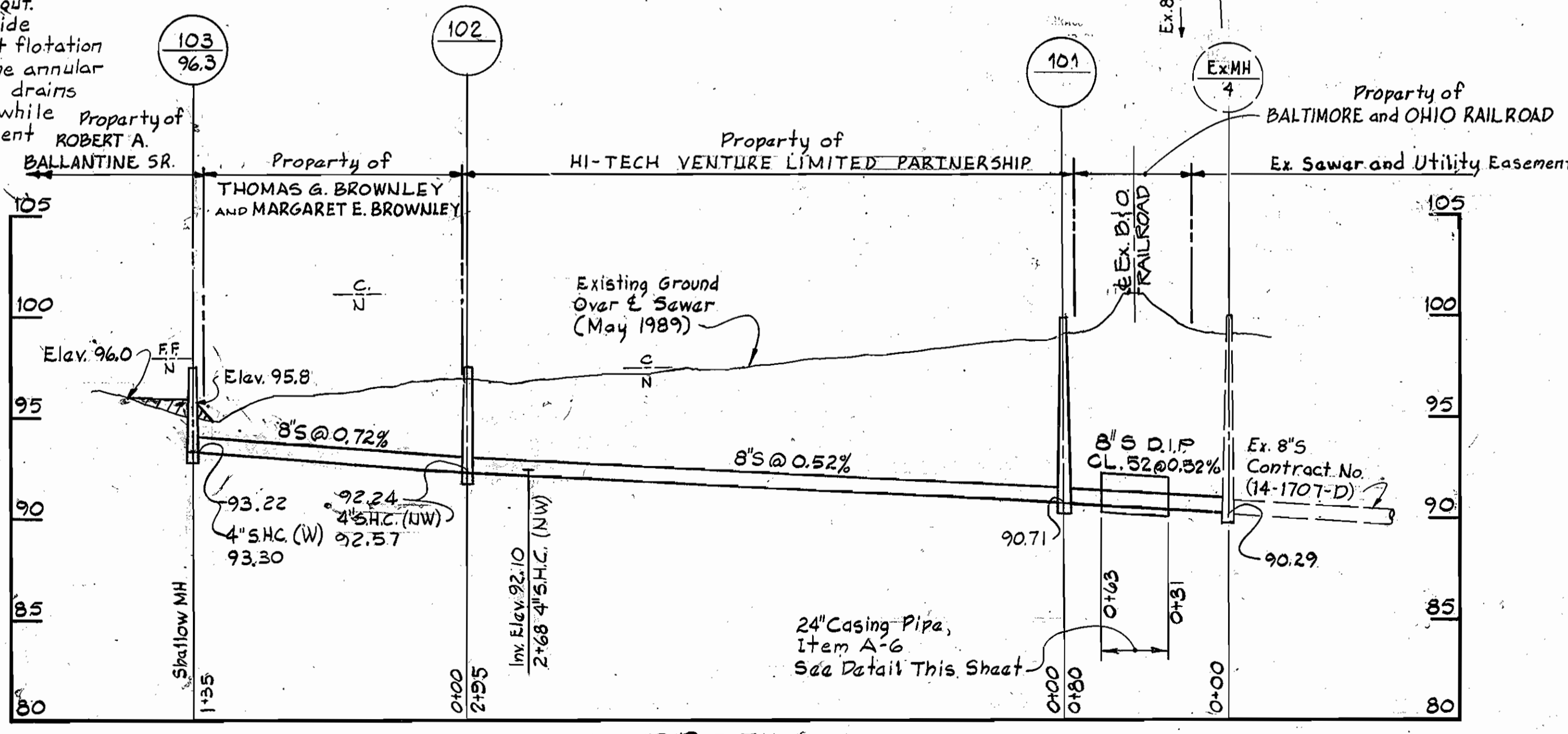
