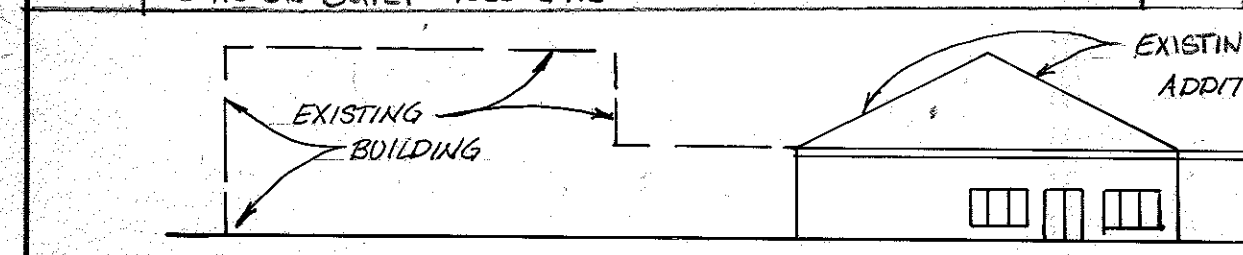


DATE	REVISIONS DESCRIPTION	BY
7-7-87	COMMENTS DATED MAY 18, 1987	WCD
8-24-87	Signature Blocks / General Notes	DMW
9-2-87	ADD NAMES ON VICINITY MAP	BWS
11-15-87	ADD SANITARY LINE FROM NEW ADDITION	TUS
11-15-87	ADD CLEAN-OUT IN LIEU OF M/S FOR NEW SANITARY	DMW
	NEVER BUILT RELOCATED TO LOCATION SHOWN UNDER	

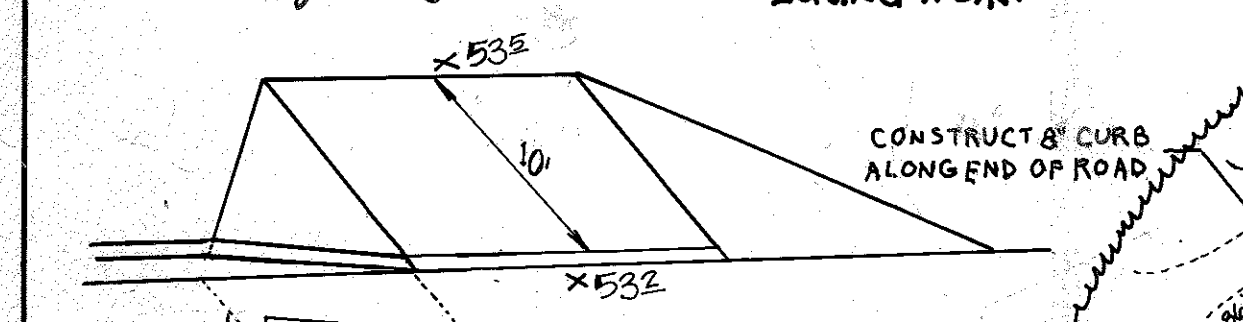


SCHEMATIC PROFILE (WEST ELEVATION)
NOT TO SCALE

A 4\"/>

*** Redline #4 Only (Sheets 1 & 2 of 4)**

The purpose of this redline is to add a 4\"/>



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James M. Nelson 10/6/87
U.S. CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Zelman 10/6/87
HOWARD SOIL CONSERVATION DISTRICT

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

George Boyd 10/16/87
COUNTY HEALTH OFFICER

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

Chapman 10-21-87
PLANNING DIRECTOR

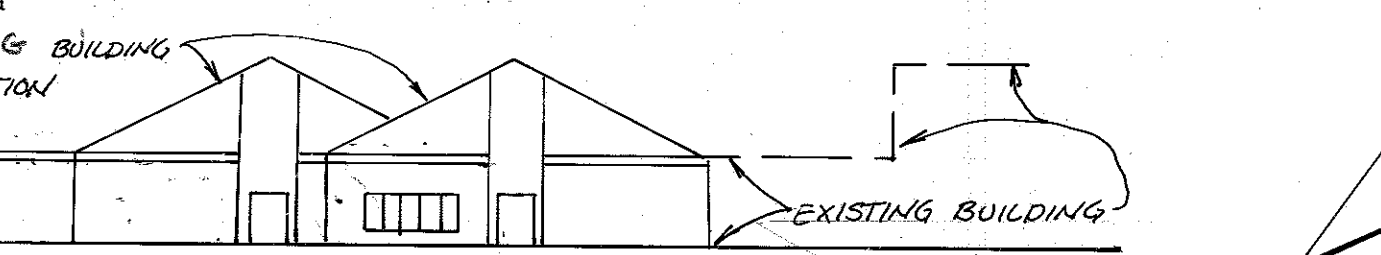
John W. Musselman 10/20/87
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

James P. Lane 10-18-87
DIRECTOR

James P. Lane 10-18-87
CHIEF, BUREAU OF ENGINEERING

DATE	REVISIONS DESCRIPTION	BY
12-27-03	RELOCATE PROPOSED BLDG TO LOCATION SHOWN AND PRIVATE SHC	EDD
10-12-04	ADD 4\"/>	
12-27-05	ADD 4\"/>	
8-12-09	CONCRETE GENERATOR PAD	NBR
6-19-15	BUILDING ADDITIONS, MICRO-BIORETENTION BASINS, ADDITIONAL SIDEWALK	JW

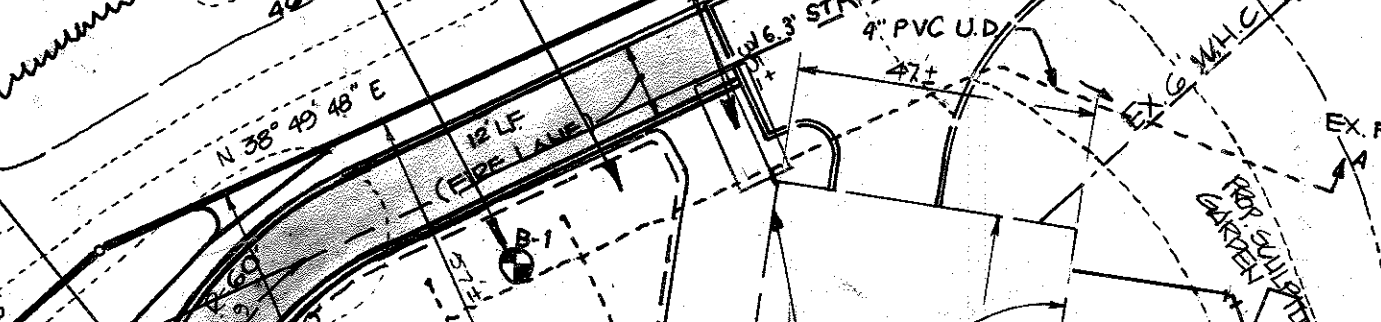


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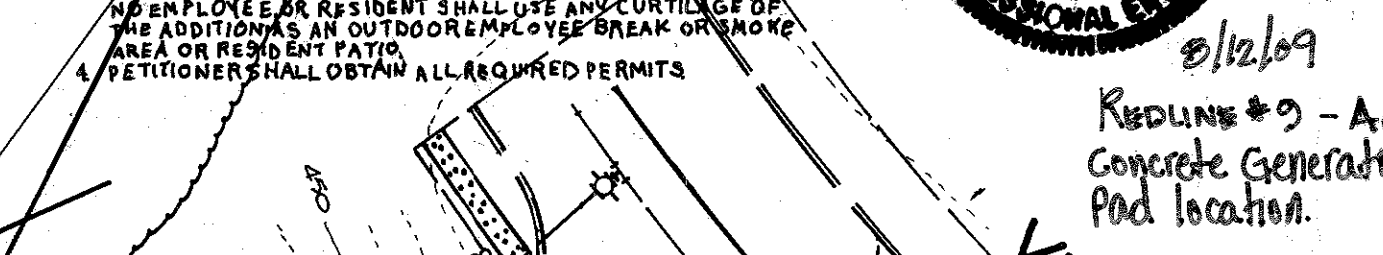
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James P. Lane 10-18-87
DIRECTOR

James P. Lane 10-18-87
CHIEF, BUREAU OF ENGINEERING

VARIANCE TO REDUCE THE REQUIRED STRUCTURE AND USE SPACE FROM A RESIDENTIAL USE FROM 15 FEET TO 10 FEET FOR AN ADDITION TO THE EXISTING STRUCTURE WAS GRANTED ON MARCH 18, 2010 (CASE NO. 14-007). PROVIDED THAT THE FOLLOWING CONDITIONS ARE MAINTAINED:

- THE VARIANCE SHALL APPLY ONLY TO THE USES AND STRUCTURES AS DESCRIBED IN THE PETITION AS DEPICTED ON THE VARIANCE PLAN AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES OR ADDITIONS ON THE PROPERTY.
- ANY OUTDOOR LIGHTING SHALL BE SHIELDED FROM ADJOINING PROPERTIES.
- APPROPRIATE ENFORCEMENT IS FOR EMERGENCY USE ONLY. NO DELIVERIES OR PICKUP ARE PERMITTED.
- NO OPEN FLAME OR RESIDUAL HEAT SHALL BE USED IN THE ADDITION AS AN OUTDOOR FIRE BREAK OR FIRE AREA OR RESIDUAL HEAT.
- PETITIONER SHALL OBTAIN ALL REQUIRED PERMITS.

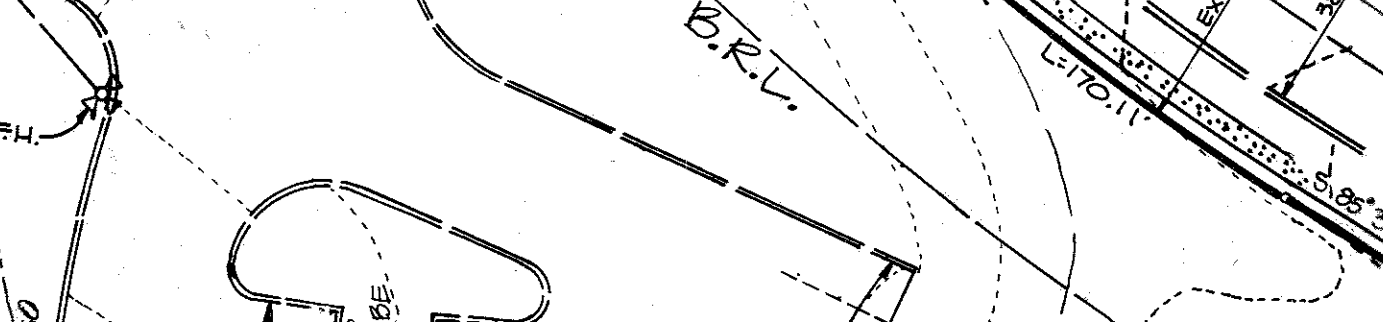


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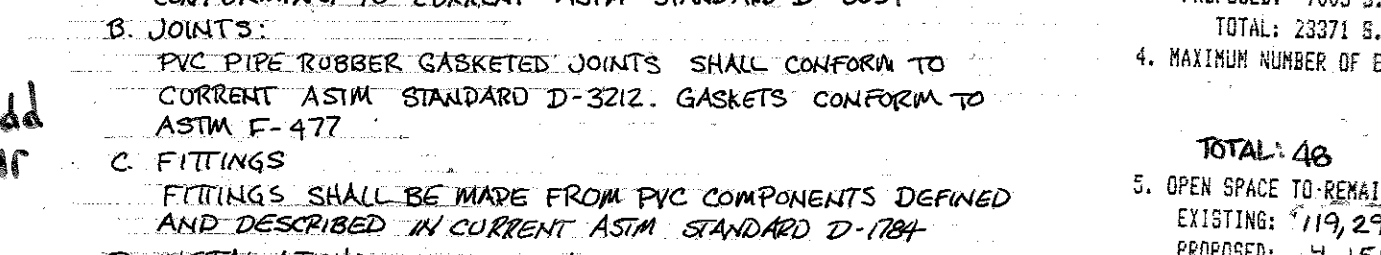
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James P. Lane 10-18-87
DIRECTOR

James P. Lane 10-18-87
CHIEF, BUREAU OF ENGINEERING

SANITARY GENERAL NOTES

- CONSTRUCT SANITARY GENERAL APPURTENANCES IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL AND MSHA STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIAL.
- PVC PIPE INSTALLATION NOTES:
 - PIPE MATERIAL: SHALL BE POLYVINYL CHLORIDE (PVC) SEWER PIPE (SDR-35) CONFORMING TO CURRENT ASTM STANDARD D-3034.
 - JOINTS: PVC PIPE RUBBER GASKETED JOINTS SHALL CONFORM TO CURRENT ASTM STANDARD D-3212. GASKETS CONFORM TO ASTM F-477.
 - FITTINGS: FITTINGS SHALL BE MADE FROM PVC COMPONENTS DEFINED AND DESCRIBED IN CURRENT ASTM STANDARD D-1784.
 - INSTALLATION: PVC PIPE AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM STANDARD D-2321.
- CONTRACTOR SHALL VERIFY THE DEPTH OF FOOTERS BEFORE TRENCHING OCCURS FOR THE PIPE. CONTRACTOR SHALL INSTALL SHORING AND UNDERPINNING IN TRENCH ALONG FOOTERS WHERE NECESSARY.

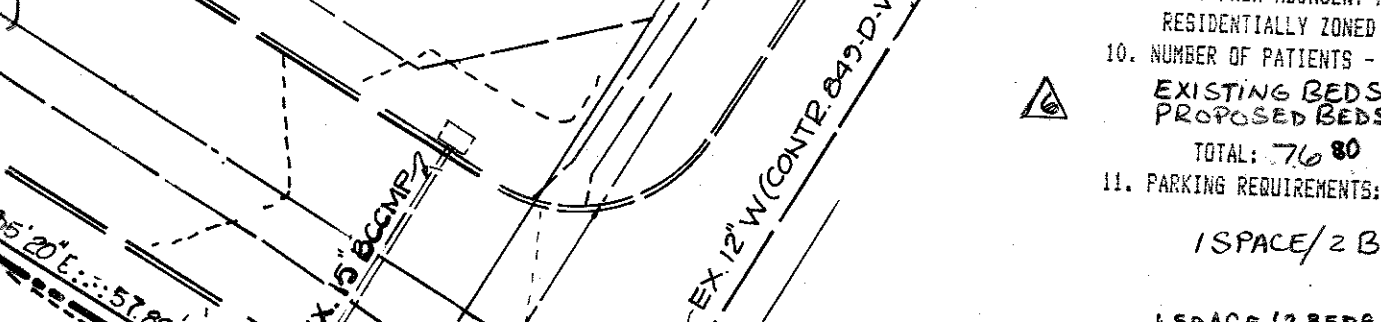


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James P. Lane 10-18-87
DIRECTOR

James P. Lane 10-18-87
CHIEF, BUREAU OF ENGINEERING

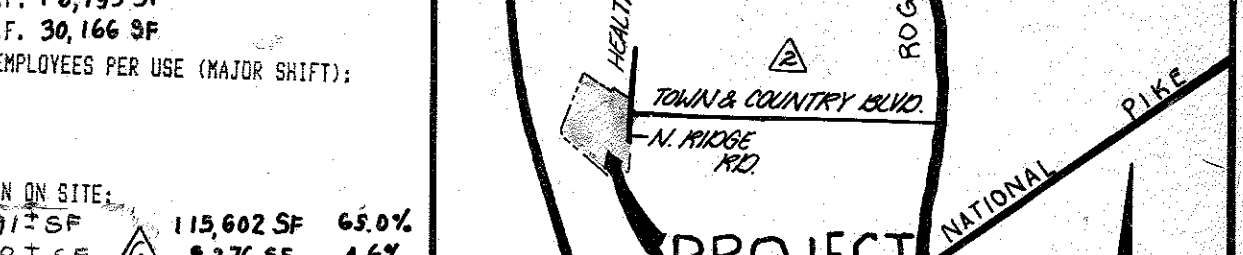
SITE ANALYSIS

SITE USE: ASSISTED LIVING FACILITY

- AREA OF PARCEL: 4,086 ACRES OR 17796 SQ. FT.
- EXISTING ZONING: P.O.R.
- FLOOR SPACE PER USE:

EXISTING: 15056 S.F.	23,371 SF	56.0%
PROPOSED: 11,582 S.F.	4,176 SF	1.6%
TOTAL: 26,638 S.F.	27,547 SF	60.4%
- MAXIMUM NUMBER OF EMPLOYEES PER USE (MAJOR SHIFT):

EXISTING: 23,371 S.F.	27,529 SF
PROPOSED: 4,158 S.F.	18,276 SF
TOTAL: 27,529 S.F.	33,805 SF



VICINITY MAP
SCALE: 1\"/>

GENERAL NOTES

- TAX MAP: 17 BLOCK: 23 PARCEL: C-2
- DEED REFERENCE: 1215 / 299
- EXISTING ZONING: P.O.R.
- PROPOSED SITE USE: ASSISTED LIVING CENTER
- AREA OF SITE: 177,966 SQ. FT. OR 4.086 ACRES.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS.
- UTILITIES TO BE UTILIZED: WATER - PUBLIC; SEWER - PUBLIC
- ALL ON-SITE DRIVEWAYS AND PARKING AREAS ARE PRIVATE.
- VECTOR DRIVE; COUNTY OWNED; EXISTING 60\"/>

14. FOR USE OF ALUMINUM PIPE ALL COLLARS, COUPLING BANDS, RISER & TRASH RACK MUST BE ALUMINUM

15. AS BUILT DRAWINGS MUST BE PERFORMED ON BOTH STORMWATER MANAGEMENT FACILITIES AT THE COMPLETION OF ALL CONSTRUCTION

16. CONTRACTOR TO NOTIFY BOENDER ASSOCIATES 48 HRS PRIOR TO CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES TO COORDINATE REQUIRED CERTIFICATIONS

17. LIMITED FIELD TOPOGRAPHIC CURVES (0.50/100) BY MOORE AND ASSOCIATES PERFORMED IN CONJUNCTION WITH REMOVED ENTRANCE. REDLINE

18. COMPLIANCE WITH THE AMERICAN DISABILITY ACT AND MARYLAND ACCESSIBILITY CODE IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT.

19. SAW CUT EXIST. SW AT NEAREST CONSTRUCTION JOINT REPLACE WITH NEW CONC SW

1. TOPOGRAPHY AND BUILDING LOCATIONS SHOWN HEREON WERE SUPPLIED BY OWNER

2. LIMIT OF SUBMISSION IS AS OUTLINED ON SHEET ZOP2 AS THE DISTURBED AREA AND 0.912 AC.

3. POND HAZARD CLASSIFICATION 'A'

THE APFO TRAFFIC STUDY FOR THIS PROJECT EXTENSION WAS PREPARED BY SPARTAN ENGINEERING, LLC, DATED APRIL 2016 AND WAS APPROVED ON APRIL 24, 2015.

1. PAVING PROVISIONS: EXISTING: 63 SPACES INCLUDING 2 HVC PROPOSED: -0- SF OR -0-1 TOTAL: 63 SPACES INCLUDING 2 HVC

2. TOTAL: 53 SPACES INCLUDING 2 HVC

1. TOPSOIL: SEED & MULCH

2. 95% COMPACTION (AASHTO T198 METHOD C)

3. PINE AGGREGATE (AASHTO M6)

TRENCH DETAIL
NTS

CONSTRUCT TRENCH IN ACCORDANCE WITH DETAIL 1, THIS SHEET

CONTRACTOR TO VERIFY EXIST' INV. PRIOR TO CONSTRUCTION OF NEW 6\"/>

CONSTRUCT CLEAN-OUT AT JUNCTION WITH EX. 6\"/>

SANITARY CONNECTION SS-1 TO SS2

BUILDING ADDITION TO SDP-87-19

boender associates
inc.
consulting engineers
land surveyors
land planners

COURTHOUSE SQUARE
3585 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD 21043
(301) 465-1777

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

Howard SCD _____ Date _____

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District."

