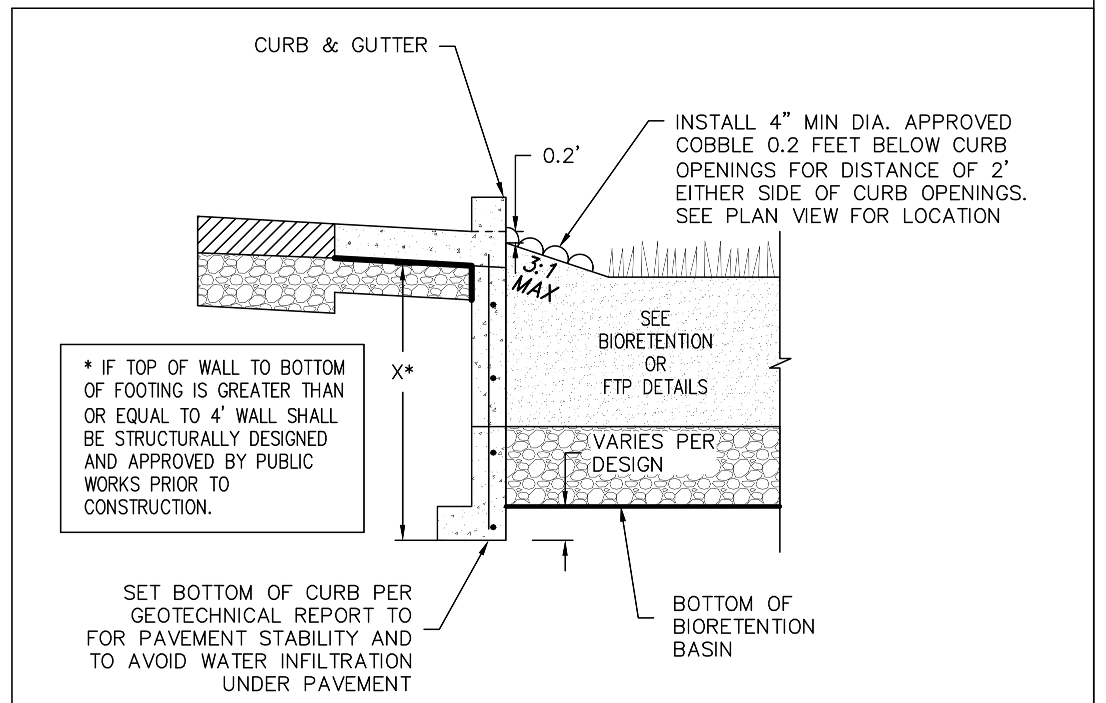
BIOTREATMENT SOIL REQUIREMENTS

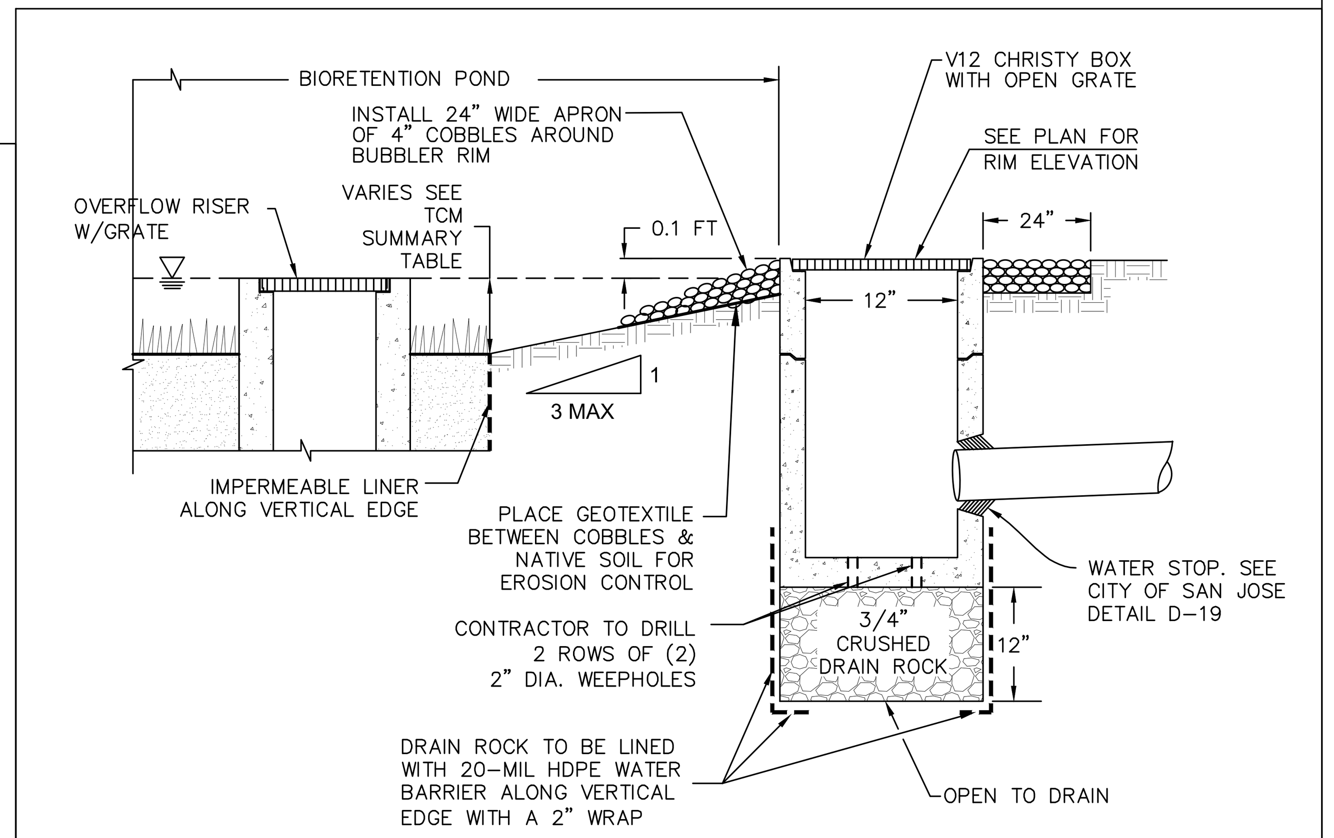
- BIORETENTION SOIL MIX SHALL MEET THE REQUIREMENTS AS OUTLINED IN APPENDIX C OF THE C.3 STORM WATER HANDBOOK AND SHALL BE A MIXTURE OF FINE SAND AND COMPOST MEASURED ON A VOLUME BASIS OF 60–70% SAND AND 30–40% COMPOST. CONTRACTOR TO REFER TO APPENDIX C FOR SAND AND COMPOST MATERIAL SPECIFICATIONS. CONTRACTOR MAY OBTAIN A COPY OF THE C3 HANDBOOK AT : HTTPS: //CLEANWATER.SCCGOV.ORG/SITES/G/FILES/EXJCPB461/FILES/SCVURPPP_C.PDF
- PRIOR TO ORDERING THE BIOTREATMENT SOIL MIX OR DELIVERY TO THE PROJECT SITE, CONTRACTOR SHALL PROVIDE A BIOTREATMENT SOIL MIX SPECIFICATION CHECKLIST, COMPLETED BY THE SOIL MIX SUPPLIER AND CERTIFIED TESTING LAB.

BIORETENTION & FLOW–THROUGH PLANTER NOTES:

