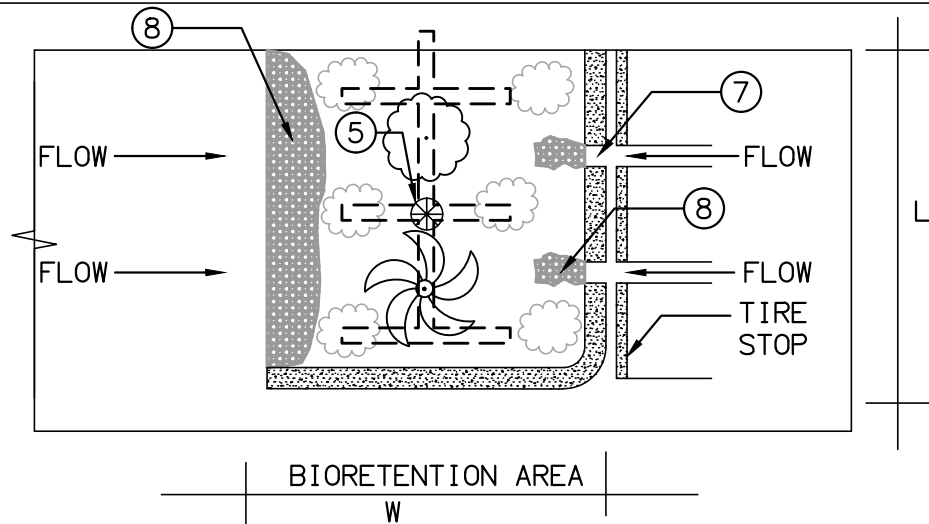
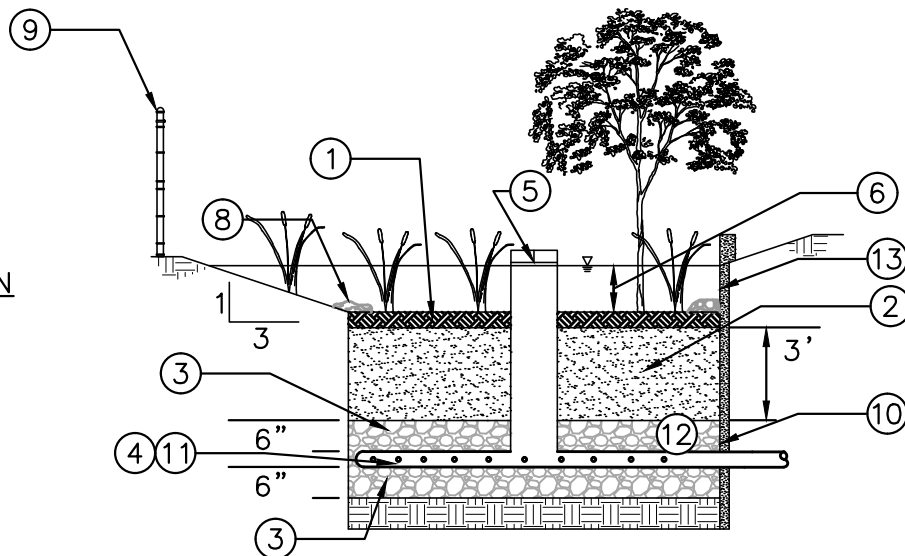


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TYPICAL SECTION
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GENERAL NOTES:

- ① 3" LAYER OF NON-FLOATABLE WELL-AGED COMPOST OR FINE BARK (1-2" ADDED ANNUALLY OR AS NEEDED).
- ② 2'-3' ENGINEERED SOIL (ES) DEPTH (3' DEPTH IS PREFERRED). SEE ES SPECIFICATIONS ON SHEET 2.
- ③ UNDERDRAIN SHALL BE SURROUNDED BY 6" OF WASHED AGGREGATE.
- ④ 6" PVC WITH A 0.5% MINIMUM SLOPE. SEE ALSO NOTE 11 AND 12.
- ⑤ OVERFLOW RISER SHALL BE SIZED TO CONVEY LARGE STORM EVENTS PER OC HYDROLOGY MANUAL (1' MINIMUM FREEBOARD).
- ⑥ PONDING DEPTH SHALL NOT EXCEED 18".
- ⑦ 12" WIDE MINIMUM CURB OPENING.
- ⑧ ENERGY DISSIPATOR SHALL BE SIZED BY ENGINEER.
- ⑨ FENCE PERIMETER IF PONDING EXCEEDS 12" TO PREVENT DROWNING.
- ⑩ A 30 MIL LINER SHALL BE INSTALLED IF BMP IS CLOSE TO ROADS OR FOUNDATIONS. IF GROUNDWATER IS CONTAMINATED, A LINER MUST BE INSTALLED ALONG THE BASE OF THE BMP.
- ⑪ HOLE DIAMETER SHALL BE 0.5" WITH TWO HORIZONTAL ROWS AND 6" SPACING.
- ⑫ THE FOLLOWING AGGREGATE SHALL BE USED TO PROVIDE A GRAVEL BLANKET AND BEDDING FOR THE UNDERDRAIN PIPE.

SIEVE SIZE	PERCENT PASSING
3/4 INCH	100
1/4 INCH	30-60
US NO. 8	20-50
US NO. 50	3-12
US NO. 200	0-1
- ⑬ STRUCTURAL WALL AS NEEDED PER CERTIFIED STRUCTURAL ENGINEER OR GEOTECHNICAL ENGINEER.



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GENERAL CONSTRUCTION NOTES:

1. SCARIFY SUBGRADE BEFORE INSTALLING BIORETENTION AREA AGGREGATE AND ES.
2. FACILITY EXCAVATION TO ALLOW FOR SPECIFIED SOIL AND MULCH DEPTHS TO ACHIEVE FINISHED ELEVATIONS ON CIVIL PLANS.
3. COMPACT EACH 6" LIFT OF ES WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, ALLOW TO DRY OVERNIGHT BEFORE PLANTING.
4. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
5. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.
6. UNDERDRAIN DISCHARGE ELEVATION SHALL BE NEAR TOP OF AGGREGATE LAYER. UNDERDRAIN SLOPE MAY BE FLAT.

ENGINEERED SOIL NOTES:

PLANTING/STORAGE MEDIA SHALL CONSIST OF 60–80% FINE SAND AND 20–40% COMPOST.

COMPOST NOTES:

COMPOST SHOULD BE A WELL DECOMPOSED, STABLE, WEED FREE ORGANIC MATTER SOURCE DERIVED FROM WASTE MATERIALS INCLUDING YARD DEBRIS, WOOD WASTES, OR OTHER ORGANIC MATERIALS NOT INCLUDING MANURE OR BIOSOLIDS MEETING STANDARDS DEVELOPED BY THE US COMPOSTING COUNCIL (USCC). THE PRODUCT SHALL BE CERTIFIED THROUGH THE USCC SEAL OF TESTING ASSURANCE (STA) PROGRAM (A COMPOST TESTING AND INFORMATION DISCLOSURE PROGRAM). COMPOST QUALITY SHOULD BE VERIFIED VIA A LAB ANALYSIS TO BE:

- FEEDSTOCK MATERIALS SHALL BE SPECIFIED AND INCLUDE ONE OR MORE OF THE FOLLOWING: LANDSCAPE/YARD TRIMMINGS, GRASS CLIPPINGS, FOOD SCRAPS, AND AGRICULTURAL CROP RESIDUES.
- ORGANIC MATTER: 35–75% DRY WEIGHT BASIS.
- CARBON AND NITROGEN RATIO: $15:1 < C:N < 25:1$
- MATURITY/STABILITY: SHALL HAVE DARK BROWN COLOR AND A SOIL-LIKE ODOR. COMPOST EXHIBITING A SOUR OR PUTRID SMELL, CONTAINING RECOGNIZABLE GRASS OR LEAVES, OR IS HOT (120 F) UPON DELIVERY OR REWETTING IS NOT ACCEPTABLE.
- TOXICITY: ANY ONE OF THE FOLLOWING MEASURES IS SUFFICIENT TO INDICATE NON-TOXICITY:
 - $NH_4:NH_3 < 3$
 - AMMONIUM < 500 PPM, DRY WEIGHT BASIS
 - SEED GERMINATION $> 80\%$ OF CONTROL
 - PLANT TRIALS $> 80\%$ OF CONTROL
- SOLVITA® > 5 INDEX VALUE
- NUTRIENT CONTENT:
 - TOTAL NITROGEN CONTENT 0.9% OR ABOVE PREFERRED
 - TOTAL BORON SHOULD BE < 2.5 PPM
- SALINITY: < 6.0 MMHOS/CM
- PH BETWEEN 6.5 AND 8 (MAY VARY WITH PLANT PALETTE)
- COMPOST FOR BIORETENTION SHOULD BE ANALYZED BY AN ACCREDITED LAB USING #200, ¼ INCH, ½ INCH, AND 1 INCH SIEVES (ASTM D 422 OR AS APPROVED BY THE LOCAL PERMITTING AUTHORITY) AND MEET THE FOLLOWING GRADATION:

SIEVE SIZE (ASTM D422)	% PASSING BY WEIGHT	
	MINIMUM	MAXIMUM
1 INCH	99	100
1/2 INCH	90	100
1/4 INCH	40	90
#200	2	10

- TESTS SHOULD BE SUFFICIENTLY RECENT TO REPRESENT THE ACTUAL MATERIAL THAT IS ANTICIPATED TO BE DELIVERED TO THE SITE. IF PROCESSES OR SOURCES USED BY THE SUPPLIER HAVE CHANGED SIGNIFICANTLY SINCE THE MOST RECENT TESTING, NEW TESTS SHOULD BE REQUESTED.
- THE GRADATION OF COMPOST USED IN ES IS PLAYS AN IMPORTANT ROLE IN THE SATURATED HYDRAULIC CONDUCTIVITY OF THE MEDIA. TO ACHIEVE A HIGHER SATURATED HYDRAULIC CONDUCTIVITY, IT MAY BE NECESSARY TO UTILIZE COMPOST AT THE COARSER END OF THIS RANGE ("MINIMUM" COLUMN). THE PERCENT PASSING THE #200 SIEVE (FINES) IS BELIEVED TO BE THE MOST IMPORTANT FACTOR IN HYDRAULIC CONDUCTIVITY. IN ADDITION, A COARSER COMPOST MIX PROVIDES MORE HETEROGENEITY OF THE BIORETENTION MEDIA, WHICH IS BELIEVED TO BE ADVANTAGEOUS FOR MORE RAPID DEVELOPMENT OF SOIL STRUCTURE NEEDED TO SUPPORT HEALTH BIOLOGICAL PROCESSES. THIS MAY BE AN ADVANTAGE FOR PLANT ESTABLISHMENT WITH LOWER NUTRIENT AND WATER INPUT.



