

SITE DEVELOPMENT PLAN

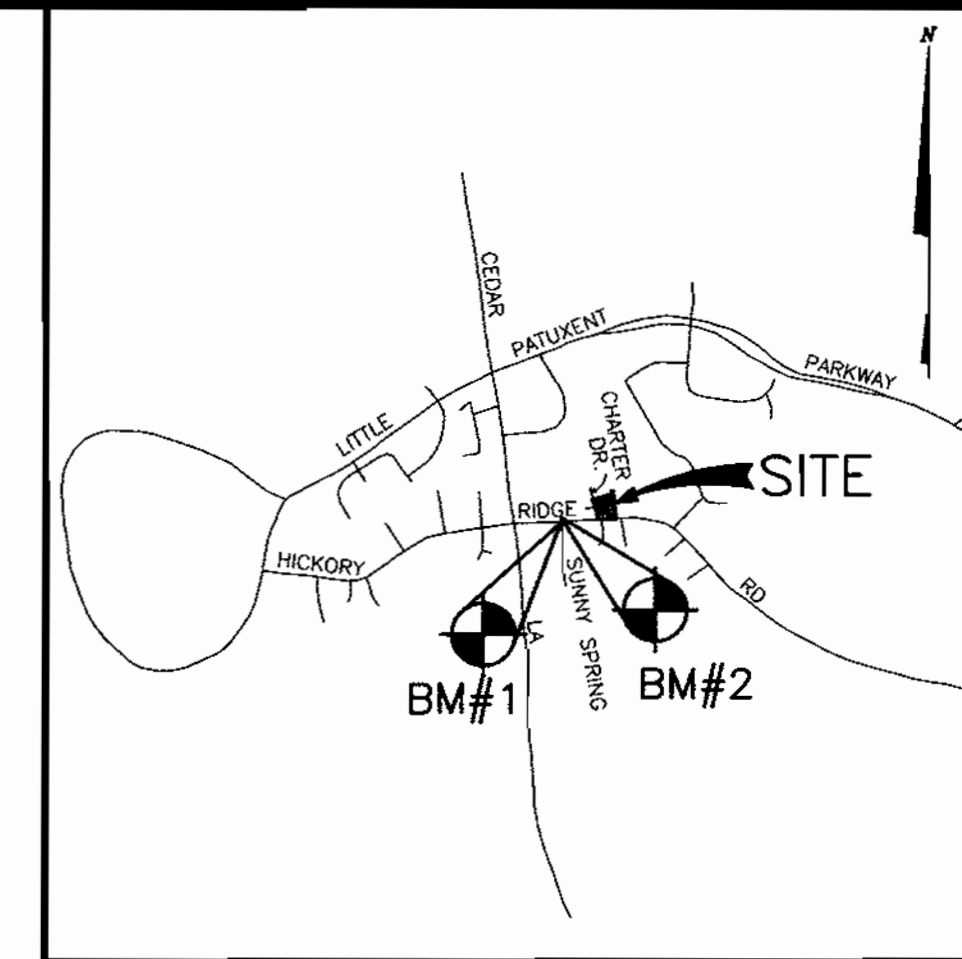
AEQUUS MEDICAL OFFICE BUILDING

GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standard and specifications if applicable.
2. The contractor shall notify the Department of Public Works/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
4. The contractor shall notify the Howard County Department of Public Works, Bureau of Utilities at (410) 313-4900 at least five working days prior to starting any excavation work.
5. Site area: 4.253 ACRES
6. Traffic control devices, markings, and signing shall be in accordance with the latest edition of the manual on uniform traffic control devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
7. All plan dimensions are to face of curb unless otherwise noted.
8. Existing topography reflects field survey by Century Engineering Jan. 2000.
9. Coordinates and bearing are based upon the MD State plan system (NAD '83).
10. Existing water and sewer shown is public.
11. Stormwater Management: Quantity and Quality Management is provided by an on-site facility.
12. All existing water and sewer is per Contract #'s: 824-D-W&C, & 24-1079-D
13. All existing public storm drain is per F 82-12
14. All curb radii is 5' unless noted otherwise.
15. Utility information taken from approved final construction plans for development.
16. All sidewalks shall be 6' wide except where dimensioned otherwise. Provide 3' radius rounding at all angle breaks and intersections.
17. Contractor shall utilize PVC for all sewer house connections. Contractor shall utilize D.I.P. (CL. 51) for 6" water house connection.
18. For all storm drain connections at existing stubs, the contractor shall remove the existing blocking and maintain.
19. Use Howard County trench bedding class "C" for storm drains.
20. Paved areas indicated are private except as noted.
21. Project background: See Dept. of Planning & Zoning File Numbers: F 83-12, & A-B-4-811.
22. Recording reference: Plat No. 4804
23. All proposed ramps shall be in accordance with current A.D.A. standards. Maximum sidewalk cross slope shall be two percent. Provide a five-foot by five-foot level (2 percent max.) landing at the top and bottom of all ramps and building entrances and exits.
24. All water meters shall be located inside buildings.
25. The limits of public maintenance for water house connections shall be 7' from the back of curb.
26. All proposed site utilities are to terminate 5' from the building. The building plumber shall connect to and extend these utilities to the inside of the building.
27. For Gas, Telephone and Electric routing, see separate plan.
28. Forest conservation exemption under Section 16.1202(b)(1)(IV) of the Howard County Subdivision Regulations.
29. There are no wetlands on this site as determined by Environmental Quality Resources, L.L.C. in January, 2000.
30. A traffic study dated April 2000, has been prepared by Century Engineering, Inc. in accordance with APFD requirements and approved on September 15, 2000.

BENCHMARKS

- BM #1**
P.K. NAIL SET AT THE INTERSECTION OF HICKORY RIDGE ROAD AND SUNNY SPRING ROAD
- BM #2**
FIRE HYDRANT BONNET BOLT ON NORTH SIDE OF HICKORY RIDGE ROAD AT SUNNY SPRING ROAD



VICINITY MAP

SCALE: 1"=2000'

DRAWING LIST

NO.	DESCRIPTION
1 OF 11	COVER SHEET
2 OF 11	SITE DEVELOPMENT PLAN
3 OF 11	DRAINAGE AREA MAP
4 OF 11	UTILITY PROFILES
5 OF 11	SEDIMENT CONTROL PLAN
6 OF 11	SEDIMENT CONTROL NOTES & DETAILS
7 OF 11	SEDIMENT CONTROL NOTES & DETAILS
8 OF 11	DETAIL SHEET
9 OF 11	LANDSCAPE PLAN
10 OF 11	STORMWATER MANAGEMENT DRAINAGE STUDY
11 OF 11	STORMWATER MANAGEMENT NOTES AND DETAILS

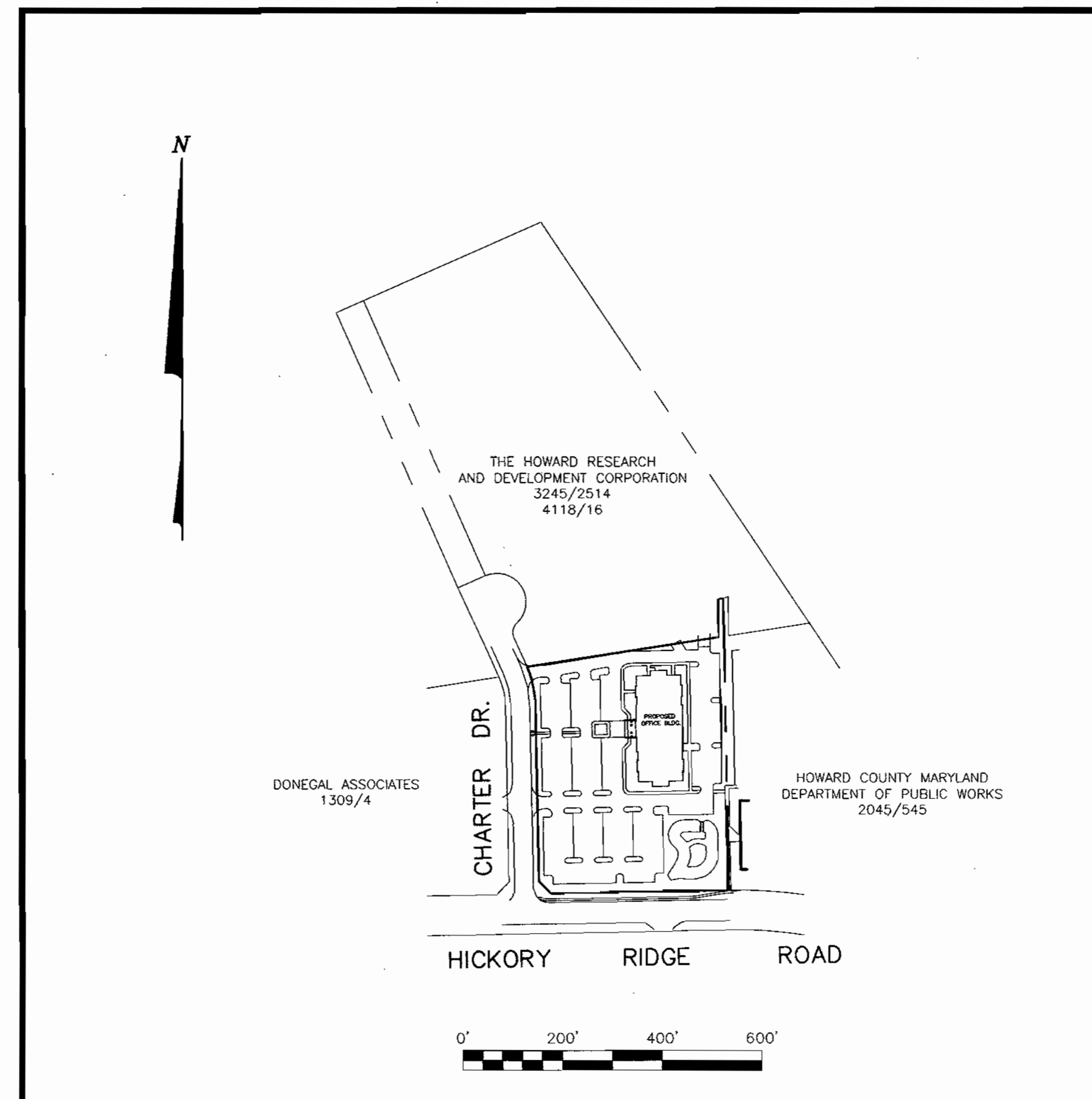
STREET LIGHT INFORMATION

SYMBOL	DESCRIPTION	QUANTITY
⊕	TYPE A-SINGLE TYPE III WITH HORIZONTAL 250 WATT METAL HALIDE LAMP ON A 25 FOOT ROUND POLE (DARK BRONZE)	11
⊕	TYPE X4-QUAD, TYPE IV WITH HORIZONTAL 400 WATT METAL HALIDE LAMP ON A 25 FOOT ROUND POLE (DARK BRONZE)	4

NOTE: ALL EXTERIOR LIGHTING SHALL CONFORM TO SECTION 134 OF THE ZONING REGULATIONS.

SITE ANALYSIS

AREA OF SITE = 4.253 Acs.
PRESENT ZONING: NT
LAND USE: PROPOSED MEDICAL OFFICE
NUMBER OF PARKING SPACES REQUIRED: 2/1000 = 120
NUMBER OF PARKING SPACES PROVIDED: 4.6/1000 = 276
(INCLUDES 8 HANDICAP SPACES)



APPROVED
PLANNING BOARD
of HOWARD COUNTY

DATE October 4, 2000

ADDRESS CHART

LOT/PARCEL#	STREET ADDRESS
D	10700 CHARTER DRIVE

WATER CODE:	SEWER CODE:	SUBDIVISION NAME	SECTION/AREA	PARCEL
PLAT 4804	BLOCK -	TOWN CENTER	8/4	D
	ZONE NT-ECC	TAX MAP 35	ELEC. DIST. 5TH	CENSUS TRACT 6053.02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 11/2/00
Director Date

[Signature] 11/1/00
Chief, Division of Land Development Date

[Signature] 10/20/00
Chief, Development Engineering Division Date



CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

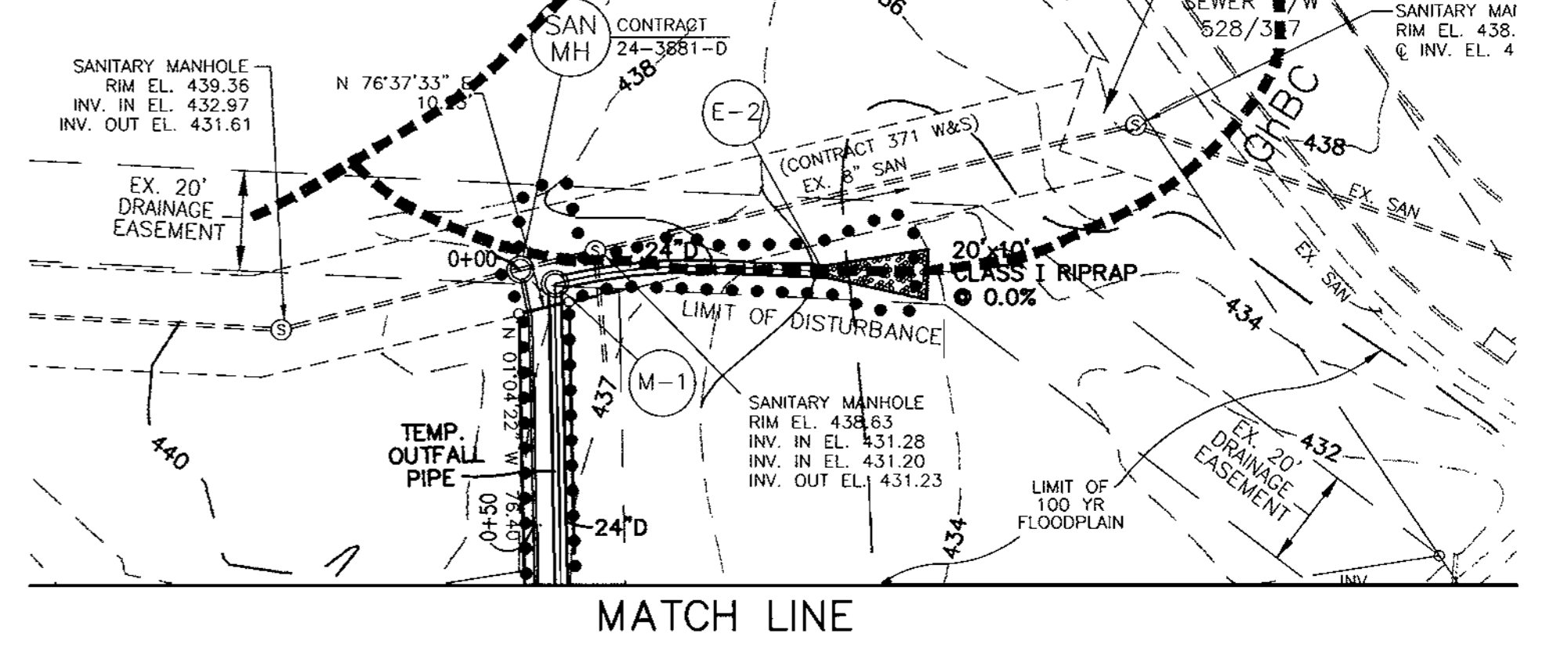
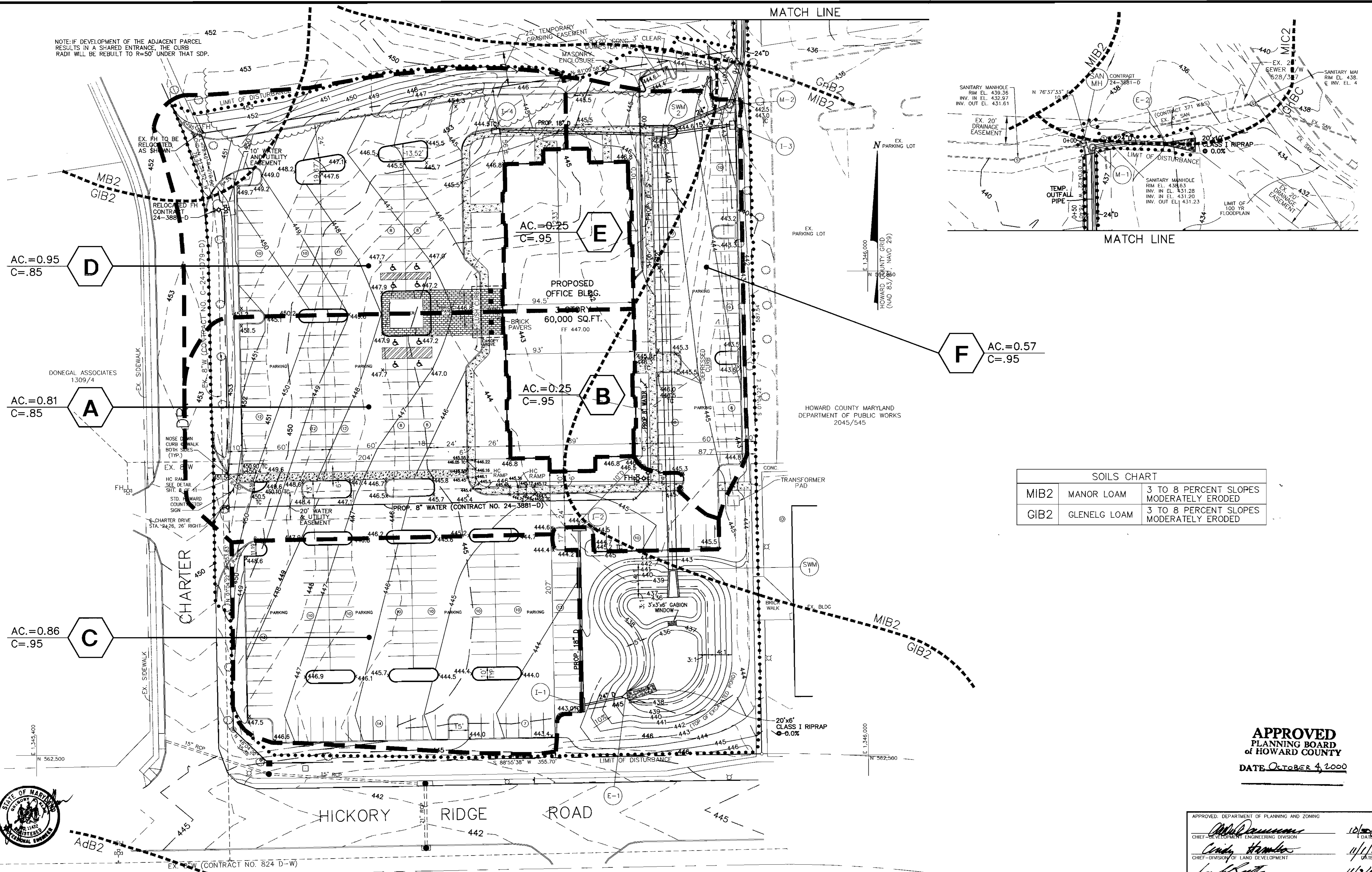
DATE	REVISION	BY	APP'R.