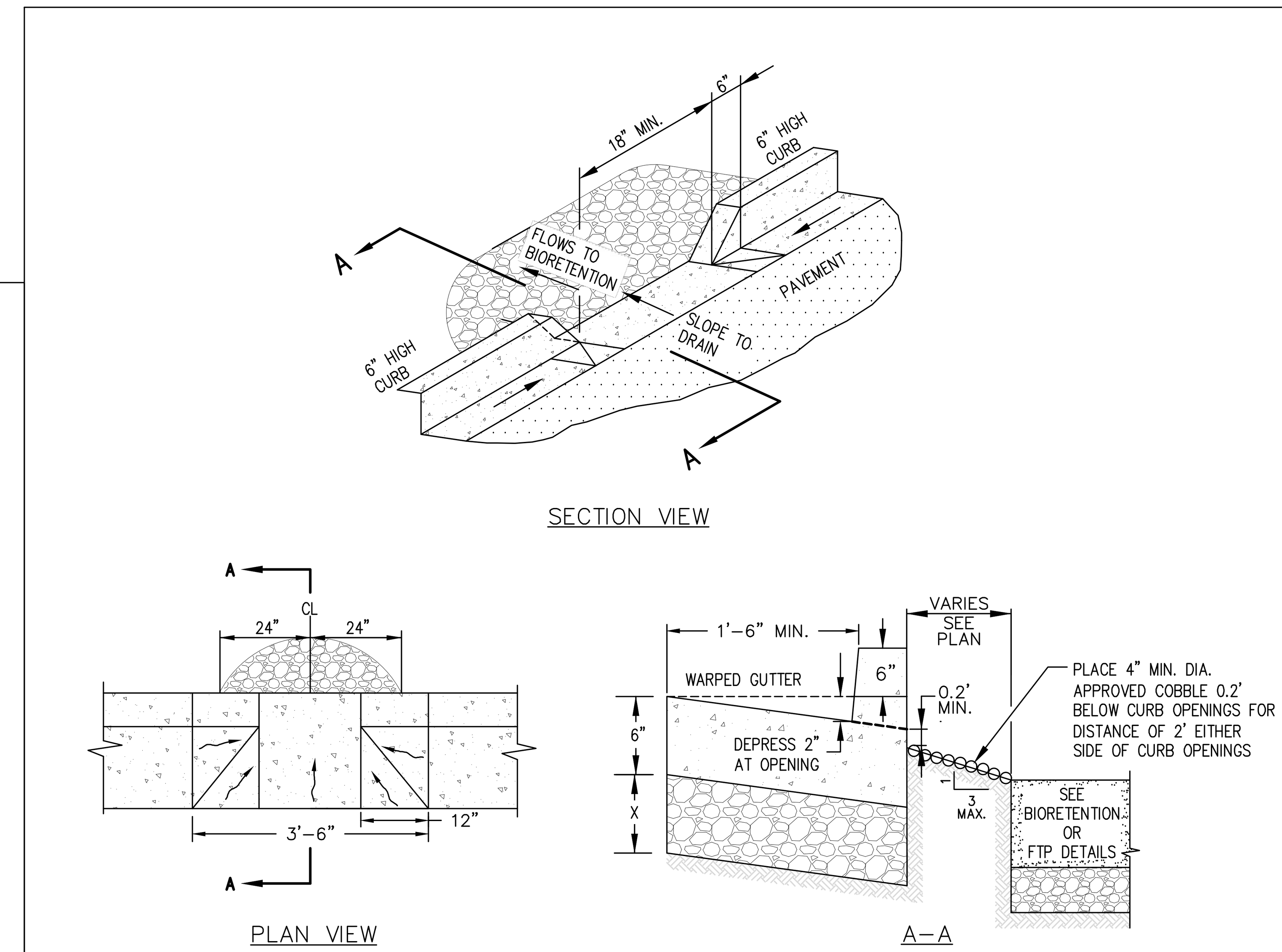
1. SEE GRADING PLAN FOR BASIN FOOTPRINT AND DESIGN ELEVATIONS.
2. PLACE 3 INCHES OF COMPOSTED, NON–FLOATABLE MULCH IN AREAS BETWEEN STORMWATER PLANTINGS AND SIDE SLOPE.
3. SEE LANDSCAPE PLAN FOR MULCH, PLANT MATERIALS AND IRRIGATION REQUIREMENTS
4. CURB CUTS SHALL BE A MINIMUM 18" WIDE AND SPACED AT MAXIMUM 10' O.C. INTERVALS AND SLOPED TO DIRECT STORMWATER TO DRAIN INTO THE BASIN. CURB CUTS SHALL ALSO NOT BE PLACED INLINE WITH OVERFLOW CATCH BASIN. SEE GRADING PLAN FOR MORE DETAIL ON LOCATIONS OF CURB CUTS.
5. A MINIMUM 0.2' DROP BETWEEN STORM WATER ENTRY POINT (I.E. CURB OPENING, FLUSH CURB, ETC.) AND ADJACENT LANDSCAPE FINISHED GRADE.
6. DO NOT COMPACT NATIVE SOIL / SUBGRADE AT BOTTOM OF BASIN. LOOSEN SOIL TO 12" DEPTH.



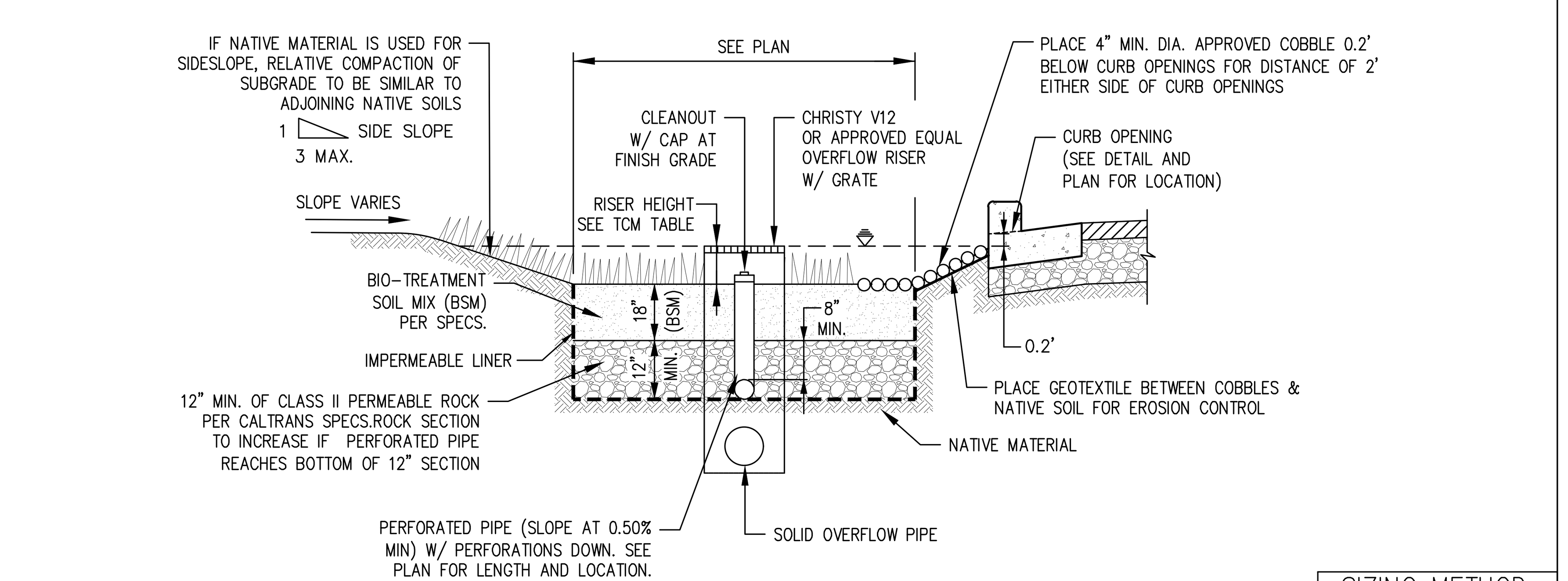
9 CURB ADJACENT TO BIORETENTION N.T.S.



8 BUBBLER BOX DETAIL N.T.S.



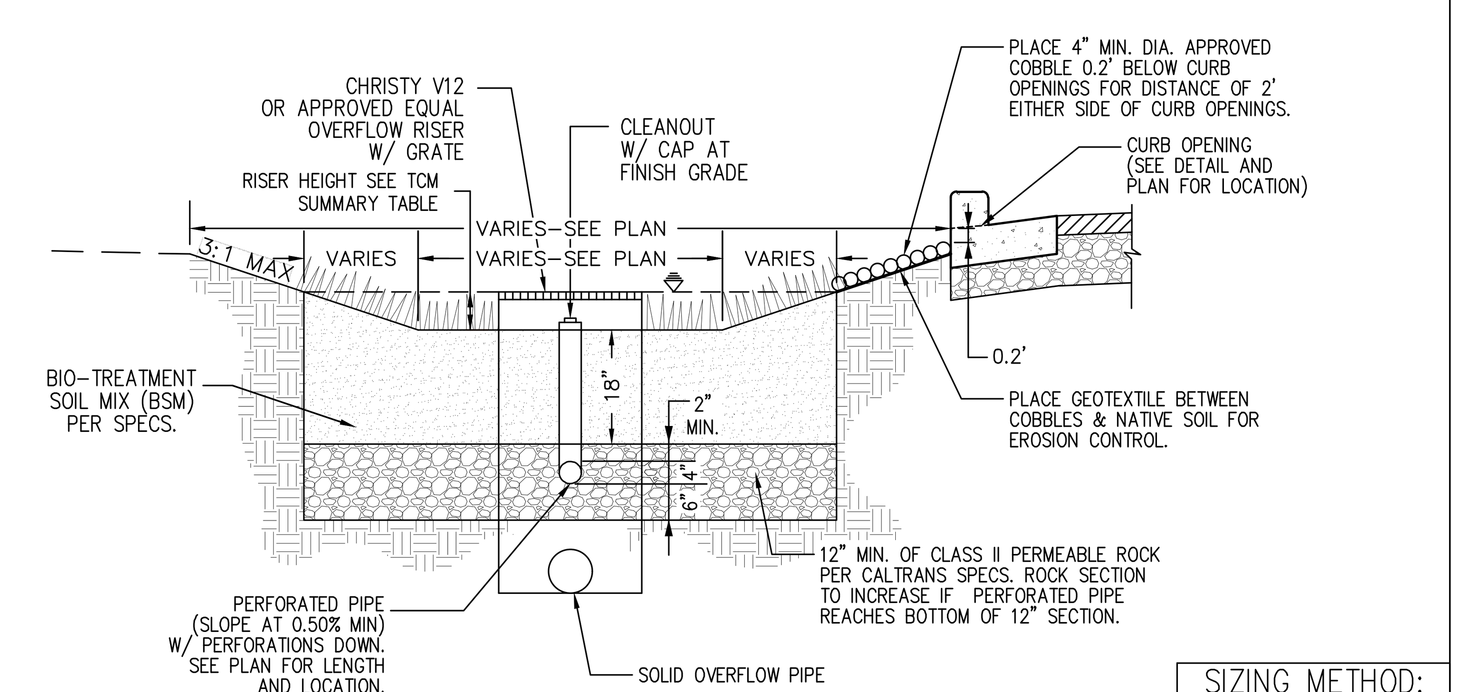
7 CURB OPENING N.T.S.



