

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GRADING, EROSION AND SEDIMENT CONTROL PLAN
3	SEDIMENT CONTROL NOTES AND DETAILS
4	STORMWATER MANAGEMENT PROFILES
5	UTILITY PROFILES AND LANDSCAPE DETAILS
6	STORMWATER MANAGEMENT NOTES AND DETAILS
7	SEDIMENT CONTROL DETAILS/VEGETATIVE STABILIZATION
8	DRAINAGE AREA MAP
9	LANDSCAPE PLAN
10	STORMWATER MANAGEMENT POND AND GEOTECHNICAL NOTES AND SPECIFICATIONS AND DETAILS
11	PHASE II SWM & SEC PLAN
12	PHASE II SWM POND PROFILES
13	PHASE II SWM STRUCTURE S-1 DETAIL
14	PHASE II SWM & SEC DETAILS
15	PHASE II STORMDRAIN PROFILE AND DETAILS
16	PHASE II STRUCTURE S-3 PLAN & ELEVATIONS

SITE DEVELOPMENT PLAN PERI FORMWORK SYSTEMS, INC.

17 PHASE II STRUCTURE S-3 CONSTRUCTION DETAILS
18 PHASE II STRUCTURE S-2 CONSTRUCTION DETAILS

- LEGEND:**
- EX. FIRE HYDRANT
 - WATER VALVE
 - WATER MANHOLE
 - STORM DRAIN MANHOLE
 - SEWER MANHOLE
 - C.O.
 - CATCH BASIN
 - LIGHT POLE
 - POWER POLE
 - GAS METER
 - GAS VALVE
 - PERIMETER FENCE
 - SIGN
 - EXISTING TREELINE
 - PROPOSED TREELINE
 - OHE
 - OVERHEAD ELECTRIC
 - WETLANDS AREA
 - EXISTING CONTOUR 2' INTERVAL
 - EXISTING CONTOUR 10' INTERVAL
 - PROPOSED CONTOUR 2' INTERVAL
 - PROPOSED CONTOUR 10' INTERVAL
 - + 624 SPOT ELEVATION
 - SF - SF- SILT FENCE
 - SOF - SUPER SILT FENCE
 - BERM
 - L.O.D. LIMIT OF DISTURBANCE

SEQUENCE OF CONSTRUCTION (S.O.C.)

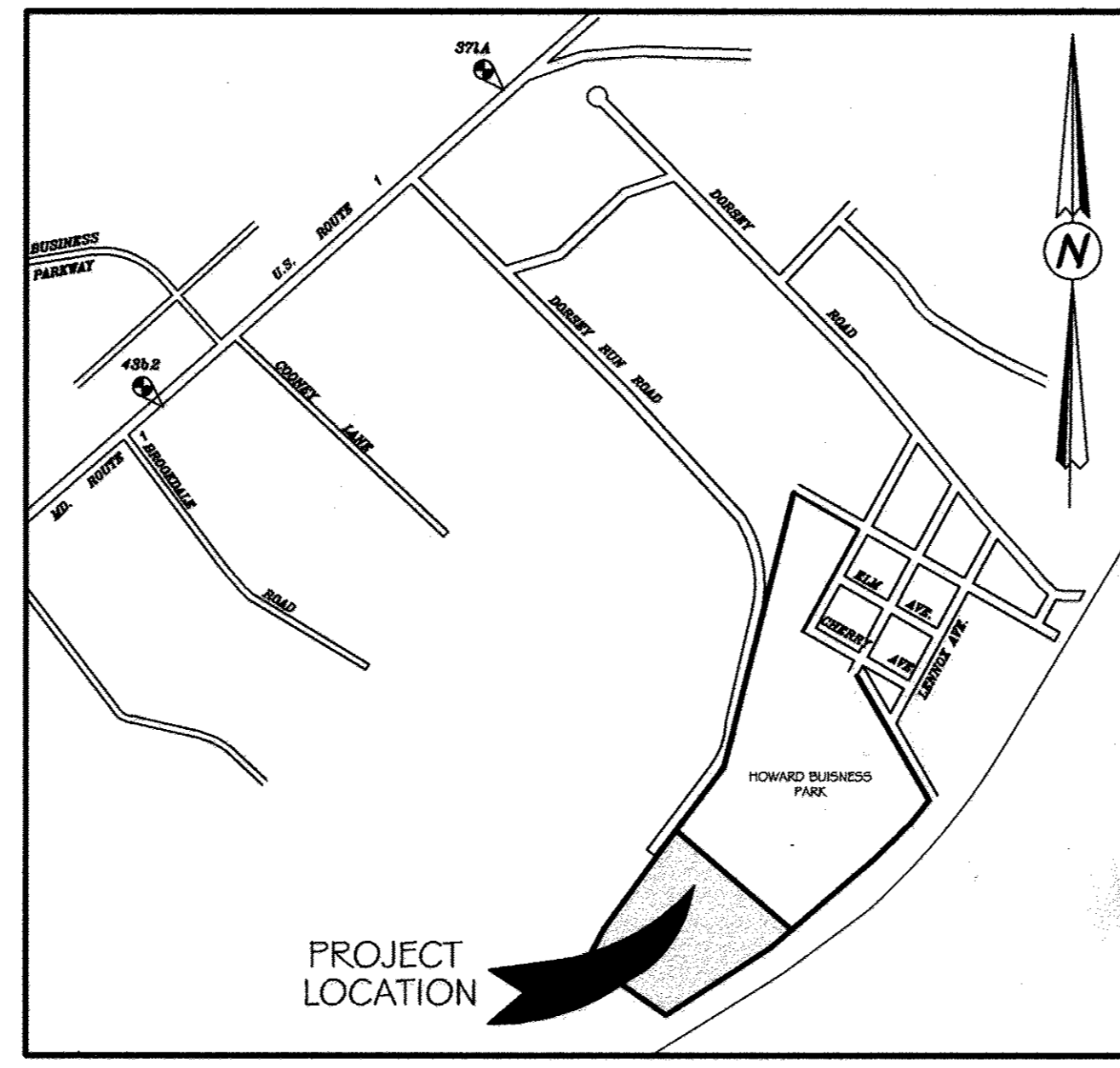
- OBTAIN GRADING PERMIT.
- INSTALL NEW SEDIMENT & EROSION CONTROL MEASURES AND OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED (1 WEEK) MEASURES PER MDE SPECIFICATIONS. (14 DAYS)
- CLEAR AND GRUB SITE TO LIMITS OF DISTURBANCE. USE DUST CONTROL MEASURES PER MDE SPECIFICATIONS. (2 WEEKS)
- MASS GRADE SITE TO SUB-BASE. USE DUST CONTROL MEASURES PER MDE SPECIFICATIONS. (2 WEEKS)
- INSTALL TEMPORARY SEEDING. (3 DAYS)
- CONSTRUCT UTILITIES. (STORM DRAINS, WATER AND SEWER LINES)
- INSTALL CURBS, SIDEWALKS AND SUB-BASE. (2 WEEKS)
- CONSTRUCT BUILDINGS. (1 YEAR)
- FINE GRADE SITE, INSTALL PERMANENT SEEDING AND LANDSCAPING. (3 WEEKS)
- REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY DC CONTROL INSPECTOR.

11. SEE PHASE II S.O.C. ON SHEET 11

1. THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT (410) 313-1890.

2. PLEASE BE ADVISED THAT ANY PROJECT WHICH CREATES A DISTURBANCE OF FIVE (5) ACRES OR MORE WILL REQUIRE A "NOTICE OF INTENT TO COMPLY WITH GENERAL PERMIT FOR CONSTRUCTION ACTIVITY" (NOI). THE NOI IS A REQUIREMENT FROM THE EPA FOR CONSTRUCTION ACTIVITY FOR STORMWATER DISCHARGES AND IS REGULATED UNDER THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, SEDIMENT AND STORMWATER ADMINISTRATION (MDESSA). THE NOI IS TO BE COMPLETELY FILLED OUT AND SUBMITTED WITH THE APPROPRIATE FEES DIRECTLY TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT. THIS REGULATION BECOMES EFFECTIVE APRIL 15, 1994. FOR MORE INFORMATION CONTACT:

Maryland Department of the Environment
Sediment and Stormwater Administration
2500 Brooking Highway
Baltimore, MD 21224



VICINITY MAP
SCALE: 1" = 1000'

- GENERAL NOTES**
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1890 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 - ALL EXTERIOR LIGHTING SHALL COMPLY WITH SECTION 134 OF THE ZONING REGULATIONS.
 - BOUNDARY SURVEY PERFORMED BY: MILDENBERG, BOENDER & ASSOC., INC. ON OR ABOUT SEPTEMBER, 1999.
 - EXISTING TOPOGRAPHY SHOWN HEREON WAS PREPARED BY MILDENBERG, BOENDER & ASSOC., INC. AND BASED UPON FIELD RUN TOPOGRAPHY SURVEY.
 - HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS:
HOWARD COUNTY MONUMENT No. 43B2 N 551,654.983 E 1,376,176.951 Elev. 209.505'
HOWARD COUNTY MONUMENT No. 43B6 N 550,601.597 E 1,376,866.071 Elev. 210.543'
HOWARD COUNTY MONUMENT No. 371A N 553,315.147 E 1,379,882.153 Elev. 195.73'
HOWARD COUNTY MONUMENT No. 43R1 N 548,305.502 E 1,382,025.818 Elev. 134.53'
 - ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
 - THIS PLAN IS FOR BUILDING SITING AND LOT GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. FOR CONSTRUCTION - SEE APPROVED ROAD CONSTRUCTION PLANS AND / OR APPROVED WATER AND SEWER PLANS.
 - CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
 - SITE ANALYSIS DATA:
A. TOTAL PROJECT AREA: 16.79 AC.±
B. AREA OF PLAN SUBMISSION: 16.79 AC.±
C. LIMIT OF DISTURBED AREA: 13.09 AC.±
D. PRESENT ZONING: M-2
E. PROPOSED USE FOR SITE AND STRUCTURES: FORM WORKS PRODUCTION
F. NUMBER OF PARKING SPACES REQUIRED: 119
OFFICE USE : 30,800 SQ. FT. x 3.3 SPM/1000 SQ. FT. = 102 SPACES
WAREHOUSE USE : 33,362 SQ. FT. x 0.5 SPM/1000 SQ. FT. = 17 SPACES
G. NUMBER OF PARKING SPACES PROVIDED: 119 12+
A. HANDICAPPED = 6
B. OFFICE WAREHOUSE LOT - 118
H. BUILDING COVERAGE OF SITE: 0.96 AC.± AND 5.7 % OF GROSS AREA
I. EXISTING CONTOURS INDICATED WITHIN THE RIGHT OF WAY OF DORSEY RUN ROAD ARE PER THE PROPOSED ROAD GRADES SHOWN ON SDP-95-60.
J. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
 - PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
 - ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - NO FLOODPLAIN ON SITE.
 - WETLAND AND STREAM DELINEATION APPROVED UNDER F-00-29, HOWARD BUSINESS PARK, PARCELS A-1 & B-1 THRU B-4.
 - THE FOREST CONSERVATION OBLIGATIONS/REQUIREMENTS ARE SATISFIED UNDER F-00-27 AND F-00-29, HOWARD BUSINESS PARK, PARCELS A-1 & B-1 THRU B-4 BY MEANS OF RETENTION OF EXISTING TREES AND OFF-SITE PLANTINGS PER PLAN NO. 14172.
 - EXISTING WATER CONTRACT 44-3421-D, SEWER CONTRACT 14-3775-D
 - W.P. 04-42 - A REQUEST TO WAIVE SECTION 16156 (M) TO REACTIVATE 50' 00" 114' AND GRANT A ONE YEAR EXTENSION TO APPLY FOR A BUILDING PERMIT FOR THE 30,800 SQUARE FOOT AREA. OFFICE BUILDING WAS APPROVED ON OCTOBER 27, 2004. THIS WAIVER WILL REMAIN VALID UNTIL OCTOBER 27, 2006.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land Development
Richard Blood 9/1/00
Date

Chief, Development Engineering Division
John A. Porter 8/21/00
Date

Director, Department of Planning and Zoning
John A. Porter 9/1/00
Date

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT AND Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

U.S.D.A.-Natural Resources Conservation Service
Chad Smith 8/30/00
Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Approved: *John A. Porter* 8/31/00
Howard S.C.D. Date

11/12/10 **SWM & SEC REVISIONS**
1-0-04 **REV. BLOG ELEV., ADDED NOTE # 10**
DATE REVISIONS

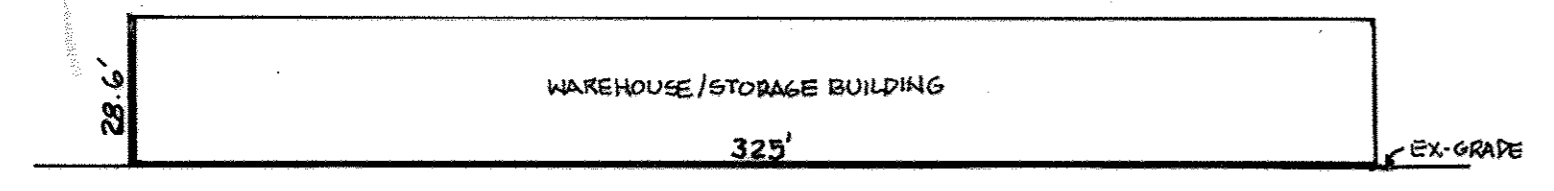
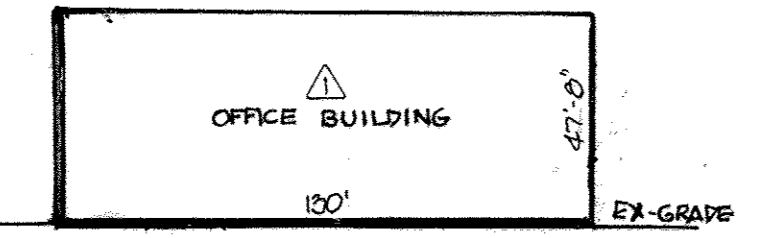
PERI FORMWORK SYSTEMS, INC.
OFFICE AND STORAGE FACILITY
TAX MAP No. 43 PARCEL: 321 BLOCK 12
FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: 1"=1000' DATE: APRIL 6, 2000

SDP-95-60 F-00-29

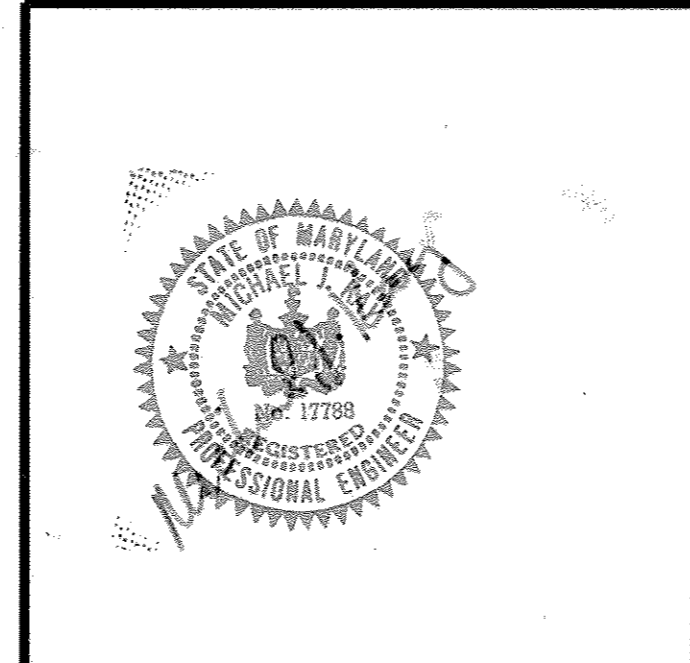
COVER SHEET

SDP-00-114

OWNER / DEVELOPER
PERI FORMWORK SYSTEMS
7272 PARK CIRCLE DRIVE
SUITE 200
HANOVER, MARYLAND 21076



SWM
NO AS-BUILT INFO ON THIS SHEET
ANDREW A. PORTER, P.E. #15838
6/11/2018



DEVELOPER'S CERTIFICATE

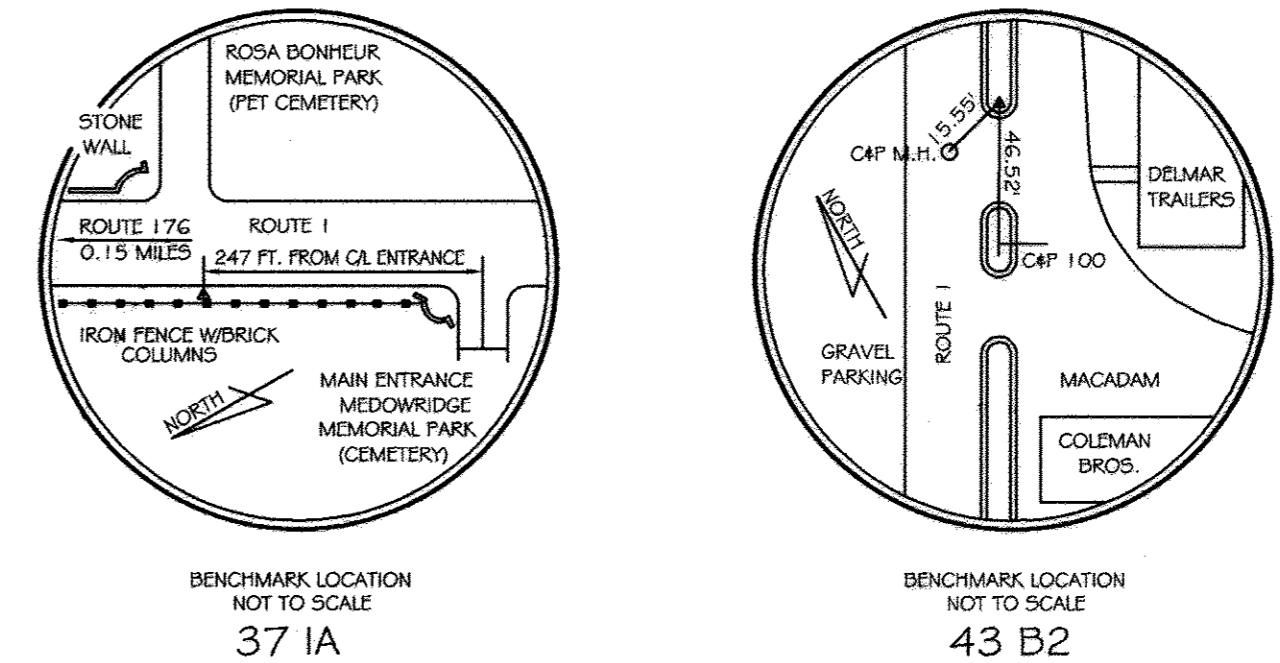
"We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance as a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

PERI FORMWORK SYSTEMS c/o HARVEY EVANS 8/12/00
Date

ENGINEER'S CERTIFICATE

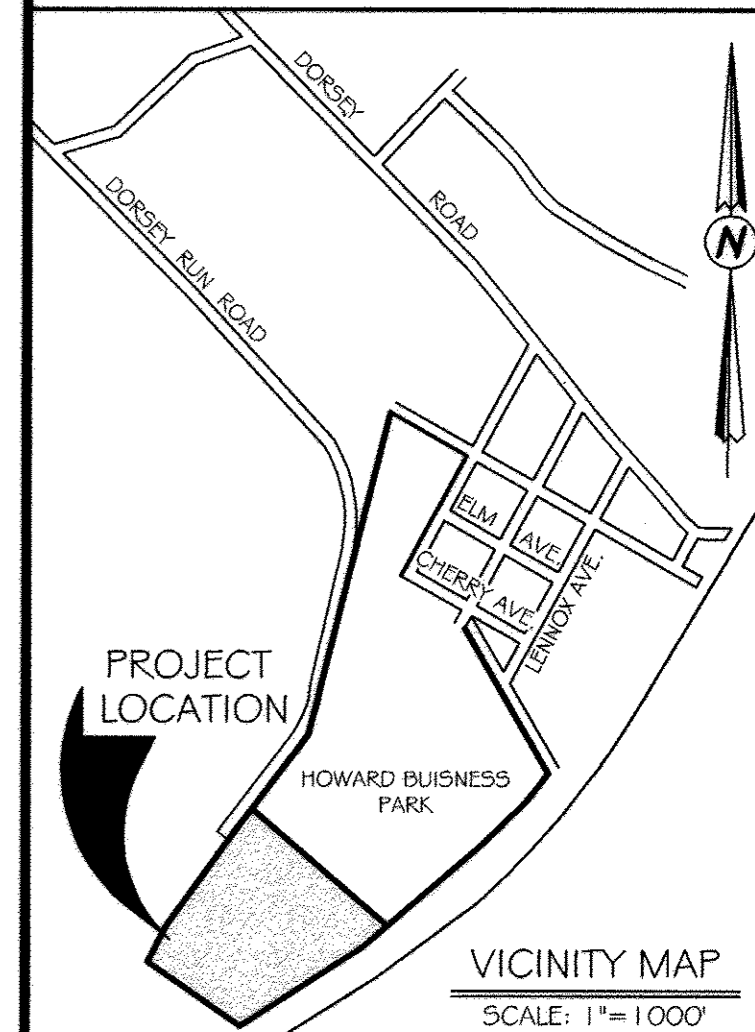
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Michael J. Kay 8/18/00
Michael J. Kay, P.E. Date



FOR REVISION #2 ONLY
Andrew A. Porter 11/12/10
FOR REVISION #1 ONLY
Chad Smith 11/15/04

ADDRESS CHART					
LOT / PARCEL #		STREET ADDRESS			
A-1		7141 DORSEY RUN ROAD			
SUBDIVISION NAME: HOWARD BUSINESS PARK					
SECTION / AREA		LOT / PARCEL			
14169 - 14172		A-1			
PLAT NO.	BLOCK NO.	ZONE	TAX ZONE	ELEC. DIST.	CENSUS TR.
14169 - 14172	12	M-2	**	FIRST	6012
WATER CODE			SEWER CODE		
B01			S 2550000		



APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 9/1/00
 Chief, Division of Land Development
John D. ... 8/24/00
 Chief, Development Engineering Division
David ... 9/1/00
 Director, Department of Planning and Zoning

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT AND Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.
Chris ... 8/20/00
 U.S.D.A. Natural Resources Conservation Service

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The HOWARD SOIL CONSERVATION DISTRICT.
John ... 8/30/00
 HOWARD SOIL CONSERVATION DISTRICT

11/12/10 **SWM & SEC REVISIONS**
 6-30-05 **REV. OFFICE BLDG. WATER CONNECTION**
 1-9-04 **REV. OFFICE BUILDING AREA**

DATE	REVISIONS
11/12/10	SWM & SEC REVISIONS
6-30-05	REV. OFFICE BLDG. WATER CONNECTION
1-9-04	REV. OFFICE BUILDING AREA

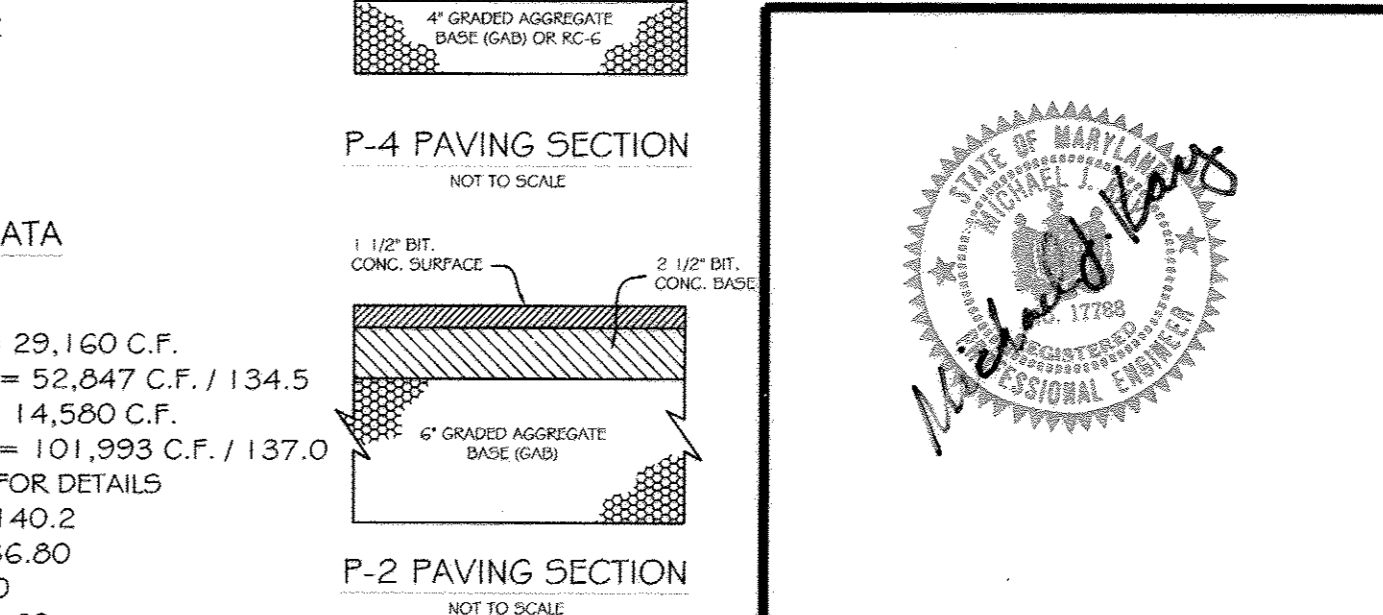
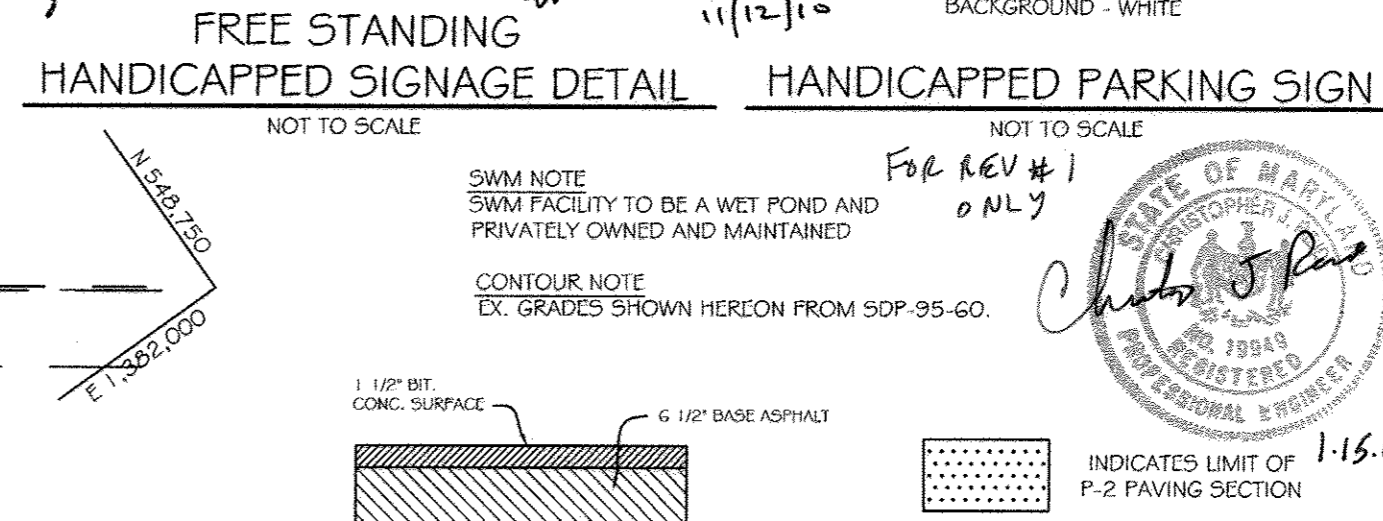
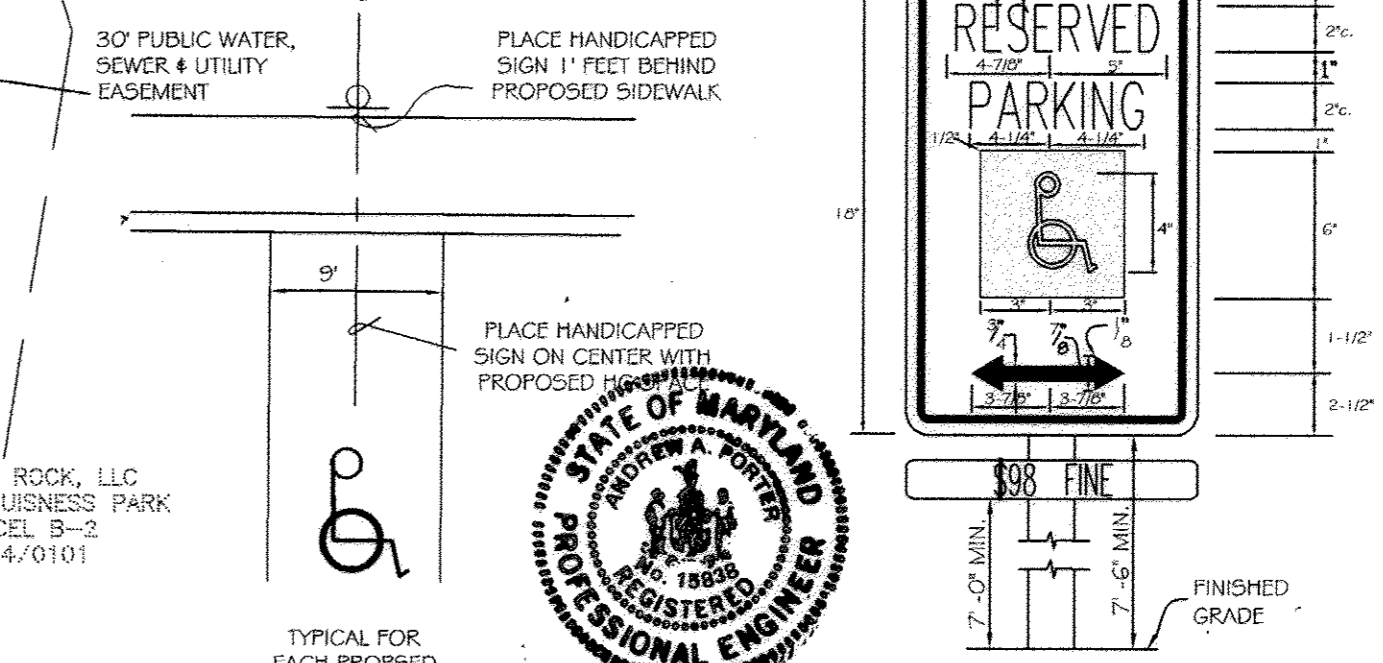
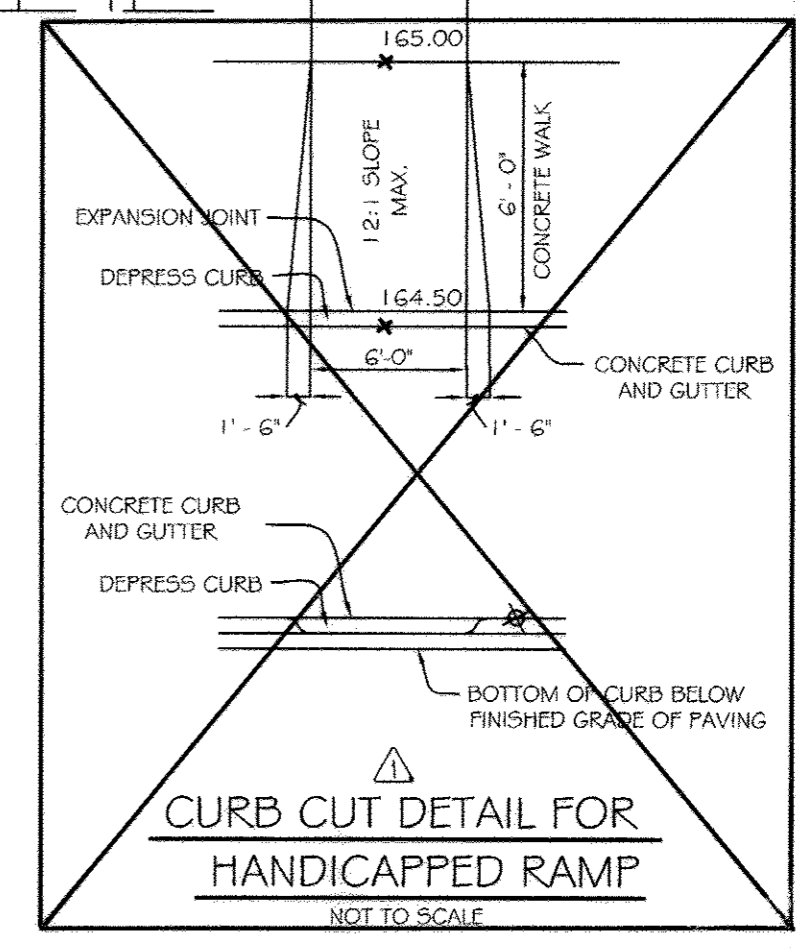
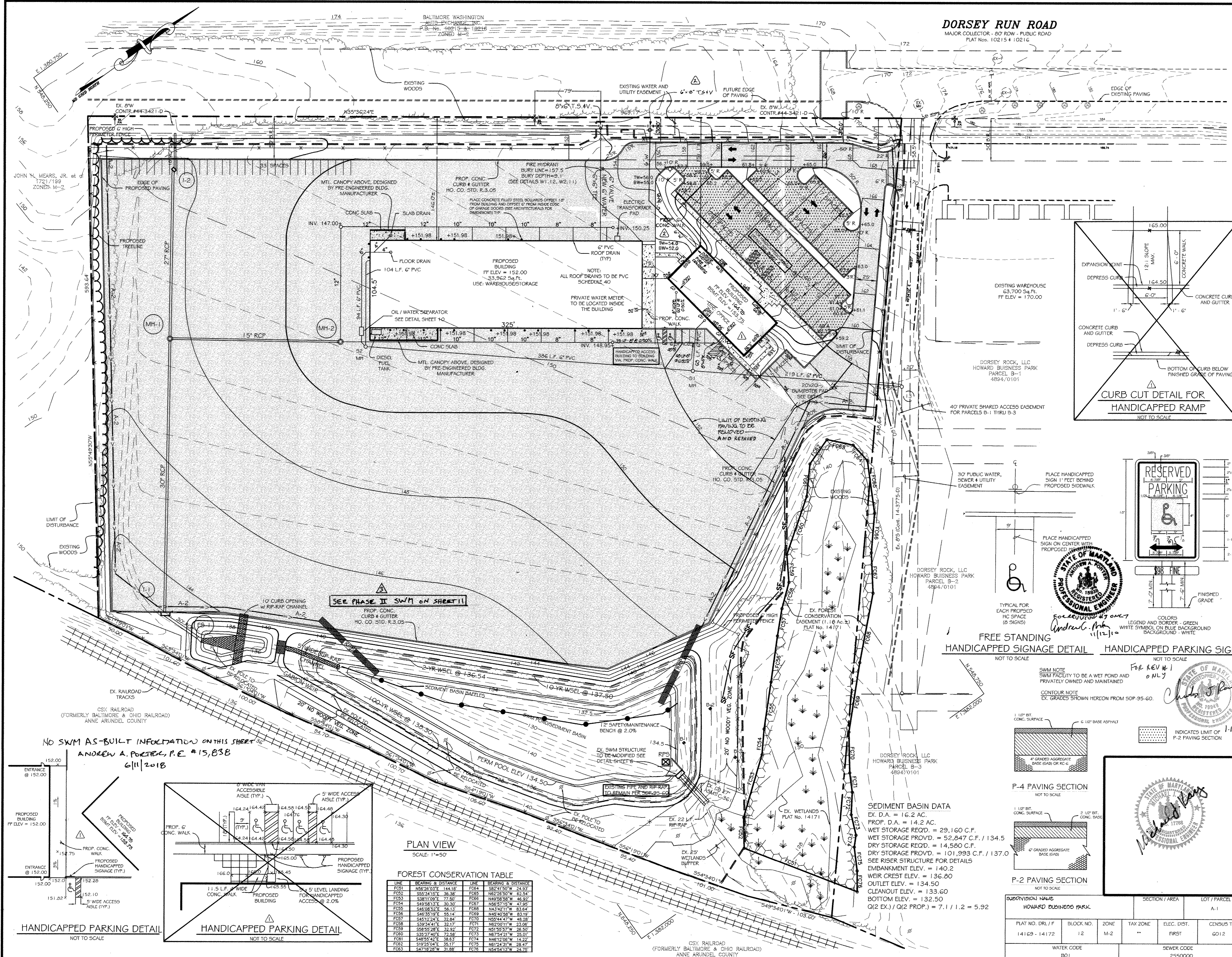
PERI FORMWORK SYSTEMS, INC.
 OFFICE AND STORAGE FACILITY
 7141 DORSEY RUN ROAD
 TAX MAP No: 43 PARCEL: 321 BLOCK 12
 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: 1"=50' DATE: MAY 24, 2000

SDP-95-60 F-00-29

**SITE DEVELOPMENT PLAN
 GRADING, EROSION AND
 SEDIMENT CONTROL PLAN**

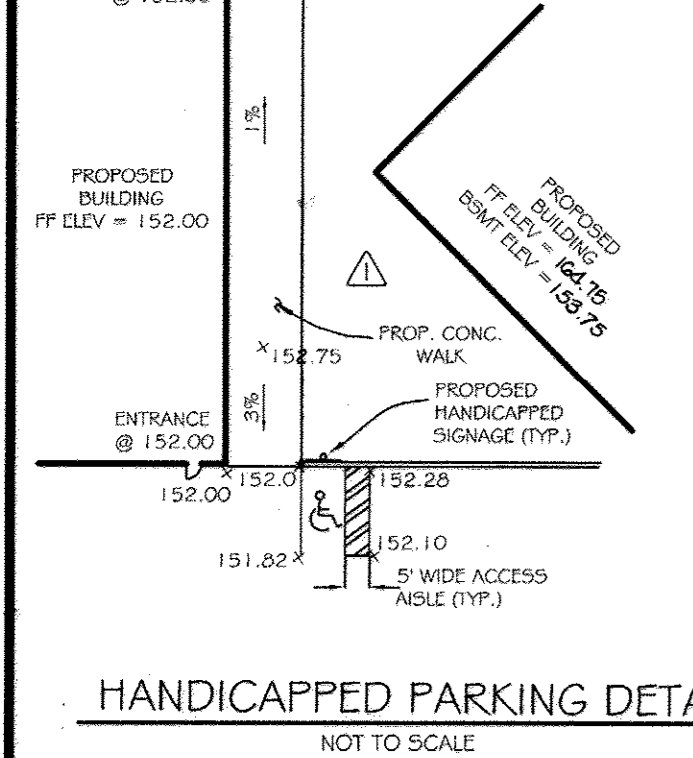
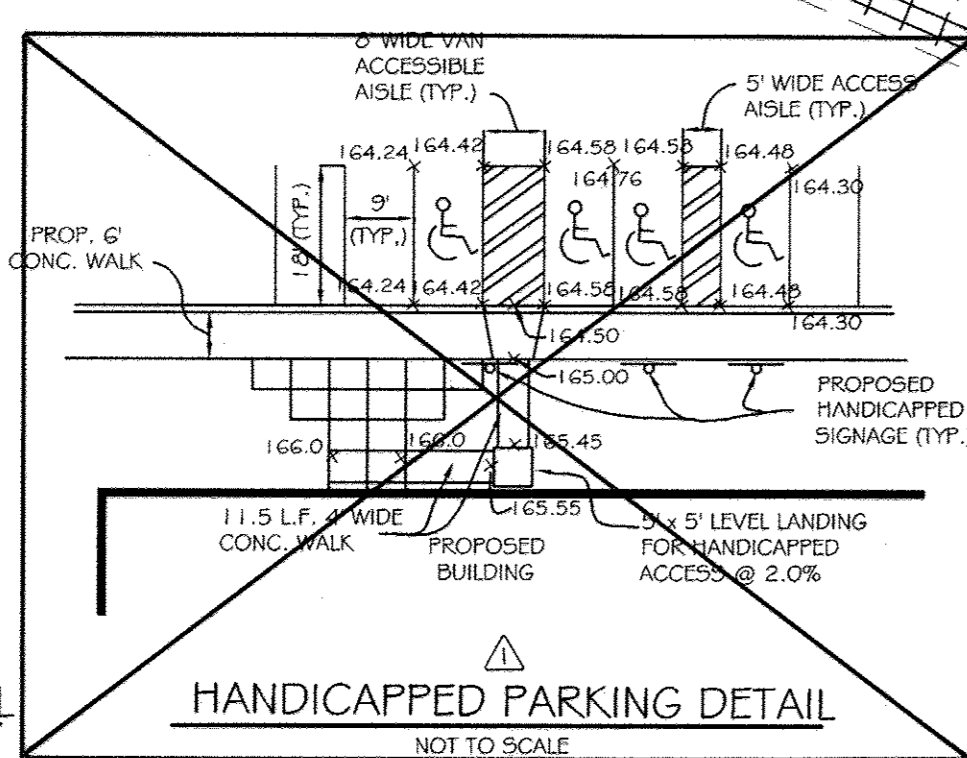
SDP-00-114

