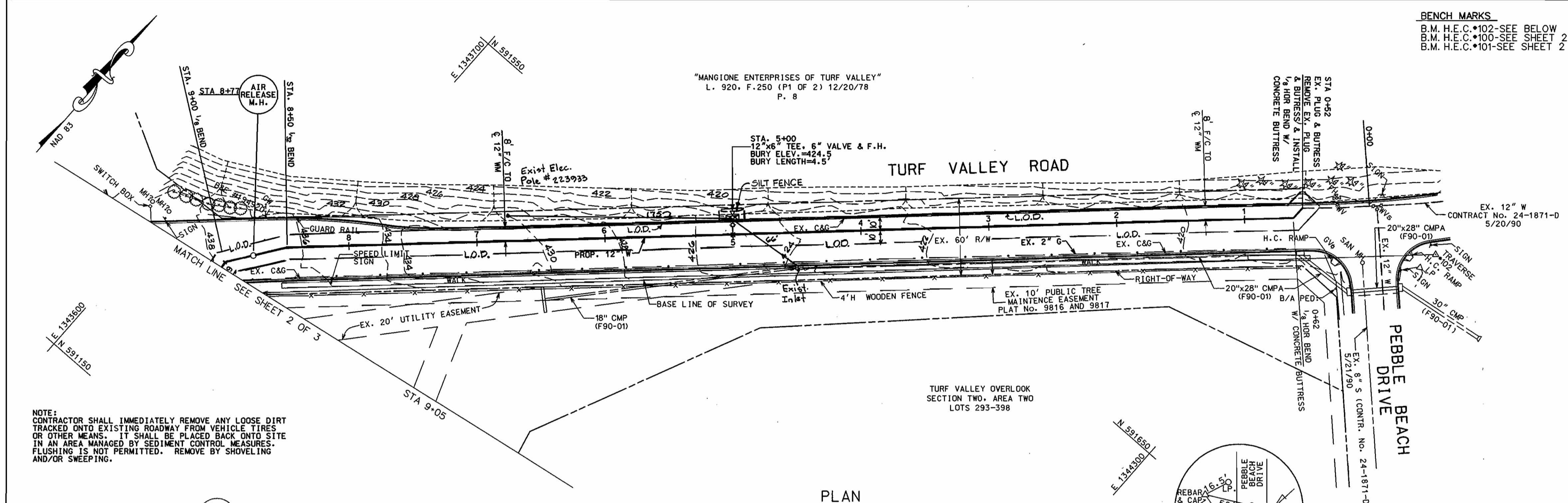
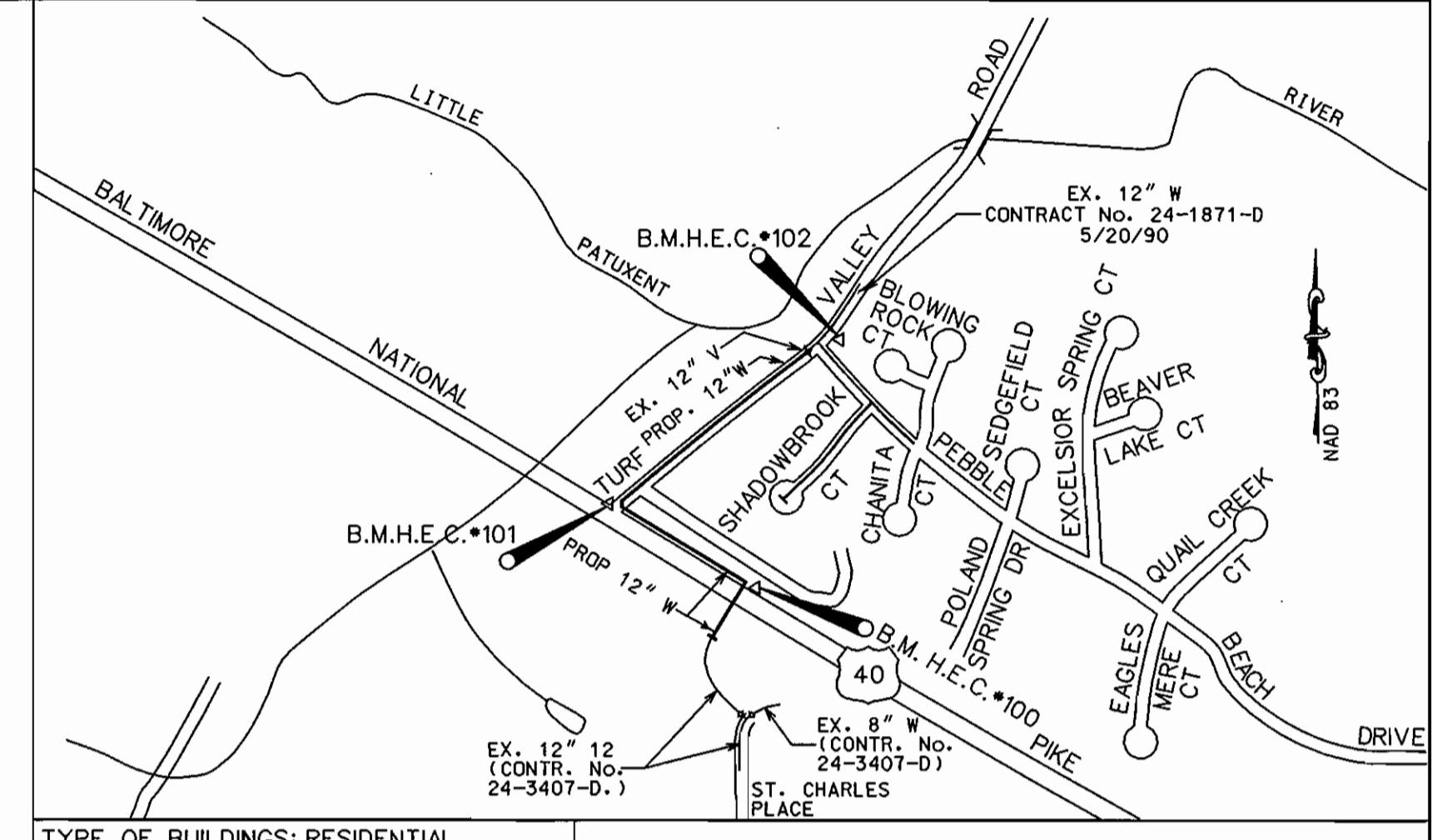


