

# ROCKBURN HILL ROAD 8-INCH WATER MAIN CAPITAL PROJECT W-8217 CONTRACT NO. 24-3721

QUANTITIES				
ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATED	AS BUILT		
8" WATER	2585 L.F.	2602 L.F.	CLASS 52 DIP	A-1 PIPE, INC. ATLANTIC STATES
8" VALVE	2 EA	3 EA	RESILIENT SEAT GATE VALVE	A-1 PIPE, INC. MUELLER CO.
6" WATER	25 L.F.	33 L.F.	CLASS 52 DIP	A-1 PIPE, INC. ATLANTIC STATES
6" VALVE	4 EA	3 EA	RESILIENT SEAT GATE VALVE	A-1 PIPE, INC. MUELLER CO.
FIRE HYDRANT	4	3	AWWA C-502	A-1 PIPE, INC. MUELLER CO.
AIR RELEASE VALVE AND MANHOLE	2 EA	2 EA	PRECAST MODEL NO. 201C.2	FREBRICK PRECAST CONCRETE, INC. A-1 PIPE, INC. VAL-MATIC VALVE & MFG CO.
2" WATER	5 L.F.	0	TYPE "K" COPPER TUBE	DELETED
1" WATER	150 L.F.	2.12 L.F.	TYPE "K" COPPER TUBE	A-1 PIPE, INC. CAMBRIDGE-LEE
STAINLESS STEEL 1/2 X 8 TAPPING SLEEVE	0	1 EA	H 304	A-1 PIPE, INC. MUELLER CO.

**NOTE:**  
\*SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH VOLUME 4, ARTICLE 15 OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS.\*

**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 HOWARD COUNTY SOIL CONSERVATION DISTRICT.

*Jeff Smith* DATE 10-1-99  
WALLACE, MONTGOMERY & ASSOCIATES  
110 WEST ROAD - SUITE 345  
TOWSON, MARYLAND 21204  
(410) 494-9093

**REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.**

*Chad Smith* 10/2/99  
U.S.D.A.-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

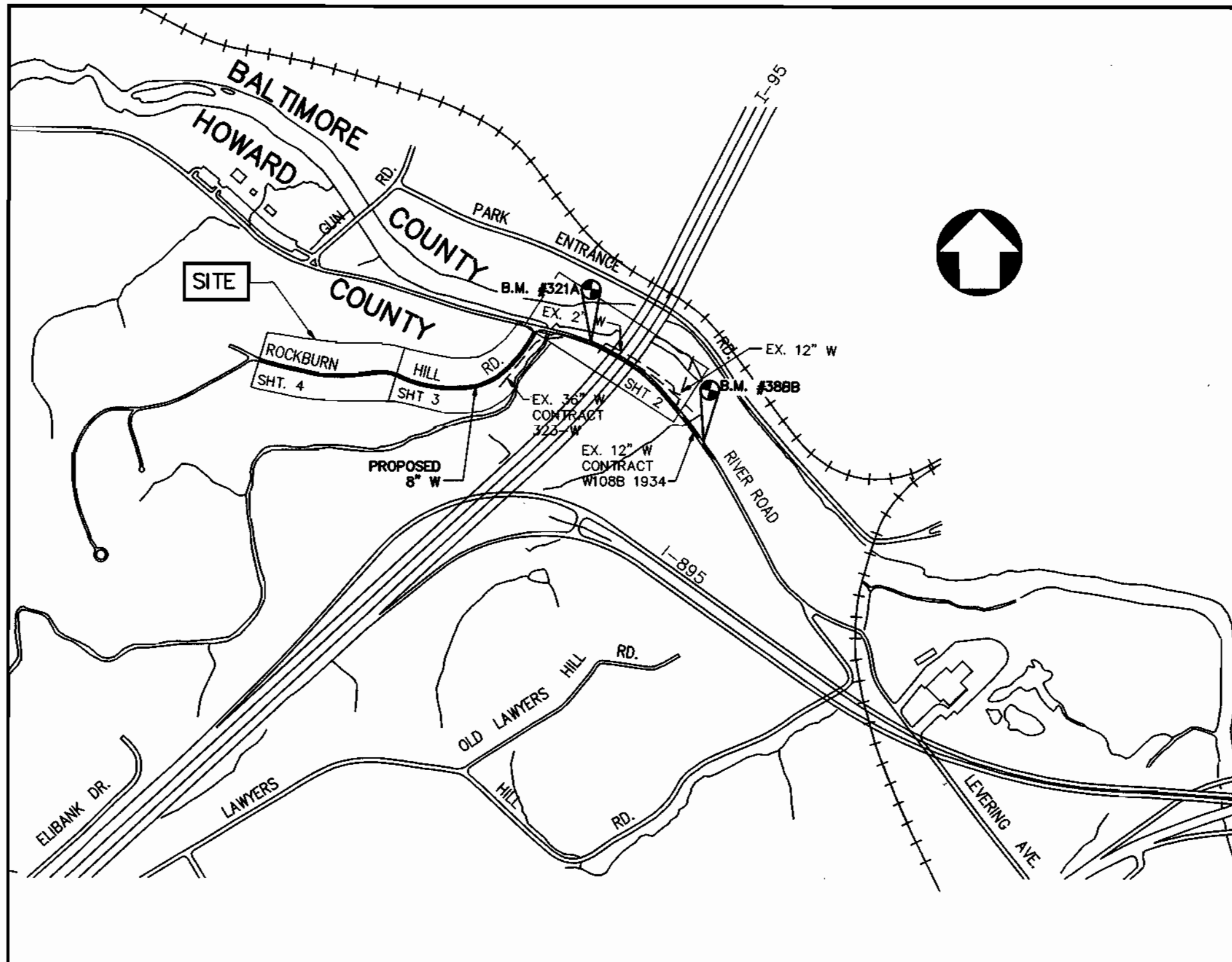
*Chad Smith* 9/23/99  
APPROVED DATE  
HOWARD SOIL CONSERVATION DISTRICT 92-02-16

**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 COUNTY SOIL CONSERVATION DISTRICT."

*Paul R. Sporn* 10/7/99  
SIGNATURE OF DEVELOPER DATE  
PRINT NAME BELOW SIGNATURE

MDE PERMIT NO. 99-NT-0268/19996444



TYPE OF BUILDING: RESIDENTIAL  
NUMBER OF PARCELS: 8  
WATER HOUSE CONNECTIONS: 8  
DRAINAGE AREA: PATAPSCO

**VICINITY MAP**  
SCALE: 1" = 600'

WATER CODE FOR COUNTY USE ONLY:  
WATER NO. D01

BENCHMARKS				
NO.	ELEV.	NORTHING	EASTING	DESCRIPTION
388B	63.70	564007.6710	1393649.9290	24" SYCAMORE TREE
321A	27.00	565065.5000	1395212.1770	TOP BOLT OF FIRE HYDRANT

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	RIVER ROAD - PLAN AND PROFILE
3	ROCKBURN HILL ROAD - PLAN AND PROFILE
4	ROCKBURN HILL ROAD - PLAN AND PROFILE
5	STREAM CROSSING DETAILS
6	SEDIMENT CONTROL NOTES & DETAILS

