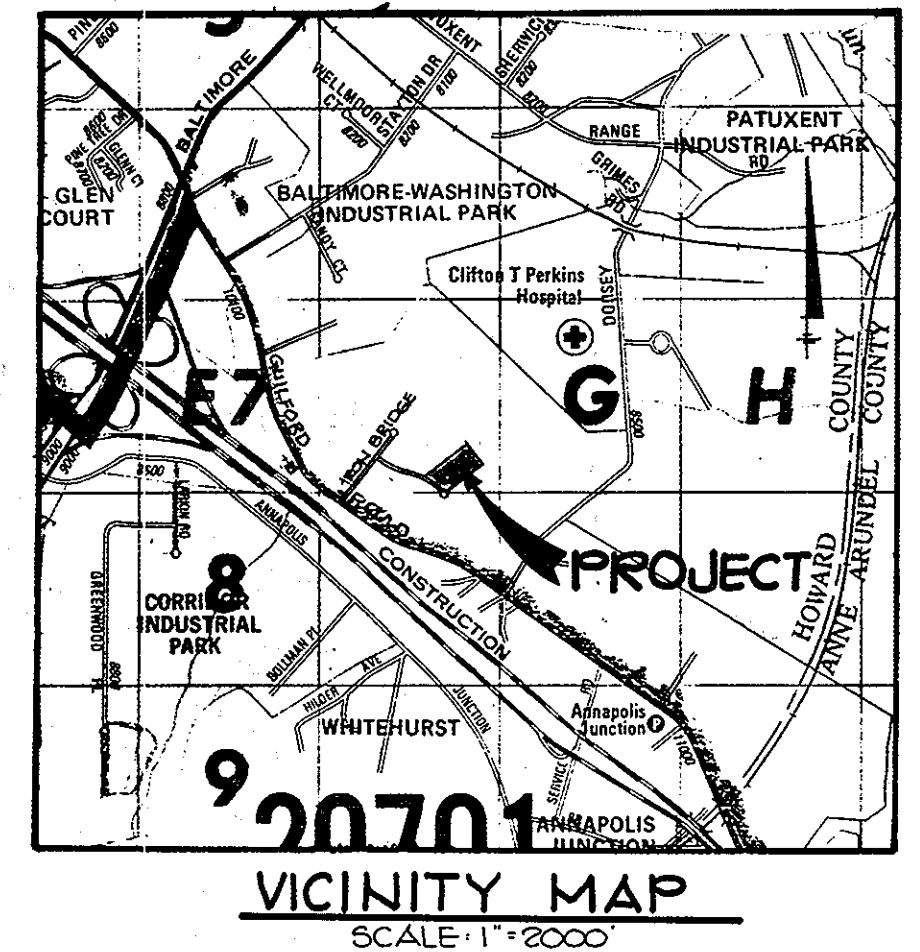


SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	DETAILS AND STORM DRAIN PROFILES
4	DRAINAGE AREA MAP AND SEDIMENT CONTROL PLAN
5	SEDIMENT CONTROL NOTES AND DETAILS
6	PLANTING PLAN
7	PHASE 2 SEC NOTES & DETAILS
8	SWM PLAN & PROFILE
9	SWM NOTES & DETAILS

SITE DEVELOPMENT PLAN PARCEL C-5 CORRIDOR NORTH 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



GENERAL NOTES

- ALL WATER LINES SHALL BE CONSTRUCTED A MINIMUM OF 42" COVER BELOW FINISHED GRADE.
- CORRUGATED STEEL PIPE SECTIONS WILL BE JOINED WITH A SINGLE OR TWO PIECE CORRUGATED BAND WITH A WATERTIGHT NEOPRENE GASKET. DIMPLE BAND CONNECTORS WILL NOT BE PERMITTED.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES, WHERE DIRECTED BY THE ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS:

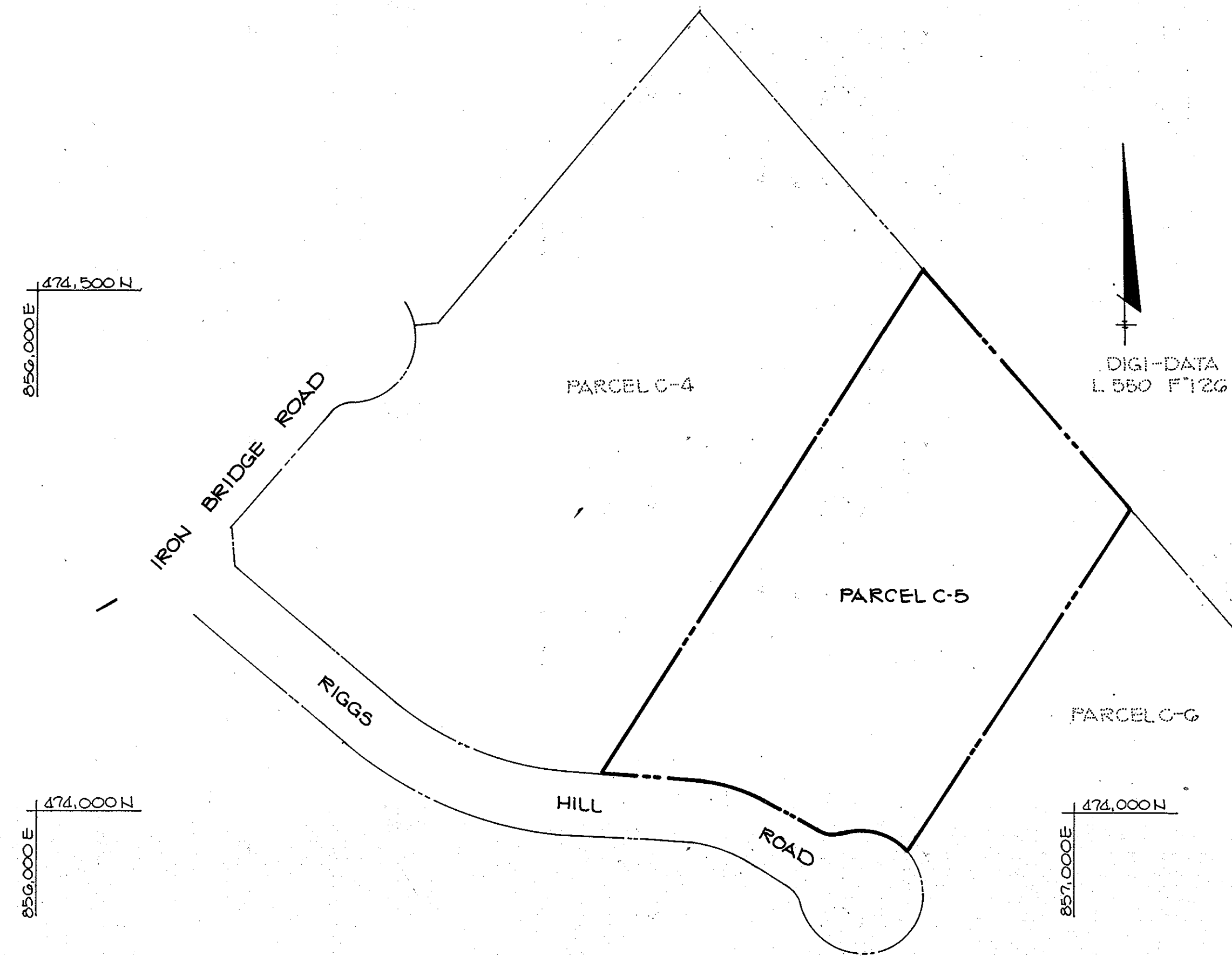
MISS UTILITY	559-0100
C & P TELEPHONE COMPANY	725-9976
HOWARD COUNTY BUREAU OF UTILITIES	992-2366
AT&T CABLE LOCATION DIVISION	393-3533
BALTIMORE GAS & ELECTRIC COMPANY	685-0123
STATE HIGHWAY ADMINISTRATION	531-5533
HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK)	792-7272
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALLS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT TO SUBGRADE.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED JANUARY, 1986 BY THE RIEMER GROUP, INC.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN IN DETAIL G2.01 (TRENCH IN ROCK OR TRENCH IN EARTH AS DETERMINED BY FIELD CONDITIONS) IN VOL. IV OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE DRAWINGS.
- THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES, STORM WATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORM WATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THIS PLAN. HE IS ALSO RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR GRADING AND/OR WORK ON ADJACENT PROPERTIES INCLUDED IN THIS PLAN.

SITE TABULATION

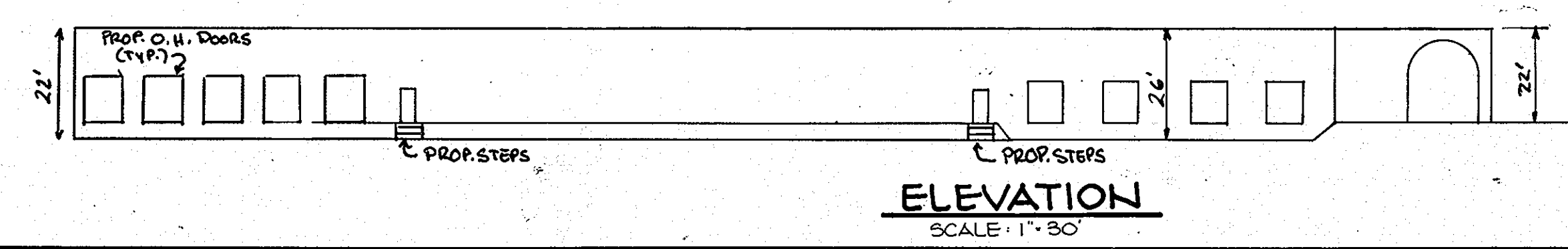
GROSS AREA OF PROPERTY	3.199 ACRES
GROSS AREA OF SUBMISSION	3.199 ACRES
PRESENT ZONING	M-2
GROSS AREA OF 1 STORY BUILDING	45,516 S.F.
BUILDING COVERAGE	33% OF SITE
BUILDING USE	WAREHOUSE
OPEN SPACE REQUIRED	20% (27,869 SQUARE FEET)
OPEN SPACE PROVIDED	38% (52,433 SQUARE FEET)
PARKING REQUIRED	
(as stated in letter)	
6 OFFICE EMPLOYEES @	5 SPACES
7 SPACES/10 EMPLOYEES	
6 WAREHOUSE EMPLOYEES @	3 SPACES
1 SPACE/2 EMPLOYEES	
	8 SPACES REQUIRED TOTAL
PARKING PROVIDED	21 SPACES
HANDICAPPED PARKING REQUIRED	1 SPACE
HANDICAPPED PARKING PROVIDED	1 SPACE
LANDSCAPED ISLANDS REQUIRED	5%
LANDSCAPED ISLANDS PROVIDED	6%

GENERAL NOTES (CONT.)

- FOR PHASE 2 LIMIT OF DISTURBANCE (NOV. 17, 2011): PROPOSED DISTURBANCE EXCEEDS PREVIOUS LIMIT OF DISTURBANCE BY LESS THAN 40,000 SQ.FT. THEREFORE THIS REVISION IS EXEMPT FROM THE REQUIREMENTS FOR FOREST CONSERVATION. THE AMOUNT OF PROPOSED DISTURBANCE EXCEEDS THE PREVIOUS DISTURBANCE BY 20,550 SQ.FT.



PLAN
SCALE: 1" = 100'



ELEVATION
SCALE: 1" = 30'

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
John G. Price COUNTY HEALTH OFFICER 4-9-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
Thomas M. Mueggler PLANNING DIRECTOR 4/10/86 DATE
John M. Mueggler CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION 4-10-86 DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Paul F. Nunn DIRECTOR 4-8-86 DATE
William E. Ryan CHIEF, BUREAU OF ENGINEERING 4-7-86 DATE

3/2/11	1	BUILDING, PARKING & STORM DRAIN ADDITION
DATE	NO.	REVISION

OWNER/DEVELOPER
REALTY INC. DEVELOPER: JASPER ENGINES & TRANSMISSIONS
10621 RIGGS HILL ROAD 815 WERNING ROAD
JESSUP, MD. 20794 JESSUP, IN. 47546
1-800-527-7455

PROJECT: CORRIDOR NORTH PARCEL C-5
AREA: CORRIDOR NORTH PARCEL C-5
TAX MAP NO. 48
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: TITLE SHEET

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 481-2890

3-25-86 DATE
DESIGNED BY: D.A.M.
DRAWN BY: D.A.M.
PROJECT NO: 27400
DATE: 2-17-86
SCALE: AS SHOWN
DRAWING NO. 1 OF 9



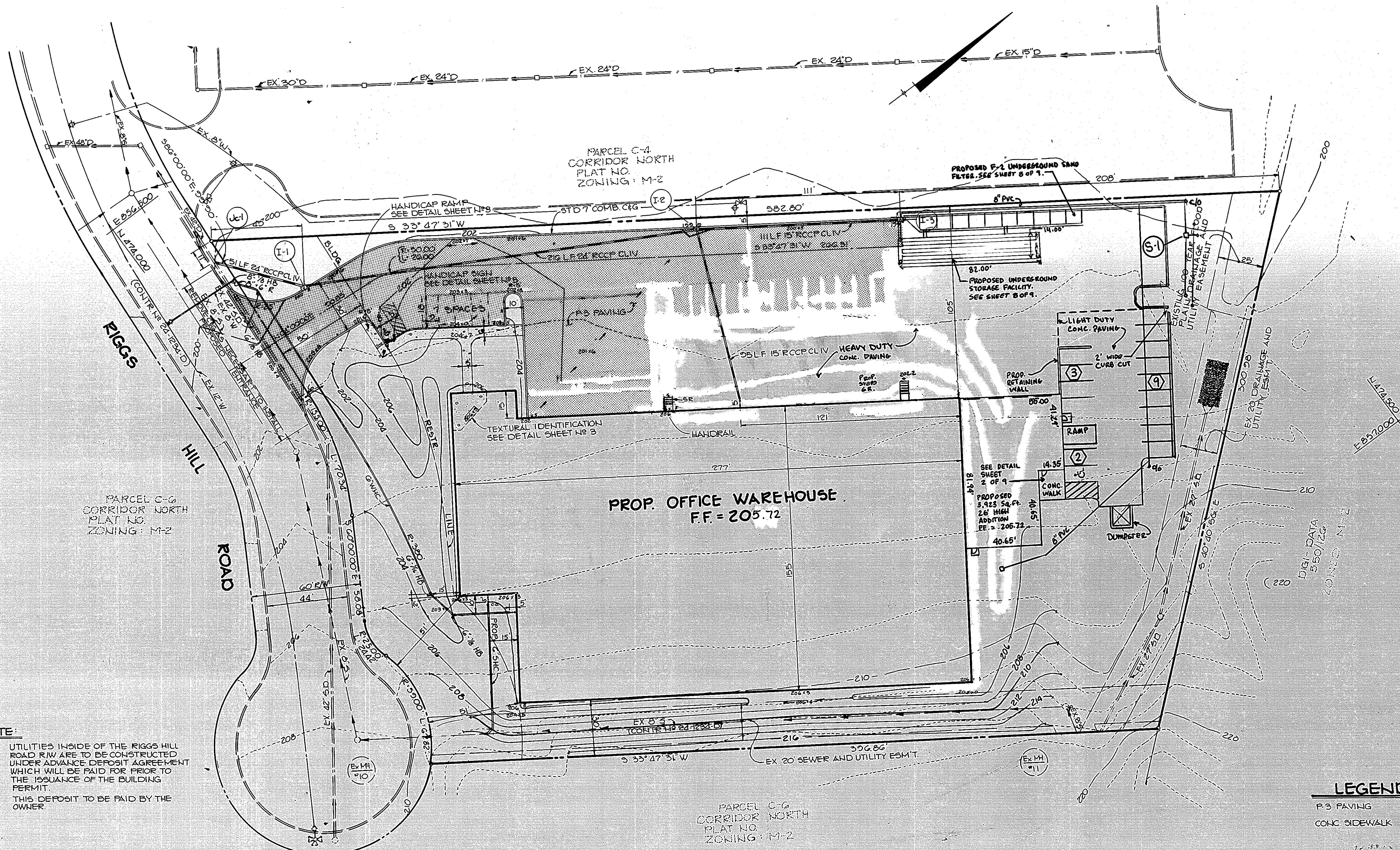
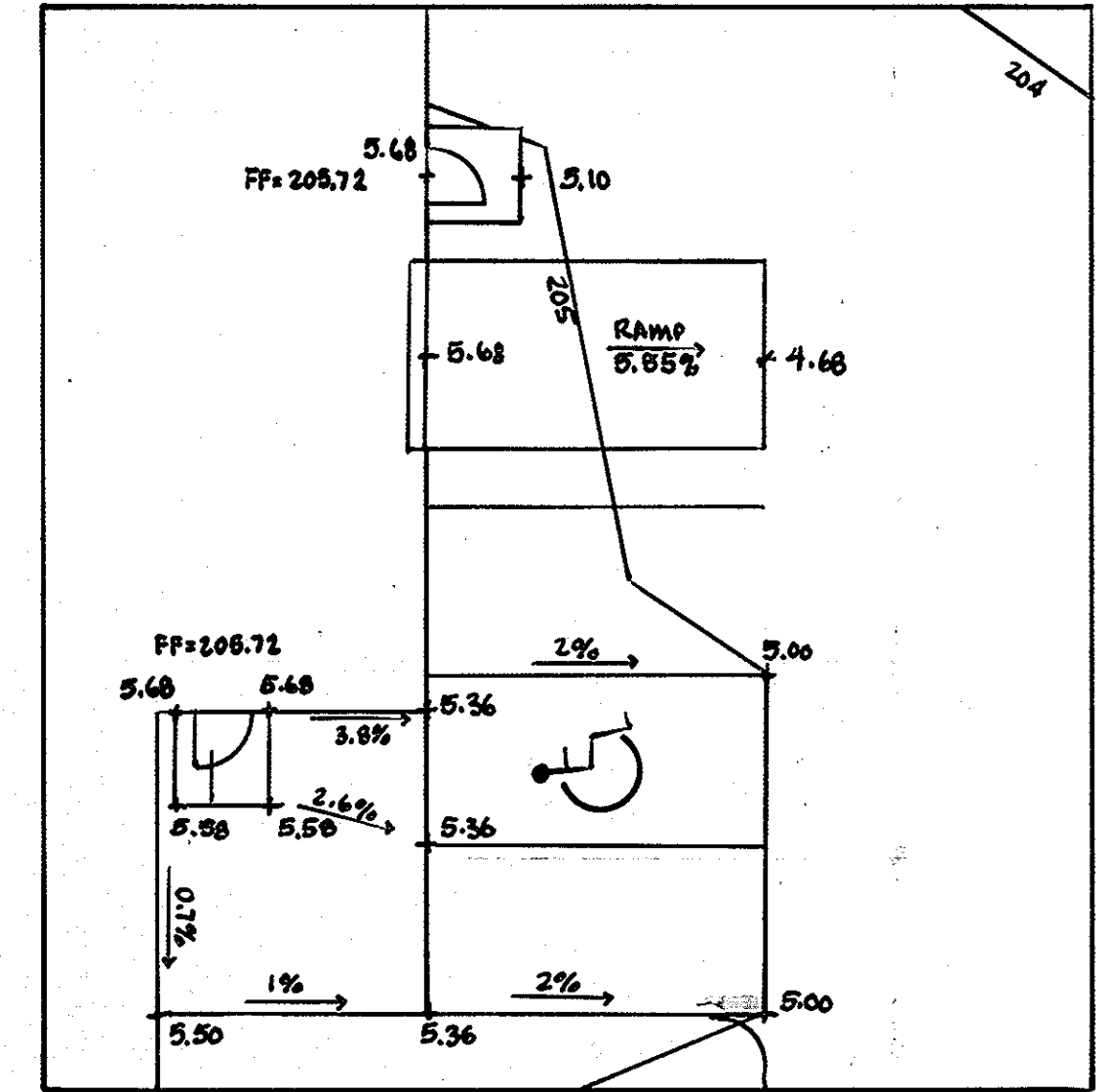
FOR REVISION ONLY
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 16597, Expiration Date: 8/15/13

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE: 3-10-86
W. Ryan

ADDRESS CHART	
PARCEL	STREET ADDRESS
C-5	10621 RIGGS HILL ROAD

SUBDIVISION NAME	SECT./AREA	PARCEL #
CORRIDOR NORTH	N/A	C-5
PLAT # OR L/F	BLOCK #	ZONE
6620	7	M-2
TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
48	6	6009.01
WATER CODE	SEWER CODE	
802	4150000	

NOTE:
THE FIRE HYDRANTS LOCATED ON PARCEL C-4 MUST BE UNDER A DEVELOPER'S AGREEMENT OR AN ADVANCE DEPOSIT AGREEMENT MUST BE EXECUTED FOR PLACEMENT OF A FIRE HYDRANT ON THE NORTHWEST SIDE OF THE ENTRANCE TO THE SITE PRIOR TO ISSUANCE OF THE BUILDING PERMIT.