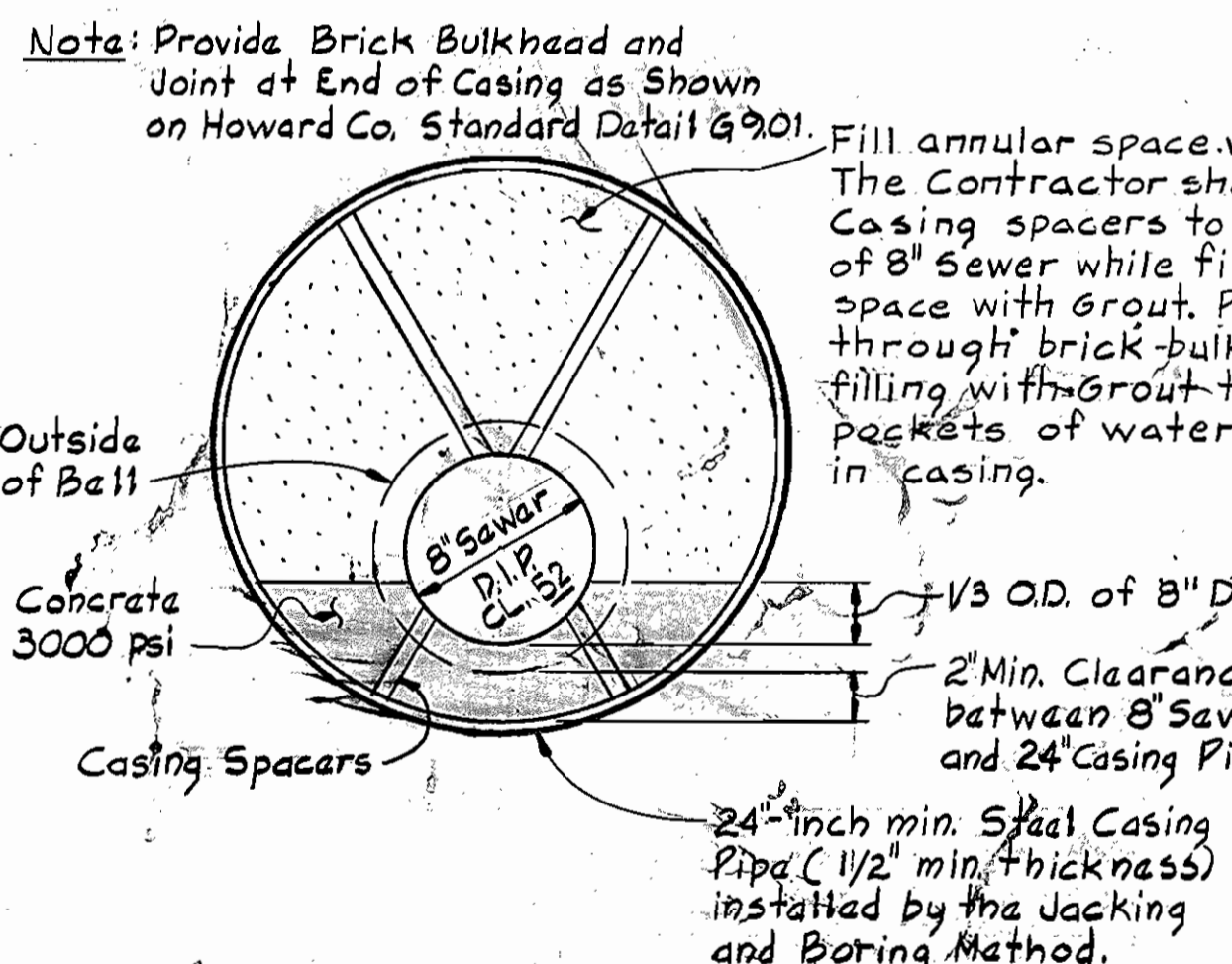