**GENERAL NOTES:**

**PART I**

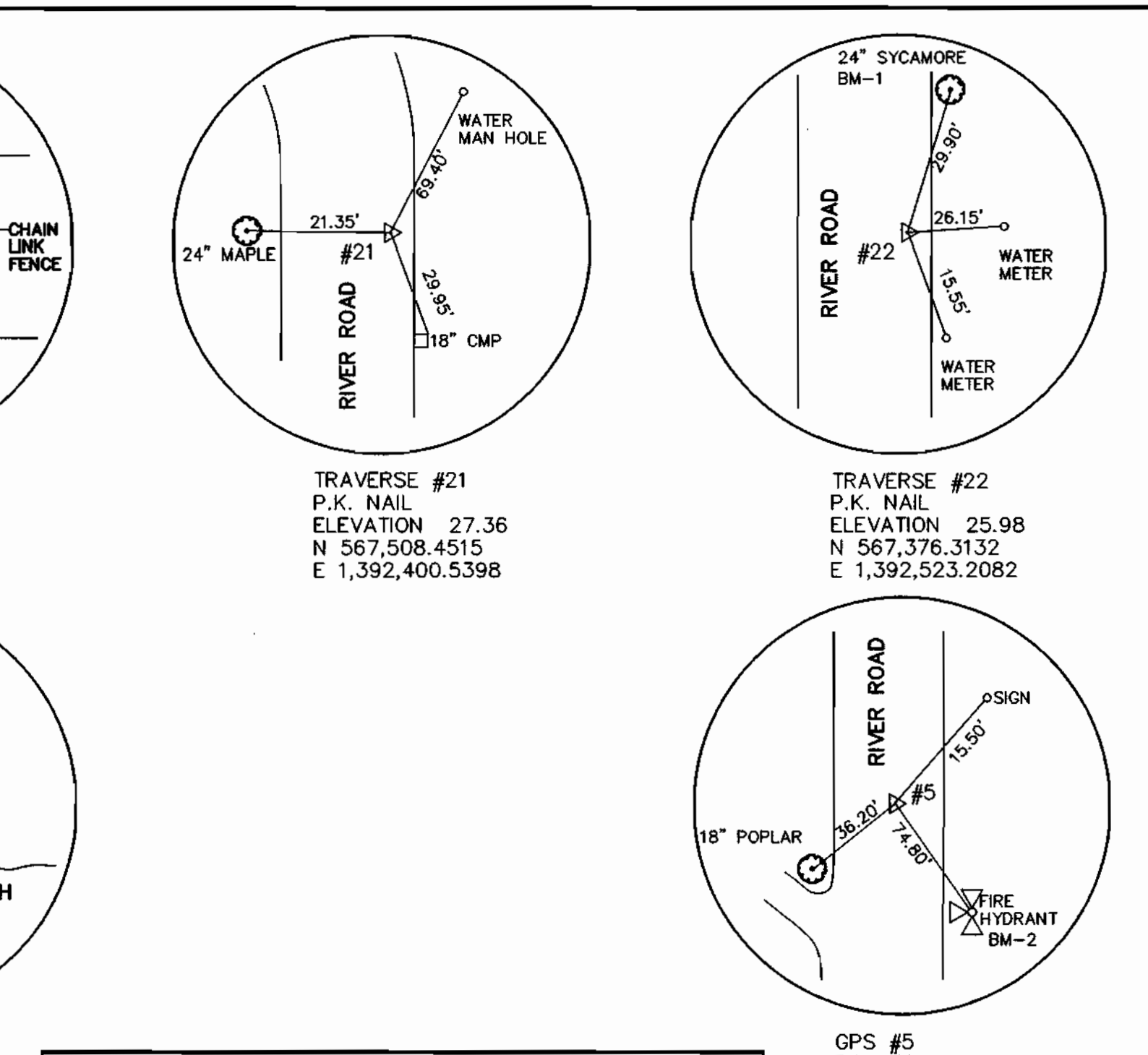
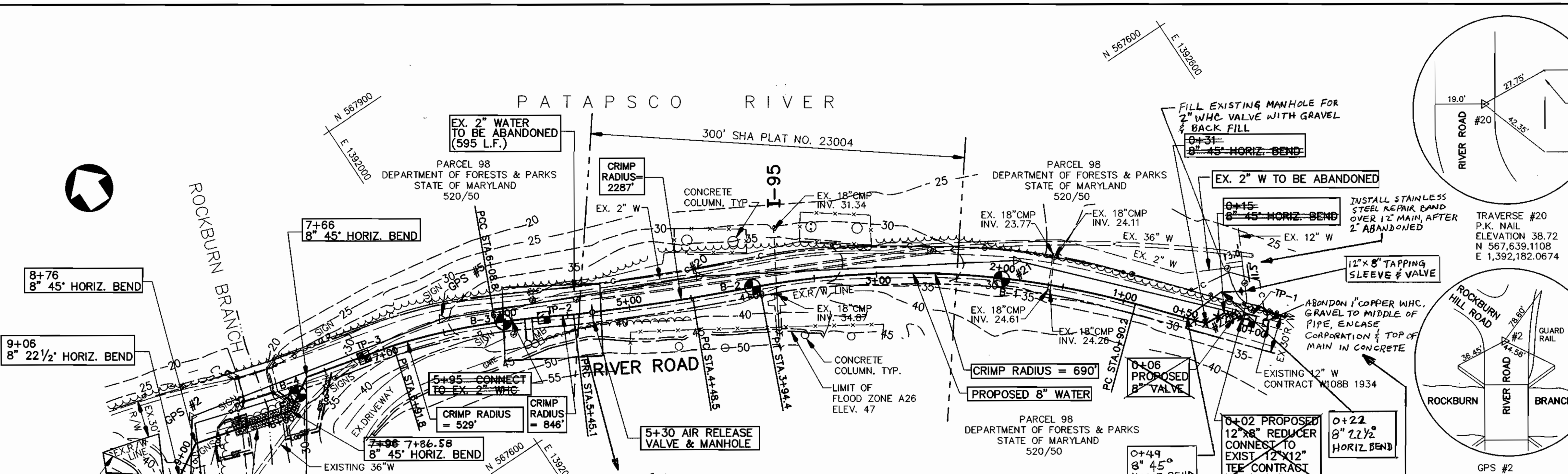
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 29.
- 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 UNLESS OTHERWISE NOTED. 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 MONIES OWED TO 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 [ ] AT THE LOCATIONS OF THE TEST PITS. 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.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - AT&T.....1-800-526-2000
  - BGE(CONTRACTOR SERVICES).....410-850-4620
  - BGE(UNDERGROUND DAMAGE CONTROL).....410-787-9068
  - BUREAU OF UTILITIES.....410-313-4900
  - BELL ATLANTIC MARYLAND, INC.....1-800-621-9900
  - COLONIAL PIPELINE CO.....410-795-1390
  - MISS UTILITY.....1-800-257-7777
  - STATE HIGHWAY ADMINISTRATION.....410-531-5533
- 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 THE 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)313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING 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.

**PART II WATER**

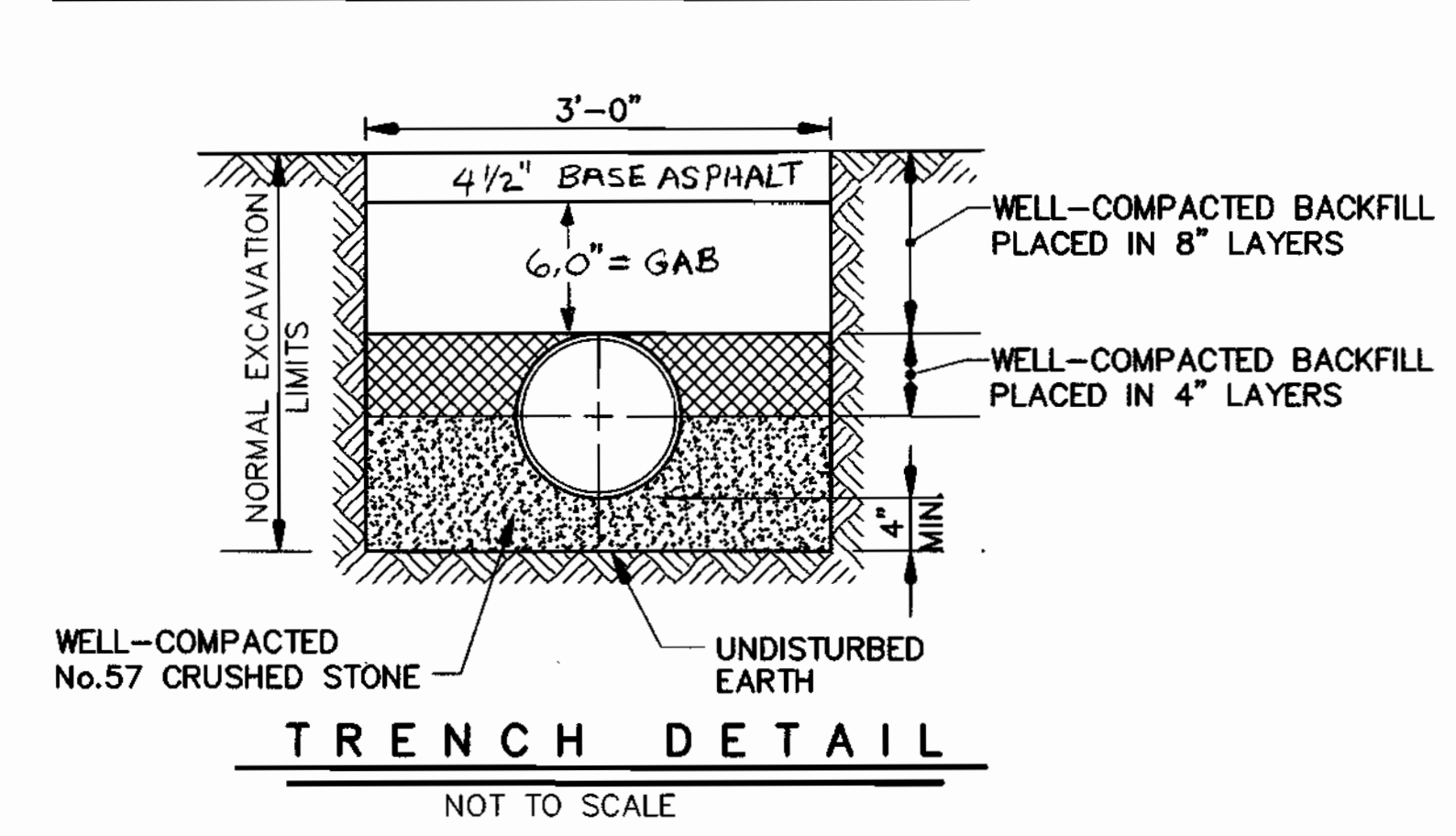
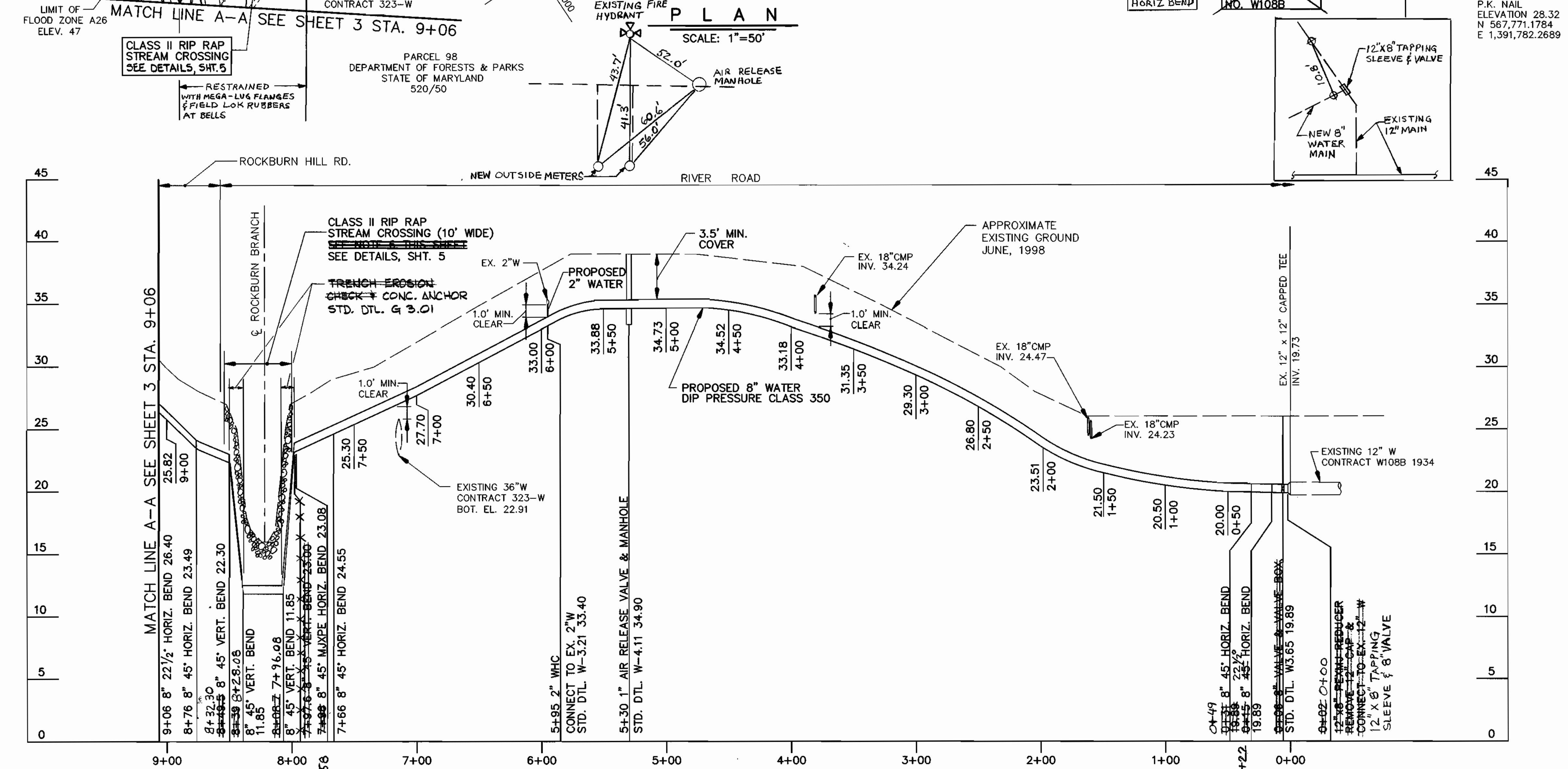
- ALL WATER MAINS SHALL BE D.I.P. PRESSURE CLASS 350 WITH RESTRAINED JOINTS UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE 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. THE 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.
- FIVE DAYS PRIOR TO TIE-IN CONNECTIONS, CONTACT BALTIMORE CITY WATER MAINTENANCE DIVISION AT (410) 396-7755 FOR COORDINATION OF VALVE CLOSINGS TO REDUCE WATER PRESSURE.

