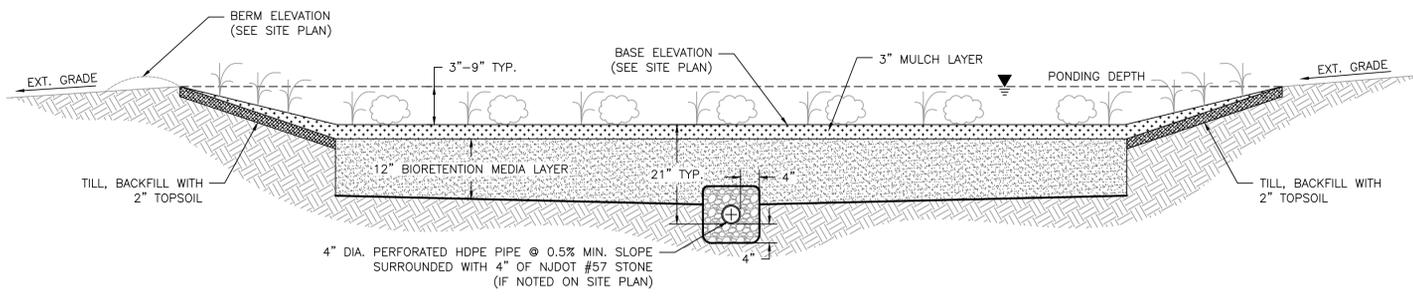
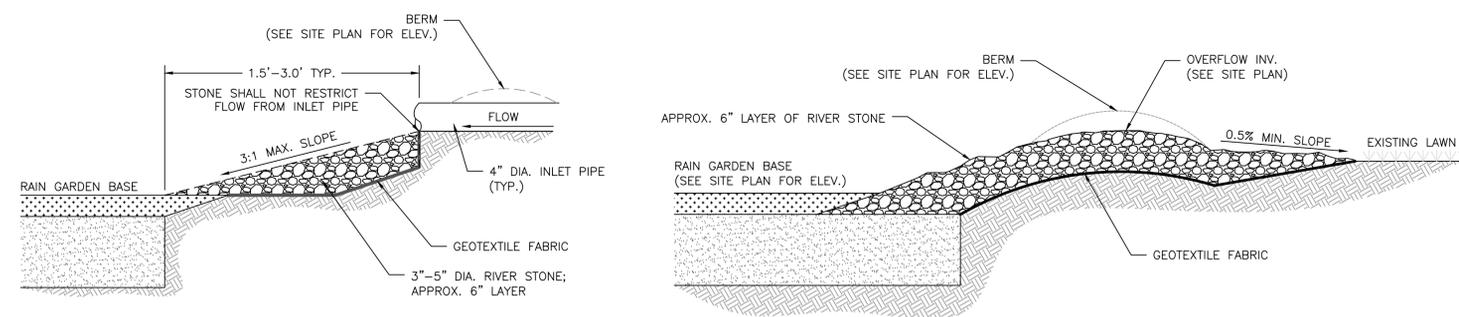


1 RAIN GARDEN EXCAVATION SECTION
DT-X N.T.S.

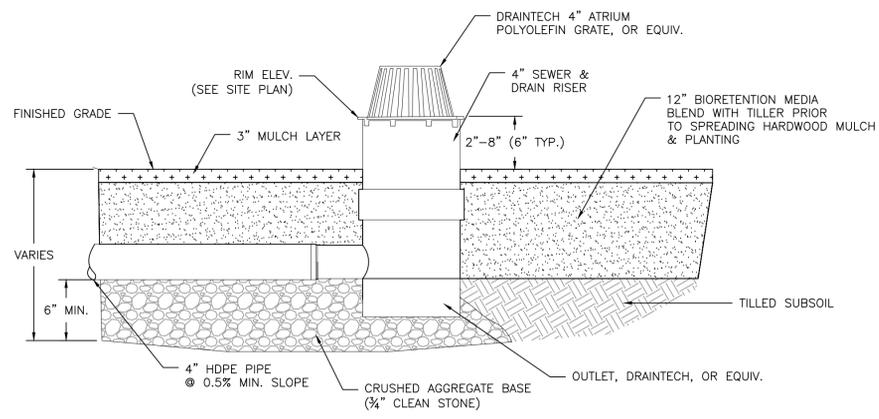


2 RAIN GARDEN CROSS-SECTION
DT-X N.T.S.

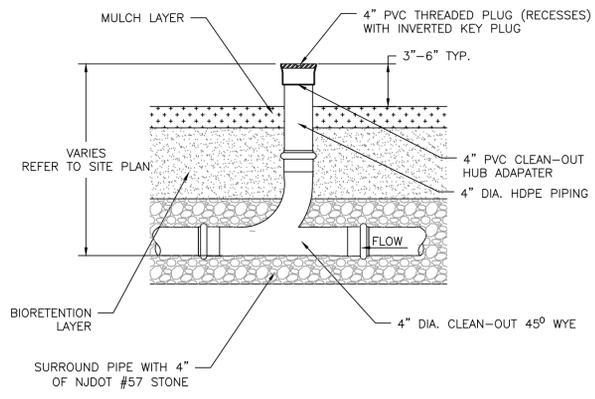


3 INLET PROTECTION CROSS-SECTION
DT-X N.T.S.

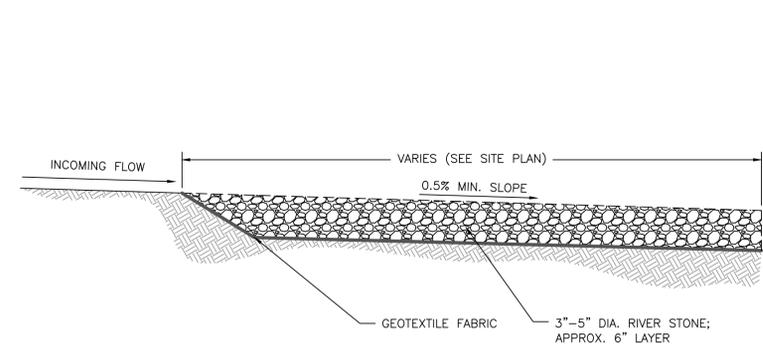
4 ROCK-LINED OVERFLOW DETAIL
DT-X N.T.S.



5 DRAINTech OUTLET DETAIL
DT-X N.T.S.



6 CLEAN OUT DETAIL
DT-X N.T.S.



7 STONE-LINED CHANNEL
DT-X N.T.S.

- CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
 2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
 3. THE ENGINEER SHALL INSPECT ALL PLANTING BED AREAS BEFORE MULCHING TO ENSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE MULCHED SHOW EVIDENCE OF POOR DRAINAGE, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION.
 4. THE CONTRACTOR SHALL AVOID DISTURBING ALL EXISTING TREES. ANY DISTURBANCE TO TREES OR TREE ROOTS MUST BE COORDINATED WITH THE PROPERTY OWNER.
 5. DIMENSIONS AND SHAPE WILL VARY. REFER TO SITE PLAN.
 6. RIVER STONE PROTECTION DIMENSIONS ARE TYPICAL AND MAY VARY PER SITE. CONSULT THE ENGINEER AND SITE PLAN FOR DIMENSIONS ON A PER SITE BASIS.
 7. RIVER STONE PROTECTION SHALL SLOPE TO RAIN GARDEN BASE.
 8. REFER TO SITE PLAN TO DETERMINE OUTLET TYPE (ROCK-LINED OVERFLOW OR DRAINTech RISER).
 9. REFER TO SITE PLAN FOR ALL ELEVATIONS AND INVERTS.
 10. THE CONTRACTOR SHALL EXCAVATE 15" LOWER THAN THE BASE ELEVATION SHOWN ON THE SITE PLANS. THE SLOPES OF THE RAIN GARDEN SHALL BE AT A 3:1 MAXIMUM.
 11. THE SUBGRADE OF THE RAIN GARDEN SHALL BE LEVEL TO ENSURE PROPER DRAINAGE. CONTRACTOR SHALL OBTAIN ENGINEER APPROVAL PRIOR TO BACKFILLING WITH 12" OF BIORETENTION MEDIA.
 12. THE CONTRACTOR SHALL INSTALL OVERFLOW IF SPECIFIED IN SITE PLANS PRIOR TO BACKFILLING WITH BIORETENTION MEDIA.
 13. THE BIORETENTION LAYER SHALL BE LEVEL TO ENSURE PROPER DRAINAGE. CONTRACTOR SHALL OBTAIN ENGINEER APPROVAL PRIOR TO SPREADING MULCH AND PLANTING.
 14. INLET AND OUTLET PROTECTION SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC.
 15. INLETS AND OUTLETS SHALL NOT INHIBIT THE FLOW OF WATER FROM THE STREET. THE RIVER STONE SHALL BE PLACED BELOW THE BOTTOM OF THE PIPE.
 16. THE CONTRACTOR SHALL TILL THE BERM SECTION AND BACKFILL WITH TOPSOIL.
 17. ALL DISTURBED AREAS EXCLUSIVE OF RAIN GARDEN AND SLOPED BERM SHALL BE RESTORED TO ORIGINAL CONDITIONS BY CONTRACTOR.
 18. THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE PROJECT ENGINEER PRIOR TO ANY WORK ON SITE.
 19. CONTRACTOR SHALL PERFORM REQUIRED TESTING TO DETERMINE SOIL PERMEABILITY AND SEASONAL HIGH WATER TABLE ELEVATION AT THE SITE TO VERIFY INFILTRATION CAPABILITIES. TESTING SHALL BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF THE PROPOSED PROJECTS. PROJECT ENGINEER SHALL BE PRESENT DURING TESTING AND SHALL BE INFORMED OF THE RESULTS.

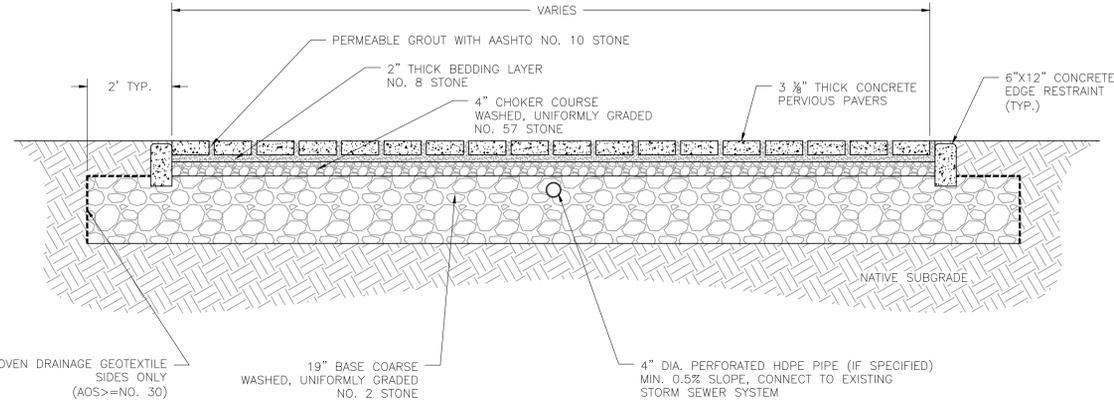
- SPECIFICATIONS:
1. MAX COVER OVER TOP OF PIPES IS 4 FT. CONTACT ADS IF OTHERWISE GREATER.
 2. THE APPROVAL OF MATERIALS AND MIXING OF SAND, COMPOST, AND SOIL SHALL BE DONE UNDER THE SUPERVISION OF THE PROJECT ENGINEER/LANDSCAPE ARCHITECT. BIORETENTION MEDIA SHALL CONSIST OF 70% SAND AND 30% COMPOST MIXTURE.
 3. SAND SHALL AT THE MINIMUM CONFORM TO THE SIEVE ANALYSIS FOR CONCRETE AGGREGATE SAND (ASTM C-33). USGA TEE/GREEN SIEVE GRADATION MIX IS PREFERABLE WHERE AVAILABLE.
 4. UNDERLYING SOILS SHALL BE TILLED/SCARIFIED PRIOR TO SPREADING/MIXING OF BIORETENTION MEDIA.
 5. ALL BIORETENTION MEDIA SHALL BE PLACED FROM THE SIDES OF THE FACILITIES, AND IN NO EVENT SHALL ANY TRACKED OR WHEELED EQUIPMENT BE PERMITTED TO CROSS THE RAIN GARDEN.
 6. RAIN GARDEN SHALL BE CONSTRUCTED TO DIMENSIONS INDICATED ON THE SITE PLAN.
 7. 3-5 INCH DELAWARE RIVER STONE SHALL BE USED FOR STONE CHANNEL AND INLET/OUTLET PROTECTION.
 8. NON-DYED, TRIPLE-SHREDED HARDWOOD MULCH SHALL BE USED.
 9. PLANTING OF RAIN GARDEN AND SLOPED BERM SHALL BE COMPLETED AS INDICATED ON THE SITE PLAN.
 10. THE CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.

PROFESSIONAL ENGINEER	DATE
APPROVED	XXXXXX
CHECKED	XXX
DRAWN	XXX

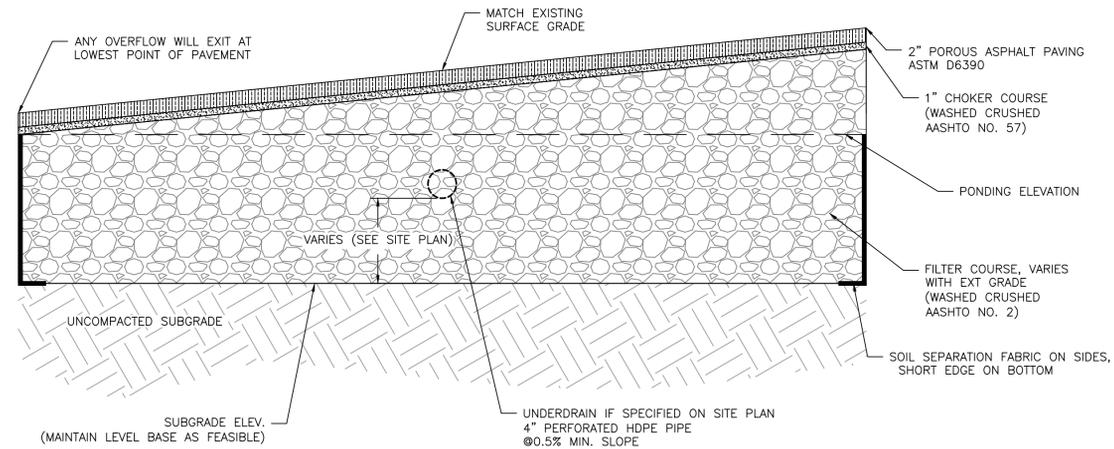
REVISIONS	No.	DATE	DESCRIPTION

[PROJECT SITE NAME]
[BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT
[ADDRESS, CITY]
[COUNTY NAME] COUNTY, NJ
RAIN GARDEN DETAILS

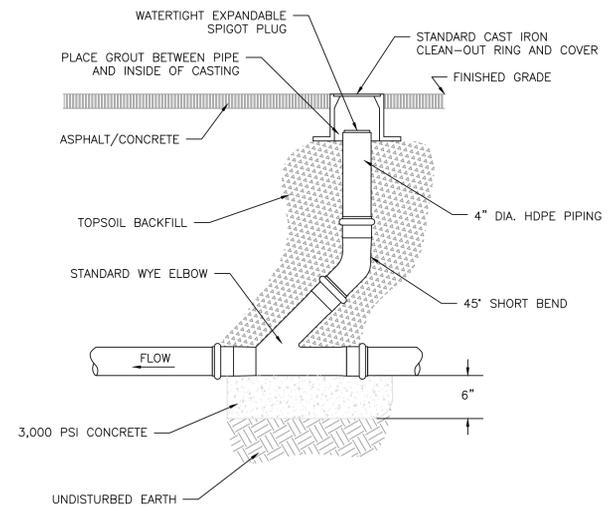




1 INTERLOCKING PAVERS CROSS-SECTION
DT-X N.T.S.



2 POROUS ASPHALT CROSS-SECTION
DT-X N.T.S.



3 PAVEMENT CLEAN OUT
DT-X N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE ENGINEER PRIOR TO ANY WORK ON SITE.
4. THE CONTRACTOR SHALL AVOID OVER COMPACTING THE EXISTING MATERIALS IN ORDER TO AVOID POOR INFILTRATION OR SHORT LIFETIME OF PAVEMENT.
5. THE CONTRACTOR SHALL ESTABLISH ALL ELEVATIONS AND LINES AS SHOWN IN THE SITE PLAN FOR REVIEW BY THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS.
6. THE CONTRACTOR SHALL VERIFY THAT THE SUBGRADE IS CONSISTENT WITH LINE, GRADE, AND ELEVATIONS AS INDICATED IN THE SITE PLAN. ANY AREAS SHOWING EROSION OR POTENTIAL PONDING SHALL BE REGRADED BEFORE SUBBASE INSTALLATION.
7. IMMEDIATELY AFTER THE SUBGRADE IS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL BEGIN SUBBASE CONSTRUCTION WHICH INCLUDES ALL MATERIALS BELOW THE PAVEMENT AND ABOVE THE EXISTING SUBGRADE.
8. PRIOR TO BACKFILLING ANY POROUS ASPHALT MATERIALS, THE CONTRACTOR SHALL SCARIFY THE EXISTING SUBGRADE TO PROMOTE DESIRABLE INFILTRATION RATES.
9. CONTRACTOR SHALL PERFORM REQUIRED TESTING TO DETERMINE SOIL PERMEABILITY AND SEASONAL HIGH WATER TABLE ELEVATION AT THE SITE TO VERIFY INFILTRATION CAPABILITIES. TESTING SHALL BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF THE PROPOSED PROJECTS. PROJECT ENGINEER SHALL BE PRESENT DURING TESTING AND SHALL BE INFORMED OF THE RESULTS.
10. THE TESTED INFILTRATION RATE SHALL BE AT LEAST 0.5 IN/HR OR 50 % OF THE HYDRAULIC CONDUCTIVITY (D3385).
11. THE CONTRACTOR SHALL PLACE GEOTEXTILE FABRIC IN CONFORMANCE WITH MANUFACTURER'S STANDARDS. ALL ADJACENT FABRIC SHALL BE OVERLAPPED BY AT LEAST 16 INCHES. THE FABRIC SHALL BE SECURED AT LEAST FOUR FEET OUTSIDE OF THE EXCAVATED BASE.
12. THE FILTER COURSE AGGREGATE SHALL BE INSTALLED IN 8 INCH MAXIMUM LIFTS TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION (ASTM D698/AASHTO T99).
13. CHOKER SHALL BE INSTALLED EVENLY OVER FILTER COURSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR APPROVAL. CHOKER BASE SHALL BE AT LEAST FOUR INCHES THICK. CHOKER, GRAVEL, AND STONE BASE AGGREGATE SHALL BE INSTALLED TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION.
14. SUBBASE COURSE DENSITIES SHALL BE APPROVED BY THE ENGINEER. ROLLING AND SHAPING SHALL RESUME UNTIL DENSITIES ARE ACCEPTABLE. WATER SHALL BE Poured OVER SUBBASE COURSE MATERIALS DURING COMPACTION.
15. THE CONTRACTOR SHALL PERFORM ALL ROLLING AND SHAPING FROM THE LOW SIDE TO THE HIGH SIDE UNTIL EACH LAYER CONFORMS TO GRADES AS INDICATED AND LAYERS ARE SMOOTH.
16. AFTER SUBBASE AGGREGATE INSTALLATION THE GEOTEXTILE FABRIC SHALL BE FOLDED BACK ALONG ALL BED EDGES. THE FABRIC SHALL REMAIN SECURE UNTIL ADJACENT SOILS ESTABLISH VEGETATION. ANY NECESSARY MEASURES SHALL BE TAKEN TO PREVENT SEDIMENT FROM WASHING INTO BEDS.
17. THE ASPHALT AND CONCRETE MIXING PLANT, HAULING AND PLACING EQUIPMENT, AND INSTALLATION SHALL BE IN CONFORMANCE WITH NAPA IS 131 AND THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.