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SAND NOTES:

- SAND SHOULD BE FREE OF WOOD, WASTE, COATING SUCH AS CLAY, STONE DUST, CARBONATE, ETC., OR ANY OTHER DELETERIOUS MATERIAL. ALL AGGREGATE PASSING THE NO. 200 SIEVE SIZE SHOULD BE NON-PLASTIC. SAND FOR BIORETENTION SHOULD BE ANALYZED BY AN ACCREDITED LAB USING #200, #100, #40, #30, #16, #8, #4, AND 3/8 SIEVES (ASTM D 422 OR AS APPROVED BY THE LOCAL PERMITTING AUTHORITY) AND MEET THE FOLLOWING GRADATION:

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#16	40	95
#30	15	70
#40	5	55
#100	0	15
#200	0	5

- ALL SANDS COMPLYING WITH ASTM C33 FOR FINE AGGREGATE SHALL COMPLY WITH THESE GRADATION REQUIREMENTS.
- THE GRADATION OF THE SAND COMPONENT OF THE MEDIA IS A MAJOR FACTOR IN THE HYDRAULIC CONDUCTIVITY OF THE MEDIA MIX. IF THE DESIRED HYDRAULIC CONDUCTIVITY OF THE MEDIA CANNOT BE ACHIEVED WITHIN THE SPECIFIED PROPORTIONS OF SAND AND COMPOST (#2), THEN IT MAY BE NECESSARY TO UTILIZE SAND AT THE COARSER END OF THE RANGE SPECIFIED IN THE TABLE ABOVE ("MINIMUM" COLUMN).

ADDITIONAL ENGINEERED SOIL NOTES:

- NUTRIENT CONTENT AND ORGANIC CONTENT OF THE SELECTED COMPOST SOURCE SHOULD BE CONSIDERED WHEN SPECIFYING THE PROPORTIONS OF COMPOST AND SAND. THE COMPOST SPECIFICATION ALLOWS A RANGE OF ORGANIC CONTENT OVER APPROXIMATELY A FACTOR OF 2 AND NUTRIENT CONTENT MAY VARY MORE WIDELY. THEREFORE DETERMINING THE ACTUAL ORGANIC CONTENT AND NUTRIENT CONTENT OF THE COMPOST EXPECTED TO BE SUPPLIED IS IMPORTANT IN DETERMINING THE PROPORTION TO BE USED FOR AMENDMENT.
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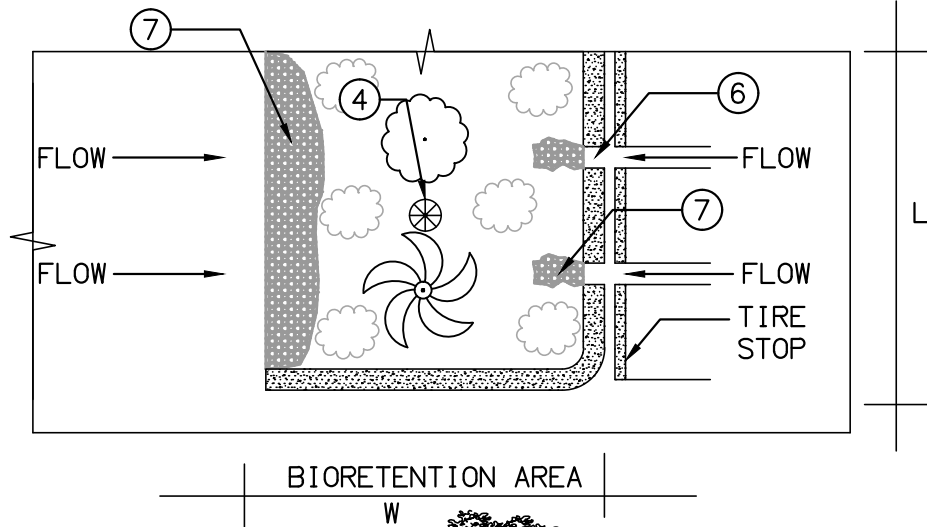
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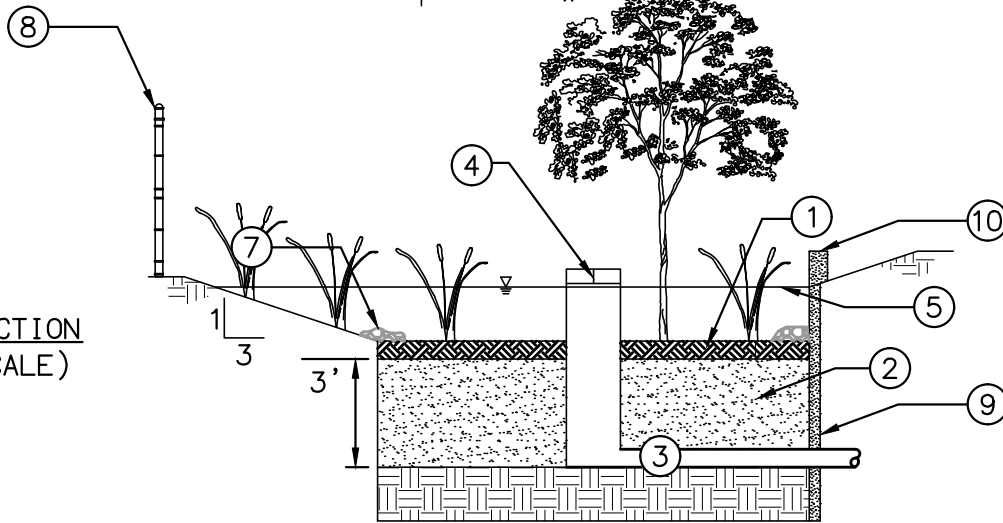
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PLAN
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TYPICAL SECTION
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GENERAL NOTES:

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- ③ 6" PVC WITH A 0.5% MINIMUM SLOPE.
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- ⑦ ENERGY DISSIPATER SHALL BE SIZED BY ENGINEER.
- ⑧ FENCE BOTH SIDES AS NECESSARY IF PONDING EXCEEDS 6" TO PREVENT DROWNING.
- ⑨ A 30 MIL LINER SHALL BE INSTALLED IF BMP IS CLOSE TO ROADS OR FOUNDATIONS. IF INFILTRATION IS INFEASIBLE, A LINER MUST BE INSTALLED AT THE BASE OF THE BMP.
- ⑩ STRUCTURAL WALL DETERMINED BY A CERTIFIED STRUCTURAL ENGINEER OR GEOTECHNICAL ENGINEER.