NOTE:
UTILITIES INSIDE OF THE RIGGS HILL ROAD R/W ARE TO BE CONSTRUCTED UNDER ADVANCE DEPOSIT AGREEMENT WHICH WILL BE PAID FOR PRIOR TO THE ISSUANCE OF THE BUILDING PERMIT.
THIS DEPOSIT TO BE PAID BY THE OWNER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Jocelyn Boyd COUNTY HEALTH OFFICER 4-9-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
Acting Donald Dand PLANNING DIRECTOR 4/10/86 DATE

John W. Muschman CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION 4-10-86 DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John F. Nemy DIRECTOR 4-8-86 DATE

William S. Reddy CHIEF, BUREAU OF ENGINEERING 4-7-86 DATE

3/3/11	1	BUILDING, PARKING & STORM DRAIN ADDITIONS
DATE	NO.	REVISION

OWNER/DEVELOPER
REALTY INC. DEVELOPER: JASPER ENGINES & TRANSMISSIONS
10621 RIGGS HILL ROAD 815 WERNING ROAD
JESSUP, MD. 20794 JASPER, IN. 47546
1-800-327-7455

PROJECT: CORRIDOR NORTH PARCEL C-5

AREA: CORRIDOR NORTH PARCEL C-5
TAX MAP LD. 48
GTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SITE DEVELOPMENT PLAN

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2690

DATE: 3-10-86
DESIGNED BY: J.K.B.
DRAWN BY: F.D.M.
PROJECT NO: 274 00
DATE: 2-17-86
SCALE: 1" = 30'
DRAWING NO. 2 OF 9

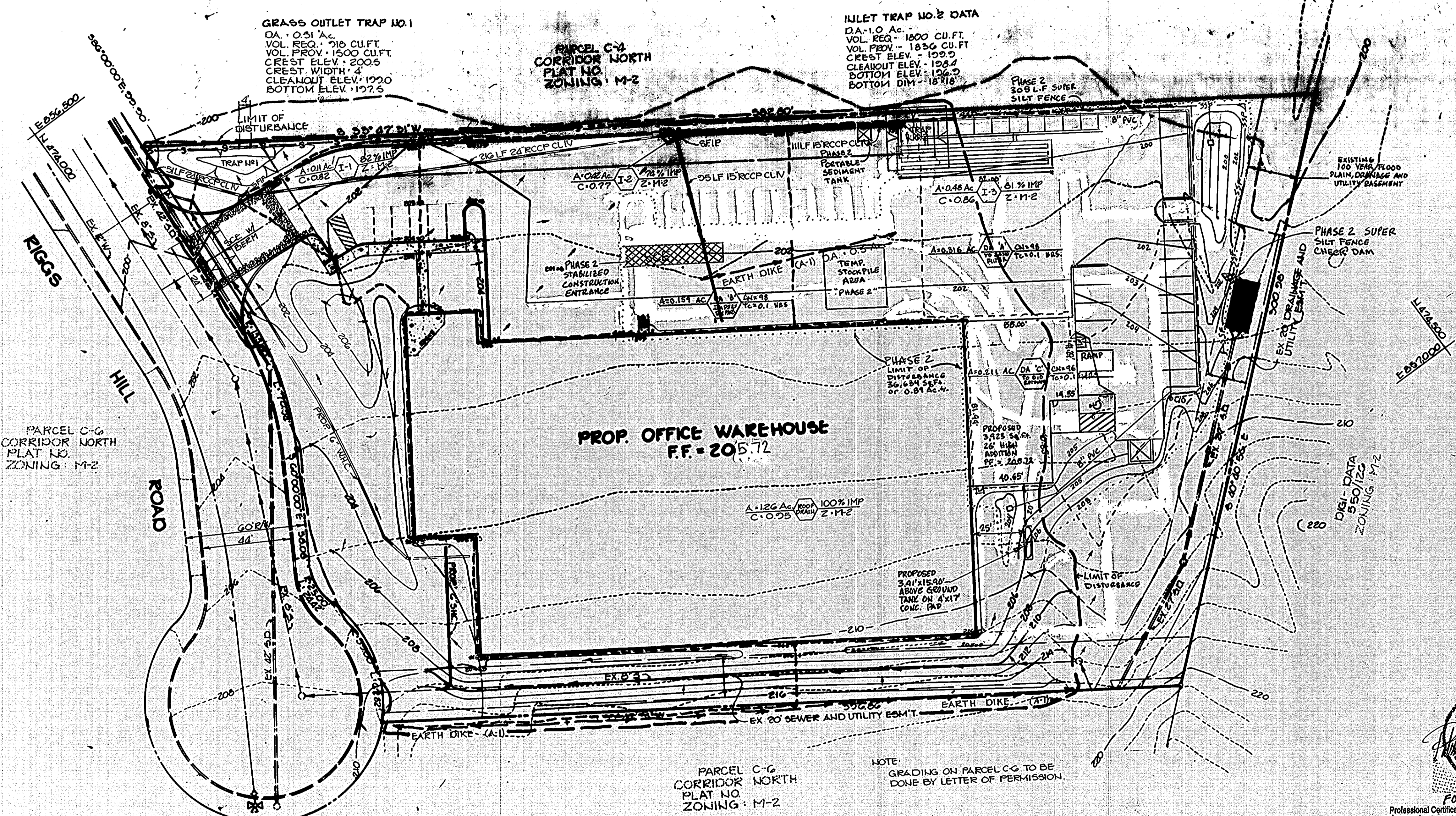
8" MIX 3 CONC.
4" GRADED AGGREGATE BASE
HEAVY DUTY CONCRETE

5" MIX 3 CONC.
4" GRADED AGGREGATE BASE
LIGHT DUTY CONCRETE

LEGEND
P-3 PAVING
CONC. SIDEWALK

STATE OF MARYLAND
PROFESSIONAL ENGINEER
3/10/86
FOR REVISION 1 ONLY
Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 16597 8/5/13

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE: 3-10-86
MS/AM



- SEQUENCE OF CONSTRUCTION**
1. GRASS OUTLET TRAP NO. 1
 2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, PARALLEL DITCH, SILT FENCE AND GRASS OUTLET TRAP NO. 2
 3. INSTALL STORM DRAINS, STONE FILTER INLET PROTECTION AND INLET TRAP (3 DAYS)
 4. GRADE SITE WITHOUT DISTURBING SEDIMENT CONTROL MEASURES AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES (30 DAYS)
 5. INSTALL CURB AND GUTTER AND COMMENCE BUILDING CONSTRUCTION
 6. INSTALL BASE STONE AND TIEBACKS IN EXISTING TRENCH. INSTALLING STONE FILTER INLET PROTECTION (INLET TRAP SHALL ONLY BE REMOVED AFTER CURB HAS BEEN BACKFILLED AND AREA STABILIZED) (3 DAYS)
 7. INSTALL FINAL PAVING, REMOVING STONE FILTER INLET PROTECTION (3 DAYS)
 8. REMOVE GRASS OUTLET TRAP AND STABILIZE ALL AREAS TO BE GRASSED IN ACCORDANCE WITH PERMANENT SEEDING NOTES (3 DAYS)
 9. UPON APPROVAL OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL MEASURES LEAVING EARTH DIKE ON EAST SIDE OF SITE INTACT (2 DAYS)

NOTE FOR PHASE 2 LIMIT OF DISTURBANCE 11/17/11

PROPOSED DISTURBANCE EXCEEDS PREVIOUS LIMIT OF DISTURBANCE BY LESS THAN 40,000 SQ. FT. THEREFORE THIS REVISION IS EXEMPT FROM THE REQUIREMENTS FOR FOREST CONSERVATION. THE AMOUNT OF PROPOSED DISTURBANCE EXCEEDS THE PREVIOUS DISTURBANCE BY 20,550 SQ. FT.

... DENOTES PHASE 2 L.O.D.
 --- DENOTES PHASE 2 DRAINAGE AREA

GRASS OUTLET TRAP NO. 1
 DA = 0.51 AC
 VOL. REQ. = 210 CU.FT.
 VOL. PROV. = 1500 CU.FT.
 CREST ELEV. = 200.5
 CREST WIDTH = 4'
 CLEANOUT ELEV. = 192.0
 BOTTOM ELEV. = 197.5

INLET TRAP NO. 2 DATA
 DA = 1.0 AC
 VOL. REQ. = 1800 CU.FT.
 VOL. PROV. = 1800 CU.FT.
 CREST ELEV. = 199.5
 CLEANOUT ELEV. = 198.4
 BOTTOM ELEV. = 192.0
 BOTTOM DIM = 18" x 18"

PARCEL C-4 CORRIDOR NORTH PLAT NO. ZONING: M-2

PROP. OFFICE WAREHOUSE F.F. = 205.72

PARCEL C-6 CORRIDOR NORTH PLAT NO. ZONING: M-2

NOTE:
 GRADING ON PARCEL C-6 TO BE DONE BY LETTER OF PERMISSION.

BY THE DEVELOPER:

I HEREBY 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 AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

Kevin Marshall 3-25-86
 DEVELOPER DATE

Kevin Marshall 3-25-86
 DEVELOPER DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Arthur E. Mueggel 3-25-86
 ENGINEER DATE

ARTHUR E. MUEGGE S.C.D.

REVIEWED FOR: **HOWARD** NAME
 AND MEETS TECHNICAL REQUIREMENTS

Stephen L. Filer 4-2-86
 U.S. SOIL CONSERVATION SERVICE DATE

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

Stephen L. Filer 4/2/86
 HOWARD S.C.D. DATE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

Joseph Bolan 4-7-86
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

Acting Donald Parnell 4/10/86
 PLANNING DIRECTOR DATE

John W. Mueggel 4-10-86
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Mark F. Nunn 4-8-86
 DIRECTOR DATE

Michael R. Reed 4-7-86
 CHIEF, BUREAU OF ENGINEERING DATE

7/10/82 2 ADDED ABOVE GROUND PROPOSED TRAP

3/15/11 1 BUILDING, PARKING & STORM DRAIN ADDITIONS

DATE NO. REVISION

OWNER/DEVELOPER
 OWNER: REALTY INC.
 10611 FIGGS HILL ROAD
 JESSUP, MD. 20794

DEVELOPER: JASPER ENGINES & TRANSMISSIONS
 515 WERNING ROAD
 JESPER, IN. 47546
 1-800-327-7456

PROJECT: **CORRIDOR NORTH PARCEL C-5**

AREA CORRIDOR NORTH PARCEL C-5
 TAX MAP NO. 48
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: **DRAINAGE AREA MAP AND SEDIMENT CONTROL PLAN**

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 5106 Health Park Drive, Ellicott City, Maryland 21043 (301) 481-2880

3-25-86
 DATE

DESIGNED BY: J.K.S.
 DRAWN BY: F.D.M.
 PROJECT NO: 274.00
 DATE: 2-17-86
 SCALE: 1" = 30'
 DRAWING NO. 4 OF 9

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 3/12/12
 FOR REVISION 1 ONLY & REV. 2
 Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 16597, Expiration Date: 8/15/12

APPROVED
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE: 3-10-86
MA

SDP-86-156

SEDIMENT CONTROL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2437)
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3. Following initial soil disturbance or redistribution, 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.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (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.
6. 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.
7. Site Analysis:

Total Area of Site	3192 acres
Area Disturbed	25 acres
Area to be roofed or paved	16 acres
Area to be vegetatively stabilized	0.7 acres
Total Cut	2900 Cu. yds.
Total Fill	3800 Cu. yds.
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
10. Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
11. Sediment will be removed from traps when its depth reaches the clean out elevation shown on the plans.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding.

Soil Amendments: Apply 0-20-20 fertilizer at the rate of 600 lbs. per acre. Harrow or disc lime and 0-20-20 fertilizer into the soil to a minimum depth of 3". Lawns or high maintenance areas will be dragged and leveled with a York rake. At the time of seeding, apply 400 lbs. of 30-0-0 ureaform fertilizer and 500 lbs. of 10-20-20 or equivalent fertilizer per acre.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (1 lb./1000 sq.ft.) of a mixture of certified 'Merion' Kentucky bluegrass; common Kentucky bluegrass @ 40 lbs. per acre (1 lb./1000 sq.ft.) and Red Fescue, Pennlawn or Jamestown @ 20 lbs. per acre (0.5 lb./1000 sq.ft.) for the period May 1 thru July 31, seed with 40-40-20 mix as specified above and 2 lbs. per acre (0.05 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by (Option 1) 2 tons per acre of well-anchored straw mulch and seed as soon as possible in the spring. (Option 2) Use sod. (Option 3) Seed with 40-40-20 mix specified above and mulch with 2 tons/acre well-anchored straw.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal./1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal./1000 sq.ft.) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

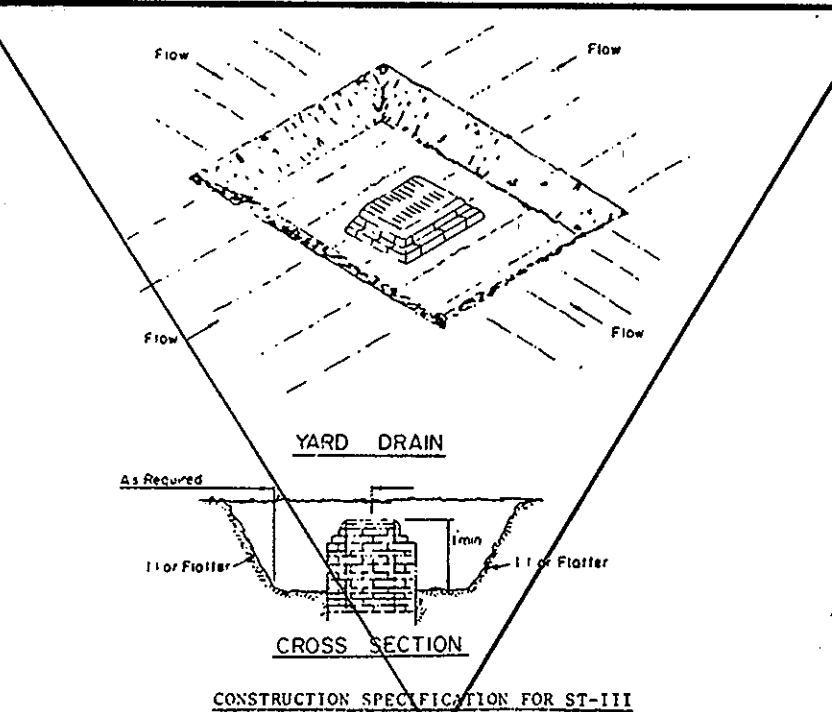
Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding.

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) Where soil is highly acidic, apply dolomitic limestone at the rate of 1 ton per acre.

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 140 lbs. per acre of annual rye (3.2 lbs./1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal./1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 348 gal. per acre (8 gal./1000 sq.ft.) for anchoring.

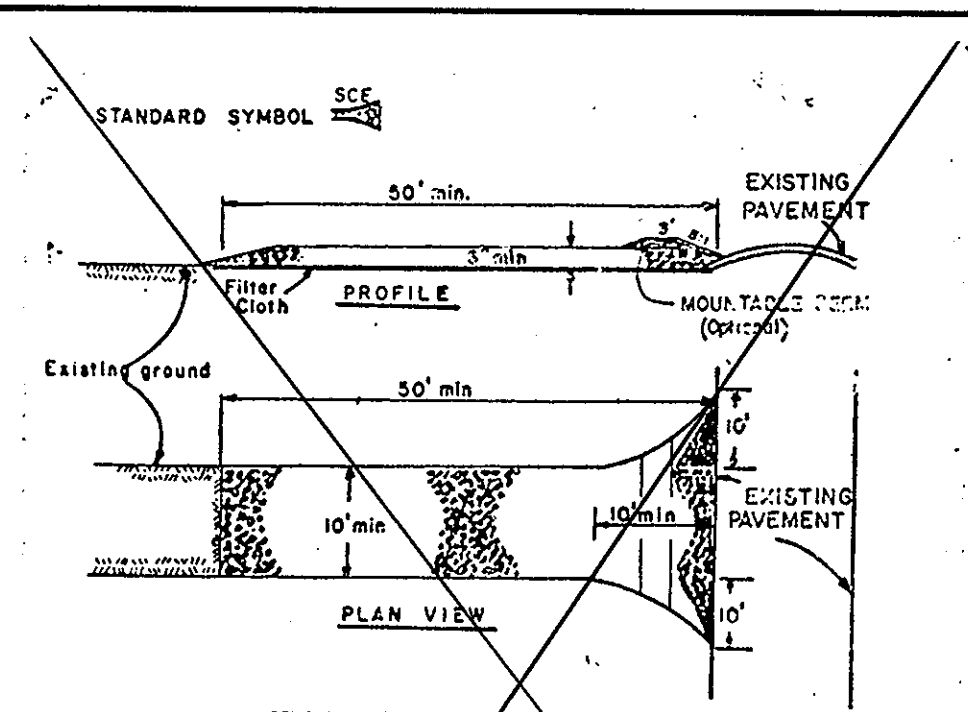
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



STORM INLET SEDIMENT TRAP
NO SCALE

CONSTRUCTION SPECIFICATIONS FOR ST-II

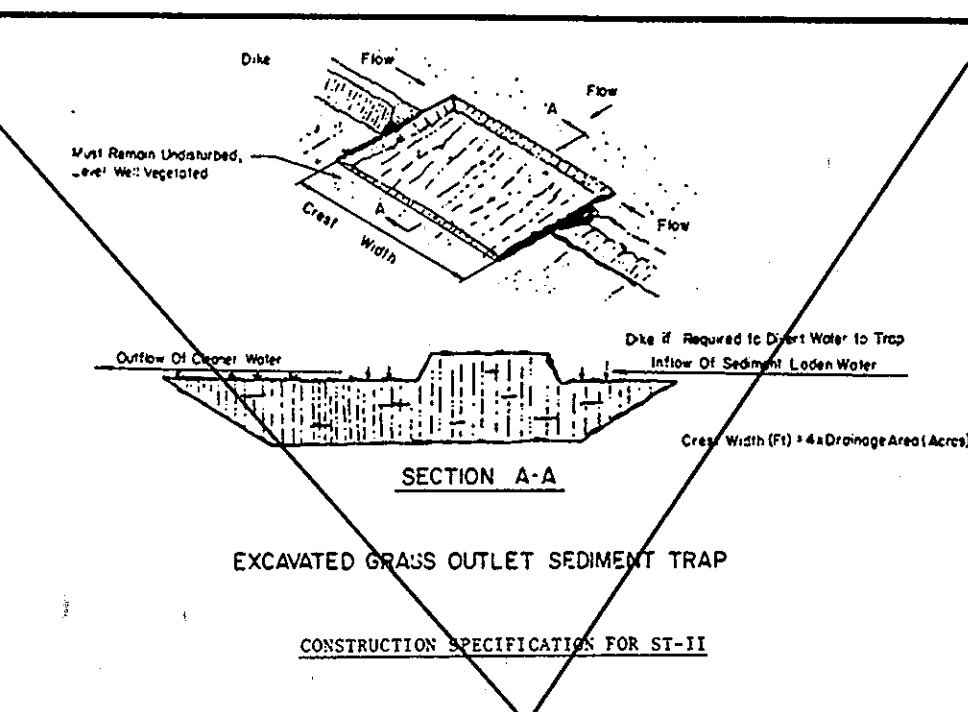
1. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to the design depth of the trap. Remove sediment shall be deposited in a suitable area and in a manner that it will not erode.
2. The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area stabilized when the construction drainage area has been properly stabilized.
6. All cut slopes shall be 1:1 or flatter.