SPECIFICATIONS:

1. THE CONSTRUCTION SHALL BE PERFORMED IN CONFORMANCE WITH THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.
2. FINISHED PAVEMENTS SHALL SHOW NO MARKS FROM ROLLERS AND BE FREE FROM LOW LYING SPOTS SUBJECT TO PUDDLE FORMATION. ENTIRE SURFACE SHALL DRAIN PROPERLY. ALL ELEVATIONS MUST BE WITHIN 0.1 FT.
3. ALL WORK MUST MEET THE STANDARDS OF THE ENGINEER BEFORE PAYMENT. ADDITIONAL WORK AND TESTING WILL BE NECESSARY IF STANDARDS ARE NOT SUFFICED.
4. POROUS ASPHALT MIX DESIGN CRITERIA:

SIEVE SIZE (INCH/MM)	PERCENT PASSING (%)
0.75/19	100
0.50/12.5	85-100
0.375/9.5	55-75
No.4/4.75	10-25
No.8/2.36	5-10
No.200/0.075 (#200)	2-4

BINDER CONTENT (AASHTO T164)	6-6.5%
BINDER PERFORMANCE GRADE	64-22
FIBER CONTENT BY TOTAL MIXTURE MASS	0.3% CELLULOSE OR 0.4% MINERAL RUBBER SOLIDS (SBR)
RUBBER SOLIDS (SBR) CONTENT BY WEIGHT OF THE BITUMEN	1.5-3% or TBD
AIR VOID CONTENT (ASTM D6752/AASHTO T275)	16.0-22.0%
DRAINDOWN (ASTM D6390)*	< 0.2%
RETAINED TENSILE STRENGTH (AASHTO 28.3)**	> 80%
CANTABRO ABRASION TEST ENGAGED SAMPLES (ASTM D7064-04)	< 20%
CANTABRO ABRASION TEST ON 7 DAY AGED SAMPLES	< 30%

*CELLULOSE OR MINERAL FIBERS MAY BE USED TO REDUCE DRAINDOWN.
 **IF THE TSR (RETAINED TENSILE STRENGTH) VALUES FALL BELOW 80% WHEN TESTED PER NAPA IS 131 (WITH A SINGLE FREEZE THAW CYCLE RATHER THAN 5), THEN IN STEP 4, THE CONTRACTOR SHALL EMPLOY AN ANTISTRIP ADDITIVE, SUCH AS HYDRATED LIME (ASTM C977) OR A FATTY AMINE, TO RAISE THE TSR VALUE ABOVE 80%.

TABLE 901.03-1 STANDARD SIZES OF COARSE AGGREGATE

No.	NOMINAL SIZE	AMOUNTS FINER THAN EACH LABORATORY SIEVE, % BY WEIGHT															
		4"	3 1/2"	3"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	No. 4	No. 8	No. 16	No. 50	No. 100	
1	3 1/2" - 1 1/2"	100	90-100		25-60		0-15		0-5								
2	2 1/2" - 1 1/2"			100	90-100	35-70	0-15		0-5								
3	2" - 1"				100	90-100	35-70	0-15		0-5							
4	1 1/2" - 3/4"					100	90-100	20-55	0-15		0-5						
5	1" - 1/2"						100	90-100	20-55	0-10	0-5						
57	1"-No. 4							100	95-100	25-60		0-10	0-5				
67	3/4" - No. 4								100	90-100	20-55	0-10	0-5				
7	1/2" - No. 4									100	90-100	40-70	0-15	0-5			
8	3/8" - No. 8										100	85-100	10-30	0-10	0-5		
9	No. 4 - No. 16											100	85-100	10-40	0-10	0-5	
10	No. 4 - No. 200												100	85-100			10-30

5 NJDOT STANDARD SPECIFICATIONS FOR AGGREGATE
DT-X

PROFESSIONAL ENGINEER

DATE: XXXXXX
 APPROVED: XXX
 CHECKED: XXX
 DRAWN: XXX

REVISIONS

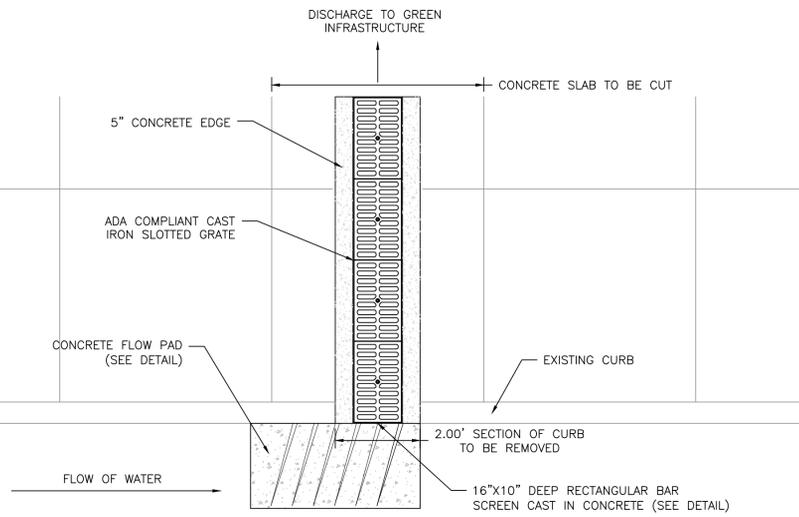
No.	DATE	DESCRIPTION

[PROJECT SITE NAME]
 [BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT
 [ADDRESS, CITY]
 [COUNTY NAME] COUNTY, NJ

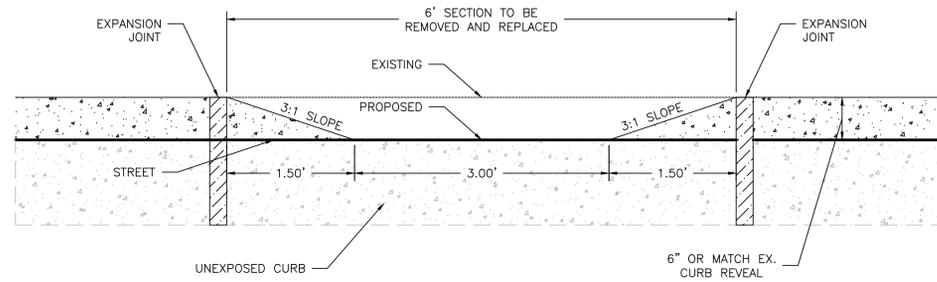
PERMEABLE PAVEMENT DETAILS

RUTGERS
 New Jersey Agricultural Experiment Station

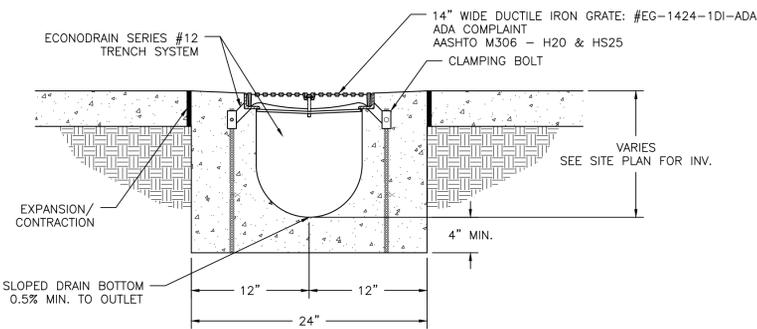
SHEET NAME
 DT-X



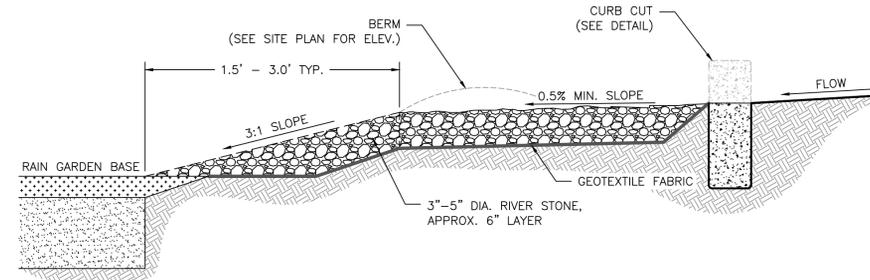
1 TRENCH DRAIN PLAN VIEW
DT-X N.T.S.



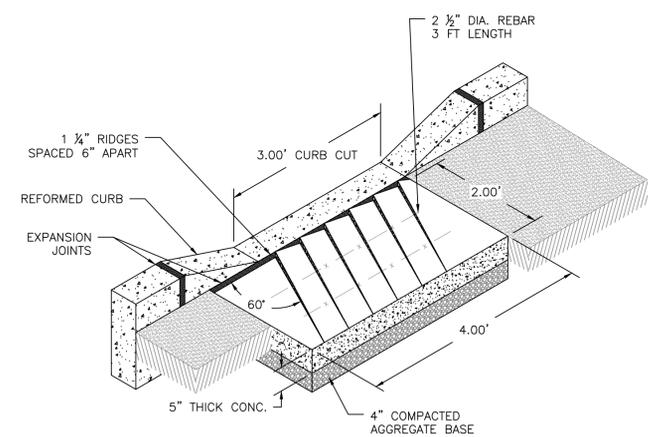
4 CURB CUT CROSS-SECTION
DT-X N.T.S.



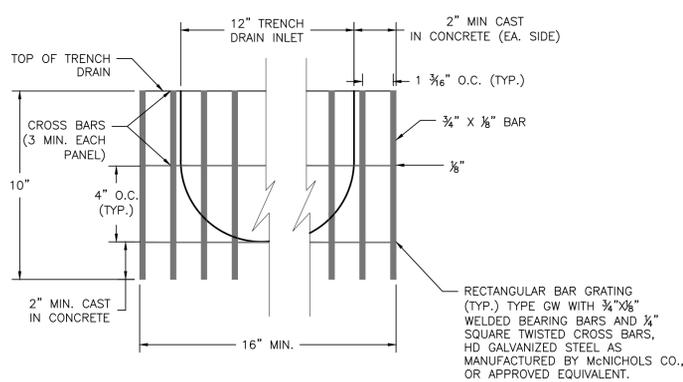
2 SAWCUT EXISTING SLAB INSTALLATION DETAIL
DT-X N.T.S.



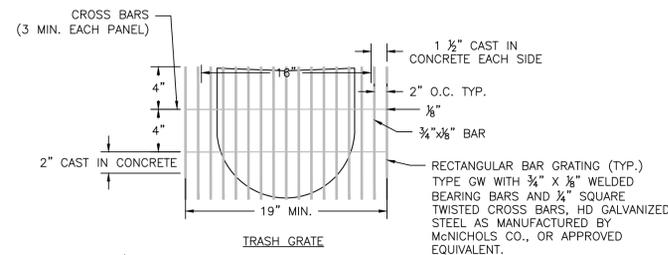
5 INLET/OUTLET CURB CUT PROTECTION
DT-X N.T.S.



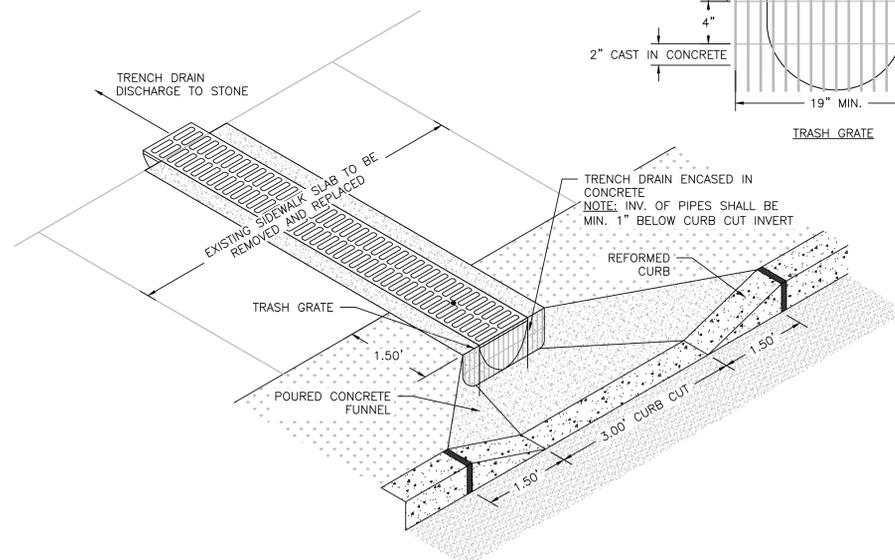
CURB CUT



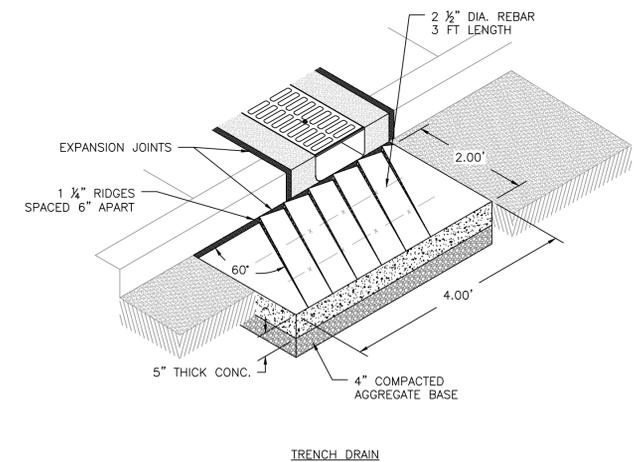
3 BAR SCREEN DETAIL
DT-X N.T.S.



TRASH GRATE



6 CURB CUT AND CONCRETE FUNNEL DETAIL
DT-X N.T.S.



TRENCH DRAIN

7 CONCRETE FLOW PAD DETAIL
DT-X N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE CONTRACTOR SHALL AVOID DISTURBING ALL EXISTING TREES. ANY DISTURBANCE TO TREES OR TREE ROOTS MUST BE COORDINATED WITH THE BOROUGH DEPARTMENT OF PUBLIC WORKS.
4. INLET AND OUTLET PROTECTION SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC.
5. INLET AND OUTLET CURB CUTS SHALL NOT INHIBIT THE FLOW OF WATER FROM THE STREET. THE CURB CUT SHALL BE SLIGHTLY LOWER THAN THE ROAD. THE CONCRETE SLAB SHALL BE PLACED JUST BELOW THE BOTTOM OF THE CURB CUT.
6. THE CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE A 6 FOOT SECTION OF CURB FOR THE CONCRETE FUNNEL. THE ENTIRE CURB SHALL BE REINSTALLED WITH A 3 FOOT DEPRESSED SECTION FLUSH WITH THE PAVEMENT AND ADJOINING 18" 3:1 SLOPED SECTIONS.
7. THE CONTRACTOR SHALL POUR THE CONCRETE FLOW PAD AS SHOWN WITH 60° RIDGES. THE RIDGES SHALL BE 1 1/4" IN HEIGHT.
8. ALL AREAS EXCLUSIVE FROM THE TRENCH DRAIN AND/OR CURB CUT SHALL BE RESTORED TO ORIGINAL CONDITIONS.
9. THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE ENGINEER PRIOR TO ANY WORK ON SITE.

SPECIFICATIONS:

1. TRENCH DRAIN SHALL BE ECONODRAIN® SERIES #12 AS MANUFACTURED BY ECONODRAIN®, OR APPROVED EQUIVALENT.
2. GRATE FOR TRENCH DRAIN SHALL BE CAST IRON ADA GRATE #EG14242CIADA WITH LOCKING FASTENERS, OR EQUAL.
3. END CAP CUTOUTS TO BE REMOVED UPON APPROVAL.
4. STONE FOR PROTECTION SHALL BE 3"-5" DIAMETER WASHED RIVER STONE.
5. THE CONTRACTOR SHALL BE PERFORMED IN CONFORMANCE WITH THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.
6. THE CONTRACTOR SHALL ONLY USE CONCRETE WITH 4,500 PSI STRENGTH.