OWNER / DEVELOPER
 PERI FORMWORK SYSTEMS
 7272 PARK CIRCLE DRIVE
 SUITE 200
 HANOVER, MARYLAND 21076



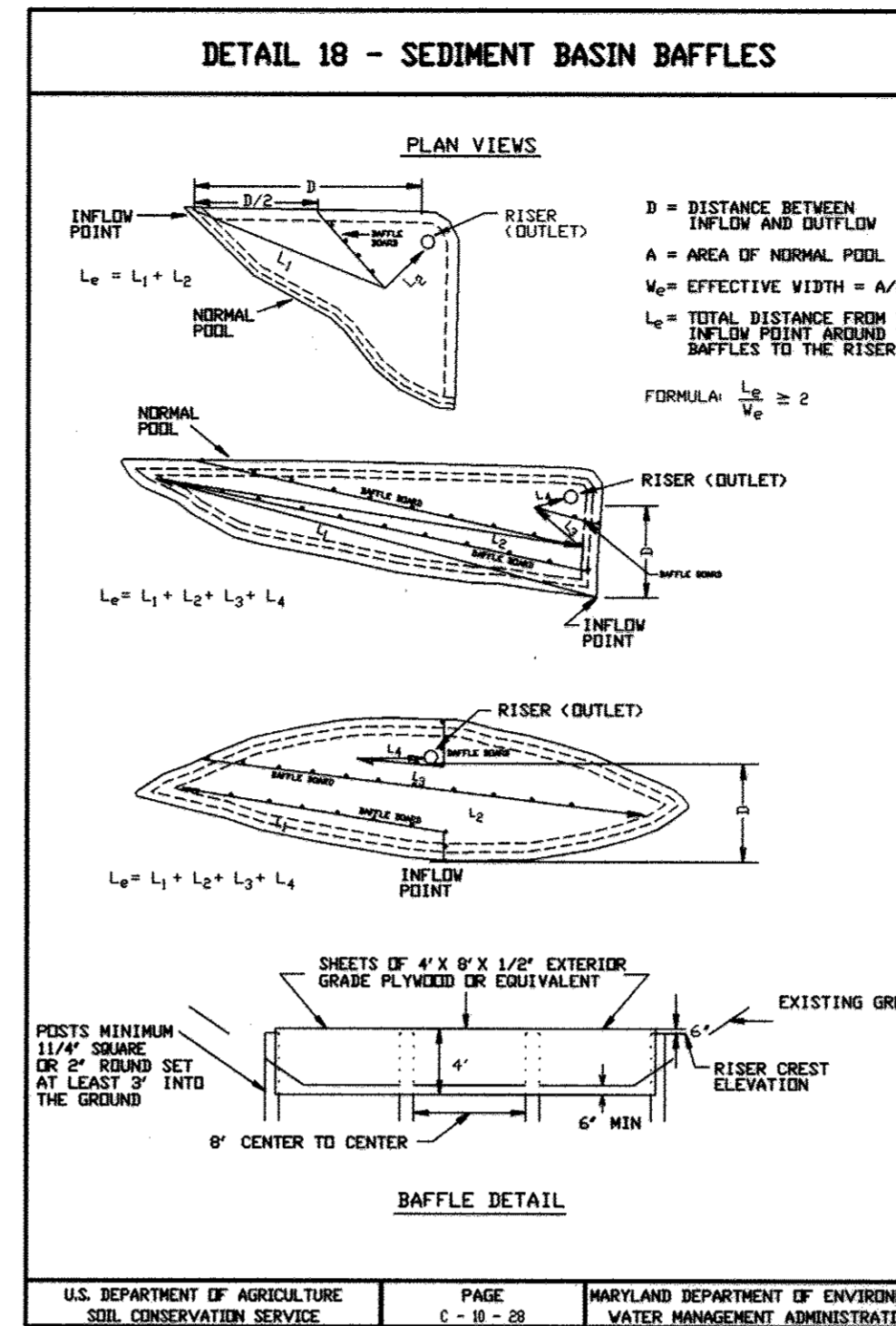
FOREST CONSERVATION TABLE

LINE	BEARING & DISTANCE	LINE	BEARING & DISTANCE
FC01	N55°20'00"E 144.10'	FC04	S87°41'50"W 24.93'
FC02	S55°34'15"E 36.38'	FC05	N82°28'50"W 62.54'
FC03	S38°11'00"E 77.50'	FC06	N49°58'58"W 46.90'
FC04	S49°28'33"E 30.90'	FC07	N28°37'10"W 47.69'
FC05	S48°08'52"E 56.13'	FC08	N43°21'11"W 83.64'
FC06	S42°35'19"E 55.14'	FC09	N45°40'58"W 83.19'
FC07	S45°12'24"E 33.84'	FC10	N57°44'47"W 48.30'
FC08	S39°34'41"E 32.17'	FC11	N82°00'11"W 23.06'
FC09	S48°55'28"E 32.92'	FC12	N51°50'57"W 46.50'
FC10	S32°37'40"E 72.54'	FC13	N87°54'21"W 25.01'
FC11	S48°50'52"E 38.63'	FC14	N48°12'08"W 14.22'
FC12	S19°23'04"E 55.12'	FC15	N81°24'31"W 28.47'
FC13	S47°18'28"W 31.68'	FC16	N54°54'13"W 24.78'



**HOWARD SOIL 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 (313-1855).
- 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 thereto.
- 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 3:1. b) 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. I, 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), sod (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 permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 Total Area of Site: (6.77) Acres
 Area Disturbed: 13.09 Acres
 Area to be roofed or paved: 0.26 Acres
 Area to be vegetatively stabilized: 0.21 Acres
 Total Cut: 1/4" Cu. Yds.
- Diffsite waste/borrow area location
- 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 control, 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.



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.

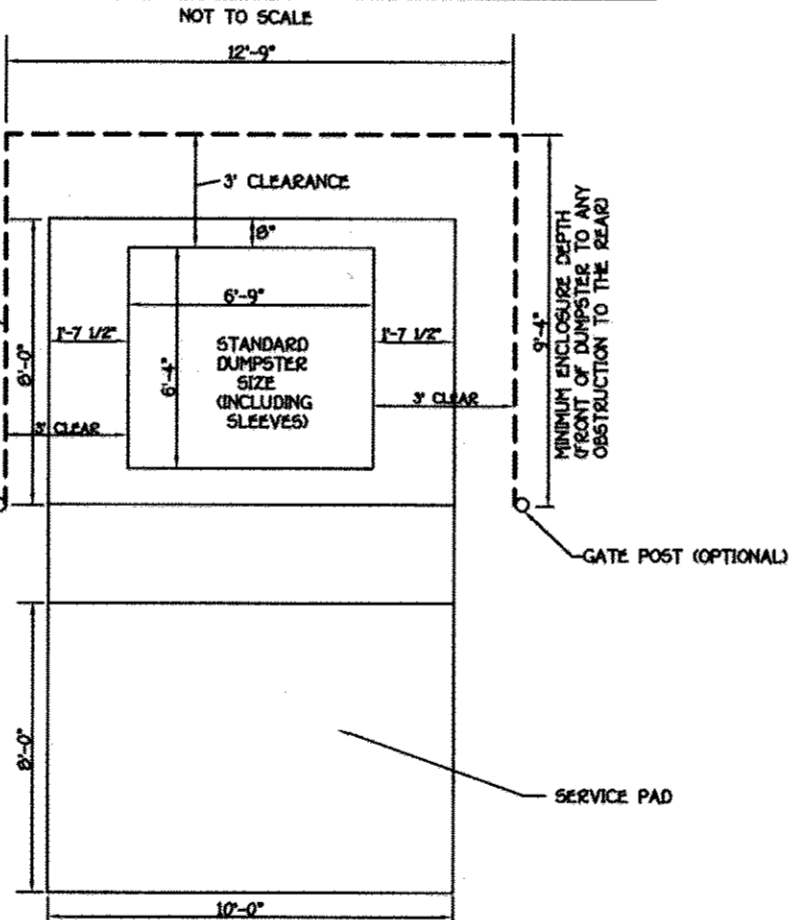
Signature: _____ P. E. No.: _____
 Date: _____

Certify means to state or declare a professional opinion based upon onsite inspections and material tests which are conducted during construction. The onsite inspections and material tests are those inspections and tests deemed sufficient and appropriate by commonly accepted engineering standards. Certify does not mean or imply a guarantee by the engineer nor does an engineer's certification relieve any other party from meeting requirements imposed by contract, employment or other means, including meeting commonly accepted industry practices.

OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond(s) shown herein shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, NRCS Standards and Specifications For Ponds (MD-37B). 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 seepage, turbid seepage, sliding or slumping.

SOLID WASTE OPTIONAL CONTAINER ENCLOSURE



SEDIMENT CONTROL & POND CONSTRUCTION

- By the Developer: 'I certify that all development and/or construction will be done according to these plans, and that any 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 beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an 'as-built' plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.'
- By the Engineer: 'I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan 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 an 'as-built' plan of the pond within 30 days of completion.'

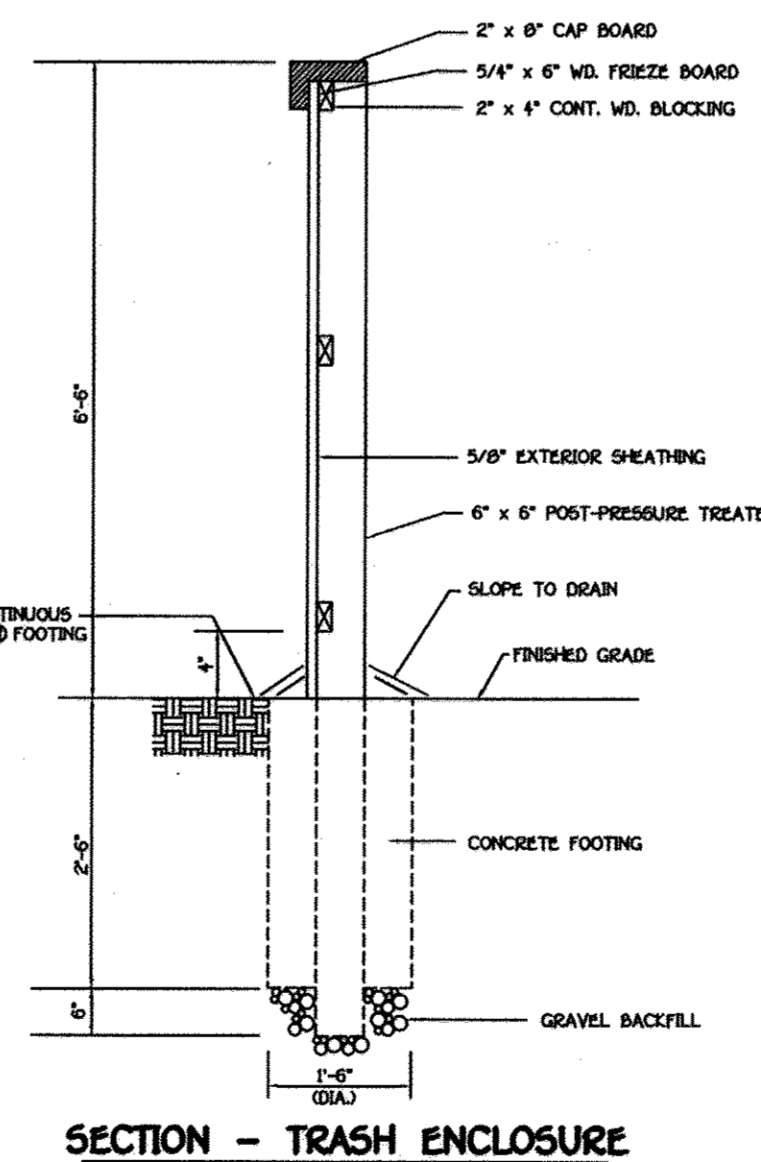
Signature of Developer: Harvey Evans Date: 8/19/00
 Signature of Engineer: Michael J. Vay Date: 8/19/00

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Signature: NA DUBALTA Date: _____
 USA - Natural Resources Conservation Service

Signature: NA DUBALTA Date: _____
 Howard Soil Conservation District

NO SWM AS-BUILT INFORMATION ON THIS SHEET
 ANDREW A. PORTER, I.E. #15858
 6/11/2018



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 moisture content, 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.
- For the purpose of these Standards and 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 stabilizations shown on the plans.

Composition 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-NCR in cooperation with Maryland Agricultural Experiment 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 cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1/4" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, outcrops, poison ivy, thistle, or others as specified.
- Where the subsoil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

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 sod or soil shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dispersion of phytotoxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist 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 I - Vegetative Stabilization Methods and Materials.

Topsoil Application

- When topsoiling, maintain noted 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, albeit 4" - 8" higher in 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 sodding 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 corrected in order to prevent the formation of depressions or water pockets.
- Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

V. Alternative for Permanent Seeding - Instead of applying the full amount of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- Composted sludge material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to determine amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus and 0.2 percent potassium and have a PH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4lb/1000 square feet and 1/3 the normal lime application.

References: Guidelines Specifications, Soil Preparation and Seeding, MD-VA, Pub #1, Cooperative Extension Service, University of Maryland and Virginia Polytech Institute, Revised 1973.

30.0 DUST CONTROL

DEFINITION
 CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.
PURPOSE
 TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES
 THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

- TEMPORARY METHODS**
- MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRUMPED OR TACKED TO PREVENT BLOWING.
 - VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
 - TILLAGE - TO ROUGHEN SURFACE AND BRING CLDS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS ARE SPACED ABOUT 12" APART, SPRING TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
 - IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD BE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
 - BARRIERS - SOLID BOARD FENCES, SILT FENCES, SHOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
 - CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.
- PERMANENT METHODS**
- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOIL. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
 - TOPSOILING - COVERING WITH LESS ERODIBLE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
 - STONE - COVER SURFACING WITH CRUSHED STONE OR COARSE GRAVEL.
- REFERENCES**
- AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USE IN PREDICTING SOIL LOSS.
 - AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION. USDA-ARS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development: Richard Belmont Date: 9/1/00
 Chief, Development Engineering Division: Robert J. Williams Date: 8/21/00
 Director, Department of Planning and Zoning: Joseph J. Smith Date: 9/1/00

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Robert J. Williams Date: 8/30/00
 U.S.D.A. - Natural Resources Conservation Service

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The HOWARD SOIL CONSERVATION DISTRICT.
Michael J. Vay Date: 8/30/00
 Howard SCDC

DATE: _____ REVISIONS: _____

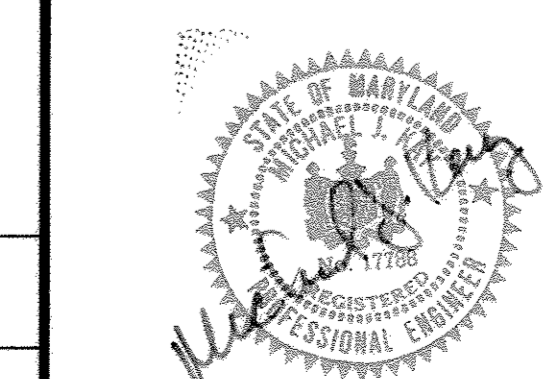
PERI FORMWORK SYSTEMS, INC.
 OFFICE AND STORAGE FACILITY
 TAX MAP No: 43 PARCEL: 321 BLOCK: 12
 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: APRIL 8, 2000

SDP-95-60 F-00-29

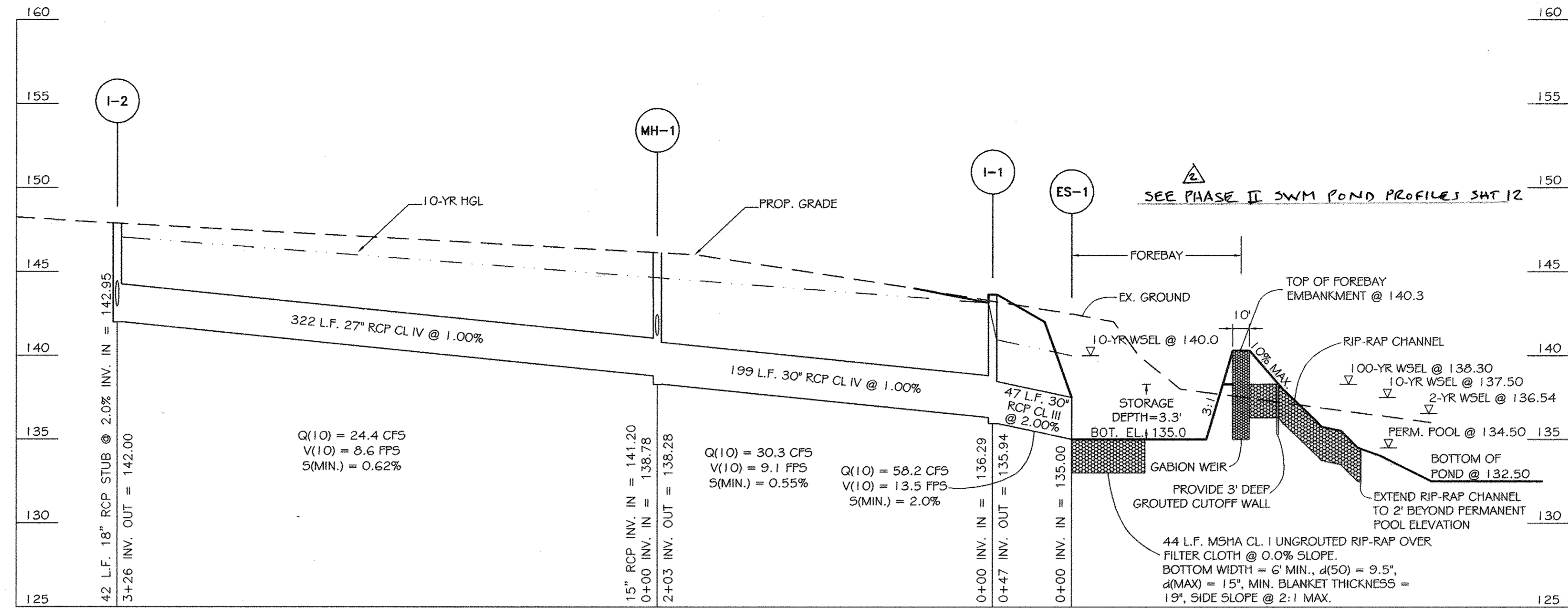
SEDIMENT CONTROL NOTES AND DETAILS

SDP-00-114

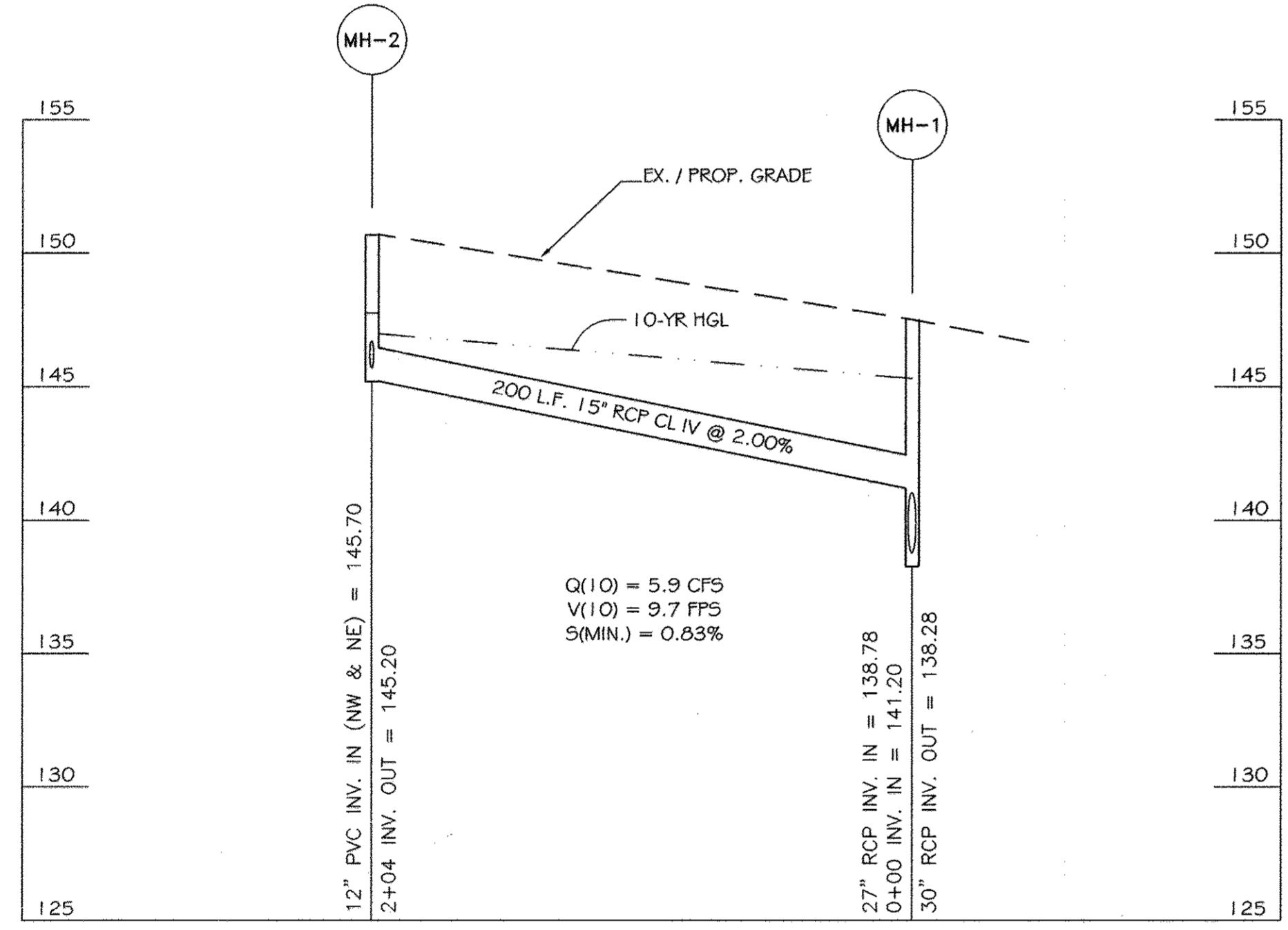
OWNER / DEVELOPER:
 PERI FORMWORK SYSTEMS
 7272 PARK CIRCLE DRIVE
 SUITE 200
 HANOVER, MARYLAND 21076



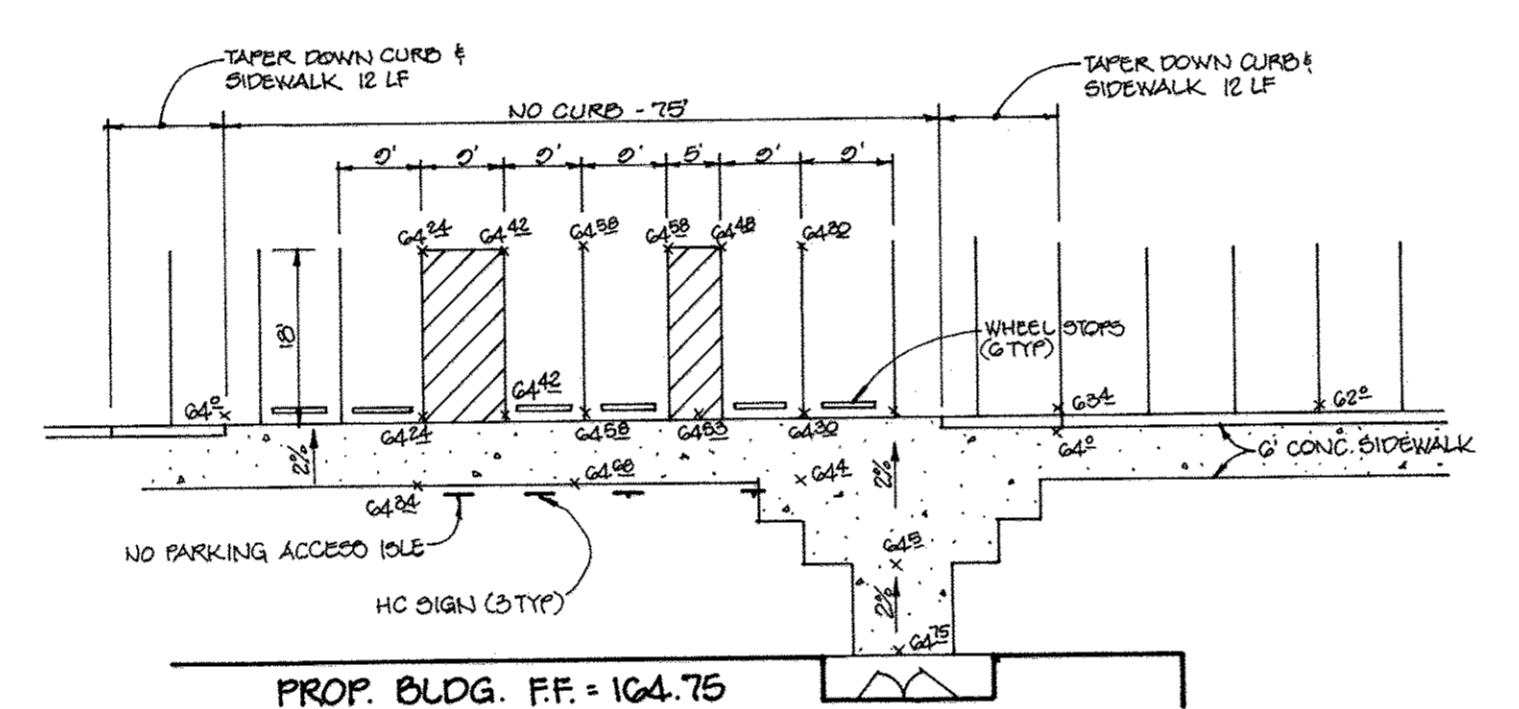
PROJECT NAME		SECTION / AREA	LOT / PARCEL		
PERI FORMWORK SYSTEMS, INC.			A-1		
PLAT NO. DRL / F	BLOCK NO.	ZONE	TAX ZONE	ELEC. DIST.	CENSUS TR.
14169-14172	12	M-2	**	FIRST	6012
WATER CODE		SEWER CODE			
B01		S 2550000			



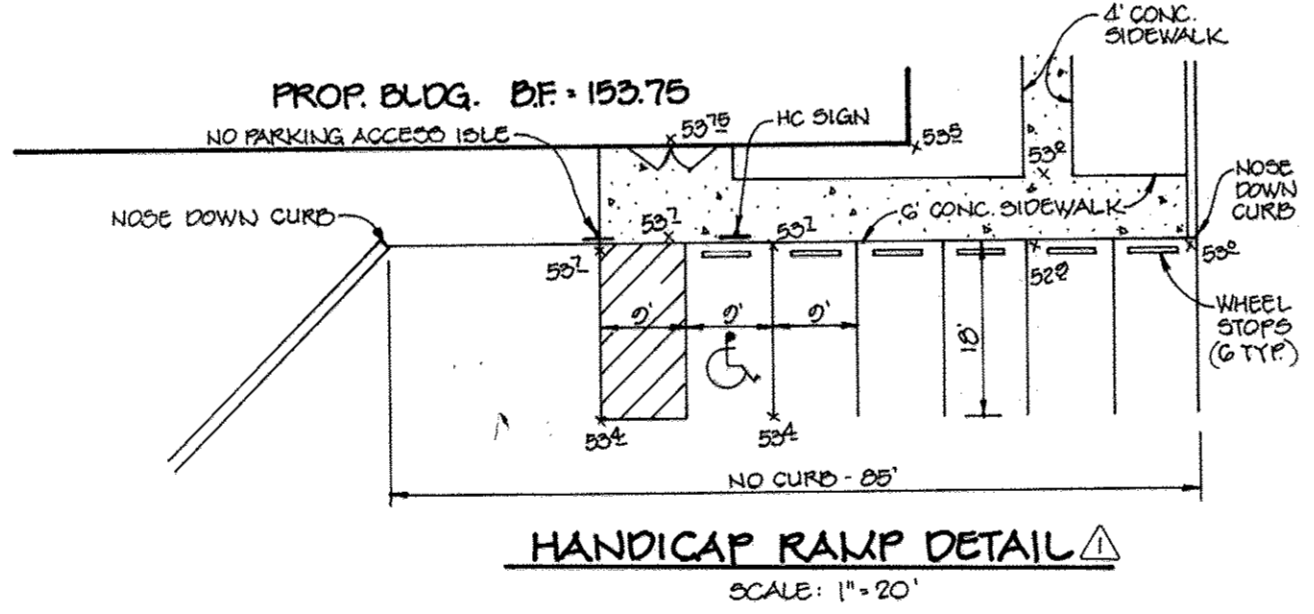
STORM DRAIN/FOREBAY PROFILE
 SCALE: VERT. 1"=5', HOR. 1"=50'



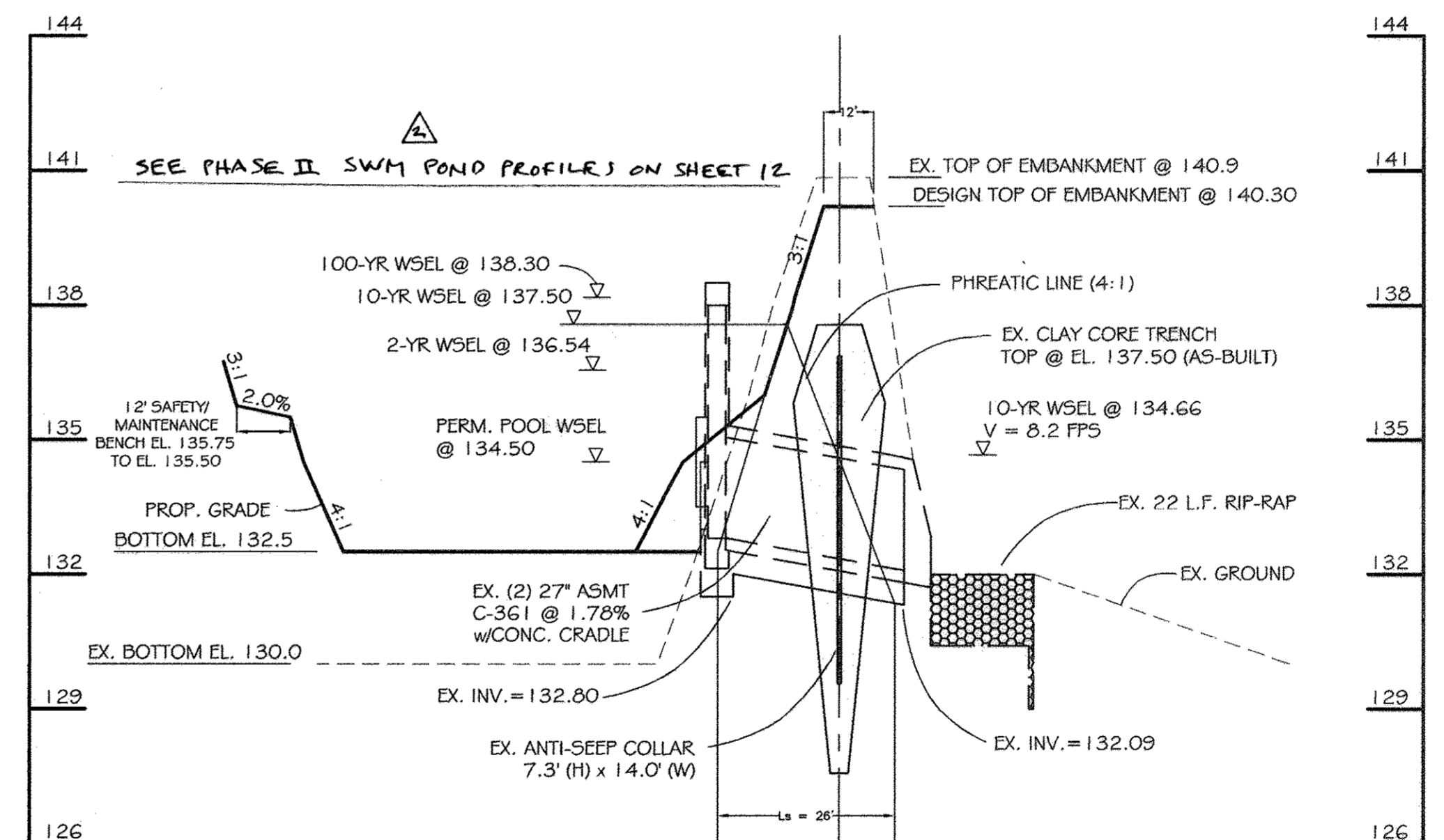
STORM DRAIN PROFILE
 SCALE: VERT. 1"=5', HOR. 1"=50'



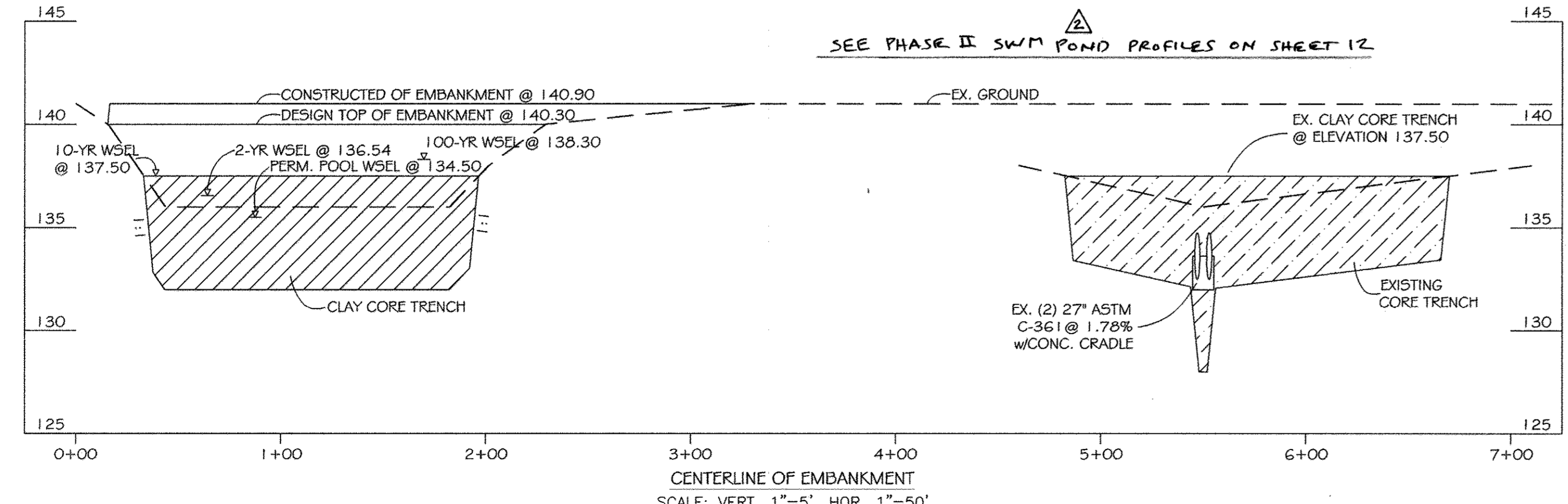
HANDICAP RAMP DETAIL
 SCALE: 1"=20'



HANDICAP RAMP DETAIL
 SCALE: 1"=20'



PROFILE OF PRINCIPAL/EMERGENCY SPILLWAY
 SCALE: VERT. 1"=3', HOR. 1"=30'



CENTERLINE OF EMBANKMENT
 SCALE: VERT. 1"=5', HOR. 1"=50'

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Richard Blood 9/1/00
 Chief, Division of Land Development
 Michael Drummond 6/31/00
 Chief, Development Engineering Division
 Joseph Kutz 9/1/00
 Director, Department of Planning and Zoning

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.
 Jeff Simy 8/30/00
 U.S.D.A.-Natural Resources Conservation Service
 These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The HOWARD SOIL CONSERVATION DISTRICT.
 Jeff Simy 8/30/00
 Howard SOCD

11/12/10 SWM & SEC REVISIONS
 1-9-04 ADDED HC RAMP DETAILS

DATE	REVISIONS

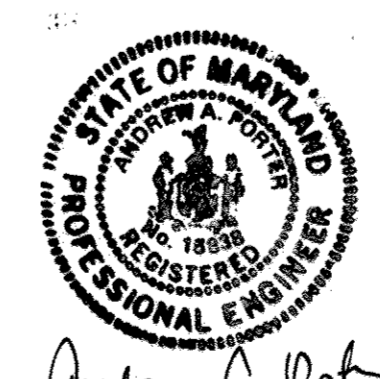
PERI FORMWORK SYSTEMS, INC.
 OFFICE AND STORAGE FACILITY
 TAX MAP No: 43 PARCEL: 321 BLOCK 12
 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: APRIL 6, 2000
 SDP-95-60 F-00-29

STORMWATER MANAGEMENT PROFILES

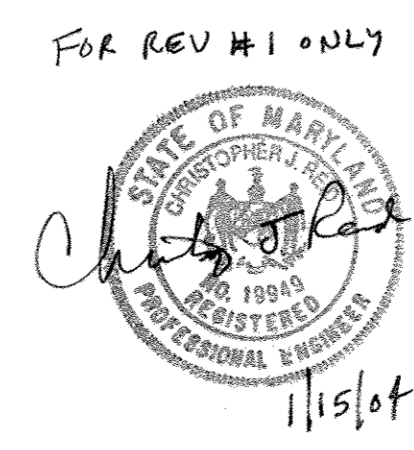
SDP-00-114

OWNER / DEVELOPER
 PERI FORMWORKS SYSTEMS
 7272 PARK CIRCLE DRIVE
 SUITE 200
 HANOVER, MARYLAND 21076

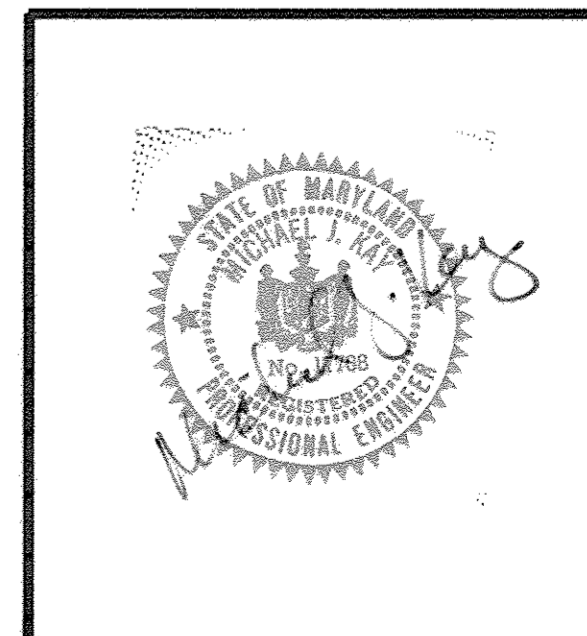
[PERI FORMWORK SYSTEMS, INC.] - [PERI STORMWATER MGMT PROFILES]



Andrew A. Fortez 11/12/10
 FOR REVISION #2 ONLY



11/15/04



NO SWM AS-BUILT INFORMATION ON THIS SHEET
 ANDREW A. FORTAZ, P.E. #15,83B
 6/11/2018

SUBDIVISION NAME		SECTION / AREA		LOT / PARCEL	
HOWARD BUSINESS PARK				A-1	
FLAT NO. DRL / F	BLOCK NO.	ZONE	TAX ZONE	ELEC. DIST.	CENSUS TR.
14169 - 14172	12	M-2	**	FIRST	6012
WATER CODE			SEWER CODE		
801			2550000		

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no heated-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

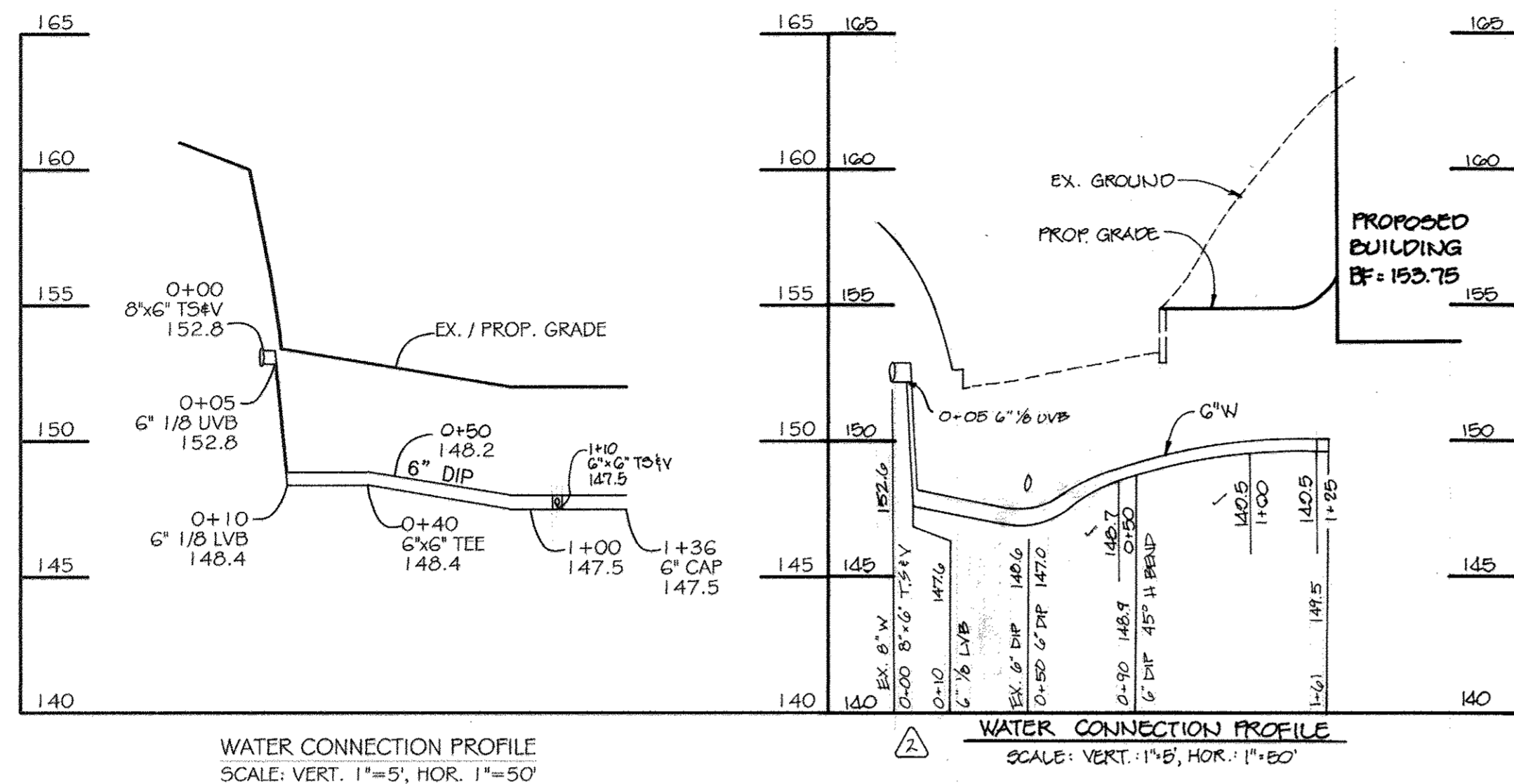
Positive drainage shall be maintained in planting beds 2 percent slope.