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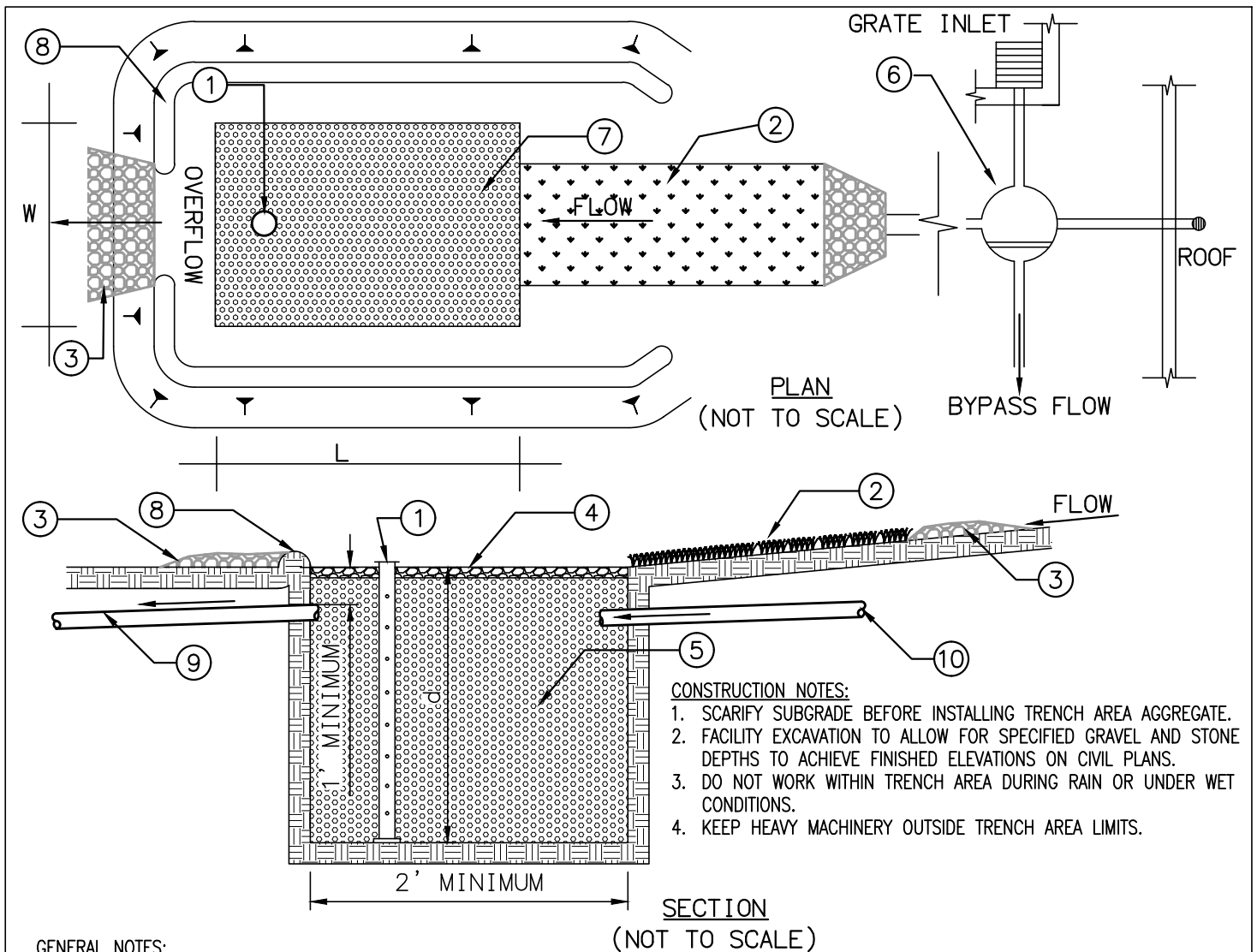
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GENERAL NOTES:

- ① PERFORATED PVC 4"-6" OBSERVATION WELL WITH LOCKABLE ABOVE-GROUND CAP. MINIMUM OF TWO WELLS IF LENGTH IS GREATER THAN 40'.
- ② VEGETATED PRETREATMENT UPSTREAM OF THE INFILTRATION TRENCH OR ALTERNATE (PRETREATMENT IS REQUIRED).
- ③ ENERGY DISSIPATORS AT THE INLET AND OUTLET SHALL BE SIZED BY ENGINEER.
- ④ PEA GRAVEL FILTER LAYER SHALL BE 2" MINIMUM.
- ⑤ 2"-6" DIAMETER CLEAN STONE WITH 30%-40% VOIDS.
- ⑥ OPTIONAL FLOW CONTROL DEVICE FOR OFF-LINE CONFIGURATIONS.
- ⑦ LONGITUDINAL SLOPE SHOULD NOT EXCEED 3% (FLAT PREFERRED).
- ⑧ BERM OR CURB EMBANKMENT SHALL BE CONSTRUCTED OF COMPACTED SOIL PLACED IN 6" LIFTS.
- ⑨ ALTERNATE OVERFLOW (1' FREEBOARD REQUIRED WHEN ALTERNATE OVERFLOW IS USED).
- ⑩ ALTERNATE INLET (MANDATORY PRETREATMENT REQUIRED WHEN ALTERNATE INLET IS USED).

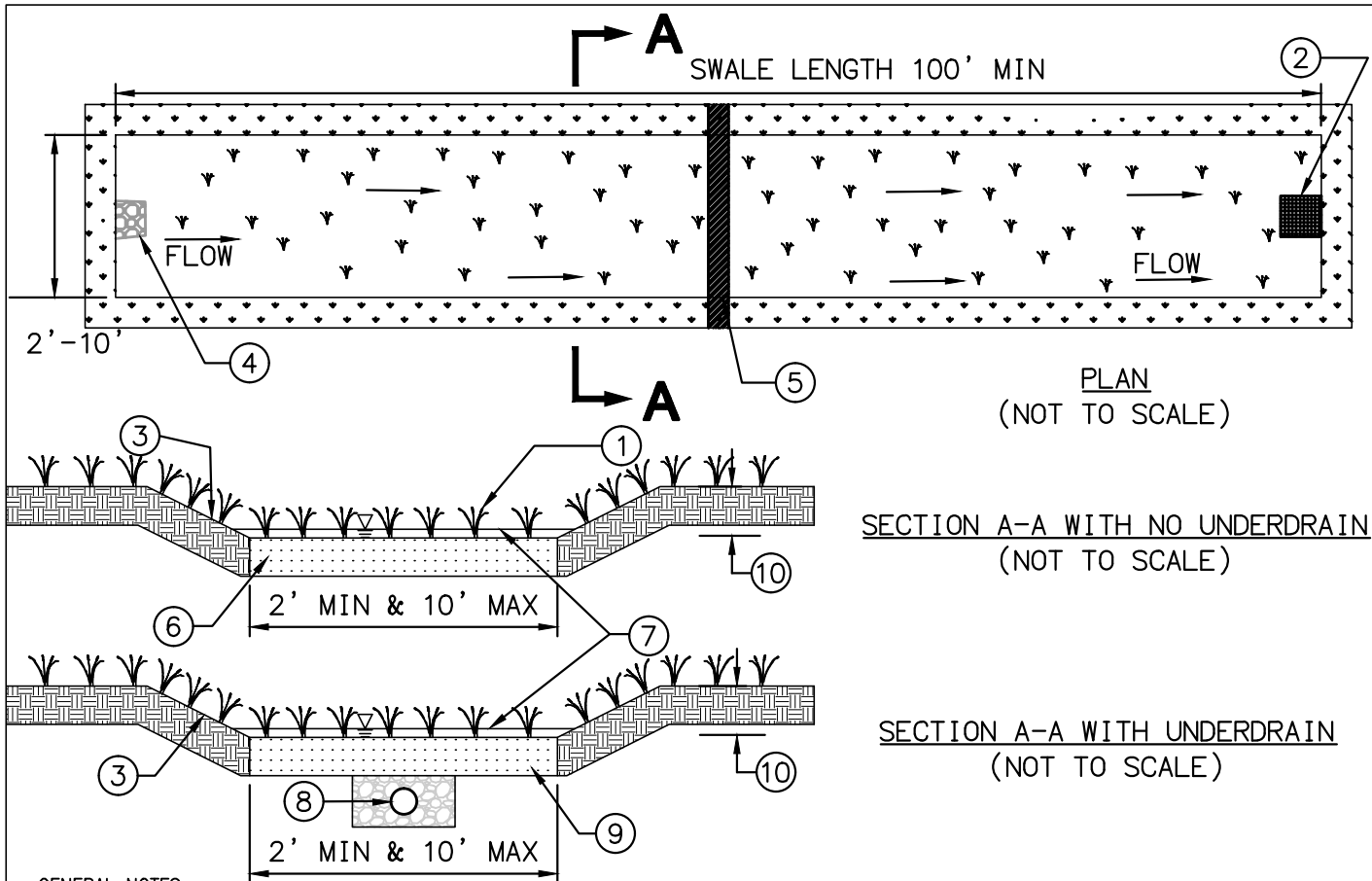


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GENERAL NOTES:

- ① MAINTAIN GRASS HEIGHT AT 4" – 8" HIGH OR 1.5 X THE DEPTH OF FLOW (IDENTIFY GRASS TYPE).
- ② OUTLET STRUCTURE – ACCOMODATE LOW FLOW CHANNEL OR UNDERDRAIN (IF PRESENT).
- ③ SIDE SLOPES SHALL BE CONSTRUCTED AT 2H:1V MAX WHEN SWALE DEPTH IS 1' OR LESS. DEEPER SWALES AT 3H:1V MAX.
- ④ INSTALL 4"– 8" ROCK FOR ENERGY DISSIPATOR AT THE INLET OF VEGETATED SWALE.
- ⑤ LONGITUDINAL SLOPE BETWEEN 1% TO 6%. IF LESS THAN 1.5% PROVIDE UNDERDRAINS (NOTE 9). IF GREATER THAN 6% PROVIDE CHECK DAMS TO REDUCE TO 6% (SEE CHECK DAM DETAIL).
- ⑥ AMENDED SOIL WITH 2" OF COMPOST TILLED INTO 6" OF NATIVE SOIL UNLESS NATIVE SOIL ORGANIC CONTENT > 10%. IF SLOPE LESS THAN 2% ADD 18" OF SAND ABOVE PIPE.
- ⑦ MAX DEPTH OF PONDING NOT TO EXCEED 4" AND 2" FOR FREQUENTLY MOWED TURF.
- ⑧ 6" PERFORATED PVC PIPE WITH 0.5" DIAMETER HOLES AND 6" SPACING. GRAVEL TO BE FILLED 6" TOP, BOTTOM AND SIDES OF THE PVC PIPE.
- ⑨ 1' MINIMUM THICKNESS OF AMENDED SOIL MEETING PLANTING/MEDIA SPECS.
- ⑩ MINIMUM FREEBOARD OF 1' IS REQUIRED.