WATER AS-BUILTS

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James A. Lewis</i> 10/12/99 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Michael A. Brummett</i> 10-9-99 CHIEF, BUREAU OF UTILITIES DATE</p>	<p><b>WALLACE, MONTGOMERY &amp; ASSOCIATES</b> CIVIL AND STRUCTURAL ENGINEERS 110 WEST ROAD TOWSON, MARYLAND 21204</p> <p><i>Paul R. Sporn</i> 10/7/99 CHIEF, BUREAU OF ENGINEERING DATE</p> <p><i>Chad Smith</i> 10-7-99 CHIEF UTILITY DESIGN DIVISION DATE</p>	<p>DES: JJS DRN: KJP CHK: JJS SEPT. DATE: 1999</p>	<p style="text-align: center;">TITLE SHEET</p> <p>600' SCALE MAP NO. 32 BLOCK NO. 15 &amp; 21</p>	<p style="text-align: center;">ROCKBURN HILL ROAD CAPITAL PROJECT W-8217 CONTRACT NO. 24-3721 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 1 OF 6</p>
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STATION	DESCRIPTION	NORTH	EAST
0+02	12" x 8" REDUCER	567368.50	1392524.27
0+15	8" 45° HORIZ BEND	567380.95	1392515.73
0+31	8" 45° HORIZ BEND	567382.15	1392499.38
0+90.2	PC	567426.83	1392460.87
3+94.4	PT	567805.74	1392218.03
4+48.5	PC	567627.54	1392168.53
5+48.1	PRC	567669.51	1392081.58
6+08.8	PCC	567696.95	1392025.89
6+91.8	PT	567728.98	1391947.75
7+86	8" 45° HORIZ BEND	567746.43	1391876.19
7+96	8" 45° HORIZ BEND	567731.28	1391850.30
8+76	8" 45° HORIZ BEND	567751.55	1391772.91
9+06	8" 22 1/2° HORIZ BEND	567736.38	1391746.98



**PROFILE**  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

WATER AS-BUILTS

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Slon* 10/12/99  
DIRECTOR OF PUBLIC WORKS DATE

*Paul H. Sporn* 10/17/99  
CHIEF, BUREAU OF ENGINEERS DATE

*Michael J. Sweeney* 10-9-99  
CHIEF, BUREAU OF UTILITIES DATE

*Debra L. RMB*

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204

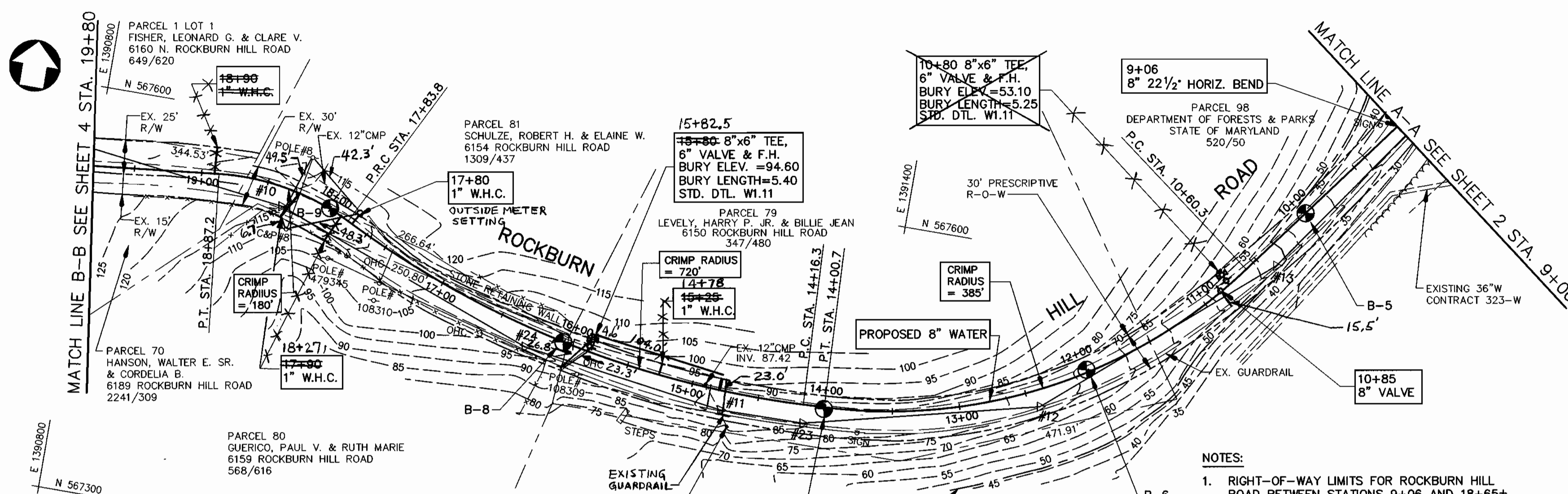
*Joseph J. Sweeney* 10-1-99  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF MARYLAND  
NO. 10199

DES: JJS/LAF					
DRN: KJP					
CHK: JJS					
DATE: 1999	BY: NO.	REVISION	DATE	600' SCALE MAP NO. 32	BLOCK NO. 15 & 21

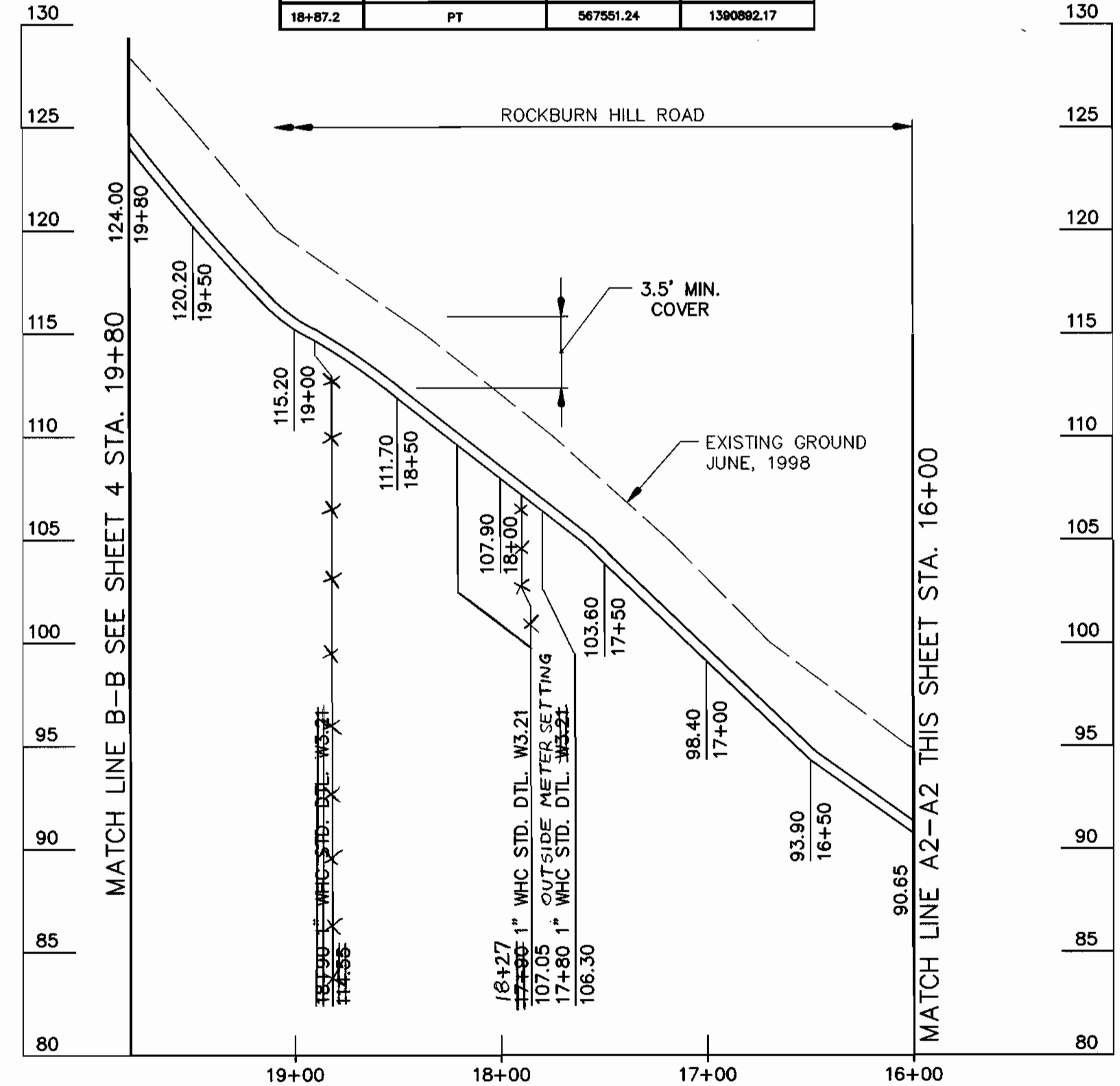
**RIVER ROAD  
PLAN AND PROFILE**

**ROCKBURN HILL ROAD  
CAPITAL PROJECT W-8217  
CONTRACT NO. 24-3721  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND**

