

GROSS AVENUE WATER & SEWER EXTENSION HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. S-6209

CONTRACT No. 24-3891

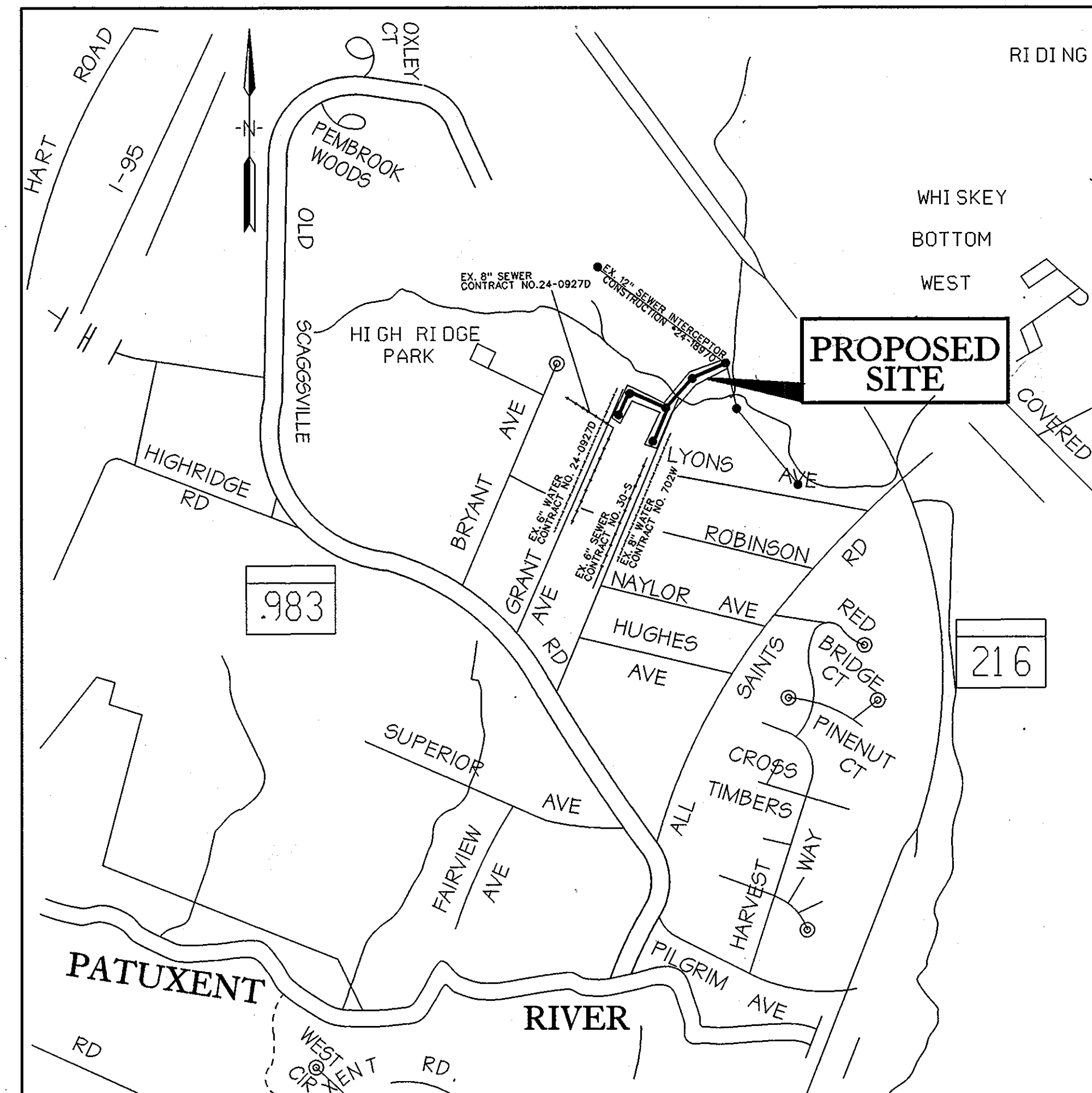
GENERAL NOTES

1. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA NGVD88
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES. ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL . THE LOCATION OF THE TEST PIT, A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T.....	410-865-3803
BG&E (CONTRACTOR SERVICES).....	410-850-4620
BG&E - UNDERGROUND DAMAGE CONTROL.....	410-787-9068
BUREAU OF UTILITIES (DPW).....	410-313-4900
CHESAPEAKE & POTOMAC TELEPHONE CO.	410-597-8585
COLONIAL PIPELINE CO.	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING MAINS, SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.
12. ALL SEWERMAINS SHALL BE P.V.C. UNLESS OTHERWISE NOTED.
13. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
14. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL 05-52. WHERE WATERTIGHT MANHOLE FRAME AND COVER ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
15. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
16. ALL WATER MAINS SHALL BE D.I.P CLASS 52 UNLESS OTHERWISE NOTED.
17. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
18. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
19. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH
20. FIRE HYDRANTS SHALL BE SET TO BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.

ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
21. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	PLAN
3	8 INCH SANITARY SEWER PROFILES AND DETAILS
4	EROSION & SEDIMENT CONTROL, NOTES & DETAILS



TYPE OF BUILDING: <u>RESIDENTIAL</u>	NUMBER OF WATER HOUSE CONNECTIONS: <u>4</u>
NUMBER OF PARCELS: <u>N/A</u>	DRAINAGE AREA: <u>PATUXENT</u>
NUMBER OF SEWER HOUSE CONNECTIONS: <u>7</u>	
BENCHMARK	
HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 472 NAD 83 (91) HORIZONTAL NGVD 29-VERTICAL	HO. CO. CONTROL NO. 47 HA DISC N 531046.905 E 13356987.631 ELEVATION 292.309
	NO. 46 GB DISC N 529917.205 E 1333526.738 ELEVATION 259.209

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
8" S DIP	L.F.	620	605	U.S. PIPE & F.O.
8" S	L.F.	264	254	A-1 PIPE
STD. MANHOLE	EA.	3	3	ATLANTIC CONC.
STD. WT MANHOLE	EA.	2	2	" "
TYPE "M" DROP CONNECTION	EA.	2	2	" "
4" SHC	L.F.	135		A-1 PIPE
1" WHC	L.F.	145	175	" "
NAME OF UTILITY CONTRACTOR: <u>T.C. SIMONS, INC.</u>				
CHECKBOX				
AS-BUILT DATE: <u>MARCH 26, 2008</u>				
SURVEY AND DRAFTING DIVISION				

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
GROSS AVE. STA 0+70 TO STA 0+15 AND GRANT AVE. STA 0+50 TO STA 0+55 SANITARY SEWER, SHC AND WHC'S	300	BITUMINOUS PAVING TRENCH REPAIR. SEE STD. DETAIL G4.01
GRANT AVE. MH 2A TO STA 0+50, MH 2A TO 2, GROSS AVE. MH 2 TO STA 0+70, MH 2 TO EX. MMB	735	TOPSOIL, SEEDING & MULCHING
SHC'S AND WHC'S	80	TOPSOIL, SEEDING & MULCHING

LOCATION MAP
SCALE: 1" = 600'

Reviewed for: HOWARD S.C.D.
Name: Jim Myers
Signature: [Signature] Date: 6/13/01
and meets Technical Requirements
USDA, NATURAL RESOURCES CONSERVATION SERVICE

- ### BEST MANAGEMENT PRACTICE (BMP) NOTES
1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
 2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
 3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIS MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
 4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
 5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT MODIFICATION OF THE 100 YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
 6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
 7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNOLA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
 8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
 9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM.

USE 1 WATERS: IN STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
 10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAYS.
 11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

DEVELOPER'S CERTIFICATION

"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."

