the BMP is:

*Calculation for areas 1 and 5.

BMP Volume = (Correction Factor) × (Unit Storage) × (Drainage Area to the BMP)

Step 1. Determine the drainage area for the BMP, A = 2.19 acres

Step 2. Determine percent imperviousness of the drainage area:

a. Estimate the amount of impervious surface (rooftops, hardscape, streets, and sidewalks, etc.) in the area draining to the BMP: 1.75 acres

b. % impervious area=(amount of impervious area/drainage area for the BMP) × 100
% impervious area= **(Step 2.a/Step 1)** × 100
% impervious area= 80 %

Step 3. Find the mean annual precipitation at the site (MAP_{site}). To do so, estimate where the site is on Figure B-1 and estimate the mean annual precipitation in inches from the rain line (isopleth) nearest to the project site.[6] Interpolate between isopleths if necessary.

MAP_{site} = 14.5 inches

Step 4. Identify the reference rain gage closest to the project site from Table B-2b and record the MAP_{gage}:

MAP_{gage} = 13.9 inches

Table B-2b: Precipitation Data for Three Reference Gages

Reference Rain Gages	Mean Annual Precipitation (MAP_{gage}) (in)
San Jose Airport	13.9
Palo Alto	13.7
Morgan Hill	19.5

[6] Check with the local municipality to determine if more detailed maps are available for locating the site and estimating MAP.

Section II. Sizing for Volume-Based Treatment Measures, continued

Section II.B. —Adapted CASQA Stormwater BMP Handbook Approach (continued)

Step 5 Determine the rain gage correction factor for the precipitation at the site using the information from **Step 3** and **Step 4**.

Correction Factor = MAP_{site} (**Step 3**)/MAP_{gage} (**Step 4**)

Correction Factor = 1.04

Step 6. Identify the representative soil type for the BMP drainage area.

a) Identify from Figure B-1 or from site soils data, the soil type that is representative of the pervious portion of the project shown here in order of increasing infiltration capability:

X Clay (D) ____ Sandy Clay (D) ____ Clay Loam (D)

____ Silt Loam/Loam (B) ____ Not Applicable (100% Impervious)

b) Does the site planning allow for protection of natural areas and associated vegetation and soils so that the soils outside the building footprint are not graded/compacted? N (Y/N)

If your answer is no, and the soil will be compacted during site preparation and grading, the soil's infiltration ability will be decreased. Modify your answer to a soil with a lower infiltration rate (e.g., Silt Loam to Clay Loam or Clay).

Modified soil type:

7. Determine the average slope for the drainage area for the BMP: 0.5 %

8. Determine the unit basin storage volume from sizing curves.

a) Slope ≤ 1%

Use the figure entitled "Unit Basin Volume for 80% Capture, 1% Slope" corresponding to the nearest rain gage: Figure B-2, B-3, or B-4 for San Jose, Palo Alto, or Morgan Hill, respectively. Find the percent imperviousness of the drainage area (see answer to **Step 2**, above) on the x-axis. From there, find the line corresponding to the soil type (from **Step 6**), and obtain the unit basin storage on the y-axis.

Unit Basin Storage for 1% slope ($UBS_{1\%}$) = 0.50 (inches)

b) Slope ≥ 15%

Use the figure entitled "Unit Basin Volume for 80% Capture, 15% Slope" corresponding to the nearest rain gage: Figure B-5, B-6, or B-7 for San Jose, Palo Alto, or Morgan Hill, respectively. Find the percent imperviousness of the drainage area (see answer to **Step 2**, above) on the x-axis. From there, find the line corresponding to the soil type (from **Step 6**), and obtain the unit basin storage on the y-axis.

Unit Basin Storage for 15% slope ($UBS_{15\%}$) = 0.52 (inches)

Section II. Sizing for Volume-Based Treatment Measures, continued

Section II.B. —Adapted CASQA Stormwater BMP Handbook Approach (continued)

c) Slope > 1% and < 15%

Find the unit basin volumes for 1% and 15% using the techniques in **Steps 8.a** and **8.b** and interpolate by applying a slope correction factor per the following formula:

$UBS_x = UBS_{1\%} + (UBS_{15\%} - UBS_{1\%}) \times (X\%-1\%) / (15\% -1\%)$

$= (\textbf{Step 8a}) + (\textbf{Step 8b- Step 8a}) \times (X\%-1\%)/(15\%-1\%)$

$=0.50+(0.52-0.50)x(0.05-0.01)/(0.15-0.01)=0.52$

Where UBS_x = Unit Basin Storage volume for drainage area of intermediate slope, X %

Unit Basin Storage volume (UBS_x) = 0.52 (inches)
(corrected for slope of site)

9. Determine the BMP Design Volume, using the following equation:

Design Volume = Rain Gage Correction Factor × Unit Basin Storage Volume × Drainage Area

Design Volume = (**Step 5**) × (**Step 8**) × (**Step 1**) × 1 foot/12 inch $=1.04x0.52x2.19x(1/12)=0.10$

Design Volume = 0.10 acre-feet

III. Sizing for Flow-based Treatment Measures, continued

Section III.B.—Sizing Flow-Based Treatment Measures based on the CASQA Stormwater BMP Handbook Flow Approach

This method uses the Rational Method equation to determine the design flow:

$$Q=CIA$$ *Calculation for area 2

Where:
Q = the design flow in cubic feet per second (cfs),
C = the drainage area runoff coefficient,
I = the design intensity (in/hr), and
A = the drainage area for the BMP (acres)

Step 1. Determine the drainage area for the BMP, A = 1.65 acres

Step 2. Determine the runoff coefficient, C = 0.64 from Table B-3 or B-4.

It is more accurate to compute an area-weighted "C-factor" based on the surfaces in the drainage area (Table B-3), if possible, than to assume a composite "C-factor" such as those in Table B-4, especially for small drainage areas.

Step 3. Find the mean annual precipitation at the site (MAP_{site}). To do so, estimate where the site is on Figure B-1 and estimate the mean annual precipitation in inches from the rain line (isopleth) nearest to the project site.[8] Interpolate between isopleths if necessary.

MAP_{site} = 14.5 inches

Step 4. Identify the reference rain gage closest to the project site from Table B-2b and record the MAP_{gage}:

MAP_{gage} = 13.9 inches

Table B-2b: Precipitation Data for Three Reference Gages

Reference Rain Gages	Mean Annual Precipitation (MAP_{gage}) (in)
San Jose Airport	13.9
Palo Alto	13.7
Morgan Hill	19.5

[8] Check with the local municipality to determine if more detailed maps are available for locating the site and estimating MAP.

Section III. Sizing for Flow-Based Treatment Measures, continued

Section III.B—CASQA Stormwater BMP Handbook Flow Approach (continued)

Step 5. Determine the rain gage correction factor for the precipitation at the site using the information from **Step 3** and **Step 4**.

Correction Factor = MAP_{site} /MAP_{gage} = (**Step 3**)/(**Step 4**)

Correction Factor = 1.04

Step 6. Select the design rainfall intensity, I, for the rain gage closest to the site from Table B-2c:

Table B-2c: Precipitation Data for Three Reference Gages

Reference Rain Gages	85th Percentile Hourly Rainfall Intensity (in/hr)	Design Rainfall Intensity (I) (in/hr)*
San Jose Airport	0.087	0.17
Palo Alto	0.096	0.19
Morgan Hill	0.12	0.24

*The design intensity is twice the 85th Percentile Hourly Rainfall Intensity.

Design Rainfall Intensity: I = 0.17 in/hr

Step 7. Determine the corrected design rainfall intensity (I) for the site:

Design intensity (site) = Correction factor × Design rainfall intensity for closest rain gage

Design intensity (site) = (**Step 5**) × (**Step 6**) = 0.176 in/hr

Step 8. Determine the design flow (Q) using the Rational Method equation:

$$Q = C \times I \times A$$

Q = (**Step 2**) × (**Step 7**) × (**Step 1**)

Q=0.64x0.176x1.65=0.185 acre-in/hr Q = 0.218 acres-in/hr

Design Flow, Q = 0.185 cfs[9]

[9] No conversion factor for correct units is needed for the rational formula because (1 acre-in/hr) X (43,560 sq.ft/acre) X (1ft/12 in) X (1hr/3600 sec) ≈ 1 ft^3/ sec or cfs.

Appendix F

BMP Sizing Calculations

Project Name: McCandless Project - District 1 Building 1
Project Location: Milpitas, CA
Date: 3/9/2017

Project Information

Area =	264,440	ft^2	*Total project area*
Ex Impervious Area =	170,000	ft^2	*Total existing project impervious area*
	64%		*Percent existing impervious area*
Ex Imperv Area To Remain =	0	ft^2	*Total existing impervious surface to remain*
Replaced Imperv Area =	170,000	ft^2	*Total existing impervious surface to be replaced as part of project*
New Imperv Area =	44,240	ft^2	*Total new impervious surface to be installed as part of project*
Total Impervious Area =	214,240	ft^2	*Total project impervious area*
	81%		*Percent impervious area*

Rainfall Design Information

Reference Rain Guage =	San Jose Airport		
MAP_{guage} =	13.9	in	*Reference Rain Guage closest to the project site*
MAP_{site} =	14.5	in	*Mean Annual Precipitation at project site*
CF =	1.04		*Rain Guage correction factor*
$P_{6\ gauge}$ =		in	*Mean storm event precipitation at reference rain gauge*
$I_{85\ gauge}$ =	0.087	in/hr	*85th percentile hourly rainfall intensity at reference rain gauge*
$P_{6\ site}$ =	0.00	in	*Project mean storm event precipitation for volume based design*
$I_{WQ\ site}$ =	0.17	in/hr	*Two times the project 85th percentile hourly rainfall intensity for flow based design*

Soil Type Design Information

Groundwater Depth =	0-10	ft	*Based on SCVWD seasonal high groundwater maps*
Site HSG =	D		*NRCS Hydrologic Soil Group Classification*
Infiltration Rate =	0.1	in/hr	*NRCS documented low saturated hydraulic conductivity*
Safety Factor =	1		
Design Infiltration Rate =	5.0	in/hr	

Project Name: McCandless Project - District 1, Building 1
Project Location: Milpitas, CA
Date: 3/9/2017

F.1-BMP Flow Calculations for Bioretention

		Impervious Surface (SF)				Pervious Surface (SF)						
Drainage Area ID	Area (SF)	Roof	Hardscape	Street	Total	Landscape	Pervious Pavement	Bioretention Basin/Swale	Total	% Impervious	Runoff Coefficient	Design WQ_F (cfs)
1	14,150	1,605	170	5,325	7,100	2,050	2,775	2,225	7,050	50%	0.43	0.025
2	71,955	38,065		13,555	51,620	6,875	11,500	1,960	20,335	72%	0.64	0.185
3	61,730	50,960	5,870	4,650	61,480	250		0	250	100%	0.87	0.216
4	14,155	5,400	5,000	0	10,400	1,985		1,770	3,755	73%	0.65	0.037
5	81,385	50,685	18,445	0	69,130	7,055	5,200	0	12,255	85%	0.76	0.249
6	12,115	0	0	7,960	7,960	2,020	1,825	310	4,155	66%	0.50	0.024
7	4,800	0	2,400	0	2,400	2,400	0	0	2,400	50%	0.45	0.009
8 [2]	4,150	0	0	4,150	4,150	0	0	0	0	100%	0.70	0.012
9 [2]	This is an equivalent area = 4,150 SF treated for Area 8											
Total	***264,440***	***146,715***	***31,885***	***35,640***	***214,240***	***22,635***	***21,300***	***6,265***	***50,200***	***81%***	***0.71***	***0.76***

F.2-BMP Summary Table

BMP Area Required[1] (ft^2)	BMP Area Provided (ft^2)	BMP Description
See BMP Volume-Flow Calculations		Bioretention Area-TA1
1,603	1,950	Bioswale-TA2
See BMP Volume-Flow Calculations		Pumped to Bioretention Area-TA3
See BMP Volume-Flow Calculations		Bioretention Area-TA3
See BMP Volume-Flow Calculations		Pumped to Bioretention Area-TA1
211	310	Bioswale-TA4
Self-Treating Area		
101	1950	Part of Bioswale-TA2
See Area 8		

Notes:

1. Assumes a 5-in/hr maximum BMP loading rate for bioretention soil.
2. Area 8 represents area for a new deceleration lane into the project. The runoff from this area alone could not be seperated from other surrounding areas. Area 9 is an existing - equivalent pavement area that's being treated In-Lieu of Area 8. Area 9 is a well defined area which storwater runoff for this area could be sepearated.

Governing Equations:

$$WQ_F = \frac{CI_{WQ}A}{43{,}200} \text{ cfs}$$

C = *WQ Runoff Coefficient*
I_{WQ} = **0.174** *2 x 24-hr 85th percentile rainfall intensity (in)*
A = *drainage area (ft^2)*
WQ_F = *Water quality design flow (cfs)*

WQ Runoff Coefficient Table	
Roof	0.90
Hardscape/Concrete	0.80
Street	0.70
Landscape	0.10
Grasscrete	0.15
Bioretention	0.10

Required BMP Area :

$$\text{Bioretention} = \frac{WQ_F * 43{,}200}{LR}$$

Area = *Bioretention surface area (ft^2)*
LR = *Loading Rate (5 in/hr)*

Self-Retaining = Imperv*2
Area = *Self-Retaining surface area (ft^2)*
Imperv = *Tributary impervious area (ft^2)*

Project Name: McCandless Project-District 1, Building 1
Project Location: Milpitas, CA
Date: 3/9/2017

F.3 BMP Volume Calculations - CASQA BMP Handbook Method

						Unit Basin Storage (in)		
Drainage Area ID	Area (SF)	Imperv Area (SF)	% Imperv	Soil Type	Average Slope (%)	1%	Drainage Area Specific	Design WQ_v (ft^3)
1 and 5	95,535	76,230	80%	Clay (D)	1%	0.50	0.52	4,332
3 and 4	75,885	71,880	95%	Clay (D)	1%	0.55	0.57	3,785
Total	***171,420***	***148,110***	***86%***					***8,117***

F.4 BMP Combined Volume-Flow Calculations

BMP Sizing Calculation - Combination Flow & Volume Based Method							
SCM Description	Rain Event Duration @ I_{WQ} (hr)	BMP Surface Area (ft^2)	WQ_v Filterd During T_D (ft^3)	WQ_v Remaing Volume (ft^3)	Surface Ponding Depth (in)	Required BMP Area (ft^2)	Drawdown Time (hr)
Bioretention Area TA1	3.00	2,225	2,779	1,553	11	1694	5
Bioretention Area TA3	3.30	1,765	2,425	1,360	12	1360	5

Notes:
1. Unit basin storage factors are based on Appendix B of the SCVURPPP C.3 Manual dated April 2013.
2. BMP sizing is based on Flow & Volume based method described in Chapter 5 and Appendix B of the SCVURPPP C.3 Manual dated April 2013.