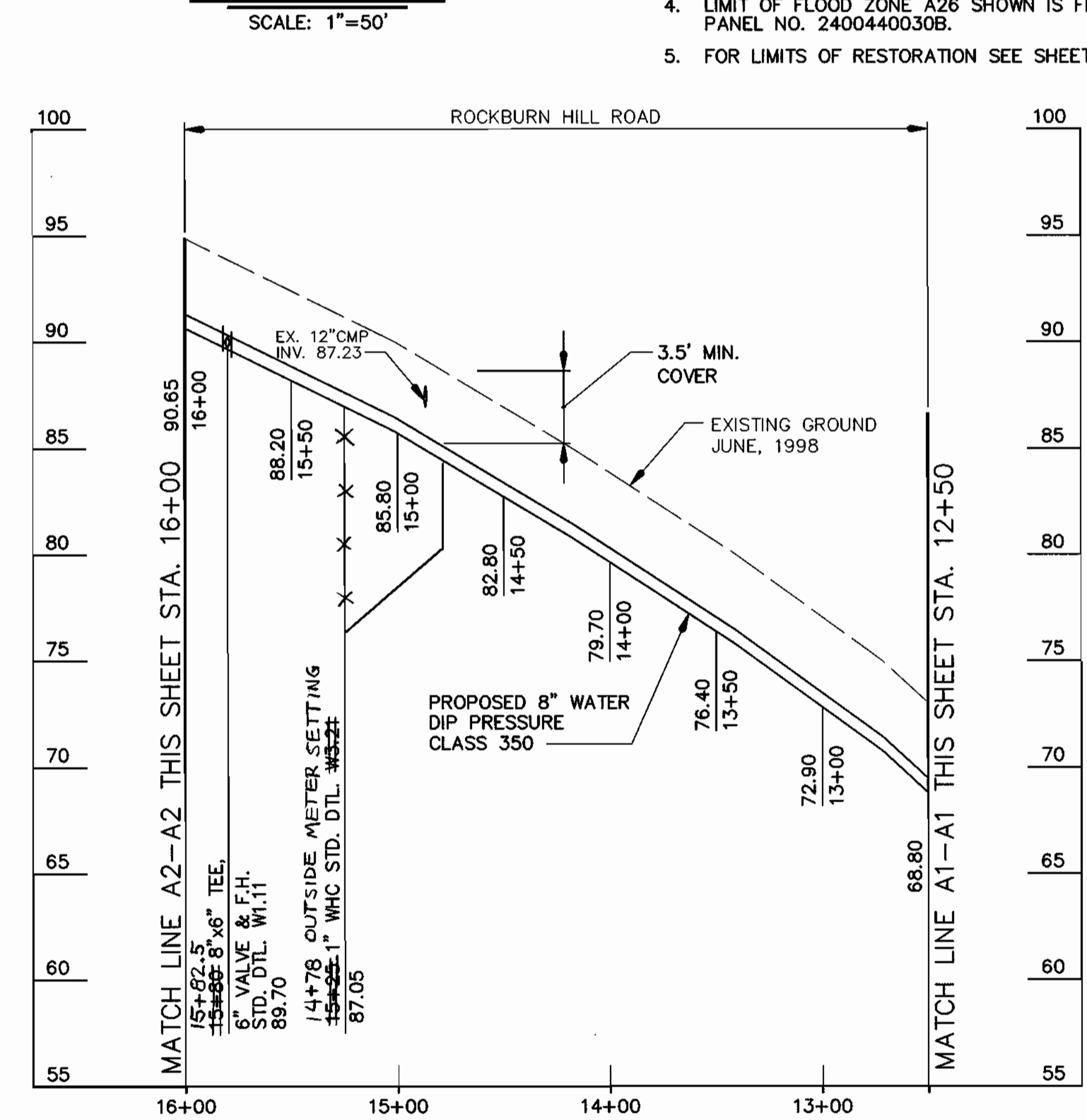
SCALE AS SHOWN  
SHEET 2 OF 6



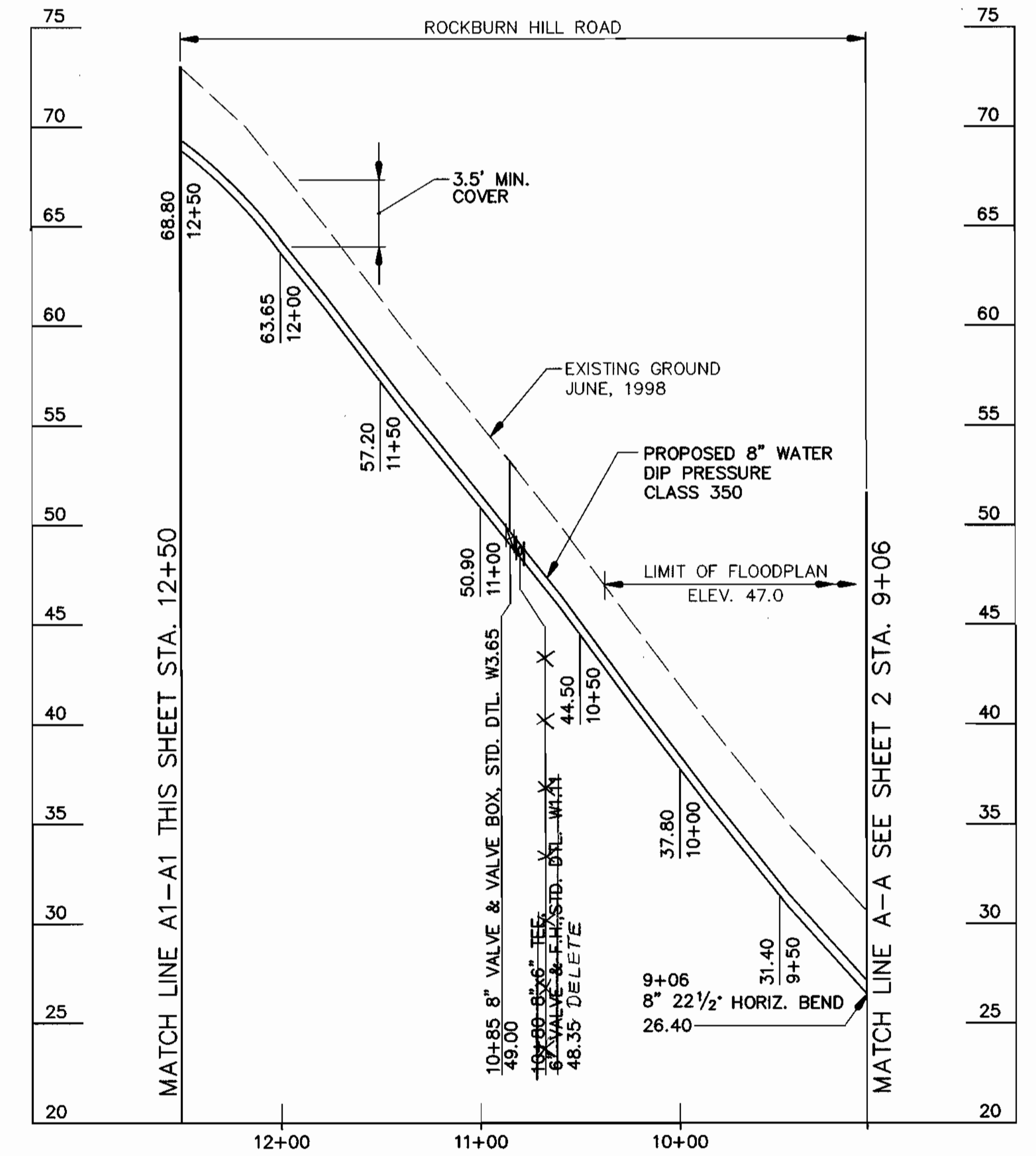
STAKEOUT TABLE 8" WATER MAIN			
STATION	DESCRIPTION	NORTH	EAST
10+60.3	PC	567812.76	1391654.71
14+00.7	PT	567458.38	1391363.74
14+16.3	PC	567457.84	1391348.07
17+83.8	PRC	567533.23	1390982.51
18+87.2	PT	567551.24	1390892.17



