

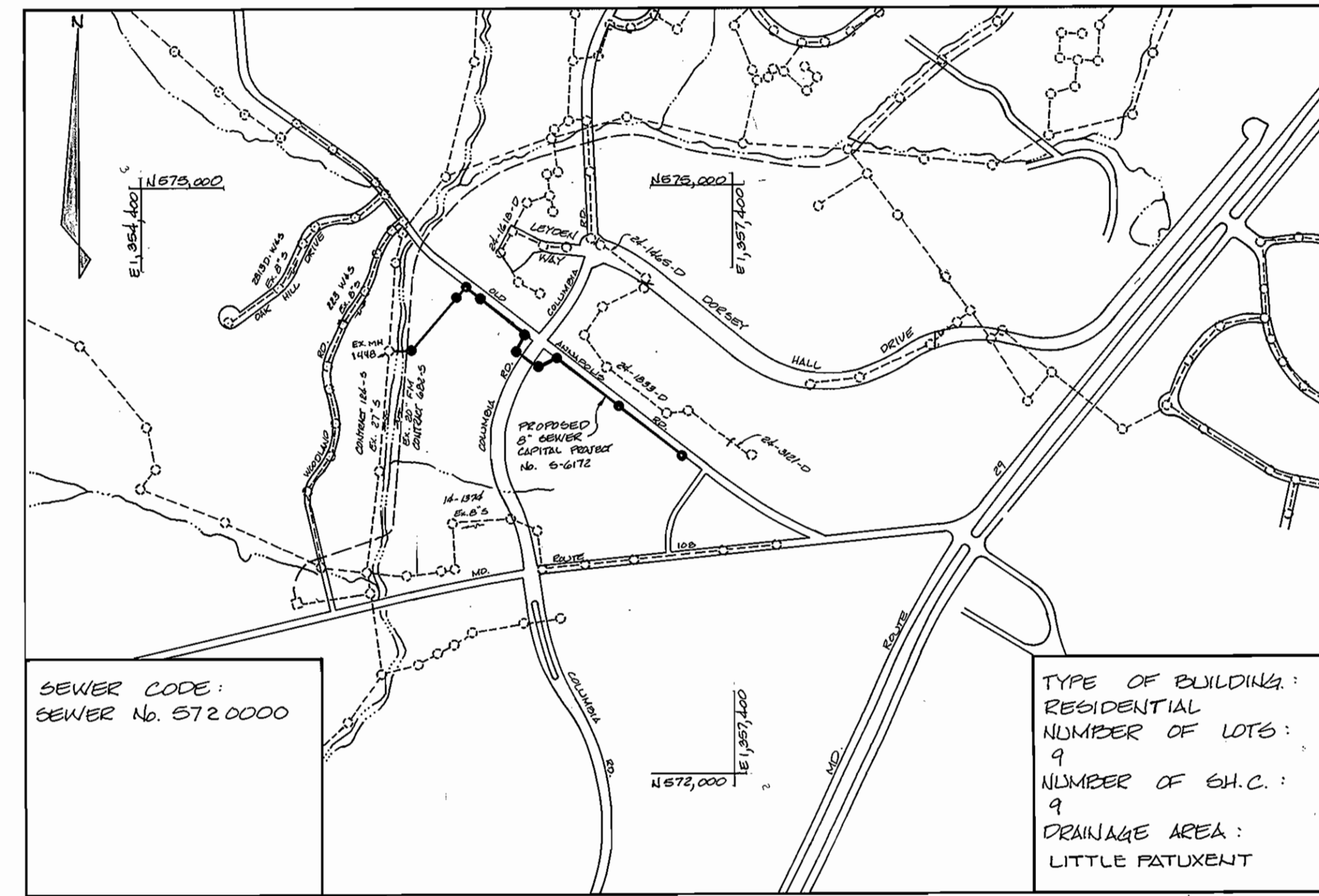
# PUBLIC SEWER PLAN

# OLD ANNAPOLIS ROAD

## 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 20-3311 CAPITAL PROJECT NO. S-6172

### GENERAL NOTES

1. 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.
2. ALL HORIZONTAL CONTROLS SHOWN ARE BASED ON MARYLAND STATE COORDINATES (NAD 83).
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON PLANS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME II, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME II ON THE JOB.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT LOCATION OF 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 TESTS HAVE NOT BEEN DONE SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS PRIOR TO STARTING WORK SHOWN ON THE PLAN:
  - C & P TELEPHONE COMPANY..... 597-8585
  - STATE HIGHWAY ADMINISTRATION..... 531-8593
  - BALTIMORE GAS & ELECTRIC CO. CONTRACTOR SERVICE..... 850-4620
  - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE SERVICE..... 787-9068
  - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING..... 298-7001
  - MISS UTILITY..... 1-800-257-7777
  - COLONIAL PIPELINE..... 795-1390
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPT. OF PUBLIC WORKS..... 313-4100
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 FOR CONSTRUCTION OF THE MAIN.
11. ALL SEWER MAINS SHALL BE R.P.P. OR P.V.C. UNLESS OTHERWISE NOTED.
12. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
13. TRENCH REPAIR TO BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS.
14. ALL WORK WILL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL SECTION 219.
15. LENGTH OF OPEN TRENCH WILL BE LIMITED TO THAT WHICH CAN BE FILLED AND STABILIZED WITHIN ONE WORKING DAY OR THREE PIPE LENGTHS, WHICHEVER IS SHORTER.
16. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER-TIGHT FRAME AND COVER, STANDARD DETAIL 45.52. WHERE WATER-TIGHT FRAME AND COVER ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
17. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 316-1820 AT LEAST FIVE WORKING DAYS BEFORE CONSTRUCTION WITHIN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH OPEN REQUIREMENTS PER SECTION 18.14(G) OF THE HOWARD COUNTY CODE.
18. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
19. CONSTRUCTION WITHIN WETLANDS AND STREAMS TO BE COMPLETED IN ACCORDANCE WITH MARYLAND DEPARTMENT OF NATURAL RESOURCES PERMIT #1094-62374/94-NT-0021.



### CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS

- A. FOR UTILITY LINE INSTALLATION, STRIP, STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6"-12" OF SOIL MATERIAL FROM THE NONTIDAL WETLANDS AND BUFFER. TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL.
- B. REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA, OUTSIDE OF ANY FLOODPLAIN, WATERWAY, WETLAND OR BUFFER.
- C. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND.
- D. USE PREVIOUSLY EXCAVATED MATERIAL AS UTILITY LINE BACKFILL, UNLESS IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE "CLEAN" BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE AS BACKFILL.
- E. 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 NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE WETLANDS DIVISION, KENTUCKY 91 RESCUE 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.
- F. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NONTIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS.
- G. TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:
  - i) CLASS 1 WATERS. (IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

### REFERENCE BENCH MARKS

1. R.M.A. BENCH MARK: RAILROAD SPIKE IN D.G. & E. POLE # 538208 ELEV. 396.97
2. R.M.A. BENCH MARK: RAILROAD SPIKE IN D.G. & E. POLE # 390112 ELEV. 360.21

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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Paul Papan* 5/6/94  
DEVELOPER DATE

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

*J. Farrell* 5.3.94  
ENGINEER DATE

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	SUPPLIER
8" SEWER MAIN	L.F.	182.3	180.5	J.M. MANUFACTURING
4" MANHOLES	EA.	5 Δ	6	ATLANTIC CONCRETE
DROP TYPE 'B' MH.	EA.	2 3	2	ATLANTIC CONCRETE
4" SHC	L.F.	107	155.5	J.M. MANUFACTURING
D.I.P. CLASS 52	L.F.	103	98	GRIFFIN PIPE PROD.
DROP TYPE 'A' MH.	EA.	2 Δ	2	ATLANTIC CONCRETE
TERMINAL MANHOLE	EA.	1	1	ATLANTIC CONCRETE

MANHOLE SCHEDULE				
NO.	DESCRIPTION	± STA. OR NORTH COORD.	OFFSET OR EAST COORD.	REMARKS
1	TERMINAL	± STA. 130+68	6' RT.	H.Co. STD. DTL. 51.31
2	STANDARD	± STA. 134+67	7' RT.	H.Co. STD. DTL. 45.01
3	DROP 'A' TYPE	± STA. 130+78	5' RT.	H.Co. STD. DTL. 51.32
4	DROP 'B' TYPE	± STA. 130+12	84' RT.	H.Co. STD. DTL. 51.32
5	STANDARD	± STA. 129+24	34' RT.	H.Co. STD. DTL. G 5.01
6	STANDARD	± STA. 128+80	20' RT.	H.Co. STD. DTL. 4.5.01
7	STANDARD	± STA. 125+85	15' RT.	H.Co. STD. DTL. 4.5.01
8	DROP 'B' TYPE	± STA. 124+88	11' RT.	H.Co. STD. DTL. 51.32
9	DROP 'A' TYPE	N574.467	E 1,356.027	H.Co. STD. DTL. 51.32
10	STANDARD Δ	N574.166	E 1,355.764	H.Co. STD. DTL. G 5.01A

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
M.H. 1 TO M.H. 3	792 L.F.	BIT. CONC.
M.H. 3 TO M.H. 4	12 L.F.	BIT. CONC.
	91 L.F.	SEED MULCH
M.H. 5 TO M.H. 6	2 L.F.	BIT. CONC.
	76 L.F.	SEED & MULCH
M.H. 10 TO EX. M.H. 1448	55 L.F.	SEED & MULCH
	40 L.F.	STREAM RESTORATION
SHC TO P. 231	5 L.F.	BIT. CONC.
	4 L.F.	SEED & MULCH
SHC TO P. 65	5 L.F.	BIT. CONC.
	5 L.F.	SEED & MULCH
SHC TO P. 65	5 L.F.	BIT. CONC.
	5 L.F.	SEED & MULCH
SHC TO P. 62	5 L.F.	BIT. CONC.
	5 L.F.	SEED & MULCH
SHC TO P. 63	4 L.F.	BIT. CONC.
	4 L.F.	SEED & MULCH
SHC TO P. 61	4 L.F.	BIT. CONC.
	4 L.F.	SEED & MULCH
SHC TO P. 60	3 L.F.	BIT. CONC.
	7 L.F.	SEED & MULCH
SHC TO P. 229	4 L.F.	BIT. CONC.
	7 L.F.	SEED & MULCH
SHC TO P. 59	12 L.F.	SEED & MULCH
M.H. 8 TO M.H. 8	392 L.F.	BIT. CONC.
M.H. 8 TO M.H. 9	10 L.F.	BIT. CONC.
	41 L.F.	SEED & MULCH
	4 L.F.	RIPRAP
M.H. 4 TO M.H. 5	2.8 L.F.	SEED & MULCH
SHC TO M.H. 5	9 L.F.	SEED & MULCH