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

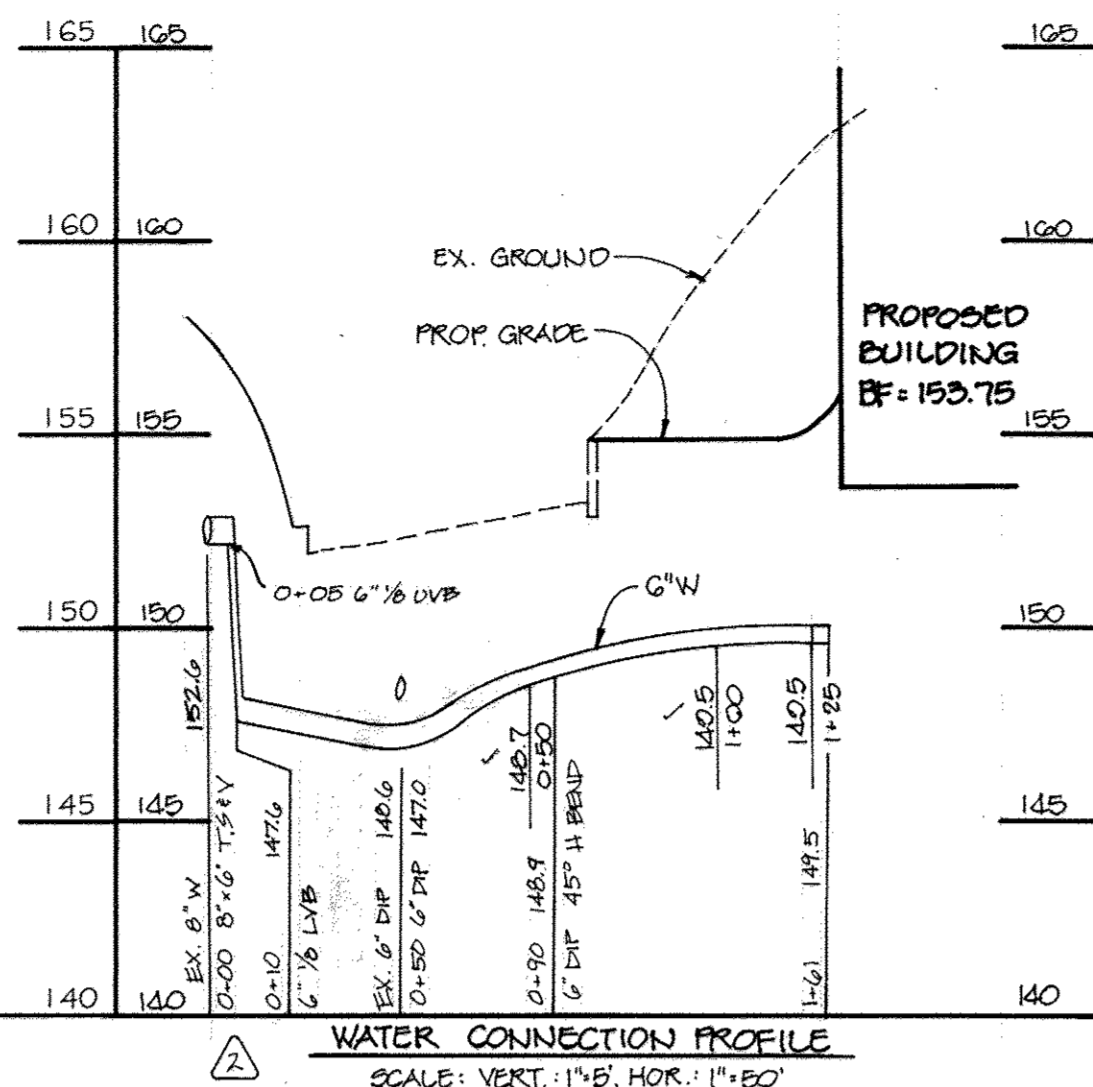
Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine-graded and seeded.

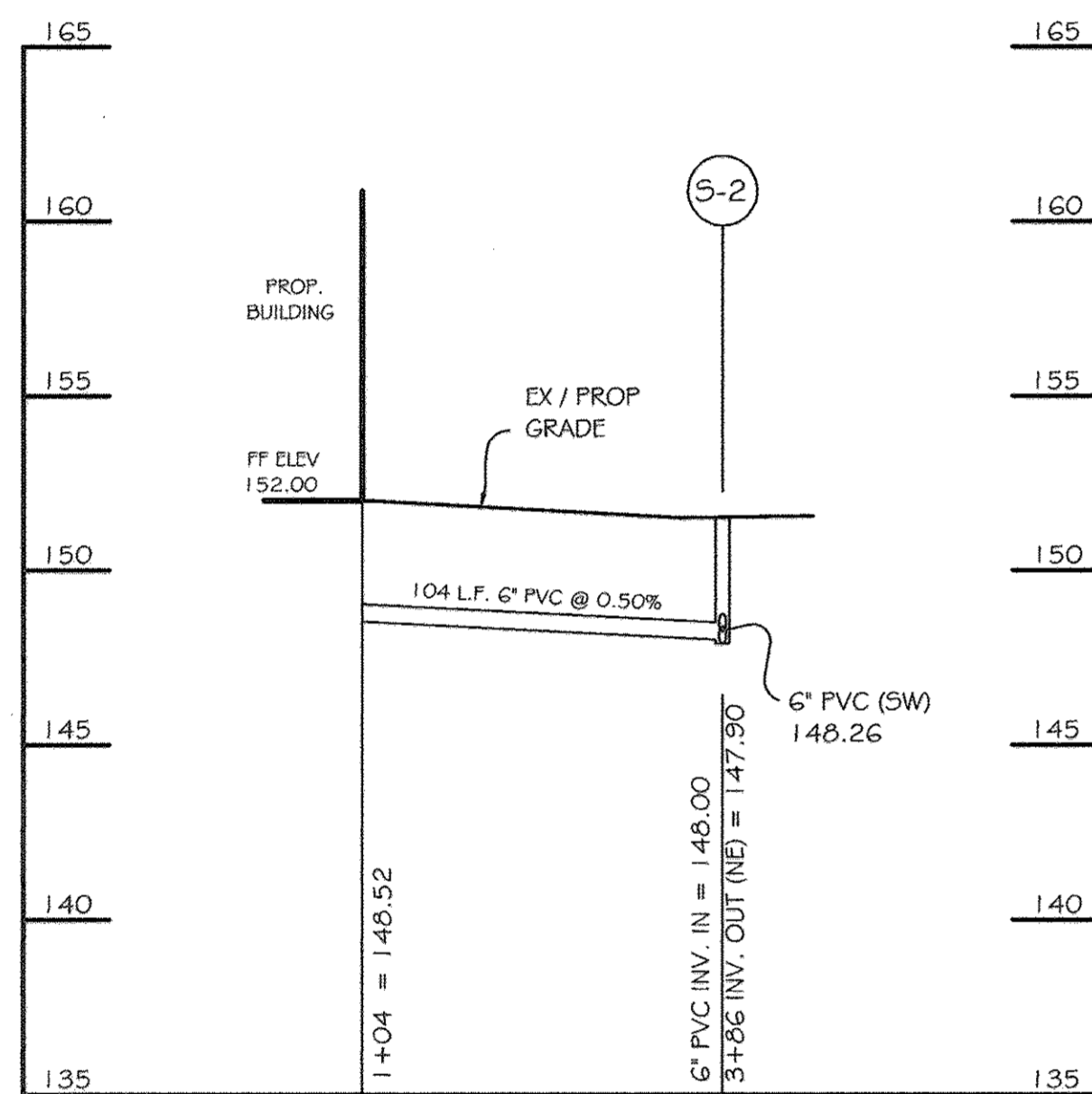
This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.



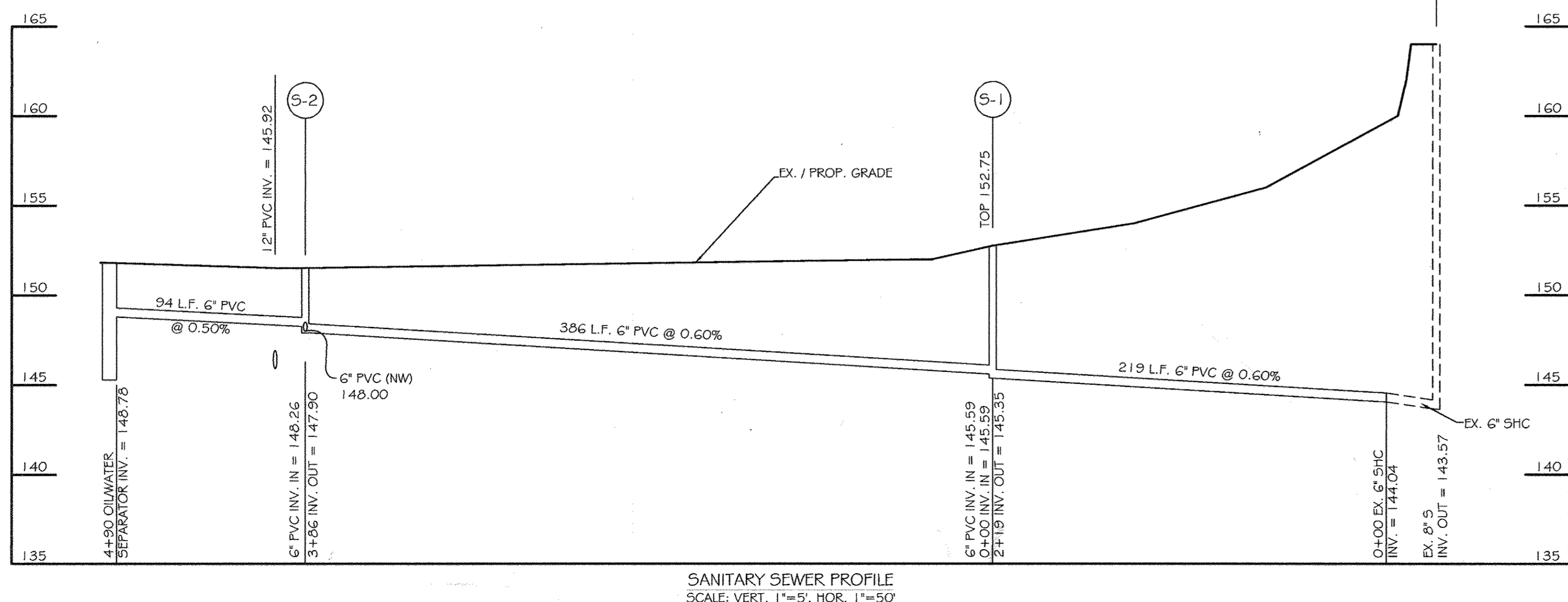
WATER CONNECTION PROFILE
SCALE: VERT. 1"=5', HOR. 1"=50'



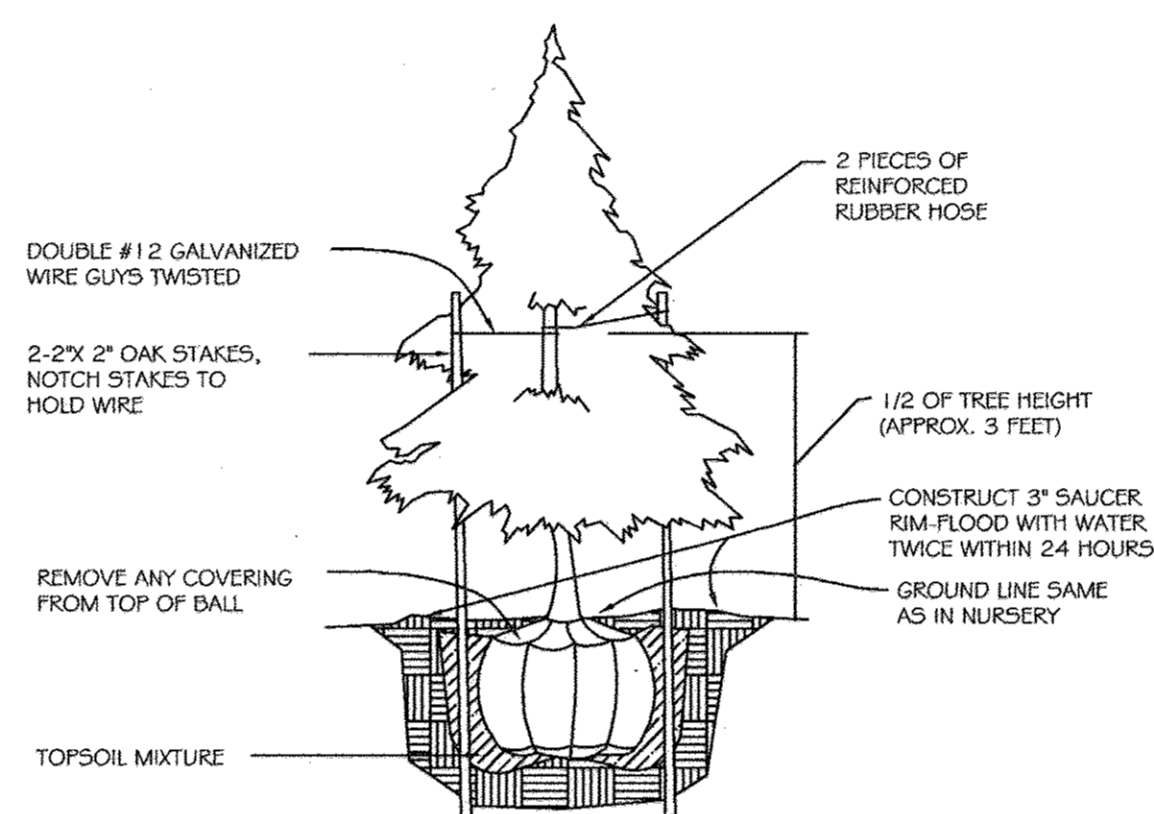
WATER CONNECTION PROFILE
SCALE: VERT. 1"=5', HOR. 1"=50'



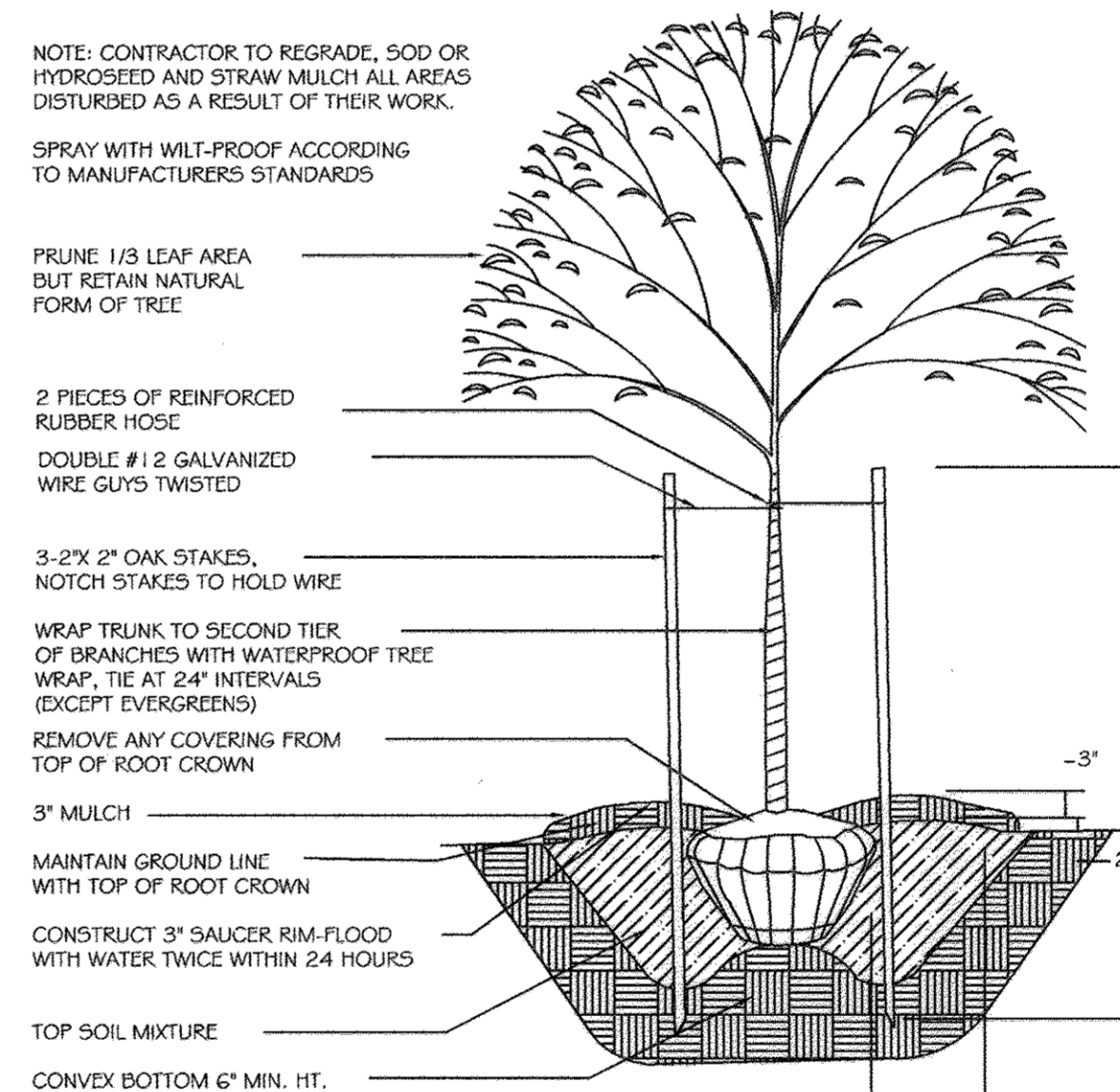
SANITARY SEWER PROFILE
SCALE: VERT. 1"=5', HOR. 1"=50'



SANITARY SEWER PROFILE
SCALE: VERT. 1"=5', HOR. 1"=50'



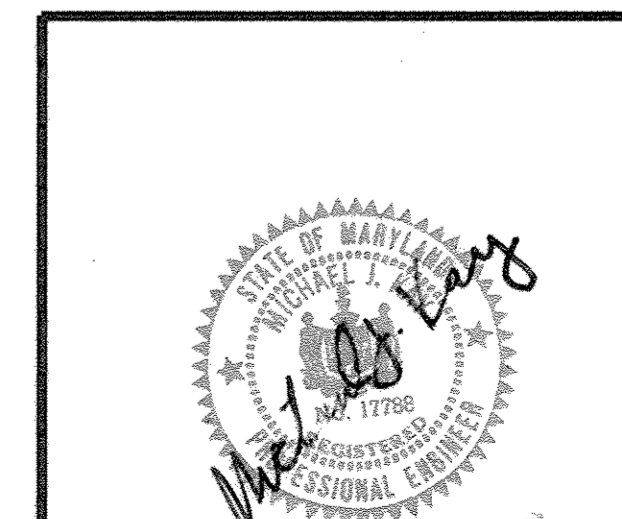
EVERGREEN PLANTING DETAIL



TREE PLANTING DETAIL

NO SWM AS-BUILT INFO ON THIS SHEET
ANDREW A. PORTER, P.E. #15838
6/11/2018

FOR REV #1 ONLY
Charles J. Rose
1/15/04



SUBDIVISION NAME HOWARD BUSINESS PARK		SECTION / AREA		LOT / PARCEL A-1	
PLAT NO. DR. / F 14169 - 14172	BLOCK NO. 12	ZONE M-2	TAX ZONE **	ELEC. DIST. FIRST	CENSUS TR. 6012
WATER CODE B01			SEWER CODE S 2550000		

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 9/1/00
Chief, Division of Land Development Date
Robert J. Sullivan 8/31/00
Chief, Development Engineering Division Date
Joseph R. Smith 9/1/00
Director, Department of Planning and Zoning Date

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.
Cheryl S. Smith 8/30/00
U.S.D.A. - Natural Resources Conservation Service Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The HOWARD SOIL CONSERVATION DISTRICT.
Cheryl S. Smith 8/30/00
Howard SOCD Date

6-20-05 MODIFIED WATER PROFILE
1-0-04 ADDED WATER PROFILE
DATE REVISIONS

PERI FORMWORK SYSTEMS, INC.
OFFICE AND STORAGE FACILITY
TAX MAP No: 43 PARCEL: 321 BLOCK: 12
FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL 6, 2000

SDP-95-60 F-00-29

UTILITY PROFILES AND LANDSCAPE DETAILS

SDP-00-114

OWNER / DEVELOPER

PERI FORMWORK SYSTEMS
7272 PARK CIRCLE DRIVE
SUITE 200
HANOVER, MARYLAND 21076

SHEET 5 OF 18

SDP-00-114

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 9/1/00
Chief, Division of Land Development Date
Michael D. ... 12/31/00
Chief, Development Engineering Division Date
David ... 9/1/00
Director, Department of Planning and Zoning Date

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.
.../05 8/31/00
U.S.D.A. Natural Resources Conservation Service Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
.../00
Approved *...* Howard S.C.D. Date

11/12/10 **SWM REVISIONS**
DATE REVISIONS

PERI FORMWORK SYSTEMS, INC.
OFFICE AND STORAGE FACILITY
TAX MAP No: 43 PARCEL: 321 BLOCK 12
FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
AS SHOWN DATE: APRIL 6, 2000

SDP-95-60 F-00-29

STORMWATER MANAGEMENT NOTES AND DETAILS

SDP-00-114

OWNER / DEVELOPER
PERI FORMWORK SYSTEMS
7272 PARK CIRCLE DRIVE
SUITE 200
HANOVER, MARYLAND 21076

SHEET 6 OF 18

SDP-00-114

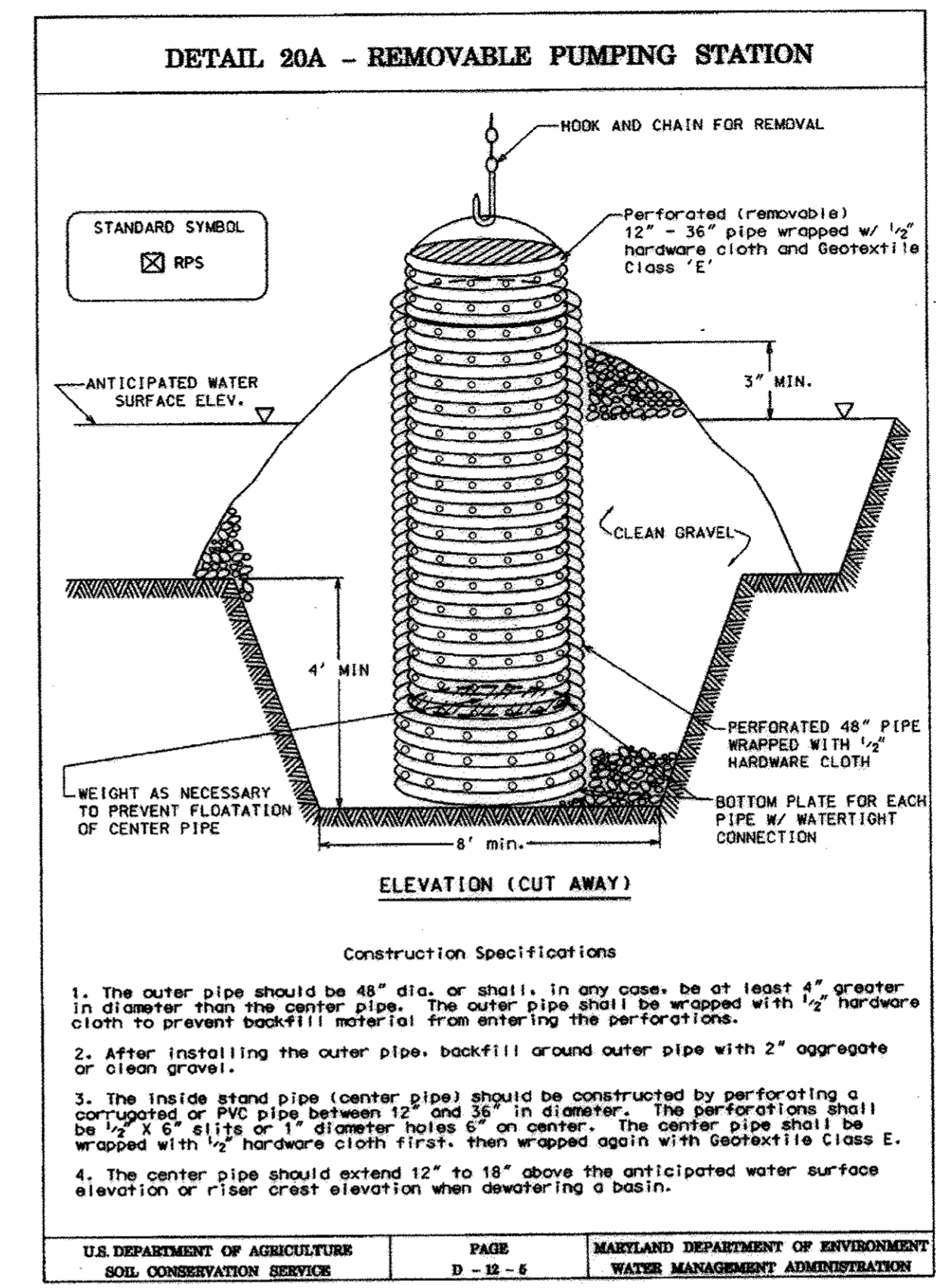
SEE SHEET 11

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITIES

- ROUTINE MAINTENANCE:**
- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
 - TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SLOPES, MAINTENANCE ACCESS AND BUFFER AREAS SHOULD BE MOWED AS NEEDED.
 - DEBRIS AND LITTER NEXT TO OUTLET STRUCTURES SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 - VISIBLE SIGNS OF EROSION IN THE POND AND RIVER/OUTFALL CHANNELS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- NON-ROUTINE MAINTENANCE:**
- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER AND PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING THE ROUTINE MAINTENANCE OPERATIONS.
 - SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, UNDER DRAINS, WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

GENERAL STORM DRAIN NOTES

- ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE GENERAL CONDITIONS AND STANDARD SPECIFICATIONS OF HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS AND MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA), UNLESS OTHERWISE NOTED.
- TYPES OF STRUCTURES REFER TO THE LATEST STANDARD DETAILS OF MSHA AND MDE (SOIL EROSION AND SEDIMENT CONTROL), UNLESS OTHERWISE NOTED.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF THE CLEARANCES ARE LESS THAN SPECIFIED ON THIS PLAN OR TWELVE INCHES (12") WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE OWNER OF THE OTHER INVOLVED UTILITY, BEFORE PROCEEDING WITH THE CONSTRUCTION.
- ALL STORM DRAINS SHALL HAVE A MINIMUM OF ONE (1) FOOT OF COVER.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.



AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS SHEET WAS CONSTRUCTED AS SHOWN IN THESE AS-BUILT PLANS AND MEETS THE APPROVED PLANS & SPECIFICATIONS.
Andrew C. Pat... 4/11/2018 PE#15038

STATE OF MARYLAND PROFESSIONAL ENGINEER
...

SEE PHASE II SWM PLAN SHEET 11

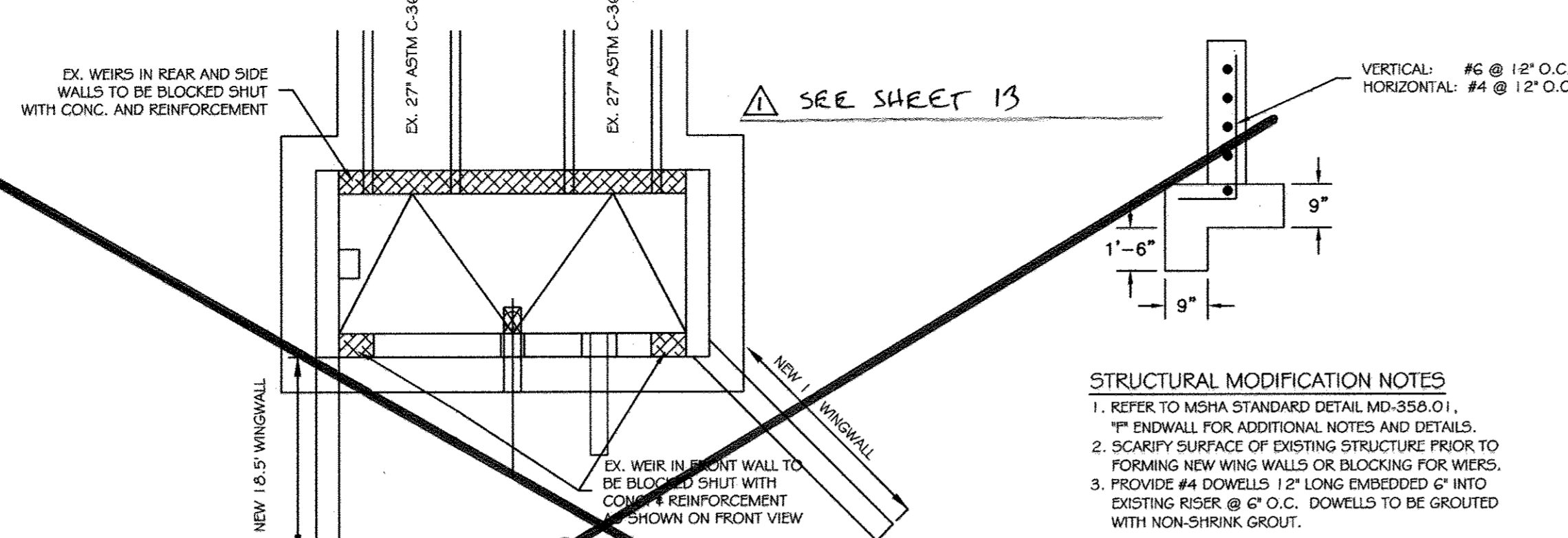
STORMWATER MANAGEMENT SUMMARY TABLE			
LOCATION	POND NO.	STORAGE	PRODUCT
	1	17.3	
		N/A	
		12'	
		2,192.100	
		WET POND	
		14.2 AC.	
		197 CFS	
		8.2 FPS	
		5"	
ALLOWABLE DISCHARGE RATE (CFS) THROUGH SPILLWAY			
2-YEAR	= 7.1 CFS		
10-YEAR	= 23.3 CFS		
100-YEAR	= 45.2 CFS		
ULTIMATE CONDITION YEAR DISCHARGE RATE (CFS)			
2-YEAR	= 56.0 CFS		
10-YEAR	= 92.0 CFS		
100-YEAR	= 177.0 CFS		
DISCHARGE RATE (CFS) THROUGH SPILLWAY WITH SWM			
PRECIPITATION	PEAK RATE	WSEL	STORAGE
2-YEAR	4.6 CFS	136.54	1.9176 AC-FT
10-YEAR	18.8 CFS	137.50	3.0355 AC-FT
100-YEAR	45.2 CFS	138.30	4.0258 AC-FT

STATE OF MARYLAND PROFESSIONAL ENGINEER
...

