

**James V. Fitzgerald ASBS Pollution Reduction Program**

**Upland BMPs: LID Projects**

**Approved by Selection Committee June 9, 2014**

**LID Site #4 – Cooperator ID #: 202.0619.01**

**Site Information:**

This 1 acre property contains a house and garage that drain to Dean Creek (aka Sunshine Valley Creek) near the drainage divide with Montara Creek. This property has a long gravel driveway and stormwater erodes the driveway and runs across the road and into the downhill neighbor's property.

**Integrated Project BMPs:**

- Install two batteries of three 205 gallon storage tanks to capture and store rainwater from asphalt garage roof (1,720 square feet)
- Construct a 13 x 40 foot rain garden to filter and infiltrate water from storage tanks
- Conduct earthwork to direct flow away from driveway to an underground drain leading to a vegetated swale
- Construct a 150 foot long vegetated swale to capture stormwater from the property and driveway and to reduce erosion
- Install two concrete masonry block overflow weirs at the end of the vegetated swale to sufficiently spread water before it enters the roadside ditch in order to avoid erosion of the ditch bank

**Treatment Description:**

Roof runoff is directed through new gutters and downspouts to two separate sets of rainwater storage tanks. Overflow from these two tank sets is outlet into a rain garden. The rain garden provides infiltration as primary treatment and will overflow into a drain pipe in the case of a large storm event. The drain pipe collects water from the driveway and outlets to a treatment swale. Treatment swale outlets at property line over two concrete weir spreader beams to reduce concentrated flow and reduce erosion. Irrigation risers allow the tanks to be drained manually or for the stored water to be used for irrigation.

**Stormwater Capture/Treatment:**

**Rain Garden/Tank/Swale System: 86%**

# PROJECT 202.0619.01

## WATER QUALITY IMPROVEMENT PLAN

### GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH FINAL DESIGN DRAWINGS AND ATTACHED SPECIFICATIONS: 03 30 10 CONCRETE, 07 65 00 GUTTERS AND DOWNSPOUTS, 31 00 10 FINE GRADING, 32 30 20 GRAVEL EROSION PROTECTION, 32 30 40 VEGETATED SWALE, 32 30 60 RAIN GARDEN, 33 40 00 STORM DRAINAGE UTILITIES, 33 40 10 RAINWATER CATCHMENT.
2. SAN MATEO RESOURCE CONSERVATION DISTRICT SHALL BE RESPONSIBLE FOR OBTAINING ANY NEEDED PERMITS, EASEMENTS, AND/OR RIGHT-OF-WAYS, AND MEETING ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES AND SHALL CALL NORTHERN CALIFORNIA UNDERGROUND SERVICE ALERT AT '811' AT LEAST 3 DAYS PRIOR TO START OF CONSTRUCTION. SPECIAL SAFETY PRECAUTIONS SHALL BE TAKEN WHEN WORKING IN THE VICINITY OF GAS, OIL, AND ELECTRICAL LINES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING LOCATIONS OF TEMPORARY ACCESS, STAGING AREAS, AND OTHER FACILITIES TO PRECONSTRUCTION CONDITION. DISTURBANCE OF EXISTING STRUCTURES AND VEGETATION MUST BE AVOIDED OR MINIMIZED TO THE FULLEST POSSIBLE EXTENT.
5. LANDOWNER SHALL BE RESPONSIBLE FOR THE SUCCESSFUL ESTABLISHMENT AND MAINTENANCE OF VEGETATION PRACTICES.
6. CONTRACTOR SHALL ENSURE THAT THE USE AND/OR STORAGE OF PETROLEUM POWERED EQUIPMENT SHALL BE ACCOMPLISHED IN A MANNER TO PREVENT THE POTENTIAL RELEASE OF PETROLEUM MATERIALS INTO WATERS OF THE STATE.
7. CAL-OSHA SAFETY REQUIREMENTS SHALL BE IN EFFECT DURING ALL CONSTRUCTION.
8. CONTACT THE SAN MATEO RESOURCE CONSERVATION DISTRICT AT LEAST 7 DAYS PRIOR TO START OF CONSTRUCTION. PHONE: (650) 726-4660.

### AS-BUILT NOTES

1. THIS AS-BUILT PLAN REPRESENTS THE STATUS OF THE PROJECT AS INSTALLED IN THE FIELD. IT IS NOT A CERTIFICATION OF THE COMPLETENESS OF THE WORK OR THE CONSISTENCY OF THE WORK WITH THE ORIGINAL DESIGN DOCUMENTS. IN SOME CASES DEVIATIONS FROM THE ORIGINAL DESIGN DOCUMENTS MAY LEAD TO OPERATIONS OR MAINTENANCE ISSUES. THE ENGINEER ACCEPTS NO LIABILITY FOR FAILURES OR PROBLEMS ARISING FROM DEVIATIONS FROM THE ORIGINAL DESIGN DOCUMENTS.