[Signature] 6/8/01 DATE
BUREAU OF ENGINEERING DEPARTMENT OF PUBLIC WORKS

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 6/13/01 DATE
HOWARD S.C.D.

ENGINEER'S CERTIFICATION

"I/WE 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."

[Signature] 5-29-01 DATE
TIMOTHY W. WALFE

KCI TECHNOLOGIES
10 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND 21030

THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION & SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 6/13/01 DATE
HOWARD S.C.D.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

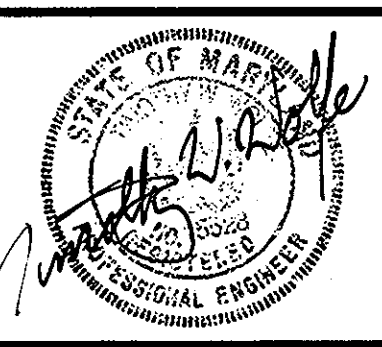
[Signature] 6/8-01 DATE
DIRECTOR OF PUBLIC WORKS

[Signature] 6-8-01 DATE
CHIEF, BUREAU OF UTILITIES

[Signature] 6/8/01 DATE
CHIEF, BUREAU OF ENGINEERING

[Signature] 6-8-01 DATE
CHIEF, UTILITY DESIGN DIVISION

KCI TECHNOLOGIES
ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7000



DES: CSC				
DRN: CK				
CHK: TW				
DATE: 5/20/01	K.E.I.	1	AS BUILT CONDITIONS ADDED TO PLAN	5/16/02
BY NO.			REVISION	DATE

TITLE SHEET	TAX MAP NO. 47	GRID NO.
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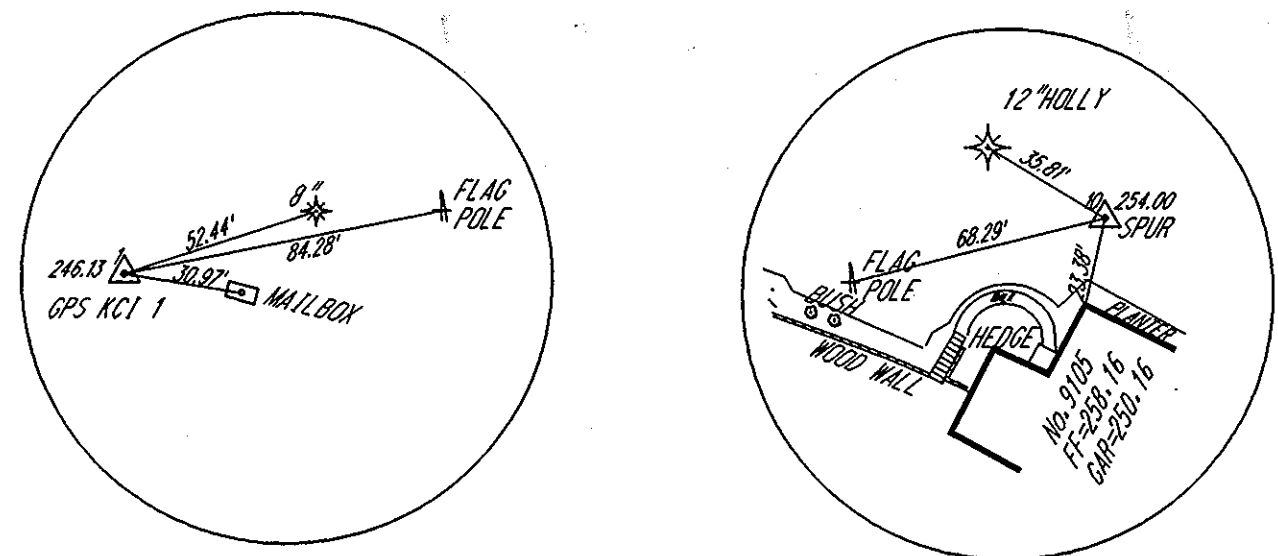
GROSS AVENUE WATER & SEWER EXTENSION

CAPITAL PROJECT No. S-6209
CONTRACT No. 24-3891
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

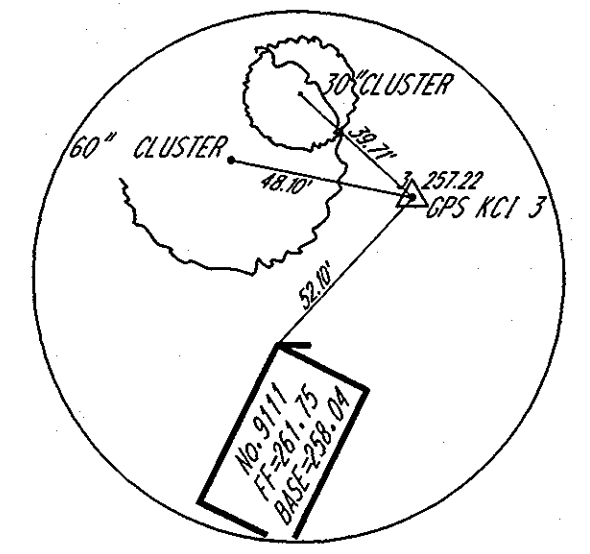
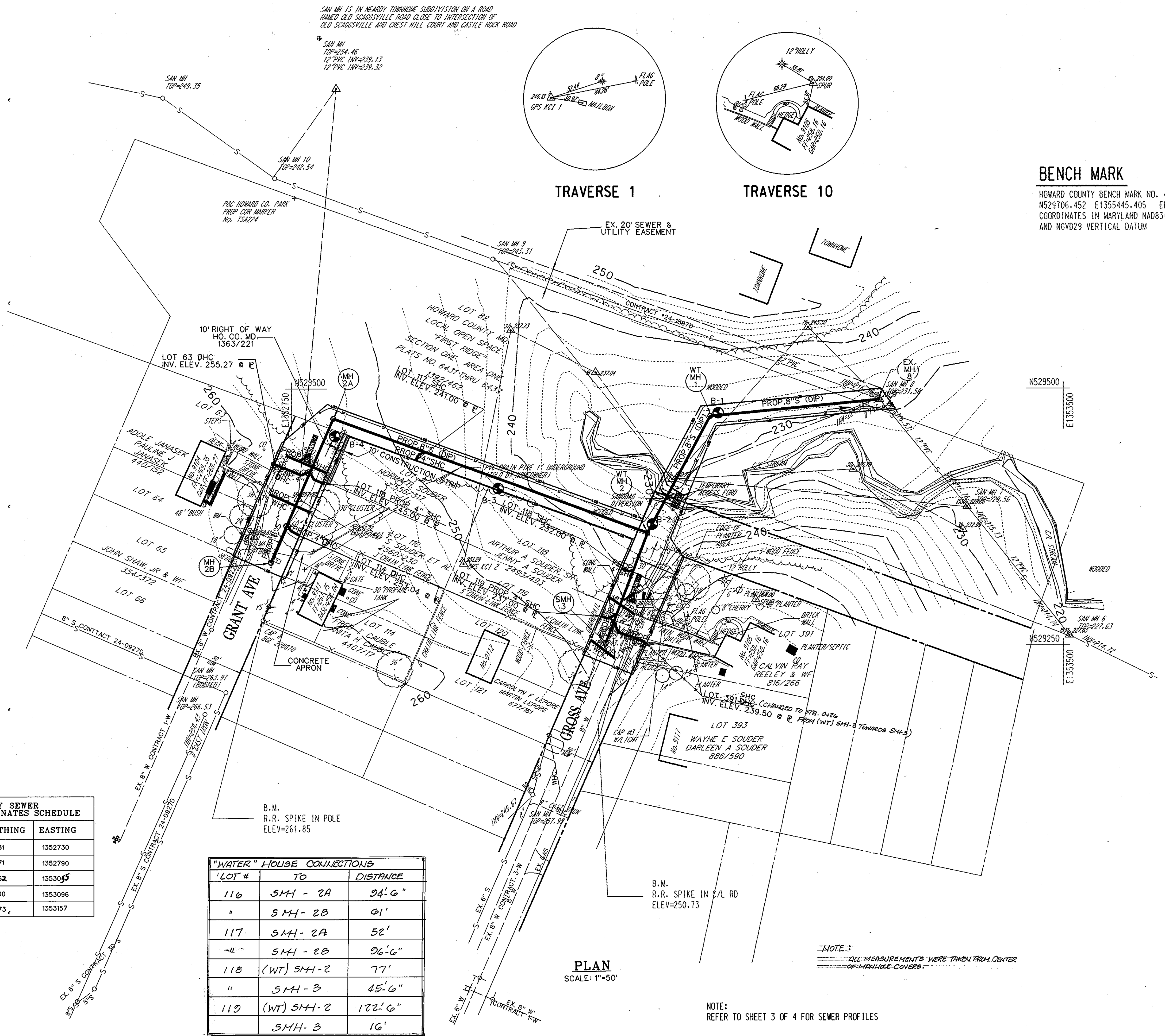
SCALE AS SHOWN
SHEET 1 OF 4

