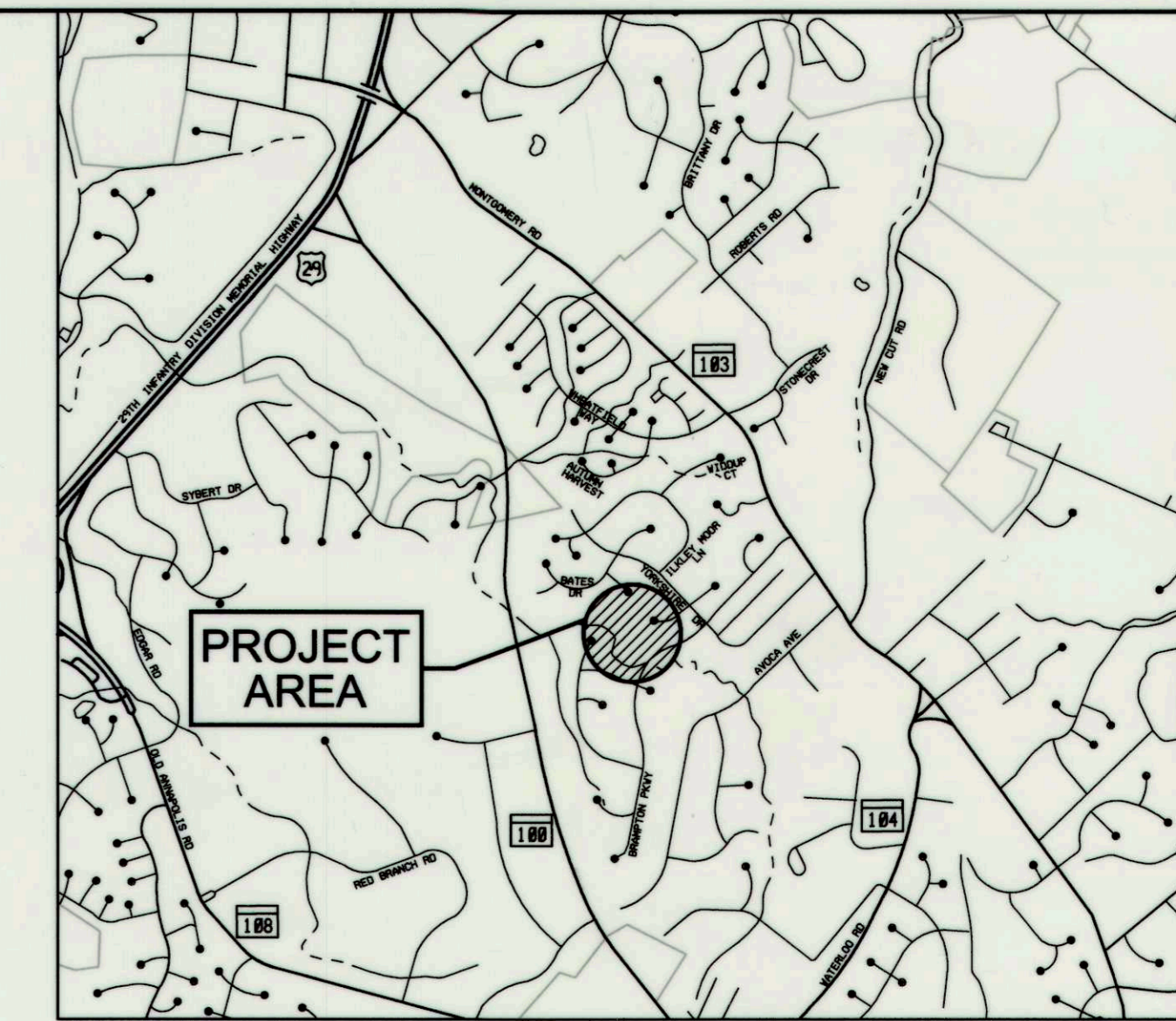


SALTERFORTH PLACE SWM POND ENHANCEMENT POND#1 & POND#2

HOWARD COUNTY, MARYLAND STORMWATER MANAGEMENT DIVISION CAPITAL PROJECT D-1160



VICINITY MAP
SCALE: 1" = 2,000'

LEGEND

- LOD LIMIT OF DISTURBANCE
- OSF ORANGE SAFETY FENCE
- INTAKE & DISCHARGE PIPE
- RIPRAP
- 100-YR PONDING LIMIT
- MAINTENANCE ACCESS ROAD
- SOIL STABILIZATION MATTING
- TPF TREE PROTECTION FENCE
- NON-TIDAL WETLAND
- EXISTING TREE LINE
- S EXISTING SEWER LINE
- STABILIZED CONSTRUCTION ENTRANCE
- PROPERTY LINE
- SD EXISTING STORM DRAIN
- EX. TREES
- 180 EXIST. MAJOR CONTOUR
- 183 EXIST. MINOR CONTOUR
- 346 PROP. CONTOURS
- P PUMP
- RPS REMOVABLE PUMPING STATION
- SB SILT BAG FILTERING DEVICE
- SANDBAG DAM
- SAND BAGS
- WB WETLAND BUFFER

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SWM NOTES AND DETAILS
3	PLAN SHEET POND 1
4	POND 1 PROFILES AND DETAILS
5	PLAN SHEET POND 2
6	POND 2 PROFILES
7	POND 2 & BIORETENTION FACILITY DETAILS
8	PHASE 1 EROSION AND SEDIMENT CONTROL
9	PHASE 2A & 2B EROSION AND SEDIMENT CONTROL
10	EROSION & SEDIMENT CONTROL NOTES & DETAILS
11	POND 1 LANDSCAPE PLAN
12	POND 2 LANDSCAPE PLAN
13	LANDSCAPE DETAILS
14	FOREST CONSERVATION PLAN
15	FOREST CONSERVATION DETAILS

SITE ANALYSIS DATA CHART

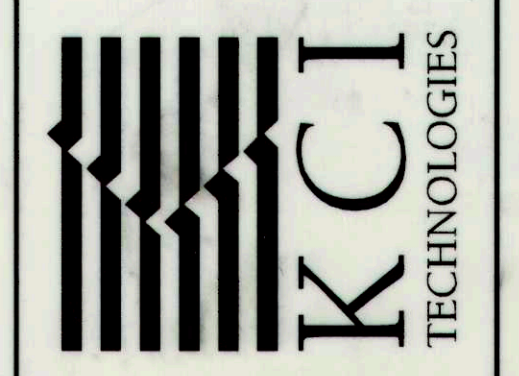
- TOTAL PROJECT AREA: 2.86 ACRES.
- DISTURBED AREA: 2.86 ACRES (111514 SF).
- PROPOSED USE FOR THE SITE: RETROFIT EXISTING STORMWATER FACILITIES
- APPLICABLE DPZ FILE REFERENCES: F-87-172/PLAT NO. 7497, F-09-082, F-09-044.
- THE AREA OF OPEN SPACE LOT 76 IS 4.76 ACRES.
- THE AREA OF OPEN SPACE LOT 116 IS 12.51 ACRES.

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 5 DAYS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- THE COORDINATES SHOWN HEREON ARE BASED ON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. BENCHMARKS SHOWN HEREON WERE PROVIDED BY HOWARD COUNTY SURVEY DIVISION AND AB CONSULTANTS.
- EXISTING UTILITIES ARE BASED ON FIELD SURVEYS AND AVAILABLE RECORD DRAWINGS.
- THE WETLAND DELINEATION FOR THIS PROJECT WAS PERFORMED BY KCI TECHNOLOGIES, INC. IN OCTOBER 2009.
- TOPOGRAPHIC SURVEY OF THE SITE WAS PERFORMED BY AB CONSULTANTS, INC. IN NOVEMBER 2009.
- A JOINT PERMIT APPLICATION HAS BEEN SUBMITTED TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR THIS PROJECT. (TRACKING NUMBER 11-NT-0010/201160038)
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND KCI TECHNOLOGIES, INC. DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION.
- SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY.
- EXISTING GROUND AND/OR VEGETATION DISTURBED BY THE PROPOSED WORK SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION OR BETTER BY CONCLUSION OF THE PROJECT.
- THE PROPOSED PROJECT IS LOCATED OFF SALTERFORTH PLACE AND IS ADJACENT TO BRAMPTON PARKWAY.
- THE TWO EXISTING PUBLIC DETENTION PONDS WERE CONSTRUCTED UNDER ROADWAY PLAN F-80-44. AS-BUILT WAS APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT BY LETTER DATED OCTOBER 31, 1985.
- THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) HAS SATISFIED THE FOREST CONSERVATION OBLIGATION OF 1.33 ACRES OF REFORESTATION FOR THIS PLAN WITH A FEE-IN-LIEU PAYMENT OF \$43,450.50 MADE TO THE HOWARD COUNTY FOREST CONSERVATION FUND. THE FEE-IN-LIEU PAYMENT WILL BE USED FOR PLANTINGS WITHIN THE WATERSHED AS AGREED UPON IN THE 01/24/2011 MEETING WITH THE DEPARTMENT OF RECREATION AND PARKS AND THE DEPARTMENT OF PLANNING AND ZONING.
- HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) IS SATISFYING THE MITIGATION REQUIREMENT THROUGH A FEE-IN-LIEU TO THE DEPARTMENT OF RECREATION & PARKS (DR&P) AS REQUESTED IN WAIVER PETITION WP 11-135 THE FUNDS WILL BE USED FOR PLANTINGS WITHIN THE WATERSHED AS AGREED UPON IN THE JANUARY 24, 2011 MEETING WITH THE DEPARTMENT OF RECREATION AND PARKS & THE DEPARTMENT OF PLANNING AND ZONING.
- WAIVER PETITION WP 11-135, APPROVED BY DPZ ON MAY 2, 2011, GRANTS WAIVERS OF SECTION 16.155(a)(1)(ii) FOR THE REQUIRED SUBMITTAL AND APPROVAL OF A SITE DEVELOPMENT PLAN FOR THE IMPROVEMENTS PROPOSED PER CAPITAL PROJECT D-1160 AND SECTIONS 16.1201(n) AND 16.1204(d)(1) ALLOWING THE USE OF THE "LOD" FOR THE COMPUTATION OF FOREST CONSERVATION REQUIREMENTS AND NET TRACT AREA FOR CAPITAL PROJECT D-1160.

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com



SALTERFORTH PLACE
SWM POND ENHANCEMENT

BRAMPTON HILLS 14 OPEN SPACE LOT 76
BRAMPTON HILLS 14 OPEN SPACE LOT 116
CAPITAL PROJECT D-1160
TAX MAP 31 ZONING R-28 ELECTION DISTRICT 01
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-313-6417

TITLE SHEET

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Steve Clum 9/23/11
DIRECTOR OF PUBLIC WORKS DATE

Evelyn J. Goad 9/23/11
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

Howard E. Saltzman 9/22/11
CHIEF, STORMWATER MANAGEMENT DIVISION DATE

DEPARTMENT OF RECREATION AND PARKS, HOWARD COUNTY, MD

John R. Boyd 9/22/11
DIRECTOR OF RECREATION AND PARKS DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH "AS-BUILT" PLANS OF THE POND(S) WITHIN 30 DAYS OF COMPLETION."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) *James G. Kester*
DATE *9/19/2011*
P.E. # *20903*

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE THE BEGINNING OF THE PROJECT. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT"

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) *Howard E. Saltzman*
DATE *9/22/11*

AS - BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

James G. Kester
SIGNATURE

20903
PE NO.

11/21/12
DATE

SCALE: 0 0.25 0.5 1.0 INCHES

DATE: SEPTEMBER 2011

KCI JOB NO.: 01-081795.26

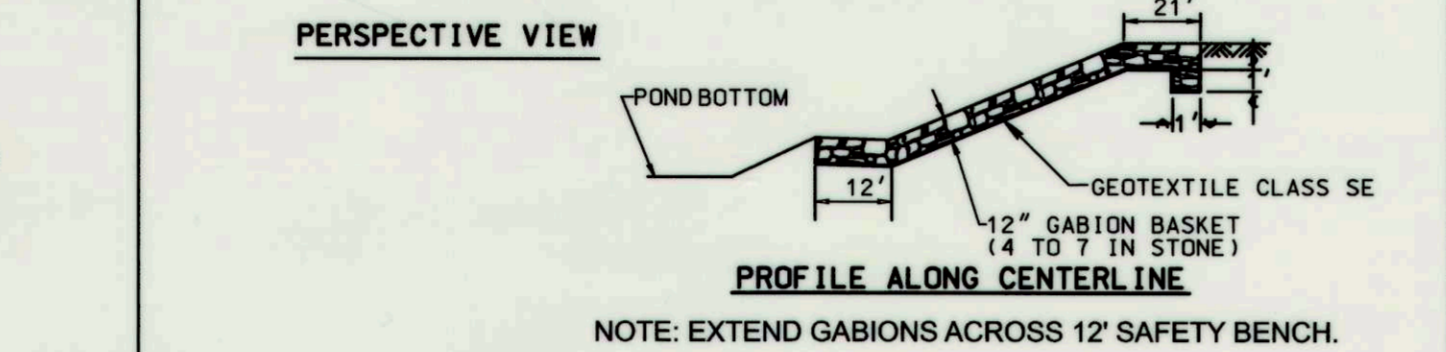
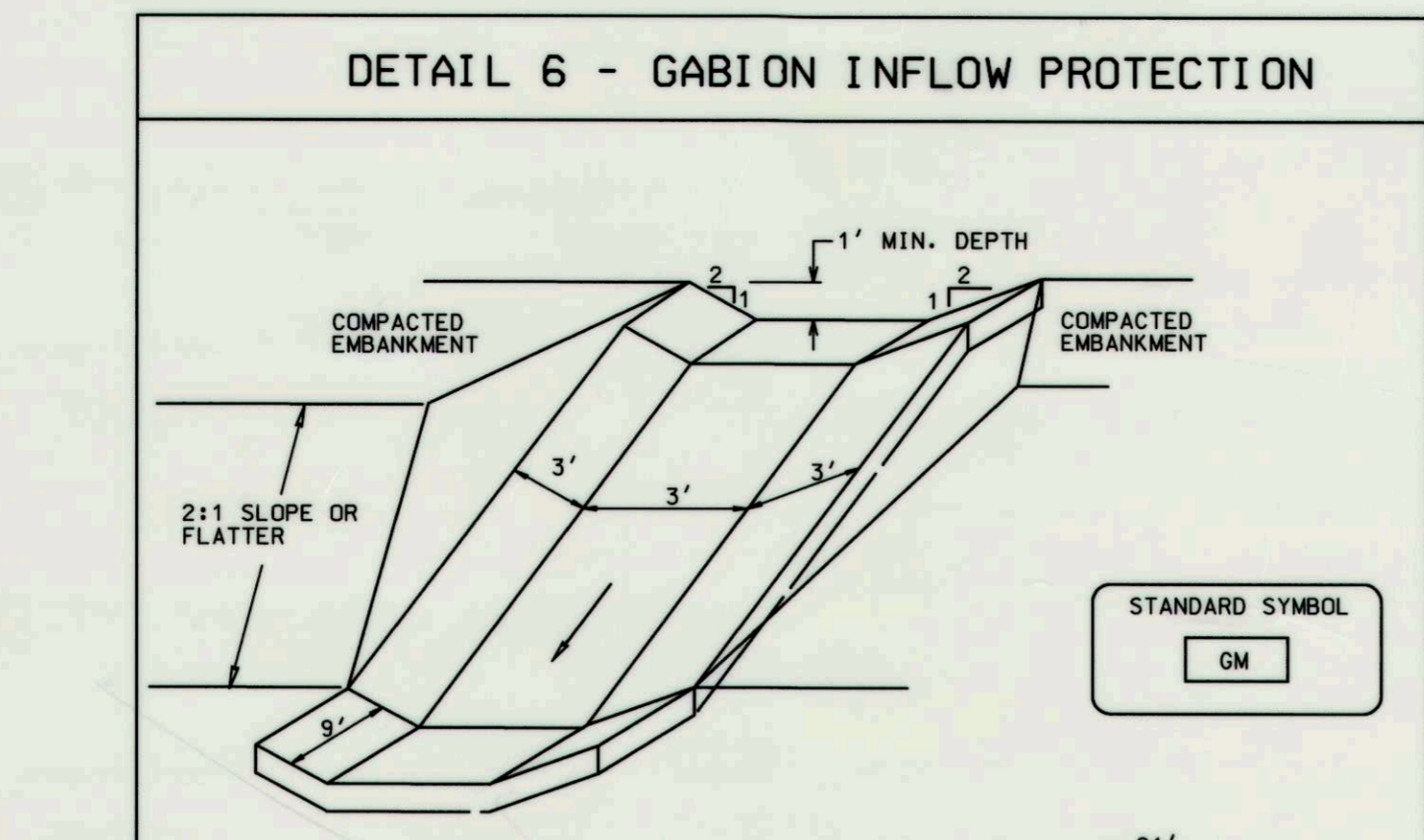
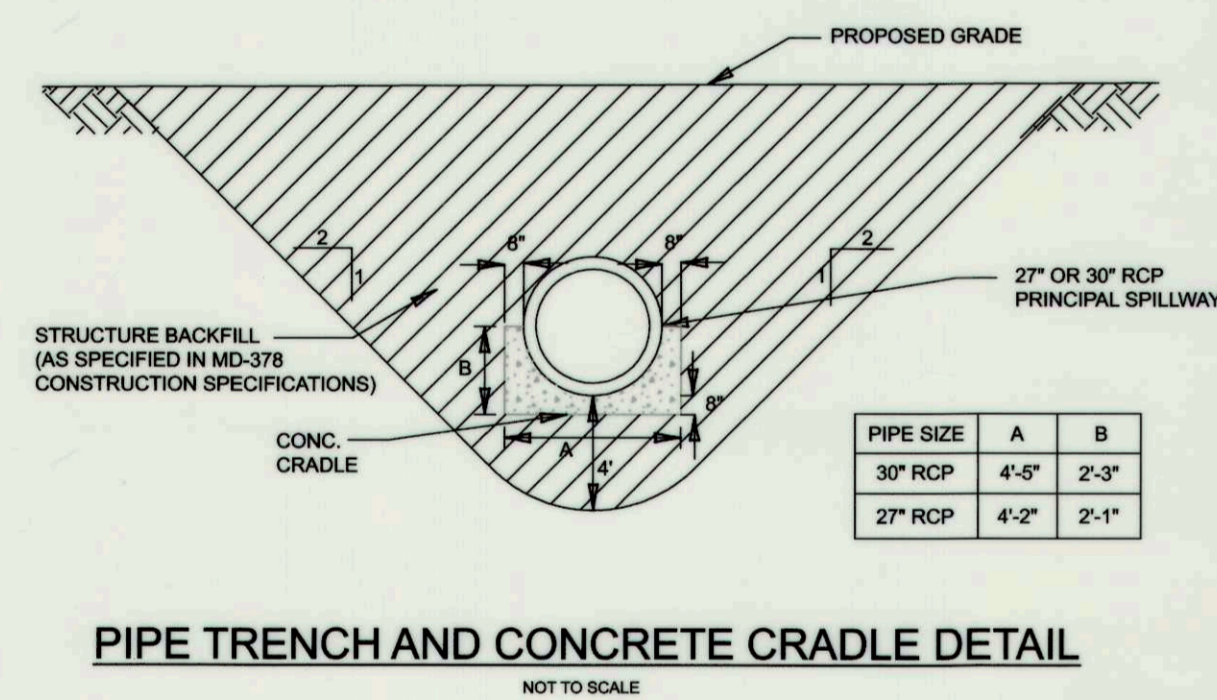
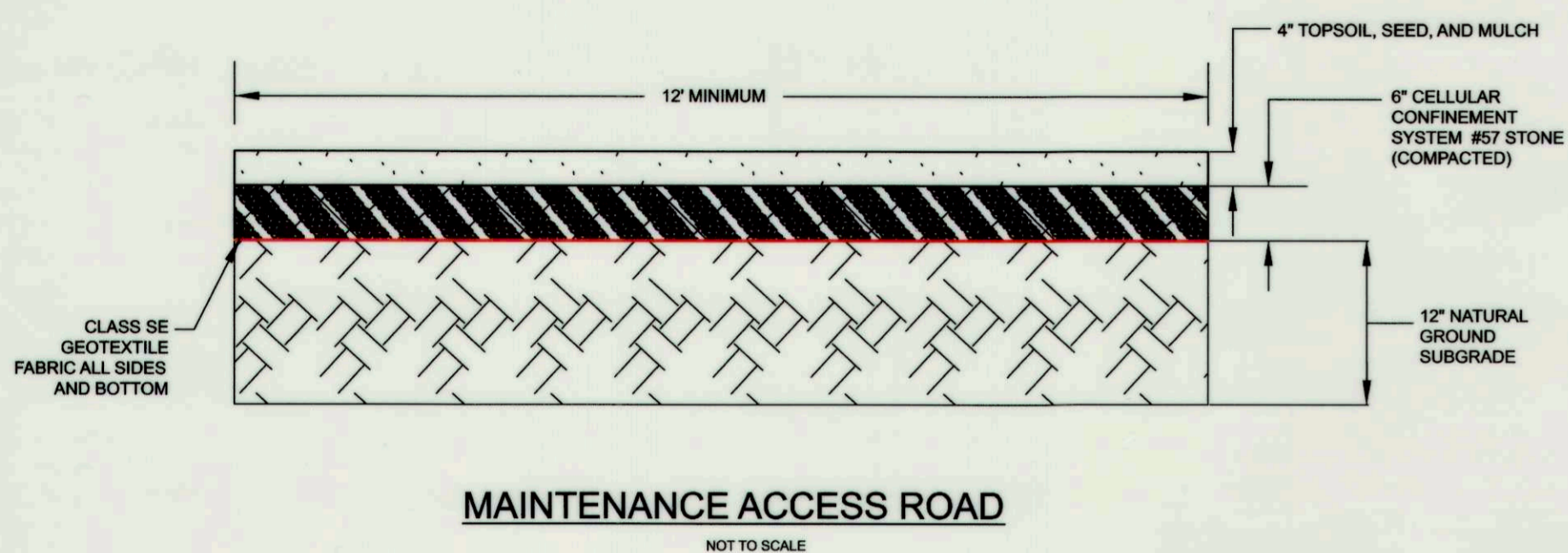
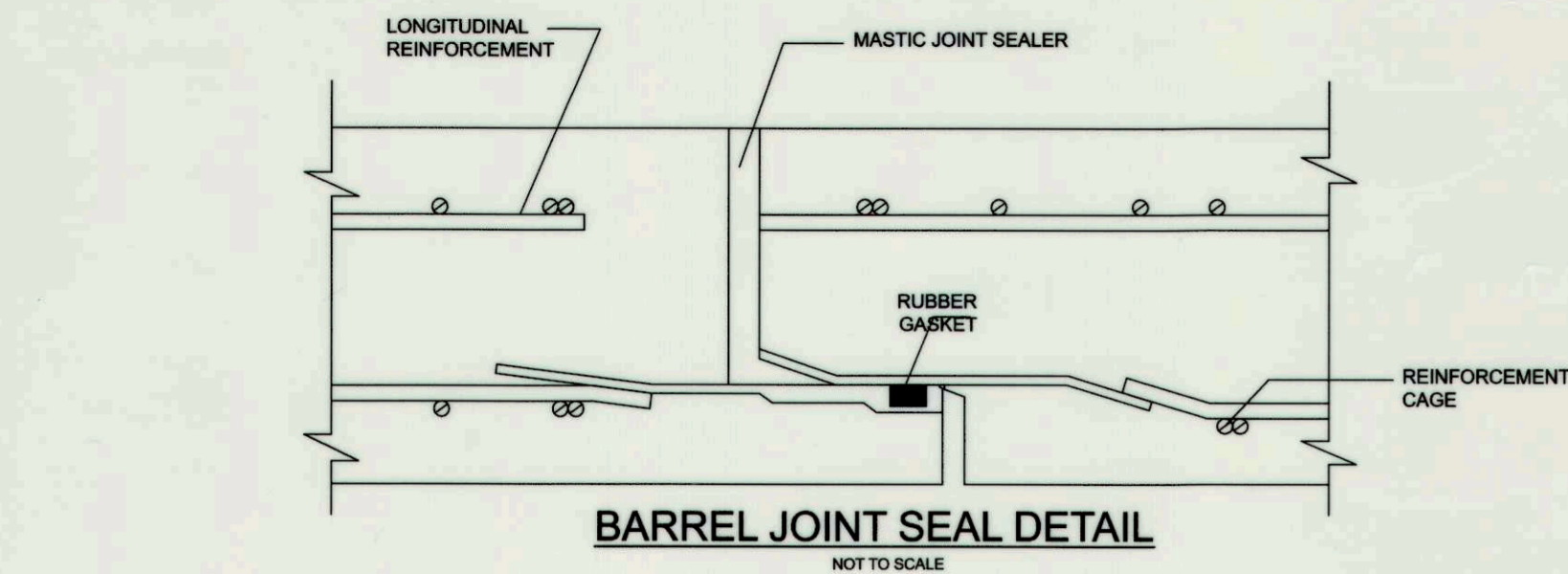
CAPITAL PROJECT NO.: D1160

PERMIT ISSUE:

CONSTRUCTION ISSUE:

SHEET NO.: 1 OF 15

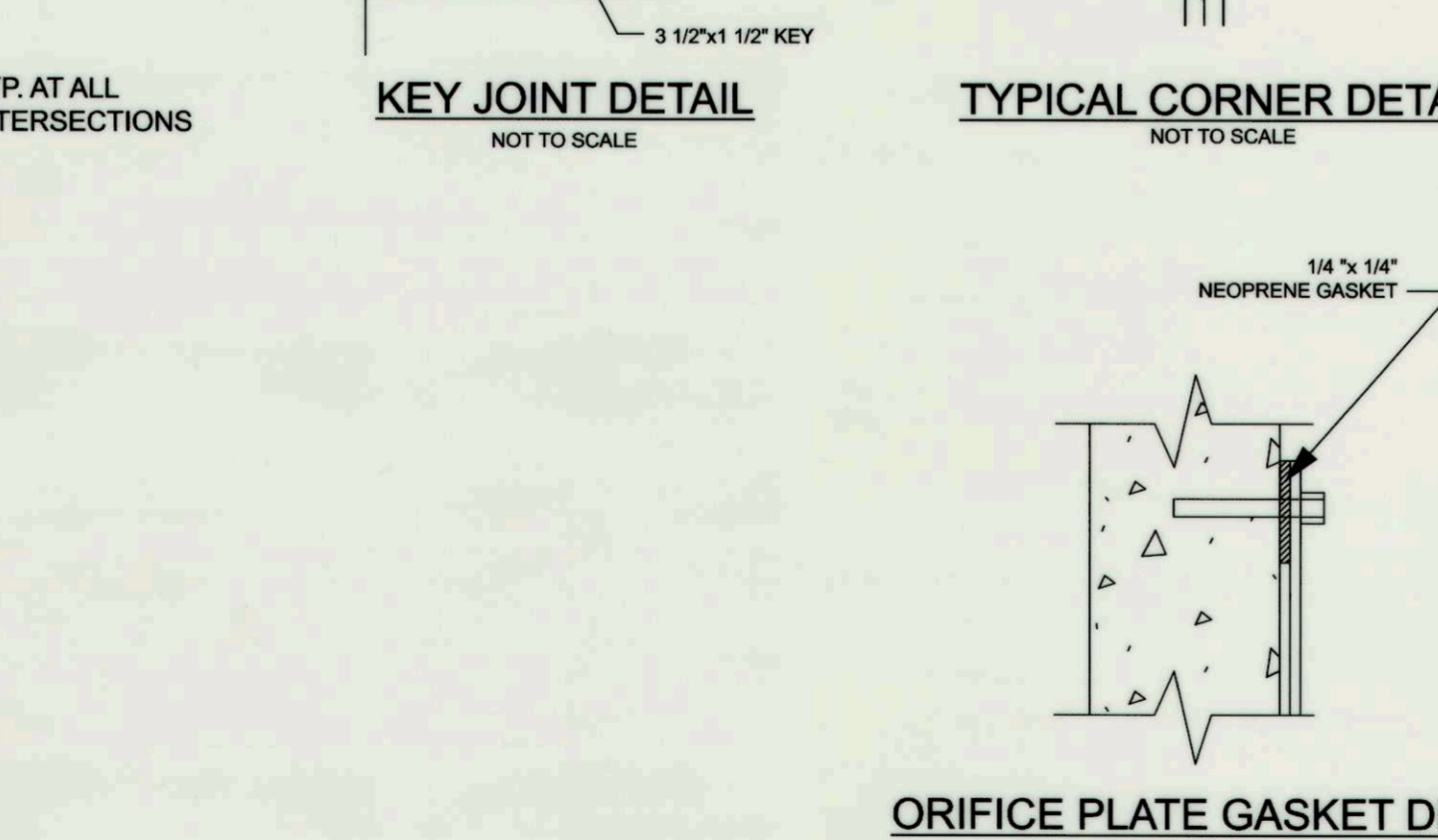
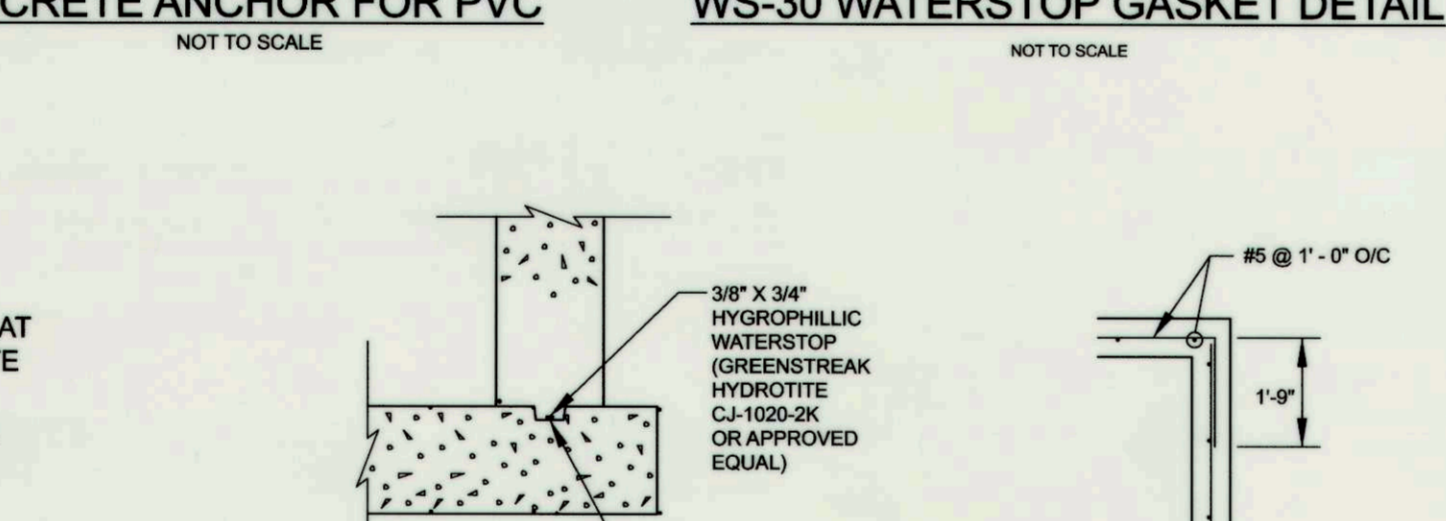
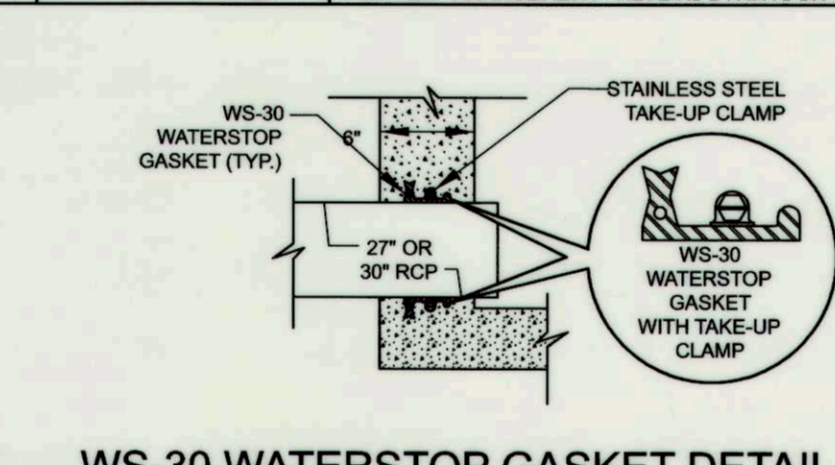
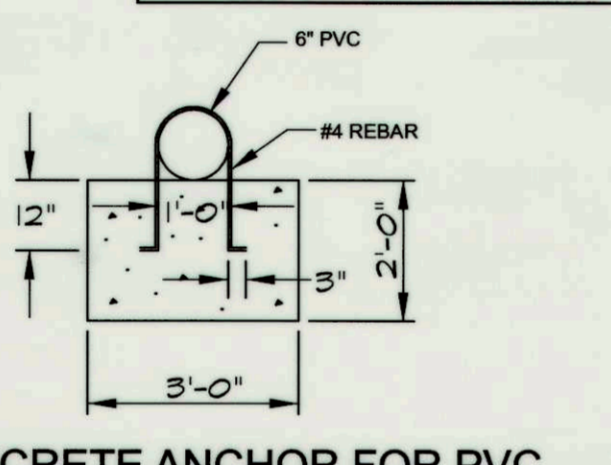
PLOTTED: 10/22/22 PM on Friday, September 16, 2011
BY: James Kester, Division: PWS, Water Resources: GMA
FILE: M:\2008\081795.26\Drawings\101-Salterforth.dwg



Construction Specifications

- Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
- Geotextile Class SE shall be installed under all gabion baskets.
- The stone used to fill the gabion baskets shall be 4" - 7".
- Gabions shall be installed in accordance with manufacturer's recommendations.
- Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-7-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



NOTES:

- ENTIRE TRASH RACK ASSEMBLY SHALL BE HOT-DIPPED GALV. PER ASTM A-123 AFTER FABRICATION.
- NO WELDING WILL BE DONE ONSITE.
- TRASH RACK SHALL PORTRUDE 13 INCHES FROM CONNECTION TO RISER.
- OVERHANG BELOW WEIR CREST SHALL BE 8 INCHES.