### SHEET INDEX

1. TITLE SHEET AND GENERAL NOTES
2. LAYOUT PLAN
3. CONSTRUCTION DETAILS
4. CONSTRUCTION DETAILS
5. CONSTRUCTION DETAILS
6. CONSTRUCTION DETAILS

### VICINITY MAP

NOT TO SCALE



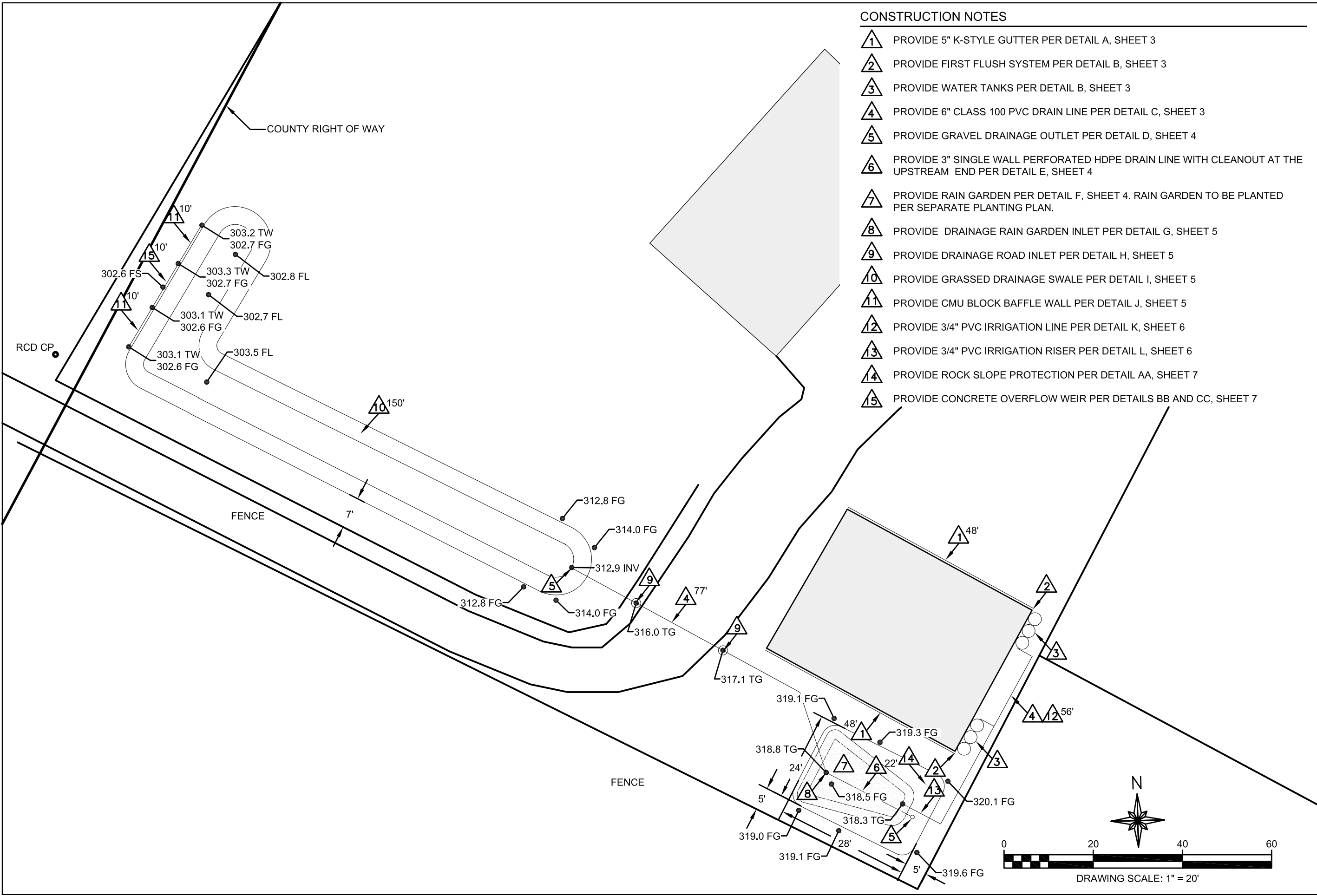
AS-BUILT

DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_