223433



BENCH MARKS
 B.M. H.E.C. #102 - SEE BELOW
 B.M. H.E.C. #100 - SEE SHEET 2
 B.M. H.E.C. #101 - SEE SHEET 2

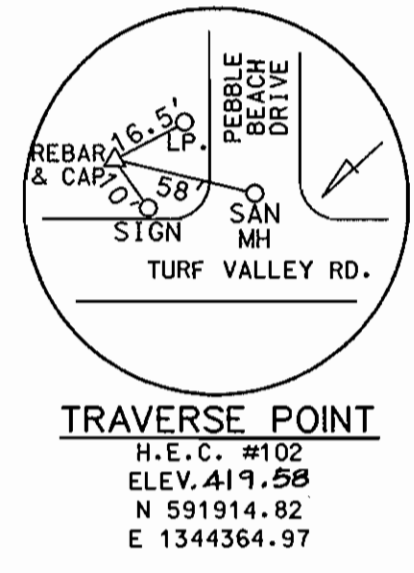


VICINITY MAP
 SCALE: 1"=600'

TYPE OF BUILDINGS: RESIDENTIAL
 NO. OF WATER HOUSE CONNECTIONS: 0
 DRAINAGE AREA: LITTLE PATUXENT RIVER
 SEWER CODE: N/A
 WATER CODE: H07

NOTE:
 CONTRACTOR SHALL IMMEDIATELY REMOVE ANY LOOSE DIRT TRACKED ONTO EXISTING ROADWAY FROM VEHICLE TIRES OR OTHER MEANS. IT SHALL BE PLACED BACK ONTO SITE IN AN AREA MANAGED BY SEDIMENT CONTROL MEASURES. FLUSHING IS NOT PERMITTED. REMOVE BY SHOVELING AND/OR SWEEPING.

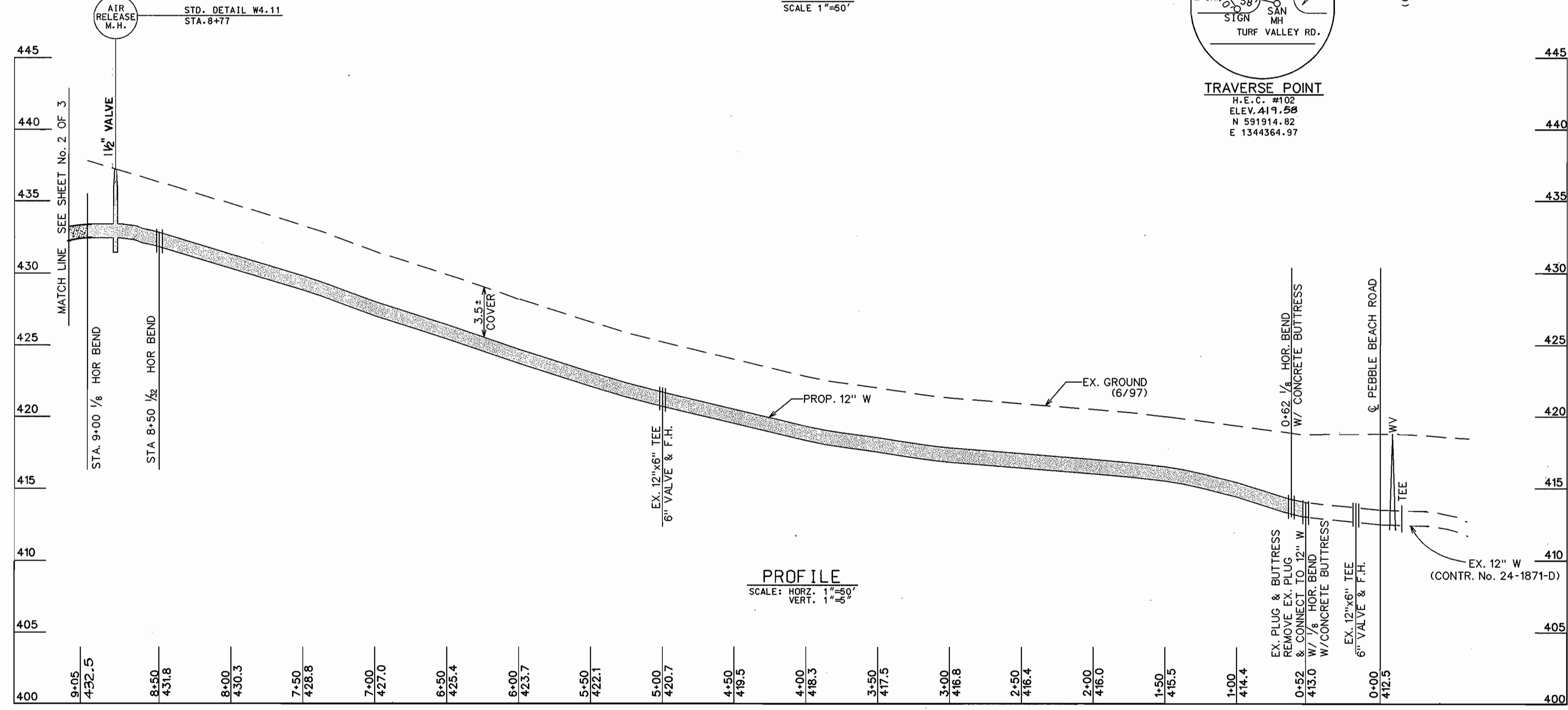
PLAN
 SCALE: 1"=50'