**PROFILE**  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

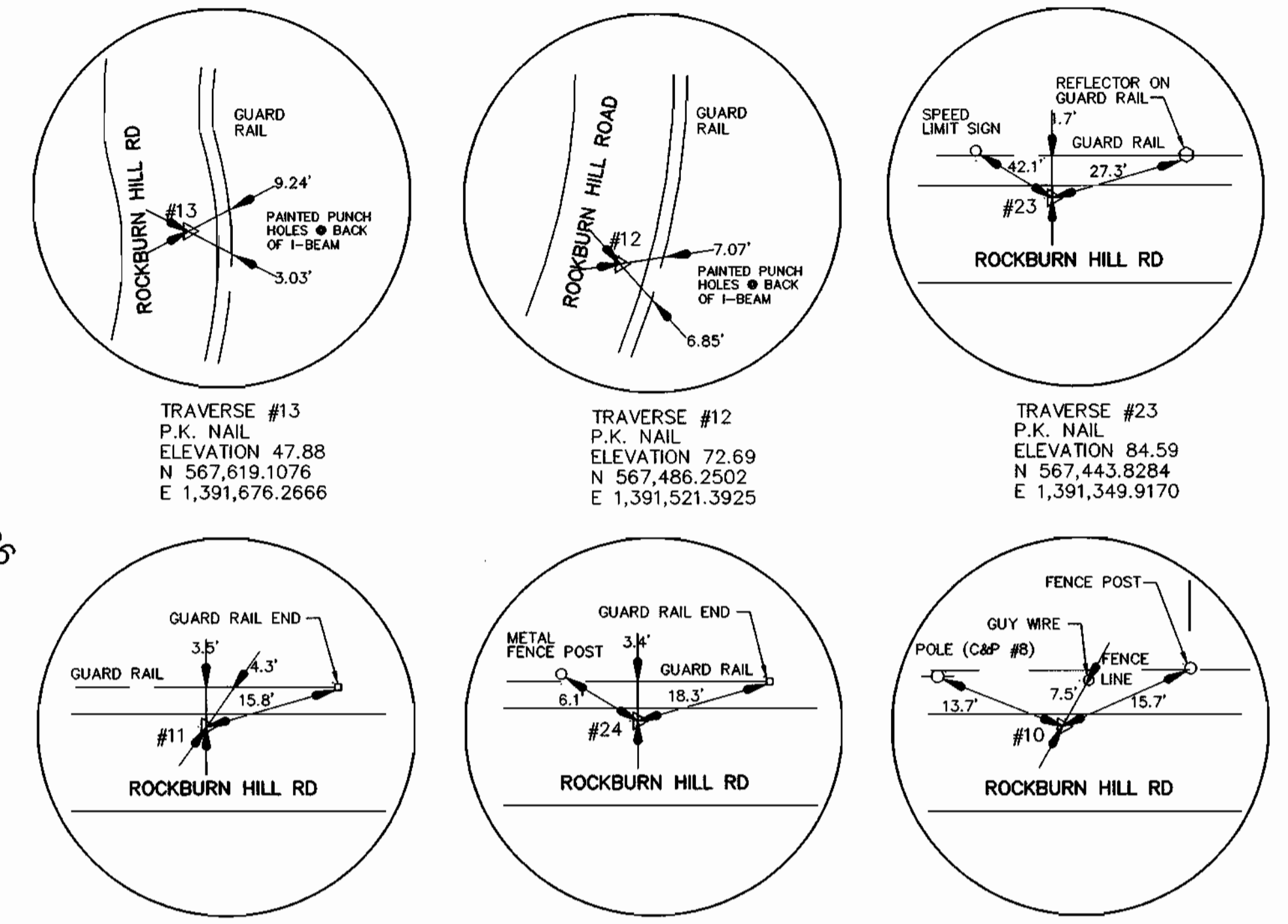


**PROFILE**  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



**PROFILE**  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

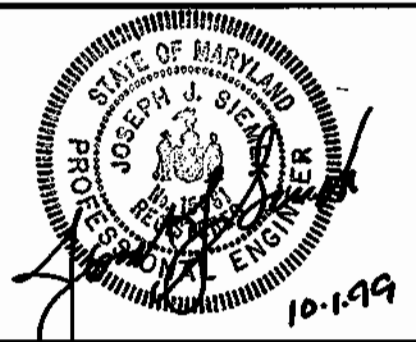
- NOTES:**
- RIGHT-OF-WAY LIMITS FOR ROCKBURN HILL ROAD BETWEEN STATIONS 9+06 AND 18+65± ARE SHOWN AS A PRESCRIPTIVE R-O-W.
  - THE 15' RIGHT-OF-WAY SHOWN TO THE LEFT BETWEEN STATIONS 18+65± AND 19+80 IS A PRESCRIPTIVE R-O-W.
  - ALL HORIZONTAL AND VERTICAL BENDS AND TEES SHALL BE BUTTRESSED OR ANCHORED IN ACCORDANCE WITH STANDARD DETAILS W2.21, W2.22 OR W2.23.
  - LIMIT OF FLOOD ZONE A26 SHOWN IS FROM FEMA PANEL NO. 2400440030B.
  - FOR LIMITS OF RESTORATION SEE SHEET 4 OF 6.



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *James A. ...* DATE: 10/2/99  
 Chief, Bureau of Engineering: *Paul J. ...* DATE: 10/7/99  
 Chief, Bureau of Utilities: *Michael ...* DATE: 10-9-99  
 Chief, Utility Design Division: *...* DATE: 10-7-99

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



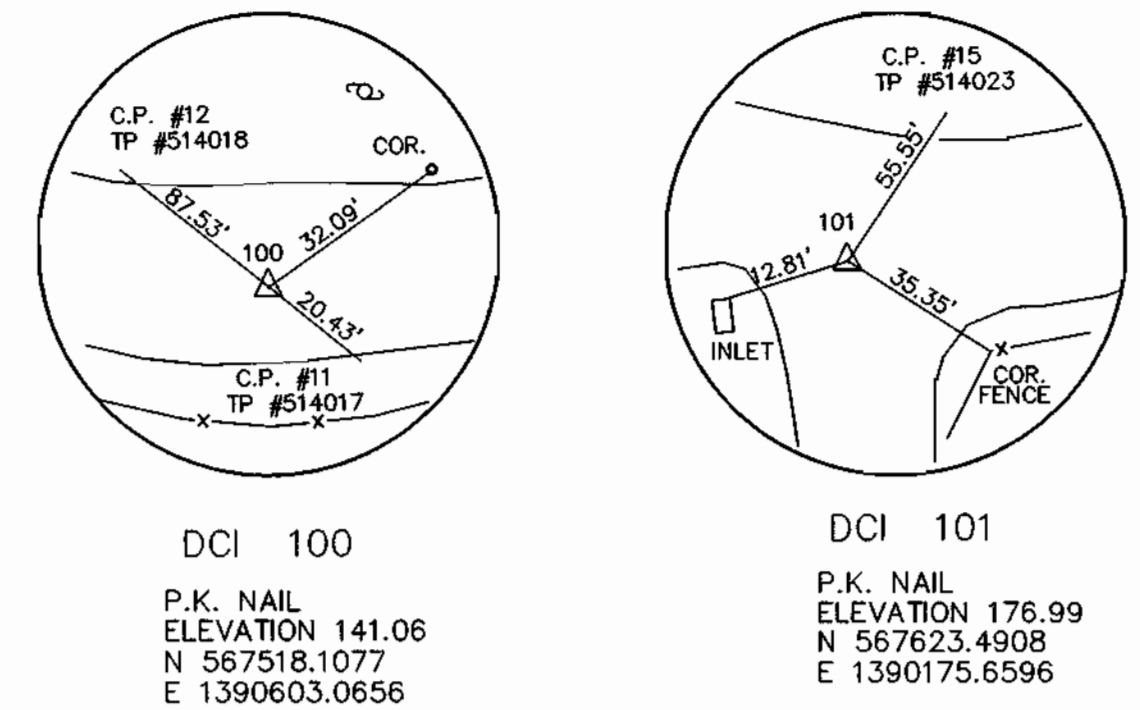
DES: JJS/LAF			
DRN: KJP			
CHK: JJS			
DATE: 1999	BY NO.	REVISION	DATE

**ROCKBURN HILL ROAD  
PLAN AND PROFILE**

600' SCALE MAP NO. 32 BLOCK NO. 15 & 21

**ROCKBURN HILL ROAD  
CAPITAL PROJECT W-8217  
CONTRACT NO. 24-3721  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND**