SEWER HOUSE CONNECTIONS			
STATION	LOT / PARCEL	INV. ELEVATION @ 1'	
PROP. MH. #1	P. 231	383.20	
± STA. 137+62	P. 65	381.04	
± STA. 137+01	P. 65	379.82	
± STA. 135+88	P. 62	377.84	
PROP. MH. #2	P. 63	376.35	
± STA. 133+98	P. 61	371.86	
± STA. 132+84	P. 60	365.78	
± STA. 132+04	P. 229	361.80	
± STA. 130+55	P. 59	351.62	
PROP. MH. #5	HARVESTER CIRCLE	340.12	

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications

Review for Howard Soil Conservation District and meets technical requirements.

*Patricia Egan /cs* 5/12/94  
U.S. SOIL CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

*Jeffrey Schuy* 5/12/94  
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James R. ...* 5/16/94  
DIRECTOR OF PUBLIC WORKS DATE

*Paul Papan* 5/6/94  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert ...* 5-10-94  
CHIEF, BUREAU OF UTILITIES DATE

*De ...* 5-5-94  
CHIEF, WATER & SEWER DESIGN DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
8918 Centre Park Drive • Suite 200 • Columbia, Md. 21045  
410-997-8900 FAX: 410-997-9282

*J. Farrell*  
REGISTERED PROFESSIONAL ENGINEER  
JAYRAN D. PAREKH #1948

DES: C.M.			
DRN: C.M.			
CHK: J.P.O.			
DATE: 5-3-94			
BY NO.	CHANGED LH 10 TO STD. LH # REV. QUANTITIES	15-14-94	
	REVISION	DATE	