PREPARED FOR:
AEQUUS LLC
3414 OLANDWOOD COURT
OLNEY, MARYLAND 20832
(301) 774-2529

COVER SHEET			SCALE	ZONING	C.E.I. FILE No.
AEQUUS MEDICAL OFFICE BUILDING			AS SHOWN	NT-ECC	20066.00
TOWN CENTER SECTION 8 AREA 4			DATE	TAX MAP No.	SHEET
5TH ELECTION DISTRICT			SEPT., 2000	35	1 OF 11
HOWARD COUNTY, MARYLAND					

NOTE: IF DEVELOPMENT OF THE ADJACENT PARCEL RESULTS IN A SHARED ENTRANCE, THE CURB RADII WILL BE REBUILT TO R=50' UNDER THAT SDP.

MATCH LINE



HOWARD COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
2045/545

SOILS CHART		
MIB2	MANOR LOAM	3 TO 8 PERCENT SLOPES MODERATELY ERODED
GIB2	GLENELG LOAM	3 TO 8 PERCENT SLOPES MODERATELY ERODED

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE OCTOBER 4, 2000



APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>[Signature]</i>	10/10/00	DATE
CHIEF-DEVELOPMENT ENGINEERING DIVISION		
<i>[Signature]</i>	11/1/00	DATE
CHIEF-DIVISION OF LAND DEVELOPMENT		
<i>[Signature]</i>	11/2/00	DATE
DIRECTOR		

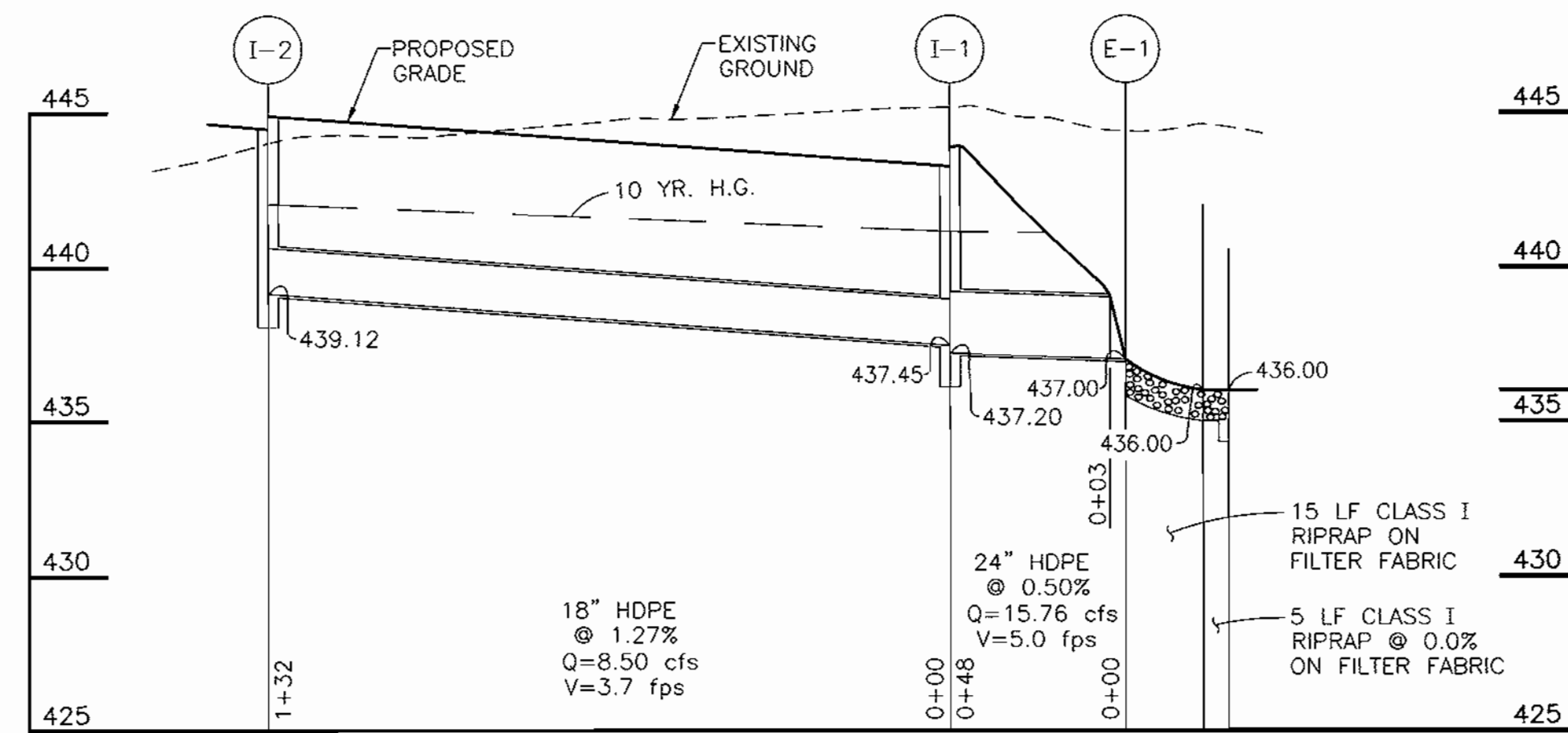
CENTURY ENGINEERING, INC.
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32 WEST ROAD
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(410) 823-8070

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3414 OLANWOOD COURT
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(301) 774-2529

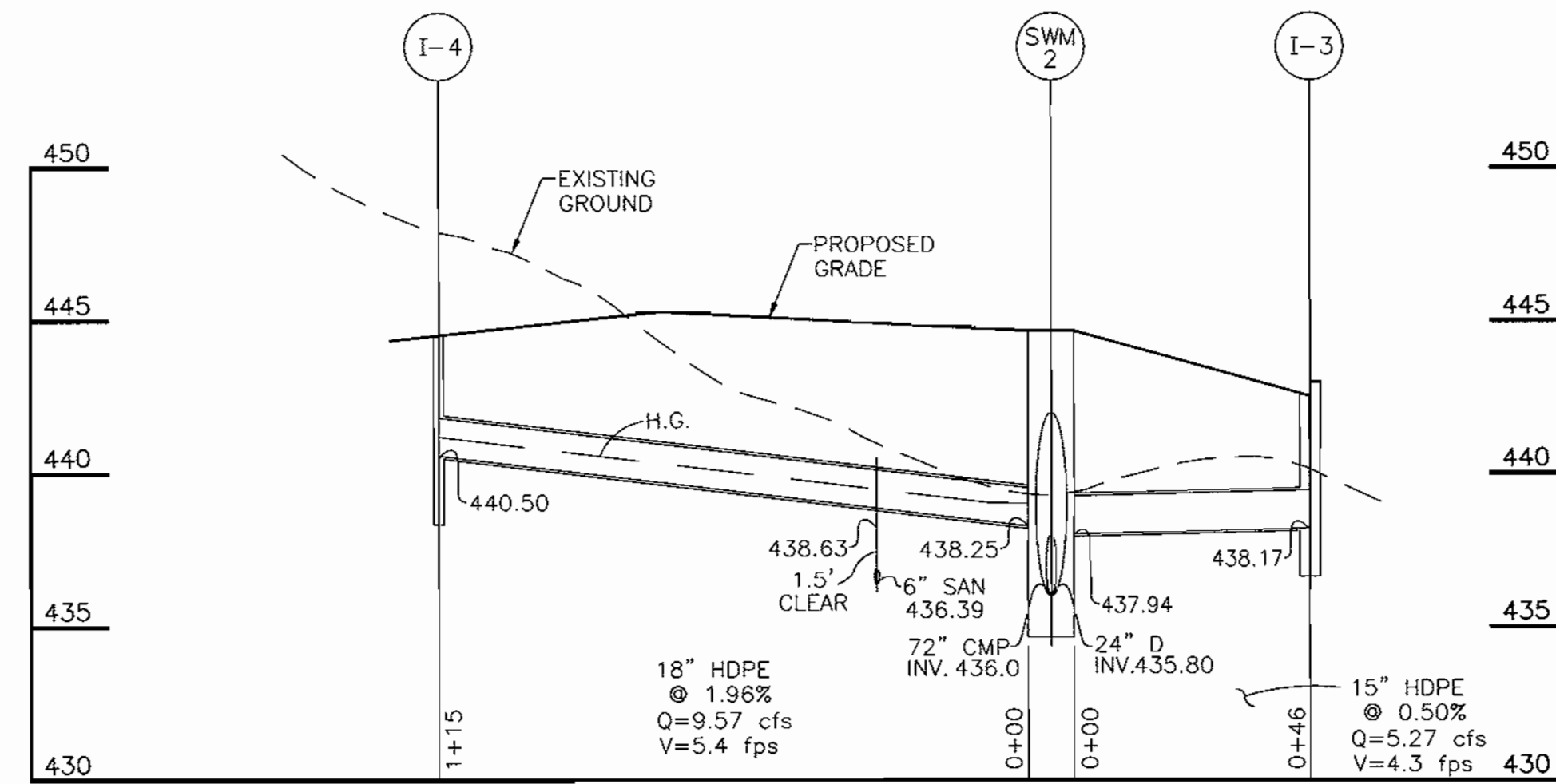
DRAINAGE AREA MAP
AEQUUS MEDICAL OFFICE BUILDING
TOWN CENTER SECTION 8 AREA 4
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1"=30'	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	3 OF 11



STORM DRAIN PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

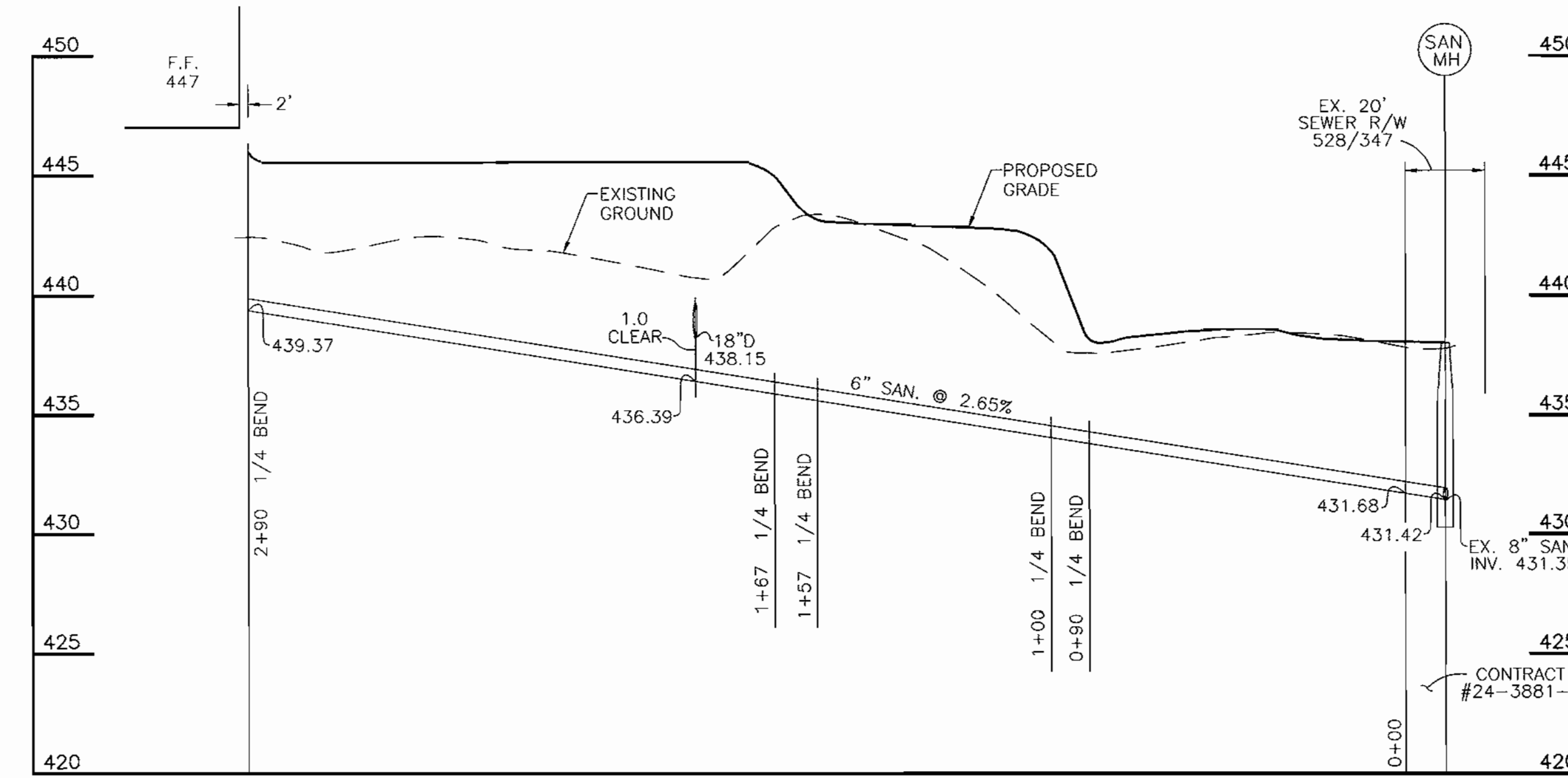


STORM DRAIN PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

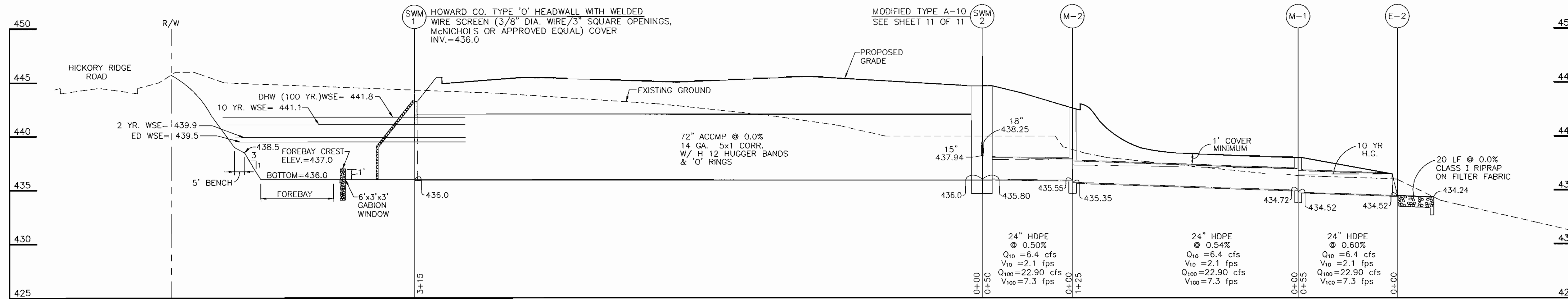
STRUCTURE SCHEDULE					
NO.	TYPE	ELEVATION	STD. DETAIL	LOCATION	REMARKS
I-1	A-10	443.00 GRATE ELEV.	SD4.02	SEE PLAN	
I-2	A-10	444.40 GRATE ELEV.	SD4.02	SEE PLAN	
I-3	DBL.'S	442.50 GRATE ELEV.	SD4.23	SEE PLAN	
I-4	A-10	444.50 GRATE ELEV.	SD4.02	SEE PLAN	
M-1	STD. MANHOLE	TOP ELEV. 438.0	C5.12	SEE PLAN	
M-2	STD. MANHOLE	TOP ELEV. 442.0	C5.12	SEE PLAN	
SWM 1	STD. '0' HEADWALL	INVERT ELEV. 436.00	HOWARD CO. SD5.41-A	SEE PLAN	
SWM 2	MODIFIED A-10	TOP ELEV. 444.50	SD4.02	SEE DETAIL SHT. 11 OF 11	
E-1	24" FLARED END SECTION	INV. ELEV. 437.00		SEE PLAN	
E-2	24" FLARED END SECTION	INV. ELEV. 434.30		SEE PLAN	

PIPE SCHEDULE			
TYPE & SIZE	CLASS	QUANTITY	REMARKS
15" HDPE		46 LF	
18" HDPE		247 LF	
24" HDPE		278 LF	
72" ACCMP		315 LF	



SANITARY SEWER PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



STORM DRAIN PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: Oct 4, 2000

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 11/1/00
 [Signature] DATE: 11/2/00



CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS
 32 WEST ROAD
 TOWSON, MARYLAND 21204
 (410) 823-8070

DATE	REVISION	BY	APP'R.