PROJECT 202.0619.01  
TITLE SHEET & GENERAL NOTES

PLAN DATE  
2/26/16

SHEET  
01 OF 06

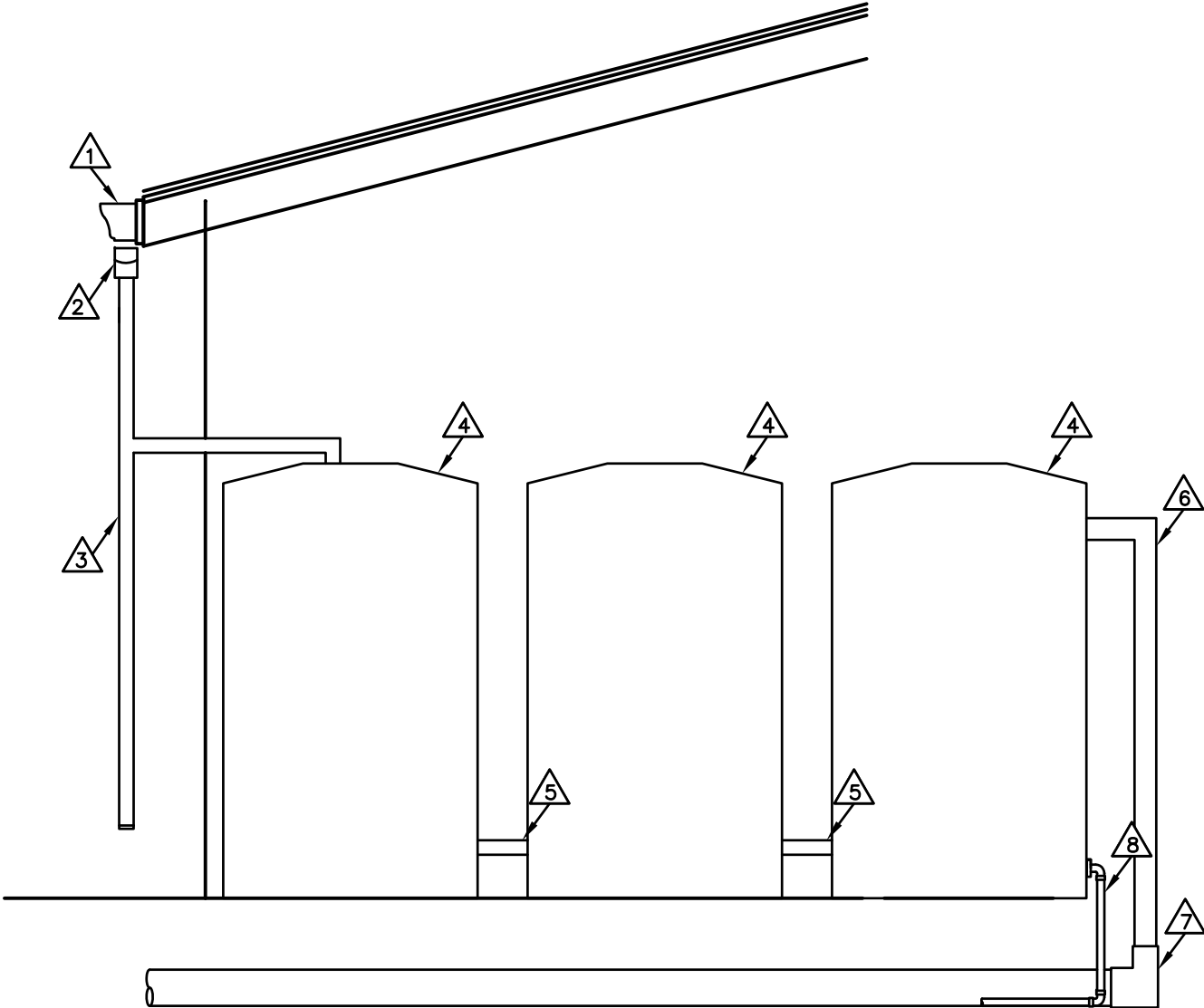


AS-BUILT

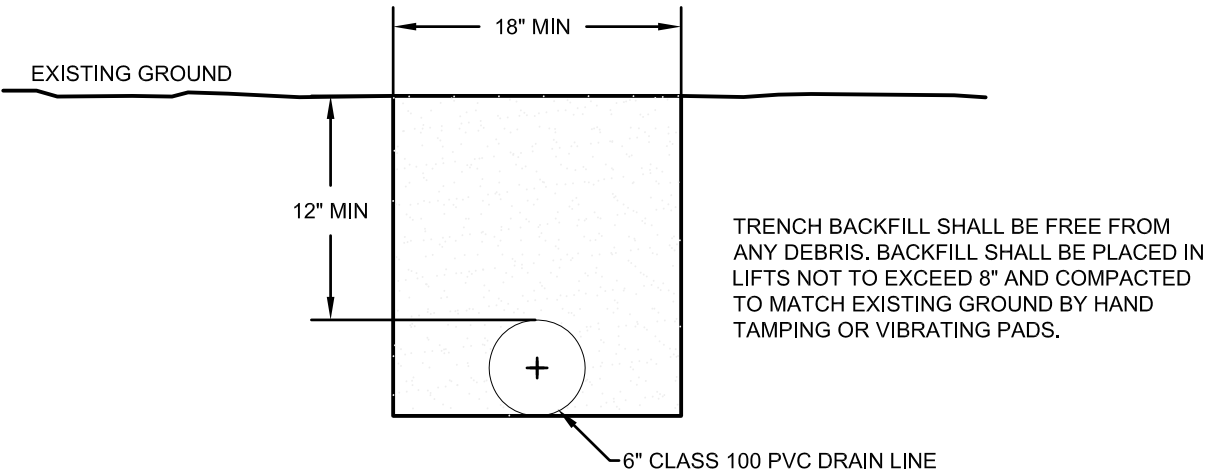
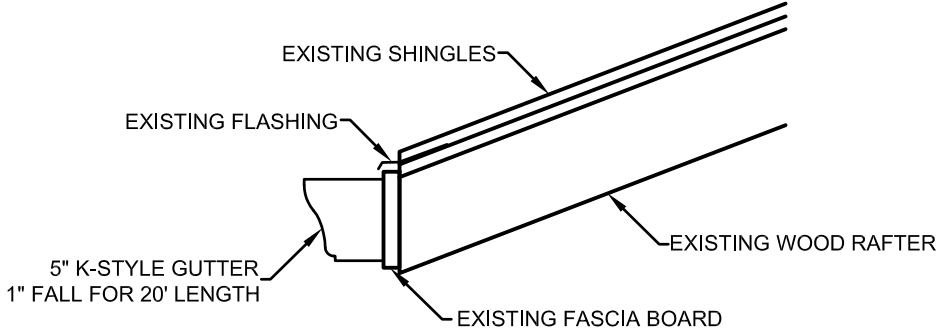
DRAWN BY:  
DESIGNED BY:  
APPROVED BY:

PROJECT 202.0619.01

LAYOUT PLAN



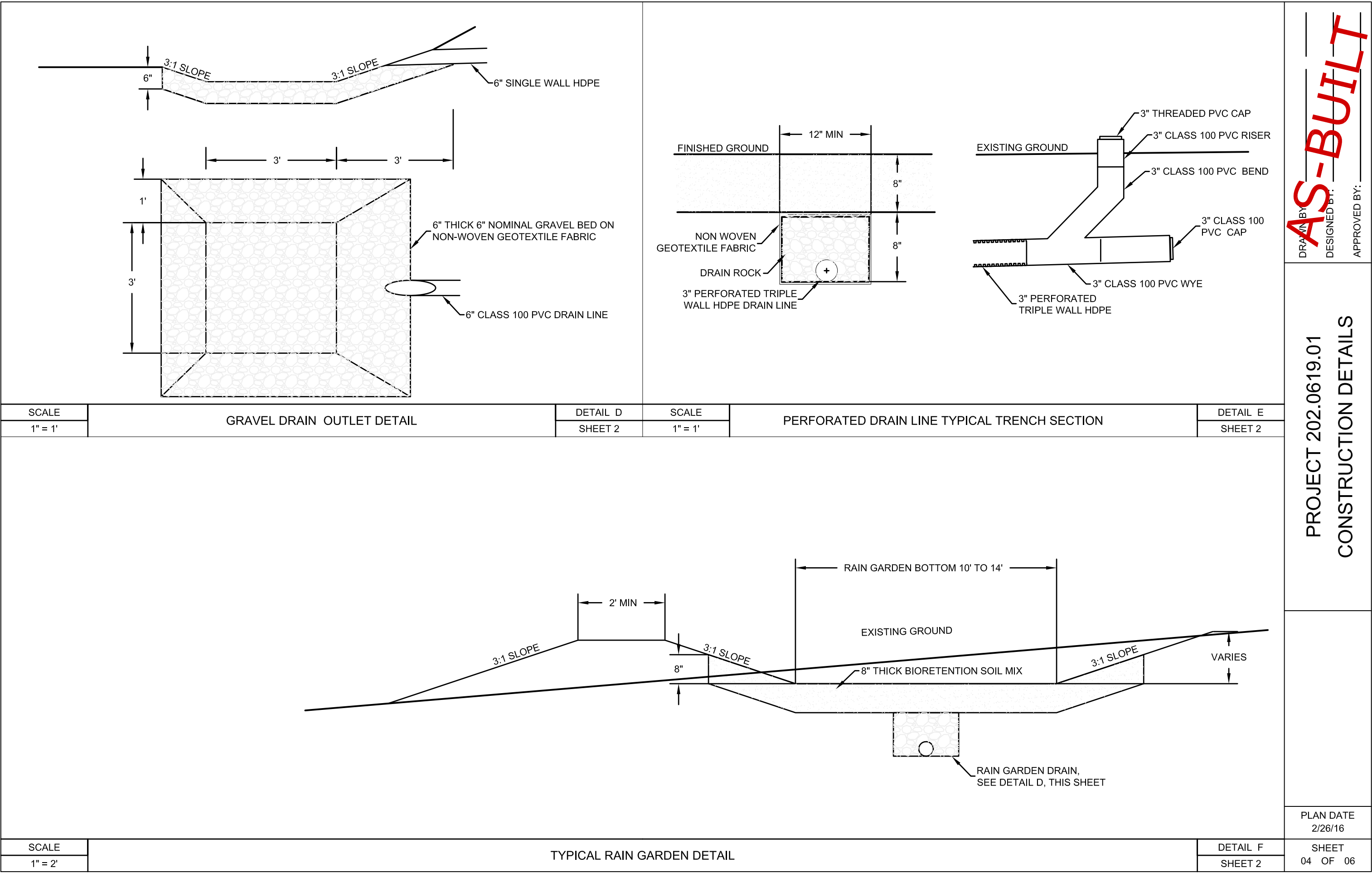
- 1 PROPOSED 5" K-STYLE GUTTER
- 2 PROVIDE 2" SQUARE GUTTER OUTLET WITH SLOPED SCREEN INLET
- 3 PROVIDE BUSHMAN FIRST FLUSH SYSTEM OR APPROVED EQUAL
- 4 PROVIDE BUSHMAN 205 GALLON TANK OR APPROVED EQUAL
- 5 PROVIDE 1" CONNECTION PIPELINE
- 6 PROVIDE 3" OVERFLOW PIPELINE
- 7 PROVIDE 3"x5" PVC BEND
- 8 PROVIDE 3/4" IRRIGATION PIPELINE