PROJECT NAME: PERI FORMWORK SYSTEMS, INC.
SECTION / AREA: A-1
LOT / PARCEL: A-1

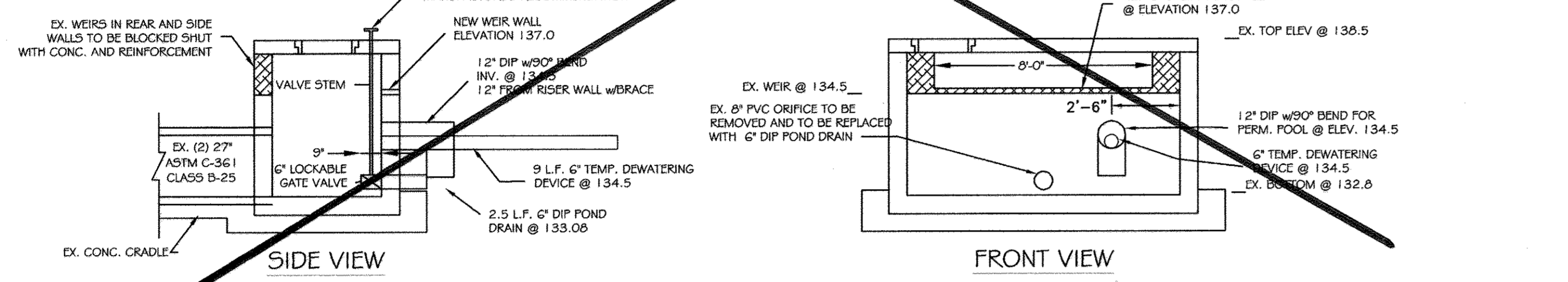
PLAT NO. DR./P: 14169-14172
BLOCK NO.: 12
ZONE: M-2
TAX ZONE: **
ELEC. DIST.: FIRST
CENSUS TR.: 6012

WATER CODE: 801
SEWER CODE: 2550000



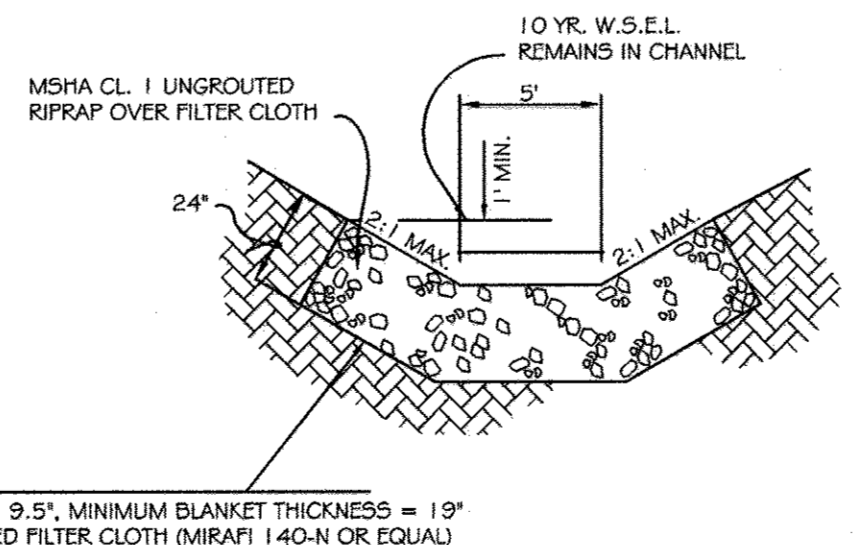
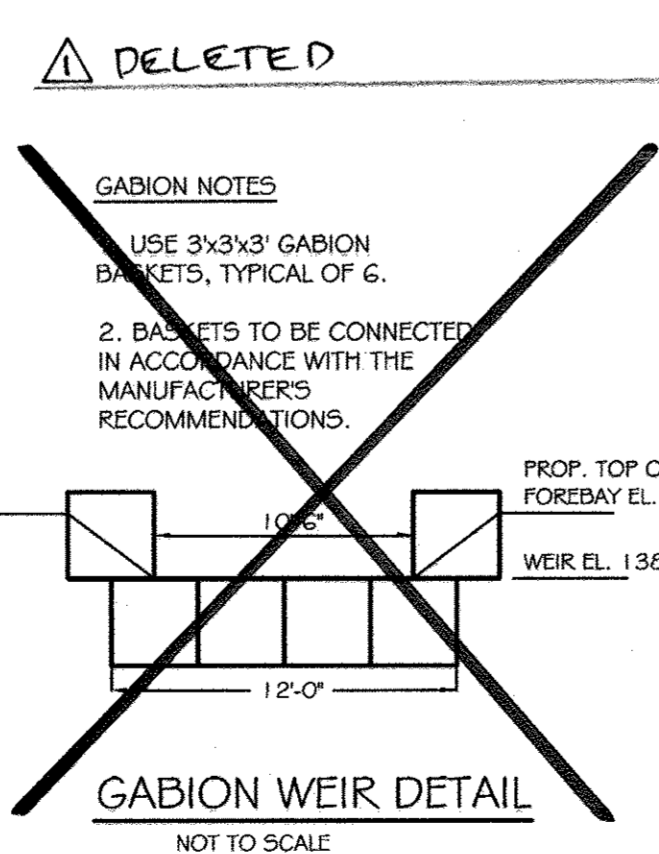
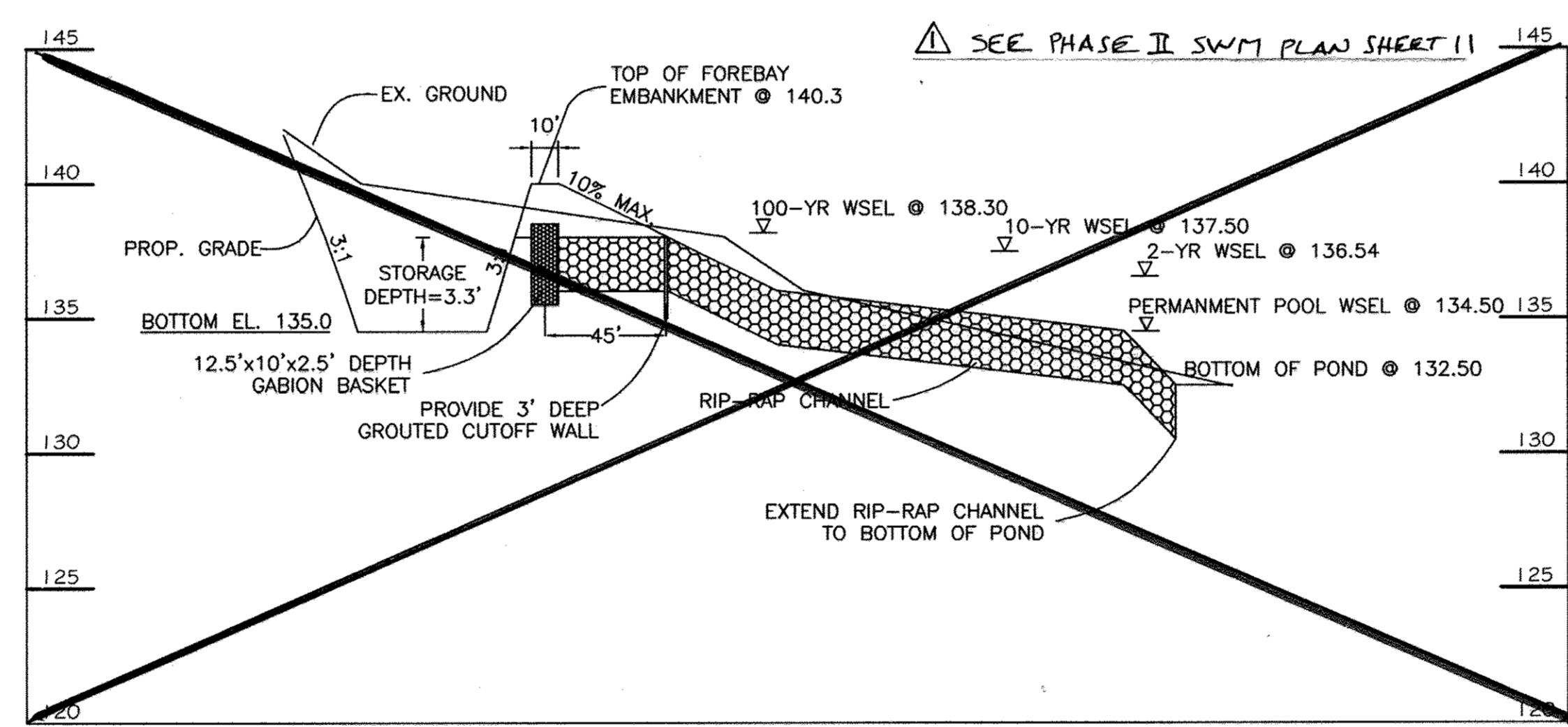
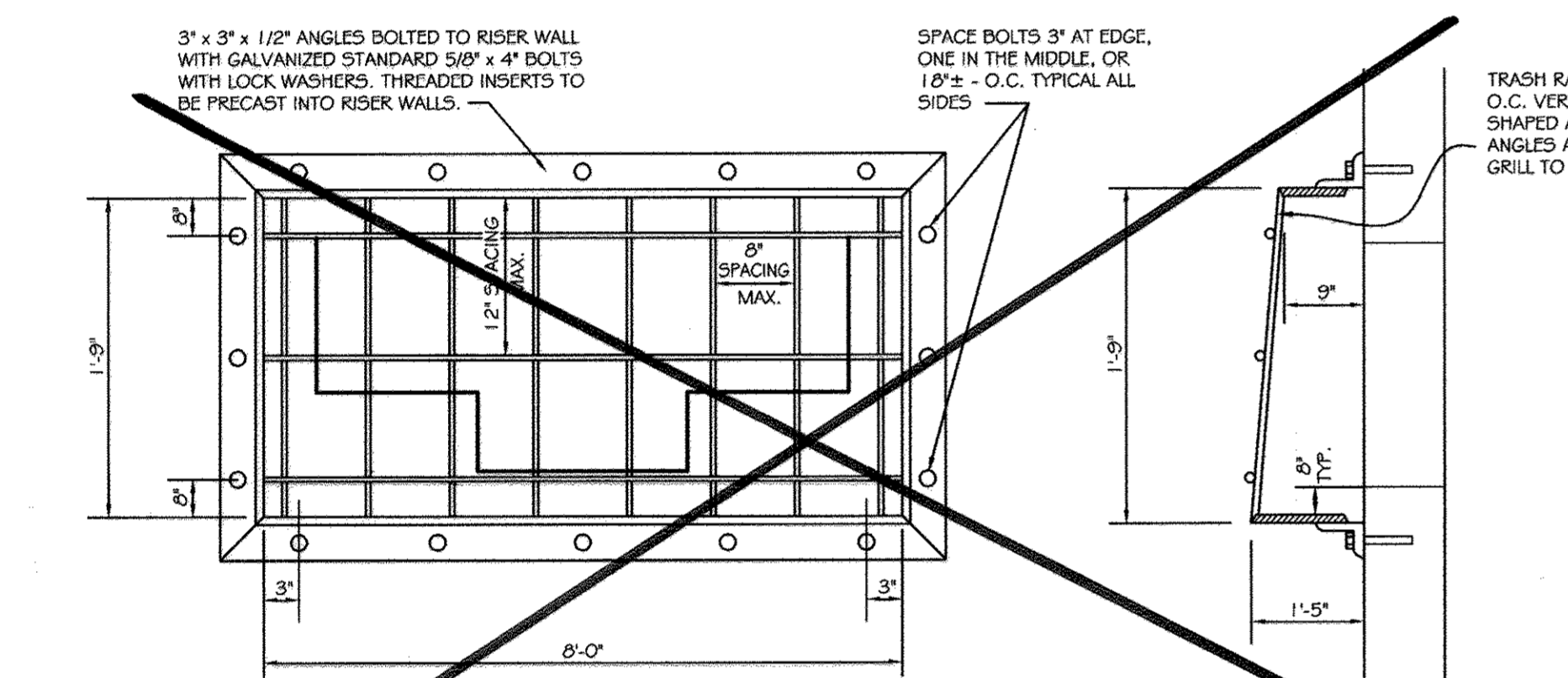
MODIFICATIONS TO EXISTING RISER STRUCTURE

NOT TO SCALE



TRASH RACK DETAIL

NOT TO SCALE



PIPE SCHEDULE

FROM	TO	SIZE	TYPE	LENGTH
STUB	MH-1	18"	RCP, CL. IV	42 L.F.
	MH-2	15"	RCP, CL. IV	200 L.F.
	I-2	27"	RCP, CL. IV	322 L.F.
	MH-1	30"	RCP, CL. IV	199 L.F.
	I-1	30"	RCP, CL. IV	77 L.F.
	I-3	FC-1	RCP, CL. IV	7

STRUCTURE SCHEDULE

NO.	TYPE	WIDTH DIM.	INV. ELEV.	TOP ELEV.		STANDARD DETAIL
				UPPER	LOWER	
ES-1	STANDARD CONCRETE END SECTION	30"	135.00	NA	NA	MSHA NO. MD-36A.01
I-1	TYPE "A" 10" INLET	W=3.5'	135.94	143.64		HOWARD COUNTY SD 4.02
MH-1	PRECAST MANHOLE	5' DIA	138.28	147.5		HOWARD COUNTY SD 5.13
I-2	TYPE "E" INLET	NA	142.00	147.7		HOWARD COUNTY SD 4.21
MH-2	PRECAST MANHOLE	4' DIA	145.20	151.5		HOWARD COUNTY G 5.12
I-3	YARD INLET	W=2'	136.95	140.10		Howo. D4.14

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Table 25 Permanent Seeding for Low Maintenance Areas

SEX	SEED MIX (USE CERTIFIED MATERIAL IF AVAILABLE)	PLANTING RATE (LBS/AC)	PLANTING DEPTH (INCHES)	SITE CONDITIONS	RECOMMENDED PLANTING DATES*																																		
					1/24	2/24	3/24	4/24	5/24	6/24	7/24	8/24	9/24	10/24	11/24	12/24																							
1	TALL FESCUE (70%), CANADA BLUEGRASS (10%), KENTUCKY BLUEGRASS (10%), REDTOP (10%)	150	3.4	MOIST TO DRY						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	KENTUCKY BLUEGRASS (90%), CHEERING RED FESCUE OR A HARD FESCUE (10%), REDTOP (10%)	150	3.4	MOIST TO MODERATELY DRY TO DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	TALL FESCUE (80%), PERENNIAL RYEGRASS (10%), KENTUCKY BLUEGRASS (5%)	125	3.3	MOIST TO DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	RED FESCUE OR CHEWING FESCUE (80%), PERENNIAL RYEGRASS (20%)	60	.02	MOIST TO DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	TALL FESCUE (80%) OR PERENNIAL RYEGRASS (20%), PLUS CROWNVEETCH OR FLATOP	110	2.5	MOIST TO DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	WEeping LOVEGRASS (70%), SEROTIA LEPEDEZZA (30%)	4	.09	DRY TO VERY DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

NOTES: A) USED BY SBA ON SLOPED AREAS. ADD A LEGUME FOR SLOPES > THAN 3:1.
 B) USED BY SBA ON SLOPED AREAS BY SBA. SHARP TOLERANT.
 C) POPULAR MIX - PROVIDES PERMANENT COVERAGE QUICKLY. BLUEGRASS THICKENS SOON.
 D) BEST USE ON SHADY SLOPES NOT ON POORLY DRAINAGE CLAYS.
 E) USE ON LOW MAINTENANCE, STEEP SLOPES. USE TALL FESCUE IN DRAINAGE COND. CROWN VETCH BEST FOR SLOPES, E, G, H.
 F) SUITABLE FOR SEEDING IN MID-SUMMER.

Table 25 Permanent Seeding for Low Maintenance Areas (Cont'd)

SEX	SEED MIX (USE CERTIFIED MATERIAL IF AVAILABLE)	PLANTING RATE (LBS/AC)	PLANTING DEPTH (INCHES)	SITE CONDITIONS	RECOMMENDED PLANTING DATES*																																		
					1/24	2/24	3/24	4/24	5/24	6/24	7/24	8/24	9/24	10/24	11/24	12/24																							
7	TALL FESCUE (80%), WEeping LOVEGRASS (20%), SEROTIA LEPEDEZZA (10%)	110	2.5	DRY TO VERY DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	REED CANARYGRASS (70%), REDTOP (30%) PLUS REDFOOT TREFOIL** (15%)	40	.02	WET TO MODERATELY DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	TALL FESCUE (80%), POA TRIVIALIS (20%) REDFOOT TREFOIL** (75%)	125	2.5	WET TO MODERATELY DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	TALL FESCUE (80%), HARD FESCUE (20%)	125	2.5	WET TO DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	HARD FESCUE (100%)	75	1.7	MOIST TO DRY					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

NOTES: G) WEeping LOVEGRASS MAY BE SEEDING WITH TALL FESCUE IN MID-SUMMER. SEROTIA LEPEDEZZA IS BEST SUITED FOR ZONES 3a, 4b, 7a, 7b, 8a, 8b, 9a, 9b, 10a, 10b, 11a, 11b, 12a, 12b.
 H) USE IN AREAS OF MOIST SHADE. POA TRIVIALIS HYBRID IS BETTER FOR ZONES 3a, 4b, 8a, 8b, 9a, 9b, 10a, 10b, 11a, 11b, 12a, 12b.
 I) TALL FESCUE MAY BE SEEDING ALONE. THE HARD FESCUE PROVIDES BETTER SHADE TOLERANCE AND PRODUCES A BETTER STAND.
 J) SUITABLE FOR SEEDING IN MID-SUMMER.

Using vegetation as cover for barren soil to protect it from forces that cause erosion. DEFINITION: Purpose: Vegetative stabilization applications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources. CONDITIONS WHERE PRACTICE APPLIES: This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. The specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc., and for Permanent Seeding are lawns, drives, cut and fill slopes and other areas of final grade, former stockpiles and staging areas, etc. EFFECTS ON WATER QUALITY AND QUANTITY: Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTON 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS
 A. Site Preparation
 1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
 B. Soil Amendments (Fertilizer and Lime Specifications)
 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
 3. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
 4. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 C. Seedbed Preparation
 1. Temporary Seeding
 a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 b. Apply fertilizer and lime as prescribed on the plans.
 c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 2. Permanent Seeding
 a. Minimum soil conditions required for permanent vegetative establishment:
 1. Soil pH shall be between 6.0 and 7.0.
 2. Soluble salts shall be less than 500 parts per million (ppm).
 3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loess or other silt loess deposits is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
 4. Soil shall contain 1.5% minimum organic matter by weight.
 5. Soil must contain sufficient pore space to permit adequate root penetration.
 6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 2.1 Standard and Specification for Topsoil.
 b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 c. Apply soil amendments as per soil test or as included on the plans.
 d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.
 D. Seed Specifications
 1. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on the job.
 Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
 2. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.
 E. Methods of Seeding
 1. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
 a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/acre; K2O (potassium); 200 lbs/acre.
 b. Lime - use only ground agricultural limestone, (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 2. Dry Seeding - This includes use of conventional drop or broadcast spreaders.
 a. Seed spread rate shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 26B or 26C. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 3. Drill or Cultipacker Seeding - Mowdown seeders that apply and cover seed with soil.
 a. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 F. Mulch Specifications (in order of preference)
 1. Straw shall consist of thoroughly threshed, oat, or corn straw, reasonable bright in color, and shall not be matted, moldy, clumpy, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 a. Wood Cellulose Fiber Mulch (WCFM)
 i. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 ii. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 iii. WCFM, including dye, shall contain no germination or growth inhibiting factors.
 iv. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 v. WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 vi. WCFM must conform to the following physical requirements: fiber length to approximately 1.0 mm., diameter approximately .1 mm., pH range of 4.0 to 6.5, ash content of 1.0% maximum and water holding capacity of 30% minimum.
 Note: Only sterile straw mulch should be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pound/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 2. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be applied uniform binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroret, Terra Tax II, Terra Tack AK or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 3. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

Table 26 Temporary Seeding Rates, Depths, and Dates
 SPECIES MINIMUM SEEDING RATES PLANTING DEPTH* HARDINESS ZONES** AND SEEDING DATES**
 PER ACRE LBS/1000 SQ.FT. INCHES
 7a and 7b 8a 9a and 9b
 2/1- 5/1- 8/15- 3/1- 5/1- 8/15- 3/15- 6/1- 8/1-
 4/30 8/14 11/30 4/30 8/14 11/15 5/31 7/31 10/31
 CHOOSE ONE:
 BARLEY 2.5 BU. (122 lbs) 3.80 BY 10/15 X - - BY 10/1 X - 10/1
 OATS 3 BU. (96 lbs) 2.21 X - - X X - - X - - 10/1
 RYE** 2.5 BU. (140 lbs) 3.22 1-2 X - - X X - - X - - X
 BARLEY OR 150 lbs 3.45 1 X X 10/15 X X X 10/15 X X X 10/1
 RYE PLUS FORTAL MILLET* X X X X X X X X X X X
 WEeping LOVEGRASS* 4 lbs .09 1/4 - 1/2 X - - X - - - X - -
 ANNUAL RYEGRASS 50 lbs 1.15 1/4 - 1/2 X - - 11/1 X - - 11/1 X - - 8/15
 MILLET* 50 lbs 1.15 1/2 - X - - - X - - - X - -

Table 21 Recommended Varieties of Grasses and Legumes for Disturbed Areas
 Areas Requiring Low Maintenance/
 Grasses Varieties
 Tall Fescue Adventure, Apache, Arid, Bonanza, Falcon, Clemfinx, Fielawin I, Hounddog, Jaguar, Kentucky 31V, Mustang, Olympic, Rebel II, Tribute
 Perennial Ryegrass All-Star, Blazer, Manhattan, Palmer, Pennant, Penafine, Premier, Prelude, Regal, Repel
 Kentucky Bluegrass *Common*, Krabbe, Vista, Ram I, Monopoly
 Creeping Red Fescue Pennlawn, Flyer
 Hard Fescue Aurora, Bijart, Reliant, Scaldia, Spartan, Waldina
 Cheewing Fescue Longfellow, Victory, Jamestown
 Canada Bluegrass Reubens
 Redtop Streaker
 Poa Trivialis Laser, Sahre
 Reed Canarygrass Ioroad, Palaton, Rise
 Weeping Lovegrass Morpe, *Common*
 Legumes Variety
 Crownvetch Pongift, Chemung
 Serotia Lepezeza Interstate, Interstate 76, Appalov
 Flatop Lathco
 Redfoot Trefoil Empire, Noreen, Viking

Table 22 Quality of Seed
 Minimum Seed Purity (%) Minimum Germination (%)
 LEGUMES
 Birdfoot Trefoil 97 85
 Crownvetch 98.5 80
 Lespedeza, Serotia 98 85
 Flatop 98 80
 GRASSES
 Bluegrass, Canada 90 80
 Bluegrass, Kentucky 90 80
 Fescue, red 96.5 85
 Fescue, Cheewing 98 85
 Fescue, tall 98 80
 Lovegrass, weeping 98 80
 Redtop 92 80
 Reed canarygrass 96 80
 Ryegrass, Annual 95 85
 Ryegrass, Perennial 96 90
 OTHER ANNUALS
 Barley 98 90
 Millet 99 80
 Oats 99 90
 Rye 98.5 85

Table 23 Recommended Varieties of Grasses and Legumes for Disturbed Areas
 Areas Requiring Low Maintenance/
 Grasses Varieties
 Tall Fescue Adventure, Apache, Arid, Bonanza, Falcon, Clemfinx, Fielawin I, Hounddog, Jaguar, Kentucky 31V, Mustang, Olympic, Rebel II, Tribute
 Perennial Ryegrass All-Star, Blazer, Manhattan, Palmer, Pennant, Penafine, Premier, Prelude, Regal, Repel
 Kentucky Bluegrass *Common*, Krabbe, Vista, Ram I, Monopoly
 Creeping Red Fescue Pennlawn, Flyer
 Hard Fescue Aurora, Bijart, Reliant, Scaldia, Spartan, Waldina
 Cheewing Fescue Longfellow, Victory, Jamestown
 Canada Bluegrass Reubens
 Redtop Streaker
 Poa Trivialis Laser, Sahre
 Reed Canarygrass Ioroad, Palaton, Rise
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Table 24 Quality of Seed
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 Lovegrass, weeping 98 80
 Redtop 92 80
 Reed canarygrass 96 80
 Ryegrass, Annual 95 85
 Ryegrass, Perennial 96 90
 OTHER ANNUALS
 Barley 98 90
 Millet 99 80
 Oats 99 90
 Rye 98.5 85

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
 SEEDBED PREPARATION:
 LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOCATED.
 SOIL AMENDMENTS:
 APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1,000 SQ.FT.)
 SEEDING:
 FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE) OF WEeping LOVEGRASS (0.7 LBS./1,000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 26, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.
 MULCHING:
 APPLY 1 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 2 1/2 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES OR SLOPES 8 FEET OR HIGHER, USE 3/4 GALLONS PER ACRE (6 GAL./1,000 SQ.FT.) FOR ANCHORING.
 REFER TO THE 1984 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
 SEEDBED PREPARATION:
 LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOCATED.
 SOIL AMENDMENTS:
 APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1,000 SQ.FT.)
 SEEDING:
 FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE) OF WEeping LOVEGRASS (0.7 LBS./1,000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 26, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.
 MULCHING:
 APPLY 1 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 2 1/2 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES OR SLOPES 8 FEET OR HIGHER, USE 3/4 GALLONS PER ACRE (6 GAL./1,000 SQ.FT.) FOR ANCHORING.
 REFER TO THE 1984 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:
 SEEDBED PREPARATION:
 LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
 SOIL AMENDMENTS:
 APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 38-0-0 UREA/FORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (1.1 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.
 SEEDING:
 FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS/ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEeping LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 26, PROTECT SITE BY OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING; OPTION (2) - USE SOO; OPTION (3) - SEED WITH 100 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEDED.
 MULCHING:
 APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 300 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES, ON SLOPES 8 FEET OR HIGHER USE 3/4 GALLONS PER ACRE (6 GAL./1,000 SQ.FT.) FOR ANCHORING.
 MAINTENANCE:
 INSPECT ALL SEEDBED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
 * FOR PUBLIC PONDS SUBSTITUTE CHEWING CROWNVEETCH AT 15 LBS/ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS/ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH 1 TO APRIL 30.

NO SWM AS-BUILT INFO ON THIS SHEET
 ANDREW A. PORTER, P.E. #15838
 6/11/2018

PROJECT NAME	SECTION / AREA	LOT / PARCEL			
PERI FORMWORK SYSTEMS, INC.		A-1			
PLAT NO. DRL / F	BLOCK NO.	ZONE	TAX ZONE	ELEC. DIST.	CENSUS TR.
14169-14172	12	M-2	**	FIRST	6012
WATER CODE	SEWER CODE				
**	*****				



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Chief, Development Engineering Division
 Director, Department of Planning and Zoning
 U.S.D.A.-Natural Resources Conservation Service

DATE REVISIONS

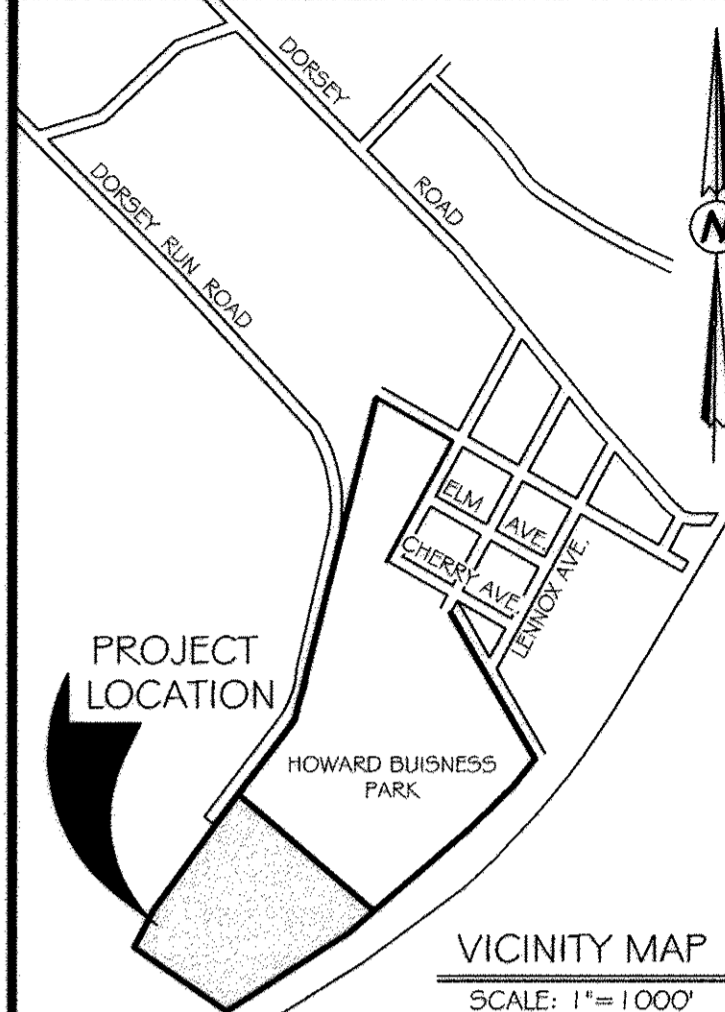
PERI FORMWORK SYSTEMS, INC.
 OFFICE AND STORAGE FACILITY
 TAX MAP No. 43 PARCEL: 321 BLOCK 12
 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: APRIL 8, 2000

SDP-95-60 F-00-29

SEDIMENT CONTROL NOTES AND TABLES FOR VEGETATIVE STABILIZATION

SDP-00-114

OWNER / DEVELOPER
 PERI FORMWORK SYSTEMS
 7272 PARK CIRCLE DRIVE
 SUITE 200
 HANOVER, MARYLAND 21076



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development: *Richard B. Blood* 9/1/00
 Chief, Development Engineering Division: *John W. ...* 8/31/00
 Director, Department of Planning and Zoning: *Angela ...* 9/1/00

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.
 U.S. D.A. Natural Resources Conservation Service: *Cheryl ...* 8/30/00
 These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The HOWARD SOIL CONSERVATION DISTRICT.
 Howard SCD: *Yelth ...* 8/30/00

1-0-04	REV. OFFICE BUILDING AREA
DATE	REVISIONS

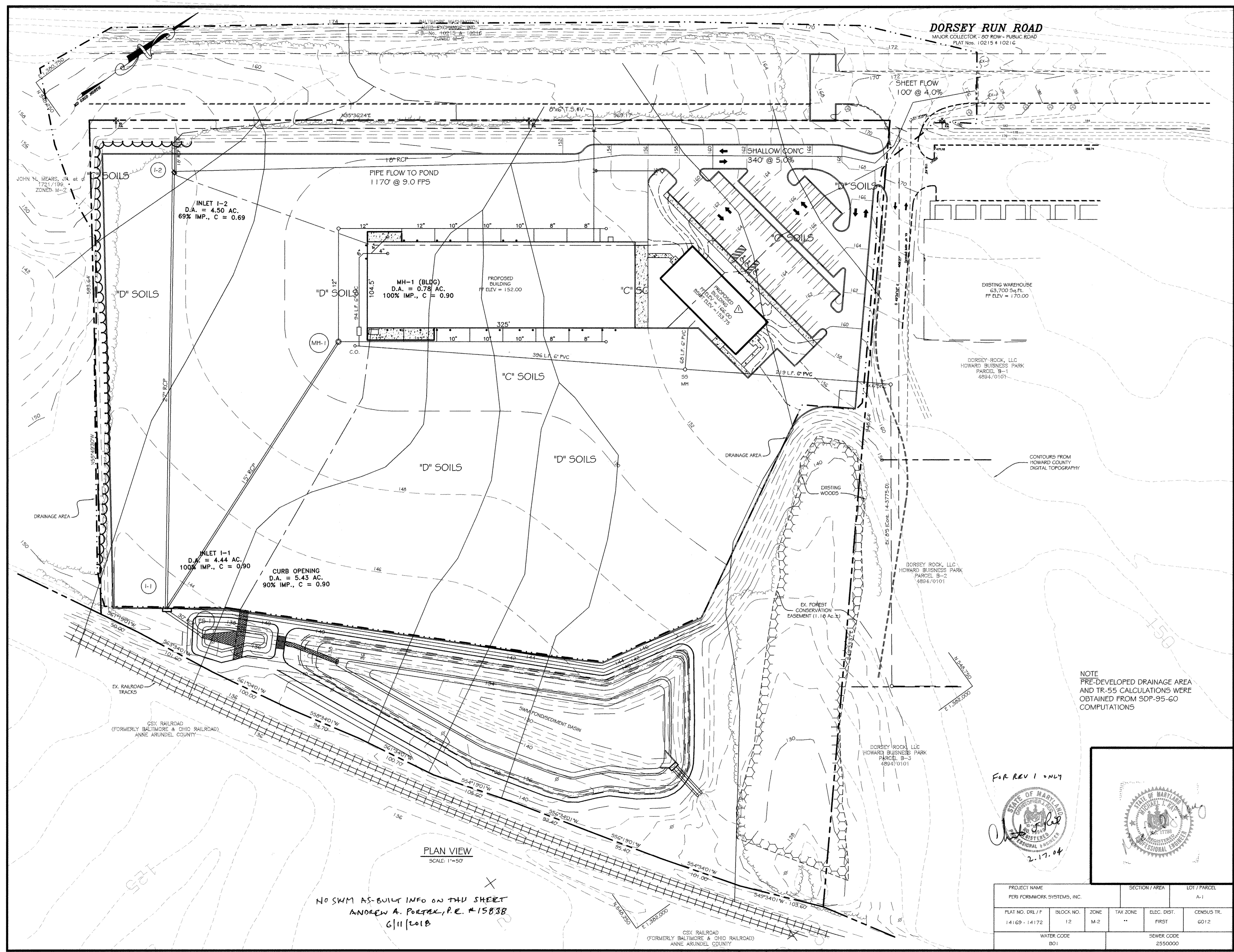
PERI FORMWORK SYSTEMS, INC.
 OFFICE AND STORAGE FACILITY
 7141 DORSEY RUN ROAD
 TAX MAP No: 43 PARCEL: 321 BLOCK 12
 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: 1"=50' DATE: MAY 24, 2000

SDP-95-60 F-00-29

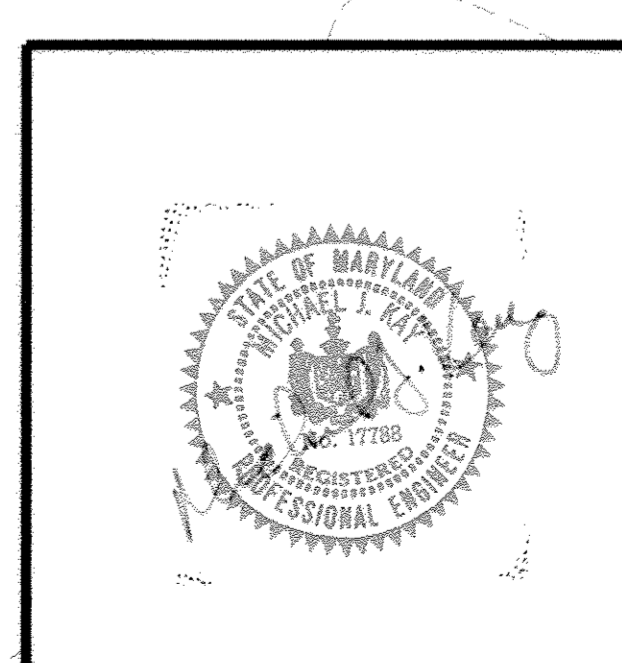
DRAINAGE AREA MAP

SDP-00-114

OWNER / DEVELOPER
 PERI FORMWORK SYSTEMS
 7272 PARK CIRCLE DRIVE
 SUITE 200
 HANOVER, MARYLAND 21076

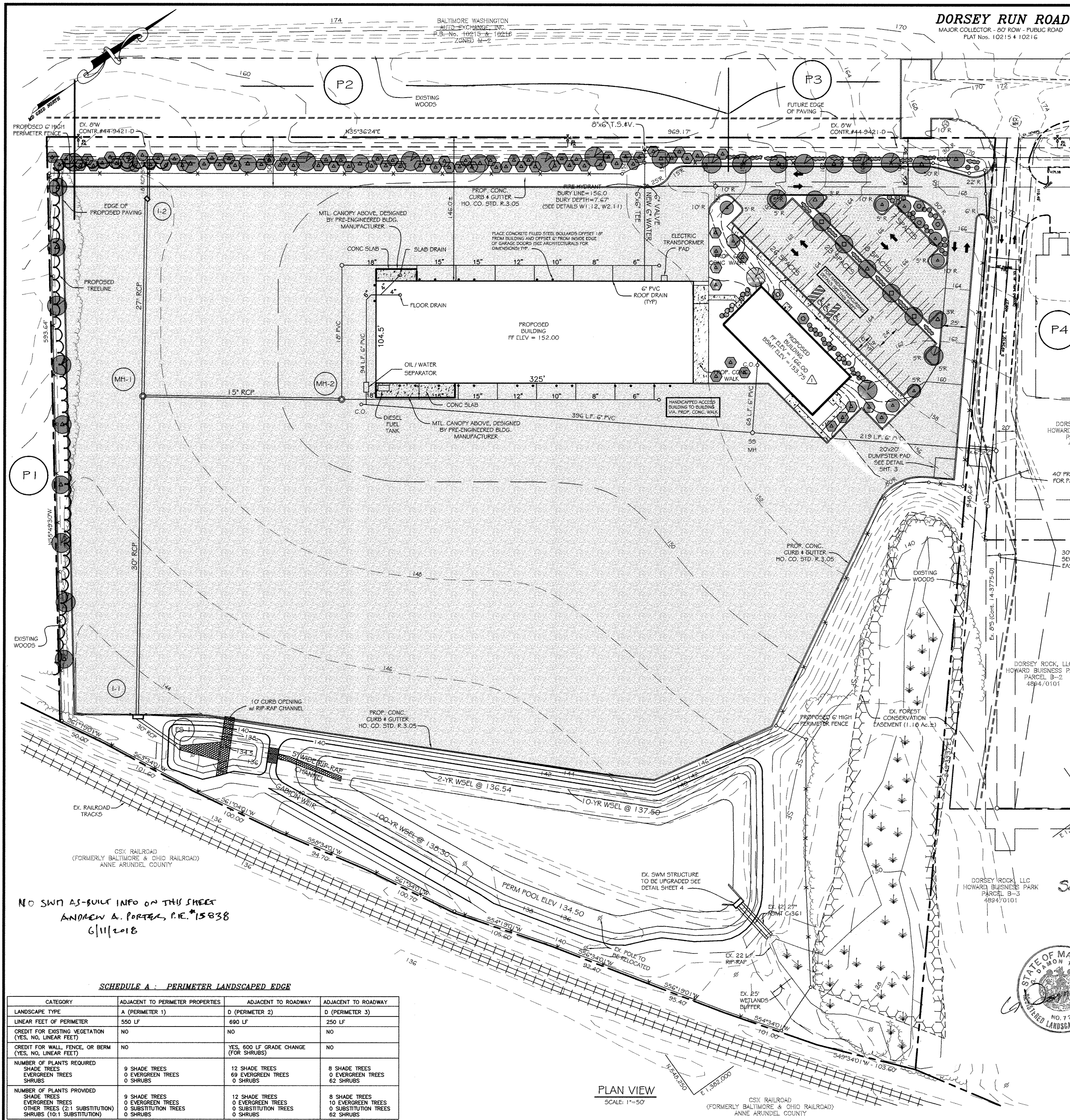


FOR REV 1 ONLY
 [Professional Engineer Seal: STATE OF MARYLAND, CHRISTOPHER J. ...]



PROJECT NAME PERI FORMWORK SYSTEMS, INC.	SECTION / AREA A-1	LOT / PARCEL A-1
PLAT NO. DRL / F 14169 - 14172	BLOCK NO. 12	ZONE M-2
TAX CODE ..	ELEC. DIST. FIRST	CENSUS TR. 6012
WATER CODE B01	SEWER CODE 2550000	

NO SKM AS-BUILT INFO ON THIS SHEET
 ANDREW A. PORTAK, P.E. #15838
 6/11/2018



DORSEY RUN ROAD
 MAJOR COLLECTOR - 80' ROW - PUBLIC ROAD
 PLAT Nos. 10215 & 10216

LANDSCAPE REQUIREMENT PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	TYPE
4	(Symbol)	Acer saccharum	SUGAR MAPLE	2 1/2" - 3" CAL.	D4B
16	(Symbol)	Acer rubrum	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.	D4B
16	(Symbol)	Quercus rubra	RED OAK	2 1/2" - 3" CAL.	D4B
6	(Symbol)	Fagus sylvatica	EUROPEAN BEECH	2 1/2" - 3" CAL.	D4B
62	(Symbol)	Pinus strobus	EASTERN WHITE PINE	8'-10' TALL	D4B
5	(Symbol)	Ilex opaca	AMERICAN HOLLY	2 1/2" - 3" CAL.	D4B
90	(Symbol)	euonymus katuschovicus	SPREADING EUONYMUS	24"-30" TALL	D4B
52	(Symbol)	Abelia xgrandifolia	GLOSSY ABELIA	24"-30" TALL	D4B

TOTAL
 135 TREES (48 SHADE TREES, 87 EVERGREEN TREES)
 142 SHRUBS

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISION OF SECTION 16.124

GENERAL NOTES

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISION OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$ 5400.00. THIS AMOUNT IS BASED ON THE NUMBER OF SHADE TREES REQUIRED TIMES \$300.00 PER TREE.

THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMING, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO INSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

Developers/Builder's Certificate

We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. (We further certify that upon completion a Certification of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.)