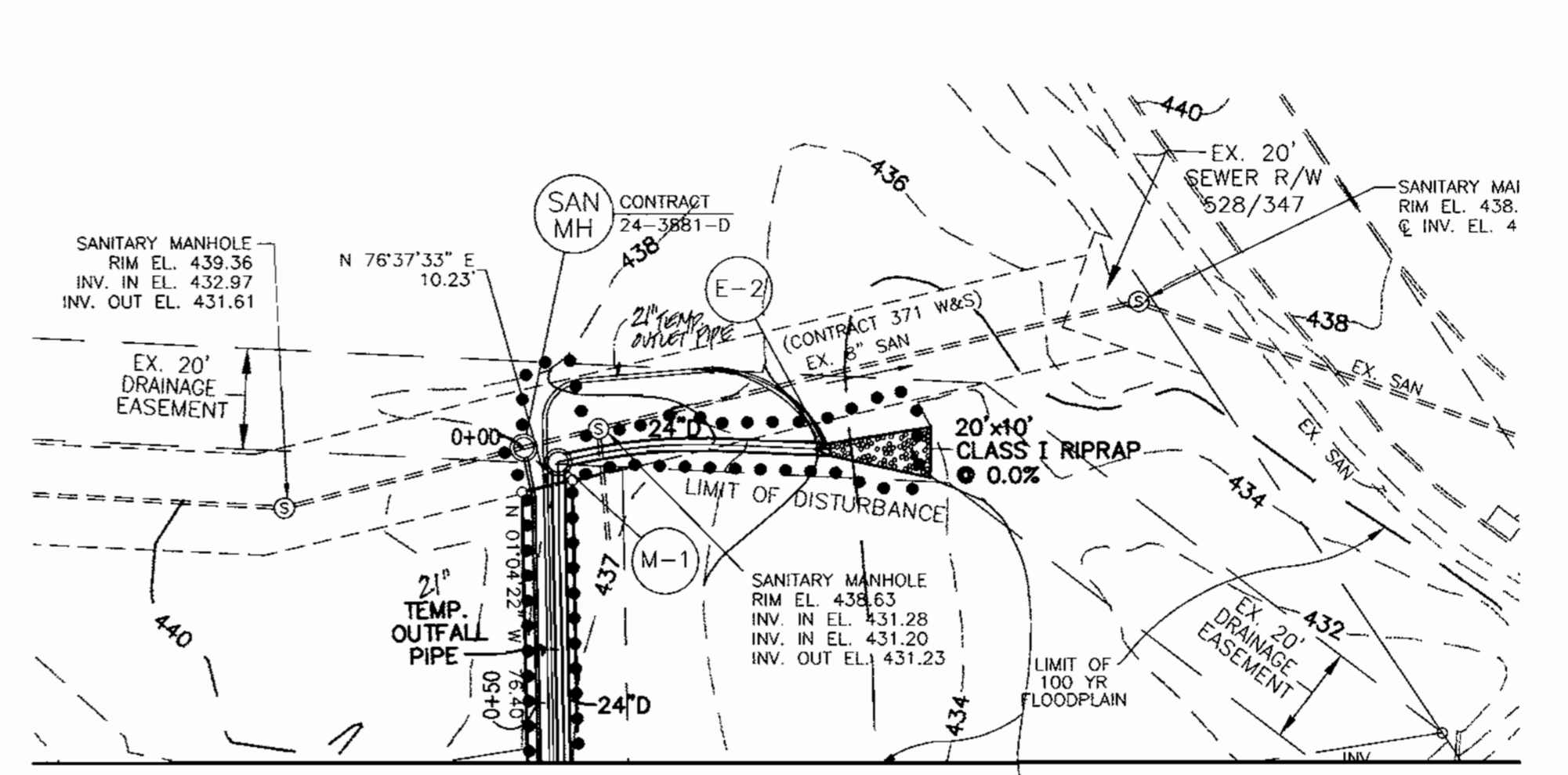
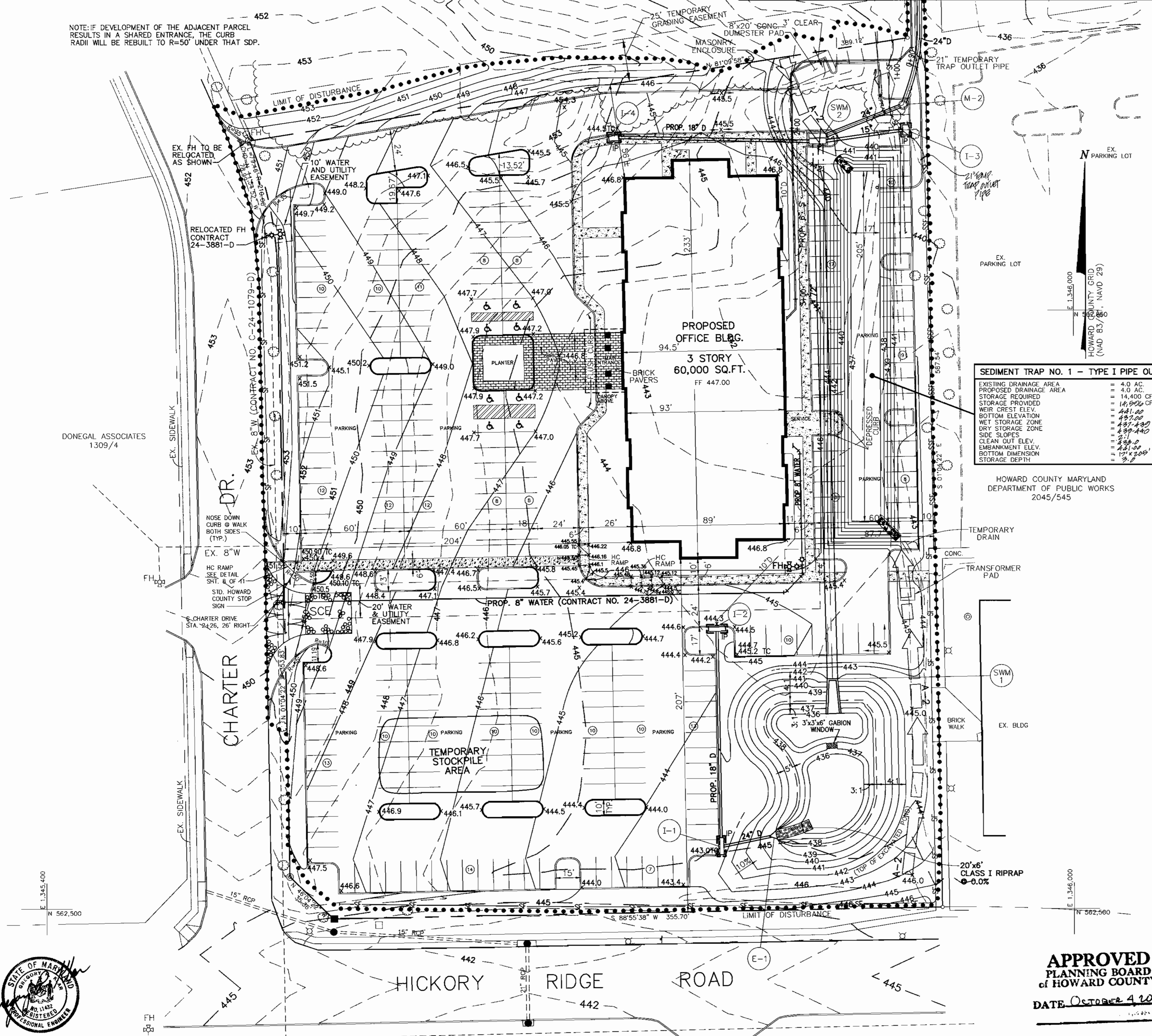
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 OLNEY, MARYLAND 20832
 (301) 774-2529

UTILITY PROFILES
AEQUUS MEDICAL OFFICE BUILDING
 TOWN CENTER SECTION 8 AREA 4
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	4 OF 11

MATCH LINE

NOTE: IF DEVELOPMENT OF THE ADJACENT PARCEL RESULTS IN A SHARED ENTRANCE, THE CURB RADIUS WILL BE REBUILT TO R=50' UNDER THAT SDP.



SEDIMENT TRAP NO. 1 - TYPE I PIPE OUTLET

EXISTING DRAINAGE AREA	4.0 AC
PROPOSED DRAINAGE AREA	4.0 AC
STORAGE REQUIRED	14,400 CF
STORAGE PROVIDED	14,900 CF
WEIR CREST ELEV.	441.00
BOTTOM ELEVATION	437.00
WET STORAGE ZONE	437.00
DRY STORAGE ZONE	439.40
SIDE SLOPES	3:1
CLEAN OUT ELEV.	448.0
EMBANKMENT ELEV.	451.00
BOTTOM DIMENSION	10' x 20'
STORAGE DEPTH	3' 0"

HOWARD COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
2045/545

LEGEND

- 440 --- EX. CONTOUR
- 440 --- PROP. CONTOUR
- SF SILT FENCE
- SSF SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- [Symbol] STABILIZED CONSTRUCTION ENTRANCE
- [Symbol] EARTH DIKE

DISTURBED AREA = 196,020 SF (4.5 Ac±)

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.

Gregory R. Shaw 10/12/00
SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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 SOIL CONSERVATION DISTRICT.

Charles F. Moss 10/11/2000
SIGNATURE OF DEVELOPER DATE

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

J. H. Warfield 10/23/00
U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

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

John R. Robustro 10/23/00
HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

William J. ... 10/20/00
CHIEF-DEVELOPMENT ENGINEERING DIVISION DATE

Clayton ... 11/1/00
CHIEF-DIVISION OF LAND DEVELOPMENT DATE

... 11/2/00
DIRECTOR DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE October 4, 2000

ULTIMATE GRADING
DETAIL
1" = 30'



CENTURY ENGINEERING, INC.
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(410) 823-8070

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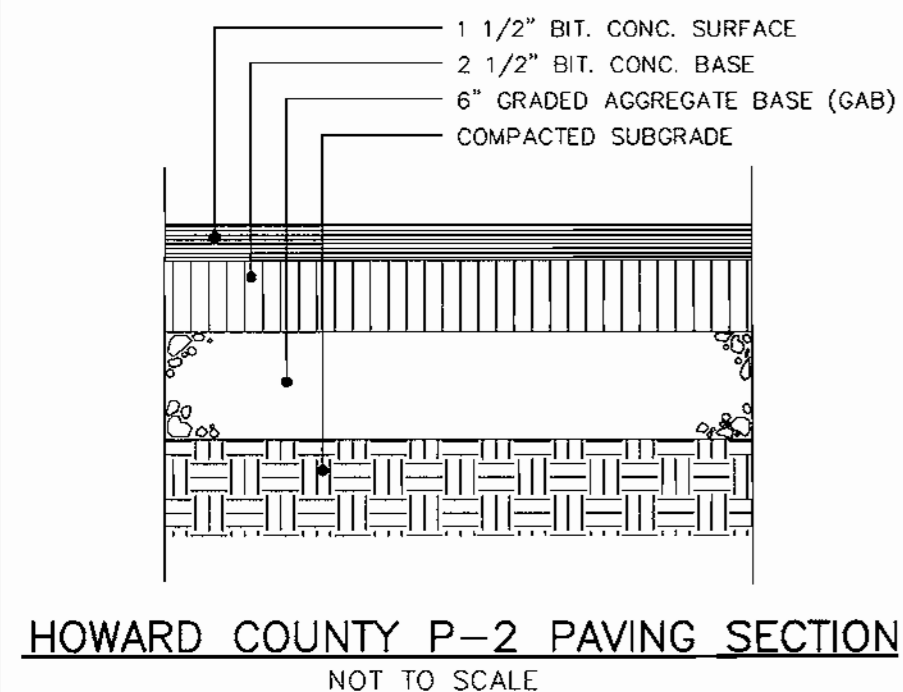
PREPARED FOR:
AEQUUS LLC
3414 OLANWOOD COURT
OLNEY, MARYLAND 20832
(301) 774-2529

SEDIMENT CONTROL PLAN
AEQUUS MEDICAL OFFICE BUILDING
TOWN CENTER SECTION 8 AREA 4
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

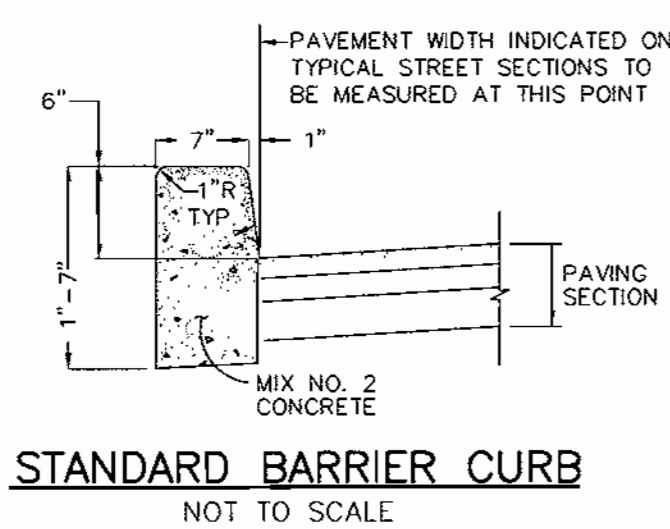
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1" = 30'	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	5 OF 11



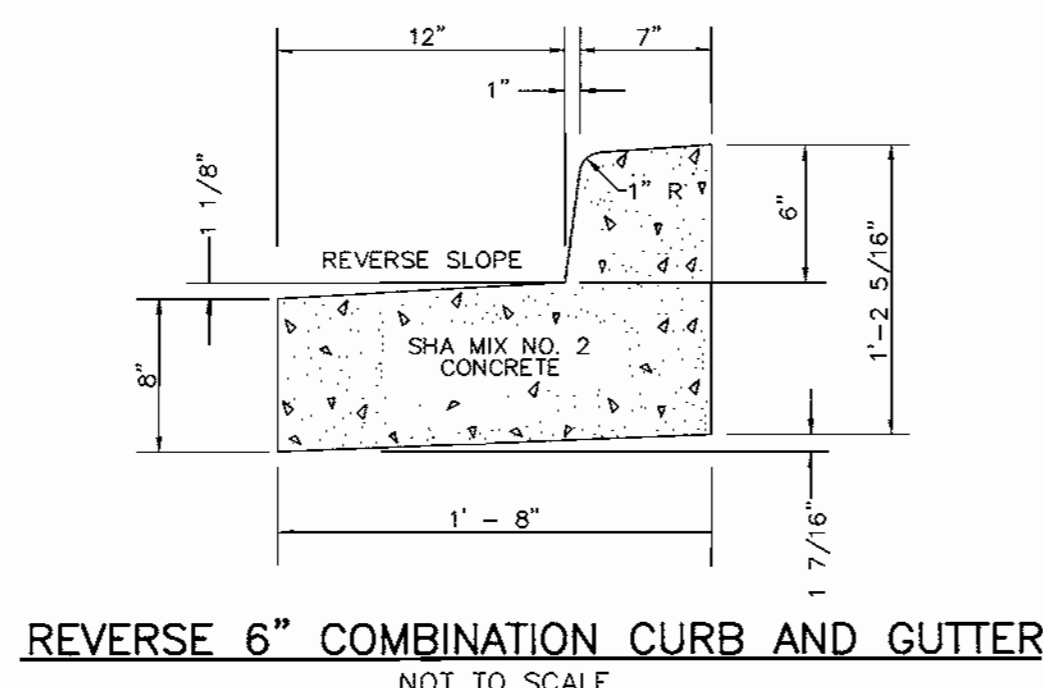
MAIN ENTRANCE ELEVATION
NOT TO SCALE



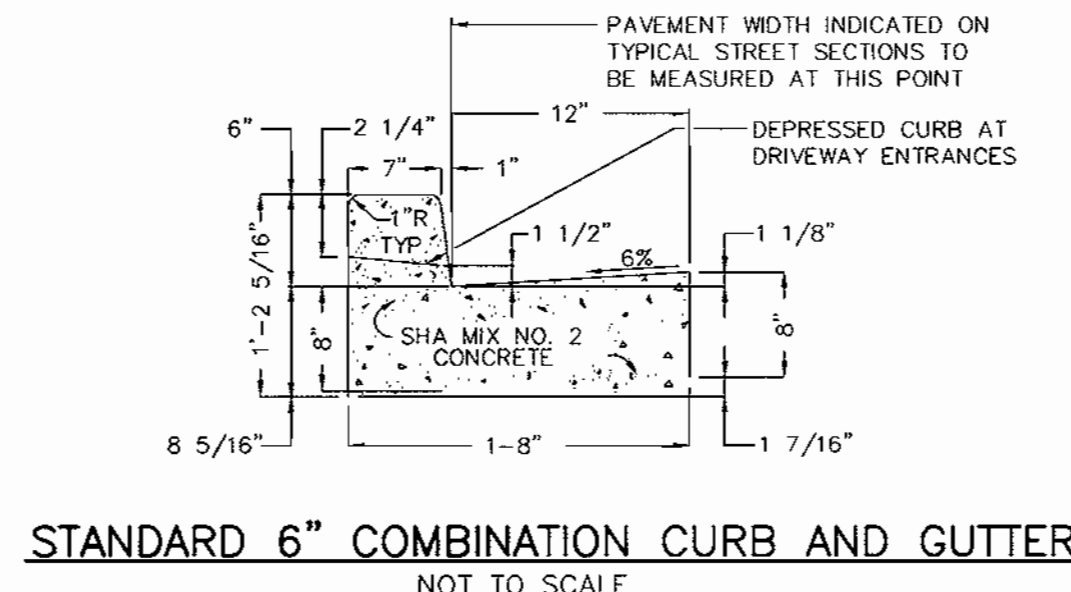
HOWARD COUNTY P-2 PAVING SECTION
NOT TO SCALE



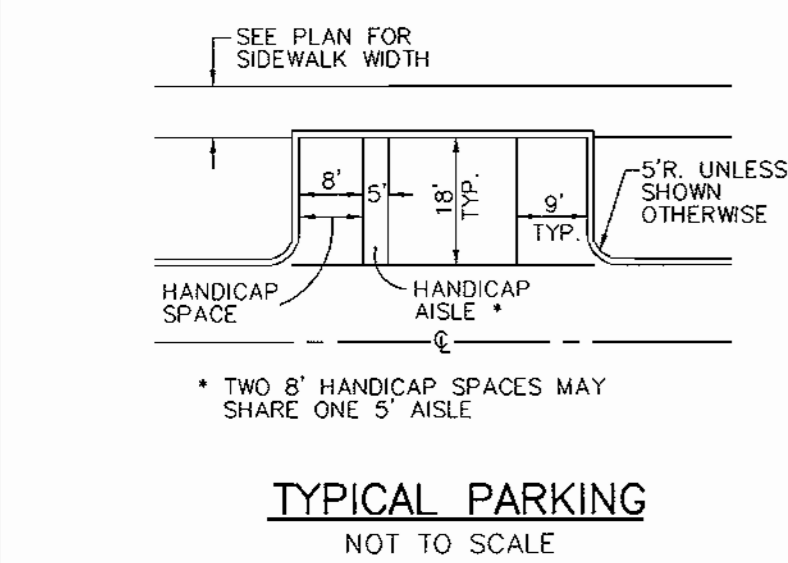
STANDARD BARRIER CURB
NOT TO SCALE



REVERSE 6" COMBINATION CURB AND GUTTER
NOT TO SCALE



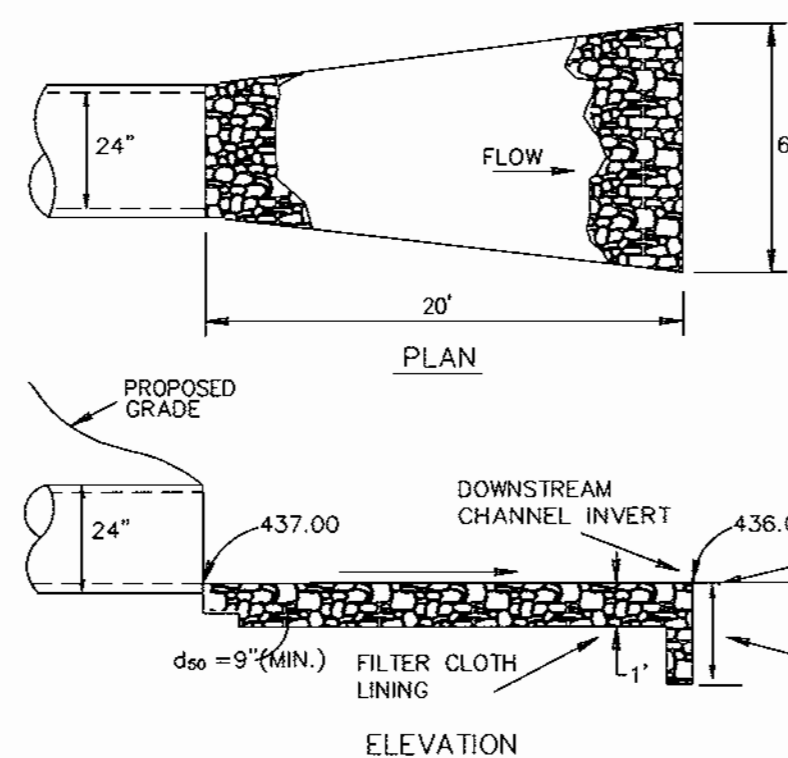
STANDARD 6" COMBINATION CURB AND GUTTER
NOT TO SCALE