COVER SHEET

600' SCALE MAP NO. 30 BLOCK NO. 3 & 9

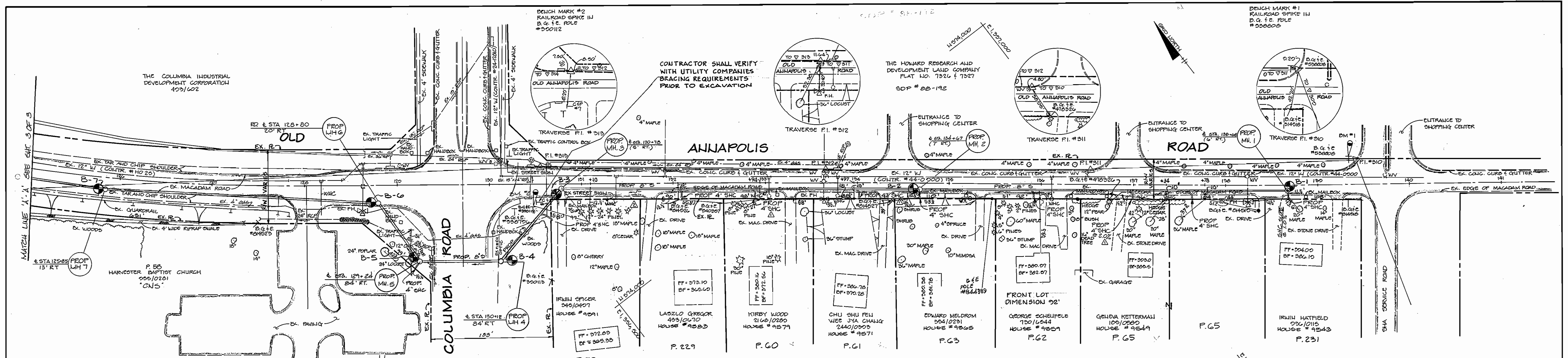
SCALE AS SHOWN

SHEET 1 OF 3

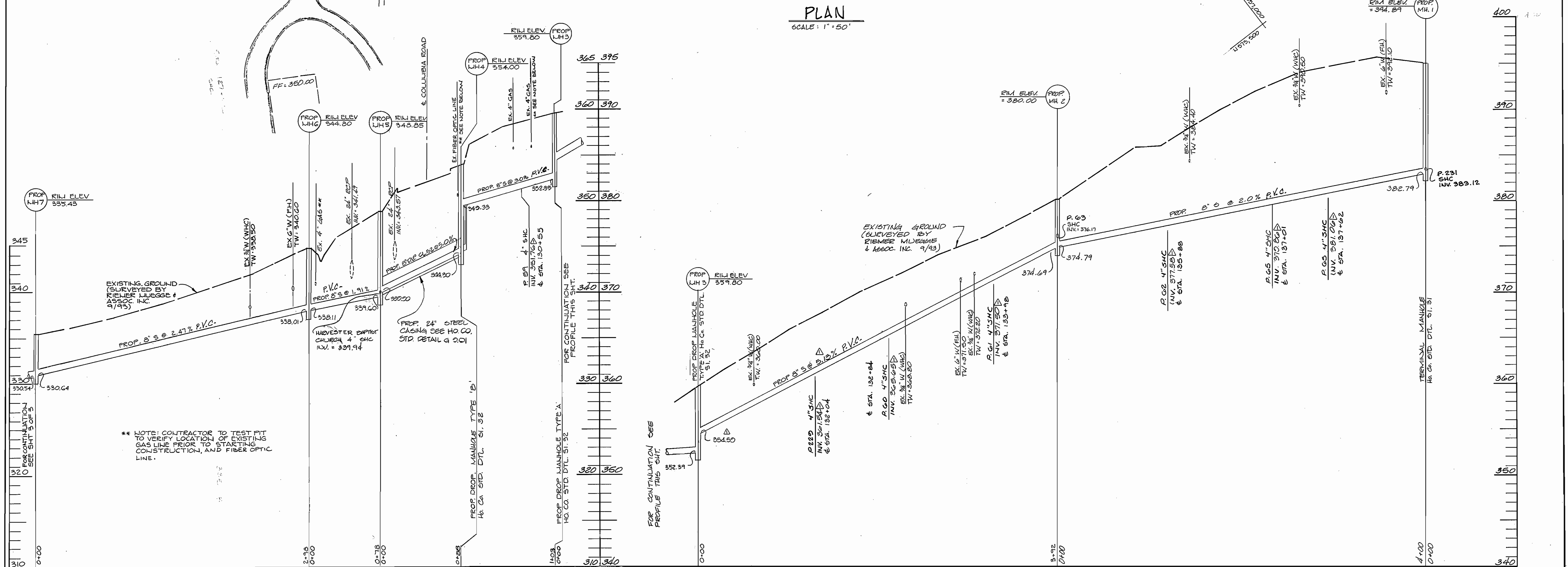
SEWER  
OLD ANNAPOLIS ROAD  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT No. 20-3311  
CAPITAL PROJECT No. S-6172

3311 WS/1 OLD ANNAPOLIS RD. C.P. # S-6172

3311 WS/2 OLD ANNAPOLIS RD. C.P.#S-6172



PLAN  
SCALE: 1" = 50'



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

<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND Director: <i>James A. ...</i> 5/16/94 Chief, Bureau of Engineering: <i>Paul ...</i> 5/16/94 Chief, Bureau of Utilities: <i>...</i> 5-10-94 Chief, Water & Sewer Design Division: <i>...</i> 5-5-94		<b>RIEMER MUEGGE &amp; ASSOCIATES, INC.</b> A Land Planning, Engineering and Consulting Firm 8810 Centre Park Drive • Suite 200 • Columbia, Md. 21045 410-997-8900 FAX: 410-997-9282 J. ... JAYKANT D. PAREKH *1048		DES: C.M. DRN: S.D.K. CHK: J.P.O. DATE: 5-3-94		<b>PLAN AND PROFILE</b> 600' SCALE MAP NO. 30 BLOCK NO. 3 & 4		<b>SEWER</b> OLD ANNAPOLIS ROAD 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT No. 20-3311 CAPITAL PROJECT No. S-6172		SCALE AS SHOWN SHEET 2 OF 3
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3311 WS/3 OLD ANNAPOLIS RD. C.P.# S-6172