AS-BUILT

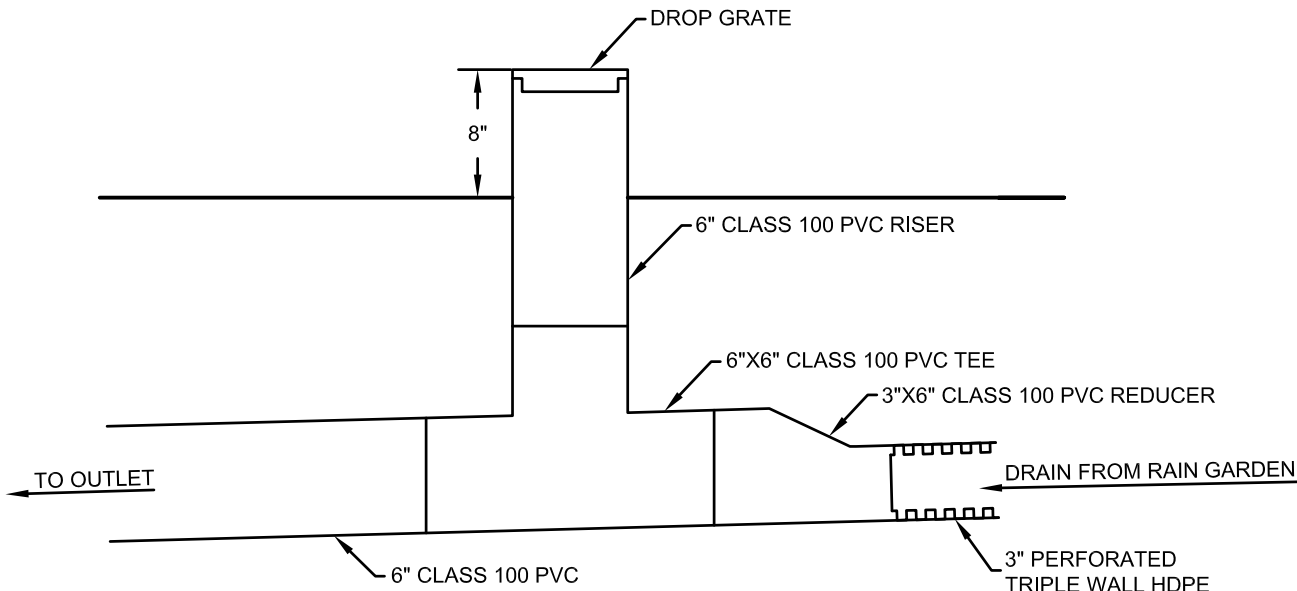
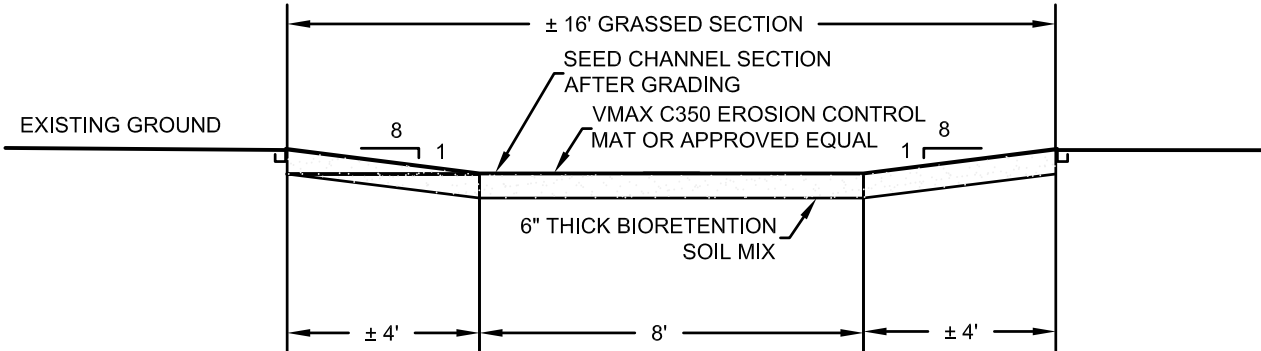
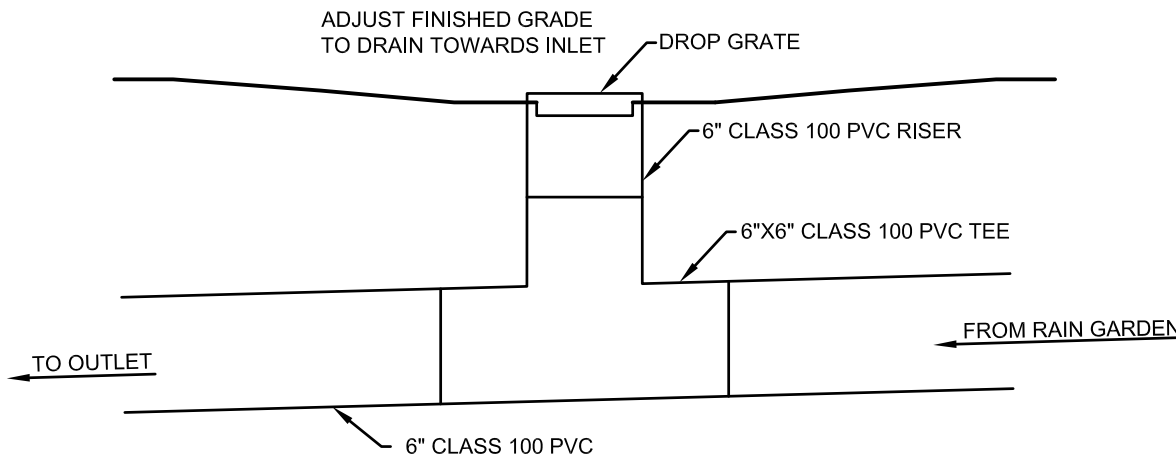