Governing Equations:

$WQ_v = \frac{(CF)SA}{12}$ acre-ft

CF = *Rain gauage correction factor*
CF = 1.04
S = *Unit Basin Storage (in)*
A = *drainage area (ft^2)*

$T_{WQ} = \frac{S}{I_{WQ}}$

T_{WQ} = *Rain event duratio*
I_{WQ} = *0.17* in/hr

$WQ_{VF} = \frac{Area*T_{WQ}*I}{12}$

WQ_{VF} = *Water qaulity volume filtered during T_D (ft^3)*
T_{WQ} = *Rain event duration (hr)*
Area = *BMP surface area (ft^2)*
I = 5 *Design Infiltration Rate (in/hr)*

Required BMP Area = $\frac{WQ_v*12}{D_P + D_{BSM}*R_{BSM} + D_G*R_G}$

Area = *BMP surface area (ft*
D = *BMP Layer depth (in,*
R = *BMP Layer porosity (*

$T_D = \frac{WQ_v*12}{I * Area}$

T_D = *Drawdown time (hr)*
Area = *BMP surface area (ft^2)*
I = 5 *Design Infiltration Rate (in/hr)*

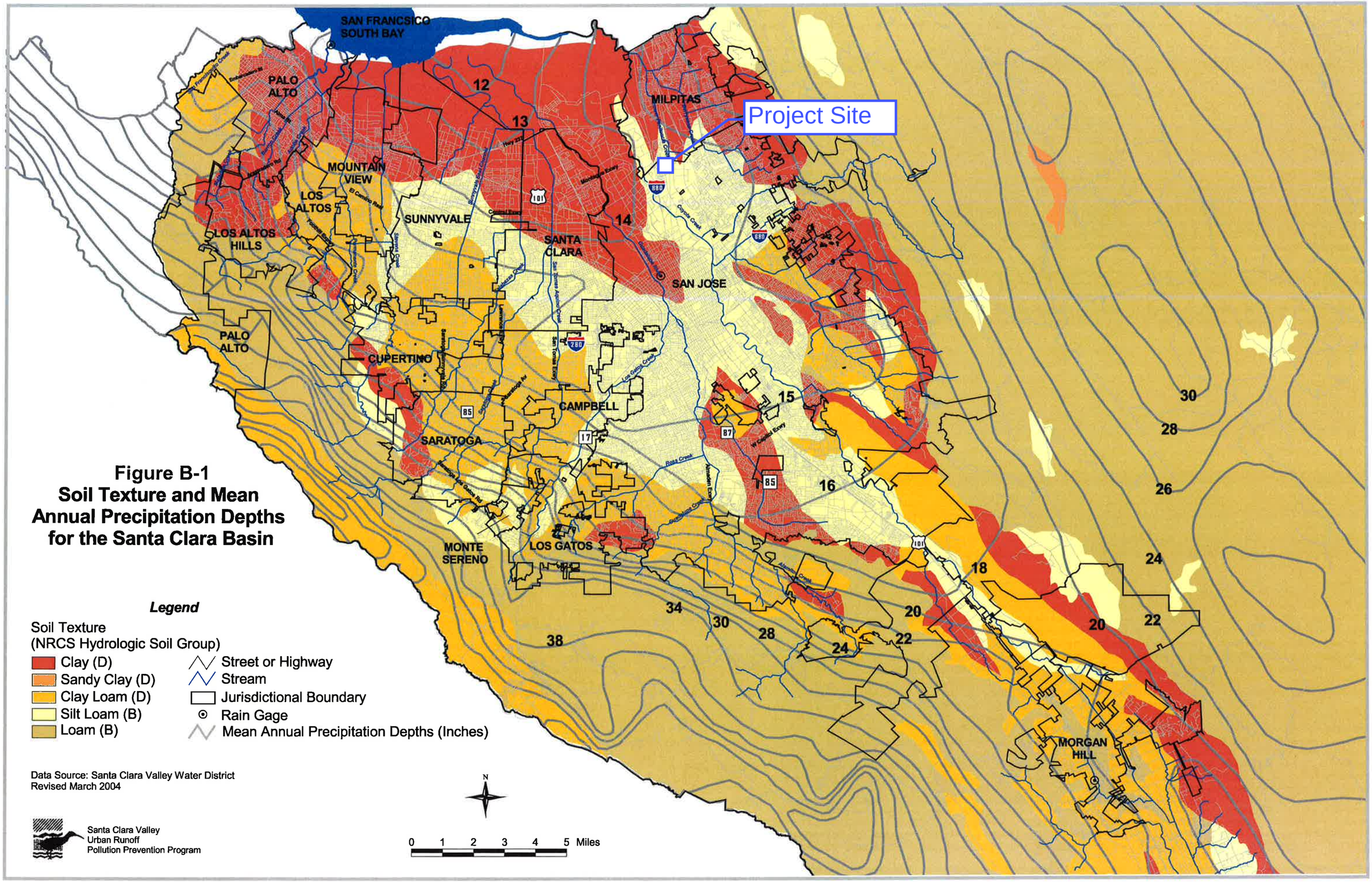


Figure B-1
Soil Texture and Mean Annual Precipitation Depths for the Santa Clara Basin

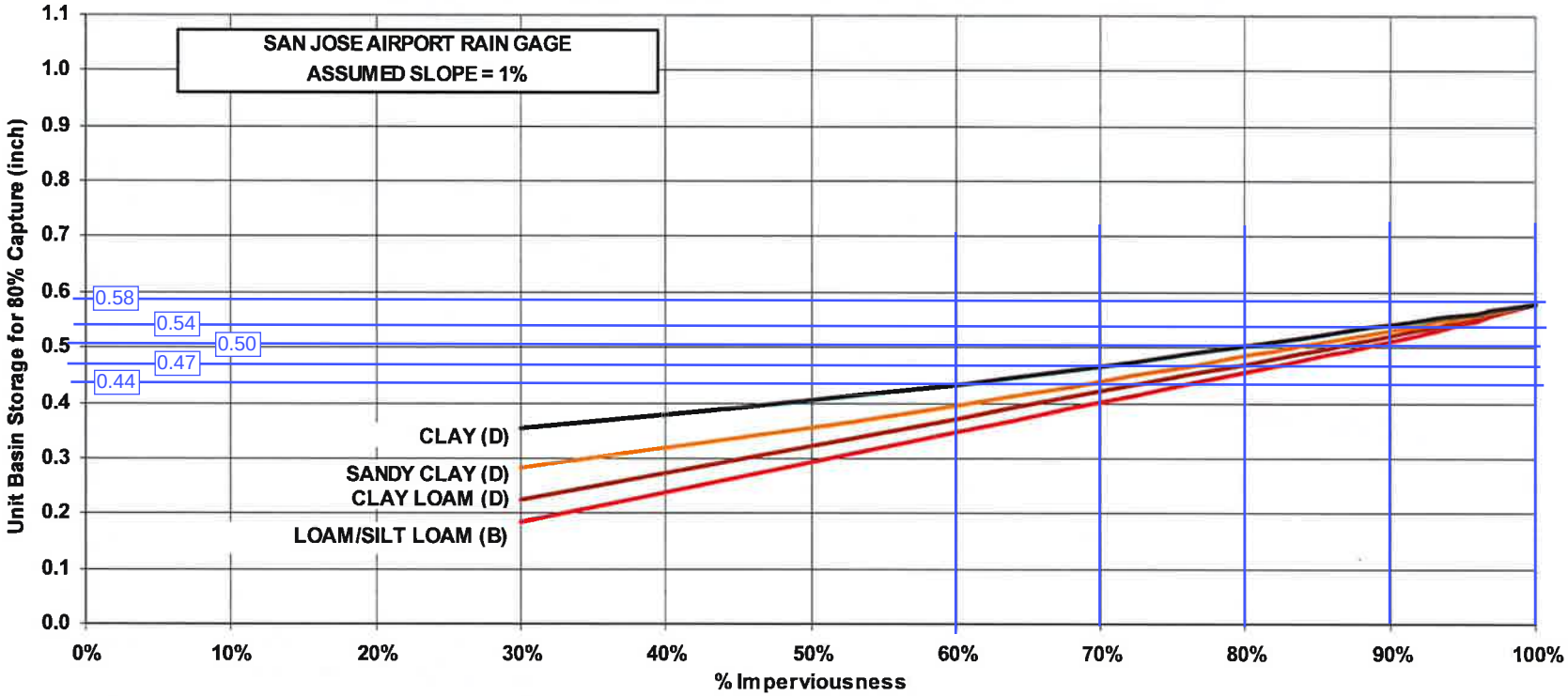


Figure B-2 Unit Basin Volume for 80% Capture - San Jose Airport Rain Gage

Appendix G

Site Plan

SEE TABLE F.3 ON APPENDIX F
FOR BMP SUMMARY INFORMATION

LEGEND

- BUILDING ROOF AREA
- BMP AREA
- CONCRETE
- DRAINAGE AREA
- XX — DRAINAGE AREA NUMBER
- TA(X) — BMP DESCRIPTION
- STORM DRAIN SYSTEM
- HP — HIGH POINT
- LP — LOW POINT
- CP — CATCH POINT
- DRAINAGE FLOW LINES
- TURF BLOCK

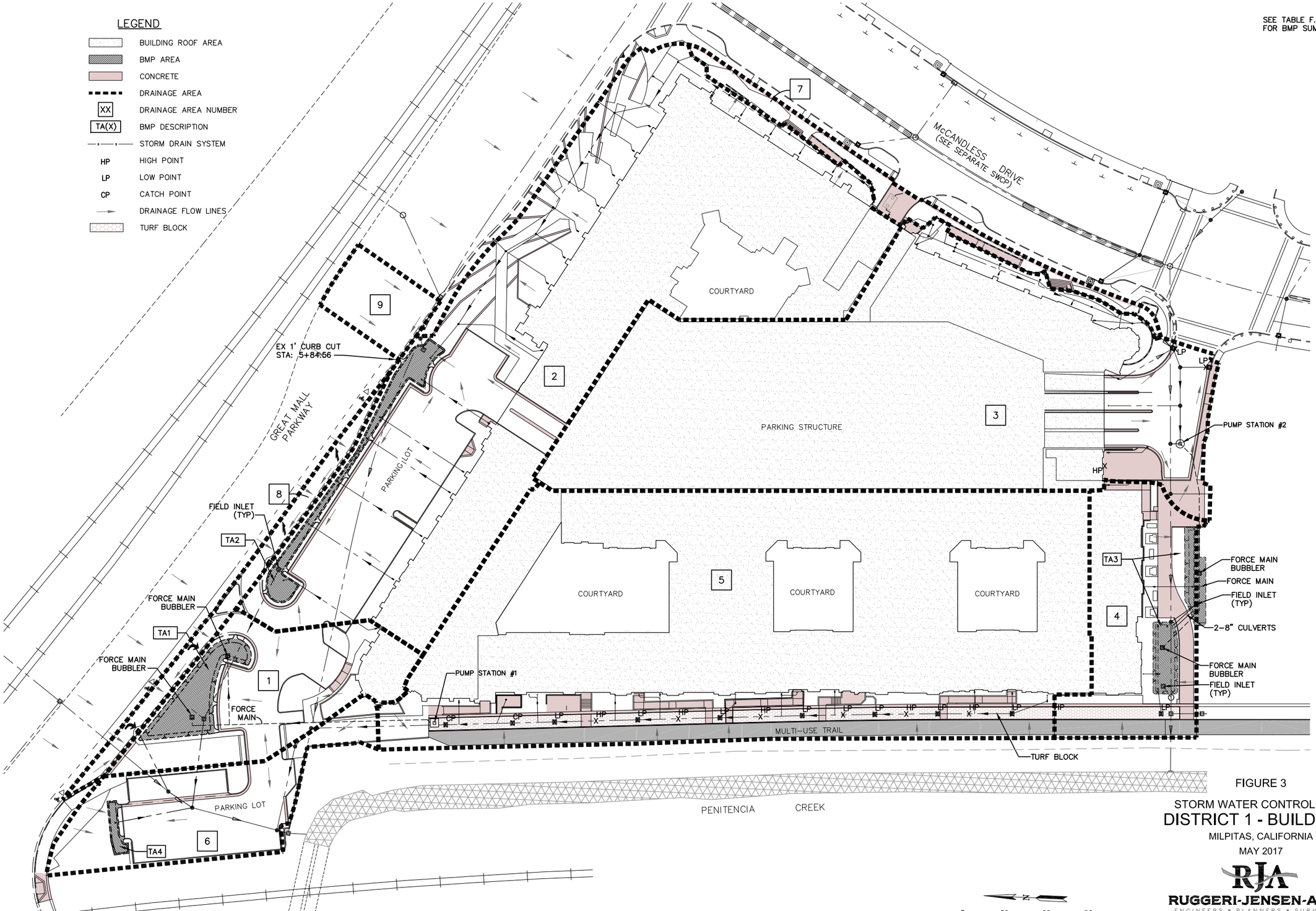


FIGURE 3

STORM WATER CONTROL PLAN

DISTRICT 1 - BUILDING 1

MILPITAS, CALIFORNIA

MAY 2017

SCALE IN FEET: 1"= 30'

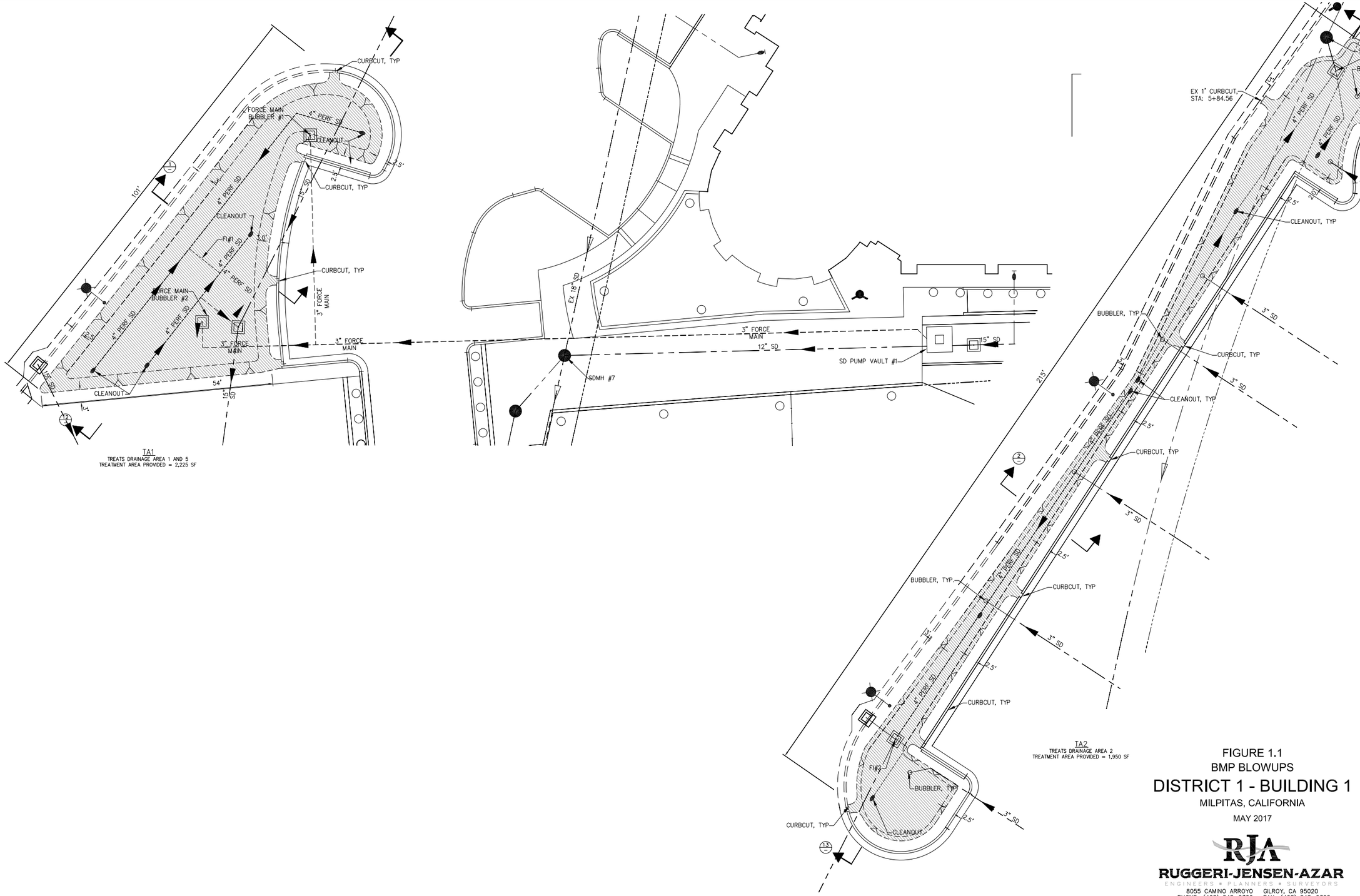
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