TRAVERSE POINT
 H.E.C. #102
 ELEV. 419.28
 N 591914.82
 E 1344364.97

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 service. 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, NAD 83.
- All vertical controls are based on U.S.C.S. data.
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 6". Clear all poles by 5'-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.
- 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.
- Where test pits have been made on existing utilities, they are noted by the symbol \boxtimes 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 located by the Contractor two weeks in advance of construction operations at his own expense.
- Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:
 AT&T 865-3803
 BGE - Contractor Services 850-4620
 BGE - Underground Damage Control 787-9068
 Bureau of Utilities (DPW) 313-4900
 Bell Atlantic - MD, Inc. 597-8585
 Colonial Pipeline Co. 795-1390
 Miss Utility Administration 1-800-257-7777
 State Highway Administration 531-5533
- 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.
- 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.
- 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 trenchless installation operation in county roads or trenchless water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.



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

WATER NOTES

- All water mains shall be D.I.P., Class 52, unless otherwise noted.
- Tops of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the Standard details unless otherwise provided for on the drawings.
- Fire Hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be installed in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Standard Specifications.
- The Contractor shall not operate any water main valves on the existing water system.

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
12" D.I.P. CL 52	1646 L.F.	1646 L.F.	D.P. CL 52	U.S. Pipe
36" O.D. CASING PIPE	140 L.F.	140 L.F.	Steel Slows	U.S. Pipe
12" 1/2" HOR. BEND	1 EA.	1 EA.		U.S. Pipe
12" 1/2" VERT. BEND	1 EA.	1 EA.		U.S. Pipe
12" 1/2" VERT. BEND	1 EA.	1 EA.		U.S. Pipe
FIRE HYDRANT	3 EA.	3 EA.	D.I.P. CL 350	U.S. Pipe
6" VALVE	3 EA.	3 EA.		U.S. Pipe
12" 1/2" HOR. BEND	6 EA.	6 EA.		U.S. Pipe
1/2" AIR RELEASE W/MH	1 EA.	1 EA.		U.S. Pipe
12" VALVE	1 EA.	1 EA.		U.S. Pipe

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

APPROVED, HOWARD COUNTY S.C.D. DATE 12/8/97

REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS DATE 12/8/97

U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE 12/8/97

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 CERTIFICATION OF ATTENDANCE AT A MARYLAND DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

DATE 11/25/97

ENGINEER'S CERTIFICATION:
 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 COUNTY SOIL CONSERVATION DISTRICT.

DATE 12/8/97

HICKS ENGINEERING COMPANY, INC.
 ENGINEERS - SURVEYORS - PLANNERS
 200 EAST JOPPA ROAD, SUITE 402
 TOWSON, MARYLAND 21286-3166
 (410) 494-0001

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DATE 12/11/97

DATE 12-11-97

HICKS ENGINEERING CO., INC.
 ENGINEERS - SURVEYORS - PLANNERS
 200 EAST JOPPA ROAD - SUITE 402
 TOWSON, MARYLAND 21286-3166
 (410) 494-0001