SCALE AS SHOWN  
SHEET 3 OF 6



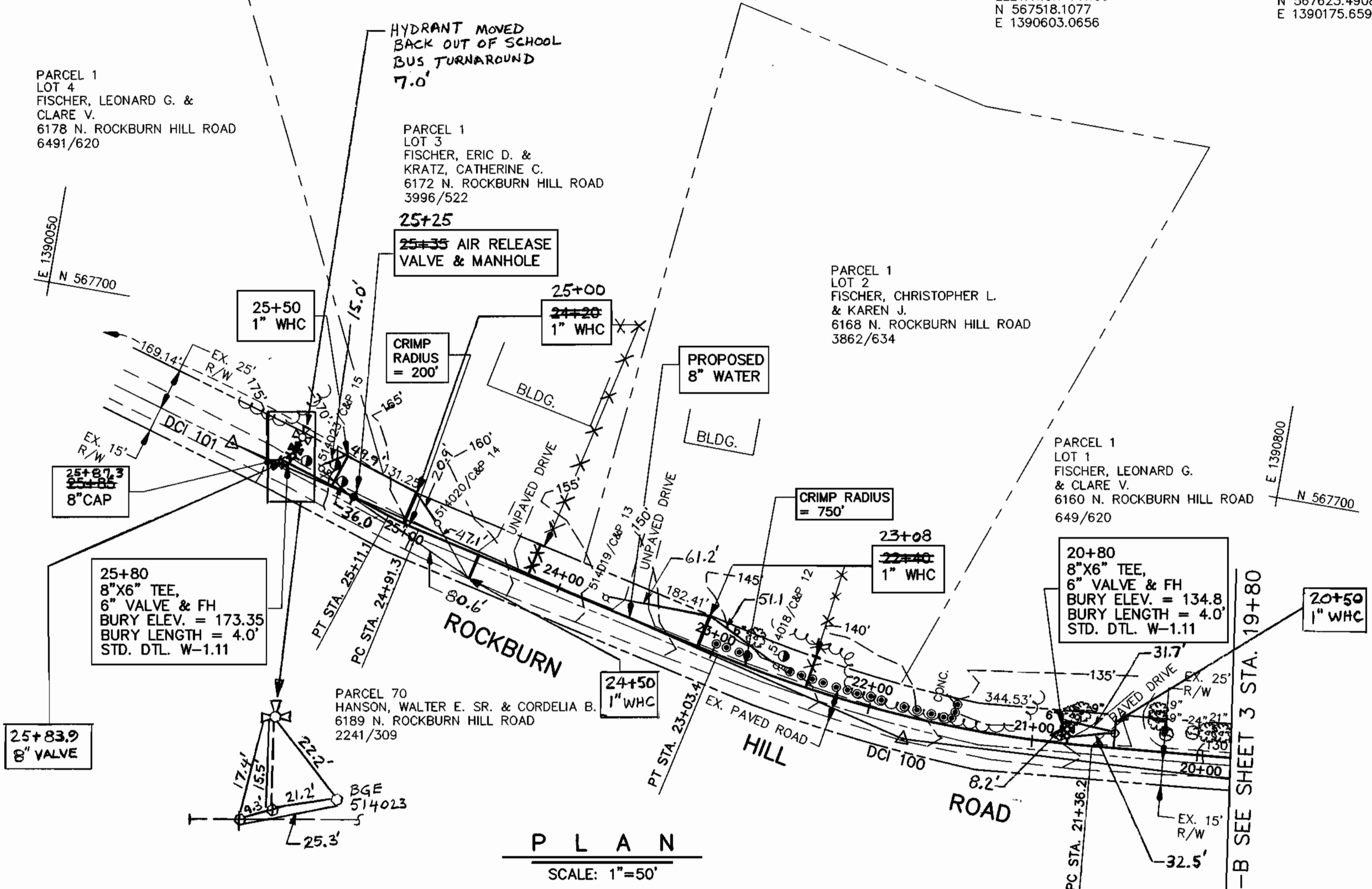
PARCEL 1  
LOT 4  
FISCHER, LEONARD G. &  
CLARE V.  
6178 N. ROCKBURN HILL ROAD  
6491/620

PARCEL 1  
LOT 3  
FISCHER, ERIC D. &  
KRATZ, CATHERINE C.  
6172 N. ROCKBURN HILL ROAD  
3996/522

PARCEL 1  
LOT 2  
FISCHER, CHRISTOPHER L.  
& KAREN J.  
6168 N. ROCKBURN HILL ROAD  
3862/634

PARCEL 1  
LOT 1  
FISCHER, LEONARD G.  
& CLARE V.  
6160 N. ROCKBURN HILL ROAD  
649/620

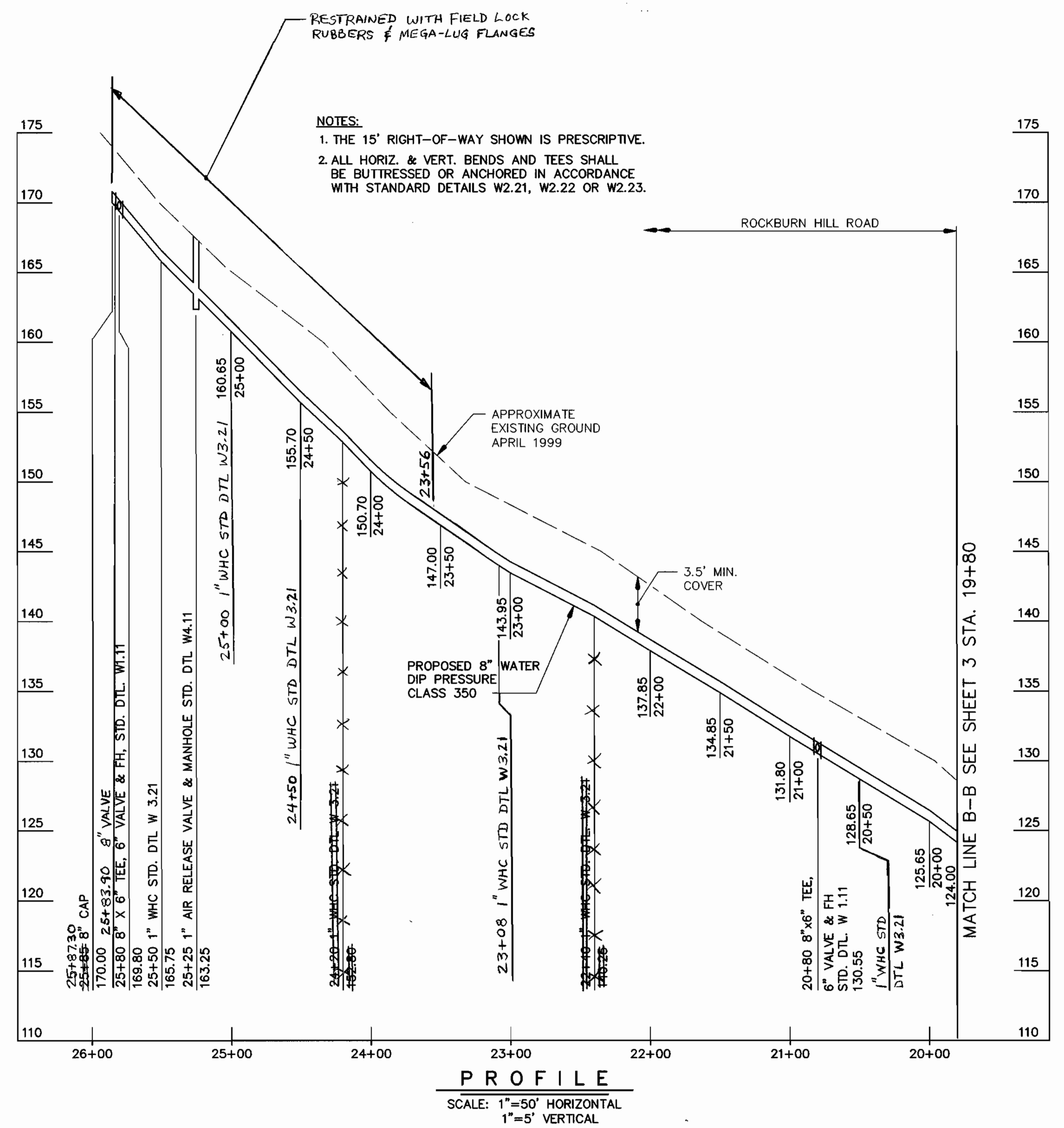
PARCEL 70  
HANSON, WALTER E. SR. & CORDELIA B.  
6189 N. ROCKBURN HILL ROAD  
2241/309



**PLAN**  
SCALE: 1"=50'

STATION	TO STATION	DISTANCE	MATERIAL
0+00	7+71	71 FEET	BITUMINOUS PAVING
7+71	8+00	29 FEET	SEEDING
8+00	8+54	54 FEET	CLASS II RIPRAP
8+54	8+58	4 FEET	SEEDING
8+58	25+80	1732 FEET	BITUMINOUS PAVING
10+80	3' TO 12' RT.	9 FEET	SEEDING
15+25	3' TO 10' RT.	7 FEET	SEEDING
15+80	3' TO 12' RT.	9 FEET	SEEDING
17+80	3' TO 9' RT.	6 FEET	SEEDING
17+80	0' TO 17' LT.	17 FEET	BITUMINOUS PAVING
17+80	17' TO 22' LT.	5 FEET	SEEDING
18+80	3' TO 20' RT.	17 FEET	SEEDING
20+80	4' TO 10' RT.	6 FEET	SEEDING
22+40	5' TO 20' RT.	15 FEET	SEEDING
24+20	5' TO 20' RT.	15 FEET	SEEDING
25+50	5' TO 20' RT.	15 FEET	SEEDING
25+80	5' TO 12' RT.	7 FEET	SEEDING

STATION	DESCRIPTION	NORTH	EAST
21+36.2	PC	567533.59	1390715.92
23+03.4	PT	567548.88	1390484.58
24+91.3	PC	567591.58	1390294.70
25+11.1	PT	567596.89	1390275.58
25+85	8" CAP	567619.40	1390205.18



**PROFILE**  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

WATER AS-BUILTS

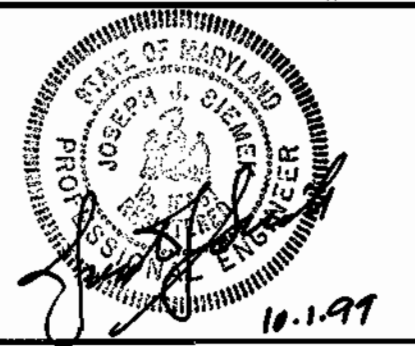
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Michael A. ...* 10/17/99  
DIRECTOR OF PUBLIC WORKS