"SEWER" HOUSE CONNECTIONS		
LOT #	TO	DISTANCE
391	(WT) SMH-2	47'-6"
"	SMH-3	100'
119	(WT) SMH-2	41'
"	SMH-3	38'-6"
118	(WT) SMH-2	43'
"	SMH-3	75'
117	SMH-2A	88'
"	SMH-2B	175'
116	SMH-2A	64'
"	SMH-2B	91'
114	SMH-2A	117'-6"
"	SMH-2B	40'-6"
63+64	SMH-2A	75'
"	SMH-2B	94'

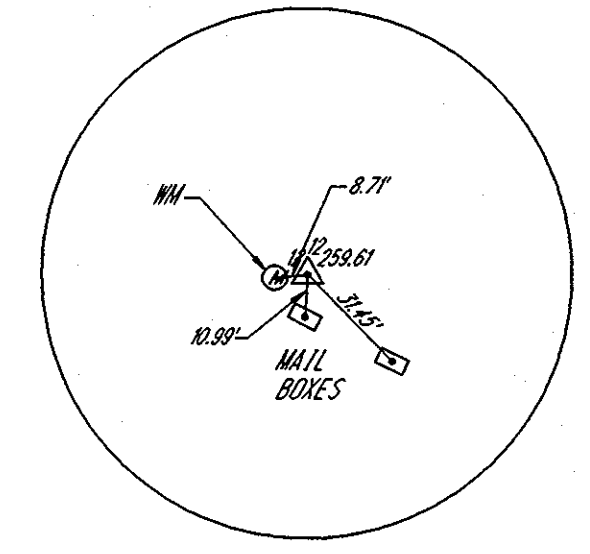
BENCH MARK
 HOWARD COUNTY BENCH MARK NO. 472
 N529706.452 E1355445.405 ELEVATION 256.78
 COORDINATES IN MARYLAND NAD83(91) HORIZONTAL DATUM
 AND NGVD29 VERTICAL DATUM



TRAVERSE 1 TRAVERSE 10



TRAVERSE 3



TRAVERSE 12

SANITARY SEWER STAKEOUT COORDINATES SCHEDULE

STATION	NORTHING	EASTING
MH 2B	529331	1352730
MH 2A	529471	1352790
MH 3	529252	1353095
WT MH 2	529360	1353096
WT MH 1	529473	1353157

"WATER" HOUSE CONNECTIONS

LOT #	TO	DISTANCE
116	SMH-2A	94'-6"
"	SMH-2B	61'
117	SMH-2A	52'
"	SMH-2B	96'-6"
118	(WT) SMH-2	77'
"	SMH-3	45'-6"
119	(WT) SMH-2	122'-6"
"	SMH-3	16'

TRAVERSE COORDINATE SCHEDULE

NUMBER	NORTHING	EASTING	ELEVATION
TRAV. 1	529261.46	1353052.52	246.13
TRAV. 2	529329.58	1352917.19	251.29
TRAV. 3	529360.07	1352917.19	257.22
TRAV. 10	529294.44	1353201.17	254.00
TRAV. 12	529355.70	1352713.63	259.61
TRAV. 13	529392.94	1352756.42	257.30
TRAV. 15	529559.84	1353251.93	245.50
TRAV. 1529	529489.46	1353321.50	231.58
TRAV. 1530	529385.20	1353406.57	229.56
TRAV. 1531	529259.69	1353505.86	227.63
TRAV. 16	529515.92	1353045.50	237.04
TRAV. 17	529556.73	1352963.03	237.73
TRAV. 30	529421.48	1353295.99	226.79
TRAV. 31	529362.40	1353406.57	229.56

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *James M. Lewis* 6/8/01
 Chief, Bureau of Utilities: *Robert J. ...* 6-8-01
 Chief, Bureau of Engineering: *Robert J. ...* 6/8/01
 Chief, Utility Design Division: *Robert J. ...* 6-8-01

ENGINEERS AND PLANNERS
 10 NORTH PARK DRIVE
 HUNT VALLEY, MD, 21030-1888
 (410) 316-7800
KCI TECHNOLOGIES



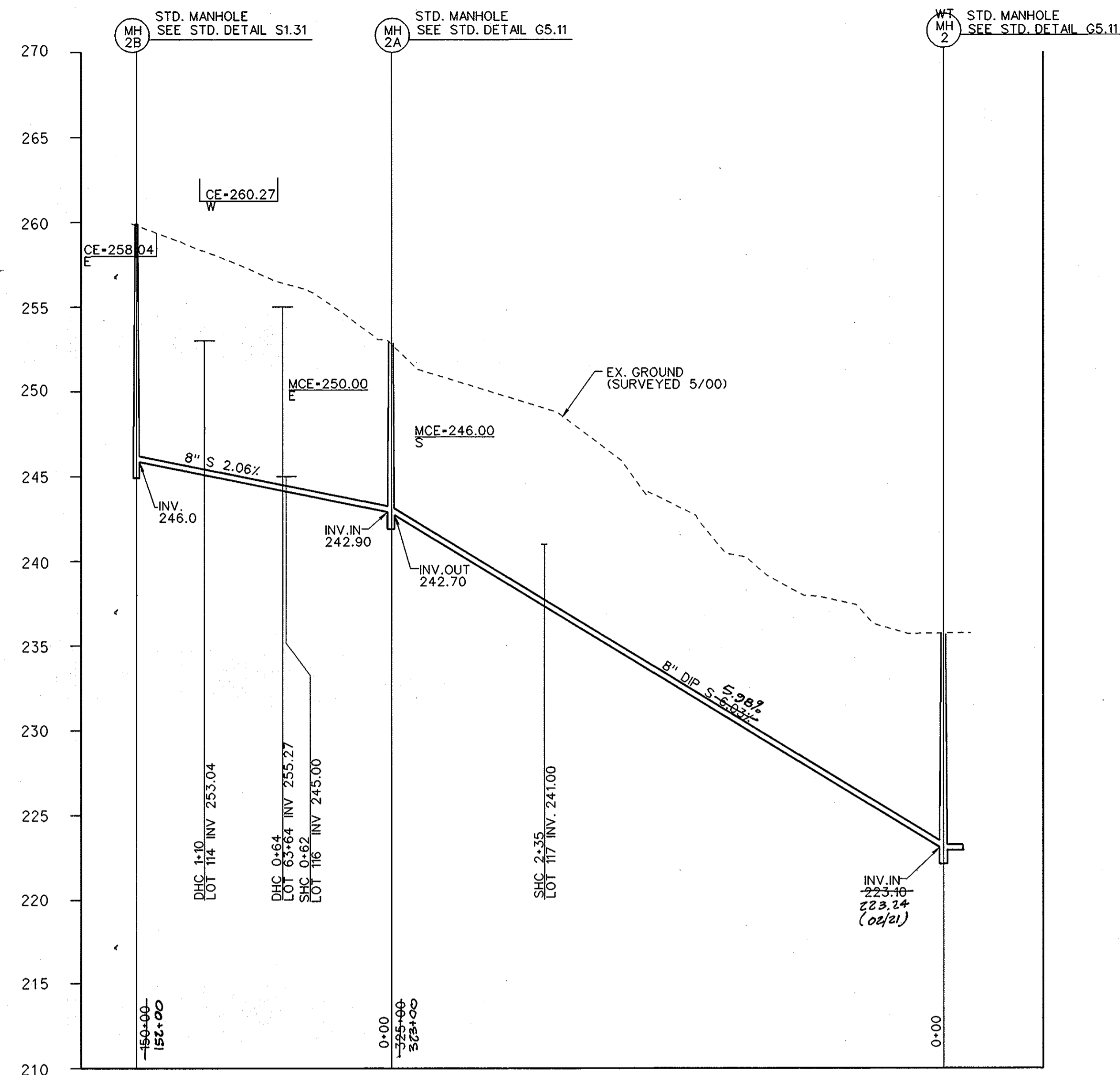
DES: CSC	
DRN: CK	
CHK: TW	
DATE: 5/20/01	
BY: H.C.I.	1
NO.:	ASBUILT DATA ADDED TO PLAN
REVISION:	
DATE:	5/16/02