WASTEWATER DISPOSAL/ATAS/PCO WWTP
DRAINAGE AREA: DEEP RUN
NO. OF SHC: 3
NO. OF WHC: N/A
WATER & SEWER CODE
COUNTY USE:
WATER: N/A
SEWER: 2220000

QUANTITIES

ITEM	BID	AS BUILT	MATERIAL/SUPPLIER
8" Sewer L.F.	500 L.F.	421 L.F.	8" P.C. 3000 PSI BELLARD
4" S.H.C. L.F.	30 L.F.	27 L.F.	4" S.H.C. 20' BELLARD
24" Casing	32 L.F.	32 L.F.	24" S.H.C. 20' BELLARD
Std MH Ea.	2	2	ATLANTIC CONCRETE PRODUCTS
Shallow MH Ea.	1	1	ATLANTIC CONCRETE PRODUCTS



- GENERAL NOTES**
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
 - ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED.
 - 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. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL [] AT 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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-5533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
 - BALTIMORE GAS & ELECTRIC CO. - UNDERGROUND DAMAGE CONTROL - 859-9004
 - BALTIMORE GAS & ELECTRIC CO. - TROUBLE SHOOTING - 298-9001
 - MISS UTILITY - 1-800-257-7777
 - COLONIAL PIPELINE CO. - 795-1390
 - C&P TELEPHONE CO. - 1-800-257-7777
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - 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.
 - ALL SEWER MAINS SHALL BE C.S.P.X., D.I.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
 - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS. STANDARD DETAIL G5-52, WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - STRAW BALE DIKE AND SILT FENCE ARE INTERCHANGEABLE.
 - FOR MANHOLES IN OPEN SPACE OR OUTFALL, SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - SEWER HOUSE CONNECTIONS SHALL BE 4" PIPE.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *James M. Helms* DATE: 10/3/90

U.S. SOIL CONSERVATION SERVICE

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard County Conservation District APPROVED

SIGNATURE: *Cliff W. Helms* DATE: 10/3/90

HOWARD COUNTY S.C.D.

Sediment Control Measures for this Contract will be implemented in accordance with Section 219 of the Standard Specifications.

PROFILE
 Scale: 1" = 50' Horizontal
 1" = 5' Vertical

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works (Acting) DATE: 8/10/90
 Robert M. Bennett DATE: 8-6-90
 CHIEF - BUREAU OF UTILITIES

Chief, Bureau of Engineering DATE: 7-27-90
 DATE: 7-27-90
 CHIEF - UTILITY DESIGN DIVISION

WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS
 2315 ST. PAUL ST.
 BALTIMORE, MARYLAND

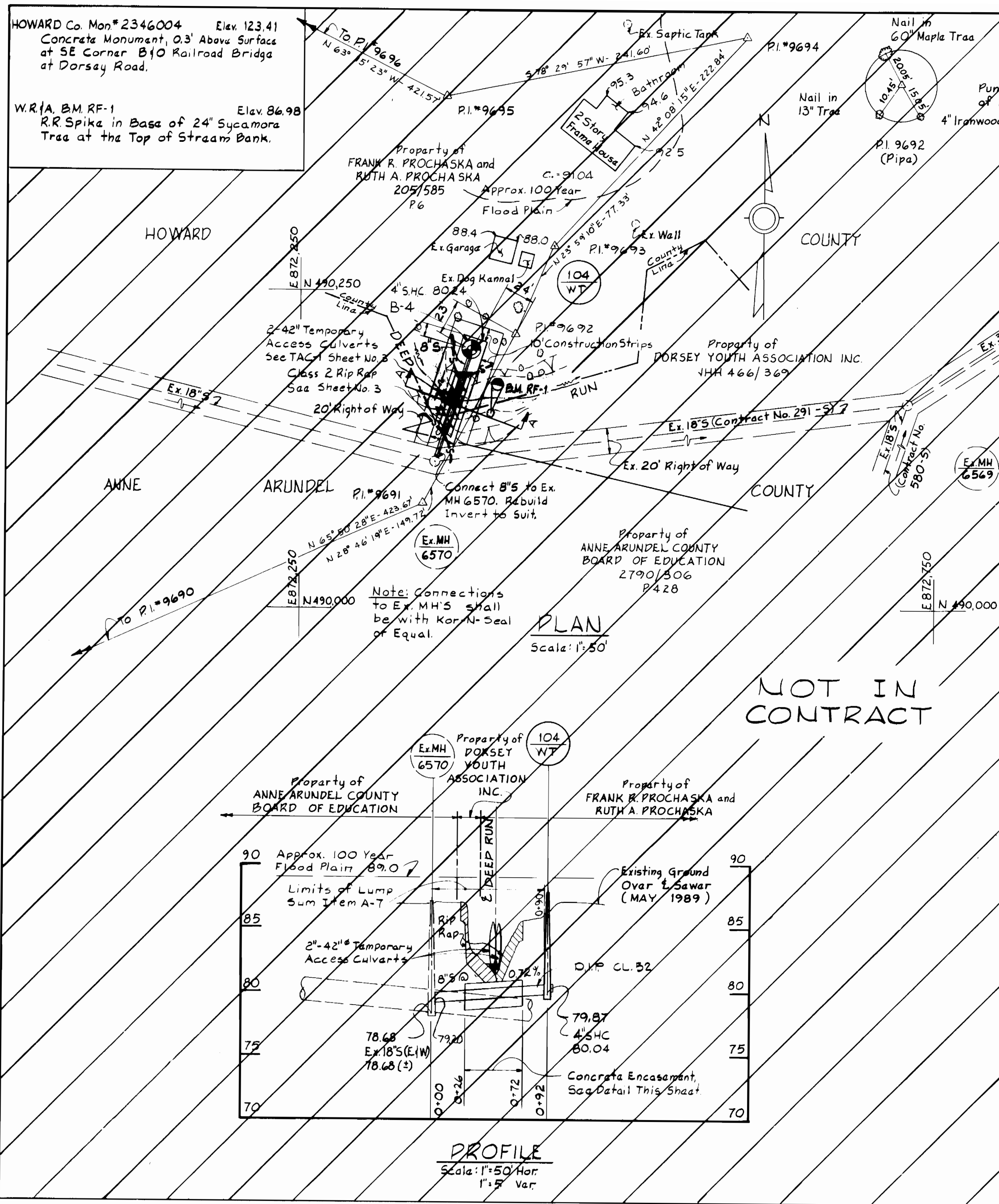
DES: R.B.N.					
DRN: R.A.F.					
CHK: R.B.N.					
DATE: 10-19-90	BY	NO.	REVISION	DATE	