PROFESSIONAL ENGINEER

[PROJECT SITE NAME]
[BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT
[ADDRESS, CITY]
[COUNTY NAME] COUNTY, NJ

CURB CUT AND TRENCH DRAIN DETAILS

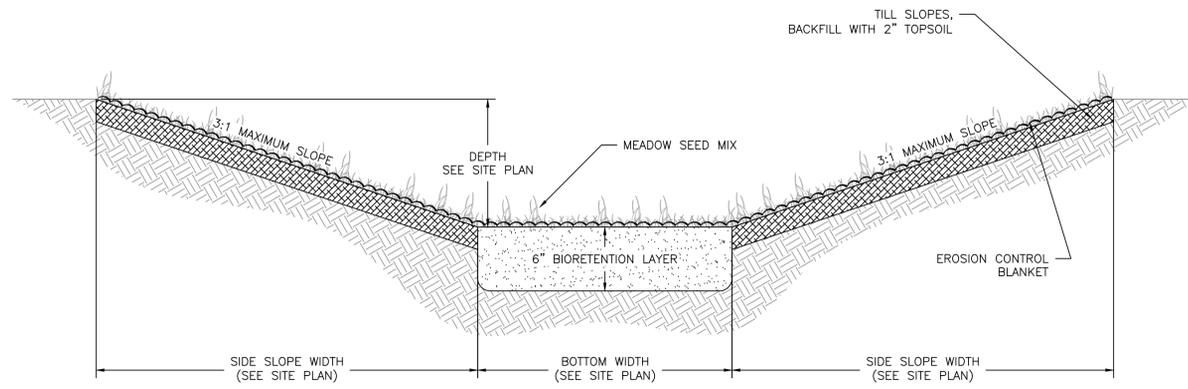
RUTGERS
New Jersey Agricultural
Experiment Station

SHEET NAME
DT-X

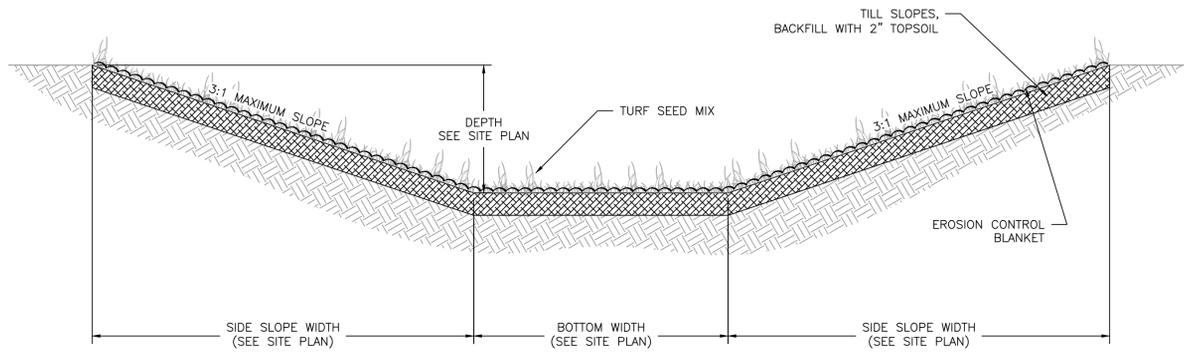
REVISIONS

No.	DATE	DESCRIPTION

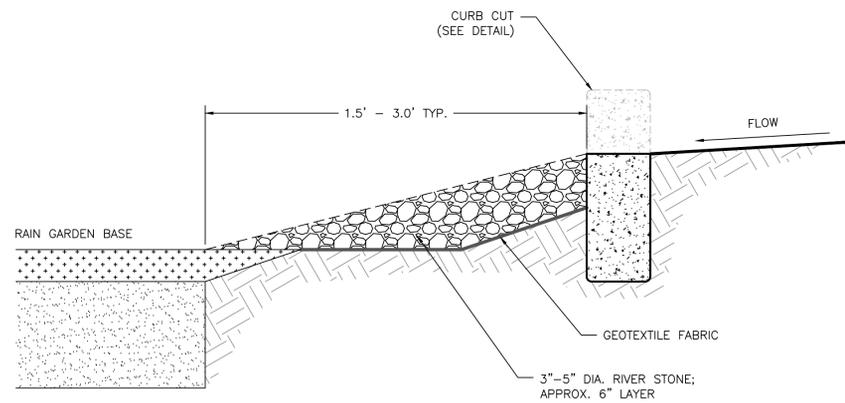
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APPROVED: XXX
DATE: XXXXXX



1 BIOSWALE CROSS-SECTION
DT-X N.T.S.



2 GRASSED SWALE CROSS-SECTION
DT-X N.T.S.



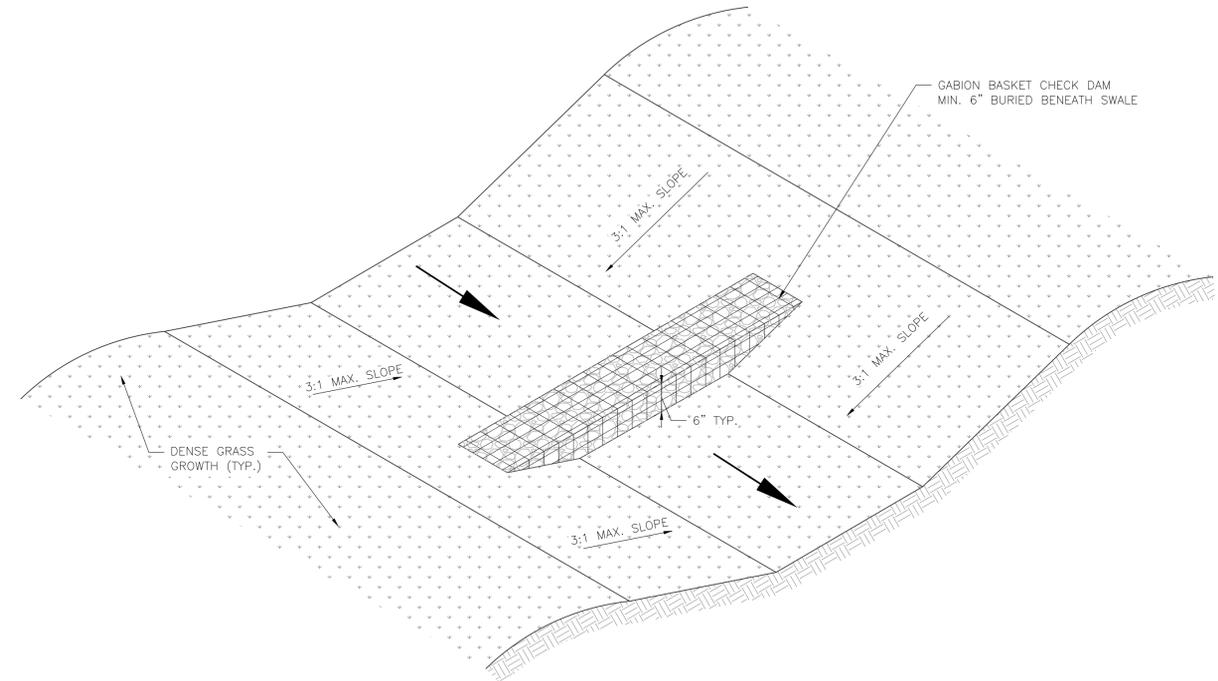
3 INLET PROTECTION CROSS-SECTION
DT-X N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE ENGINEER SHALL INSPECT ALL PLANTING BED/SEEDING AREAS BEFORE PLANTING/SEEDING TO INSURE THAT ADEQUATE DRAINAGE EXISTS FOR BIOSWALES. IF ANY AREAS TO BE PLANTED/SEEDED SHOW EVIDENCE OF POOR DRAINAGE, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION.
4. THE CONTRACTOR SHALL HAVE ALL UTILITIES MARKED BEFORE ANY EXCAVATION. IF ANY UTILITIES INTERFERE WITH THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
5. THE CONTRACTOR SHALL AVOID OVER COMPACTING THE EXISTING MATERIALS TO AVOID POOR INFILTRATION.
6. THE CONTRACTOR SHALL VERIFY THAT SWALE WILL CAPTURE STORMWATER RUNOFF FROM DESIRED DRAINAGE AREA.
7. THE CONTRACTOR SHALL ESTABLISH ALL ELEVATIONS AND LINES AS SHOWN ON THE SITE PLAN FOR REVIEW BY THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS.
8. THE CONTRACTOR SHALL VERIFY THAT THE SUBGRADE IS CONSISTENT WITH LINE, GRADE, AND ELEVATIONS AS INDICATED ON THE SITE PLAN. ANY AREAS SHOWING EROSION OR POTENTIAL PONDING SHALL BE REGRADED BEFORE SUBBASE INSTALLATION.
9. IMMEDIATELY AFTER THE SUBGRADE IS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL BEGIN SUBBASE CONSTRUCTION WHICH INCLUDES ALL MATERIALS BELOW THE SWALE BASE AND ABOVE THE NATIVE SUBGRADE.
10. PRIOR TO BACKFILLING BIOSWALE WITH BIORETENTION MEDIA, THE CONTRACTOR SHALL SCARIFY NATIVE SOIL TO PROMOTE INFILTRATION INTO UNDERLYING SUBGRADE.
11. THE BIORETENTION MEDIA LAYER SHALL BE INSTALLED EVENLY OVER THE NATIVE SUBGRADE.
12. CONTRACTOR SHALL PERFORM REQUIRED TESTING TO DETERMINE SOIL PERMEABILITY AND SEASONAL HIGH WATER TABLE ELEVATION AT THE SITE TO VERIFY INFILTRATION CAPABILITIES. TESTING SHALL BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF THE PROPOSED PROJECTS. PROJECT ENGINEER SHALL BE PRESENT DURING TESTING AND SHALL BE INFORMED OF THE RESULTS.
13. THE BIOSWALE SHALL HAVE AN INFILTRATION RATE SHALL BE AT LEAST 0.5 IN/HR OR 50 % OF THE HYDRAULIC CONDUCTIVITY (D3385).
14. THE CONTRACTOR SHALL INSTALL GABION BASKET CHECK DAM (IF SPECIFIED) AS SHOWN ON SITE PLANS. A MINIMUM OF SIX INCHES OF BASKET SHALL BE BURIED BENEATH SWALE.
15. THE CONTRACTOR SHALL INSTALL EROSION CONTROL BLANKET ALONG BASE AND SIDE SLOPES OF NEWLY CONSTRUCTED SWALE FOR STABILIZATION.

SPECIFICATIONS:

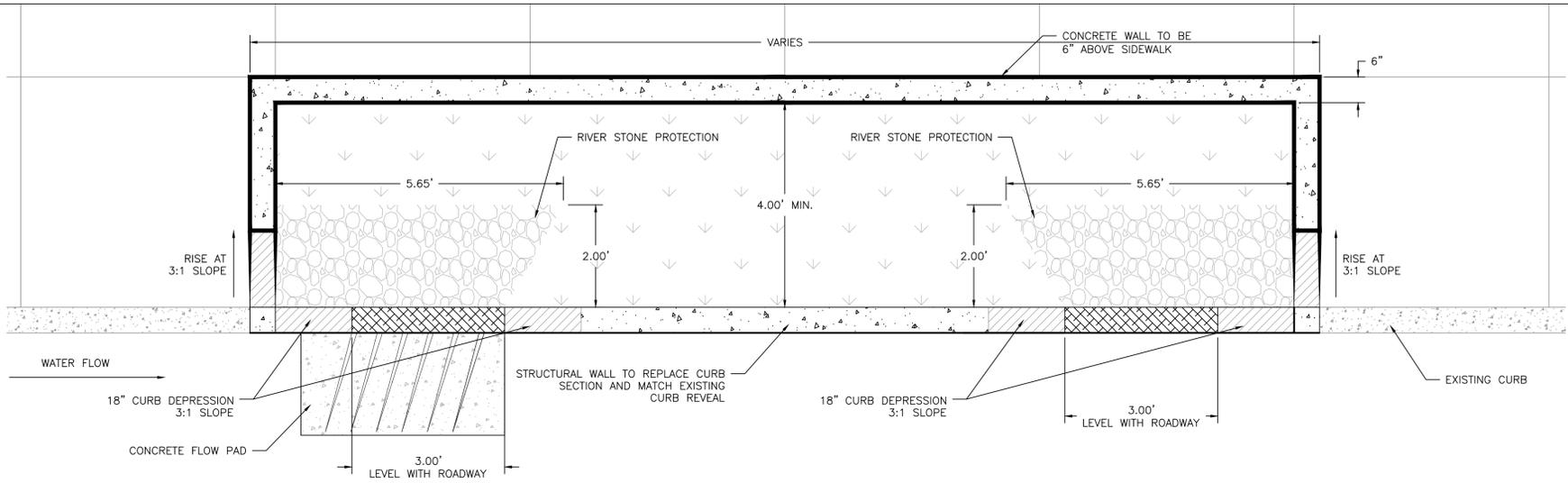
1. THE BIORETENTION LAYER SHALL BE COMPRISED OF 70% SAND AND 30% COMPOST MIXTURE.
2. INLET PROTECTION FOR SWALE SHALL BE COMPRISED OF 3"-5" DIAMETER RIVER STONE. STONE SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC.
3. GABION BASKET CHECK DAM SHALL BE DURA-WELD GALVANIZED & PVC COATED BASKETS. BASKETS ARE TYPICALLY 6'X3'X1', REFER TO SITE PLAN FOR BASKET SIZE.
4. GABION STONE SHALL BE 4" - 10" DIAMETER, CLEAN.
5. SWALE SHALL BE SEEDED WITH CONTRACTOR TURF MIX UNLESS SPECIFIED OTHERWISE ON PLANS.



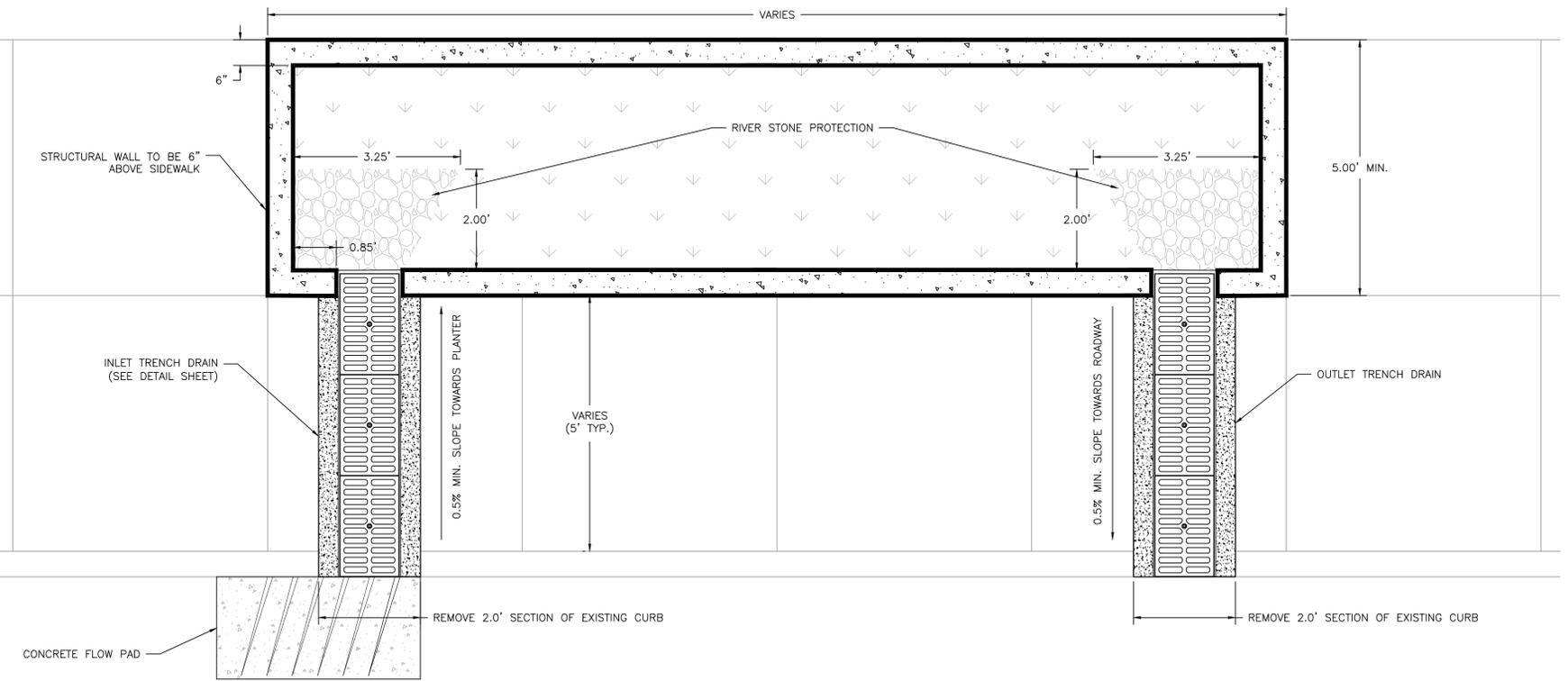
4 ISOMETRIC CHECK DAM DETAIL
DT-X N.T.S.

REVISIONS No. DATE	[PROJECT SITE NAME] [BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT [ADDRESS, CITY] [COUNTY NAME] COUNTY, NJ BIOSWALE AND GRASSED SWALE DETAILS
PROFESSIONAL ENGINEER DATE XXXXXX APPROVED XXX CHECKED XXX DRAWN XXX	
SHEET NAME DT-X	

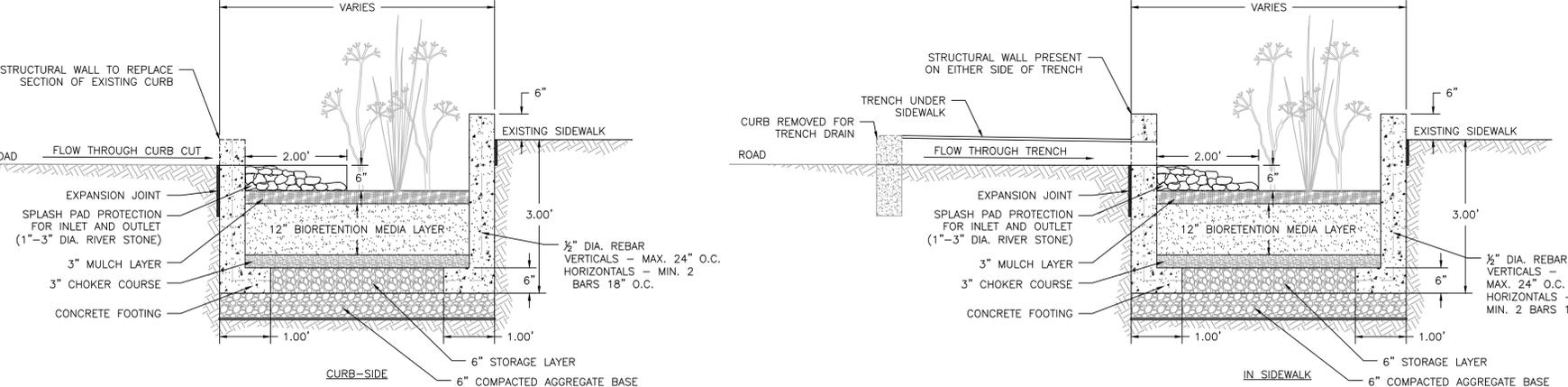




1 STORMWATER PLANTER PLAN (CURB-SIDE)
DT-X N.T.S.



2 STORMWATER PLANTER PLAN
DT-X N.T.S.



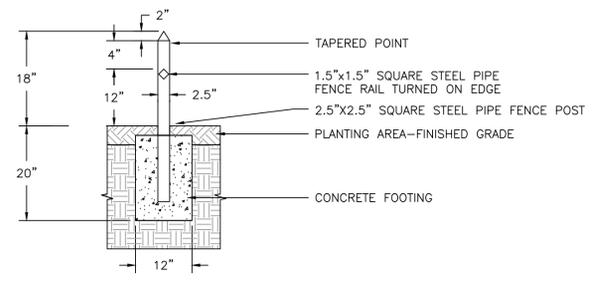
3 STORMWATER PLANTER SECTION (TYP.)
DT-X N.T.S.