CONSTRUCTION SPECIFICATIONS (Maryland Code 378 Pond - January 2000)

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one track tread of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

- Materials** - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

- Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
- Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide huggie type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs. 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable. Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

- Materials** - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.
- Bedding** - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.
- Laying pipe** - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

Plastic Pipe - The following criteria shall apply for plastic pipe:

- Materials** - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311. Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class SE.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

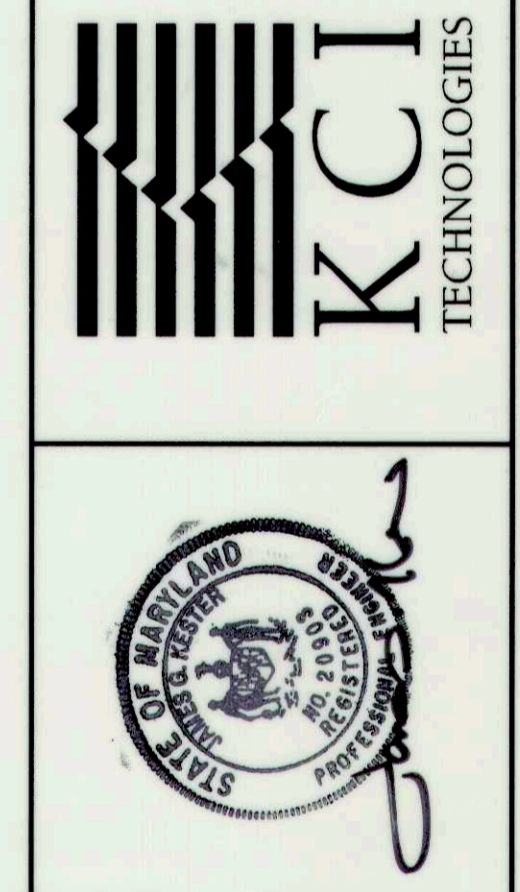
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

NO.	REVISIONS	DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com



SALTERFORTH PLACE
SWM POND ENHANCEMENT

BRAMPTON HILLS 11, OPEN SPACE LOT 7B
BRAMPTON HILLS 41, OPEN SPACE LOT 7B
CAPITAL PROJECT D160
TAX MAP #1-CORNER PLOT TELEPHONE DISTRICT 01
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
6700 COLUMBIA, MD 21046
410-316-6477

SWM NOTES AND DETAILS

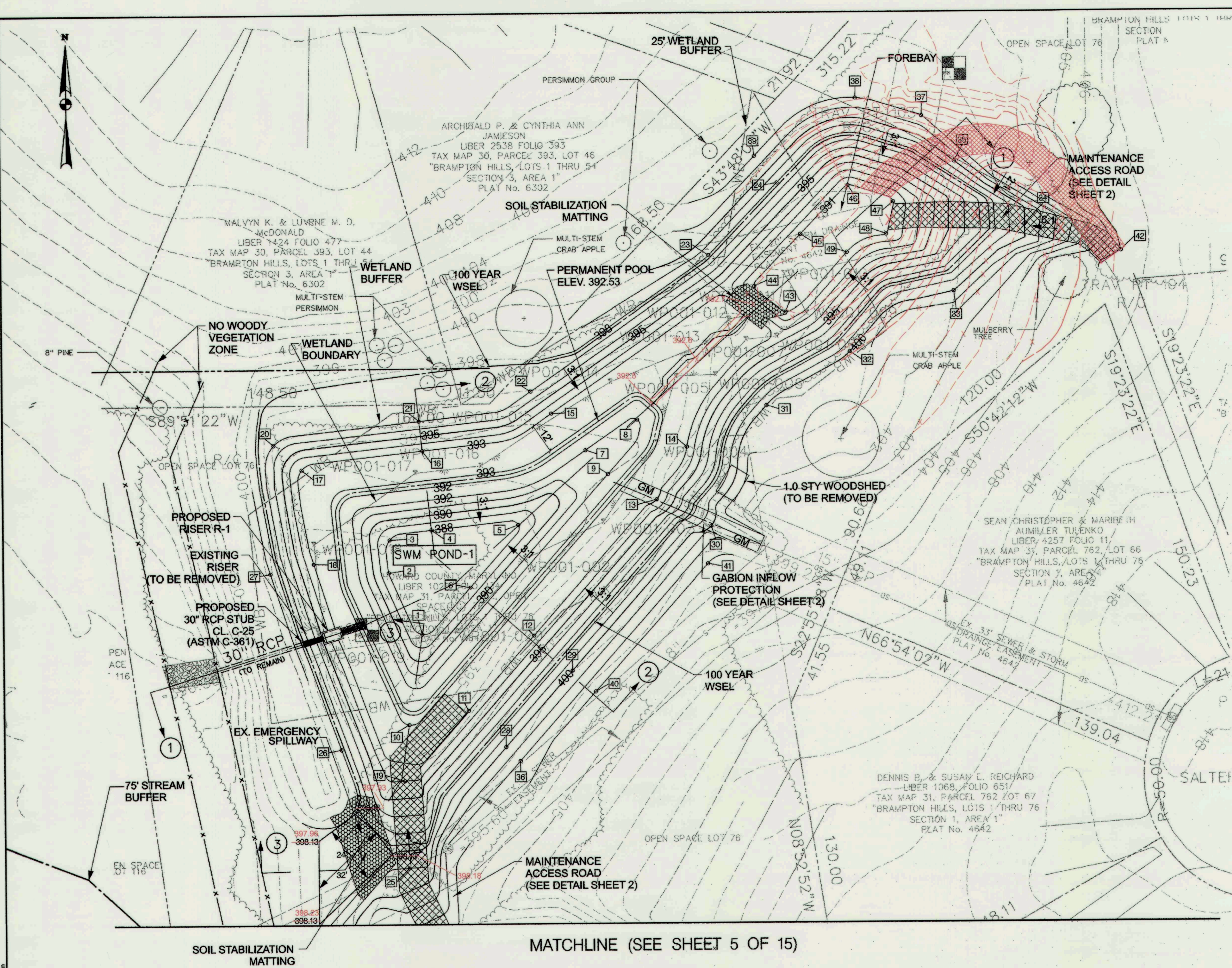
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AS SHOWN

DATE: SEPTEMBER 2011
KCI JOB NO.: 01-081795.26
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THIS DRAWING IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Robertson /es
9/28/11
DATE
HOWARD SCD
EP-11-24

SHEET NO.: 2 OF 15

PLOTTED: 03/24/11 BY: J. F. Kelly, September 15, 2011
ENCLOSURE: KCI Job No. 01-081795.26, WPA, WPA, WPA, WPA, WPA
FILE: MA-2008-01081795.26.dwg, drawings, VBE-PO04_Salterforth.thd.dwg



BMP CONTROL COORDINATES				
PT. NO.	LOCATION	ELEVATION	NORTHING	EASTING
1	SWM POND 1	388	572765.80	1366019.87
2	SWM POND 1	388	572790.32	1366006.53
3	SWM POND 1	388	572803.57	1366007.00
4	SWM POND 1	388	572807.47	1366023.93
5	SWM POND 1	388	572809.35	1366058.90
6	SWM POND 1	388	572784.44	1366039.42
7	SWM POND 1	392	572839.13	1366086.27
8	SWM POND 1	392	572851.30	1366107.18
9	SWM POND 1	392	572829.44	1366095.26
10	SWM POND 1	393	572729.33	1366014.30
11	SWM POND 1	393	572734.82	1366038.24
12	SWM POND 1	393	572764.92	1366064.87
13	SWM POND 1	393	572819.12	1366114.85
14	SWM POND 1	393	572840.23	1366127.26
15	SWM POND 1	393	572853.94	1366072.53
16	SWM POND 1	393	572839.28	1366020.46
17	SWM POND 1	393	572831.92	1365971.73
18	SWM POND 1	393	572794.15	1365976.35
19	SWM POND 1	394	572706.73	1366012.34
20	SWM POND 1	397	572841.75	1365960.48
21	SWM POND 1	397	572851.21	1366019.17
22	SWM POND 1	397	572862.83	1366064.28
23	FOREBAY	398	572917.09	1366136.57
24	FOREBAY	398	572946.13	1366164.42
25	SWM POND 1	399	572671.76	1366013.86
26	SWM POND 1	398	572719.45	1365996.86
27	SWM POND 1	399	572790.31	1365958.81
28	SWM POND 1	400	572720.09	1366053.25
29	SWM POND 1	400	572750.70	1366090.33
30	SWM POND 1	400	572808.39	1366136.81
31	SWM POND 1	400	572856.81	1366159.54
32	FOREBAY	400	572878.25	1366193.20
33	FOREBAY	400	572902.21	1366235.39
34	FOREBAY	400	572929.05	1366264.23
35	FOREBAY	400	572954.47	1366235.93
36	SWM POND 1	402	572714.48	1366058.96
37	FOREBAY	402	572972.6808	1366222.92
38	FOREBAY	402	572979.95	1366196.19
39	FOREBAY	402	572956.94	1366155.38
40	SWM POND 1	403	572742.17	1366089.60
41	SWM POND 1	403	572793.32	1366135.40
42	FOREBAY	406	572918.22	1366302.94
43	FOREBAY	391	572894.29	1366167.61
44	FOREBAY	391	572904.58	1366155.04
45	FOREBAY	391	572925.49	1366173.72
46	FOREBAY	391	572944.93	1366192.97
47	FOREBAY	391	572938.18	1366211.22
48	FOREBAY	391	572925.35	1366208.32
49	FOREBAY	391	572918.04	1366192.36

MATCHLINE (SEE SHEET 5 OF 15)

NOTE: REMOVE VEGETATION FROM NO WOODY VEGETATION ZONE AS INDICATED ON SHEET 14.

OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond(s) shown hereon shall be performed at least once every three years, in accordance with the checklist and requirements contained within USDA, NRCS "Standards And Specifications For Ponds" (MD-378). The pond owner(s) and any heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding, or slumping.

	PEAK DISCHARGES				
	EXISTING		PROPOSED		
	Q(cfs)	WSEL(ft)	Q(cfs)	WSEL(ft)	
1-YR	1	395.28	0.5 - 0.4	394.59	394.62
10-YR	36	398.08	-26 - 27	396.22	396.17
100-YR	90	398.84	-49 - 50	397.64	397.55

POND HAZARD CLASSIFICATION "a"

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 JOHN A. SPATON / ES. 9/28/11
 DATE 8P-11-20

AS-BUILT 11/21/12

DATE

NO. REVISIONS DESCRIPTION

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com

KCI TECHNOLOGIES

STATE OF MARYLAND
 DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 675 COLUMBIA ROAD
 COLUMBIA, MD 21046
 410-316-8477

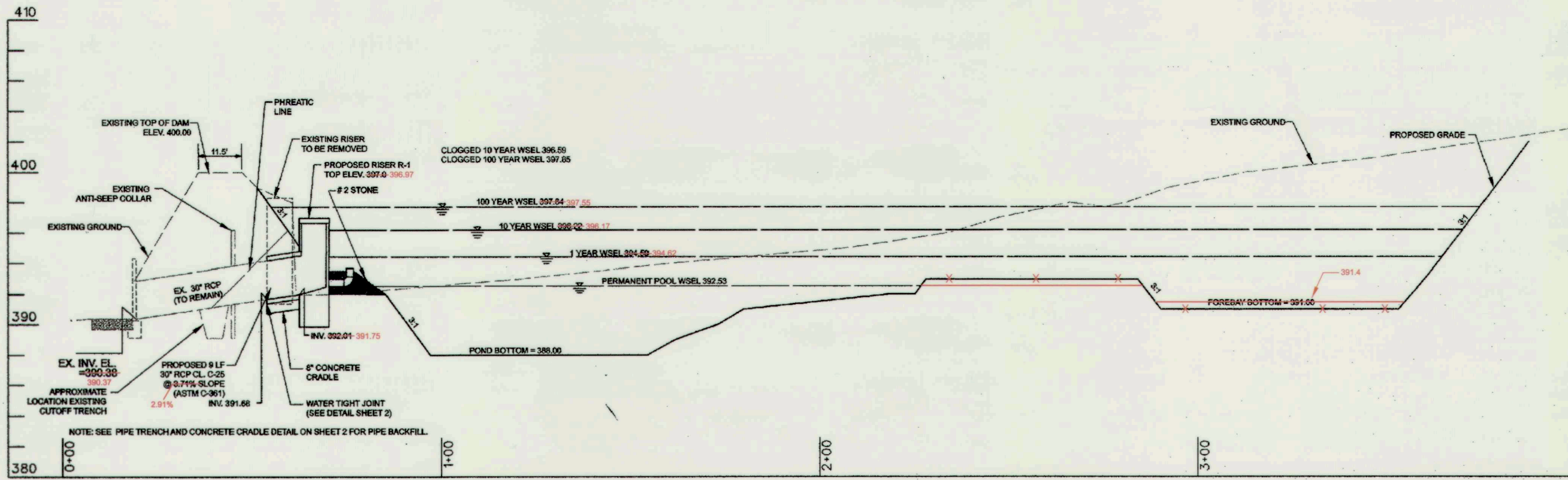
SALTERFORTH PLACE
 SWM POND ENHANCEMENT
 BRAMPTON HILLS OPEN SPACE LOT 76
 BRADDOCK ROAD
 CAPITAL PROJECT DR#60
 TAX MAP 31, PARCEL 762, LOT 67
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 675 COLUMBIA ROAD
 COLUMBIA, MD 21046
 410-316-8477

PLAN SHEET POND 1

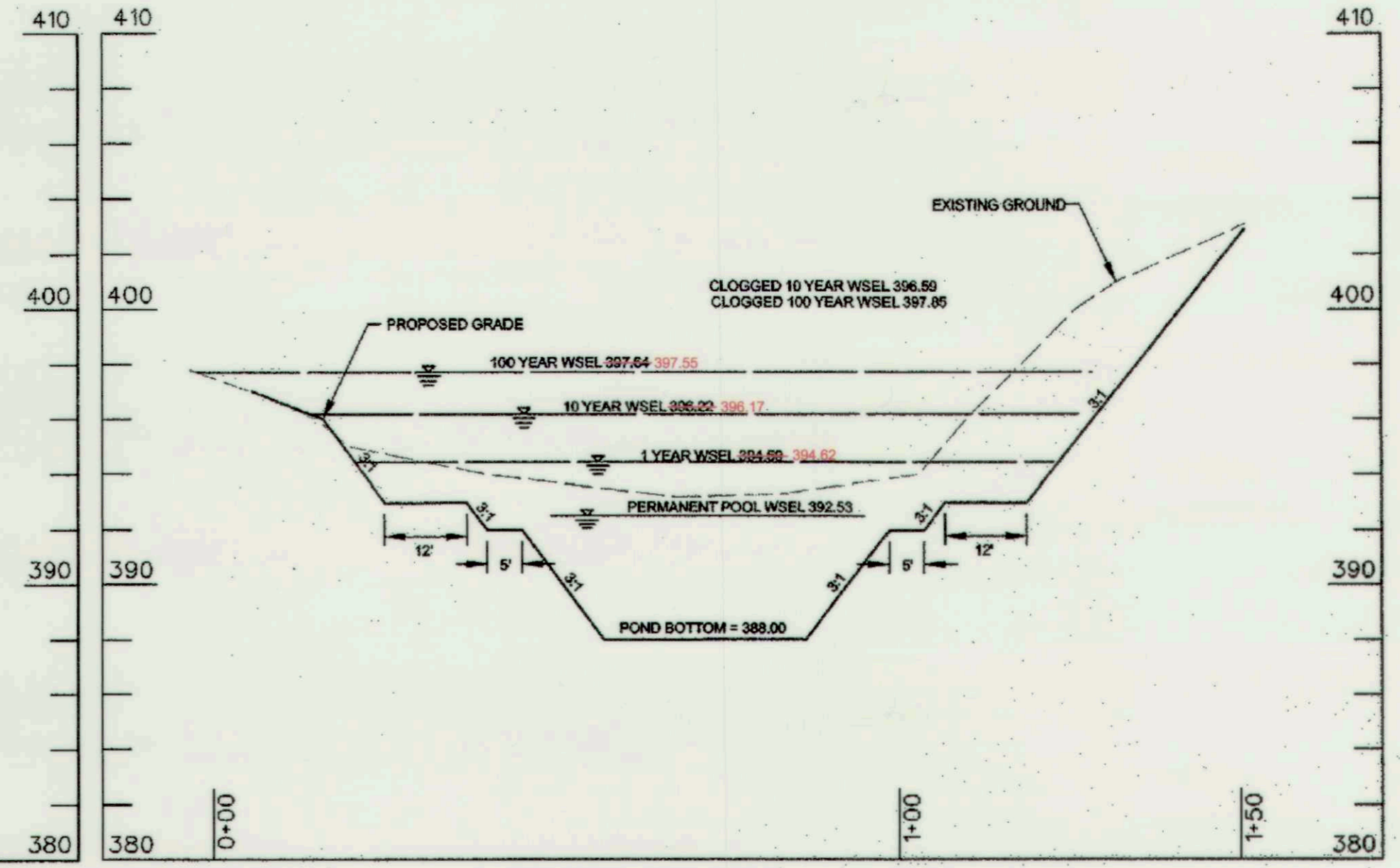
SCALE: 1" = 20'

DATE: SEPTEMBER 2011
 KCI JOB NO.: 01-081795.26
 CAPITAL PROJECT NO.: D1160
 PERMIT ISSUE:
 CONSTRUCTION ISSUE:

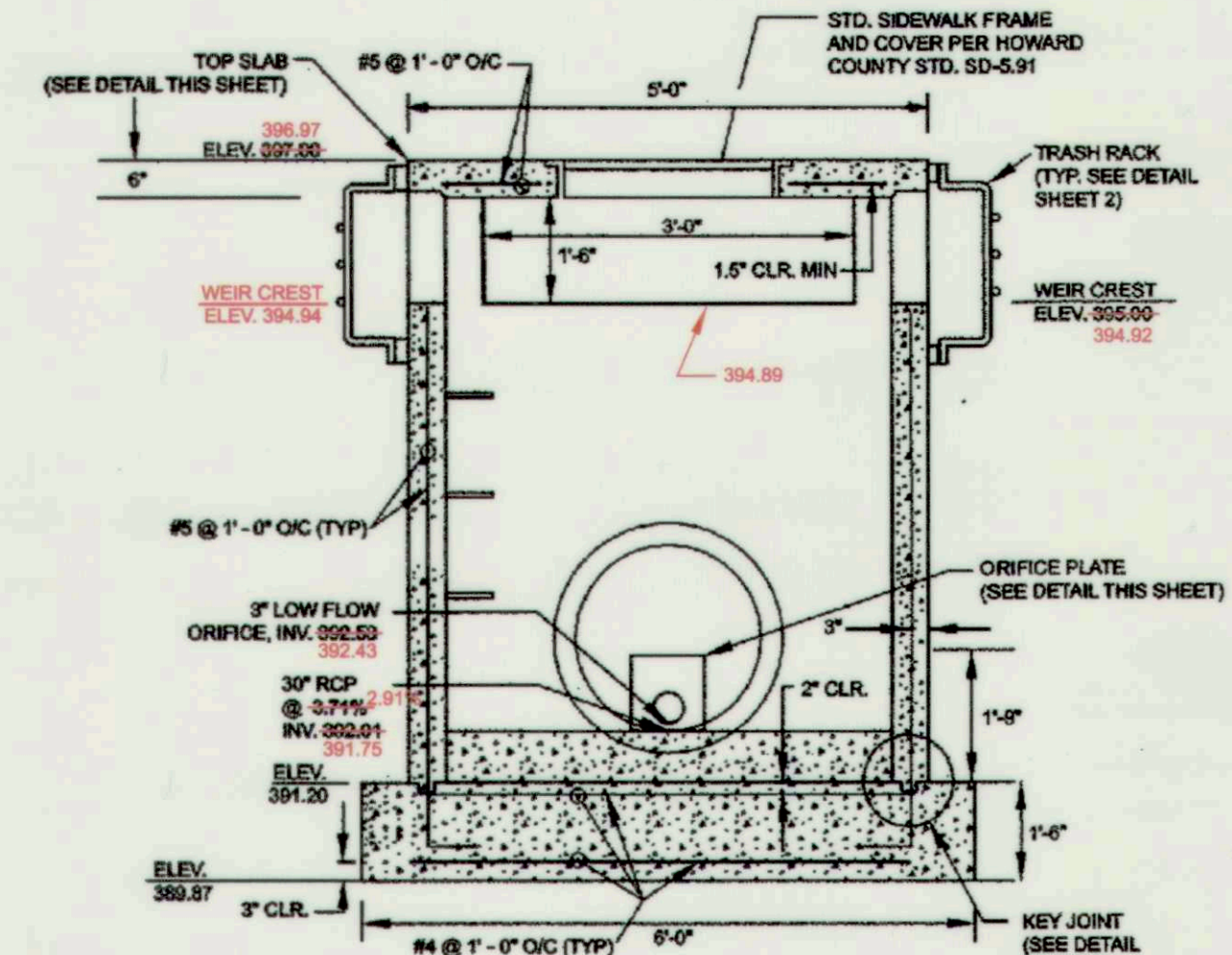
SHEET NO.: 3 OF 15



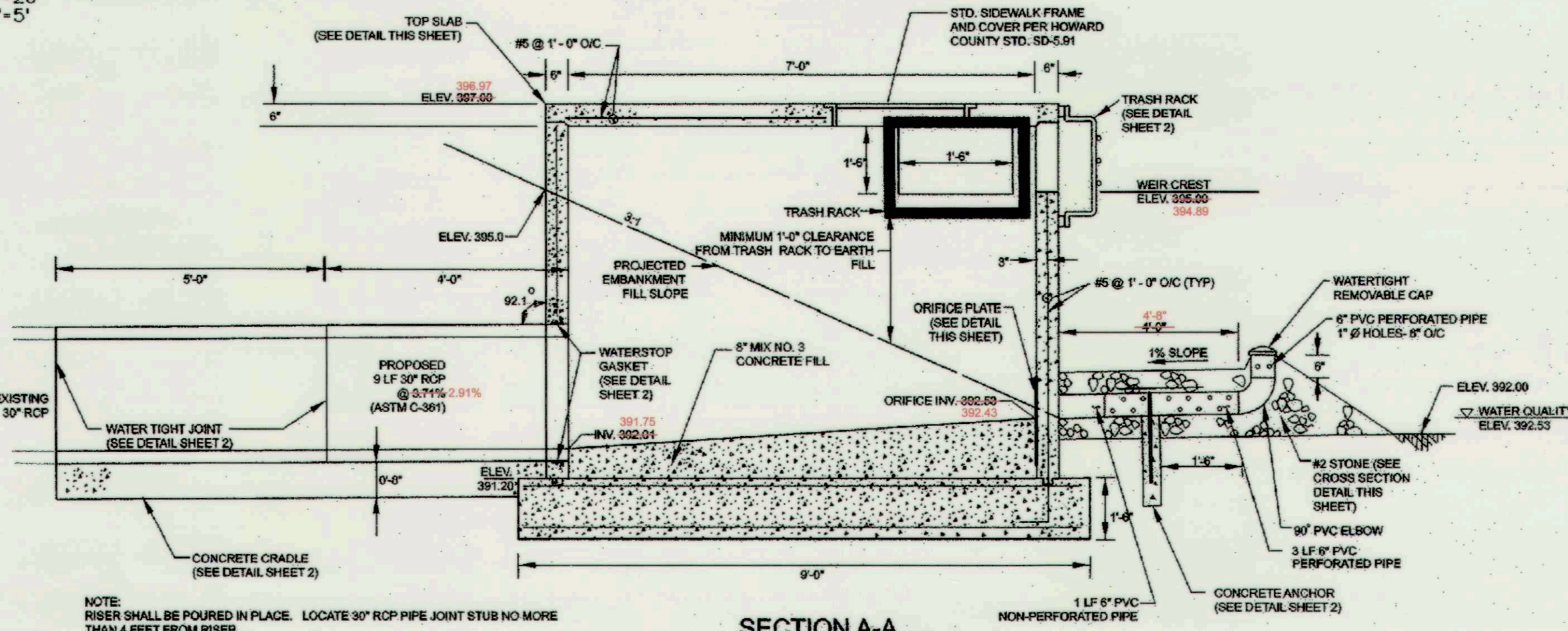
SWM PROFILE ALONG SECTION 1-1
SCALE: H: 1"=20'
V: 1"=5'



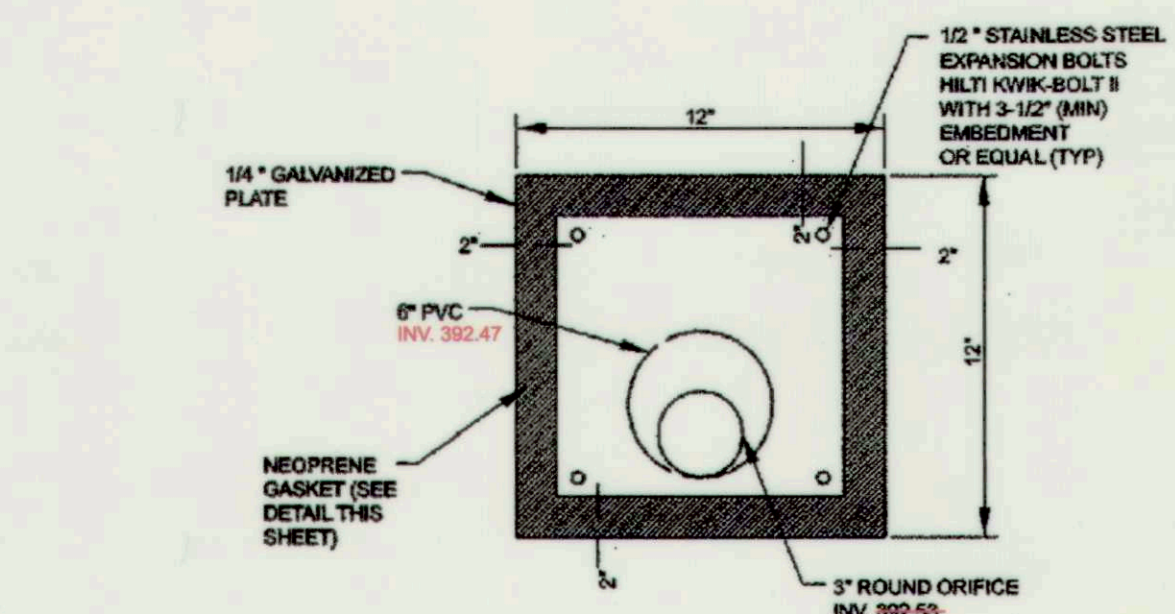
PROFILE ALONG SECTION 2-2
SCALE: H: 1"=20'
V: 1"=5'



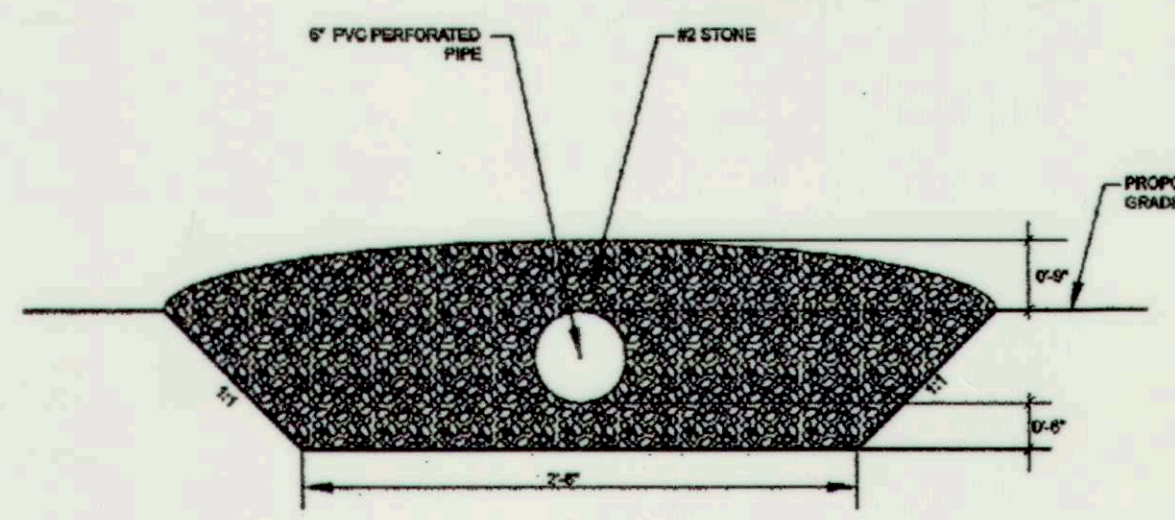
SECTION B-B
NOT TO SCALE



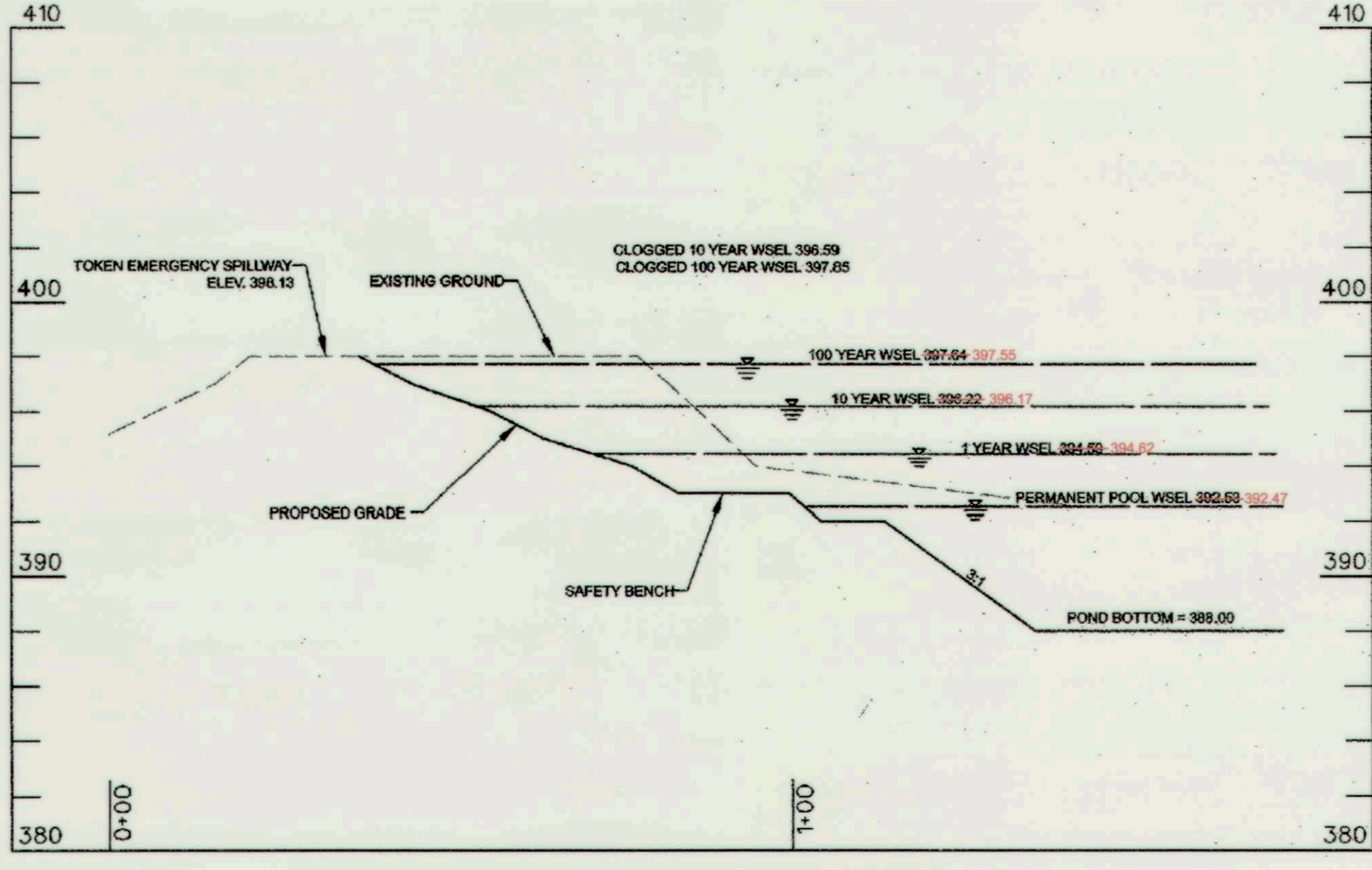
SECTION A-A
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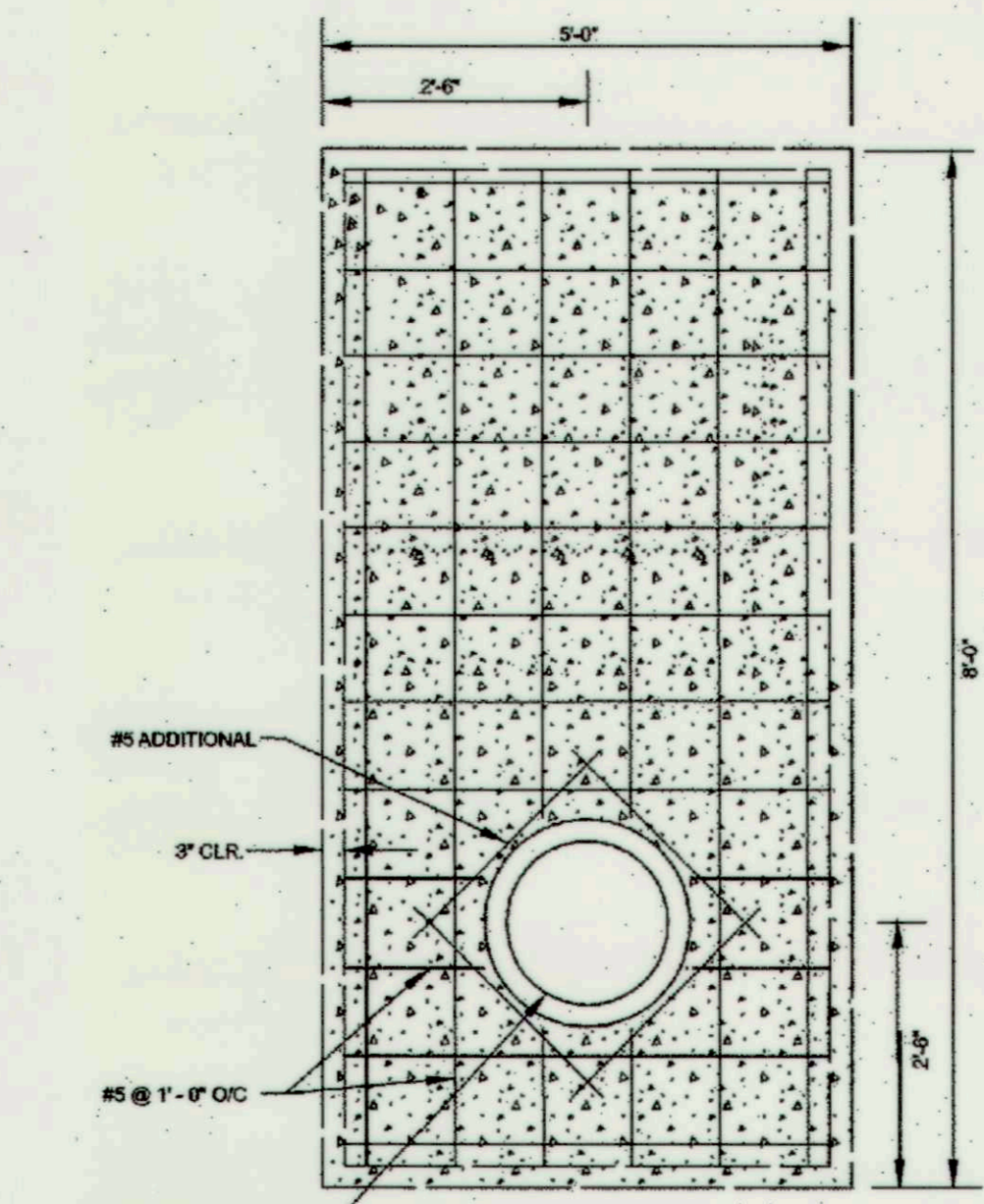
INTERNAL ORIFICE PLATE DETAIL
NOT TO SCALE