PLAN

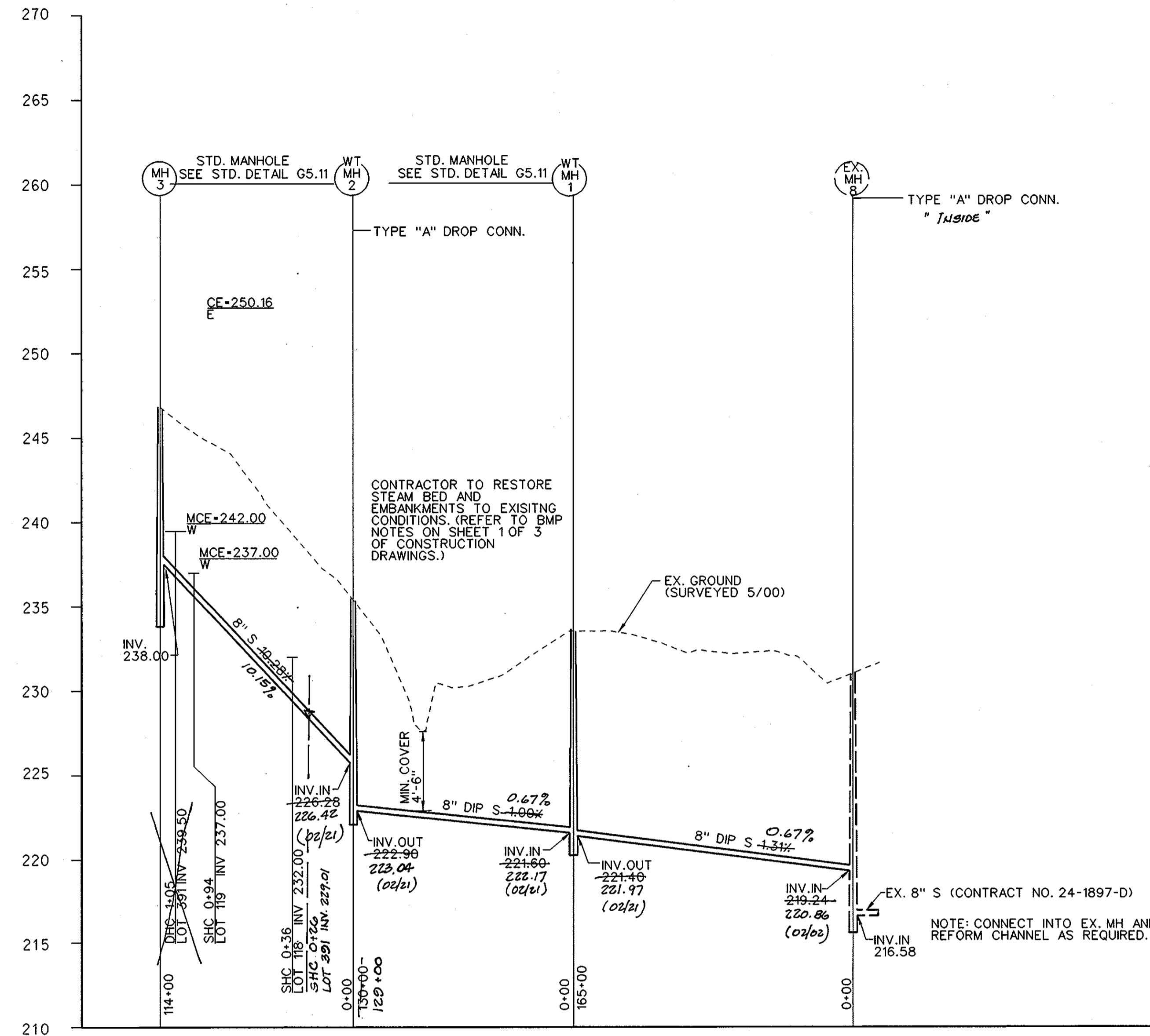
GROSS AVENUE WATER & SEWER EXTENSION
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SCALE AS SHOWN
 SHEET 2 OF 4