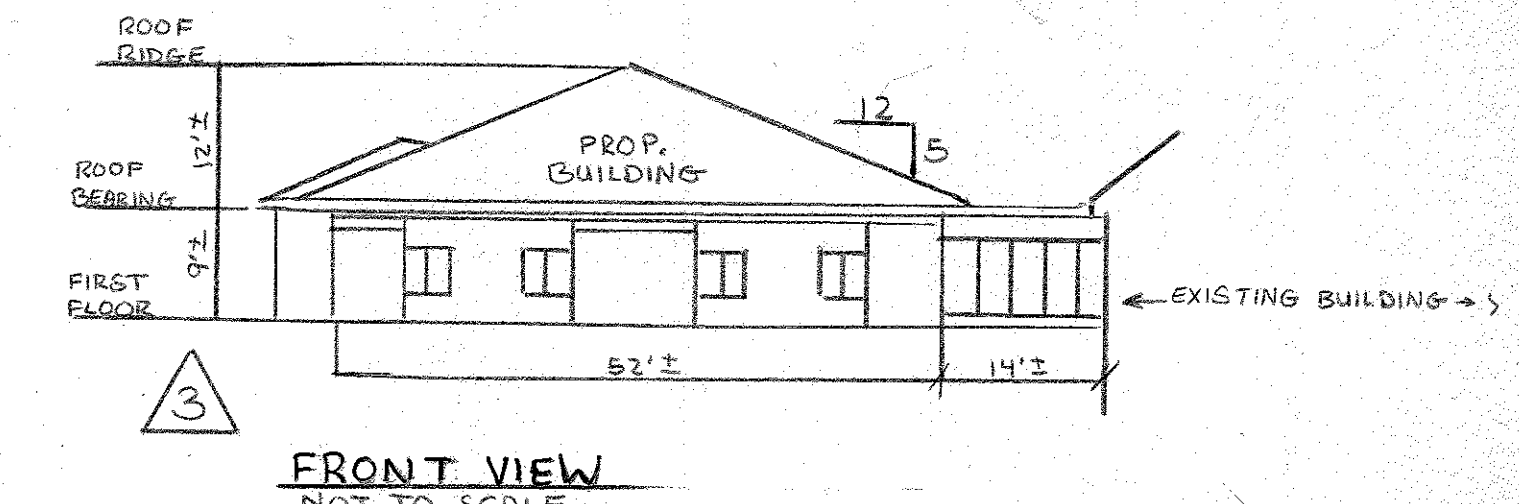
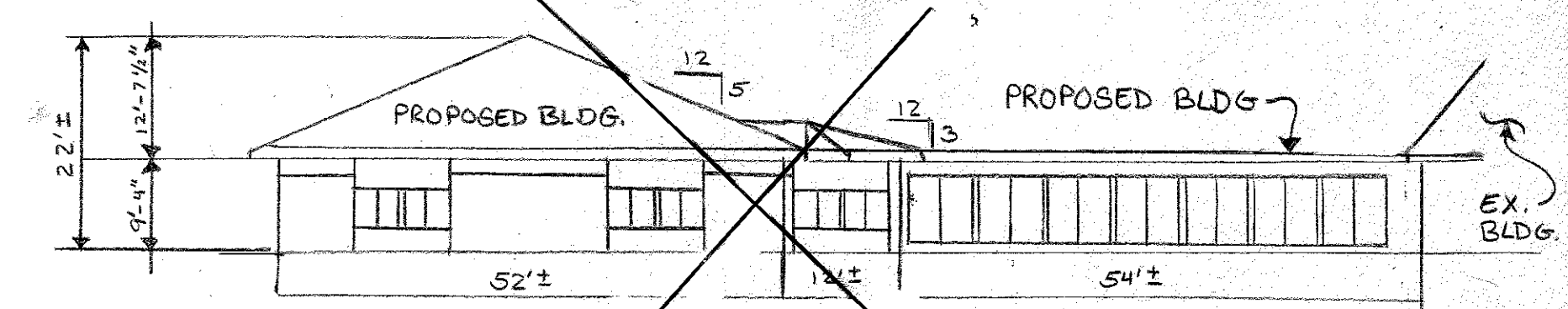
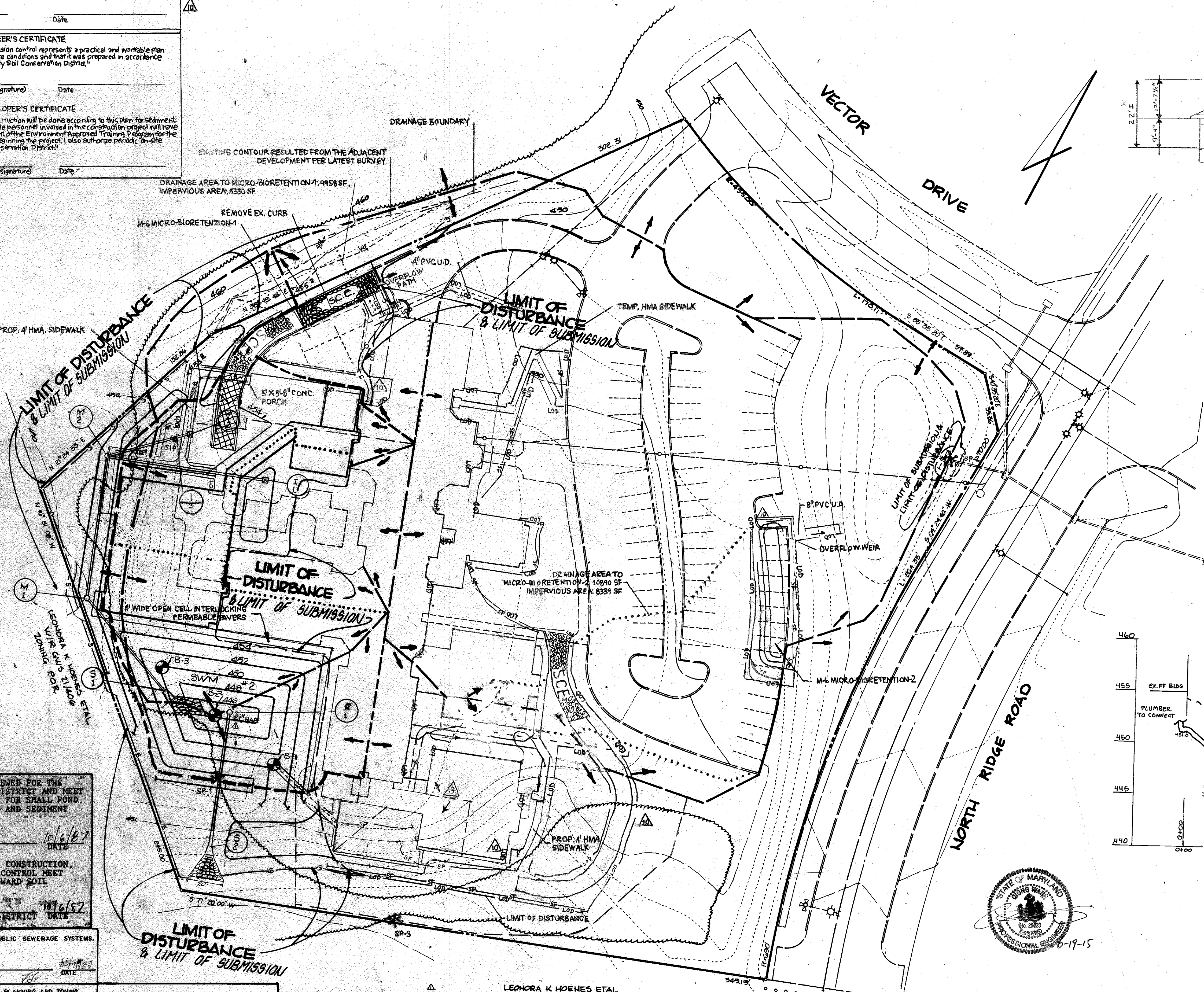
Signature of Engineer (print name below signature) _____ Date _____

DEVELOPER'S CERTIFICATE

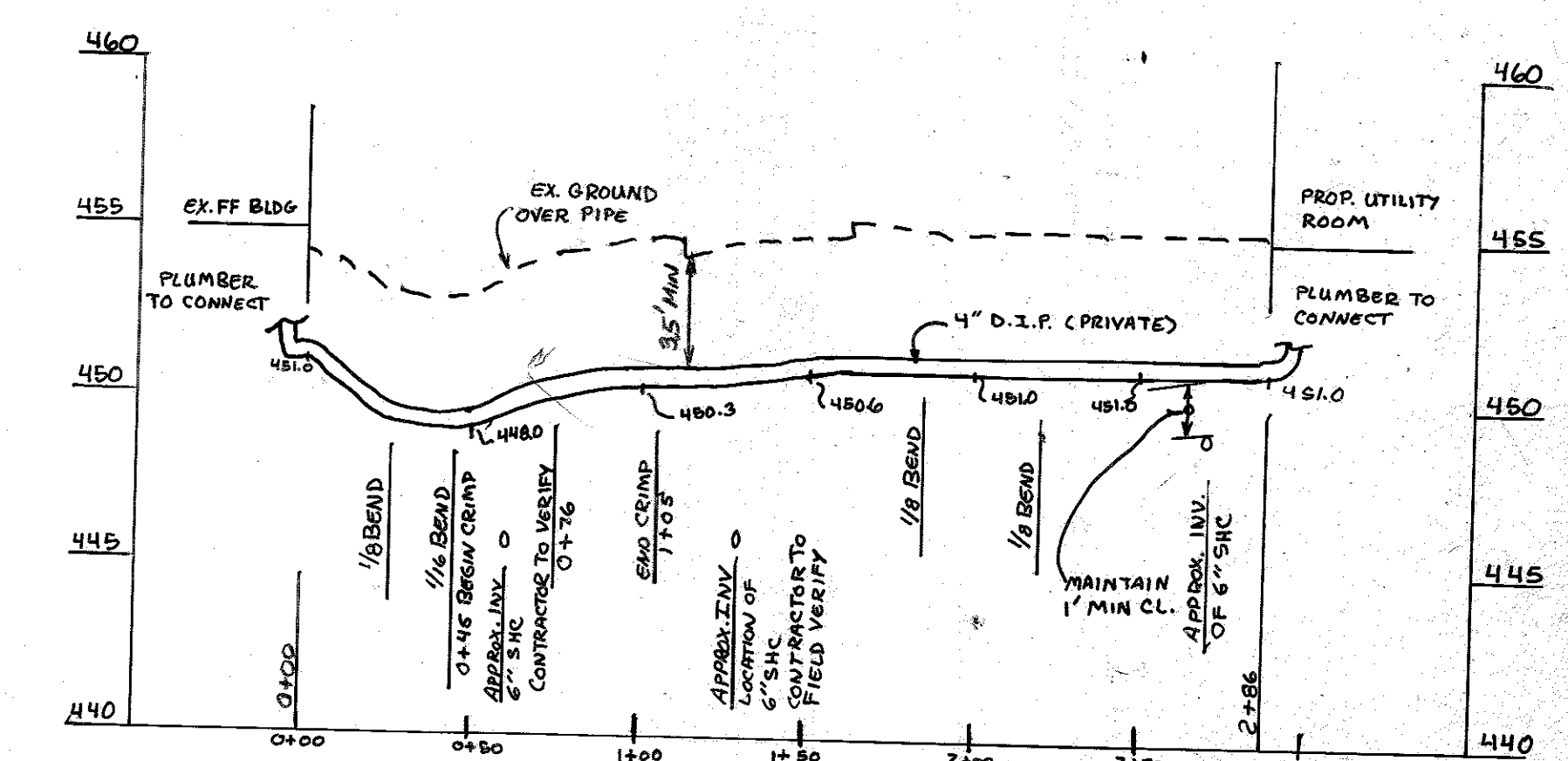
"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance from the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard County Soil Conservation District."

Signature of Developer (print name below signature) _____ Date _____

REVISIONS		
DATE	DESCRIPTION	BY
7-7-87	COMMENTS DATED MAY 18, 1987	JCO
8-25-87	ADD SIGNATURE BLOCK / SIZED RISER	EDD
9-9-87	ADD BUILDING ADDITION AND SHOW FRONT ELEVATION + GRADING	EDD
12-22-87	SHOW PROP. BLDG. VIEW BASED ON RELOCATION	EDD
10-18-87	ADD PRIVATE FIRE LINE PROFILE	EDD
6-19-88	BUILDING ADDITIONS, MICRO-BIORETENTION BASINS, SIDEWALKS	JW



FINISH FLOOR ELEVATION IN REDLINE DRAWINGS (455.50) IS 0.75 FT HIGHER THAN AS-BUILT SURVEY (454.75). MICRO-BIORETENTION-1 TOP MUST NOT BE HIGHER THAN 0.75 FT BELOW EXISTING FINISH FLOOR ELEVATION.



4" FIRE SUPPLY LINE FOR BUILDING ADDITION (PRIVATE)
1" = 5' VERT.
1" = 50' HORIZ.

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James M. Allen 10/6/87
U.S. CONSERVATION SERVICE DATE

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Robert J. Zich 10/6/87
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
[Signature] 10/18/87
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
[Signature] 10-21-87
PLANNING DIRECTOR DATE

John W. [Signature] 10/20/87
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
[Signature] 10/18/87
DIRECTOR DATE

[Signature] 10-18-87
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 8-19-87

DEVELOPER'S CERTIFICATE
"I/we 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 Natural Resources approved training program for the control of sediment and erosion before beginning the project. I will provide the Howard County Soil Conservation District with an 'as-built' plan of the pond within 30 days of completion. I also authorize periodic on-site inspection at the Howard County Soil Conservation District."
[Signature] 8-18-87
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 County Soil Conservation District. I have notified the developer that he must provide the Howard County Soil Conservation District with an 'as-built' plan of the pond within 30 days of completion."
[Signature] 8-18-87
DATE



LEONORA K HOENES ETAL
W/R GWS 21/406
ZONING R-1

DRAINAGE AREA LEGEND

	EXISTING DRAINAGE AREA
	PROPOSED DRAINAGE AREA
	PROPOSED INTERIOR DRAINAGE AREA

THIS SITE HAS BEEN PREVIOUSLY DEVELOPED UNDER SITE PLAN SDP-84-49.
BUILDING ADDITION TO SDP 84-49

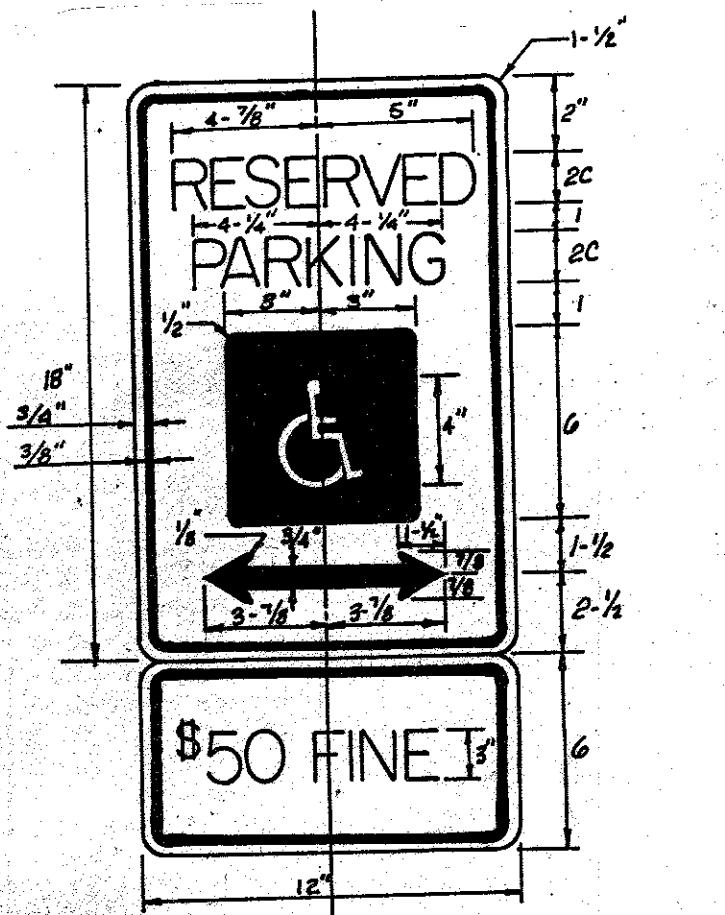
TITLE: SEDIMENT CONTROL PLAN & DRAINAGE AREA MAP
PROJECT: Lighthouse Senior Living at Ellicott City, LLC
LOCATION: TAX MAP 17, BLOCK 23, PARCEL C-2
SECOND ELECTION DISTRICT HOWARD CO., MD.