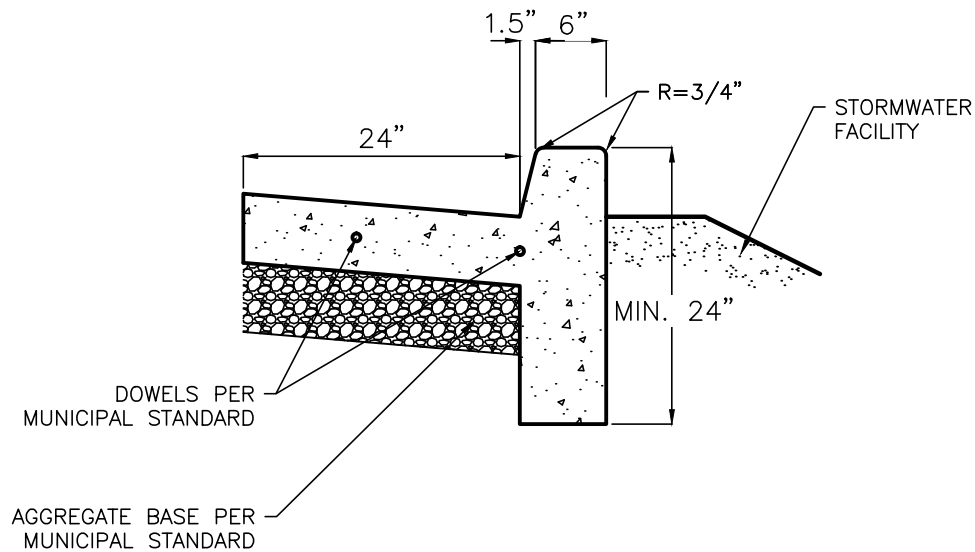


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VEGETATED
SWALE

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GENERAL DESIGN NOTES:

1. SPECIAL DESIGN CONSIDERATION OR STRUCTURAL REVIEW MAY BE REQUIRED FOR LONGER PLANTER WALL SPANS. STEEL REINFORCEMENT OR ADDITIONAL CONCRETE CHECK DAMS MAY BE NEEDED FOR STABILITY.
2. EDGE CONDITION WILL VARY FOR NEW AND RETROFIT PROJECTS. CURB, GUTTER, AND WALL DETAILS MAY BE MODIFIED BY CIVIL AND GEOTECHNICAL ENGINEERS. NOTE THAT 24" GUTTER PROVIDES GREATER CURB STABILITY, BUT MAY NOT MATCH MUNICIPAL GUTTER STANDARDS.
3. CONCRETE AND EXPANSION JOINTS SHALL MEET THE REQUIREMENTS OF THE MUNICIPALITY.

CONSTRUCTION NOTES:

1. FINISH ALL EXPOSED CONCRETE SURFACES.

CURB AND GUTTER (110)
N.T.S.

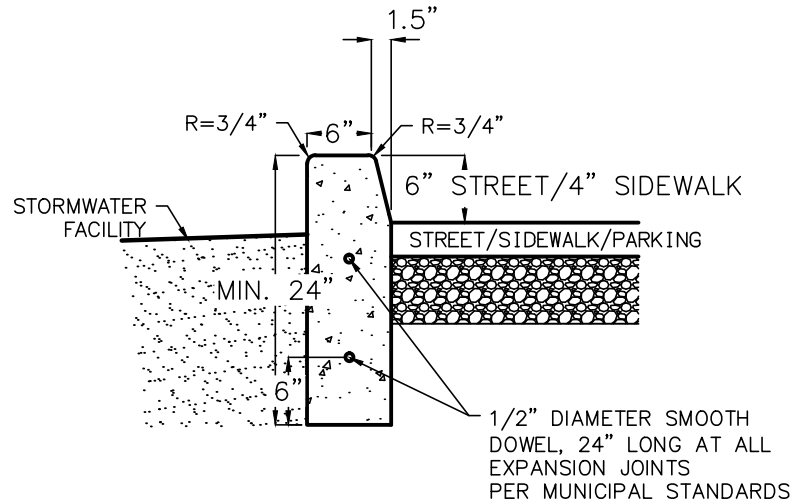


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CURB AND
GUTTER

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DESIGN NOTES

1. SPECIAL DESIGN CONSIDERATION OR STRUCTURAL REVIEW MAY BE REQUIRED FOR LONGER SWALE EDGE SPANS. STEEL REINFORCEMENT OR ADDITIONAL CONCRETE CHECK DAMS MAY BE NEEDED FOR STABILITY.
2. WHEN SIDEWALK DRAINS TO PLANTER, PROVIDE 4" – 6" WIDE NOTCH OPENINGS, 1" BELOW SIDEWALK, SLOPED TO FACILITY, PER BIORETENTION PLANTER DETAILS. SPACE OPENINGS TO CONVEY FLOWS. PROVIDE MINIMUM 2" COVER BETWEEN DRAINAGE NOTCH OPENING AND DOWELS.
3. CONCRETE AND EXPANSION JOINTS SHALL MEET THE REQUIREMENTS OF THE MUNICIPALITY.

CONSTRUCTION NOTES

1. FINISH ALL EXPOSED CONCRETE SURFACES.

DEEP CURB

N.T.S.

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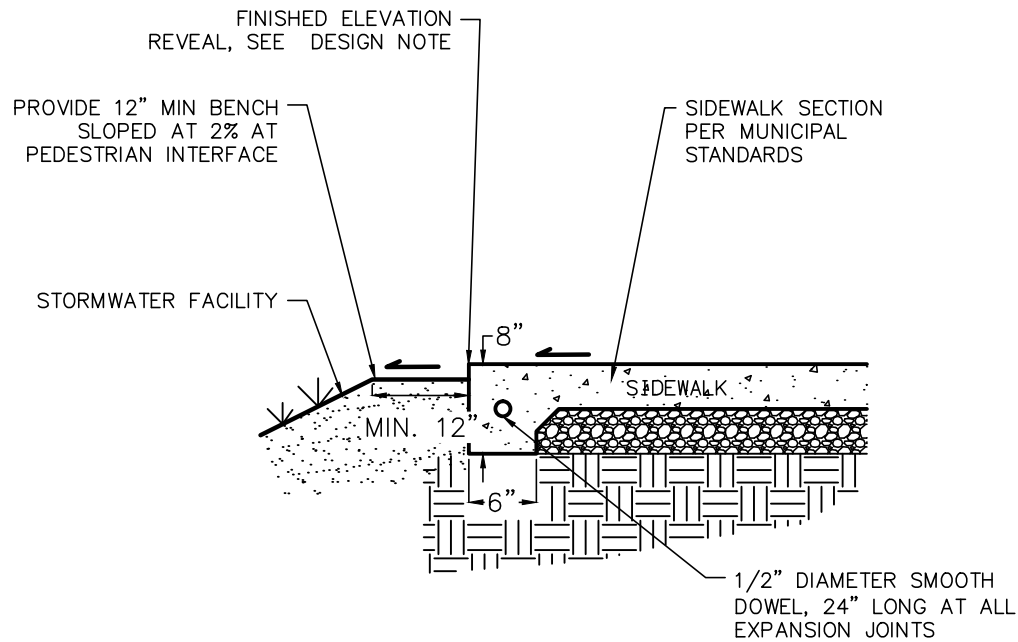


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DEEP
CURVE

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DESIGN NOTES

1. SPECIAL DESIGN CONSIDERATION OR STRUCTURAL REVIEW MAY BE REQUIRED FOR LONGER FACILITY EDGE SPANS. STEEL REINFORCEMENT OR ADDITIONAL CONCRETE CHECK DAMS MAY BE NEEDED FOR STABILITY.
3. FINISHED ELEVATION REVEAL – WHERE SIDEWALK CONVEYS SHEET FLOW TO FACILITY, A 1"–2" REVEAL SHOULD BE MAINTAINED BETWEEN SIDEWALK AND FACILITY FINISHED GRADE TO AVOID MULCH OR PLANT BUILDUP FROM BLOCKING FLOWS.
4. CONCRETE AND EXPANSION JOINTS SHALL MEET THE REQUIREMENTS OF THE MUNICIPALITY.

CONSTRUCTION NOTES

1. FINISH ALL EXPOSED CONCRETE SURFACES.

THICKENED EDGE SIDEWALK

N.T.S.