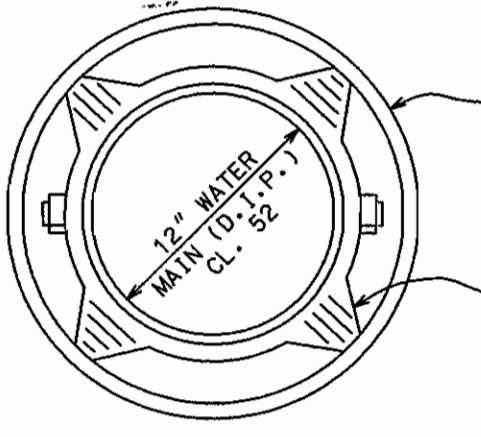
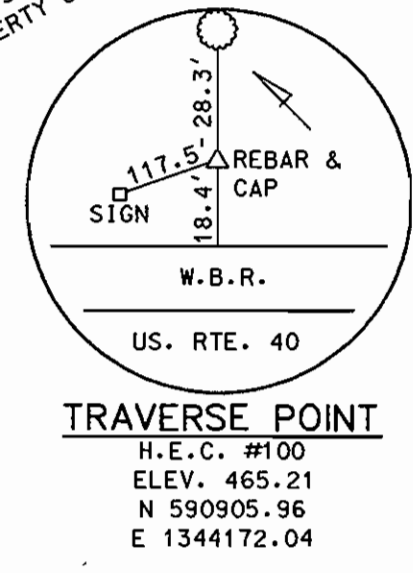
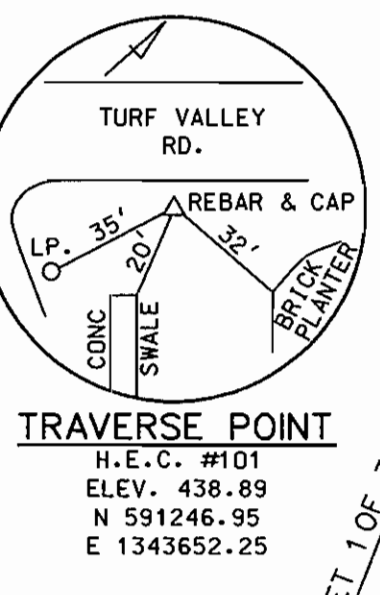
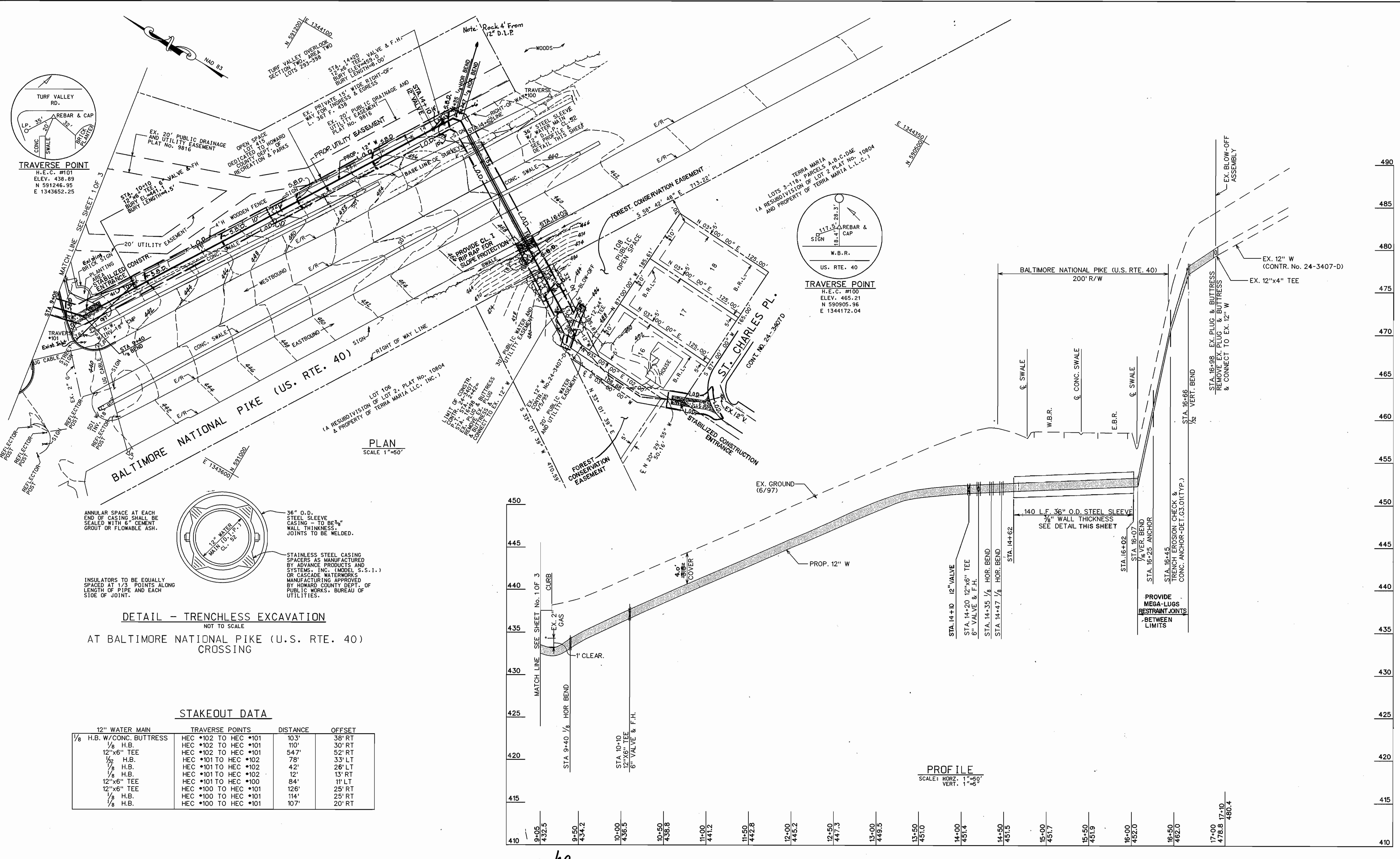
DES: F.W.	
DRN: D.A.R.	
CHK: D.E.H.	
DATE: 7/15/97	
BY: NO.	
REVISION	
DATE	