SCALE: 1"=30'
DESIGNED BY: J.T.N.
DRAWN BY: J.T.N.
CHECKED BY: W.N.
DATE: NOV. 1986

FIELD BOOK: _____ PAGE NO.: 80464
JOB NO.: _____ DRAWING NO.: 2 OF X 8

boender associates inc.
consulting engineers
land surveyors
land planners

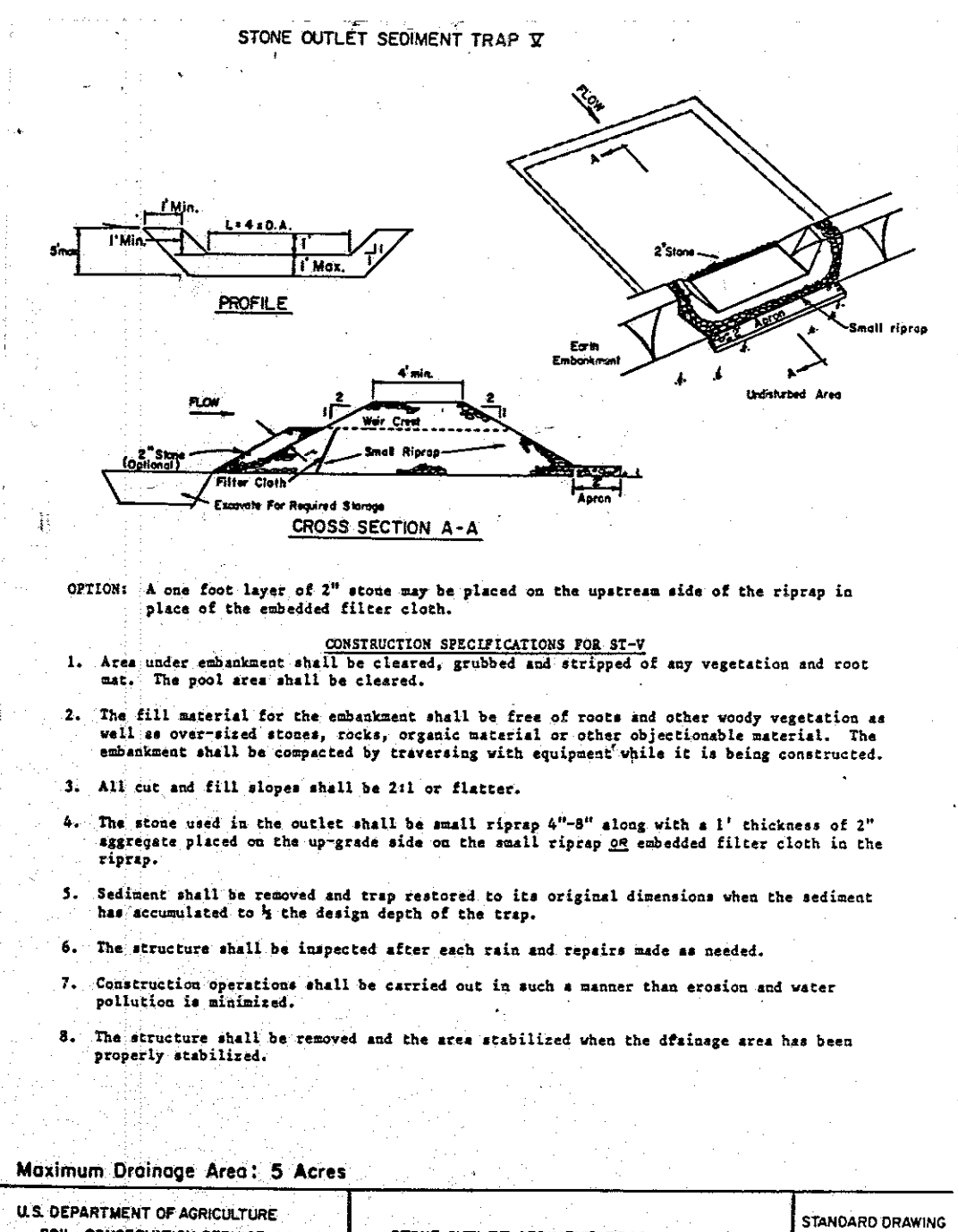
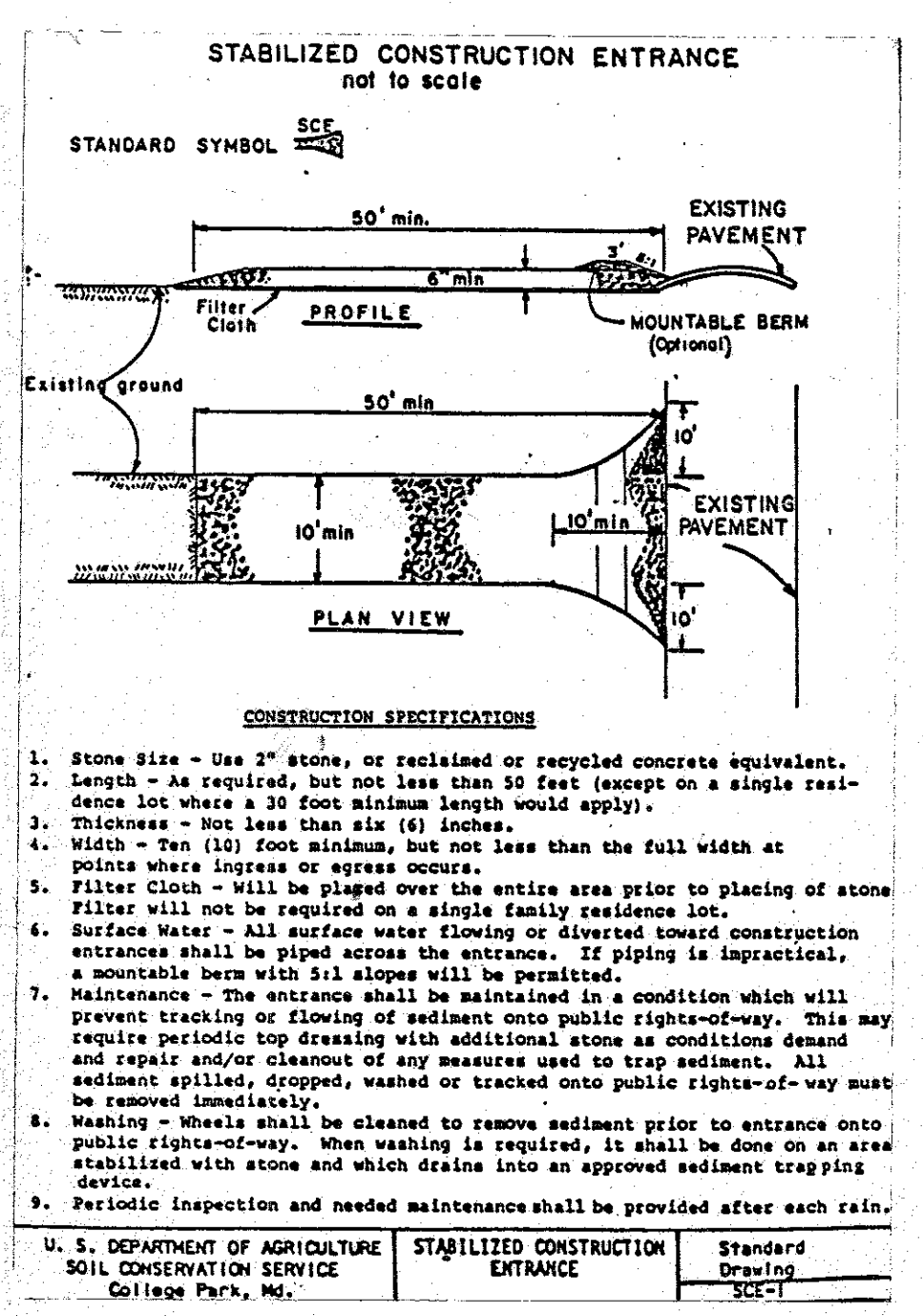
COURTHOUSE SQUARE
3565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD 21043
(301) 465-7777



HANDICAPPED PARKING SIGN

NOTES GOVERNING \$50 FINE SIGN AS PER HOWARD CO. BILL NO. 58-84.

1. SIGN TO UTILIZE AN ALUMINUM BLANK 6"x12"x0.080" THICK WITH TWO (2) SINGLE POST MOUNTING HOLES.
2. THE TEXT AND BORDER SHALL BE STANDARD GREEN TO MATCH THAT ON RT-8, AND THE BACKGROUND SHALL BE REFLECTIVE WHITE. TEXT SHALL BE 3" HIGH.
3. FINE SIGN TO BE HUNG AT A MINIMUM HEIGHT OF 7" AND A MAXIMUM HEIGHT OF 10".
4. NOT TO SCALE.



PERMANENT SEEDING NOTES

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

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

Soil Amendment: In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (90 lbs/1000 sq ft) and 400 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Narrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 20-0-0 urethane fertilizer (9 lbs/1000 sq ft).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (90 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (13 lbs/1000 sq ft) before seeding. Narrow or disc into upper three inches of soil.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 20 lbs per acre of annual ryegrass (3.2 lbs/1000 sq ft). For the period May 1 thru July 31, seed with 40 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.2 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 seed. Option (3) Seed with 40 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (8 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

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

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

Soil Amendment: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 20 lbs per acre of annual ryegrass (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 2 lbs per acre of weeping lovegrass (0.2 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 seed.

Mulching: Apply 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (8 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.

Refer to the 1983 HARTLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEDIMENT CONTROL NOTES

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection at the Howard County Office of Inspection, 6000 Parkersburg Road, Ellicott City, MD 21043, prior to the start of any construction. (892-2435).

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 HARTLAND 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 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 the 1983 HARTLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 33) and seeding (Sec. 34). Temporary stabilization with mulch slope ten only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

5) 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.

6) Site Analysis:

Total Area of Site	4.066 Acres
Area to be seeded	2.232 Acres @ 80%
Area to be vegetatively stabilized	2.232 Acres @ 10%
Total Seed	2.232 Acres @ 10%
Total Fertilizer	1.339 Tons @ 10%
Off-site waste/borrow area location	N/A

7) Any sediment control practice which is disturbed by grading activities for placement of utilities must be repaired on the same day of disturbance.

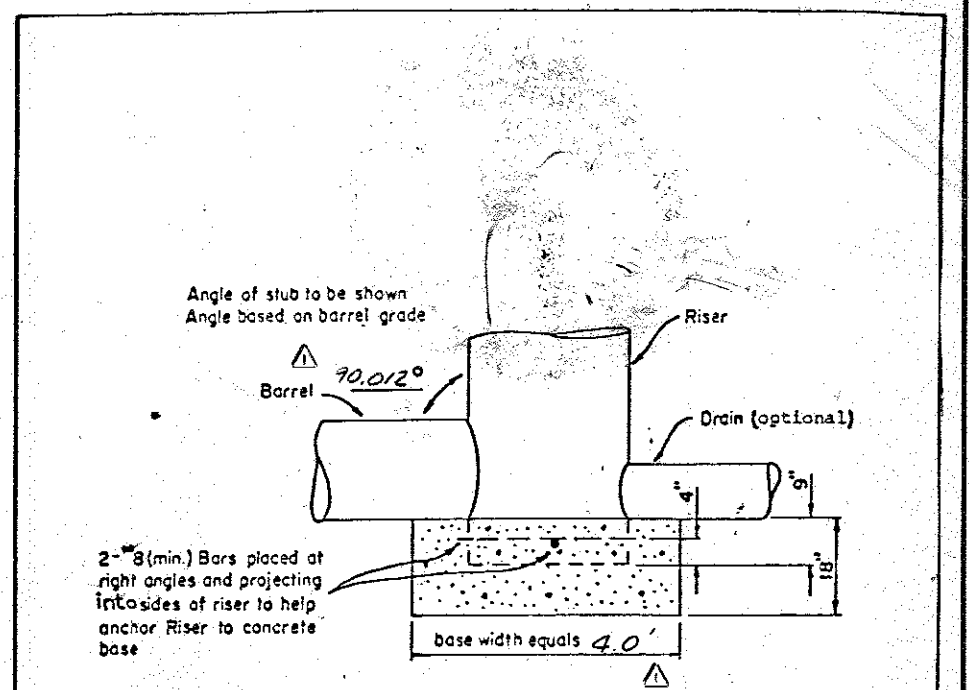
8) Additional sediment controls must be provided, if deemed necessary by the Howard County DPM sediment control inspector.

9) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection or approval may not be authorized until this initial approval by the inspection agency is made.

DATE	REVISIONS DESCRIPTION	BY
1-7-87	COMMENTS DATED MAY 18, 1987	JCO
6-24-87	1) 2' WIDE GRASS STRIP AREA BETWEEN DRIVE AND DRIVE	EMW
6-19-87	2) BUILDING ADDITIONS, MICRO-BIOTENTION BASINS	JW

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIOTENTION (M-6)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. 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 WET SETBACK 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-1 AND 2.
- B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



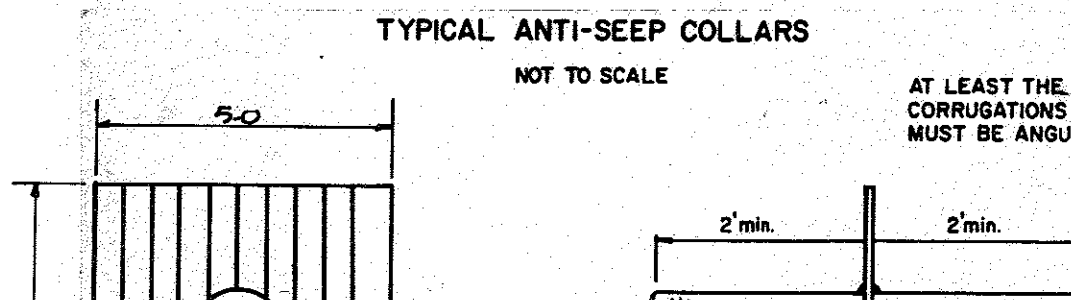
NOTES:

1. The concrete base shall be poured in such a manner to ensure that the concrete fills the bottom of the riser to the invert of the outlet pipe to prevent the riser from breaking away from the base.
2. 1/2" aluminum or galvanized pipe. The embedded section must be joined with zinc chromate or equivalent.
3. Riser base may be sized as computed using floatation with a factor of safety of 1.2.

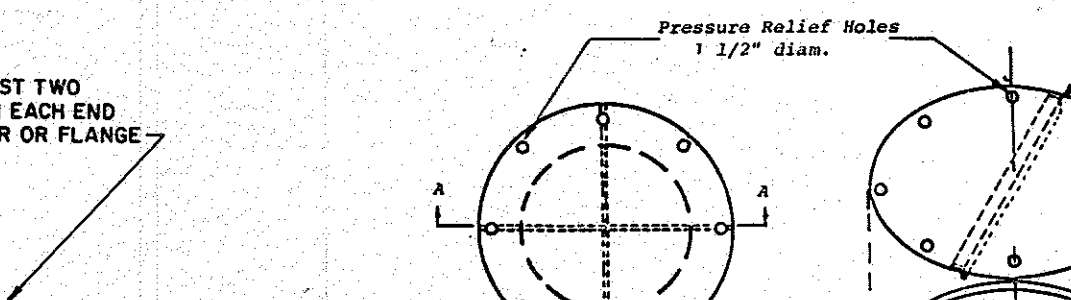
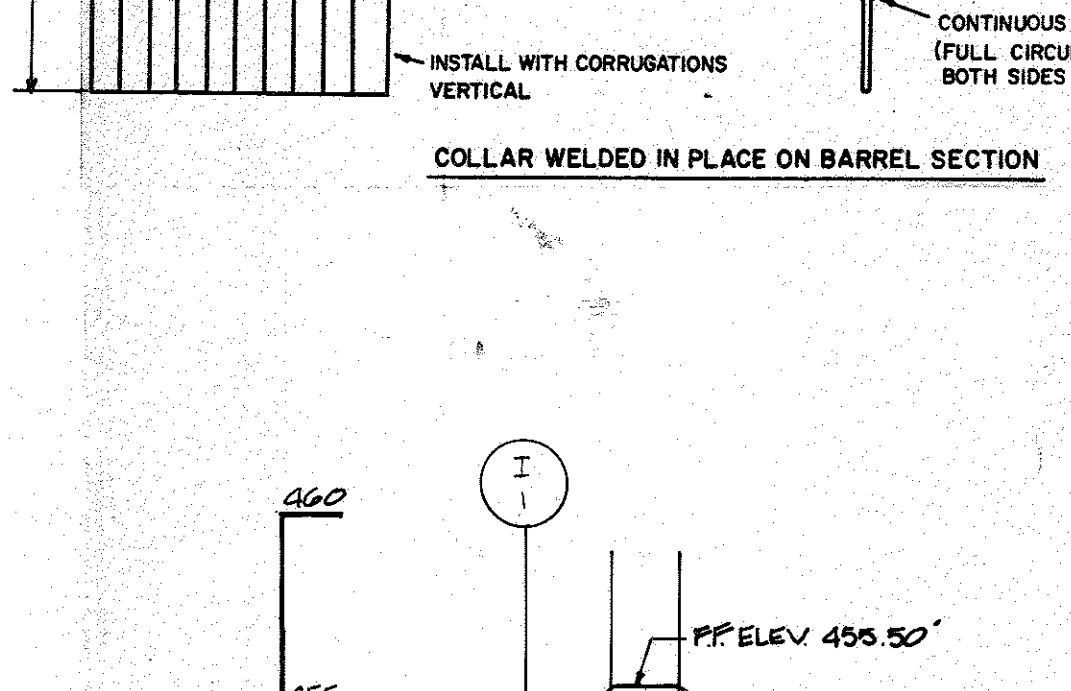


CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

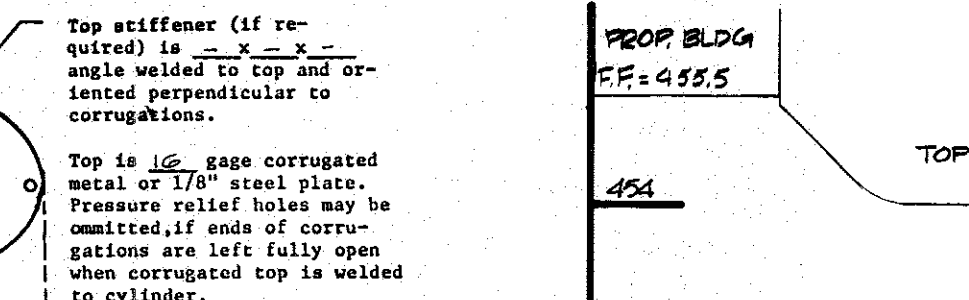
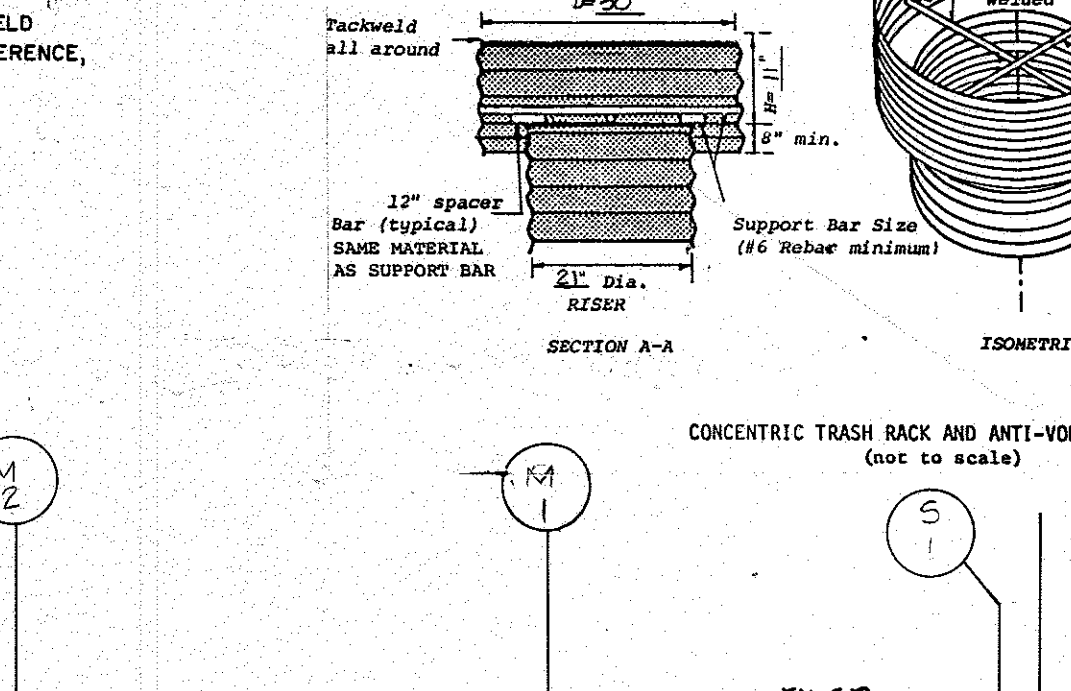
1. MONY WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIE OR U-TYPE OR 2" WOODHOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO MONY WIRE FENCE WITH TIE BRACKETS OVER TOP AT TOP AND MID SECTION.
3. WHEN THE SECTIONS OF FILTER CLOTH JOIN EACH OTHER THEY SHALL BE OVERLAPPED 3/8" INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS REQUIRED PERIODICALLY TO REMOVE MULCH AND DEBRIS THAT DEVELOP IN THE SILT FENCE.