VICINITY MAP
 PLAN & PROFILE
 OF SEWER MAINS

600' SCALE MAP NO. 44 BLOCK NO. 1

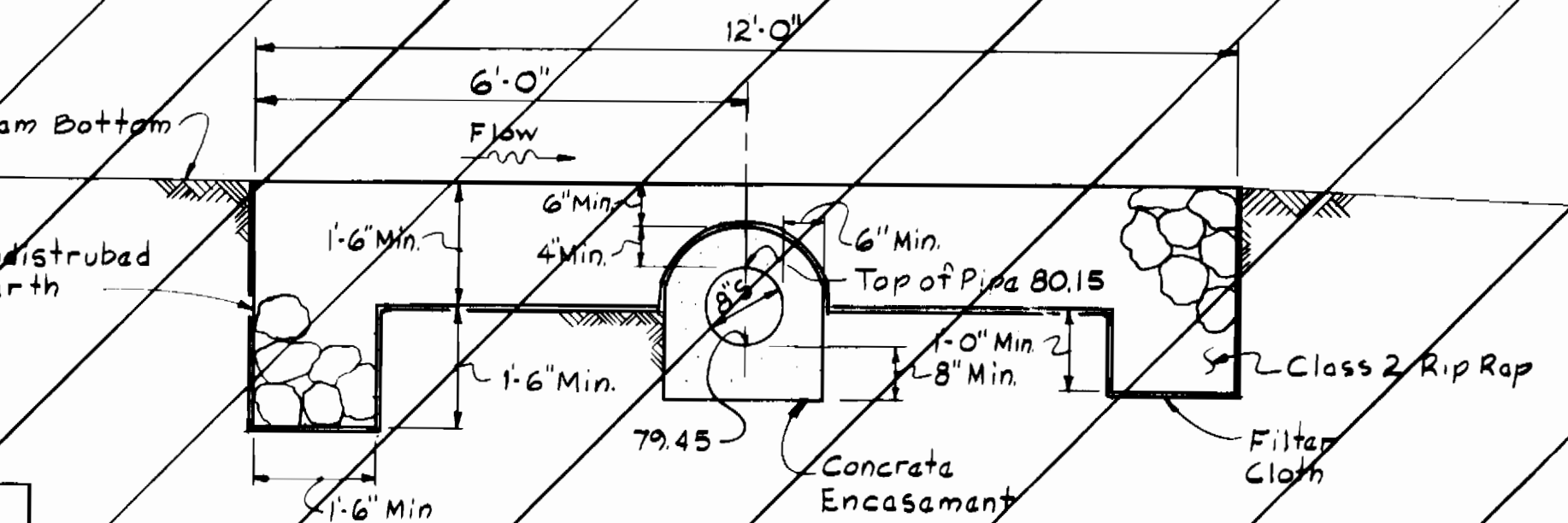
O'CONNOR DRIVE SEWER MAIN
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY
 CONTRACT NO. 10-1907

SCALE AS SHOWN
 SHEET 1 OF 3



RESTORATION SCHEDULE

EX. MH.4 TO RAILROAD	SEED AND MULCH
RAILROAD TO MH.102	SEED AND MULCH
MH.102 TO MH.103	SOD
EX. MH.0570 TO MH.104	SEED AND MULCH



SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

- PERMANENT SEEDING**
 - SEEDBED PREPARATION: LOOSEN UPPER 3" OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS PRIOR TO SEEDING.
 - SOIL AMENDMENTS: IN LIEU OF SOIL TEST USE ONE OF THE FOLLOWING:
 - BEFORE SEEDING APPLY 92 LBS. OF DOLOMITIC LIMESTONE AND 14 LBS. OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISC INTO UPPER 3" OF SOIL. AT TIME OF SEEDING APPLY 9 LBS. OF 30-0-0 UREAFORM FERTILIZER PER 1,000 SQUARE FEET.
 - BEFORE SEEDING APPLY 92 LBS. OF DOLOMITIC LIMESTONE AND 23 LBS. OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISC INTO UPPER 3" OF SOIL.
 - SEEDING: APPLY 1.4 LBS. PER 1,000 SQUARE FEET OF KENTUCKY 31 TALL FESCUE BETWEEN MARCH 1 AND APRIL 30 OR BETWEEN AUGUST 1 AND OCTOBER 15. ANY 1.4 LBS. OF KENTUCKY 31 TALL FESCUE AND 0.05 LBS. OF WEEPING LOVEGRASS PER 1,000 SQUARE FEET BETWEEN MAY 1 AND JULY 31. APPLY 1.4 LBS. OF KENTUCKY 31 TALL FESCUE PER 1,000 SQUARE FEET AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW BETWEEN OCTOBER 16 AND FEBRUARY 28 OR APPLY SOD.
 - MULCHING: APPLY 70 TO 90 LBS. PER 1,000 SQUARE FEET OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 5 GALLONS PER 1,000 SQUARE FEET OR EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8' OR HIGHER USE 8' PER 1,000 SQUARE FEET FOR ANCHOR.
- TEMPORARY SEEDING**
 - SEEDBED PREPARATION: LOOSEN UPPER 3" OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS PRIOR TO SEEDING.
 - SOIL AMENDMENTS: APPLY 14 LBS. PER 1,000 SQUARE FEET OF 10-10-10 FERTILIZER.
 - SEEDING: APPLY 3-2 LBS. PER 1,000 SQUARE FEET OF ANNUAL RYE BETWEEN MARCH 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND NOVEMBER 15. APPLY 0.07 LBS. PER 1,000 SQUARE FEET OF WEEPING LOVEGRASS BETWEEN MAY 1 AND AUGUST 14. APPLY 2 TONS OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING BETWEEN NOVEMBER 16 AND FEBRUARY 28. OR USE SOD.
 - MULCHING: APPLY 70 TO 90 LBS. PER 1,000 SQUARE FEET OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 5 GALLONS PER 1,000 SQUARE FEET OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8' OR HIGHER USE 8 GALLONS PER 1,000 SQUARE FEET FOR ANCHORING.
- PERMANENT SOD**

PERMANENT SOD IS TO BE KENTUCKY 31 TALL FESCUE STATE APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ABUTTING. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES GREATER THAN 3 TO 1, AS SHOWN, ARE TO BE PERMANENTLY SODDED. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE APPLIED ON FROZEN GROUND.

TRAVERSE COORDINATES

POINT	NORTH COORDINATE	EAST COORDINATE
9500	491825.15	873029.27
132	491733.32	873123.88
9685	491448.86	872974.54
9686	491343.14	872896.82
9687	491739.35	872627.49
9688	492052.70	872808.70
9499	492133.63	872933.92
9501	491566.49	873295.77

POINT	NORTH COORDINATE	EAST COORDINATE
9689	490078.15	871637.53
9690	489910.57	871961.41
9691	490083.97	872347.97
9692	490215.20	872420.03
9693	490285.85	872451.46
9694	490451.09	872600.97
9695	490402.92	872364.22
9696	490592.63	871987.75
9697	490605.30	871942.91

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT
 SIGNATURE: *James M. Dehn* 10/3/90
 U.S. SOIL CONSERVATION SERVICE

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard County Conservation District APPROVED
 SIGNATURE: *John L. Adams* 10/3/90
 HOWARD COUNTY

Sediment Control Measures for this Contract will be implemented in accordance with Section 219 of the Standard Specifications.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DIRECTOR OF PUBLIC WORKS (Acting) DATE: 8/10/90
 CHIEF-BUREAU OF UTILITIES DATE: 8-6-90

WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS
 2315 ST. PAUL ST. BALTIMORE, MARYLAND
 CHIEF-BUREAU OF ENGINEERING DATE: 7-27-90
 CHIEF-UTILITY DESIGN DIVISION DATE: 7-27-90

DES: R.B.N.	
DRN: R.A.F.	
CHK: R.B.N.	
DATE: 10-19-90	
BY NO.	REVISION

VICINITY MAP
 PLAN & PROFILE
 OF SEWER MAINS

44-490-873.5 CAPITAL PROJECT S-6160
 O'CONNOR DRIVE
 SEWER MAIN
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY
 CONTRACT NO. 10-1907
 SCALE AS SHOWN
 SHEET 2 OF 3

STRAW BALE DIKE

STANDARD SYMBOL
SBD

CONSTRUCTION SPECIFICATIONS

- BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
- INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED EROSION FLOW OR DRAINAGE.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

STRAW BALE DIKE

STANDARD DRAWING
SBD-1

Straw Bale Dike or Berm

PLAN VIEW

SECTION AA

SECTION BB

1. Description
The work shall consist of the construction of a dewatering basin for the purpose of receiving sediment-laden water pumped from a construction site to allow filtration before the water re-enters the waterway.

II. Material Specifications

- Riprap: Riprap shall consist of 4-8 inch washed stone or gravel.
- Filter Fabric: The filter cloth shall be a woven or nonwoven fabric consisting of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydrocarbons, mildew, and rot resistant. No. 6 stone (MSHD 57) may be used on the inner-face for filtering instead of fabric.
- Strawbaales: Strawbaales shall meet the criteria as specified in the Maryland Standards and Specifications for Soil Erosion and Sediment Control.

III. Construction Requirements

- The contractor shall install all sediment and erosion control devices as the first order of business.
- Excavated materials shall be stored such that sediments are prevented from entering the waterway; i.e., sediment perimeter controls may be necessary.
- Excavated subsoil and topsoil shall be kept separate and replaced in their natural order.
- Any dewatering of the construction area shall be filtered through a dewatering basin prior to entering the waterway.
- The dewatering basin shall be excavated to a minimum depth of 3 feet.
- Once the dewatering basin becomes filled to 1/2 of the excavated depth, accumulated sediment shall be removed and disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the WQA.
- Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All ground contours shall be returned to their original condition unless specifically approved otherwise by the Administration.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

WATER RESOURCES ADMINISTRATION

Dewatering Basins

Approved On: *[Signature]*
Chief, Waterway Permits

WPD 1.1

EARTH DIKE

CROSS SECTION

CONSTRUCTION SPECIFICATIONS

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IV. Flow Channel Stabilization

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	1-5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR, SOD, 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD, 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

EARTH DIKE

STANDARD DRAWING
ED-1

RIP-RAP DETAIL WPD 3.1

Notes:

- Erosion Control Fabric shall be Poly-Filter-X as manufactured by Carthage Mills, Inc., Erosion Control Division, 124 West 66th Street, Cincinnati, Ohio; Laurel Erosion Control Cloth as manufactured by Laurel Plastics Inc., Madison, Missouri or, as equal.
- Rip-Rap shall be placed 6" each side & lower or as shown. Any disturbance to stream banks beyond these limits shall be protected with Rip-Rap at Contractor's expense.
- Gabions may be used in lieu of Rip-Rap.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

EARTH DIKE

STANDARD DRAWING
ED-1

SILT FENCE

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

SILT FENCE

STANDARD DRAWING
SF-1

STABILIZED CONSTRUCTION ENTRANCE

CONSTRUCTION SPECIFICATIONS

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

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MD.