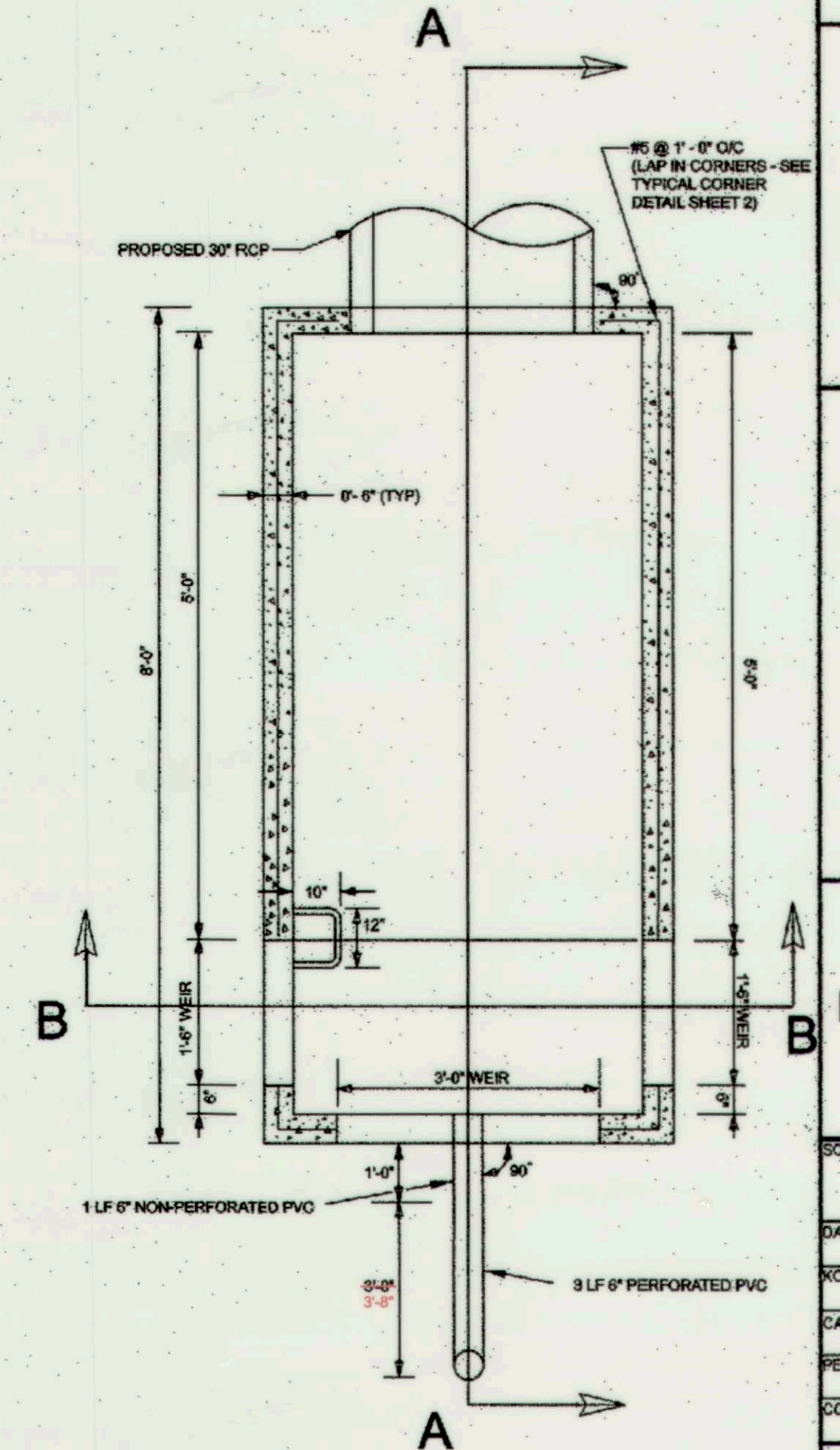
6" PVC PERFORATED PIPE CROSS SECTION
NOT TO SCALE



PROFILE ALONG SECTION 3-3 (TOKEN EMERGENCY SPILLWAY)
SCALE: H: 1"=20'
V: 1"=5'



TOP SLAB DETAIL
NOT TO SCALE

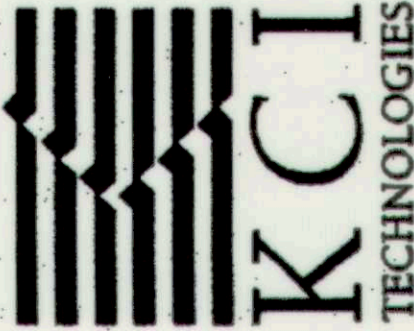


PLAN VIEW RISER R-1
NOT TO SCALE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
DATE: 9/28/14
EP-11-24

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



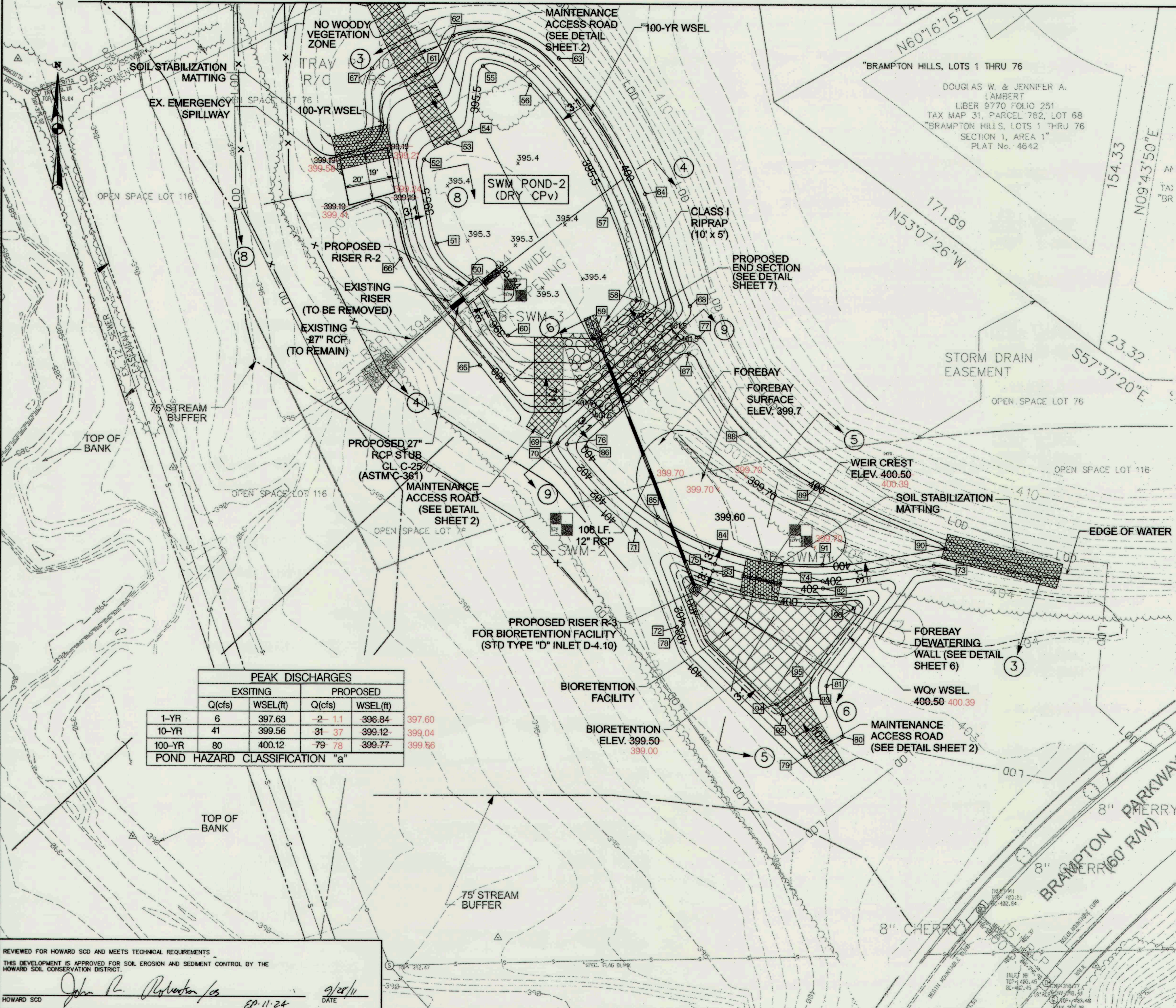
SALTERFORTH PLACE
SWIM POND ENHANCEMENT
BRANFORD HILLS 4.6 OPEN SPACE LOT 76
BROOKFIELD CAPITAL PROJECT DRIV
TAX MAP 8.2003S AND REACTION DISTRICT 01
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
COLUMBIA, MD 21046
484-332-6417

POND 1
PROFILES AND
DETAILS

SCALE: 1"=20'
AS SHOWN
DATE: SEPTEMBER 2011
KCI JOB NO.: 01-081795.26
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

AS-BUILT 11/21/12

MATCHLINE (SEE SHEET 3 OF 15)



BMP CONTROL COORDINATES				
PT. NO.	LOCATION	ELEVATION	NORTHING	EASTING
50	SWM POND 2	396	572530.46	1366058.90
51	SWM POND 2	395.50	572548.44	1366046.21
52	SWM POND 2	395.50	572583.50	1366040.84
53	SWM POND 2	395.50	572590.57	1366050.87
54	SWM POND 2	395.50	572595.60	1366060.07
55	SWM POND 2	395.50	572623.01	1366065.51
56	SWM POND 2	395.50	572615.12	1366085.30
57	SWM POND 2	395.50	572562.99	1366118.87
58	SWM POND 2	395.50	572524.72	1366130.53
59	SWM POND 2	395.50	572508.68	1366112.41
60	SWM POND 2	395.50	572509.74	1366076.34
61	SWM POND 2	400	572618.98	1366037.27
62	SWM POND 2	400	572635.62	1366052.83
63	SWM POND 2	401	572626.27	1366097.47
64	SWM POND 2	401	572569.41	1366134.07
65	SWM POND 2	401	572497.19	1366064.64
66	SWM POND 2	401	572541.98	1366031.03
67	SWM POND 2	402	572621.78	1366018.76
68	SWM POND 2	402	572522.53	1366153.11
69	FOREBAY	401	572464.95	1366094.52
70	FOREBAY	402	572464.61	1366097.50
71	FOREBAY	402	572428.09	1366130.62
72	BIORETENTION	402	572367.73	1366148.10
73	FOREBAY	402	572414.01	1366256.42
74	FOREBAY	402	572407.29	1366209.57
75	FOREBAY	402	572414.15	1366164.04
76	FOREBAY	402	572484.12	1366101.43
77	FOREBAY	402	572509.46	1366157.13
78	BIORETENTION	402	572388.79	1366150.90
79	BIORETENTION	402	572333.44	1366202.32
80	BIORETENTION	402	572341.94	1366218.06
81	BIORETENTION	402	572363.23	1366211.36
82	BIORETENTION	402	572404.29	1366209.66
83	BIORETENTION	402	572411.31	1366163.18
84	FOREBAY	399.70	572420.69	1366166.55
85	FOREBAY	399.70	572433.77	1366139.84
86	FOREBAY	400	572463.26	1366109.43
87	FOREBAY	400	572502.53	1366152.73
88	FOREBAY	400	572468.98	1366177.09
89	FOREBAY	400	572446.92	1366206.92
90	FOREBAY	400	572421.02	1366261.10
91	FOREBAY	399.70	572414.18	1366209.41
92	BIORETENTION	400	572351.00	1366192.73
93	BIORETENTION	400	572357.54	1366204.90
94	BIORETENTION	399.50	572355.50	1366190.15
95	BIORETENTION	399.50	572364.03	1366200.74
96	BIORETENTION	399.50	572395.97	1366222.71

	PEAK DISCHARGES			
	EXISTING		PROPOSED	
	Q(cfs)	WSEL(ft)	Q(cfs)	WSEL(ft)
1-YR	6	397.63	-2-1.1	396.84
10-YR	41	399.56	31-37	399.12
100-YR	80	400.12	79-78	399.77

POND HAZARD CLASSIFICATION "a"

DATE	NO.	REVISIONS DESCRIPTION

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM



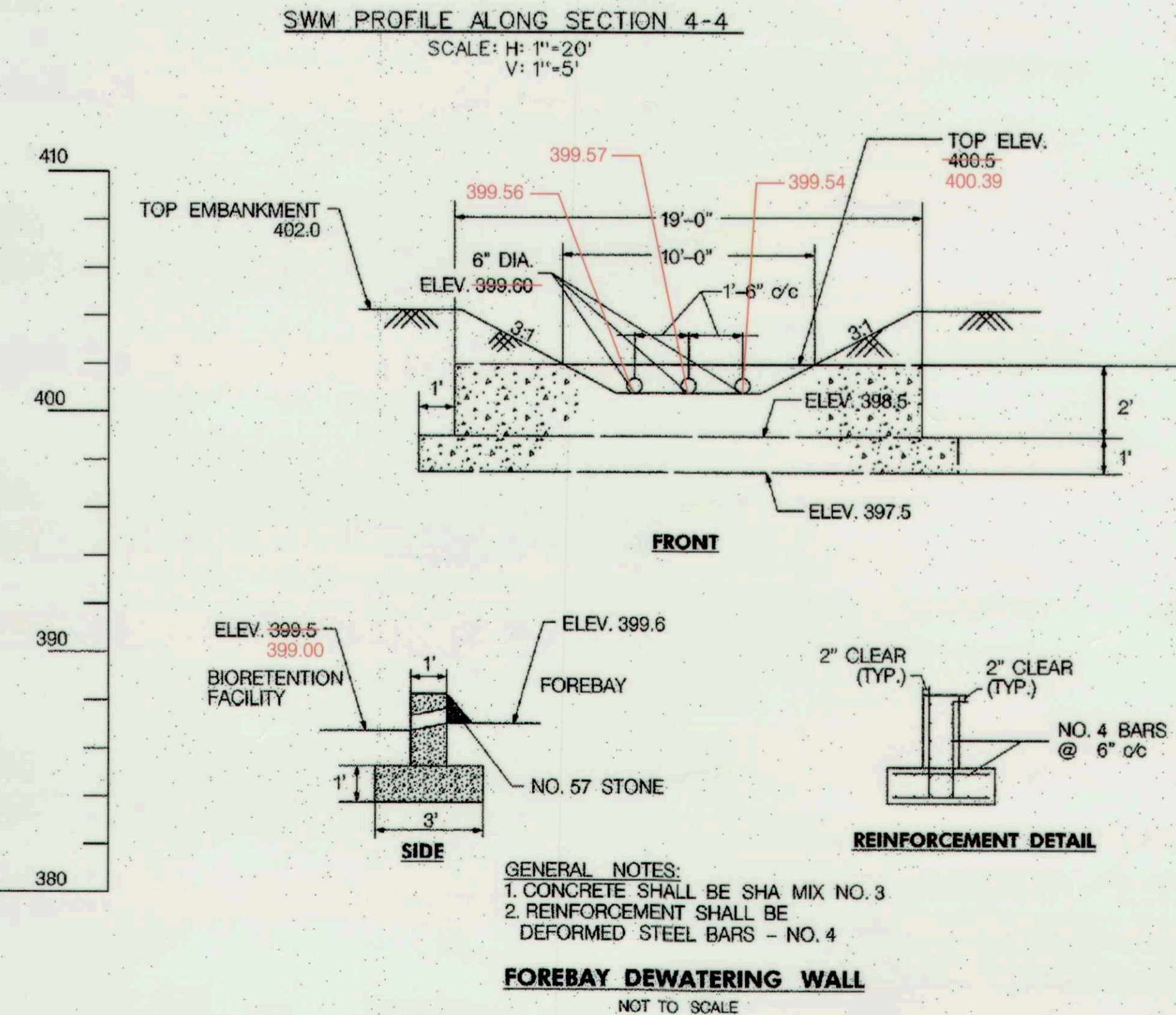
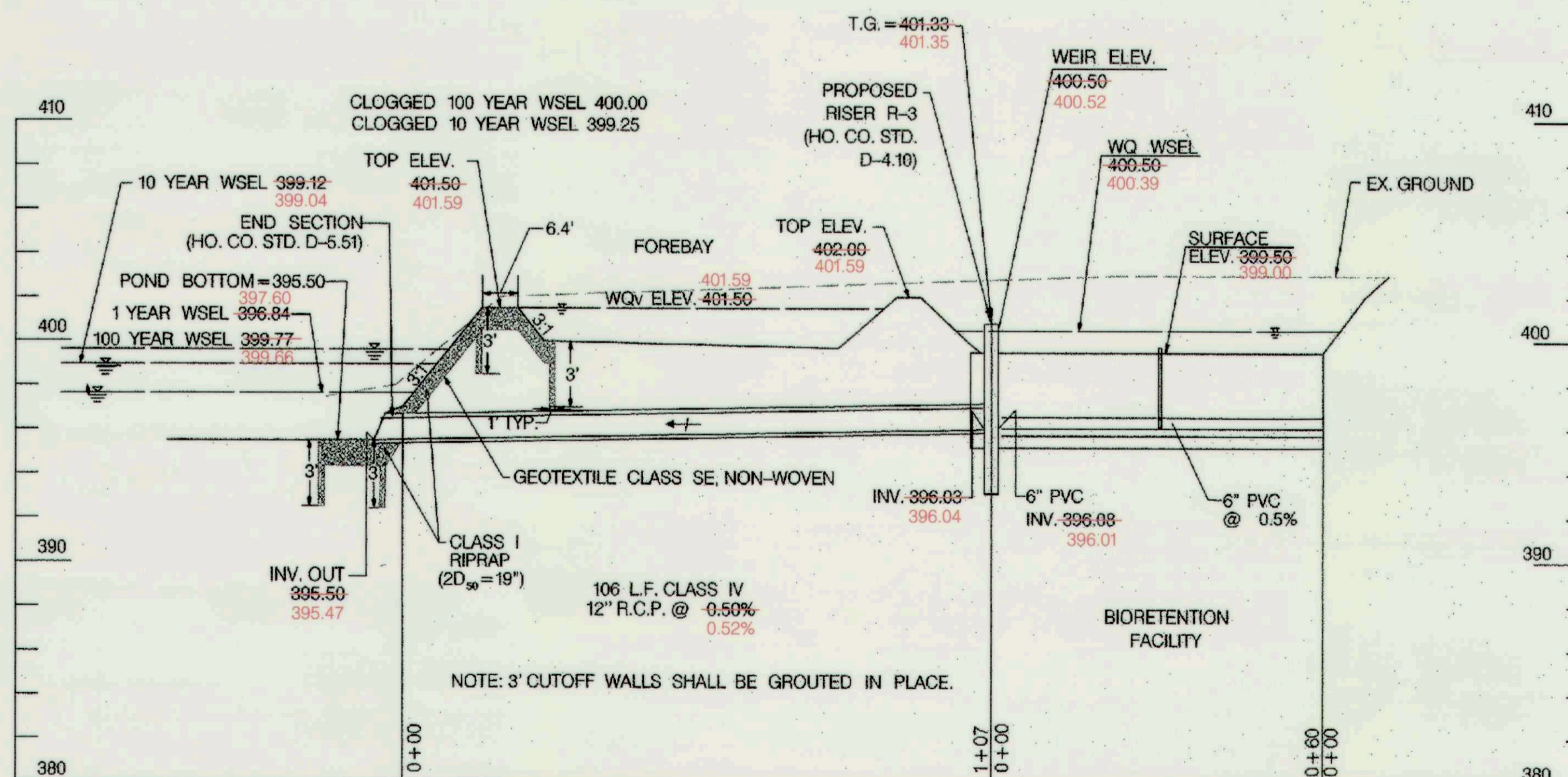
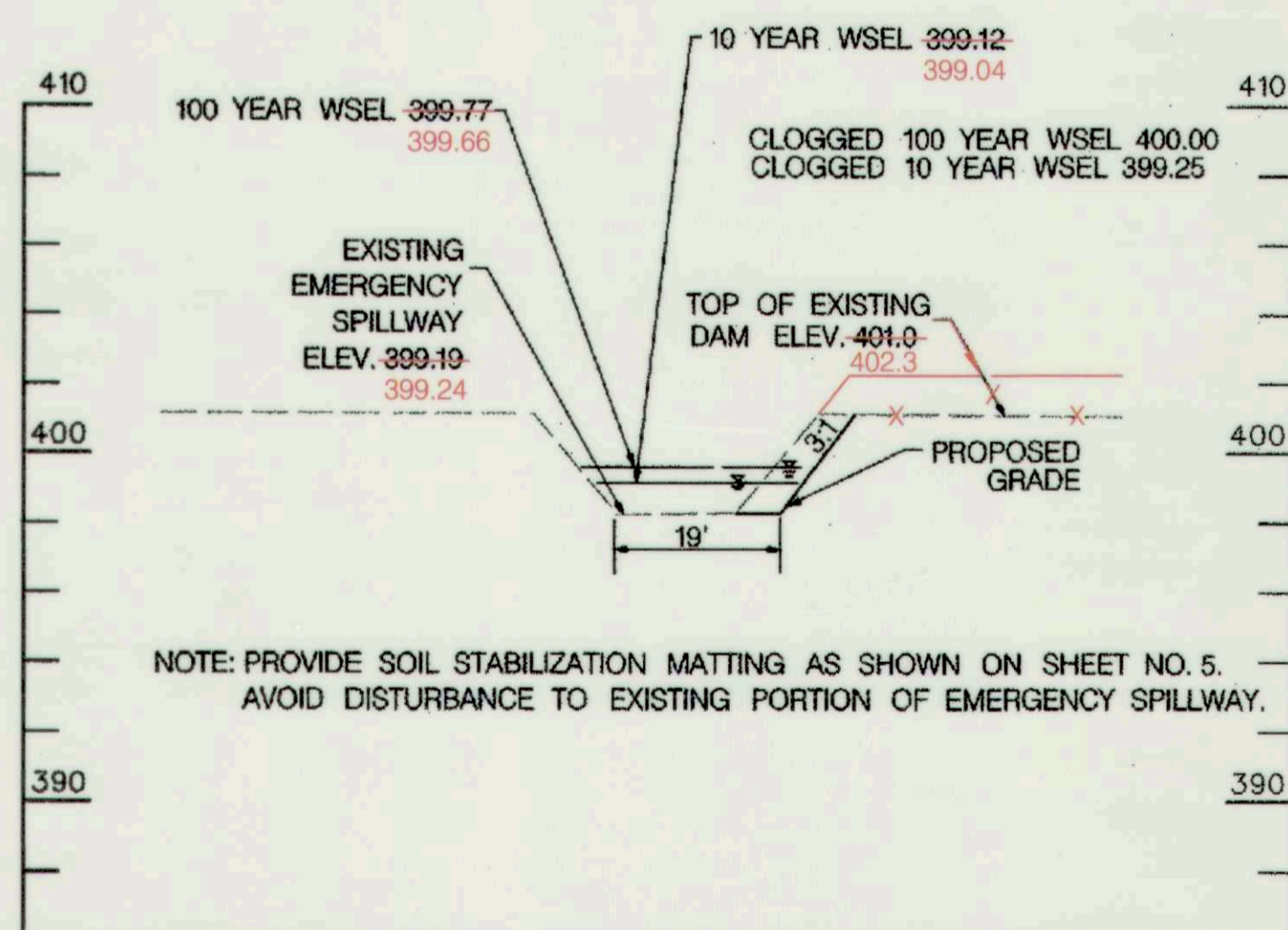
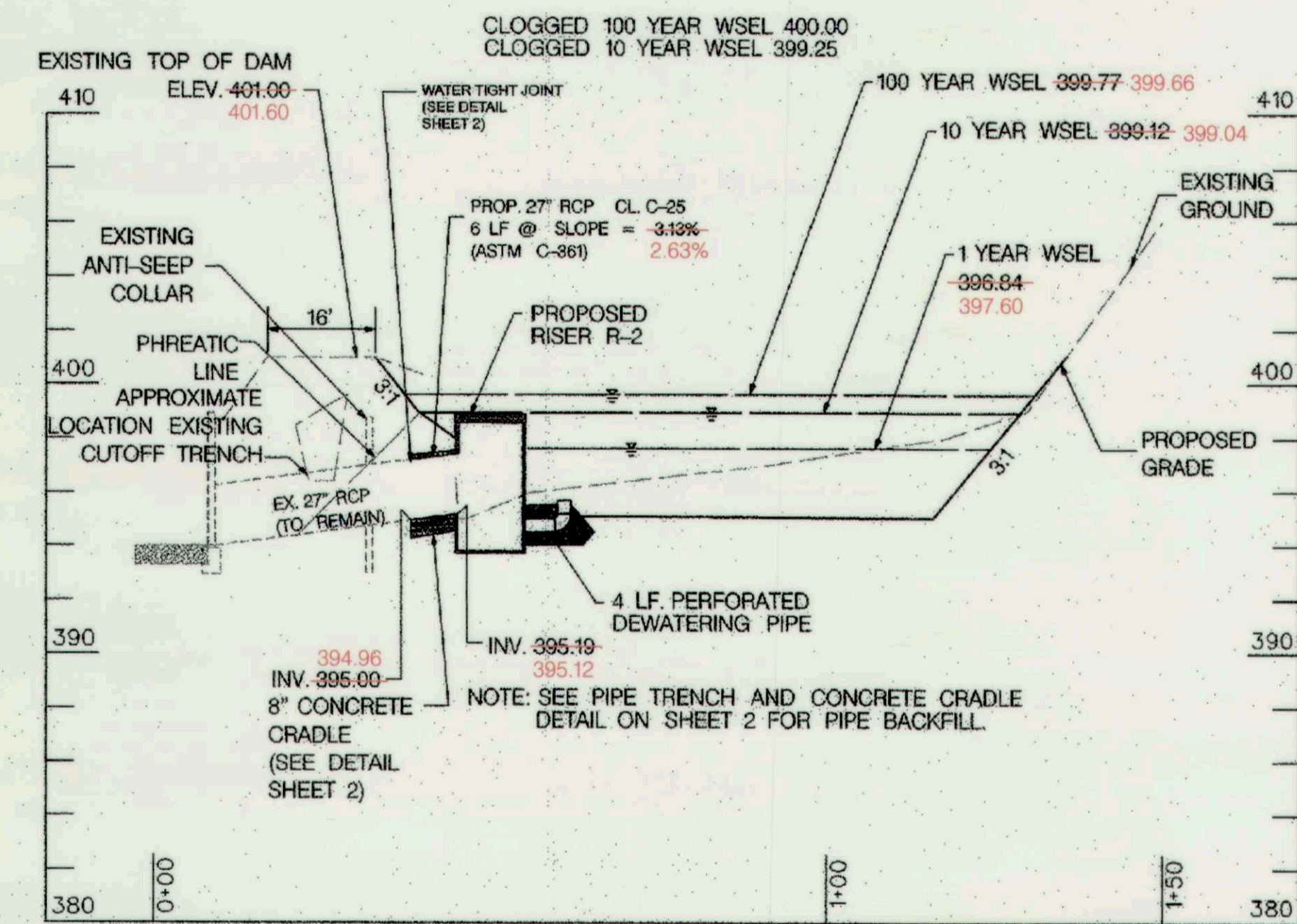
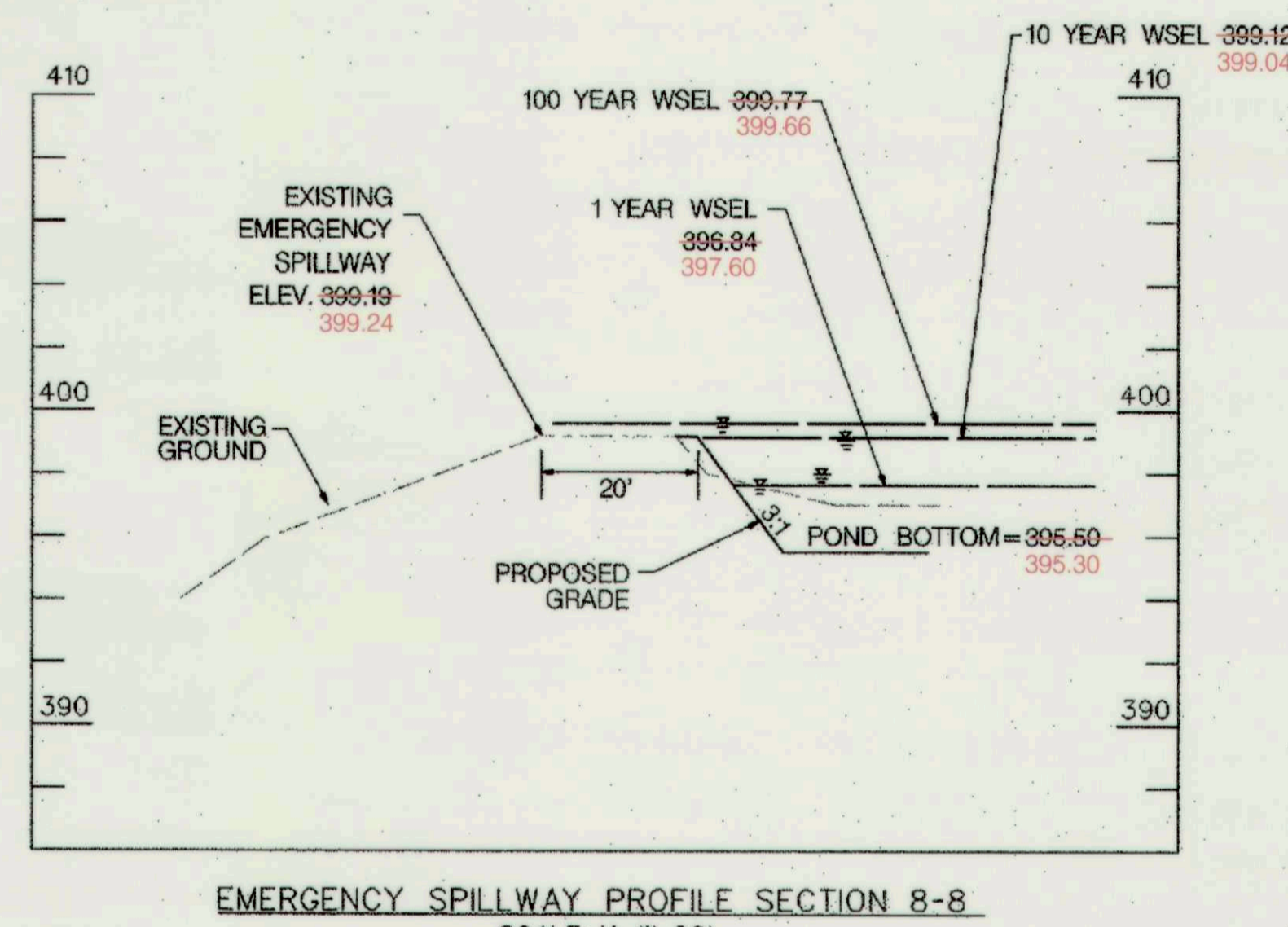
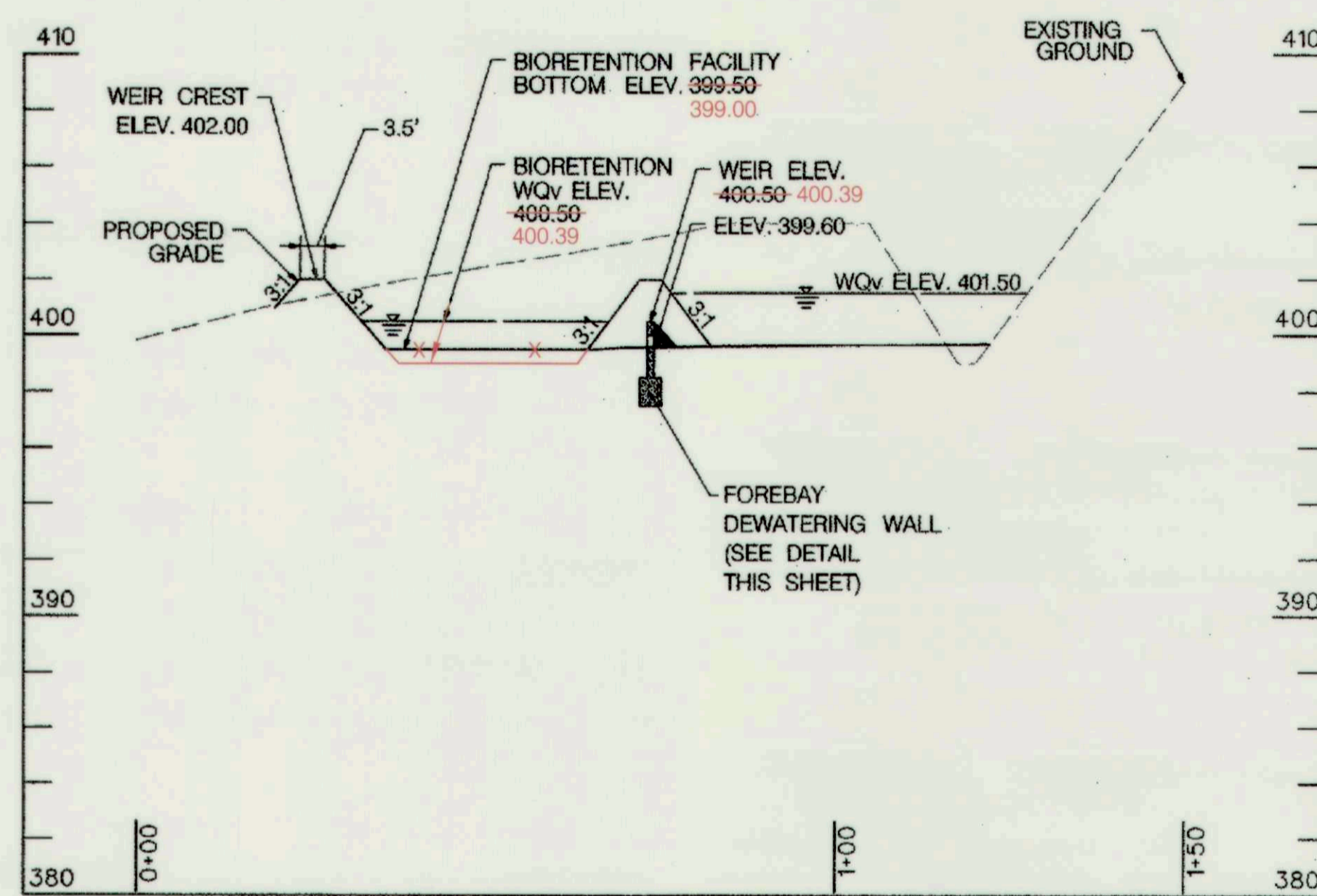
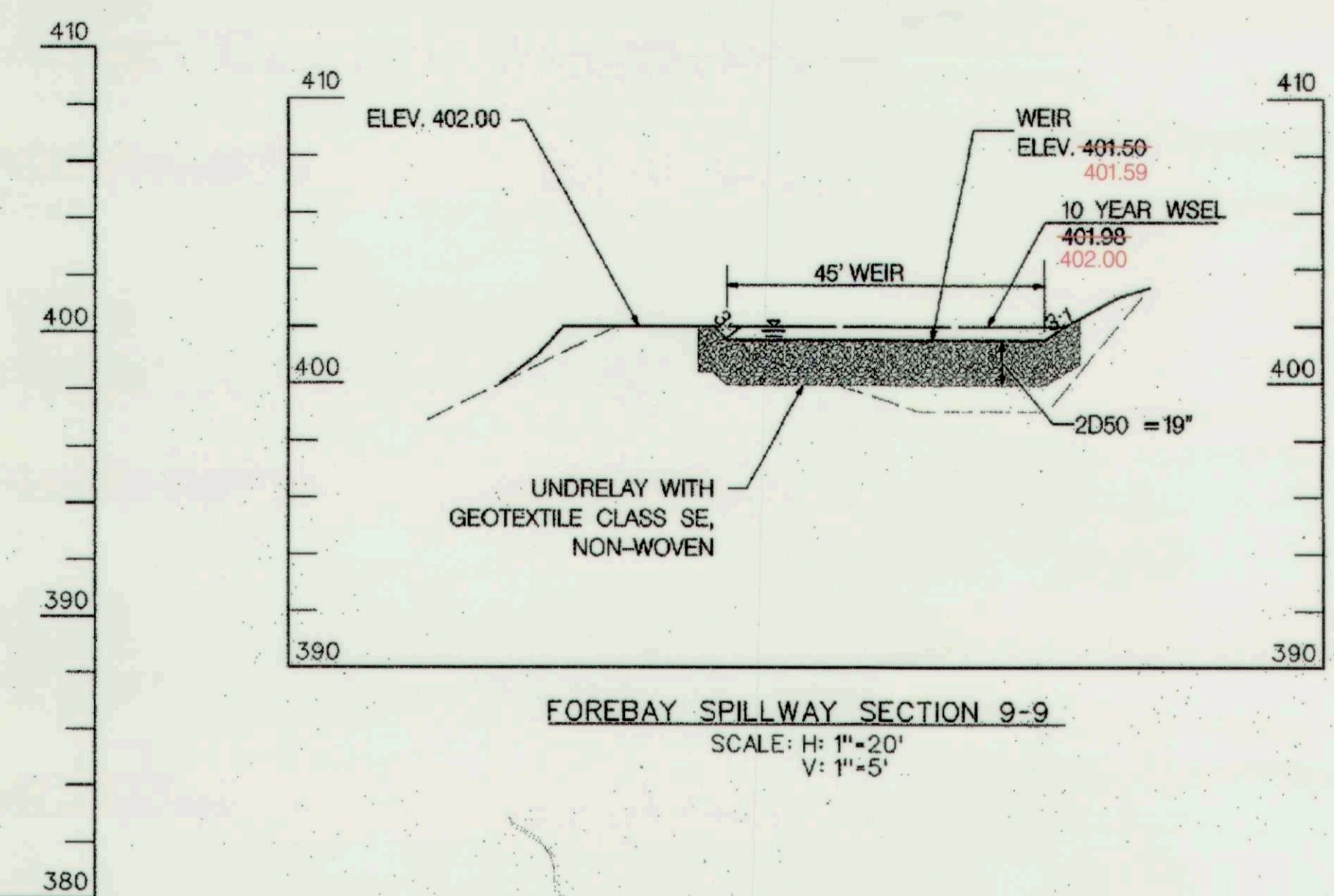
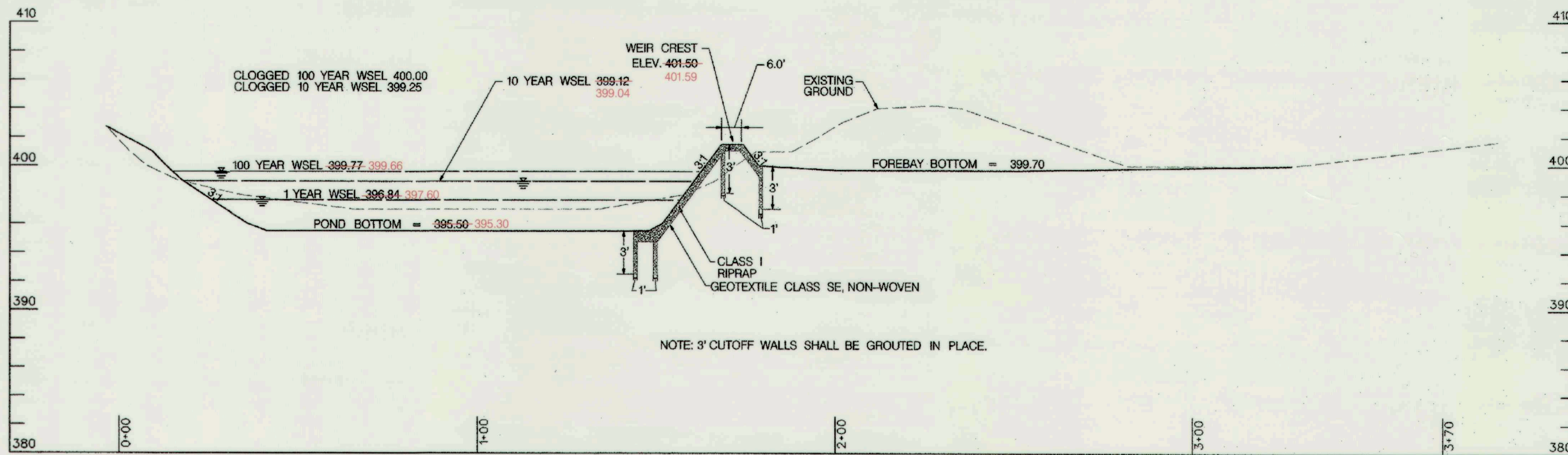
SALTERFORTH PLACE
 SWM POND ENHANCEMENT
BRAMPTON HILLS #4 OPEN SPACE LOT 76
 BRAMPTON HILLS #4 CAPITAL PROJECT SITE
 TAX MAP # 31, PARCEL 762, LOT 68
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 675 COLUMBIA RD., SUITE 200
 ANNAPOLIS, MD 21403
 410-381-5447