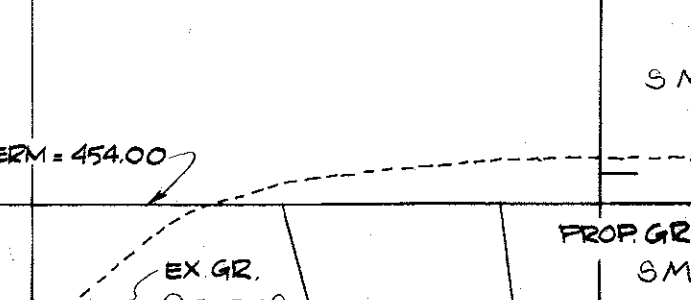
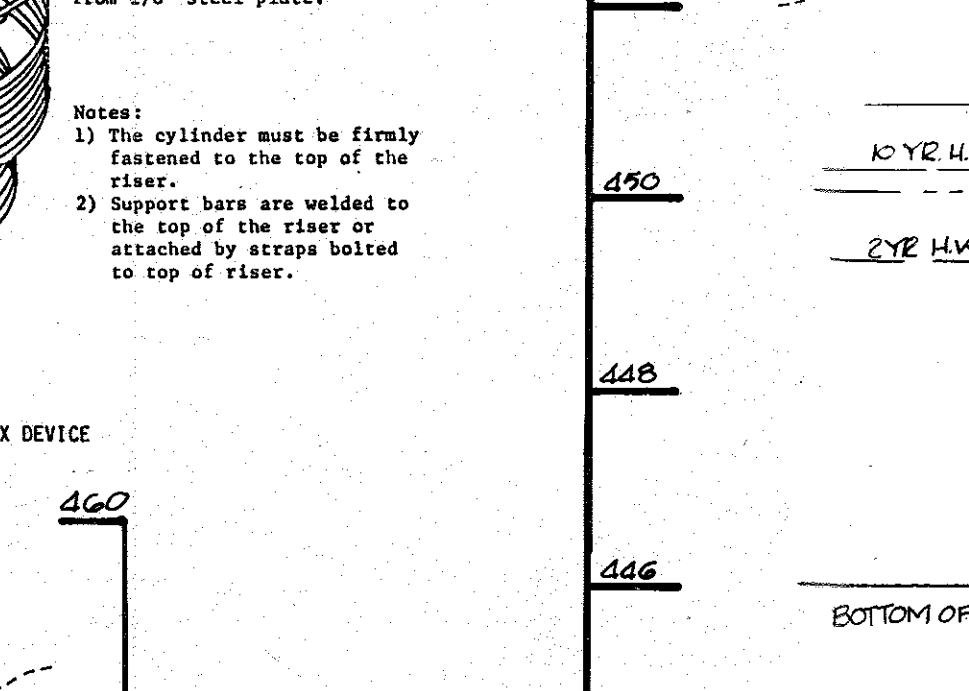
TYPICAL ANTI-SEEP COLLARS NOT TO SCALE



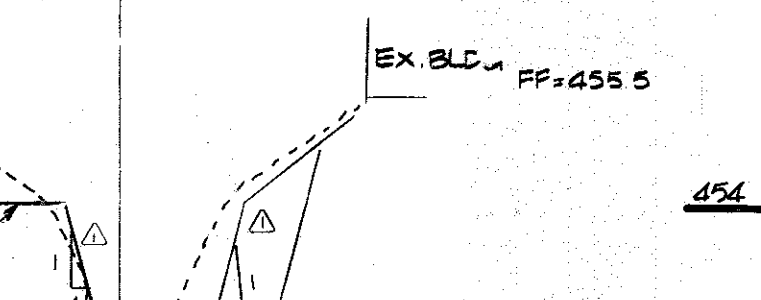
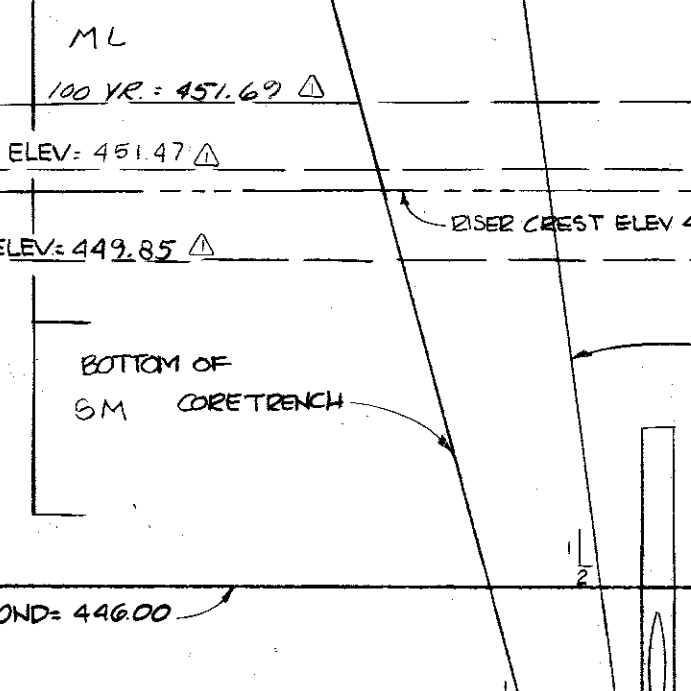
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (NOT TO SCALE)



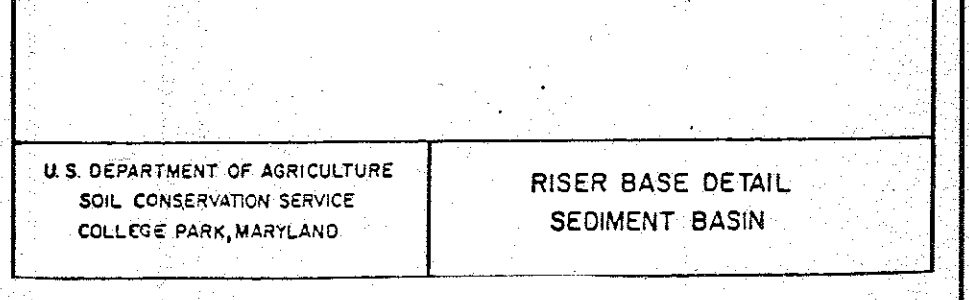
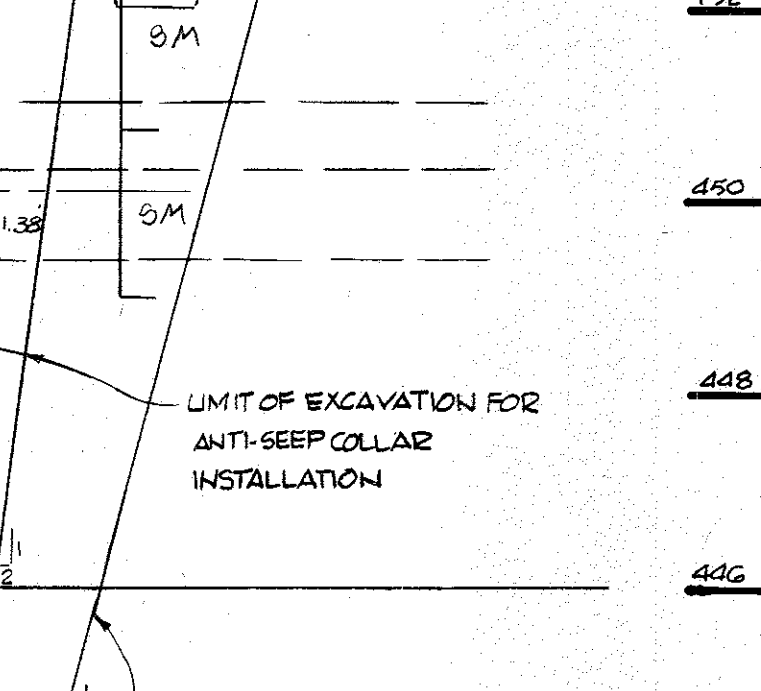
PROFILE ALONG BERM



PROFILE ALONG BERM



PROFILE ALONG BERM



RISER BASE DETAIL

SEQUENCE OF CONSTRUCTION

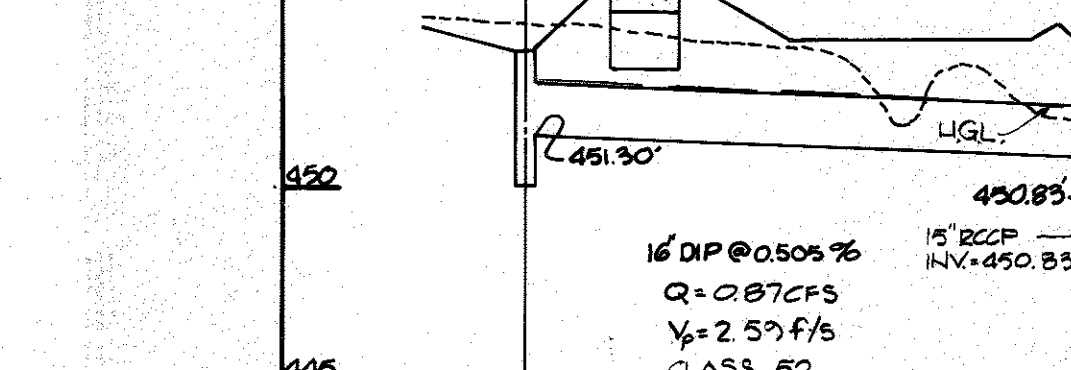
1. CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION AT 410-313-4855 AT LEAST 48 HOURS PRIOR TO STARTING SITE WORK.
2. CLEAR AND GRUB FOR THE INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES ONLY.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCES, PERIMETER SILT FENCE, AND OTHER SEDIMENT CONTROL DEVICES. ALL EROSION CONTROL PRACTICES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE PLAN AND CRITERIA CONTAINED IN THE MOST CURRENT VERSION OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. (2 DAYS)
4. CLEAR, GRUB AND GRADE THE REMAINDER OF THE SITE AS SPECIFIED BY THE LIMIT OF DISTURBANCE SHOWN ON THE PLAN. (1 DAY)
5. REMOVE EXISTING INLET 1-2 AND INSTALL NEW INLET 1-3. IMMEDIATELY INSTALL INLET PROTECTION. (1 DAY)
6. CONSTRUCT NEW SIDEWALK AND RESURFACE TERMINUS OF REAR ACCESS ROAD NEAR THE NORTHWEST CORNER OF THE PROPERTY. CONSTRUCT THE BUILDING ADDITIONS D, C, B AND A ALONG WITH ANY REQUIRED GRADING, UTILITY INSTALLATION AND SIDEWALKS OR TEMPORARY PEDESTRIAN ACCESS IN THE SPECIFIED ORDER. (100 DAYS)
7. PROVIDE TEMPORARY STABILIZATION OF ANY AREA THAT WILL NOT BE ACTIVELY GRADED WITHIN FOURTEEN (14) DAYS.
8. AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED, CONSTRUCT MICRO-BIOTENTION 1 AND INSTALL UNDERDRAIN PIPE AND OUTFALL PATCH ANY SAW CUT SECTIONS OF REAR ACCESS ROAD. (3 DAYS)
9. SAW CUT ASPHALT PARKING LOT, REMOVE 10 PARKING SPACES AS SHOWN ON PLAN AND CONSTRUCT MICRO-BIOTENTION 2. INSTALL 8" PVC UNDERDRAIN AND OUTLET TO EXISTING POND. RESURFACE PAVED AREA ON PLANS TO ENSURE POSITIVE WEST TO EAST DRAINAGE TOWARDS THE NEW FACILITY. (5 DAYS)
10. COMPLETE LANDSCAPING AND STABILIZE ALL DISTURBED AREAS WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR. REMOVE SEDIMENT CONTROL PRACTICES AND STABILIZE REMAINING DISTURBED AREAS. (3 DAYS)

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.

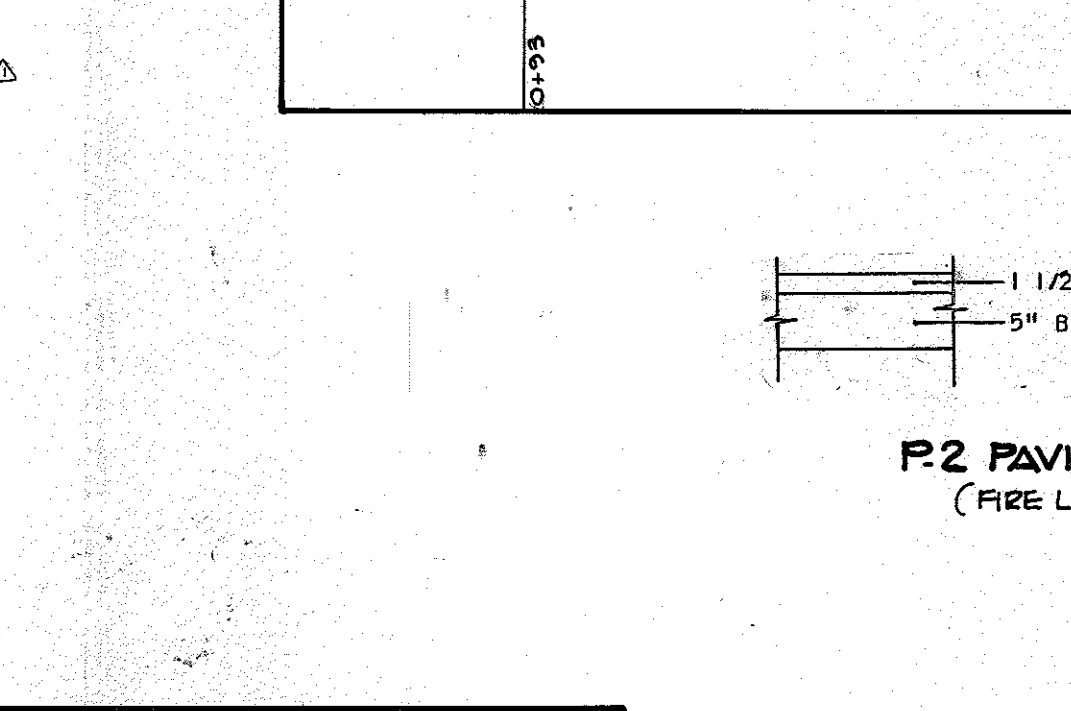
John M. H. Allen 10/6/87
U.S. CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

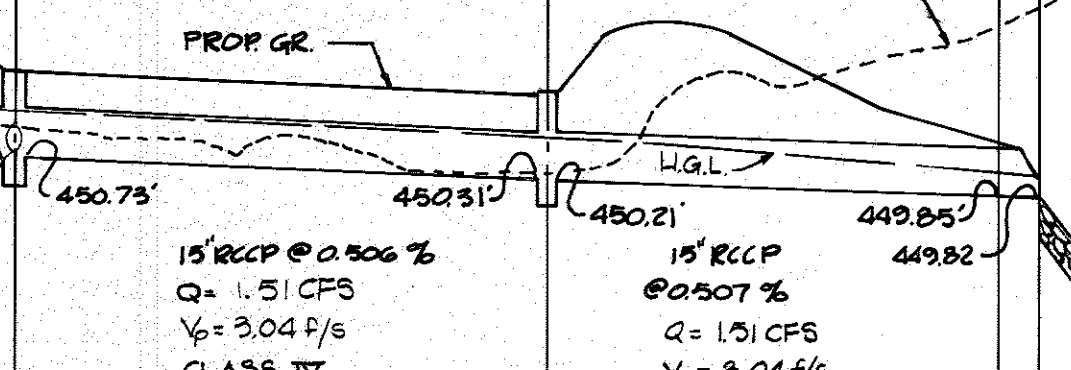
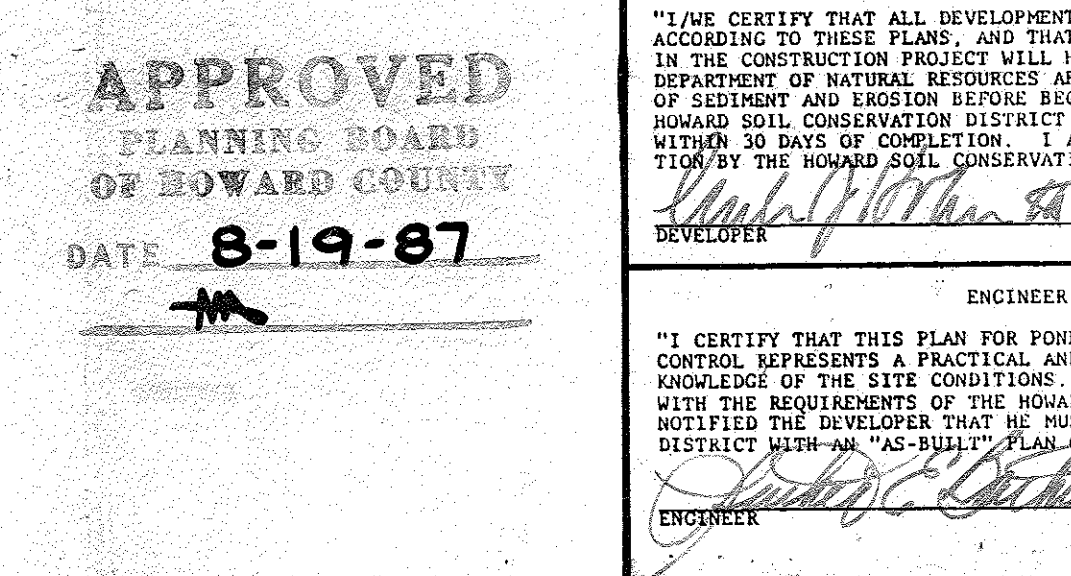
Robert Ziehm 10/6/87
HOWARD SOIL CONSERVATION DISTRICT DATE



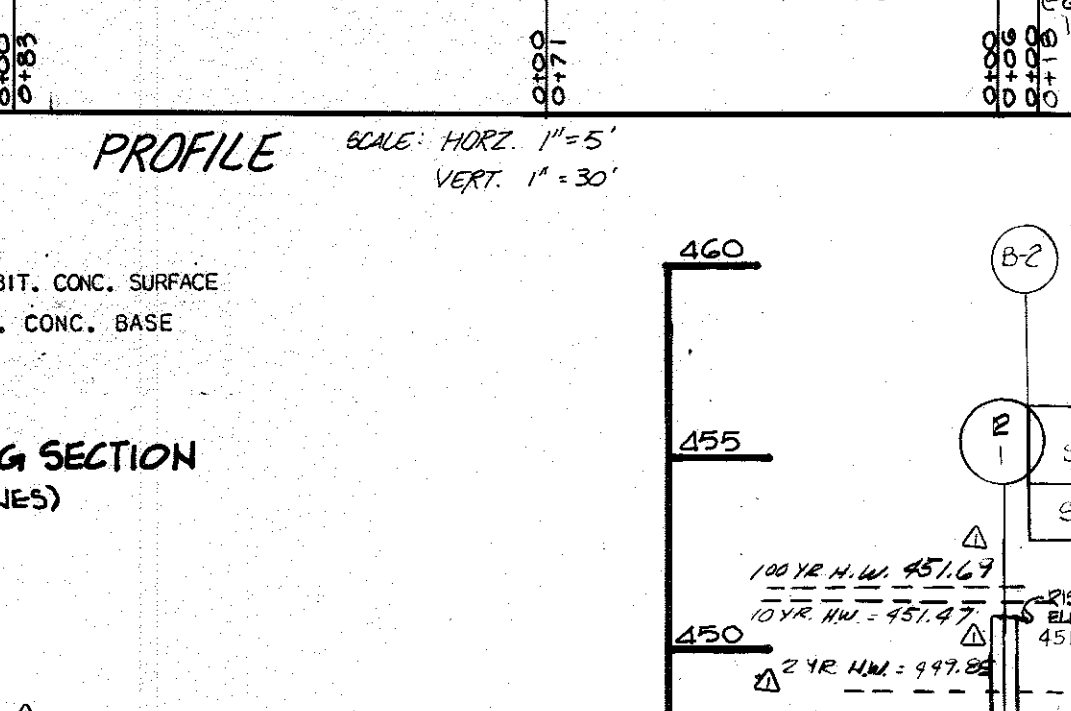
P2 PAVING SECTION (FIRE LANES)