PLAN & PROFILE
12" WATER MAIN

600' SCALE MAP NO. W 16 BLOCK NO. 23

TURF VALLEY ROAD WATER MAIN
 2TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT W-8203
 CONTRACT NO. 44-3612

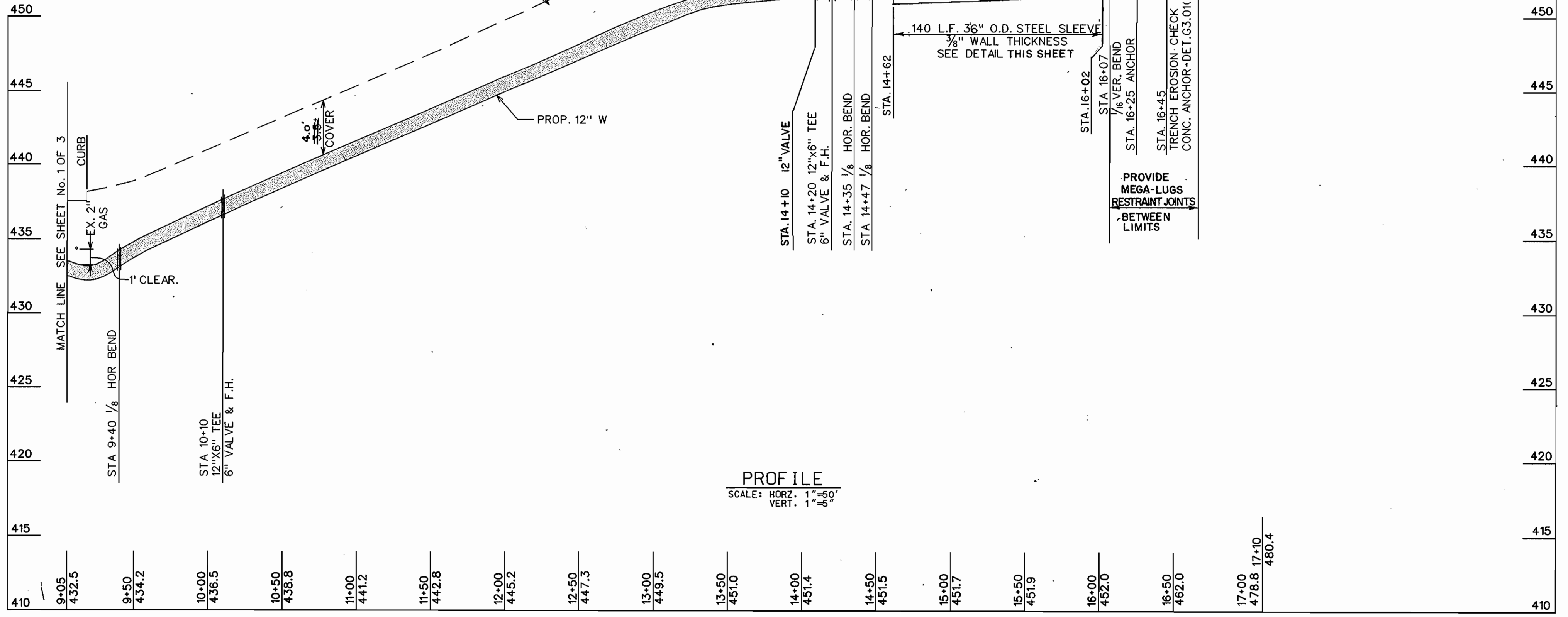
SCALE AS SHOWN
 SHEET 1 OF 3



DETAIL - TRENCHLESS EXCAVATION
NOT TO SCALE
AT BALTIMORE NATIONAL PIKE (U.S. RTE. 40)
CROSSING

STAKEOUT DATA

12" WATER MAIN	TRAVERSE POINTS	DISTANCE	OFFSET
1/8 H.B. W/CONC. BUTTRESS	HEC •102 TO HEC •101	103'	38' RT
1/8 H.B.	HEC •102 TO HEC •101	110'	30' RT
12"x6" TEE	HEC •102 TO HEC •101	547'	52' RT
1/8 H.B.	HEC •101 TO HEC •102	78'	33' LT
1/8 H.B.	HEC •101 TO HEC •102	42'	26' LT
1/8 H.B.	HEC •101 TO HEC •102	12'	13' RT
12"x6" TEE	HEC •101 TO HEC •100	84'	11' LT
12"x6" TEE	HEC •100 TO HEC •101	126'	25' RT
1/8 H.B.	HEC •100 TO HEC •101	114'	25' RT
1/8 H.B.	HEC •100 TO HEC •101	107'	20' RT



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 1/3/97
DIRECTOR OF PUBLIC WORKS DATE

Richard ... 12/11/97
CHIEF, BUREAU OF ENGINEERING DATE

Michael ... 12/10/97
CHIEF, BUREAU OF UTILITIES DATE

... 12-11-97
CHIEF, WATER & SEWER DESIGN DIV. DATE

HICKS ENGINEERING CO., INC.
ENGINEERS, SURVEYORS & PLANNERS
100 EAST JORPA ROAD - SUITE 200
TOWSON, MARYLAND 21286-7316
(410) 494-0001

