

**James V. Fitzgerald ASBS Pollution Reduction Program
Upland BMPs: LID Projects
Approved by Selection Committee June 9, 2014**

LID Site #3 – Cooperator ID #: 202.0829.01

Site Information:

Property is in Montara and drains to Montara Creek. Residence is on less than 1 acre and structures include a house and small, uncovered chicken coop. There are large amounts of impervious surface on the property and runoff discharges to a nearby drainage ditch. Water from an uphill neighbor also runs off onto this property.

Integrated Project BMPs:

- Add clear roof (50 square feet) to chicken coop to keep feces separated from stormwater
- Remove concrete patio and replace with earthen swale (350 square foot area) and brick pavers (230 square feet) to increase infiltration
- Remove concrete driveway, asphalt paving and a tree stump. Replace with permeable asphalt (480 square feet) and traditional asphalt (380) square feet and a vegetated slope to narrow the driveway, increase infiltration and keep runoff on the property
- Install a battery of three 205 gallon storage tanks to capture roof runoff (1,570 square feet) and direct overflow to existing French drain which will be routed to a rain garden
- Construct a 12x22 foot rain garden to capture and filter runoff from existing and proposed drains and water from roof

Treatment Description:

Roof runoff is directed through the existing gutters to a downspout that attaches to a set of rainwater storage tanks. Overflow from these tanks is outlet into an existing perforated pipe drain which will be redirected to a rain garden. The concrete patio in the backyard is replaced with pervious pavers and earth to reduce runoff. A new perforated pipe drain collects water from this area and the north side yard and directs it to the rain garden. The rain garden provides infiltration as primary treatment and will overflow into a drainage pipe that outlets to the public road. The existing driveway and asphalt paving in the right of way is removed and replaced with a traditional asphalt driveway in the right of way and a permeable asphalt driveway on the property. The permeable asphalt provides infiltration as primary treatment and will overflow into an underdrain that outlets to the public road.

Stormwater Capture/Treatment:
Rain Garden/Tank System: 71%
Permeable Asphalt: 82%

PROJECT 202.0829.01

WATER QUALITY IMPROVEMENT PLAN

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH FINAL DESIGN DRAWINGS AND ATTACHED SPECIFICATIONS: 02 40 10 DEMOLITION, 03 30 20 PERVIOUS CONCRETE, 04 00 10 BRICK PAVER, 07 65 00 GUTTERS AND DOWNSPOUTS, 31 00 10 FINE GRADING, 32 30 20 GRAVEL EROSION PROTECTION, 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
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6. CONSTRUCTION DETAILS