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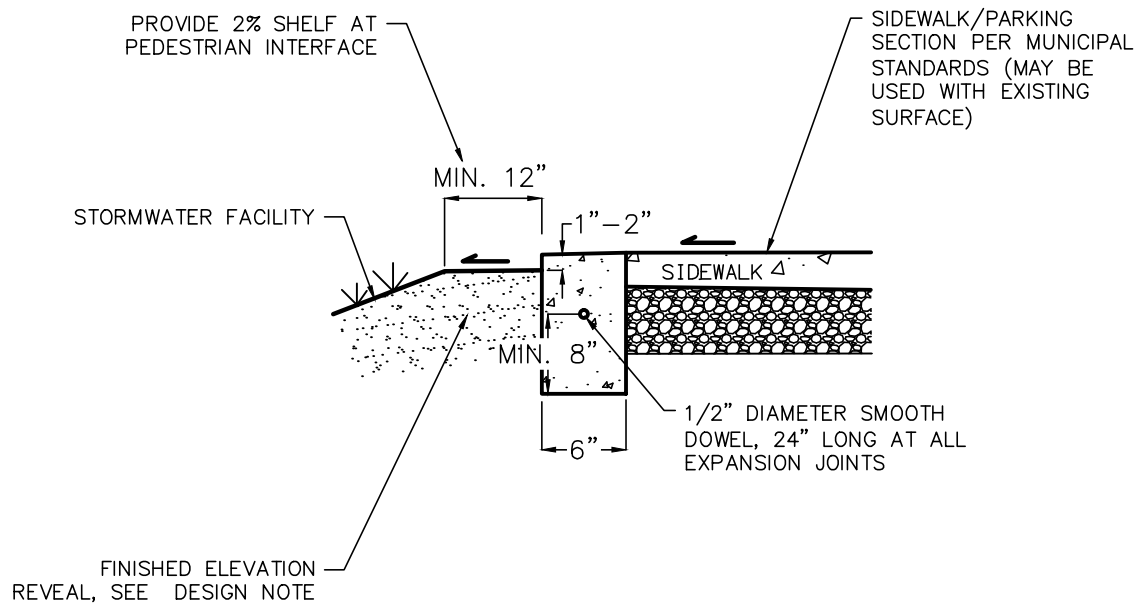
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THICKENED
EDGE
SIDEWALK

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DESIGN NOTES:

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2. EDGE CONDITION WILL VARY FOR PROJECTS. CURB DETAILS MAY BE MODIFIED BY CIVIL AND GEOTECHNICAL ENGINEERS.
3. CONCRETE AND EXPANSION JOINTS SHALL MEET THE REQUIREMENTS OF THE MUNICIPALITY.
4. FINISHED ELEVATION REVEAL AT SIDEWALK – WHERE SIDEWALK CONVEYS SHEET FLOW TO FACILITY, A 1”-2” REVEAL SHOULD BE MAINTAINED BETWEEN SIDEWALK AND FACILITY FINISHED GRADE TO AVOID MULCH OR PLANT BUILDUP FROM BLOCKING FLOWS AND REDUCE DROP AT PEDESTRIAN INTERFACE.

CONSTRUCTION NOTES:

1. FINISH ALL EXPOSED CONCRETE SURFACES.

FLUSH CURB

N.T.S.

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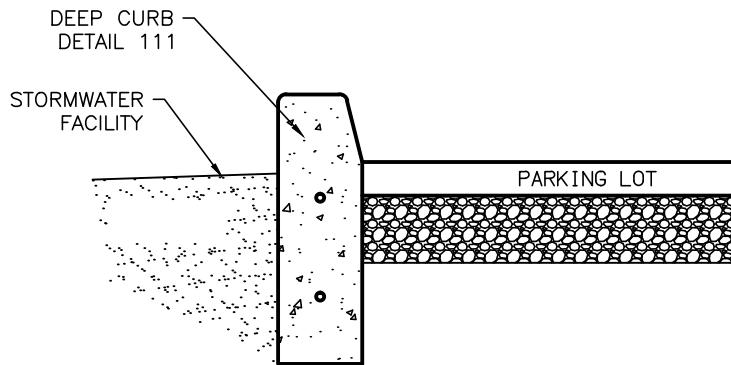


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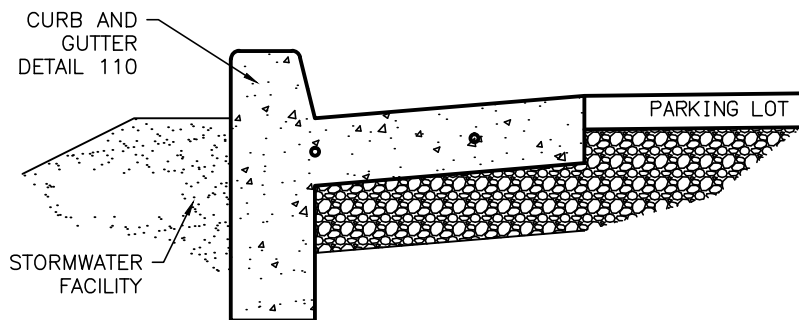
FLUSH
CURB AT
SIDEWALK

Sheet
Reference
Number

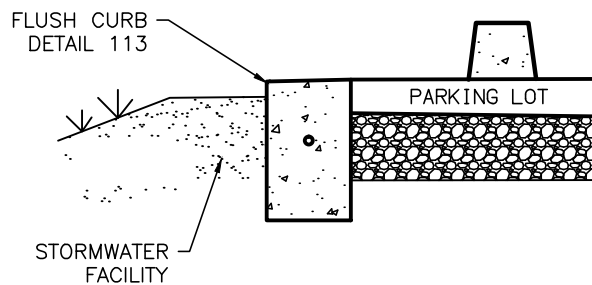
4 of 5 Sheets



DEEP CURB



CURB AND GUTTER

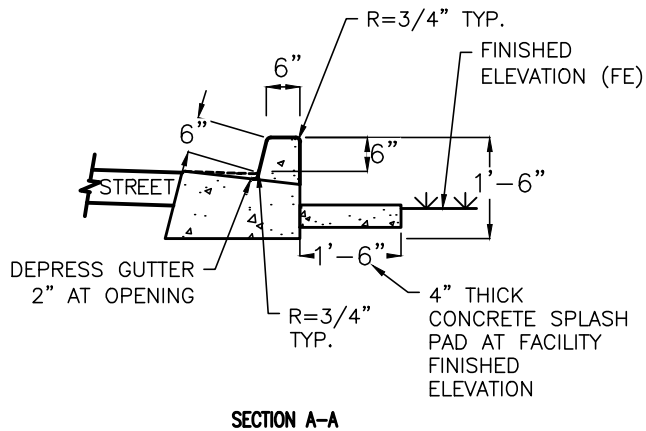
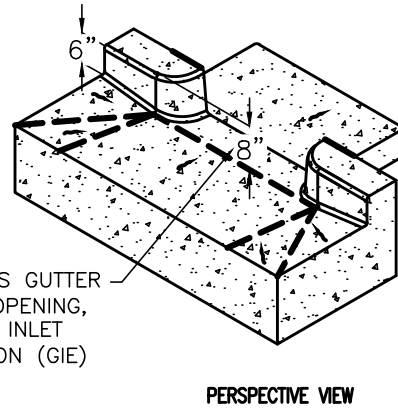
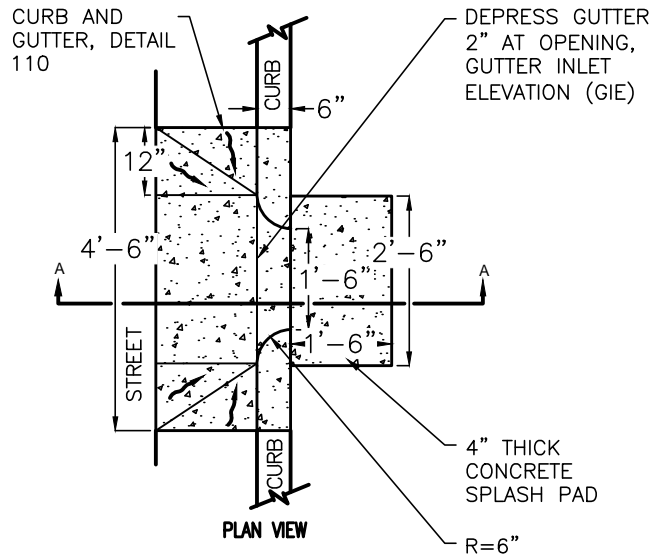


FLUSH EDGE/WHEEL STOPS

DESIGN NOTES:

1. WHEEL STOPS MAY BE USED ON NON-FLUSH DESIGNS TO KEEP CARS FROM OVERHANGING BIORETENTION FACILITY.
2. VEHICLE OVERHANG CAN BE USED TO REDUCE IMPERVIOUS PAVEMENT AREA.
3. WHERE VEHICLE OVERHANG IS UTILIZED SELECT LOW GROWING PLANTS THAT WILL TOLERATE SHADING.





DESIGN NOTES:

1. FOR USE WITH STORMWATER FACILITIES WITH FLAT BOTTOMS.
2. PROVIDE SPOT ELEVATIONS ON PLANS (FE, OE, GIE, IE). SEE DETAIL 100.
3. CURB AND WALL DETAILS MAY BE MODIFIED BY CIVIL AND GEOTECHNICAL ENGINEERS.
4. CURB HEIGHT MAY BE REDUCED TO 4-INCHES WHERE ADJACENT TO A SIDEWALK. SEE DETAILS 110 & 111.

CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION PLACE SAND BAGS AT GUTTER OPENINGS TO KEEP STORM FLOWS FROM ENTERING FACILITY UNTIL VEGETATION IS ESTABLISHED.

CURB CUT TYPE 1

N.T.S.