JOB NUMBER: 072030 SHEET 1 OF 1 SHEETS

PLOT DATE: May 31, 2017
FILE PATH: W:\Jobs 07\072030\Drawings\Final\Studies & Calculations\Bldg 1\SWCP\2017-05-30\Appdx G - Site Plan.dwg

Appendix H

Treatment Measure Details



TA1
TREATS DRAINAGE AREA 1 AND 5
TREATMENT AREA PROVIDED = 2,225 SF

TA2
TREATS DRAINAGE AREA 2
TREATMENT AREA PROVIDED = 1,950 SF

FIGURE 1.1
BMP BLOWUPS
DISTRICT 1 - BUILDING 1
MILPITAS, CALIFORNIA
MAY 2017

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JOB NUMBER: 072030 SHEET 1 OF 2

PLOT DATE: May 31, 2017
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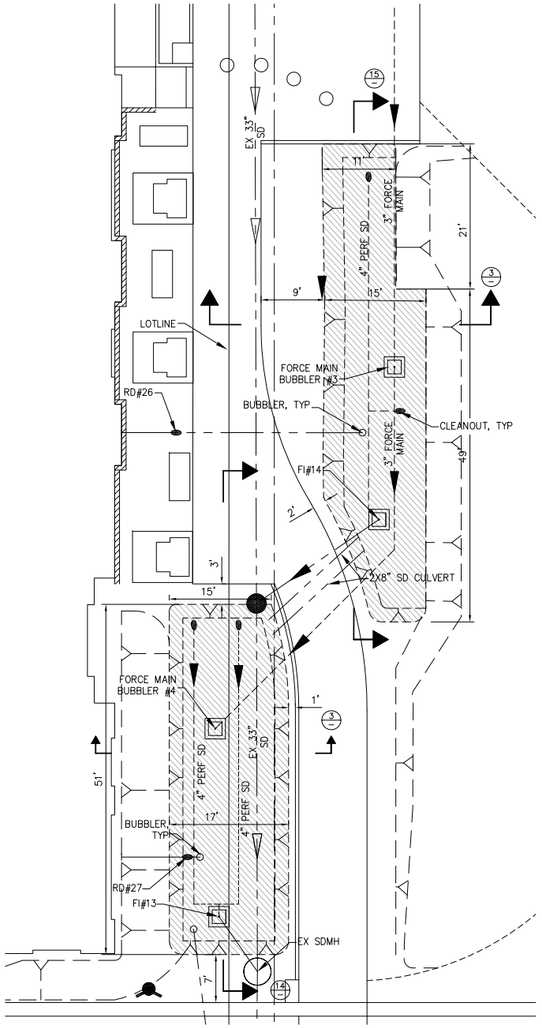
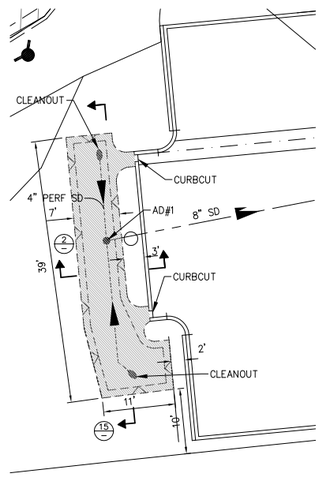


TA3
TREATS DRAINAGE AREA 3 AND 4
TREATMENT AREA PROVIDED = 1,765 SF



TA4
TREATS DRAINAGE AREA 6
TREATMENT AREA PROVIDED = 310 SF

FIGURE 1.2
BMP BLOWUPS
DISTRICT 1 - BUILDING 1
MILPITAS, CALIFORNIA
MAY 2017

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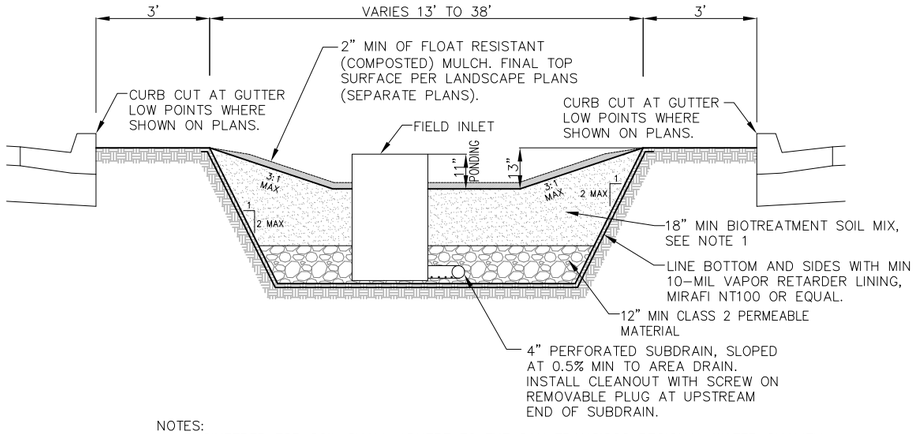
PHONE: (408) 848-0300 FAX: (408) 848-0302

JOB NUMBER: 072030 SHEET 2 OF 2

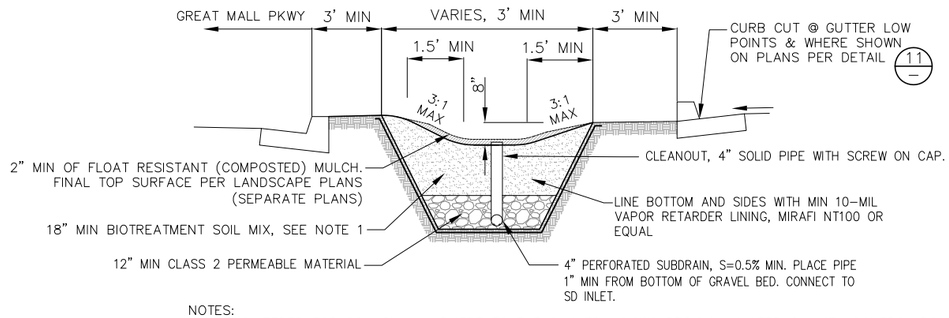
PLOT DATE: May 31, 2017
FILE PATH: W:\Jobs 07\072030\Drawings\Final\Studies & Calculations\Bldg 1\SWQP\2017-05-30\BMP Blowups.dwg



NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5-10 IN/HR MIN INFILTRATION RATE, 60-70% CLEAN SAND, & 30-40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

1 — BIORETENTION AREA DETAIL-TREATMENT AREA #1

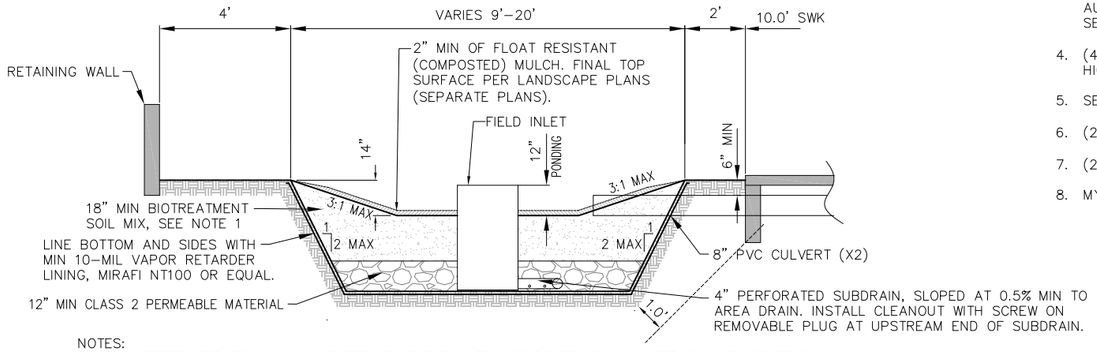
NO SCALE



NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5-10 IN/HR MIN INFILTRATION RATE, 60-70% CLEAN SAND, & 30-40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

2 — BIOSWALE DETAIL-TREATMENT AREA #2 AND #4

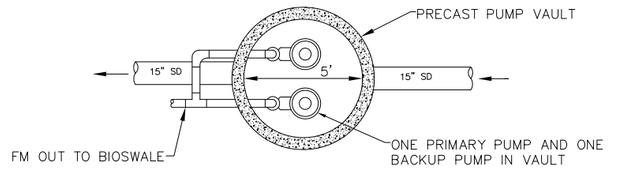
NO SCALE



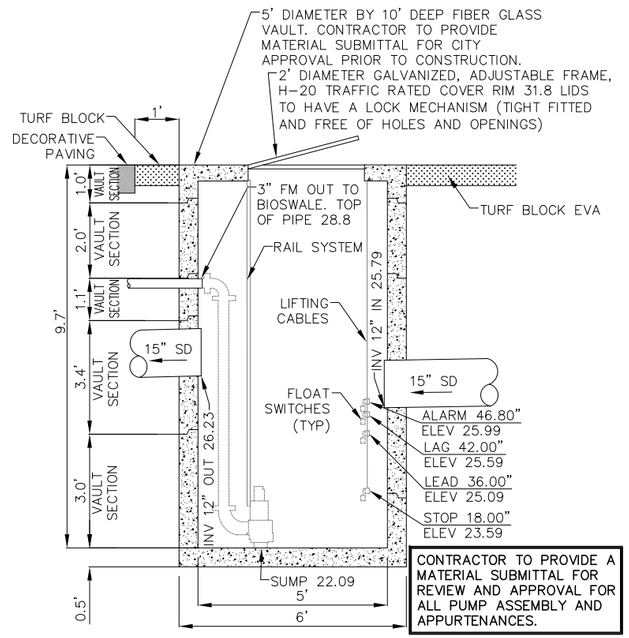
NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5-10 IN/HR MIN INFILTRATION RATE, 60-70% CLEAN SAND, & 30-40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

3 — BIORETENTION AREA DETAIL-TREATMENT AREA #3

NO SCALE



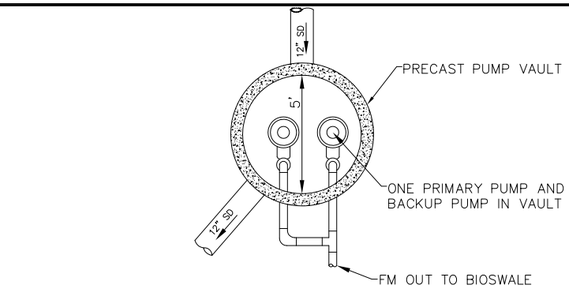
PUMP STATION #1 PLAN VIEW



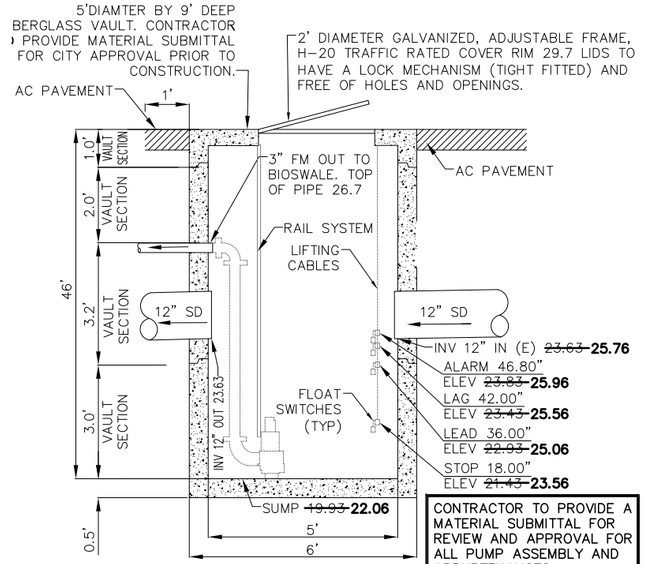
4 — PUMP STATION #1 DETAIL

NO SCALE

NOTES:
1. (2) MYERS MODEL 3VX10M4-21 SUBMERSIBLE PUMP 1.5 HP, 230 V, 1 PH WITH 35' POWER AND SENSOR CABLES, 5.4" DIAMETER IMPELLER.
2. (2) MYERS SRA-3030 SLIDE RAIL SYSTEM WITH SS UPPER GUIDE RAIL BRACKET, SS GUIDE RAILS, AND SS LIFT STATION.
3. (1) MYERS DUPLEX CONTROL PLANEL WITH INNER DOOR, INDIVIDUAL PUMP CIRCUIT BREAKERS, CONTACTORS, MOTOR OVERLOAD, SEAL FAILURE SENSOR, ALTERNATOR, ELAPSE TIME METERS, DOMED HIGH WATER ALARM LIGHT, AUXILIARY CONTACT FOR REMOTE ALARM ANNUNCIATION, HAND-OFF AUTO SELECT SWITCHES, NEMA 3R ENCLOSURE.
4. (4) LEVEL CONTROLS FOR PUMP OFF, LEAD PUMP ON, LAG PUMP ON AND HIGH WATER ALARM, WITH SS MOUNTING BRACKET.
5. SET OF FLOATS AS PER DRAWING FROM FLOOR OF WET WELL.
6. (2) FLOMATIC 3" CAST IRON BALL CHECK VALVES.
7. (2) MATCO 3" PVC TRUE UNION BALL SHUT-OFF VALVES.
8. MYERS CONTACT: STEPHEN HIPP
PHONE: (650) 589-9900



PUMP STATION #2 PLAN VIEW



5 — PUMP STATION #2 DETAIL

NO SCALE

NOTES:
1. (2) MYERS MODEL 3VX15M4-21 SUBMERSIBLE PUMP 1.5 HP, 230 V, 1 PH WITH 35' POWER AND SENSOR CABLES, 5.25" DIAMETER IMPELLER.
2. (2) MYERS SRA-3030 SLIDE RAIL SYSTEM WITH SS UPPER GUIDE RAIL BRACKET, SS GUIDE RAILS, AND SS LIFT STATION.
3. (1) MYERS DUPLEX CONTROL PLANEL WITH INNER DOOR, INDIVIDUAL PUMP CIRCUIT BREAKERS, CONTACTORS, MOTOR OVERLOAD, SEAL FAILURE SENSOR, ALTERNATOR, ELAPSE TIME METERS, DOMED HIGH WATER ALARM LIGHT, AUXILIARY CONTACT FOR REMOTE ALARM ANNUNCIATION, HAND-OFF AUTO SELECT SWITCHES, NEMA 3R ENCLOSURE.
4. (4) LEVEL CONTROLS FOR PUMP OFF, LEAD PUMP ON, LAG PUMP ON AND HIGH WATER ALARM, WITH SS MOUNTING BRACKET.
5. SET OF FLOATS AS PER DRAWING FROM FLOOR OF WET WELL.
6. (2) FLOMATIC 3" CAST IRON BALL CHECK VALVES.
7. (2) MATCO 3" PVC TRUE UNION BALL SHUT-OFF VALVES.
8. MYERS CONTACT: STEPHEN HIPP.
PHONE: (650) 589-9900