VICINITY MAP

NOT TO SCALE

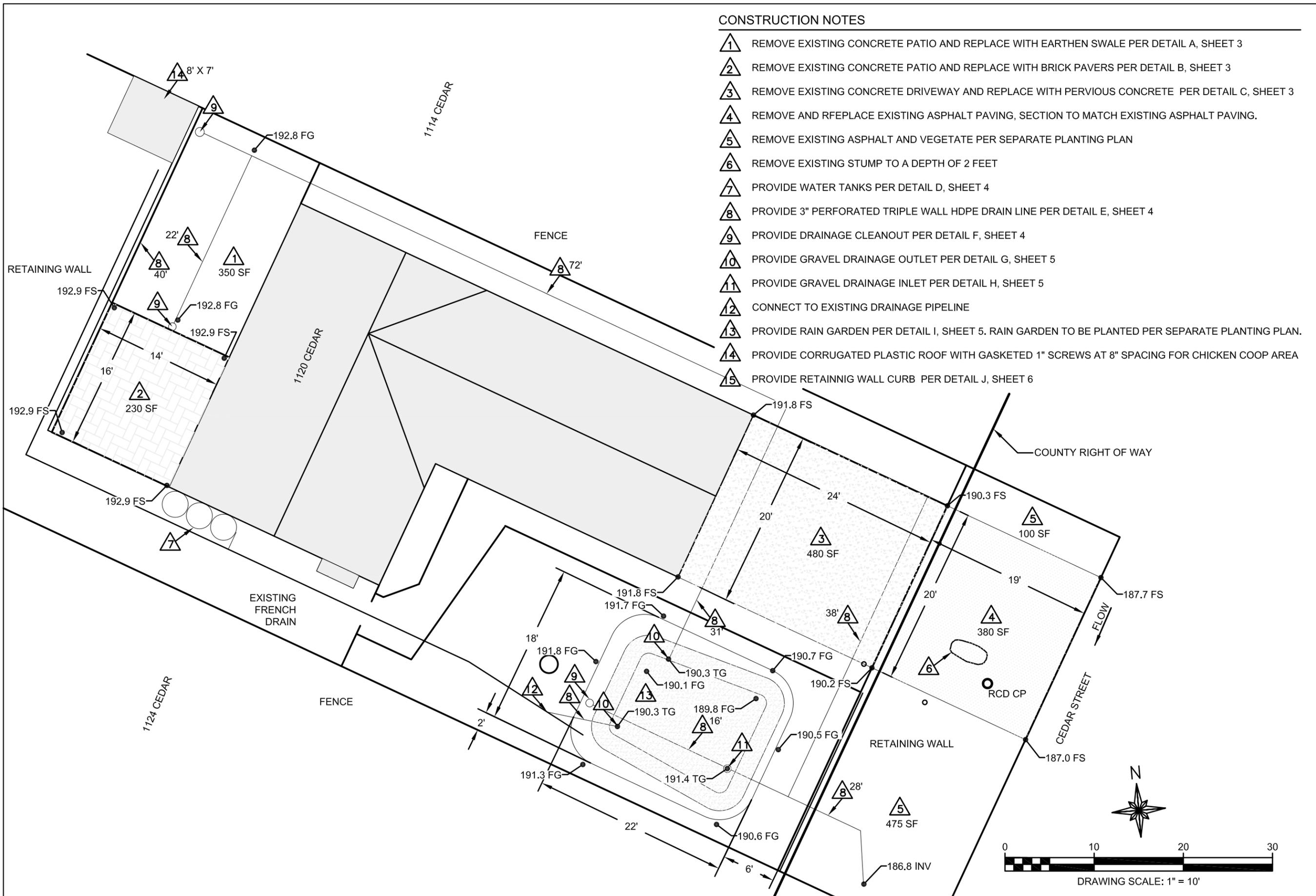


DRAWN BY: **AS-BUILT**
 DESIGNED BY:
 APPROVED BY:

PROJECT 202.0829.01
 TITLE SHEET & GENERAL NOTES

PLAN DATE
2/26/16

SHEET
01 OF 06



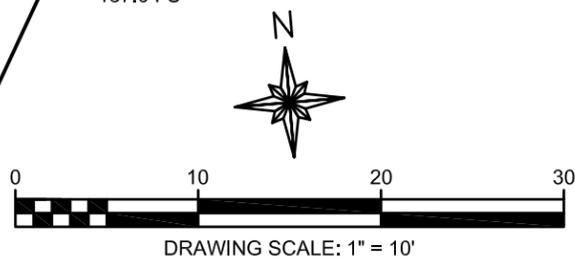
CONSTRUCTION NOTES

- 1 REMOVE EXISTING CONCRETE PATIO AND REPLACE WITH EARTHEN SWALE PER DETAIL A, SHEET 3
- 2 REMOVE EXISTING CONCRETE PATIO AND REPLACE WITH BRICK PAVERS PER DETAIL B, SHEET 3
- 3 REMOVE EXISTING CONCRETE DRIVEWAY AND REPLACE WITH PERVIOUS CONCRETE PER DETAIL C, SHEET 3
- 4 REMOVE AND RFEPLACE EXISTING ASPHALT PAVING, SECTION TO MATCH EXISTING ASPHALT PAVING.
- 5 REMOVE EXISTING ASPHALT AND VEGETATE PER SEPARATE PLANTING PLAN
- 6 REMOVE EXISTING STUMP TO A DEPTH OF 2 FEET
- 7 PROVIDE WATER TANKS PER DETAIL D, SHEET 4
- 8 PROVIDE 3" PERFORATED TRIPLE WALL HDPE DRAIN LINE PER DETAIL E, SHEET 4
- 9 PROVIDE DRAINAGE CLEANOUT PER DETAIL F, SHEET 4
- 10 PROVIDE GRAVEL DRAINAGE OUTLET PER DETAIL G, SHEET 5
- 11 PROVIDE GRAVEL DRAINAGE INLET PER DETAIL H, SHEET 5
- 12 CONNECT TO EXISTING DRAINAGE PIPELINE
- 13 PROVIDE RAIN GARDEN PER DETAIL I, SHEET 5. RAIN GARDEN TO BE PLANTED PER SEPARATE PLANTING PLAN.
- 14 PROVIDE CORRUGATED PLASTIC ROOF WITH GASKETED 1" SCREWS AT 8" SPACING FOR CHICKEN COOP AREA
- 15 PROVIDE RETAINNIG WALL CURB PER DETAIL J, SHEET 6