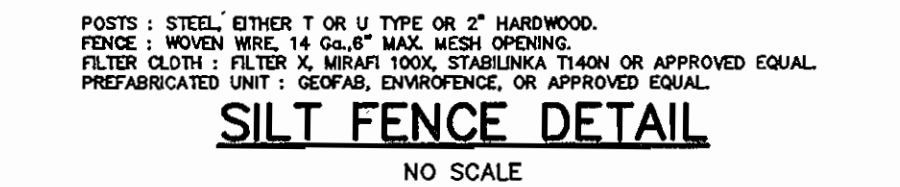
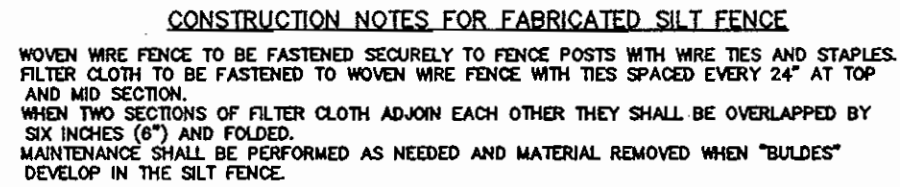
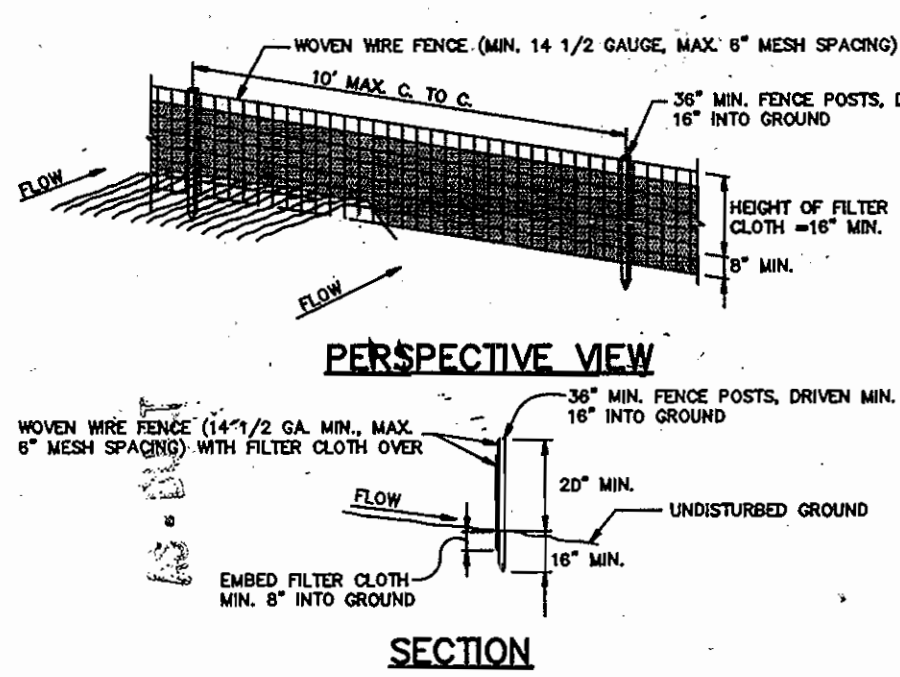
**SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL AND REVISIONS THEREOF.
- Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all permanent sediment control structures (dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around the 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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, for permanent seedings (Sec. 51) and (Sec. 52), temporary seedings (Sec. 53) and (Sec. 54) and mulch (Sec. 55). Temporary stabilization with mulch 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	0.92 acres
Area to be graded or paved	0.02 acres
Area to be vegetatively stabilized	0.90 acres
Total Cut	1000 cu. yds.
Total Fill	1000 cu. yds.
- Any sediment control practice which is disturbed by grading activity for placement of utilities shall be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- Site grading will begin only after all perimeter sediment control measures have been installed and are in a functional condition.
- Sediment will be removed from traps when its depth reaches clean soil elevation shown on the plans.
- Cut and fill quantities provided under site analysis do not represent bid quantities. These quantities do not distinguish between topsoil, structural fill or embankment material, nor do they reflect consideration of undercutting or removal of unusable material. The contractor shall familiarize himself with site conditions which may affect the work.
- 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 holding or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities are limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.

**TEMPORARY SEEDING NOTES**

- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- Seeded Preparation:** Loosen upper three inches of soil by raking, digging or other acceptable means before seeding, if not previously loosened.
- Soil Amendments:** Apply 500 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).
- Seeding:** For periods March 1 thru April 30 and from August 15 thru October 15, seed with 50 lbs. per acre of annual ryegrass (2.5 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of creeping lovegrass (0.7 lbs. per 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 80 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for rates and methods not covered.

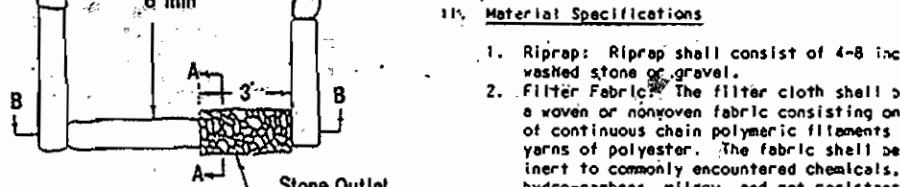
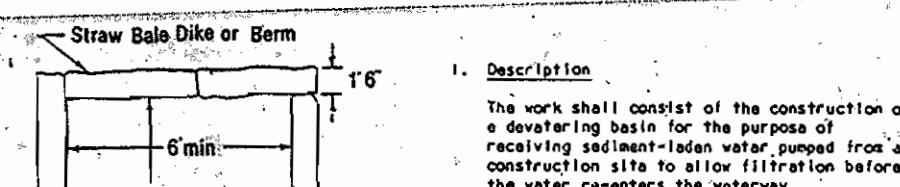


**PERMANENT SEEDING NOTES**

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seeded Preparation:** Loosen upper three inches of soil by raking, digging or other acceptable means before seeding, if not previously loosened.
- Soil Amendments:** In line of soil test recommendations, use one of the following schedules:
- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Horrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureiform fertilizer (8 lbs. per 1000 sq.ft.).
  - Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Horrow or disc into upper three inches of soil.
- Seeding:** For the period March 1 thru April 30 and from August 15 thru October 15, seed with 60 lbs. per acre (1.6 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 80 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of creeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:
- 2 tons per acre of well-anchored straw and seed as soon as possible in the spring.
  - Use sod.
  - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
- Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 80 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Maintenance:** Inspect all seeded areas and make needed repairs, replacements and reseedings.