FIGURE 2.1

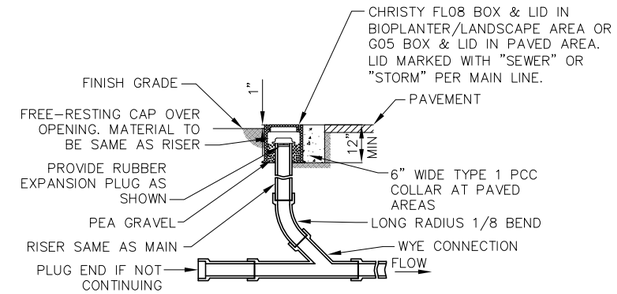
STORM WATER CONTROL PLAN DETAILS

DISTRICT 1 – BUILDING 1

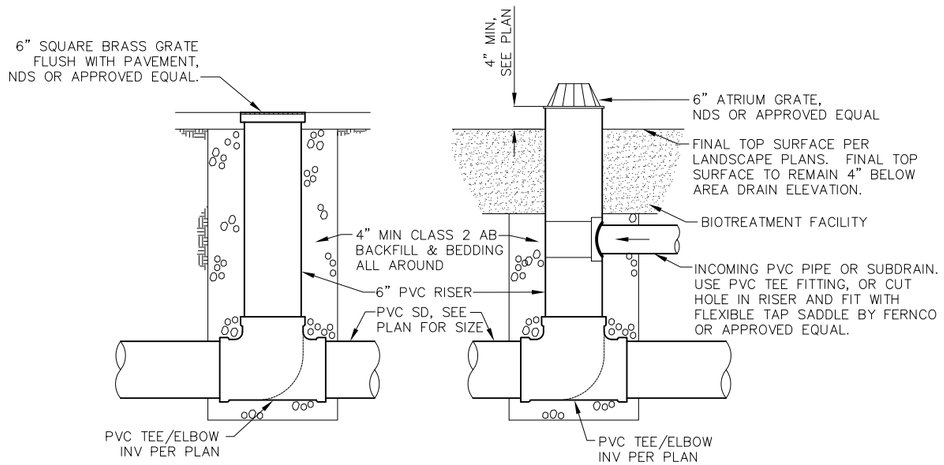
MILPITAS, CALIFORNIA

MARCH 2017

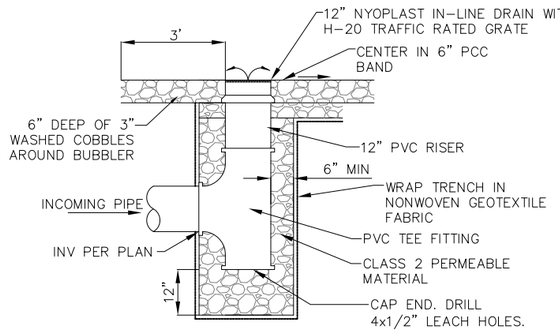
RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302



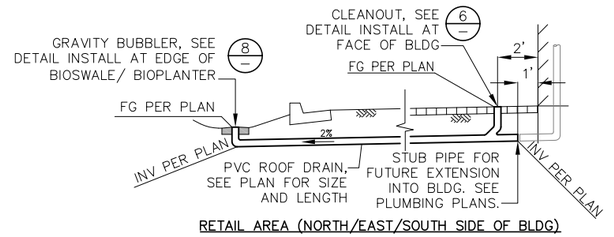
6/— CLEANOUT DETAIL
NO SCALE



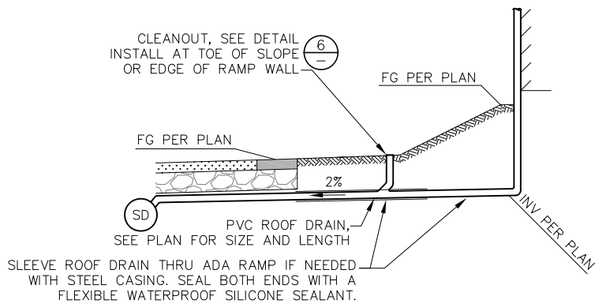
7/— AREA DRAIN DETAIL
NO SCALE



8/— PAVEMENT AND BUBBLER DETAIL
NO SCALE

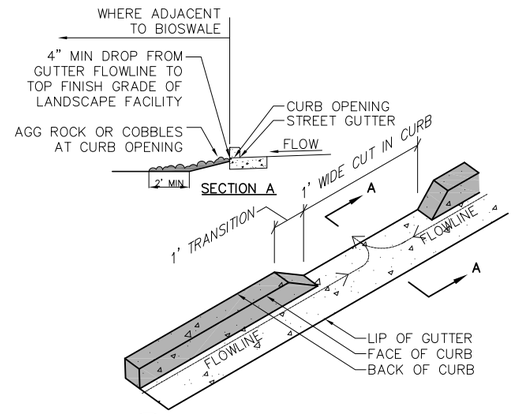


RETAIL AREA (NORTH/EAST/SOUTH SIDE OF BLDG)

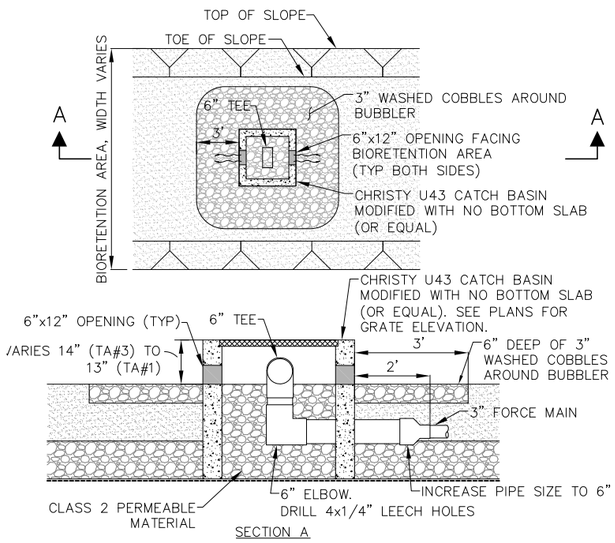


RESIDENTIAL AREA (SOUTH/WEST SIDE OF BLDG)

9/— ROOF DRAIN DETAIL
NO SCALE



11/— CURB CUT DETAIL
NOT TO SCALE



10/— FORCE MAIN BUBBLER DETAIL
NO SCALE

FIGURE 2.2

STORM WATER CONTROL PLAN DETAILS
DISTRICT 1 – BUILDING 1
MILPITAS, CALIFORNIA

MAY 2017

RJA
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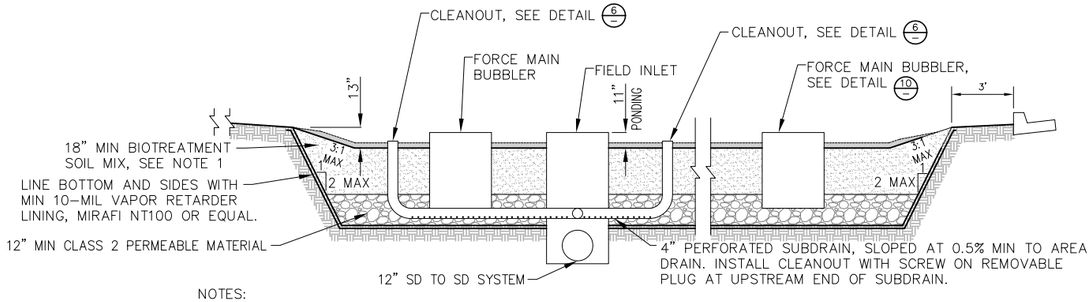
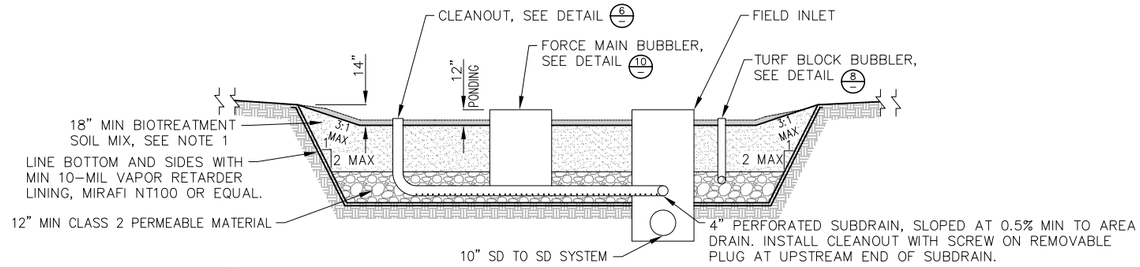
PHONE: (408) 848-0300 FAX: (408) 848-0302



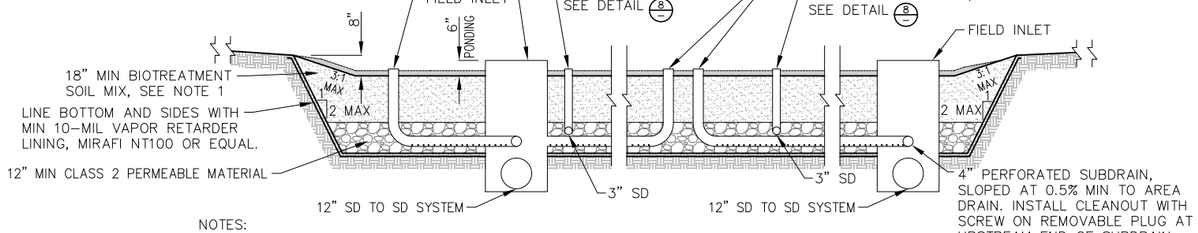
NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5–10 IN/HR MIN INFILTRATION RATE, 60–70% CLEAN SAND, & 30–40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

13/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #1
NO SCALE



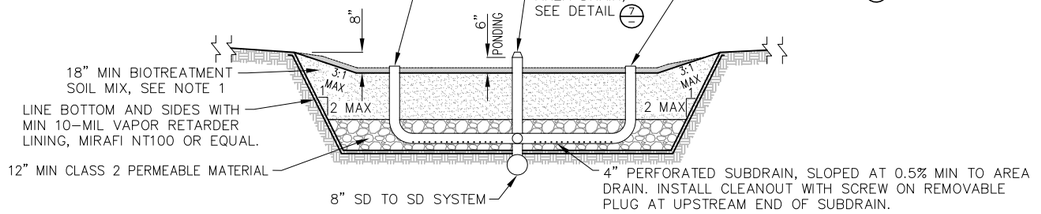
NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5–10 IN/HR MIN INFILTRATION RATE, 60–70% CLEAN SAND, & 30–40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

15/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #3
NO SCALE



NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5–10 IN/HR MIN INFILTRATION RATE, 60–70% CLEAN SAND, & 30–40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

14/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #2
NO SCALE



NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5–10 IN/HR MIN INFILTRATION RATE, 60–70% CLEAN SAND, & 30–40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

16/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #4
NO SCALE

FIGURE 2.3

STORM WATER CONTROL PLAN DETAILS
DISTRICT 1 – BUILDING 1
MILPITAS, CALIFORNIA

SEPTEMBER 2016

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Appendix I

Operations and Maintenance (O&M) plan

APPENDIX I - BMP Operation and Maintenance Plan

Implementation of a long term Operation and Maintenance Plan (O&M) is necessary for the proper operation and maintenance of the stormwater control measures for the project. This O&M is intended to be a guide for the main items involved in BMP maintenance. Inspections, maintenance, and documentation will be the responsibility of the Home Owners Association.

This project is located in the southwestern part of the City of Milpitas, at the intersection of Great Mall Parkway and McCandless Drive, between Penitencia Creek and McCandless Drive (see Figure 1). The project is located within the Milpitas Transit Area Specific Plan area. The project consists of a multi-story mixed use building and parking structure. A new 7 story building, with parking structure, approximately 50,700 SF of ground level commercial/retail area and 372 upper level residential apartment units. The site improvements also include a new parking lot, medians, enhanced pavement, sidewalks, open space, utilities and landscaping. The total project area consists of 5.02 acres, plus an additional city owned 0.68 city owned parcel that will be developed and used by this project for parking lot uses. For SWCP purposes, the total storm water treatment area is approximately 6.00-acres.

Stormwater will be treated using through the use of biotreatment areas and building raised planters. Since the site is generally flat, conveyance of stormwater runoff to biotreatment areas was possible through the use of two stormwater pumps located at the south and west sides of the building. The site generally drains to the south portion and north portion of the building. Two large biotreatment areas exist; one on the south and one on the north portion of the building. Other smaller treatment areas exist on the east and treat specific building runoff by building raised planter areas. Tributary areas, treatment areas, and treatment details are shown in attachment B of this O&M Plan.

A Responsibility for Maintenance

Pursuant to the District Building 1 Declaration of Restrictions (CC&Rs), the District Building 1 Homeowners Association will be is responsible for maintaining the storm water treatment measures. The CC&Rs provides that the HOA assumes the obligations of Stormwater Management facilities Operation and Maintenance Agreement between The District Building 1 LLC and the City of Milpitas. The executed agreement - after recorded – is included as Attachment A to this O&M plan. The CC&Rs further states maintenance of storm water facilities within the Development shall be in compliance with the Stormwater Control Operations and Maintenance Plan (this plan).

Individuals Responsible for Stormwater Treatment Bmp Operations and Maintenance
Date accepted: XXX (to be recorded prior to final occupancy)
Facility Name: The District Building 1
Facility Address: XXXX
Designated Contact for Operation and Maintenance
Name: XXX
Title: Team Manage
Phone: Direct | Toll Free
Email:
Off-hours or Emergency Contact
Phone: (Off-hour service is provided)

B. Organization Chart

A five member Board of Directors has selected Compass Management to be the professional property manager for the District Building 1 Homeowners Association. Both the Board of Directors and selected property manager are subject to change in the future.

C. <u>O&M Agreement</u>

An Operation and Maintenance agreement between the City of Milpitas and Owner will be recorded with the County of Santa Clara prior to the final occupancy phase. The recorded document is included as attachment A to this O&M plan.

D. <u>Means to Finance and Implement BMP Maintenance</u>

Proper maintenance and operation of the stormwater management facilities identified in this SWCP will be the responsibility of the HOA to be established under this Project. The applicant will prepare and submit, for the City's review, an acceptable Stormwater Control Operation and Maintenance Plan prior to completion of construction, and will execute a Stormwater Management Facilities Operation and Maintenance Agreement before transfer or final occupancy at the site. The Applicant accepts responsibility for maintenance of stormwater management facilities until such responsibility is legally transferred to another entity.

E. <u>Records</u>

The District Building 1 Home Owner's Association will maintain annual records of the operation and maintenance of BMP's identified in this O&M. The records will consist of inspections per the BMP Maintenance Schedule in this O&M. The reports will be available to the City upon

request.