Name: Huan G Date: 3/17/00

PERIMETER	EDGE TYPE
PERIMETER 1 NON-RES TO NON-RES - 550 LF 1 SHADE TREE / 60 LF	A 9
PERIMETER 2 PARKING TO ROAD - 690 LF LOADING AREA 1 SHADE TREE / 60 LF 1 EVERGREEN / 10 LF CREDIT FOR 6+ CHANGE IN GRADE FOR 795 LF	D 12 69 795 LF
PERIMETER 3 PARKING TO ROAD - 250 LF CUSTOMER/EMPLOYEE 1 SHADE TREE / 40 LF 1 SHRUB / 4 LF	D 8 62
TOTAL PLANTING OBLIGATION	
SHADE TREES	29
EVERGREEN TREES	69
SHRUBS	62

NOTE: THIS DRAWING IS TO BE USED FOR LANDSCAPE PLAN PURPOSES ONLY.

NOTES:

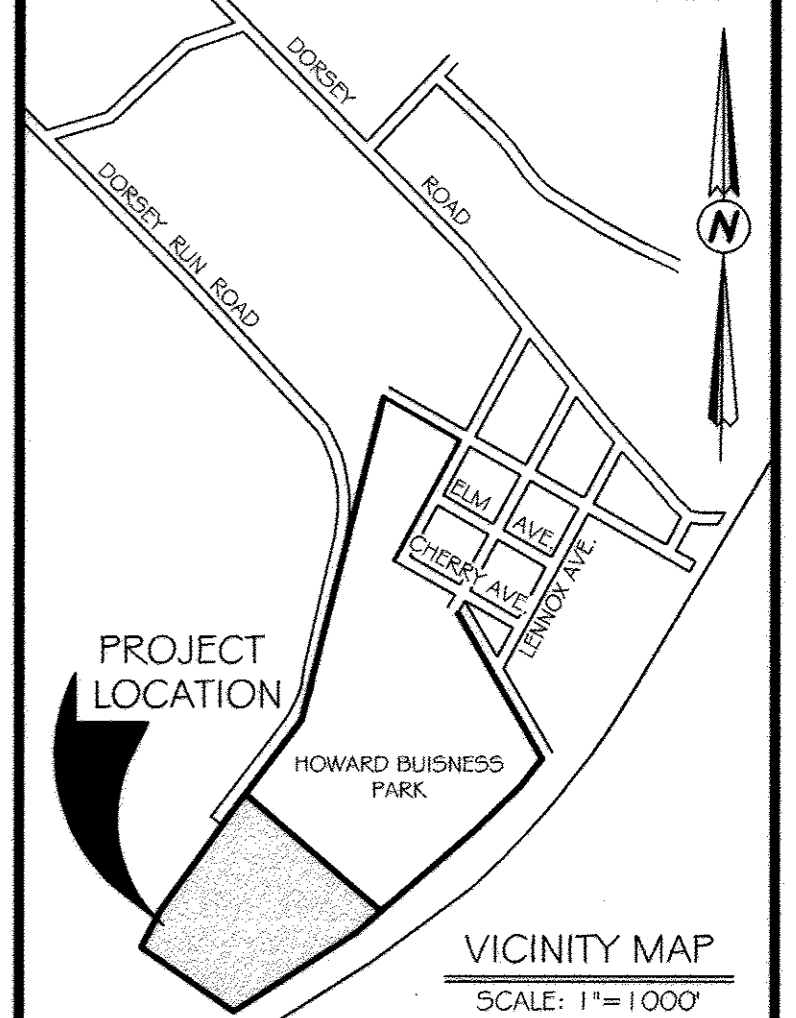
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$28,110.00.

SCHEDULE B : PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	82
NUMBER OF PLANTING ISLANDS REQUIRED	4
NUMBER OF PLANTING ISLANDS PROVIDED	9
NUMBER OF TREES REQUIRED SHADE TREES	9 SHADE TREES
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES SHRUBS	19 SHADE TREES 18 EVERGREEN TREES 80 SHRUBS

PROJECT NAME	SECTION / AREA	LOT / PARCEL
PERI FORMWORK SYSTEMS, INC.		A-1
PLAT NO. DRL / P	BLOCK NO.	ZONE
14169-14172	12	M-2
TAX ZONE	ELIC. DIST.	CENSUS TR.
**	FIRST	6012
WATER CODE	SEWER CODE	
801	2550000	

THAYER & ASSOCIATES INC.
 2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797



APPROVED: DEPARTMENT OF PLANNING AND ZONING

<u>Richard Blood</u>	9/1/00
Chief, Division of Land Development	Date
<u>William Williams</u>	3/31/00
Chief, Development Engineering Division	Date
<u>Joseph Smith</u>	9/1/00
Director, Department of Planning and Zoning	Date

These Plans Have Been Reviewed For The HOWARD SOIL CONSERVATION DISTRICT And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

U.S.D.A.-Natural Resources Conservation Service Date: _____

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD Date: 3/17/00

PERI FORMWORK SYSTEMS, INC.
 OFFICE AND STORAGE FACILITY
 7141 DORSEY RUN ROAD
 TAX MAP No: 43 PARCEL: 321 BLOCK 12
 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: 1"=50' DATE: MAY 24, 2000

SDP-95-60 F-00-29

LANDSCAPING PLAN

SDP-00-114

OWNER / DEVELOPER
 PERI FORMWORK SYSTEMS
 7272 PARK CIRCLE DRIVE
 SUITE 200
 HANOVER, MARYLAND 21076

SHEET 9 OF 18

SDP-00-114

NO SWN AS-BUILT INFO ON THIS SHEET
 ANDREW A. PORTER, P.E. #15838
 6/11/2018

SCHEDULE A : PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO ROADWAY	ADJACENT TO ROADWAY
LANDSCAPE TYPE	A (PERIMETER 1)	D (PERIMETER 2)	D (PERIMETER 3)
LINEAR FEET OF PERIMETER	550 LF	690 LF	250 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	NO	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	YES, 600 LF GRADE CHANGE (FOR SHRUBS)	NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	9 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	12 SHADE TREES 69 EVERGREEN TREES 0 SHRUBS	8 SHADE TREES 0 EVERGREEN TREES 62 SHRUBS
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION)	9 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	12 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	8 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 62 SHRUBS

PLAN VIEW
 SCALE: 1"=50'

CSX RAILROAD
 (FORMERLY BALTIMORE & CHIO RAILROAD)
 ANNE ARUNDEL COUNTY

GENERAL NOTES FOR STORMWATER MANAGEMENT FACILITY

- The Horizontal Datum is NAD '83; Vertical Datum NGVD '29. The survey bearings, distances, and coordinates are based on Howard County Control Points listed as follows:
43CD - Northing 548,580.3665 Easting 1,381,720.9348 Elev. 199.06
46CB - Northing 548,163.7530 Easting 1,380,664.9140 Elev. 158.75
- The existing, non-submerged areas of the SWM facility were field surveyed by Shanaberger & Lane (Ellicott City, MD) in April, 2009. The submerged portions were field surveyed by Hicks Engineering Associates (Towson, MD) in January, 2007.
- These plans were prepared with the best available information to this engineer's knowledge. Reasonable steps were taken to ensure embankment adequacy/safety. However, the CIVIL DESIGN SERVICES, LC certification affixed hereon is for the proposed remedial work shown on these plans. No certification is made for existing construction and/or facility conditions.
- Howard County and the pond owner do not have as-built embankment information.
- The property line, forest conservation easements and wetlands shown on plan sheet 2A are based on record plats.
- All construction shall follow Howard County standards and specifications or MSHA standards and specifications and small pond specifications MD-378 as applicable. Contractor shall also follow the geotechnical engineer's recommendations for embankment remedial construction.
- The contractor shall notify the Construction Inspection Division at (410) 313-1880 at least five (5) days prior to starting construction work.
- The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to excavation.
- Approximate utility locations are shown from available records. The Contractor shall test pit all known existing utilities to verify, size, shape, location, and type prior to performing construction. Utility relocations, whether shown or not, are the responsibility of the owner. Any utility damaged due to construction must be repaired immediately. Should the contractor discover discrepancies between the plans and field conditions, the engineer shall be notified immediately to resolve the situation. If the contractor makes field corrections or adjustments without notifying the engineer, then the contractor assumes all responsibility for those changes.
- This stormwater management facility is privately owned and maintained.
- An Alternative Compliance to Design Manual VI (section 5.2.7.A) was granted to allow omission of the safety bench and pond drain. Conditions of approval include: Owner to maintain the existing property fence, pond slopes at 3:1, and pond shall be privately owned and maintained.

STORMWATER FACILITY CONSTRUCTION NOTES

- All trees located within the "no woody zone" shall be removed. Specifically, trees located on the embankment shall be removed per SCS technical note series 705 "Operation and Maintenance Alternatives for Removing Trees from Dams". Embankment stumps shall be removed to a depth of 18" as follows: A uniform cut will be made with the appropriate equipment. The underlying root mass that remains shall be disturbed as little as possible by using sharp cutting tools. Exposed tap roots will be treated with an appropriate silvicide to prevent regrowth. The holes left by stump removal shall be filled with geotechnical engineer approved soil and compacted in 6" lifts per MD-378 specifications.
- A geotechnical engineer shall be present on-site to oversee/approve the embankment fill.
- The existing impervious core and core trench may need to be widened or reconstructed to maintain minimum MD-378 dimensions due to the embankment relocation from construction line sta. 5+48 to sta. 7+08. The Contractor shall work with the on-site geotechnical engineer so the engineer can verify the integrity (soil specs, location, elevations) of the core at this location. This can be accomplished with borings, or overburden removal on the top and/or downstream embankment side and subsequent inspection, or as per the engineer. Remedial measures shall be taken as directed by the geotechnical engineer. Work may include adding impervious fill per MD-378 core trench specifications, including compaction, to maintain the originally-designed impervious core and trench dimensions. Follow the Geotechnical recommendations on sheet 10. All geotechnical/embankment work shall be supervised and approved by a Maryland professional geotechnical engineer.
- SWM embankment surfaces to be filled/buried shall, at a minimum, have the topsoil removed and the underlying earth scarified prior to fill placement. Benching may be necessary as per geotechnical engineer.

AS-BUILT CERTIFICATION

I hereby certify that the Facility Shown on This Plan (and items referenced in SDP-95-90) Were Constructed As Shown on The "As-Built" Plans And Meets The Approved Plans And Specifications.

Andrew A. Porter 11/12/2010 15838
Signature Date MD P.E. No.

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

PHASE II SEQUENCE OF CONSTRUCTION

- Obtain grading permit from Howard County, and an MDE Permit for Stormwater Associated with Construction Activity. (2 weeks)
- Notify miss utility (1-800-257-7777) 48 hours before starting work. Notify the Howard county construction inspection division (410-313-1855) 24 hours before starting work. (4 days)
- Install (or repair as necessary) perimeter controls (S.C.E., silt fence, s.o.s.) and remove old existing super silt fence. (3 days)
- With approval from the sediment control inspector, dewater the basin and discharge clean water onto a stable area (e.g., into existing riser, or at riprap outfall). The pumped water shall pass through a filter bag or portable pump station, or as approved by the inspector. (1 week)
- Install removable pump station as shown for use with further pumping as necessary. Pumped water shall pass through a filter bag or portable pump station onto a stable outfall. (2 days)
- Construct new relocated draw down dewatering device with 6" diameter orifice and remove portion of existing device. Excavate to final pond invert around the new dewatering device as needed. (2 days)
- Dewater forebay; pump into basin and clean out existing inlet I-1 and existing 30" RCP into forebay. (3 days)
- Begin basin conversion to SWM Pond. Work includes: grading to proposed elevations, Raise concrete riser (S-1) and modify weir width crest (temporarily block entrance to S-2 (i.e., keep basin drainage via dewatering device). Construct emergency spillway, remove trees on embankment and in 15' no woody zone, relocate fencing, construct 1-turround, timber wall and forebay walls, 30" RCP stormdrain, remove old 30" stormdrain RCP, install inflow/outflow forebay riprap channels, install trash racks. (12 weeks)
- Stabilize all disturbed areas with permanent seeding. (2 days)
- With approval from the sediment control inspector, finish the conversion of the sediment basin into the permanent SWM facility. This work includes: removing sediment, fine grading to final design elevations, unplug S-2 and remove temporary 10" dewatering device and compact area and re-seed with permanent seeding any areas disturbed by the work. (2 weeks)
- Following successful fully-established vegetation of all disturbed areas, obtain permission from the Howard county sediment control inspector to remove all remaining sediment & erosion control devices and then stabilize those areas disturbed by this process with permanent seeding. (1 week).
- The Owner shall provide a copy of the HCSD as-built approval letter to the inspector. (1 day)

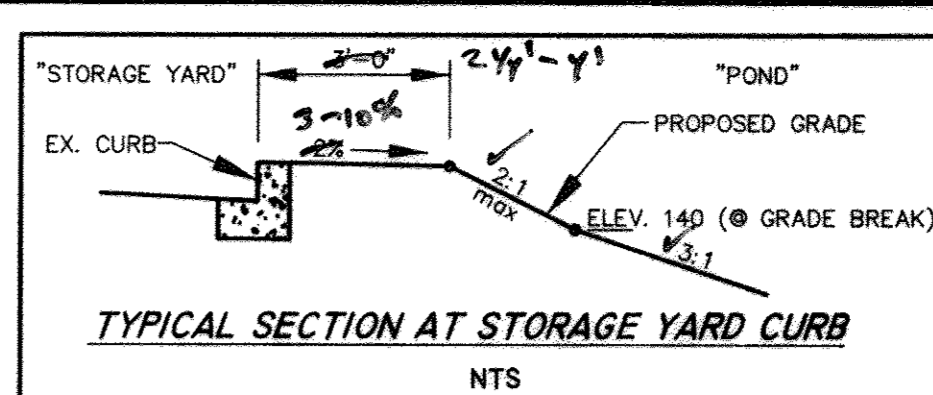
PERI FORMWORK SYSTEMS, INC.
STORMWATER MANAGEMENT SUMMARY TABLE

Drainage Area = 16.3 Acres

	Required *	Provided	Practice
WQ,	1.10 AF	1.26 AF	Permanent Water Quality Volume
Forebay	4,830 cf	5,625 cf	Pre-treatment *
	Pre-Development Peak Q (cfs)	Post-Development Peak Q (cfs)	Pond Storage * (AF)
2-yr Q	6.9	55.9	✓ 1.70
10-yr Q	22.9	92.1	✓ 2.76
100-yr Q	44.4	131.6	✓ 3.70

* Per Thayer & Associates, Inc., SWM Report dated (revised) May 30, 2000.
* Volume is not included in water quality storage.
* Volume includes only storage "above" permanent WSE 133.0

PHASE II FOREBAY OUTFALL CHANNEL INTO POND TYPICAL SECTION (NTS)



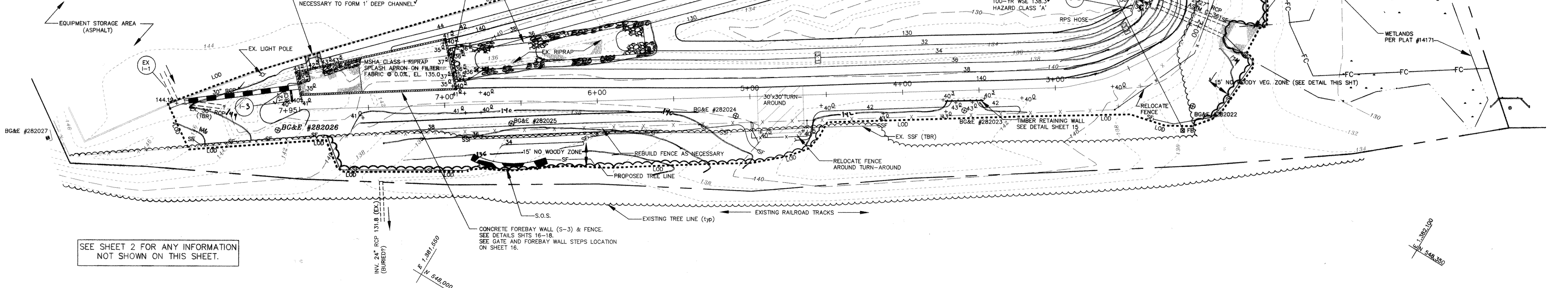
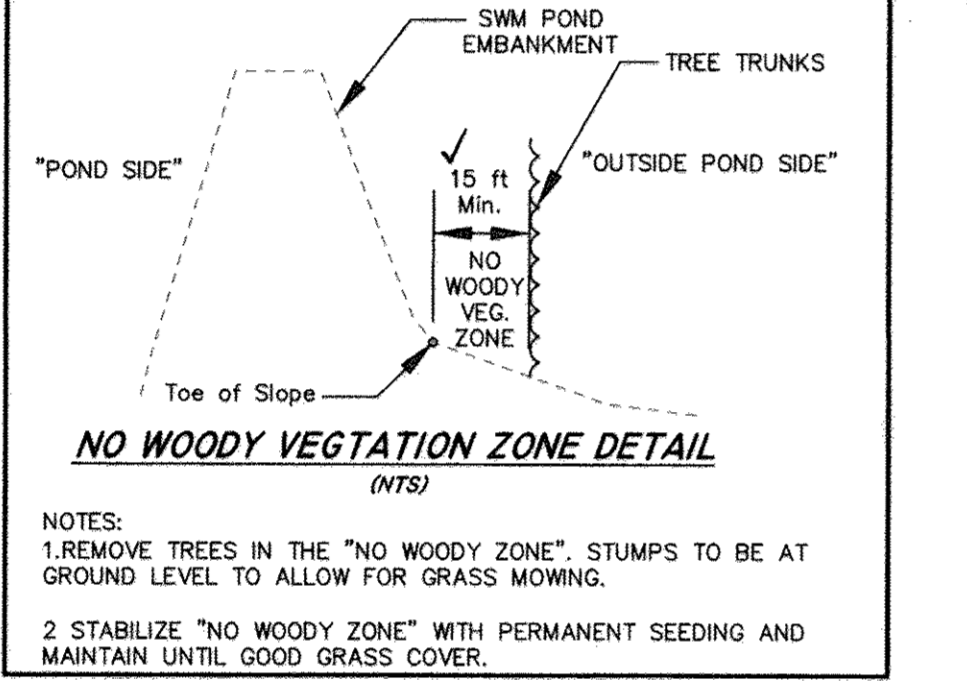
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER PONDS

Routine Maintenance:

- Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times per year, once in June and once in September. Other side slopes and maintenance access shall be mowed as needed.
- Debris and litter shall be removed in the pond especially near the low flow trash rack (1 round 24" CMP at S-2) during regular mowing operations and as needed.
- Visible signs of erosion in the pond as well as the riprap or gabion outlet area shall be repaired as soon as it is noticed.

Non-Routine Maintenance:

- Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
- Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.



CIVIL DESIGN SERVICES, LC
6123 Holly Ridge Court, Columbia, Maryland 21044
410.531.0572 phone/fax
civildesign@comcast.net

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD. License No. 15838 w/expiration December 17, 2011

Andrew A. Porter 11/12/10
Signature Date

NO.	REVISION	DATE

ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the Howard Soil Conservation District requirements. I have notified the developer that he/she must engage a registered professional engineer to supervise the pond construction and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion.

Andrew A. Porter 11/12/2010
Signature of Engineer ANDREW A. PORTER, P.E. Date

BUILDER/DEVELOPER'S CERTIFICATE (S.E.C.)

I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in this construction project will have a Certificate of Attendance at an MDE-Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We shall engage a registered professional engineer to supervise the construction, and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion. I/We also authorize periodic on-site inspections by HSCD.

TOM AMEEL 11/12/2010
Signature of Developer TOM AMEEL Date

These plans for small pond construction, soil erosion and sediment controls meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.

Yvette L. Seale 12/7/10
Signature Date
HOWARD SOIL CONSERVATION DISTRICT

OWNER/DEVELOPER
U.S. Properties, Inc.
Attn: Mr. G. Damon Thayer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

K. J. Salovey 12/16/10
Chief, Division of Land Development Date

John Deane 12/16/10
Chief, Development Engineering Division Date

Thomas S. Butler 12/16/10
Director - Department of Planning and Zoning Date

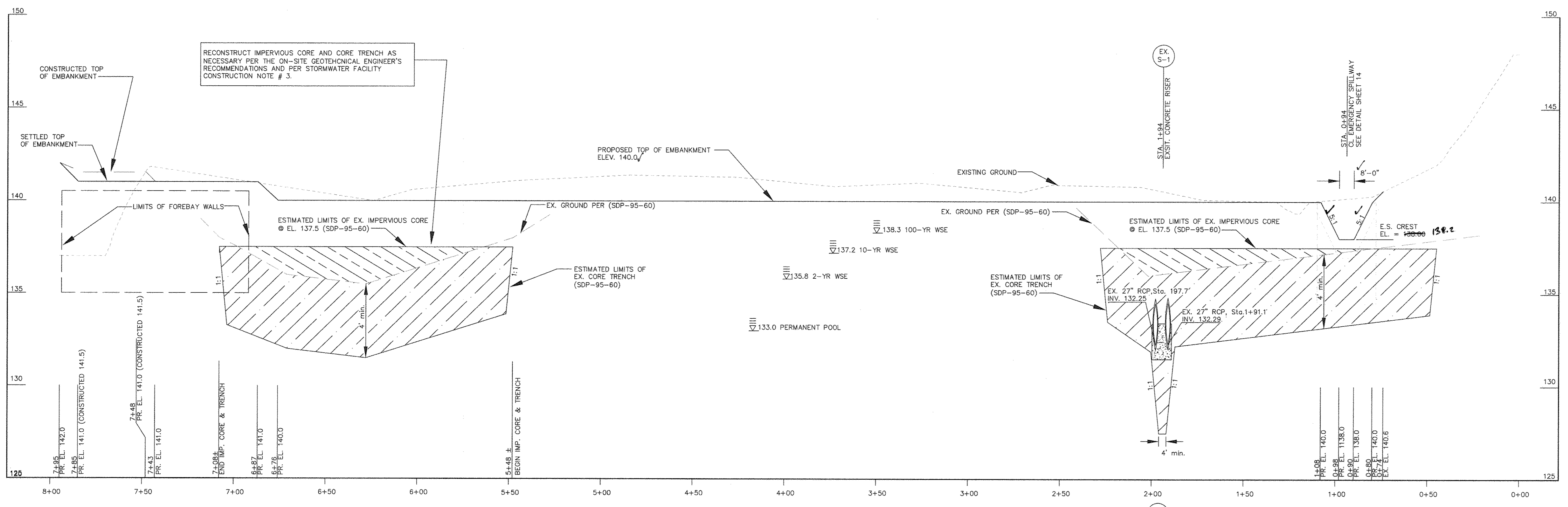
SUBDIVISION NAME	SECTION	PARCEL			
HOWARD BUSINESS PARK	N/A	A-1/TM P.701			
L/F	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
4931/41	12	M-2	43	1 st	6012

PHASE II - STORMWATER MANAGEMENT & SEDIMENT EROSION CONTROL PLAN

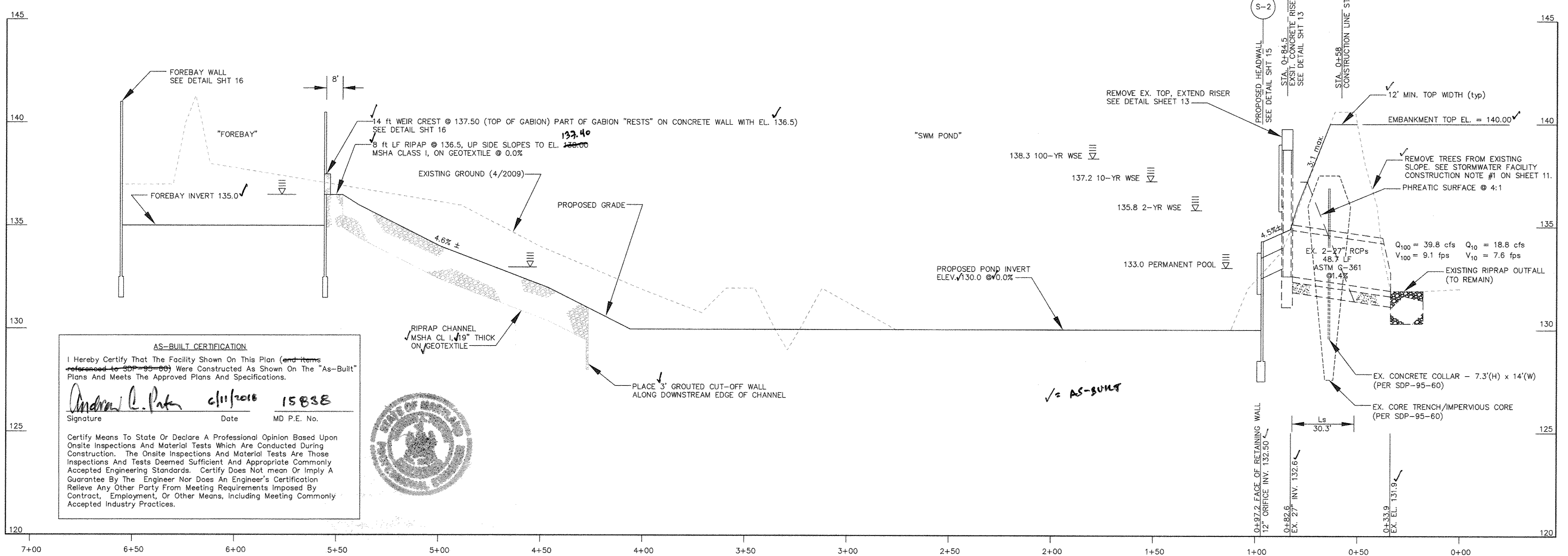
PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 4931 FOLIO 41

TAX MAP NO: 43 TM PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"= 30' DATE: NOVEMBER 12, 2010
SHEET 11 of 18

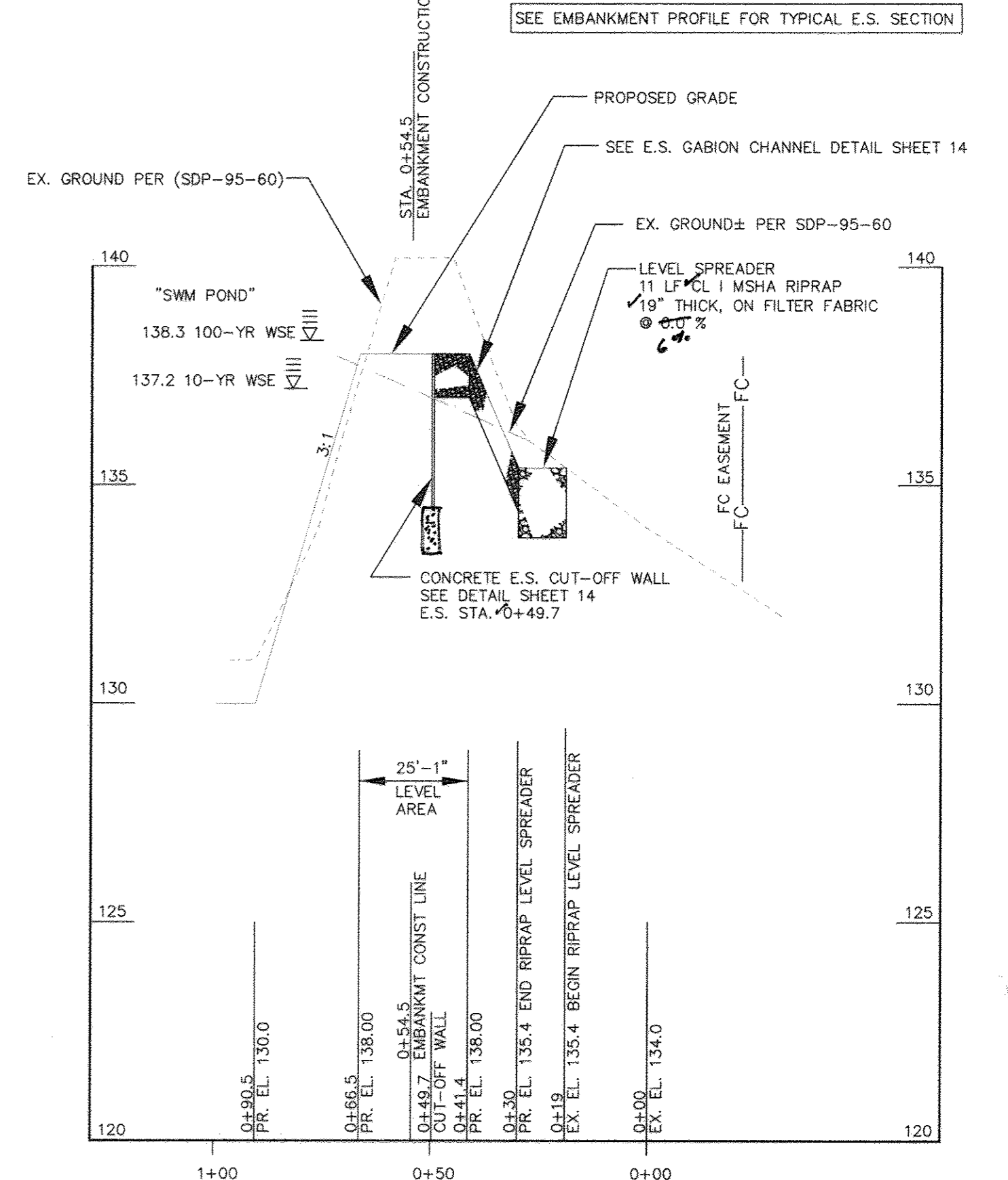
SDP-00-114



PHASE II: SWM POND EMBANKMENT PROFILE
SCALE: HORZ: 1" = 30', VERT: 1" = 3'



PHASE II: SWM POND PRINCIPAL SPILLWAY PROFILE
SCALE: HORZ: 1" = 30', VERT: 1" = 3'

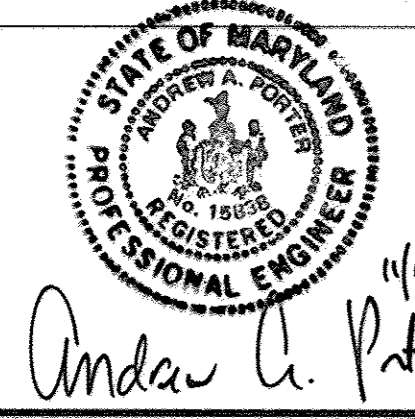


EMERGENCY SPILLWAY PROFILE
SCALE: HORZ: 1" = 30', VERT: 1" = 3'

AS-BUILT CERTIFICATION
I hereby certify that the facility shown on this plan (and items ~~thereon~~) were constructed as shown on the "As-Built" Plans and Meets the Approved Plans and Specifications.
Andrew A. Porter 11/12/2010 15838
Signature Date MD P.E. No.



CIVIL DESIGN SERVICES, LC
6123 Holly Ridge Court, Columbia, Maryland 21044
410.531.0572 phone/fax
civildesign@comcast.net



I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 15838 w/expiration December 17, 2011

ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the Howard Soil Conservation District requirements. I have notified the developer that he/she must engage a registered professional engineer to supervise the pond construction and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion.
Andrew A. Porter 11/12/2010
Signature of Engineer ANDREW A. PORTER, P.E. Date

BUILDER/DEVELOPER'S CERTIFICATE (S.E.C.)
I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in this construction project will have a Certificate of Attendance at an MDE-Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We shall engage a registered professional engineer to supervise the construction, and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion. I/We also authorize periodic on-site inspections by HSCD.
TOM AMEEL 11/12/2010
Signature of Developer TOM AMEEL Date

These plans for small pond construction, soil erosion and sediment controls meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.
Yosh L. St... 12/7/10
HOWARD SOIL CONSERVATION DISTRICT Date

OWNER/DEVELOPER
U.S. Properties, Inc.
Attn: Mr. G. Damon Thayer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Kurt Se... 12/16/10
Chief, Division of Land Development Date

John D... 12/13/10
Chief, Development Engineering Division Date

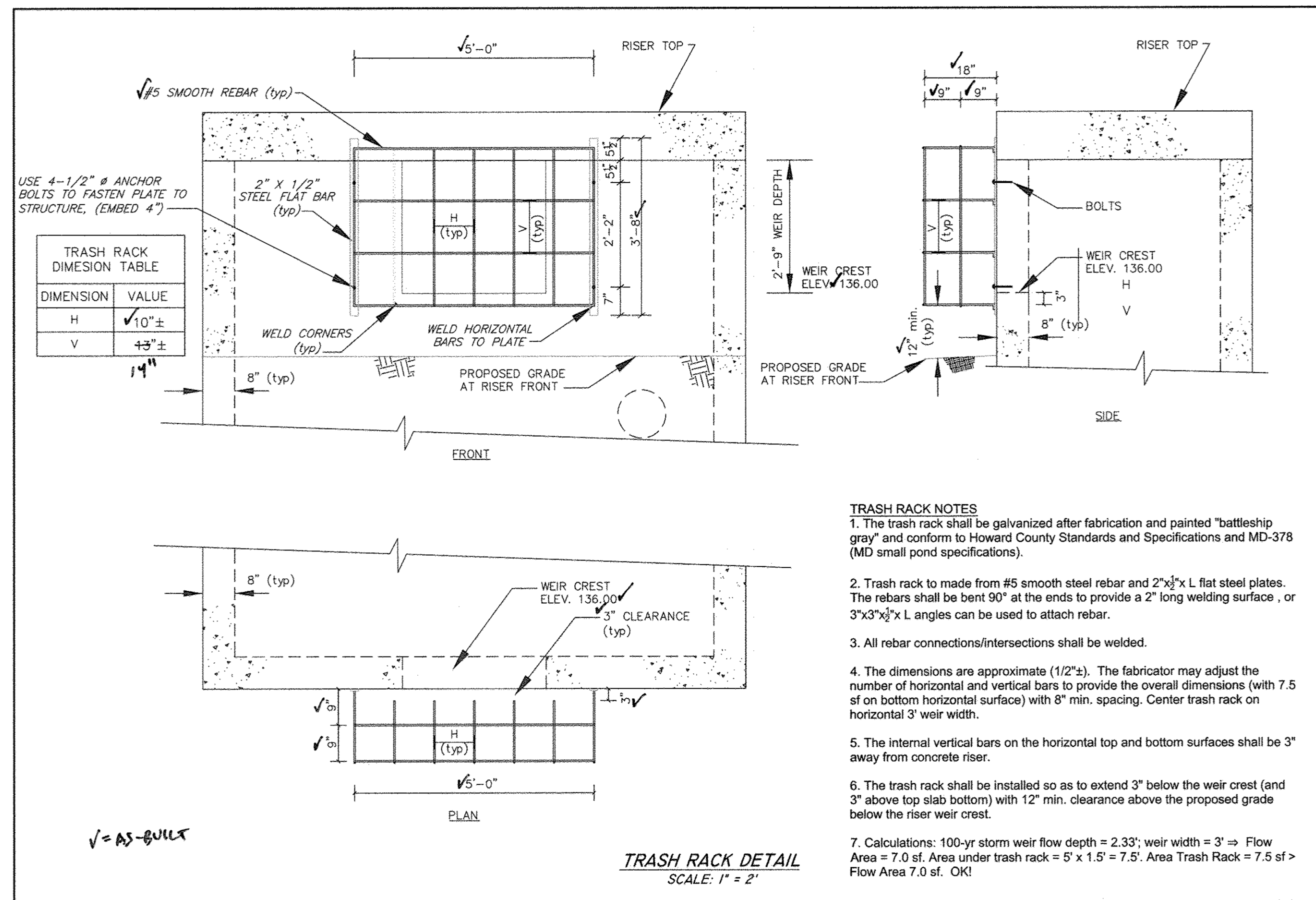
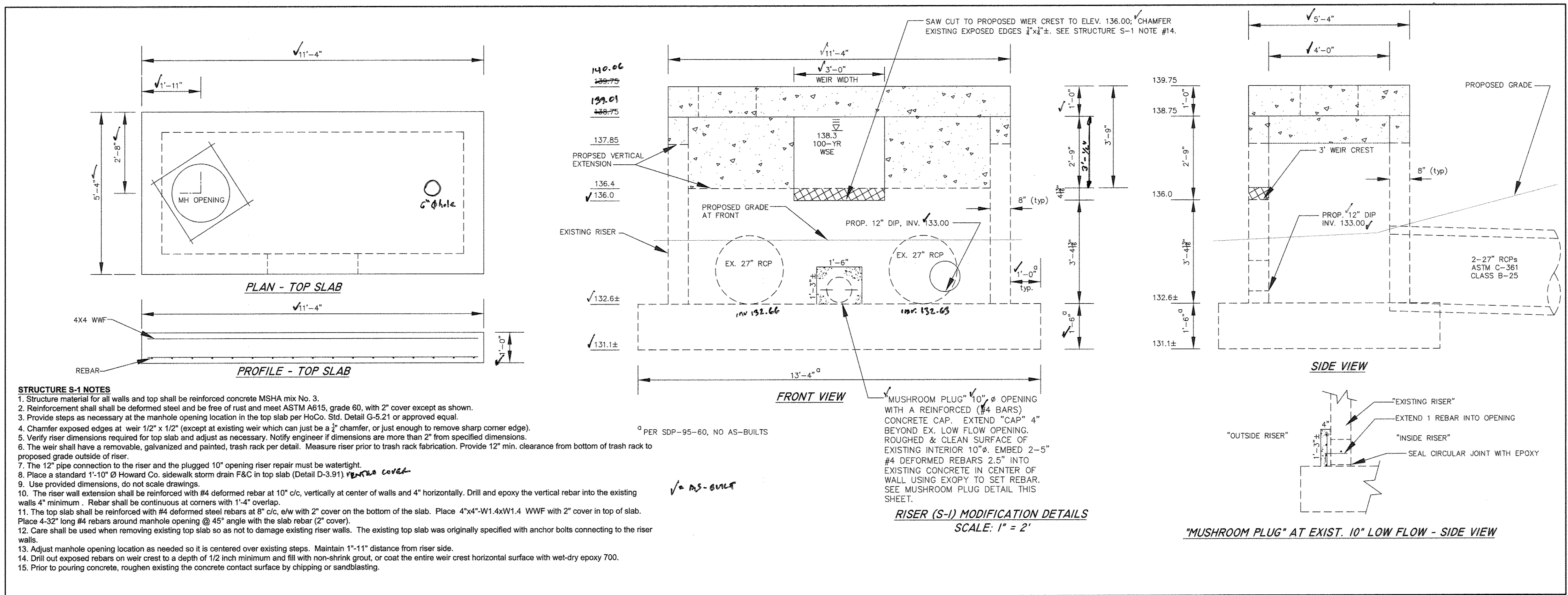
Thomas S... 12/16/10
Director - Department of Planning and Zoning Date

SUBDIVISION NAME	SECTION	PARCEL			
HOWARD BUSINESS PARK	N/A	A-1/TM P.701			
L/F	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
4931/41	12	M-2	43	1 st	6012

PHASE II
STORMWATER MANAGEMENT POND PROFILES
PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 4931 FOLIO 41

TAX MAP NO: 43 TM PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 12, 2010

SHEET 12 of 18
SDP-00-114



AS-BUILT CERTIFICATION

I hereby certify that the Facility Shown on This Plan (and Items referenced to SDP-05-60) Were Constructed As Shown on the "As-Built" Plans and Meets the Approved Plans and Specifications.

Andrew A. Porter 4/11/2010 15838
Signature Date MD P.E. No.

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.



ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the Howard Soil Conservation District requirements. I have notified the developer that he/she must engage a registered professional engineer to supervise the pond construction and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion.

Andrew A. Porter 11/12/2010
Signature of Engineer ANDREW A. PORTER, P.E. Date

BUILDER/DEVELOPER'S CERTIFICATE (S.E.C.)