*...* 10/17/99  
CHIEF, BUREAU OF ENGINEERING

*...* 10-7-99  
CHIEF, UTILITY DESIGN DIVISION

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



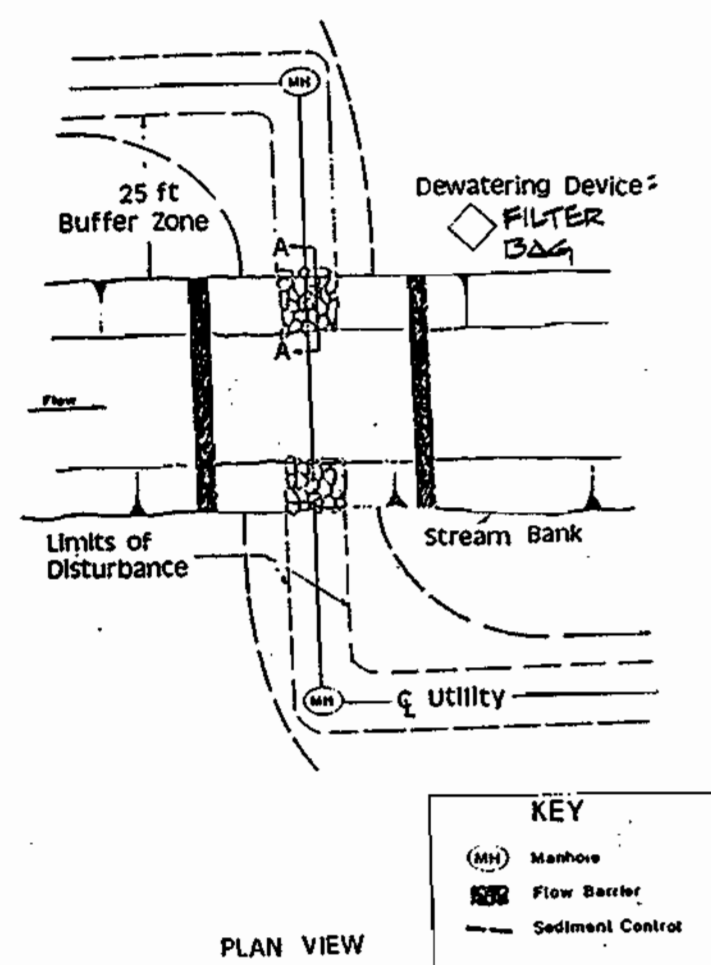
DES:	LAF			
DRN:	KJP			
CHK:	JJS			
DATE:	SEPT. 1999			
BY:	NO.	REVISION	DATE	

**ROCKBURN HILL ROAD**  
CAPITAL PROJECT W-8217  
PLAN AND PROFILE

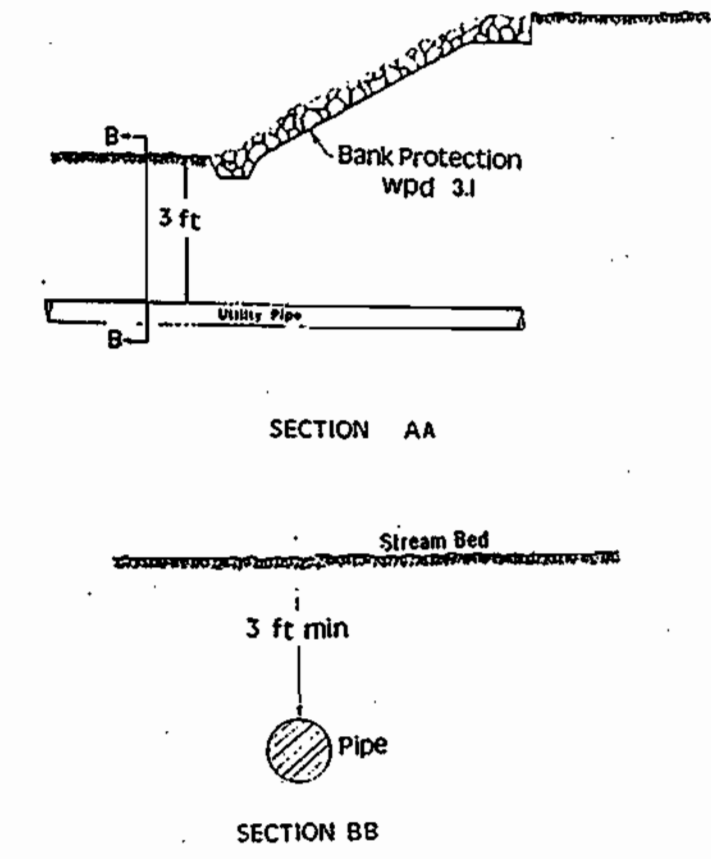
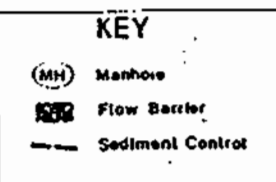
600' SCALE MAP NO. 32 BLOCK NO. 15 & 21

**ROCKBURN HILL ROAD**  
CAPITAL PROJECT W-8217  
CONTRACT NO. 24-3721  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND

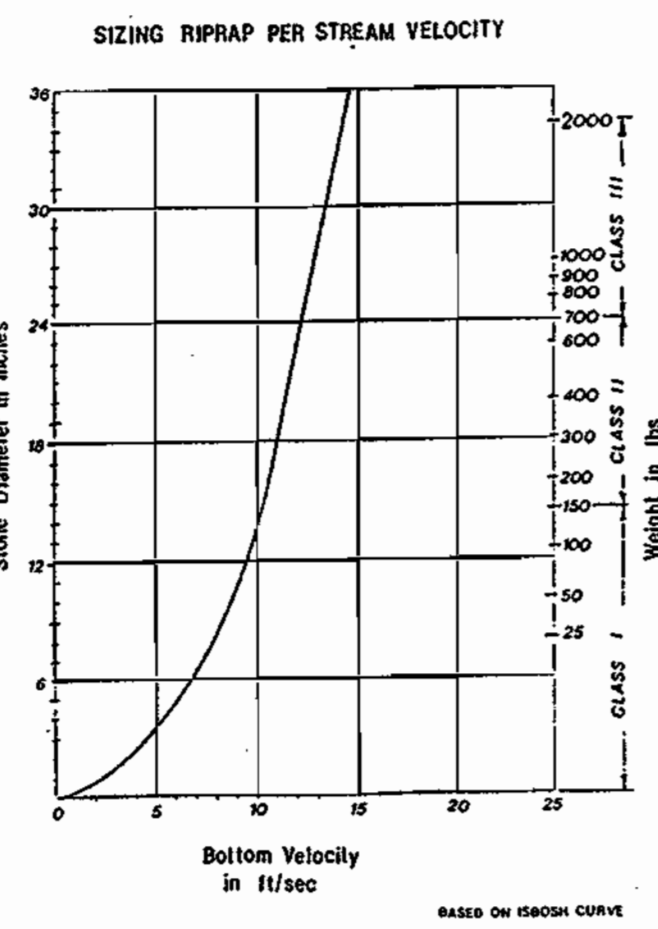
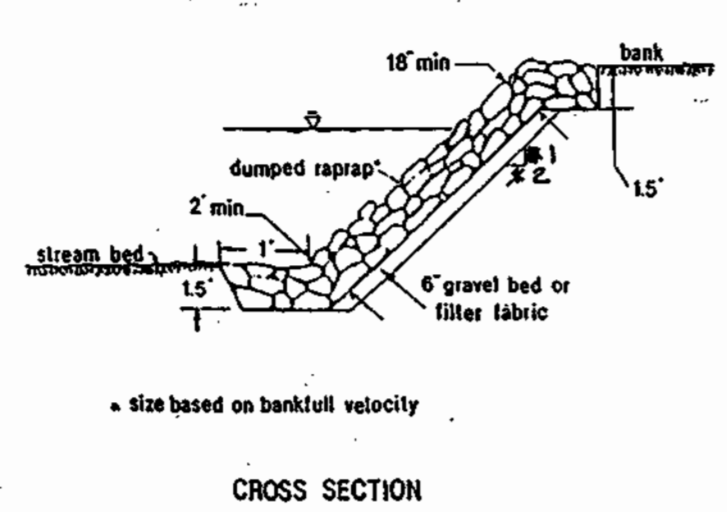
SCALE AS SHOWN  
SHEET 4 OF 6



- I. Description**  
This work shall consist of installing erosion control devices in and adjacent to temporary stream construction such as utility crossings.
- II. Construction Requirements**
- All erosion and sediment control devices shall be installed as the first order of work.
  - The contractor shall insure that a continuous perimeter control barrier is in place so as to minimize pollutants entering the water.
  - Excavated topsoil and subsoil shall be kept separate and replaced in their natural order.
  - All excavated materials shall be placed on the upland side of the excavation.
  - All construction shall take place during stream low flows. The length of construction time shall be limited to a maximum of 5 days for each crossing.
  - All utility crossings shall be placed at least three feet beneath the stream bed unless an alternative section is specifically approved by the Administration.
  - The contractor may elect to construct the utility crossing in two stages. In this case, a MRA approved flow barrier may be constructed to keep the construction area dry.
  - 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 inspection authority approves their removal.