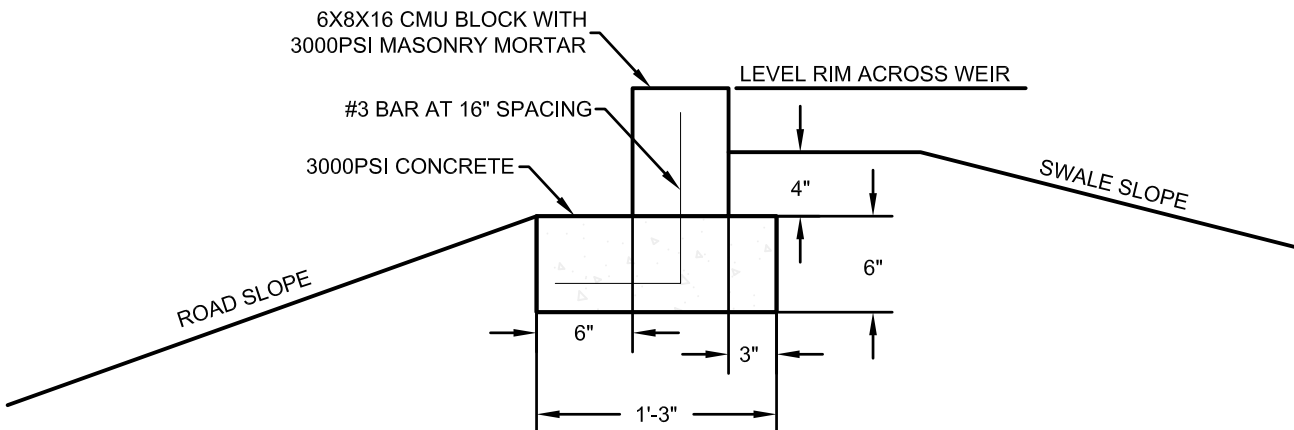
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_