I/we certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in this construction project will have a Certificate of Attendance at an MDE-Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/we shall engage a registered professional engineer to supervise the construction, and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion. I/we also authorize periodic on-site inspections by HSCD.

TOM AMEEL 11/12/2010
Signature of Developer TOM AMEEL Date

These plans for small pond construction, soil erosion and sediment controls meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.

John C. Shy 10/7/10
Signature Date
HOWARD SOIL CONSERVATION DISTRICT

OWNER/DEVELOPER

U.S. Properties, Inc.
Attn: Mr. G. Damon Thayer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kate Shindler 12/16/10
Chief, Division of Land Development Date

John D. Dammann 12/15/10
Chief, Development Engineering Division Date

Thomas E. Butler 12/16/10
Director - Department of Planning and Zoning Date

SUBDIVISION NAME	SECTION	PARCEL
HOWARD BUSINESS PARK	N/A	A-1/7M P.701
L/F	GRID NO.	ZONE
4931/41	12	M-2
P.N. 14171	TAX/ZONE	ELEC. DIST.
	43	1 st
	CENSUS TR.	
	6012	

PHASE II - STORMWATER MANAGEMENT
STRUCTURE S-1

PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 4931 FOLIO 41

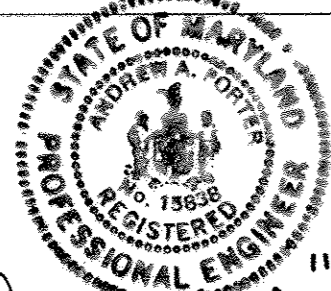
TAX MAP NO: 43 PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 12, 2010

SHEET 13 of 18
SDP-00-114

CIVIL DESIGN SERVICES, LC

6123 Holly Ridge Court, Columbia, Maryland 21044
410.531.0572 phone/fax
civildesign@comcast.net

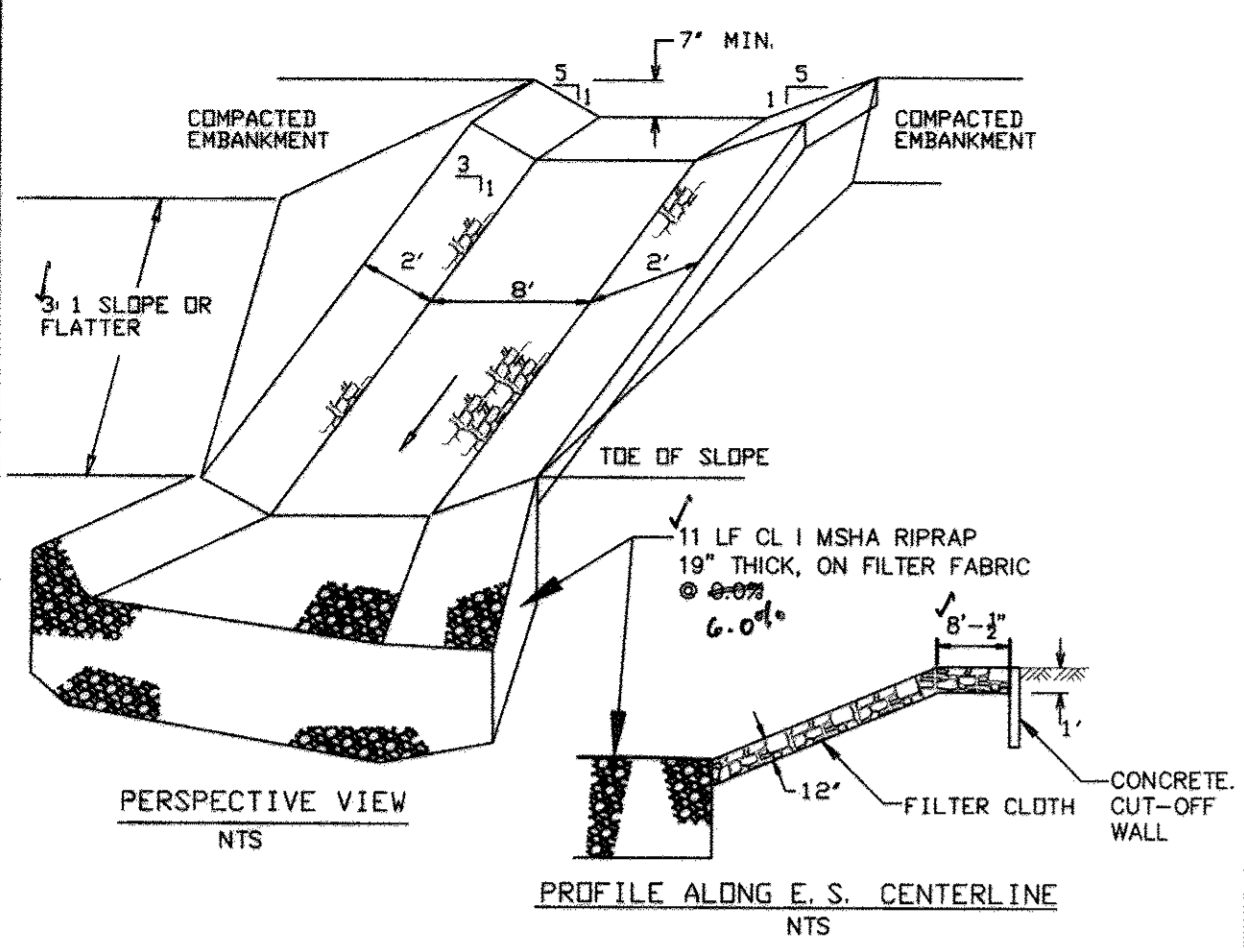
FOR AS-BUILT 4/11/2010



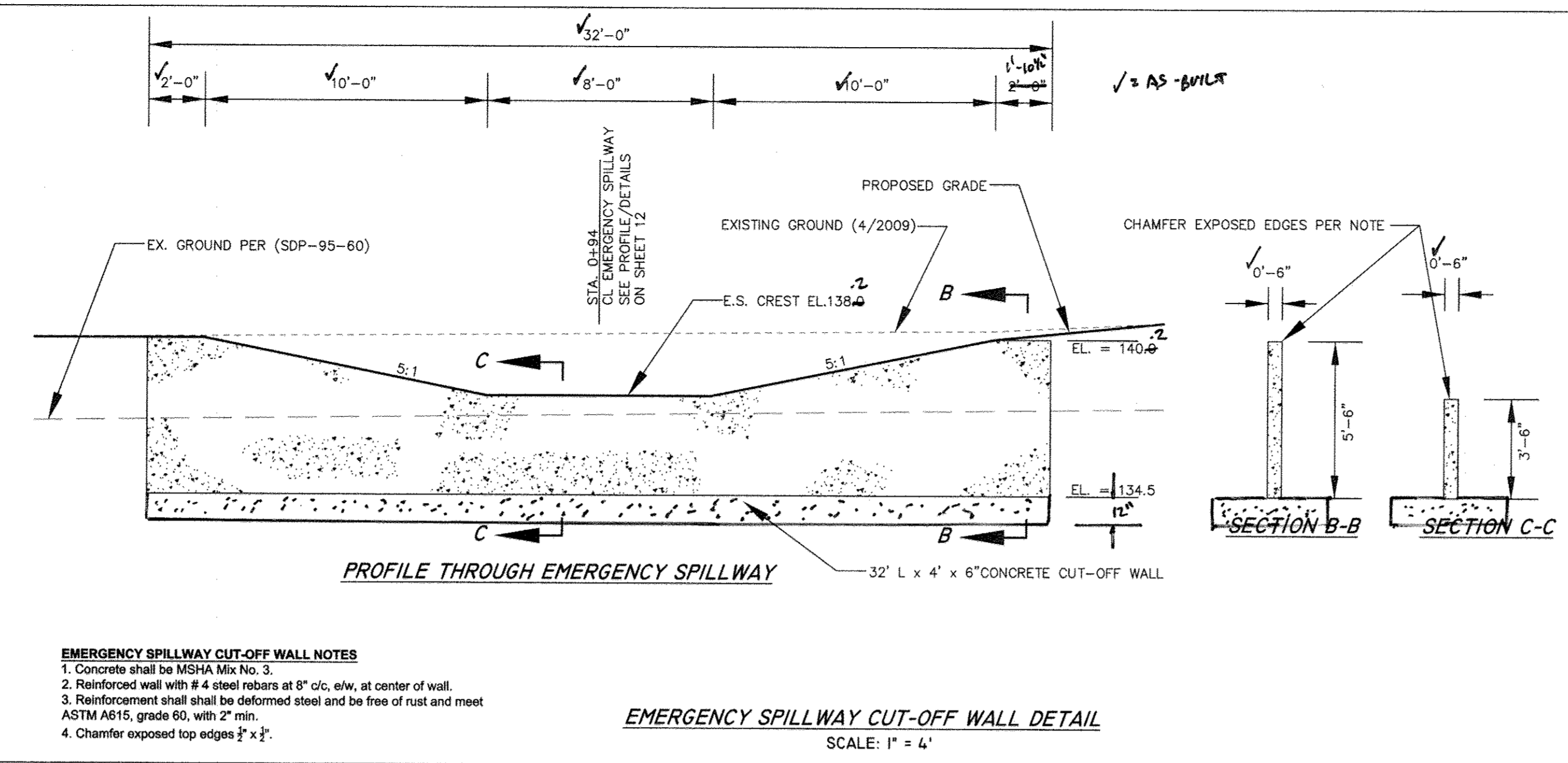
Andrew A. Porter 11/12/10
Signature Date

NO.	REVISION	DATE	Signature of Developer	Date

**EMERGENCY SPILLWAY GABION CHANNEL DETAIL
(MODIFIED NRCS DETAIL)**



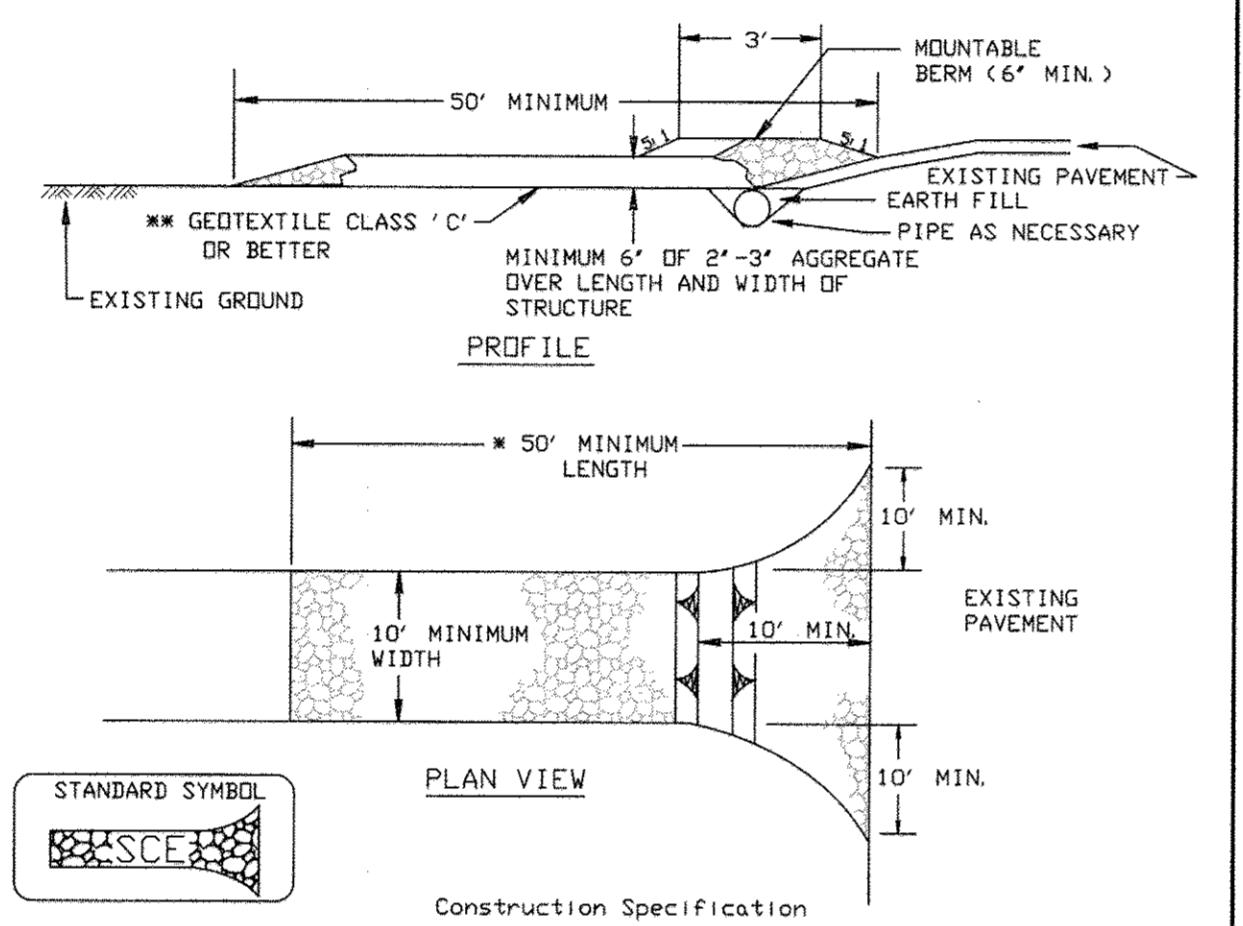
- Construction Specifications**
- Gabion inflow protection shall be constructed of 9' x 3' x 12" gabion baskets forming a trapezoidal cross section 7.5' deep, with 3:1 side slopes, and an 8' bottom width.
 - Geotextile Class C shall be installed under all gabion baskets and level spreader.
 - The stone used to fill the gabion baskets shall be 4" - 7".
 - Gabions shall be installed in accordance with manufacturer's specifications and recommendations.



- EMERGENCY SPILLWAY CUT-OFF WALL NOTES**
- Concrete shall be MSHA Mix No. 3.
 - Reinforced wall with #4 steel rebar at 8" o/c, e/w, at center of wall.
 - Reinforcement shall be deformed steel and be free of rust and meet ASTM A615, grade 60, with 2" min.
 - Chamfer exposed top edges 2" x 2".

EMERGENCY SPILLWAY CUT-OFF WALL DETAIL
SCALE: 1" = 4'

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- Construction Specification**
- Length - minimum of 50' (#30' for single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
 - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
 - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
 - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

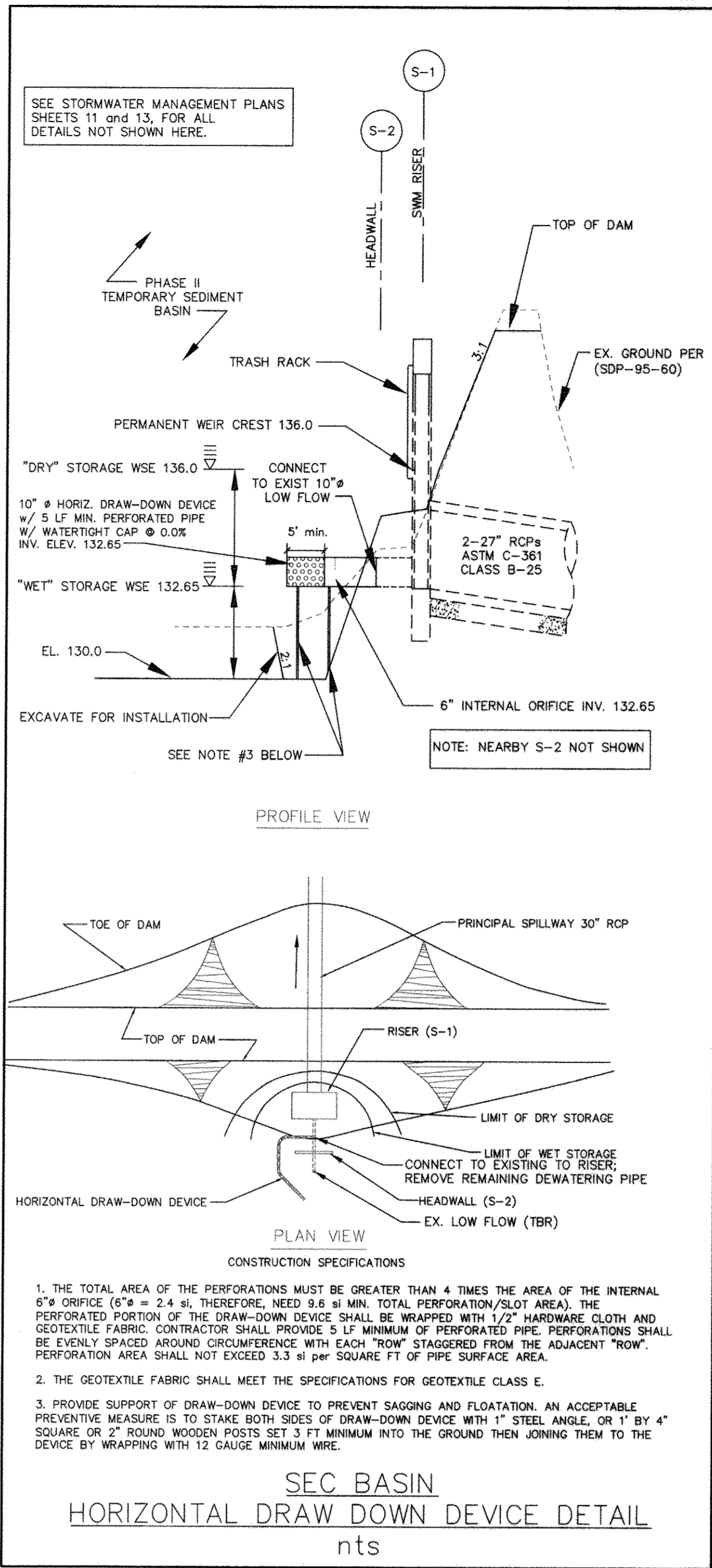
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F-17-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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AS-BUILT CERTIFICATION

I hereby certify that the Facility Shown On This Plan (and items ~~referenced~~ ~~therein~~) Were Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Andrew A. Porter 6/11/18 15838
Signature Date MD P.E. No.

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.



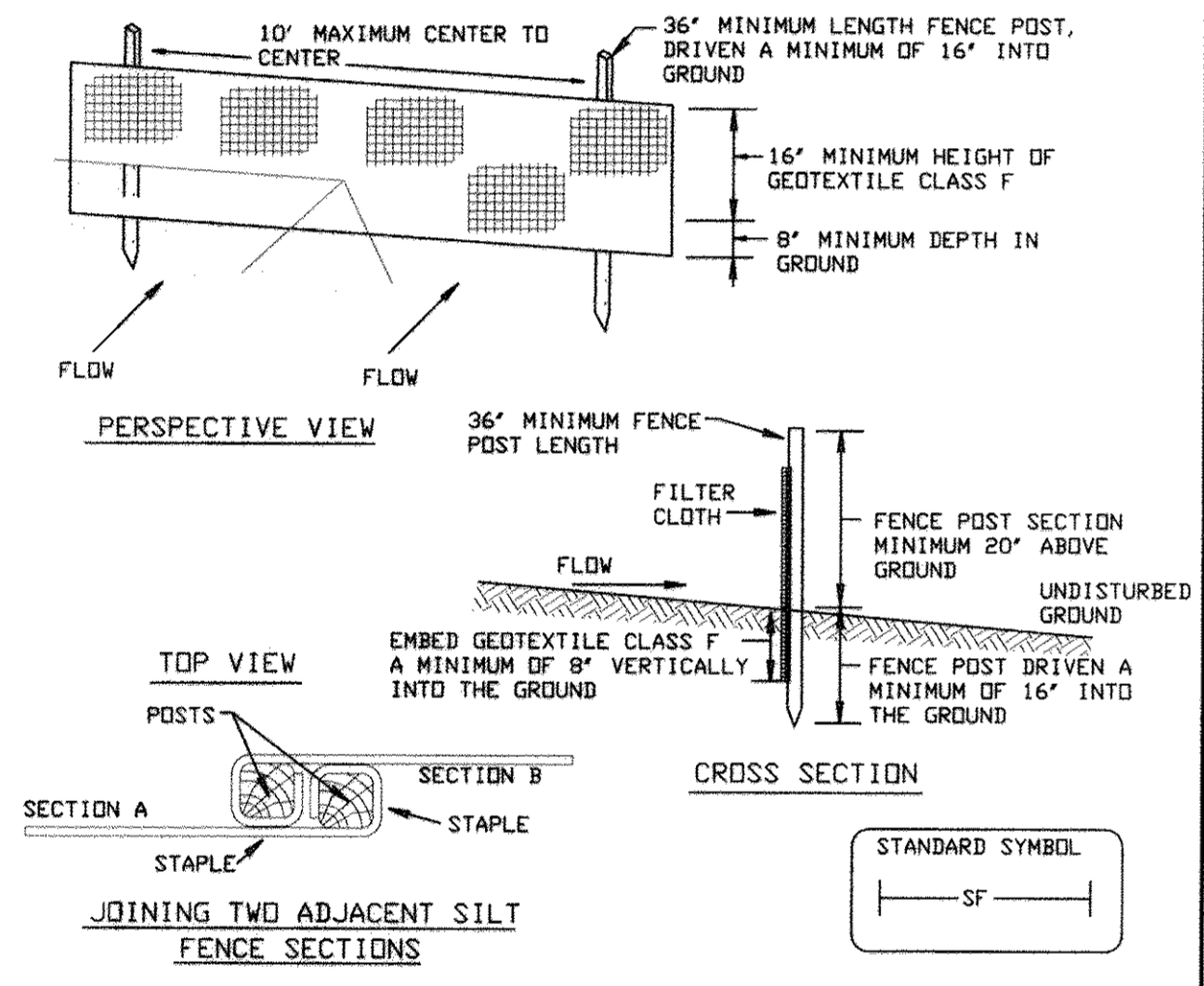
PHASE II - TEMPORARY SEDIMENT BASIN

BOTTOM ELEV. = 130.0
INITIAL D.A. = 15.3 Ac.
FINAL D.A. = 15.3 Ac.
STORAGE DEPTH = 6.0'
TOP OF EMBANKMENT = 140.00
SIDE SLOPES: 3:1
CLEAN OUT ELEV. = 131.5
RISER WEIR CREST ELEV. = 136.0 (PROPOSED WEIR)

STORAGE REQUIRED:
WET = 1,800 cf/ac. x 15.3 ac. = 27,540 cf
DRY = 1,800 cf/ac. x 15.3 ac. = 27,540 cf

STORAGE PROVIDED:
WET = 47,578 cf @ ELEV. 132.65 (ex. low flow invert.)
DRY = 87,403 cf @ ELEV. 136.0

DETAIL 22 - SILT FENCE



- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
- | | | |
|----------------------|--|----------------|
| Tensile Strength | 50 lbs/in (min.) | Test: MSMT 509 |
| Tensile Modulus | 20 lbs/in (min.) | Test: MSMT 509 |
| Flow Rate | 0.3 gal ft ² /minute (max.) | Test: MSMT 322 |
| Filtering Efficiency | 75% (min.) | Test: MSMT 322 |
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-15-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the Howard Soil Conservation District requirements. I have notified the developer that he/she must engage a registered professional engineer to supervise the pond construction and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion.

Andrew A. Porter 11/12/2010
Signature of Engineer ANDREW A. PORTER, P.E. Date

BUILDER/DEVELOPER'S CERTIFICATE (S.E.C.)

I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in this construction project will have a Certificate of Attendance at an MDE-Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We shall engage a registered professional engineer to supervise the construction, and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion. I/We also authorize periodic on-site inspections by HSCD.

TOM AMEEL 11/12/2010
Signature of Developer TOM AMEEL Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.

Jeffrey W. Spring 12/2/10
HOWARD SOIL CONSERVATION DISTRICT Date

OWNER/DEVELOPER

U.S. Properties, Inc.
Attn: Mr. G Damon Thayer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kathleen Deane 12/16/10
Chief, Division of Land Development Date

John P. ... 12/16/10
Chief, Development Engineering Division Date

Morgan J. ... 12/16/10
Director - Department of Planning and Zoning Date

SUBDIVISION NAME	SECTION	PARCEL			
HOWARD BUSINESS PARK	N/A	A-1/TM P.701			
L/F	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
4931/41 P.N. 1471	12	M-2	43	1 st	6012

PHASE II - STORMWATER MANAGEMENT & SEDIMENT EROSION CONTROL DETAILS

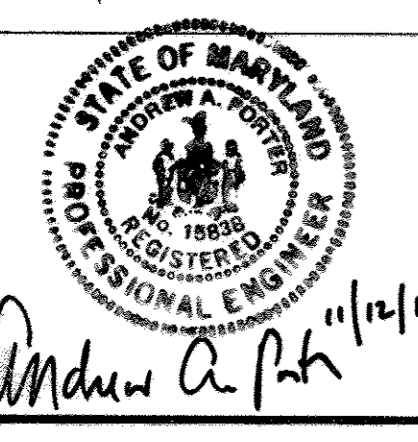
PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 4931 FOLIO 41

TAX MAP NO: 43 TM PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 12, 2010

SHEET 14 of 18
GP-11-28
SDP-00-114

CIVIL DESIGN SERVICES, LC

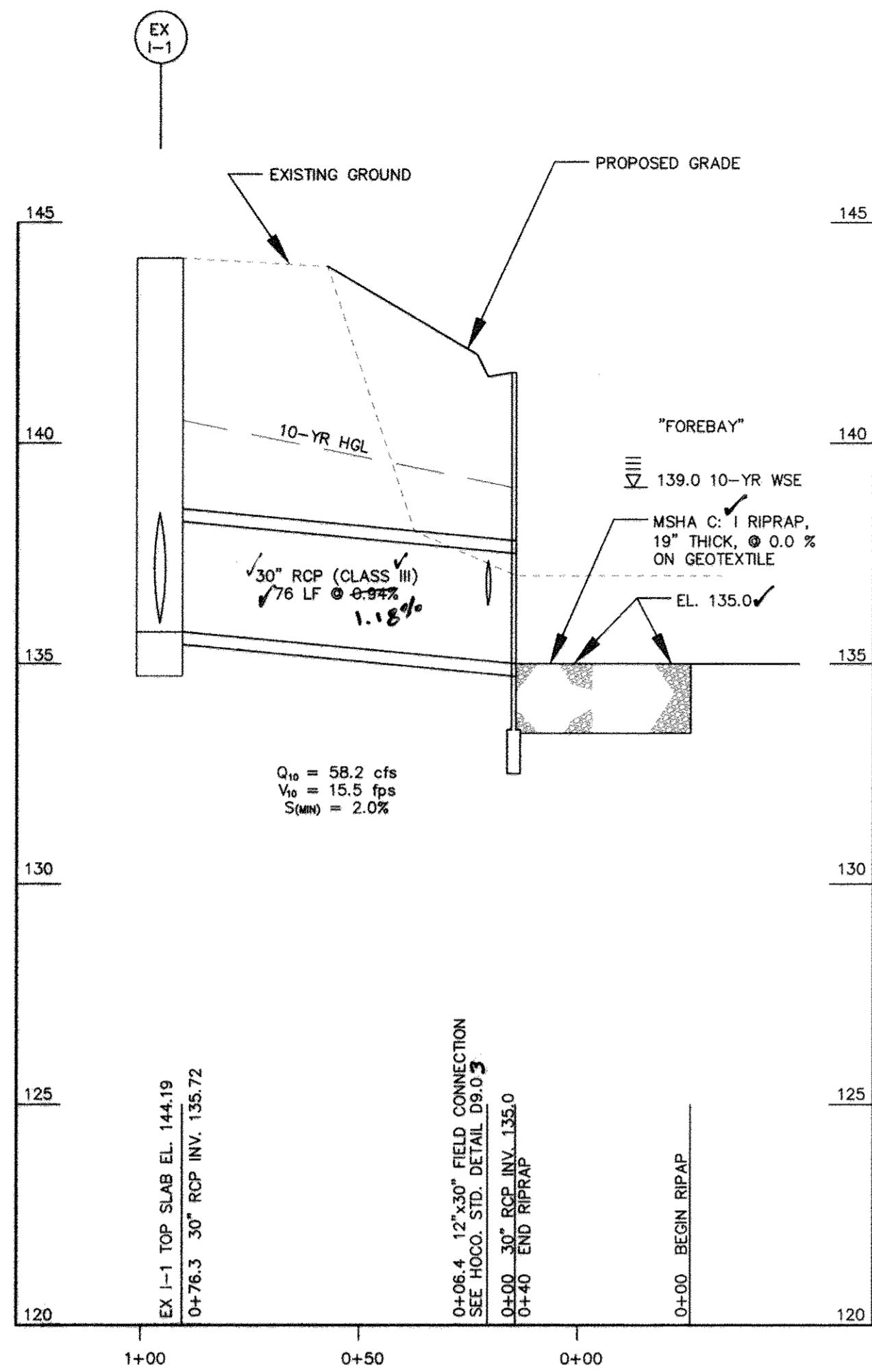
6123 Holly Ridge Court, Columbia, Maryland 21044
410.531.0572 phone/fax
civildesign@comcast.net



I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD, License No. 15838 w/expiracion December 17, 2011

Andrew A. Porter 11/12/10
Signature Date

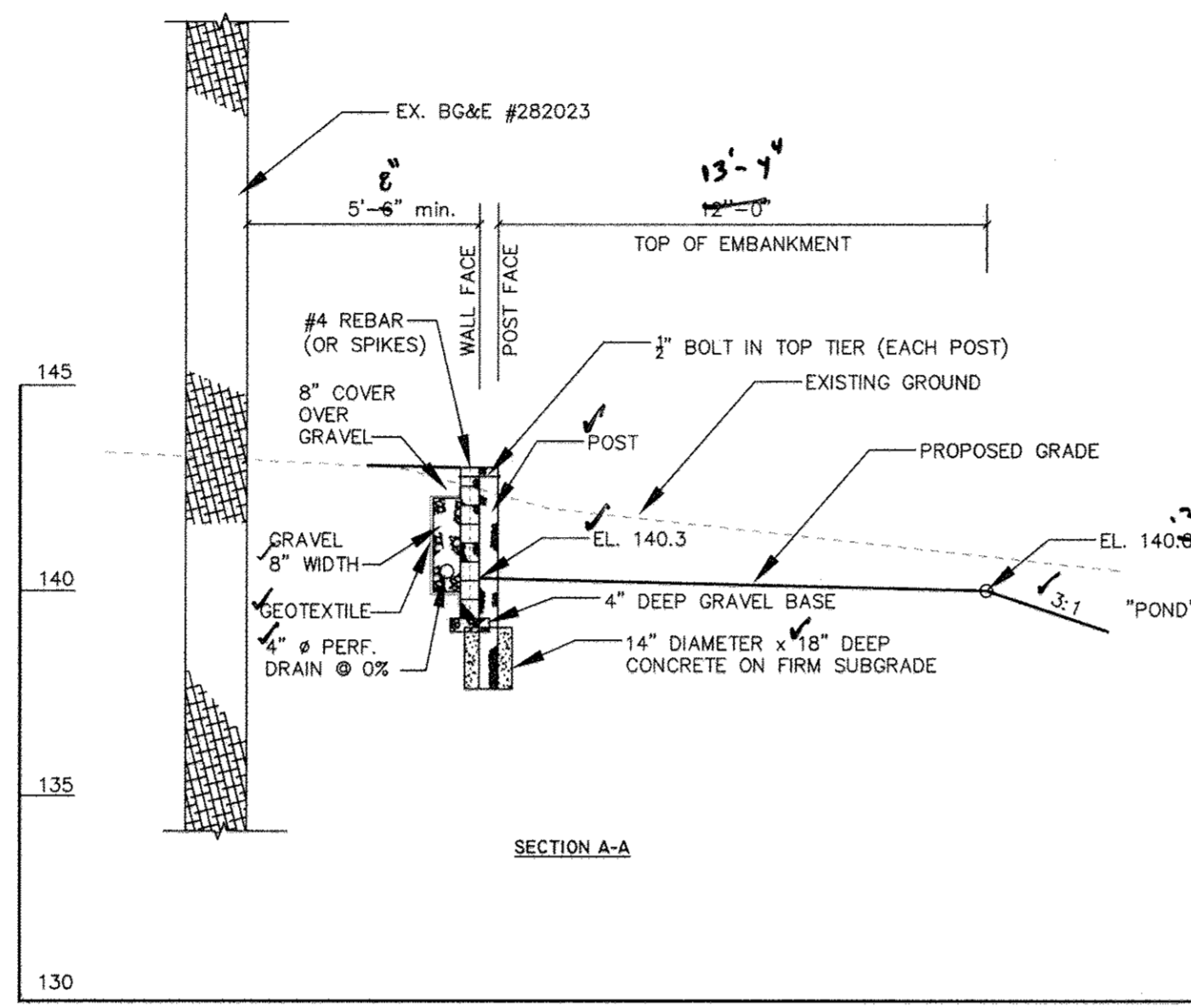
NO.	REVISION	DATE	Signature	Date



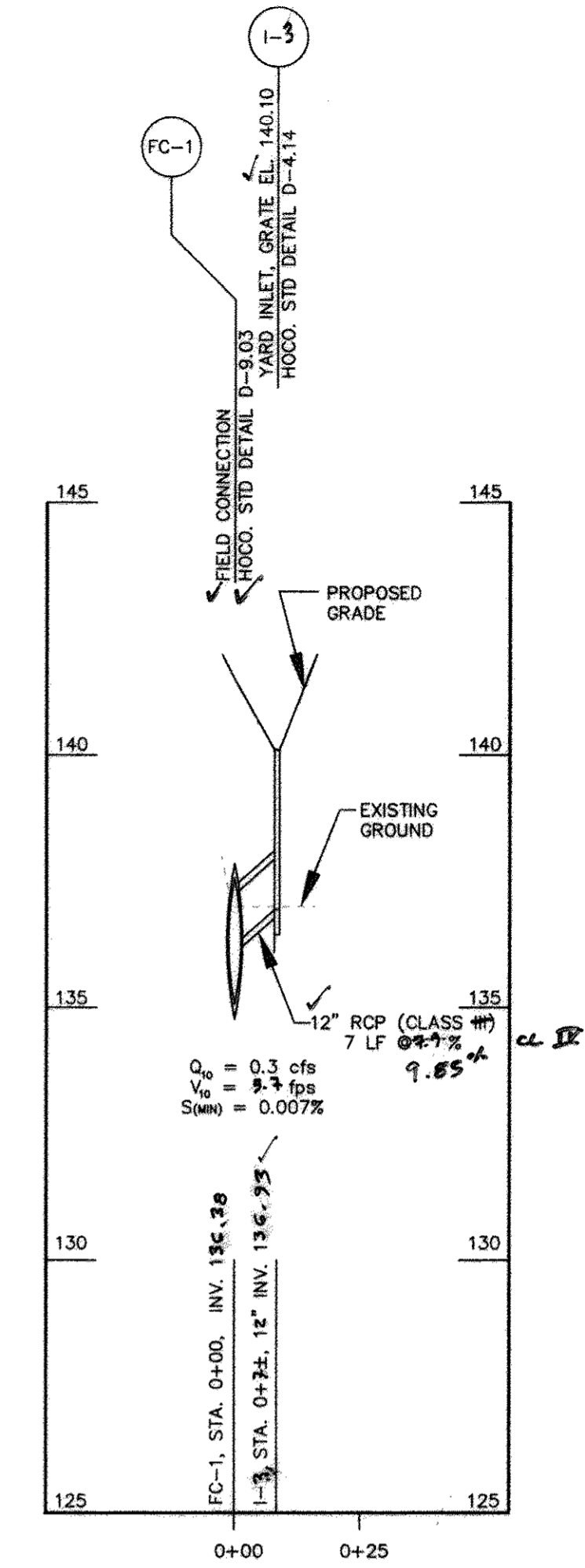
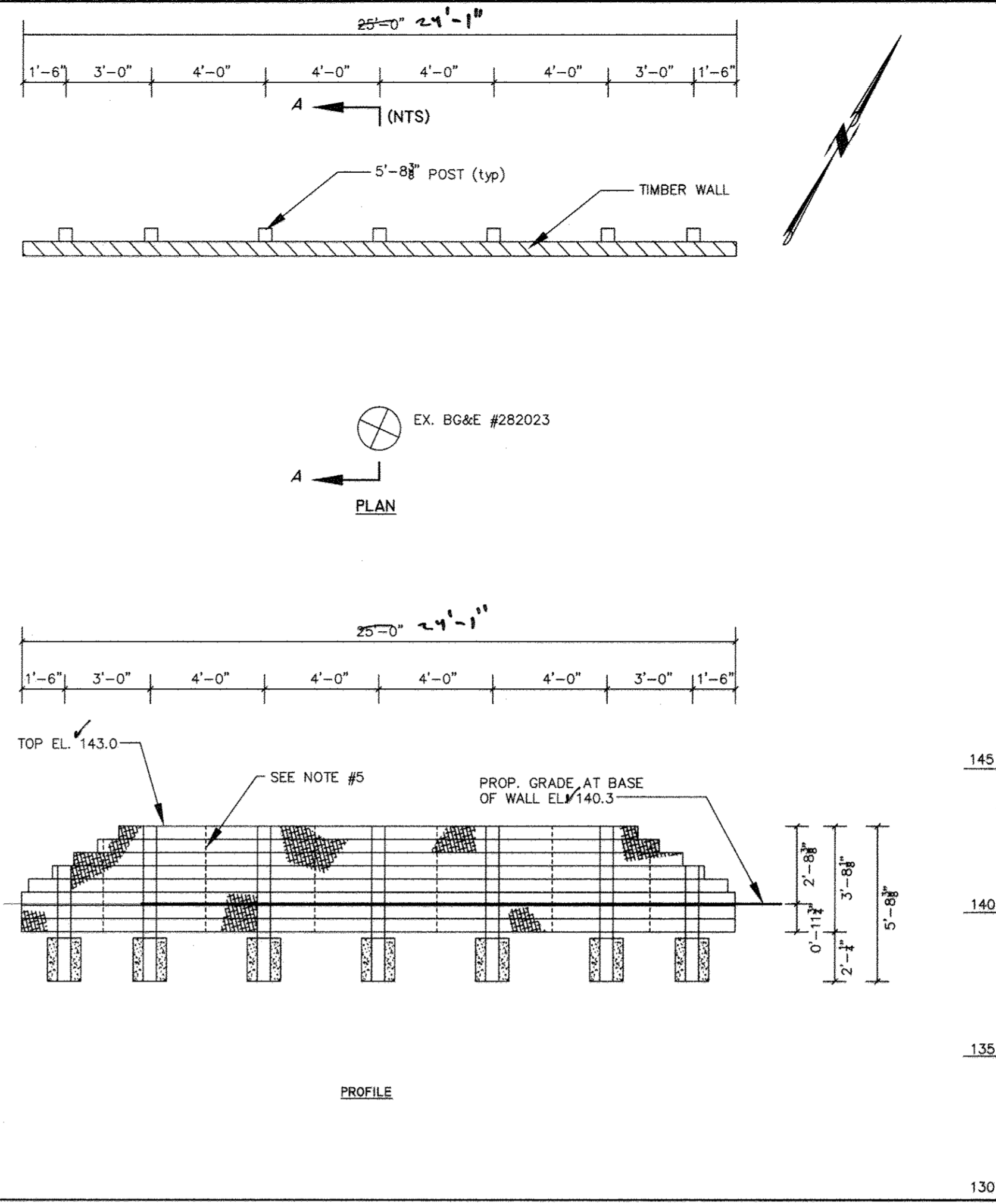
STORM DRAIN PROFILE EX-1 TO FOREBAY
SCALE: HORIZ. 1" = 30', VERT. 1" = 3'

TIMBER WALL NOTES

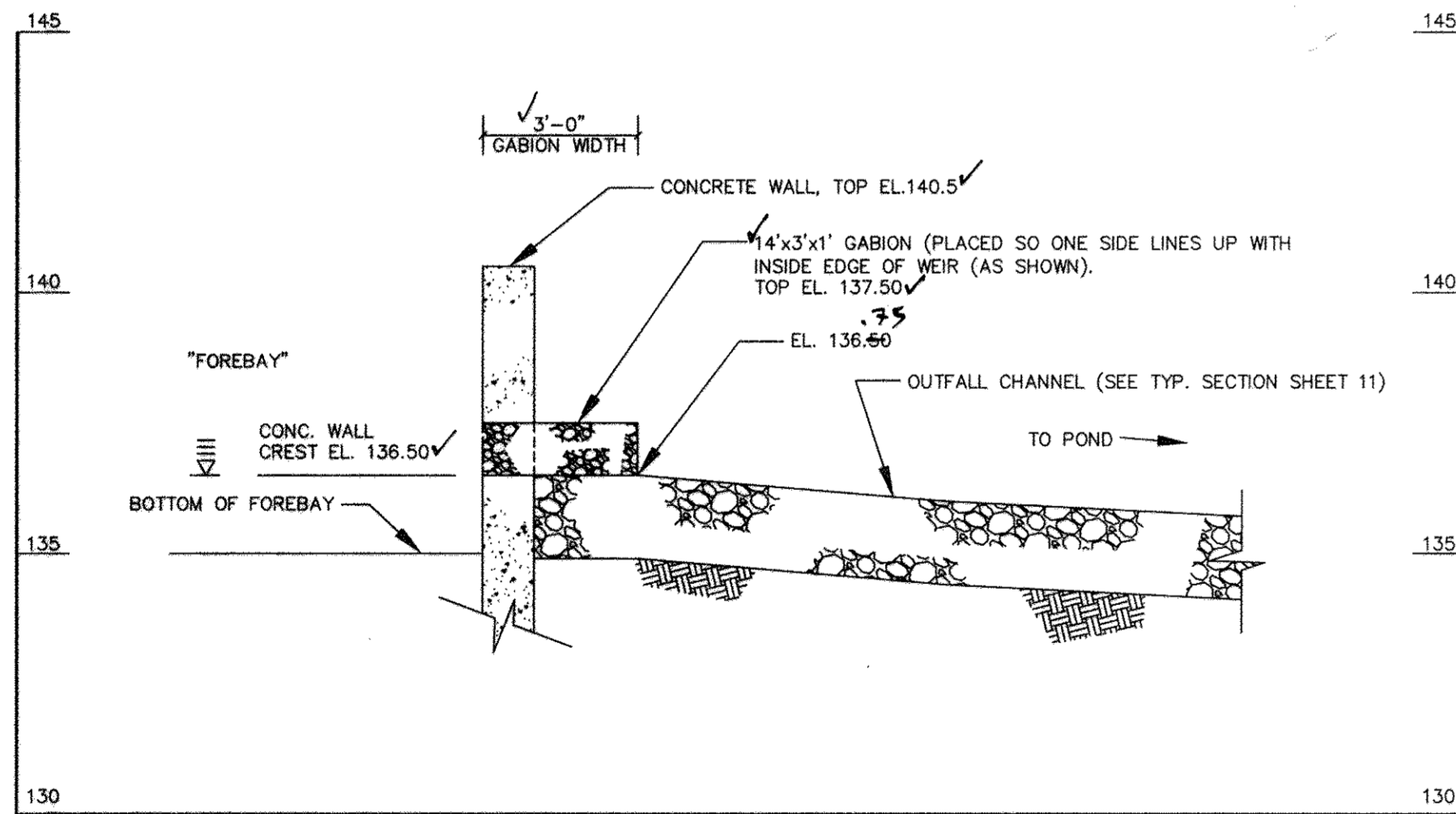
1. DO NOT EXCAVATE SOIL WITHIN 3.5 FT OF BGE POLE.
2. TIMBERS TO BE 6"x6" (min.) PRESSURE-TREATED AND FREE OF KNOTS.
3. WALL TO BE LEVEL.
4. WALL HEIGHT SHALL NOT EXCEED HEIGHT 2'-11".
5. INSTALL #4 REBARS THROUGH WALL AS SHOWN, OR USE 12" SPIKES (4" c/c) TO SECURE EACH TIER TO ONE BELOW.
- NOTE: EACH DISCRETE TIMBER MEMBER MUST CONTAIN AT LEAST TWO (2) SPIKES AND/OR REBARS.
6. STAGGER TIMBER BUTT JOINTS.
7. RUN 4" PERFORATED DRAIN TO DAYLIGHT ON EITHER SIDE OF WALL. USE SOLID PIPE IN NON-GRAVEL AREAS AND 1" INTO GRAVEL. PLACE 4" GRAVEL BELOW UNDERDRAIN. END GRAVEL 1.5'-2' FROM END OF WALL.
8. AFTER CONCRETE CURES, VERY FIRMLY COMPACT THE AROUND EACH POST.
9. CONCRETE: MSHA MIX 3, GRAVEL: WASHED MD 57 OR PEA GRAVEL OR EQUAL. MUST BE FREE OF FINES.
10. ALL HARDWARE TO BE GALVANIZED OR COATING FOR MOISTURE PROTECTION.
11. STEP TIMBER ENDS TO MATCH GRADE.
12. SEE SHEET 11 FOR GRADING AROUND WALL.