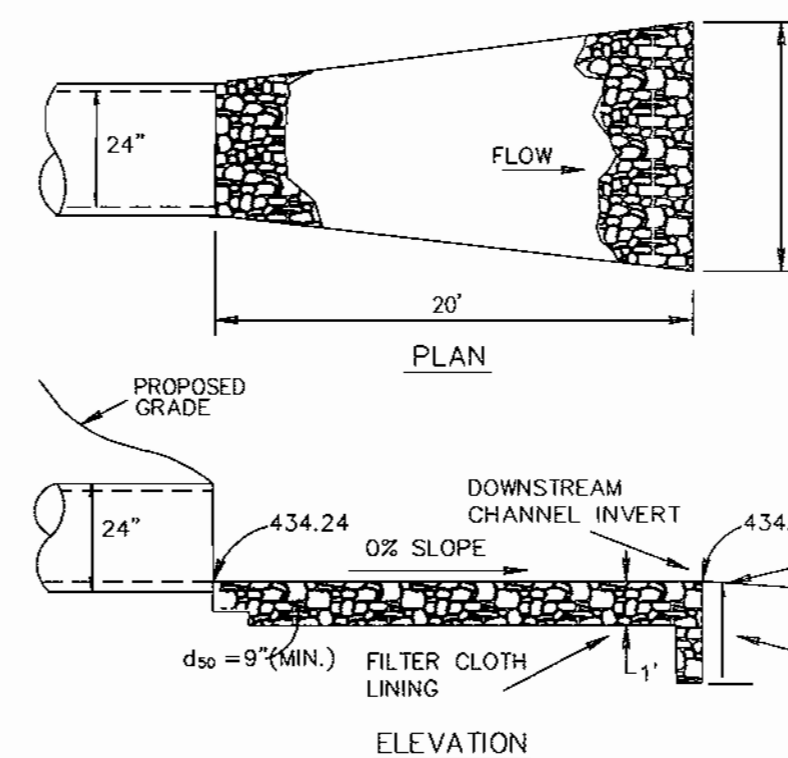
TYPICAL PARKING
NOT TO SCALE



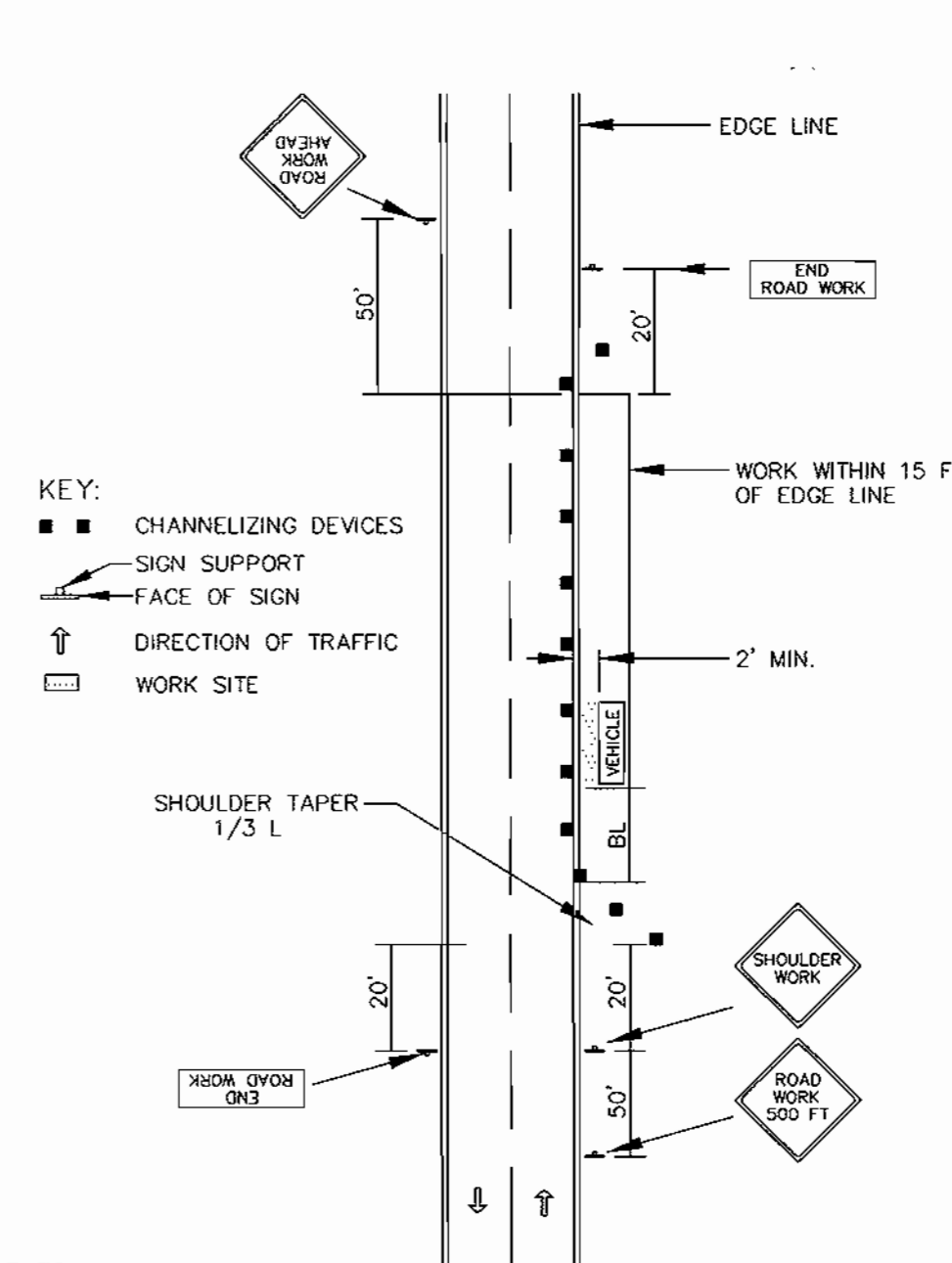
PARKING RESTRICTION SIGN FOR HANDICAPPED PARKING
NOT TO SCALE



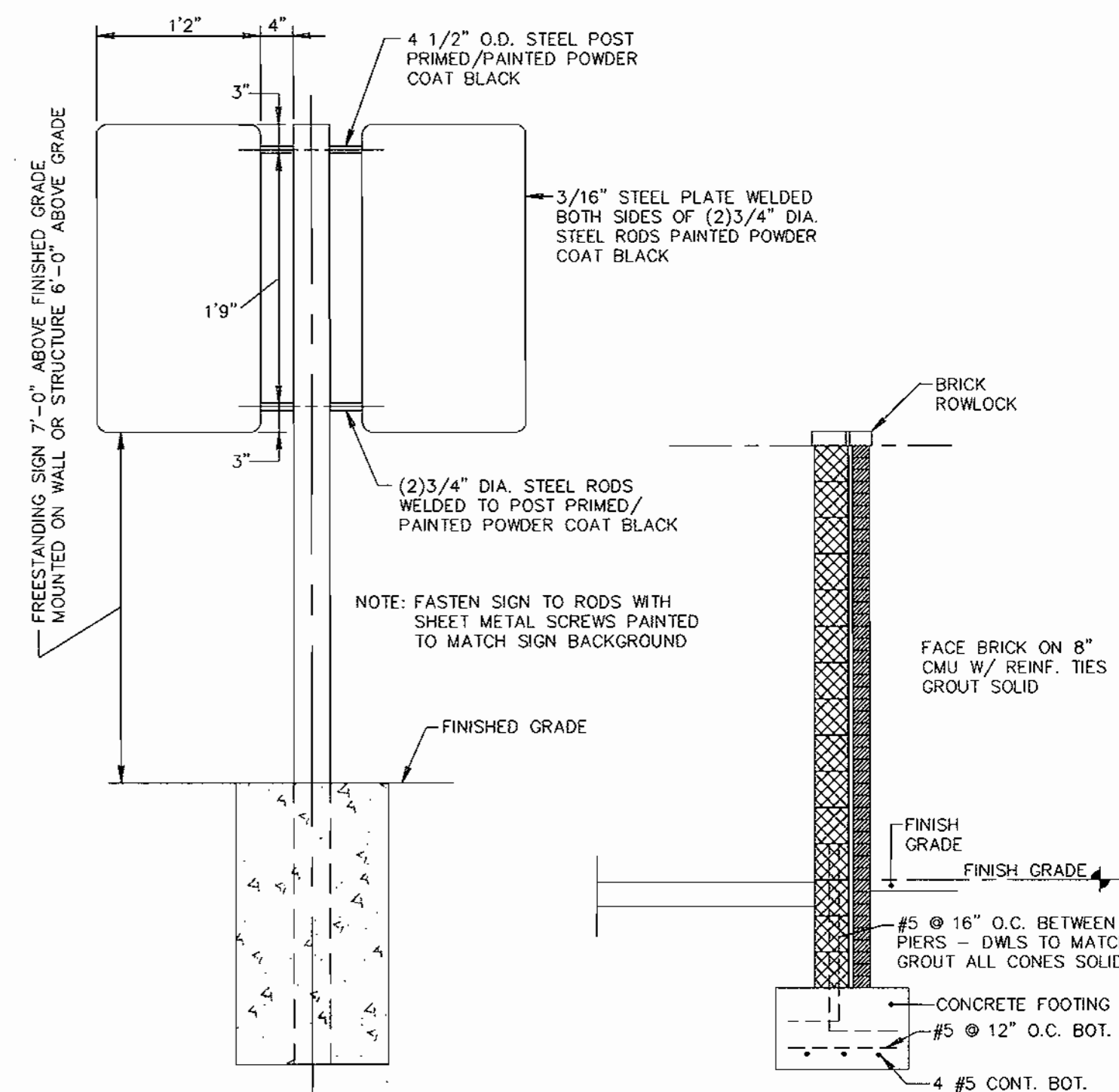
OUTFALL DETAIL - E-1
NOT TO SCALE



OUTFALL DETAIL - E-2
NOT TO SCALE

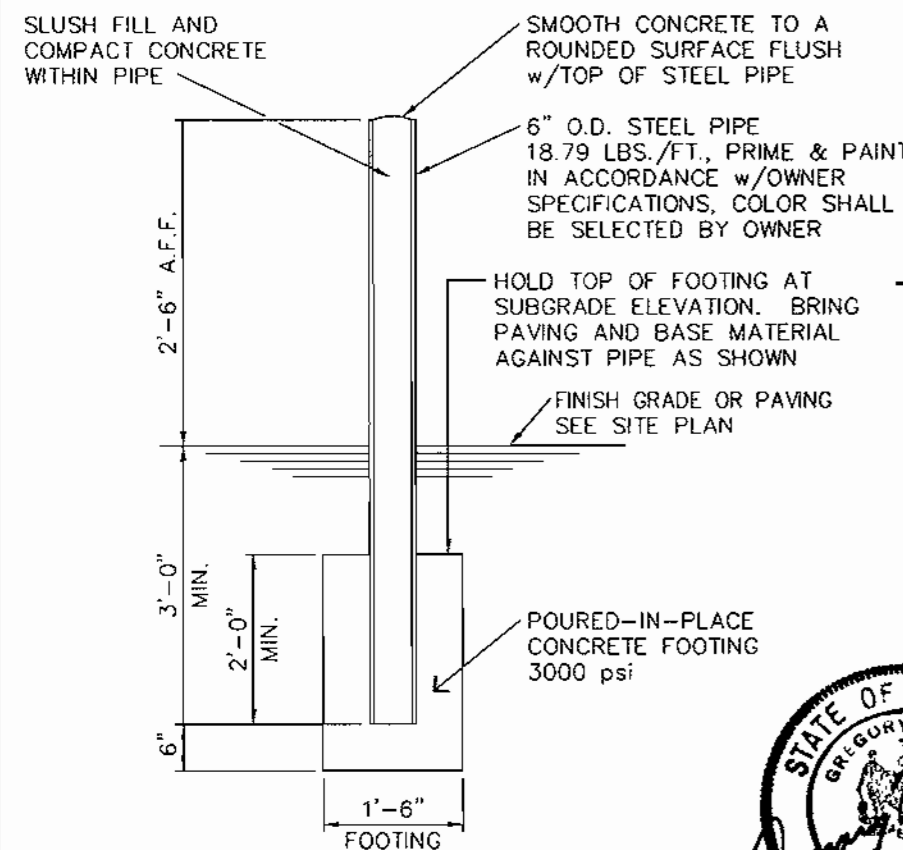


TEMPORARY TRAFFIC CONTROL TYPICAL DETAIL
NOT TO SCALE

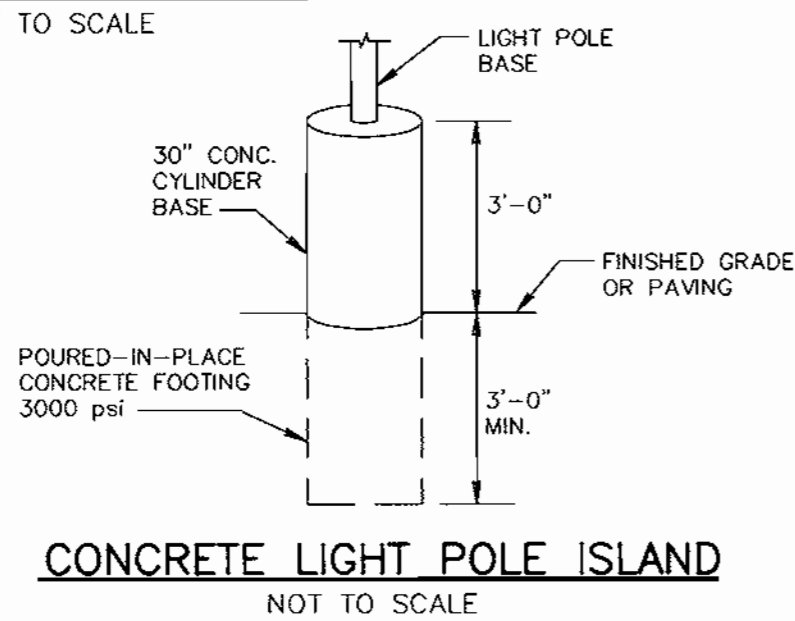


HANDICAPPED SIGN POST
NOT TO SCALE

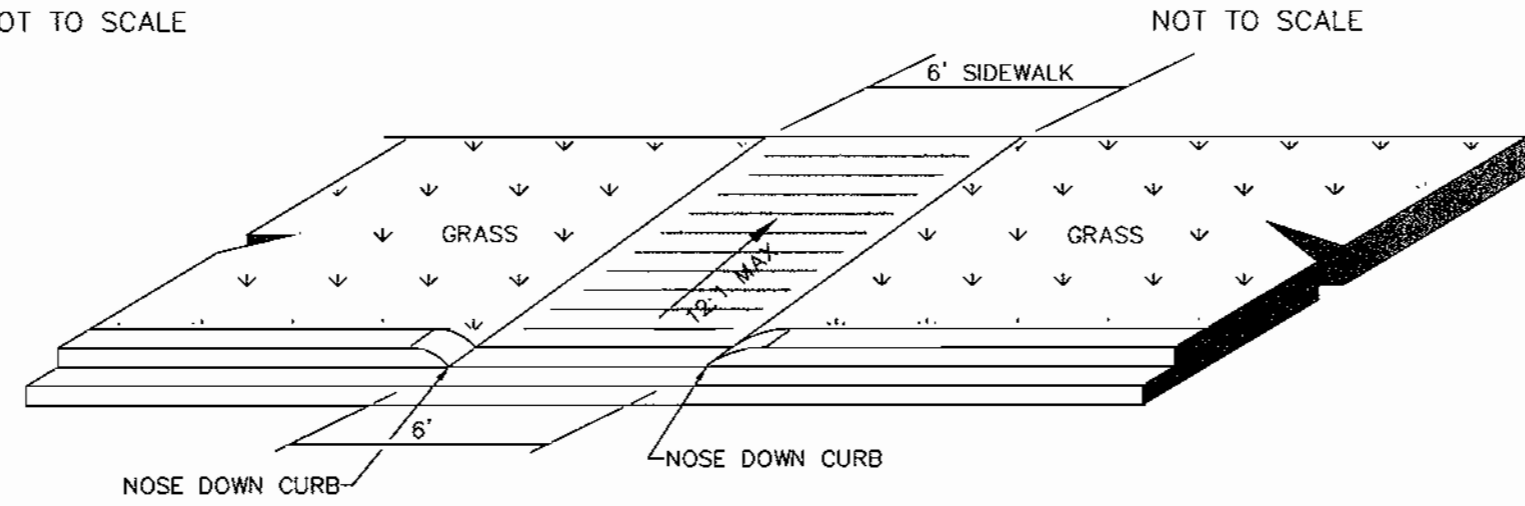
WALL DETAIL @ DUMPSTER PAD
NOT TO SCALE



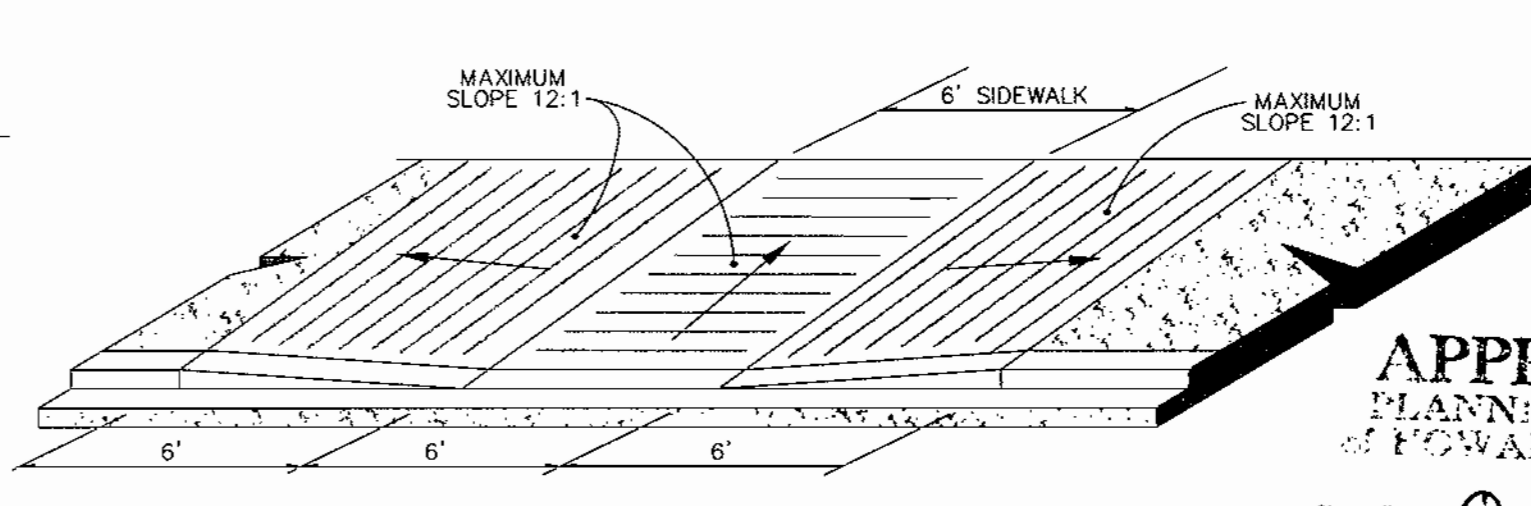
BOLLARD DETAIL
NOT TO SCALE



CONCRETE LIGHT POLE ISLAND
NOT TO SCALE



HANDICAP RAMP DETAIL
NOT TO SCALE



HANDICAP RAMP DETAIL
NOT TO SCALE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: Oct. 4, 2000