SIZING METHOD:

FLOW–COMBO

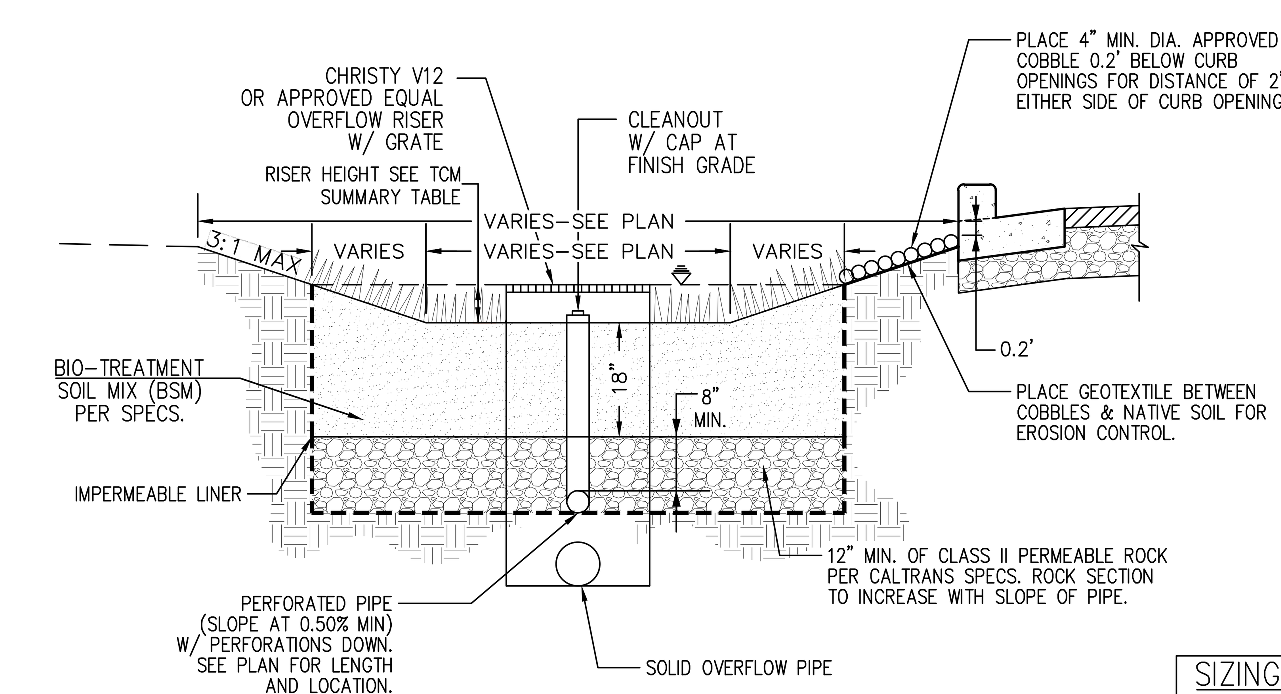
2 BIORETENTION BASIN W/ LINER N.T.S.



SIZING METHOD:

4%

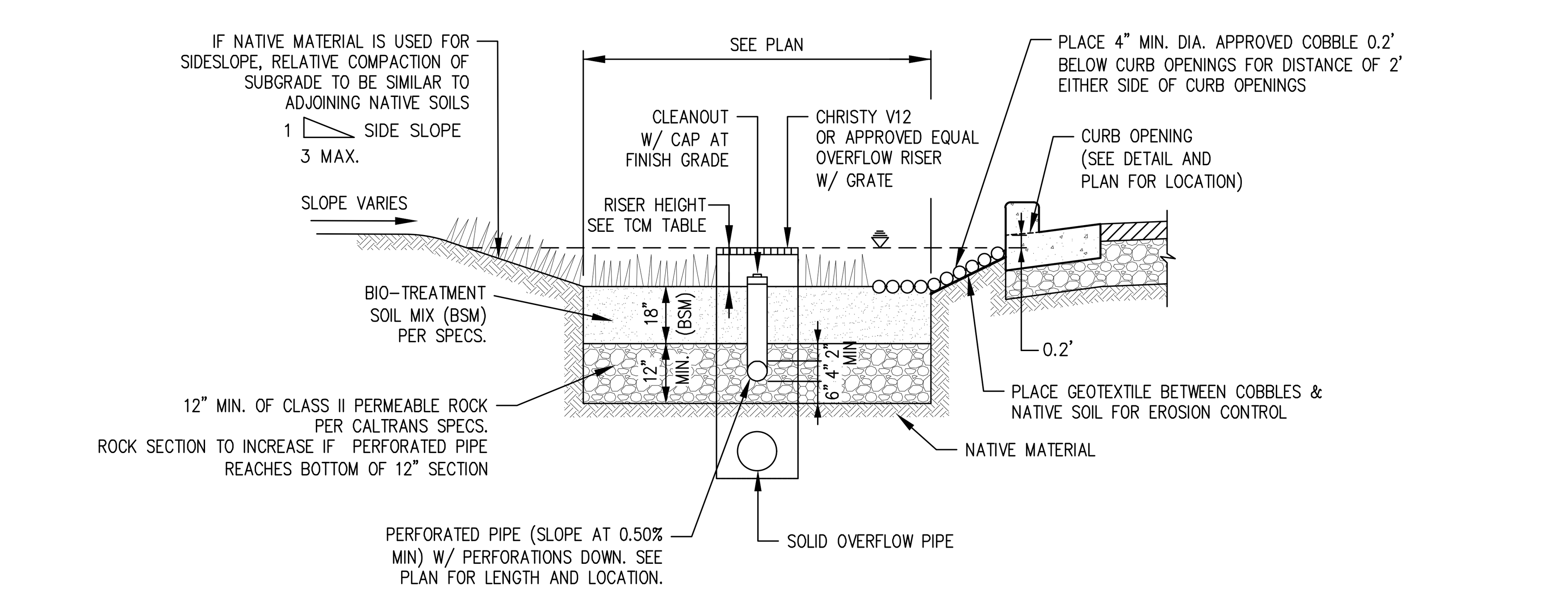
5 BIORETENTION BASIN W/O LINER N.T.S.



SIZING METHODS:

4%

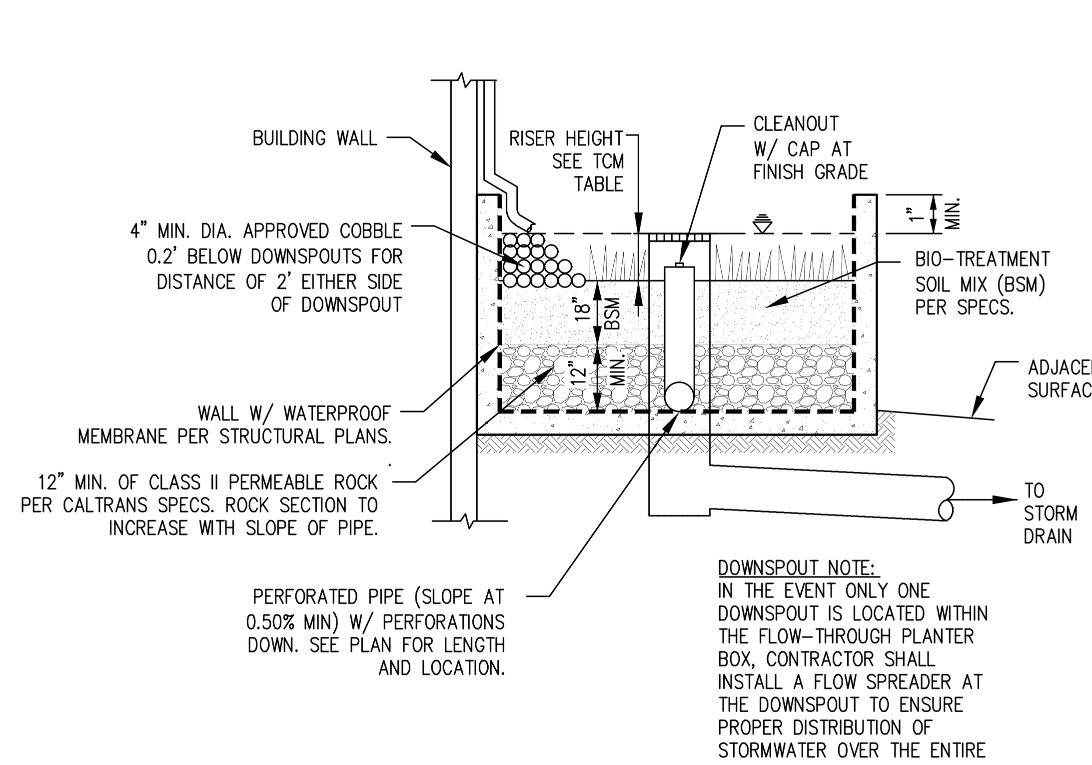
6 BIORETENTION BASIN W/ LINER N.T.S.



SIZING METHOD:

FLOW–COMBO

1 BIORETENTION BASIN W/O LINER N.T.S.

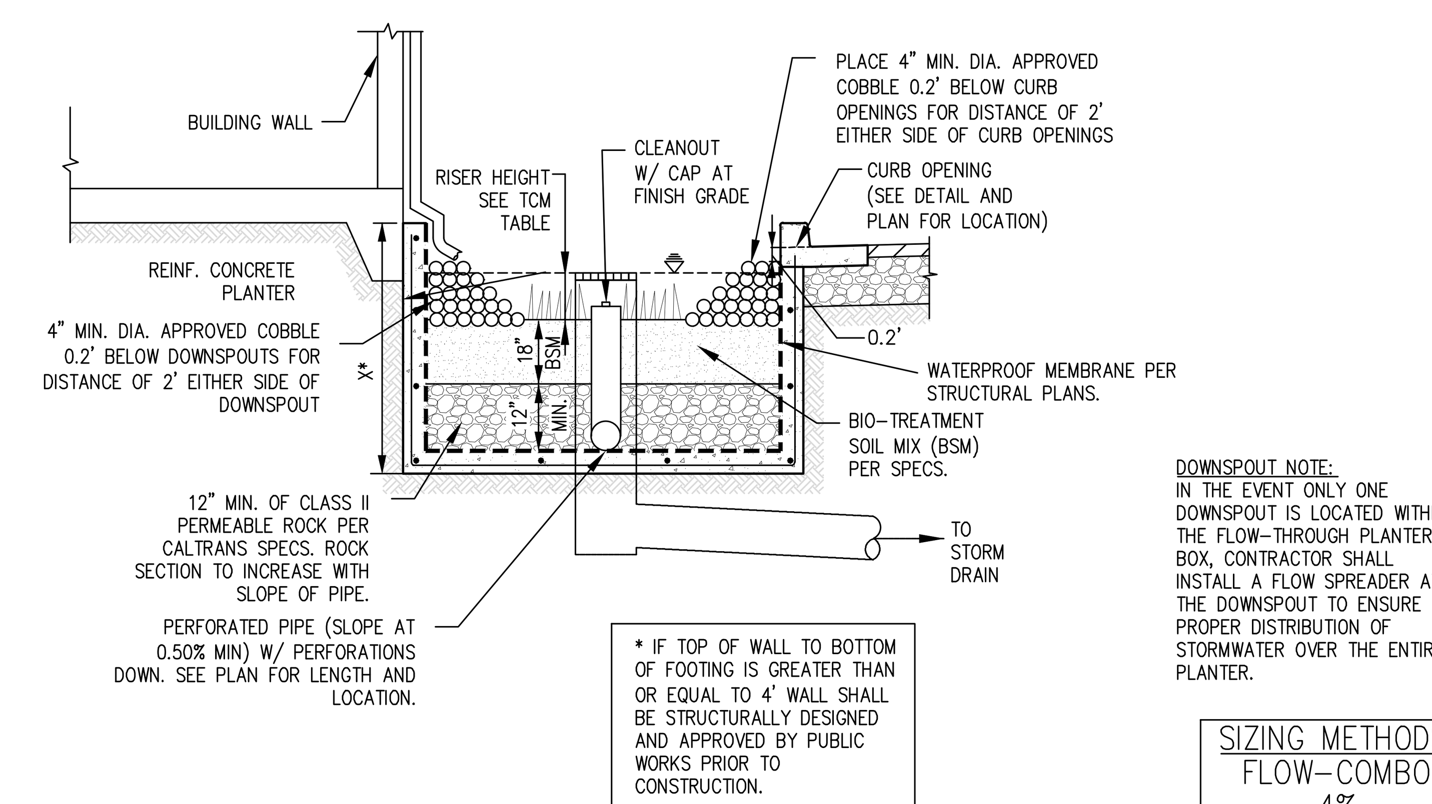


SIZING METHODS:

FLOW–COMBO

4%

3 FLOW-THROUGH PLANTER (ABOVE GRADE) N.T.S.



SIZING METHODS:

FLOW–COMBO

4%

4 FLOW-THROUGH PLANTER (BELOW GRADE) N.T.S.

REVISIONS | DATE | CSJ | BY

REGISTERED PROFESSIONAL ENGINEER S-NAMEXXXXXXXXX Exp. XX/XX/XX No. XXXXX CIVIL STATE OF CALIFORNIA

DEVELOPER'S INFORMATION

CONSULTANT'S INFORMATION

STORMWATER CONTROL DETAILS AND NOTES

SAN JOSE CALIFORNIA

Project No.: | Designed: XX | Checked: XX | Date: XX/XX/XX

SHEET XX Of XX SHEETS

PW PROJECT # 3-XXXXX

REV. DATE JUNE 2023

PERVIOUS CONCRETE REQUIREMENTS

CONTRACTOR OR PERMITEE SHALL:

- PROVIDE CERTIFICATION FROM THE CONCRETE MANUFACTURER THAT THE CONCRETE MEETS THE REQUIREMENTS OF THE C3 STORMWATER HANDBOOK FOR PERVIOUS PAVERS. THIS INCLUDES, BUT IS NOT LIMITED TO, HAVING A MINIMUM SURFACE INFILTRATION RATE OF 100"/HR WHEN TESTED IN ACCORDANCE WITH ASTM C1701.
- ONLY CONTRACTORS HOLDING CERTIFICATION OF COMPLETION FROM THE NATIONAL READY MIX CONCRETE ASSOCIATION (NRMA) SHALL INSTALL THE CONRETE AND AT LEAST ONE FOREMAN WITH THIS CERTIFICATION MUST BE ON THE JOB SITE AT ALL TIMES DURING CONCRETE INSTALLATION.
- PROTECT THE EXCAVATED AREA FOR FROM EXCESSIVE COMPACTION DUE TO CONSTRUCTION TRAFFIC AND PROTECT THE FINISHED PAVEMENT FROM CONSTRUCTION TRAFFIC.

PERVIOUS PAVER REQUIREMENTS

CONTRACTOR OR PERMITEE SHALL:

- PROVIDE CERTIFICATION FROM THE PAVER MANUFACTURER THAT THE PAVERS MEET THE REQUIREMENTS OF THE C3 STORMWATER HANDBOOK FOR PERVIOUS PAVERS. THIS INCLUDES, BUT IS NOT LIMITED TO, HAVING A MINIMUM SURFACE INFILTRATION RATE OF 100"/HR WHEN TESTED IN ACCORDANCE WITH ASTM C1701.
- ONLY CONTRACTORS HOLDING CERTIFICATION OF COMPLETION IN THE INTERLOCKING CONCRETE PAVEMENT INSTITUTES PICP INSTALLER TECHNICIAN COURSE SHALL BE USED TO INSTALL THE PAVERS AND AT LEAST ONE FOREMAN WITH THIS CERTIFICATION MUST BE ON THE JOBSITE AT ALL TIMES DURING CONCRETE PAVER INSTALLATION.
- PROTECT THE EXCAVATED AREA FOR PERVIOUS PAVERS FROM EXCESSIVE COMPACTION DUE TO CONSTRUCTION TRAFFIC AND PROTECT THE FINISHED PAVEMENT FROM CONSTRUCTION TRAFFIC.

PROJECT SITE INFORMATION:

1. **SOILS TYPE:** ____________________
2. **GROUND WATER DEPTH:** ____________________
3. **NAME OF RECEIVING BODY:** ____________________
4. **FLOOD ZONE:** ____________________
5. **FLOOD ELEVATION (IF APPLICABLE):** ____________________

STANDARD STORMWATER CONTROL NOTES

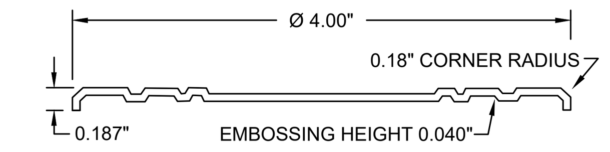
- STANDING WATER SHALL NOT REMAIN IN THE TREATMENT MEASURES FOR MORE THAN FIVE DAYS, TO PREVENT MOSQUITO GENERATION. SHOULD ANY MOSQUITO ISSUES ARISE, CONTACT THE SANTA CLARA VALLEY VECTOR CONTROL DISTRICT (DISTRICT). MOSQUITO LARVICIDES SHALL BE APPLIED ONLY WHEN ABSOLUTELY NECESSARY, AS INDICATED BY THE DISTRICT, AND THEN ONLY BY A LICENSED PROFESSIONAL OR CONTRACTOR. CONTACT INFORMATION FOR THE DISTRICT IS PROVIDED BELOW.

  WEBSITE: HTTPS://VECTOR.SCCGOV.ORG/HOME

  PHONE: (408) 918-4770

- DO NOT USE PESTICIDES OR OTHER CHEMICAL APPLICATIONS TO TREAT DISEASED PLANTS, CONTROL WEEDS OR REMOVED UNWANTED GROWTH. EMPLOY NON-CHEMICAL CONTROLS (BIOLOGICAL, PHYSICAL AND CULTURAL CONTROLS) TO TREAT A PEST PROBLEM. PRUNE PLANTS PROPERLY AND AT THE APPROPRIATE TIME OF YEAR. PROVIDE ADEQUATE IRRIGATION FOR LANDSCAPE PLANTS. DO NOT OVER WATER.

ALL GREY COPY IS RAISED
UNLESS INDICATED OTHERWISE



SECTION VIEW

NOTES

CONTRACTOR SHALL INSTALL STORMWATER TREATMENT MEASURE SIGNAGE IN THE FORM OF A CITY APPROVED MEDALLION # STDM-19323-SSPS, OR EQUIVALENT. THE MEDALLION MUST BE COMMERCIAL GRADE STAINLESS-STEEL, ALUMINUM, BRASS OR BRONZE AND EITHER STAMPED FROM SHEET METAL OR CAST.

THE MEDALLION COLOR MUST BE NONREFLECTIVE BLUE OR GREEN AND BE AFFIXED TO A CLEAN, PREPARED SURFACE WITH ADHESIVES, FASTENERS OR HEAT AS RECOMMENDED BY THE MANUFACTURER. THE MEDALLION MUST INCLUDE THE WORDS "STORMWATER TREATMENT MEASURE - DO NOT ALTER OR REMOVE" AND BE WEATHERPROOF.

MEDALLION SHALL BE INSTALLED AT EACH CURB OPENING LOCATION OR 10' APART IF MULTIPLE CURB OPENINGS". IF THERE ARE NO CURB OPENING(S) THEN PLACE 10' APART.

FOR INFORMATION ONLY: MEDALLION PART # STDM-19323-SSPS CAN BE PURCHASED THROUGH ALMETEK INDUSTRIES, INC.: WWW.ALMETEK.COM OR CALL (800) 248-2080. HOWEVER, THE CONTRACTOR MAY PURCHASE FROM ANY SOURCE SUBJECT TO REVIEW AND APPROVAL. CALL THE CITY OF SAN JOSE ENVIRONMENTAL SERVICES DEPARTMENT AT (408) 945-3000 FOR MORE INFO.

STORMWATER TREATMENT MEASURE MEDALLION N.T.S.