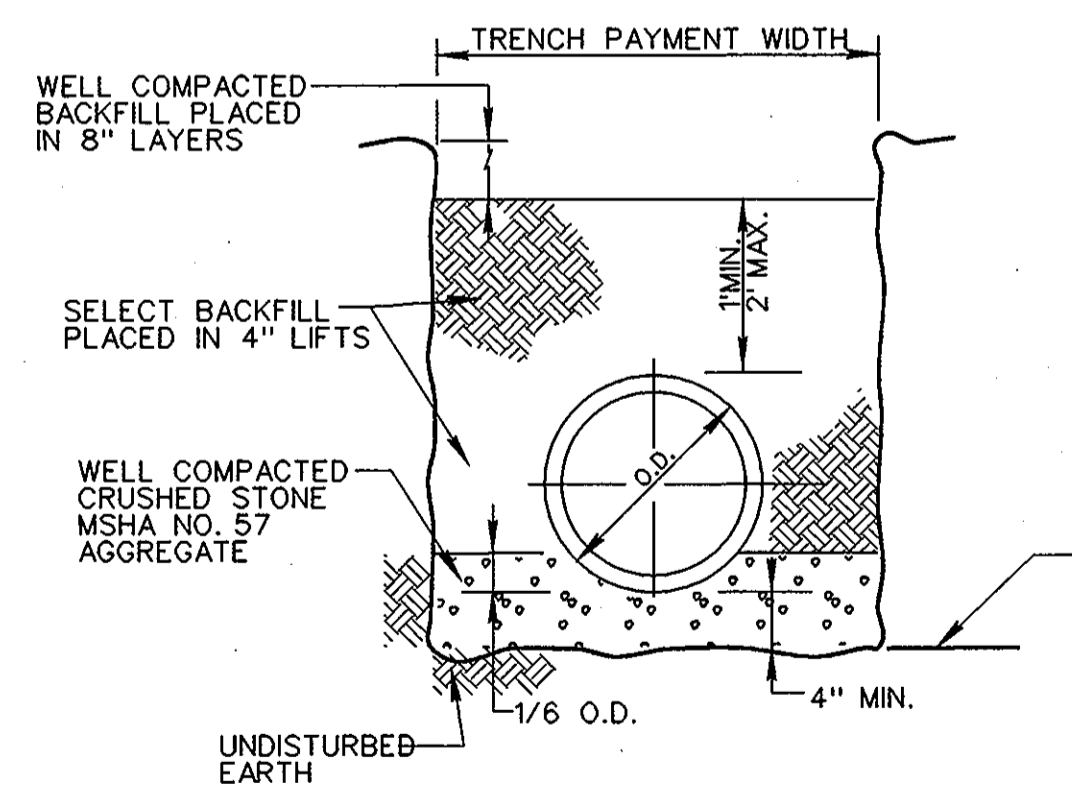
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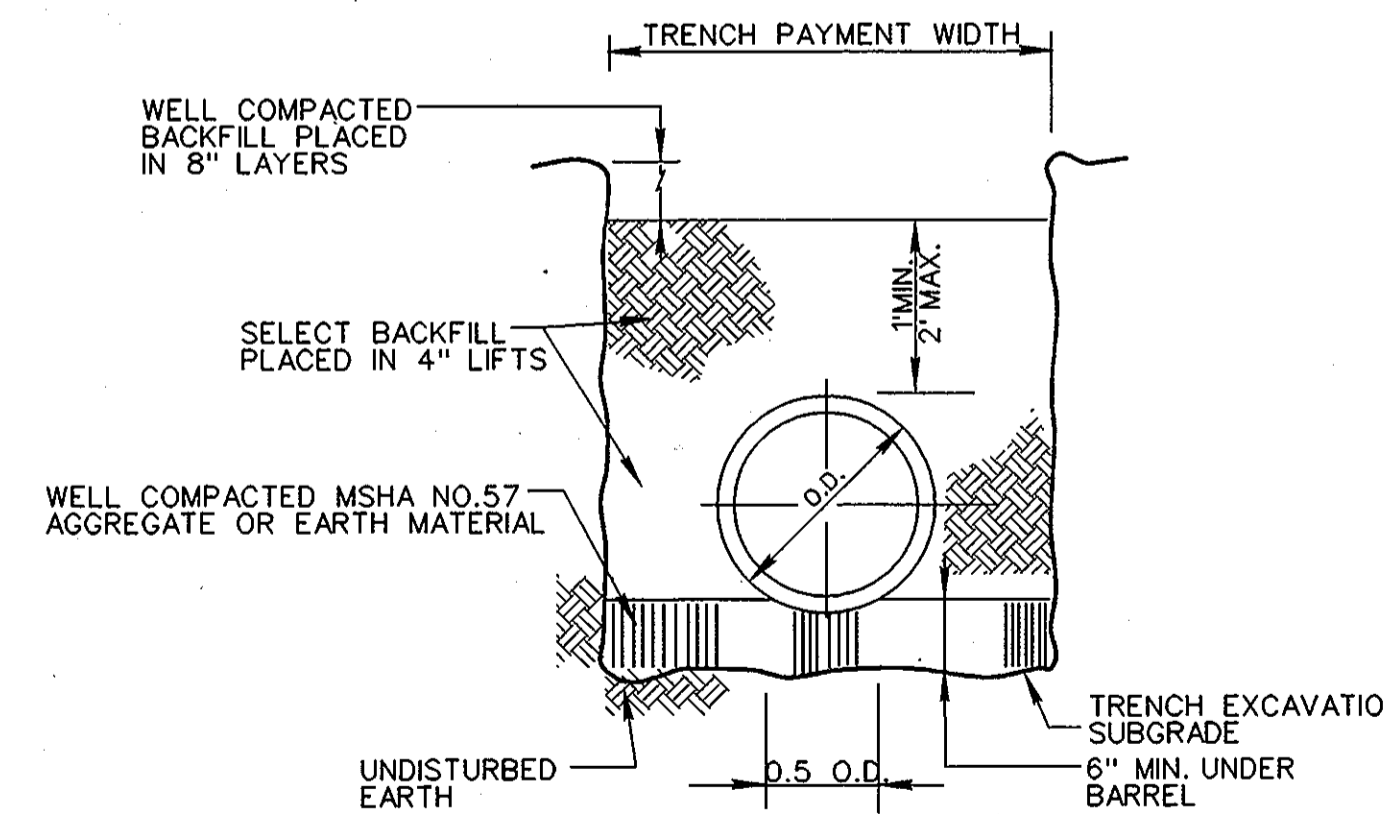
PROFILE
SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'



PROFILE
SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'



**DETAIL *
TRENCH WITH GRAVEL BACKFILL
BELOW BOTTOM OF PIPE**
NO SCALE



**DETAIL *
TRENCH IN ROCK**
NO SCALE

* BASED ON HOWARD COUNTY STANDARD DETAIL G2.01 EXCEPT
TRENCH SUBGRADE SHALL BE AS SHOWN ON THESE DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. ...
DIRECTOR OF PUBLIC WORKS
DATE: 6-8-01
CHIEF, BUREAU OF UTILITIES

Robert ...
CHIEF, BUREAU OF ENGINEERING
DATE: 6-8-01
De ...
CHIEF, UTILITY DESIGN DIVISION
DATE: 6-8-01

KCI
ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21039-1888
(410) 316-7800



DES: CSC					
DRN: CK					
CHK: TW					
DATE: 5/20/01					
BY: KCI	1	ASBESTOS CONDITIONS ADDED TO PLAN	5/10/02		
NO.		REVISION	DATE		

**8" SANITARY SEWER
PROFILES AND DETAILS**

TAX MAP NO. 47 GRID NO.