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 10/20/00
 [Signature] DATE: 11/11/00
 [Signature] DATE: 11/21/00

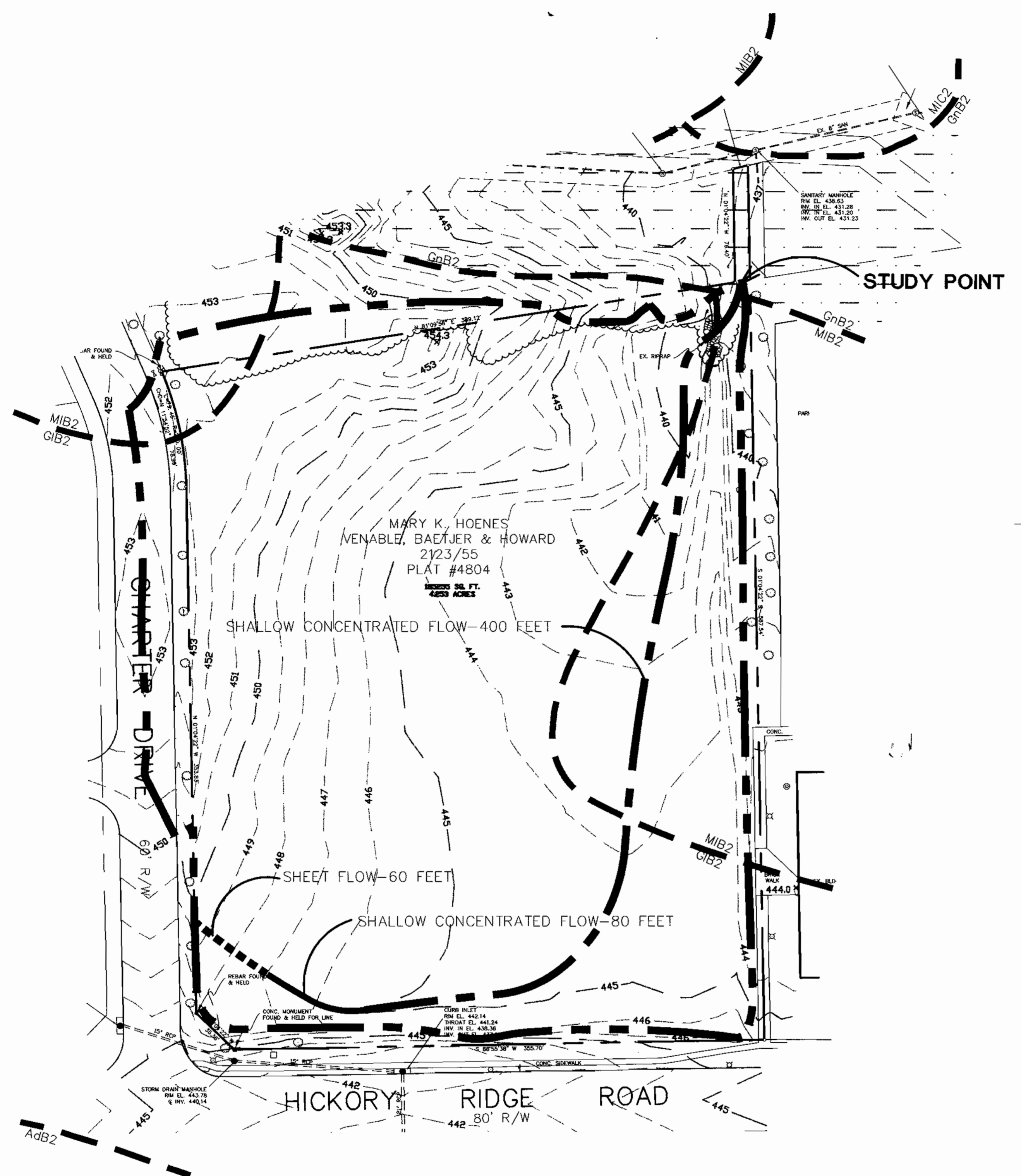
CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

DATE	REVISION	BY	APP'R.

PREPARED FOR:
AEQUUS LLC
3414 OLANDWOOD COURT
OLNEY, MARYLAND 20832
(301) 774-2529

AEQUUS MEDICAL OFFICE BUILDING
TOWN CENTER SECTION 8 AREA 4
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	8 OF 11



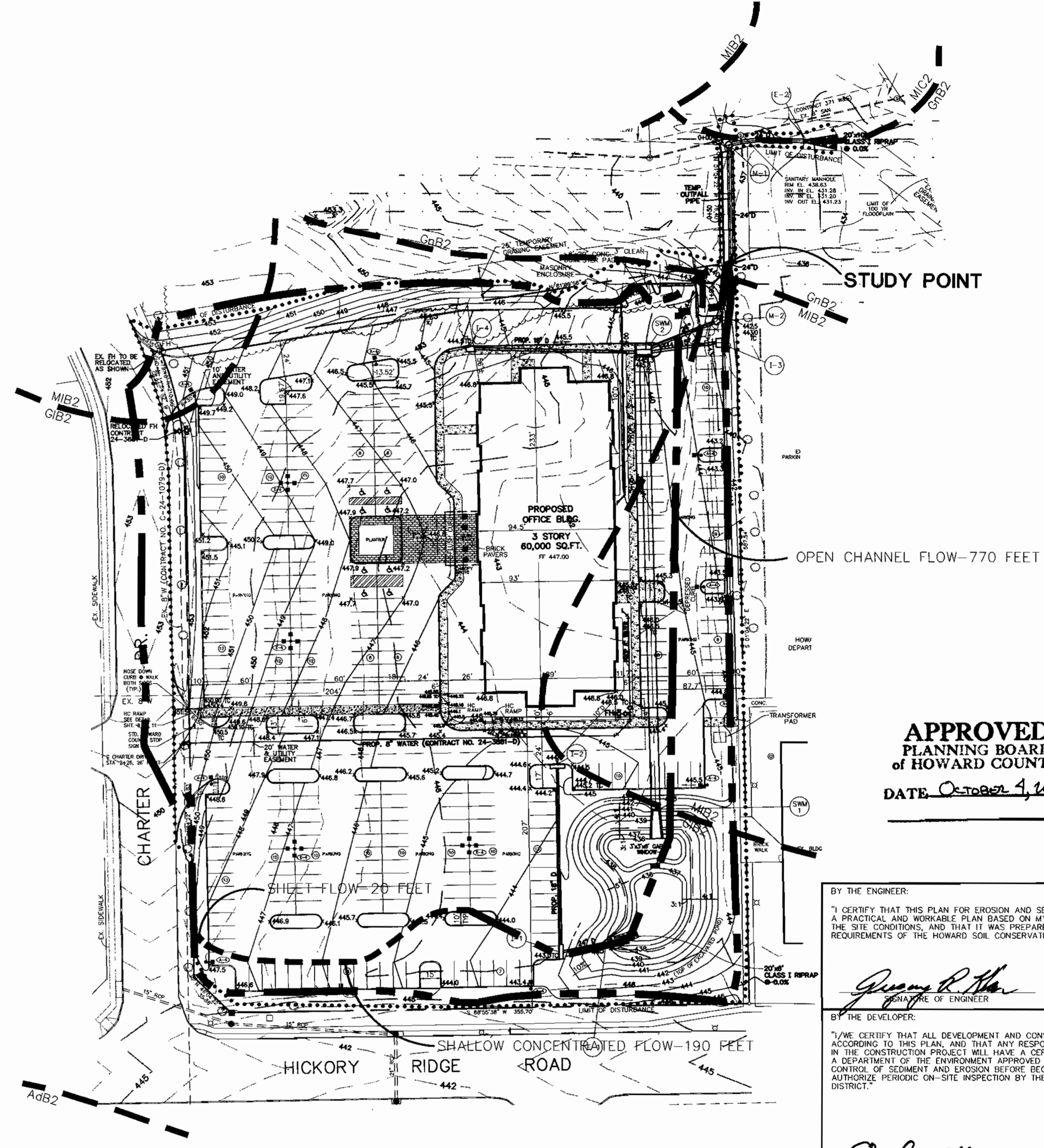
EXISTING DRAINAGE SUMMARY

FLOW CHARACTERISTICS
 DRAINAGE AREA = 4.25 ACRES
 NRCS RUNOFF CURVE NUMBER = 58
 TIME OF CONCENTRATION = 0.177 HR

DRAINAGE SUMMARY
 2-YEAR PEAK DISCHARGE = 1.2 CFS
 10-YEAR PEAK DISCHARGE = 6.4 CFS
 100-YEAR PEAK DISCHARGE = 14.1 CFS



SOILS GROUP "B"
 SOILS GROUP "C"



DEVELOPED DRAINAGE SUMMARY

FLOW CHARACTERISTICS
 DRAINAGE AREA = 4.25 ACRES
 NRCS RUNOFF CURVE NUMBER = 92
 TIME OF CONCENTRATION = 0.106 HR

DRAINAGE SUMMARY - UNMANAGED
 2-YEAR PEAK DISCHARGE = 14.2 CFS
 10-YEAR PEAK DISCHARGE = 24.5 CFS
 100-YEAR PEAK DISCHARGE = 35.3 CFS

DRAINAGE SUMMARY - MANAGED
 2-YEAR PEAK DISCHARGE = 1.1 CFS
 10-YEAR PEAK DISCHARGE = 6.4 CFS
 100-YEAR PEAK DISCHARGE = 22.9 CFS

**APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY**
 DATE October 4, 2000

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.
James R. Har 11/2/00
 SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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 SOIL CONSERVATION DISTRICT.
Charles F. Mass 10/11/2000
 SIGNATURE OF DEVELOPER DATE

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

J. H. Warfield 10/23/00
 U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

John R. Robertson 10/23/00
 HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Charles J. ... 10/27/00
 CHIEF-DEVELOPMENT ENGINEERING DIVISION DATE

Wendy ... 11/1/00
 CHIEF-DIVISION LAND DEVELOPMENT DATE

Luks ... 11/2/00
 DIRECTOR DATE



CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS
 32 WEST ROAD
 TOWSON, MARYLAND 21204
 (410) 823-8070

DATE	REVISION	BY	APP'R.

STORMWATER MANAGEMENT DRAINAGE STUDY
AEQUUS MEDICAL OFFICE BUILDING
 TOWN CENTER SECTION 8 AREA 4
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1" = 50'	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	10 OF 11

CONSTRUCTION SPECIFICATIONS

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

Site Preparation

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

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

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

Earth Fill

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

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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

the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

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

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within R2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined

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

Pipe Conduits

All pipes shall be circular in cross section.

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

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

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A.

Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

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

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bondwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a

neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helicly corrugated pipe shall have either continuously welded seams or have lack seams with internal caulking or a neoprene bead.

4. 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.

5. Backfilling shall conform to "Structure Backfill".

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

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

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

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. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces

under the pipe are filled. Core shall be excavated to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

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. Backfilling shall conform to "Structure Backfill".

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

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

Concrete

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

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

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

Care of Water during Construction

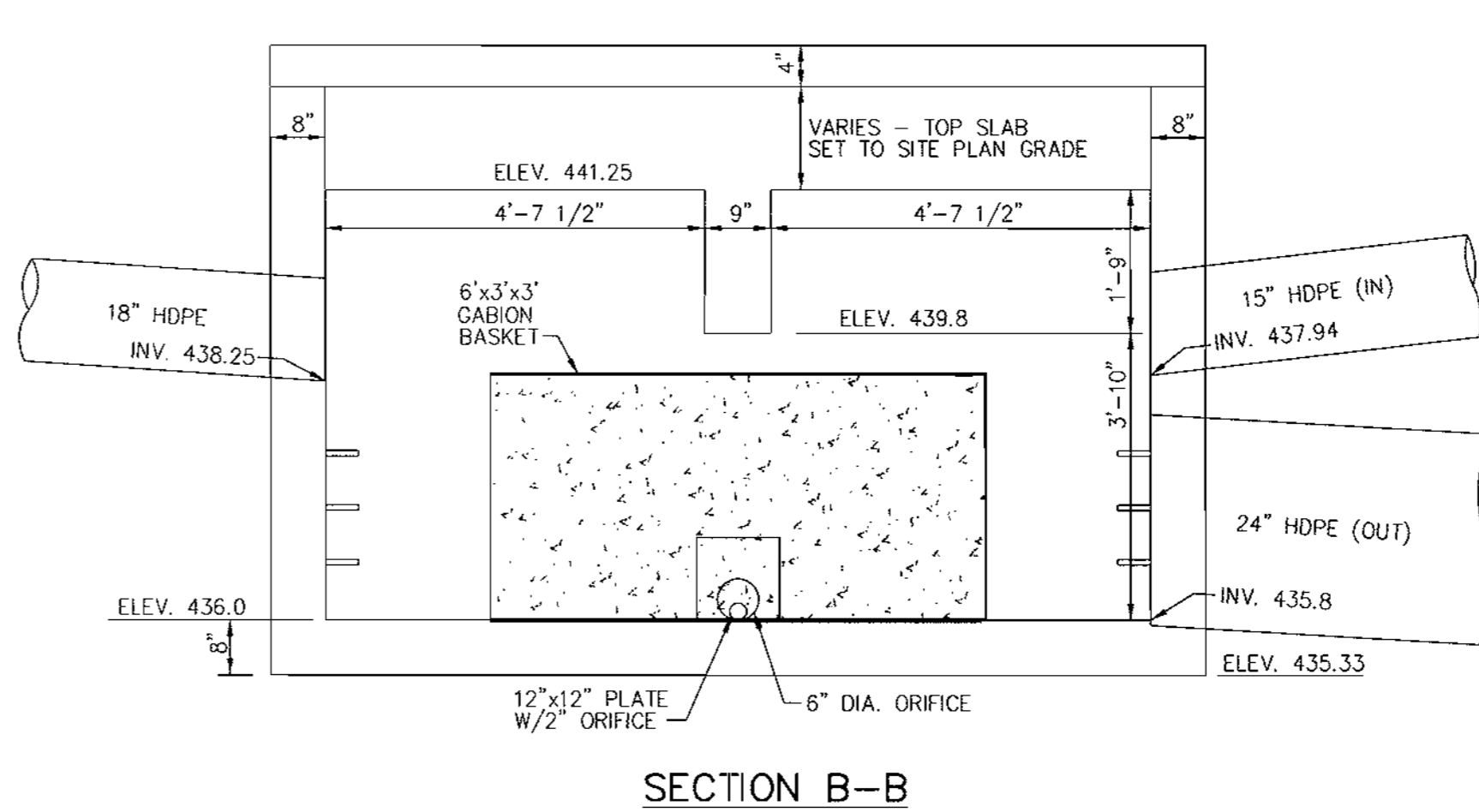
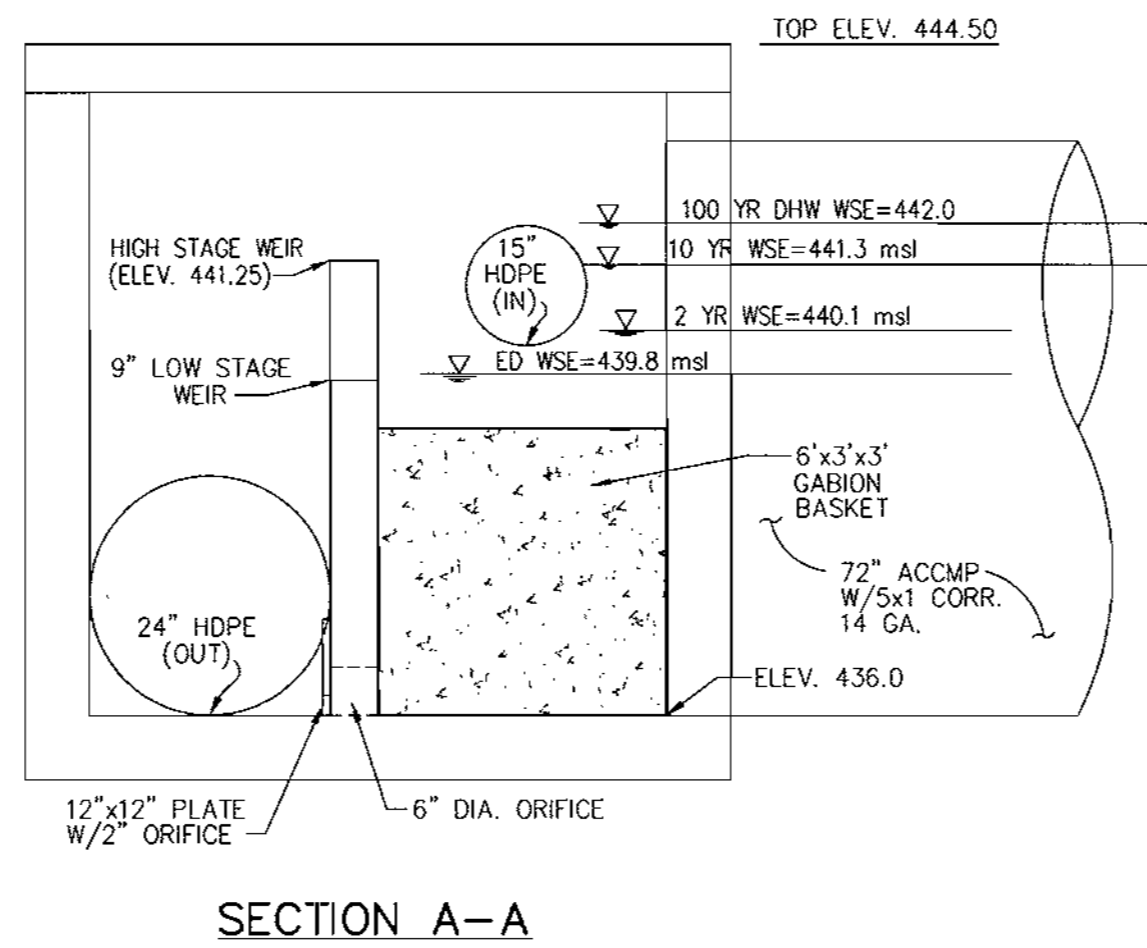
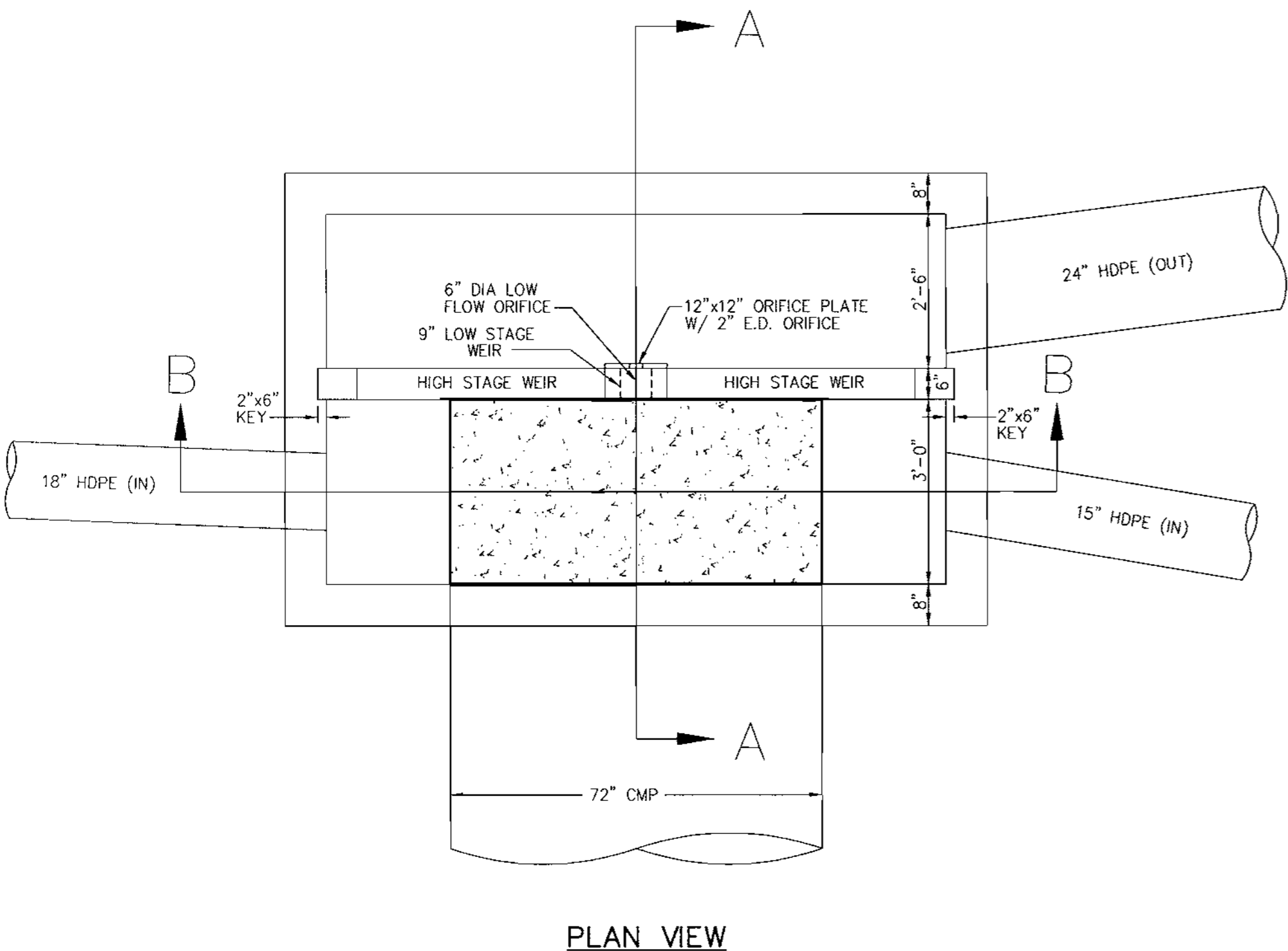
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also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