PROJECT 202.0619.01  
CONSTRUCTION DETAILS

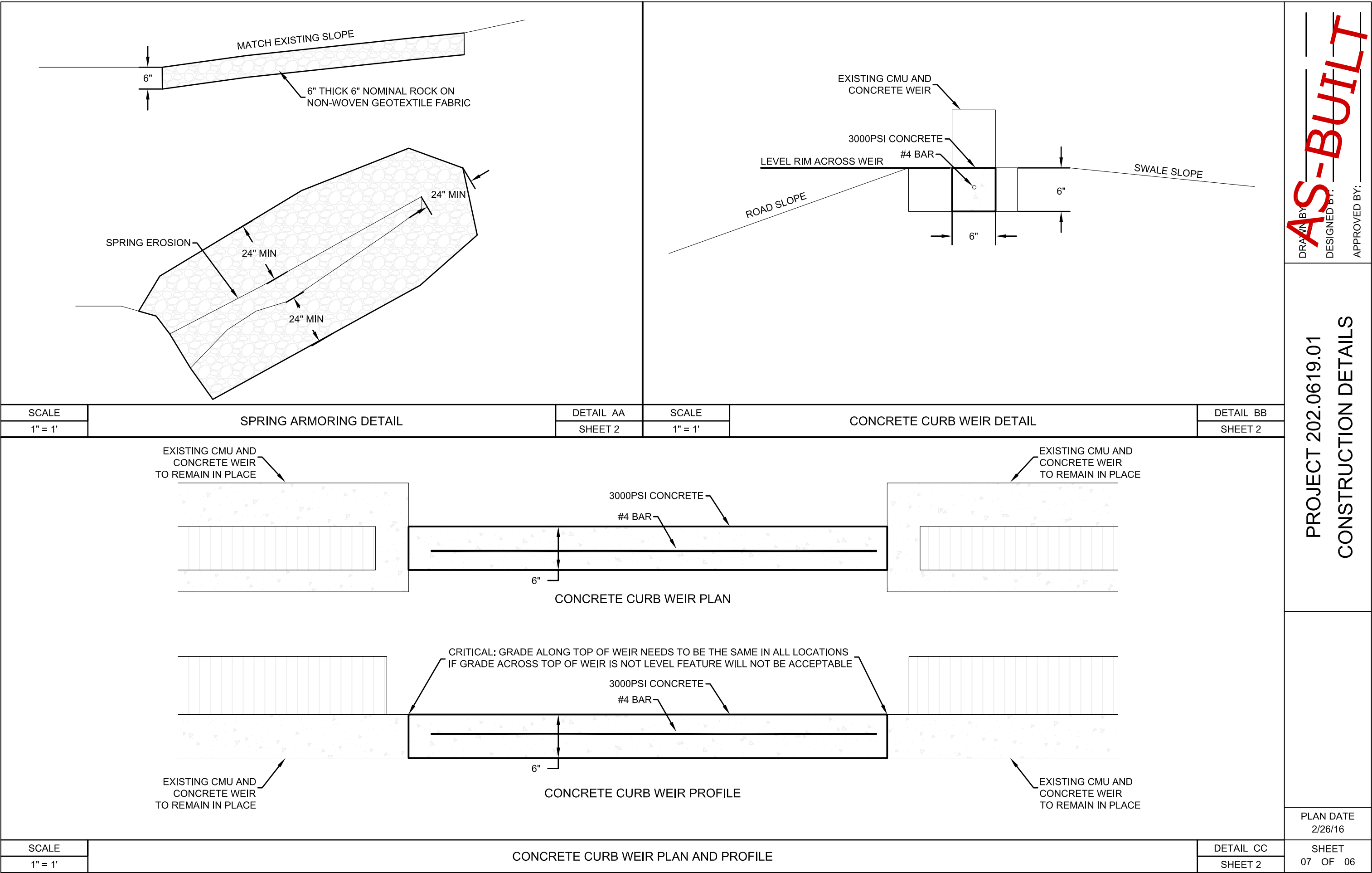


AS-BUILT

DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_

								<div>AS-BUILT</div> <div>DRAWN BY: _____</div> <div>DESIGNED BY: _____</div> <div>APPROVED BY: _____</div> <div>PROJECT 202.0619.01</div> <div>CONSTRUCTION DETAILS</div> <div>PLAN DATE 2/26/16</div> <div>SHEET 05 OF 06</div>				
SCALE 1" = 1'		DRAINAGE RAIN GARDEN INLET DETAIL		DETAIL G SHEET 2		SCALE 1" = 4'			TYPICAL DRAINAGE SWALE DETAIL		DETAIL I SHEET 2	
												
SCALE 1" = 1'		DRAINAGE ROAD INLET DETAIL		DETAIL H SHEET 2		SCALE 1" = 1'			CONCRETE MASONRY UNIT BAFFLE WALL DETAIL		DETAIL J SHEET 2	