GRASS OUTLET SEDIMENT TRAP
NO SCALE

CONSTRUCTION SPECIFICATIONS

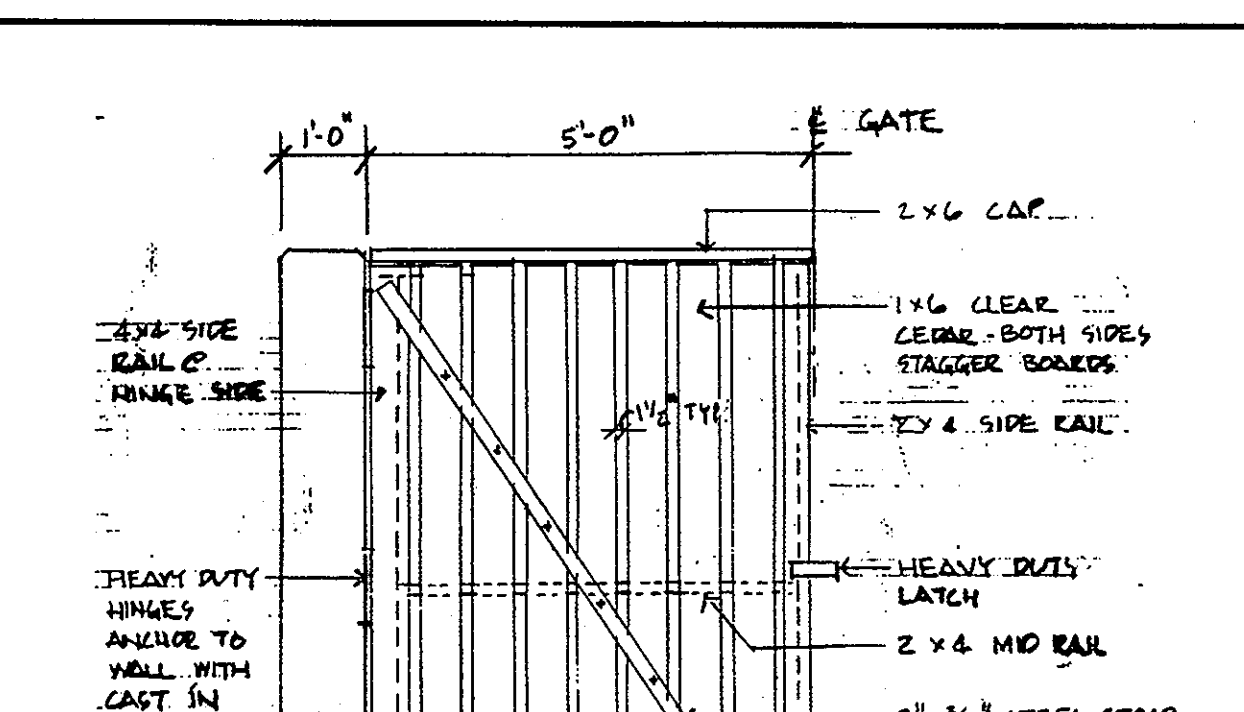
1. Stone size - use 2" stone, or recycled or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than 6" (6" inches).
4. Width - 75 (10 foot minimum), but not less than the full width at points where ingress or egress occurs.
5. Filter cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable beam with 3/4" slope will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking of flowing sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair any erosion or damage to trap sediment.
8. All sediment applied, dropped, washed or tracked onto public rights-of-way must be removed immediately.
9. Washing - Areas shall be cleaned or raked prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
10. Periodic inspection and needed maintenance shall be provided after each rain.



GATE DETAIL
NO SCALE

CONSTRUCTION SPECIFICATIONS FOR ST-II

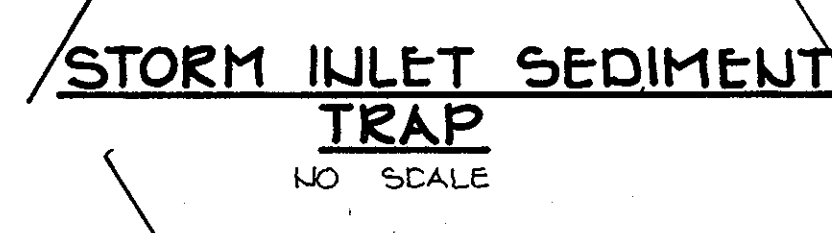
1. Volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage area.
2. Minimum crest width shall be 4' X Drainage Area.
3. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to the design depth of the trap. Remove sediment shall be deposited in a suitable area and in such a manner that it will not erode.
4. The structure shall be inspected after each rain and repairs made as needed.
5. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
6. The sediment trap shall be removed and area stabilized when the remaining drainage area has been properly stabilized.
7. All cut slopes shall be 1:1 or flatter.



MARSHALLS DUMPSTER SCREEN
NO SCALE

CONSTRUCTION SPECIFICATIONS

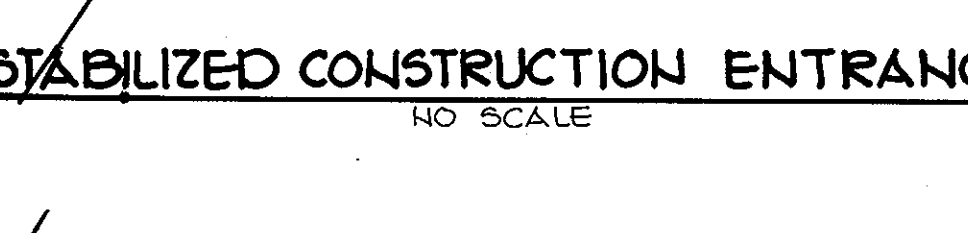
1. Materials
- II. Procedure



EARTH DIKE
NO SCALE

CONSTRUCTION SPECIFICATIONS

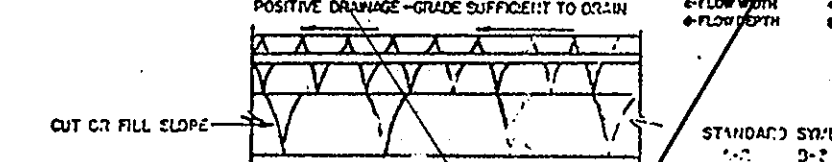
1. All dikes shall be compacted by earthmoving equipment.
2. Dikes shall have positive drainage to an outlet.
3. Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
4. Field location should be adjusted as needed to utilize a stabilized safe outlet.
5. Earth dikes shall have an outlet that discharges into a stabilized safe outlet. The outlet shall be covered to a sediment trapping device such as a sediment trap or sediment basin where either the pipe channel or the discharge area above the dike are not adequately stabilized.
6. Stabilization shall be: (a) in accordance with the standard specifications for seed and straw mulch or straw mulch if not in seeding stage, (b) flow channel as per the chart below.



STONE FILTER INLET PROTECTION
NO SCALE

CONSTRUCTION SPECIFICATIONS

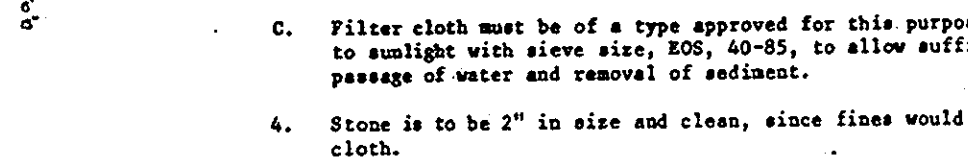
1. Attach a continuous piece of wire mesh (30" min. width by throat length plus 1") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
3. Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
4. Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet throat top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.



DUMP PAD DETAIL
NO SCALE

CONSTRUCTION SPECIFICATIONS

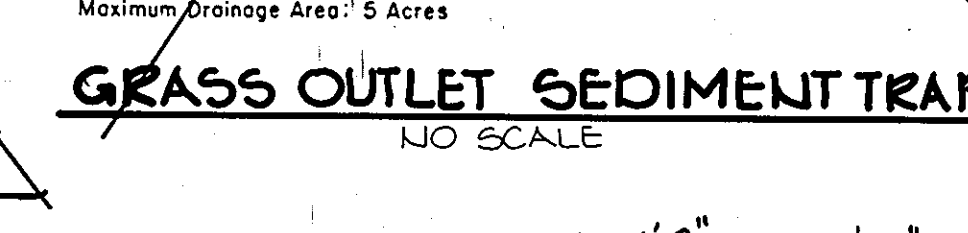
1. When wire fence is fastened securely to fence posts with wire ties or staples.
2. Filter cloth to be fastened securely to wood fence with wire ties or staples every 24" at top and mid section.
3. No two sections of filter cloth shall be placed side by side. Overlap by six inches or folds.
4. Maintenance shall be performed as needed and include: (a) 'dikes' developed in the silt fence.



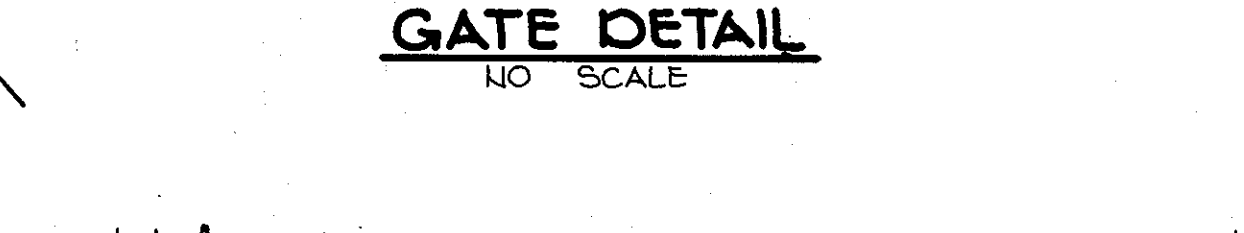
SILT FENCE
NO SCALE

CONSTRUCTION SPECIFICATIONS

1. When wire fence is fastened securely to fence posts with wire ties or staples.
2. Filter cloth to be fastened securely to wood fence with wire ties or staples every 24" at top and mid section.
3. No two sections of filter cloth shall be placed side by side. Overlap by six inches or folds.
4. Maintenance shall be performed as needed and include: (a) 'dikes' developed in the silt fence.



STANDARD SYMBOL
S.F.P.



STONE FILTER INLET PROTECTION
NO SCALE

CONSTRUCTION SPECIFICATIONS

1. Attach a continuous piece of wire mesh (30" min. width by throat length plus 1") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
3. Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
4. Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet throat top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

Joseph Boyle 4-9-84
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

Arthur E. Muegge 4/10/86
PLANNING DIRECTOR DATE

William M. Heschman 4/10/86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.

Joseph Boyle 4-8-86
DIRECTOR DATE

William M. Heschman 4-7-86
CHIEF, BUREAU OF ENGINEERING DATE

BY THE DEVELOPER:

Norman Marshall 3-25-86
DEVELOPER DATE

Kenneth Marshall 3-25-86
DEVELOPER DATE

BY THE ENGINEER:

Arthur E. Muegge 3-25-86
ENGINEER DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

Joseph M. Hahn 4-2-86
U.S. SOIL CONSERVATION SERVICE DATE

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

Stephen L. Fisher 4/2/86
HOWARD S.C.D. DATE

3/3/11	1	BUILDINGS PARKING & STORM DRAIN ADDITIONS
DATE	NO.	REVISION

OWNER/DEVELOPER

OWNER: REALTY INC. 10661 RIGGS HILL ROAD JESSUP, MD. 20794

DEVELOPER: JASPER ENGINES & TRANSMISSIONS 817 WEAVER ROAD JASPER, IN. 47546 1-800-327-7455

PROJECT: CORRIDOR NORTH PARCEL C-5

AREA CORRIDOR NORTH PARCEL C-5 TAX MAP: LD 46 GTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL DETAILS

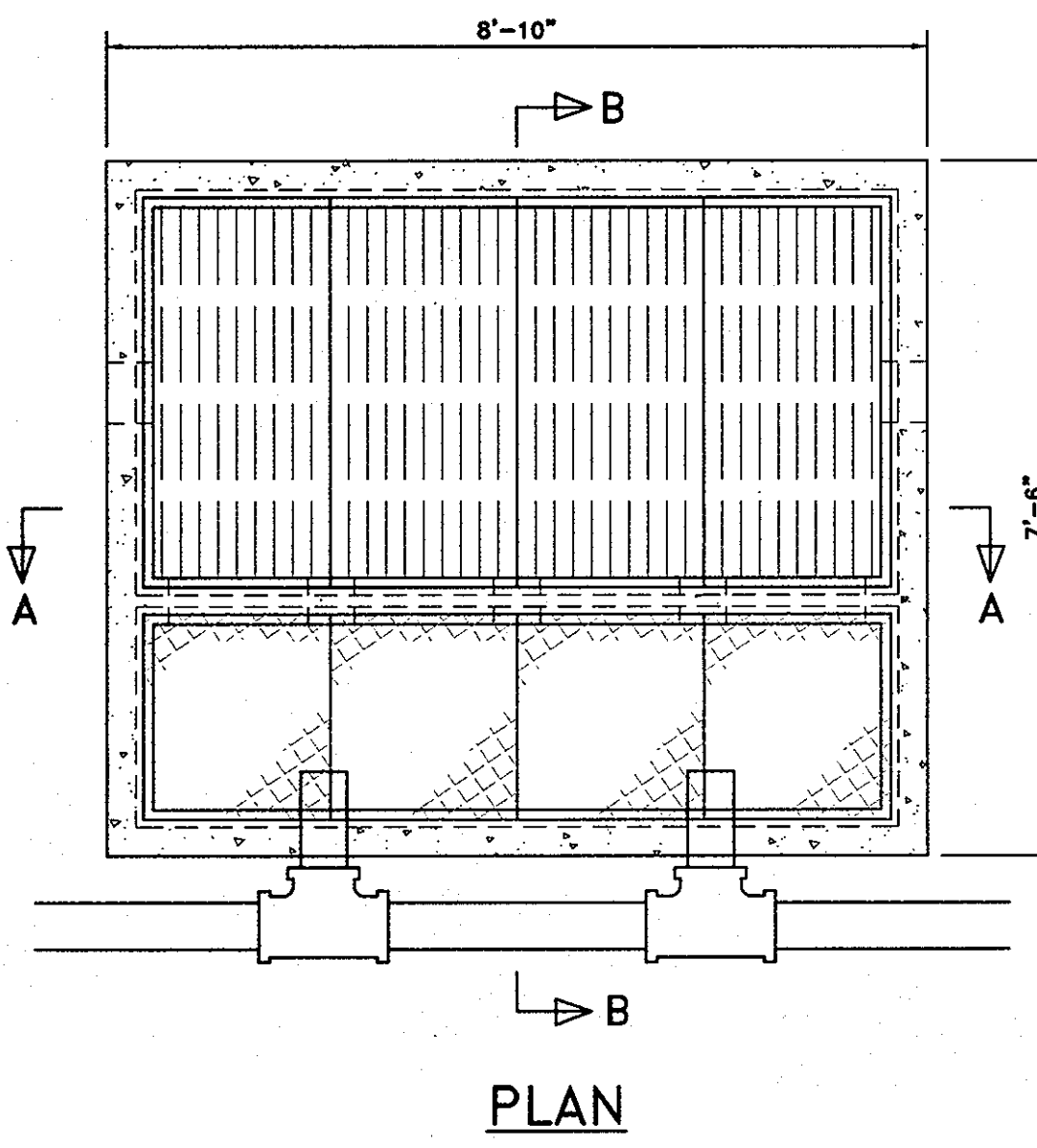
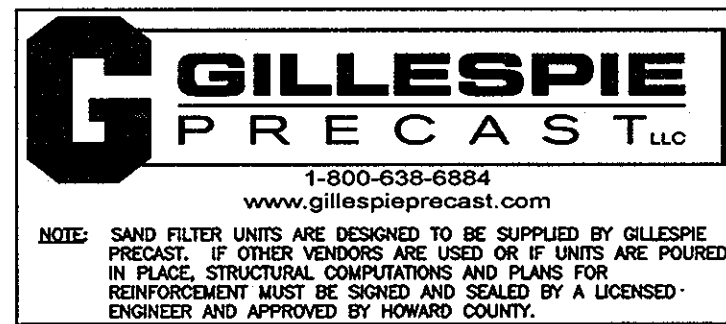
THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Heath Park Drive, Ellicott City, Maryland 21043 (301) 461-2890

3-25-86 DATE

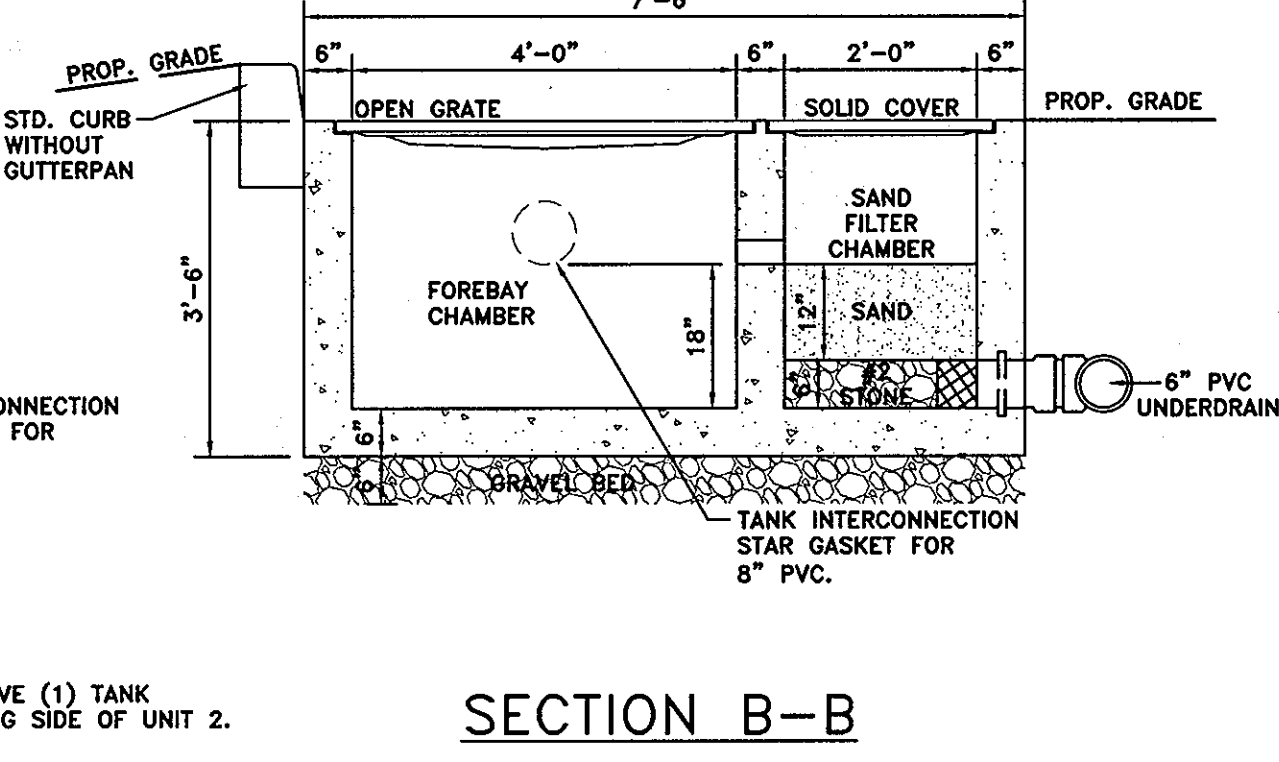
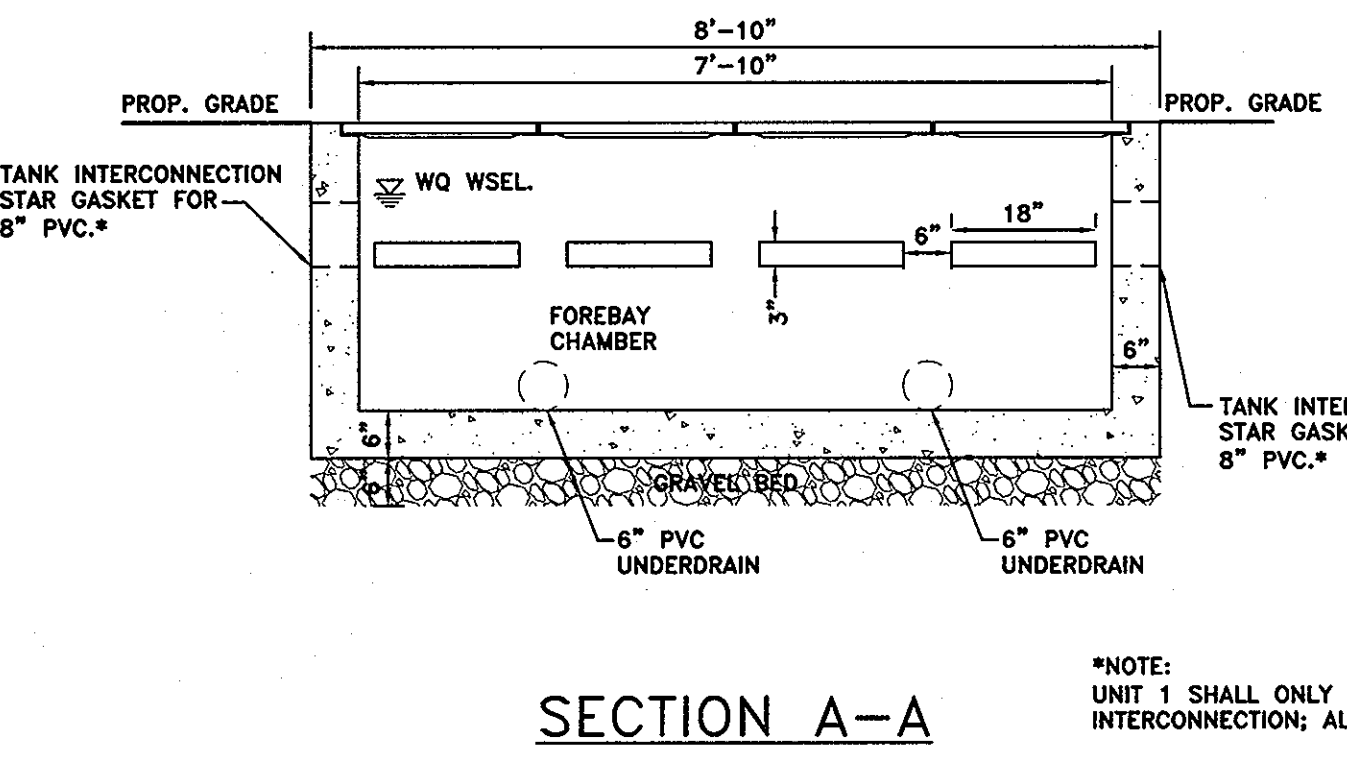
DESIGNED BY: D.A.M.
DRAWN BY: F.O.M.
PROJECT NO: 27400
DATE: 2-17-86
SCALE: 1/10 SCALE
DRAWING NO. 5 OF 9