Stabilization

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

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures. Maintenance Schedule/requirements: The Stormwater Management Facility shall be maintained by the property owner as follows: 1. Removal of forebay silt shall occur when the accumulation exceeds four (4) inches. 2. Removal of accumulated paper, trash and debris as necessary. 3. Corrective maintenance is required any time the forebay does not drain completely within 60 hours. No standing water is allowed. 4. Annual inspection and repair of the structure and storage pipe. 5. Vegetation growing on the embankment top or faces is not allowed to exceed 18 inches at any time.



SWM-2 CONTROL STRUCTURE (MODIFIED TYPE 'A-10 INLET)
NO TO SCALE

A-10 INLET STRUCTURE MODIFICATIONS

1. USE POURED IN PLACE REINFORCED CONCRETE CONSTRUCTION OPTION PER HOWARD COUNTY STD. DETAIL SD 4.02. CONSTRUCT TO 6'-0"x10'-0" INSIDE WALL DIMENSIONS.
2. ELIMINATE ALL REFERENCES TO THROAT OPENING (DETAIL 'A')
3. CONSTRUCT 6" CONCRETE WEIR WALL AS SHOWN ON THIS SHEET.

APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE: OCTOBER 4, 2000

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.
Gregory R. Har 10-12-00
SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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 SOIL CONSERVATION DISTRICT.
Charles F. Mass 10/11/2000
SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.
J. L. Wayfield 10/23/00
U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

DEVELOPMENT PLAN IS AS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John Robertson 10/23/00
HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
William 10/30/00
CHIEF-DEVELOPMENT ENGINEERING DIVISION DATE

Andy 11/1/00
CHIEF-DIVISION OF LAND DEVELOPMENT DATE

John 11/2/00
REGOR DATE



CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

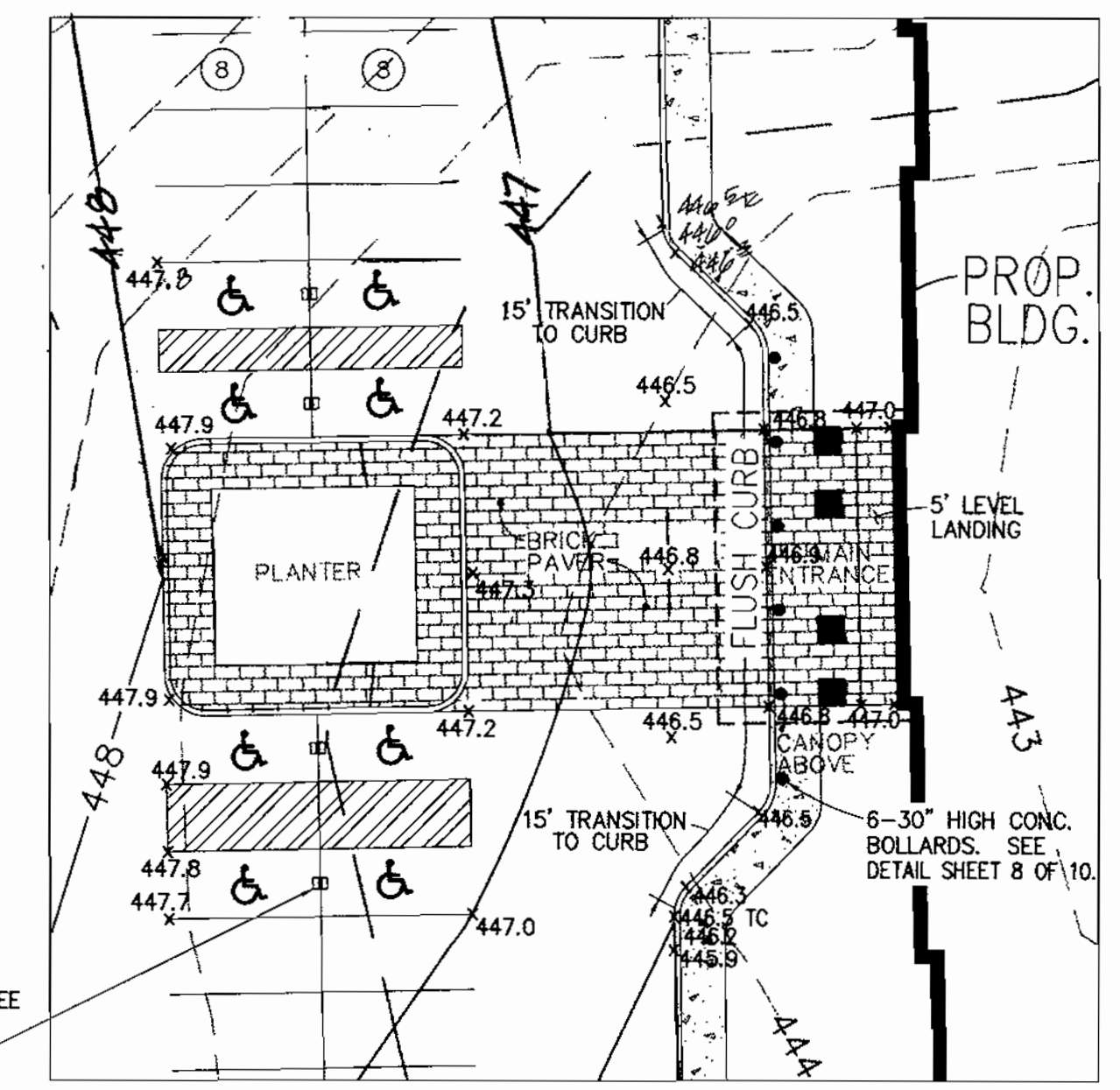
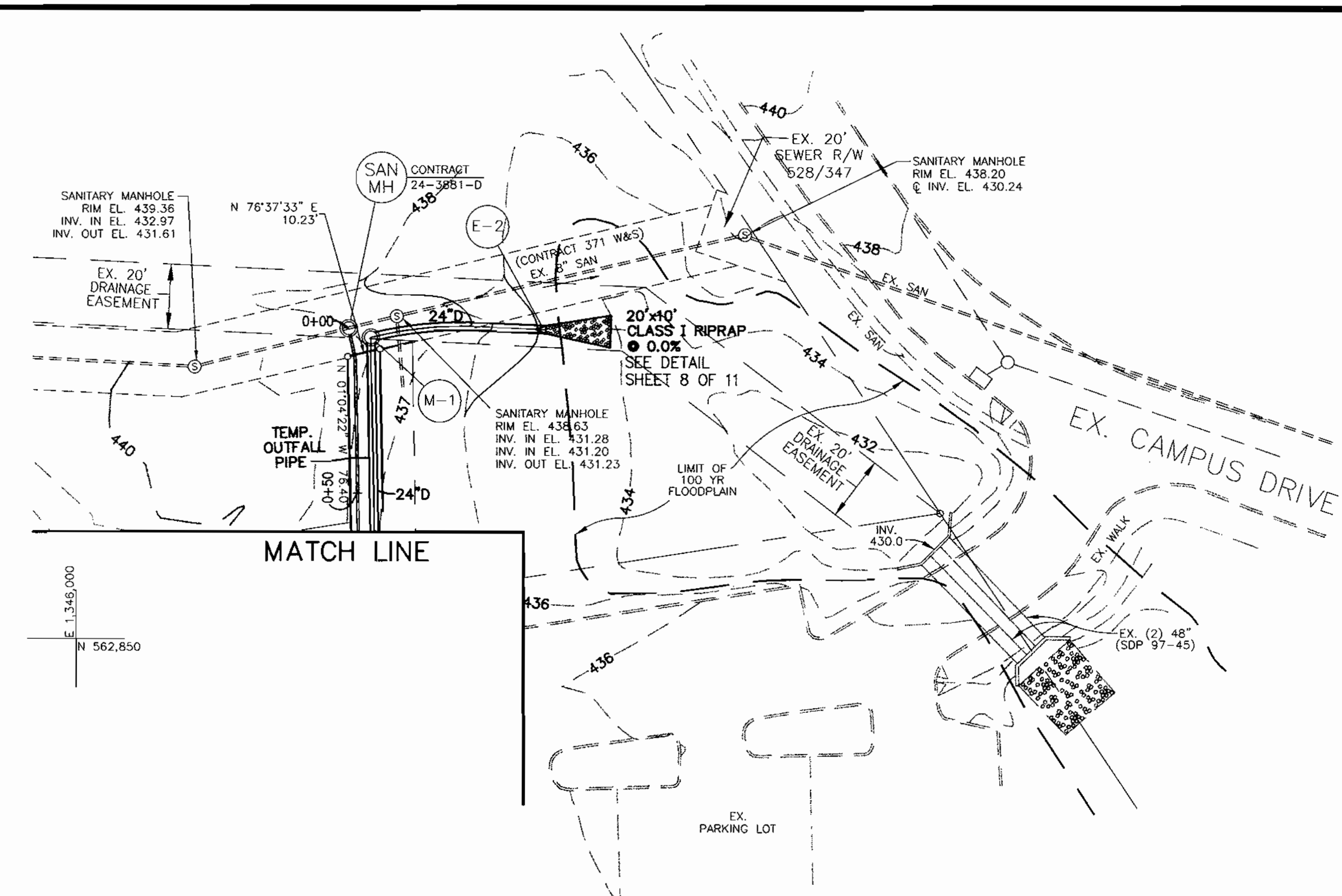
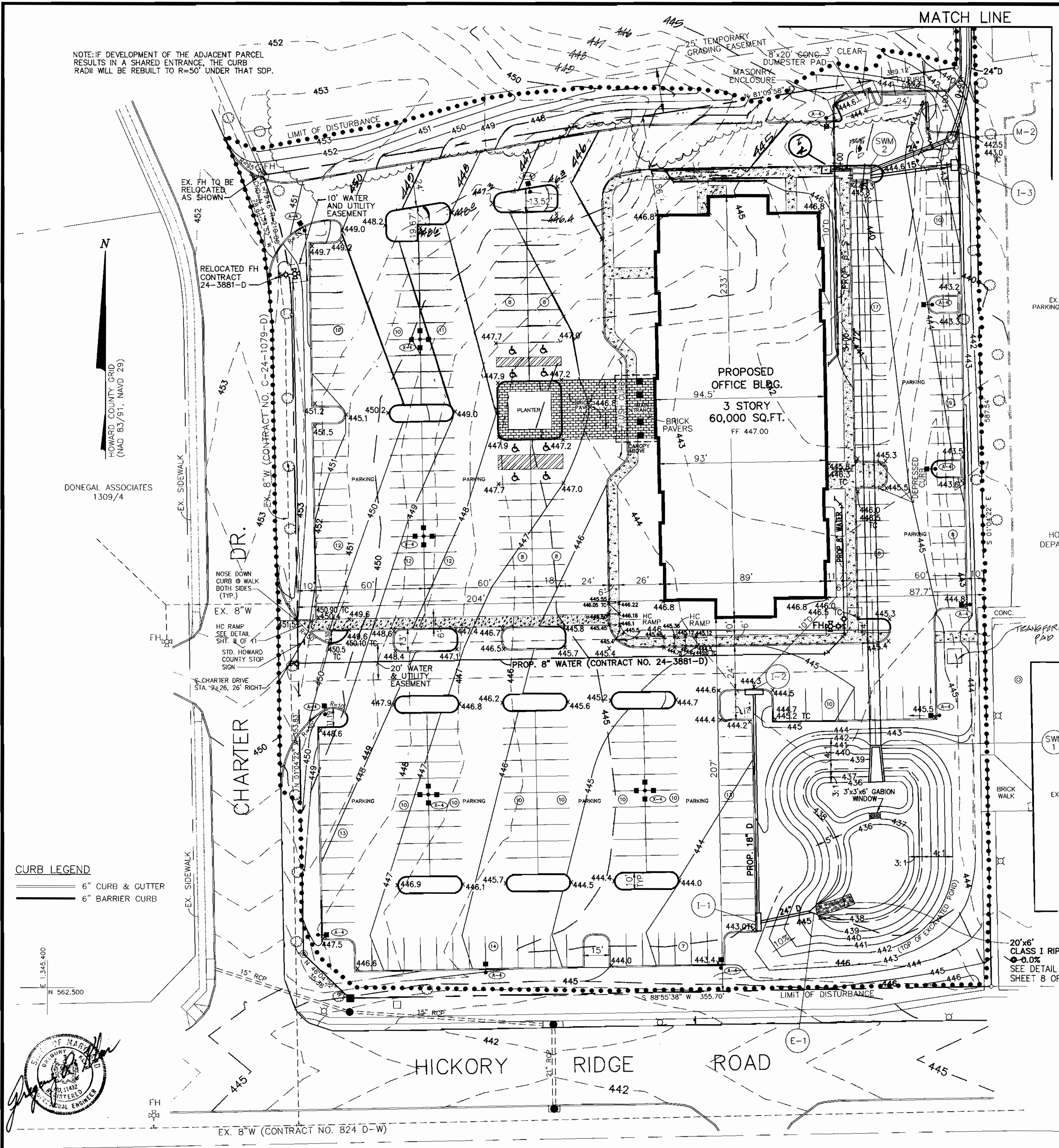
DATE	REVISION	BY	APP'R.

PREPARED FOR:
AEQUUS LLC
3414 OLANWOOD COURT
OLNEY, MARYLAND 20832
(301) 774-2529

STORMWATER MANAGEMENT NOTES AND DETAILS
AEQUUS MEDICAL OFFICE BUILDING
TOWN CENTER SECTION 8 AREA 4
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	11 OF 11

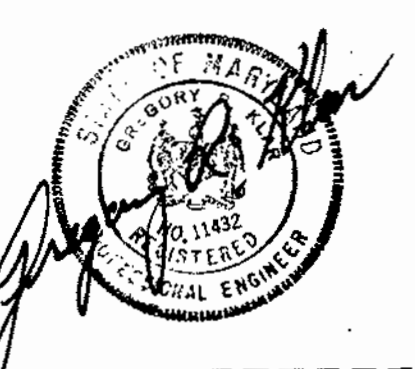
NOTE: IF DEVELOPMENT OF THE ADJACENT PARCEL RESULTS IN A SHARED ENTRANCE, THE CURB RADIUS WILL BE REBUILT TO R=50' UNDER THAT SDP.