PLAN SHEET
 POND 2

SCALE: 1" = 20' HORIZ
 DATE: SEPTEMBER 2011
 XCI JOB NO.: 01-081795.26
 CAPITAL PROJECT NO.: D1160
 PERMIT ISSUE:
 CONSTRUCTION ISSUE:

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.
 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SCD
 John R. Robertson / s
 9/28/11
 DATE

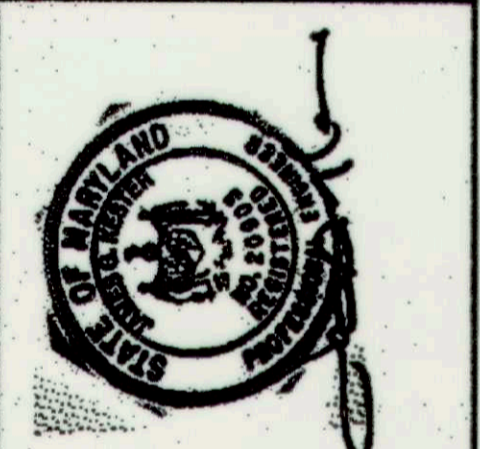
AS-BUILT 112112



REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SCD
DATE: 02/11/24

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

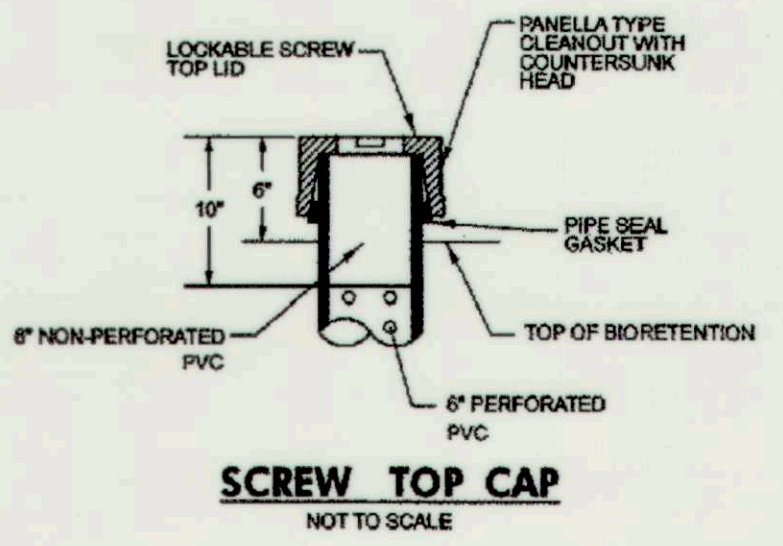


**SALTERFORTH PLACE
SWM POND ENHANCEMENT**
BRAMPTON HILLS V1 OPEN SPACE LOT 7B
BRAMPTON HILLS V1 OPEN SPACE LOT 7B
CAPITAL PROJECT DIBD
THE MAP IS LOCATED AND TELEVISION WITHIN OF
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
5701 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046
410-316-7818

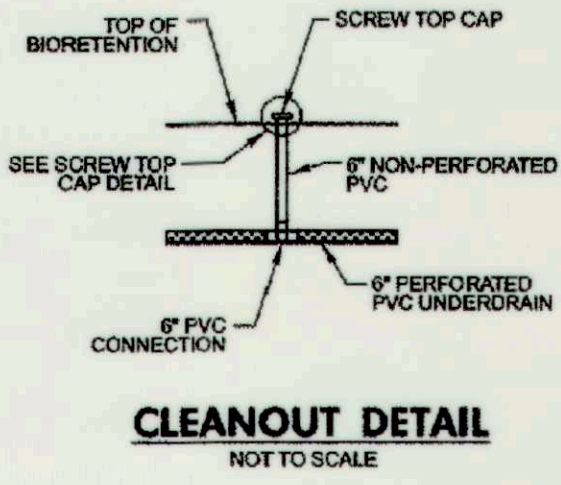
POND 2 PROFILES

SCALE: 1" = 20' HORIZONTAL
AS SHOWN
DATE: SEPTEMBER 2011
RCI JOB NO.: 01-081795.25
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

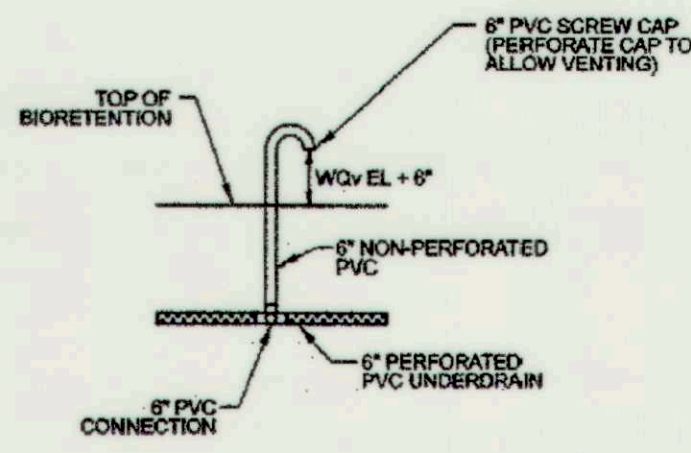
AS-BUILT 11/21/12



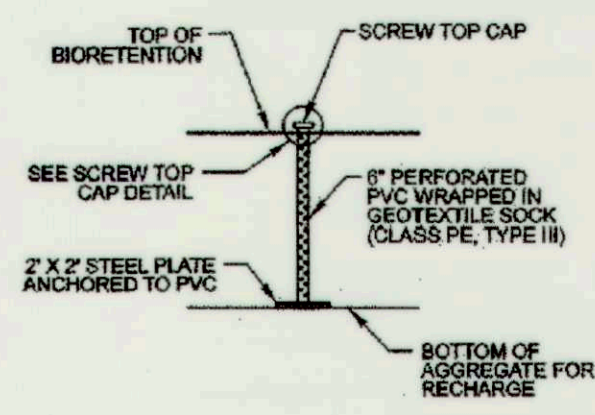
SCREW TOP CAP
NOT TO SCALE



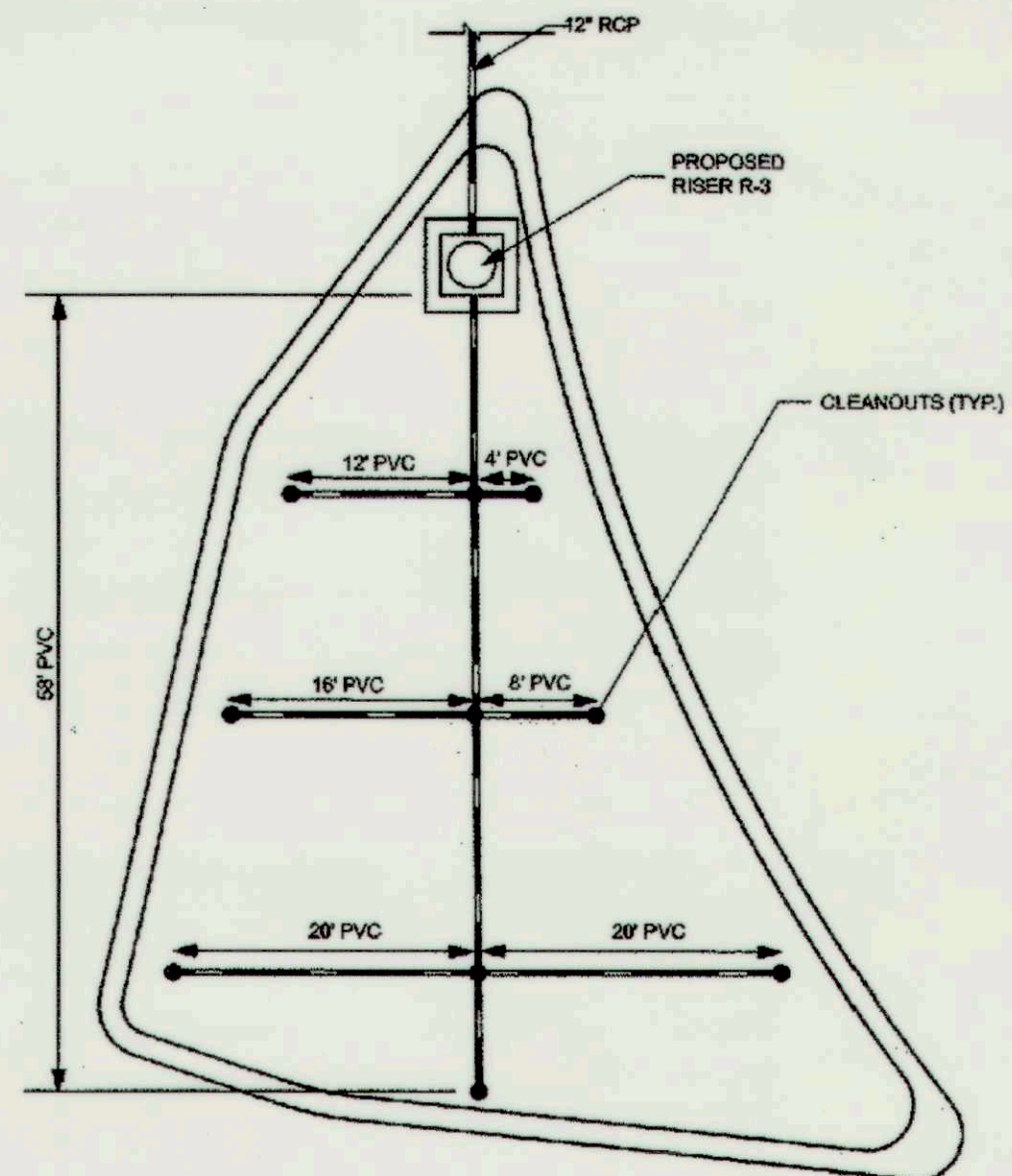
CLEANOUT DETAIL
NOT TO SCALE



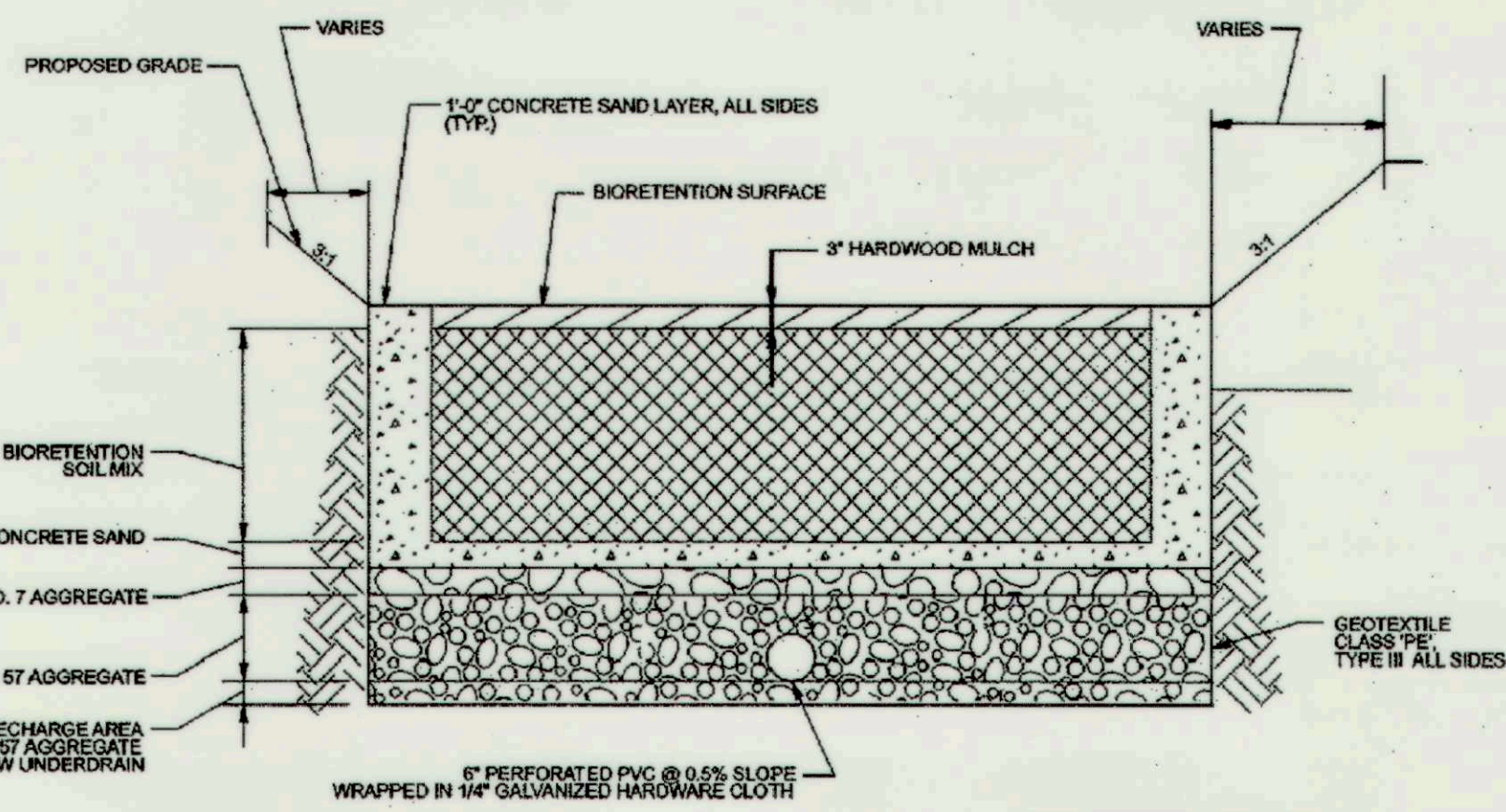
J-VENT DETAIL
NOT TO SCALE



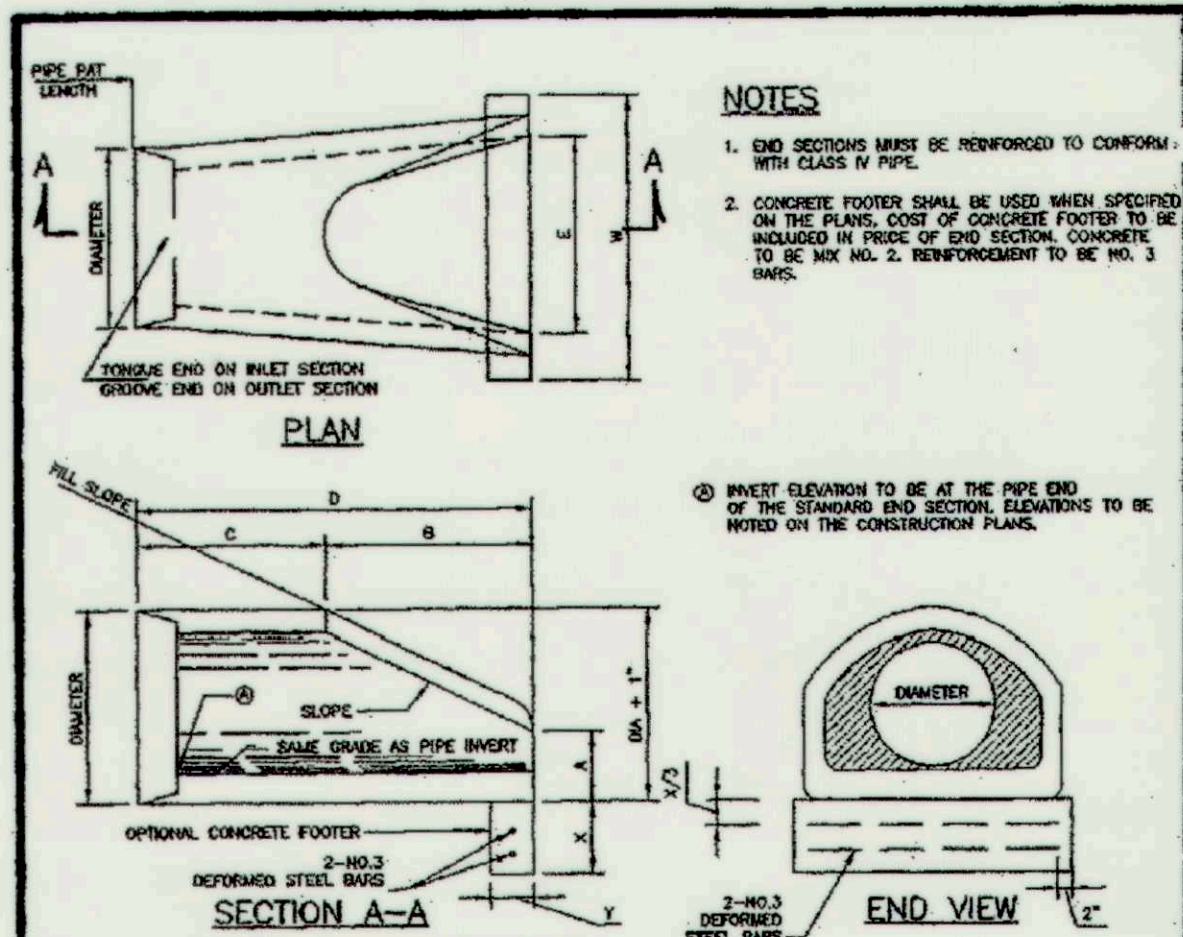
OBSERVATION WELL DETAIL
NOT TO SCALE



BIORETENTION FACILITY LAYOUT
NOT TO SCALE



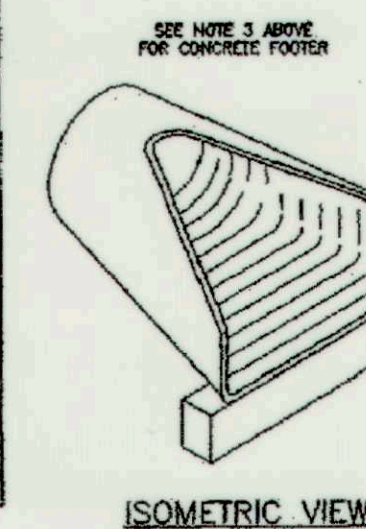
BIORETENTION AREA TYPICAL SECTION
SCALE: NOT TO SCALE



NOTES

1. END SECTIONS MUST BE REINFORCED TO CONFORM WITH CLASS IV PIPE.
2. CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLAN. OVER OF CONCRETE FOOTER TO BE INDICATED IN CROSS OF END SECTION. CONCRETE TO BE MIX NO. 2. REINFORCEMENT TO BE NO. 3 BARS.

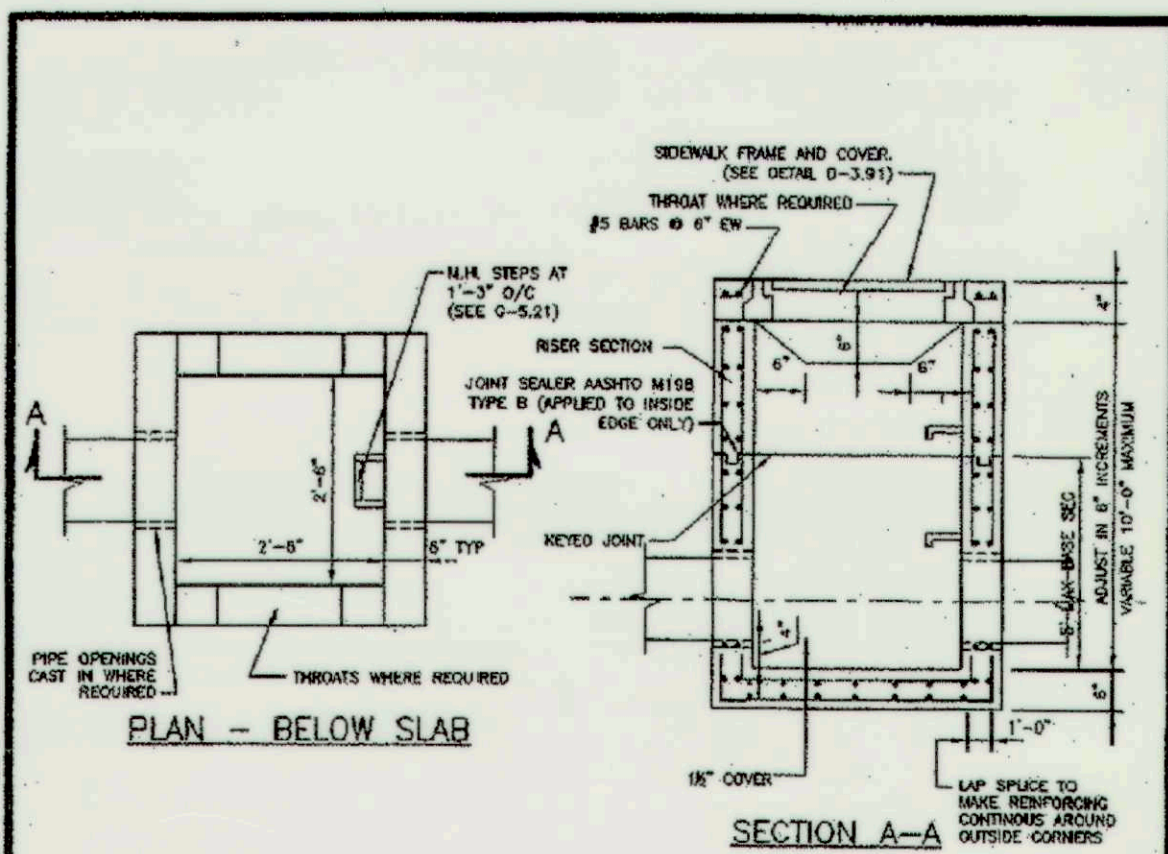
3. INVERT CLEANOUTS TO BE AT THE PIPE END OF THE SANDHOLD END SECTION. CLEANOUTS TO BE WORKED ON THE CONSTRUCTION PLANS.