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE: 3-10-86
Arthur E. Muegge

FOR REVISION ONLY
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 16597, Expiration Date: 8/15/13

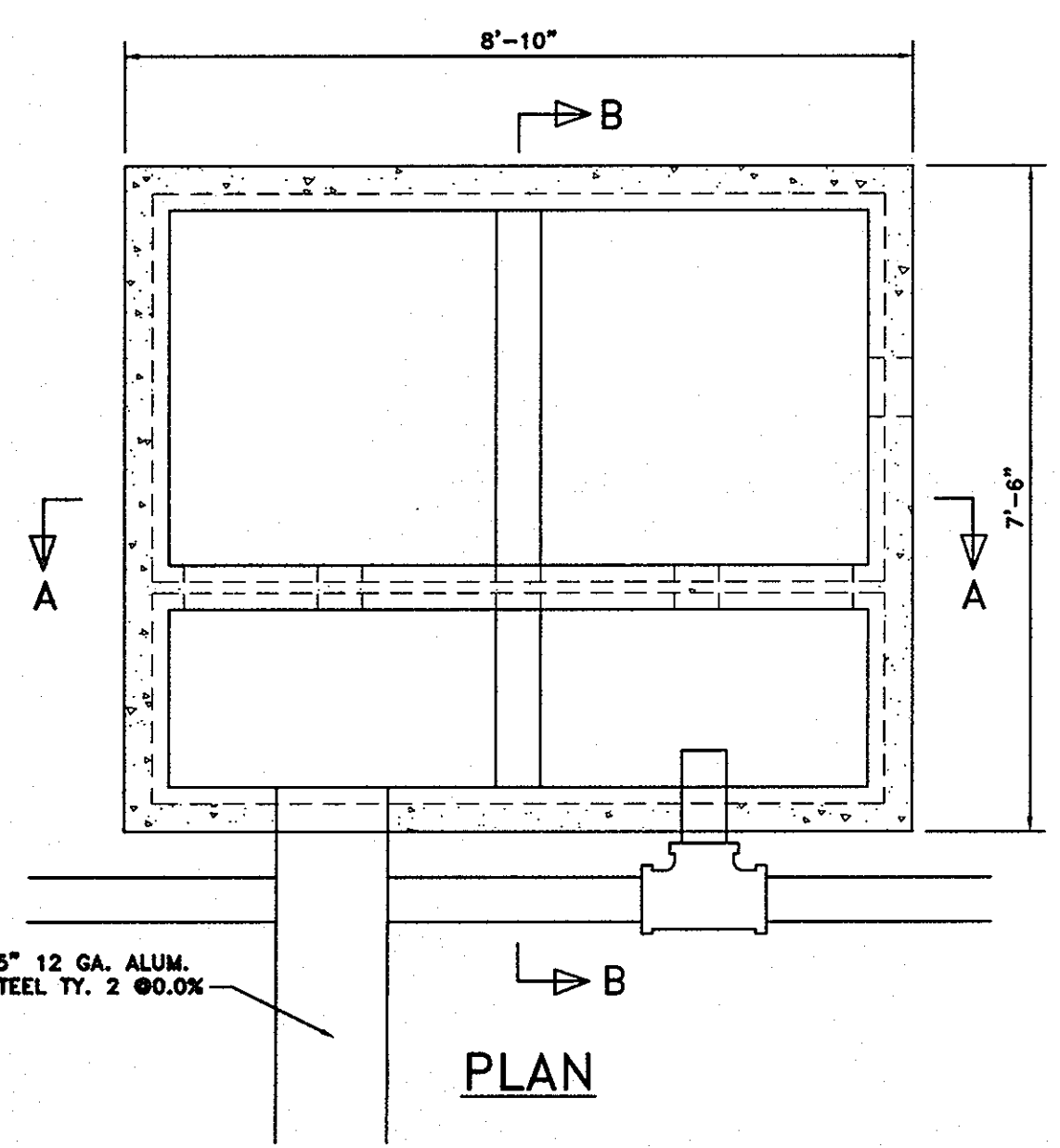


NOTE:
FOR INVERT AND GRADE ELEVATIONS
REFER TO "F-2 UNDERGROUND SAND
FILTER PROFILE" ON SHEET 8 OF 9.

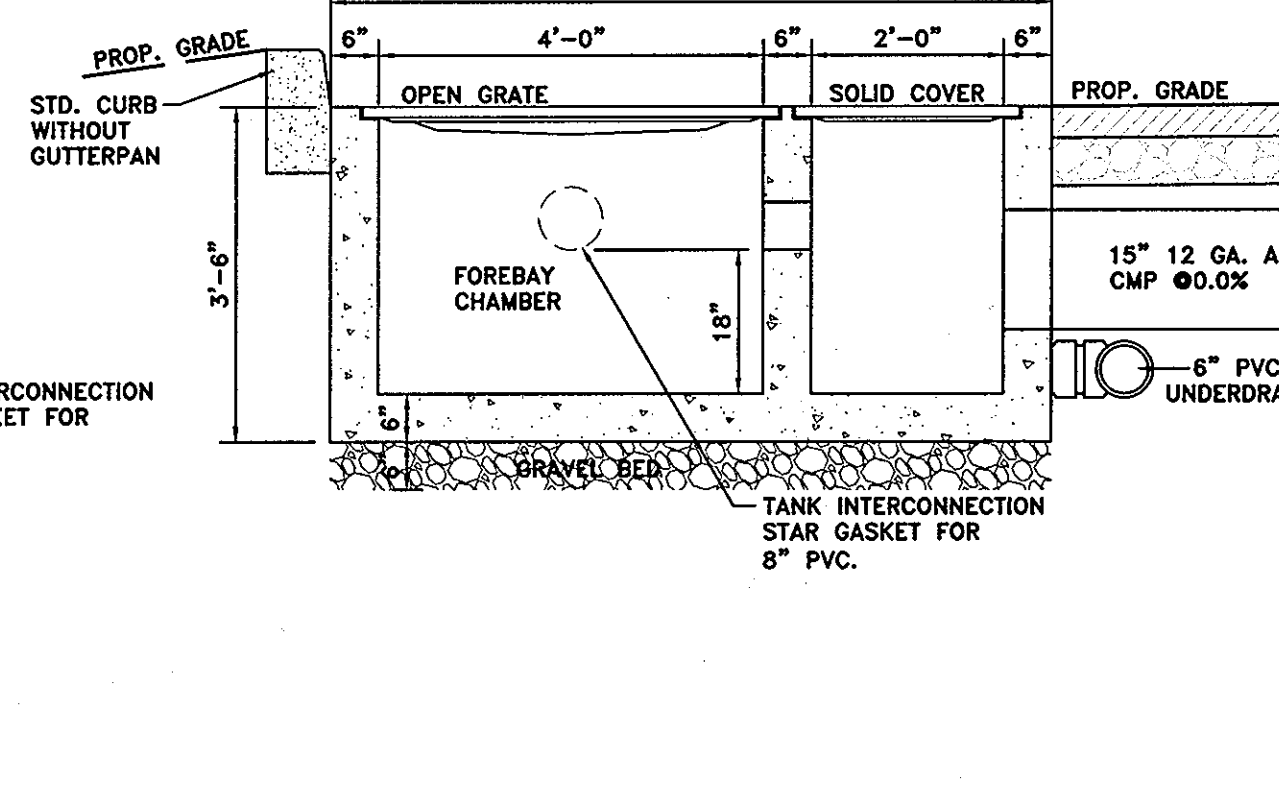
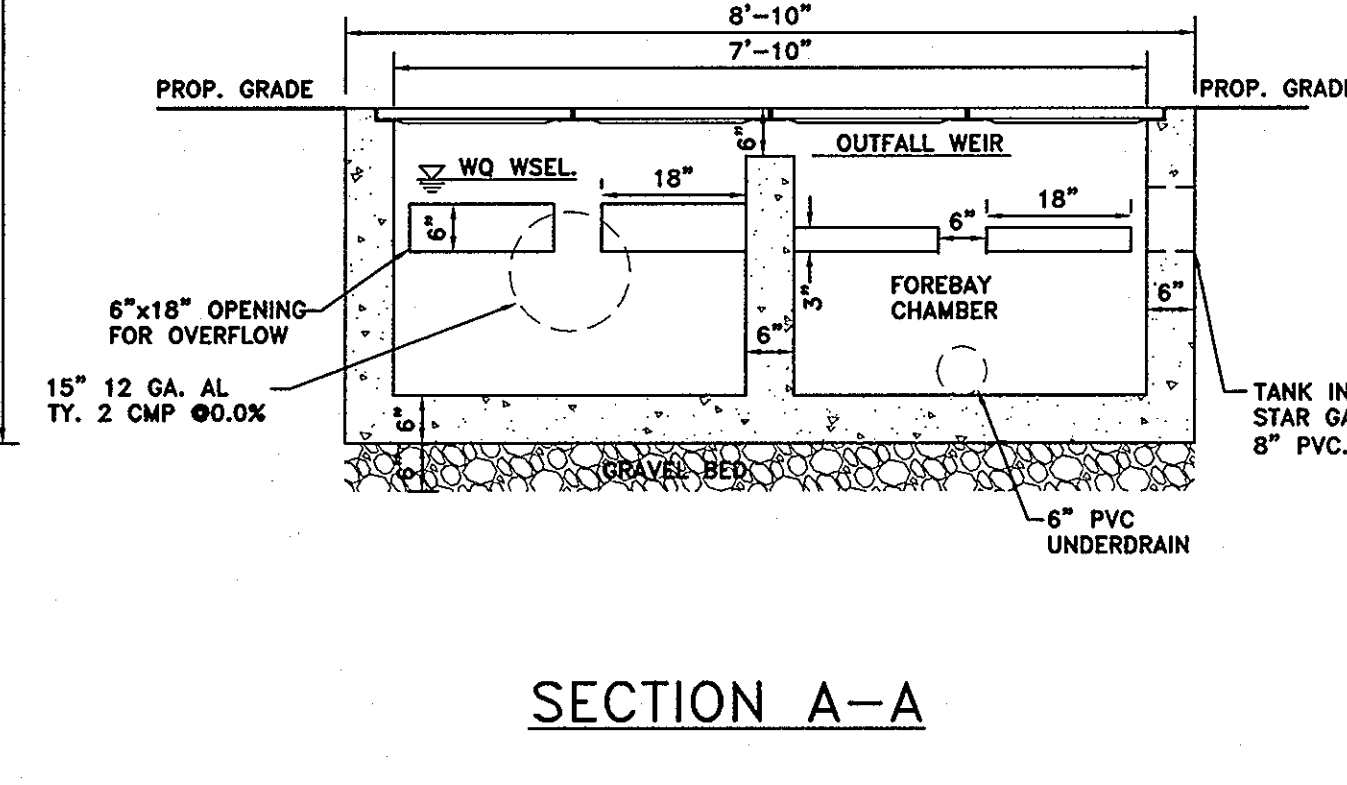


**TYPICAL DELAWARE STYLE
UNDERGROUND SAND FILTER (F-2)**

SCALE: 1/2" = 1'

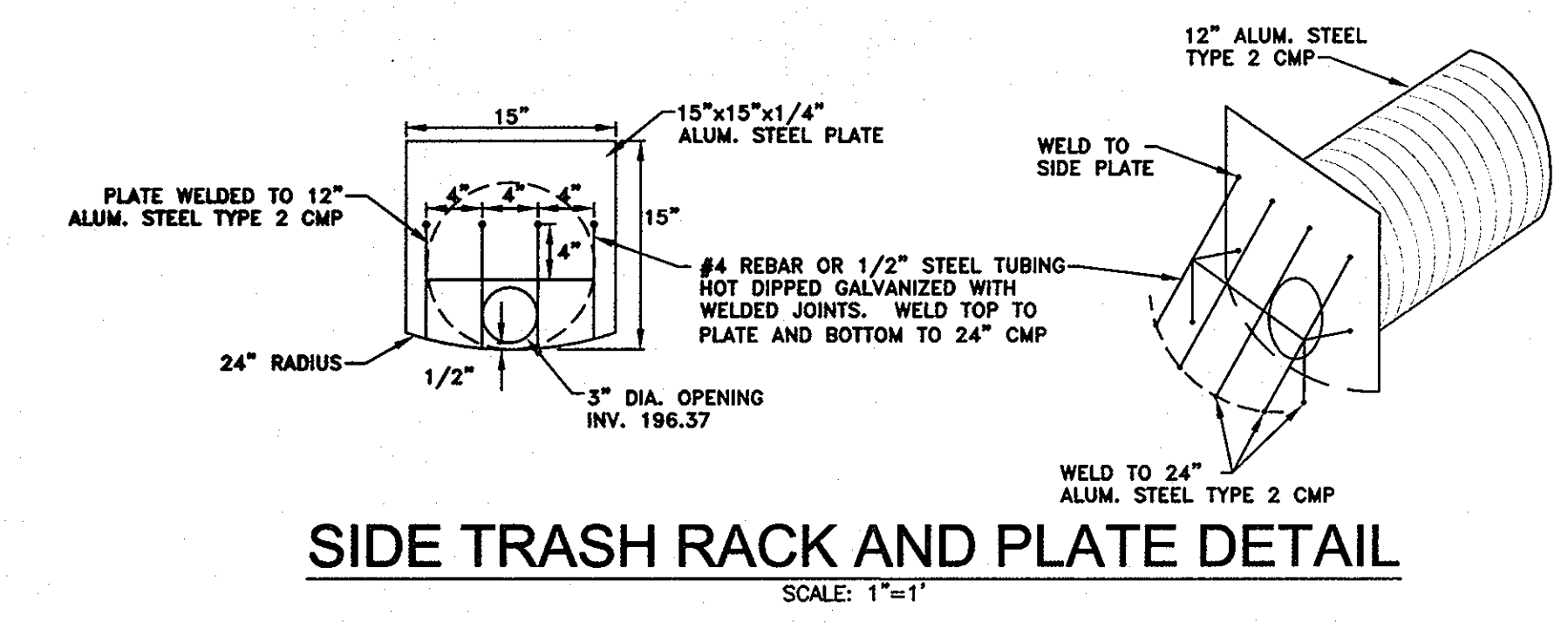


NOTE:
FOR INVERT AND GRADE ELEVATIONS
REFER TO "F-2 UNDERGROUND SAND
FILTER PROFILE" ON SHEET 8 OF 9.



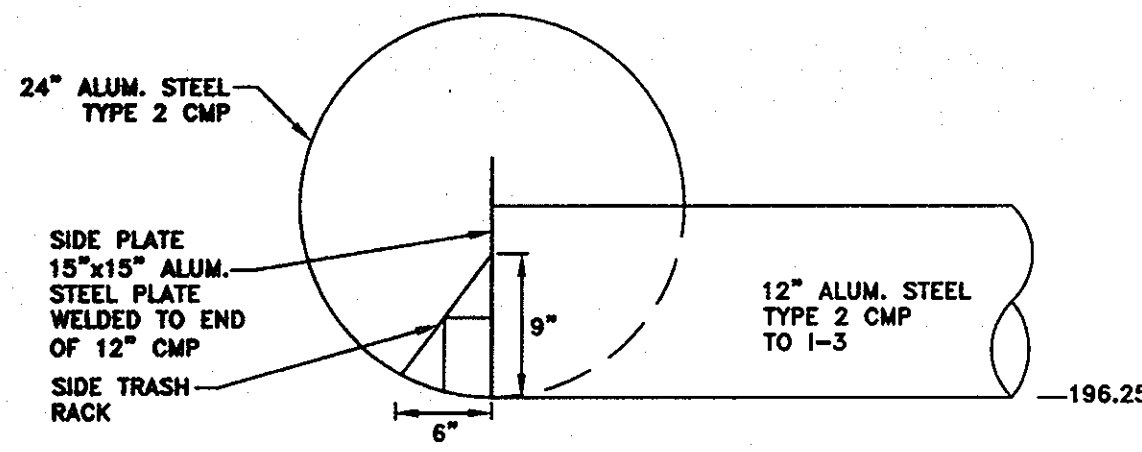
**MODIFIED DELAWARE STYLE
UNDERGROUND SAND FILTER (F-2)
FOR UNITS 5 AND 10**

SCALE: 1/2" = 1'



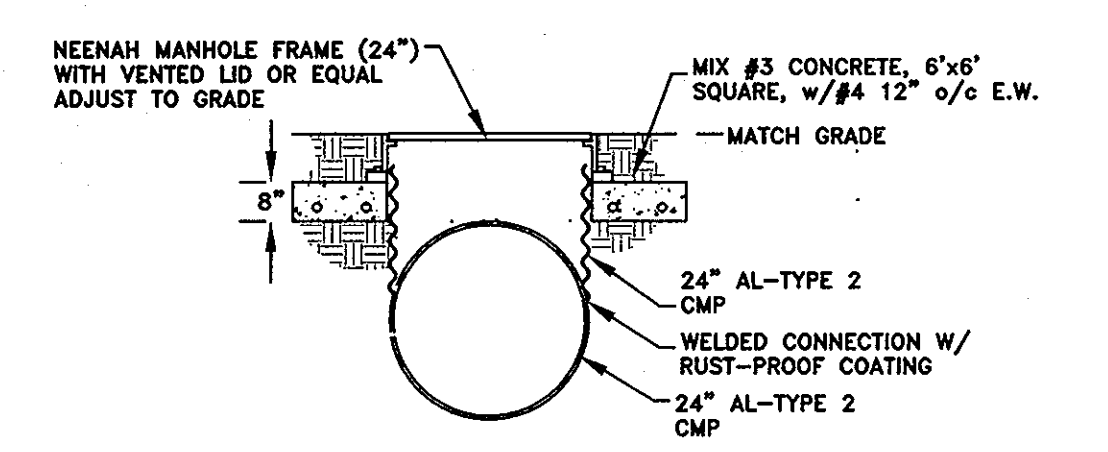
SIDE TRASH RACK AND PLATE DETAIL

SCALE: 1" = 1'



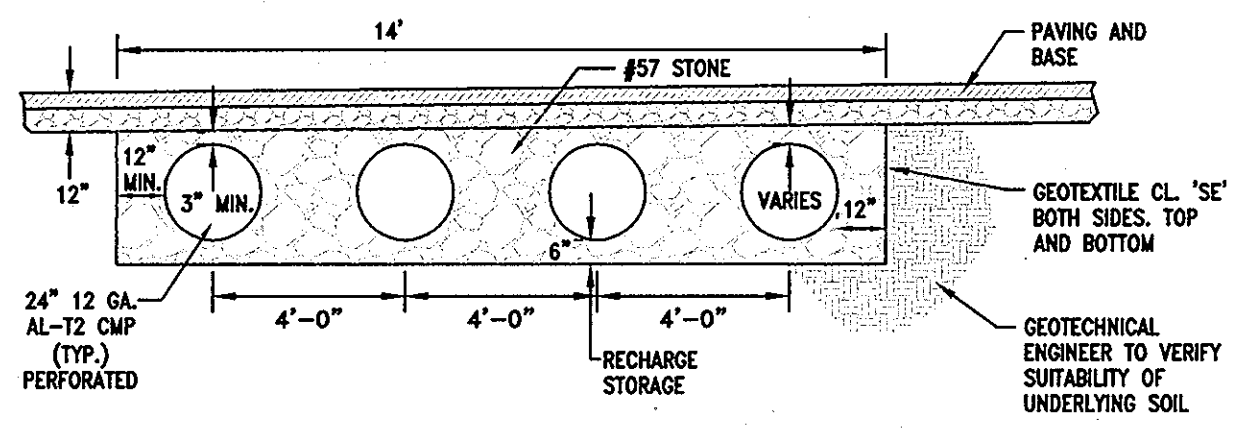
**RELEASE STRUCTURE
DETAIL**

SCALE: 1" = 1'