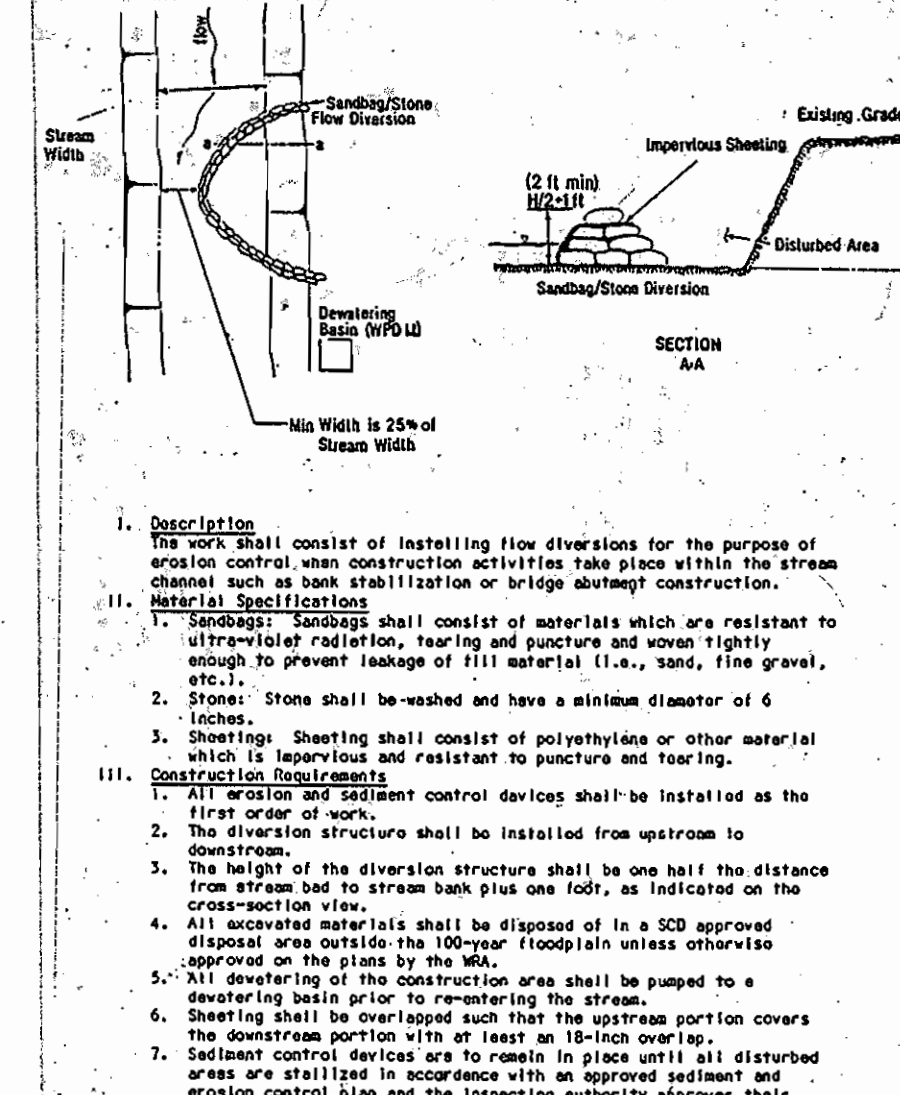
**SEQUENCE OF CONSTRUCTION**

- OBTAIN PERMITS.
- LAYOUT ALIGNMENT AT SITE.
- INSTALL SEDIMENT CONTROL DEVICES AS REQUIRED BY HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. COMPLETE STREAM CROSSINGS BASED ON 5 DAYS CLEAR WEATHER FORECAST USING SANDBAG AND DEWATERING DETAILS.
- INSTALL SEWER MAIN CONTRACTOR TO LIMIT OPEN TRENCH TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- PROVIDE SEEDING OR PAVING STABILIZATION AS APPLICABLE, PAVING TO BE DONE PER SPECIFICATIONS. COMPLETE SITE CLEAN UP.
- REMOVE ALL SEDIMENT CONTROLS UPON PERMISSION OF SEDIMENT CONTROL INSPECTOR.