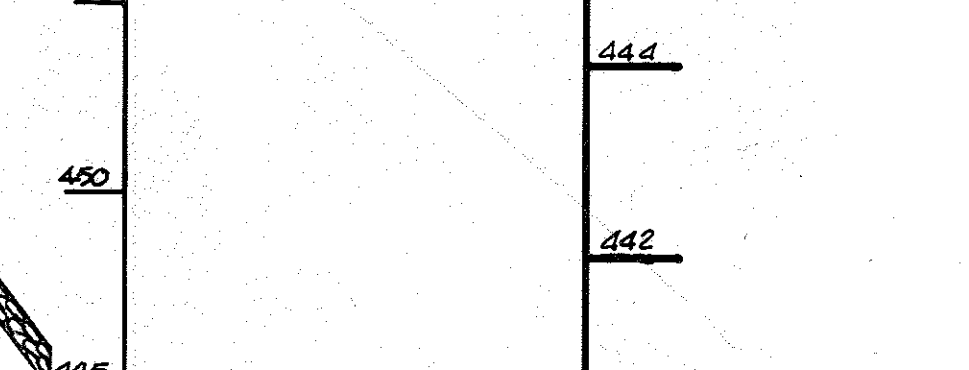
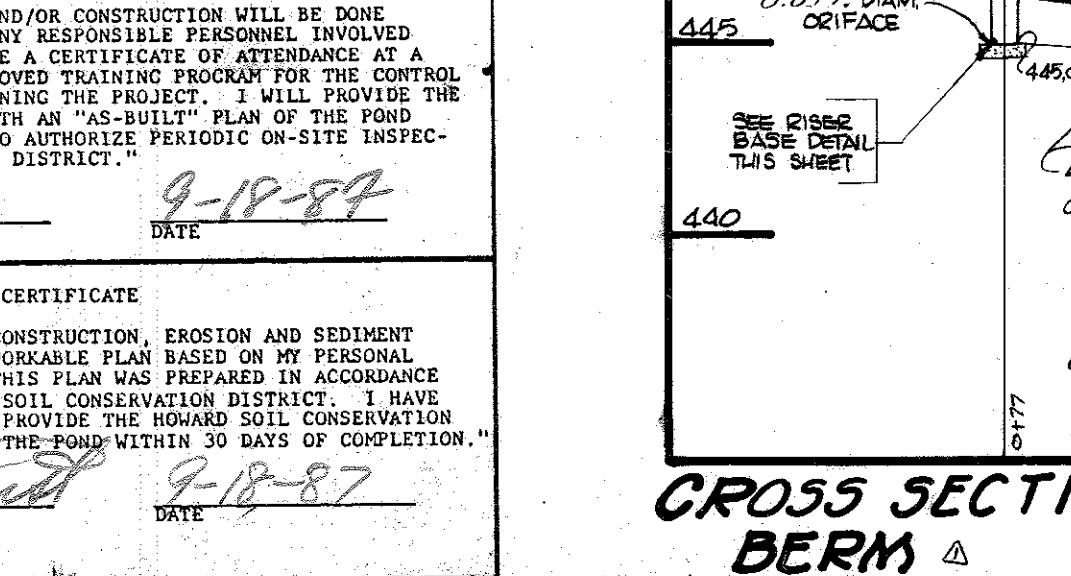
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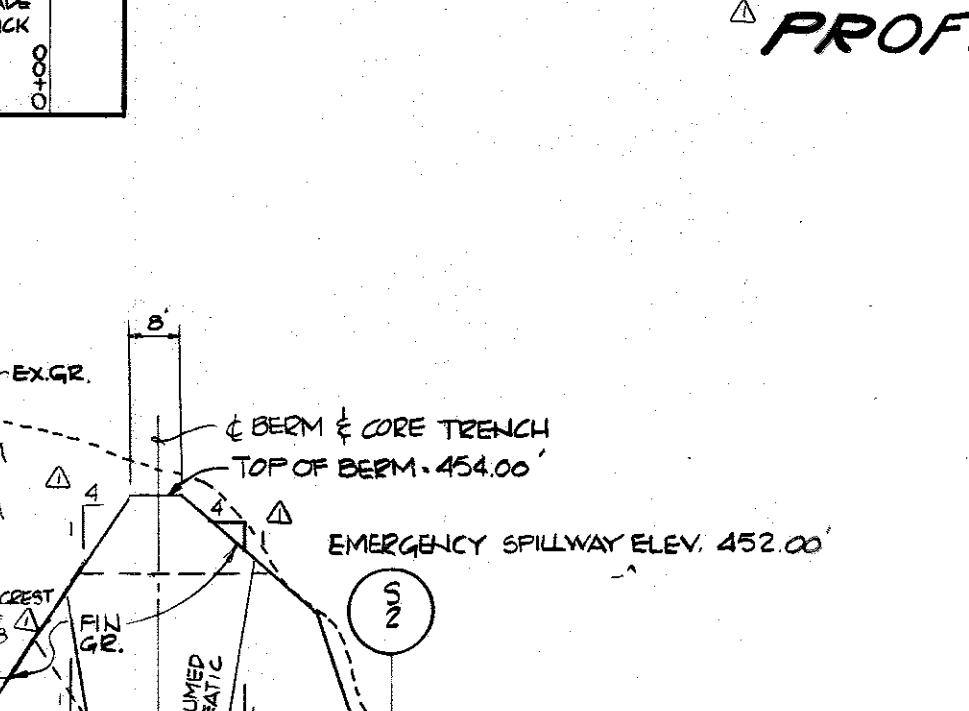
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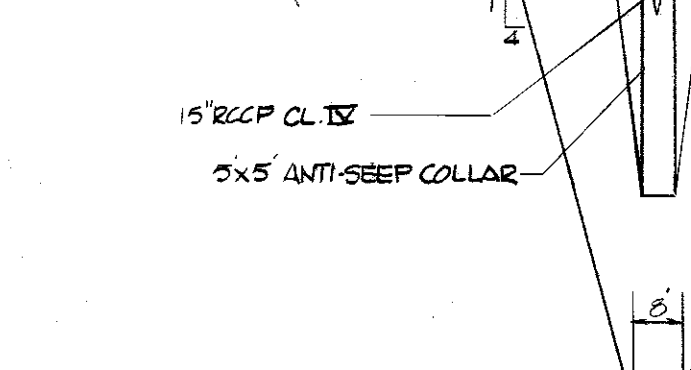
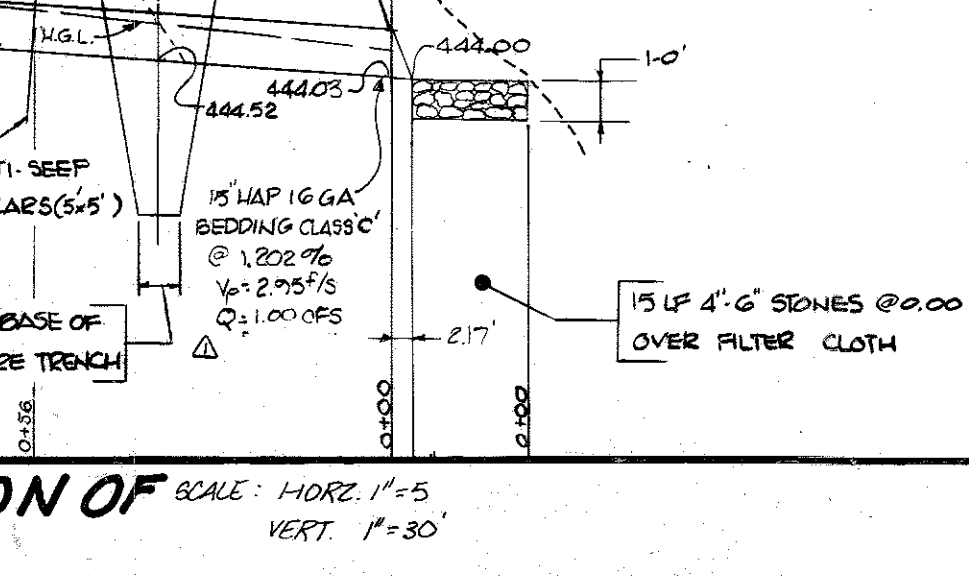
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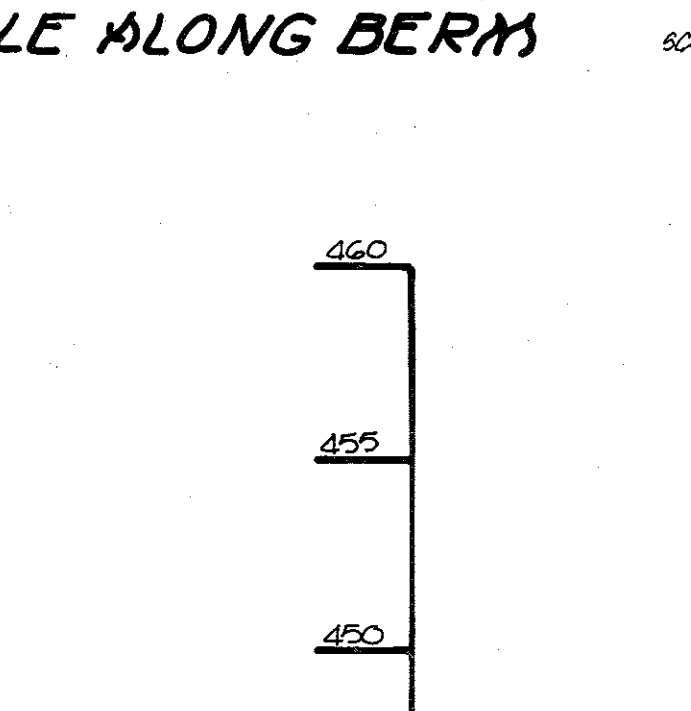
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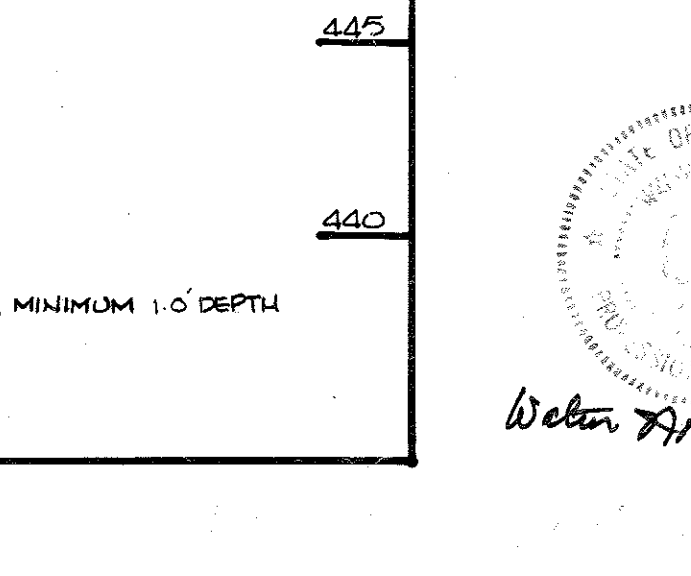
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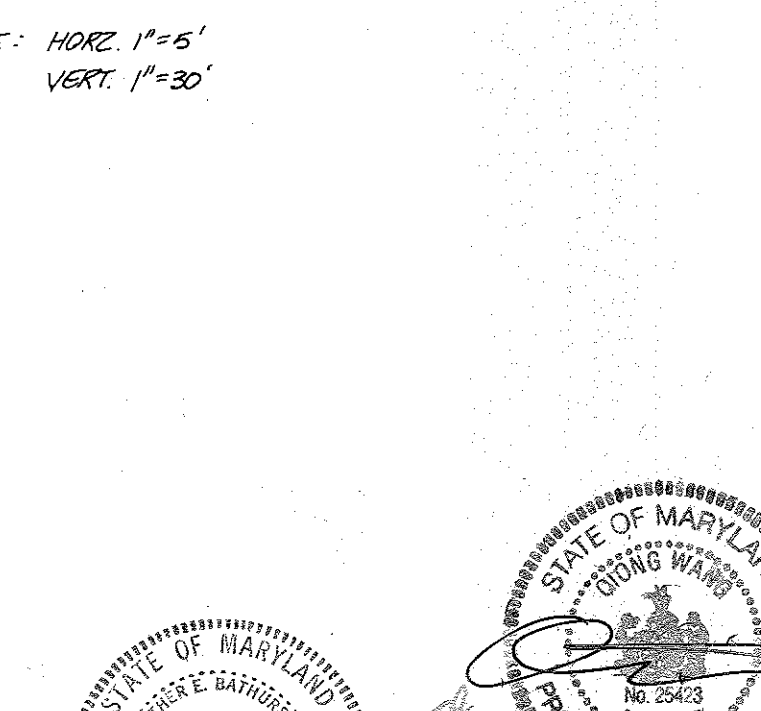
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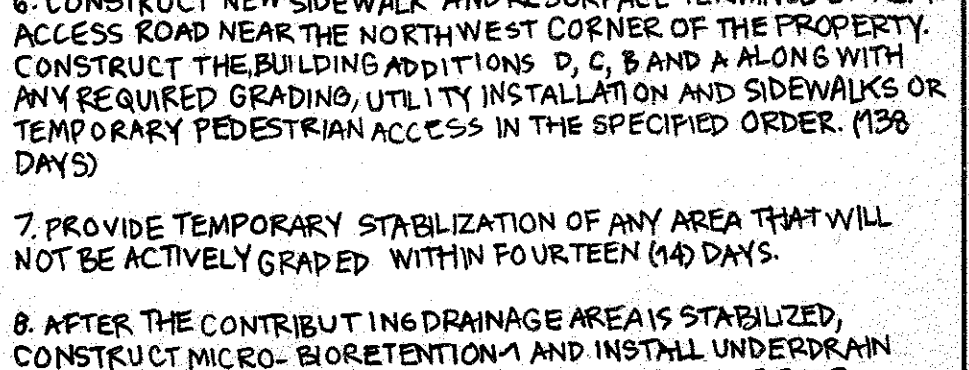
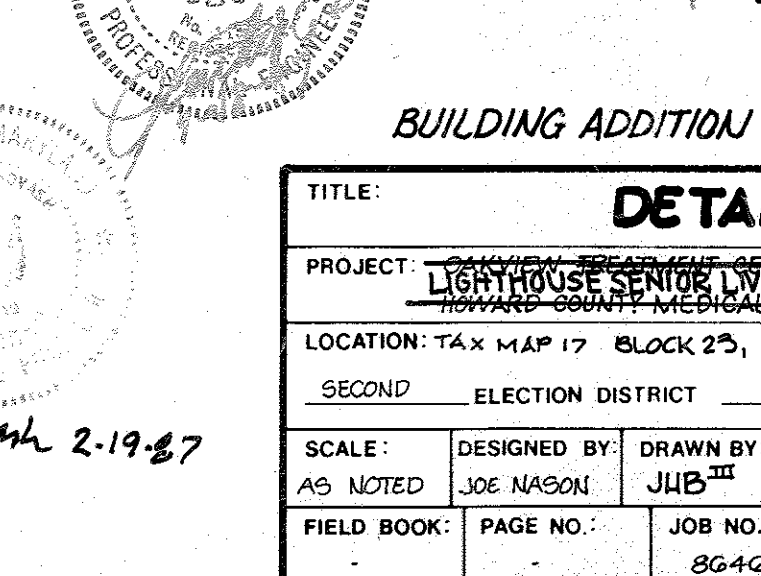
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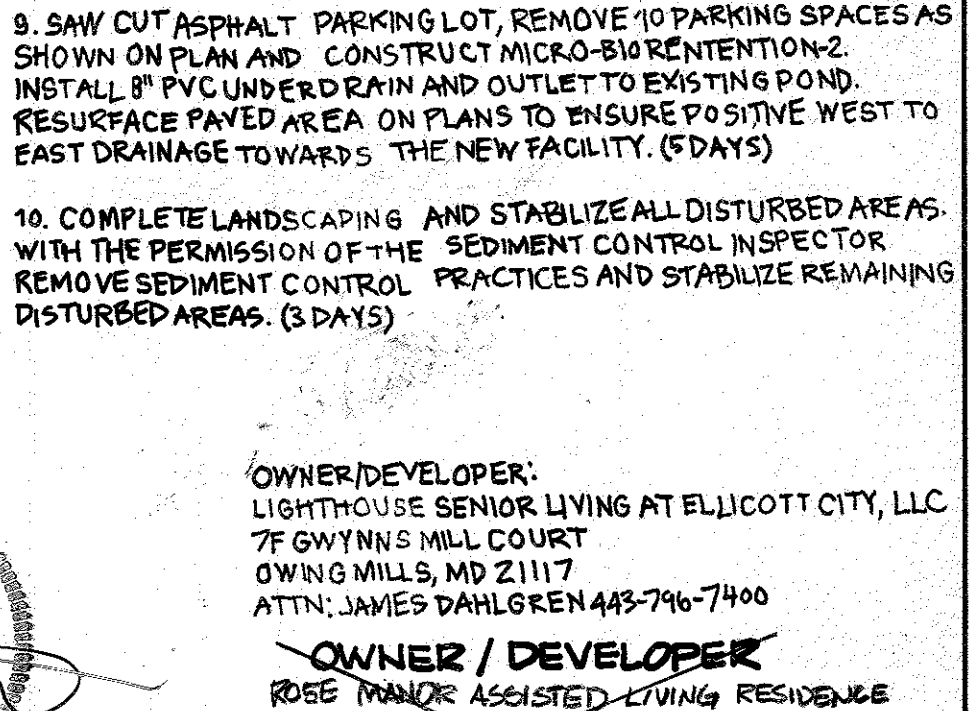
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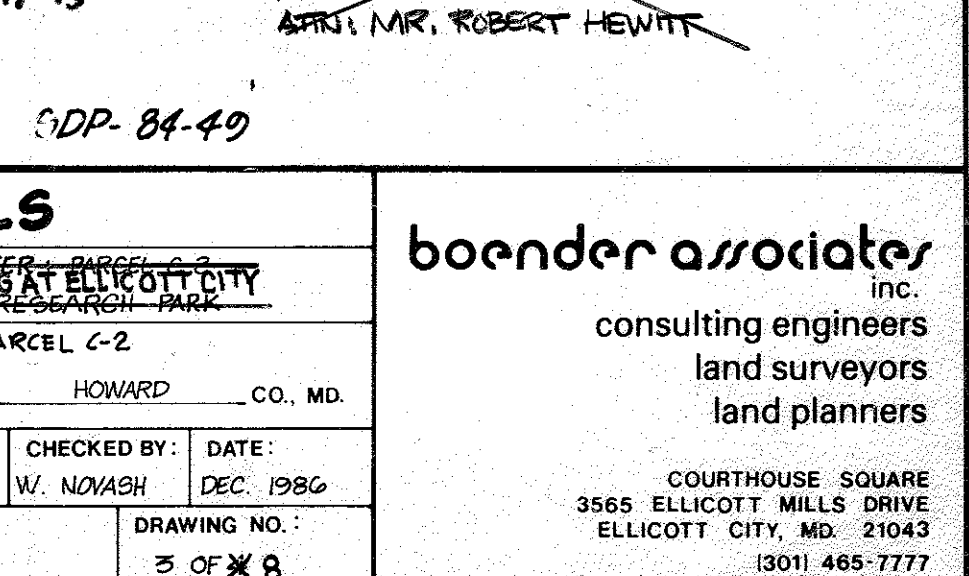
PROFILE