ISOMETRIC VIEW

CONCRETE END SECTION		CONCRETE FOOTER		QUANTITIES	
IN	FOOTER	CONCRETE	FOOTER	CONCRETE	FOOTER
10	3.1	1.1	1.1	1.1	1.1
12	3.1	1.1	1.1	1.1	1.1
14	3.1	1.1	1.1	1.1	1.1
16	3.1	1.1	1.1	1.1	1.1
18	3.1	1.1	1.1	1.1	1.1
20	3.1	1.1	1.1	1.1	1.1
22	3.1	1.1	1.1	1.1	1.1
24	3.1	1.1	1.1	1.1	1.1
26	3.1	1.1	1.1	1.1	1.1
28	3.1	1.1	1.1	1.1	1.1
30	3.1	1.1	1.1	1.1	1.1
32	3.1	1.1	1.1	1.1	1.1
34	3.1	1.1	1.1	1.1	1.1
36	3.1	1.1	1.1	1.1	1.1
38	3.1	1.1	1.1	1.1	1.1
40	3.1	1.1	1.1	1.1	1.1
42	3.1	1.1	1.1	1.1	1.1
44	3.1	1.1	1.1	1.1	1.1
46	3.1	1.1	1.1	1.1	1.1
48	3.1	1.1	1.1	1.1	1.1
50	3.1	1.1	1.1	1.1	1.1
52	3.1	1.1	1.1	1.1	1.1
54	3.1	1.1	1.1	1.1	1.1
56	3.1	1.1	1.1	1.1	1.1
58	3.1	1.1	1.1	1.1	1.1
60	3.1	1.1	1.1	1.1	1.1
62	3.1	1.1	1.1	1.1	1.1
64	3.1	1.1	1.1	1.1	1.1
66	3.1	1.1	1.1	1.1	1.1
68	3.1	1.1	1.1	1.1	1.1
70	3.1	1.1	1.1	1.1	1.1
72	3.1	1.1	1.1	1.1	1.1
74	3.1	1.1	1.1	1.1	1.1
76	3.1	1.1	1.1	1.1	1.1
78	3.1	1.1	1.1	1.1	1.1
80	3.1	1.1	1.1	1.1	1.1
82	3.1	1.1	1.1	1.1	1.1
84	3.1	1.1	1.1	1.1	1.1
86	3.1	1.1	1.1	1.1	1.1
88	3.1	1.1	1.1	1.1	1.1
90	3.1	1.1	1.1	1.1	1.1
92	3.1	1.1	1.1	1.1	1.1
94	3.1	1.1	1.1	1.1	1.1
96	3.1	1.1	1.1	1.1	1.1
98	3.1	1.1	1.1	1.1	1.1
100	3.1	1.1	1.1	1.1	1.1

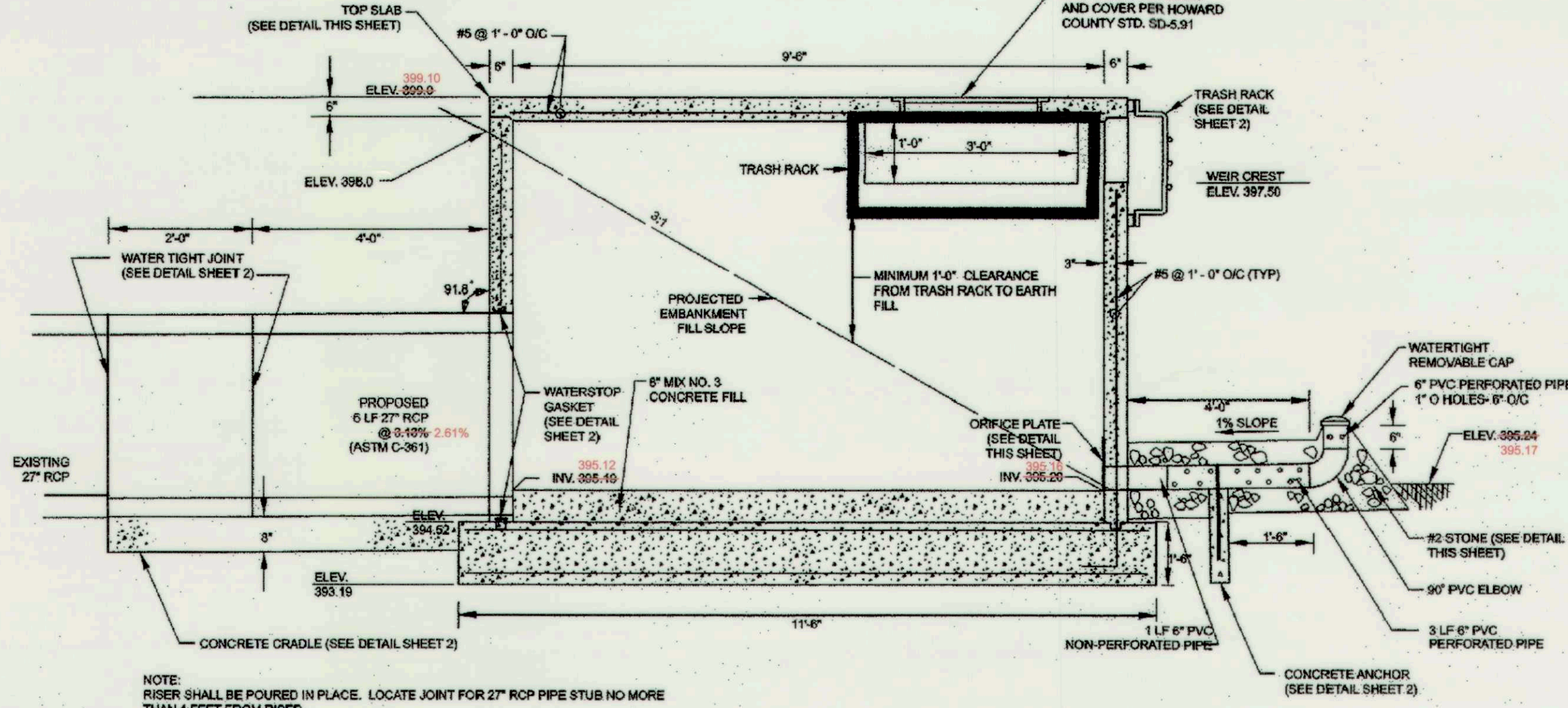
Project:	Howard County, Maryland Department of Public Works	Concrete End Section Circular Concrete Pipe	Detail:	D-5.51
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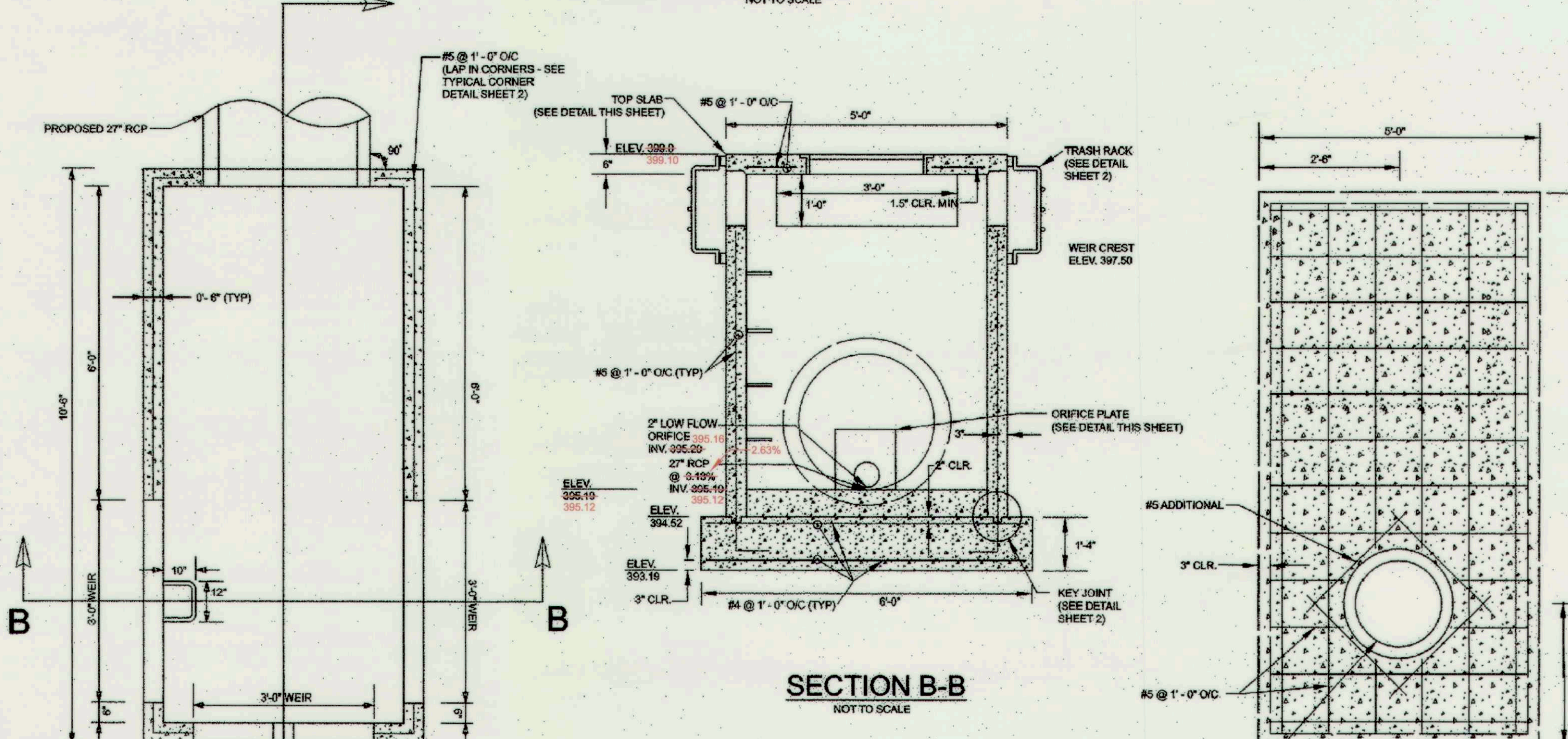
NOTES

1. CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF LATEST EDITION OF ACI 301 AND ACI 318.
2. PRECAST STRUCTURES SHALL BE DESIGNED BY A PRECAST CONCRETE STRUCTURES MANUFACTURER IN ACCORDANCE TO LOADS SPECIFIED IN LATEST EDITION OF ASTM C937, ASTM C938.
3. PRECAST STRUCTURES SHALL CONFORM TO THE REQUIREMENTS OF LATEST EDITIONS OF ASTM C933.
4. JOINTS BETWEEN PRECAST ELEMENTS SHALL BE MADE BY THE CONTRACTOR WITH BRICK AND MORTAR.
5. OVERALL HEIGHT OF PRECAST IS ADJUSTABLE IN 4" INCREMENTS. FINAL GROUND ADJUSTMENTS SHALL BE MADE BY THE CONTRACTOR WITH BRICK AND MORTAR.
6. INVERT SHALL BE APPROVED PRECAST. FINISH MIX NO. 2 CONCRETE OR BRICK LAY ON EDGE. INVERT TO SLOPE DOWN TOWARD OUTLET AT THE RATE OF 2" PER FOOT, OR AS SHOWN ON PLAN OR AS DESIGNATED. INVERT BRICK SHALL BE ASTM C32-91 GRADE SS.

Project:	Howard County, Maryland Department of Public Works	Type 'D' Inlet Precast	Detail:	D-4.10
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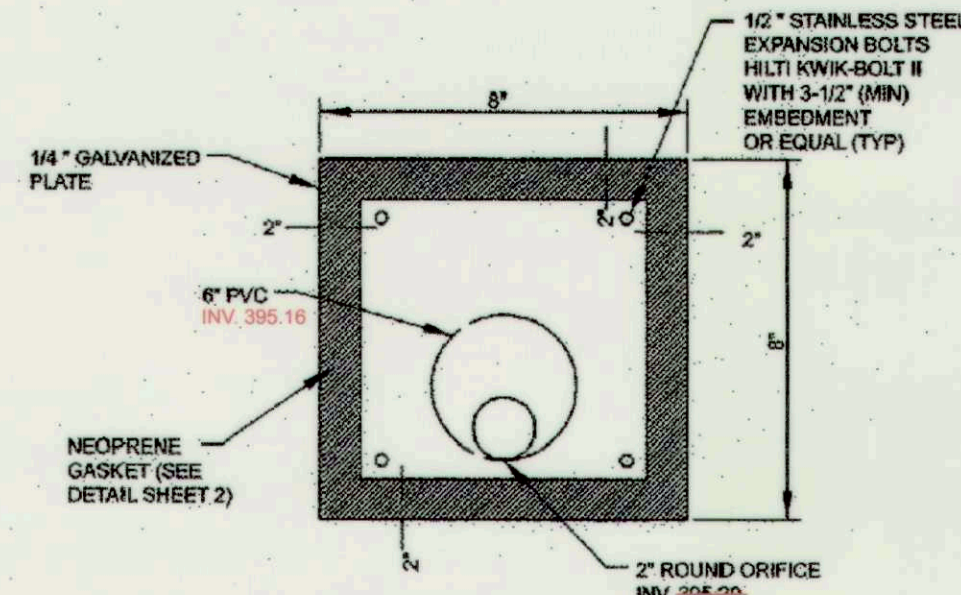


SECTION A-A
NOT TO SCALE

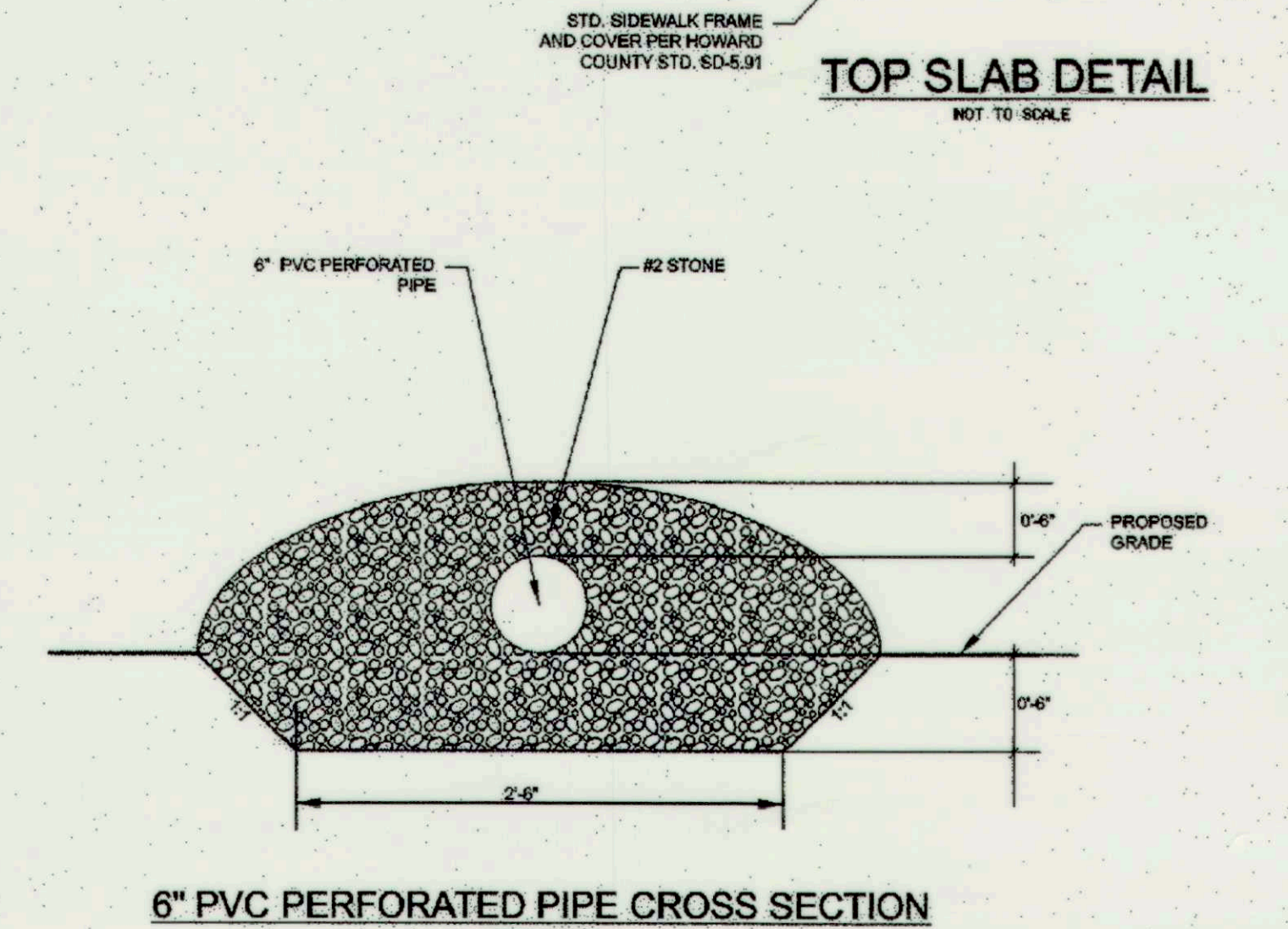


SECTION B-B
NOT TO SCALE

PLAN VIEW RISER R-2
NOT TO SCALE



INTERNAL ORIFICE PLATE DETAIL
NOT TO SCALE



TOP SLAB DETAIL
NOT TO SCALE

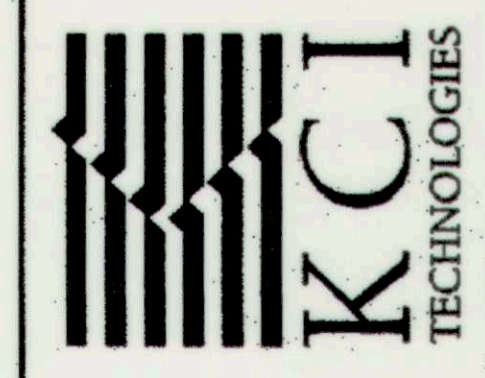
6" PVC PERFORATED PIPE CROSS SECTION
NOT TO SCALE

BY: James Keister (Division 205) Water Resources CMA, Eng. FLD, M.A. 2008, 01081795-26, 01081795-27, 01081795-28, 01081795-29, 01081795-30, 01081795-31, 01081795-32, 01081795-33, 01081795-34, 01081795-35, 01081795-36, 01081795-37, 01081795-38, 01081795-39, 01081795-40, 01081795-41, 01081795-42, 01081795-43, 01081795-44, 01081795-45, 01081795-46, 01081795-47, 01081795-48, 01081795-49, 01081795-50, 01081795-51, 01081795-52, 01081795-53, 01081795-54, 01081795-55, 01081795-56, 01081795-57, 01081795-58, 01081795-59, 01081795-60, 01081795-61, 01081795-62, 01081795-63, 01081795-64, 01081795-65, 01081795-66, 01081795-67, 01081795-68, 01081795-69, 01081795-70, 01081795-71, 01081795-72, 01081795-73, 01081795-74, 01081795-75, 01081795-76, 01081795-77, 01081795-78, 01081795-79, 01081795-80, 01081795-81, 01081795-82, 01081795-83, 01081795-84, 01081795-85, 01081795-86, 01081795-87, 01081795-88, 01081795-89, 01081795-90, 01081795-91, 01081795-92, 01081795-93, 01081795-94, 01081795-95, 01081795-96, 01081795-97, 01081795-98, 01081795-99, 01081795-100.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Approved: *John K. Robinson* / 1/25
 DATE: 1/25/11

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

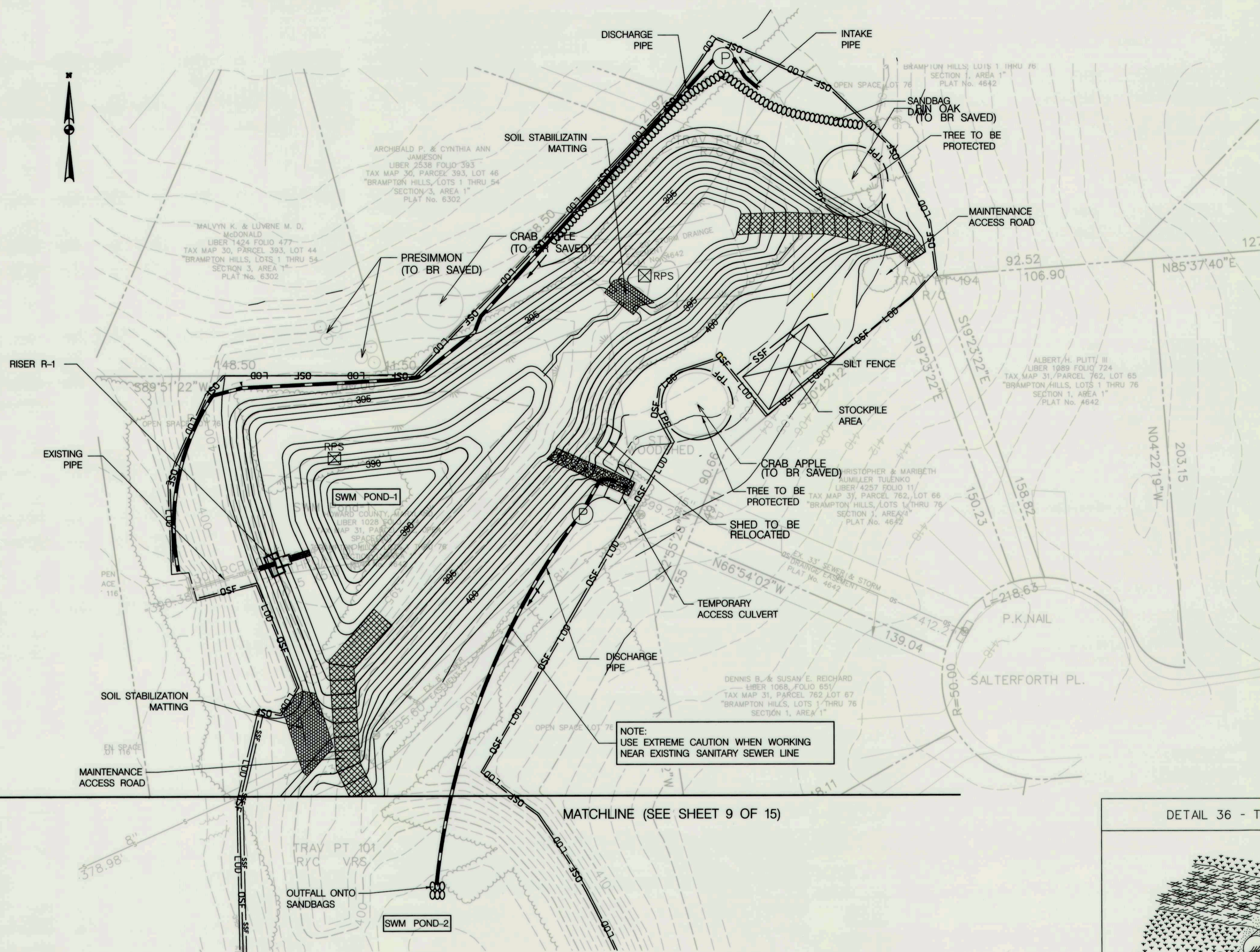


**SALTERFORTH PLACE
 SWM POND ENHANCEMENT**
 BRAMPTON HILLS, 44 OPEN SPACE LOT 7B
 BRAMPTON HILLS, 44 OPEN SPACE LOT 7B
 1500 W. W. JONES BLVD. DISTRICT IN
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 5101 COLUMBIA GATEWAY DRIVE
 COLLEGE PARK, MD 20740
 410-316-7800

**POND 2 &
 BIORETENTION FACILITY
 DETAILS**

SCALE:	AS SHOWN
DATE:	SEPTEMBER 2011
PROJECT NO.:	01-081795-26
CAPITAL PROJECT NO.:	D1160
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

AS-BUILT 11/21/12



- ### SEQUENCE OF CONSTRUCTION
- | | |
|----------|--|
| 1 WEEK | 1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AND THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION (410-313-1880) AT LEAST 5 DAYS PRIOR TO BEGINNING ANY WORK. OBTAIN GRADING PERMIT |
| 1 DAY | 2. CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, THE ENGINEER, AND A REPRESENTATIVE FROM HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION. |
| 1 DAY | 3. CLEAR AND GRUB THOSE AREAS WITHIN THE LIMIT OF DISTURBANCE REQUIRED TO ESTABLISH THE PROPOSED SEDIMENT CONTROL MEASURES. THIS WORK WILL BE DONE IN 2 PHASES. |
| 1 DAY | 4. CONSTRUCT PERIMETER CONTROL DEVICES INCLUDING ORANGE SAFETY FENCE, SUPER SILT FENCE ALONG CONSTRUCTION ACCESS AND ORANGE TREE PROTECTION. |
| | 5. PHASE 1 CONSTRUCTION ACCESS WILL BE FROM BRAMPTON PARKWAY AND WILL EXTEND ALONG THE TREE LINE TO THE WEST OF POND 2 (SEE SHEET 9). |
| PHASE 1: | |
| 3 DAYS | 4. 1. CLEAR AND GRUB THOSE AREAS WITHIN THE LIMIT OF DISTURBANCE REQUIRED TO ESTABLISH THE PROPOSED SEDIMENT CONTROL MEASURES FOR POND 1. |
| 1 WEEK | 2. INSTALL SANDBAG DIVERSION AND PUMP-AROUND SYSTEM. INSTALL DIVERSION PIPE EXTENDING FROM EXISTING STORM DRAIN OUTFALL TO POND 2. NO WORK SHALL BE PERFORMED UNTIL THESE DEVICES ARE APPROVED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. |
| 3 DAYS | 4-5. INSTALL PROPOSED RISER R-1, PERFORATED HORIZONTAL PVC, NO. 2 STONE, AND 30" RCP BARREL EXTENSION. NO SEDIMENT-LADEN FLOW SHALL BE ALLOWED TO ENTER THE DOWNSTREAM CHANNEL. NOT |
| 1 WEEK | 3-4. PROCEED TO GRADE THE FOREBAY AND THE PERMANENT POOL FOR POND 1. DEWATER USING REMOVABLE PUMPING STATION, AS NEEDED. |
| 2 DAYS | 5. CONSTRUCT EMERGENCY SPILLWAY AND PROVIDE PERMANENT STABILIZATION IMMEDIATELY UPON COMPLETION, ACCORDING TO PLANS. |
| 1 WEEK | 6. PLACE POND 1 LANDSCAPING ACCORDING TO SHEETS 11 TO 13. |
| 3 DAYS | 7. UPON COMPLETION, REMOVE THE SAND BAG DAM, PUMP-AROUND SYSTEM, AND STORM DRAIN DIVERSION. PERMANENTLY STABILIZE ALL DISTURBED AREAS TO THE FULL WIDTH OF L.O.D. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR. PROCEED TO PHASE 2. |
- TIME RESTRICTION NOTES:**
- PUMPING IS NOT PERMITTED BETWEEN THE HOURS OF 7:00PM AND 7:00 AM, MONDAY THROUGH FRIDAY.
- CONSTRUCTION EQUIPMENT SHALL NOT BE STARTED NOR RUN BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM, MONDAY THROUGH FRIDAY.
- FOR SATURDAY WORK, THE ABOVE HOURS SHALL BE 5:00 PM TO 9:00 AM, RESPECTIVELY.
- NO WORK SHALL BE DONE ON SUNDAY.

PLOTTED: 02:41 PM on Thursday, January 10, 2013
 FILE: M:\2008\01081795_26\DWG\DWG\SS-1001_Salterforth_SWM Pond.dwg
 FILE: M:\2008\01081795_26\DWG\DWG\SS-1001_Salterforth_Readline.dwg

PHASE 1

LEGEND

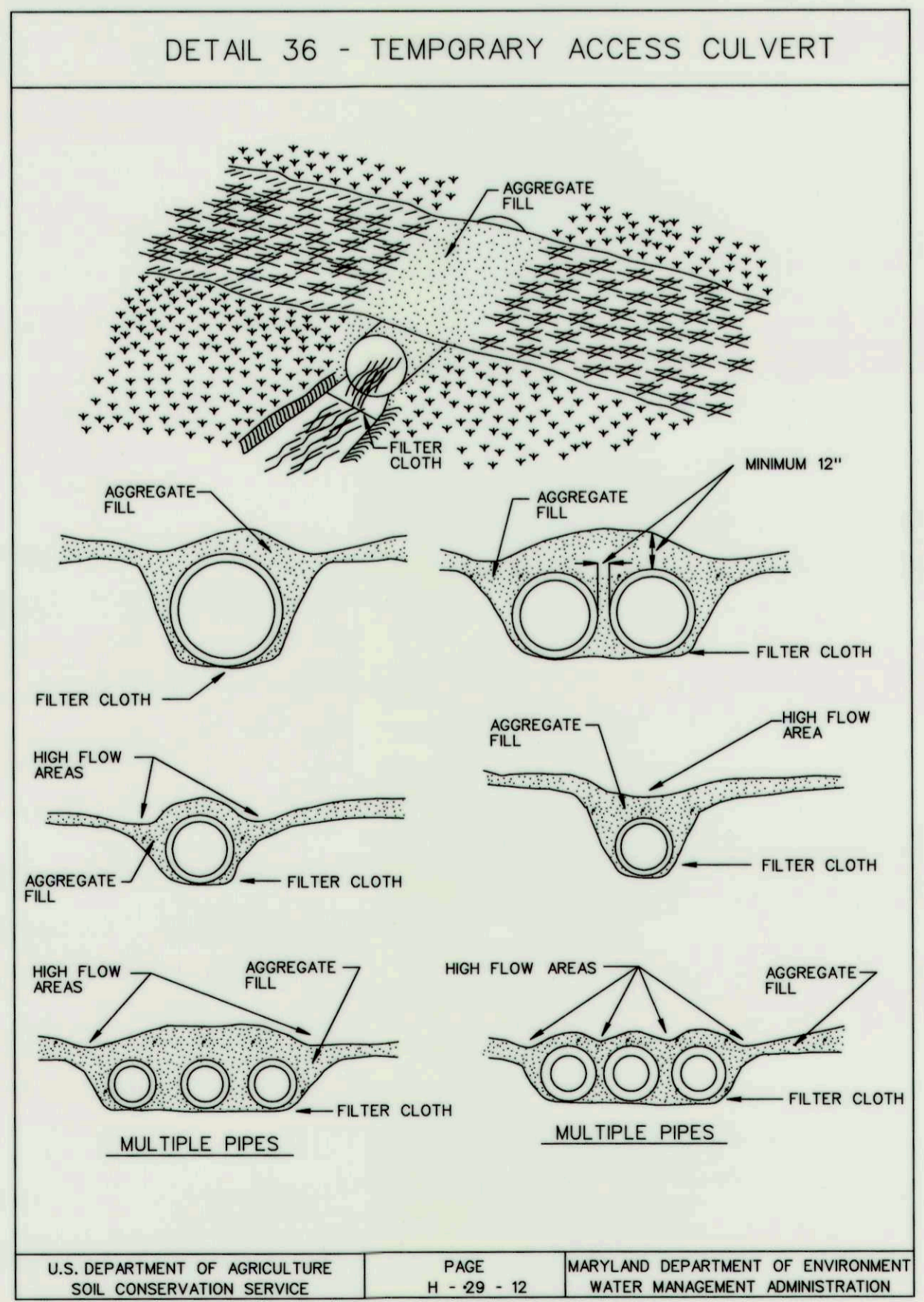
--- 418 ---	EXISTING CONTOURS		TREE PROTECTION FENCE
--- 395 ---	PROPOSED CONTOURS		STOCKPILE AREA
	EXISTING TREE LINE		SOIL STABILIZATION MATTING
	NONTIDAL WETLAND		MAINTENANCE ACCESS ROAD
---	PROPERTY LINE		SAND BAGS
---	EASEMENT LINE		SILT FENCE
---	EXISTING SEWER LINE		ORANGE SAFETY FENCE
---	EXISTING STORM DRAIN		LIMIT OF DISTURBANCE
	INTAKE AND DISCHARGE PIPE		REMOVABLE PUMPING STATION
	PUMP		TEMPORARY ACCESS CULVERT
	SANDBAG DAM		
	STABILIZED CONSTRUCTION ENTRANCE		

NOTE:
USE EXTREME CAUTION WHEN WORKING NEAR EXISTING SANITARY SEWER LINE

MATCHLINE (SEE SHEET 9 OF 15)

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robinson
 DATE: 9/28/11



TEMPORARY ACCESS CULVERT

Construction Specifications

- Restrictions - No construction or removal of a temporary access culvert will be permitted between October 1 through April 30 for Class II and Class IV Trout Waters or between March 1 through June 15 for non-trout waters.
- Culvert Strength - All culverts shall be strong enough to support their cross sectional area under maximum expected loads.
- Culvert Size - The size of the culvert pipe shall be the largest pipe diameter that will fit into the existing channel without major excavation of the roadway channel or without major approach fills. If a channel width exceeds 3 feet, additional pipes may be used until the cross sectional area of the pipes is greater than 60 percent of the cross sectional area of the existing channel. The minimum size culvert that may be used is a 12" diameter pipe. In all cases, the pipe(s) shall be large enough to convey normal stream flows.
- Culvert Length - The culvert(s) shall extend a minimum of one foot beyond the upstream and downstream toe to the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.
- Filter Cloth - Filter cloth shall be placed on the streambed and streambanks prior to placement of the pipe culvert(s) and aggregate. The filter cloth shall cover the streambed and extend a minimum six inches and a maximum one foot beyond the end of the culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.
- Culvert Placement - The invert elevation of the culvert shall be installed on the natural streambed grade to minimize interference with fish migration (free passage of fish).
- Culvert Protection - The culvert(s) shall be covered with a minimum of one foot of aggregate. If multiple culverts are used they shall be separated by at least 12" of compacted aggregate fill.
- Stabilization - All areas disturbed during culvert installation shall be stabilized within 14 calendar days of the disturbance in accordance with the Standard for "Critical Area Stabilization With Permanent Seeding."