MAIN ENTRANCE DETAIL
1"=20'

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE OCTOBER 4, 2000

CURB LEGEND
6" CURB & GUTTER
6" BARRIER CURB



CENTURY ENGINEERING, INC.
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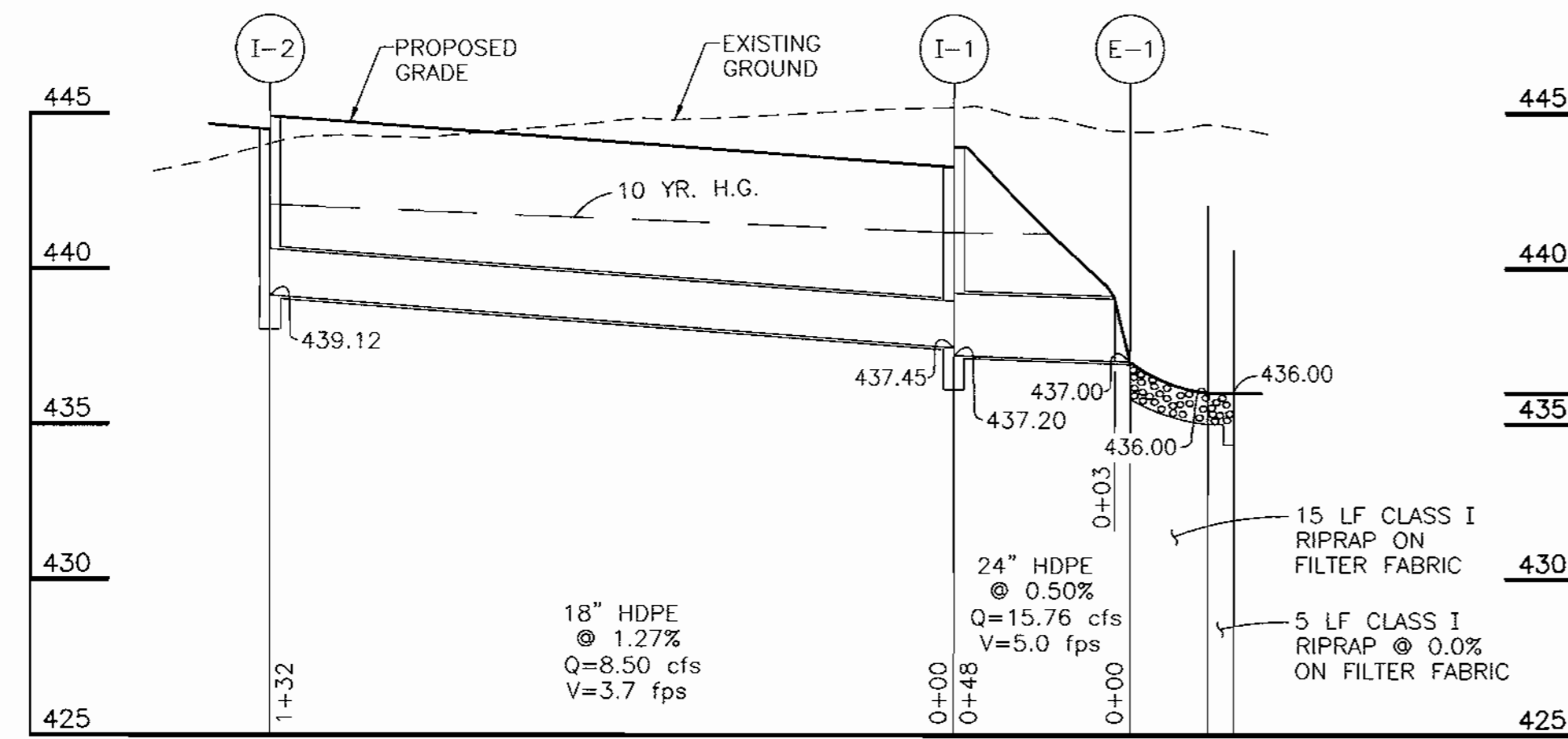
DATE	REVISION	BY	APPR.
11-30-2000	REVISED 1-A LOCATION & GRADING		

PREPARED FOR:
AEQUUS LLC
3414 OLANDWOOD COURT
OLNEY, MARYLAND 20832
(301) 774-2529

SITE DEVELOPMENT PLAN
AEQUUS MEDICAL OFFICE BUILDING
TOWN CENTER SECTION 8 AREA 4
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

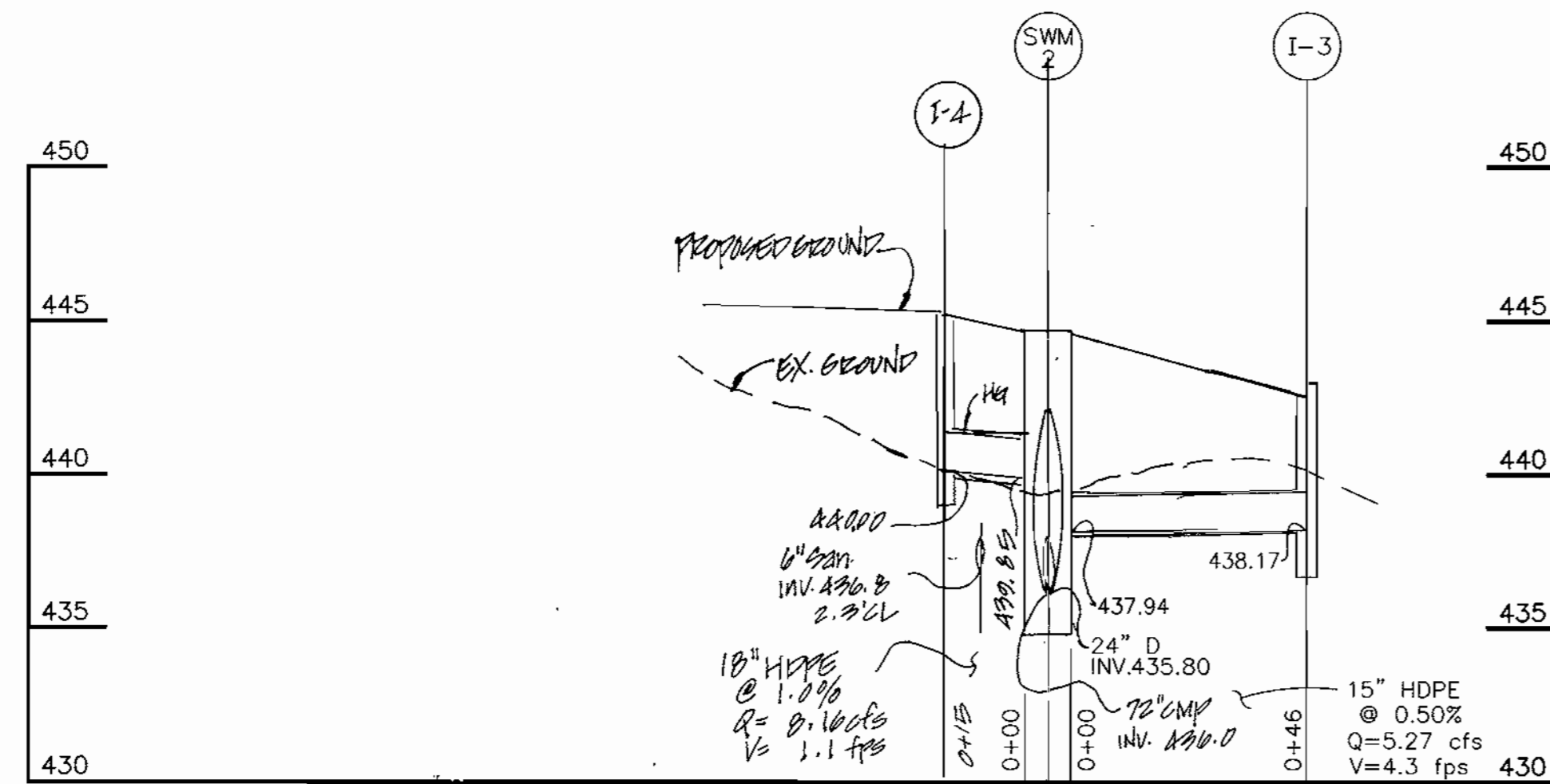
SCALE	ZONING	C.E.I. FILE No.
1"=30'	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	2 OF 11

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 10/5/00
 CHIEF - DEVELOPMENT ENGINEERING DIVISION
[Signature] 10/11/00
 CHIEF - DIVISION OF LAND DEVELOPMENT
[Signature] 11/2/00
 DIRECTOR



STORM DRAIN PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

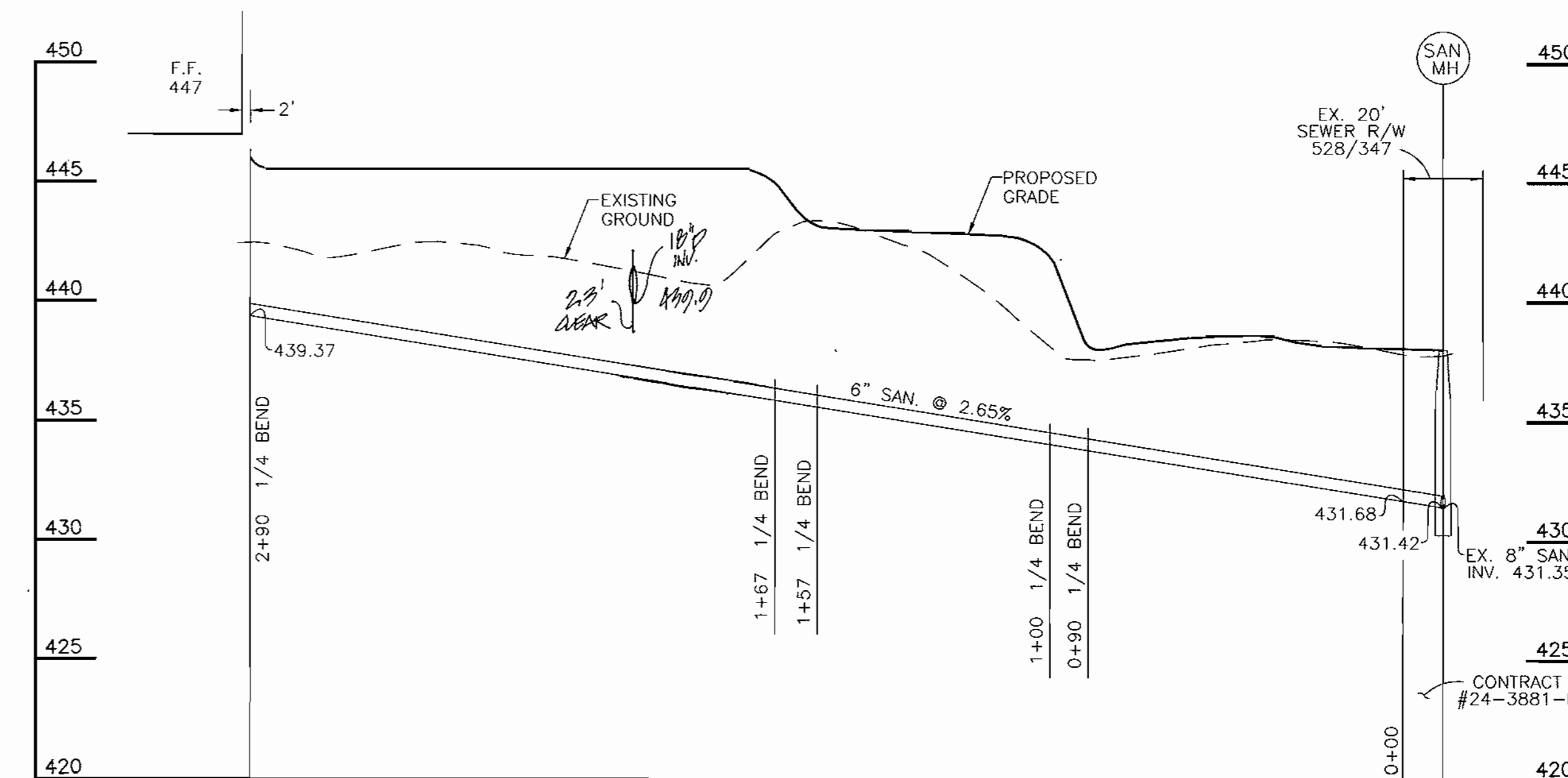


STORM DRAIN PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

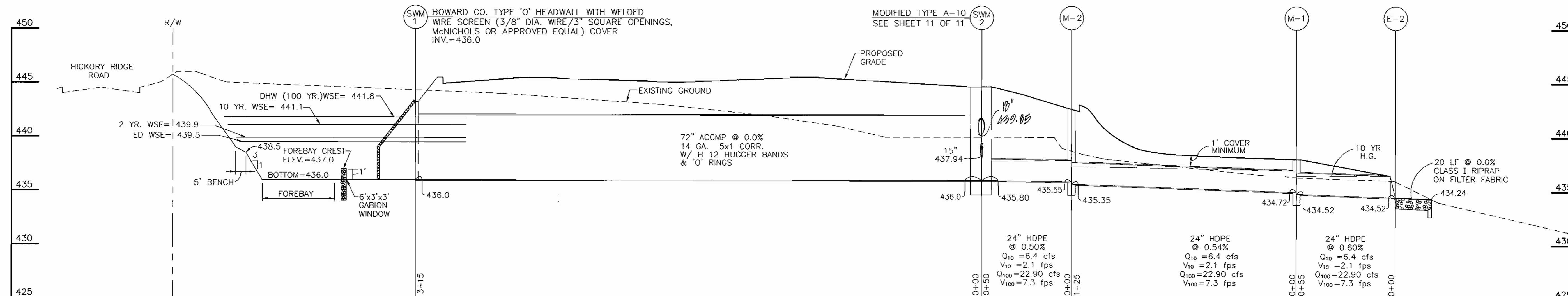
STRUCTURE SCHEDULE					
NO.	TYPE	ELEVATION	STD. DETAIL	LOCATION	REMARKS
I-1	A-10	443.00 GRATE ELEV.	SD4.02	SEE PLAN	
I-2	A-10	444.40 GRATE ELEV.	SD4.02	SEE PLAN	
I-3	DBL.'S	442.50 GRATE ELEV.	SD4.23	SEE PLAN	
I-4	A-10	444.00 GRATE ELEV.	SD4.02	SEE PLAN	
M-1	STD. MANHOLE	TOP ELEV. 438.0	G5.12	SEE PLAN	
M-2	STD. MANHOLE	TOP ELEV. 442.0	G5.12	SEE PLAN	
SWM 1	STD. '0' HEADWALL	INVERT ELEV. 436.00	HOWARD CO. SDS.41-A	SEE PLAN	
SWM 2	MODIFIED A-10	TOP ELEV. 444.50	SD4.02	SEE DETAIL SHT. 11 OF 11	
E-1	24" FLARED END SECTION	INV. ELEV. 437.00		SEE PLAN	
E-2	24" FLARED END SECTION	INV. ELEV. 434.30		SEE PLAN	

PIPE SCHEDULE			
TYPE & SIZE	CLASS	QUANTITY	REMARKS
15" HDPE		46 LF	
18" HDPE		247 LF	
24" HDPE		278 LF	
72" ACCMP		315 LF	



SANITARY SEWER PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

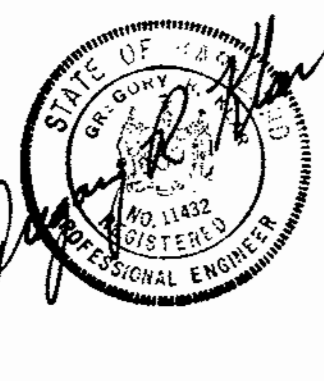


STORM DRAIN PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE Oct. 4, 2000

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/20/00
 CHIEF-DEVELOPMENT ENGINEERING DIVISION
 [Signature] 11/1/00
 CHIEF-DIVISION OF LAND DEVELOPMENT
 [Signature] 11/2/00



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CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

DATE	REVISION	BY	APP'R.
11-20-2000	REVISED I-4 LOCATION		

PREPARED FOR:
AEQUUS LLC
3414 OLANDWOOD COURT
OLNEY, MARYLAND 20832
(301) 774-2529

UTILITY PROFILES
AEQUUS MEDICAL OFFICE BUILDING
TOWN CENTER SECTION 8 AREA 4
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	4 OF 11

CONSTRUCTION SPECIFICATIONS

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

Site Preparation

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

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

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

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 50% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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

the fill. The most permeable borrow material shall be placed in the downstream face of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

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

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method 1-99 (Standard Proctor).

Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined

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

Pipe Conduits

All pipes shall be circular in cross section.

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

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

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A.

Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

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

2. **Coupling bands, anti-seep collars, end sections, etc.**, must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard top type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a

neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. **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.

5. **Backfilling** shall conform to "Structure Backfill".

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

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

1. **Materials** - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-561.

Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces

under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. **Backfilling** shall conform to "Structure Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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

1. **Materials** - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. **Joints and connections to anti-seep collars** shall be completely watertight.

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. **Backfilling** shall conform to "Structure Backfill".