TIMBER WALL DETAIL
SCALE: 1" = 4'



STORM DRAIN PROFILE 1-3 TO FC-1
SCALE: HORIZ. 1" = 30', VERT. 1" = 3'



SECTION THRU FOREBAY (S-3) WEIR CREST
SCALE: 1" = 3'

√ = AS-BUILT

AS-BUILT CERTIFICATION
I hereby certify that the Facility Shown on This Plan (and ~~plans~~ ~~related to SDF-00-114~~) were constructed as shown on the "As-Built" Plans and Meets the Approved Plans and Specifications.
Andrew A. Porter 11/16/10 15838
Signature Date MD P.E. No.
Certify Means to State or Declare a Professional Opinion Based Upon Onsite Inspections and Material Tests Which Are Conducted During Construction. The Onsite Inspections and Material Tests Are Those Inspections and Tests Deemed Sufficient and Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean or imply a Guarantee By the Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, or Other Means, Including Meeting Commonly Accepted Industry Practices.

CIVIL DESIGN SERVICES, LC

6123 Holly Ridge Court, Columbia, Maryland 21044
410.531.0572 phone/fax
civildesign@comcast.net

For as shown 6/11/18

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD, License No. 15838 w/expiration December 17, 2011



Andrew A. Porter 11/16/10

NO.	REVISION	DATE

ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the Howard Soil Conservation District requirements. I have notified the developer that he/she must engage a registered professional engineer to supervise the pond construction and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion.
Andrew A. Porter 11/12/2010
Signature of Engineer ANDREW A. PORTER, P.E. Date

BUILDER/DEVELOPER'S CERTIFICATE (S.E.C.)
I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in this construction project will have a Certificate of Attendance at an MDE-Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We shall engage a registered professional engineer to supervise the construction, and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion. I/We also authorize periodic on-site inspections by HSCD.
TOM AMEL 11/12/2010
Signature of Developer TOM AMEL Date

These plans for small pond construction, soil erosion and sediment controls meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.
Charles A. Allen 12/7/10
HOWARD SOIL CONSERVATION DISTRICT Date

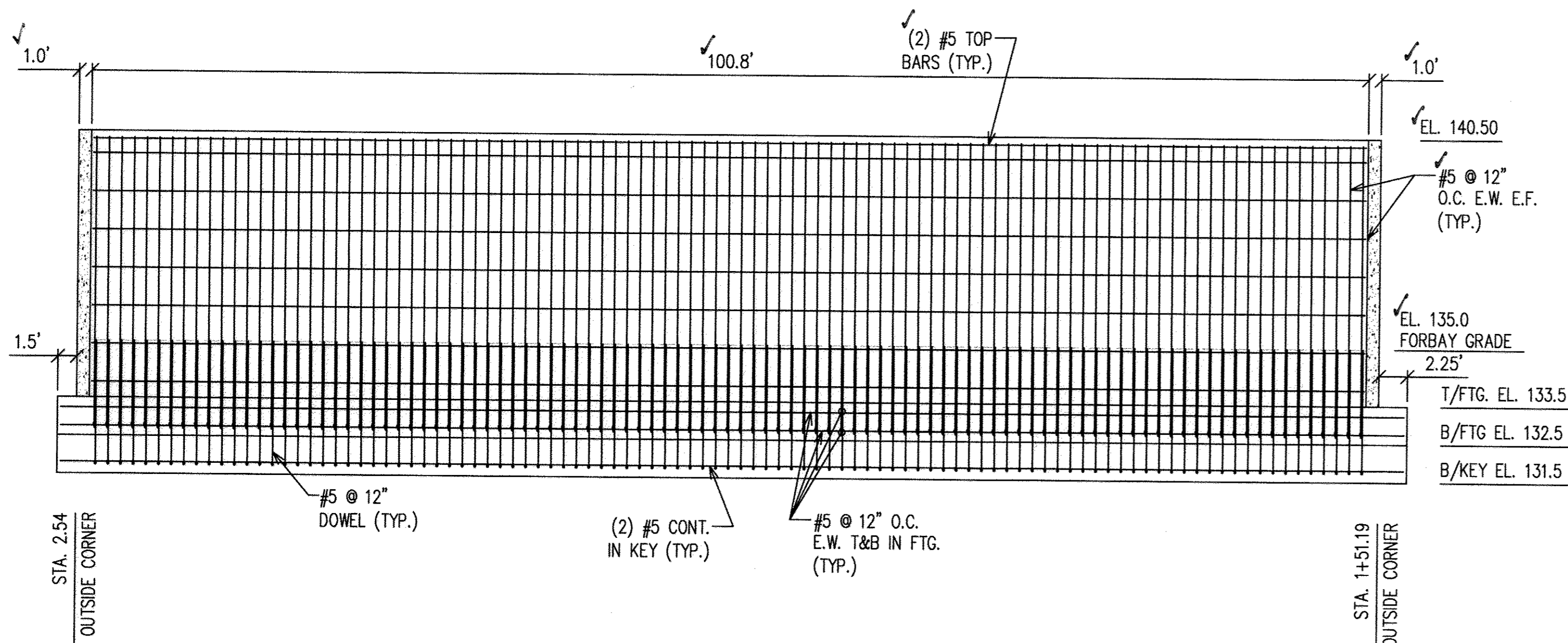
OWNER/DEVELOPER
U.S. Properties, Inc.
Attn: Mr. G Damon Troyer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
K. S. Shalson 12/16/10
Chief, Division of Land Development Date
V. J. P. P. P. 12/16/10
Chief, Development Engineering Division Date
Thomas E. Butler 12/16/10
Director - Department of Planning and Zoning Date

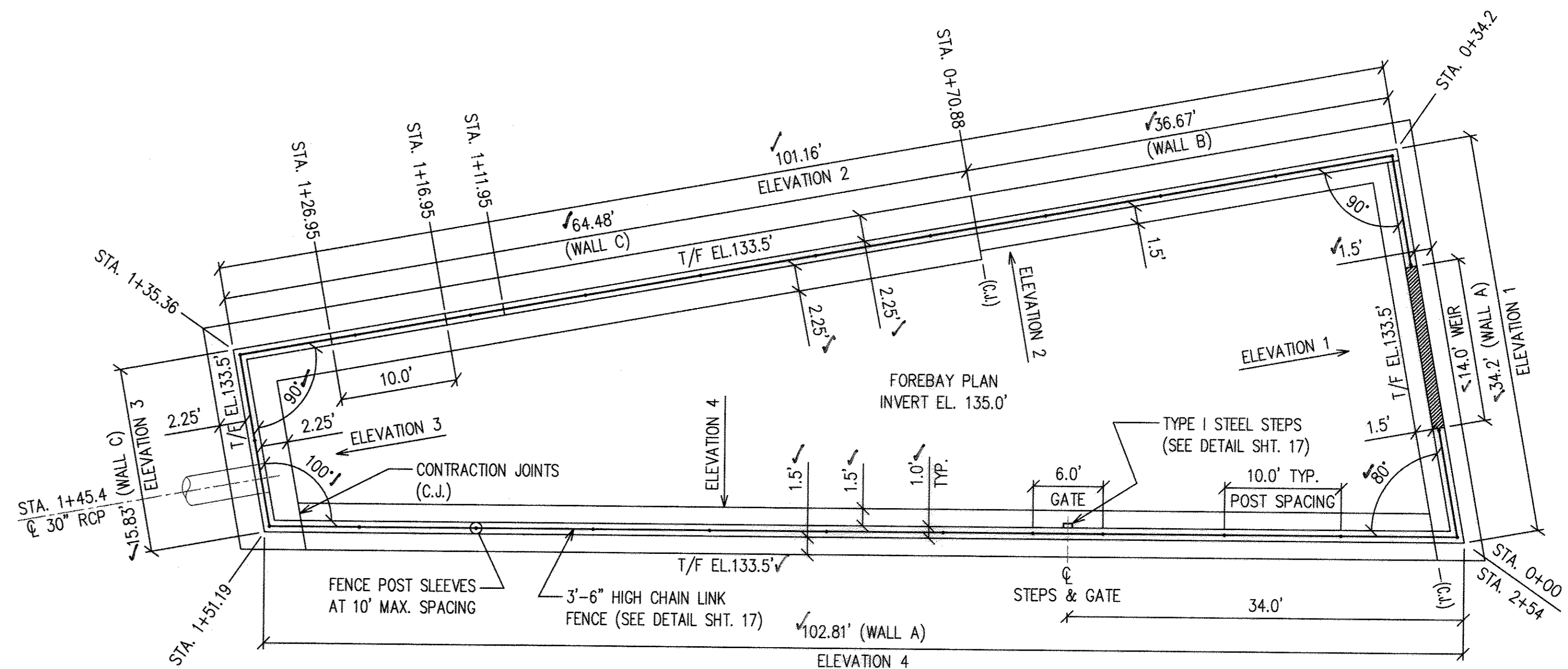
SUBDIVISION NAME	SECTION	PARCEL
HOWARD BUSINESS PARK	N/A	A-1/TM P.701

L/F	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
4931/41 P.N. 1417	12	M-2	43	1 st	6012

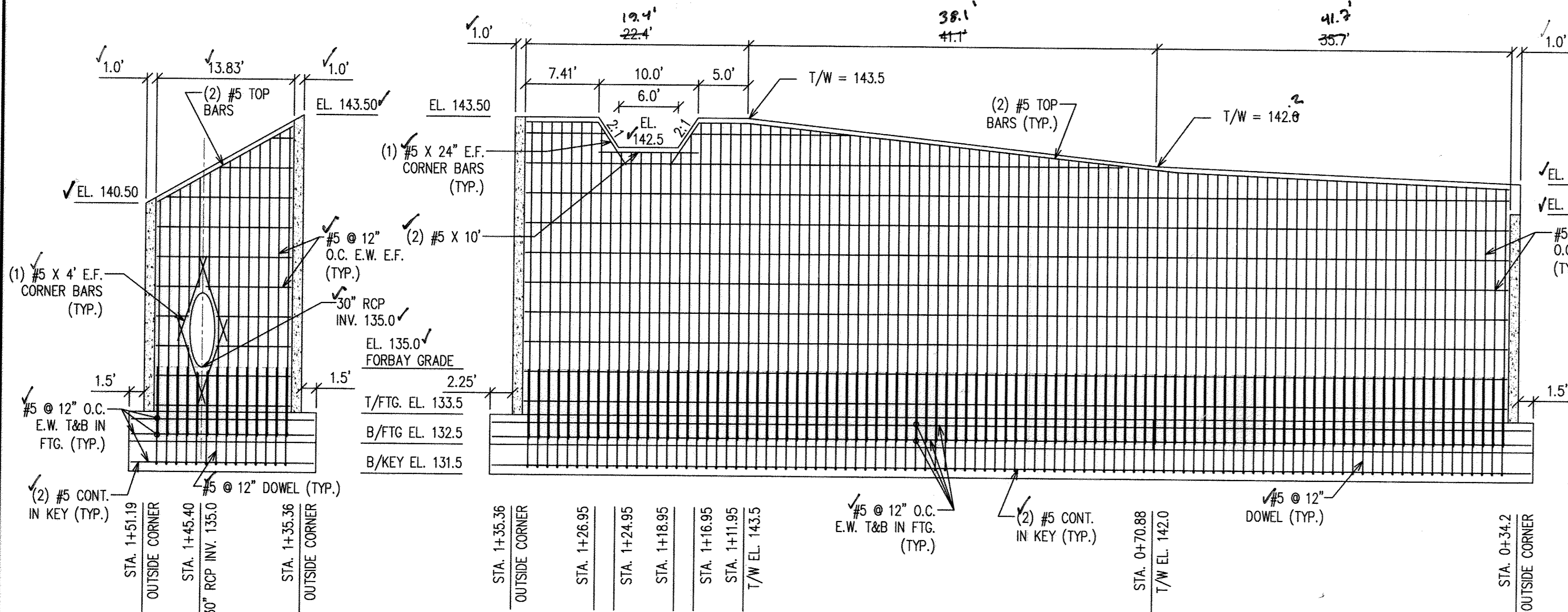
PHASE II
STORM DRAIN PROFILE & POND DETAILS
PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 49.31 FOLIO 41
TAX MAP NO: 43 TM PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 12, 2010
SHEET 15 of 19
SDP-00-114



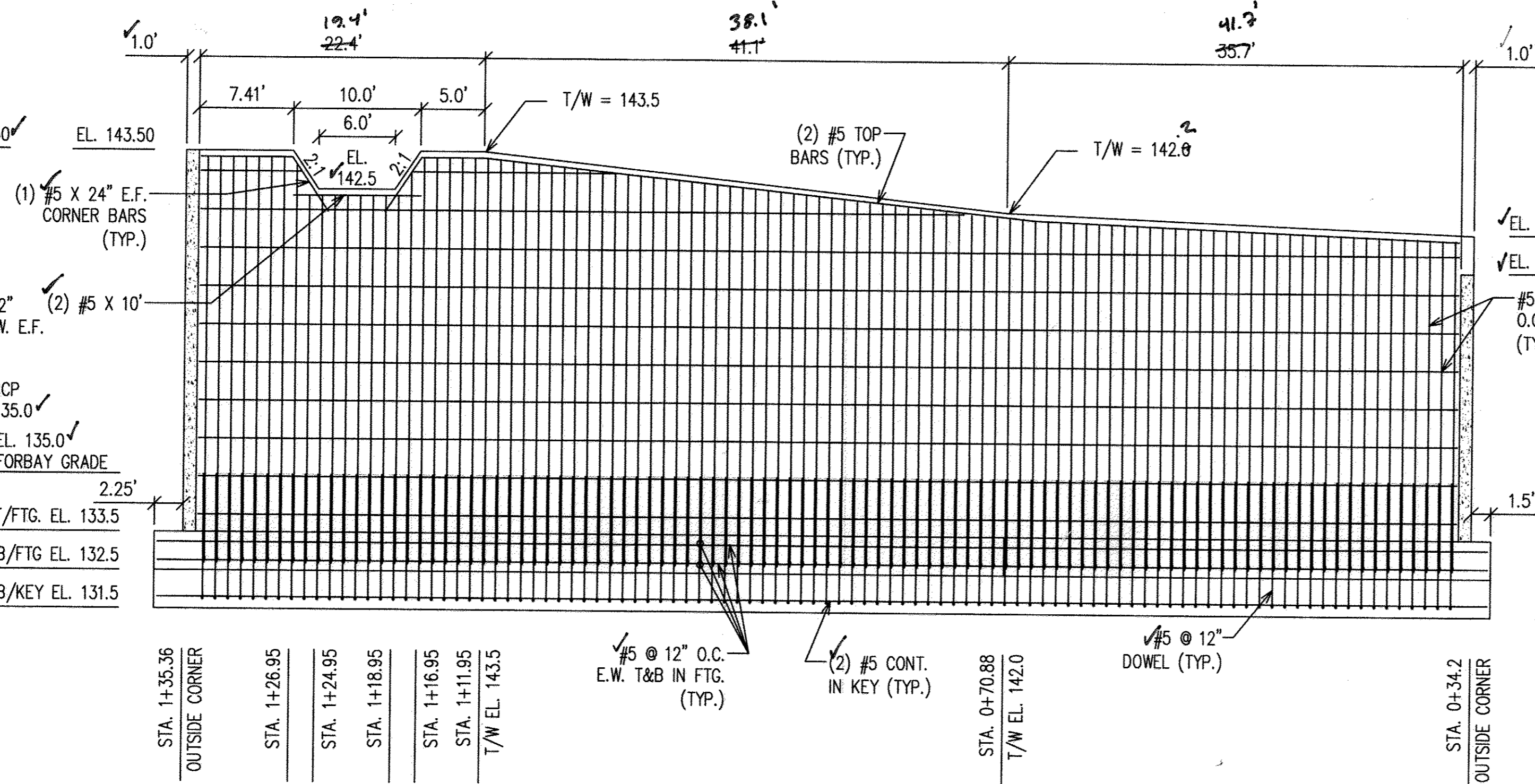
ELEVATION 4



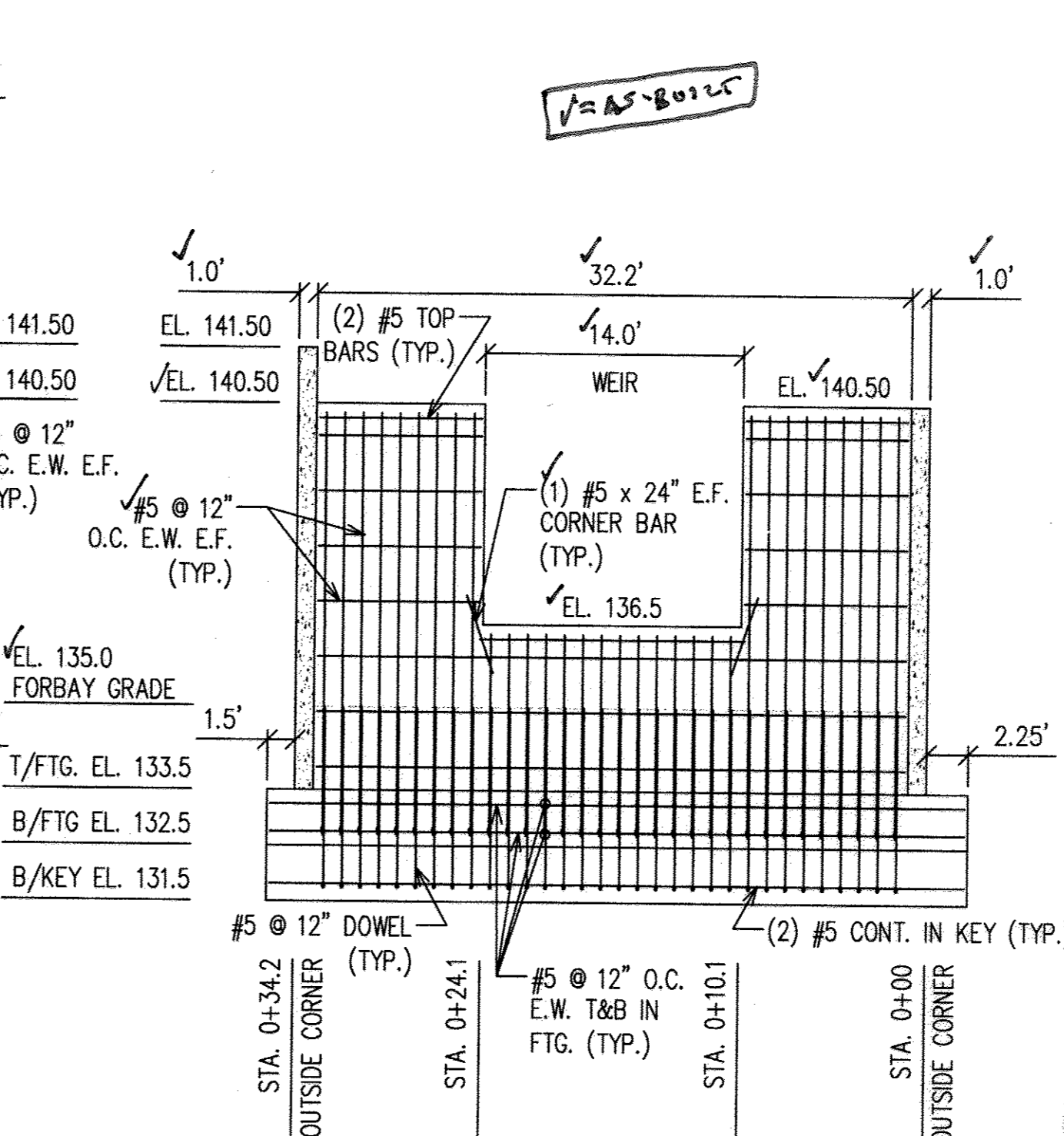
FOREBAY STRUCTURE S-3 PLAN
SCALE: 1/8" = 1'-0"



ELEVATION 3

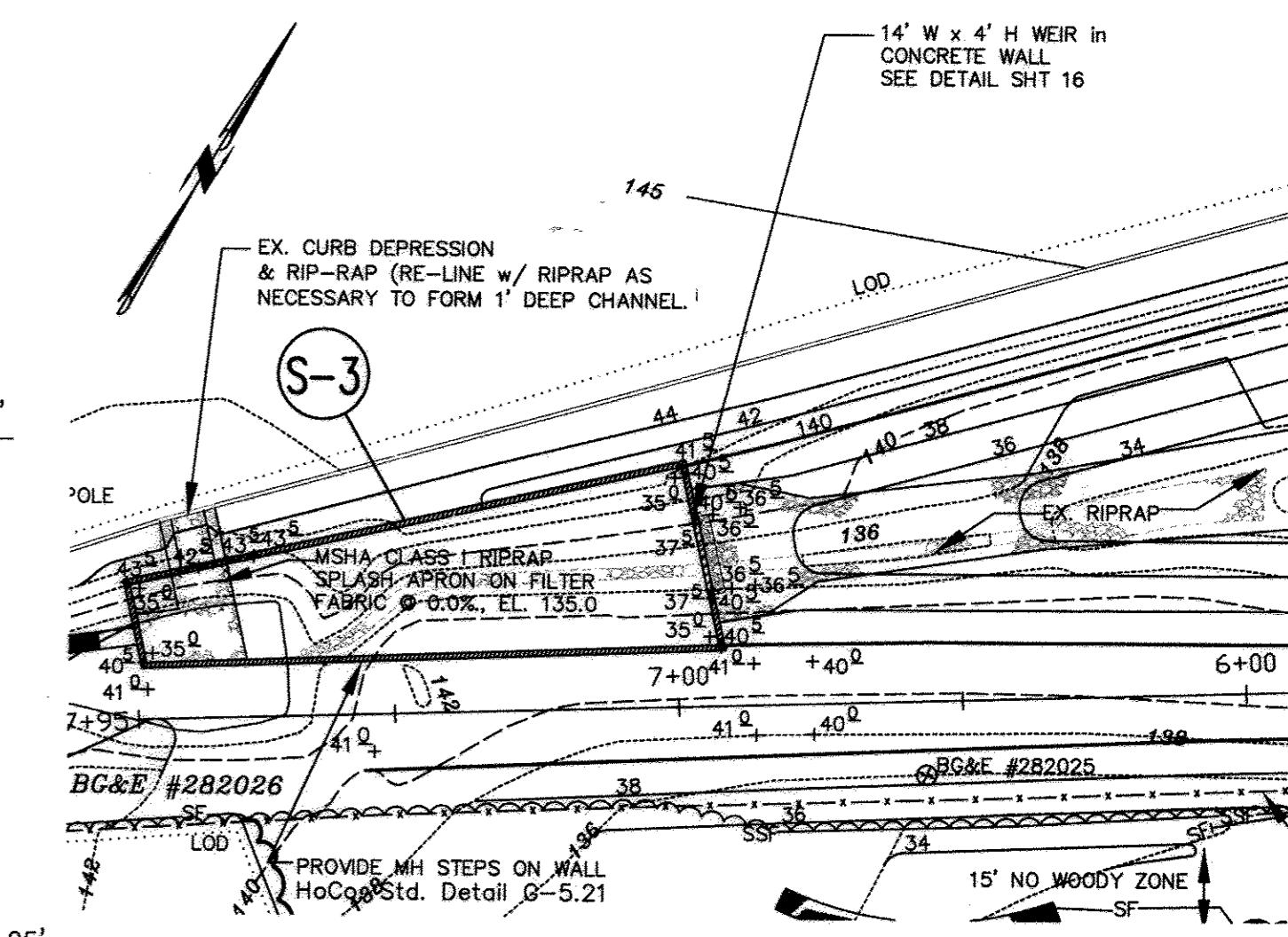


ELEVATION 2



ELEVATION 1

FOREBAY CONCRETE WALL ELEVATIONS (INSIDE VIEW)
SCALE: VERT.: 3/8" = 1'-0"
HORIZ.: 1/8" = 1'-0"



FOREBAY STRUCTURE S-3 SITE PLAN
SCALE: 1" = 30'

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.
Andrew A. Porter
Signature
15838
P.E. No.
610118
Date

Certify Means to State or Declare a Professional Opinion Based Upon Onsite Inspections and Material Tests Which are Conducted During Construction. The Onsite Inspections and Material Tests are Those Inspections and Tests Deemed Sufficient and Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean or Imply a Guarantee by the Engineer nor Does an Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed by Contract, Employment, or Other Means, Including Meeting Commonly Accepted Industry Practices.

HILLIS-CARNES
ENGINEERING ASSOCIATES
10975 Guilford Road, Suite A
(410) 860-4788
Annapolis Junction, MD
Fax: (410) 860-4098

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD, License No. 9454 w/expiration September 9, 2011



ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the Howard Soil Conservation District requirements. I have notified the developer that he/she must engage a registered professional engineer to supervise the pond construction and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion.

Andrew A. Porter
Signature of Engineer ANDREW A. PORTER, P.E. Date 11/12/2010

I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in this construction project will have a Certificate of Attendance at an MDE-Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We shall engage a registered professional engineer to supervise the construction, and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion. I/We also authorize periodic on-site inspections by HSCD.

TOM AMEEL
Signature of Developer TOM AMEEL Date 11/12/2010

These plans for small pond construction, soil erosion and sediment controls meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.

Howard Soil Conservation District
Signature of District Director Date 12/7/10

OWNER/DEVELOPER

U.S. Properties, Inc.
Attn: Mr. G. Damon Thayer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kesther
Chief, Division of Land Development Date 12/16/10
John
Chief, Development Engineering Division Date 12/16/10
Morgan S. Butler
Director - Department of Planning and Zoning Date 12/16/10

SUBDIVISION NAME		SECTION		PARCEL	
HOWARD BUSINESS PARK		N/A		A-1/TM P.701	
L/F	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
4931/41	12	M-2	43	1 st	6012

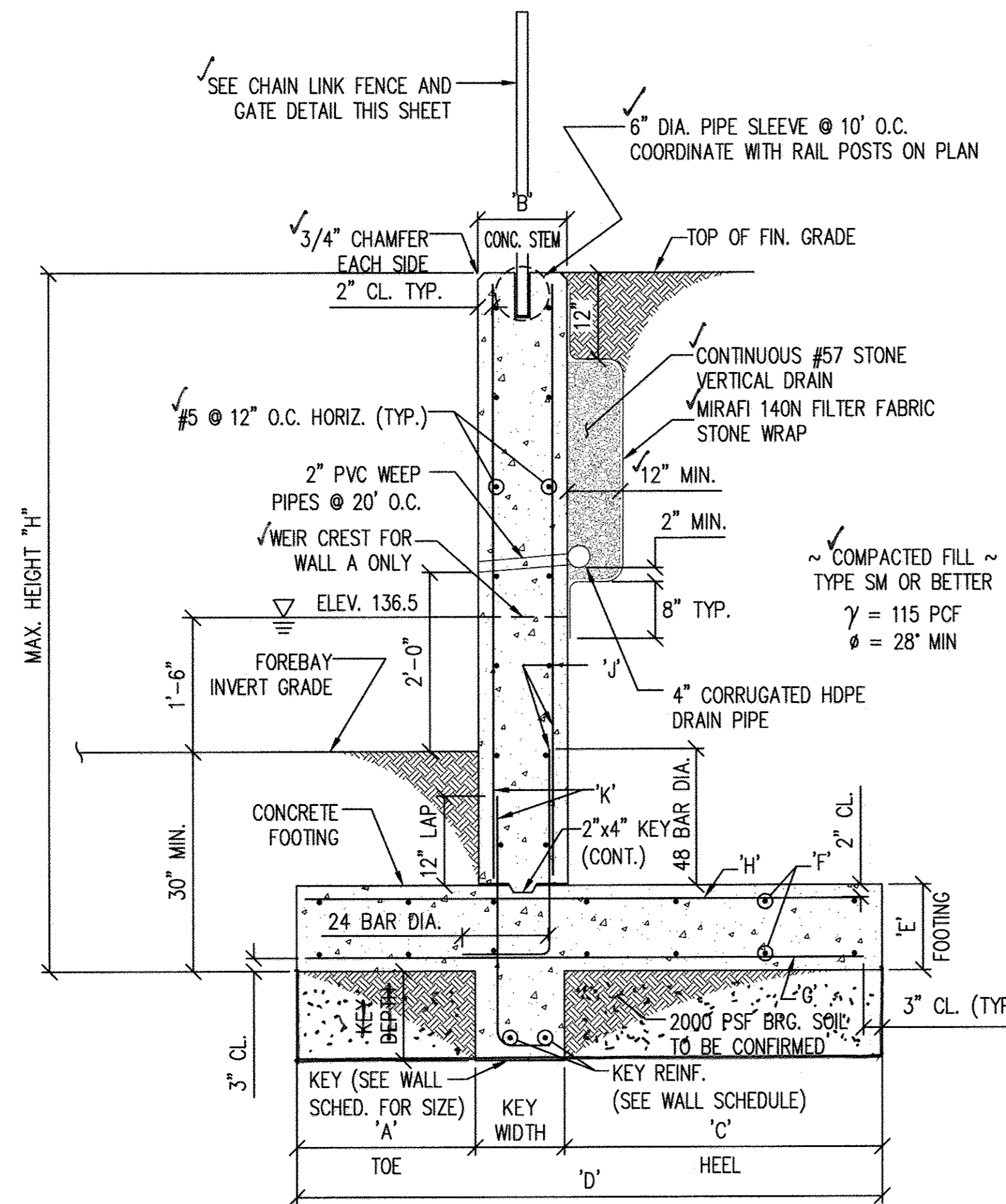
PHASE II
STRUCTURE S-3 PLANS AND ELEVATIONS

PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 4931 FOLIO 41

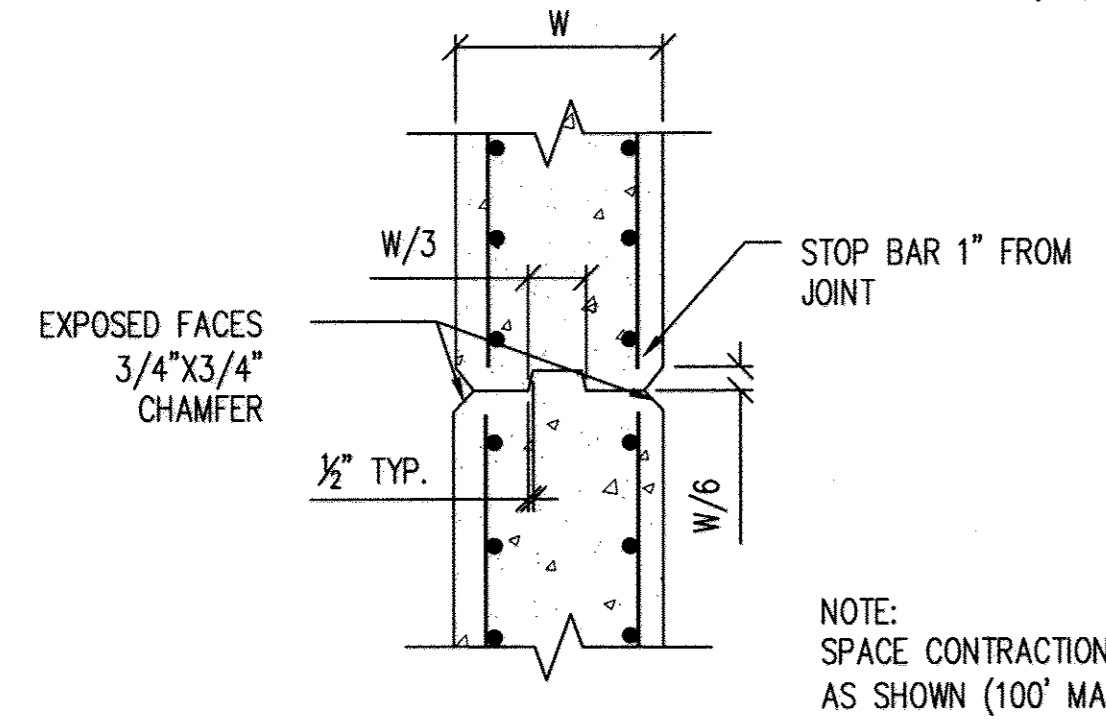
TAX MAP NO: 43 TM PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 12, 2010

SHEET 16 of 18

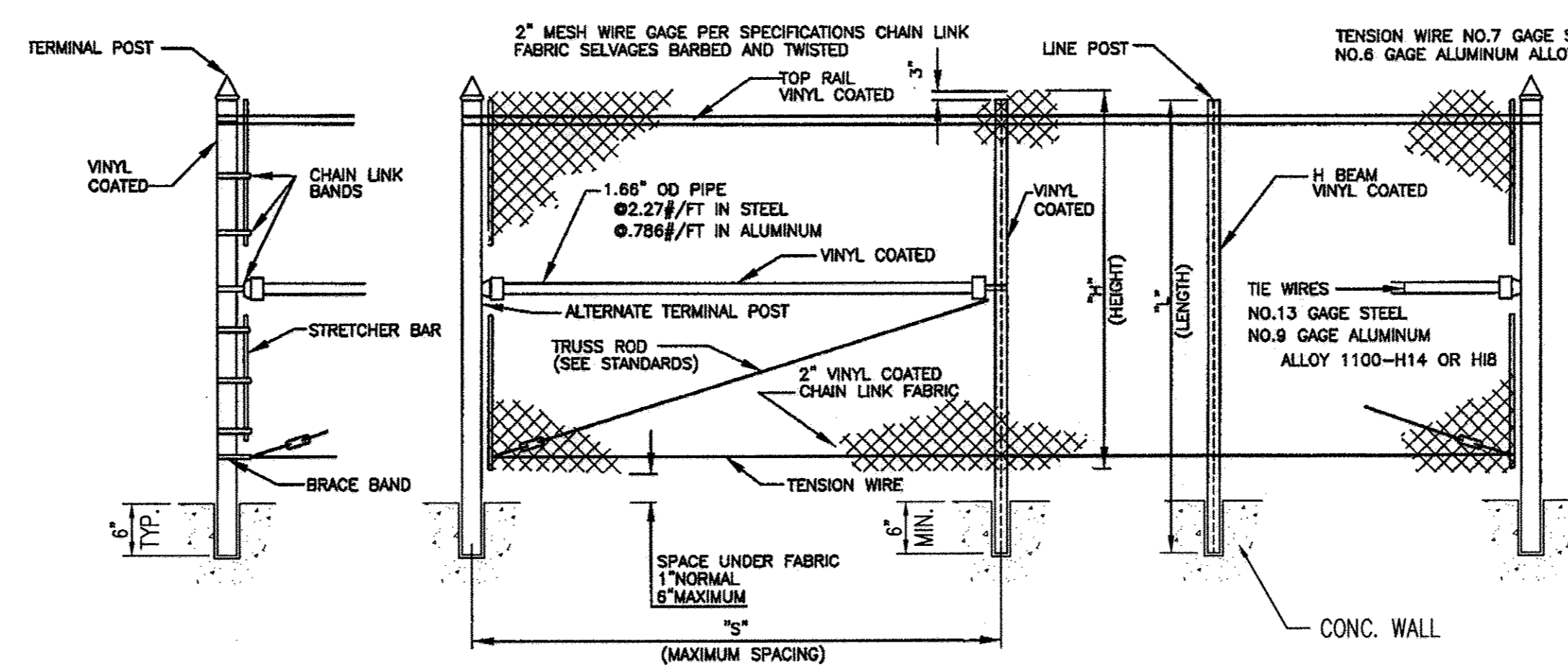
GP-11-28
SDP-00-114



TYPICAL FOREBAY WALL SECTION
N.T.S.