GENERAL NOTES:

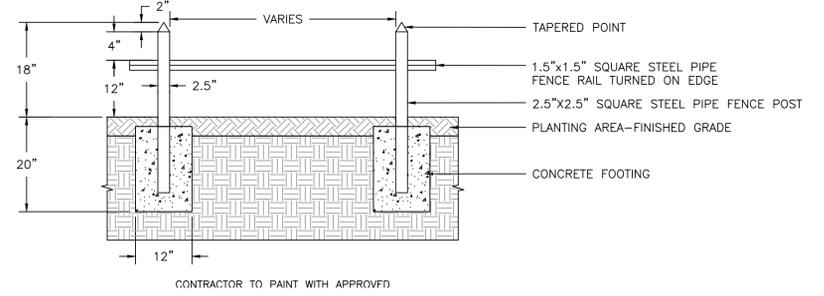
1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE STRUCTURAL WALL SHALL BE 6" ABOVE SIDEWALK AS A SAFETY PRECAUTION. FOR A CURB-SIDE PLANTER, THE STRUCTURAL WALL ADJACENT TO THE ROADWAY SHALL BE LEVEL WITH THE EXISTING CURB. THE RISE OF THE STRUCTURAL WALL SHALL HAVE A 3:1 SLOPE.
4. GRATE OR LID MUST BE INSTALLED PRIOR TO BACKFILLING.
5. SAND SHALL AT THE MINIMUM CONFORM TO THE SIEVE ANALYSIS FOR CONCRETE AGGREGATE SAND (ASTM C-33). USGA TEE/GREEN SIEVE GRADATION MIX IS PREFERABLE WHERE AVAILABLE.
6. THE APPROVAL OF MATERIALS AND MIXING OF SAND, COMPOST, AND SOIL SHALL BE DONE UNDER THE SUPERVISION OF THE PROJECT ENGINEER/LANDSCAPE ARCHITECT.
7. UNDERLYING SOILS SHALL BE TILLED/SCARIFIED PRIOR TO SPREADING/MIXING OF BIORETENTION MEDIA.
8. STORMWATER PLANTER SHALL BE STAKED OUT AND APPROVED BY ENGINEER PRIOR TO CONCRETE POURING.
9. SEPARATION FABRIC SHALL BE LAID PRIOR TO BACKFILLING STORMWATER PLANTER.
10. ALL BIORETENTION MEDIA SHALL BE PLACED FROM THE SIDES OF THE FACILITIES, AND IN NO EVENT SHALL ANY TRACKED OR WHEELED EQUIPMENT BE PERMITTED TO CROSS THE PLANTER BASE.
11. ALL AREAS EXCLUSIVE FROM THE STORMWATER PLANTER AND TRENCH DRAIN SHALL BE RESTORED TO ORIGINAL CONDITIONS.
12. CONTRACTOR SHALL PERFORM REQUIRED TESTING TO DETERMINE SOIL PERMEABILITY AND SEASONAL HIGH WATER TABLE ELEVATION AT THE SITE TO VERIFY INFILTRATION CAPABILITIES. TESTING SHALL BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF THE PROPOSED PROJECTS. PROJECT ENGINEER SHALL BE PRESENT DURING TESTING AND SHALL BE INFORMED OF THE RESULTS.

SPECIFICATIONS:

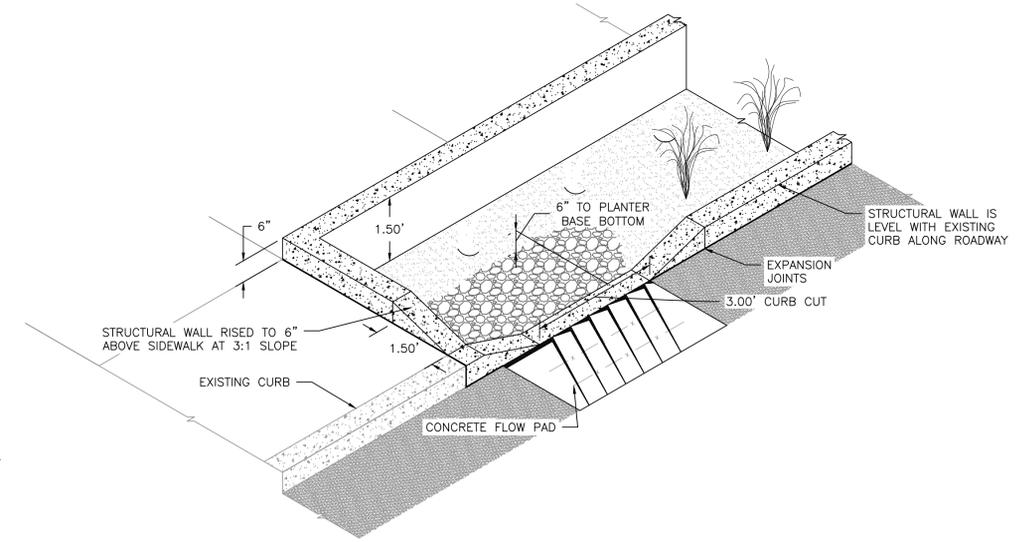
1. BIORETENTION MEDIA SHALL BE COMPRISED OF 70% SAND AND 30% COMPOST MIXTURE.
2. CHOKER COURSE SHALL BE COMPRISED OF 3/8" PEA GRAVEL.
3. STORAGE LAYER AND COMPACTED AGGREGATE LAYER SHALL BE COMPRISED OF NO. 57 CLEAN, WASHED STONE.
4. REFER TO THE SITE PLAN FOR DIMENSIONS AND THE PLANTING PLAN.
5. STRUCTURAL WALL SHALL BE A DEEP CONCRETE CURB IN CONFORMANCE WITH THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.
6. THE CONTRACTOR SHALL ONLY USE CONCRETE WITH 4,500 PSI STRENGTH.



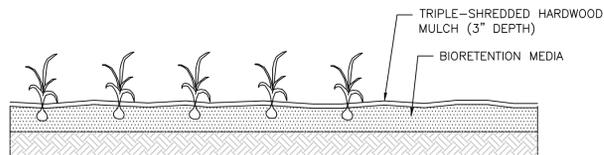
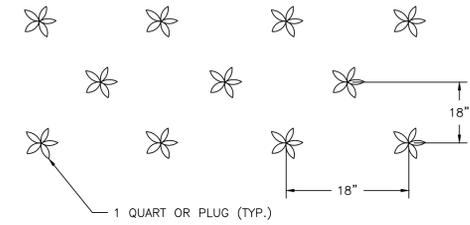
4 LOW FENCE DETAIL
DT-X N.T.S.



5 STORMWATER PLANTER ISOMETRIC VIEW
DT-X N.T.S.



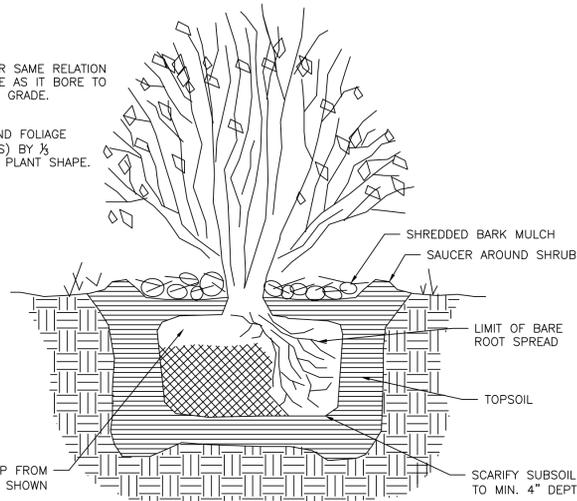
PROFESSIONAL ENGINEER	DATE	XXXXXX
	APPROVED	XXX
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REVISIONS	No.	DATE
DESCRIPTION		
[PROJECT SITE NAME]		
[BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT		
[ADDRESS, CITY]		
[COUNTY NAME] COUNTY, NJ		
STORMWATER PLANTER DETAILS		
RUTGERS New Jersey Agricultural Experiment Station		
SHEET NAME		
DT-X		



1 HERBACEOUS PLUG PLANTING DETAIL
DT-X N.T.S.

SHRUB SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS EXISTING GRADE.

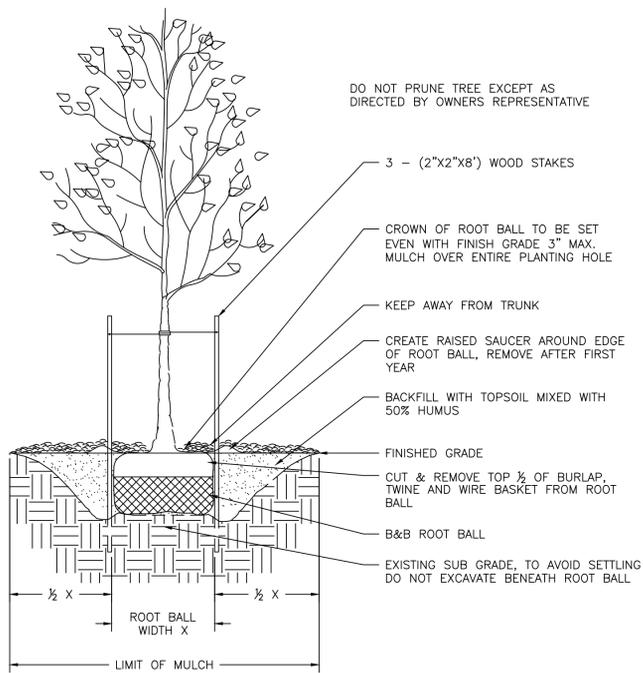
THIN BRANCHES AND FOLIAGE (NOT ALL END TIPS) BY 1/2 RETAINING NORMAL PLANT SHAPE.



CUT & REMOVE BURLAP FROM TOP 1/2 OF BALL AS SHOWN

NOTES:
1. DEER PROTECTION REQUIRED AROUND SHRUB PLANTINGS.

2 SHRUB PLANTING DETAIL
DT-X N.T.S.



NOTES:
1. DO NOT DAMAGE MAIN ROOTS OR ROOT BALL WHEN INSTALLING TREE STAKE.
2. WATER THOROUGHLY AFTER INSTALLATION.
3. REMOVE SAUCER AND STAKES TWO YEARS OR LESS AFTER INSTALLATION.
4. CONTRACTOR IS NOT TO USE TREE WRAP.

3 TREE PLANTING DETAIL
DT-X N.T.S.

OPEN LAWN AND TURF AREAS

- SEED ALL REMAINING PARK AREAS WITH TURF TYPE FALL FESCUE AND PERENNIAL RYEGRASS BLEND (LOFTS - SUMMER STRESS MIX II OR APPROVED EQUIVALENT). INSTALL AT A RATE OF 350 LBS. PER ACRE PER MANUFACTURERS SPECIFICATIONS.

TOPSOILING, SEEDING AND MULCHING NOTES

- ANY UNDISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED FOR MORE THAN 10 DAYS MUST BE SEEDED AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE REQUIRED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR SHALL BE SEEDED AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT SEED MIXTURE AND MULCH.
- DIVERSIONS, CHANNELS, SEDIMENTATION BASINS, SEDIMENT TRAPS, AND STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY.
- GRADED AREAS SHALL BE TEMPORARILY SEEDED AND MULCHED IMMEDIATELY FOLLOWING EARTH MOVING PROCEDURES. TEMPORARY SEED SHALL BE ANNUAL RYE GRASS APPLIED AT A RATE OF 3 LBS. PER 1000 SQ. FT.
- AFTER SEEDING, HAY OR STRAW MULCH MUST BE APPLIED AT A RATE OF AT LEAST 3.0 TONS PER ACRE. MULCH SHALL BE ANCHORED BY EITHER CRIMPING WITH A COULTER IMPLEMENT, OR BY STAPLING BIODEGRADABLE NETTING TO THE SURFACE.
- SITE PREPARATION TO UPLAND AREAS: APPLY 1 TON OF AGRICULTURAL-GRADE LIMESTONE PER ACRE PLUS 10-20-10 FERTILIZER AT THE RATE OF 500 LB. PER ACRE. WORK IN WHERE POSSIBLE. SEEDING OF DISTURBED UPLAND AREAS (BEYOND LIMITS OF RIPARIAN ENHANCEMENT AREA) TO BE DONE USING MIX OF FINE FESCUE AT 35 LBS/ACRE (PURE LIVE SEED) PLUS PERENNIAL RYEGRASS AT 15 LBS/ACRE (PURE LIVE SEED).
- TOPSOIL SHALL BE A CLEAN FRIABLE LOAM WITH SUFFICIENT ORGANIC CONTENT (2.75%) TO PROMOTE PLANT VIGOR. AMENDMENTS SHALL BE ADDED AS NEEDED TO IMPROVE DEFICIENT SOILS. TOPSOIL SHALL BE RETURNED AT A LOOSE DEPTH OF FIVE INCHES TO ALLOW FOR SETTLEMENT.
- ESTABLISH PERMANENT SEEDING AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETE. UNLESS OTHERWISE INDICATED, PERMANENT SEEDING SHALL BE SEED MIXTURE SPECIFIED IN TABLE.
- SEE TABLES FOR SEED SPECIES MIXTURE AND APPLICATION RATES.
- SEED MIXES ARE AVAILABLE AT ERNST CONSERVATION SEEDS IN MEADVILLE, PA. WEBSITE: WWW.ERNSTSEED.COM OR PHONE: 1-800-873-3321.
- NATIVE SHRUBS AND HERBACEOUS PLUGS ARE AVAILABLE AT PINELANDS NURSERY AND SUPPLY, COLUMBUS NJ. WEBSITE: WWW.PINELANDSNURSERY.COM OR PHONE 1-800-667-2729

GENERAL LANDSCAPING NOTES

- ALL PLANT MATERIALS SHALL CONFIRM TO THE AMERICAN ASSOCIATION OF NURSERYMEN'S AMERICAN STANDARD FOR NURSERY STOCK (LATEST EDITION)
- INSPECTION OF PLANTING BEDS - THE LANDSCAPE ARCHITECT SHALL INSPECT ALL PLANTING AREAS BEFORE ANY TOPSOILING OR PLANTING IS BEGUN TO ENSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE LANDSCAPED SHOW EVIDENCE OF POOR DRAINAGE, THE LANDSCAPE ARCHITECT SHALL NOTIFY THE OWNER IMMEDIATELY FOR CORRECTIVE ACTION
- THE LANDSCAPE ARCHITECT SHALL APPROVE ALL PLANT MATERIAL AND STAKED PLANT LOCATIONS PRIOR TO INSTALLATION.
- ALL TREES, SHRUBS, AND GROUNDCOVER SHALL BE PLACED IN CONTINUOUS MULCHED BEDS 4" IN DEPTH. MULCH SHALL BE TRIPLE SHREDDED HARDWOOD.
- ALL TREES, SHRUBS, AND GROUNDCOVER SHALL BE AS SPECIFIED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AND COMMENTS NOTED ON THE DRAWINGS.
- TOPSOIL SHALL BE PROVIDED BY THE LANDSCAPE CONTRACTOR FOR PLANTING ACCORDING TO THE PLANS AND DETAILS.
- PREPARED TOPSOIL FOR BACKFILLING AROUND TREE BALLS SHALL BE A MIXTURE OF VOLUME OF THE FOLLOWING MATERIALS IN QUANTITIES SPECIFIED: 1/3 COMPOST, 2/3 TOPSOIL
- ALL HERBACEOUS PLUG PLANTINGS SHALL BE MINIMUM 3 INCH DEPTH. PLUGS SHALL BE PLANTED 1 FOOT O.C. AS INDICATED ON PLAN.

PLANTING SCHEDULE					
TYPE	KEY	PLANT SPECIES		TOTAL QUANTITY	SIZE
		BOTANICAL NAME	COMMON NAME		
PERENNIALS	EP	<i>Echinacea purpurea</i>	PURPLE CONEFLOWER	XX	1 QUART
	JE	<i>Juncus effusus</i>	SOFT RUSH	XX	1 QUART
	LS	<i>Lobelia cardinalis</i>	CARDINAL FLOWER	XX	1 QUART
	RF	<i>Rudbeckia fulgida</i>	BLACK EYED SUSANS	XX	1 QUART
SHRUBS	SN	<i>Sorghastrum nutans</i>	INDIAN GRASS	XX	1 QUART
	CS	<i>Cornus sericea</i>	RED TWIG DOGWOOD	XX	#2 CONT.
TREES	RT	<i>Rhus typhina</i>	STAGHORN SUMAC	X	6"-8" CONT.

DATE XXXXXX
DATE XXXXXX

APPROVED XXX
CHECKED XXX
DRAWN XXX

PROFESSIONAL ENGINEER

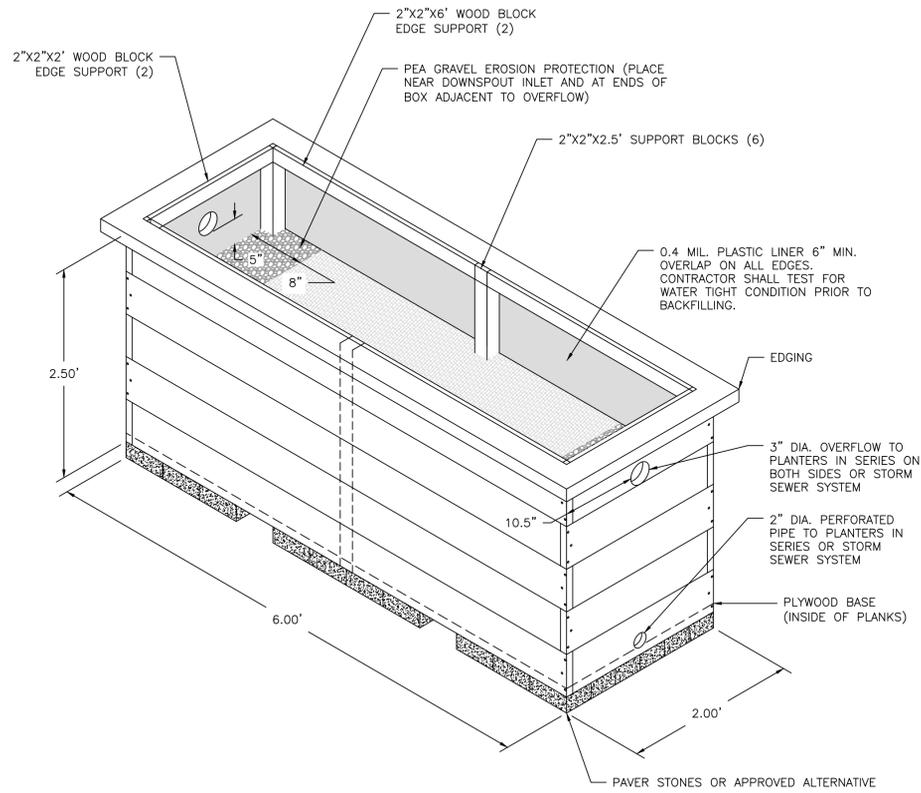
REVISIONS	No.	DATE	DESCRIPTION

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[BMP TYPE, G I F MULT.] IMPLEMENTATION PROJECT
[ADDRESS, CITY]
[COUNTY NAME] COUNTY, NJ