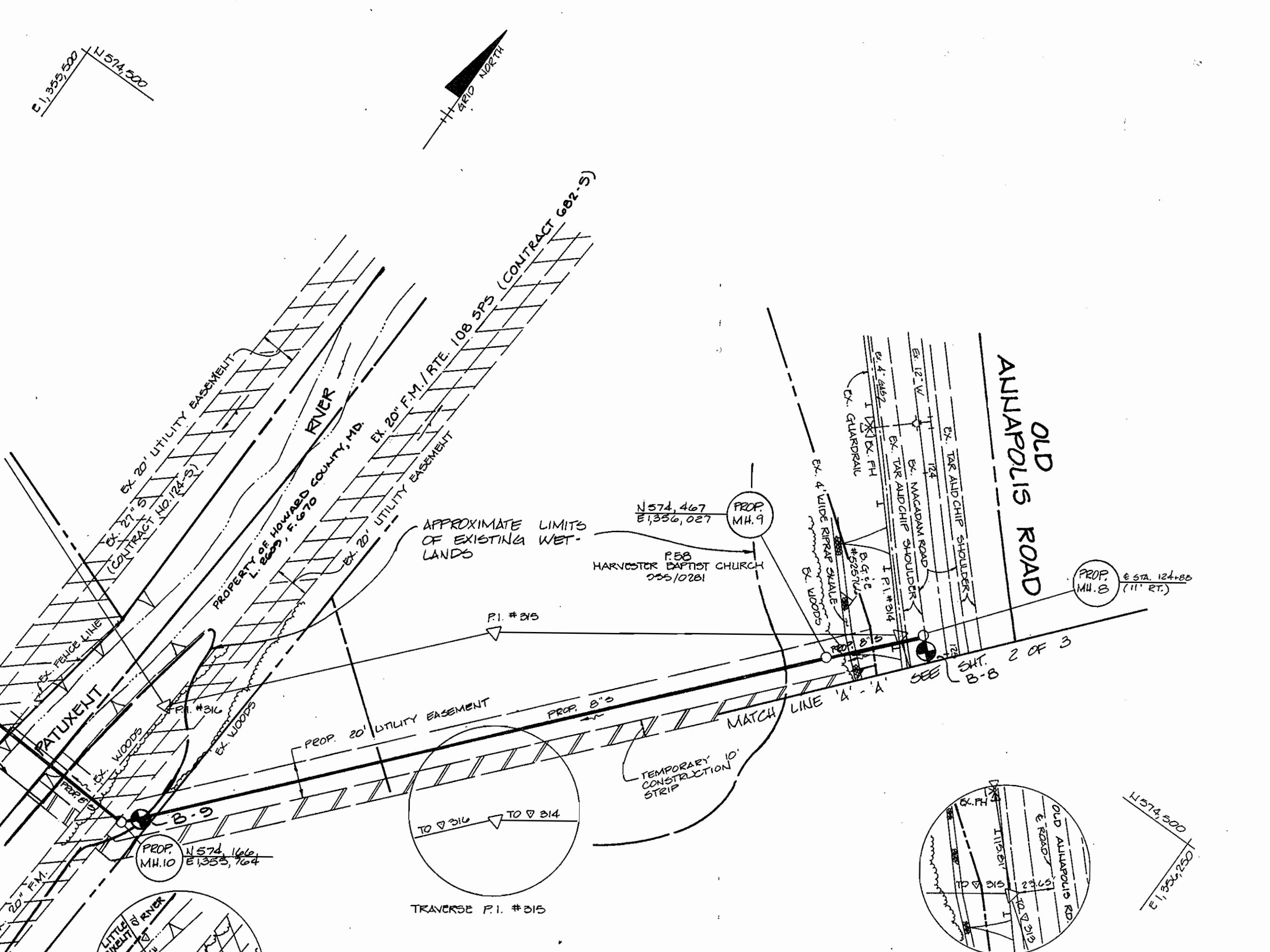
**DEWATERING BASIN**

- The contractor shall install all sediment and erosion control devices at the first order of business.
- Excavated materials shall be stored such that sediments are prevented from entering the adjacent 100-year floodplain. Sediment controls may be replaced.
- Excavated material and fill shall be kept separate and replaced in their original 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 500 approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the M&D.
- Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All ground contents shall be returned to their original condition unless specifically approved otherwise by the Administration.