STABILIZED CONSTRUCTION ENTRANCE

Standard Drawing
SCE-1

SEQUENCE OF CONSTRUCTION: UTILITY CROSSING

- OBTAIN ALL REQUIRED PERMITS, APPROVALS, LICENSES FROM THE APPROPRIATE AGENCIES.
- NOTIFY THE ENFORCEMENT DIVISION AT LEAST FIVE DAYS PRIOR TO INITIATION OF CONSTRUCTION AND FIVE DAYS AFTER WORK ENDS. THE ANNAPOLIS OFFICE IS (301) 974-2641. NOTIFY HOWARD COUNTY S.C.S. CONTROL INSPECTORS (301) 465-3180.
- INSTALL PERIMETER CONTROLS CONSISTING OF STRAW BALE DIKES AND/OR SILT FENCING.
- INSTALL THE UTILITY APPROACHES TO THE STREAM.
- DIVERT THE STREAM (REFERENCE WPD 2.1 OR 2.3).
- DEWATER THE CONSTRUCTION AREA. ALL DEWATERING DISCHARGES SHALL BE DIVERTED TO A DEWATERING BASIN AS PER WPD 1.1 BEFORE RE-ENTERING THE STREAM.
- STABILIZE THE DISTURBED BANKS USING FILTER FABRIC AND RIPRAP OR GABIONS. RIPRAP MUST BE SIZED AND INSTALLED AS PER WPD 3.1.
- REMOVE THE DIVERSION FROM UPSTREAM TO DOWNSTREAM.
- STABILIZE ALL DISTURBED AREAS.
- NOTIFY S.C.S. INSPECTOR.
- REMOVE PERIMETER CONTROLS.

NOTES:

A. PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT ALL ACCESS POINTS TO PAVED ROADS.

B. SEE PERMITS BOUND IN SPECIFICATIONS AS FOLLOWS:
WQA 90-TC-1195
COE 90-3195-5

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

WATER RESOURCES ADMINISTRATION

Culvert Pipe with Access Road

Approved On: *[Signature]*
Chief, Waterway Permits

WPD 2.1

TEMPORARY ACCESS CULVERT

CONSTRUCTION SPECIFICATIONS

- Restrictions** - No construction or removal of a temporary access culvert will be permitted between October 1 through April 30 for all Class III and Class IV Trout Waters or between March 15 through June 15 for non-trout waterways.
- Culvert Strength** - All culverts shall be strong enough to support their cross sectional area under maximum expected loads.
- Culvert Size** - The size of the culvert pipe shall be the largest pipe diameter that will fit into the existing channel without major excavation of the waterway channel or without major approach fills. If a channel width exceeds 3 feet, additional pipes may be used until the cross sectional area of the pipes is greater than 60 percent of the cross sectional area of the existing channel. The minimum size culvert that may be used is a 12" diameter pipe.
- Culvert Length** - The culvert(s) shall extend a minimum of one foot beyond the upstream and downstream toe of the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.
- Filter Cloth** - Filter cloth shall be placed on the streambed and streambanks prior to placement of the pipe culvert(s) and aggregate. The filter cloth shall cover the streambed and extend a minimum six inches and a maximum one foot beyond the end of the culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.
- Culvert Placement** - The invert elevation of the culvert shall be installed on the natural streambed grade to minimize interference with fish migration (free passage of fish).
- Culvert Protection** - The culvert(s) shall be covered with a minimum of one foot of aggregate. If multiple culverts are used they shall be separated by at least 12" of compacted aggregate fill. At a minimum, the bedding and fill material used in the construction of the temporary access culvert crossings shall conform with the aggregate requirements cited in Section I.H. 1. above.
- Stabilization** - All areas disturbed during culvert installation shall be stabilized within 14 calendar days of the disturbance in accordance with the Standard for "Critical Area Stabilisation With Permanent Seeding."

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

WATER RESOURCES ADMINISTRATION

Culvert Pipe with Access Road

Approved On: *[Signature]*
Chief, Waterway Permits

WPD 2.1

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U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

WATER RESOURCES ADMINISTRATION

Culvert Pipe with Access Road

Approved On: *[Signature]*
Chief, Waterway Permits

WPD 2.1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 8/10/90
DIRECTOR OF PUBLIC WORKS - DATE

[Signature] 8-6-90
CHIEF - BUREAU OF UTILITIES - DATE

CHIEF - BUREAU OF ENGINEERING - DATE

[Signature] 7-22-90
CHIEF - UTILITY DESIGN DIVISION - DATE

WHITMAN, REQUARDT
AND ASSOCIATES
ENGINEERS

2315 ST PAUL ST
BALTIMORE, MARYLAND

DESIGN
DRAWING
DATE 10-19-90

SEDIMENT CONTROL
DETAILS

600' SCALE MAP NO. 44 BLOCK NO. 1

O'CONNOR DRIVE
SEWER MAIN
ELECTION DISTRICT NO. 1
HOWARD COUNTY
CONTRACT NO. 10-1907

SCALE AS SHOWN
SHEET 3 OF 3
JUNE 21, 1991