**ACCESS DETAIL
(M1, 2, 3, 4)**

SCALE: 1/2" = 1'

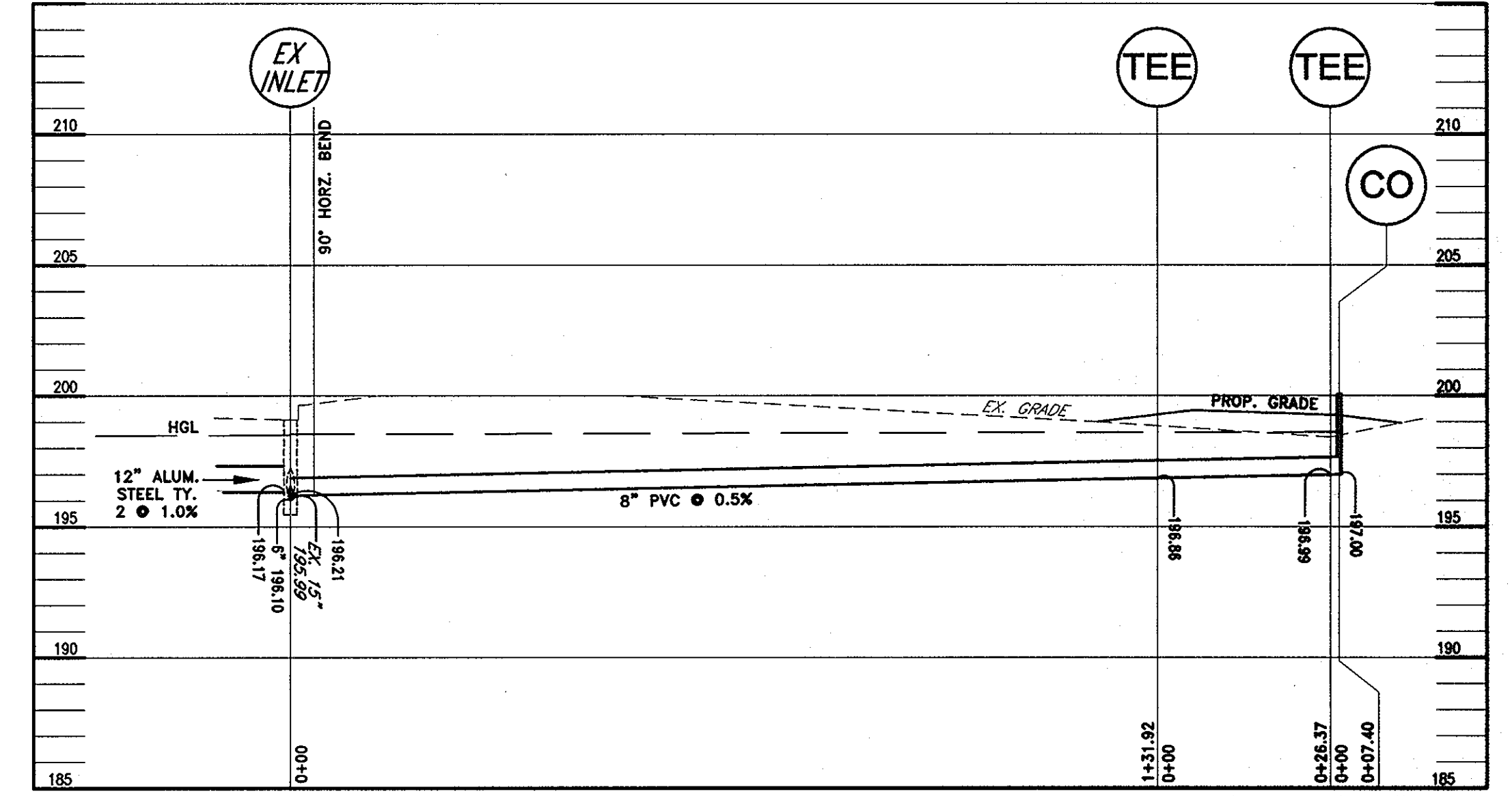


**UNDERGROUND STORAGE
SECTION DETAIL**

SCALE: 1" = 4'

NOTE:
A DESIGN MANUAL WAIVER TO VOLUME 1, SECTIONS 5.2.5.E.1.b, 5.2.5.E.1.1, AND 5.2.5.E.1.1.k HAS BEEN APPROVED FOR SDP-86-156 AS PER LETTER DATED JANUARY 12, 2012 FROM HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 16597, EXPIRATION DATE: 08-15-2013



8" UNDERDRAIN PROFILE

SCALE: HORIZ: 1" = 20'
VERT: 1" = 2'

**OPERATION AND MAINTENANCE SCHEDULE
FOR MICRO-BIORETENTION (M-6)**

- A. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- B. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- C. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- D. SOIL EROSION-TO BE ADDRESSED ON-AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

**OPERATION AND MAINTENANCE SCHEDULE FOR
PRIVATELY OWNED AND MAINTAINED
UNDERGROUND FACILITIES**

- A. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN ITS OPERATION AND FUNCTION.
- B. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
- C. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED.
- D. THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES NOTIFYING THEM OF THE SPILL AND CLEANUP OPERATION.
- E. THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND STORMWATER MANAGEMENT FACILITY BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
- F. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST EVERY SIX (6) MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.

**OPERATION AND MAINTENANCE SCHEDULE FOR
PRIVATELY OWNED AND MAINTAINED UNDERGROUND
STORMWATER FILTRATION SYSTEMS (F-2 AND F-3)**

- A. THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED AND/OR REPAIRED WHEN DRAW-DOWN TIMES WITHIN THE CHAMBER EXCEED 36 HOURS.
- B. DEBRIS AND LITTER SHALL BE REMOVED AS NECESSARY TO INSURE PROPER OPERATION OF THE SYSTEM.
- C. SEDIMENT SHALL BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF 6 INCHES. VEGETATION WITHIN THE SEDIMENTATION CHAMBER SHALL BE LIMITED TO A HEIGHT OF 18 INCHES.
- D. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
- E. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- F. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- G. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

MAINTENANCE AND INSPECTION SCHEDULE

THE FOLLOWING MAINTENANCE ITEMS SHOULD BE PERFORMED IN THE SPRING AND THE FALL AND AFTER MAJOR RAINFALL EVENTS:

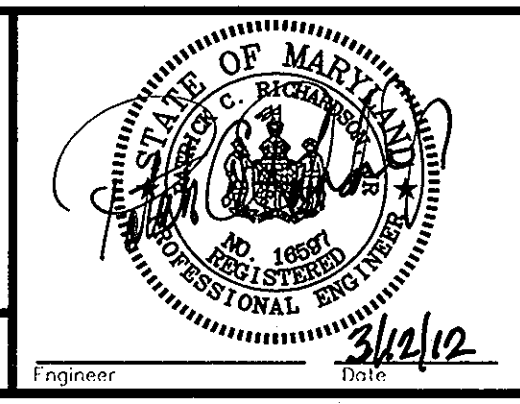
- 1. REMOVE LITTER AND DEBRIS.
- 2. REPLACE MULCH IN BARE AREAS IN ACCORDANCE WITH SPECIFICATIONS.
- 3. REPAIR ERODED AREAS.
- 4. REMOVE INVASIVE PLANT SPECIES.
- 5. TREAT DISEASED VEGETATION AS NEEDED. A LANDSCAPE PROFESSIONAL SHOULD BE CONSULTED IF TREES NEED TO BE REPLACED OR IF VEGETATIVE COVER CANNOT BE MAINTAINED.
- 6. INSPECT CLEANOUTS. NO WATER SHOULD BE VISIBLE 72 HOURS AFTER RAINFALLS. IF WATER IS VISIBLE, UNDERDRAIN MAY BE CLOGGED AND SHOULD BE CLEANED OUT WITH STANDARD PLUMBING EQUIPMENT.
- 7. IF WATER IS STANDING IN THE FACILITY FOR SIGNIFICANTLY LONGER THAN 72 HOURS AND THERE IS NO WATER VISIBLE IN THE CLEANOUTS, THE FILTER MATERIAL MAY BE CLOGGED. THE AREA MUST BE EXCAVATED AND REBUILT IN ACCORDANCE WITH THESE PLANS.

ADDRESS CHART					
Lot/Parcel #	Street Addresses				
PARCEL C-5	10621 RIGGS HILL ROAD				
PERMIT INFORMATION CHART					
Subdivision Name	Section/Area	Lot/Parcel No.			
CORRIDOR NORTH PARCEL C-5	N.A.	PARCEL C-5			
PLAT #	Grid	Zoning	Tax Map No.	Election District	Census Tract
6629	# 7	M-2	48	6	6069.01
Water Code	Sewer Code				
--	--				

APPROVED:	DEPARTMENT OF PLANNING AND ZONING
<i>[Signature]</i>	3-28-12
Chief, Development Engineering Division	Date
<i>[Signature]</i>	4-12-12
Chief, Division of Land Development	Date
<i>[Signature]</i>	4/13/12
Director	Date

Richardson Engineering, LLC

30 East Padonia Road, Suite 500
Timonium, Maryland 21093
Phone: 410-560-1502 Fax: 443-901-1208

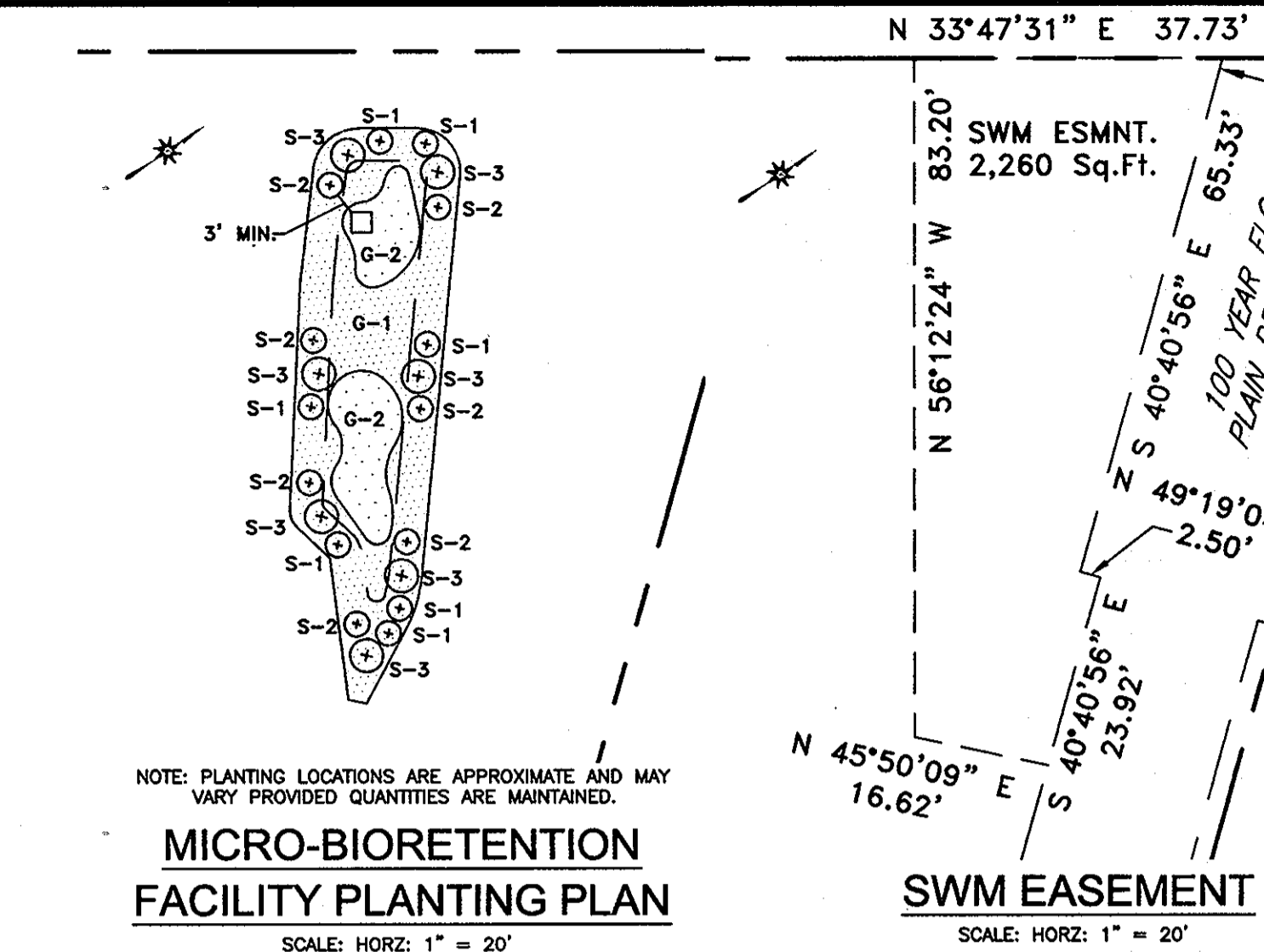
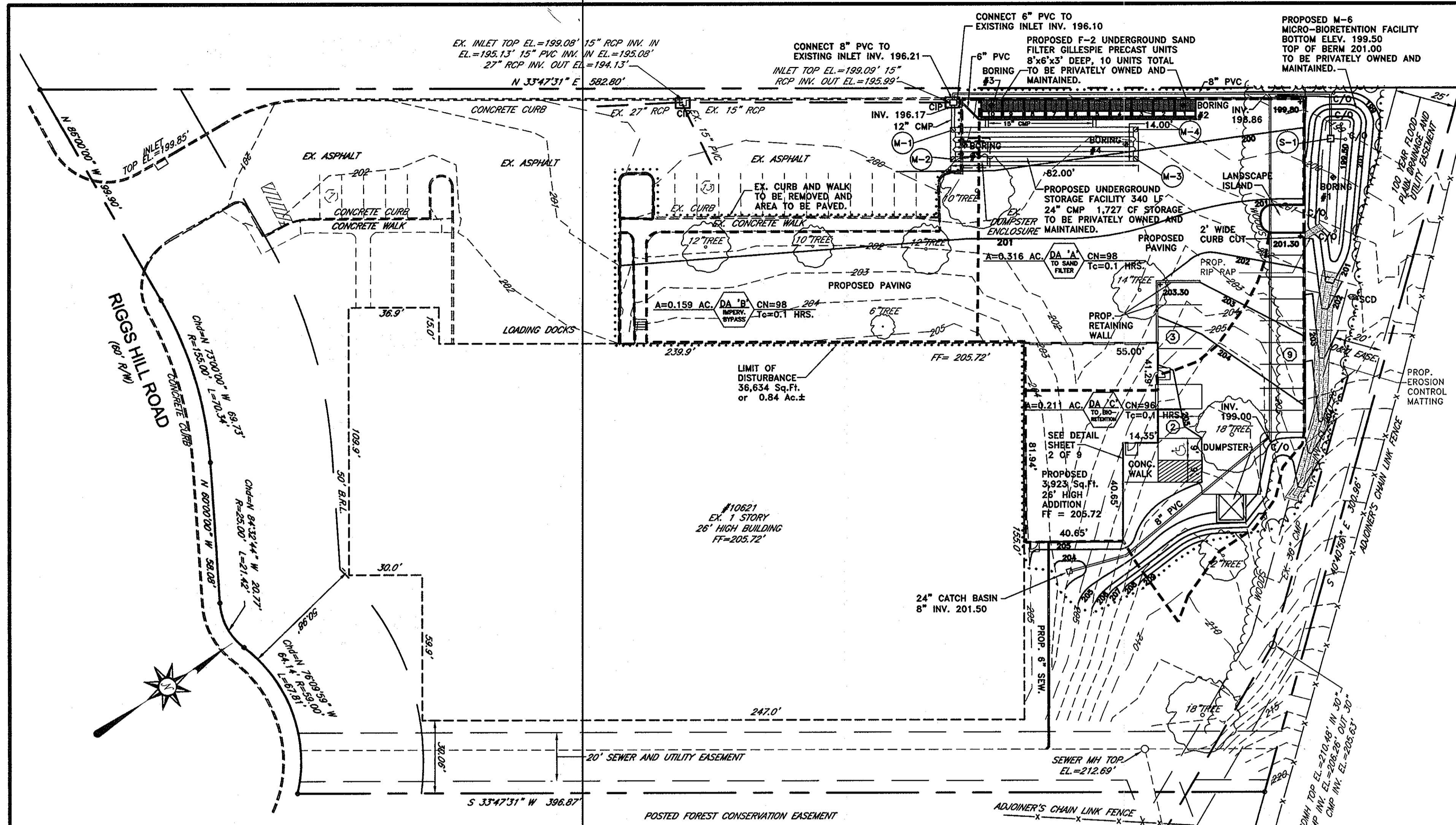


OWNERS/DEVELOPER

OWNER:
REALTY INC.
10621 RIGGS HILL ROAD
JESSUP, MARYLAND 20794

DEVELOPER:
JASPER ENGINES & TRANSMISSIONS
815 WERNISING ROAD
JASPER, IN. 47546
PHONE: 800-327-7455

CORRIDOR NORTH PARCEL C-5		SWM NOTES & DETAILS		DRAWING COMPLETED 01-17-12	
DESIGNED BY:	DND	SCALE:	AS SHOWN	TAX MAP:	48
DRAWN BY:	CND	GRID:	7	A.D.C. MAP 20	7 & 8
CHECKED BY:	PCR	DEED REF.:	13200/248	GRID F-7 & 8	JOB # 11011
		PARCEL:	C-5	PLAT REF.:	6629
		FILES:	04_03_2011\11011	NO.:	9
				OF:	9



MICRO-BIORETENTION FACILITY PLANTING PLAN
SCALE: HORZ: 1" = 20'

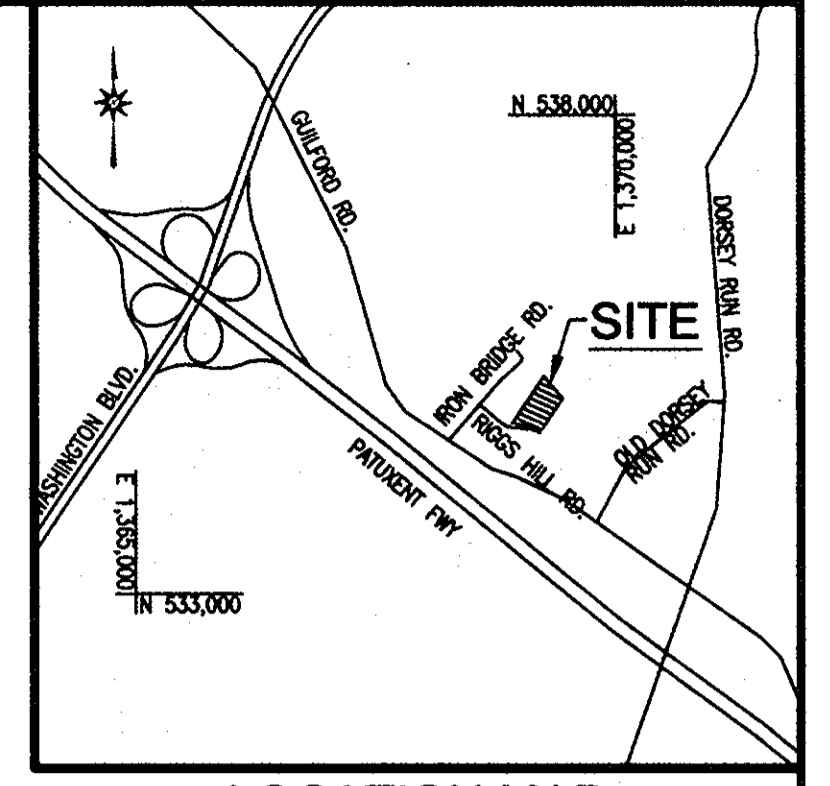
PLANT LIST (FACILITY "A")

SHRUBS

KEY	QUANTITY	BOTANICAL NAME/ COMMON NAME	SIZE	ROOT	REMARKS
S-1	7	Ilex Verticillata Winterberry	36"-48"	Cont.	"Sprite" or Compact (include 1 male)
S-2	7	Vaccinium Angustifolium Lowbush Blueberry	24"-30"	Cont.	
S-3	7	Ilex Glabra Inkberry	24"-30"	Cont.	