OPERATION AND MAINTENANCE INFORMATION:

I. **PROPERTY INFORMATION:**
   - I.A. PROPERTY ADDRESS: ____________________
   - I.B. PROPERTY OWNER: ____________________

II. **RESPONSIBLE PARTY FOR MAINTENANCE:**
   - II.A. CONTACT: ____________________
   - II.B. PHONE NUMBER OF CONTACT: ____________________
   - II.C. EMAIL: ____________________
   - II.D. ADDRESS: ____________________

SOURCE CONTROL MEASURES:

1. BENEFICIAL LANDSCAPING.
2. USE WATER EFFICIENT IRRIGATION SYSTEMS.
3. GOOD HOUSEKEEPING (E.G. SWEEP PAVEMENT, CATCH BASIN CLEANING).
4. LABEL STORM DRAINS.
5. CONNECT TO THE SANITARY SEWER:
   a. COVERED TRASH/ RECYCLING ENCLOSURES.
   b. INTERIOR PARKING STRUCTURES.
   c. WASH AREA/ RACKS.
   d. POOLS, SPAS, FOUNTAINS.
   e. COVERED LOADING DOCKS AND MAINTENANCE BAYS.
   f. PUMPED GROUNDWATER.
6. FUELING AREAS (MUST INCLUDE ALL FOUR BELOW):
   a. BE GRADED TO PREVENT PONDING.
   b. USE A CONCRETE SURFACE.
   c. BE SEPARATED FROM THE SITE BY A GRADE BREAK TO PREVENT RUN–ON.
   d. HAVE A CANOPY COVER EXTENDING AT LEAST 10 FEET FROM EACH PUMP.
7. INDUSTRIAL, OUTDOOR MATERIAL STORAGE, AND RECYCLING FACILITIES (MUST INCLUDE ALL FOUR BELOW):
   e. STOCKPILE MATERIAL ON AN IMPERVIOUS SURFACE OR UNDER A PERMANENT ROOF OR COVERING.
   f. DIRECT PONDED WATER TO THE SANITARY SEWER, AN ON–SITE TREATMENT SYSTEM, OR OFF–SITE DISPOSAL.
   g. INSTALL BERMS OR CURBS TO PREVENT RUNOFF FROM THE STORAGE/PROCESSING AREAS.
   h. SEGREGATE POLLUTANT–GENERATING ACTIVITIES INTO A DISTINCT DRAINAGE MANAGEMENT AREA AND PROVIDE TREATMENT.
8. OTHER: ____________________

SITE DESIGN MEASURES:

1. PROTECT EXISTING TREES, VEGETATION, AND SOIL.
2. PROTECTED RIPARIAN AND WETLAND AREAS/ BUFFERS.
3. PRESERVE OPEN SPACE AND NATURAL DRAINAGE PATTERNS.
4. RAINWATER HARVESTING AND USE (E.G., RAIN BARREL, CISTERN CONNECTED TO ROOF DRAINS)
5. DIRECT RUNOFF FROM ROOFS, SIDEWALKS, PATIOS TO LANDSCAPED AREAS.
6. PLANT TREES ADJACENT TO AND IN PARKING AREAS AND ADJACENT TO OTHER IMPERVIOUS AREAS.
7. REDUCE EXISTING IMPERVIOUS SURFACES.
8. CLUSTER STRUCTURES/PAVEMENT.
9. CREATE NEW PERVIOUS AREAS:
   a. LANDSCAPING
   b. PARKING STALLS.
   c. WALKWAYS AND PATIOS.
   d. EMERGENCY VEHICLE ACCESS.
   e. PRIVATE STREETS AND SIDEWALKS.
10. INSTALL A GREEN ROOF ON ALL OR A PORTION OF THE ROOF.
11. PARKING:
    a. ON TOP OF OR UNDER BUILDINGS.
    b. NOT PROVIDED IN EXCESS OF CODE.

OTHER: ____________________

ADD/REMOVE ITEMS BASED ON SITE SPECIFIC DESIGN

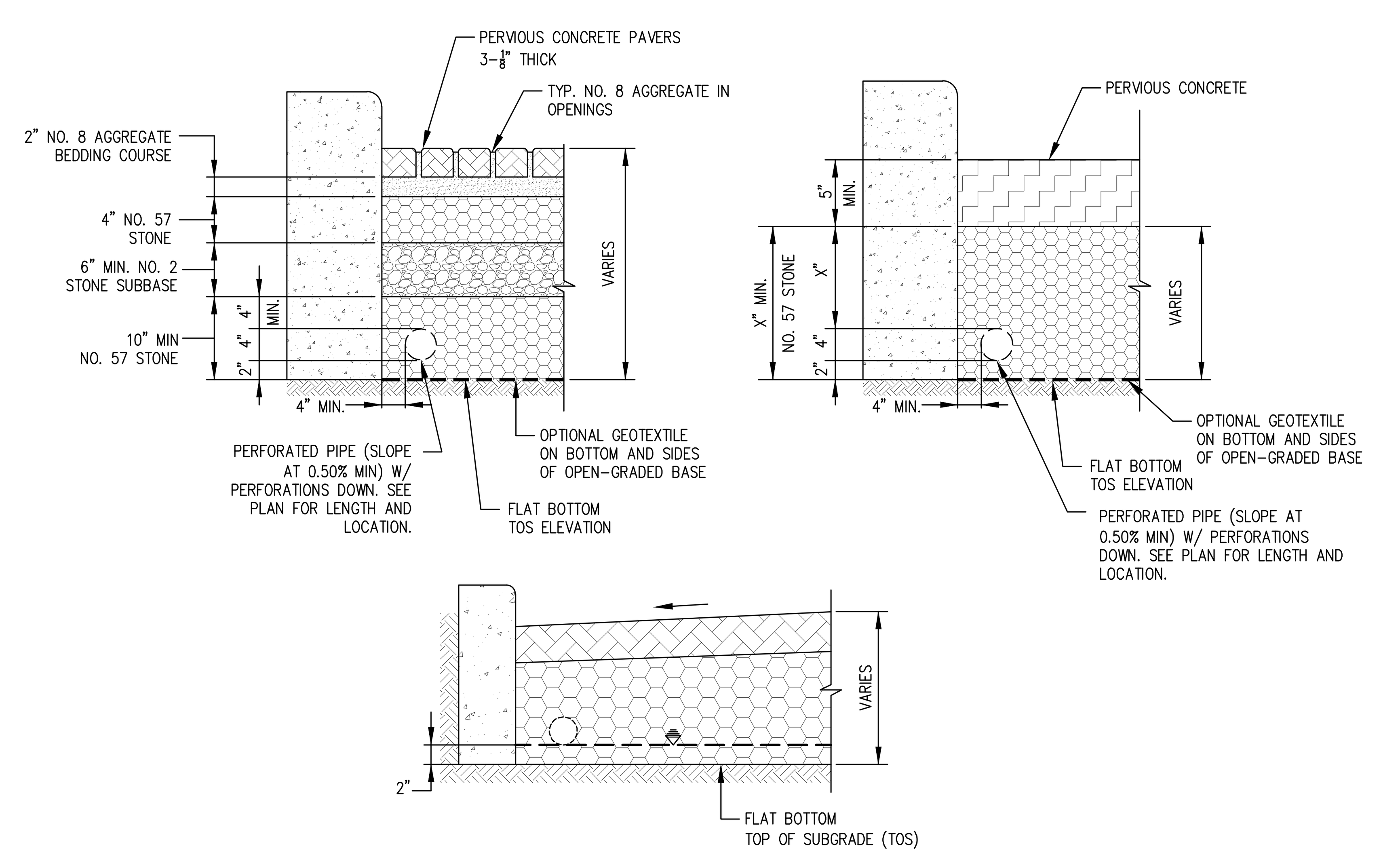
Planning Project No.:		**Instructions:** Complete this form by filling in the yellow cells and copy the credit information into the Special Project Worksheet. The worksheet can be accessed from the following website: https://www.sanjoseca.gov/home/showpublisheddocument/27917
Project Name:		
Calculation Date:		

Total Units (Project)	
Manager Units	
Site Acerage	
Density	#DIV/0!
Density Qualification	#DIV/0!
Entire project within 1/4 mile of ex./planned transit hub?	Select Yes or No
Entire project in PDA?	Select Yes or No
Surface Parking?	Select Yes or No

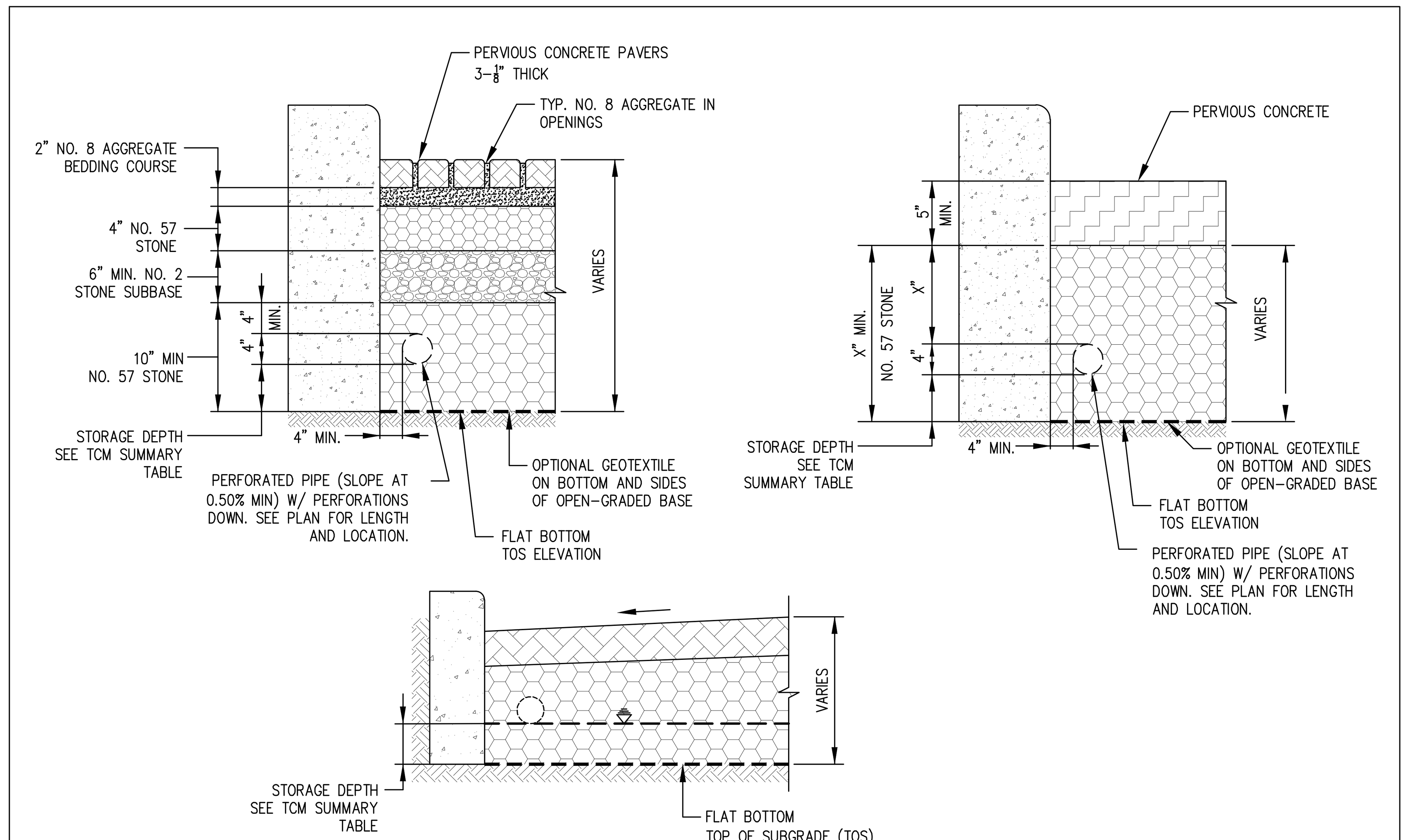
Affordable Unit Types	No. of Units
Actuely Low (≤15% of AMI)	
Extremly Low (≤30% of AMI)	
Very Low (≤50% of AMI)	
Low (≤80% of AMI)	
Moderate (≤120% of AMI)	
Market Rate*	0
Total Units (Calculation)**	0