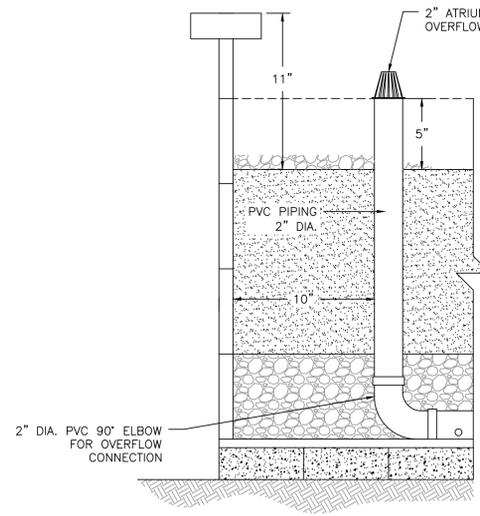
PLANTING AND LANDSCAPING DETAILS


RUTGERS
 New Jersey Agricultural
 Experiment Station

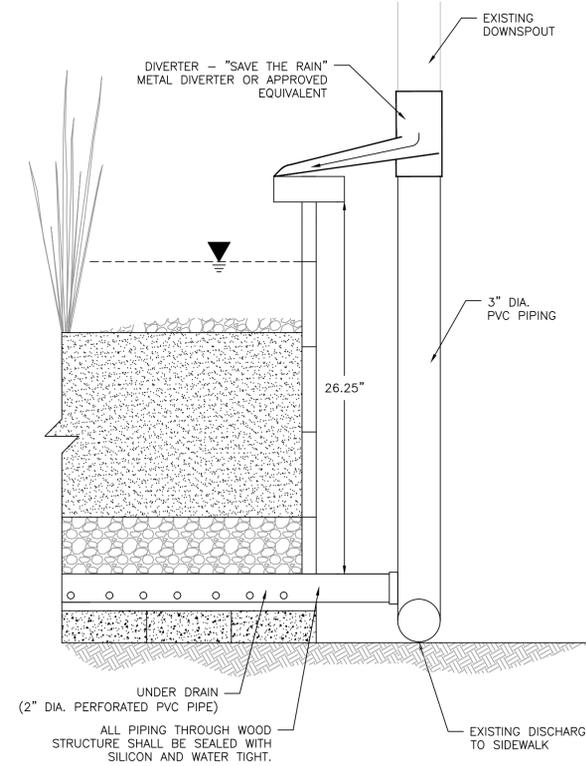
SHEET NAME
DT-X



1 DOWNSPOUT PLANTER BOX DETAIL
DT-X N.T.S.



2 OVERFLOW CONNECTION DETAIL
DT-X N.T.S.



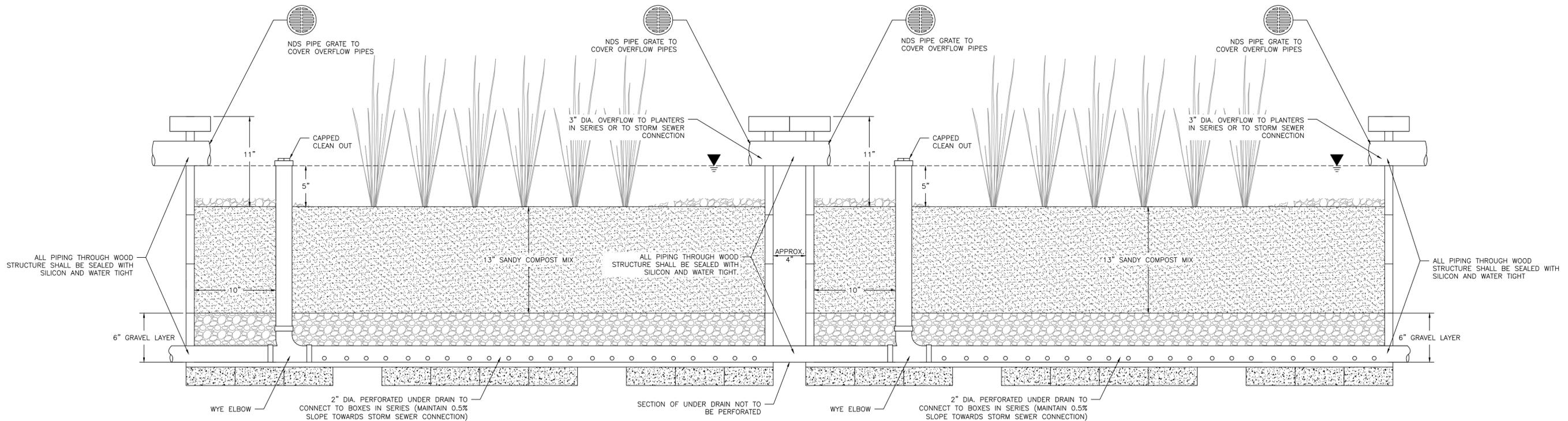
3 UNDER DRAIN CONNECTION DETAIL
DT-X N.T.S.

CONSTRUCTIONS NOTES:

1. THE PLANTER BOX SHALL BE BUILT ACCORDING TO THE DIMENSIONS IN DETAILS AND AS INDICATED ON PLANS.
2. AN EXISTING DOWNSPOUT SHALL BE MODIFIED TO ENTER THE PLANTER BOX. DOWNSPOUT SHALL BE FITTED WITH A DIVERTER ALLOWING FLOW TO BE DIRECTED TO THE BOX OR EXISTING STORM SEWER CONNECTION.
3. PLANTER BOXES SHALL BE PLACED FLUSH AGAINST EACH OTHER AS SHOWN IN THE SITE PLAN.
4. THE CONTRACTOR SHALL DISCUSS ANY MODIFICATIONS WITH THE ENGINEER AND PROPERTY OWNER BEFORE ACTION IS TAKEN.
5. THE PAVER STONE BASE OR APPROVED ALTERNATIVE SHALL BE POSITIONED PRIOR TO ANY OTHER CONSTRUCTION.
6. THE PLANKS SHALL BE BUILT AS SHOWN IN DETAILS. SUPPORTS SHALL BE USED ON THE INSIDE OF BOX AS SHOWN.
7. CONTRACTOR SHALL POSITION AND LEVEL PLANTER BOX THEN LINE WITH PLASTIC LINER PRIOR TO BACKFILLING WITH MATERIALS.
8. ALL OVERFLOW PIPING SHALL BE COMPRISED OF 3" DIAMETER PVC PIPING. THESE OVERFLOW PIPES SHALL BE PLACED AS SHOWN AND CONNECT PLANTER BOXES IN SERIES (AS APPLICABLE). ENDS THAT ARE POSITIONED INSIDE THE PLANTER SHALL BE CAPPED WITH A PVC PIPE GRATE. SEE SPECIFICATION ITEMS #12 & #13.
9. THE UNDERDRAIN PIPE SHALL BE A 2" PERFORATED PVC PIPE.
10. ALL PIPES SHALL BE FITTED AND SECURED WITH ADHESIVE THAT IS IN CONFORMANCE WITH LOCAL PLUMBING CODES.
11. THE LAST BOX IN SERIES SHALL HAVE 2" ATRIUM FOR OVERFLOW. OVERFLOW SHALL CONNECT BACK TO EXISTING STORM SEWER CONNECTION.
12. THE CONTRACTOR SHALL LAY AND COMPACT EACH LAYER ONCE PLANTER BOX IS CONSTRUCTED.
13. PLANTER BOXES CONNECTED IN SERIES SHALL HAVE THE OVERFLOW AND UNDER DRAIN CONNECT THROUGH ENTIRE SYSTEM.

SPECIFICATIONS:

1. PLANTER BOXES SHALL BE LEVEL WHEN INSTALLED.
2. PRIOR TO INSTALLATION, THE CONTRACTOR SHALL PROVIDE ENGINEER SHOP DRAWINGS OF DOWNSPOUT CONNECTIONS AND PIPING NECESSARY.
3. GRAVEL LAYER SHALL BE COMPRISED OF NO. 57 CLEAN, WASHED STONE.
4. SANDY COMPOST MIX SHALL BE COMPRISED OF 85% WASHED SAND AND 15% COMPOST.
5. DIVERTER SHALL BE 'SAVE THE RAIN' METAL DIVERTER OR APPROVED EQUIVALENT.
6. ALL PVC PIPING SHALL BE SCHEDULE 40.
7. THE EROSION PROTECTION SHALL BE COMPRISED OF 3"-5" DIA. CLEAN RIVER STONE.
8. PLANTS SHALL BE SPECIFIED BY THE PLANTING SCHEDULE.
9. ALL WOOD MATERIAL TO BE 2 INCH DIMENSIONAL LUMBER (2"x4", 2"x6", AND/OR 2"x8") AND PRESSURE TREATED FOR USE IN EXTERIOR APPLICATIONS.
10. PLANTER BASE SHALL BE PRESSURE TREATED OR MARINE GRADE PLYWOOD SUITABLE FOR USE IN EXTERIOR APPLICATIONS.
11. ALL CONNECTING SCREWS AND HARDWARE TO BE GALVANIZED OR COATED AND APPROVED FOR EXTERIOR USE WITH TREATED LUMBER.
12. OVERFLOW PIPE GRATES SHALL BE NDS 3" INCH STRUCTURAL-FOAM POLYOLEFIN GRATE MODEL #16 OR EQUIVALENT.
13. OVERFLOW ATRIUM SHALL BE NDS 2" ATRIUM GRATE, PART #270 OR APPROVED EQUIVALENT.
14. UPON ENGINEERS REQUEST, PAVER STONE BASE MAY BE REPLACED WITH 4"x4" PRESSURE TREATED WOOD BLOCKING OR CONCRETE FORMED PAD.
15. UNDER DRAIN PIPE (2" DIAMETER) SHALL HAVE HOLES DRILLED MANUALLY BY CONTRACTOR. THE PERFORATIONS SHALL NOT BE MADE IN SECTION OF THE UNDER DRAIN THAT ARE EXPOSED BETWEEN PLANTER BOXES AS SHOWN IN DETAIL. PERFORATION HOLE SIZE SHALL BE 3/8", HOLE SPACING SHALL BE 5"(±1/8"). NUMBER OF ROWS SHALL BE 2 @ 120" (±5").



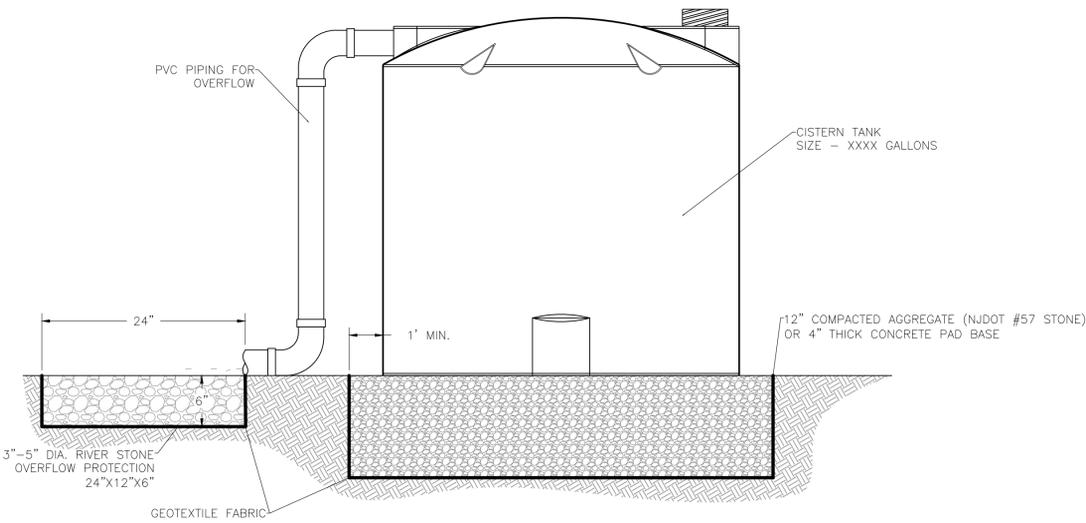
4 DOWNSPOUT PLANTER CROSS SECTION
DT-X N.T.S.

PROFESSIONAL ENGINEER	DATE	XXXXXX
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APPROVED	DATE	XXXXXX
DRAWN	DATE	XXXXXX

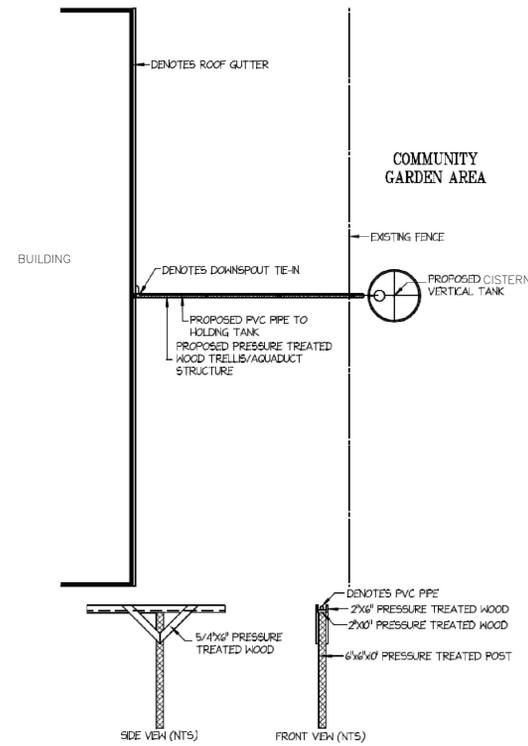
REVISIONS	DESCRIPTION
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[PROJECT SITE NAME]
[BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT
[ADDRESS, CITY]
[COUNTY NAME] COUNTY, NJ
DOWNSPOUT PLANTER BOX DETAILS

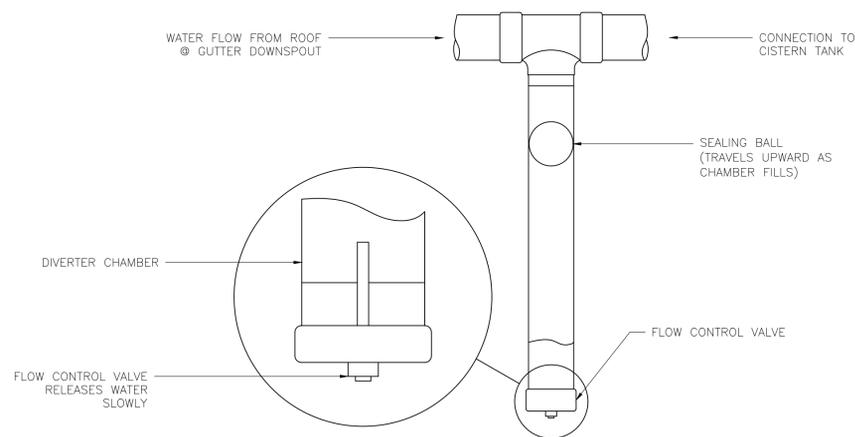




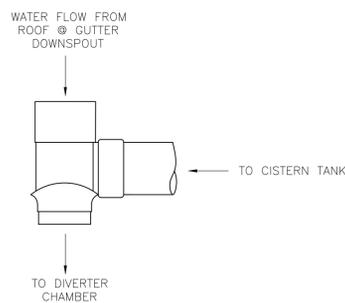
1 CISTERN TANK (TYP.)
DT-X N.T.S.



2 TRELLIS DETAIL
DT-X N.T.S.



3 DOWNSPOUT FIRST FLUSH DIVERTER DETAIL
DT-X N.T.S.



NOTE: ALL PIPING AVAILABLE IN 3" AND 4" SYSTEMS.

4 DOWNSPOUT DIVERTER OPTION 2 DETAIL
DT-X N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO INSTALLATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE ENGINEER PRIOR TO ANY WORK ON SITE.
4. THE CONTRACTOR SHALL AVOID DISTURBING EXISTING AREA, ANY DISTURBANCE TO SIDEWALKS OR LANDSCAPED VEGETATION AND TREES MUST BE COORDINATED WITH THE PROPERTY OWNER.
5. THE CONTRACTOR SHALL USE PVC PIPING FOR CONNECTION FROM ROOF TO CISTERN.
6. ALL PIPES USED FOR CONNECTION FROM ROOFTOP TO CISTERN SHALL BE CLEAR OF ANY CLOGS OR OBSTRUCTIONS. ALL PIPES SHALL BE FITTED AND SECURED WITH ADHESIVE IN CONFORMANCE WITH LOCAL PLUMBING CODES.
7. THE CONTRACTOR SHALL PROVIDE A CRUSHED AGGREGATE BASE OR CONCRETE SLAB WITH 4,500 PSI STRENGTH TO SUPPORT THE CISTERN AS INDICATED ON THE PLAN.
8. THE OVERFLOW FROM THE CISTERN SHALL CONNECT TO THE NEAREST STORM SEWER CATCH BASIN INLET.
9. THE CONTRACTOR SHALL NOT MAKE ANY MODIFICATIONS AT THE SITE UNTIL CONSULTING WITH THE ENGINEER.
10. THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS OF ALL MATERIALS AND CONSTRUCTION METHODS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
11. ALL SYSTEMS SHALL BE TESTED BY THE ENGINEER FOR LEAKS AND WATER TIGHT FITTINGS PRIOR TO ACCEPTANCE AND PAYMENT.
12. THE CONTRACTOR SHALL USE SIMPSON TIE-IN CONNECTORS FOR THE SHADE STRUCTURE.
13. THE CONTRACTOR SHALL USE PRESSURE TREATED LUMBER.
14. THE CONTRACTOR SHALL INSTALL CONCRETE FOOTINGS WITH A MINIMUM 3 FOOT DEPTH.
15. THE CONTRACTOR SHALL NOT MAKE ANY MODIFICATIONS AT THE SITE UNTIL CONSULTING WITH THE ENGINEER.

SPECIFICATIONS:

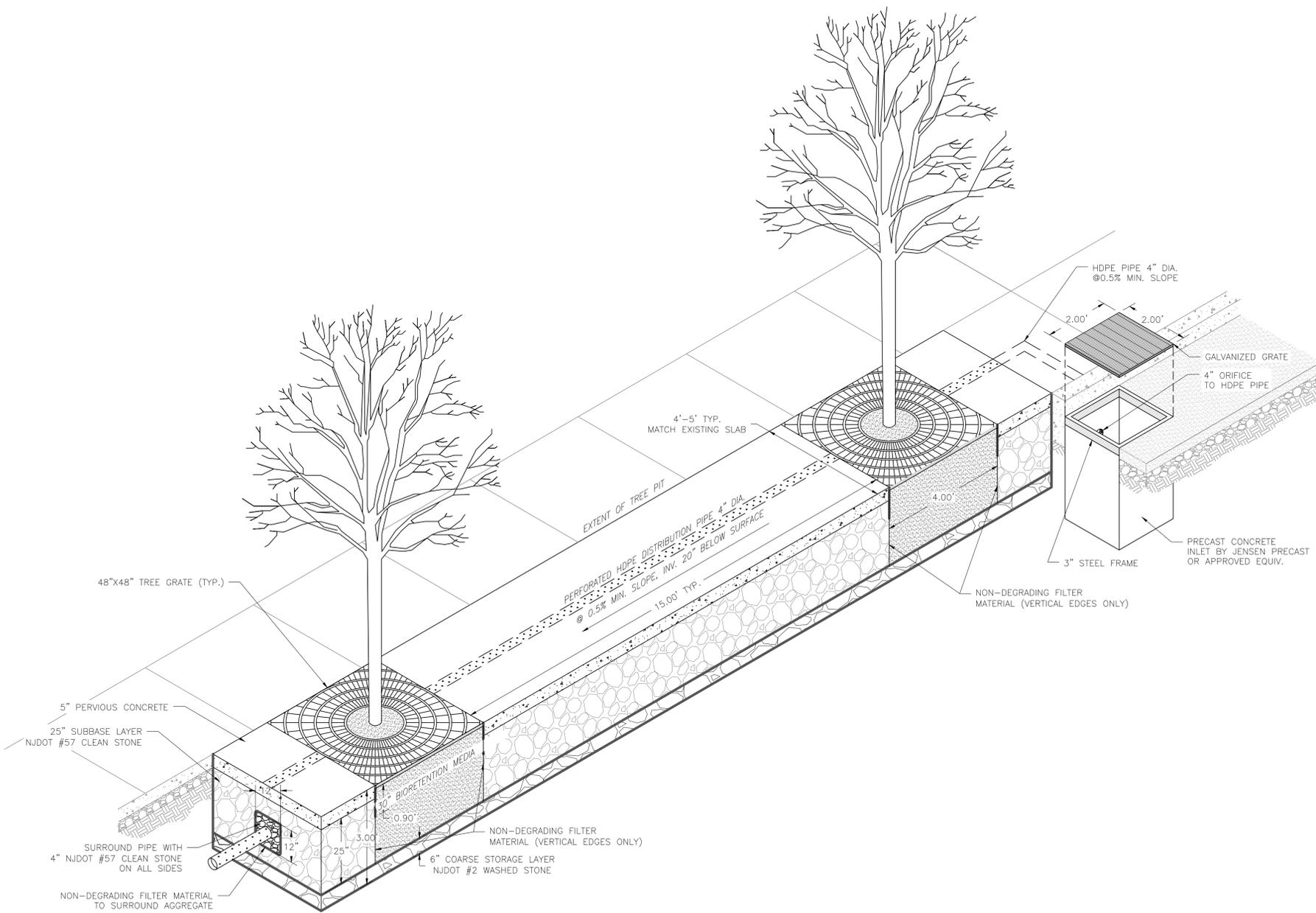
1. CRUSHED AGGREGATE BASE SHALL BE COMPRISED OF NO. 57 STONE. ALTERNATIVE CONCRETE PAD SHALL BE CONCRETE WITH 4,500 PSI STRENGTH.
2. ALL DISTURBED AREAS EXCLUSIVE OF THE CISTERN SHALL BE RESTORED TO ORIGINAL CONDITIONS BY THE CONTRACTOR.
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF DOWNSPOUT CONNECTIONS TO CISTERN FOR ENGINEERS APPROVAL PRIOR TO INSTALLATION.
4. DIVERTER FILTER BOX SHALL BE RAINHARVESTING@FIRST FLUSH DOWNSPOUT DIVERTER (PRODUCT CODE: WDD59X) OR EQUIVALENT.
5. OVERFLOW SHALL DISCHARGE TO LAWN AREA UNLESS SPECIFIED OTHERWISE. STONE PROTECTION COMPRISED OF 3"-5" DIA. CLEAN RIVER STONE SHALL BE INSTALLED AS SHOWN IN DETAIL.