HERBACEOUS

KEY	QUANTITY (gallon containers)	BOTANICAL NAME/ COMMON NAME	SIZE	ROOT	REMARKS
G-1	204	Panicum Virgatum Switchgrass	1 GAL.	Cont.	36" o/c
G-2	56	Scirpus Pungens Three Square Bulrush	1 GAL.	Cont.	36" o/c

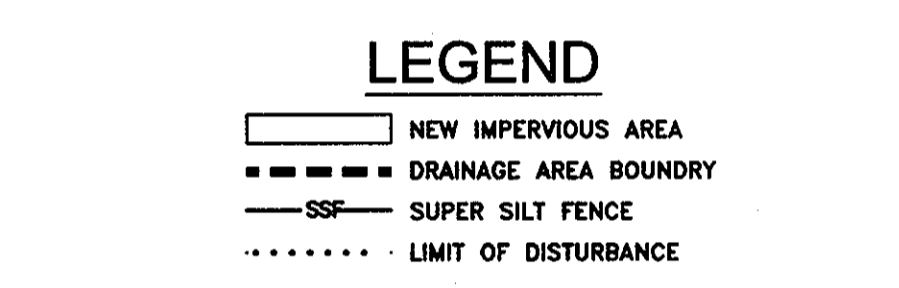


LOCATION MAP
SCALE: 1" = 2000'

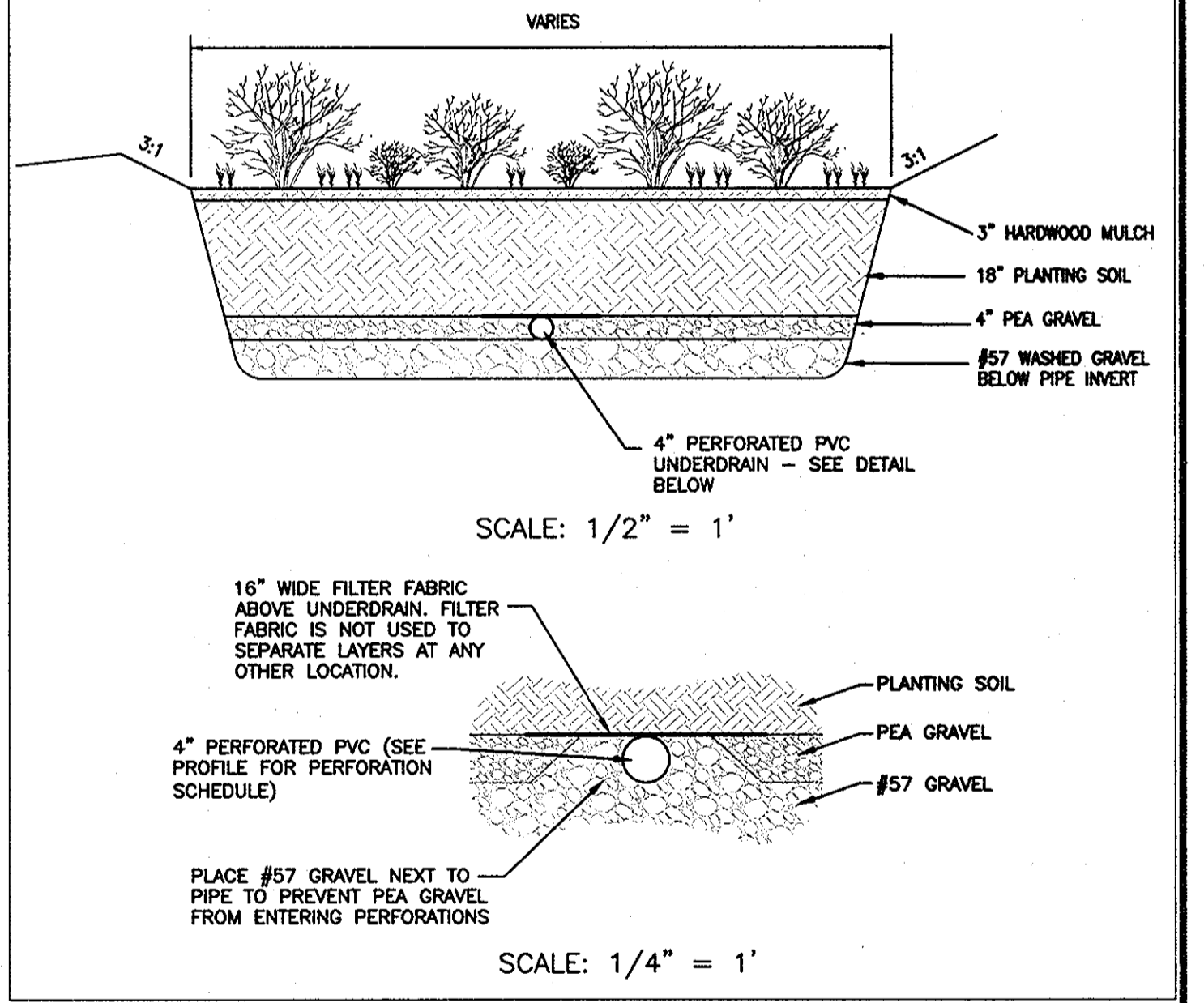
- ENVIRONMENTAL NOTES**
1. WATERSHED: PATUXANT RIVER
 2. THE SITE DOES NOT LIE WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
 3. NO FLOODPLAINS OR WETLANDS EXIST ON SITE.
 4. THE ENTIRE SITE IS ON HYDROLOGIC SOIL GROUP 'D' SOILS (UD).
 5. PROPOSED IMPROVEMENTS WILL ADD APPROXIMATELY 30,770 SF OF IMPERVIOUS AREA SINCE THE DISTURBED AREA IS LESS THAN 40,000 SF. A DECLARATION OF INTENT WILL BE SUBMITTED TO OBTAIN AN EXEMPTION FOR FOREST CONSERVATION.

- PHASE 2 SITE ANALYSIS**
1. TOTAL AREA: 139,348 S.F. ± or 3.199 AC. ±.
 2. DISTURBED AREA: 36,634 S.F. or 0.84 AC.
 3. PRESENT ZONING: M-2
 4. PROPOSED USE: WAREHOUSE
 5. BUILDING COVERAGE: 45,516 S.F. or 1.045 AC. ± (33%).
 6. PARKING:
 - REQUIRED:
 - 10 OFFICE EMPLOYEES @ 7 PER 10 EMPLOYEES = 7 SPACES
 - 10 WAREHOUSE EMPLOYEES @ 1 PER 2 EMPLOYEES = 5 SPACES
 - PROVIDED:
 - 23 SPACES
- (21 STANDARD SPACES, 2 HANDICAPPED SPACES)

PLAN
SCALE: 1" = 30'

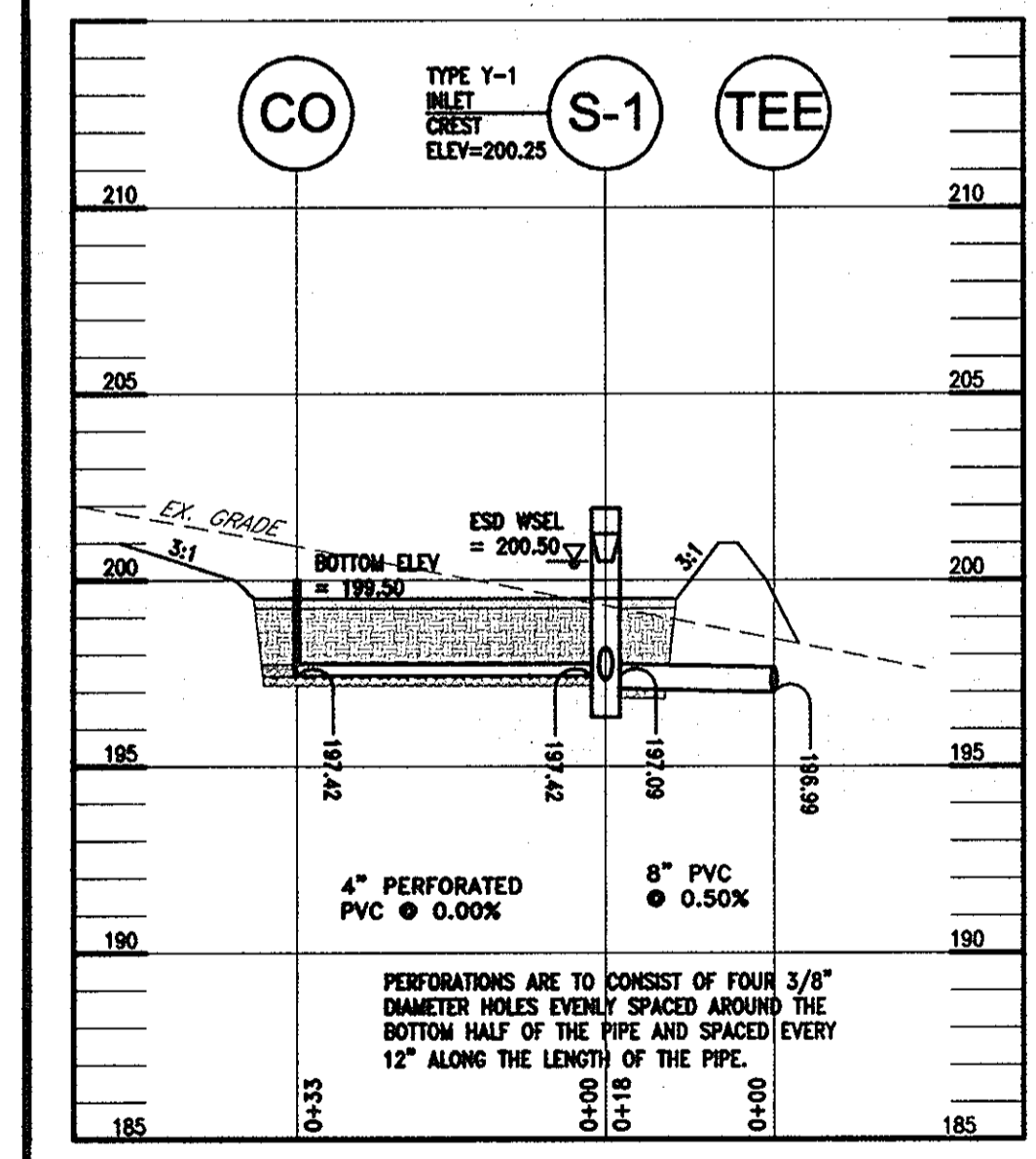


LEGEND

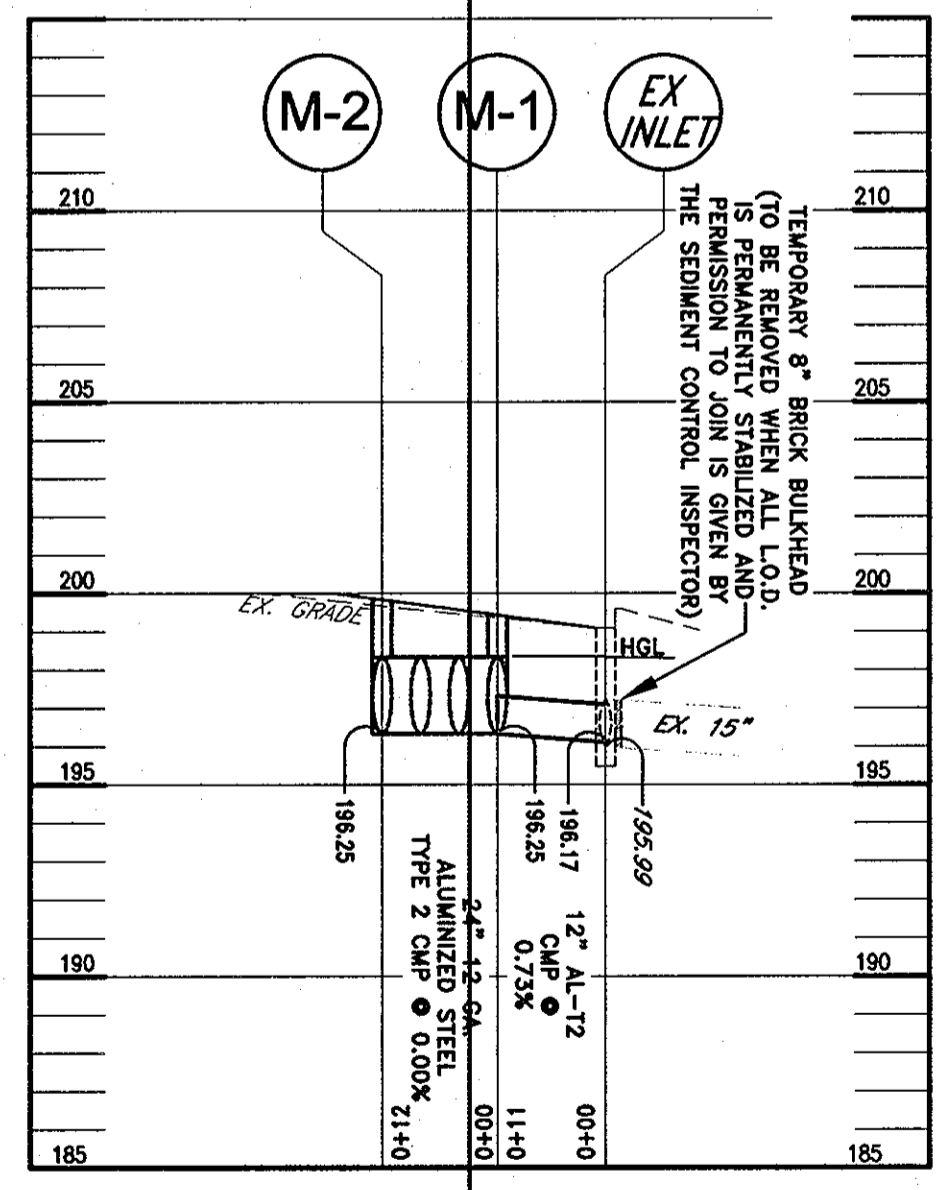


BIORETENTION SECTION DETAIL
SCALE: AS SHOWN

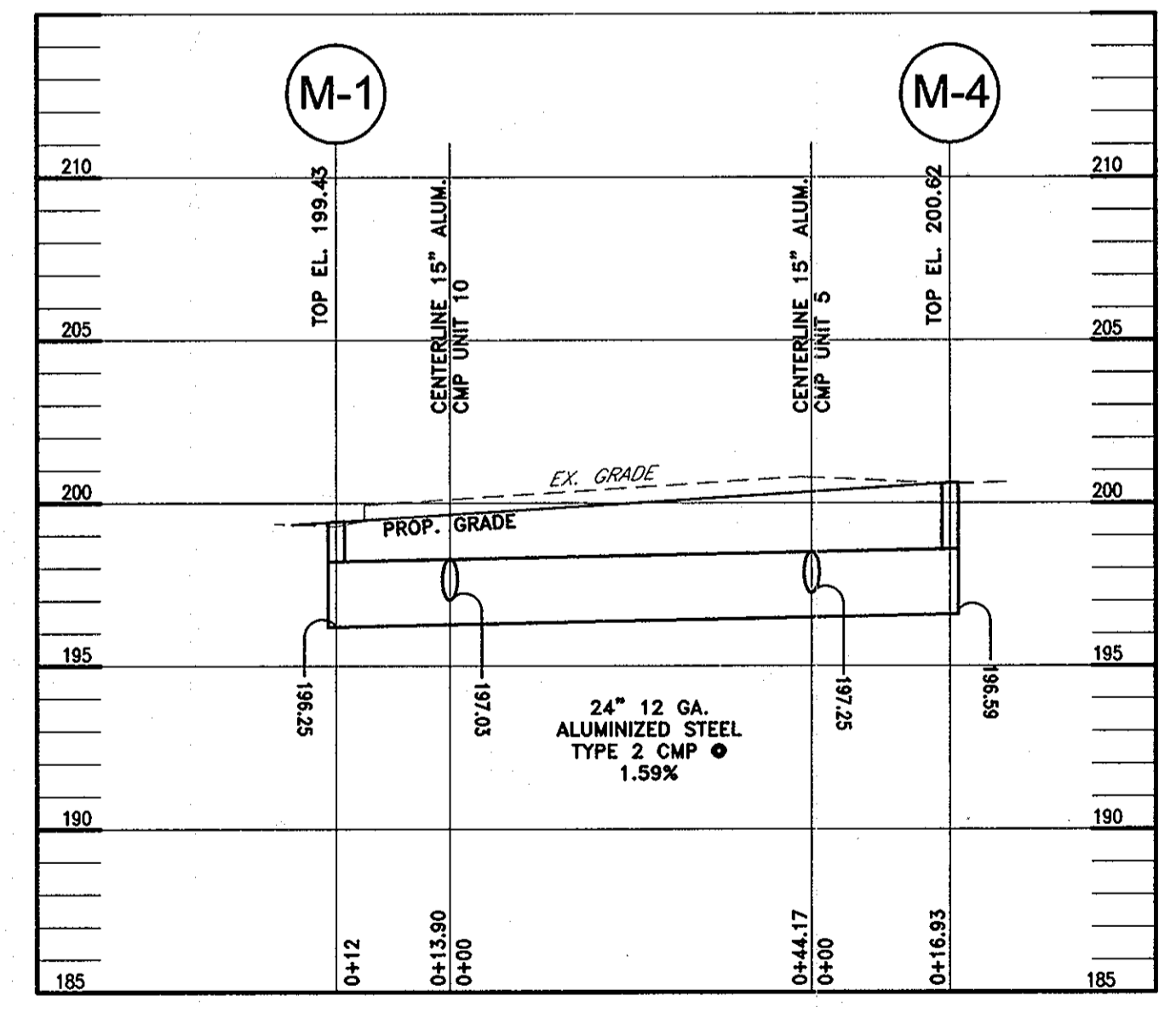
LIMIT OF DISTURBANCE = 36,634 SF (0.84 AC.)