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 29 - 12 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NO.	REVISIONS DESCRIPTION	DATE
1	SEQUENCE PHASE 1	09/24/11

KCI TECHNOLOGIES

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 Fax: (410) 316-7818
 www.kci.com

**SALTERFORTH PLACE
 SWM POND ENHANCEMENT**

BRAMPTON HILLS 11, OPEN SPACE LOT 76
 BRAMPTON HILLS 11, OPEN SPACE LOT 76
 CAPITAL PROJECT DT160
 TAX MAP 31, ZONING R-30, ELECTION DISTRICT 01
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6781 COLUMBIA UNIVERSITY DRIVE
 COLLEGE PARK, MD 20746
 410-313-5417

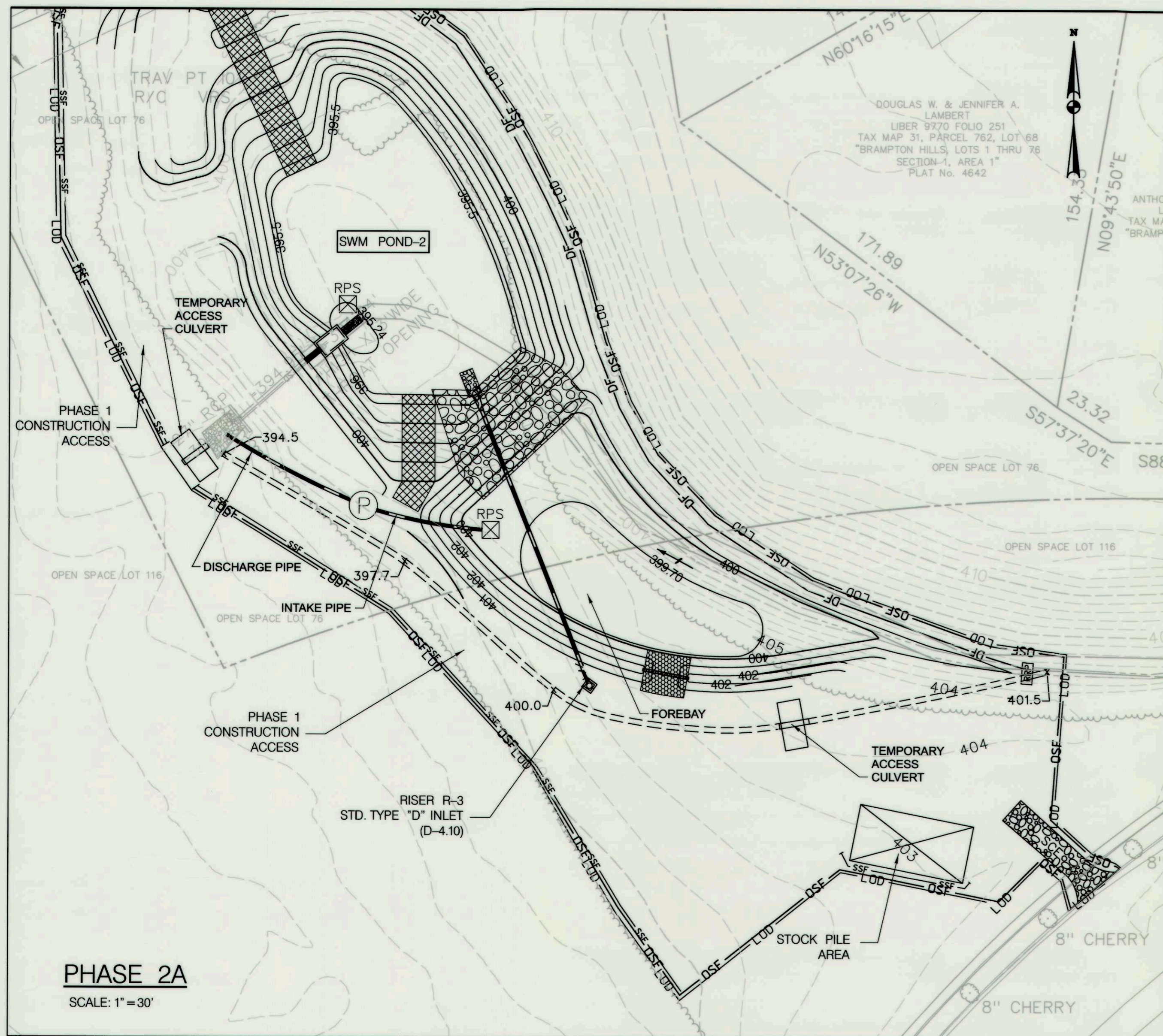
EROSION AND SEDIMENT CONTROL PLAN SHEET

SCALE: 0 0.25 0.5 1.0 FEET
 1" = 30'

DATE: NOVEMBER 2011
 KCIJOB NO.: 01-081795.70
 CAPITAL PROJECT NO.: D1160
 PERMIT ISSUE:
 CONSTRUCTION ISSUE:

SHEET NO.: 8 OF 15

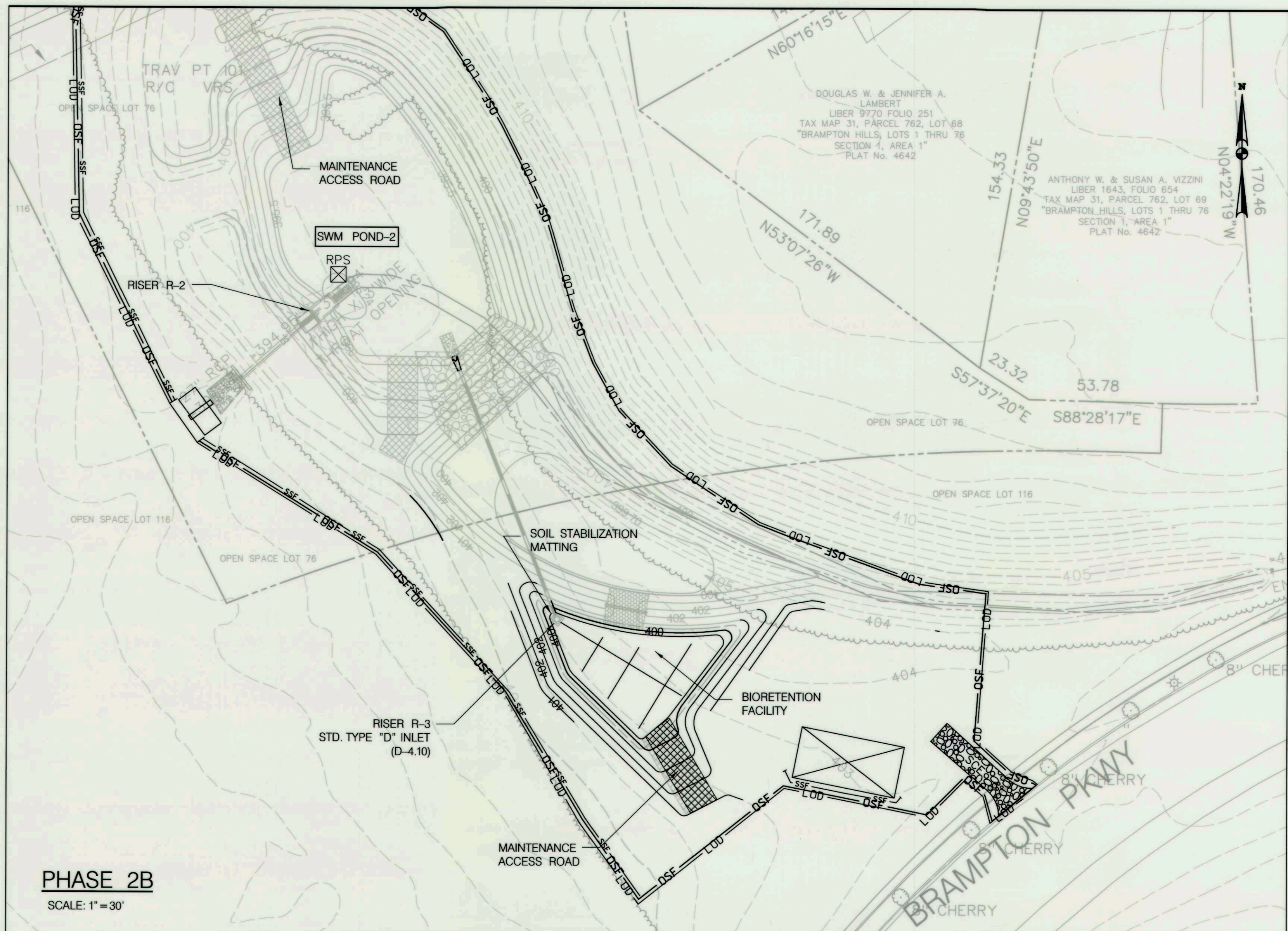
MATCHLINE (SEE SHEET 8 OF 15)



PHASE 2A

SCALE: 1" = 30'

MATCHLINE (SEE SHEET 8 OF 15)



PHASE 2B

SCALE: 1" = 30'

LEGEND

	EXISTING CONTOURS		REMOVABLE PUMPING STATION
	PROPOSED CONTOURS		RIPRAP INFLOW PROTECTION
	EXISTING TREE LINE		SILT FENCE
	NONTIDAL WETLAND		DIVERSION FENCE
	PROPERTY LINE		ORANGE SAFETY FENCE
	EASEMENT LINE		LIMIT OF DISTURBANCE
	EXISTING SEWER LINE		STABILIZED CONSTRUCTION ENTRANCE
	EXISTING STORM DRAIN		TEMPORARY SWALE
	INTAKE AND DISCHARGE PIPE		TEMPORARY ACCESS CULVERT
	PUMP		
	SANDBAG DAM		
	SOIL STABILIZATION MATTING		
	MAINTENANCE ACCESS ROAD		

TEMPORARY SWALE					
Q ₂	BOTTOM WIDTH	SIDE SLOPES	MAX. SLOPE	MAX. DEPTH	MAX. VELOCITY
19 cfs	4'	2:1	3.7%	0.9'	5.8 fps

DIVERSION FENCE	
LOCATION	DRAINAGE AREA
EASTERN PERIMETER OF POND-2	0.92 ac.

PHASE 2A:

- | | |
|--------|---|
| 2 DAYS | 1. CLEAR AND GRUB THOSE AREAS WITHIN LOD REQUIRED TO ESTABLISH THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES FOR THE CONSTRUCTION OF POND 2 AND THE FOREBAY. |
| 1 DAY | 2. CONSTRUCT ALL PERIMETER CONTROL DEVICES INCLUDING SUPER SILT FENCE, SCE, AND TEMPORARY SWALE. ENSURE SUPER SILT FENCE INSTALLED IN PHASE 1 IS FUNCTIONING PROPERLY. |
| 2 DAYS | 3. CLEAR AND GRUB THE AREA NEEDED TO INSTALL THE DIVERSION FENCE AND RIPRAP INFLOW PROTECTION THAT WILL DIRECT OFFSITE RUNOFF TO THE TEMPORARY SWALE. |
| 1 DAY | 4. INSTALL PROPOSED RISER R-2, PERFORATED HORIZONTAL PVC, NO. 2 STONE, AND 27" RCP BARREL EXTENSION. NO SEDIMENT-LADEN FLOW SHALL BE ALLOWED TO ENTER THE DOWNSTREAM CHANNEL. |
| 3 DAYS | 5. PROCEED TO GRADE POND 2. IMMEDIATELY PROVIDE BANKS WITH PERMANENT STABILIZATION. DEWATER USING REMOVABLE PUMPING STATION, AS NEEDED. |
| 1 WEEK | 6. INSTALL RISER R-3 AND ASSOCIATED PIPE AND PROCEED TO GRADE THE FOREBAY FOR POND 2. BLOCK FLOW FROM ENTERING RISER R-3. |
| 1 DAY | 7. IF REQUIRED FOR DEWATERING, INSTALL REMOVABLE PUMPING STATION IN FOREBAY. NO SEDIMENT-LADEN FLOW SHALL BE ALLOWED TO ENTER THE CHANNEL DOWNSTREAM OF THE POND 2 OUTFALL. |
| 2 DAYS | 8. IMMEDIATELY PROVIDE FOREBAY WITH PERMANENT STABILIZATION. |
| 1 WEEK | 9. WITH THE PERMISSION OF THE COUNTY SEDIMENT CONTROL INSPECTOR, PROCEED TO PHASE 2B. |

PHASE 2B:

- | | |
|--------|--|
| 1 DAY | 1. CONNECT EXISTING DITCH TO SEDIMENT FOREBAY AND REMOVE PHASE 2A DIVERSION FENCE AND TEMPORARY SWALE. |
| 1 WEEK | 2. PROCEED TO CONSTRUCTION OF THE BIORETENTION FACILITY ONCE ADJACENT AREAS ARE STABILIZED. |
| 1 WEEK | 3. PLACE POND 2 AND BIORETENTION LANDSCAPING ACCORDING TO SHEETS 11 TO 13 AND PERMANENTLY STABILIZE ALL REMAINING DISTURBED AREAS. |
| 2 DAYS | 4. WHEN THE SITE IS FULLY STABILIZED, AND WITH THE PERMISSION OF THE COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY AREAS DISTURBED BY THIS PROCESS. |

TIME RESTRICTION NOTES:

PUMPING IS NOT PERMITTED BETWEEN THE HOURS OF 7:00PM AND 7:00 AM, MONDAY THROUGH FRIDAY.

CONSTRUCTION EQUIPMENT SHALL NOT BE STARTED NOR RUN BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM, MONDAY THROUGH FRIDAY.

FOR SATURDAY WORK, THE ABOVE HOURS SHALL BE 5:00 PM TO 9:00 AM, RESPECTIVELY.

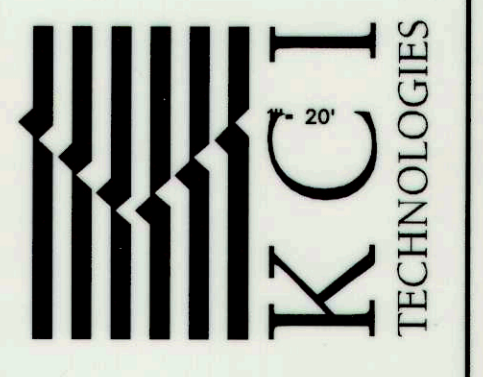
NO WORK SHALL BE DONE ON SUNDAY.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

 HOWARD SCD
 DATE: 9/20/11

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com



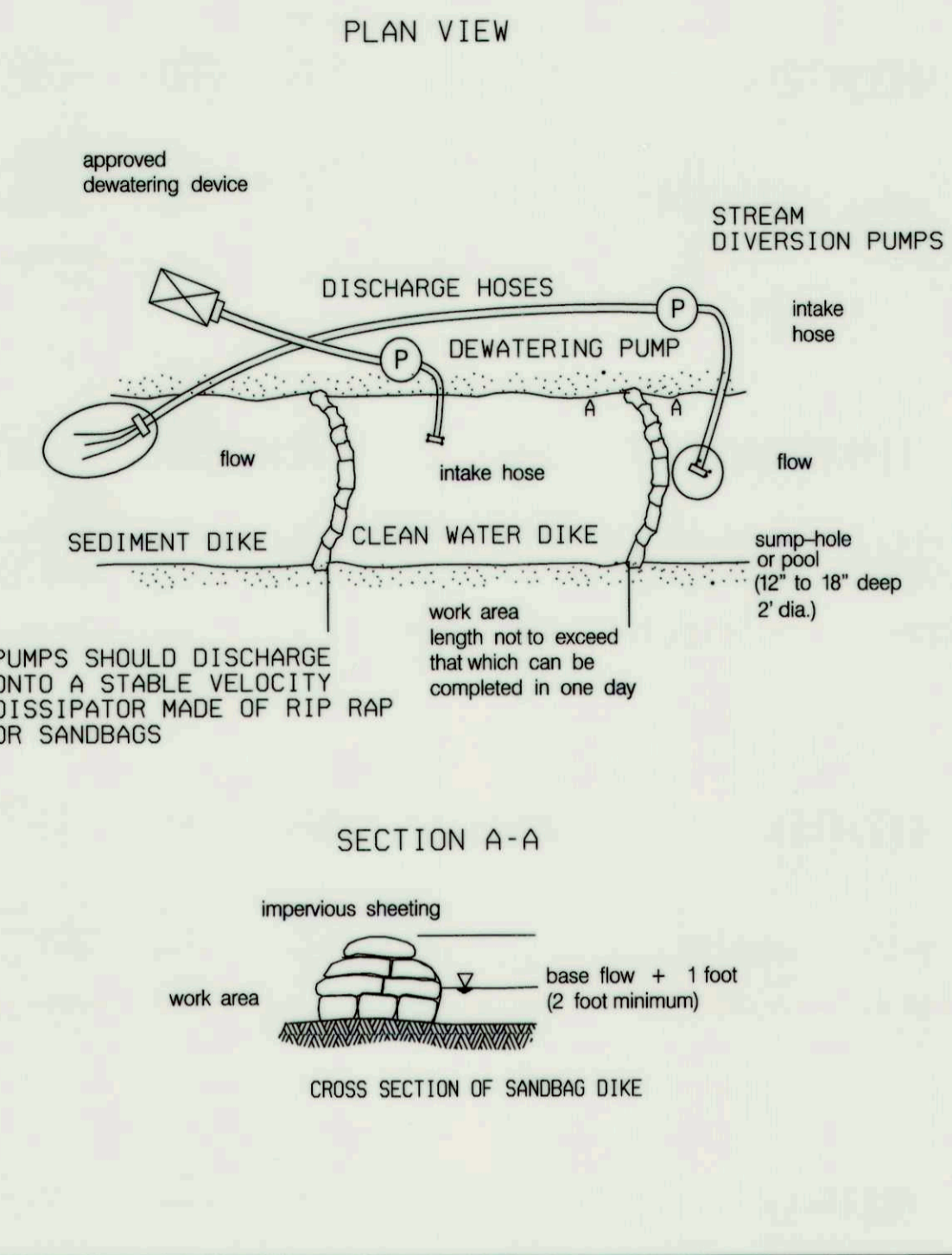
SALTERFORTH PLACE
 SWM POND ENHANCEMENT
 BRAMPTON HILLS 11, OPEN SPACE LOT 76,
 BRAMPTON HILLS 11, OPEN SPACE LOT 76
 CAPITAL CITY, PLAC OPEN SPACE LOT 16
 TAX MAP 31, ZONING R-20, SECTION DISTRICT 9
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 8775 COLUMBIA GATEWAY DRIVE
 COLLEGE PARK, MD 20746
 MD-318-8417

EROSION AND SEDIMENT CONTROL PLAN SHEET

SCALE: 0 0.25 0.5 1.0 INCHES
DATE: SEPTEMBER 2011
KCI JOB NO.: 01-081795.26
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:
SHEET NO.: 9 OF 15

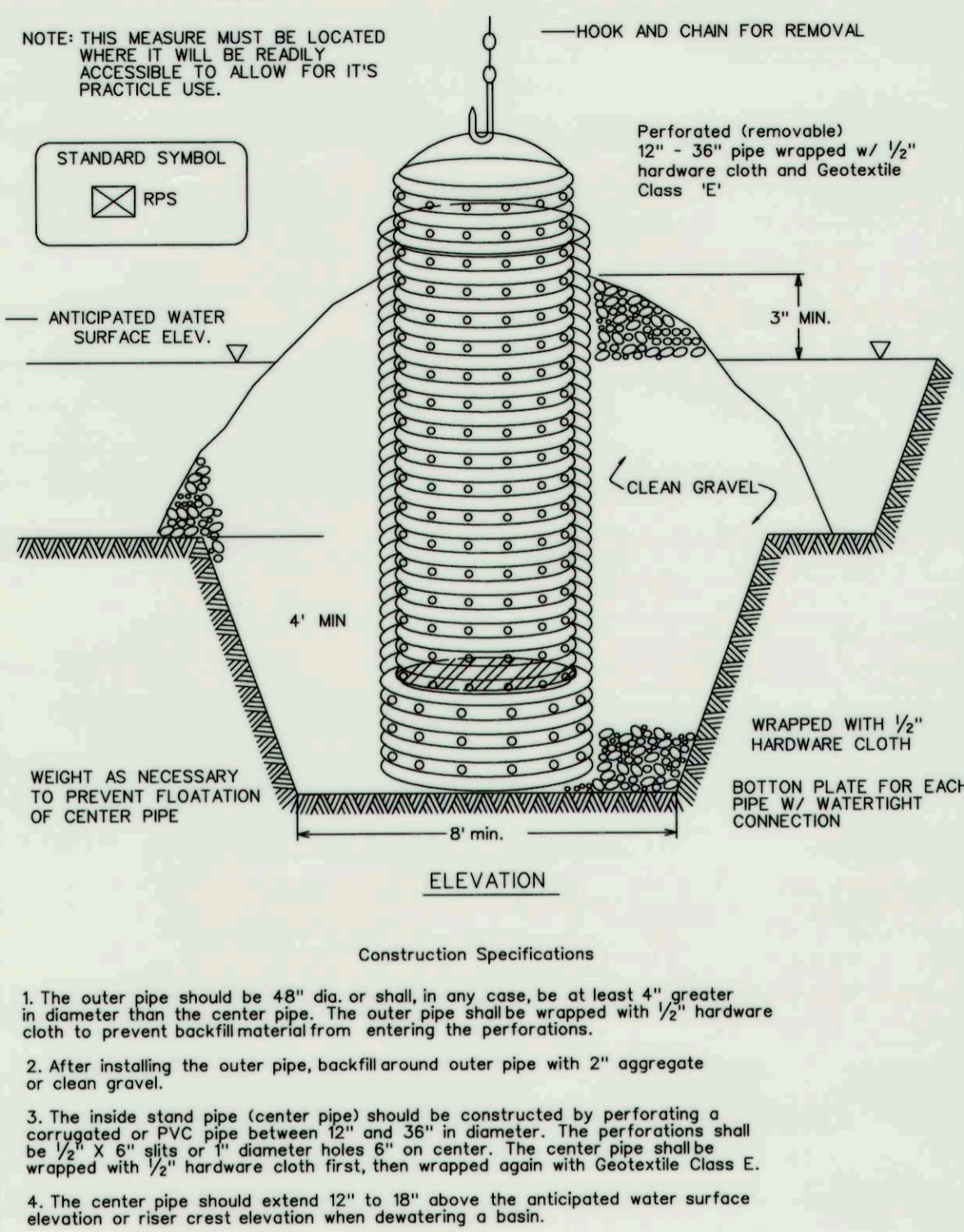
PLOTTED: 03:14 PM on Friday, September 16, 2011
 BY: James Keister Division: P033 Water Resources GMA Emp
 FILE: M:\2008\081795.26\Drawings\PCS_P033_Salterforth.dwg

DETAIL 1.2: PUMP-AROUND PRACTICE



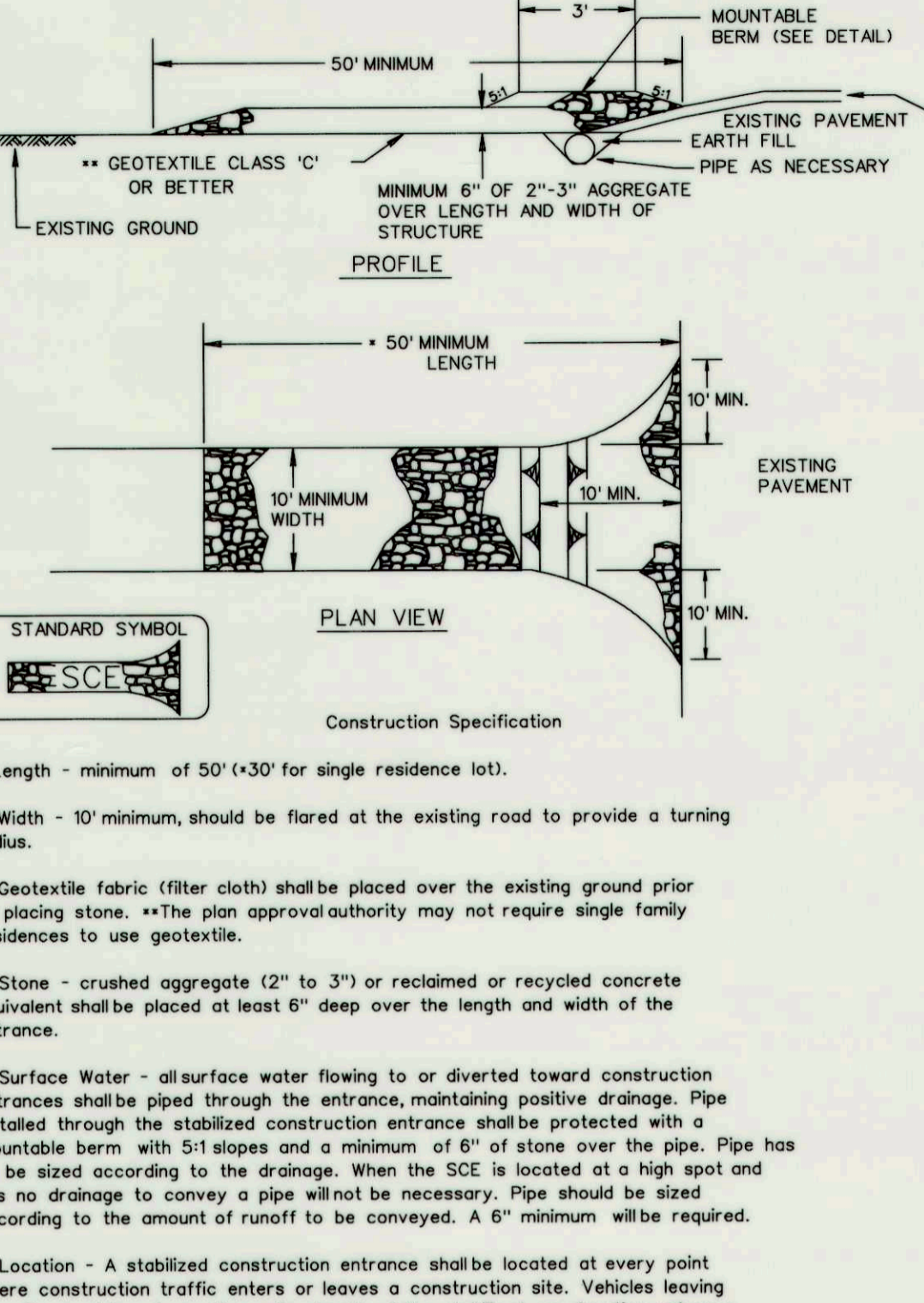
TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2008 PAGE 1, 2 - 3	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 20A - REMOVABLE PUMPING STATION



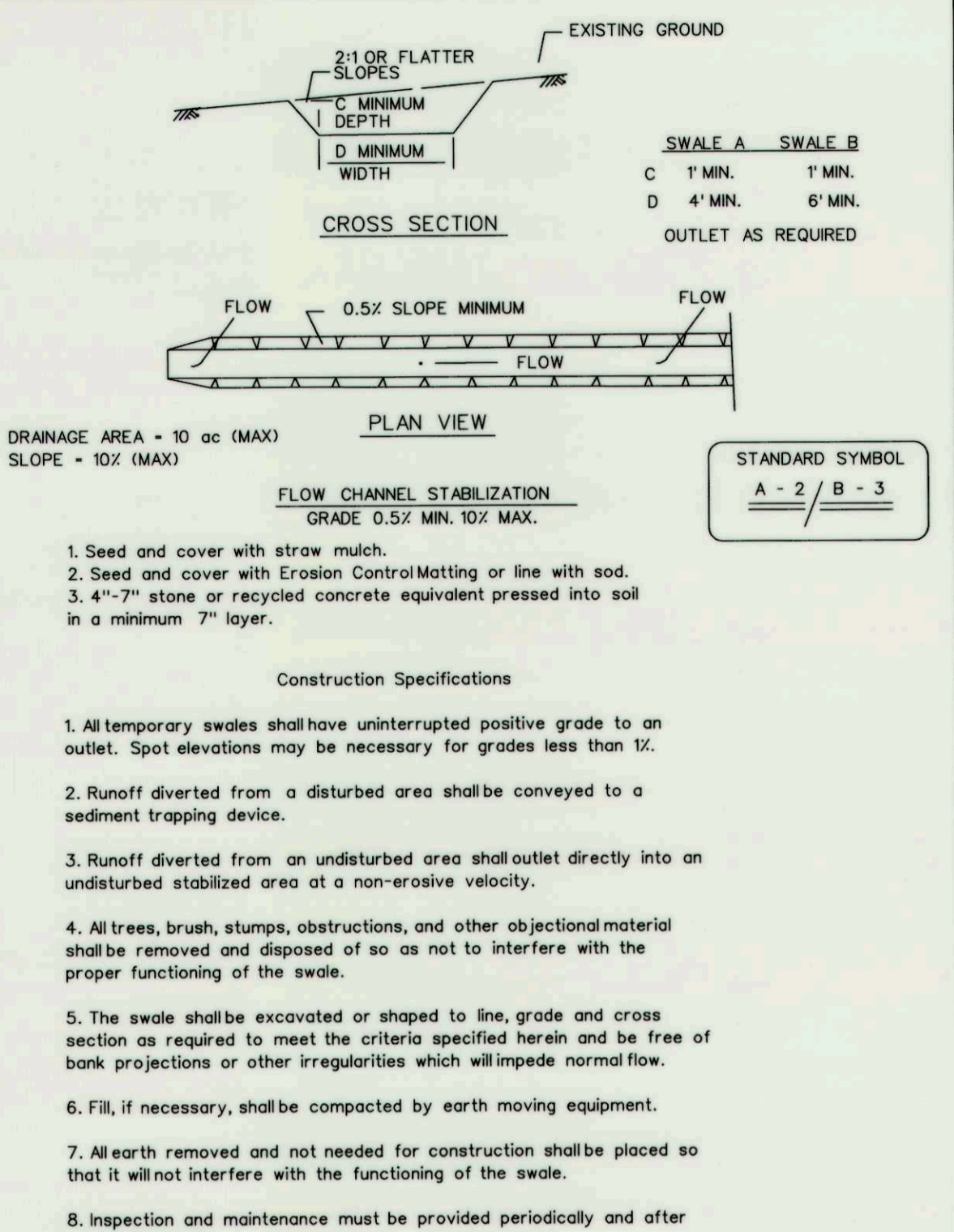
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 12 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



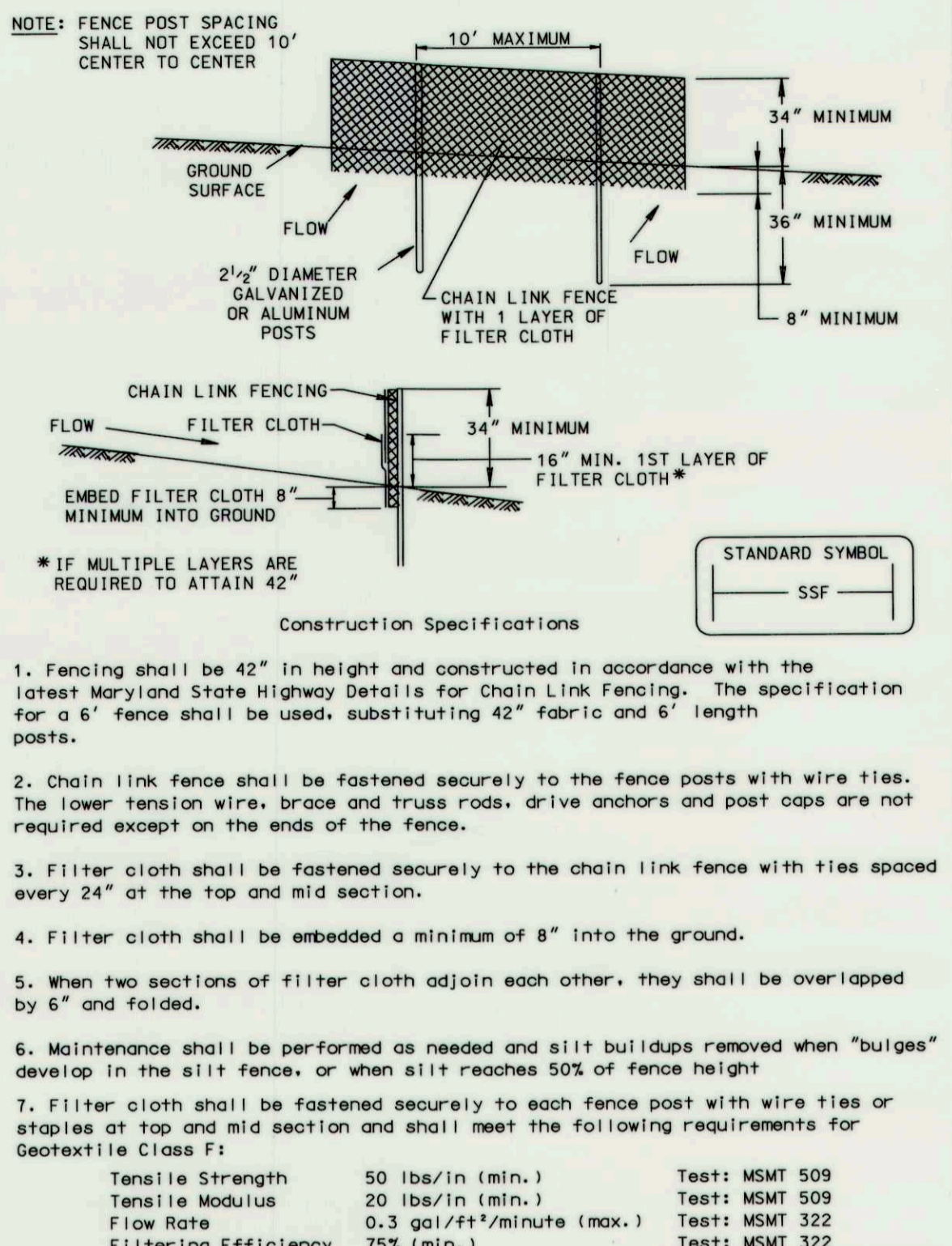
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 2 - TEMPORARY SWALE