F. Summary of Drainage Areas and BMP's

A. Drainage Areas - A drawing showing the location and type of all treatment area is included on Attachment B.

B. Details of Treatment BMPs - Details of individual treatment BMP's are shown on Attachment B

G. BMP Maintenance Schedules

A. Summary of Inspection and Maintenance for all BMPs

A summary of inspection schedules are shown on Attachment C. Annual inspections shall be conducted during the months of September or October, prior to October 15 (prior to the rainy season). Bi-annual inspections shall be conducted during the months of September or October, and again during April (before April 15, end of the rainy season). Inspections shall be completed using the Inspection Maintenance Forms (Attachment D). Additional inspections may be required throughout the rainy season if excessive debris is found within the swales, or the swales do not drain completely in 48-hours after a rain event.

B. Service Agreement Information

Maintenance of the biofilter swale will be contracted for with a qualified landscape maintenance company. Maintenance of the stormwater pump system will be with a qualified stormwater compliance firm.

H. BMP Design Documents

A. Manufacturer's data, manuals, and maintenance requirements for pump – See Attachment E

ATTACHMENT A

RECORDED MAINTENANCE AGREEMENT BETWEEN CITY AND HOME OWNERS ASSOCIATION

ATTACHMENT B

MAP AND SUMMARY OF DRAINAGE AREAS, BMP'S, AND BMP DETAILS

SEE TABLE F.3 ON APPENDIX F
FOR BMP SUMMARY INFORMATION

LEGEND

- BUILDING ROOF AREA
- BMP AREA
- CONCRETE
- DRAINAGE AREA
- XX — DRAINAGE AREA NUMBER
- TA(X) — BMP DESCRIPTION
- STORM DRAIN SYSTEM
- HP — HIGH POINT
- LP — LOW POINT
- CP — CATCH POINT
- DRAINAGE FLOW LINES
- TURF BLOCK

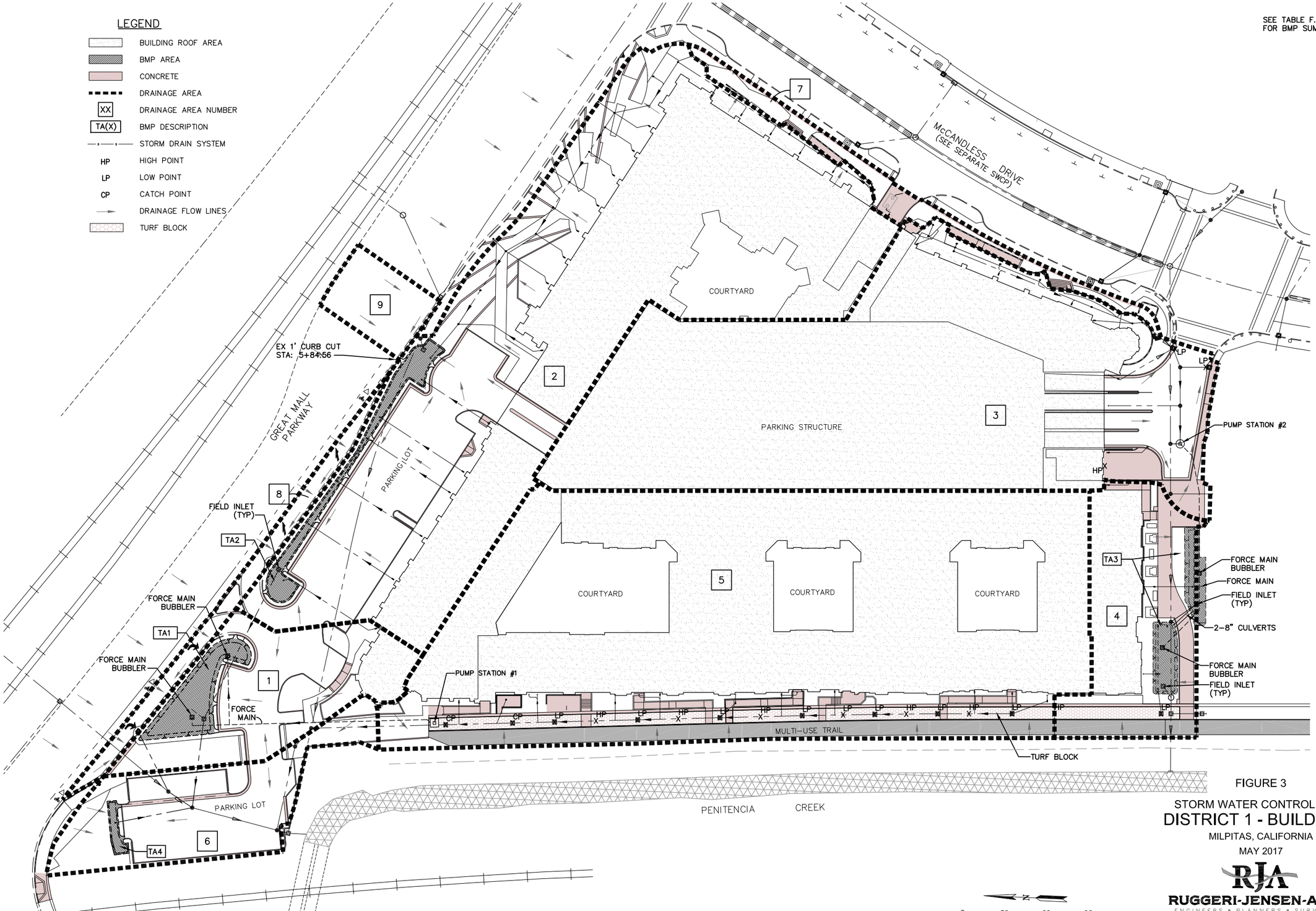


FIGURE 3

STORM WATER CONTROL PLAN

DISTRICT 1 - BUILDING 1

MILPITAS, CALIFORNIA

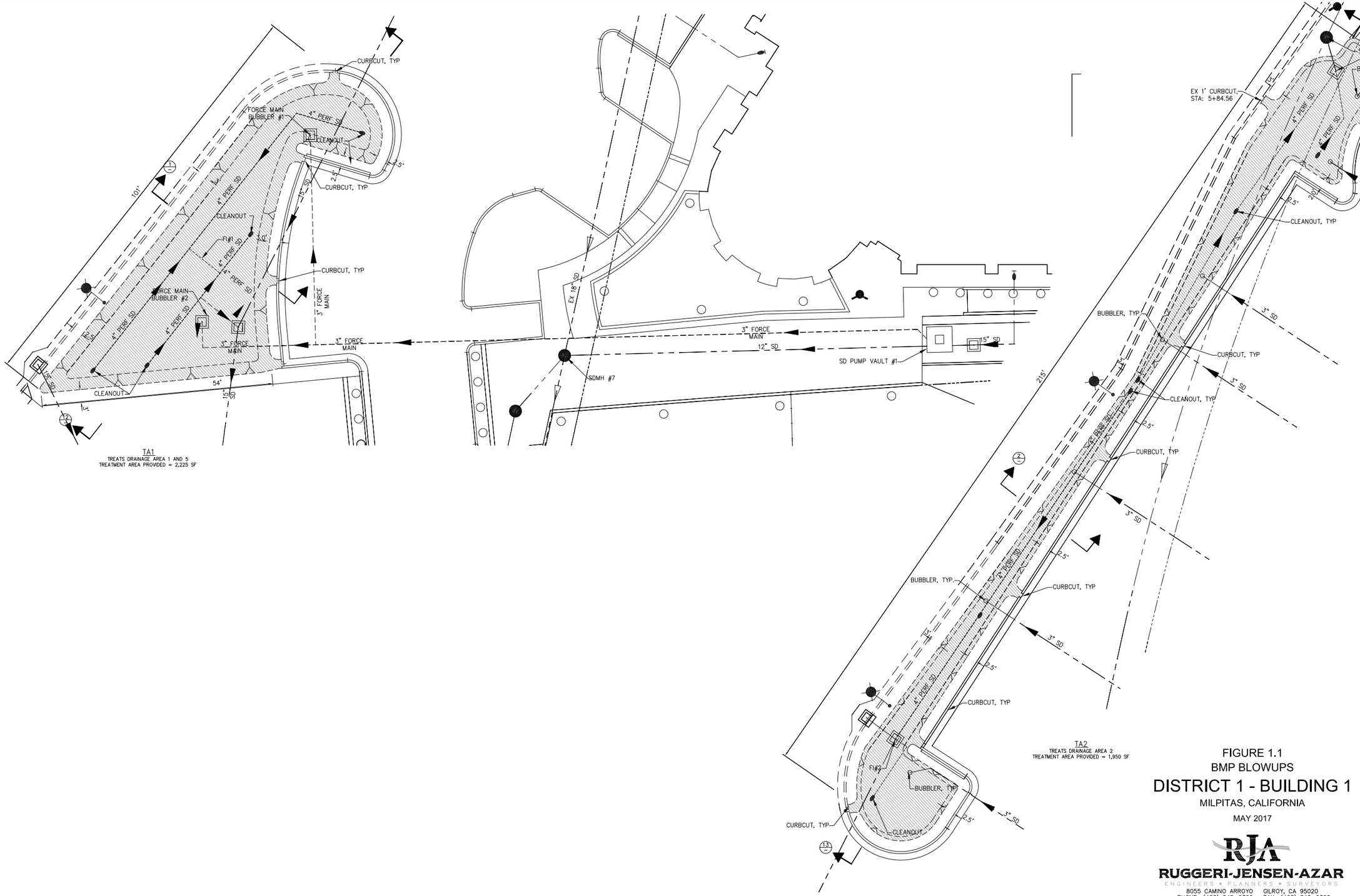
MAY 2017

SCALE IN FEET: 1"= 30'

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

JOB NUMBER: 072030 SHEET 1 OF 1 SHEETS

PLOT DATE: May 31, 2017
FILE PATH: W:\Jobs 07\072030\Drawings\Final\Studies & Calculations\Bldg 1\SWCP\2017-05-30\Appdx G - Site Plan.dwg



TA1
TREATS DRAINAGE AREA 1 AND 5
TREATMENT AREA PROVIDED = 2,225 SF

TA2
TREATS DRAINAGE AREA 2
TREATMENT AREA PROVIDED = 1,950 SF

FIGURE 1.1
BMP BLOWUPS
DISTRICT 1 - BUILDING 1
MILPITAS, CALIFORNIA
MAY 2017

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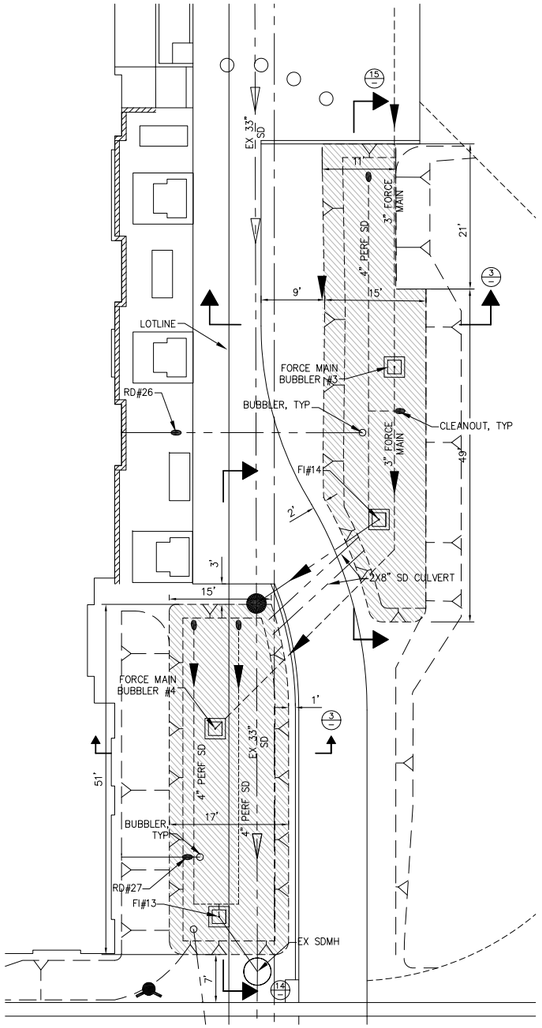
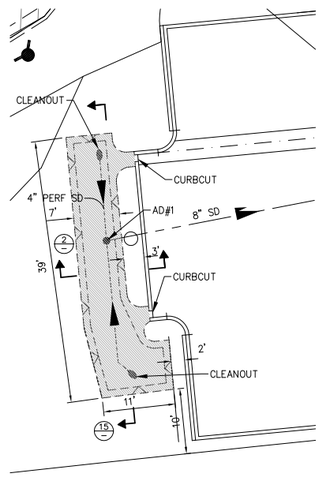
JOB NUMBER: 072030 SHEET 1 OF 2

PLOT DATE: May 31, 2017
FILE PATH: W:\Jobs 07\072030\Drawings\Final\Studies & Calculations\Bldg 1\SWQP\2017-05-30\BMP Blowups.dwg



TA3
TREATS DRAINAGE AREA 3 AND 4
TREATMENT AREA PROVIDED = 1,765 SF



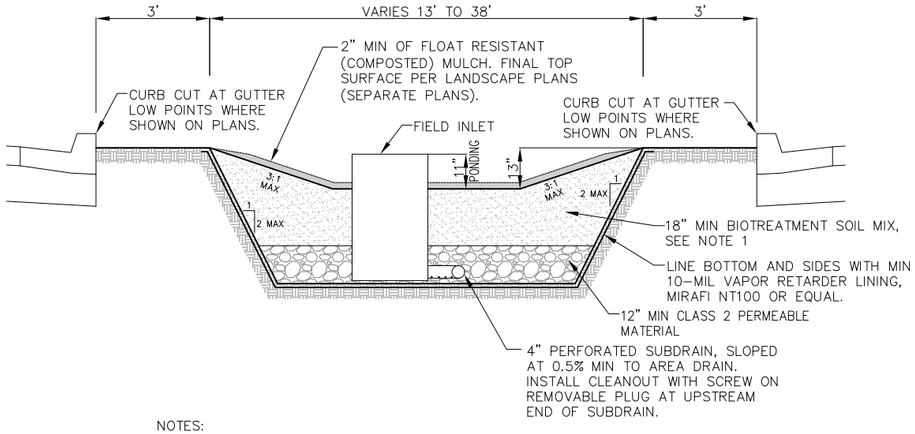
TA4
TREATS DRAINAGE AREA 6
TREATMENT AREA PROVIDED = 310 SF

FIGURE 1.2
BMP BLOWUPS
DISTRICT 1 - BUILDING 1
MILPITAS, CALIFORNIA
MAY 2017

RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

JOB NUMBER: 072030 SHEET 2 OF 2

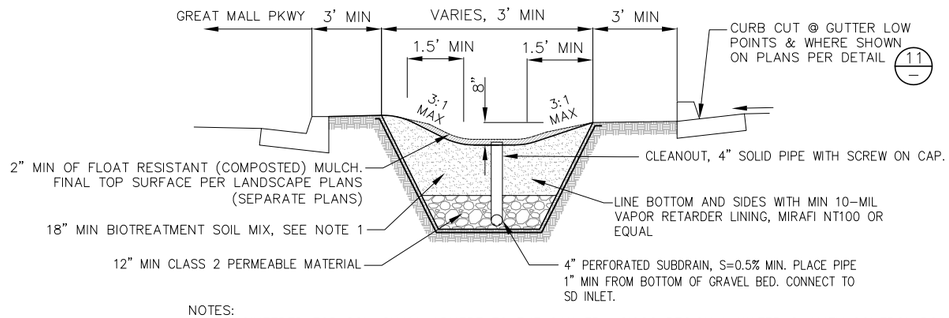
PLOT DATE: May 31, 2017
FILE PATH: W:\Jobs 07\072030\Drawings\Final\Studies & Calculations\Bldg 1\SWQP\2017-05-30\BMP Blowups.dwg