ECOLOGICAL CONCERNS  
PLANTING PLAN  
SITE 5: 2020/09/01  
1000 1/4 STREET  
MONTARA, CA

# FITZGERALD ASBS - STORM WATER QUALITY BMPs

COUNTY OF SAN MATEO | CA STATE WATER RESOURCES CONTROL BOARD  
SAN MATEO COUNTY RESOURCE CONSERVATION DISTRICT

DATE	REVISION OR REMARKS

APPROVAL

SHEET CONTENTS  
PLANTING PLAN  
SITE 5: 2020/09/01  
1000 1/4 STREET  
MONTARA, CA

SHEET  
L4.0  
OF ALL SHEETS  
LATEST REVISION

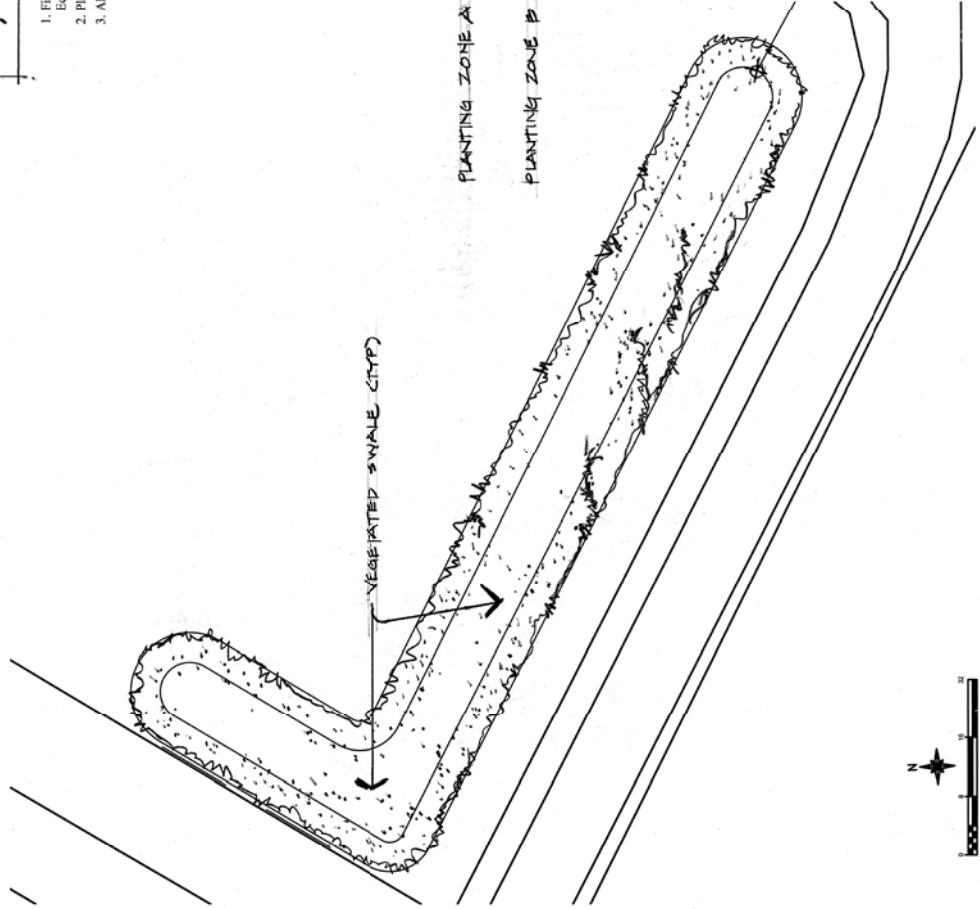
## PLANTING PLAN GENERAL NOTES

1. ECL LANDSCAPE DRAWINGS ARE BASED ON PLAN DOCUMENTS PREPARED BY BRUCE QUINTANA-JONES P.E. REFER TO ENGINEERING DRAWINGS FOR ALL SITE MEASUREMENTS.
2. SEE ENGINEERING DRAWINGS AND SPECIFICATIONS FOR ALL CONSTRUCTION DETAILS OF BEST MANAGEMENT PRACTICES, INCLUDING GRADING AND INFILTRATION SOIL MIX.
3. ALL PLANTS SHALL BE INSPECTED AND APPROVED BY ECL LANDSCAPE DESIGNER PRIOR TO INSTALLATION.
4. ALL PLANTS SHALL BE PLANTED IN 6.0" X 6.0" SPECIFIED, AND PLANTED TO THE DEPTH OF THE ROOT CROWN, AND ALL PLANTS SHALL BE WATERED THOROUGHLY AT TIME OF PLANTING.
5. ALL MAINTENANCE SHALL BE PERFORMED BY OTHERS, AND IS NOT INCLUDED IN THIS SCOPE OF WORK. MAINTENANCE SHALL BE PERFORMED AT 12 MONTHS, AND DURING EXTENSIVE DRY PERIODS THROUGHOUT THE LIFE OF THE PROJECT. NON-NATIVE INVASIVE SPECIES SHOULD BE CONTROLLED BY HAND WEEDING.

## PLANTING LEGEND

Zone	Botanical Name	Common Name	Total Count
A	Carex tumulicola	foxtail sedge	82 (total all plants in Zone A)
	Juncus patens	California grey rush	
	Leymus triticoides	creeping wildrye	
	Calamagrostis foliosa	Mendocino reed grass	
	Achillea millefolium	yarrow	
B	Aster chilensis	California aster	109 (total all plants in Zone B)
	Epilobium canum	California fuchsia	
	Eriogonum glaucus	seaside daisy	
	Fragaria chiloensis	beach strawberry	
	Iris douglasiana	Douglas iris	
	Salvia spathulata	hummingbird sage	
	Vegetated Swale	planted with No-mow Fine Fescue Blend sod (or similar).	

1. Final plant selection, locations and placement shall be verified in field by Ecological Concerns Incorporated prior to installation.
2. Plant spacing at 1 foot On-Center
3. All plants 1 gallon container size



RAIN GARDEN  
1/2"=1'-0"

SWALE  
1/8"=1'-0"