GROSS AVENUE WATER & SEWER EXTENSION

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SCALE AS SHOWN
SHEET 3 OF 4

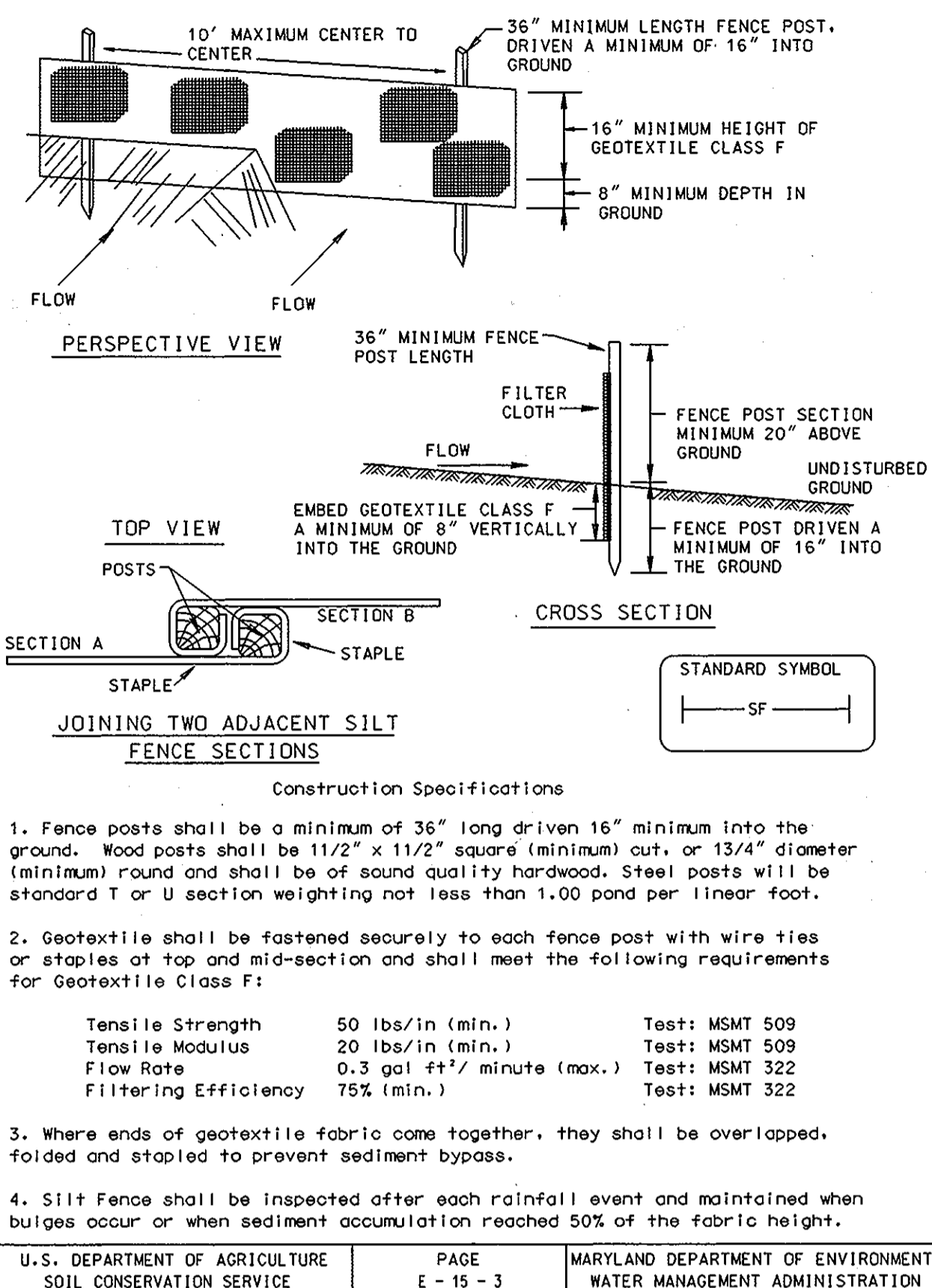
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STANDARD SEDIMENT CONTROL NOTES

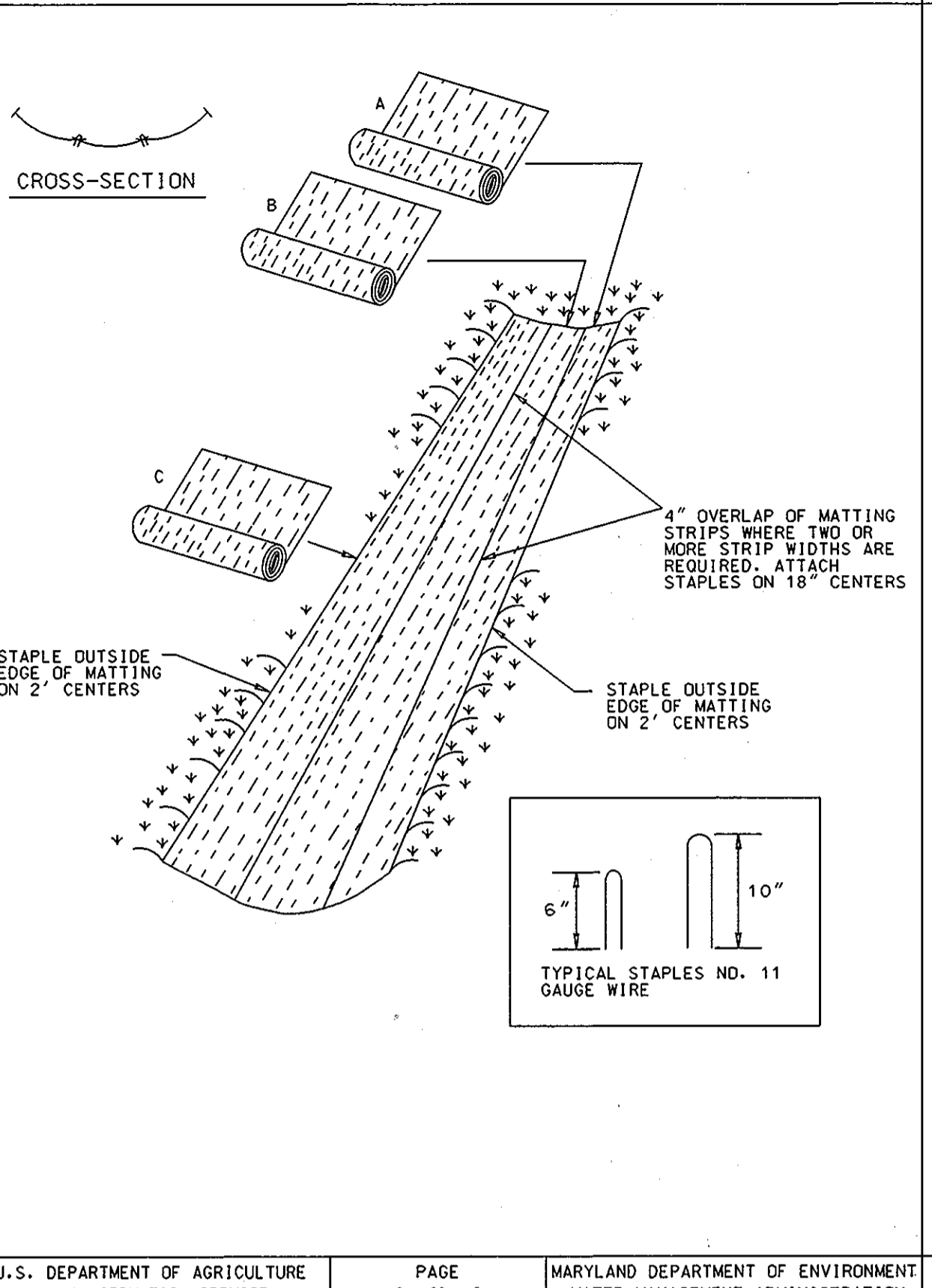
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (315-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS" AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (SEC. G20.0) FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDING AND MULCHING. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	NA	ACRES
AREA TO BE ROOFED OR PAVED	0.21	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.49	ACRES
TOTAL CUT	NA	CU. YDS.
TOTAL FILL	NA	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	NA	
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF THE DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CONTRACTOR SHALL PLACE EXCAVATED MATERIALS ON UPHILL SIDE OF TRENCH AND PLACE SILT FENCE ON DOWNHILL SIDE OF TRENCH.