PROFILE



PROFILE



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

COUNTY HEALTH OFFICER: *John M. H. Allen* DATE: 10/21/87

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

PLANNING DIRECTOR: *John W. Musselman* DATE: 10/20/87

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

DIRECTOR: *John W. Musselman* DATE: 10/14/87

CHIEF, BUREAU OF ENGINEERING

APPROVED

PLANNING BOARD OF HOWARD COUNTY

DATE: 8-19-87

DEVELOPER'S CERTIFICATE

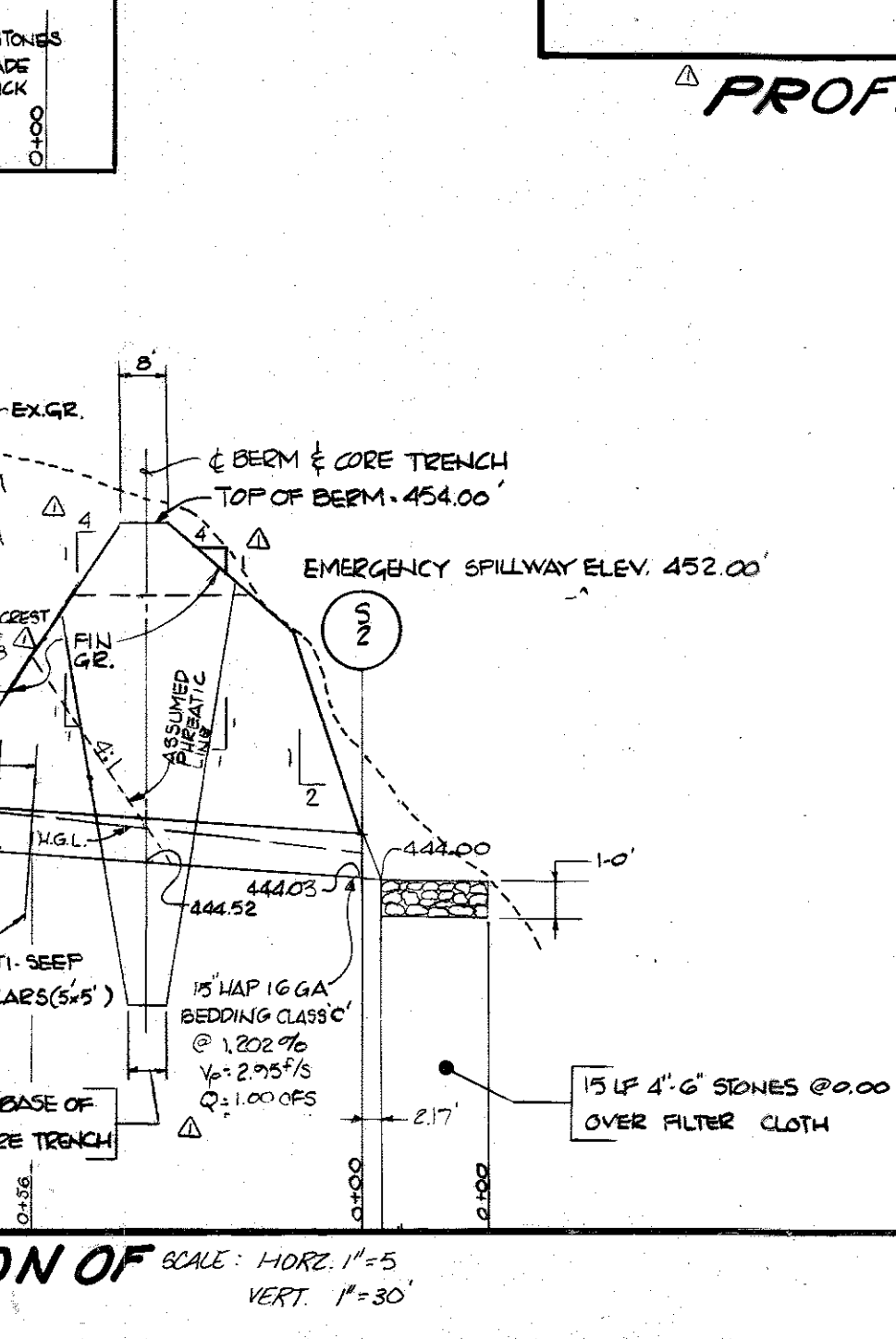
"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZED PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

John M. H. Allen 9-18-87
DEVELOPER DATE

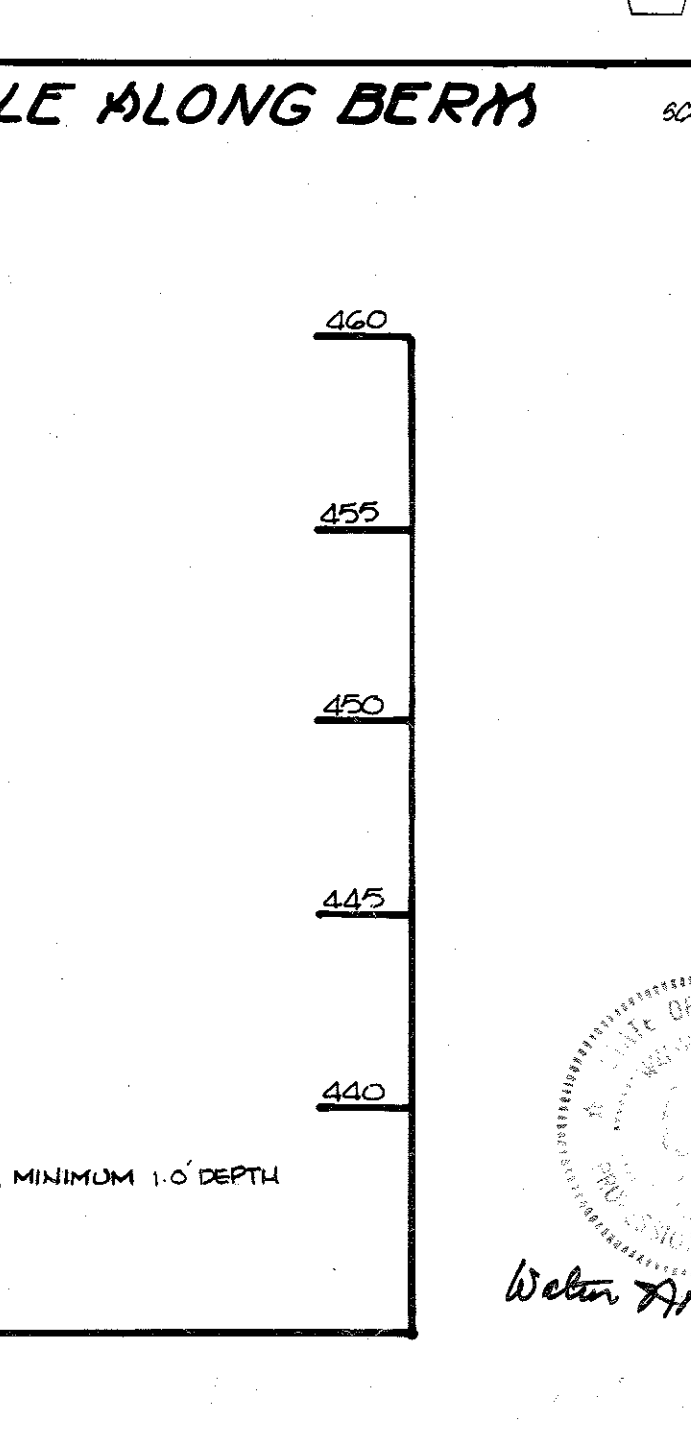
ENGINEER'S CERTIFICATE

"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 MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

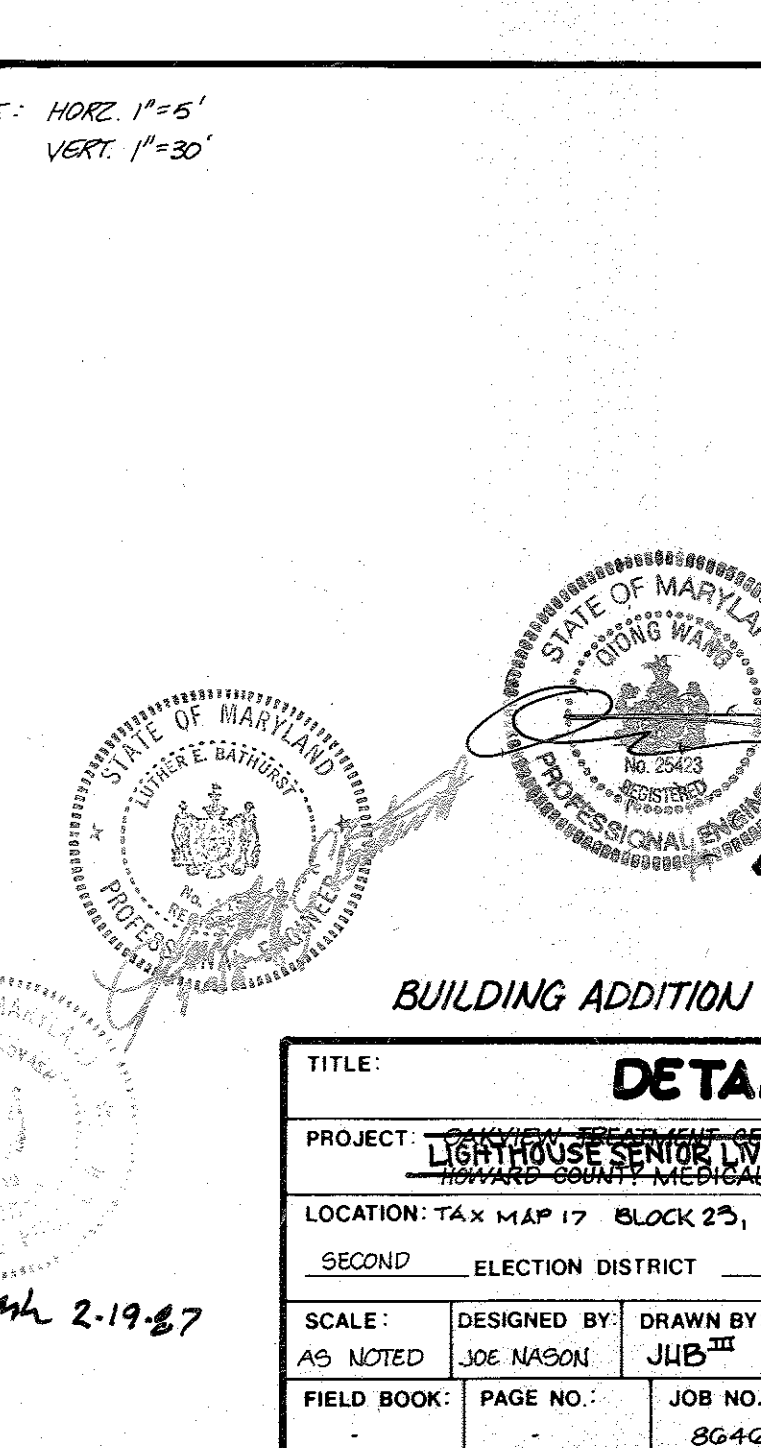
John M. H. Allen 9-18-87
ENGINEER DATE



CROSS SECTION OF BERM



CROSS SECTION OF BERM



CROSS SECTION OF BERM

OWNER/DEVELOPER:
LIGHTHOUSE SENIOR LIVING AT ELLICOTT CITY, LLC
76 GWYNNS MILL COURT
OWING MILLS, MD 21117
ATTN: JAMES DAHLGREN 443-746-7400

OWNER / DEVELOPER:
ROSE MORRIS ASSISTED LIVING RESIDENCE
2100 NORTH RIDGE ROAD
ELLICOTT CITY, MD 21043
(410) 464-4000
ARRI. MR. ROBERT HEWITT

DETAILS

PROJECT: LIGHTHOUSE SENIOR LIVING AT ELLICOTT CITY
LOCATION: TAX MAP 17 BLOCK 25, PARCEL C-2
SECOND ELECTION DISTRICT: HOWARD CO., MD.

SCALE: AS NOTED
DESIGNED BY: JOE MASON
DRAWN BY: JUB
CHECKED BY: W. NASH
DATE: DEC. 1986

FIELD BOOK: PAGE NO.: 86464
JOB NO.:
DRAWING NO.: 3 OF 8

boender associates inc.
consulting engineers
land surveyors
land planners

COURTHOUSE SQUARE
5665 ELLICOTT CITY DRIVE
ELLICOTT CITY, MD 21043
3011 485-7777

I. SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative.

II. EARTH FILL

Material

The fill material shall be taken from approved designed borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stone, frozen or other objectionable materials.

Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the embankment.

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the drawings. The bottom width of the trench shall be as shown on the plans.

III. STRUCTURAL BACKFILL

Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted with hand tampers or other compaction equipment.

IV. PIPE CONDUITS

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands.

Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy.

Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-791 with watertight coupling bands or flanges.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges.

2. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-301. An approved equivalent is ANWA Specification C-301.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe to a minimum of its outside diameter with a minimum thickness of 3" or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material.

4. Backfilling shall conform to the structural backfill as shown above.

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

1. Materials

a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.

b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

c. Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve.

d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.

e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U.S. Gallons of water per 94 pound bag of cement.

3. Mixing - The concrete ingredients shall be mixed in batches until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines.

5. Reinforcing Steel - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings.

6. Consolidating - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of the rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms.

8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days.

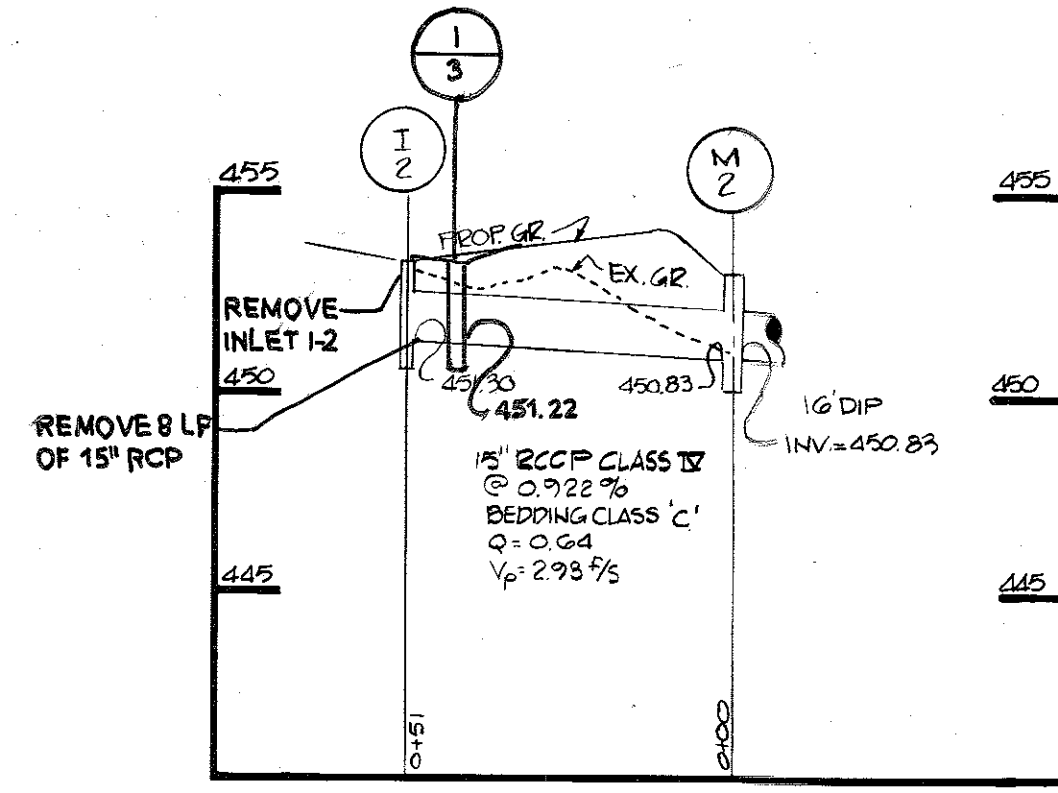
9. Placing Temperature - Concrete may not be placed at temperatures below 37 degrees F with the temperature falling, or 34 degrees with the temperature rising.

VI. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, before shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

VII. EROSION AND SEDIMENT CONTROL

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



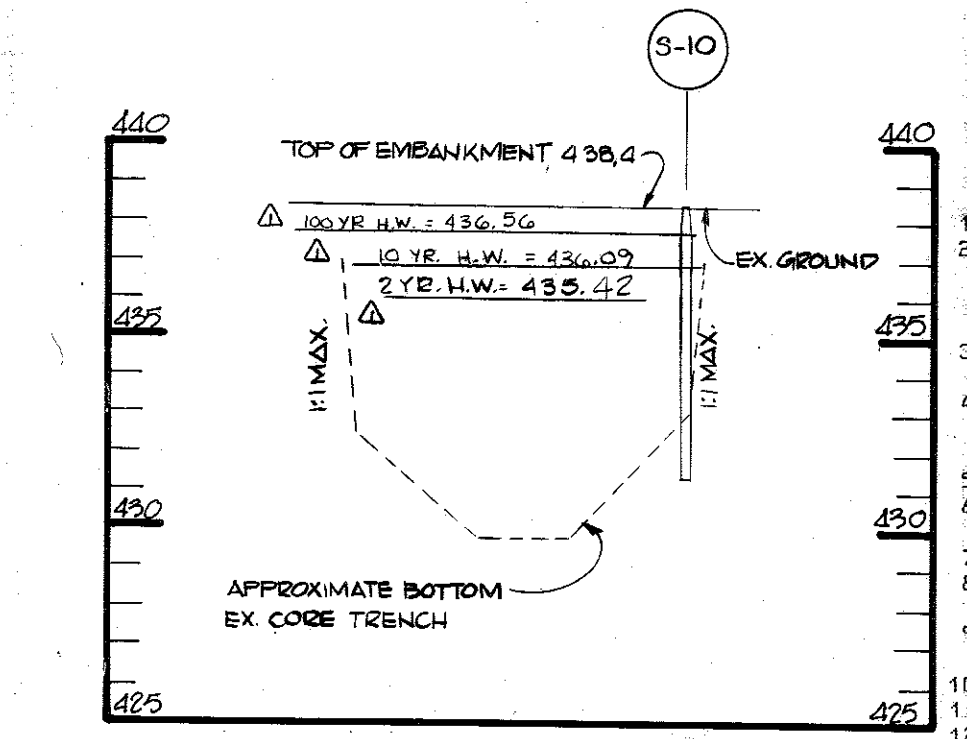
STRUCTURE SCHEDULE

Table with columns: STRUCTURE#, TYPE, INV. IN, INV. OUT, TOP ELEV, REMARKS. Rows include I-1 TYPE D INLET, I-2 TYPE D INLET, M-1 PRECAST MANHOLE, M-2 PRECAST MANHOLE, S-1 CONCRETE ENDSECTION, S-2 ALUMINUM ENDSECTION, R-1 2\"/>

SEDIMENT TRAP SCHEDULE

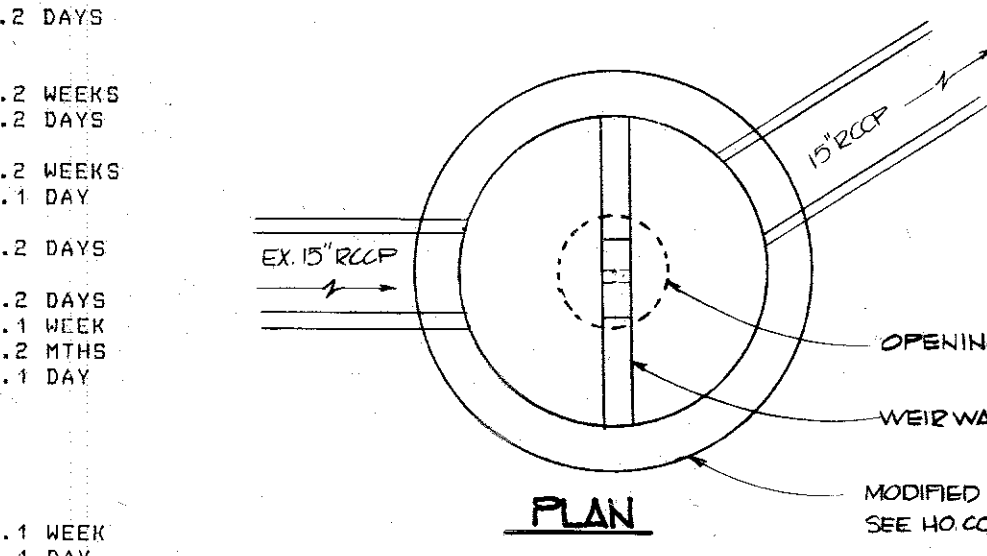
Table with columns: TRAP, DRAINAGE AREA, VOLUME (CF), BOTTOM SIZE, DEPTH STORAGE, BOTTOM ELEV, SPILLWAY ELEV, CLEANOUT ELEV. Row 1: 0.80 AC, 9349, 1442, 9\"/>

* BASED ON 10 YR SWM REQUIREMENTS IN ADDITION TO S.C.S. REQUIREMENTS.