PROFESSIONAL ENGINEER	DATE	XXXXXX
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	DRAWN	XXX

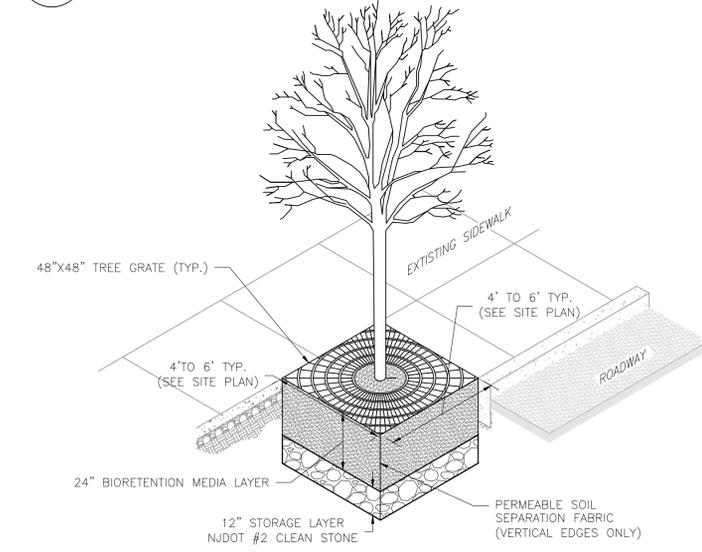
REVISIONS	No.	DATE	DESCRIPTION

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CISTERN DETAILS

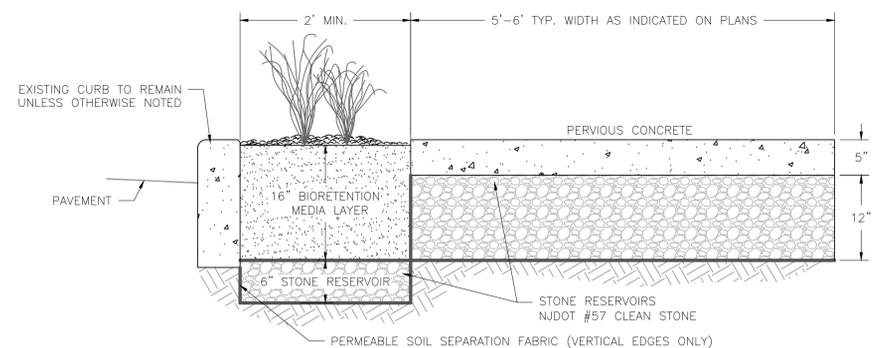




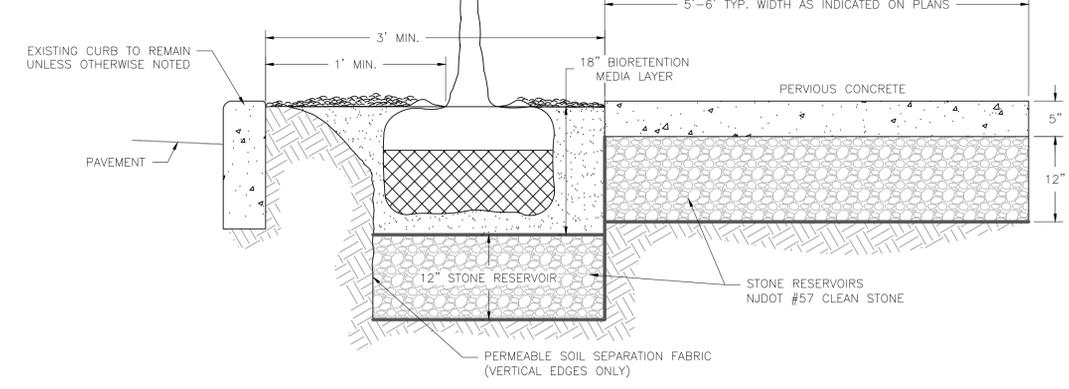
1 CONTINUOUS TREE PIT DETAIL
DT-X N.T.S.



2 ENHANCED TREE PIT
DT-X N.T.S.



3 STREET GRASS PLANTING AND PERVIOUS CONCRETE
DT-X N.T.S.



4 STREET TREE PLANTING AND PERVIOUS CONCRETE
DT-X N.T.S.

CONSTRUCTION NOTES:

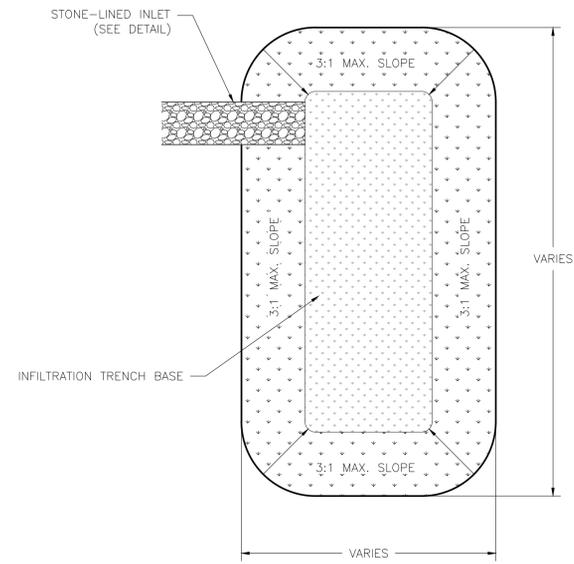
1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE ENGINEER SHALL INSPECT ALL PLANTING BED AREAS BEFORE PLANTING TO ENSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE PLANTED SHOW EVIDENCE OF POOR DRAINAGE, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION.
4. THE CONTRACTOR SHALL HAVE ALL UTILITIES MARKED BEFORE ANY EXCAVATION. IF ANY UTILITIES INTERFERE WITH THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
5. THE ENTIRE CONTINUOUS TREE PIT AND/OR ENHANCED TREE PIT SHALL BE EXCAVATED, THE CONTRACTOR SHALL DISPOSE OF ANY EXCESS MATERIALS.
6. THE CONTRACTOR SHALL AVOID OVER COMPACTING THE EXISTING MATERIALS IN ORDER TO AVOID POOR INFILTRATION OR SHORT LIFETIME OF PAVEMENT.
7. THE CONTRACTOR SHALL ESTABLISH ALL ELEVATIONS AND LINES AS SHOWN IN THE SITE PLAN FOR REVIEW BY THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS.
8. THE CONTRACTOR SHALL VERIFY THAT THE SUBGRADE IS CONSISTENT WITH LINE, GRADE, AND ELEVATIONS AS INDICATED IN THE SITE PLAN. ANY AREAS SHOWING EROSION OR POTENTIAL PONDING SHALL BE REGRADED BEFORE SUBBASE INSTALLATION.
9. IMMEDIATELY AFTER THE SUBGRADE IS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL BEGIN SUBBASE CONSTRUCTION WHICH INCLUDES ALL MATERIALS BELOW THE PAVEMENT AND ABOVE THE EXISTING SUBGRADE.
10. THE CONTRACTOR SHALL PLACE GEOTEXTILE FABRIC IN CONFORMANCE WITH MANUFACTURER'S STANDARDS. ALL ADJACENT FABRIC SHALL BE OVERLAPPED BY AT LEAST 16 INCHES. THE FABRIC SHALL BE SECURED AT LEAST FOUR FEET OUTSIDE OF THE EXCAVATED BASE. THE ENTIRE PIT PERIMETER SHALL BE LINED WITH GEOTEXTILE FABRIC.
11. THE STORAGE LAYER (NO. 2) SHALL BE INSTALLED EVENLY OVER THE EXISTING SUBGRADE AND PERMEABLE FABRIC. STORAGE LAYER AGGREGATE SHALL BE INSTALLED TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION.
12. THE BIORETENTION MEDIA LAYER SHALL BE INSTALLED EVENLY OVER THE STORAGE LAYER AND FABRIC.
13. CONTRACTOR SHALL PERFORM REQUIRED TESTING TO DETERMINE SOIL PERMEABILITY AND SEASONAL HIGH WATER TABLE ELEVATION AT THE SITE TO VERIFY INFILTRATION CAPABILITIES. TESTING SHALL BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF THE PROPOSED PROJECTS. PROJECT ENGINEER SHALL BE PRESENT DURING TESTING AND SHALL BE INFORMED OF THE RESULTS.
14. THE INFILTRATION RATE SHALL BE AT LEAST 0.5 IN/AHR OR 50 % OF THE HYDRAULIC CONDUCTIVITY (D3385).
15. AFTER SUBBASE AGGREGATE INSTALLATION THE GEOTEXTILE FABRIC SHALL BE FOLDED BACK ALONG ALL BED EDGES. THE FABRIC SHALL REMAIN SECURE UNTIL ADJACENT SOILS ESTABLISH VEGETATION. ANY NECESSARY MEASURES SHALL BE TAKEN TO PREVENT SEDIMENT FROM WASHING INTO BEDS.
16. CONCRETE SHALL BE INSTALLED IN CONFORMANCE WITH NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.

SPECIFICATIONS:

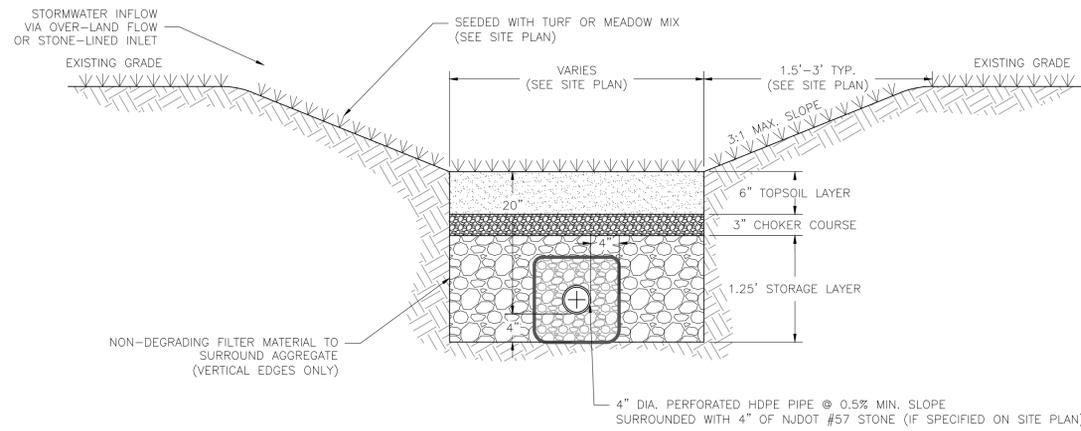
1. THE TREE GRATES SHALL BE THE RETROFIT COLLECTION GRATES (R-9002) FROM NEENAH FOUNDRY. GRATES SHALL BE 48" ON EACH SIDE WITH A 16" DIAMETER EXPANDABLE TREE OPENING OR APPROVED ALTERNATIVE FOR CONTINUOUS TREE PIT. FOR ENHANCED TREE PIT THE GRATE SHALL BE 48" - 72" ON EACH SIDE WITH A 16" DIAMETER EXPANDABLE TREE OPENING OR APPROVED ALTERNATIVE. SEE SITE PLAN FOR GRATE DIMENSIONS FOR ENHANCED TREE PITS.
2. THE BIORETENTION LAYER SHALL BE COMPRISED OF 70% SAND AND 30% COMPOST MIXTURE.
3. THE COARSE STORAGE LAYER SHALL BE COMPRISED OF NO. 2 WASHED STONE. THE LAYER SHALL BE COMPACTED MULTIPLE TIMES. ALL OTHER STORAGE LAYERS SHALL BE COMPRISED OF NO. 57 WASHED STONE.
4. REFER TO SITE PLAN FOR PLANTING SCHEDULE.

PROFESSIONAL ENGINEER		DATE XXXXXX
DRAWN XXX		APPROVED XXX
CHECKED XXX		
REVISIONS		
No.	DATE	DESCRIPTION

[PROJECT SITE NAME]
[BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT
[ADDRESS, CITY]
[COUNTY NAME] COUNTY, NJ
TREE PIT AND STREET PLANTING DETAILS



1 INFILTRATION TRENCH PLAN VIEW
DT-X N.T.S.



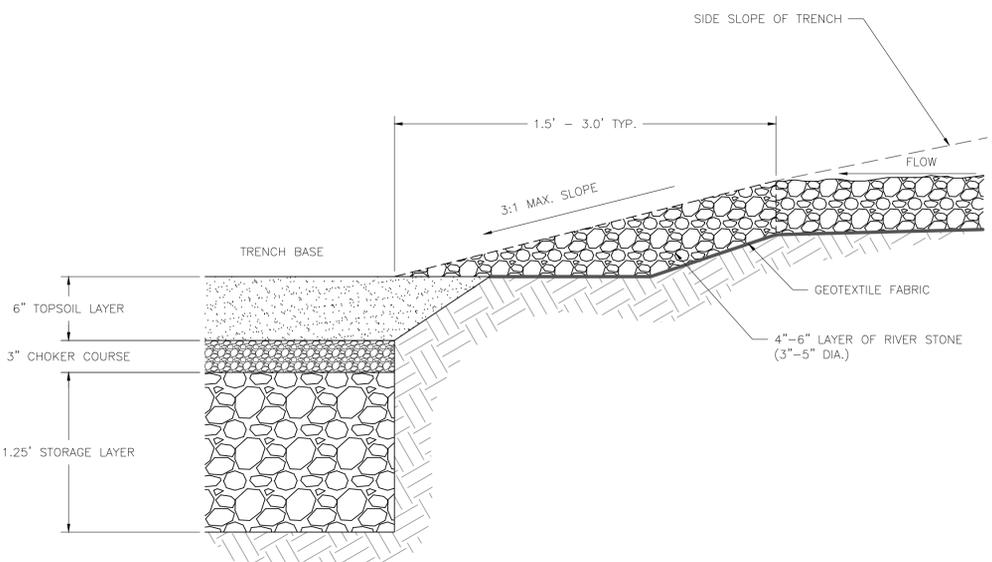
2 INFILTRATION TRENCH CROSS-SECTION
DT-X N.T.S.

CONSTRUCTION NOTES:

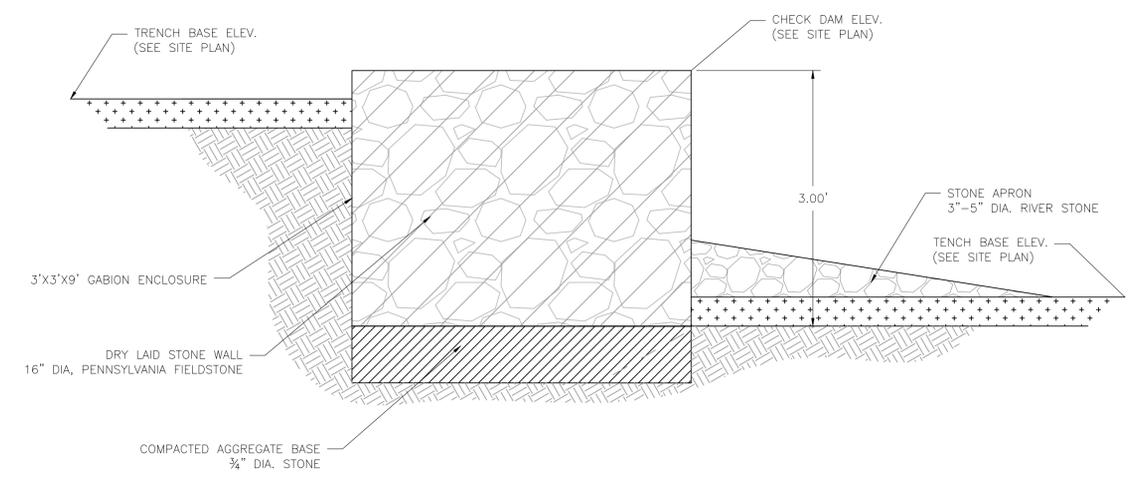
1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE ENGINEER SHALL INSPECT ALL PLANTING BED AREAS BEFORE PLANTING TO ENSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE PLANTED SHOW EVIDENCE OF POOR DRAINAGE, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION.
4. THE CONTRACTOR SHALL HAVE ALL UTILITIES MARKED BEFORE ANY EXCAVATION. IF ANY UTILITIES INTERFERE WITH THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
5. THE ENTIRE FILTER STRIP/INFILTRATION TRENCH SHALL DISPOSE OF ANY EXCESS MATERIALS OR REUSE ON SITE IF APPROPRIATE.
6. THE CONTRACTOR SHALL AVOID OVER COMPACTING THE EXISTING MATERIALS IN ORDER TO AVOID POOR INFILTRATION.
7. THE CONTRACTOR SHALL ESTABLISH ALL ELEVATIONS AND LINES AS SHOWN IN THE SITE PLAN FOR REVIEW BY THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS.
8. THE CONTRACTOR SHALL VERIFY THAT THE SUBGRADE IS CONSISTENT WITH LINE, GRADE, AND ELEVATIONS AS INDICATED IN THE SITE PLAN. ANY AREAS SHOWING EROSION OR POTENTIAL PONDING SHALL BE REGRADED BEFORE SUBBASE INSTALLATION.
9. IMMEDIATELY AFTER THE SUBGRADE IS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL BEGIN SUBBASE CONSTRUCTION WHICH INCLUDES ALL MATERIALS BELOW THE PAVEMENT AND ABOVE THE EXISTING SUBGRADE.
10. THE CONTRACTOR SHALL PLACE GEOTEXTILE FABRIC IN CONFORMANCE WITH MANUFACTURER'S STANDARDS. ALL ADJACENT FABRIC SHALL BE OVERLAPPED BY AT LEAST 16 INCHES. THE FABRIC SHALL BE SECURED AT LEAST FOUR FEET OUTSIDE OF THE EXCAVATED BASE. THE ENTIRE PIT PERIMETER SHALL BE LINED WITH GEOTEXTILE FABRIC.
11. THE STORAGE LAYER (NO. 57) SHALL BE INSTALLED EVENLY OVER THE EXISTING SUBGRADE. STORAGE LAYER AGGREGATE SHALL BE INSTALLED TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION.
12. THE CHOKER COURSE (3/8" DIA. PEA GRAVEL) SHALL BE INSTALLED ABOVE APPROVED STORAGE LAYER.
13. THE BIORETENTION MEDIA LAYER SHALL BE INSTALLED EVENLY OVER THE STORAGE LAYER AND FABRIC.
14. CONTRACTOR SHALL PERFORM REQUIRED TESTING TO DETERMINE SOIL PERMEABILITY AND SEASONAL HIGH WATER TABLE ELEVATION AT THE SITE TO VERIFY INFILTRATION CAPABILITIES. TESTING SHALL BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF THE PROPOSED PROJECTS. PROJECT ENGINEER SHALL BE PRESENT DURING TESTING AND SHALL BE INFORMED OF THE RESULTS.
15. THE INFILTRATION RATE SHALL BE AT LEAST 0.5 IN/HR OR 50 % OF THE HYDRAULIC CONDUCTIVITY (D3385).
16. AFTER SUBBASE AGGREGATE INSTALLATION THE GEOTEXTILE FABRIC SHALL BE FOLDED BACK ALONG ALL BED EDGES. THE FABRIC SHALL REMAIN SECURE UNTIL ADJACENT SOILS ESTABLISH VEGETATION. ANY NECESSARY MEASURES SHALL BE TAKEN TO PREVENT SEDIMENT FROM WASHING INTO BEDS.