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PROJECT 202.0829.01
 LAYOUT PLAN

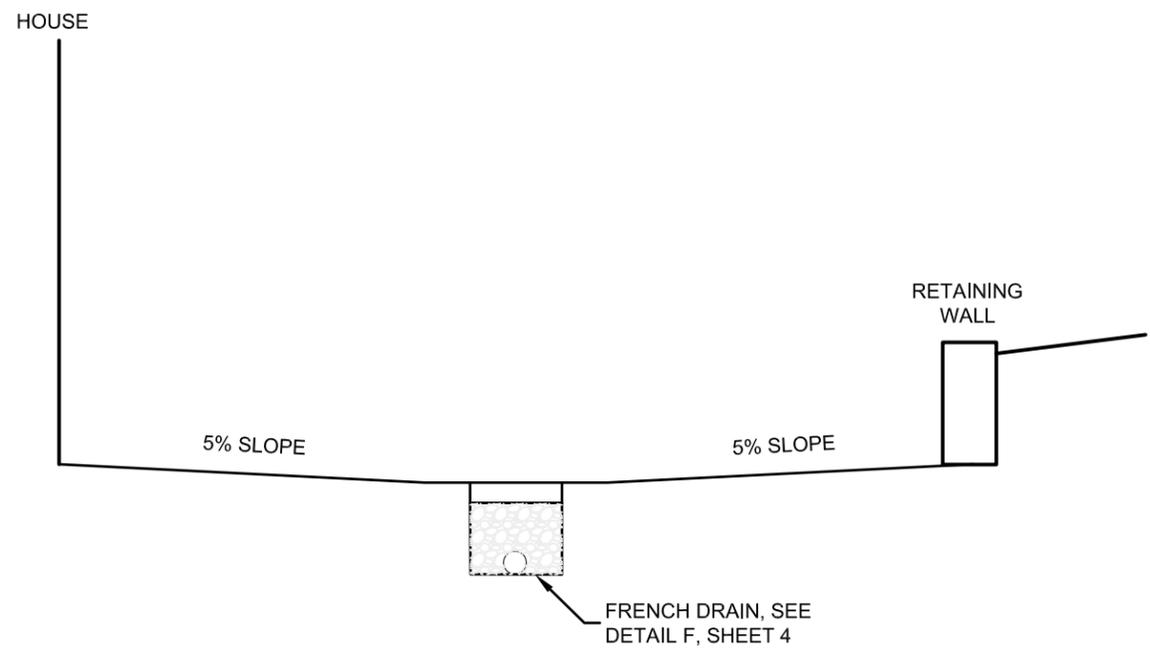
PLAN DATE
 2/26/16
 SHEET
 02 OF 06



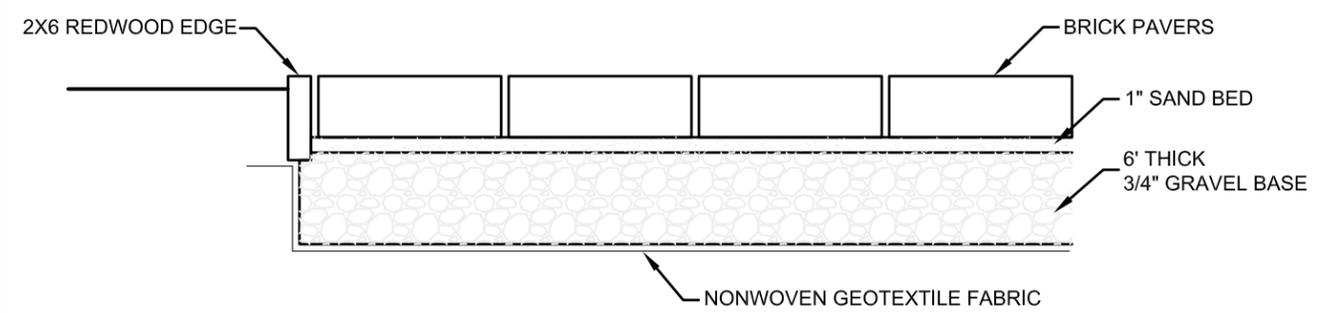
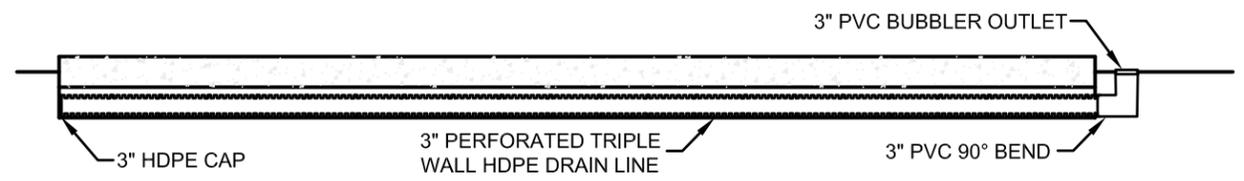
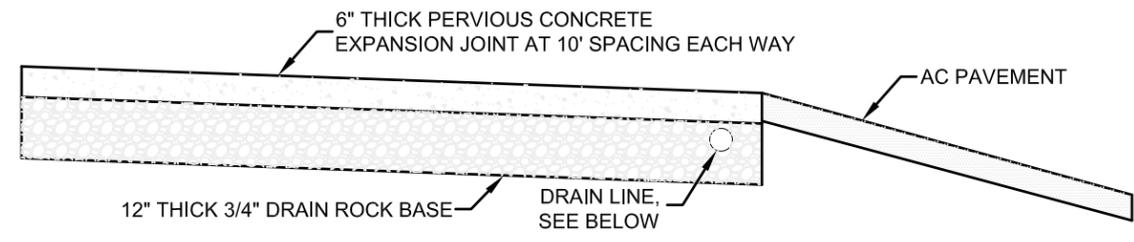
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PROJECT 202.0829.01
 CONSTRUCTION DETAILS