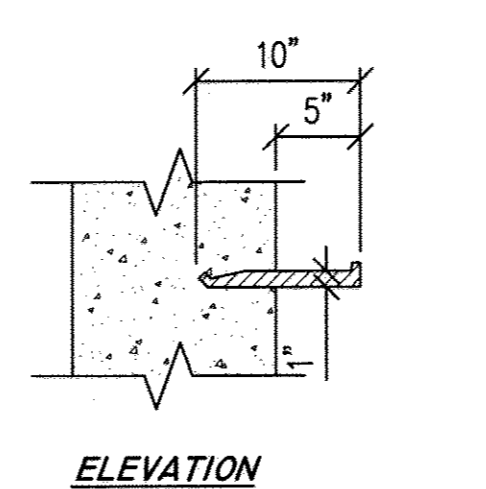
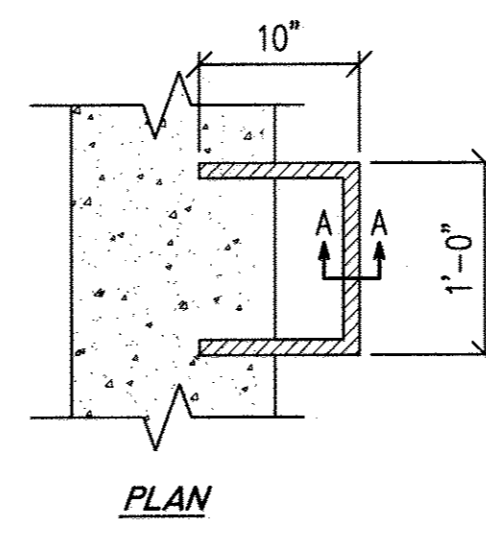


WALL STEM VERTICAL CONTRACTION JOINT (C.J.) DETAIL
N.T.S.

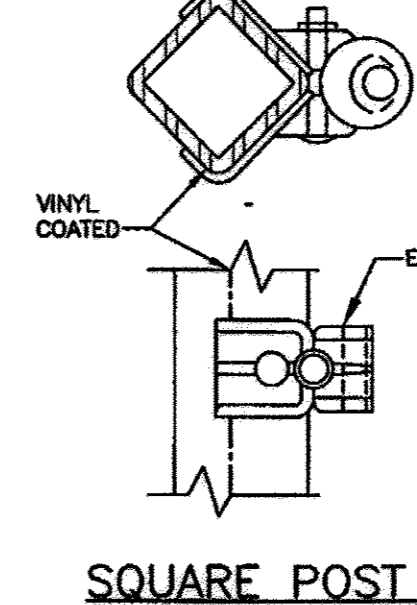
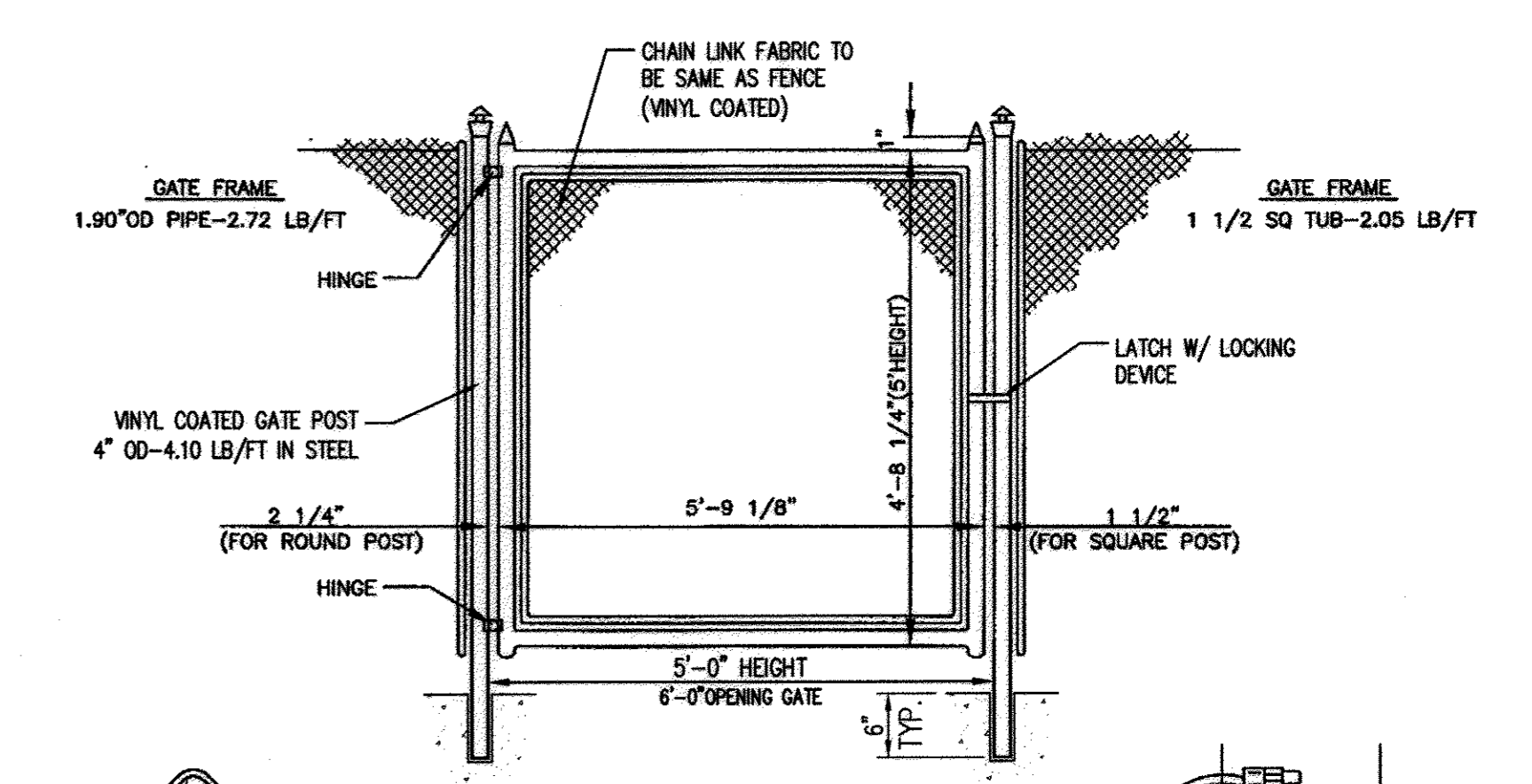


"H" HEIGHT OF FENCE	3'-6"
"S" POST SPACING MAX	10'-0"
"L" LENGTH OF H BEAM	4'-1" MIN.
H BEAM - STEEL	1.875" x 1.65" @ 2.70" / FT
TERM POST STEEL	2.375" OD @ 365" / FT
ALT TERM POST STEEL	2.00" SQ @ 3.85" / FT
HOG RING - STEEL	18" ± 0/C 12.5 GA GALV. STEEL WIRE

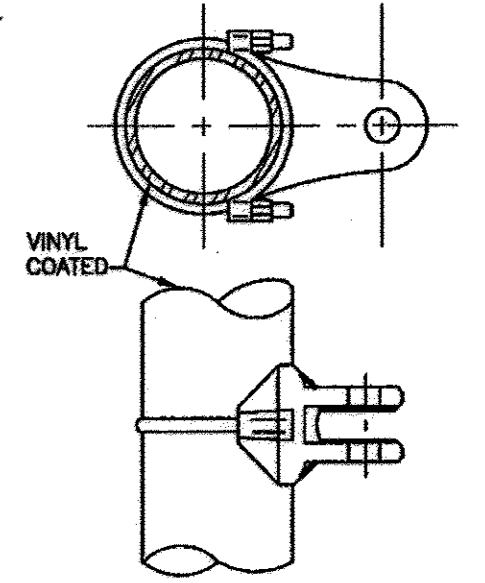
- STRUCTURAL CONCRETE NOTES:**
- ALL CONCRETE SHALL BE 4000 PSI WITH AIR ENTRAINMENT, COMPLIANT WITH ACI BUILDING CODE.
 - REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60.
 - WALL BACKFILL SHALL BE COMPACTED TO 95% OF T-99.
 - CONCRETE WORK SHALL COMPLY WITH THE LATEST ACI 318 BUILDING CODE FOR CONCRETE STRUCTURES.
 - ALL REBAR SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAM.
 - ALL WALL EXPOSED SURFACES SHALL BE MORTAR PATCHED AND SACK-RUBBED FINISHED WITH GROUT AND BURLAP.
 - GEOMETRIC LAYOUT OF STRUCTURES IS BASED ON INFORMATION PROVIDED BY OTHERS. COORDINATE LOCATIONS WITH PROJECT PLANS. RESOLVE ANY DISCREPANCY BEFORE PROCEEDING.
 - OWNER SHALL RETAIN INDEPENDENT TESTING AND INSPECTION AGENCY TO INSPECT AND VERIFY CONSTRUCTION OF THE RETAINING WALLS AND FOOTINGS. GEOTECHNICAL ENGINEER SHALL CONFIRM SOIL BEARING CAPACITY UNDER WALL FOOTING AND VERIFY OTHER BACKFILL SOIL CRITERIA.



TYPE I POLYPROPYLENE PLASTIC COATED STEEL STEP
N.T.S.



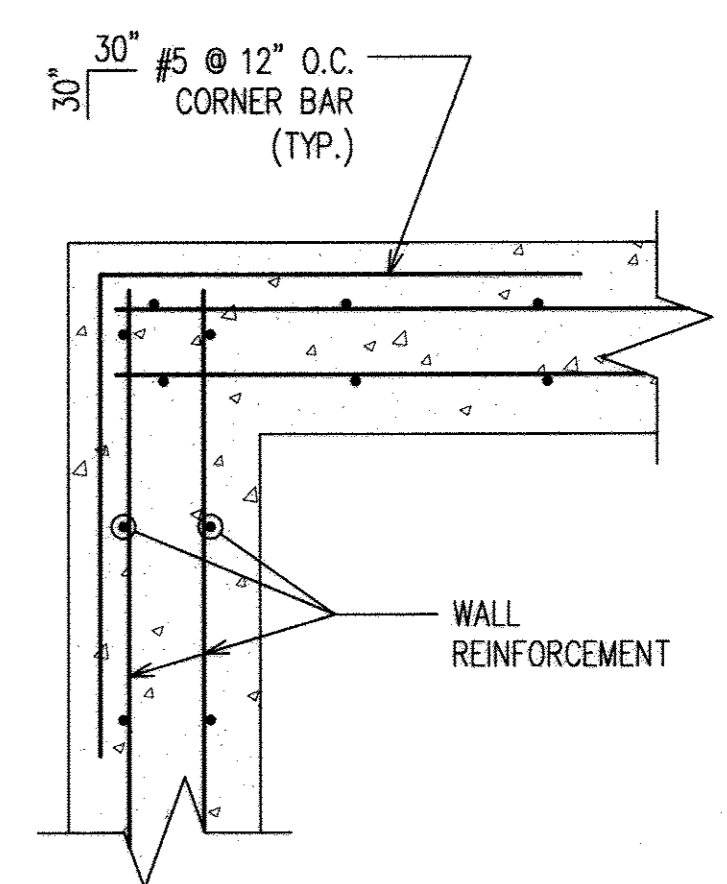
SQUARE POST HINGE



ROUND POST HINGE

CHAINLINK FENCE AND GATE DETAILS
N.T.S.

- STEP DETAIL NOTES:**
- STEPS SHALL BE DESIGNED SO THAT FEET CANNOT SLIP OFF THE END.
 - STEPS SHALL BE ALIGNED TO FORM A CONTINUOUS LADDER WITH STEPS EQUALLY SPACED VERTICALLY AT A DISTANCE OF 12" APART.
 - BOTTOM STEP SHALL BE A MAXIMUM 12" ABOVE FOREBAY GRADE.
 - THE TOP STEP SHALL BE 2'-0" BELOW THE TOP OF WALL.
 - REFERENCE HOWARD COUNTY DPW STANDARD DETAIL G-5.21.



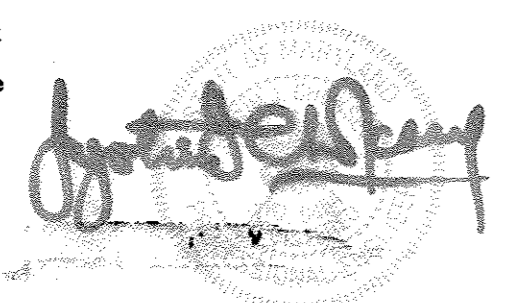
TYPICAL CORNER REINFORCEMENT DETAIL
N.T.S.

FOREBAY WALL SCHEDULE

Wall Type	Max. Height	Wall & Footing Dimension					Footing Reinforcements					Stem Reinforcement					Key Size (width x depth)
		Toe "A"	Stem "B"	Heel "C"	Width "D"	Thick "E"	"F"	"G"	"H"	"J"	"K"	Reinf.	Size	Reinf.	Size		
A	8'-0"	1'-6"	12"	1'-6"	4'-0"	12" x 2"	#5@12"	#5@12"	#5@12"	#5@12"	#5@12"	3-#5	12" x 12" x 2"	1"			
B	9'-6"	1'-6"	12"	2'-3"	4'-9"	12" x 2"	#5@12"	#5@12"	#5@12"	#5@12"	#5@12"	3-#5	12" x 12" x 2"	1"			
C	11'-0"	2'-3"	12"	2'-3"	5'-6"	12" x 2"	#5@12"	#5@12"	#5@12"	#5@12"	#5@12"	3-#5	12" x 12" x 2"	1"			

HILLIS-CARNES ENGINEERING ASSOCIATES
10975 Guilford Road, Suite A Annapolis Junction, MD
(410) 880-4788 Fax: (410) 880-4098

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD, License No. 9454 w/expiration September 9, 2011



ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the Howard Soil Conservation District requirements. I have notified the developer that he/she must engage a registered professional engineer to supervise the pond construction and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion.
Signature of Engineer: Andrew C. Porter, P.E. Date: 11/14/2010

I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in this construction project will have a Certificate of Attendance at an MDE-Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We shall engage a registered professional engineer to supervise the construction, and provide the Howard Soil Conservation District (HSCD) with a pond "As-Built" plan within 30 days of completion. I/We also authorize periodic on-site inspections by HSCD.
Signature of Developer: Tom Ameel Date: 11/12/2010

These plans for small pond construction, soil erosion and sediment controls meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.
Signature: [Signature] Date: 10/2/10
HOWARD SOIL CONSERVATION DISTRICT

OWNER/DEVELOPER
U.S. Properties, Inc.
Attn: Mr. G Damon Thayer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

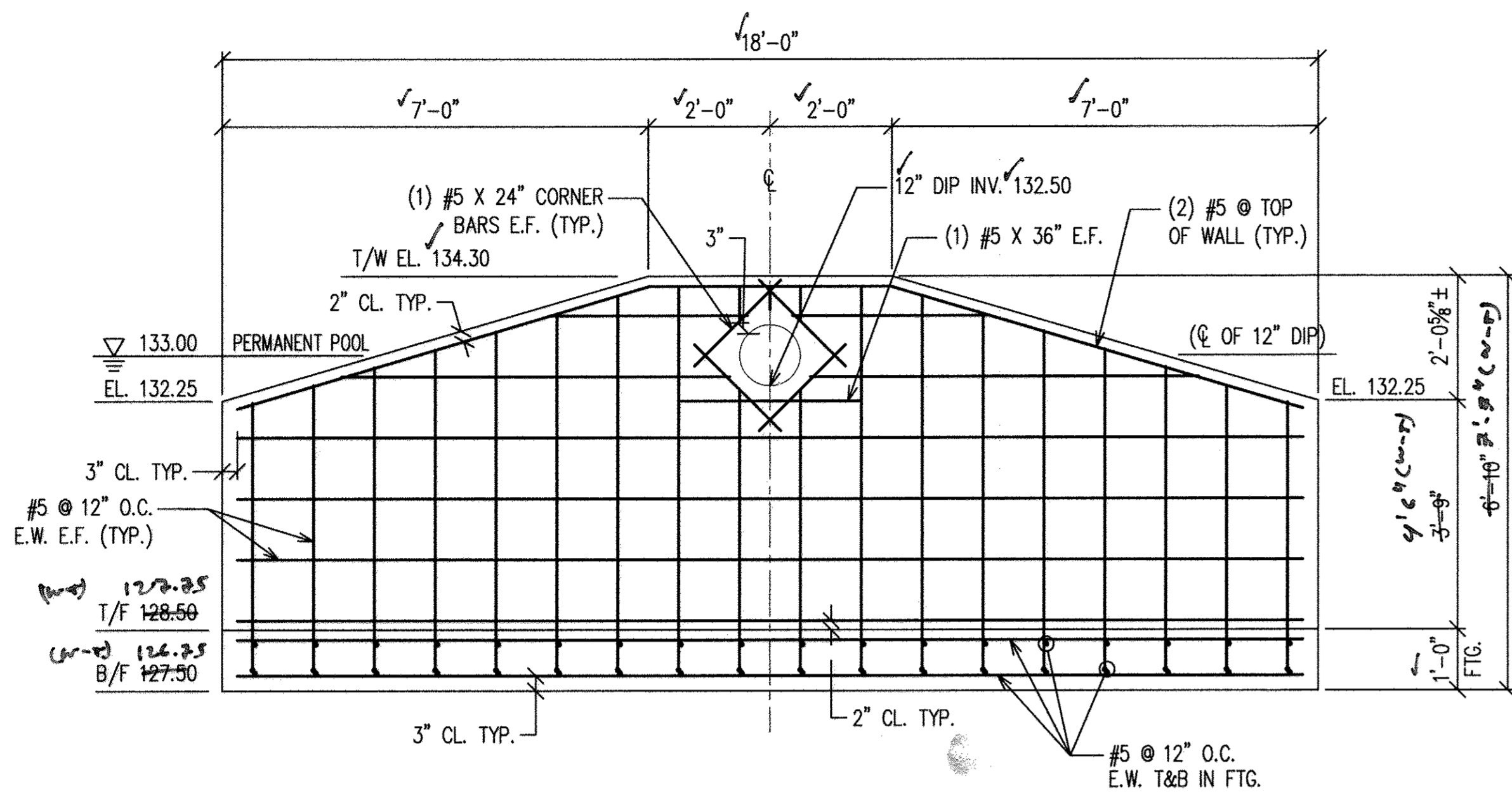
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land Development: [Signature] Date: 12/6/10
Chief, Development Engineering Division: [Signature] Date: 12/13/10
Director - Department of Planning and Zoning: [Signature] Date: 12/16/10

SUBDIVISION NAME: HOWARD BUSINESS PARK SECTION: N/A PARCEL: A-1/TM P.701
L/F: 4931/41, P.N. (4-17) GRID NO.: 12 ZONE: M-2 TAX/ZONE: 43 ELEC. DIST.: 1st CENSUS TR.: 6012

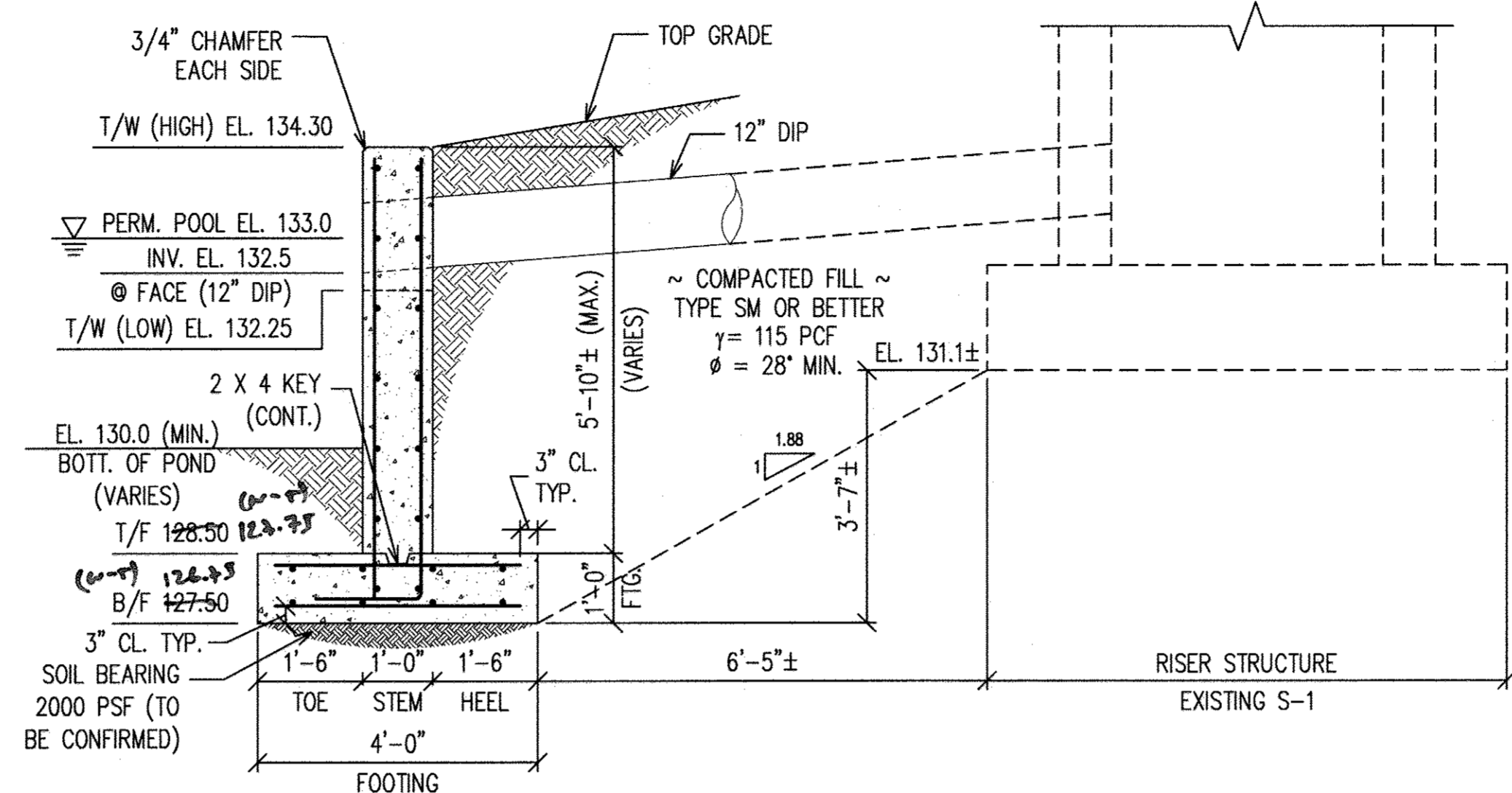
PHASE II
STRUCTURE S-3 CONSTRUCTION DETAILS
PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 4931 FOLIO 41

TAX MAP NO: 43 TM PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 12, 2010
SHEET 17 OF 18 GP-11-28 SDP-00-114

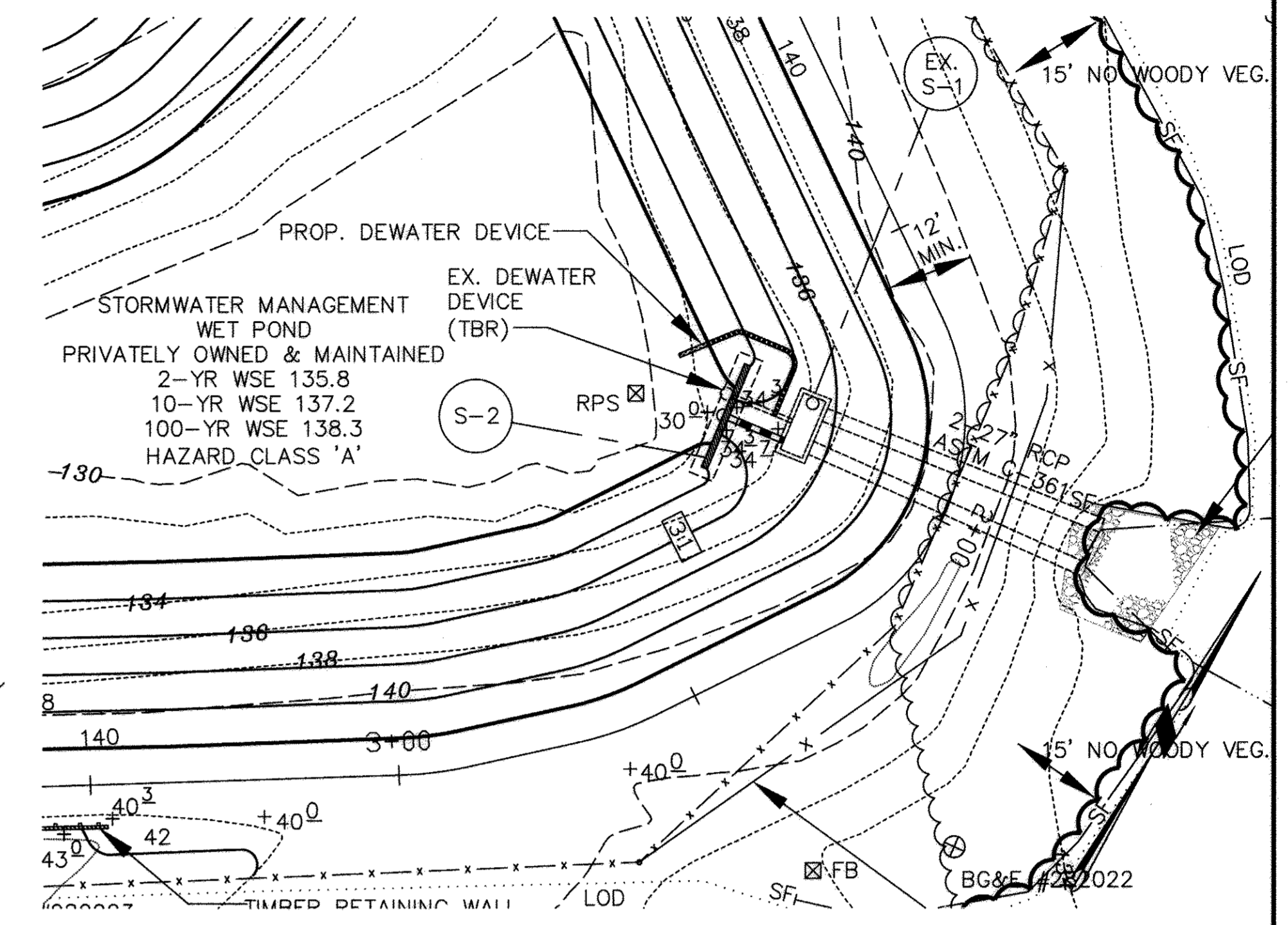
AS-BUILT CERTIFICATION
I hereby certify that the Facility Shown on This Plan (and Items) were Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.
Signature: [Signature] Date: 12/13/10
Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.



HEADWALL S-2 ELEVATION
SCALE: 1/2" = 1'-0"

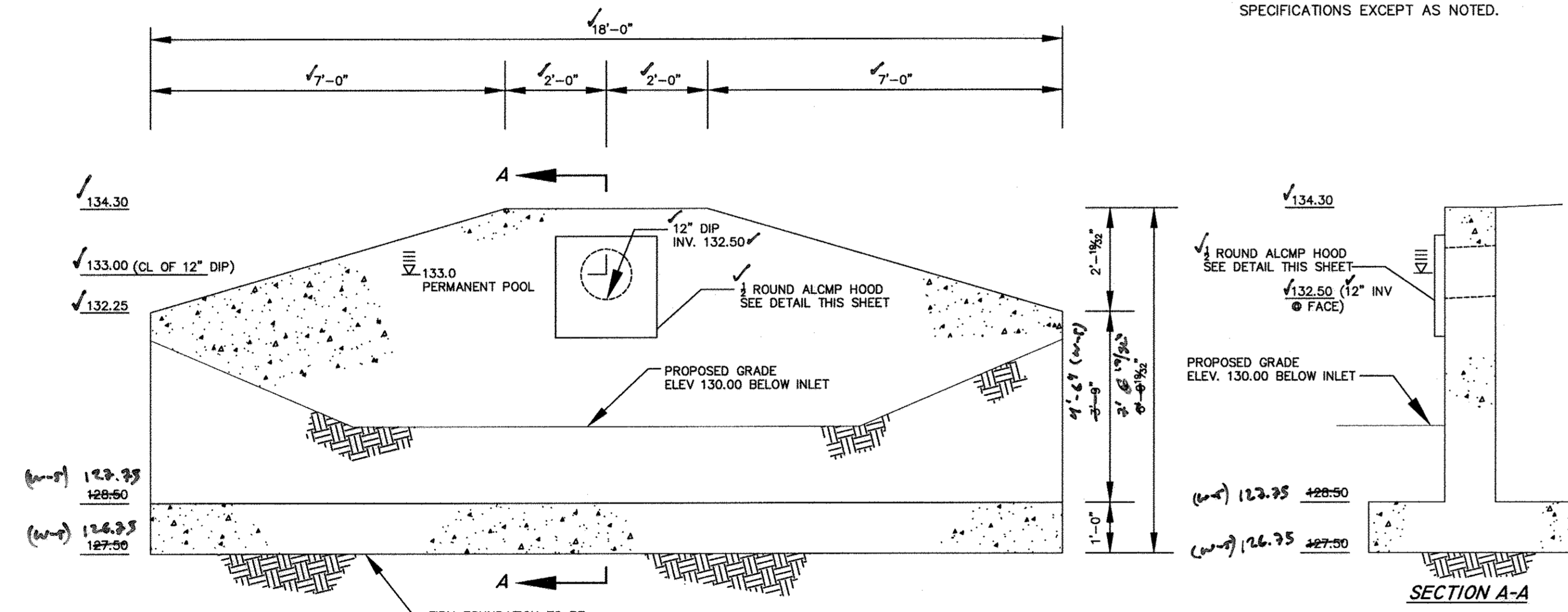


HEADWALL S-2 SECTION
SCALE: 1/2" = 1'-0"



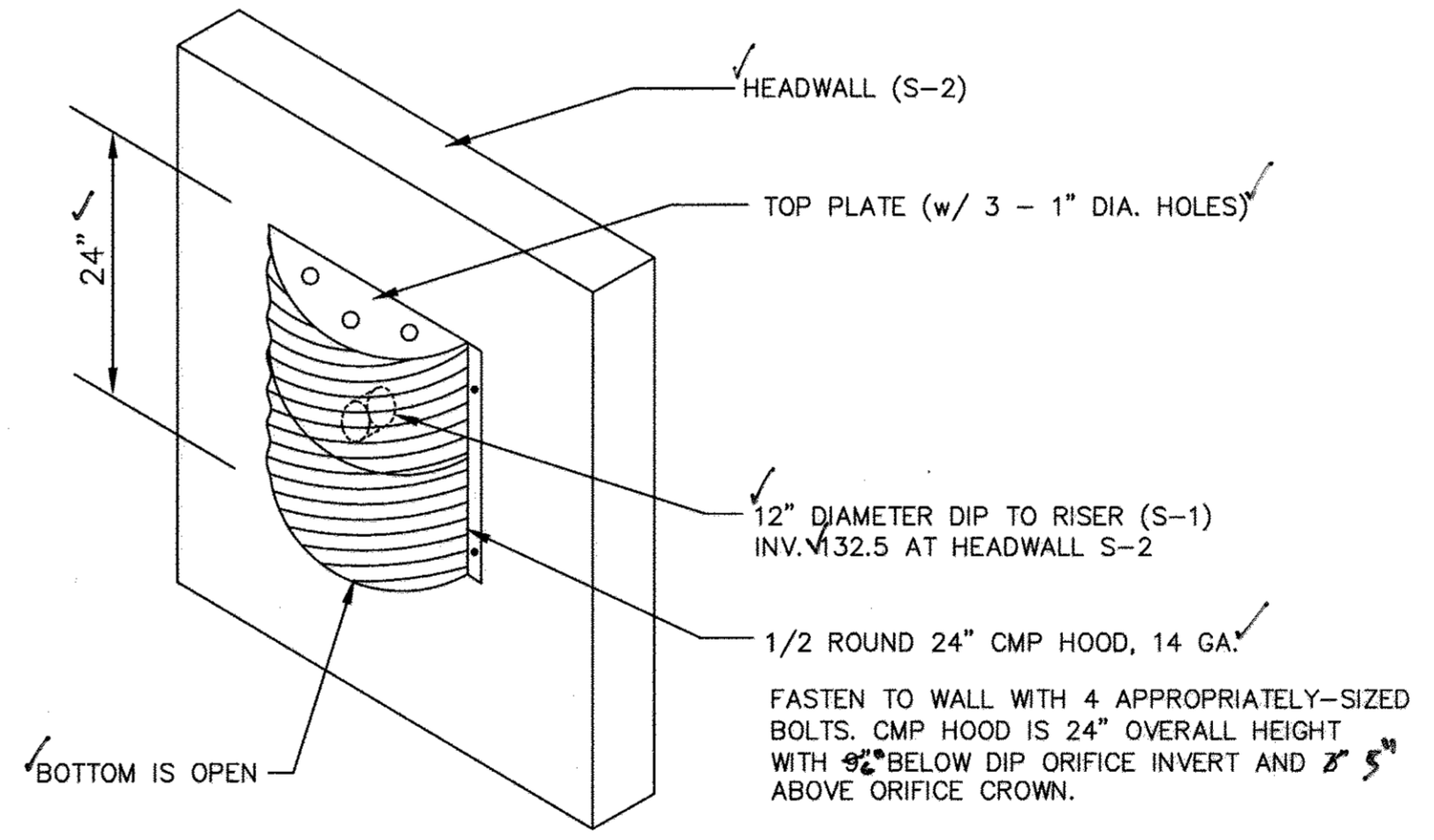
STRUCTURE S-2 SITE PLAN
SCALE: 1" = 20'

- STRUCTURE S-2 NOTES**
1. CHAMFER EXPOSED CONCRETE EDGES.
 2. REINFORCEMENT SHALL BE DEFORMED STEEL AND BE FREE OF RUST AND MEET ASTM A615, GRADE 60, WITH 2" COVER EXCEPT AS SHOWN.
 3. CONCRETE SHALL BE 4000 PSI WITH AIR ENTRAINMENT COMPLIANT WITH ACI BUILDING CODE.
 4. CONSTRUCTION SHALL FOLLOW HOWARD COUNTY STANDARDS AND SPECIFICATIONS EXCEPT AS NOTED.



HEADWALL FRONT FACE

HEADWALL S-2 DETAIL
SCALE: 1/2" = 1'-0"



HALF ROUND ALCMP HOOD AT S-2
NOT TO SCALE

- NOTES:**
1. ALL CONCRETE SHALL BE 4000 PSI WITH AIR ENTRAINMENT.
 2. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60.
 3. BACKFILL SHALL BE COMPACTED TO 95% OF T-99 (ASTM D-698).
 4. CONCRETE WORK SHALL COMPLY WITH THE LATEST ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
 5. ALL REBAR SPLICES NOT SHOWN SHALL BE A MINIMUM 40 BAR DIAM.
 6. SEE PROJECT SWM PLAN FOR SPECIFIC HEADWALL DETAILS.
 7. MIN SOIL BEARING = 2000 PCF (WF)

AS-BUILT CERTIFICATION

I hereby certify that the facility shown on this plan (and items referenced to SDP-00-114) were constructed as shown on the "As-Built" Plans and Meets the Approved Plans and Specifications.

Signature: *Andrew A. Porter* Date: 11/11/10
P.E. No. 15838

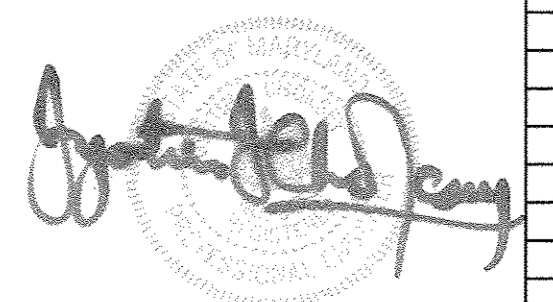
Signature: *Tom Ameel* Date: 11/11/10

Relieves Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.



HILLIS-CARNES ENGINEERING ASSOCIATES
10975 Guilford Road, Suite A
(410) 880-4788 Annapolis Junction, MD
Fax: (410) 880-4068

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD, License No. 9454 w/expiration September 9, 2011



ENGINEER'S CERTIFICATE

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Signature of Engineer: *Andrew A. Porter* Date: 11/11/2010
Signature of Developer: *Tom Ameel* Date: 11/11/2010

These plans for small pond construction, soil erosion and sediment controls meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT and are therefore approved.

Signature: *John W. Selig* Date: 10/27/10
HOWARD SOIL CONSERVATION DISTRICT

OWNER/DEVELOPER
U.S. Properties, Inc.
Attn: Mr. G Damon Thayer
7135 Dorsey Run Road
Elkridge, MD 21075
410.490.7411
443.241.0221 (fax)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature: *Kurt Schulz* Date: 12/16/10
Chief, Division of Land Development

Signature: *William J. ...* Date: 12/13/10
Chief, Development Engineering Division

Signature: *Thomas S. ...* Date: 12/16/10
Director - Department of Planning and Zoning

SUBDIVISION NAME	SECTION	PARCEL			
HOWARD BUSINESS PARK	N/A	A-1/TM P.701			
L/F	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
4931/41	12	M-2	43	1 st	6012

PHASE II
STRUCTURE S-2 CONSTRUCTION DETAILS

PERI FORMWORK SYSTEMS, INC.
(CONSTRUCTION EQUIPMENT STORAGE YARD)
LIBER 4931 FOLIO 41

TAX MAP NO: 43 TM PARCEL NO.: 701 GRID NO.: 12
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 12, 2010

SHEET 18 of 18
SDP-00-114