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

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

Concrete

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

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

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

Care of Water during Construction

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

Stabilization

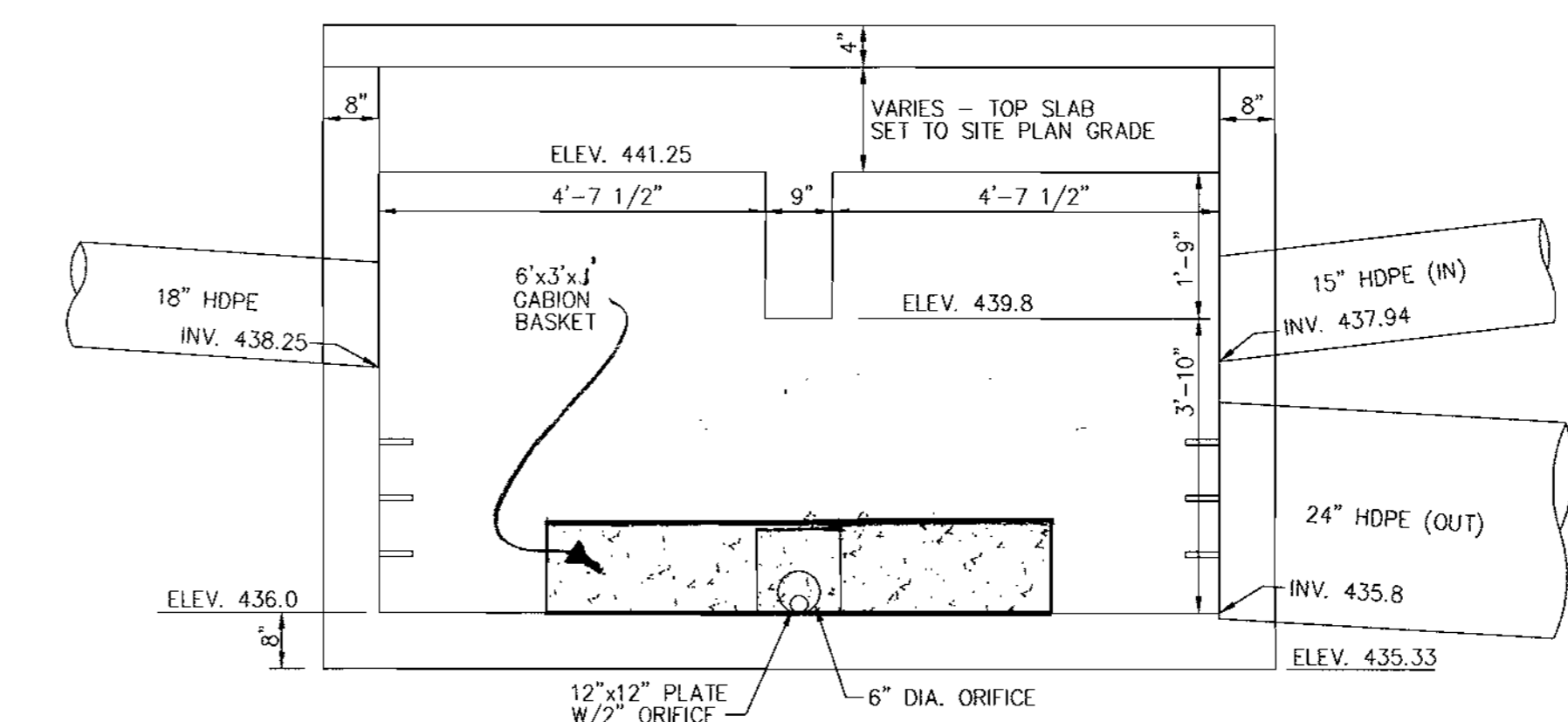
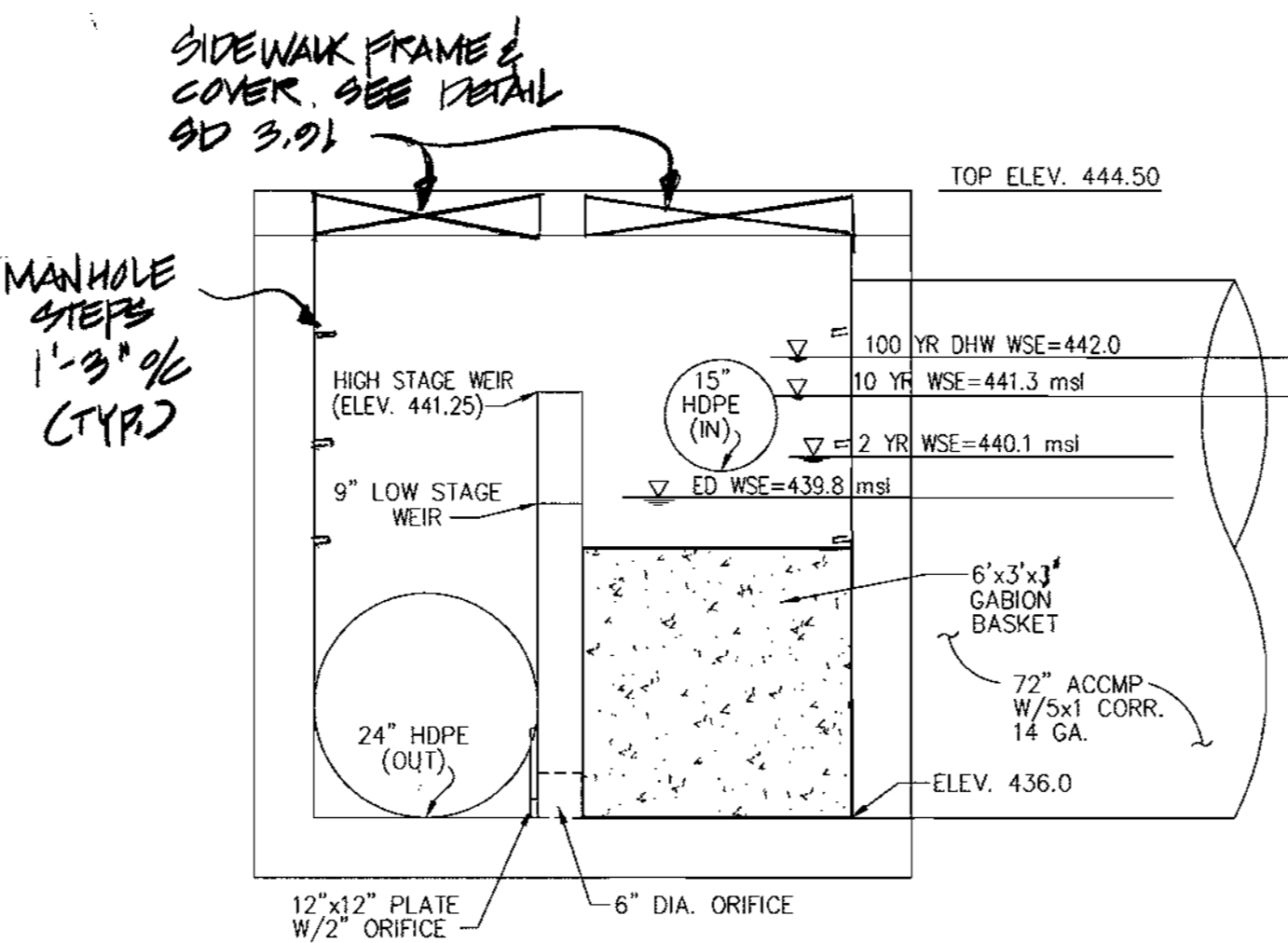
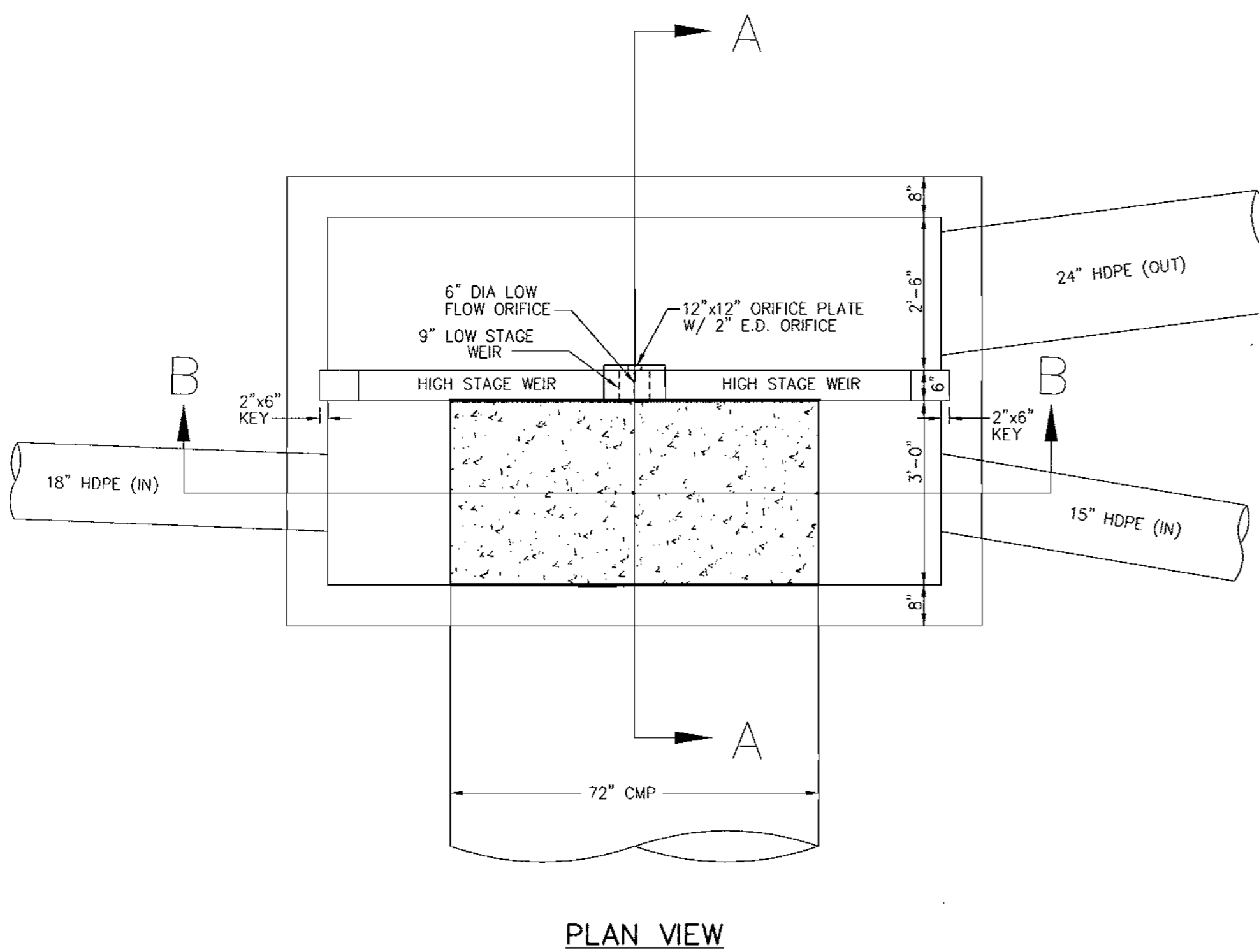
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service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

Erosion and Sediment Control

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

Maintenance Schedule/requirements

1. The Stormwater Management Facility shall be maintained by the property owner as follows:
 1. Removal of forebay silt shall occur when the accumulation exceeds four (4) inches.
 2. Removal of accumulated paper, trash and debris as necessary.
 3. Corrective maintenance is required any time the forebay does not drain completely within 60 hours. No standing water is allowed.
 4. Annual inspection and repair of the structure and storage pipe.
 5. Vegetation growing on the embankment top or faces is not allowed to exceed 18 inches at any time.



SECTION A-A
SECTION B-B
A-10 INLET STRUCTURE MODIFICATIONS
SWM-2 CONTROL STRUCTURE (MODIFIED TYPE 'A-10 INLET)
NO TO SCALE

APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE: October 4, 2000

BY THE ENGINEER:
I, Gregory R. Harter, 10/12/00
SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:
I, Charles F. Meas, 10/11/2000
SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.
I, J. L. Wayfield, 10/23/00
U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

THE DEVELOPMENT PLAN IS AS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
I, John Robertson, 10/23/00
HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
I, John Robertson, 10/20/00
CHIEF-DEPARTMENT ENGINEERING DIVISION DATE

I, Andy Hampton, 11/11/00
CHIEF-DIVISION OF LAND DEVELOPMENT DATE

I, John Robertson, 11/21/00
DIRECTOR DATE



CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
32 WEST ROAD
TOWSON, MARYLAND 21204
(410) 823-8070

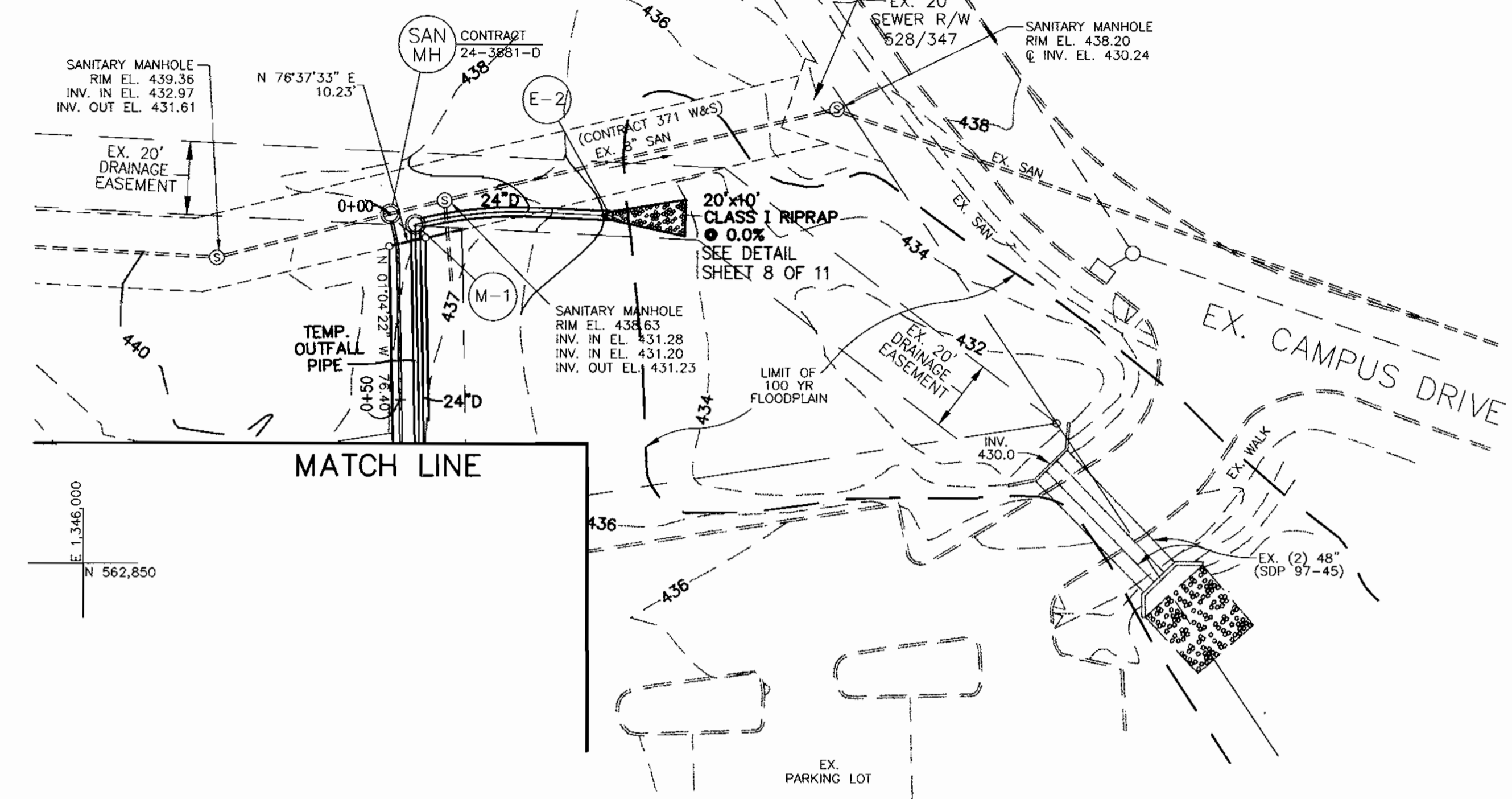
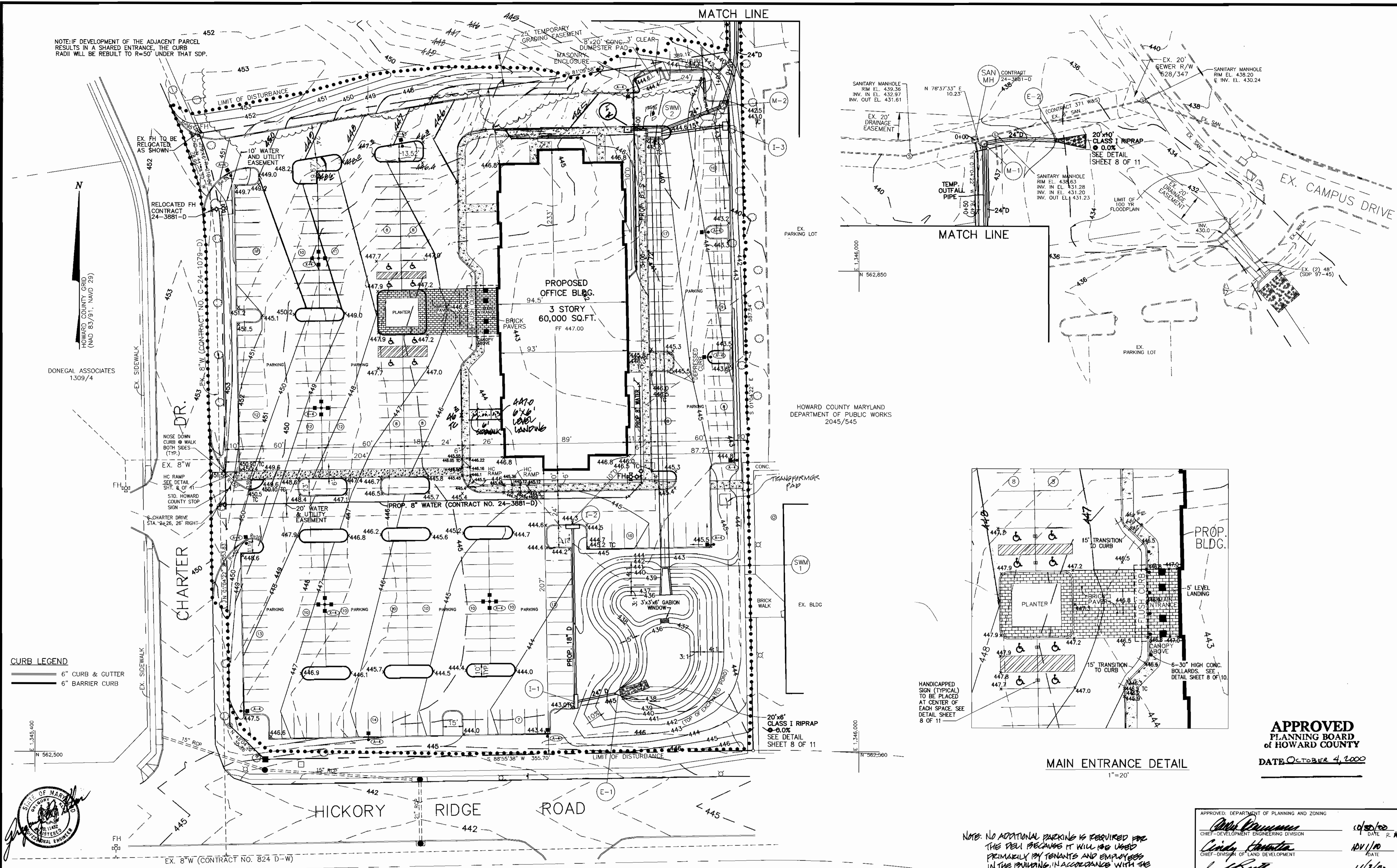
DATE	BY	APP'R.
11-27-2000	SWM-2 REVISED TO SHOW NEW COVERS & STEPS & EOL. SANITARY MANHOLE	

PREPARED FOR:
AEQUUS LLC
3414 OLANDWOOD COURT
OLNEY, MARYLAND 20832
(301) 774-2529

STORMWATER MANAGEMENT NOTES AND DETAILS
AEQUUS MEDICAL OFFICE BUILDING
TOWN CENTER SECTION 8 AREA 4
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	11 OF 11

NOTE: IF DEVELOPMENT OF THE ADJACENT PARCEL RESULTS IN A SHARED ENTRANCE, THE CURB RADIUS WILL BE REBUILT TO R=50' UNDER THAT SDP.



CURB LEGEND
 ——— 6" CURB & CUTTER
 ——— 6" BARRIER CURB



CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS
 32 WEST ROAD
 TOWSON, MARYLAND 21204
 (410) 823-8070

DATE	REVISION	BY	APPR.
11-30-2000	REVISION TO SHOW 6\"/>		
3-22-02	REVISION TO SHOW 6\"/>		

PREPARED FOR:
 AEQUUS LLC
 3414 OLANWOOD COURT
 OLNEY, MARYLAND 20832
 (301) 774-2529

SITE DEVELOPMENT PLAN
AEQUUS MEDICAL OFFICE BUILDING
 TOWN CENTER SECTION 8 AREA 4
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1"=30'	NT-ECC	20066.00
DATE	TAX MAP No.	SHEET
SEPT., 2000	35	2 OF 11

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE OCTOBER 4, 2000

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Gregory A. Anderson 10/30/00
 CHIEF-DEVELOPMENT ENGINEERING DIVISION
Gregory A. Anderson 10/11/00
 CHIEF-DIVISION OF LAND DEVELOPMENT
Gregory A. Anderson 11/2/00
 DIRECTOR

NOTE: NO ADDITIONAL PARKING IS REQUIRED FOR THIS DEVELOPMENT AS IT WILL BE USED PRIMARILY BY TENANTS AND EMPLOYEES IN THE BUILDING, IN ACCORDANCE WITH THE FINAL DEVELOPMENT PLAN CRITERIA.