PLAN DATE
 2/26/16
 SHEET
 03 OF 06



SCALE	EARTHEN SWALE TYPICAL SECTION	DETAIL A
1" = 3'		SHEET 2



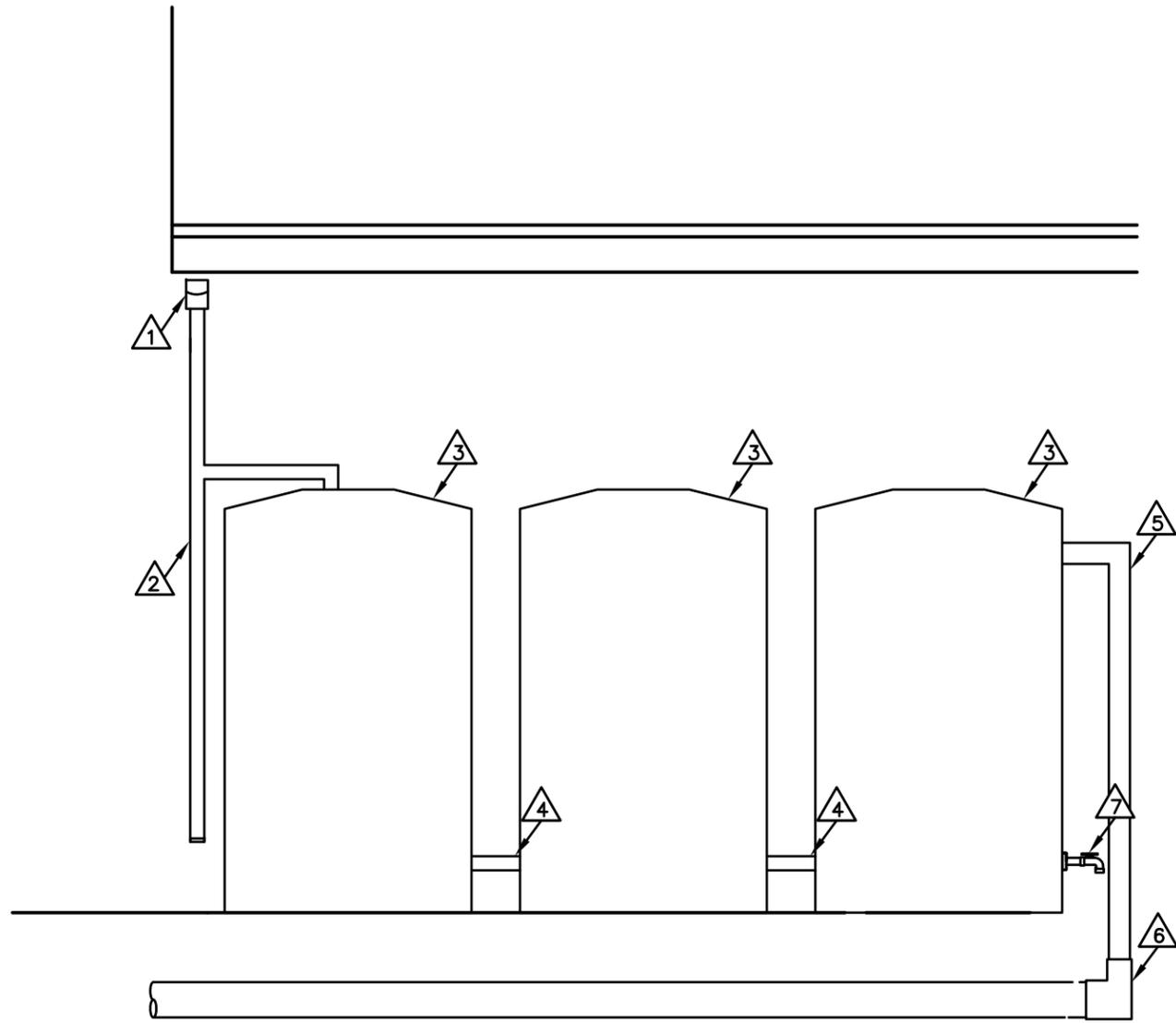
SCALE	PAVER PATIO TYPICAL SECTION	DETAIL B
1" = 1'		SHEET 2

SCALE	CONCRETE DRIVEWAY TYPICAL SECTION	DETAIL C
1" = 3'		SHEET 2