Affordable Unit Types	Credit Factor
Actuely Low (≤15% of AMI)	#DIV/0!
Extremely Low Income (≤30% of AMI)	#DIV/0!
Very Low Income (≤50% of AMI)	#DIV/0!
Low Income (≤80% of AMI)	#DIV/0!
Moderate Income (≤120% of AMI)	#DIV/0!
Sum of Credit Factor:	#DIV/0!
Affordable Housing Credit Tier % *:**	#DIV/0!

Credit Category	Applied Credit %
Affordable Housing Credit	#DIV/0!
Location Credit	#DIV/0!
Density Credit	#DIV/0!
Parking Credit	#DIV/0!
Total Category C Credit *:**	**#DIV/0!**



1 PERVIOUS PAVEMENT (SELF TREATING)



2 PERVIOUS PAVEMENT (SELF RETAINING)

REVISIONS | BY | CSJ | DATE

REGISTERED PROFESSIONAL ENGINEER S-NAME XX Exp. XX/XX/XX No. XXXXX CIVIL STATE OF CALIFORNIA

DEVELOPER'S INFORMATION

CONSULTANT'S INFORMATION

STORMWATER CONTROL DETAILS AND NOTES

SAN JOSE CALIFORNIA

Designed: XX Checked: XX Date: XX/XX/XX Project No.:

SHEET XX Of XX SHEETS

PW PROJECT # 3-XXXXX

SIZING FOR VOLUME BASED TREATMENT

DMA #
A= s.f.
Impervious Area = s.f. **% Imperviousness= #DIV/0!**

MAPsite = Correction Factor= **0**
MAPgage = 13.9

Clay (D): Sandy Clay (D): Clay Loam (D):

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

Are the soils outside the building footprint not graded/compacted? Yes/No

If no, and the soil will be compacted during site preperation and grading, the soils infiltration ability will be decresed. Modify your answer to a soil with a lower inifilatraion rate (eg. Silt Loam to Clay)
Modified Soil Type:

S=

UBS Volume for 1% Slope (UBS1%) = Indicate Soil Type inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = Indicate Soil Type inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = Indicate Soil Type inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = #VALUE! inches

Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12inch

Design Volume = #VALUE! ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 0 sq. ft
Impervious Area = 0 sq. ft
Pervious Area = 0 sq. ft
Equivalent Impervious Area = 0 sq. ft Total Equivalent Impervious = 0 sq. ft
Rainfall intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = #VALUE! hrs

Estimate the Surface Area = 0 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = #VALUE! cu. ft
Volume in Ponding Area = #VALUE! cu. ft
Depth of Ponding = #VALUE! ft Depth of Ponding = #VALUE! inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for bioretention of flow through planters.

MEDIA FILTER SIZING

DMA #
A= s.f. A= 0.00000 acre

C Value	Area* (s.f.)	Weighted C Value
0.9	0	#DIV/0!
0.8	0	
0.7	0	
0.1	0	

Rainfall Intensity (i)
i =

* Input Values by hand or use Table at the bottom of the spreadsheet.

Q= C x i x A
Q= #DIV/0! cfs

Manufacturer:
Cartridge Height: in.
Cartidge Media (if applicable):
G.U.L.D. Cartridge Treatment Flowrate (CTF): gpm/cartridge

Cartridges= [Q x (449 gpm/cfs)] / CTF
Cartridges = #DIV/0! (round up)
 # Cartridges Required= #DIV/0!
Treatment Flow Rate Capacity= #DIV/0! cfs

SIZING FOR VOLUME BASED TREATMENT

DMA #
A= s.f.
Pervious Pavement Area = s.f. **% Imperviousness (i)= #DIV/0!** ***
Impervious Area = 0
Remaining Pervious Area= 0 s.f.

MAPsite = Correction Factor= **0**
MAPgage = 13.9

Clay (D): Sandy Clay (D): Clay Loam (D):

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

Are the soils outside the building footprint not graded/compacted? Yes/No

If no, and the soil will be compacted during site preperation and grading, the soils infiltration ability will be decresed. Modify your answer to a soil with a lower inifilatraion rate (eg. Silt Loam to Clay)
Modified Soil Type:

S=

UBS Volume for 1% Slope (UBS1%) = Indicate Soil Type inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = Indicate Soil Type inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = Indicate Soil Type inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = #VALUE! inches

Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12inch

Design Volume = #VALUE! ft^3 **Design Depth= ######** inch

SELF RETAINING (PERVIOUS PAVEMENT)

Porosity of Rock*	Min. Storage Depth Required (in)	Pervious ≥ 1/2 Impervious**
0.40	#VALUE!	Yes

Minimum Storage Depth = Design Volume (c.f.) / Pervious Pavement Area (s.f.) / rock porosity x 12 in/1 ft

* Porosity of Class II Permeable = 0.4 based on SCVUURP training.
** If value = "No" increase size of pervious pavement.
*** Pervious pavement is included as part of impervious area only for volume calculation

Bioretention and Flow-Through Planting Table

TCM #	Scientific Name	Common Name	Planting Zone			Treatment Type		
			Basin	Banks	Upland	Bioretention	Flow-Through Planter	Green Roof

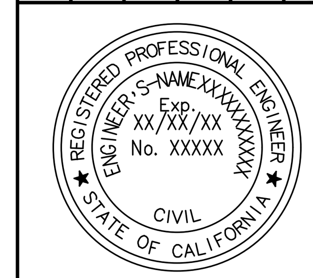
IRRIGATION SYSTEM NOTE: IRRIGATION SHALL BE INSTALLED WITHIN THE BIORETENTION AND FLOW-THROUGH PLANTER FROM THE LANDSCAPE ARCHITECTS PLANS.

TREATMENT CONTROL MEASURE SUMMARY TABLE

DMA #	TCM #	Location[1]	Treatment Type[2]	LID or Non-LID	Sizing Method	Drainage Area (s.f.)	Impervious Area[4] (s.f.)	Pervious Area (Permeable Pavement) (s.f.)	Pervious Area (Other) (s.f.)	% Onsite / Offsite Area Treated by LID or Non-LID TCM	Bioretention: Bioretention Area Required (s.f.)	Bioretention: Bioretention Area Provided (s.f.)	Bioretention: Overflow Riser Height (in)	Self Retaining / Treating: Storage Depth Required (ft)	Self Retaining / Treating: Storage Depth Provided (ft)	Media Filter: # of Cartridges Required	Media Filter: # of Cartridges Provided	Media Filter: Media Type	Media Filter: Cartridge Height (inches)	Treatment Credit (s.f.)	Comments
1										-											
2										-											
3										-											
4										-											
5										-											
6										-											
7										-											
8										-											
9										-											
10																					
11										-											
12										-											
13										-											
14										-											
15										-											
16										-											
17[5]										-											Being equivalently treated by EQ-1
EQ-1[5]										-											Equivalent Treatment for DMA 17
					Totals:	0	0	0	0	0.00%											

Footnotes:
1 Per the Municipal Regional Stormwater Permit, sidewalks and other parts of the right-of-way should be included in the new and/or replaced impervious surface calculation and treated as required
2 "Lined" refers to an impermeable liner placed on the bottom of a Bioretention basin or a concrete Flow-Through Planter, such that no infiltration into native soil occurs.
3 Sizing for Bioretention Area Required calculated using the 4% Method (Impervious Area x 0.04)
4 Gravel is considered as an impervious surface unless it is part of an infiltration trench.
5 DMA XX is not being treated but will be treated by Equivalent Treatment Area EQ-1. Area EQ-1 is equal to or greater than the required treatment area of DMA XX. EQ-1 is not required to be treated as it is [insert reason here]
6 Treatment type of Self-Treating or Self-Retaining should only be used with landscape based treatment. If previous pavement is proposed for Self-Treating or Retaining, use the Pervious Pavement selection.