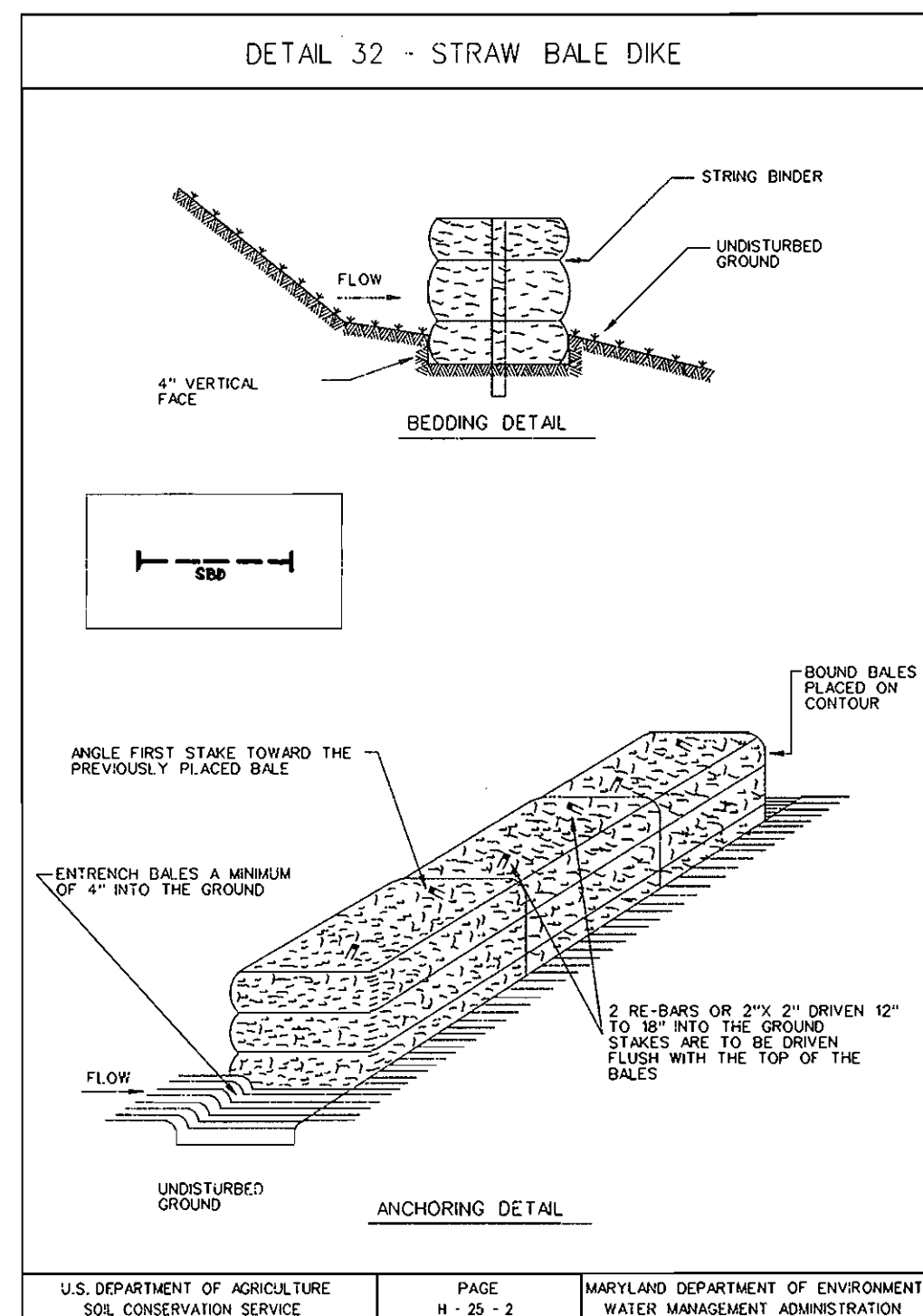
DES: K.W.			
DRN: D.A.R.			
CHK: D.E.H.			
DATE: 7/15/97	BY NO.	REVISION	DATE

PLAN & PROFILE
12" WATER MAIN

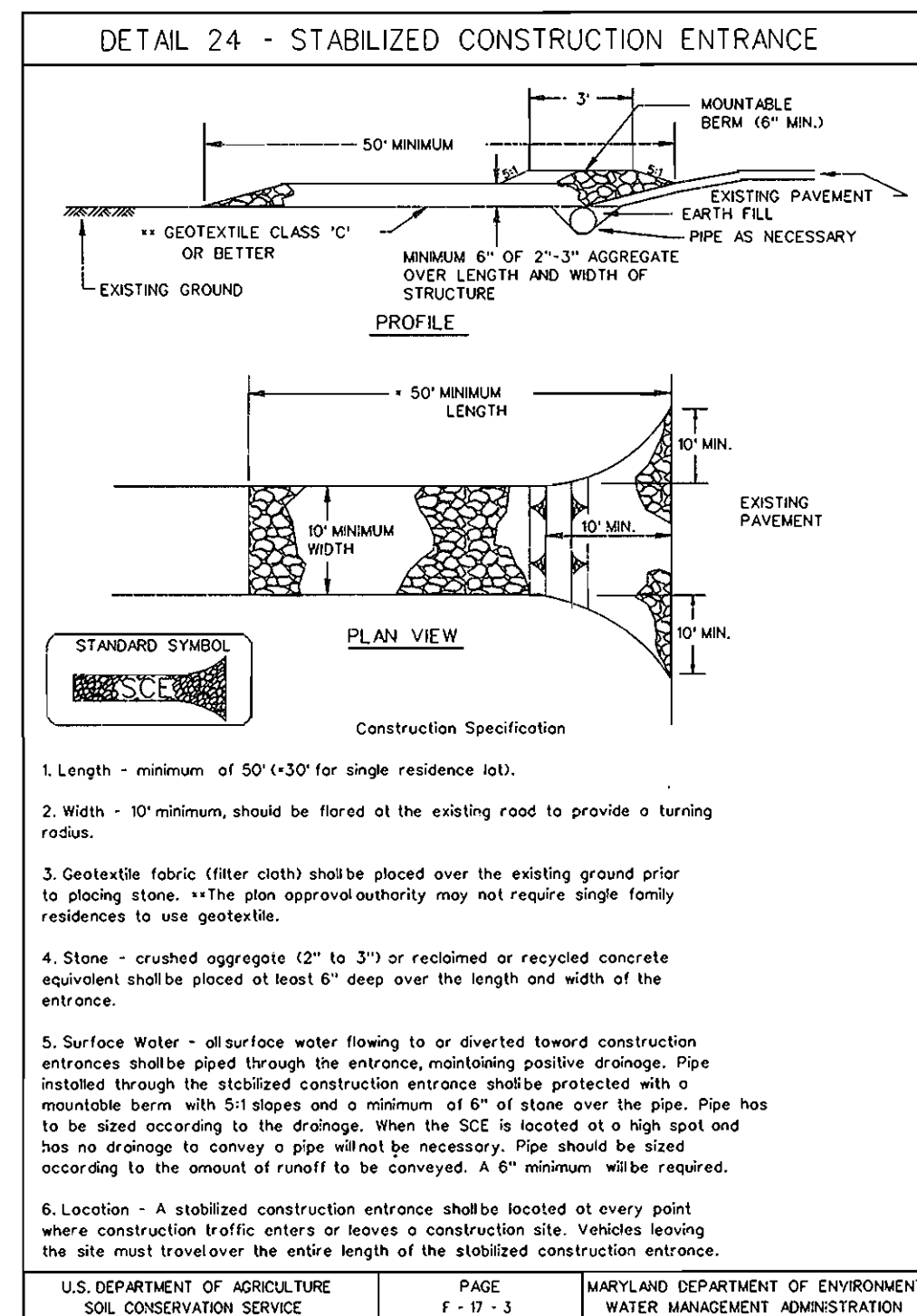
600' SCALE MAP NO. W 16 BLOCK NO. 23

TURF VALLEY ROAD WATER MAIN
2TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3612