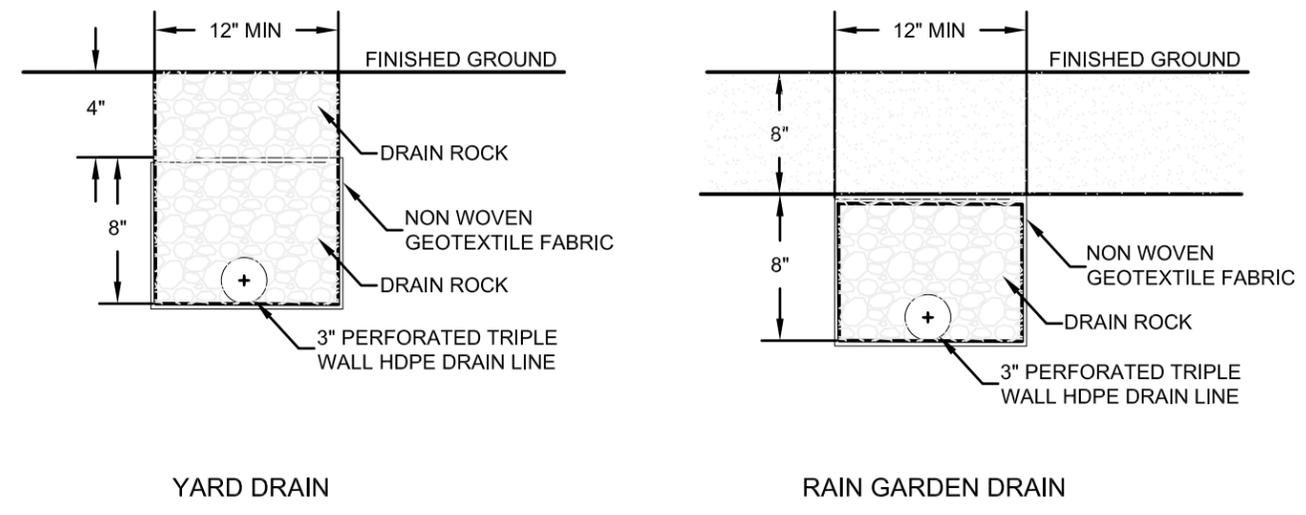
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PROJECT 202.0829.01
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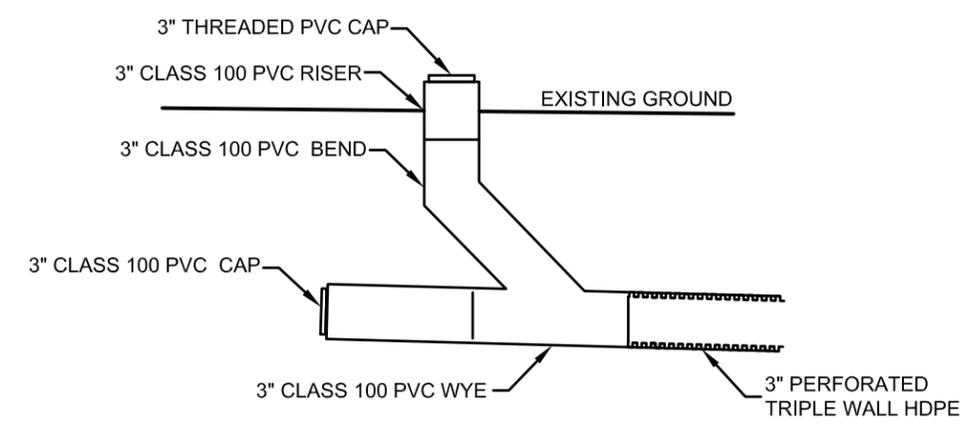
PLAN DATE
 2/26/16
 SHEET
 04 OF 06