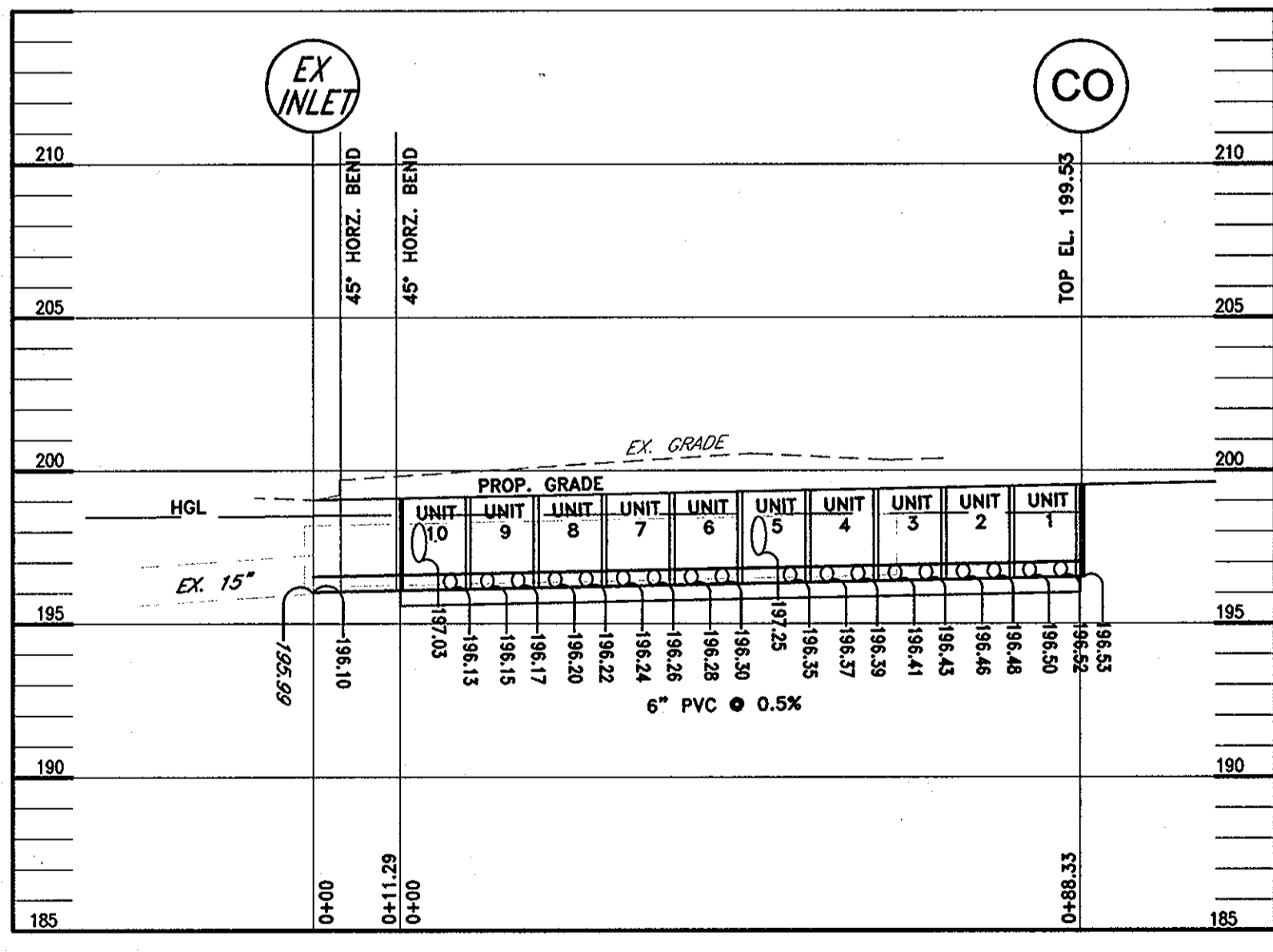
MICRO-BIORETENTION FACILITY PROFILE
SCALE: HORZ: 1" = 20'
VERT: 1" = 2'



UNDERGROUND STORAGE FACILITY PROFILE
SCALE: HORZ: 1" = 20'
VERT: 1" = 2'



F-2 UNDERGROUND SAND FILTER PROFILE
SCALE: HORZ: 1" = 20'
VERT: 1" = 2'



APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division
Chief, Division of Land Development
Director

Date: 3/28/12
Date: 4/3/12
Date: 8/15/12

Richardson Engineering, LLC
30 East Padonia Road, Suite 500
Timonium, Maryland 21093
Phone: 410-560-1502 Fax: 443-901-1208

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 16597, EXPIRATION DATE: 08-15-2013

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DEVELOPER:
JASPER ENGINES & TRANSMISSIONS
815 WERNING ROAD
JASPER, IN. 47546
PHONE: 800-327-7455

ADDRESS CHART

Lot/Parcel #	Street Addresses
PARCEL C-5	10621 RIGGS HILL ROAD

PERMIT INFORMATION CHART

Subdivision Name	Section/Area	Lot/Parcel No.
CORRIDOR NORTH PARCEL C-5	N.A.	PARCEL C-5

PLAT #	Grid #	Zoning	Tax Map No.	Election District	Census Tract
6629	7	M-2	48	6	6069.01

Water Code: --- Sewer Code: ---

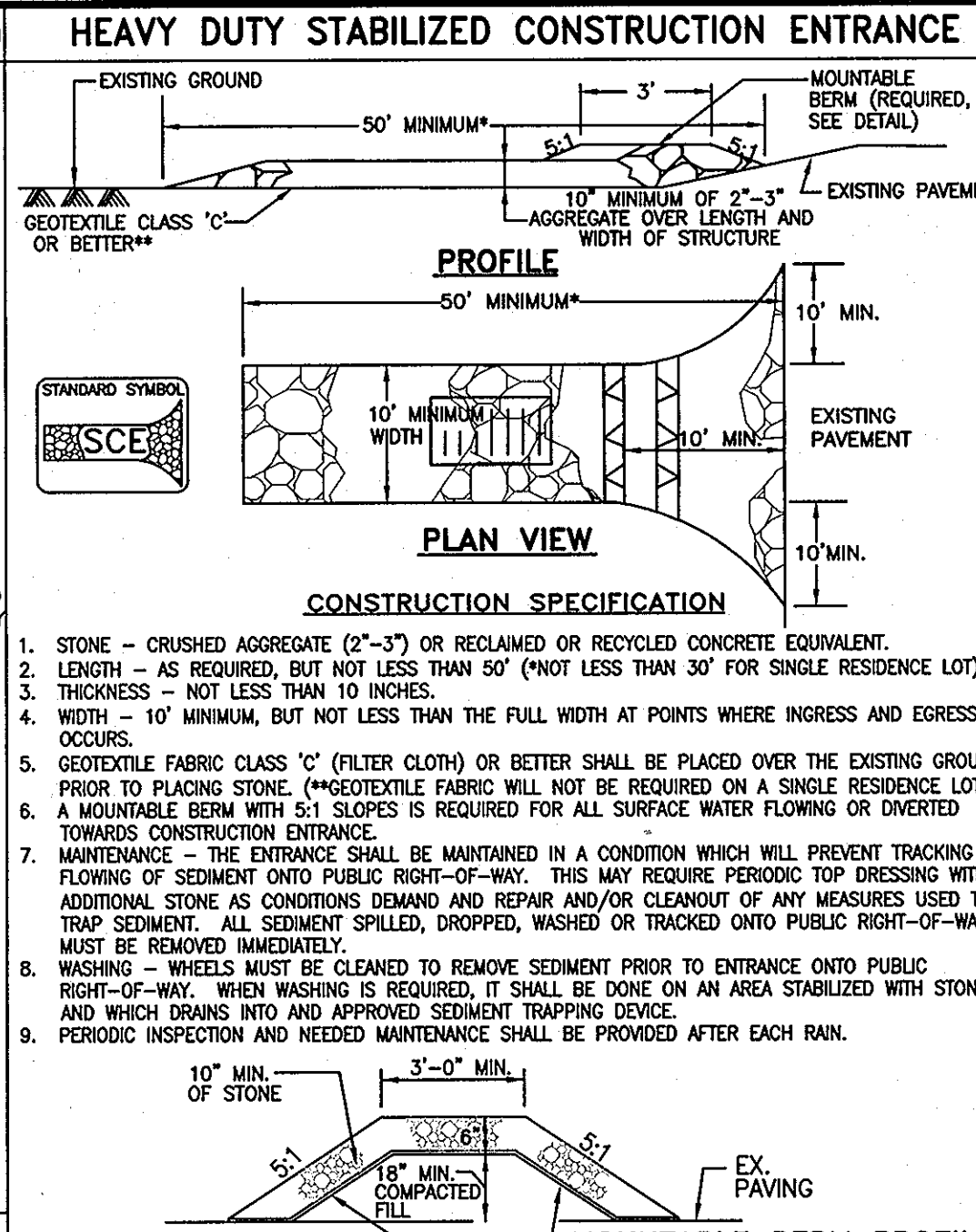
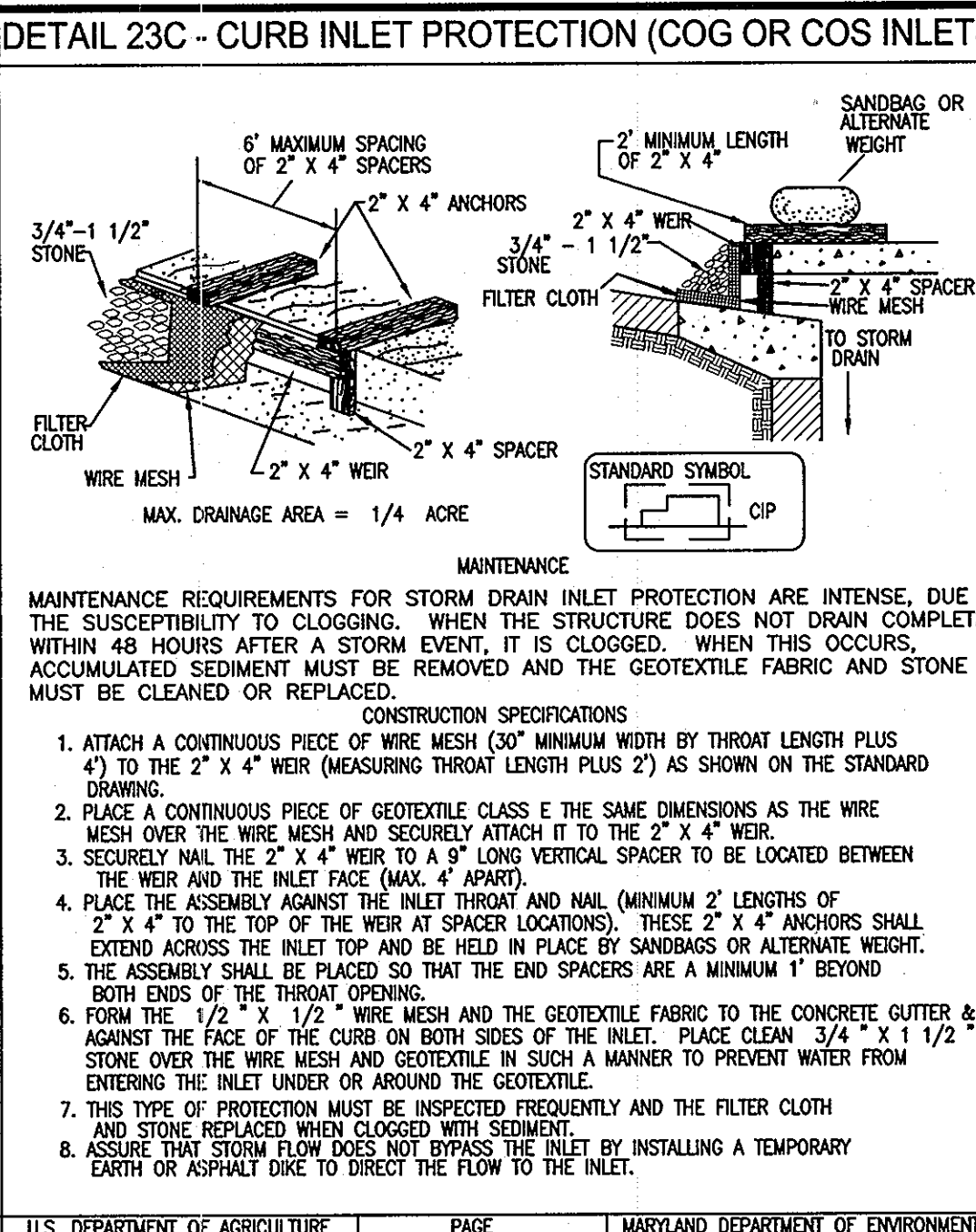
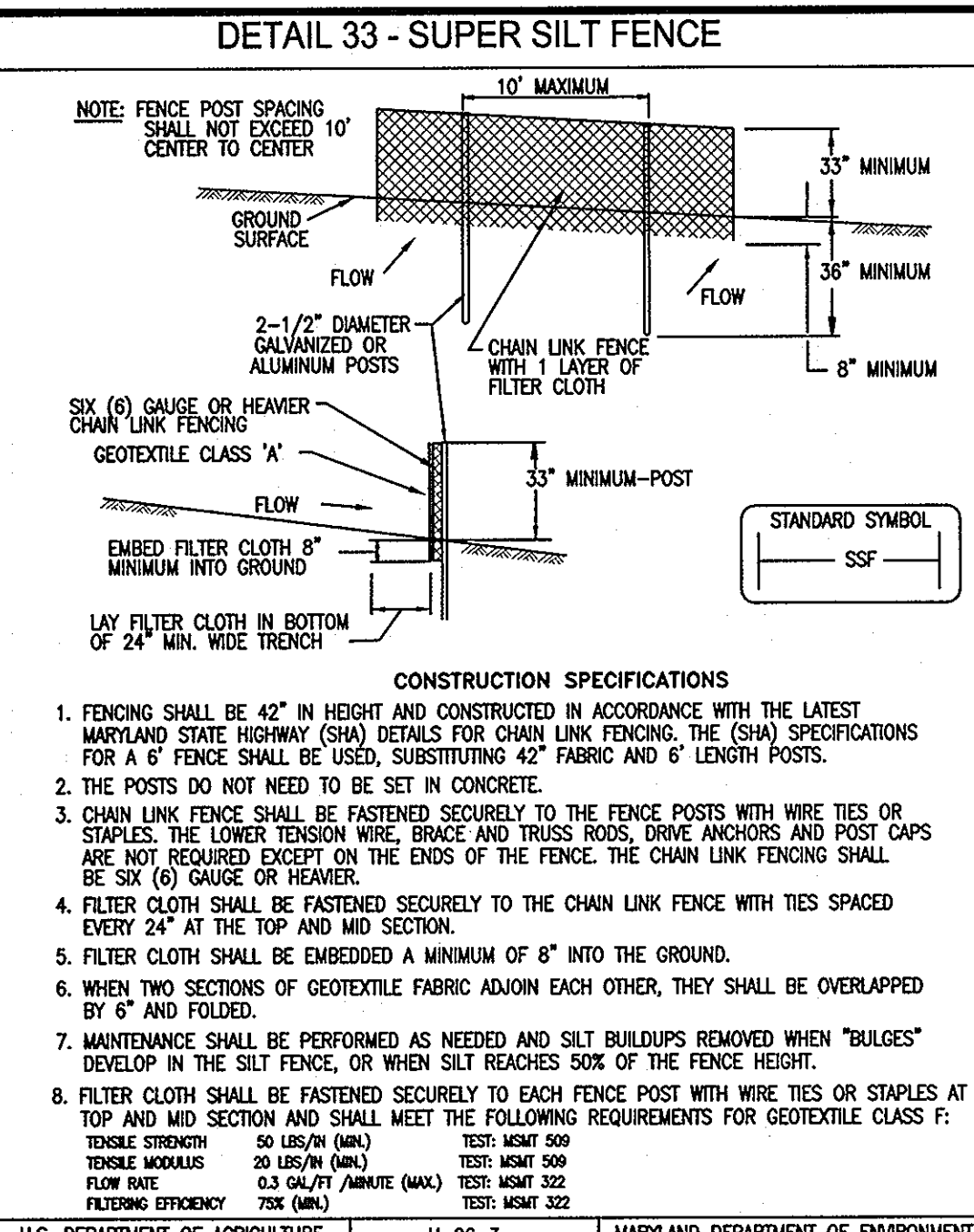
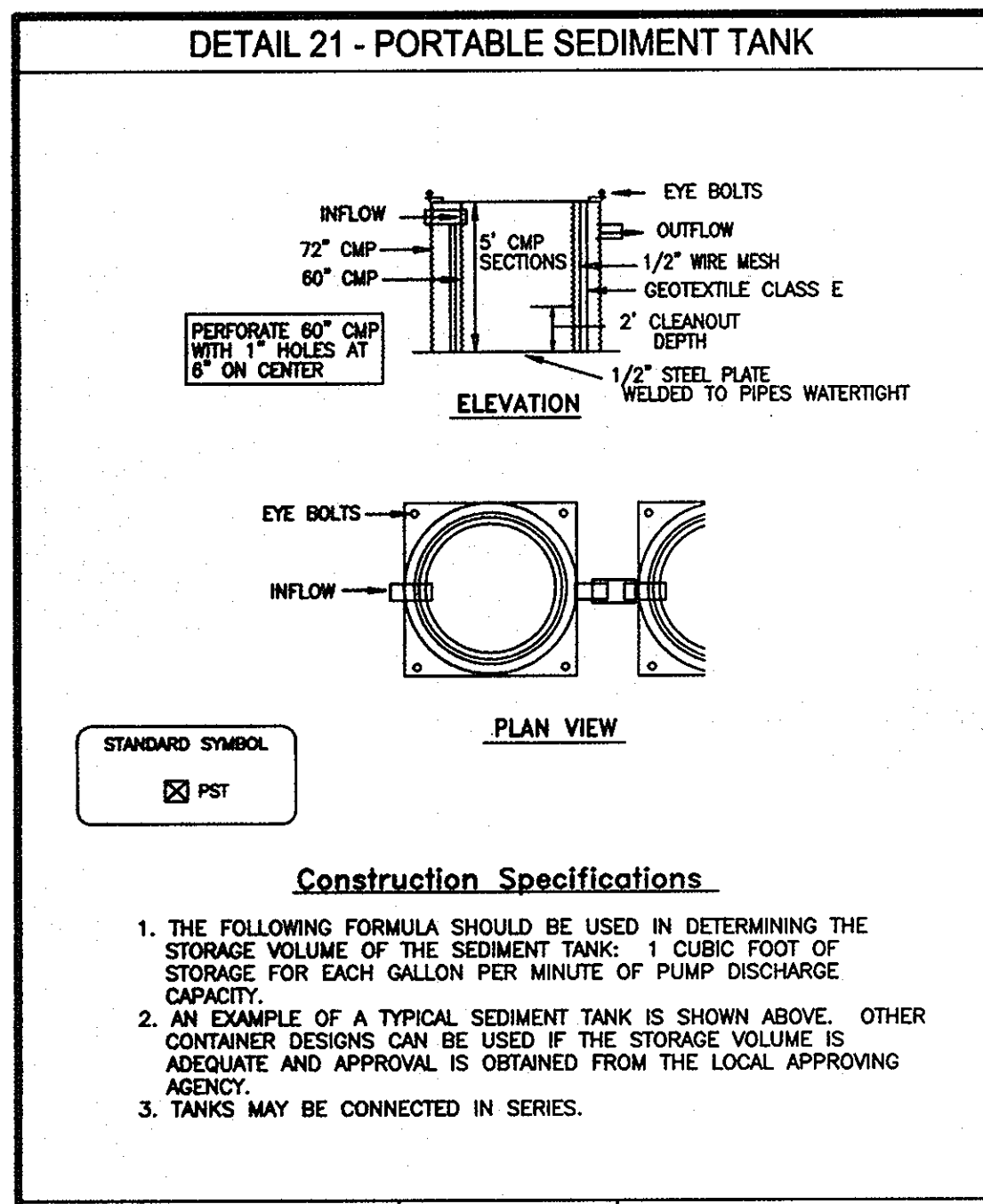
DESIGNED BY: DND
DRAWN BY: CND
CHECKED BY: PCR

SCALE: AS SHOWN
TAX MAP: 48
A.D.C. MAP 20: GRID F-7 & 8
DEED REF.: 7
PLAT REF.: 6629

DATE: 01-17-12
REVISION: ---
DRAWING COMPLETED: 01-17-12

DESIGNED BY: DND
DRAWN BY: CND
CHECKED BY: PCR

NO.: 8
OF: 9
FILES: D:\JOBS\2011\11011\DRAWINGS\11011wm1.dwg



SPECIFICATIONS FOR BIORETENTION AREAS

FROM "2000 MARYLAND STORMWATER DESIGN MANUAL" APPENDIX B.3.B.

I. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREAS ARE DETAILED IN THE TABLE BELOW.

II. PLANTING SOIL

THE SOIL SHALL BE A UNIFORM MIX FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBSTACLES LARGER THAN TWO (2) INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HAZARD TO THE PLANTS OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER CORNAR 15030202.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

PH RANGE	5.5-6.5
ORGANIC MATTER	15-20% (BY WEIGHT)
PHOSPHORUS (PHOSPHATE - P ₂ O ₅)	15 LB/AC
POTASSIUM (POTASH - K ₂ O)	20 LB/AC
SCALE: 0.01%	NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER AND SCALE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE SPECIFIED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURAL ANALYSIS SHALL BE PERFORMED FOR EACH WITHIN THE PLANTING AREA.

SOME DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY. ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY.

SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE ADJUSTED (RATHER) WITH LIME OR (LOWER) WITH SULFURIC ACID.

III. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE RECLAIMED BACKFILL. WHERE POSSIBLE USE EXCAVATION TOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE HEAVY TRACK OR WHEEL TRACK EQUIPMENT OR LIGHT EQUIPMENT WITH TIRE TYPE TREAD. USE OF EQUIPMENT WITH HEAVY TRACKS OR WHEEL TREADS, ESPECIALLY WITH LARGE TIRES, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED WATER INFILTRATION AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PNEUMATIC TIRE TRACKER OR OTHER EQUIPMENT THAT DOES NOT EXCAVATE THE SOIL. THESE TRACKERS SHOULD BE USED TO REMOVE EXCESSIVE COMPACTION FROM THE SOIL. THESE TRACKERS SHOULD BE USED TO REMOVE EXCESSIVE COMPACTION FROM THE SOIL. THESE TRACKERS SHOULD BE USED TO REMOVE EXCESSIVE COMPACTION FROM THE SOIL.

IV. PLANT MATERIAL

USE PLANTING AS SPECIFIED IN THE LANDSCAPE PLAN.