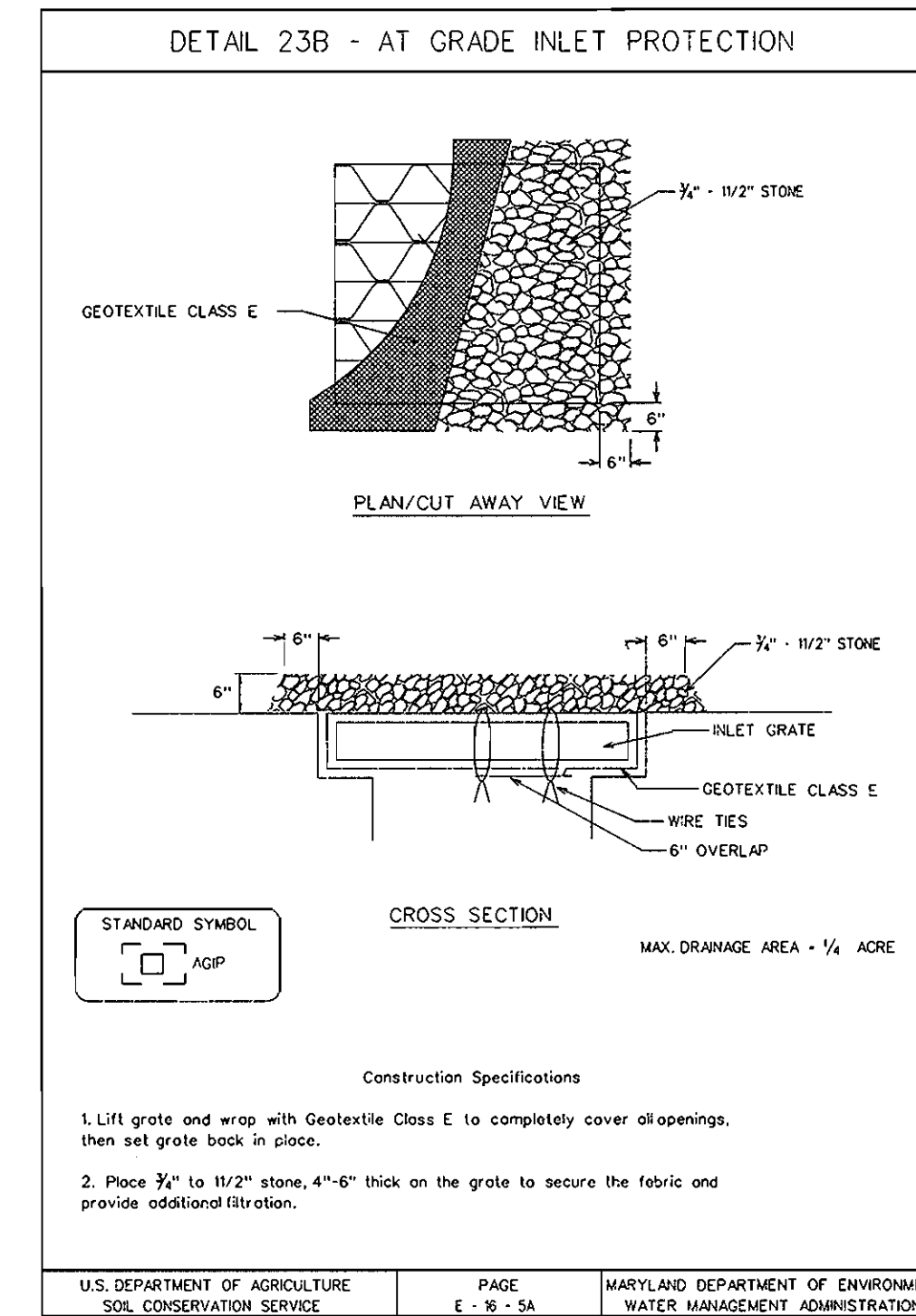
SCALE AS SHOWN
SHEET 2 OF 3



SEE SHEET 2 - ALONG WATER LINE STA. 9+05 THRU STA. 14+62 & STA. 16+25 THRU STA. 16+98



SEE SHEET 2 AT THE INTERSECTION OF TURF VALLEY RD & U.S. RTE. 40 & AT LOT 108 AT THE INTERSECTION OF ST. CHARLES PLACE.



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

- UTILITY NOTES**
- AT THE END OF EACH WORKING DAY, IMMEDIATE STABILIZATION OF DISTURBED AREAS SHALL BE LIMITED TO THREE PIPE LENGTHS PER WORKING DAY (BACKFILL & STABILIZE).
 - PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
 - ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

- SEDIMENT CONTROL NOTES**
- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF CONSTRUCTION INSPECTION 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 CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B) 14 DAYS 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 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 | N/A ACRES |
| AREA DISTURBED | 0.71 ACRES± |
| AREA TO BE ROOFED OR PAVED | 0.17 ACRES± |
| AREA TO BE VEGETATIVELY STABILIZED | 0.54 ACRES± |
| TOTAL CUT | 1,298 CU. YDS. |
| TOTAL FILL | 1,298 CU. YDS. |
- OFFSITE WASTE/BORROW AREA LOCATION-TO BE DETERMINED BY THE CONTRACTOR.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 - ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW 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.