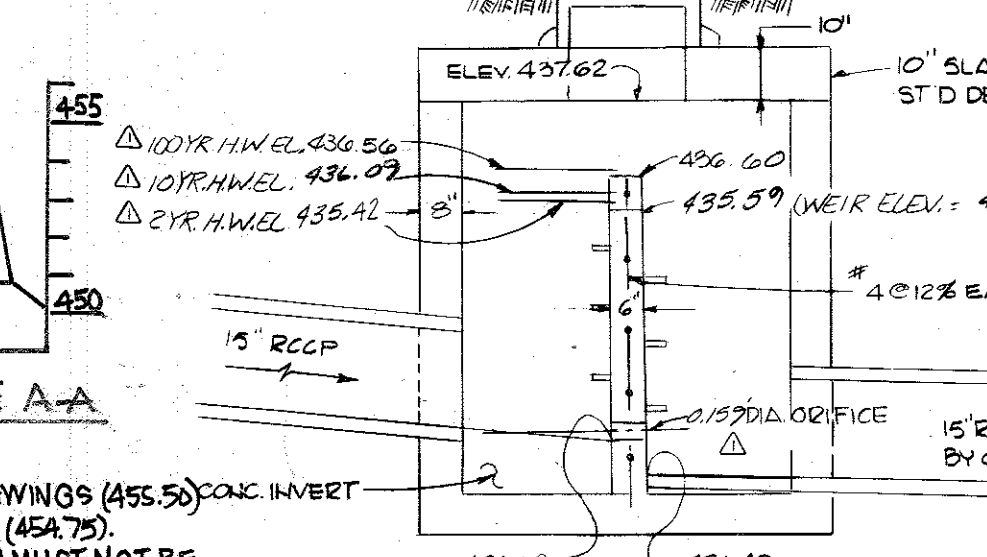


CONSTRUCTION SEQUENCE

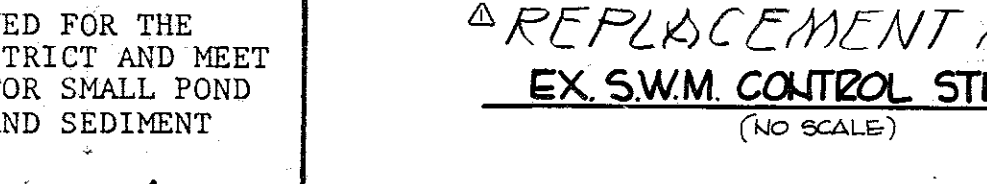
- 1. OBTAIN GRADING PERMIT AND BUILDING PERMIT.
2. NOTIFY THE HOWARD COUNTY BUREAU OF LICENCES INSPECTIONS AND PERMITS, AND THE CONSTRUCTION INSPECTIONS/SURVEYS DIVISION AT LEAST 24 HOURS PRIOR TO BEGINNING GRADING OPERATIONS.
3. CLEAR AND GRUBB AS NECESSARY TO INSTALL TEMPORARY SEDIMENT CONTROL DEVICES.
4. INSTALL TEMPORARY SEDIMENT CONTROL DEVICES AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR (S.C.E., S.F., TEMPORARY STORM WATER MANAGEMENT).
5. REMOVE EXISTING S.W.M. AT THE PROPOSED BUILDING LOCATION.
6. CONSTRUCT PROPOSED STORM DRAINAGE SYSTEM TO AND FROM SEDIMENT TRAP.
7. APPLY TEMPORARY STABILIZATION TO SEDIMENT TRAP AREA.
8. REPLACE EXISTING OUTLET STRUCTURE IN EXISTING S.W.M. FACILITY TO REMAIN.
9. APPLY PERMANENT STABILIZATION TO ANY DISTURBED AREAS IMMEDIATELY SURROUNDING OUTLET CONTROL STRUCTURE.
10. BRING BUILDING AREA TO SUBGRADE.
11. CONSTRUCT BUILDING.
12. APPLY PERMANENT STABILIZATION TO ANY REMAINING DISTURBED AREAS.
13. CONVERT SEDIMENT TRAP TO S.W.M. FACILITY WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR BY:
a) PUMP ANY STANDING WATER ONTO A STABILIZED OUTFALL.
b) REMOVE ANY SEDIMENT AND DEPOSIT ON A SITE WITH APPROVED SEDIMENT CONTROL.
c) REPAIR TRAP TO ORIGINAL SIZE FOR S.W.M.
14. APPLY PERMANENT STABILIZATION TO ANY REMAINING DISTURBED AREAS.
15. WITH SEDIMENT CONTROL INSPECTOR'S PERMISSION, REMOVE REMAINING TEMPORARY SEDIMENT CONTROL DEVICES.
16. APPLY PERMANENT STABILIZATION TO ANY REMAINING DISTURBED AREAS.