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



SCALE	PERFORATED DRAIN LINE TYPICAL TRENCH SECTION	DETAIL E
1" = 1'		SHEET 2



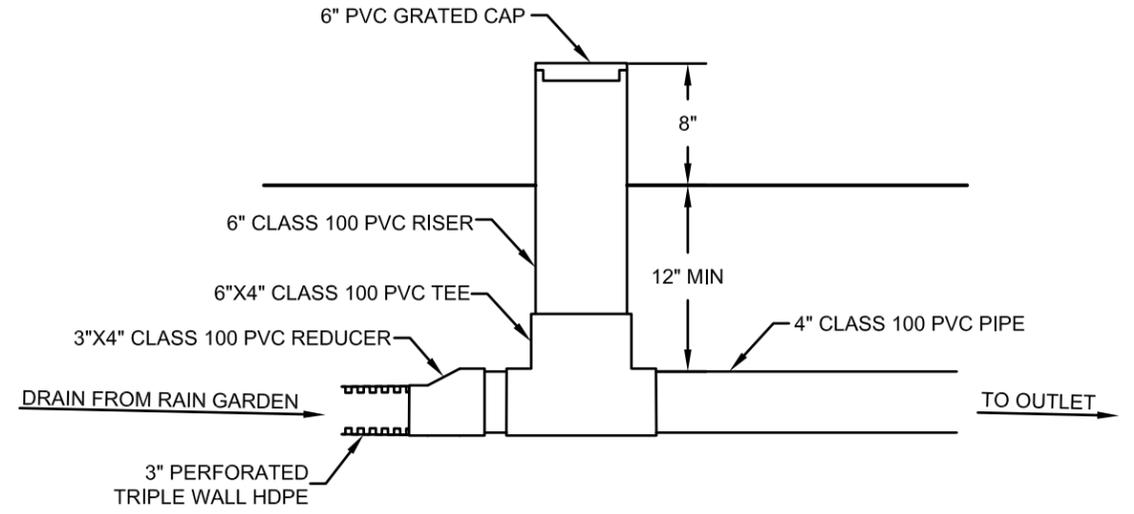
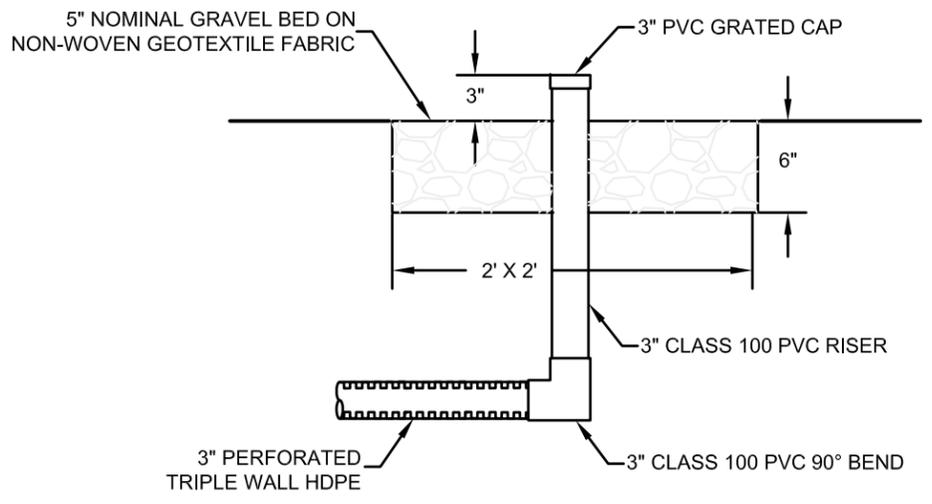
SCALE	PERFORATED DRAIN LINE CLEANOUT DETAIL	DETAIL F
1" = 1'		SHEET 2