120

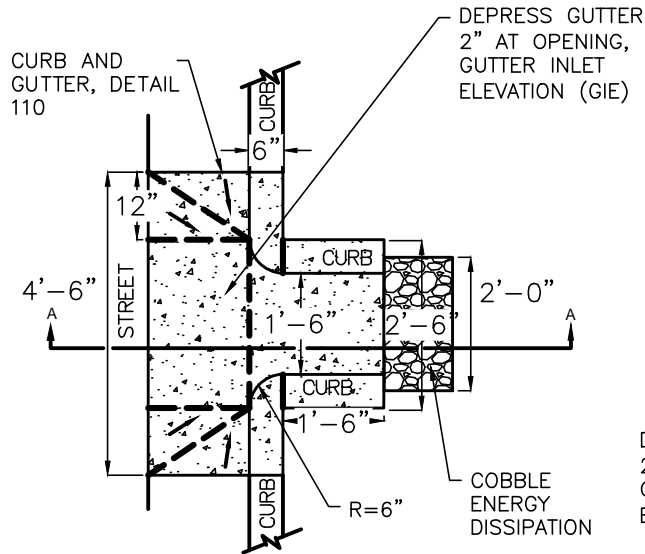


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PUBLIC WORKS
BMP DESIGN

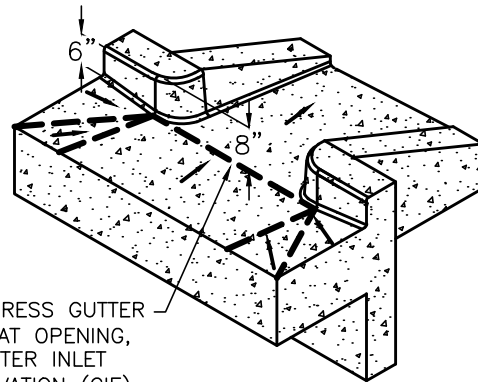
CURB CUT INLET
FOR PLANTERS

Sheet
Reference
Number

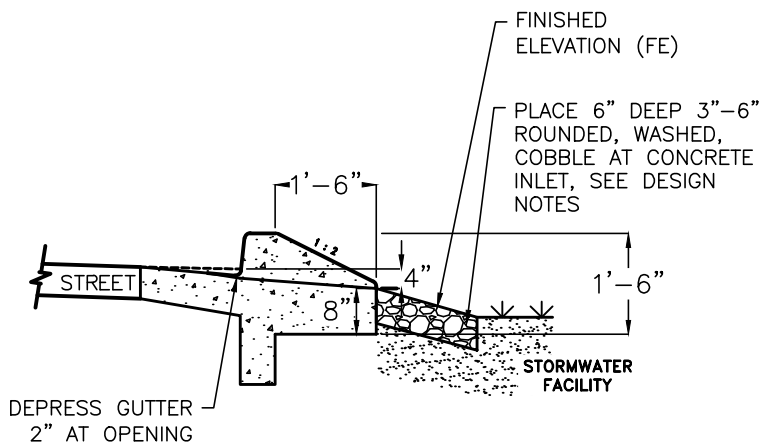
1 of 4 Sheets



PLAN VIEW



PERSPECTIVE VIEW



SECTION A-A

DESIGN NOTES:

1. FOR USE WITH STORMWATER FACILITIES WITH SIDE SLOPES.
2. PROVIDE SPOT ELEVATIONS ON PLANS (FE, OE, GIE, IE). SEE DETAIL 100.
3. CURB AND WALL DETAILS MAY BE MODIFIED BY CIVIL AND GEOTECHNICAL ENGINEERS.
4. WHERE INLET FLOW VELOCITY IS HIGH, EXTEND COBBLE INTO FACILITY, BUT AVOID EXCESSIVE USE.
5. CURB HEIGHT MAY BE REDUCED TO 4-INCHES WHERE ADJACENT TO A SIDEWALK. SEE DETAILS 110 & 111.

CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION PLACE SAND BAGS AT GUTTER OPENINGS TO KEEP STORM FLOWS FROM ENTERING FACILITY UNTIL VEGETATION IS ESTABLISHED.

CURB CUT TYPE 2

N.T.S.

121



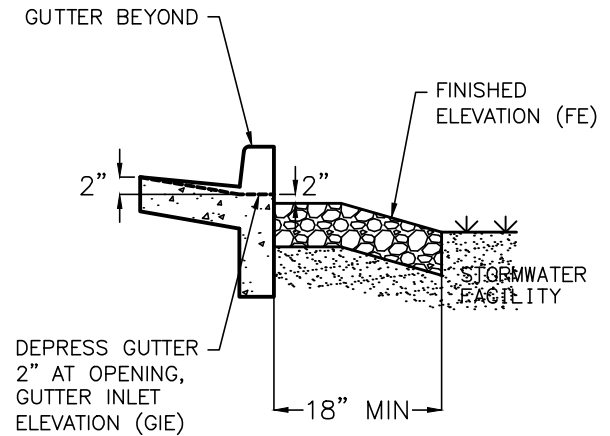
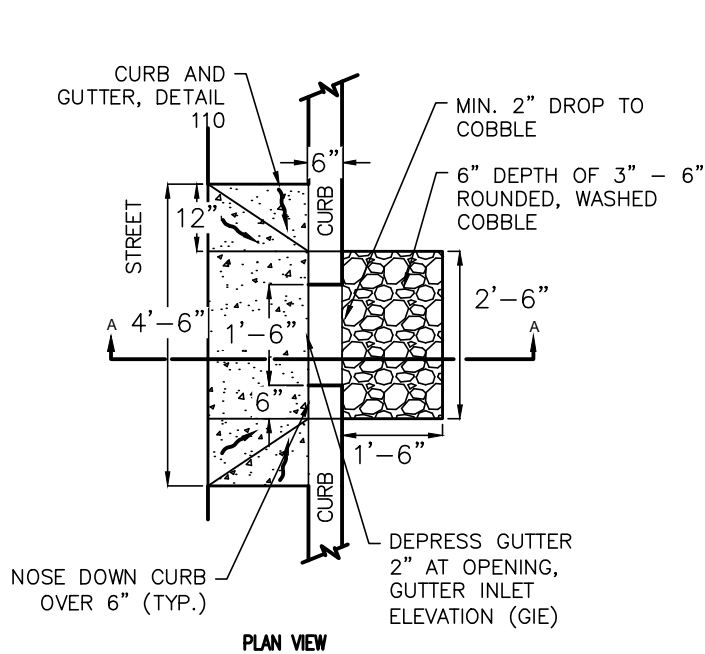
ORANGE COUNTY
PUBLIC WORKS

BMP DESIGN

CURB CUT INLET
FOR SIDE SLOPES

Sheet
Reference
Number

2 of 4 Sheets



DESIGN NOTES:

1. FOR USE WITH STORMWATER FACILITIES WITH SLOPED SIDES OR FLAT BOTTOMS.
2. PROVIDE SPOT ELEVATIONS ON PLANS (FE, OE, GIE, IE). SEE DETAILS 100, 101.
3. DROP FROM INLET TO AGGREGATE PAD WILL BE GREATER FOR PLANTERS.
3. CURB AND WALL DETAILS MAY BE MODIFIED BY CIVIL AND GEOTECHNICAL ENGINEERS.
4. WHERE INLET FLOW VELOCITY IS HIGH, EXTEND COBBLE INTO FACILITY, BUT AVOID EXCESSIVE USE.

CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION PLACE SAND BAGS AT GUTTER OPENINGS TO KEEP STORM FLOWS FROM ENTERING FACILITY UNTIL VEGETATION IS ESTABLISHED.

CURB CUT TYPE 3

N.T.S.

122

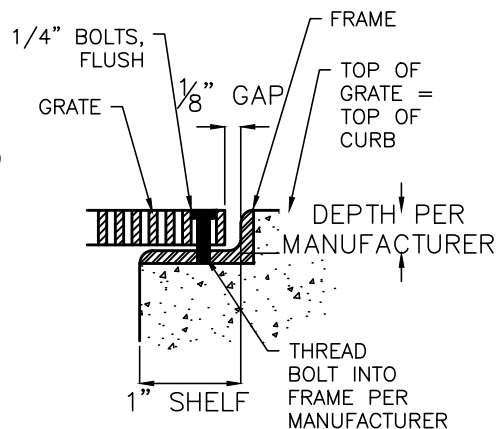
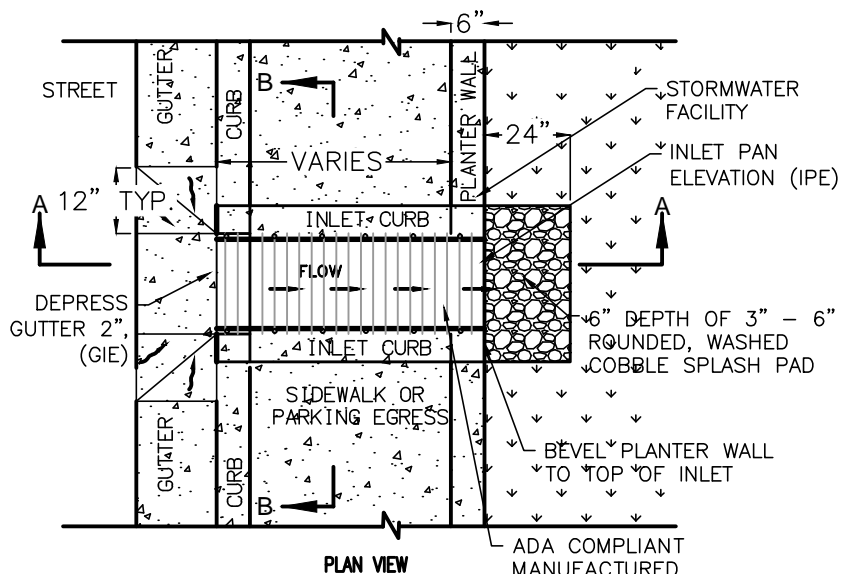