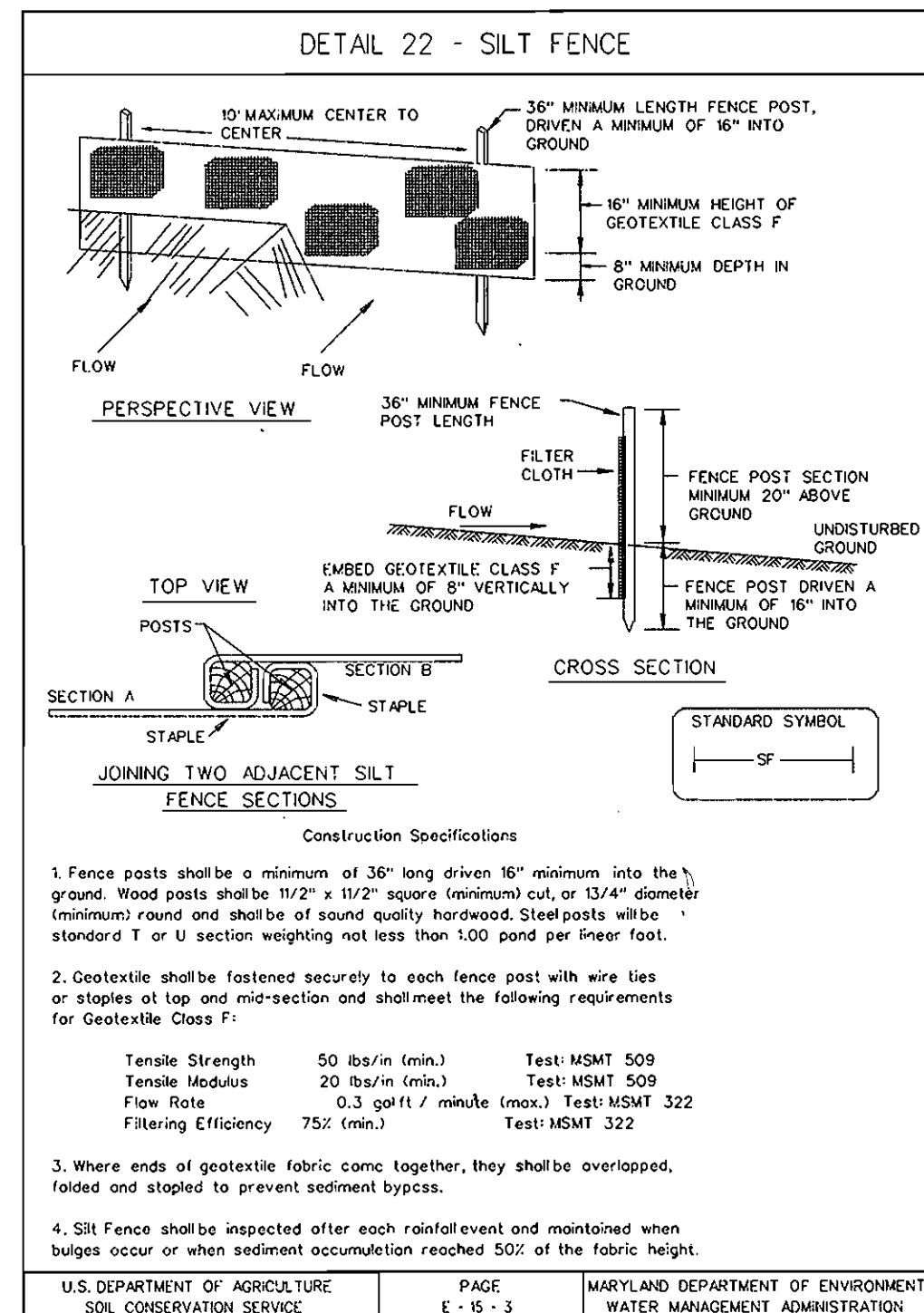
- PERMANENT SEEDING NOTES**
- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
- SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING
- SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC 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.)
 - 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 OR DISC INTO UPPER THREE INCHES OF SOIL.
- SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 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 (.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 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN 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 SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

SEQUENCE OF CONSTRUCTION

- | DESCRIPTION | TIME OF COMPLETE |
|--|------------------|
| 1. OBTAIN A GRADING PERMIT FROM HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS. | 0.5 WEEKS |
| 2. CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION (313-1880) PRIOR TO STARTING DATE. | 0.5 WEEKS |
| 3. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV. | 1.0 WEEKS |
| 4. EXCAVATE AND INSTALL PROPOSED 12" WATER MAIN. | 6.0 WEEKS |
| 5. RESTORE PAVING AND EARTH TRENCHES TO THEIR ORIGINAL CONDITION AS PER HOWARD COUNTY STANDARDS. | 2.0 WEEKS |
| 6. UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES. | 0.5 WEEKS |
| 7. FINE GRADE ALL DISTURBED AREAS AND STABILIZE WITH PERMANENT SEEDING. | 0.5 WEEKS |

RESTORATION SCHEDULE - 12" WATER

LOCATION	LENGTH	TYPE
STA. 0+52 TO STA 9+18	866'	PAVING
STA. 9+18 TO STA. 14+79	568'	SEED & MULCH
STA. 16+19 TO STA 16+98.	79'	SEED & MULCH



SEE SHEET 2 - 20' BEYOND LIMIT OF CONSTRUCTION
SEE SHEET 1 - 5' BEHIND FIRE HYDRANT INSTALLATION IN TURF VALLEY ROAD.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Lee 12/11/97
DIRECTOR OF PUBLIC WORKS DATE

Richard A. Brown 12/11/97
CHIEF, BUREAU OF UTILITIES DATE

Paul J. Jensen 12/11/97
CHIEF, BUREAU OF ENGINEERING DATE

Ch. Water & Sewer Design Div. DATE

HICKS ENGINEERING CO., INC.
ENGINEERS SURVEYORS & PLANNERS
505 EAST JOPPA ROAD - SUITE 402
TOWSON, MARYLAND 21286-3160
(410) 494-0001

Professional Engineer Seal: JOHN E. HICKS, No. 9676, State of Maryland, Professional Engineer

DES: K. W.			
DRN: D. A. R.			
CHK: D. E. H.			
DATE: 7/15/97			
BY NO.		REVISION	DATE

600' SCALE MAP NO. W 16 BLOCK NO. 23

SCALE AS SHOWN

SHEET 3 OF 3

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

TURF VALLEY ROAD WATER MAIN
2TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3612