SCALE	WATER STORAGE TANK DETAIL	DETAIL D
1"=2'		SHEET 2

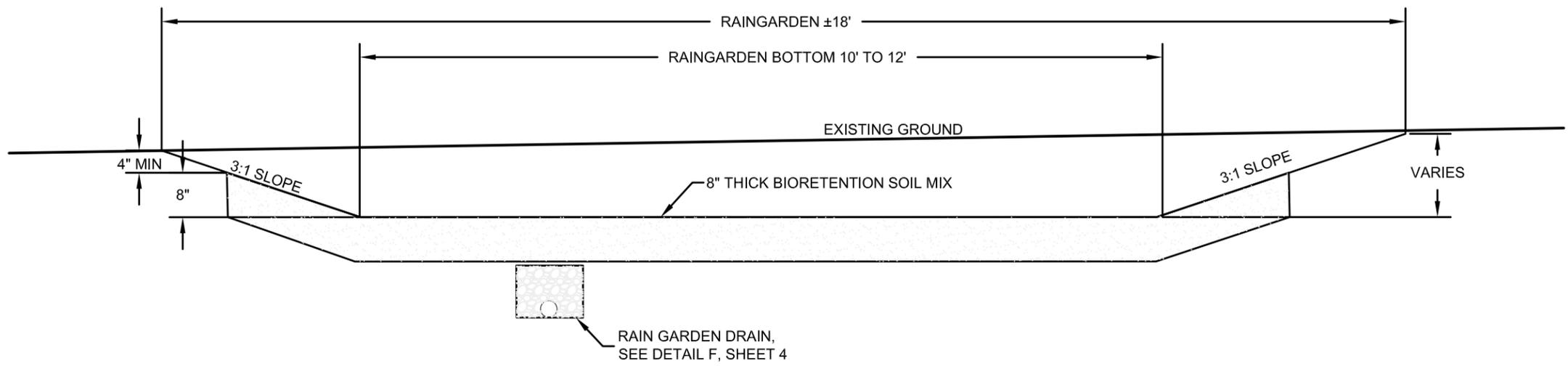
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 CONSTRUCTION DETAILS