V. PLANT INSTALLATION

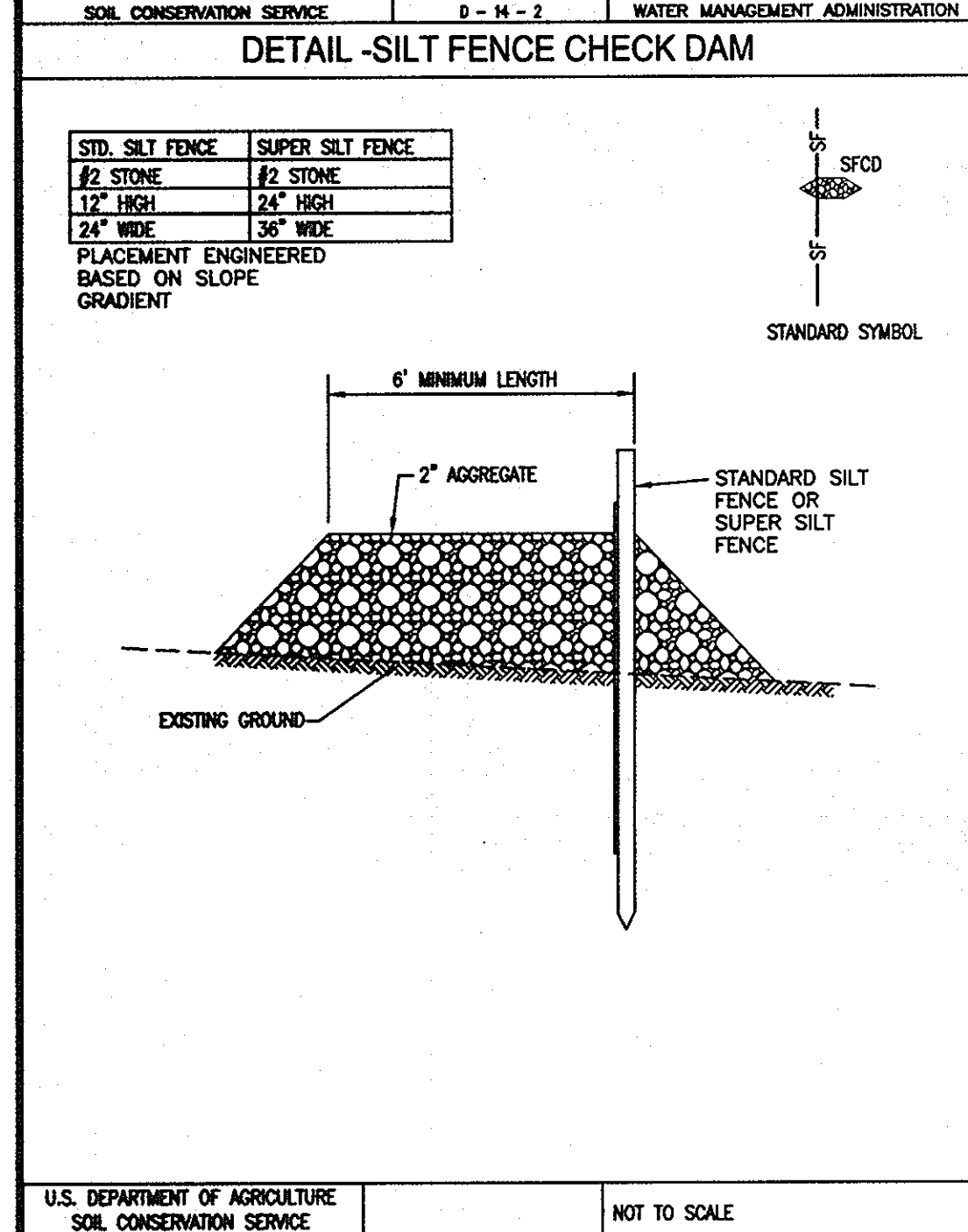
MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND ROOT GARDNS WILL FLOAT TO THE PERIPHERY OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOSTLY TRANSPARENT AND CHASTE. MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND ROOT GARDNS WILL FLOAT TO THE PERIPHERY OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOSTLY TRANSPARENT AND CHASTE. MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND ROOT GARDNS WILL FLOAT TO THE PERIPHERY OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

VI. MISCELLANEOUS

THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.



TEST BORING LOG

JOB NAME: 10621 Riggs Hill Road | BORING NUMBER: B-1 | DATE DRILLED: 11/17/2011 | LOCATION: SWM Sandfill

DEPTH (FEET)	SOIL DESCRIPTION	DIAPHRAGM	NO. BLOW'S	REMARKS
0'	Top soil			
4.5'	Brown moist silty loam			
7.0'	Dark brown moist silty sandy loam			

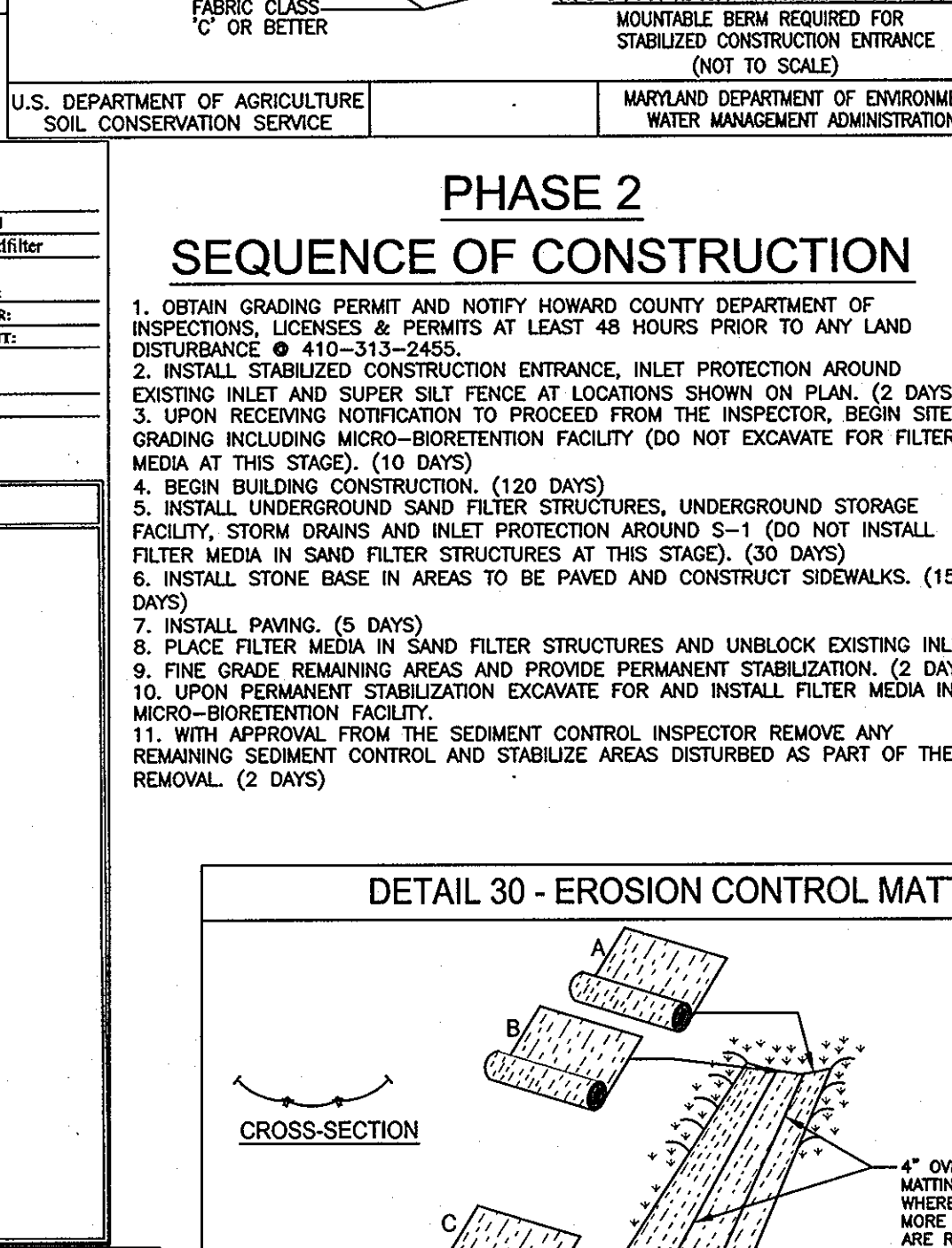
GROUNDWATER AT COMPLETION: NA | GROUNDWATER AT 24 HOURS: NA

TEST BORING LOG

JOB NAME: 10621 Riggs Hill Road | BORING NUMBER: B-2 | DATE DRILLED: 11/17/2011 | LOCATION: SWM Sandfill

DEPTH (FEET)	SOIL DESCRIPTION	DIAPHRAGM	NO. BLOW'S	REMARKS
0'	Top soil			
5.0'	Brown silty loam w/ trace rock fragments (Silt)			
7'	Yell moist sandy loam			

GROUNDWATER AT COMPLETION: NA | GROUNDWATER AT 24 HOURS: NA



MATERIAL SPECIFICATIONS FOR BIORETENTION FACILITIES

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	AS SPECIFIED ON LANDSCAPE PLAN	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL	SAND	60#	SOIL SHALL BE TESTED FOR PH AND ORGANIC MATTER PRIOR TO INSTALLATION. ORGANIC MATTER SHALL BE INCREASED BY ADDING 1 CY OF LEAF COMPOST (100 lbs) TO EVERY 10 CY OF SOIL (6 TONS) TO RAISE ORGANIC MATTER BY APPROXIMATELY 10%.
MULCH	SHREDDED HARDWOOD	3/4" - 2"	AGED 6 MONTHS MINIMUM
PEA GRAVEL DRAINAGE	PEA GRAVEL ASTM-D-449	NO. 6	FOR USE AS NECESSARY ABOVE AND BELOW UNDERDRAINS ONLY
GEOTEXTILE	CLASS 'C' - APPARENT OPENING SIZE (ASTM-D-4753), GRAB TENSILE STRENGTH (ASTM-D-4622), FRACTURE RESISTANCE (ASTM-D-4883)	N/A	
UNDERDRAIN GRAVEL	ASTM-D-449	NO. 6	MASHED
UNDERDRAIN PIPING	1" TYP. TYPE 20 OR 40 PVC OR SDR35	6" RIGID SCHEDULE 40 PVC OR SDR35	30% PERCENT OF 6" ON CENTER, 4 HOLES PER FOOT, MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDER PIPES

TEST BORING LOG

JOB NAME: 10621 Riggs Hill Road | BORING NUMBER: B-3 | DATE DRILLED: 11/17/2011 | LOCATION: SWM Sandfill

DEPTH (FEET)	SOIL DESCRIPTION	DIAPHRAGM	NO. BLOW'S	REMARKS
0'	Top soil			
3.0'	Brown silty loam w/ trace rock fragments (Silt)			
4.5'	Yell brown moist silty sandy loam			

GROUNDWATER AT COMPLETION: NA | GROUNDWATER AT 24 HOURS: NA

TEST BORING LOG

JOB NAME: 10621 Riggs Hill Road | BORING NUMBER: B-4 | DATE DRILLED: 11/17/2011 | LOCATION: SWM Sandfill

DEPTH (FEET)	SOIL DESCRIPTION	DIAPHRAGM	NO. BLOW'S	REMARKS
0'	Top soil			
5.0'	Brown sandy loam w/ trace rock fragments (Silt)			
5'	Light brown moist sandy loam			

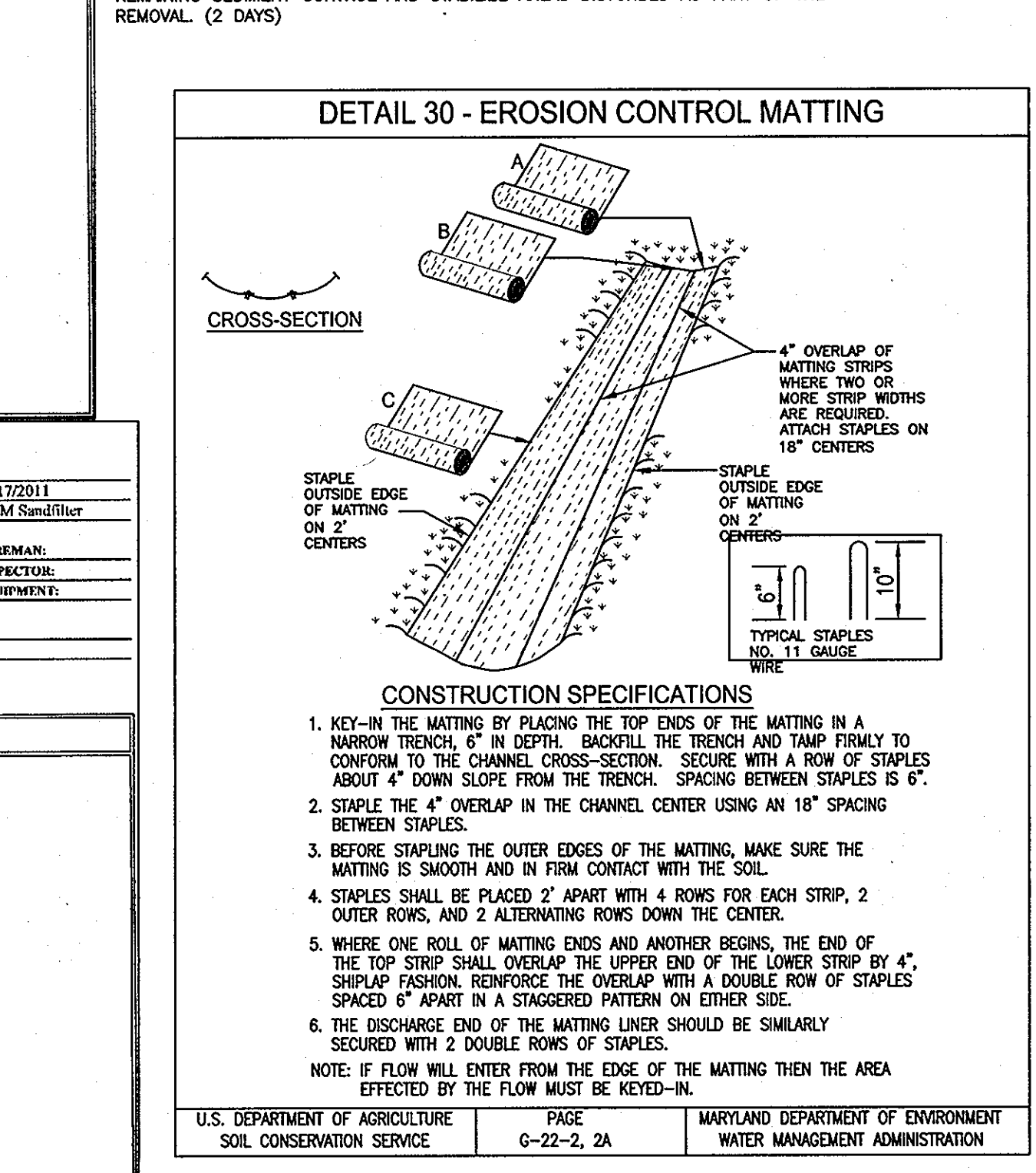
GROUNDWATER AT COMPLETION: NA | GROUNDWATER AT 24 HOURS: NA

TEST BORING LOG

JOB NAME: 10621 Riggs Hill Road | BORING NUMBER: B-5 | DATE DRILLED: 11/17/2011 | LOCATION: SWM Sandfill

DEPTH (FEET)	SOIL DESCRIPTION	DIAPHRAGM	NO. BLOW'S	REMARKS
0'	Top soil			
4.0'	Brown silty loam w/ trace rock fragments (Silt)			
5.0'	Yell brown moist silty sandy loam			

GROUNDWATER AT COMPLETION: NA | GROUNDWATER AT 24 HOURS: NA



UNDERGROUND SANDFILTER SWM FACILITY SUMMARY

TOTAL SITE AREA: 139,350 SF or 3.199 Ac±
DISTURBED AREA: 38,634 SF or 0.841 Ac±
DRAINAGE AREA 'A' TO FACILITY: 200 Ac±
RON TO FACILITY: 96
WATERSHED: PATAPSCO
PROPOSED IMPERVIOUS (NEW): 30,770 SF or 0.709 Ac.
ESDV (REQ'D): N/A
WQv (REQ'D): 1,090 CF
Rev (REQ'D): 76 CF
Cpv (REQ'D): 1,716 CF
TYPE OF FACILITY-URBAN: UNDERGROUND SANDFILTER & PIPE STORAGE FACILITY (FACILITY TYPE F3)WQv (REQ'D) FOR SANDFILTER: 817 CF
WQv (PROV'D): 822 CF
Rev (PROV'D) UNDER Cpv STORAGE: 230 CF
Cpv (PROV'D): 1,727 CF
MANAGEMENT UNDER: WQv, Rev, Cpv
STRUCTURE CLASSIFICATION: "A"
NO 378 POND: "A"
NO PERMANENT POOL AREA-FORREY: NO
TEMPORARY POOL AREA-FORREY: 313 SF
TEMPORARY POOL AREA-FILTER: 423 SF
FILTER BED AREA: 141 SF
STORAGE HEIGHT PRODUCT: 0.0584 AC-FT
HEIGHT TO SANDFILTER WEIR: 1.50'
HEIGHT TO OUTFALL RELIEF: 2.50'
MAX. HEIGHT OF FILL: N/A
FREEBOARD REQUIRED: N/A
PRINCIPAL SPILLWAY CAPACITY: N/A

MICRO-BIORETENTION SWM FACILITY SUMMARY

TOTAL SITE AREA: 139,350 SF or 3.199 Ac±
DISTURBED AREA: 38,634 SF or 0.841 Ac±
DRAINAGE AREA 'C' TO FACILITY: 0.211 Ac±
RON TO FACILITY: 96
WATERSHED: PATAPSCO
PROPOSED IMPERVIOUS (NEW): 30,770 SF or 0.709 Ac.
ESDV (REQ'D): 1,012 CF
TYPE OF FACILITY-URBAN: MICRO-BIORETENTION FACILITY (FACILITY TYPE M6)
ESDV (REQ'D) FOR MICRO-BIO: 759 CF (75% OF 1,012 CF)
ESDV (PROV'D): 759 CF @ ELEV. 200.50
WQv (REQ'D): N/A
Rev (REQ'D): N/A
Cpv (REQ'D): N/A
MANAGEMENT PROV'D: ESdv ONLY
STRUCTURE CLASSIFICATION: "A"
NO 378 POND: "A"
NO PERMANENT POOL AREA-FORREY: NO
TEMPORARY POOL AREA-FORREY: 926 SF
STORAGE HEIGHT PRODUCT: 0.0174 AC-FT
HEIGHT TO OUTFALL RELIEF: 1.0'
MAX. HEIGHT OF FILL: 1.5'
FREEBOARD REQUIRED: N/A
PRINCIPAL SPILLWAY CAPACITY: N/A

NOTE: THE MICRO-BIORETENTION FACILITY SIZED FOR THE IMPERVIOUS AREA OF DRAINAGE AREA 'C' (BUILDING ADDITION AND REAR PARKING AREA) MEETS ESdv REQUIREMENTS FOR THIS AREA. NO OTHER STORMWATER TREATMENT IS NECESSARY.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division
Chief, Division of Land Development
Director

Date: 3-28-12
Date: 4-3-12
Date: 11/9/12

Richardson Engineering, LLC

30 East Padonia Road, Suite 500
Timonium, Maryland 21088
Phone: 410-560-1502 Fax: 443-901-1208

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 16597, EXPIRATION DATE: 08-15-2018

OWNERS/DEVELOPER
OWNER: REALTY INC.
10621 RIGGS HILL ROAD
JESSUP, MARYLAND 20794
DEVELOPER: JASPER ENGINES & TRANSMISSIONS
815 WERNING ROAD
JASPER, IN. 47546
PHONE: 800-327-7455

ADDRESS CHART

Lot/Parcel #	Street Address
PARCEL C-5	10621 RIGGS HILL ROAD

PERMIT INFORMATION CHART

Subdivision Name	Section/Area	Lot/Parcel No.
CORRIDOR NORTH PARCEL C-5	N.A.	PARCEL C-5
PLAT #	Grid #	Zoning
6629	7	M-2
Tax Map No.	Election District	Census Tract
48	6	6069.01
Water Code	Sewer Code	

DRAWING COMPLETED

DATE	REVISION	BY

DRAWING COMPLETED: 01-17-12

DESIGNED BY: DND

SCALE	TAX MAP	A.D.C. MAP	JOB #
AS SHOWN	48	F-7 & 8	11011
DRAWN BY: CND	GRID	PLAT REF.	NO. 7
CHECKED BY: PCR	DEED REF.	FILES	OF 9
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		DRAWINGS\11011\11011.dwg	

PARCEL C-5 6629