SPECIFICATIONS:

1. THE TOPSOIL LAYER SHALL BE COMPRISED OF 70% SAND AND 30% COMPOST MIXTURE.
2. THE CHOKER COURSE SHALL BE COMPRISED OF 3/8" DIA. PEA GRAVEL, CLEAN AND WASHED.
3. THE STORAGE LAYER SHALL BE COMPRISED OF NO. 57 CLEAN, WASHED STONE.
4. THE STONE-LINED INLET FOR INFILTRATION TRENCH SHALL BE COMPRISED OF 3"-5" DIAMETER CLEAN RIVER STONE.
5. INFILTRATION TRENCH SHALL BE SEEDING WITH TURF UNLESS SPECIFIED OTHERWISE ON PLANS.



3 STONE-LINED INLET FOR TRENCH
DT-X N.T.S.



4 GABION STONE CHECK DAM DETAIL
DT-X N.T.S.

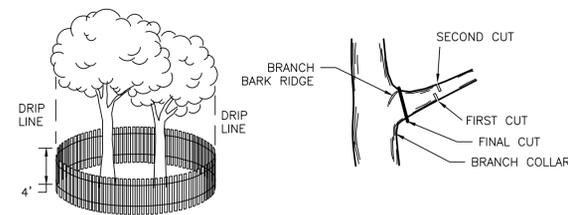
REVISIONS No. DATE	DESCRIPTION
PROFESSIONAL ENGINEER	DATE: XXXXXX APPROVED: XXX CHECKED: XXX DRAWN: XXX
[PROJECT SITE NAME] [BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT [ADDRESS, CITY] [COUNTY NAME] COUNTY, NJ INFILTRATION TRENCH DETAILS	
SHEET NAME DT-X	

- ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATION AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
- SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED. AFTER RESTORATION IS COMPLETE, TEMPORARY CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF PROPERLY.
- THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
- ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN TEN (10) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE NEW JERSEY STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
- IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT.
- ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE NEW JERSEY STANDARDS IMMEDIATELY FOLLOWING ROUGH GRADING.
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
- ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
- A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS
- ALL DRIVEWAYS MUST BE STABILIZED WITH 2 1/2" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- ALL CATCH BASIN INLETS WILL BE PROTECTED ACCORDING TO THE CERTIFIED PLAN.
- ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
- ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE SEDIMENT FILTER SHOULD BE COMPOSED OF A SUITABLE SEDIMENT FILTER FABRIC. (SEE DETAIL) THE BASIN MUST BE DEWATERED TO NORMAL POOL WITHIN 10 DAYS OF THE DESIGN STORM.
- NISA 4:24-39, ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE ALL PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR THE PROJECT MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE AS A PREREQUISITE TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
- MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
- OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
- A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
- THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS PRIOR TO ANY LAND DISTURBANCE.
- ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ANY SUBSEQUENT OWNERS.
- IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, THE STOCKPILE MUST BE STABILIZED ACCORDING TO THE STANDARD FOR TEMPORARY VEGETATIVE COVER. STABILIZE TOPSOIL PILE WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING. ALL SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY AND THE BASE MUST BE PROTECTED WITH A SEDIMENT BARRIER.
- ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT. THE REVISED PLAN MUST BE IN ACCORDANCE WITH THE CURRENT NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
- METHODS FOR THE MANAGEMENT OF HIGH ACID PRODUCING SOILS SHALL BE IN ACCORDANCE WITH THE STANDARDS. HIGH ACID PRODUCING SOILS ARE THOSE FOUND TO CONTAIN IRON SULFIDES OR HAVE A pH OF 4 OR LESS.
- TEMPORARY AND PERMANENT SEEDING MEASURES MUST BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS, AND MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
- MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
- ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE.
- ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF THE NURSERYMEN AND IN ACCORDANCE WITH THE NEW JERSEY STANDARDS.
- NATURAL VEGETATION AND SPECIES SHALL BE RETAINED WHERE SPECIFIED ON THE LANDSCAPE PLAN.
- THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" PREPARED BY THE NEW JERSEY STATE SOIL CONSERVATION COMMITTEE, 1999, INCORPORATED HEREIN BY REFERENCE, AS AMENDED AND SUPPLEMENTED. COPIES OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" ARE AVAILABLE FOR A FEE FROM THE NEW JERSEY DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION COMMITTEE, OR FROM THE OFFICE OF ANY OF THE 16 LOCAL CONSERVATION DISTRICTS.
- DISTURBED AREAS THAT WILL BE EXPOSED IN EXCESS OF 10 DAYS SHALL BE TEMPORARILY SEEDED AND/OR MULCHED UNTIL PROPER WEATHER CONDITIONS EXIST FOR ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER.

- THE SPECIFICATIONS WHICH SPELL OUT THE ENVIRONMENTAL AND CULTURAL RESOURCE PROTECTION/RESTORATION FROM N.J.A.C. 7:22-10.11 AND N.J.A.C. 7:22-10.12, SHALL HAVE PRECEDENCE OVER OTHER POTENTIALLY CONTRADICTORY LANGUAGE CONTAINED ELSEWHERE IN THE DESIGN CONTRACT DOCUMENTS. IN INSTANCES WHERE THE PROVISIONS OF A DEPARTMENT-ISSUED PERMIT CONTRADICT A PROVISION OF THE SPECIFICATIONS (INCLUDING THOSE IDENTIFIED IN ENVIRONMENTAL ASSESSMENT REQUIREMENTS FOR STATE ASSISTED ENVIRONMENTAL INFRASTRUCTURE FACILITIES, N.J.A.C. 7:22-10), THE ENVIRONMENTAL RESOURCES PROTECTION AND/OR RESTORATION AND CULTURAL RESOURCE MITIGATION MEASURES IDENTIFIED IN THE DEPARTMENT-ISSUED PERMIT SHALL GOVERN.

Prohibited Construction Procedures

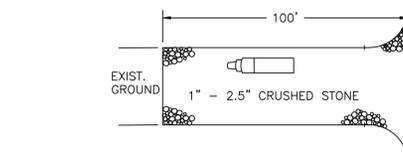
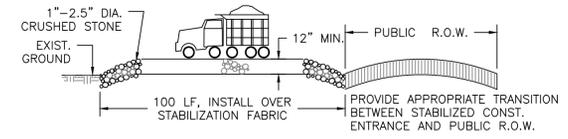
- DUMPING OF SPOIL MATERIAL INTO ANY STREAM CORRIDOR, ANY WETLANDS, ANY VERNAL HABITATS, ANY SURFACE WATERS, ANY SITES LISTED OR ELIGIBLE FOR LISTING ON THE NEW JERSEY OR NATIONAL REGISTERS OF HISTORIC PLACES, OR AT UNSPECIFIED LOCATIONS.
- INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, WETLANDS, VERNAL HABITATS OR SURFACE WATERS.
- PUMPING OF SILT LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATER, STREAM CORRIDORS, WETLANDS, OR VERNAL HABITATS.
- DAMAGING VEGETATION ADJACENT TO OR OUTSIDE OF THE ACCESS ROAD OR THE RIGHT OF WAY.
- DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS, VERNAL HABITATS, SURFACE WATERS, OR AT UNSPECIFIED LOCATIONS.
- PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM.
- OPEN BURNING OF PROJECT DEBRIS.
- USE OF CALCIUM CHLORIDE, PETROLEUM PRODUCTS, OR OTHER CHEMICALS FOR DUST CONTROL.
- USE OF ASPHALTIC MULCH BINDERS.
- ANY UNPERMITTED DISCHARGE OF SEWAGE.



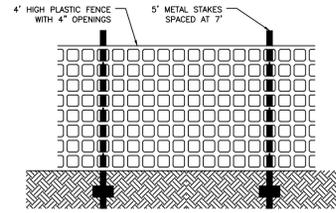
NOTES:

- TREE PROTECTION SHALL BE PROVIDED FOR ANY AND ALL TREES TO BE PROTECTED DURING AND AFTER CONSTRUCTION.
- 4 FOOT HIGH SNOW FENCE SHALL BE PLACED AT THE DRIP LINE OF THE TREE AND ENCLOSE THE ENTIRE TREE.
- ROOTS SHALL NOT BE CUT IN ANY AREA INSIDE THE DRIP LINE OF THE BRANCHES.
- TREE LIMB REMOVAL, WHERE NECESSARY, WILL BE DONE FLUSH WITH TRUNK OR MAIN LIMB, GOOD GRADE OF TREE PAINT AND BE PERFORMED UNDER THE SUPERVISION OF A LICENSED NURSERYMAN.

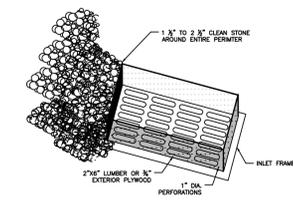
1 TREE PROTECTION AND LIMB REMOVAL
DT-X N.T.S.



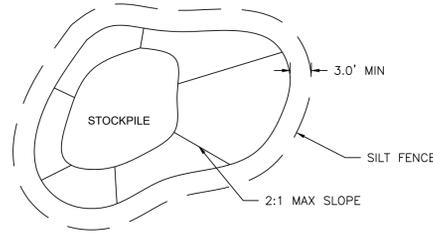
2 CONSTRUCTION ENTRANCE
DT-X N.T.S.



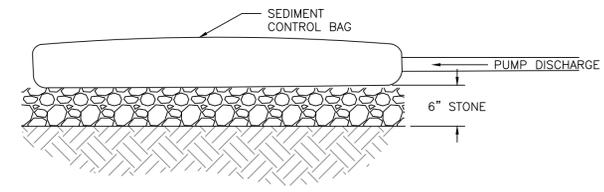
3 ORANGE BARRIER FENCE
DT-X N.T.S.



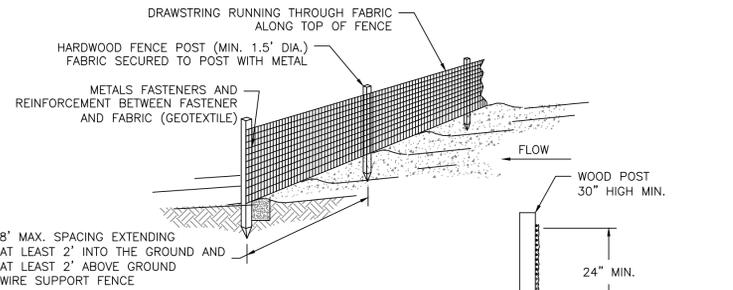
4 INLET PROTECTION
DT-X N.T.S.



5 STOCKPILING AREA DETAIL
DT-X N.T.S.



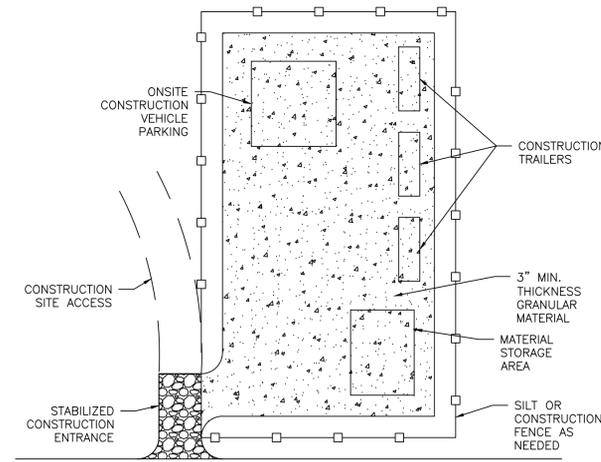
6 DEWATERING ELEVATION DETAIL
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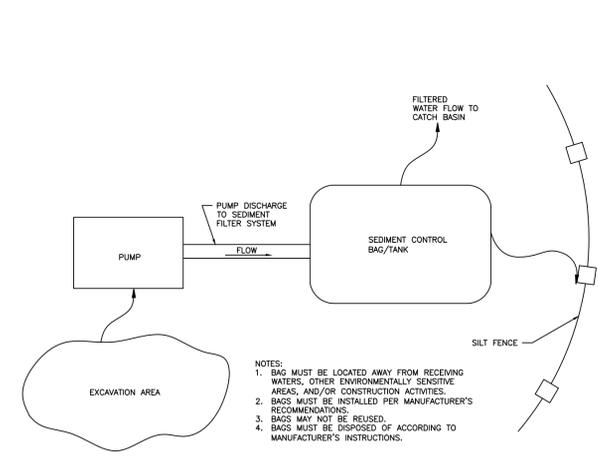
NOTES:

- SILT FENCE SHALL BE PLACED ALONG SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. (9\"/>

7 SILT FENCE
DT-X N.T.S.



8 STAGING AREA DETAIL
DT-X N.T.S.

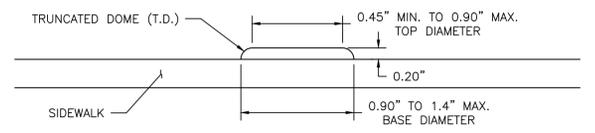
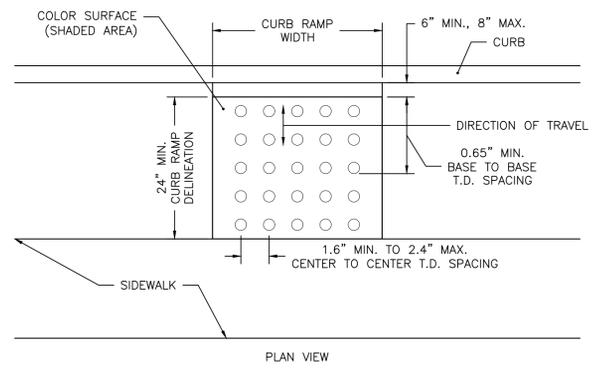
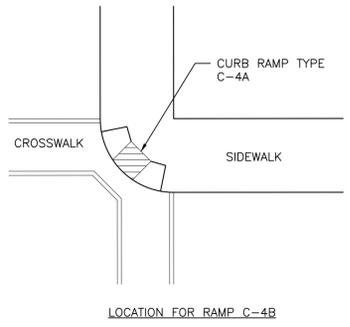
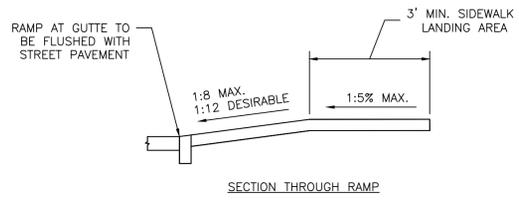
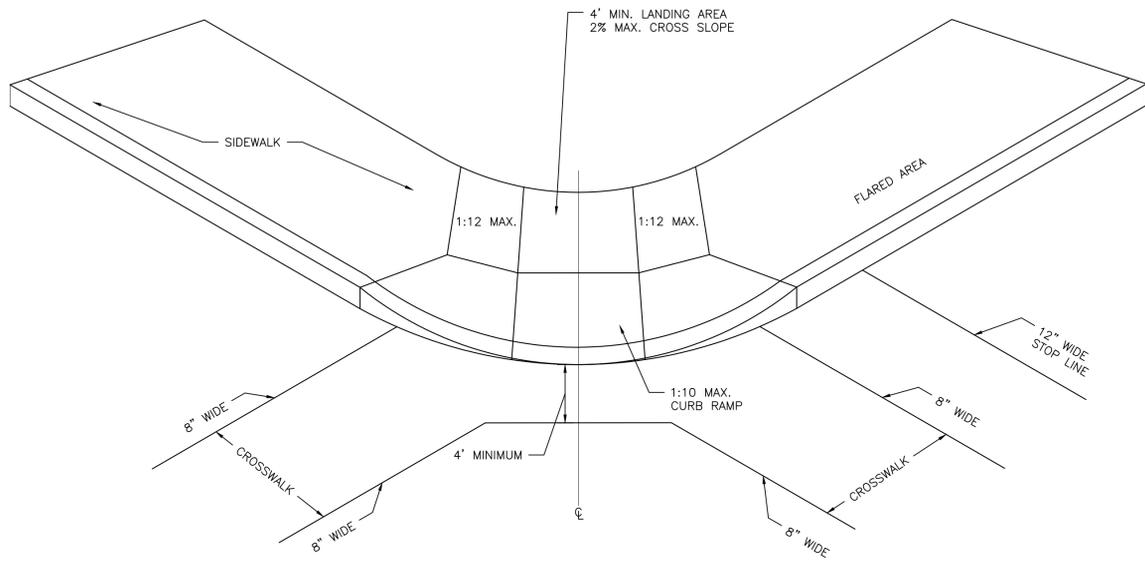


NOTES:

- BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS, OTHER ENVIRONMENTALLY SENSITIVE AREAS, AND/OR CONSTRUCTION ACTIVITIES.
- BAGS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- BAGS MAY NOT BE REUSED.
- BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