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PUBLIC WORKS
BMP DESIGN

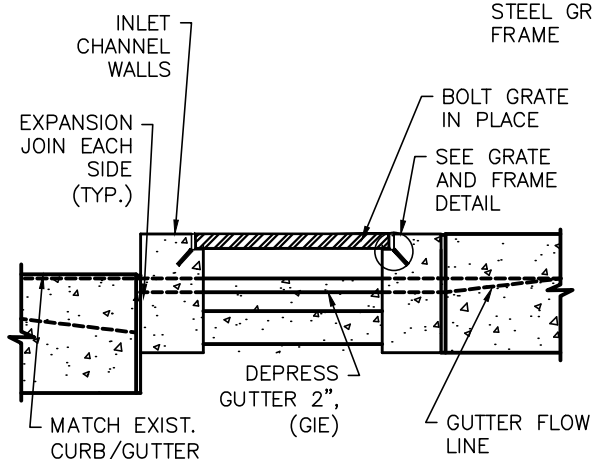
CURB CUT INLET
AND ENERGY
DISSIPATOR

Sheet
Reference
Number

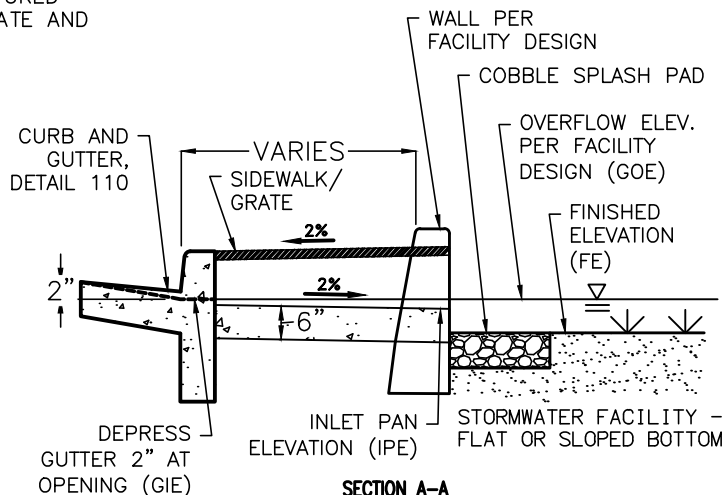
3 of 4 Sheets



GRATE AND FRAME



SECTION B-B



SECTION A-A

DESIGN NOTES:

1. FOR USE WITH STORMWATER FACILITIES WITH SLOPED SIDES OR FLAT BOTTOMS.
2. PROVIDE SPOT ELEVATIONS ON PLANS (FE, OE, GIE, IPE). SEE DETAILS 100, 101.
3. REFER TO MUNICIPAL STANDARD DRAWINGS AND MATCH GUTTER PAN OF ADJACENT CURB AND GUTTER.
4. IF SLOPED SIDES, WHERE INLET FLOW VELOCITY IS HIGH, EXTEND COBBLE INTO FACILITY, BUT AVOID EXCESSIVE USE.
5. BASE MATERIAL FOR CURB, GUTTER, AND SIDEWALK PER MUNICIPAL STANDARDS.

CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION PLACE SAND BAGS AT GUTTER OPENINGS TO KEEP STORM FLOWS FROM ENTERING FACILITY UNTIL VEGETATION IS ESTABLISHED.

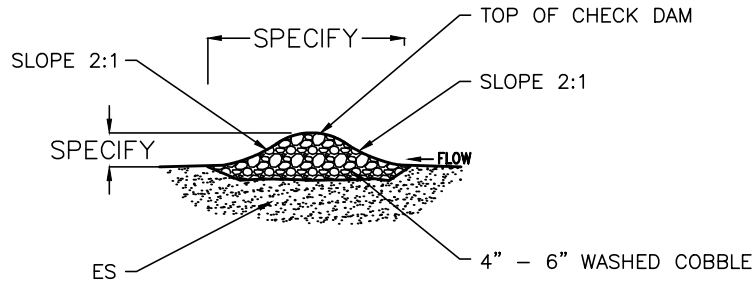
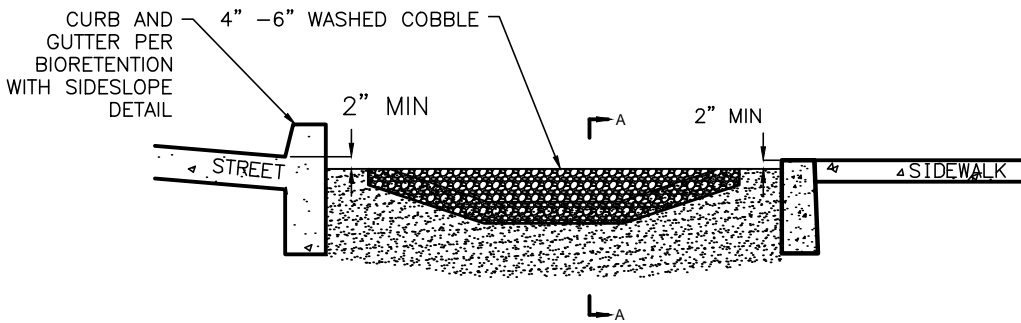


ORANGE COUNTY
PUBLIC WORKS
BMP DESIGN

INLET WITH
GRATE

Sheet
Reference
Number

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SECTION A-A

BIORETENTION DESIGN NOTES

1. FOR USE WITH STORMWATER FACILITIES WITH SLOPED SIDES.
2. BEST SUITED FOR FACILITIES WITH < OF <= THAN 2% LONGITUDINAL SLOPE.
3. PROVIDE ELEVATIONS AND STATIONING AND/OR DIMENSIONING FOR CHECK DAMS.
4. SPACE CHECK DAMS TO MAXIMIZE PONDING ACROSS ENTIRE CELL.
5. ENSURE THAT CHECK DAM ELEVATIONS DO NOT CAUSE STORMWATER TO OVERFLOW TO SIDEWALK.

CONSTRUCTION NOTES

1. DO NOT WORK DURING RAIN OR UNDER WET CONDITIONS.
2. KEEP ALL HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.

GRAVEL CHECK DAM

N.T.S.

130

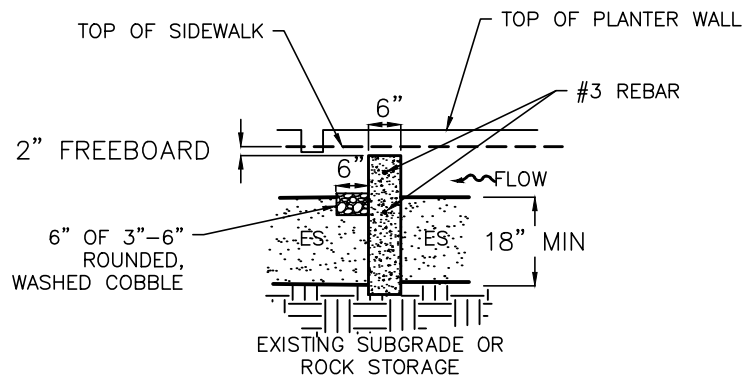
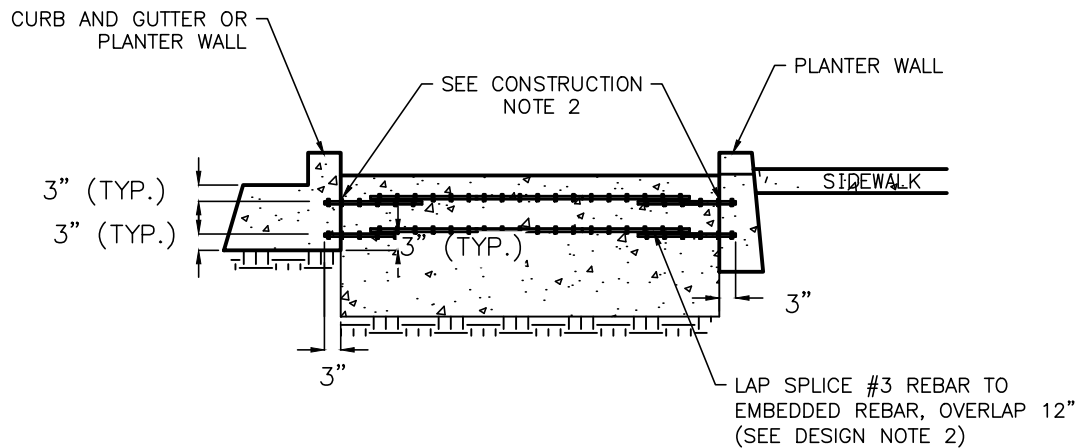


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BMP DESIGN

GRAVEL CHECK
DAM

Sheet
Reference
Number

1 of 2 Sheets



DESIGN NOTES:

1. FOR USE WITH BIORETENTION PLANTERS OR SLOPED SIDED SWALES/RAIN GARDENS.
2. FOR CHECK DAMS LONGER THAN 12' SPECIFY REBAR OVERLAP LENGTH.
3. SPACE CHECK DAMS TO MAXIMIZE PONDING ACROSS CELLS.
4. PROVIDE ELEVATIONS AND STATIONING AND/OR DIMENSIONING FOR CHECK DAMS.
5. ENSURE THAT CHECK DAM ELEVATIONS DO NOT CAUSE STORMWATER TO OVERFLOW TO SIDEWALK.
6. SHOW PLANTER WALL EMBEDDED IN EXISTING SUBGRADE OR DRAINROCK.