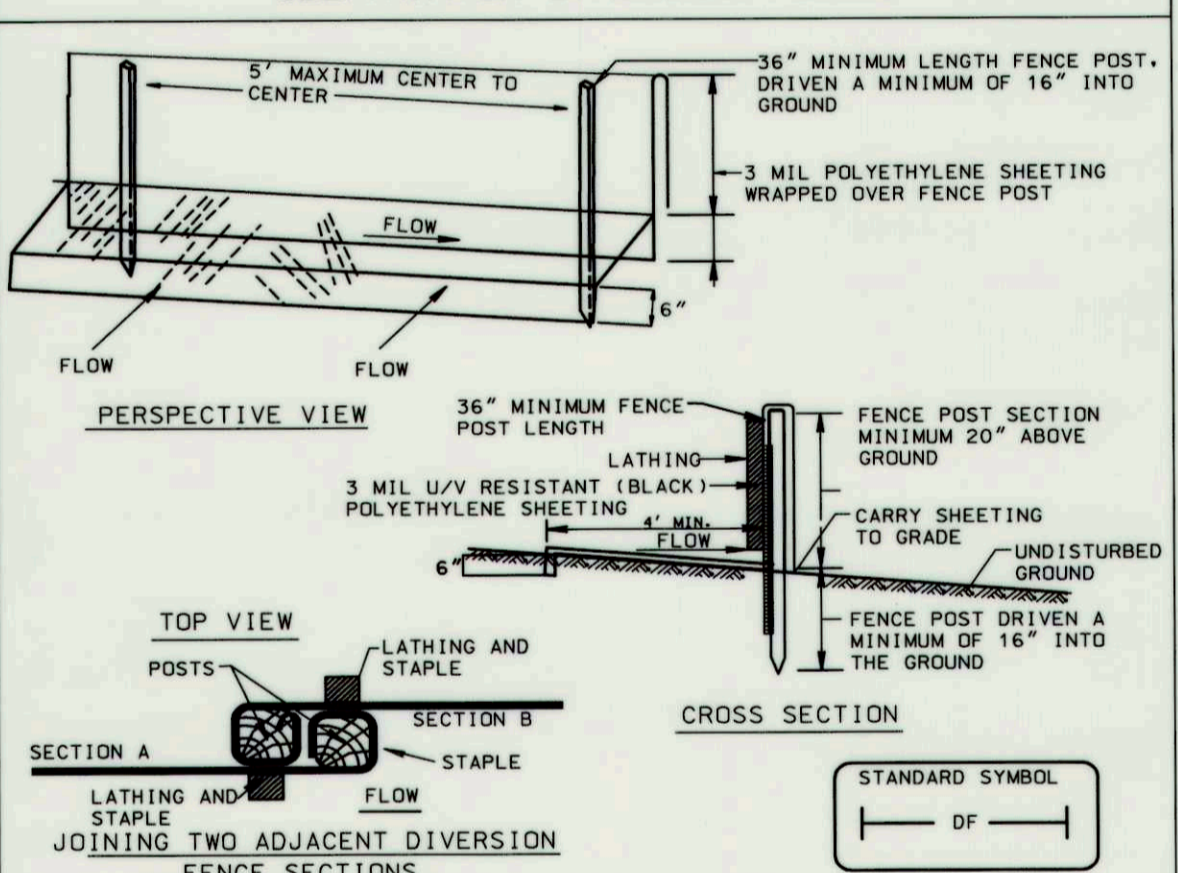
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 2 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 33 - SUPER SILT FENCE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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CLEARWATER DIVERSION FENCE



- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Posts shall be 2" x 2" square (minimum) cut, and shall be of sound quality hardwood. Maximum post spacing shall be 5 feet center to center.
- 3 mil polyethylene sheeting shall be fastened securely to each fence post with lathing and staples at top and mid-section.
- Ends of polyethylene sheeting shall come together only at posts. Ends shall be overlapped, folded and stapled to prevent runoff bypass. The upgrade section shall overlap the downgrade section.
- Diversion fence shall have an uninterrupted positive grade to a stable outlet.
- The contributing drainage area measured to the outlet shall not exceed 2 acres.
- Diversion fence shall be inspected after each rainfall event and maintained when necessary.

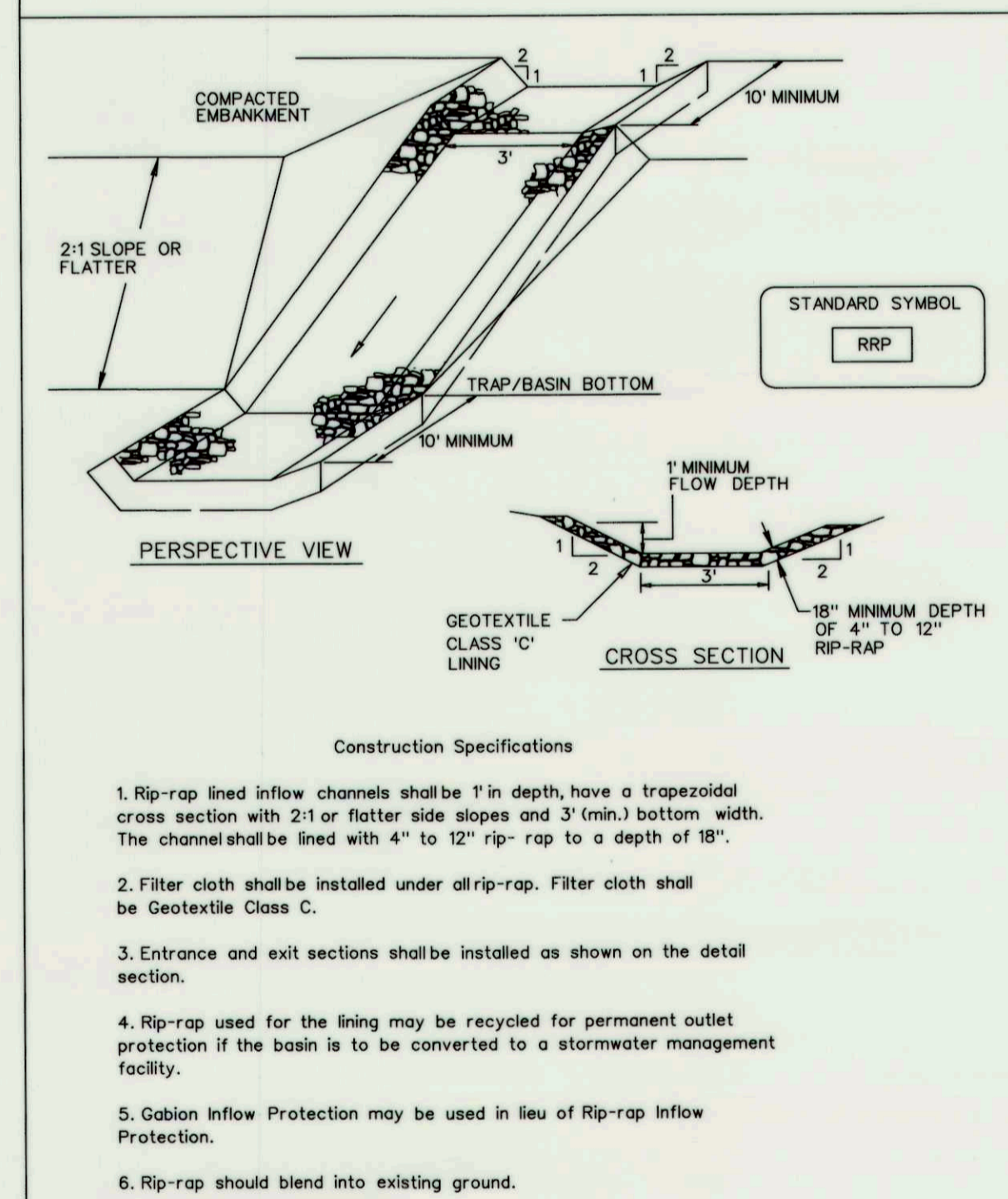
- TEMPORARY VEGETATIVE STABILIZATION
- SEEDING PREPARATION: LOOSEN UPPER THREE INCHES BY DISKING, RAKING OR OTHER ACCEPTABLE MEANS.
 - SOIL AMENDMENTS: APPLY 50 LBS PER ACRE OF 10-10-10 FERTILIZER AND TWO TONS PER ACRE OF LIME.
 - SEEDING: FOR PERIODS OF MARCH 1 TO APRIL 30 AND AUGUST 15 TO NOVEMBER 15, SEED WITH 2.5 LB PER ACRE OF CEREAL RYE PLUS PER ACRE OF TALL FESCUE OR 5 LBS PER ACRE OF REDTOP OR 20 LBS PER ACRE OF PERENNIAL RYEGRASS. FOR PERIOD OF MAY 1 TO AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEDING LOVEGRASS OR 40 LBS PER ACRE OF JAPANESE OR POSTAL MIXTURE.
 - MULCHING SPECIFICATIONS: MULCH SHALL BE APPLIED TO ALL SEED AREAS IMMEDIATELY AFTER SEEDING. APPLY 2 TONS PER ACRE OF STRAW OVER ALL SEED AREAS. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHALL BE INCREASED TO 2.5 TONS PER ACRE.
 - MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND AND WATER. THE TYPE OF MULCH ANCHORING USED MUST COMPLY WITH THE 1994 MARYLAND STANDARD AND SPECIFICATIONS.
 - IF OTHER SEED MIXES ARE TO BE SUBSTITUTED, THEY MUST COMPLY WITH THE 1994 MARYLAND STANDARD AND SPECIFICATIONS, CHAPTER 20, TABLE 25.
 - IF A DIFFERENT TYPE OF MULCH IS TO BE USED, IT MUST COMPLY WITH THE 1994 MARYLAND STANDARD AND SPECIFICATIONS, CHAPTER 20.
 - PERMANENT VEGETATIVE STABILIZATION: ALL DISTURBED AREAS, WHICH ARE NOT TO BE PAVED, SHALL BE PERMANENTLY STABILIZED AS FOLLOWS:
 - SEEDING PREPARATION: LOOSEN UPPER THREE INCHES BY RAKING, DISKING, OR OTHER ACCEPTABLE MEANS AFTER SPREADING FOUR INCHES OF TOPSOIL.
 - SOIL AMENDMENTS: APPLY 50 LBS PER ACRE OF 10-10-10 FERTILIZER AND TWO TONS PER ACRE OF LIME.
 - SEEDING: FOR PERIODS OF MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15, SEED WITH 125 LBS PER ACRE OF TALL FESCUE, 15 LBS PER ACRE OF PERENNIAL RYEGRASS, AND 10 LBS OF KENTUCKY BLUEGRASS. FOR PERIOD OF MAY 16 TO FEBRUARY 28, PROJECT SITE BY SEEDING 1/2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, 2.5 LBS SOO, OR 3 LBS WITH 60 LBS PER ACRE OF TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW. NOTE: FOR QUICK COVER WITH TALL FESCUE, ADD 2 LBS OF SMALL GRAIN PER 1,000 SQ. FT.
 - MULCHING SPECIFICATIONS: MULCH SHALL BE APPLIED TO ALL SEED AREAS IMMEDIATELY AFTER SEEDING. APPLY 2 TONS PER ACRE OF STRAW OVER ALL SEED AREAS. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHALL BE INCREASED TO 2.5 TONS PER ACRE.
 - MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND AND WATER. THE TYPE OF MULCH ANCHORING USED MUST COMPLY WITH THE 1994 MARYLAND STANDARD AND SPECIFICATIONS.
 - IF OTHER SEED MIXES ARE TO BE SUBSTITUTED, THEY MUST COMPLY WITH THE 1994 MARYLAND STANDARD AND SPECIFICATIONS, CHAPTER 20, TABLE 25.
 - IF A DIFFERENT TYPE OF MULCH IS TO BE USED, IT MUST COMPLY WITH THE 1994 MARYLAND STANDARD AND SPECIFICATIONS, CHAPTER 20.

- HOWARD COUNTY CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (513-1855).
 - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 2:1. BY 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. FOR PERMANENT SEEDING (SEC 51), SOO (SEC 54), TEMPORARY SEEDING (SEC 50) AND MULCHING (SEC 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 - ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL DIVISION.
 - SITE ANALYSIS:

TOTAL AREA OF SITE	2.84 ACRES
AREA TO BE ROOFED OR PAVED	0 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.84 ACRES
TOTAL CUT	24,275 CU YARDS
TOTAL FILL	650 CU YARDS
OFFSITE WASTE/BORROW AREA LOCATION TO BE DETERMINED*	
 - ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 - ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
 - TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
- *OFFSITE WASTE/BORROW SITE SHALL HAVE AN APPROVED SEDIMENT CONTROL PLAN.

- 21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL
- DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
- PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
- CONDITIONS WHERE PRACTICE APPLIES: THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
- THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- II. FOR THE PURPOSE OF THESE STANDARD SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.
- CONSTRUCTION AND MATERIAL SPECIFICATIONS:
- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE, CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-ARS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
 - TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CONCRETES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERBERIS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 48 TONS/ACRE (20000 POUNDS PER 1000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTURBED CONSTRUCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES:
- III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
- PLACE TOPSOIL, (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
- ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
 - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - NO SOO OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOO, STERILANTS OR CHEMICALS USED FOR WEED CONTROL, UNTIL SUFFICIENT TIME AS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
 - NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
 - PLACE TOPSOIL, (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1.
- V. TOPSOIL APPLICATION:
- WHEN TOPSOILING, MAINTAIN NEARLY EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED SHALL BE MAINTAINED, ALBERT 4" HIGHER ELEVATION.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE WATER POCKETS.
 - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MIDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING PREPARATION, CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR

DETAIL 5 - RIP-RAP INFLOW PROTECTION



- Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3" (min.) bottom width. The channel shall be lined with 4" to 12" rip-rap to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
- Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
- Rip-rap should blend into existing ground.
- Rip-rap inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 6 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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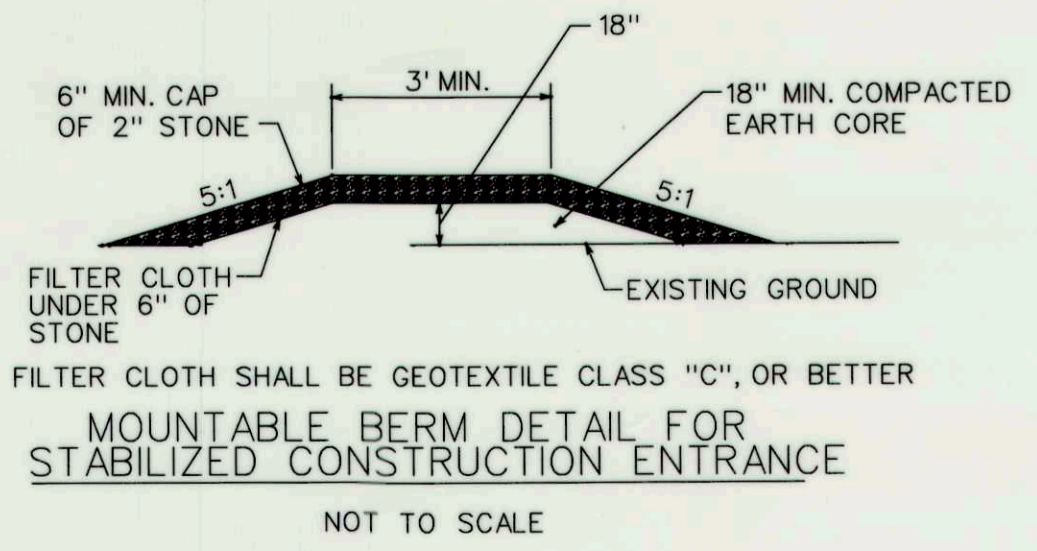
PERMANENT SEEDING SUMMARY

NO. SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME
				N	P2O5	K2O	
1 TALL FESCUE (85%)	125	3/1-5/15	1-2 INCH	90 LB/AC	175 lb/ac	175 lb/ac	2 tons/ac (100 LB)
1 PERENNIAL RYEGRASS (10%)	15	8/15-10/15	1-2 INCH	(2.0 LB/AC)	(4.0 LB/AC)	(4.0 LB/AC)	(100 LB)
1 KENTUCKY BLUEGRASS (5%)	10						
2 KENTUCKY BLUEGRASS (50%)	150	3/1-5/15	1-2 INCH	1000 SF	1000 SF	1000 SF	1000 SF
2 HARD FESCUE (40%)		8/15-10/15					
2 RED TOP (10%)							

TOTAL DISTURBED AREA: 2.84 AC.

TEMPORARY SEEDING SUMMARY

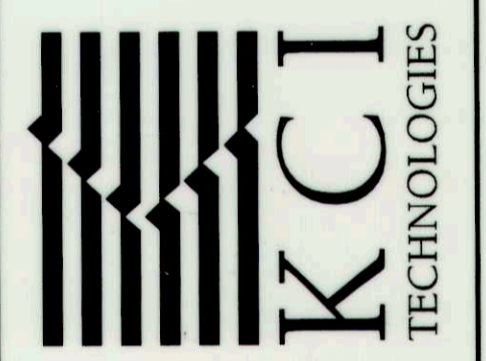
NO. SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-10-10)		LIME RATE
				(15 LB/1000 SF)	(100 LB)	
1 RYE	140	3/1-4/30	1-2 INCH	600 LB/AC	15 LB/1000 SF	2 tons/ac (100 LB)
2 RYE PLUS FOXTAIL MILLET	150	3/1-4/30	1 INCH			
		5/1-8/14				
		8/15-11/15				



REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SCD

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



SALTERFORTH PLACE
SWIM POND ENHANCEMENT
BRANFORD HILLS 41 OPEN SPACE LOT #16
CAPITAL PROJECT #160
154 MAP 31, ZONING R-46, ELECTION DISTRICT OF
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
105 COLUMBIA ROAD
COLUMBIA, MD 21046
410-316-6417

EROSION & SEDIMENT CONTROL NOTES & DETAILS

SCALE: 0 0.25 0.5 1 2 4 8 16 FEET

NOT TO SCALE

DATE: SEPTEMBER 2011
KCI JOB NO.: 01-081795.26
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

SHEET NO.: 10 OF 15

PLOTTED: 03:16 PM on Friday, September 16, 2011
BY: James G. Potts
FILE: W:\2008\01\081795.26\Drawings\SES-PC03-Salterforth.dgn

MATCHLINE (SEE SHEET 11 OF 15)

LANDSCAPE SCHEDULE

POND 2

QTY	SYMBOL	NAMES (COMMON/BOTANICAL)	SIZE	SPACING/RATE	FORM
Forebay Zone 1 - 1,538 SF.					
228	BF	BLUEFLAG/IRIS VERSICOLOR		2' OC/60%	PLUG
152	BPG	BROOM PANIC GRASS/DICANTHELIUM SCOPARIUM		2' OC/40%	PLUG
Forebay Zone 2 - 3,857 SF.					
335	BF	BLUEFLAG/IRIS VERSICOLOR		2' OC/35%	PLUG
383	BPG	BROOM PANIC GRASS/DICANTHELIUM SCOPARIUM		2' OC/40%	PLUG
239	TS	TUSSUCK SEDGE/CAREX STRICTA		2' OC/25%	PLUG
Bioretention Zone 1 - 1,817 SF.					
287	SG	SWITCHGRASS/PANICUM VIRGATUM		2' OC/30%	PLUG
287	WG	WOOLGRASS/SCIRPUS CYPERINUS		2' OC/30%	PLUG
191	BV	BLUE VERVAIN/VERBENA HASTATA		2' OC/20%	PLUG
191	NYI	NEW YORK IRONWEED/VERNONIA NOVEBORENCENSIS		2' OC/20%	PLUG
Dry Pond Zone 1 - 3,803 SF.					
568	BPG	BROOM PANIC GRASS/DICANTHELIUM SCOPARIUM		2' OC/60%	PLUG
378	WG	WOOLGRASS/SCIRPUS CYPERINUS		2' OC/40%	PLUG
Dry Pond Zone 2 - 2,875 SF.					
430	BPG	BROOM PANIC GRASS/DICANTHELIUM SCOPARIUM		2' OC/60%	PLUG
287	WG	WOOLGRASS/SCIRPUS CYPERINUS		2' OC/40%	PLUG
Dry Pond Zone 3					
1	RM	RED MAPLE/ACER RUBRUM	2 1/2"-3" CAL	12' OC	B&B
2	RB	RIVER BIRCH/BETULA NIGRA	10'-12' HT	12' OC	B&B
3	SD	SILKY DOGWOOD/CORNUS AMOMUM	2 1/2'-3' HT	6-8' OC	CONTAINER
1	HB	HIGHBUSH BLUEBERRY/VACCINIUM CORYMBOSUM	2 1/2'-3' HT	6-8' OC	CONTAINER
Upland Slopes Zone					
2	RM	RED MAPLE/ACER RUBRUM	2 1/2"-3" CAL	12' OC	B&B
2	SO	SCARLET OAK/QUERCUS COCCINEA	2 1/2"-3" CAL	12' OC	B&B
4	AH	AMERICAN HOLLY/ILEX OPACA	5'-6' HT	12' OC	B&B
5	PA	NORWAY SPRUCE/PINUS ABIES	6'-8' HT		
6	PS	EASTERN WHITE PINE/PINUS STROBUS	6'-8' HT		
4	NB	NANNEYBERRY/VIBURNUM LENTAGO	2 1/2'-3' HT	6-8' OC	CONTAINER
2	HB	HIGHBUSH BLUEBERRY/VACCINIUM CORYMBOSUM	2 1/2'-3' HT	6-8' OC	CONTAINER
3	WB	WINTERBERRY/ILEX VERTICILLATA	3'-4' HT	6-8' OC	CONTAINER
3	AD	ARROWOOD DENTATUM/VIBURNUM DENTATUM	2 1/2'-3' HT	6-8' OC	CONTAINER

Qty (lbs)	Botanical Name
29	Seed mix No. 1 (920.04.02)

*Application rate 100 lbs per acre

Native Wetland Retention Seed Mix (Throughout)

NAMES (COMMON/BOTANICAL)	Percent of Mix
VIRGINIA WILD RYE/ELYMUS VIRGINICUS	25%
DEER TONGUE/TIOGA/PANICUM CLANDESTINUM	25%
FOX SEDGE/CAREX VULPINOIDEA	20%
TICKLEGRASS/AGROSTIS ACABRA	15%
TOTAL	100%

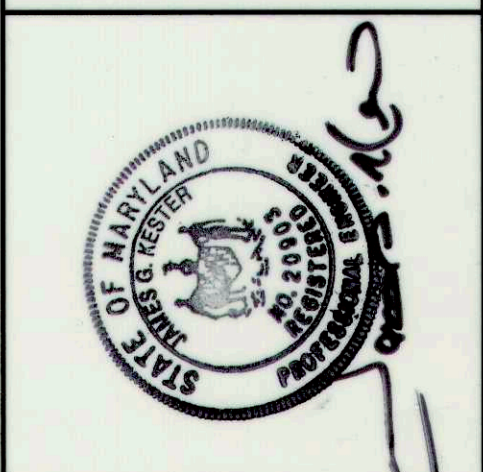
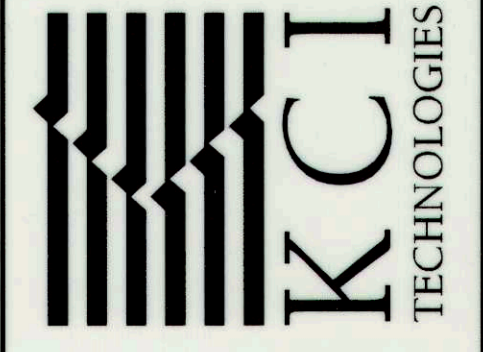
APPLICATION RATE: 20 LBS/AC OR 1/3/- 1/2 LB PER 1,000 SQ. FT.

PERIMETER LANDSCAPING REQUIRED

	REQUIRED	MET
PERIMETER LENGTH	700 LF	
EXISTING WOODS	340 LF	
BUFFER	360 LF	
TREES REQUIRED		
1 SHADE TREE/50 LF	14	14
1 EVERGREEN TREE/40 LF	17	15
SHRUBS: 10:1 SUBSTITUTION		20 (2)

NO.	REVISIONS DESCRIPTION	DATE

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 SPARKS, MARYLAND 21152
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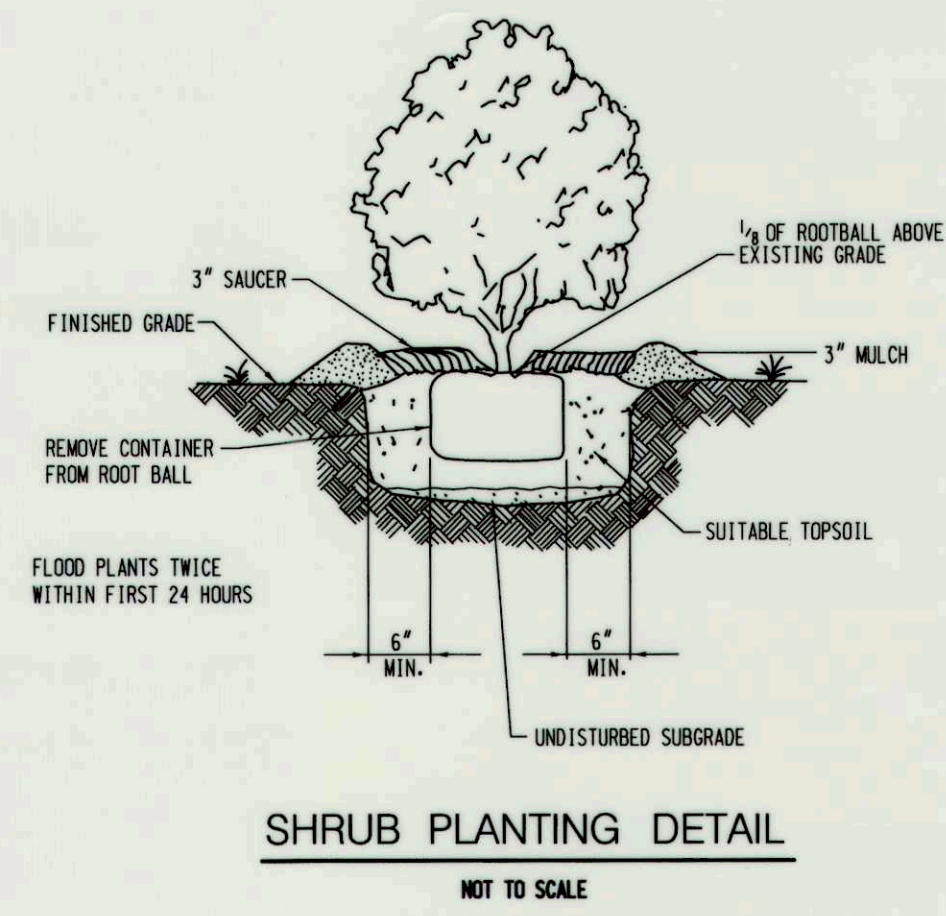


SALTERFORTH PLACE
 SWM POND ENHANCEMENT
 BRAMPTON HILLS #1 OPEN SPACE LOT 76
 BRAMPTON HILLS #1 OPEN SPACE LOT 116
 CAPITAL PROJECT D1160
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6751 COLUMBIA RD., 2ND FLOOR
 COLUMBIA, MD 21046
 410-313-8417

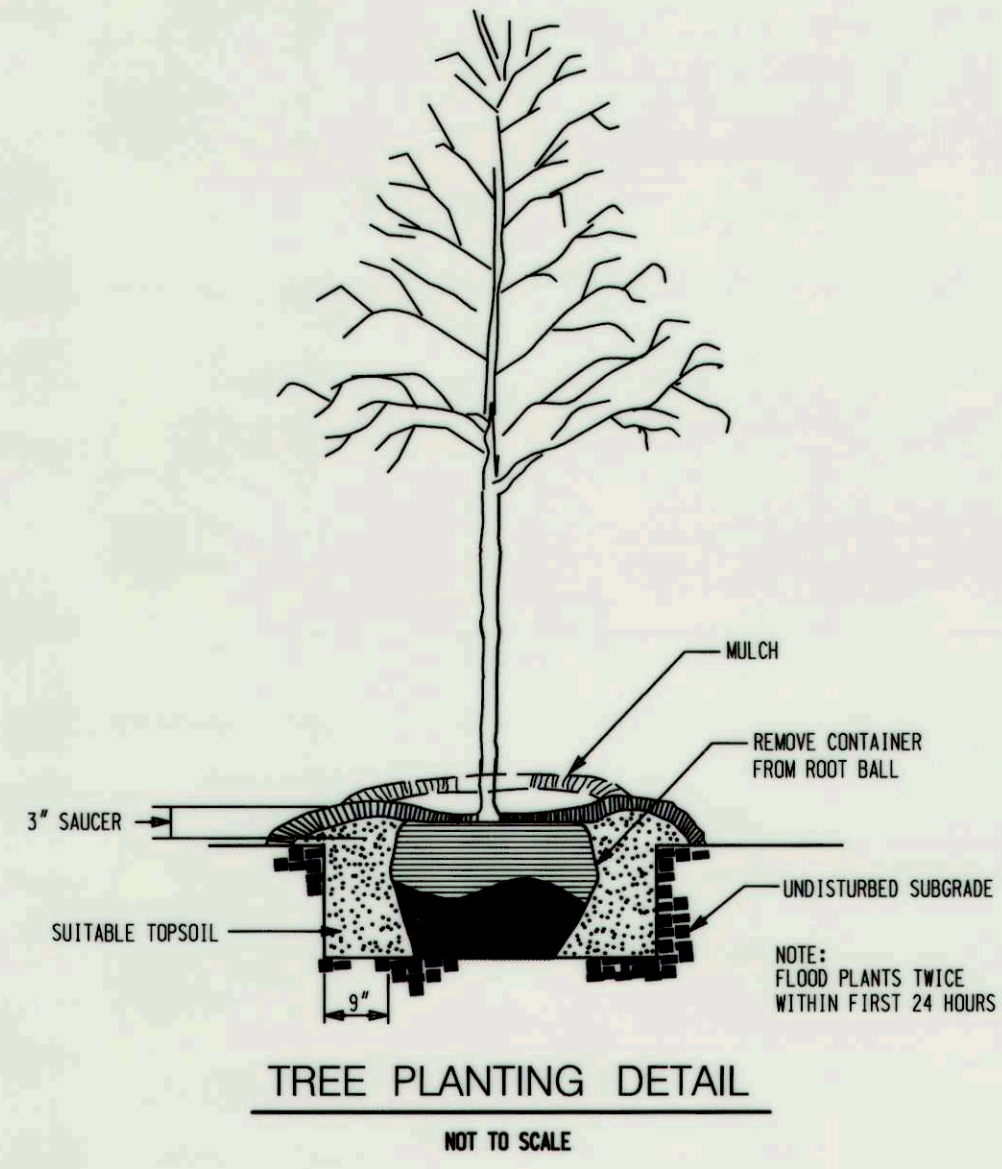
LANDSCAPE PLAN

SCALE: 1" = 20'
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KCI JOB NO.: 01-081795.26
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