PLAN DATE
 2/26/16
 SHEET
 05 OF 06



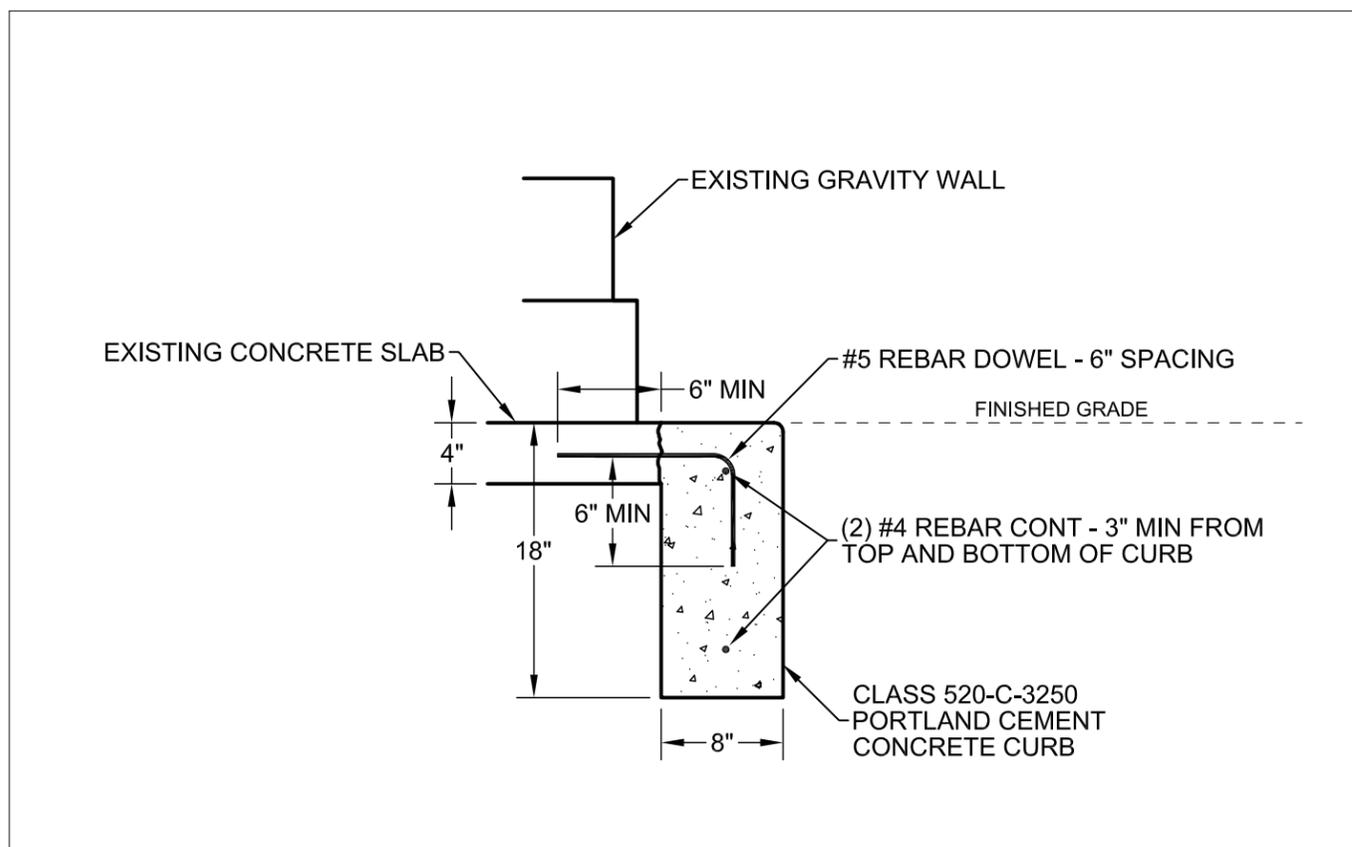
SCALE 1" = 1'	GRAVEL DRAINAGE OUTLET DETAIL	DETAIL G SHEET 2	SCALE 1" = 1'	DRAIN INLET DETAIL	DETAIL H SHEET 2
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SCALE 1" = 2'	TYPICAL RAIN GARDEN SECTION	DETAIL I SHEET 2
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DRAWN BY: _____
 DESIGNED BY: _____
 APPROVED BY: _____

PROJECT 202.0829.01
 CONSTRUCTION DETAILS



PLAN DATE
 2/26/16

SCALE	RETAINING WALL FOOTING CURB DETAIL	DETAIL J	SHEET 04 OF 06
NTS		SHEET 2	