CONSTRUCTION NOTES:

1. EMBED #3 REBAR 3" INTO CURB AND PLANTER WALL.
2. DO NOT WORK DURING RAIN OR UNDER WET CONDITIONS.
3. KEEP ALL HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.

CONCRETE CHECK DAM
N.T.S.

131

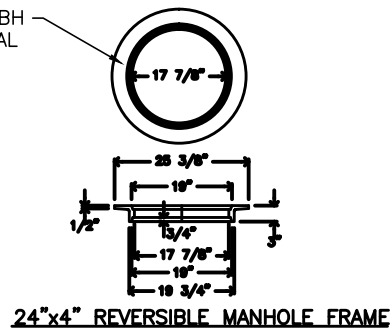
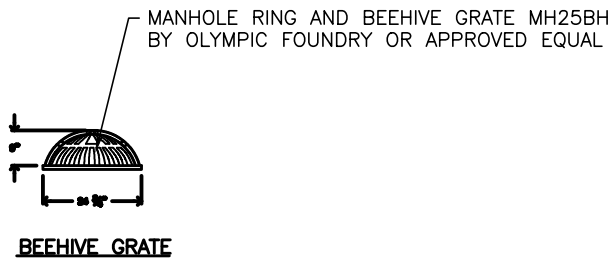
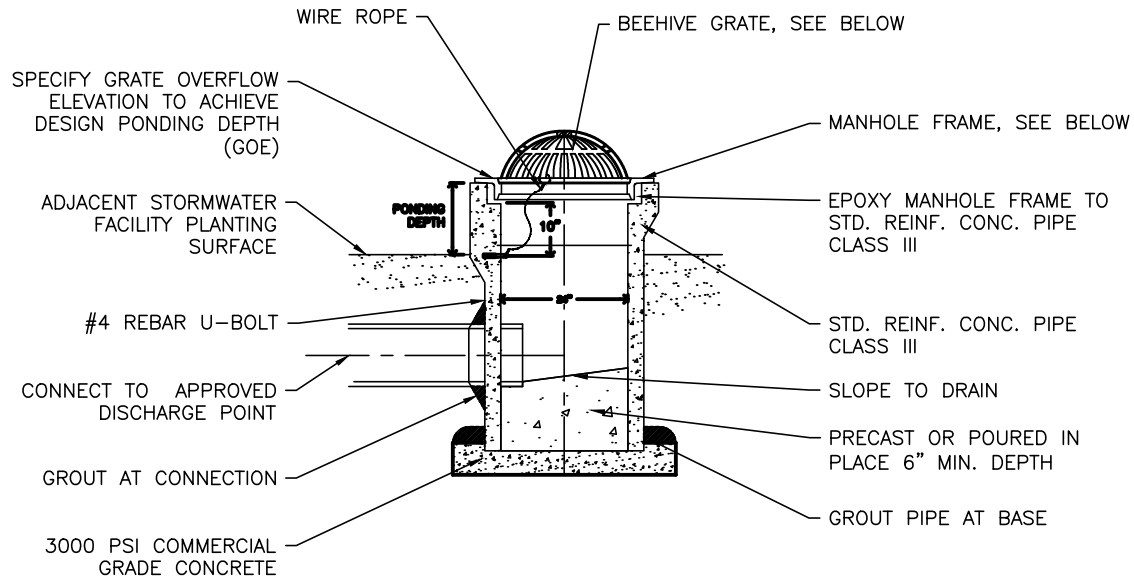


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BMP DESIGN

CONCRETE CHECK
DAM

Sheet
Reference
Number

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DESIGN NOTES:

1. PROVIDE GRATE OVERFLOW ELEVATION ON PLANS.
2. TO INCORPORATE FLEXIBILITY INTO DESIGN OVERFLOW ELEVATION OR CORRECT ELEVATION OF AN EXISTING STRUCTURE, INSTALL OVERFLOW COLLAR, PER DETAIL 141.

CONSTRUCTION NOTES:

1. DO NOT ADJUST OVERFLOW GRATE ELEVATION, CONSTRUCT AS SHOWN ON PLANS.

OVERFLOW STRUCTURE MANHOLE W/ BEEHIVE GRATE
N.T.S.

140

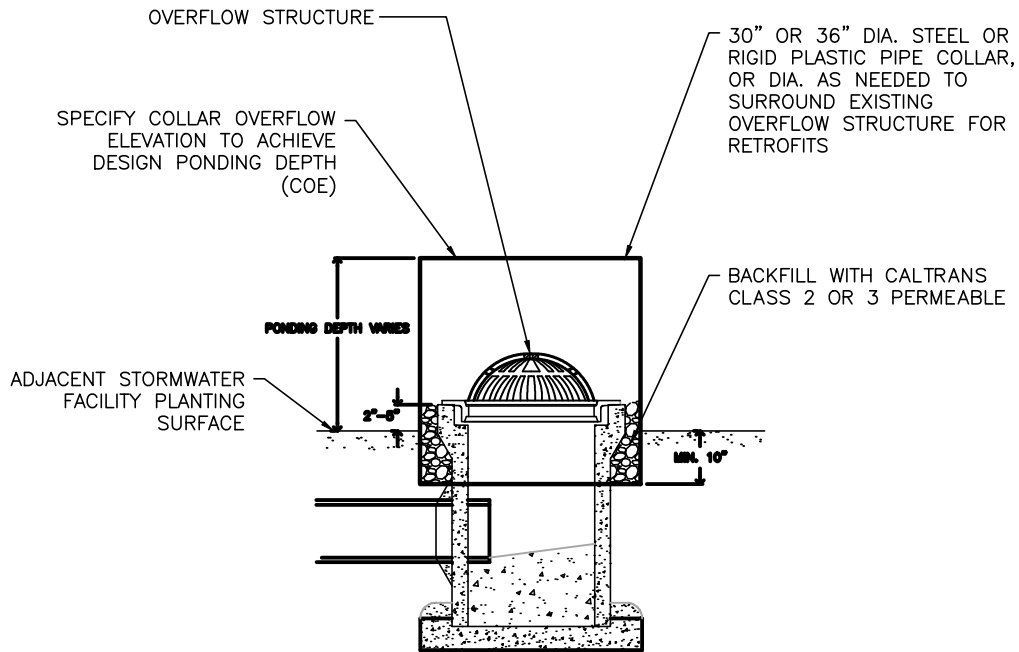


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BMP DESIGN

OVERFLOW
STRUCTURE WITH
BEEHIVE GRATE

Sheet
Reference
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DESIGN NOTES:

1. MAY BE USED IN CONJUNCTION WITH OVERFLOW STRUCTURES TO ALLOW FOR FIELD ADJUSTMENT OF OVERFLOW ELEVATION, OR AS RETROFIT TO CORRECT EXISTING STRUCTURE THAT DOES NOT ALLOW PONDING TO OCCUR.
2. PROVIDE COLLAR OVERFLOW ELEVATION (COE) ON PLANS.

CONSTRUCTION NOTES:

1. CENTER COLLAR ON OVERFLOW GRATE.

OVERFLOW STRUCTURE COLLAR
N.T.S.

141



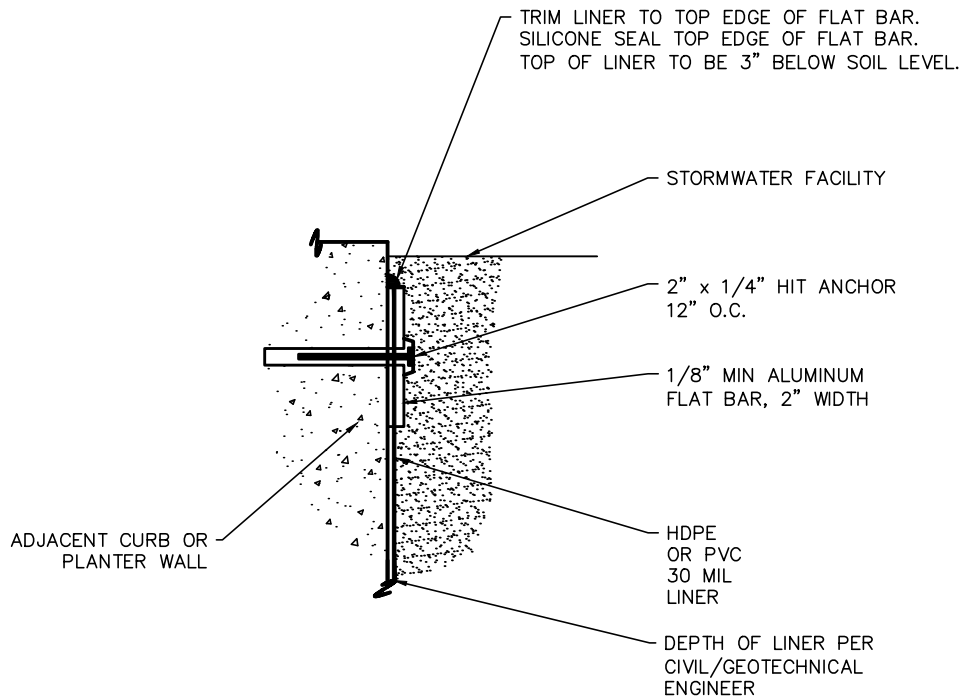
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OVERFLOW
STRUCTURE WITH
COLLAR

Sheet
Reference
Number

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IMPERMEABLE LINER

N.T.S.

150



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IMPERMEABLE
LAYER

Sheet
Reference
Number

1 of 1 Sheets