REVISIONS | DATE | CSJ | BY



DEVELOPER'S INFORMATION

CONSULTANT'S INFORMATION

STORMWATER CONTROL NUMERIC SIZING CALCULATIONS

SAN JOSE CALIFORNIA
Project No.: Designed: XX Checked: XX Date: XX/XX/XX

SHEET XX Of XX SHEETS

PW PROJECT # 3-XXXXX

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR BIORETENTION AREAS

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	REMOVE OBSTRUCTIONS, WEEDS, DEBRIS AND TRASH FROM BIORETENTION AREA AND ITS INLETS AND OUTLETS; AND DISPOSE OF PROPERLY.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
2	INSPECT BIORETENTION AREA FOR STANDING WATER. IF STANDING WATER DOES NOT DRAIN WITHIN 2-3 DAYS, TILL AND REPLACE THE SURFACE BIOTREATMENT SOIL WITH THE APPROVED SOIL MIX AND REPLANT.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
3	CHECK UNDERDRAINS FOR CLOGGING. USE THE CLEANOUT RISER TO CLEAN ANY CLOGGED UNDERDRAINS.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
4	MAINTAIN THE IRRIGATION SYSTEM AND ENSURE THAT PLANTS ARE RECEIVING THE CORRECT AMOUNT OF WATER (IF APPLICABLE).	QUARTERLY
5	ENSURE THAT THE VEGETATION IS HEALTHY AND DENSE ENOUGH TO PROVIDE FILTERING AND PROTECT SOILS FROM EROSION. PRUNE AND WEED THE BIORETENTION AREA. REMOVE AND/OR REPLACE ANY DEAD PLANTS.	ANNUALLY, BEFORE THE WET SEASON BEGINS
6	USE COMPOST AND OTHER NATURAL SOIL AMENDMENTS AND FERTILIZERS INSTEAD OF SYNTHETIC FERTILIZERS, ESPECIALLY IF THE SYSTEM USES AN UNDERDRAIN.	ANNUALLY, BEFORE THE WET SEASON BEGINS
7	CHECK THAT MULCH IS AT APPROPRIATE DEPTH (2 - 3 INCHES PER SOIL SPECIFICATIONS) AND REPLENISH AS NECESSARY BEFORE WET SEASON BEGINS. IT IS RECOMMENDED THAT 2" – 3" OF ARBOR MULCH BE REAPPLIED EVERY YEAR.	ANNUALLY, BEFORE THE WET SEASON BEGINS
8	INSPECT THE ENERGY DISSIPATION AT THE INLET TO ENSURE IT IS FUNCTIONING ADEQUATELY, AND THAT THERE IS NO SCOUR OF THE SURFACE MULCH. REMOVE ACCUMULATED SEDIMENT.	ANNUALLY, BEFORE THE WET SEASON BEGINS
9	INSPECT OVERFLOW PIPE TO ENSURE THAT IT CAN SAFELY CONVEY EXCESS FLOWS TO A STORM DRAIN. REPAIR OR REPLACE DAMAGED PIPING.	ANNUALLY, BEFORE THE WET SEASON BEGINS
10	REPLACE BIOTREATMENT SOIL AND MULCH, IF NEEDED. CHECK FOR STANDING WATER, STRUCTURAL FAILURE AND CLOGGED OVERFLOWS. REMOVE TRASH AND DEBRIS. REPLACE DEAD PLANTS.	ANNUALLY AT THE END OF THE RAINY SEASON, AND/OR AFTER LARGE STORM EVENTS
11	INSPECT BIORETENTION AREA USING THE ATTACHED INSPECTION CHECKLIST.	ANNUALLY, BEFORE THE WET SEASON

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR FLOW-THROUGH PLANTERS

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	INSPECT THE PLANTER SURFACE AREA, INLETS AND OUTLETS FOR OBSTRUCTIONS AND TRASH; CLEAR ANY OBSTRUCTIONS AND REMOVE TRASH.	QUARTERLY
2	INSPECT PLANTER FOR STANDING WATER. IF STANDING WATER DOES NOT DRAIN WITHIN 2-3 DAYS, THE SURFACE BIOTREATMENT SOIL SHOULD BE TILLED OR REPLACED WITH THE APPROVED SOIL MIX AND REPLANTED. USE THE CLEANOUT RISER TO CLEAR ANY UNDERDRAINS OF OBSTRUCTIONS OR CLOGGING MATERIAL.	QUARTERLY
3	CHECK FOR ERODED OR SETTLED BIOTREATMENT SOIL MEDIA. LEVEL SOIL WITH RAKE AND REMOVE/REPLANT VEGETATION AS NECESSARY.	QUARTERLY
4	MAINTAIN THE VEGETATION AND IRRIGATION SYSTEM. PRUNE AND WEED TO KEEP FLOW-THROUGH PLANTER NEAT AND ORDERLY IN APPEARANCE.	QUARTERLY
5	EVALUATE HEALTH AND DENSITY OF VEGETATION. REMOVE AND REPLACE ALL DEAD AND DISEASED VEGETATION. REMOVE EXCESSIVE GROWTH OF PLANTS THAT ARE TOO CLOSE TOGETHER.	ANNUALLY, BEFORE THE RAINY SEASON BEGINS
6	USE COMPOST AND OTHER NATURAL SOIL AMENDMENTS AND FERTILIZERS INSTEAD OF SYNTHETIC FERTILIZERS, ESPECIALLY IF THE SYSTEM USES AN UNDERDRAIN.	ANNUALLY, BEFORE THE RAINY SEASON BEGINS
7	INSPECT THE OVERFLOW PIPE TO MAKE SURE THAT IT CAN SAFELY CONVEY EXCESS FLOWS TO A STORM DRAIN. REPAIR OR REPLACE ANY DAMAGED OR DISCONNECTED PIPING. USE THE CLEANOUT RISER TO CLEAR UNDERDRAINS OF OBSTRUCTIONS OR CLOGGING MATERIAL.	ANNUALLY, BEFORE THE RAINY SEASON BEGINS
8	INSPECT THE ENERGY DISSIPATOR AT THE INLET TO ENSURE IT IS FUNCTIONING ADEQUATELY, AND THAT THERE IS NO SCOUR OF THE SURFACE MULCH. REMOVE ANY ACCUMULATION OF SEDIMENT.	ANNUALLY, BEFORE THE RAINY SEASON BEGINS
9	INSPECT AND, IF NEEDED, REPLACE WOOD MULCH. IT IS RECOMMENDED THAT 2" TO 3" OF COMPOSTED ARBOR MULCH BE APPLIED ONCE A YEAR.	ANNUALLY, BEFORE THE RAINY SEASON BEGINS
10	INSPECT SYSTEM FOR EROSION OF BIOTREATMENT SOIL MEDIA, LOSS OF MULCH, STANDING WATER, CLOGGED OVERFLOWS, WEEDS, TRASH AND DEAD PLANTS. IF USING ROCK MULCH, CHECK FOR 3" OF COVERAGE.	ANNUALLY AT THE END OF THE RAINY SEASON AND/OR AFTER LARGE STORM EVENTS,
11	INSPECT SYSTEM FOR STRUCTURAL INTEGRITY OF WALLS, FLOW SPREADERS, ENERGY DISSIPATORS, CURB CUTS, OUTLETS AND FLOW SPLITTERS.	ANNUALLY AT THE END OF THE RAINY SEASON AND/OR AFTER LARGE STORM EVENTS,

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR PERVIOUS PAVEMENT

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	CHECK FOR SEDIMENT AND DEBRIS ACCUMULATION. PREVENT SOIL FROM WASHING OR BLOWING ONTO THE PAVEMENT. DO NOT STORE SAND, SOIL, MULCH OR OTHER LANDSCAPING MATERIALS ON PERVIOUS PAVEMENT SURFACES.	TWO TO FOUR TIMES ANNUALLY
2	CONDUCT PREVENTATIVE SURFACE CLEANING, USING COMMERCIALLY AVAILABLE REGENERATIVE AIR OR VACUUM SWEEPERS, TO REMOVE SEDIMENT AND DEBRIS.	TWO TO FOUR TIMES ANNUALLY
3	INSPECT FOR ANY SIGNS OF PAVEMENT FAILURE. REPAIR ANY SURFACE DEFORMATIONS OR BROKEN PAVERS. REPLACE MISSING JOINT FILLER IN PICP.	TWO TO FOUR TIMES ANNUALLY
4	CHECK FOR STANDING WATER ON THE PAVEMENT SURFACE WITHIN 30 MINUTES AFTER A STORM EVENT.	TWO TO FOUR TIMES ANNUALLY
5	INSPECT UNDERDRAIN OUTLETS AND CLEANOUTS, PREFERABLY BEFORE THE WET SEASON. REMOVE TRASH/DEBRIS.	TWO TO FOUR TIMES ANNUALLY
6	REMOVE SEDIMENT AND DEBRIS ACCUMULATION ON PERVIOUS PAVEMENT.	TWO TO FOUR TIMES ANNUALLY
7	REMOVE WEEDS. MOW VEGETATION IN GRID PAVEMENTS (SUCH AS TURF BLOCK) AS NEEDED.	AS NEEDED
8	PERFORM RESTORATIVE SURFACE CLEANING WITH A VACUUM SWEEPER, AND/OR RECONSTRUCTION OF PART OF THE PERVIOUS SURFACE TO RESTORE SURFACE PERMEABILITY AS NEEDED. REPLENISH AGGREGATE IN PICP JOINTS OR GRIDS AS NEEDED AFTER RESTORATIVE SURFACE CLEANING.	AS NEEDED
9	POWER WASHING WITH SIMULTANEOUS VACUUMING ALSO CAN BE USED TO RESTORE SURFACE INFILTRATION TO HIGHLY CLOGGED AREAS OF PERVIOUS CONCRETE, POROUS ASPHALT OR PICP, BUT IS NOT RECOMMENDED FOR GRID PAVEMENTS.	AS NEEDED
10	INSPECT PERVIOUS PAVING AREA USING THE ATTACHED INSPECTION CHECKLIST.	QUARTERLY OR AS NEEDED