NOTES:
1. ENGINEERED TOP SOIL SHALL ADHERE TO THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD SPECIFICATIONS FOR BIORETENTION SOIL MIX AND CONTAIN THE FOLLOWING PROPERTIES: 5-10 IN/HR MIN INFILTRATION RATE, 60-70% CLEAN SAND, & 30-40% CERTIFIED COMPOST.
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

1 — BIORETENTION AREA DETAIL-TREATMENT AREA #1

NO SCALE



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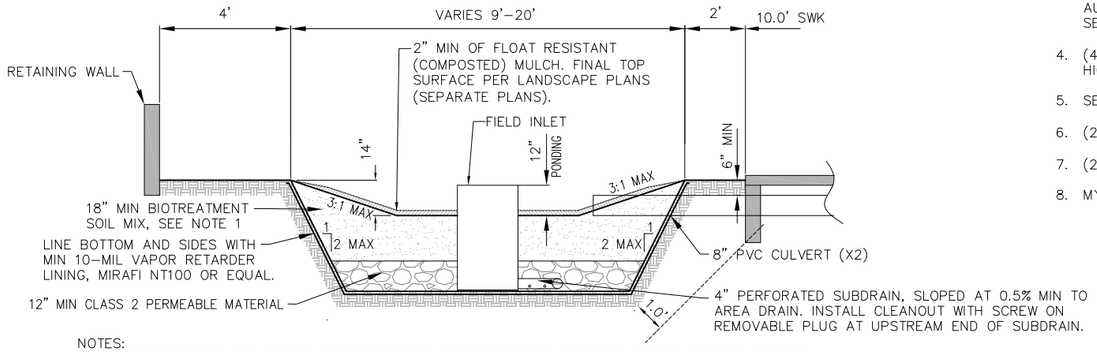
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

2 — BIOSWALE DETAIL-TREATMENT AREA #2 AND #4

NO SCALE



NOTES:
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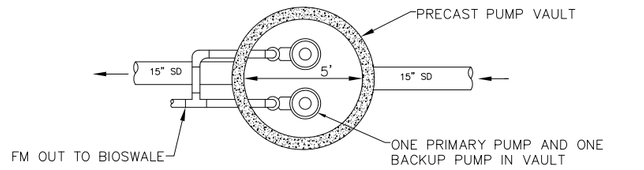
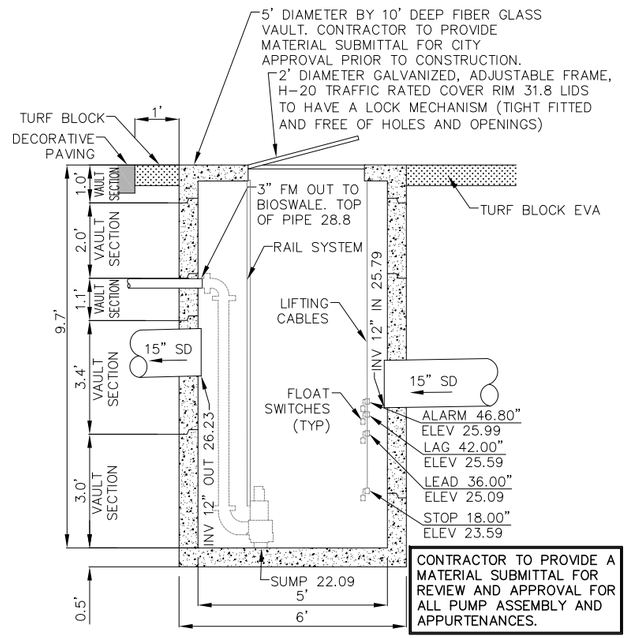
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

3 — BIORETENTION AREA DETAIL-TREATMENT AREA #3

NO SCALE



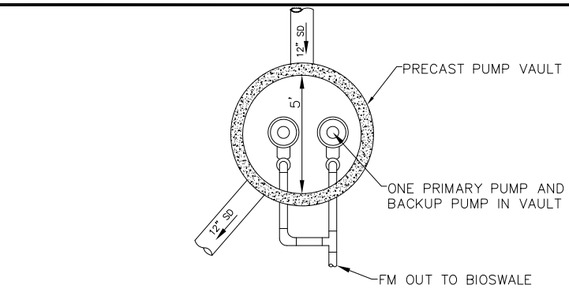
PUMP STATION #1 PLAN VIEW



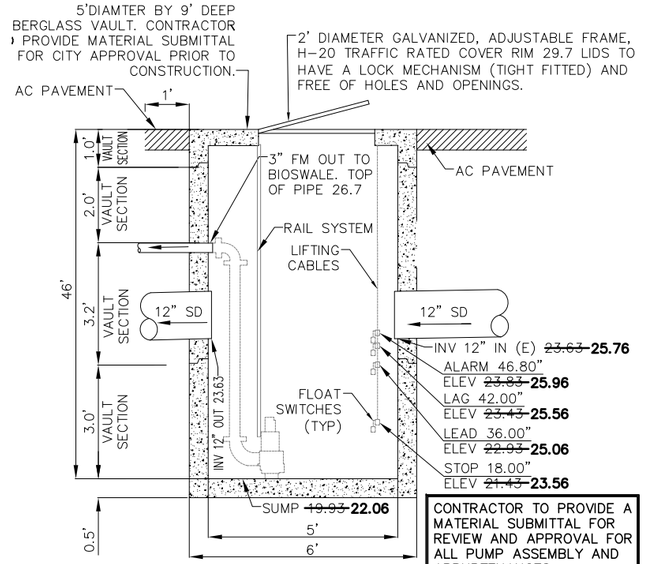
4 — PUMP STATION #1 DETAIL

NO SCALE

NOTES:
1. (2) MYERS MODEL 3VX10M4-21 SUBMERSIBLE PUMP 1.5 HP, 230 V, 1 PH WITH 35' POWER AND SENSOR CABLES, 5.4" DIAMETER IMPELLER.
2. (2) MYERS SRA-3030 SLIDE RAIL SYSTEM WITH SS UPPER GUIDE RAIL BRACKET, SS GUIDE RAILS, AND SS LIFT STATION.
3. (1) MYERS DUPLEX CONTROL PLANEL WITH INNER DOOR, INDIVIDUAL PUMP CIRCUIT BREAKERS, CONTACTORS, MOTOR OVERLOAD, SEAL FAILURE SENSOR, ALTERNATOR, ELAPSE TIME METERS, DOMED HIGH WATER ALARM LIGHT, AUXILIARY CONTACT FOR REMOTE ALARM ANNUNCIATION, HAND-OFF AUTO SELECT SWITCHES, NEMA 3R ENCLOSURE.
4. (4) LEVEL CONTROLS FOR PUMP OFF, LEAD PUMP ON, LAG PUMP ON AND HIGH WATER ALARM, WITH SS MOUNTING BRACKET.
5. SET OF FLOATS AS PER DRAWING FROM FLOOR OF WET WELL.
6. (2) FLOMATIC 3" CAST IRON BALL CHECK VALVES.
7. (2) MATCO 3" PVC TRUE UNION BALL SHUT-OFF VALVES.
8. MYERS CONTACT: STEPHEN HIPP
PHONE: (650) 589-9900



PUMP STATION #2 PLAN VIEW



5 — PUMP STATION #2 DETAIL

NO SCALE

NOTES:
1. (2) MYERS MODEL 3VX15M4-21 SUBMERSIBLE PUMP 1.5 HP, 230 V, 1 PH WITH 35' POWER AND SENSOR CABLES, 5.25" DIAMETER IMPELLER.
2. (2) MYERS SRA-3030 SLIDE RAIL SYSTEM WITH SS UPPER GUIDE RAIL BRACKET, SS GUIDE RAILS, AND SS LIFT STATION.
3. (1) MYERS DUPLEX CONTROL PLANEL WITH INNER DOOR, INDIVIDUAL PUMP CIRCUIT BREAKERS, CONTACTORS, MOTOR OVERLOAD, SEAL FAILURE SENSOR, ALTERNATOR, ELAPSE TIME METERS, DOMED HIGH WATER ALARM LIGHT, AUXILIARY CONTACT FOR REMOTE ALARM ANNUNCIATION, HAND-OFF AUTO SELECT SWITCHES, NEMA 3R ENCLOSURE.
4. (4) LEVEL CONTROLS FOR PUMP OFF, LEAD PUMP ON, LAG PUMP ON AND HIGH WATER ALARM, WITH SS MOUNTING BRACKET.
5. SET OF FLOATS AS PER DRAWING FROM FLOOR OF WET WELL.
6. (2) FLOMATIC 3" CAST IRON BALL CHECK VALVES.
7. (2) MATCO 3" PVC TRUE UNION BALL SHUT-OFF VALVES.
8. MYERS CONTACT: STEPHEN HIPP.
PHONE: (650) 589-9900

FIGURE 2.1

STORM WATER CONTROL PLAN DETAILS

DISTRICT 1 – BUILDING 1

MILPITAS, CALIFORNIA

MARCH 2017

RJA
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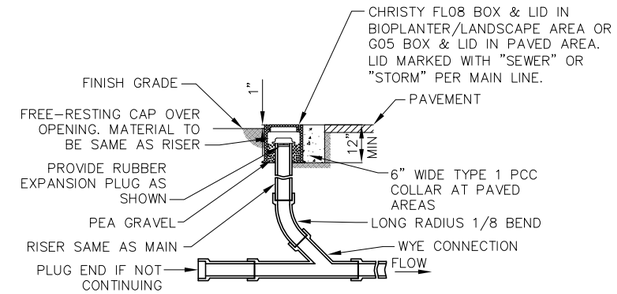
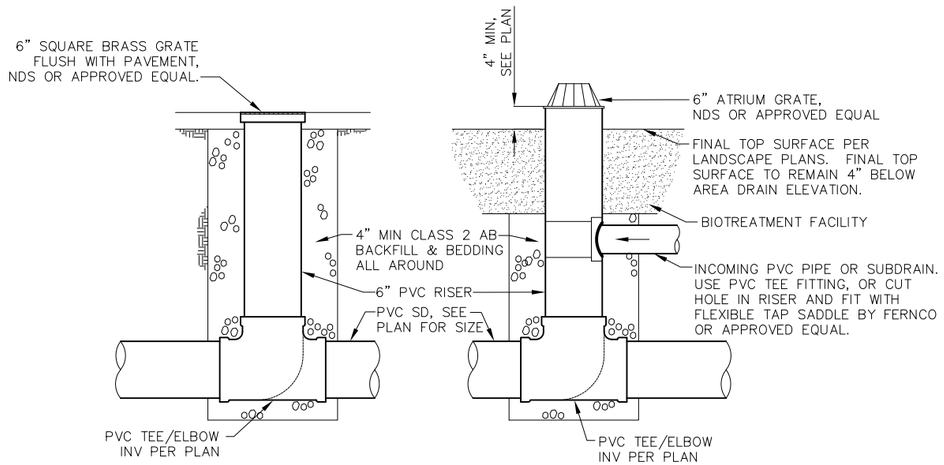
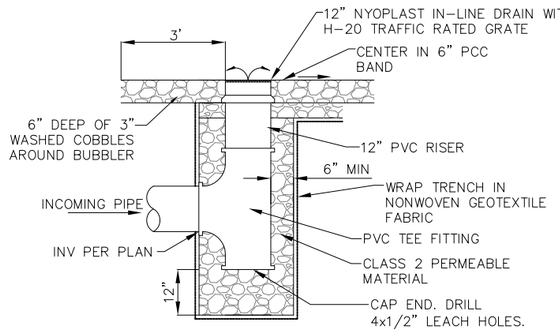
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302



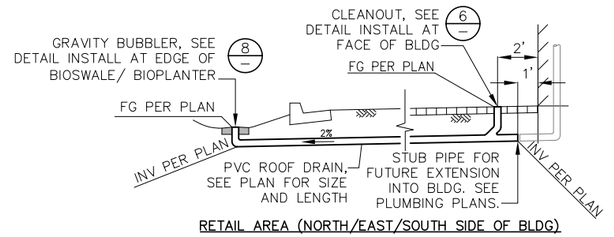
6/— CLEANOUT DETAIL
NO SCALE



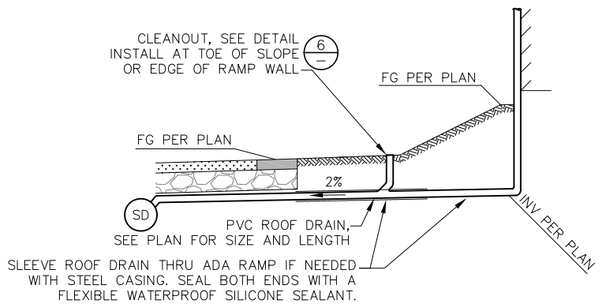
7/— AREA DRAIN DETAIL
NO SCALE



8/— PAVEMENT AND BUBBLER DETAIL
NO SCALE

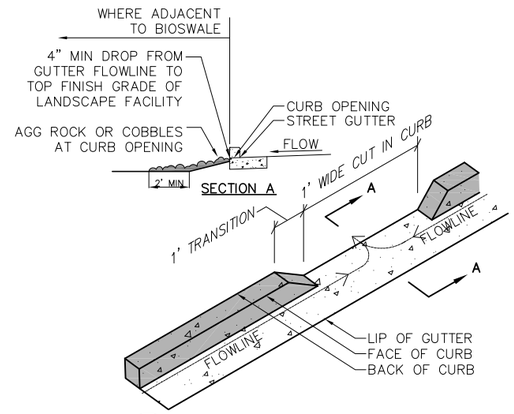


RETAIL AREA (NORTH/EAST/SOUTH SIDE OF BLDG)

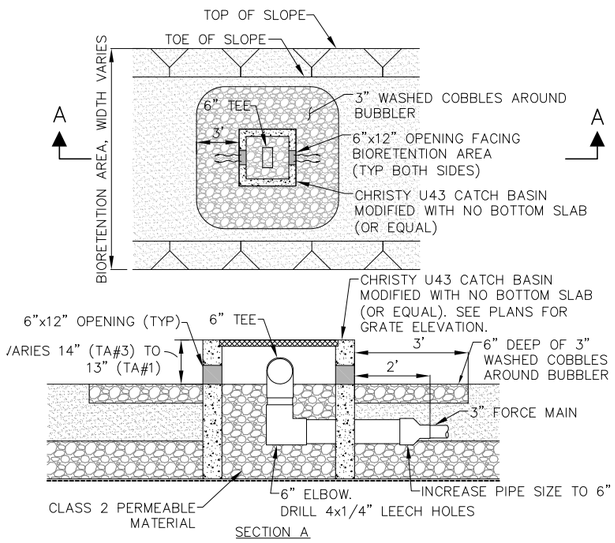


RESIDENTIAL AREA (SOUTH/WEST SIDE OF BLDG)