DETAIL 22 - SILT FENCE



DETAIL 30 - EROSION CONTROL MATTING



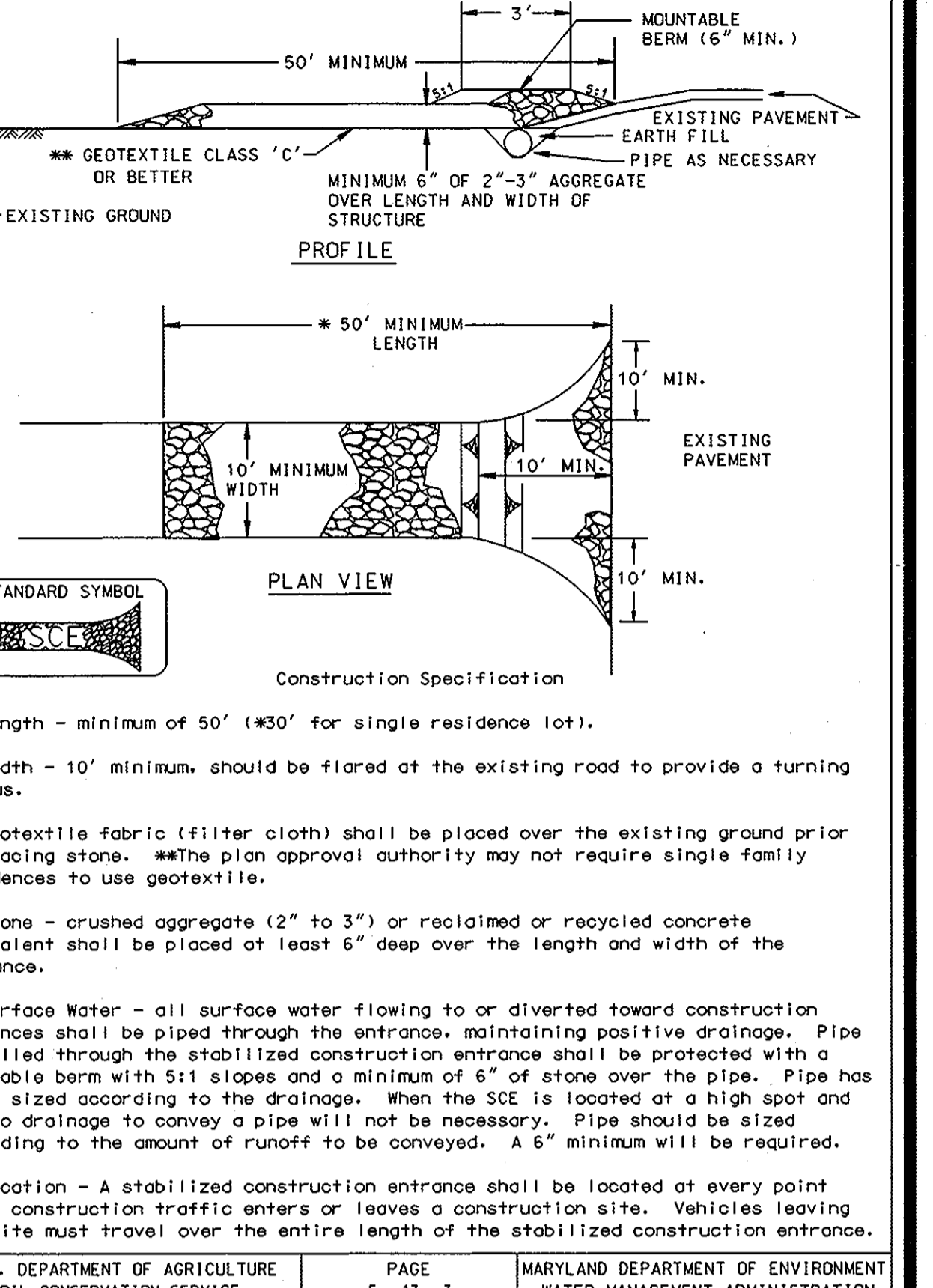
EROSION CONTROL MATTING

Construction Specifications

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4 rows for each strip; 2 outer rows, and 2 alternating rows down the center.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", ship-lap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area affected by the flow must be keyed-in.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



PERMANENT SEEDING NOTES

APPLY 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, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) PREFERRED -** APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 800 LBS PER ACRE 10-10-10 FERTILIZER (14LBS/1000 SQ FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT.).
- 2) ACCEPTABLE -** APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT.) BEFORE SEEDING. HARROW OF DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 15 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) USE SOD, OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED 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, IF NOT PREVIOUSLY LOOSENED.

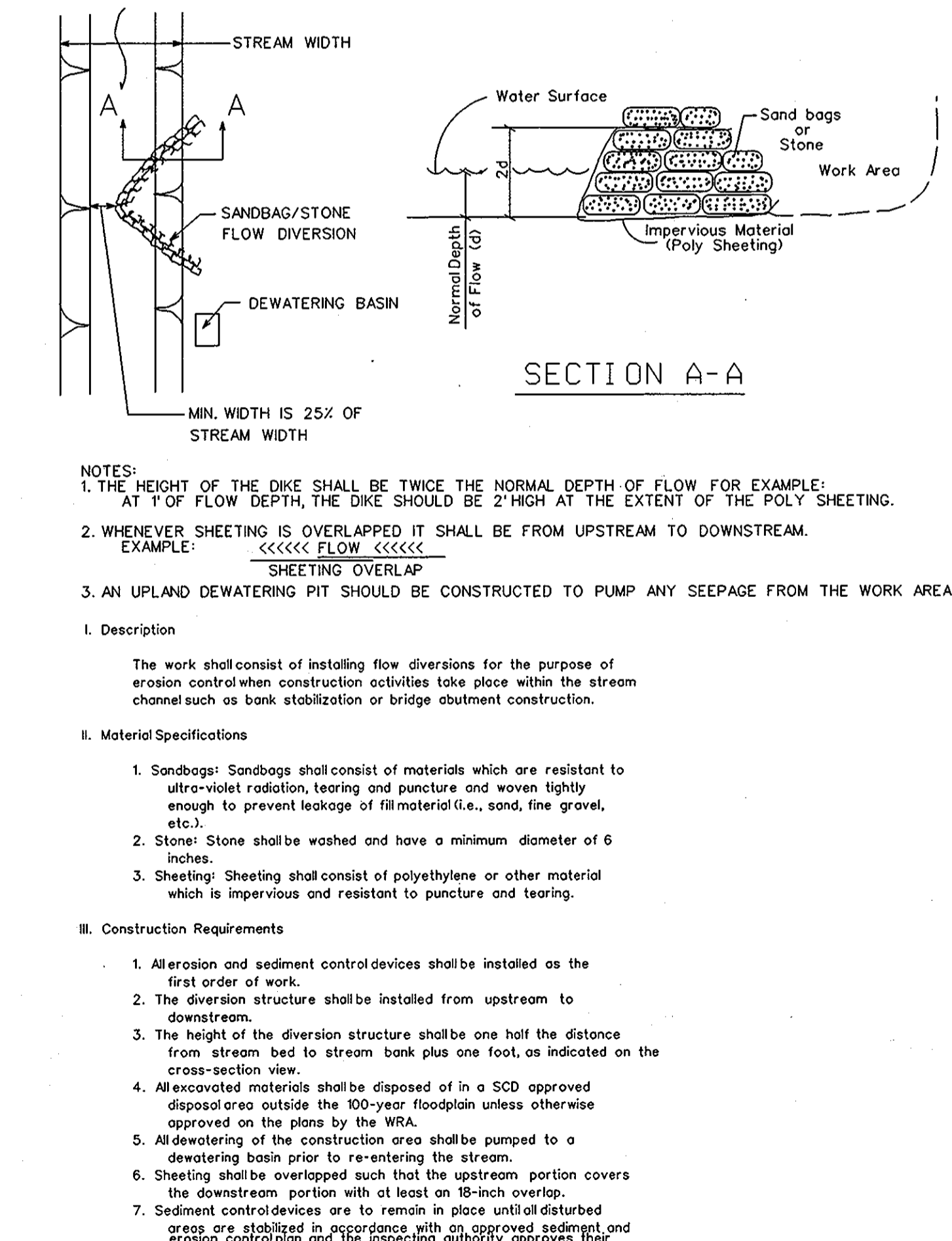
SOIL AMENDMENTS: - APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT.).

SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.7 LBS/1000 SQ FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

INSTREAM FLOW DIVERSION STRUCTURE

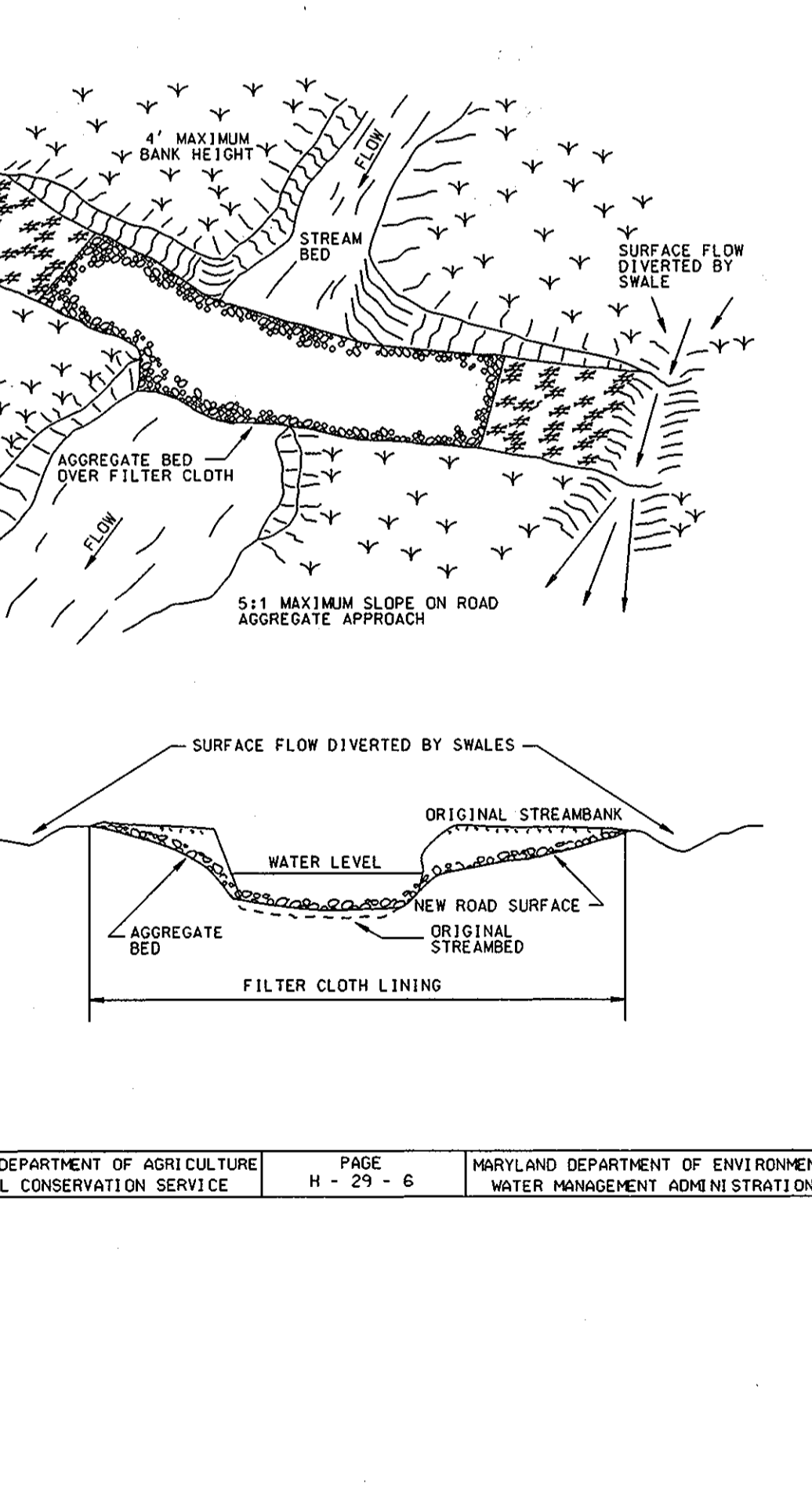


TEMPORARY ACCESS FORD

Construction Specifications

- Restrictions - Use or removal of a temporary access will not be permitted between October 1 and April 30 for all Class III and Class IV Trout Waters. For other streams, use or removal of a temporary ford will be prohibited from March 1 through June 15 of each year because fish are spawning during this period.
- The approaches to the structure shall consist of stone pads. The entire ford approach (where banks were cut) shall be covered with filter cloth and protected with aggregate to a depth of 4".
- Fords shall be prohibited when the stream banks are 4' or more in height above the invert of the stream and a bridge or culvert crossing can easily be constructed.
- The approach roads of the cut banks shall be no steeper than 5:1. Spoil material from the banks shall be stored out of the flood plain and stabilized.
- The layer of filter cloth shall be placed on the streambed, streambanks, and road approaches prior to placing the bedding material on the stream channel or approaches. The filter cloth shall extend a minimum of 6" and a maximum 1' beyond bedding material.
- The bedding material shall be coarse aggregate or gabion mattresses filled with coarse aggregate.
- Aggregate used in ford construction shall be SHA 4" - 7" stone.
- All fords shall be constructed to minimize the blockage of stream flow and shall allow free flow over the ford. The placing of any material in the waterway bed will cause some upstream ponding. The depth of this ponding will be equivalent to the depth of the material placed within the stream and therefore should be kept to a minimum height. However, in no case will the bedding material be placed deeper than 12" or 1/2 the height of the existing banks, whichever is smaller.
- Stabilization - All areas disturbed during ford installation shall be stabilized within 14-calendar days of that disturbance in accordance with the Standards for "Critical Area Stabilization with Permanent Seeding".

DETAIL 34 - TEMPORARY ACCESS FORD



CONDITIONS AND MANAGEMENT PRACTICES FOR WORK CONDUCTED IN NONTIDAL WETLANDS

- Stockpile and maintain separately the top 6"-12" of topsoil material, to be replaced as the top layer of the backfilled material.
- Remove excess fill or construction material or debris to an upland disposal area.
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland.
- Maintain the hydrologic regime of the nontidal wetlands upstream, downstream, or adjacent to the sewerline.
- Place heavy equipment on mats or suitable design the equipment to prevent damage to the nontidal wetlands.
- Use previously excavated materials as backfill, unless it contains waste metal products, unsightly debris toxic material or other deleterious substances. Use clean borrow material when excavated materials not suitable for use as backfill.
- All stabilization in the wetland and buffer shall be of the following species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Barley (Hordeum sp.), Oats (Avena sp.) and/or Rye (Secale cereale). These species allow for the stabilization of the site while also allowing for the voluntary revegetation of nontidal wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Division. Kentucky 31 fescue shall not be utilized in the wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
- Upon completion of the project nontidal wetlands and the 25-foot nontidal wetland buffer will not be mowed or otherwise managed to prevent the re-establishment of the pre-existing cover.
- After installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations.

WRA TRACKING No. 19964330
AUTHORIZATION No. 96-NT-0553

SEQUENCE OF CONSTRUCTION

- CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (315-1870) PRIOR TO STARTING DATE. (1 DAY)
- INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV. (2 DAYS)
- EXCAVATE AND INSTALL PROPOSED 8" SEWER MAIN. RESTORE EARTH TRENCHES TO THEIR ORIGINAL CONDITION PER HOWARD COUNTY STANDARD. (TRENCH TO BE BACKFILLED AND STABILIZED ON SAME DAY) (TOTAL DURATION 28 DAYS)
- RESTORE ALL DISTURBED AREAS AND STABILIZE WITH PERMANENT SEEDING. (7 DAYS)
- UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES. (2 DAYS)

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 6-8-01
Chief, Bureau of Engineering: *[Signature]* DATE: 6-8-01
Chief, Utility Design Division: *[Signature]* DATE: 6-8-01

ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7800



DES: CSC					
DRN: CK					
CHK: TW					
DATE: 5/2001	BY	NO.	REVISION	DATE	TAX MAP NO. 47

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

GROSS AVENUE WATER & SEWER EXTENSION
CAPITAL PROJECT No. S-6209
CONTRACT No. 24-3891
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 4
FILE NAME: M7/1999/0191801.M