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR INFILTRATION TRENCHES

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	MONITOR OBSERVATION WELL TO CONFIRM THAT TRENCH HAS DRAINED DURING DRY SEASON. IF INSPECTION INDICATES THAT THE TRENCH IS PARTIALLY OR COMPLETELY CLOGGED, RESTORE TO DESIGN CONDITIONS.	ANNUALLY, DURING DRY SEASON
2	REMOVE OBSTRUCTIONS, DEBRIS AND TRASH FROM INFILTRATION TRENCH AND DISPOSE OF PROPERLY.	MONTHLY, OR AS NEEDED AFTER STORM EVENTS
3	CHECK OBSERVATION WELL 2 TO 3 DAYS AFTER STORMS TO CONFIRM DRAINAGE. TRENCH SHOULD COMPLETELY DEWATER WITHIN 5 DAYS.	MONTHLY DURING WET SEASON, OR AS NEEDED AFTER STORM EVENTS
4	MOW AND TRIM VEGETATION AROUND THE TRENCH TO MAINTAIN A NEAT AND ORDERLY APPEARANCE.	AS NEEDED
5	REMOVE ANY TRASH, GRASS CLIPPINGS AND OTHER DEBRIS FROM THE TRENCH PERIMETER AND DISPOSE OF PROPERLY.	AS NEEDED
6	CHECK FOR EROSION AT INFLOW OR OVERFLOW STRUCTURES. REPAIR AS NECESSARY.	MONTHLY, OR AS NEEDED AFTER STORM EVENTS
7	INSPECT INFILTRATION TRENCH USING THE ATTACHED INSPECTION CHECKLIST.	MONTHLY, OR AFTER LARGE STORM EVENTS, AND AFTER REMOVAL OF ACCUMULATED DEBRIS OR MATERIAL

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR EXTENDED DETENTION BASINS

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	EVALUATE THE HEALTH OF VEGETATION AND REMOVE AND REPLACE ANY DEAD OR DYING PLANTS.	TWICE A YEAR
2	TRIM VEGETATION AT BEGINNING AND END OF WET SEASON.	TWICE A YEAR
3	INSPECT VEGETATION TO PREVENT ESTABLISHMENT OF WOODY VEGETATION AND FOR AESTHETICS AND MOSQUITO CONTROL.	MONTHLY
4	HARVEST VEGETATION ANNUALLY, DURING THE SUMMER	ANNUALLY
5	EXAMINE THE OUTLET, EMBANKMENTS, DIKES, BERMS, AND SIDE SLOPES FOR STRUCTURAL INTEGRITY AND SIGNS OF EROSION OR RODENT BURROWS. FILL IN ANY HOLES DETECTED IN THE SIDE SLOPES.	TWICE A YEAR
6	INSPECT INLETS, OUTLETS AND OVERFLOW STRUCTURES TO ENSURE THAT PIPING IS INTACT AND NOT PLUGGED. REMOVE ANY ACCUMULATED SEDIMENT AND DEBRIS. ENSURE THAT ENERGY DISSIPATION IS FUNCTIONING ADEQUATELY.	TWICE A YEAR
7	INSPECT FOR STANDING WATER AND CORRECT ANY PROBLEMS THAT PREVENT THE BASIN FROM DRAINING AS DESIGNED.	TWICE A YEAR
8	CONFIRM THAT ANY FENCES AROUND THE FACILITY ARE SECURE	TWICE A YEAR
9	REMOVE SEDIMENT FROM FOREBAY WHEN THE SEDIMENT LEVEL REACHES THE LEVEL SHOWN ON THE FIXED VERTICAL SEDIMENT MARKER AND DISPOSE OF SEDIMENT PROPERLY.	AS NEEDED
10	REMOVE ACCUMULATED SEDIMENT FROM THE DETENTION BASIN AND REGRADE WHEN THE ACCUMULATED SEDIMENT VOLUME EXCEEDS 10% OF BASIN VOLUME AND DISPOSE OF SEDIMENT PROPERLY.	EVERY 10 YEARS, OR AS NEEDED
11	REMOVE ACCUMULATED TRASH AND DEBRIS FROM THE EXTENDED DETENTION BASIN AND DISPOSE OF PROPERLY.	TWICE A YEAR
12	INSPECT EXTENDED DETENTION BASIN USING THE ATTACHED INSPECTION CHECKLIST.	QUARTERLY, OR AS NEEDED

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR TREE WELL FILTERS

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	EVALUATE HEALTH OF TREES AND GROUNDCOVER. REMOVE AND REPLACE ALL DEAD AND DISEASED VEGETATION.	TWICE A YEAR
2	MAINTAIN THE VEGETATION AND IRRIGATION SYSTEM. PRUNE AND WEED TO KEEP TREE WELL FILTER NEAT AND ORDERLY IN APPEARANCE.	AS NEEDED
3	USE COMPOST AND OTHER NATURAL SOIL AMENDMENTS AND FERTILIZERS INSTEAD OF SYNTHETIC FERTILIZERS, ESPECIALLY IF THE SYSTEM USES AN UNDERDRAIN.	AS NEEDED
4	CHECK THAT PLANTING MIX IS AT APPROPRIATE DEPTH AND REPLENISH AS NECESSARY. REPLENISH MULCH AS NEEDED.	BEFORE WET SEASON AND AS NECESSARY
5	REMOVE SEDIMENT, LITTER AND DEBRIS FROM TREE WELL FILTER. CONFIRM THAT NO CLOGGING WILL OCCUR AND THAT THE FILTER WILL DRAIN PER THE DESIGN SPECIFICATIONS. DISPOSE OF SEDIMENT, LITTER AND DEBRIS PROPERLY.	BEFORE WET SEASON AND AS NECESSARY
6	INSPECT TREE WELL FILTER TO ENSURE THAT IT DRAINS BETWEEN STORMS PER DESIGN SPECIFICATIONS	PERIODICALLY OR AS NEEDED AFTER STORM EVENTS
7	INSPECT OVERFLOW PIPE TO ENSURE THAT IT WILL SAFELY CONVEY EXCESS FLOWS TO STORM DRAIN. REPAIR OR REPLACE ANY DAMAGED OR DISCONNECTED PIPING.	AS NECESSARY
8	INSPECT TREE WELL FILTER USING THE ATTACHED INSPECTION CHECKLIST.	MONTHLY, OR AFTER LARGE STORM EVENTS, AND AFTER REMOVAL OF ACCUMULATED DEBRIS OR MATERIAL

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR SUBSURFACE INFILTRATION TRENCHES

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	MONITOR OBSERVATION WELL TO CONFIRM THAT THE SUBSURFACE INFILTRATION SYSTEM HAS DRAINED DURING DRY SEASON. IF INSPECTION INDICATES THAT THE SYSTEM IS PARTIALLY OR COMPLETELY CLOGGED, RESTORE TO DESIGN CONDITIONS.	ANNUALLY, DURING DRY SEASON
2	REMOVE OBSTRUCTIONS, DEBRIS AND TRASH NEAR INLET AND DISPOSE OF PROPERLY.	MONTHLY DURING WET SEASON, OR AS NEEDED AFTER STORM EVENTS
3	CHECK OBSERVATION WELL 2 TO 3 DAYS AFTER STORMS TO CONFIRM DRAINAGE. THE SUBSURFACE INFILTRATION SYSTEM SHOULD COMPLETELY DEWATER WITHIN 3 DAYS (PREFERRED) OR WITHIN 5 DAYS TO AVOID MOSQUITO PRODUCTION.	MONTHLY DURING WET SEASON, OR AS NEEDED AFTER STORM EVENTS
4	CHECK FOR EROSION AT INFLOW OR OVERFLOW STRUCTURES. REPAIR AS NECESSARY.	MONTHLY, OR AS NEEDED AFTER STORM EVENTS
5	INSPECT SUBSURFACE INFILTRATION SYSTEM USING THE ATTACHED INSPECTION CHECKLIST.	MONTHLY, OR AFTER LARGE STORM EVENTS, AND AFTER REMOVAL OF ACCUMULATED DEBRIS OR MATERIAL

TABLE 1
ROUTINE MAINTENANCE ACTIVITIES FOR MEDIA FILTERS

NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	INSPECT FOR STANDING WATER, SEDIMENT, TRASH AND DEBRIS.	MONTHLY DURING RAINY SEASON
2	REMOVE ACCUMULATED TRASH AND DEBRIS IN THE UNIT DURING ROUTINE INSPECTIONS.	MONTHLY DURING RAINY SEASON, OR AS NEEDED AFTER STORM EVENTS
3	INSPECT TO ENSURE THAT THE FACILITY IS DRAINING COMPLETELY WITHIN FIVE DAYS AND PER MANUFACTURER'S SPECIFICATIONS.	ONCE DURING THE WET SEASON AFTER MAJOR STORM EVENT.
4	REPLACE THE MEDIA PER MANUFACTURER'S INSTRUCTIONS OR AS INDICATED BY THE CONDITION OF THE UNIT.	PER MANUFACTURER'S SPECIFICATIONS.
5	INSPECT MEDIA FILTERS USING THE ATTACHED INSPECTION CHECKLIST.	QUARTERLY OR AS NEEDED

REVISIONS | DATE | CSJ | BY

REGISTERED PROFESSIONAL ENGINEER
S-NAME-XXXXXXXX
Exp. XX/XX/XX
No. XXXXX
CIVIL
STATE OF CALIFORNIA

DEVELOPER'S INFORMATION

CONSULTANT'S INFORMATION

STORMWATER CONTROL NOTES

SAN JOSE CALIFORNIA
Project No.: Designed: XX Checked: XX Date: XX/XX/XX

SHEET
XX
Of XX SHEETS

PW PROJECT #
3-XXXXX

REV. DATE JUNE 2023