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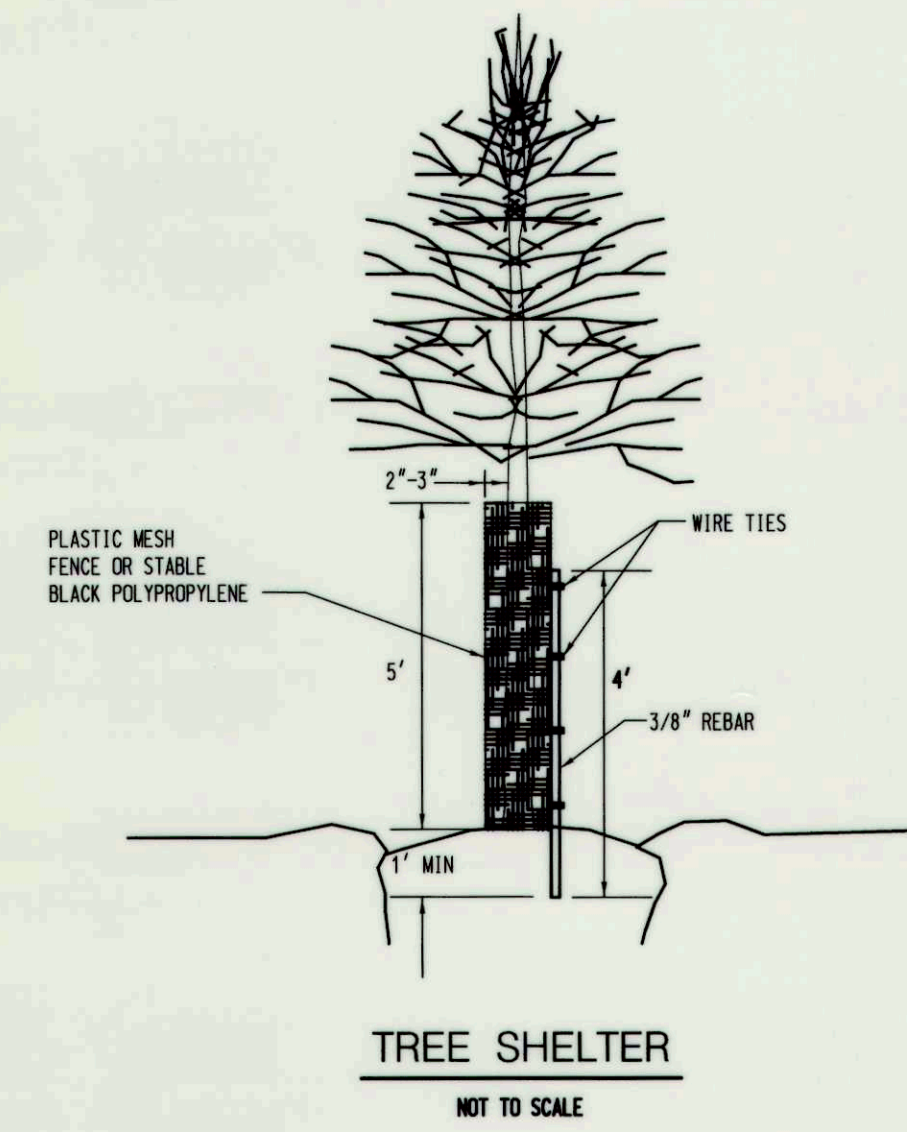


SHRUB PLANTING DETAIL
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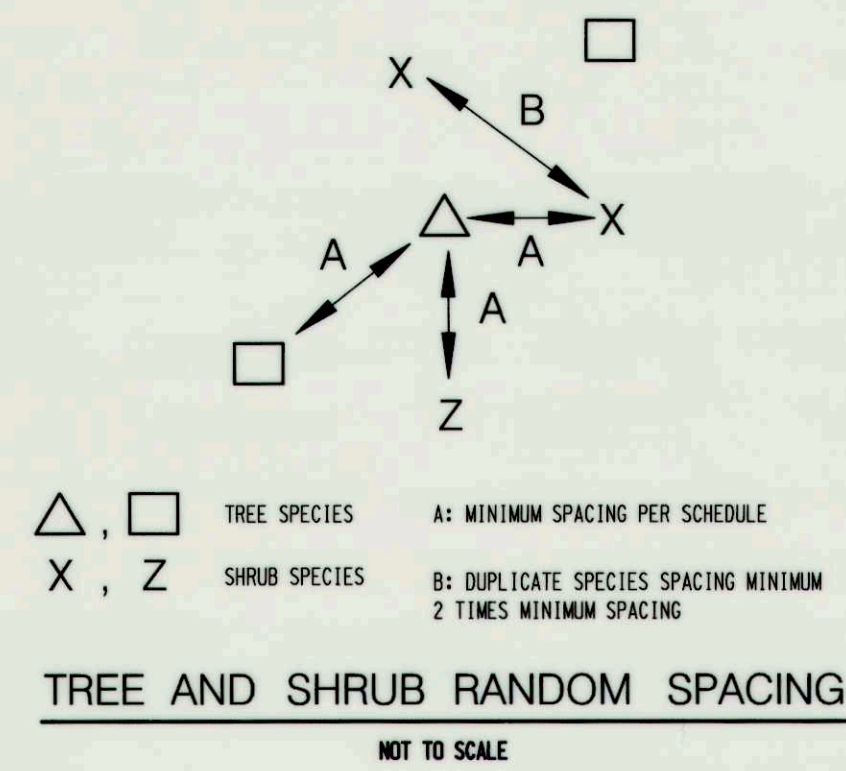


TREE PLANTING DETAIL
NOT TO SCALE

NOTE: TREE SHELTERS TO BE ADDED TO ALL TREES PLANTED



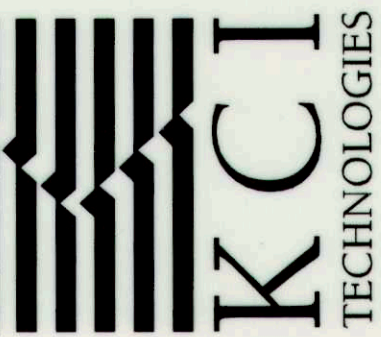
TREE SHELTER
NOT TO SCALE



NOTE:
TREE SHELTERS MUST BE INSTALLED AROUND ALL TREE MATERIALS.

NO.	REVISIONS DESCRIPTION	DATE

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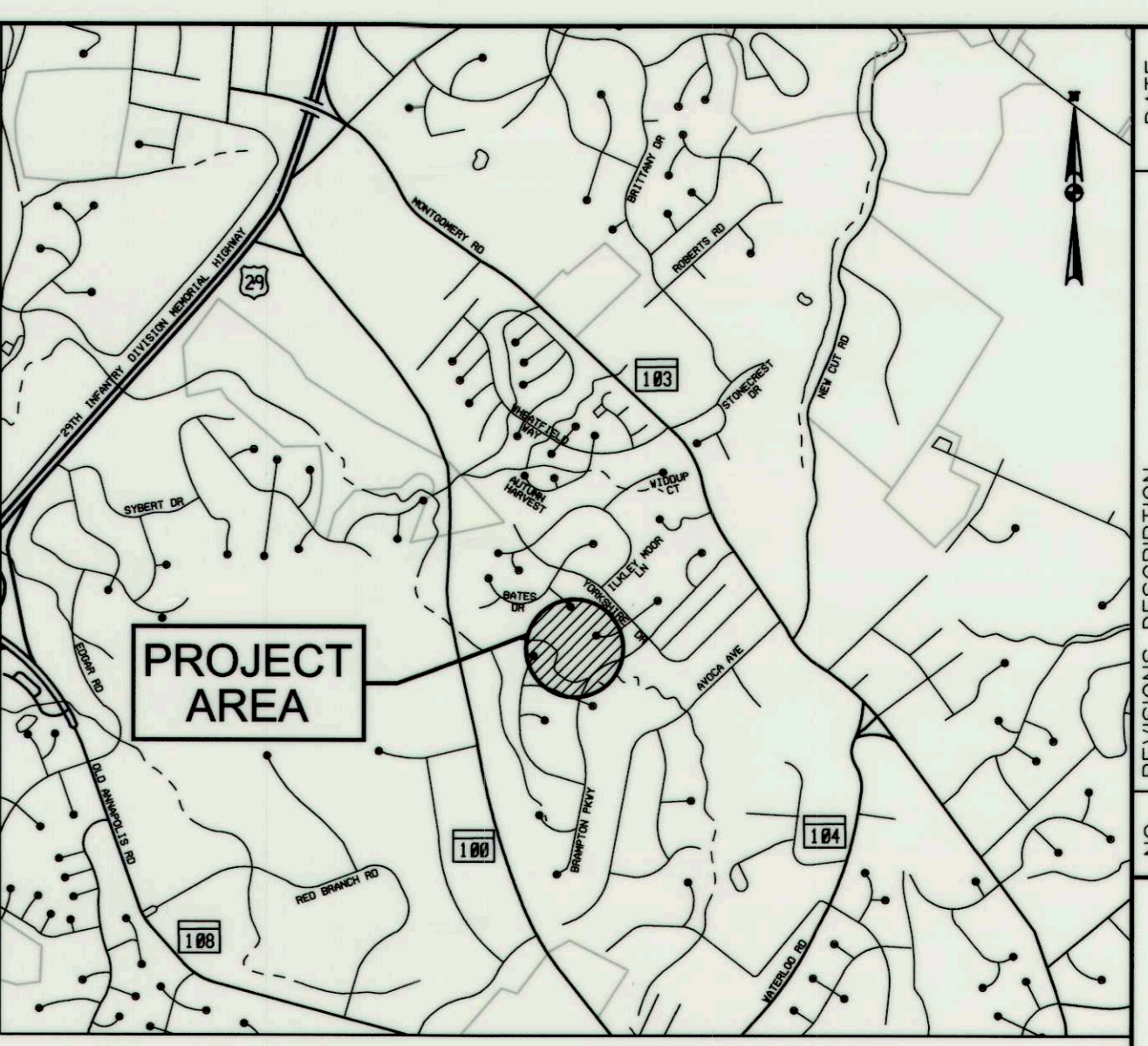
**SALTERFORTH PLACE
SWM POND ENHANCEMENT**
BRAMPTON HILLS 41 OPEN SPACE LOT #16
BRAMPTON HILLS 41 OPEN SPACE LOT #16
CAPITAL PROJECT D1160
TVA MAP 31, ZONING R-30, ELECTRICAL DISTRICT 01
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA RD. #2046
410-313-8411

LANDSCAPE NOTES AND DETAILS

SCALE: 0 0.75 1.5 3 6 10 FEET
AS SHOWN
DATE: SEPTEMBER 2011
KCI JOB NO.: 01-081795.26
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

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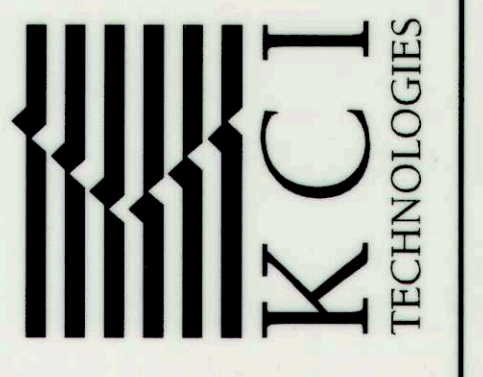
VICINITY MAP
SCALE: 1" = 2,000'

NOTE: REMOVAL OF VEGETATION FROM NO WOODY VEGETATION ZONE AT POND 1 OCCURS OUTSIDE THE LOD. THEREFORE, REMOVAL SHALL INVOLVE CUTTING VEGETATION AT THE GROUND LINE WITHOUT GRUBBING. EARTH DISTURBANCE SHALL BE AVOIDED.

LEGEND	
EXISTING MAJOR CONTOURS	---400---
EXISTING MINOR CONTOURS	---395---
PROPOSED CONTOURS	---395---
EXISTING TREE LINE	~ ~ ~ ~ ~
FOREST PLOT (1/10 ACRE)	⊙ #
SOIL UNITS	Ha
15% - 25% SLOPES	[Light Gray Box]
25% SLOPES OR GREATER	[Dark Gray Box]
NONTIDAL WETLAND	[Wetland Symbol]
25' WETLAND BUFFER	[Wetland Buffer Symbol]
EPHEMERAL CHANNEL	[Channel Symbol]
PROPERTY LINE	---
EASEMENT LINE	---
EXISTING BUILDING	[Building Symbol]
EXISTING SEWER LINE	---S---
EXISTING STORM DRAIN	---SD---
FLEXIBLE PIPE	---
SANDBAG DAM	[Dam Symbol]
LIMIT OF DISTURBANCE	---LOD---
ORANGE SAFETY FENCE	---OSF---
SILT FENCE	---SF---
FOREST TO BE REMOVED	[Cross-hatched Box]
NO WOODY VEGETATION ZONE	- x - x -

NO.	REVISIONS DESCRIPTION	DATE

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SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
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SALTERFORTH PLACE
SWM POND ENHANCEMENT
BRAMPTON HILLS 11 OPEN SPACE LOT 76
BRAMPTON HILLS 11 OPEN SPACE LOT 76
CAPITAL PROJECT D1160
TAX MAP 31, ZONING R-30, ELECTION DISTRICT 03
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
8750 COLUMBIA GATEWAY DRIVE
COLLIERVILLE, MD 21034
410-312-8417

FOREST CONSERVATION PLAN

SCALE: 0 0.25 0.5 1 2 4 8 16 32 FEET
DATE: SEPTEMBER 2011
KCI JOB NO.: 01-081795.26
CAPITAL PROJECT NO.: D1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

THIS PLAN WAS PREPARED BY
HOLLY SHIPLEY
KCI TECHNOLOGIES
MDNR QUALIFIED PROFESSIONAL STATUS
(JANUARY 2008)

Holly Shipley
SIGNATURE DATE 9-30-11

PLOTTED: 03:22 PM on Friday, September 16, 2011
BY: James Kester, Division: P053, Water Resources, GMA, Emp
FILE: M:\2008\01081795.26\Drawings\14.dwg, Source: 14.dwg

Forest Conservation Worksheet
Satterforth Place Pond Enhancement

Net Tract Area		
A. Total Tract Area	A= 2.90 ac.	
B. Area within 100-year Floodplain	B= 0.00 ac.	
C. Area to Remain in Agricultural Production	C= 0.00 ac.	
D. Net Tract Area (D=A-B-C)	D= 2.90 ac.	
Land Use Category: High Density Residential Areas		
E. Afforestation Threshold (D x 15%)	E= 0.43 ac.	
F. Conservation Threshold (D x 20%)	F= 0.57 ac.	
Existing Forest Cover		
G. Existing Forest Cover (excluding floodplain)	G= 1.31 ac.	
H. Area of Forest Above Afforestation Threshold	H= 0.88 ac.	
(1) If G<E then H=0 and I=0, go to L		
(2) If G>E then H=G-E, go to I		
I. Area of Forest Above Conservation Threshold	I= 0.74 ac.	
(1) If G<F then I=0, go to L		
(2) If G>F then I=G-F, go to J		
Break Even Point		
J. Forest Retention Above Threshold with no Mitigation	J= 0.72 ac.	
(1) If I>0 then J=(0.2 x I)+F, go to K		
(2) If I=0, J=0, go to L		
K. Clearing Permitted Without Mitigation (K=J-I)	K= 0.59 ac.	
Proposed Forest Clearing		
L. Total Area of Forest to be Cleared	L= 1.31 ac.	
M. Total Area of Forest to be Retained (M=G-L)	M= 0.00 ac.	
Planting Requirements		
N. Reforestation for Clearing Above the Conservation Threshold	N= 0.19 ac.	
(1) If L=K then N=0, P=0, Q=0, R=0, S=0, go to T		
(2) If M<F then N=L x 0.25, P=0, Q=0, go to T		
(3) If M=F then N=L x 0.25, P=0, Q=0, go to T		
P. Reforestation for Clearing Below the Conservation Threshold	P= 1.14 ac.	
(1) If G<F and M<F then P=0, Q=0, go to R		
(2) If G<F and M<F then P=2.0 x (F-M), Q=0, go to R		
(3) If G<F then P=2.0 x L, Q=0, go to R		
Q. Credit for Retention Above the Conservation Threshold	Q= 0.00 ac.	
(1) If M<F then Q=M-F, go to R		
(2) If M=F then Q=0, go to R		
R. Total Reforestation Required	R= 1.33 ac.	
(1) If Q=N and M=E then R=0, S=0, go to T		
(2) If Q<N and M=E then R=(N-P)-Q, S=0, go to T		
(3) If Q=N and M<E then R=N+P, go to S		
S. Total Afforestation Required	S= 0.00 ac.	
(1) If G<E and M<E then S=E-G, go to T		
(2) If G<E and M=E then S=0, go to T		
T. Total Reforestation and Afforestation Requirement T=(R+S)	T= 1.33 ac.	

Note: Use 0 for all negative numbers that result from the calculations.

SOILS TABLE

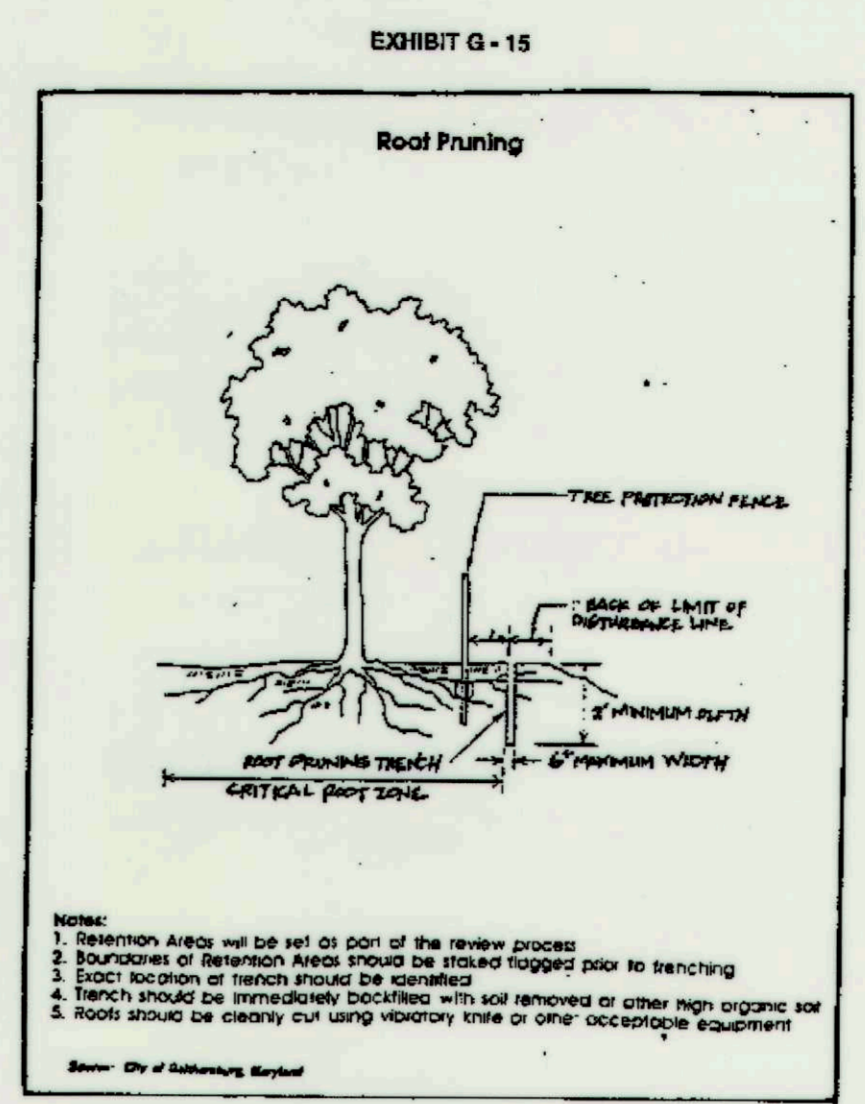
Soil Symbol	Soil Unit Name	Percent Slope	K _t value	Hydric (Y/N)
Ha	Hatboro-Codorus silt loams	0 to 3	0.55	Y
LaC	Legore silt loam	8 to 15	0.43	N
LoB	Legore-Montalto-Urban Land complex	0 to 8	0.43	N
MoB	Mount Lucas silt loam	3 to 8	0.55	Y
SrD	Sassafras and Croom soils	10 to 15	0.43	N
UfA	Urban land-Fallsington complex	0 to 2	0.28	Y
UsB	Urban Land-Sassafras-Beltsville complex	0 to 5	0.49	N

FOREST CONSERVATION NOTES

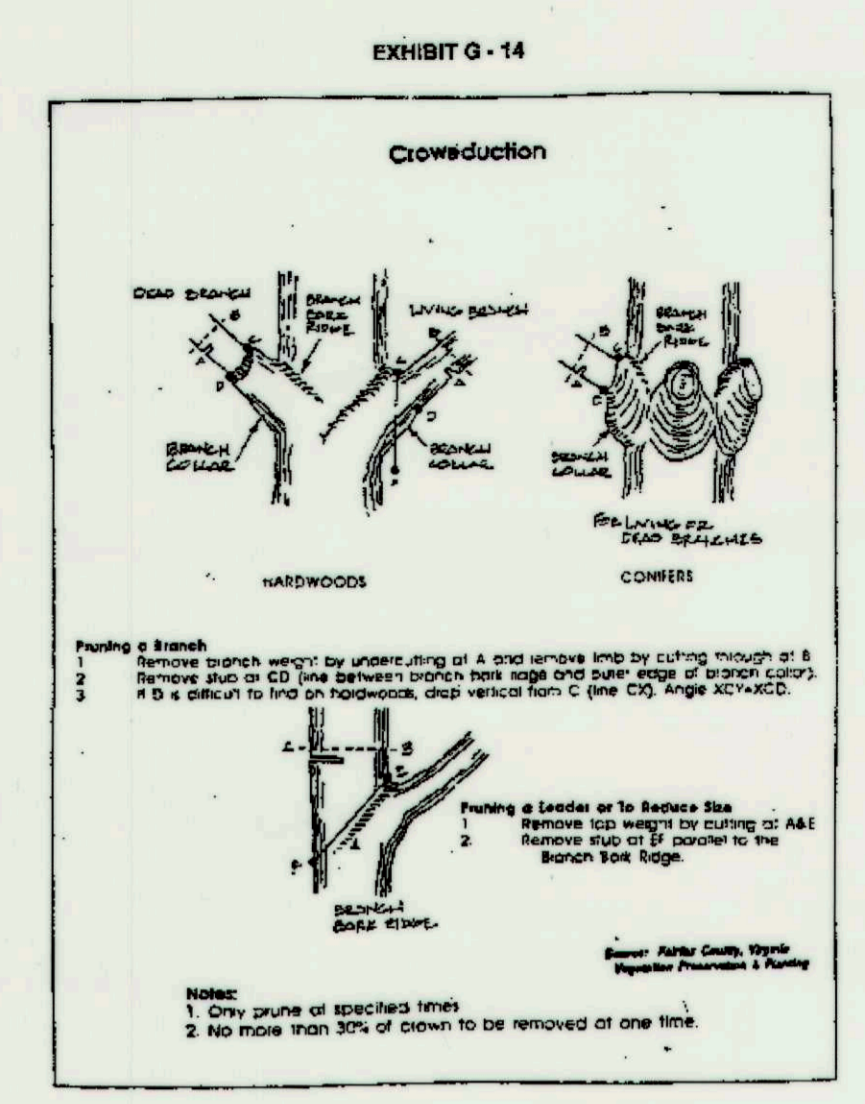
- 1.31 acres of forest is to be cleared from within the limits of disturbance (LOD).
- See note 16 on Sheet 1 of 15 regarding waiver petition and the use of the LOD as the net tract area.
- Mitigation Requirement shall be met through fee-in-lieu for 1.33 acres. See note 16 on Sheet 1 of 15 regarding the fee-in-lieu requirement.
- Fee-in-lieu requirement is \$43,450.50 (\$0.75x57,934 sf.=\$43,450.50). Fee-in-lieu requirement to be satisfied by DPW.
- See sheet 11 of 15 and 12 of 15 for landscape plans and landscape notes and details. On-site landscaping is not accounted for in the forest conservation mitigation because these materials can not be protected in perpetuity.

NOTES:

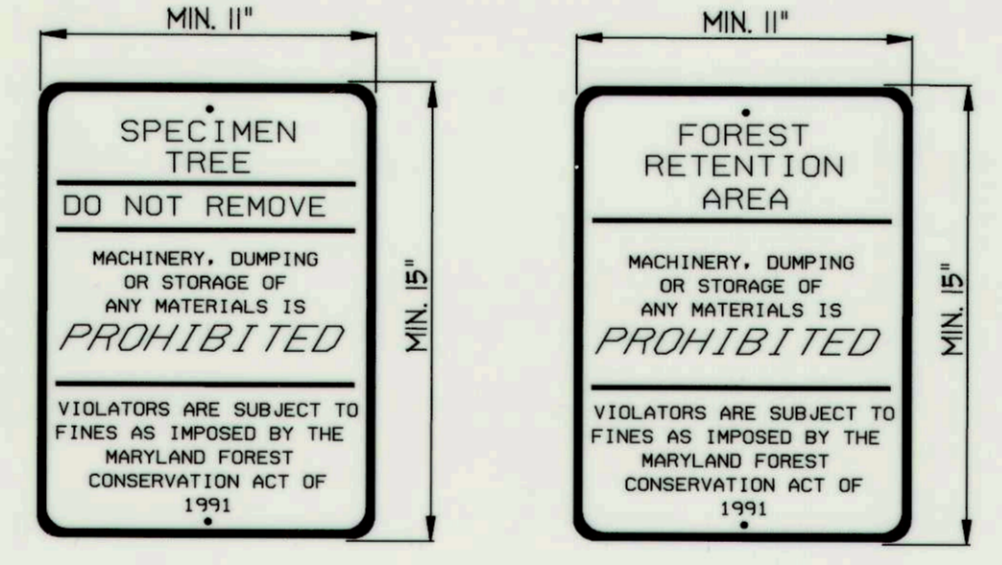
- Project area is on open space property owned by Howard County.
- Existing Zoning: Institutional
- Existing land use: Stormwater management and Open Space deeded to Howard County.
- The area within the limits of disturbance was used as the total tract area in accordance with Waiver Petition WP 11-135.
- Waters of the U.S. were delineated by KCI Technologies, Inc. on October 22 and 29, 2009. Waters of the U.S. shown represent theunverified USACE water resource boundaries.
- There are no "Waters of the US" within the project area.
- Total surface area of nontidal wetlands: 8,140 sf.
- Total linear feet of perennial and intermittent streams: 0 LF
- Total forested area within limits of disturbance: 1.31 acres.
- There are no Critical Habitat Areas within the project area. No rare, threatened or endangered species were encountered during the field investigations. In addition, correspondence with the Maryland Historic Trust, the U.S. Fish and Wildlife Service, and the Maryland Department of Natural Resources indicate there are no records of historic resources or sensitive natural resources within the affected area.
- No specimen trees were identified during the field investigation performed by KCI Technologies, Inc in October 2009.
- Tree Save is shown on trees within the LOD because an attempt will be made to save these trees. Trees will only be removed if necessary for grading or access.
- Base data provided by KCI Technologies Inc. Ridgebrook Road, Sparks, Maryland 21152.
- There are no FEMA designated floodplains within the study area.



ROOT PRUNING
NOT TO SCALE

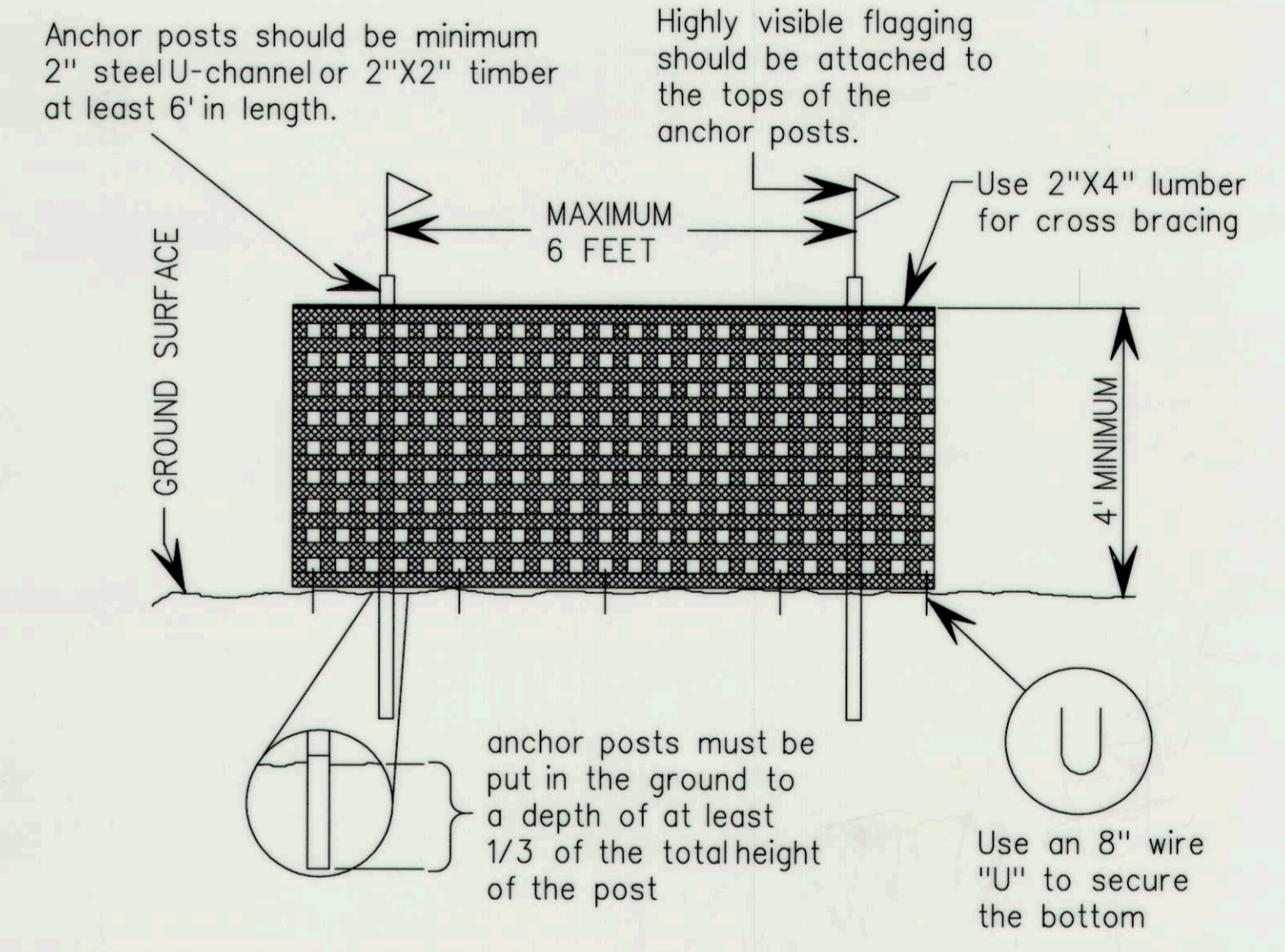


CROWN REDUCTION
NOT TO SCALE



FOREST CONSERVATION SIGNAGE
NOT TO SCALE

- NOTES:**
- BOTTOM OF SIGN TO BE HIGHER THAN TREE PROTECTION FENCE.
 - SIGNS TO BE PLACED 50 TO 100' APART. CONDITION ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART WITHIN THE ACCEPTABLE NOTED RANGE.
 - ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
 - SIGNS MAY BE REMOVED FROM RESIDENTIAL LOTS UPON ISSUANCE OF USE AND OCCUPANCY RETENTION FOREST ONLY.
 - ALL SIGNAGE MUST REMAIN DURING THE MAINTENANCE PERIOD.
 - THE SIGNS NOTIFY CONSTRUCTION WORKERS AND FUTURE RESIDENTS OF THE NEWLY PLANTED MATERIAL, IMPROVING THE TREES' SURVIVAL RATES.
 - SIGNS MAY BE ADAPTED BY RESIDENTS FOR IDENTIFICATION OF FOREST RETENTION AREAS.

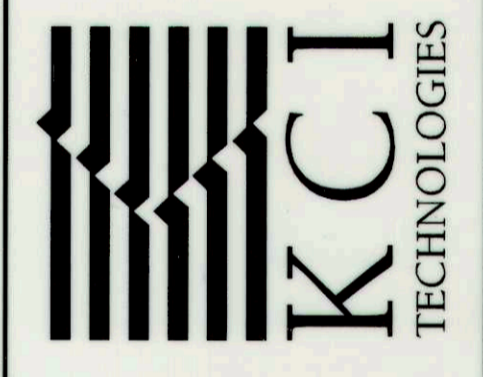


BLAZE ORANGE PLASTIC MESH SAFETY FENCE/TREE PROTECTION DETAIL
NOT TO SCALE

- PLACEMENT OF ORANGE HIGH VISIBILITY FENCE:**
- ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE LIMITS OF DISTURBANCE, WHERE THAT LIMIT IS WITHIN 50' OF THE FOREST CONSERVATION/ FOREST BUFFER EASEMENTS AND SHALL FUNCTION AS A FOREST PROTECTION DEVICE.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF THE RETENTION AREA SHALL BE STAKES AND FLAGGED PRIOR TO INSTALLING THE DEVICE.
 - ROOT DAMAGE SHALL BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

NO.	REVISIONS DESCRIPTION	DATE

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SALTERFORTH PLACE
SWM POND ENHANCEMENT
BRAMPTON HILLS, 41 OPEN SPACE LOT #18
BRAMPTON HILLS, 41 OPEN SPACE LOT #19
CAPITAL PROJECT D160
TAX MAP #1 ZONING R-30 ELECTION DISTRICT #1
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
670 COLUMBIA, MD 21046
410-316-6417

FOREST CONSERVATION PLAN

SCALE:	AS SHOWN
DATE:	SEPTEMBER 2011
KCI JOB NO.:	01-081795.26
CAPITAL PROJECT NO.:	D160
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

PLOTTED: 03:24 PM on Friday, September 16, 2011
 FILE: M:\2008\01081795_26\Drawings\FCP_Notes&Details.dgn

THIS PLAN WAS PREPARED BY
HOLLY SHIPLEY
KCI TECHNOLOGIES
MNR QUALIFIED PROFESSIONAL STATUS
(JANUARY 2008)

Holly Shipley
SIGNATURE
DATE 9.30.11