9/— ROOF DRAIN DETAIL
NO SCALE



11/— CURB CUT DETAIL
NOT TO SCALE



10/— FORCE MAIN BUBBLER DETAIL
NO SCALE

FIGURE 2.2

STORM WATER CONTROL PLAN DETAILS
DISTRICT 1 – BUILDING 1
MILPITAS, CALIFORNIA

MAY 2017

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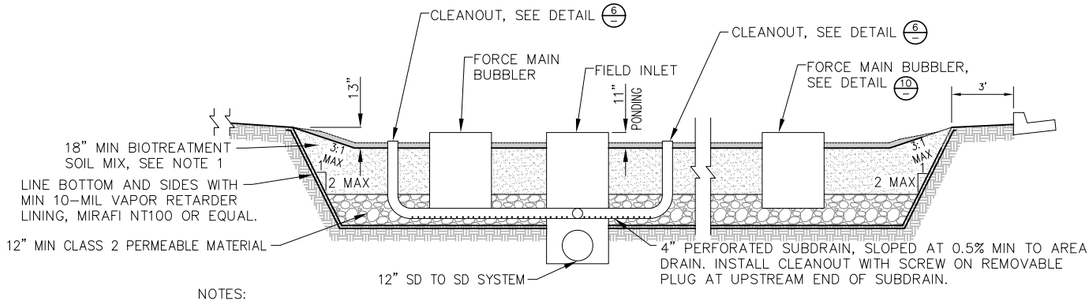
ENGINEERS ★ PLANNERS ★ SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302



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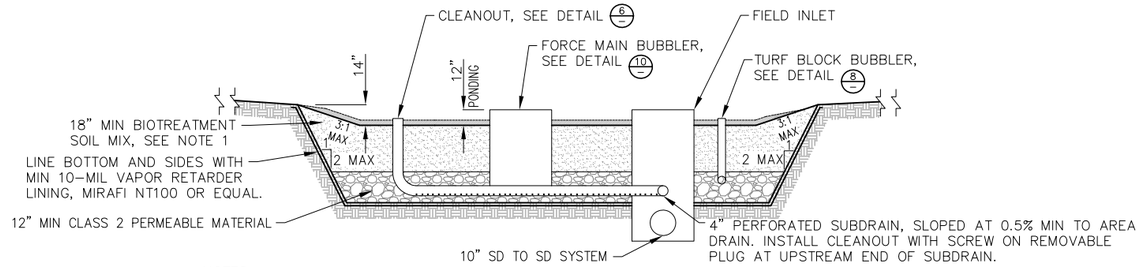
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

13/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #1
NO SCALE



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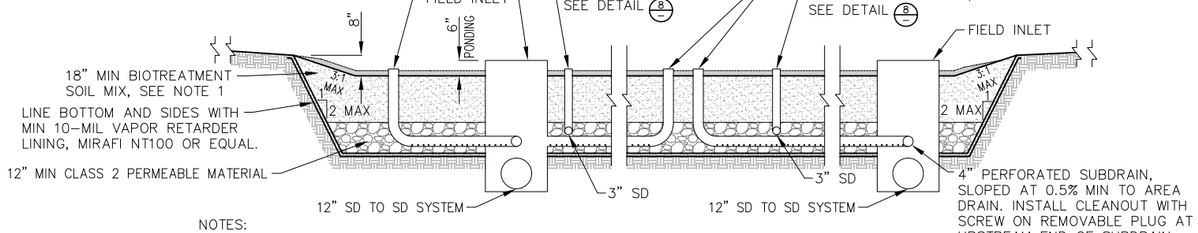
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

15/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #3
NO SCALE



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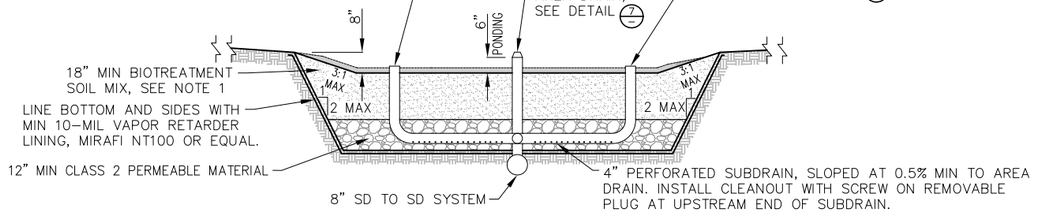
2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

14/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #2
NO SCALE



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2. SEE LANDSCAPE DRAWINGS FOR BIOSWALE PLANTINGS AND IRRIGATION.

16/— BIOSWALE LONGITUDINAL SECTION – TREATMENT AREA #4
NO SCALE

FIGURE 2.3

STORM WATER CONTROL PLAN DETAILS
DISTRICT 1 – BUILDING 1
MILPITAS, CALIFORNIA

SEPTEMBER 2016

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ATTACHMENT C

SUMMARY OF INSPECTION AND MAINTENANCE OF ALL BMP'S

ATTACHMENT C - Summary of Inspection and Maintenance for all BMPs

BMP Inspection and Maintenance Schedule		
BMP	**Maintenance Operations**	
Storm Drain System and Pumps	• Inspect the storm drain system and pumps (including area drains, roof drains, pump wet wells, electrical panels, and bubblers), at the beginning and end of the rainy season. • Pump – check mechanical seal. A defective seal will show oil mixed with water or a muddy water mix. • Remove any sediment, trash, litter, rocks, and branches from surface gutters/channels and storm drain inlets. • Flush storm drain pipes as necessary to remove sediment and debris to ensure full pipe capacity. • Properly dispose of all sediment and debris according to State and City regulations.	Twice Annually at the beginning (October) and end (April) of the rainy season.
Vector Control	• Abate any potential vectors by filling ground holes in and around the BMPs, and by insuring there are no areas where water stands longer than 48 hours following a storm. • Contact the Santa Clara County Vector Control District for information and advice if mosquito larvae are present and persistent. • Mosquito larvicides should be applied only when absolutely necessary and by a licensed contractor.	As needed.
General Landscape	• Collect lawn and garden clippings, pruning waste, and tree trimming. Chip if necessary, and compost or take to the local municipal yard waste recycling center.	During each landscape maintenance visit when applicable

Bioretention Bioswales /	• Place mulch layer to ensure BMP is effective and attractive. Plants must remain healthy and trimmed if overgrown. Level of mulch must always remain below curb elevation per original design.	During each landscape maintenance visit when applicable
	• Inspect vegetation. Prune and weed the bioretention area. Replace dead plants. Treat diseased plants as needed.	During each landscape maintenance visit when applicable
	• Soils must be maintained to efficiently filter the stormwater. Inspect and correct any potential erosion. Remove any accumulated trash and debris.	Anytime as needed. Minimum twice per year, once before (October) and once after (April) the rainy season.
	• Inspect for sediment and debris. Use a commercially available regenerative air or vacuum sweepers to remove sediment and debris.	Twice per year, once before (October) and once after (April) the rainy season
	• Inspect subdrain system, cleanouts, area drains, and overflow field inlets. Remove any accumulated trash, debris, and accumulated sediment.	Twice per year, once before (October) and once after (April) the rainy season
	• Reconstruct portions of bioretention area if routine maintenance does not maintain infiltration rates and eliminate prolonged ponding.	Anytime as needed. Minimum twice per year, once before (October) and once after (April) the rainy season

ATTACHMENT D

MAINTENANCE LOG

ATTACHMENT D – Stormwater BMP Inspection and Maintenance Log

Submit the Operations and Maintenance Inspection reports, Maintenance Plan, and Inspection and Maintenance Checklist for each BMP to: City of Milpitas, 455 E. Calaveras Blv, Milpitas, CA 95035, ATTN: Utility Engineer

Facility Name	
Address	
Begin Date	End Date

Date	BMP ID#	BMP Description ID	Inspected by:	Cause for Inspection	Exceptions Noted (Write ID code-see potential inspection results)	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. Write ID code per potential inspection results
- Comments and actions taken — Describe any maintenance done and need for follow-up.

Potential Inspection Results with Definitions

ID	Inspection Results	Definitions
I. All BMP Types		
1	No Visible/Apparent Problems	No visible or apparent problems with BMP function. BMP appears to be well-maintained.
2	Significant Engineering/Design Flaws	BMP observed to have significant engineering/design flaws which lessen its effectiveness as a stormwater treatment measure.
3	Unauthorized Modifications	Any modification that lessens the effectiveness of the BMP; any modification not authorized by the City, designated agency or other regulatory agency.
4	BMP Destroyed or Eliminated	BMP destroyed, removed or eliminated from property.
5	Trash/Debris Accumulation or Dumping	Trash & debris accumulates within and/or on BMP; trash & debris interferes with proper BMP function; visual evidence of trash/debris dumping.
6	Evidence of Contamination & Pollution	Evidence or presence of oil, gasoline, contaminants or other pollutants.
7	BMP Access Obstructed	Access to BMP obstructed or limited
8	Obnoxious Odors	Unpleasant odors within/from BMP
9	Fencing- Missing or Broken Bars	Any defect in or damage to the fence or gate that permits easy entry to a facility.
10	BMP Cannot Be Located	BMP cannot be located for the inspection
II. Biofiltration		
A. General		
11	Uneven or Clogged Flow Spreader	Flow spreader uneven or clogged so that flows are not uniformly distributed across the BMP.
12	Leaking or Malfunctioning Irrigation System	Irrigation system leaking or malfunctioning
B. Sediment and Erosion Problems		
13	Sediment Accumulation	Sediment depth exceeds 2 inches on more that 10% of the vegetated treatment area; or sediment interferes with BMP performance.
14	Erosion/Scouring	Eroded or scoured areas due to flow channelization, higher flows, wind or water.
C. Vegetation Maintenance Issues		
15	Poor Vegetation Coverage	Planted vegetation is sparse or bare or eroded patches occur in more than 10% of the BMP. Growth of planted vegetation is poor because sunlight does not reach swale.
16	Invasive/Nuisance Vegetation or Weeds	Planted vegetation is excessively tall; nuisance weeds, invasive or noxious vegetation are overgrown; vegetation reduces free movement of water through BMP.
17	Tree/Brush Growth	Growth does not allow maintenance access or interferes with maintenance activity
D. Drainage Problems		
18	Standing Water/Excessive Ponding/Soggy Soil	Water is observed within the BMP (between storms) and appears not to drain freely or soil is excessively soggy. Excessive ponding of water within vegetated swale or other BMP.
19	Mosquito Habitat	Suitable habitat exists for mosquito production (e.g., standing water for more than 72 hours in areas accessible to mosquitos).
20	Clogged or Obstructed Inlets/Outlets	Inlet/outlet clogged or obstructed with sediment and/or debris.
21	Constant Baseflow/Damage	Small quantities of water flow through the vegetated swale, even when it has been dry for weeks, and an eroded, muddy channel has formed in the swale bottom, constant baseflow from irrigation runoff.

ATTACHMENT E

PUMP MANUFACTURER INFORMATION AND SPECIFICATIONS

PENTAIR

District 1 Building 1 Milpitas Ca. Storm Water Lift Station Pumps
Pump Station 1 Duplex Myers 3VX15M4-21 Pumps with 5.4" Impeller
Pump Station 2 Duplex Myers 3VX15M4-21 with 5.25" Impeller

FM APPROVED (3VX only)

MYERS®

3V AND 3VX

3" SOLIDS HANDLING WASTEWATER PUMPS STANDARD (3V) AND HAZARDOUS LOCATION (3VX) CONSTRUCTION

MYERS® 3V AND 3VX TECHNICAL INFORMATION

THE IDEAL CHOICE WHEN SELECTING A PUMP FOR YOUR NEXT APPLICATION

MYERS 3V and 3VX (hazardous location) submersible wastewater pumps pass a full 2-1/2" spherical solid. MYERS rounded port, 2-vane, enclosed impeller prevents solids from binding or clogging and offers high operating efficiencies to cut your pumping costs. The 3V series modified constant velocity volute case provides smooth operation over an extended portion of the performance curve for extended seal and bearing life. For use in municipal lift stations, treatment plants and industrial waste applications. MYERS offers a complete line of wastewater pumps, lift-out rail assemblies, controls and accessories to meet your needs. Call your MYERS distributor or the MYERS sales office at 419-289-1144 for more details.

HIGH EFFICIENCY HYDRAULIC DESIGN CUTS PUMPING COSTS AND EXTENDS LIFE OF FLUID END COMPONENTS.

- Two-vane, rounded port, enclosed type impeller handles 2-1/2" solids with ease at high operating efficiencies.
- Modified constant velocity volute offers quiet operation, low radial loads over extended portion of performance curve.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE.

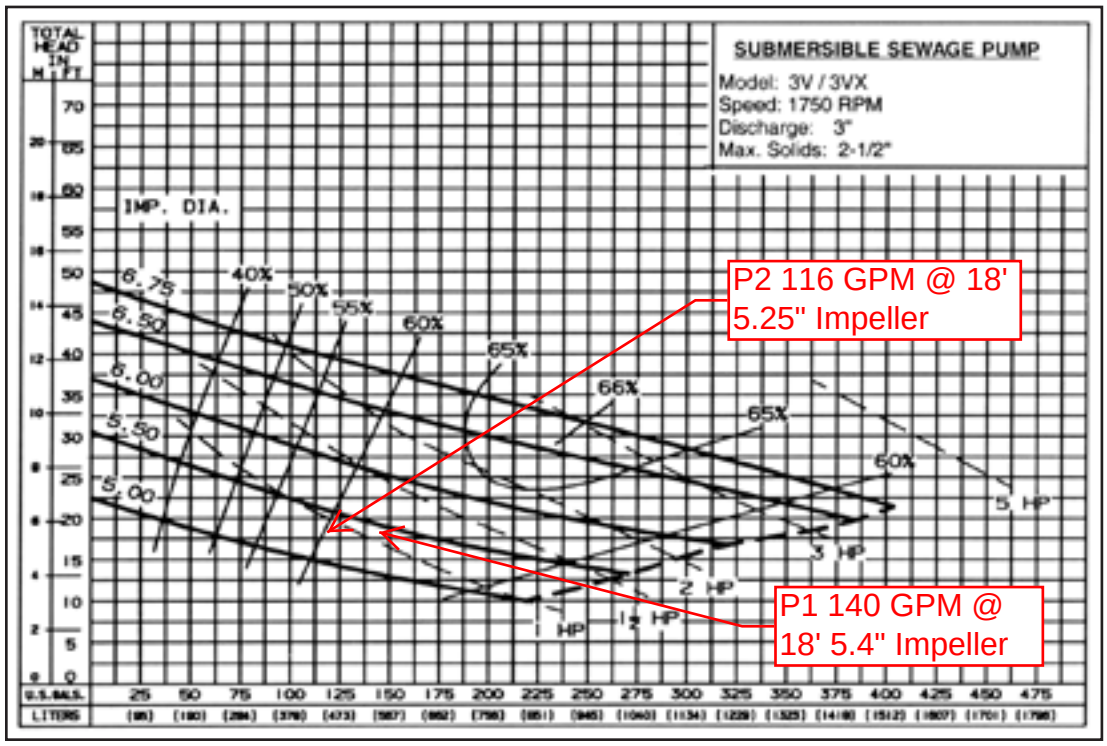
- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- Heat sensor thermostats embedded in windings protect motor from overheat conditions.
- Seal leak probes warn of moisture entry; help prevent costly motor burnout.
- Double tandem shaft seals prevent sewage from entering motor.
- Power and control cables are double sealed with epoxy and compression grommet.