9 DEWATERING PLAN DETAIL
DT-X N.T.S.

PROFESSIONAL ENGINEER	DATE	XXXXXX	
	APPROVED	XXX	
	CHECKED	XXX	
	DRAWN	XXX	
REVISIONS	No.	DATE	DESCRIPTION
[PROJECT SITE NAME] IMPLEMENTATION PROJECT			
[BMP TYPE, G I F MULT.]			
[ADDRESS, CITY]			
[COUNTY NAME] COUNTY, NJ			
SOIL EROSION AND SEDIMENT CONTROL DETAILS			
SHEET NAME			
DT-X			



DC-606-1.1

GENERAL NOTES:

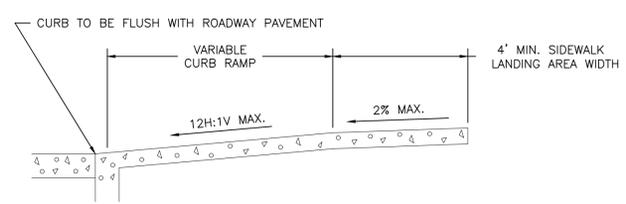
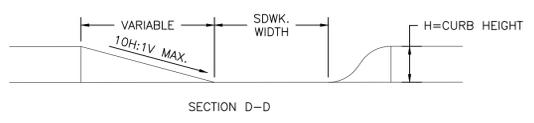
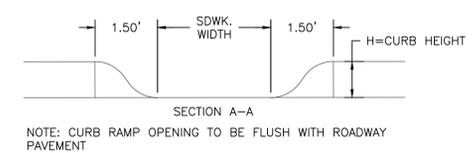
1. LANDING AREA, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
2. DIMENSIONS SHOWN IN TABLES ARE FOR RELATIVELY FLAT SIDEWALK AREAS. CARE SHOULD BE TAKEN WHEN DETERMINING CURB RAMP SIZE BASED ON CURB HEIGHT (H) WHERE ELEVATION OF CURB AND SIDEWALK VARY DRASTICALLY IN AREA OF PROPOSED CURB RAMP.
3. CURB (DROPPED CURB) GUTTERLINE TO BE FLUSH WITH ROADWAY PAVEMENT A MINIMUM OF 4 FEET AT ALL CURB RAMPS.
4. SIDEWALK AND CURB RAMP WITHIN AREA ENCLOSED BY HEAVY LINES TO BE PAID FOR AS CONCRETE SIDEWALK OF THE APPROPRIATE ADJACENT THICKNESS.
5. CURB AND HEADER WITHIN AREA ENCLOSED BY HEAVY LINES TO BE PAID FOR AS VERTICAL CURB OR SLOPING CURB OF THE APPROPRIATE ADJACENT SIZE AND KIND.
6. CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED, SEE PLANS.
7. PREFERRED AND ALTERNATE TREATMENTS SHOULD NOT BE INTERMIXED WITHIN THE SAME INTERSECTION.
8. DIMENSIONS SHOWN IN TABLES ARE FOR 3 INCH TO 9 INCH CURB HEIGHTS. WHERE THE CURB HEIGHTS ARE OTHER THAN WHAT IS PROVIDED IN THE TABLES, THE DIMENSIONS OF THE RAMPS WILL HAVE TO BE CALCULATED BASED ON CROSS SLOPES SHOWN.

CURBING GENERAL NOTES

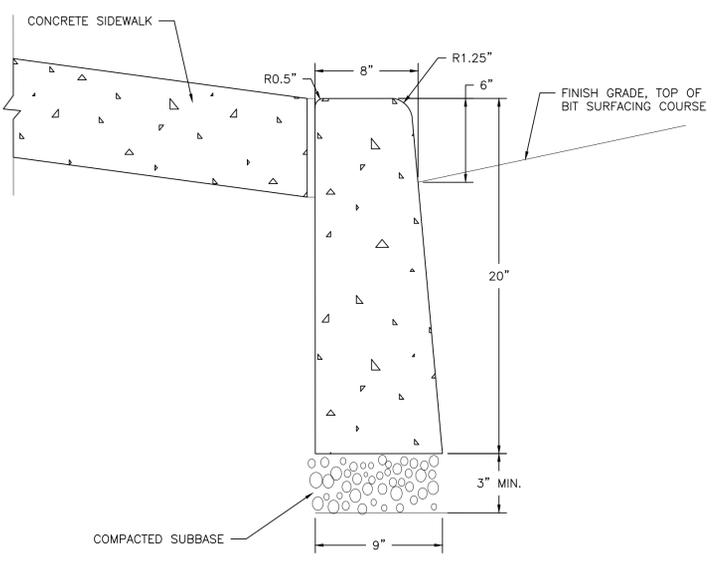
1. ALL CONCRETE SHALL CONFORM TO 2001 NJ D.O.T. STANDARD SPEC. FOR ROAD & BRIDGE CONSTRUCTION SECTION 914 CLASS "B" AIR ENTRAINED.
2. EXPANSION JOINTS SHALL BE AT 10-FOOT INTERVALS AND FILLED WITH A HALF INCH THICK, NON-EXTRUDABLE, FIBROUS, BITUMASTIC MATERIAL.
3. ALL CONCRETE WORK SHALL HAVE A WOOD FLOAT AND TRANSVERSE BROOM.
4. FINISH BROOMING SHALL BE DONE BEFORE INITIAL SET USING A STEEL OR BARN BROOM.
5. SUBBASE SHALL BE FIRM AND APPROVED BY THE MUNICIPALITY NJDOT STANDARDS SPEC.
6. FORM WORK SHALL BE APPROVED BY THE ENGINEER OR HIS REPRESENTATIVE PRIOR TO POURING.
7. THE 8" X 20" CROSS SECTION SHALL BE USED FOR ALL DEPRESSED CURB IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS.
8. PROVIDE 1/2" THICK NON-EXTRUDABLE, FIBROUS BITUMASTIC MATERIAL WHERE CURB MEETS SIDEWALK.

1 NJDOT CURB RAMP
DT-X N.T.S.

3 DETECTABLE WARNING SURFACE
DT-X N.T.S.

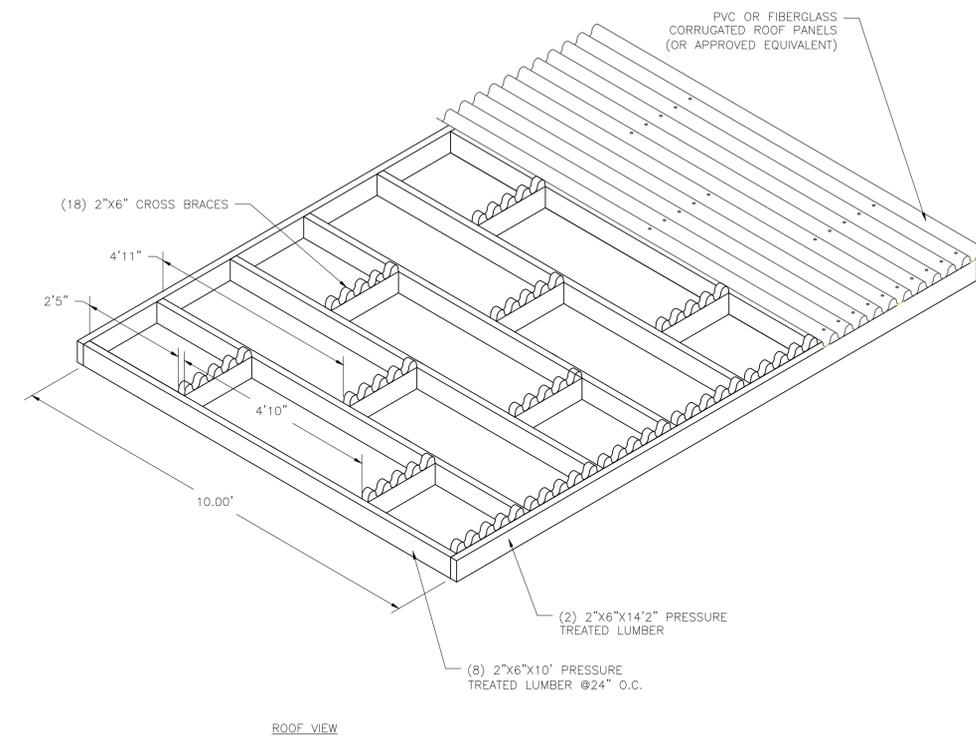
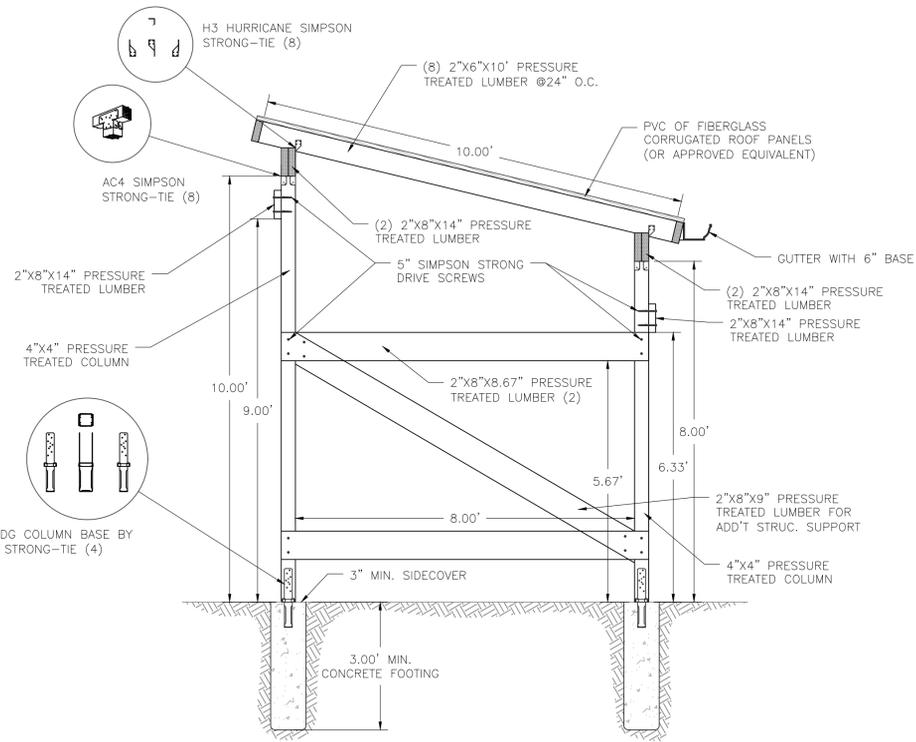


2 CURB RAMP SECTIONS
DT-X N.T.S.



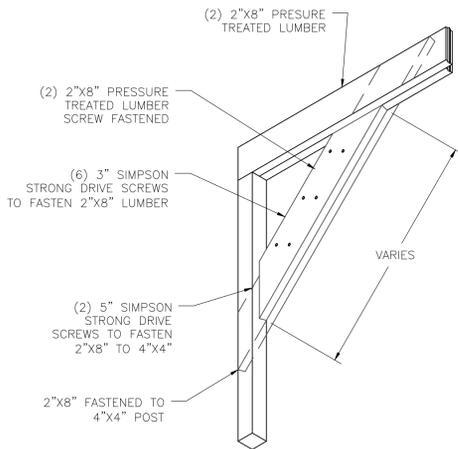
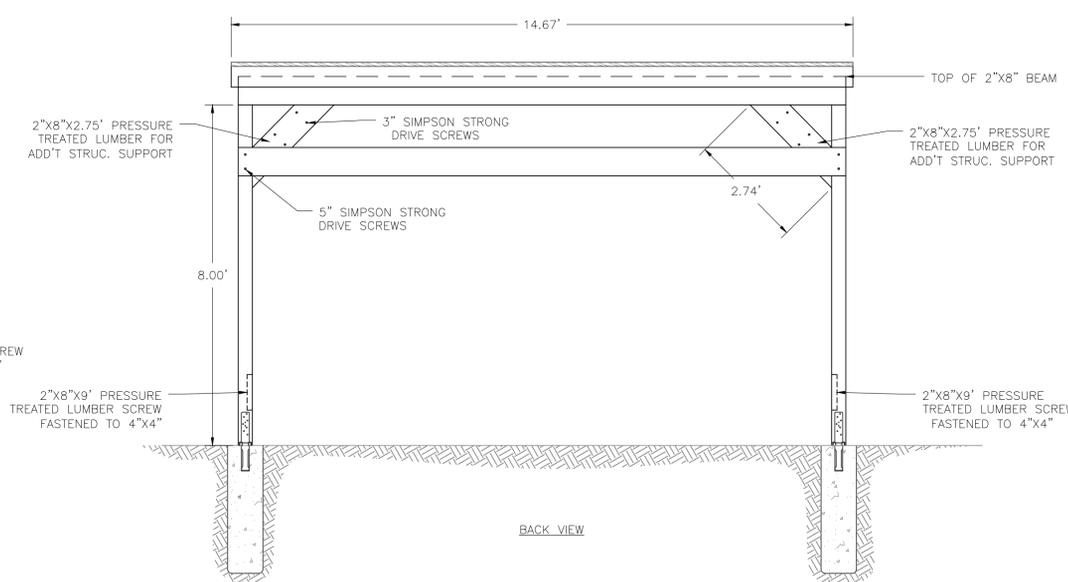
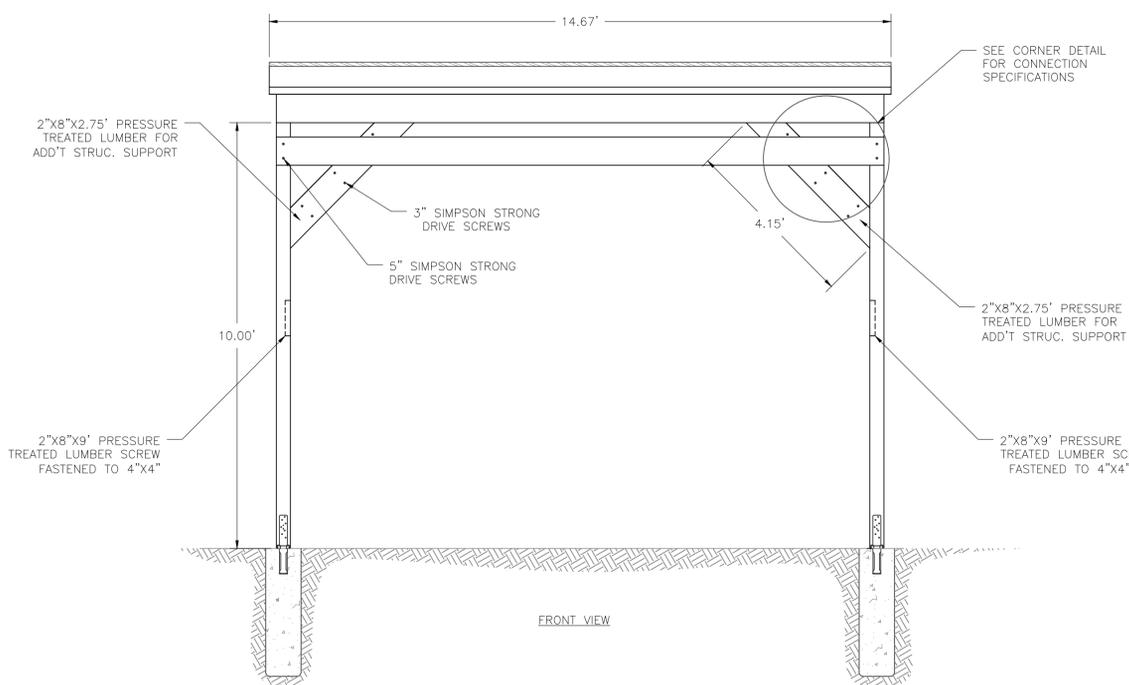
4 CURB SECTION
DT-X N.T.S.

PROFESSIONAL ENGINEER [NAME] [LICENSE NO.]	CHECKED [NAME] [DATE]	APPROVED [NAME] [DATE]	DRAWN [NAME]	DATE [DATE]	
[PROJECT SITE NAME] [BMP TYPE, GI IF MULT.] IMPLEMENTATION PROJECT [ADDRESS, CITY] [COUNTY NAME] COUNTY, NJ STORMWATER PLANTER DETAILS					
SHEET NAME DT-X					



- CONSTRUCTION NOTES:**
1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO INSTALLATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
 2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
 3. THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE ENGINEER PRIOR TO ANY WORK ON SITE.
 4. THE CONTRACTOR SHALL AVOID DISTURBING EXISTING AREA. ANY DISTURBANCE TO SIDEWALKS OR LANDSCAPED VEGETATION AND TREES MUST BE COORDINATED WITH THE PROPERTY OWNER.
 5. THE CONTRACTOR SHALL AVOID DISTURBING EXISTING AREA. ANY DISTURBANCE TO SIDEWALKS OR LANDSCAPED VEGETATION AND TREES MUST BE COORDINATED WITH THE PROPERTY OWNER.
 6. THE CONTRACTOR SHALL USE PVC PIPING FOR CONNECTION FROM ROOF TO CISTERN.
 7. THE OVERFLOW FROM THE CISTERN SHALL CONNECT TO THE NEAREST STORM SEWER CATCH BASIN INLET.
 8. THE CONTRACTOR SHALL NOT MAKE ANY MODIFICATIONS AT THE SITE UNTIL CONSULTING WITH THE ENGINEER.
 9. THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS OF ALL MATERIALS AND CONSTRUCTION METHODS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PURCHASE AND INSTALLATION OF GUTTER.
- SPECIFICATIONS:**
1. THE CONTRACTOR SHALL USE SIMPSON TIE IN CONNECTORS AND STRONG DRIVE SCREWS FOR THE SHADE STRUCTURE.
 2. THE CONTRACTOR SHALL USE PRESSURE TREATED LUMBER.
 3. THE CONTRACTOR SHALL INSTALL CONCRETE FOOTINGS WITH A MINIMUM 3 FOOT DEPTH.
 4. ROOF PANELS SHALL BE CORRUGATED PVC OR FIBERGLASS PANELS.
 5. GUTTER SHALL HAVE 6" BASE.
 6. THE CONTRACTOR SHALL ONLY USE CONCRETE WITH 4,500 PSI STRENGTH.
 7. ALL DISTURBED AREAS EXCLUSIVE OF THE SHADE STRUCTURE SHALL BE RESTORED TO ORIGINAL CONDITIONS BY THE CONTRACTOR.

1 SHADE STRUCTURE DETAIL
DT-X N.T.S.



2 SHADE STRUCTURE DETAIL
DT-X N.T.S.

3 SHADE STRUCTURE CORNER DETAIL
DT-X N.T.S.

DATE XXXXXX	APPROVED XXX	CHECKED XXX	DRAWN XXX	PROFESSIONAL ENGINEER
[PROJECT SITE NAME] [BMP TYPE, G I F MULT.] IMPLEMENTATION PROJECT [ADDRESS, CITY] [COUNTY NAME] COUNTY, NJ				
REVISIONS	DESCRIPTION			
No.	DATE			
SHADE STRUCTURE DETAILS				
				
SHEET NAME DT-X				