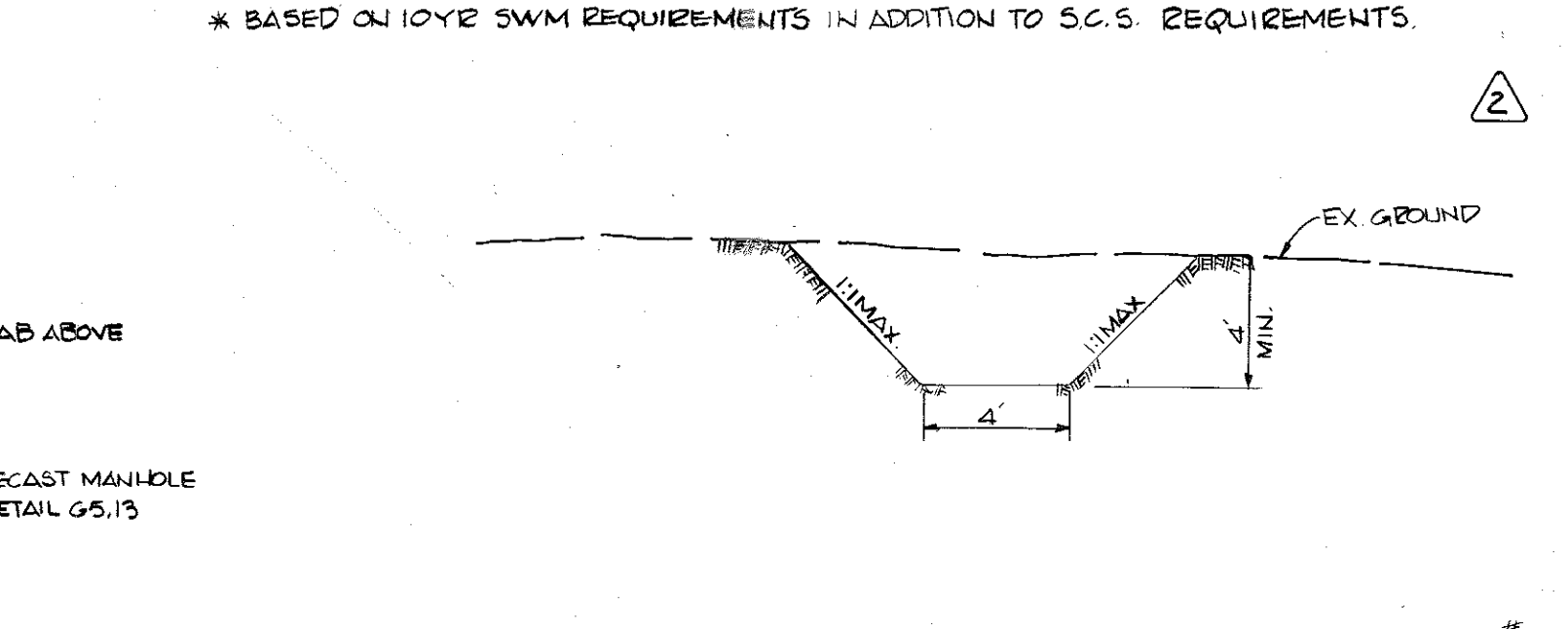
PLAN



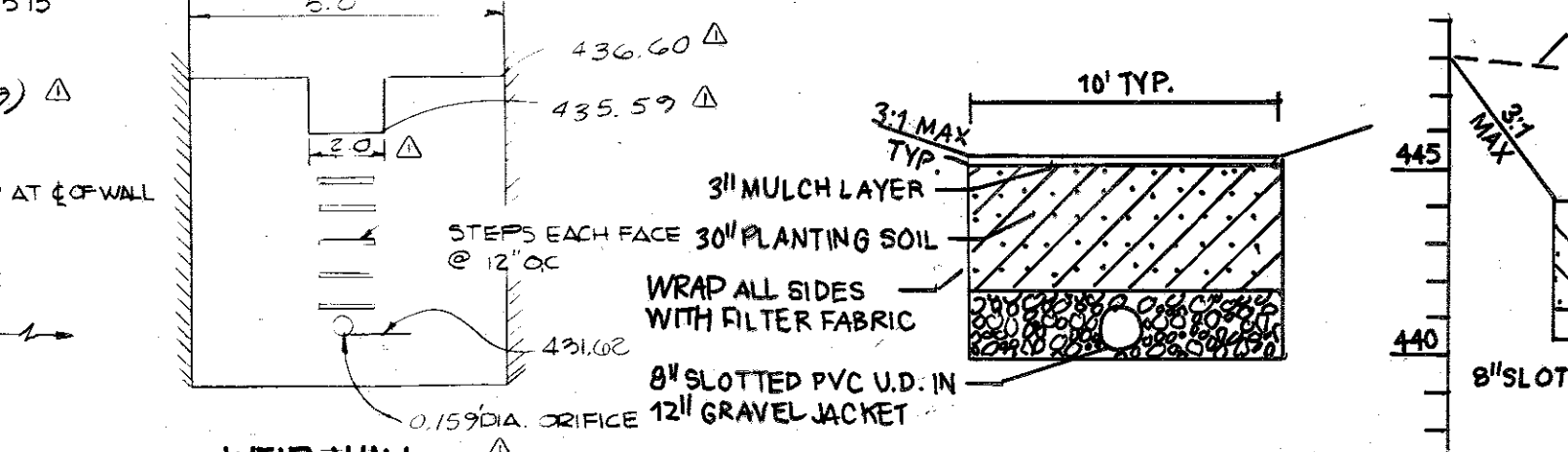
M-6 MICRO-BIORETENTION-1 PROFILE A-A



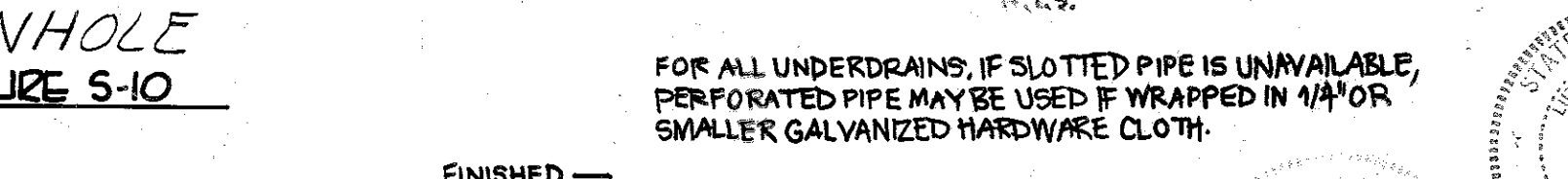
REPLACEMENT MANHOLE EX SWM CONTROL STRUCTURE S-10



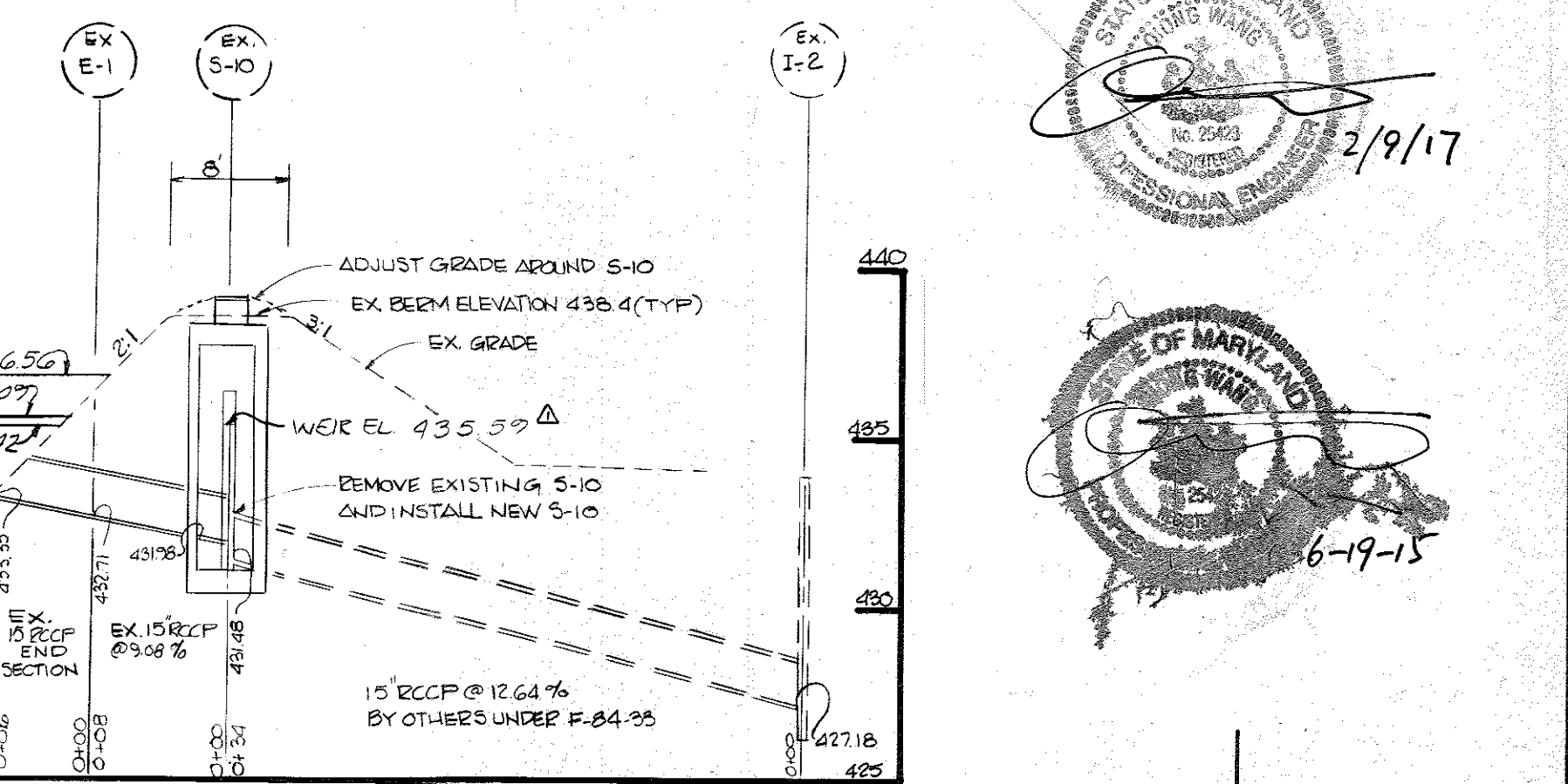
EX CORE TRENCH TYP SECTION-SWM-1



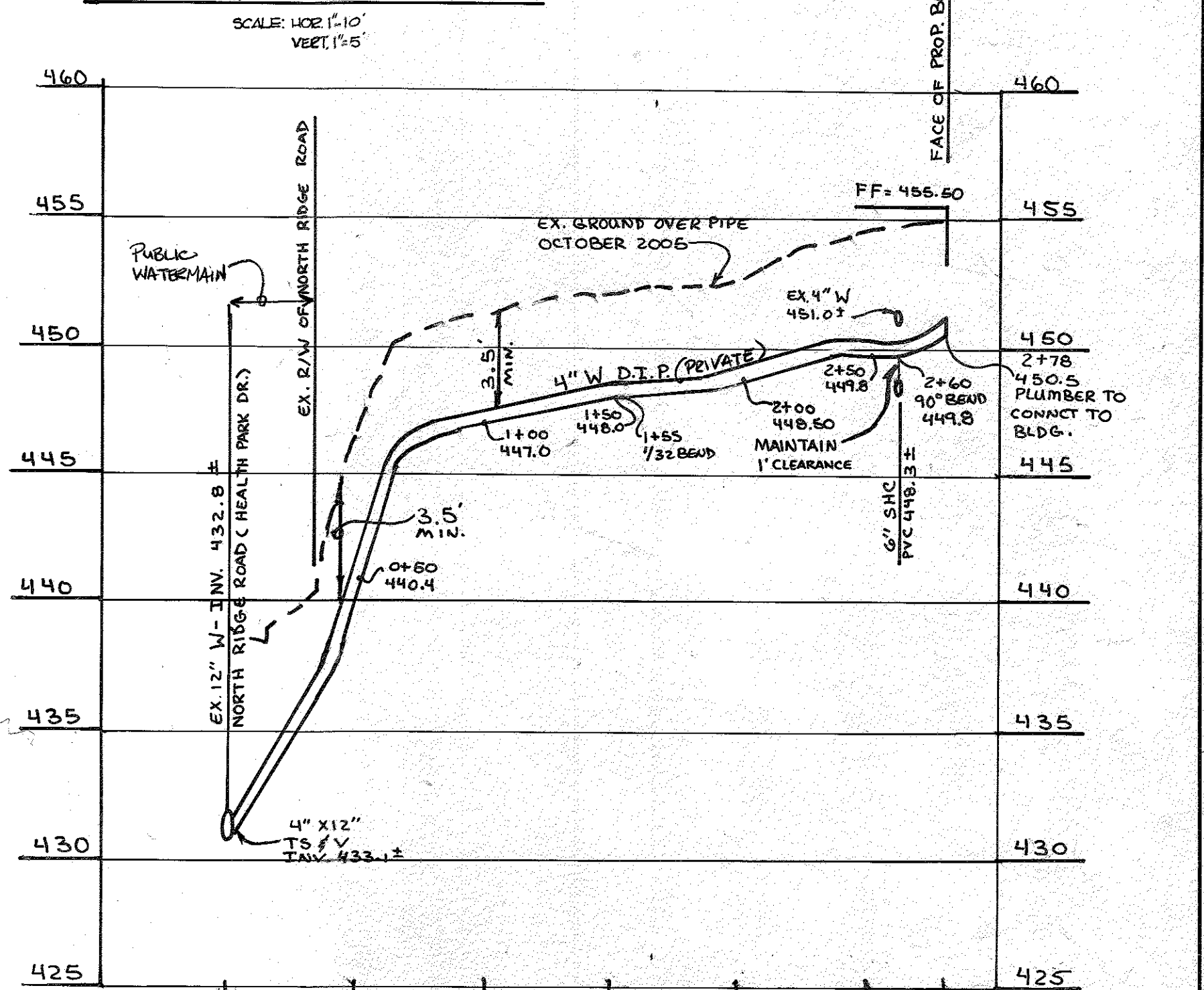
M-6 MICRO-BIORETENTION-2 DETAIL



M-6 MICRO-BIORETENTION-2 OVERFLOW WEIR PROFILE C-C



EX SWM CONTROL PROFILE



PROPOSED 4\"/>

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

COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

PLANNING DIRECTOR DATE

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

DIRECTOR DATE

CHIEF, BUREAU OF ENGINEERING DATE

APPROVED PLANNING BOARD OF HOWARD COUNTY DATE 8-19-87

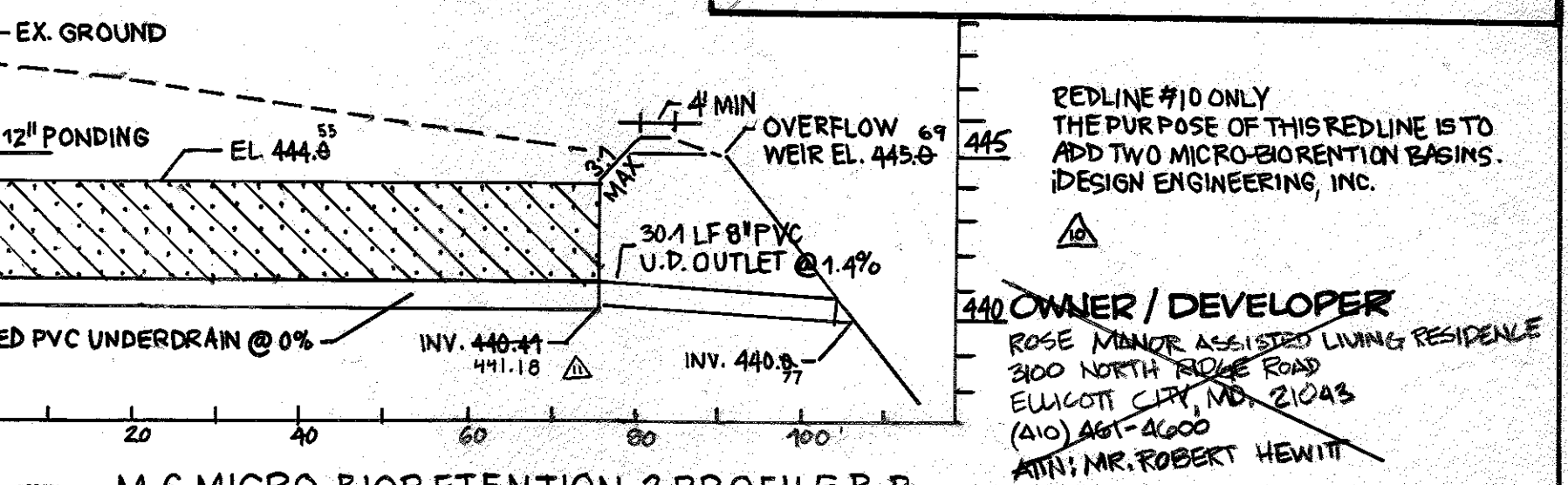
U.S. CONSERVATION SERVICE DATE 10/6/87

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE 10/6/87

Table with columns: DATE, DESCRIPTION, REVISIONS. Rows include 12-7-17 BASIN AS-BUILT CERTIFICATION, 10-19-15 BUILDING ADDITIONS, MICRO-BIORETENTION BASINS, 12-27-05 ADD 4\"/>

Professional Engineer's Certificate section for the State of Maryland, including Developer's Certificate, Engineer's Certificate, and Owner/Developer information.



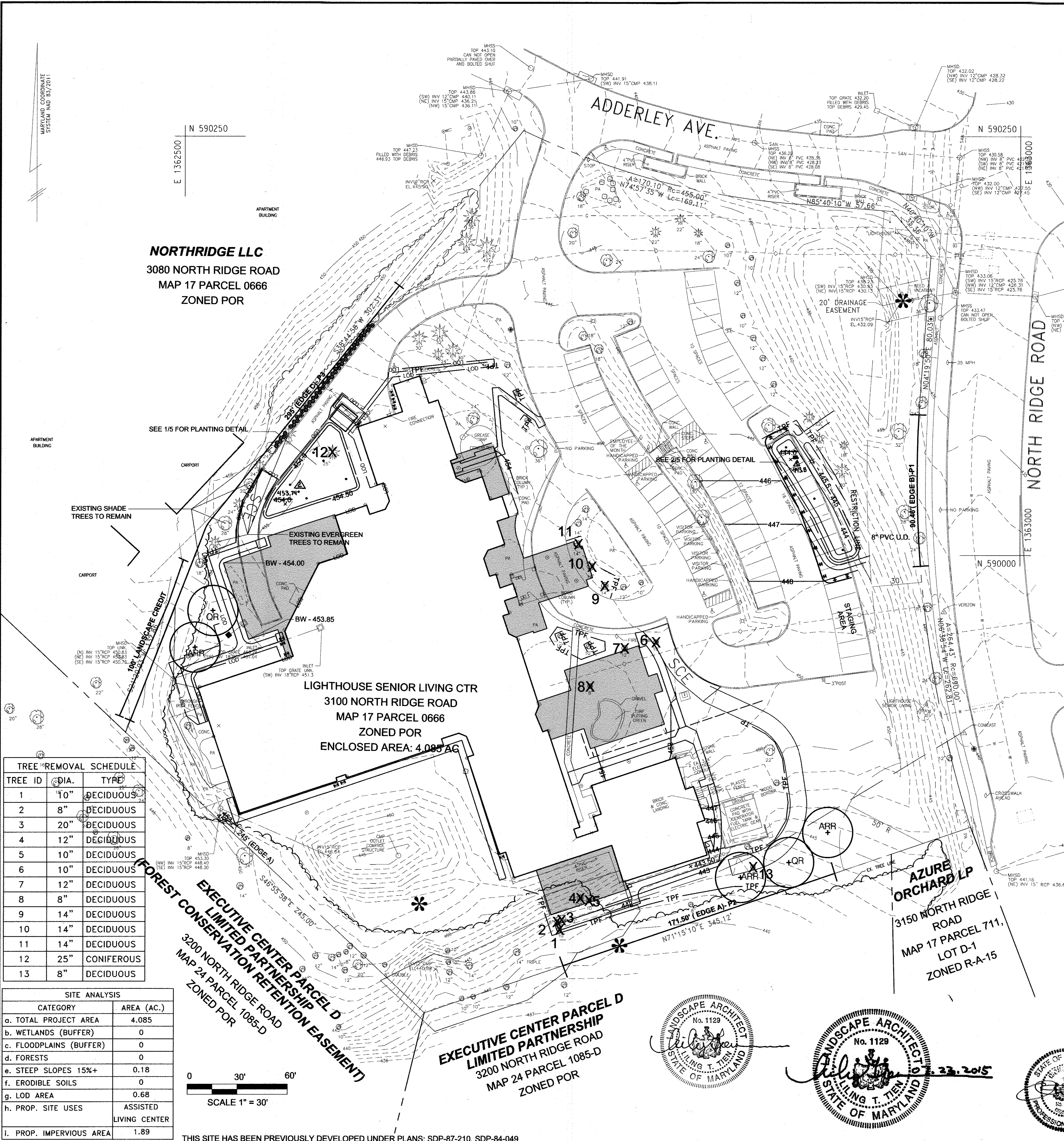
M-6 MICRO-BIORETENTION-2 PROFILE B-B

SCALE: H 1\"/>

TITLE: DETAILS PROJECT: 300 NORTHWEST LIVING AT ELLICOTT CITY LIGHTHOUSE SENIOR LIVING AT ELLICOTT CITY BUILDING ADDITION TO SDP 84-19

Table with columns: SCALE, DESIGNED BY, DRAWN BY, CHECKED BY, DATE, FIELD BOOK, PAGE NO., JOB NO., DRAWING NO. Includes project details and drawing information.

boender associates inc. consulting engineers land surveyors land planners. COURTHOUSE SQUARE 3565 ELLICOTT MILLS DRIVE ELLICOTT CITY, MD 21043 301 465-7777



NORTHRIDGE LLC
 3080 NORTH RIDGE ROAD
 MAP 17 PARCEL 0666
 ZONED POR

LIGHTHOUSE SENIOR LIVING CTR
 3100 NORTH RIDGE ROAD
 MAP 17 PARCEL 0666
 ZONED POR
 ENCLOSED AREA: 4.085 AC

**EXECUTIVE CENTER PARCEL D
 LIMITED PARTNERSHIP
 3200 NORTH RIDGE ROAD
 MAP 24 PARCEL 1085-D
 ZONED POR**

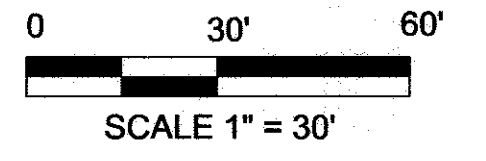
AZURE ORCHARD LP
 3150 NORTH RIDGE
 ROAD
 MAP 17 PARCEL 711,
 LOT D-1
 ZONED R-A-15

TREE REMOVAL SCHEDULE

TREE ID	DIA.	TYPE
1	10"	DECIDUOUS
2	8"	DECIDUOUS
3	20"	DECIDUOUS
4	12"	DECIDUOUS
5	10"	DECIDUOUS
6	10"	DECIDUOUS
7	12"	DECIDUOUS
8	8"	DECIDUOUS
9	14"	DECIDUOUS
10	14"	DECIDUOUS
11	14"	DECIDUOUS
12	25"	CONIFEROUS
13	8"	DECIDUOUS

SITE ANALYSIS

CATEGORY	AREA (AC.)
a. TOTAL PROJECT AREA	4.085
b. WETLANDS (BUFFER)	0
c. FLOODPLAINS (BUFFER)	0
d. FORESTS	0
e. STEEP SLOPES 15%+	0.18
f. ERODIBLE SOILS	0
g. LOD AREA	0.68
h. PROP. SITE USES	ASSISTED LIVING CENTER
i. PROP. IMPERVIOUS AREA	1.89



THIS SITE HAS BEEN PREVIOUSLY DEVELOPED UNDER PLANS: SDP-87-210, SDP-84-049

GENERAL LEGEND

ROOF LEADER	WATER VALVE/METER	EXISTING STRUCTURE
LIGHT POLE	TELECO HANDBOX	BOUNDARY LINE
HANDICAP ACCESS	ELECTRIC HANDBOX	CONCRETE CURB AND GUTTER
CONIFEROUS TREE	BUSH/SHRUB	WOODS LINE
DECIDUOUS TREE	TREE REMOVAL	UNDERGROUND SANITARY SEWER LINE
PROPOSED ADDITION		UNDERGROUND STORM DRAIN LINE
		SILT FENCE
		LIMIT OF DISTURBANCE
		DRAINAGE AREA

PLANT SCHEDULE

SYMBOL	KEY	BOTANICAL/COMMON NAME	SPACING	SIZE	ROOT	QTY
○	ARR	ACER RUBRUM 'RED SUNSET'	SEE PLAN	3" CAL	B&B	3
○	QR	RED SUNSET RED MAPEL	SEE PLAN	3" CAL	B&B	2
○	PLO	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	SEE PLAN	24" HT	CONT.	41
○	TMD	OTTO LUYKEN 'CHERRYLAUREL'	SEE PLAN	30" HT	CONT.	9
○		DENSIFORMIS 'DENSIFORMIS'				
○		DENSIFORMIS YEW				

SCHEDULE A-LIGHTHOUSE SENIOR LIVING

CATEGORY	P1	P2	P3	TOTAL
LANDSCAPE TYPE	B	A	C	
LINEAR FEET OF ROADWAY	90.46	171.50	295	
FRONTAGE/PRIMETER				
CREDIT FOR EXISTING # TREES	3SH	0SH	4SH	7SH
EXISTING TREE LINE	4EG	0EG	100'	100'
NUMBER OF PLANTS REQUIRED				
SHADE TREES	2	3	5	12
EVERGREEN TREES	2	0	10	17
SHRUBS	0	0	0	0
NUMBER OF PLANTS REQUIRED				
SHADE TREES	0	3	2*	5
EVERGREEN TREES	0	0	0	0
SMALL TREES (2:1 SUB)	0	0	0	0
SHRUBS (10:1 SUB)	0	0	50**	50

* 1 SHADE TREE IS TO BE PLANTED IN PLACE OF 1 EVERGREEN TREE.
 ** 50 SHRUBS ARE TO BE PLANTED IN PLACE OF 5 EVERGREEN TREES.

NOTES

"At the time of plant installation, all shrubs and trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from the approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the applicable plans."

"The owner, tenants and/or their agents shall be responsible for maintenance of the required landscaping including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced."

"This plan has been prepared in accordance with Section 16.124 of the Howard County Code and the Landscape Manual with 5 shade trees, 0 ornamental trees, 0 evergreen trees and 50 shrubs provided with landscape surety in the amount of \$ 3000 with the Grading Permit." (The unit prices to be used for establishing surety requirements shall be in accordance with the adopted County Fee Schedule which is \$300.00 per shade tree, \$150.00 per evergreen/ornamental tree, \$30.00 per shrub, \$10.00 per linear feet of fencing and \$20.00 per linear feet of wall.)

Landscape Plan Certificate:
 Developer's/Owner's Landscape Certificate

I/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 Landscape Manual. I/we further certify that upon completion a Letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

10/13/15

Developer's/Owner's Name
 James H. Dahlgren, Jr.
 Authorized Agent for Lighthouse Senior Living at Rose Manor, LLC

APPROVED Department of Planning and Zoning.

CHIEF, DEVELOPMENT ENGINEERING DIVISION 10-20-15 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 10-22-15 DATE

DIRECTOR 10-23-16 DATE



PENZA BAILEY ARCHITECTS
 401 Woodbourne Avenue
 Baltimore, Maryland 21212
 T 410-435-6677 | F 410-435-6868
 www.PenzaBailey.com

iDesign Engineering, Inc.
 12057-A TECH RD
 SILVER SPRING, MARYLAND 20904
 T 301-234-6234
 F 301-234-6235
 www.idesigneng.com

P.E.L.A. DESIGN, INC.
 7402 YORK RD, SUITE 201
 TOWSON, MD 21204
 T. 410.296.3990 | F. 410.296.3898

Project Title:
Lighthouse Senior Living At Ellicott City

3100 North Ridge Road
 Ellicott City, Maryland 21043

For:
 Lighthouse Senior Living at Ellicott City, LLC
 7F Gwynns Mill Court
 Owings Mills, MD 21117
 443-796-7400

#	DATE	DESCRIPTION
1	10/20/15	BID ADD + BIO.
2	2/9/17	BIO POND AS-BUILT EL.

ISSUED FOR:

<input checked="" type="checkbox"/> REVIEW	<input type="checkbox"/>
<input type="checkbox"/> BID	<input type="checkbox"/>
<input type="checkbox"/> PERMIT	<input type="checkbox"/> CD SET

©2013 PENZA BAILEY ARCHITECTS, INC.
 DRAWN: ZN PROJECT #: 13004
 CHECKED: LT
 CAD FILE:
 DATE: 7/23/15

LANDSCAPE PLAN

5 of 8

B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

2. Filtering Media or Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenion practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
- Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
- Clay Content - Media shall have a clay content of less than 5%.
- pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are

Supp. 1 B.4.4

excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates 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 primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to restructure the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3.

5. Plant Installation

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

B.4.5 Supp. 1

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. Underdrains

Underdrains should meet the following criteria:

- Pipe - Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
- Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- The main collector pipe shall be at a minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
- A 4" layer of pea gravel (1/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

These practices may not be constructed until all contributing drainage area has been stabilized

Supp. 1 B.4.6

Table B.4.1 Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration-

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Mix No. 3; F _c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required; 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking. Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	

B.4.7 Supp. 1

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/20/15
 Chief, Development Engineering Division & Date
 [Signature] 10/22/15
 Chief, Division of Land Development, CMF Date
 [Signature] 10-23-15
 Director Date

SHEET NO: 3

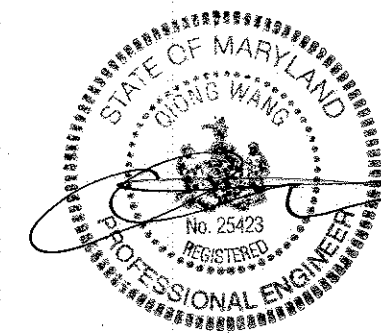
AUGER BORING LOG					
PROJECT : Lighthouse Sr. Living @ Rose Manor		DATE TESTED : 3-3-15			
LOCATION : 3100 N. Ridge Rd., Ellicott City, MD		TESTED BY : DFWR			
CLIENT : iDesign		PROJECT NO : M-2058			
BORING NO: B1		ELEVATION: GS			
DEPTH (FT)	*DCPT Blows/2'	DESCRIPTION & OBSERVATION	ASTM	STRA -TUM	MOIS- TURE(%)
0		0'			
1		1.0'	FILL		
2	15,17,18	Brown fine to coarse silty SAND, moist, firm to compact	SM		18.7
3					
4	16,18,19	-Dense weathered rock at 5'			12.3
5	20+*	5.0'			16.9
6		Bottom of boring at 5 ft due to refusal.			
7		*1/2 inch penetration was recorded for 20 blows.			
8					
9					
10					
WATER ENCOUNTERED AT: None		NOTE: Pipe was installed for water readings.			
*DCPT : Dynamic Cone Penetrometer Test.		GS: Ground Surface 24 hr water reading: None to 5'			
BORING NO: B2		ELEVATION: GS			
DEPTH (FT)	*DCPT Blows/2'	DESCRIPTION & OBSERVATION	ASTM	STRA -TUM	MOIS- TURE(%)
0		0'			
1					
2	14,16,16	Brown silty SAND, moist, firm	SM		2.2
3					
4	15,16,17	-rock fragments at 4'			13.2
5					
6	18,18,19	6.5'			14.1
7					
8					
9					
10					
WATER ENCOUNTERED AT: None		NOTE: Pipe was installed for water readings.			
*DCPT : Dynamic Cone Penetrometer Test.		GS: Ground Surface Rock was not encountered to 6.5 ft. 24 hr water reading: None to 6.5 ft.			

GEOTECH ENGINEERS, INC.

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Project Title:

Lighthouse Senior Living At Ellicott City

3100 North Ridge Road
 Ellicott City, Maryland 21043

For:

Lighthouse Senior Living at Ellicott City, LLC
 7F Gwynns Mill Court
 Owings Mills, MD 21117
 (443) 796-7400

#	DATE	DESCRIPTION
1	5/13/2015	ADDENDUM 3
2	10/15/15	ADD BLD.

ISSUED FOR:
 REVIEW
 BID
 PERMIT
 CD SET

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 DRAWN: MA PROJECT #: 13004
 CHECKED: JW
 CAD FILE: 13004 C2-2 MDE SPECS.DGN
 DATE: 6/19/15

BIORETENTION SPECS & SOIL BORINGS