Product Capabilities		
Capacities To	400 gpm	25.24 lps
Heads To	48 ft.	14.6 m
Solids Handling Capacity	2-1/2 in.	63.5 mm
Liquids Handling	raw unscreened sewage, effluent, storm water	
Intermittent Liquid Temp.	up to 140°F	up to 60°C
Winding Insulation Temp. (Class F)	311°F	155°C
Motor Electrical Data	1750 RPM 1 – 5 HP, 230V, 1Ø, 60 Hz 1 – 5 HP, 200/230/460/575V, 3Ø, 60 Hz	
Std. Third Party Approvals	CSA	
Optional Approvals	FM Class 1, Groups C & D (3VX only)	
Acceptable pH Range	6 – 9	
Specific Gravity	.9 – 1.1	
Viscosity	28 – 35 SSU	
Discharge (Flange Dim.)	3 in.	76 mm

NOTE: Consult factory for applications outside these recommendations.

Construction Materials	
Motor Housing, Seal Housing, Cord Cap and Volute Case	cast iron, Class 30, ASTM A48
Enclosed 2-Vane Impeller	ductile iron, Class 65, ASTM A536
Power Cord	SOOW, W
Control Cord	SOOW
Mechanical Seals Standard Optional	double tandem, type 21 carbon and ceramic lower tungsten, carbide
Pump, Motor Shaft	416 SST
Fasteners	300 series SST
Volute Wear Ring	brass

1750 RPM PERFORMANCE CURVE

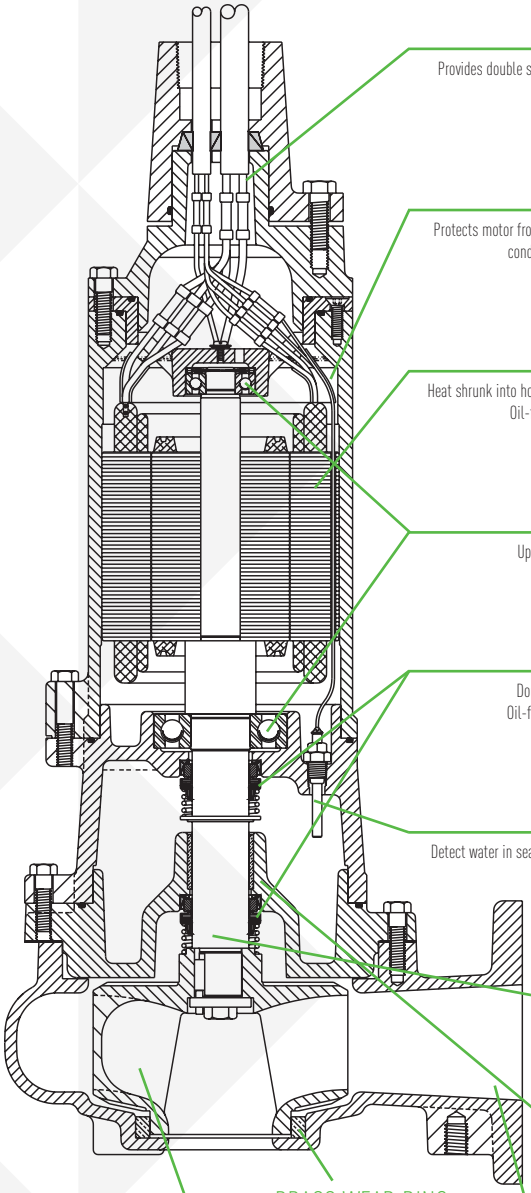


Pump performance is based on clear water (1.0 specific gravity @ 68°F) and pump fluid end (hydraulic) efficiency. Motor data based on 40°C ambient temperature.

Available Models		Motor Electrical Data												
Standard	Hazardous Location	HP	Volts	Phase	Hertz	Start Amps	Run Amps	Service Factor Amps	Run kW	Service Factor kW	Start KVA	Run KVA	NEC Code Letter	Service Factor
3V10M4-21	3VX10M4-21	1	230	1	60	50	8	10	1.2	1.6	11.5	1.8	J	1.2
3V10M4-03	3VX10M4-03	1	200	3	60	36	5.4	6.2	1.3	1.5	12.5	1.8	K	1.2
3V10M4-23	3VX10M4-23	1	230	3	60	32	4.5	5.4	1.2	1.5	12.7	1.8	K	1.2
3V10M4-43	3VX10M4-43	1	460	3	60	19	2.3	2.7	1.2	1.5	15.1	1.8	M	1.2
3V10M4-53	3VX10M4-53	1	575	3	60	13	1.8	2.2	1.2	1.5	12.7	1.8	J	1.2
3V15M4-21	3VX15M4-21	1.5	230	1	60	50	10	12	1.6	1.9	11.5	2.3	J	1.2
3V15M4-03	3VX15M4-03	1.5	200	3	60	36	6.6	8	1.6	1.9	12.5	2.2	K	1.2
3V15M4-23	3VX15M4-23	1.5	230	3	60	32	5.5	7	1.6	1.9	12.7	2.2	K	1.2
3V15M4-43	3VX15M4-43	1.5	460	3	60	19	2.8	3.5	1.6	1.9	15.1	2.2	M	1.2
3V15M4-53	3VX15M4-53	1.5	575	3	60	13	2.2	2.8	1.6	1.9	12.7	2.2	K	1.2
3V20M4-21	3VX20M4-21	2	230	1	60	64	12	14.4	1.9	2.3	14.7	2.8	J	1.2
3V20M4-03	3VX20M4-03	2	200	3	60	44	8.4	9.8	1.8	2.3	15.2	2.8	J	1.2
3V20M4-23	3VX20M4-23	2	230	3	60	40	7	8.6	1.8	2.3	15.9	2.8	J	1.2
3V20M4-43	3VX20M4-43	2	460	3	60	23	3.5	4.3	1.8	2.3	18.3	2.8	L	1.2
3V20M4-53	3VX20M4-53	2	575	3	60	16	2.8	3.4	1.8	2.3	15.9	2.8	J	1.2
3V30M4-21	3VX30M4-21	3	230	1	60	101	21	26	2.5	3.0	23.2	4.8	J	1.2
3V30M4-03	3VX30M4-03	3	200	3	60	66	15	18	3.5	4.5	22.8	5.2	J	1.2
3V30M4-23	3VX30M4-23	3	230	3	60	58	12	15.6	3.5	4.5	23.1	4.8	J	1.2
3V30M4-43	3VX30M4-43	3	460	3	60	29	6	7.8	3.5	4.5	23.1	4.8	J	1.2
3V30M4-53	3VX30M4-53	3	575	3	60	21	5	6	3.5	4.5	20.9	5.0	H	1.2
3V50M4-21	3VX50M4-21	5	230	1	60	101	34	34	4.0	4.0	23.2	7.8	J	1.0
3V50M4-03	3VX50M4-03	5	200	3	60	66	24	24	6.0	6.0	22.8	8.3	J	1.0
3V50M4-23	3VX50M4-23	5	230	3	60	58	21	21	6.0	6.0	23.1	8.3	J	1.0
3V50M4-43	3VX50M4-43	5	460	3	60	29	10.5	10.5	6.0	6.0	32.1	8.3	J	1.0
3V50M4-53	3VX50M4-53	5	575	3	60	21	8.4	8.4	6.0	6.0	20.9	8.3	H	1.0

Motor Efficiencies and Power Factor									
		Motor Efficiency %				Power Factor %			
HP	Phase	Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
1	1	68	64	58	49	68	66	60	50
1	3	70	66	60	51	70	67	61	47
1.5	1	69	68	65	59	69	68	61	48
1.5	3	71	70	68	60	70	70	62	49
2	1	73	73	71	68	70	69	63	50
2	3	71	70	68	61	66	65	52	42
3	1	70	70	67	59	51	51	49	45
3	3	74	73.5	69.5	61.5	72	70.5	62.5	52
5	1	70	70	69	65	51	51	50	47
5	3	74	74	72	67	72	72	64	58

ADVANTAGES BY DESIGN



CABLE ENTRY SYSTEM

Provides double seal protection. Cable jacket sealed by compression grommet. Individual wires sealed by epoxy potting.

HEAT SENSOR

Protects motor from burnout due to excessive heat from any overload condition. Automatically resets when motor has cooled.

MOTOR STATOR

Heat shrunk into housing for perfect alignment and best heat transfer. Oil-filled motor conducts heat and lubricates bearings.

BALL BEARINGS

Upper and lower ball bearings support shaft and rotor and take axial and radial loads.

SHAFT SEALS

Double tandem mechanical shaft seals protect motor. Oil-filled seal chamber provides continuous lubrication.

SEAL LEAK PROBES

Detect water in seal housing. Activates warning light in control panel. (Test resistor on FM listed pumps only.)

HEAVY 416 SST SHAFT

Corrosion resistant.

SLEEVE BEARING

Takes radial shock load; provides flame path. (FM listed pumps only.)

VOLUTE CASE

Modified constant velocity volute handles 2-1/2" solids. 3" ANSI 125 lb. flange.

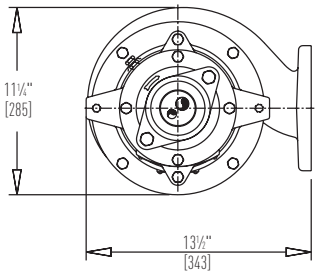
HIGH EFFICIENCY IMPELLER

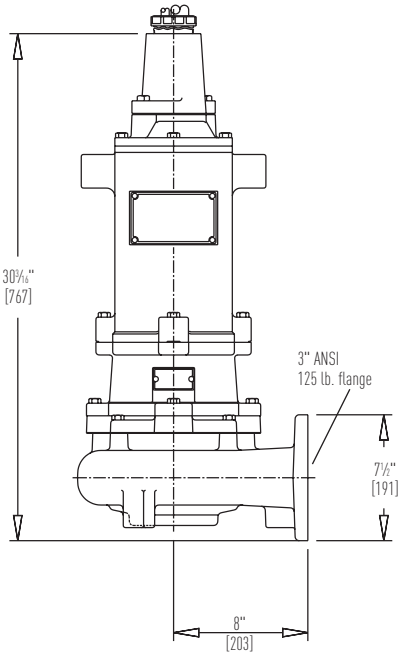
2-vane with rounded ports. Handles 2-1/2" solids. Pump-out vanes help keep trash from seal; reduce pressure to seal faces.

BRASS WEAR RING

Prevents rust buildup and reduces leakage and wear. Replaceable to restore original running clearances and pump efficiencies.

DIMENSIONS [Dimensions in mm]





PENTAIR

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ONTARIO, CANADA N2G 4W5
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Appendix J

3rd Party Certification

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Charles D. Anderson, PE
Daniel J. Schaaf, PE

M. Eliza McNulty, PE
Benjamin L. Shick, PE
Leif M. Coponen, PE
Principal Emeritus
David A. Foote, PE

September 23, 2015

Sandra Meditch
City of Milpitas
455 E Calaveras Blvd.
Milpitas, CA, 95035

Subject: McCandless District Building 1 Stormwater Management Plan

Dear Ms. Meditch:

At the request of RJA we have performed a third-party review of the District Building 1 Stormwater Control Plan (SWCP) dated September 21, 2015. The 7.0± acre project includes surface parking, sidewalks, landscape improvements, 7 story building and parking structure and is located on McCandless Drive in Milpitas. The project is located adjacent to Lower Penitenica Creek to the west, Great Mall Parkway to the north, McCandless Drive to the east and future development to the south. Existing commercial office and surface parking will be removed and replaced by the proposed development. The project is located in the Lower Penitencia Creek watershed and has an existing storm drain system on the site that drains directly to the Creek on the west side of the property.

We reviewed the following submittals with regard to this project:

- The Storm Water Control Plan (SWCP) dated September 21, 2015 which includes:
    - City of Milpitas C.3 Data Form
    - Completed Infiltration/Harvesting and Use Feasibility Screening Worksheet
    - Completed Infiltration Feasibility Worksheet
    - Completed Special Projects Worksheet
    - Storm Water Control Plan sheet
    - Construction Details
- The following plan sheets:
    - L3.00– L3.04 Landscape Planting Plans

We reviewed the project submittals for compliance with the stormwater requirements in the NPDES Municipal Regional Stormwater Permit (Order No. R2-2009-0074 and amendment Order No. R2-2011-0083) provision C.3 and the City's Municipal Code section XI-16-6.

1. Applicability of NPDES Permit Provision C.3 Requirements

There is a total of 235,065 square feet of new and replaced impervious area, which is greater than the 10,000 square foot threshold. Therefore, C.3 source control, site design and treatment

requirements **do** apply to this project. The project will replace 100% of the existing impervious area, therefore C.3 requirements apply to all on-site impervious areas. The project did not receive final discretionary approval before 12/1/2011; therefore it must use LID treatment measures to treat 100% of the runoff as determined by section C.3.d of the Permit. LID treatment measures include rainwater harvesting, infiltration, and evapotranspiration. These measures were determined infeasible for the project as shown in the completed Infiltration/Harvesting and Use Feasibility Screening Worksheet. Therefore, bio-treatment may be used per the Permit section C.3.c.i(2)(b)(ii).

Hydromodification Management requirements do not apply to this project since the project is located in an area specifically excluded from HM requirements on the City of Milpitas HMP Applicability Map (available from SCVURPPP).

2. Proposed Stormwater Measures and Sizing Calculations

Source Control Measures for the project are as follows

- Maintenance Activities such as street sweeping and storm drain system cleansing
- Storm Drain Labeling to deter non-storm water discharges
- Alternative building materials: the multi-use trail along Lower Penitencia Creek on the west side of the site will be constructed of pervious turf block.
- Covered dumpster area will drain to the sanitary sewer
- Landscaping has been designed to minimize irrigation, runoff, pesticides and fertilizers

Site Design Measures are as follows (as shown on the C.3 Form and explained in the SWCP)

- Minimum-impact parking lot design and minimized impervious surfaces through reduced parking stall sizes
- Disconnected downspouts to encourage micro-detention in landscape
- The project frontage along McCandless Drive will be treated through self-retaining depressed landscape areas.

Stormwater Treatment Measures

- Four bioretention ponds will be constructed to treat the onsite stormwater runoff from rooftops, parking and other hardscape.
- There will be two low-flow pump stations on-site to pump the treatment flow rate from a portion of the project to the bioretention basins.
- A portion of Great Mall Parkway will be treated via bioretention in lieu of the new turning deceleration lane.

Schaaf & Wheeler verified that calculations for all biotreatment measures and in-lieu of treatment were done correctly. The details provided for the biotreatment devices are consistent with the SCVURPPP C.3 Handbook.

Operations and Maintenance Plans have been included in the SWCP which clearly state the responsible party and describe maintenance of all stormwater treatment BMPs.

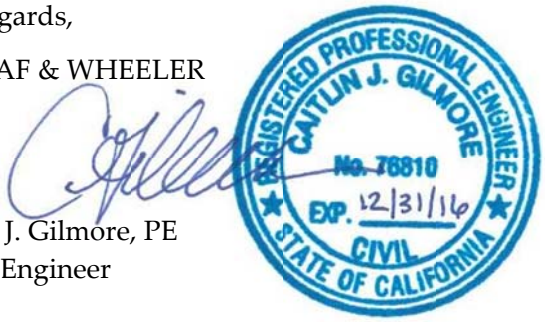
The sizing, selection, and preliminary design of the 100% LID storm water treatment control BMPs in the SWCP meet the requirements of City's Municipal Code XI-16-6, the Municipal

Regional Stormwater Permit (Order No. R2-2009-0074 and amendment Order No. R2-2011-0083) provision C.3 and the SCVURPPP C.3 Handbook dated April 2012.

If you require any additional information, please feel free to call me at the number above.

Best regards,

SCHAAF & WHEELER



Caitlin J. Gilmore, PE
Senior Engineer