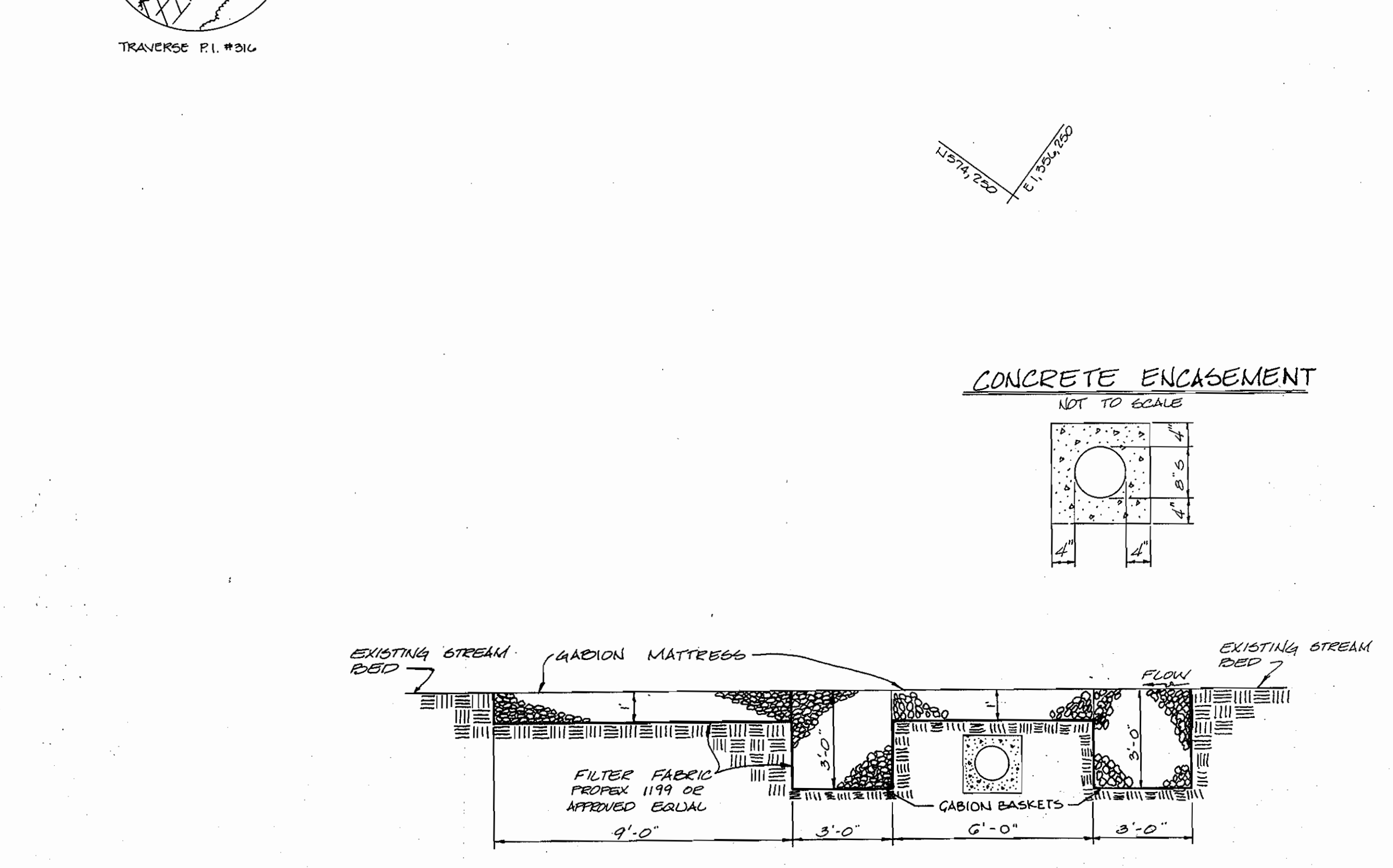
**SANDBAG DIVERSION**

- Description: The work shall consist of installing flow diversions for the purpose of erosion control when construction activities take place within the stream channel such as bank stabilization or bridge abutment construction.
- Construction Requirements:
  - Sandbags shall consist of materials which are resistant to ultraviolet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
  - Stones shall be washed and have a minimum diameter of 6 inches.
  - Sheetpiling shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.
  - All erosion and sediment control devices shall be installed as the first order of work.
  - The diversion structure shall be installed from upstream to downstream.
  - The height of the diversion structure shall be one half the distance from stream bed to stream bank plus one foot, as indicated on the cross-section view.
  - All excavated materials shall be disposed of in a 500 approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the M&D.
  - All dewatering of the construction area shall be pumped to a dewatering basin prior to re-entering the stream.
  - Sheetpiling shall be overlapped such that the upstream portion covers the downstream portion with at least an 18-inch overlap.
  - Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.



**PLAN**

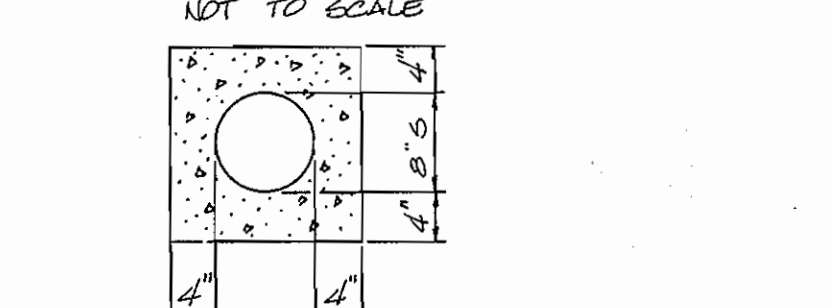
SCALE: 1" = 50'



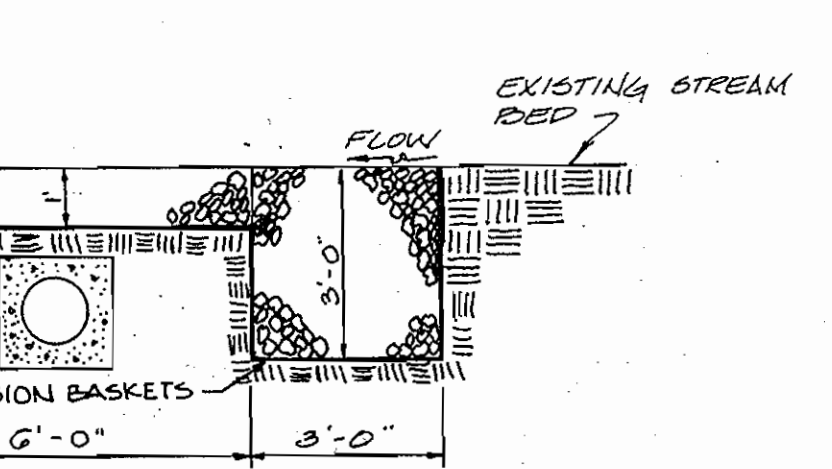
**PROFILE**

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

**CONCRETE ENCASUREMENT**



**STREAM EROSION PROTECTION DETAIL**



**STREAM EROSION PROTECTION DETAIL**

NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 5/16/94  
 Chief, Bureau of Engineering: *[Signature]* DATE: 5/16/94  
 Chief, Bureau of Utilities: *[Signature]* DATE: 5-10-94  
 Chief, Water & Sewer Design Division: *[Signature]* DATE: 5-5-94

RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
8818 Centre Park Drive Suite 200 Columbia, Md. 21045  
410-997-8900 FAX: 410-997-9282



DES: C.M.	
DRN: G.D.K.	
CHK: J.P.O.	
DATE: 5-3-94	
BY: JAYKANT D. PAREKH #P1428	

PLAN AND PROFILE

600' SCALE MAP NO. 30 BLOCK NO. 349

SEWER  
OLD ANNAPOLIS ROAD  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT No. 20-3311  
CAPITAL PROJECT No. S-6172

SCALE AS SHOWN  
SHEET 3 OF 3