**UTILITY CROSSING**  
N.T.S.



**RIPRAP GRADATION**

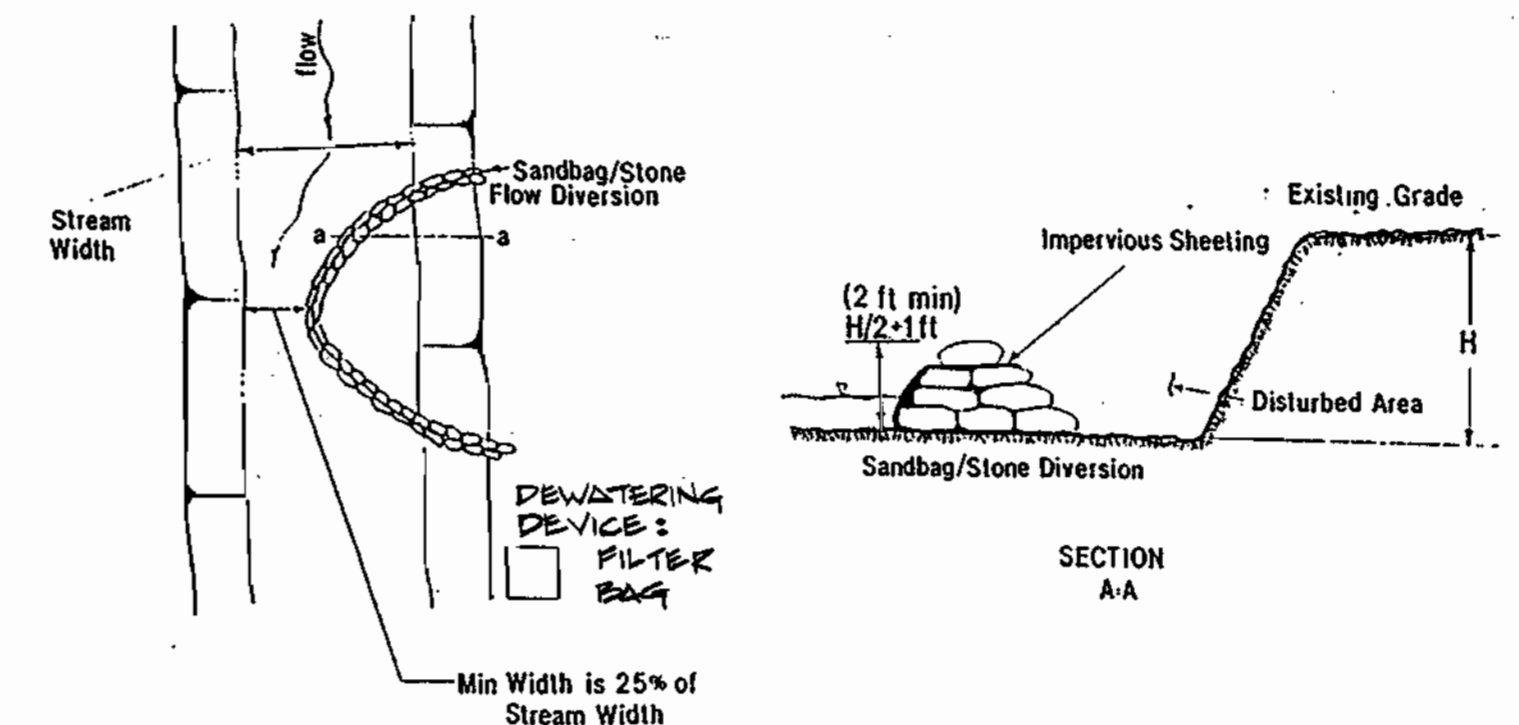
Class	Size	Percent of Total Weight Smaller than the Given Size
Class I	150 to (70 kg) 2 to (1 kg)	100 max
Class II	700 to (320 kg) 20 to (10 kg)	100 max
Class III	2000 to (910 kg) 40 to (20 kg)	100 max

- I. Description**  
This work shall consist of protecting slopes and channels from erosion with coverings of stone in accordance with the plans and specifications shown on this drawing.
- II. Material Specifications**
- Bedding:**
    - Bank run gravel shall meet the following requirements:

U.S. Standard sieve size	% less than
2 1/2 in	100
1 in	85 - 100
1/2 in	60 - 100
No. 10	35 - 70
No. 40	20 - 50
No. 200	3 - 20
    - Geotextile filter fabric shall meet the following requirements:

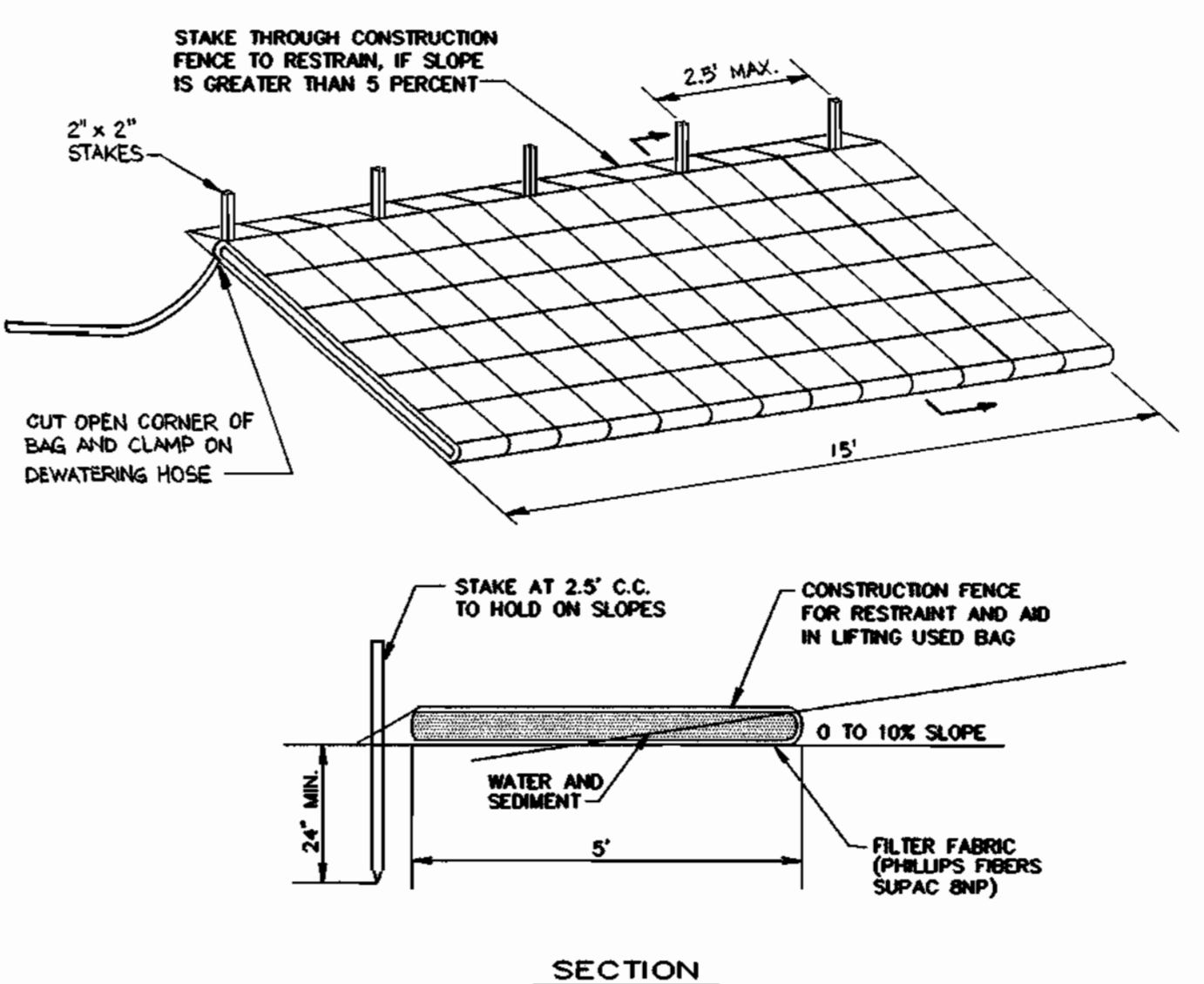
Tensile Strength	200 lbs.
Burst Strength	350 lbs.
Puncture Strength	70 lbs.
Permeability	.02 cm/sec
Elongation at Failure	30%
Minimum Lap Length	24 in
  - Riprap:**
    - The maximum weight of stone shall be based upon the bankfull stream channel velocity, using the given chart. The gradation of the stone shall be as indicated.
- III. Construction Requirements**
- The contractor shall install all sediment and erosion control devices as a first order of business.
  - Provisions must be made to anchor the riprap at the stream bed so as to provide protection against undermining. If this cannot be accomplished by extending the toe trench as indicated in Cross Section, an alternative method of protection must be received prior written approval of the Administration.
  - Excavation for riprap shall be made in reasonably close conformity with the existing stream slope and bed.
  - A filter bedding is required under all riprap. Bedding material shall consist of either a bank run gravel or a geotextile filter fabric meeting the specifications of II. B above.
  - The placement of riprap shall begin with the toe. The larger stones shall be placed in the toe and along the outside edges of the limits of the slope and channel protection. The riprap shall be placed with suitable equipment in such a manner as to produce a reasonably graded mass of stones with zero drop height. The placing of stones that cause extensive segregation is not allowed.
  - Any excavation voids existing along the edges of the completed slope and channel protection shall be backfilled.
  - All disturbed areas shall be permanently stabilized in accordance with an approved sediment and erosion control plan.

**RIPRAP**  
N.T.S.



- I. 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.
- II. Material Specifications**
- Sandbags: Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
  - Stone: Stone shall be washed and have a minimum diameter of 6 inches.
  - Sheeting: Sheeting shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.
- III. Construction Requirements**
- 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 SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the MRA.
  - All dewatering of the construction area shall be pumped to a dewatering basin prior to re-entering the stream.
  - Sheeting 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.

**SANDBAG/STONE DIVERSION**  
N.T.S.



- NOTES:**
- FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
  - WIDTH AND LENGTH SHALL BE AS SHOWN IN THE TABLE.
  - THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
  - FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
  - DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.

**FILTER BAG**  
N.T.S.

**BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS**

- No excess fill, construction material, or debris are to be stockpiled or stored in the wetlands or buffer.
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland.
- 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, toxic material or any other deleterious substance.
- Place heavy equipment on mats or suitably operate the equipment to prevent damage to the nontidal wetlands or buffer.
- Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands in excess of nontidal wetlands lost under the original structure or fill.
- Rectify any nontidal wetlands temporarily impacted by any construction.
- All stabilization in the wetland and buffer shall be of the following recommended species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria italica*), Barley (*Hordeum sp.*), Oats (*Avena 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 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.
- After installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations in temporarily impacted areas.
- To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows: Class I waters— in stream work may not be conducted during the period of March 1 through June 15, inclusive, during any year.
- Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
- Culvert(s) 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.

WATER AS-BUILTS

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

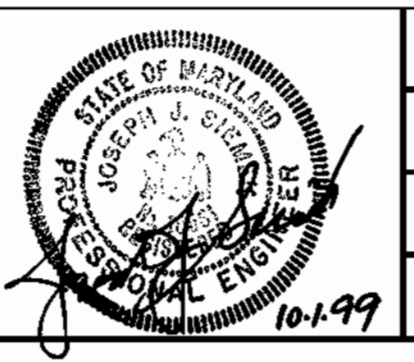
*James M. Chew* 10/12/99  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Seppan* 10/7/99  
CHIEF, BUREAU OF ENGINEERING DATE

*Michael R. ...* 10-9-99  
CHIEF, BUREAU OF UTILITIES DATE

*...* 10-7-99  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204

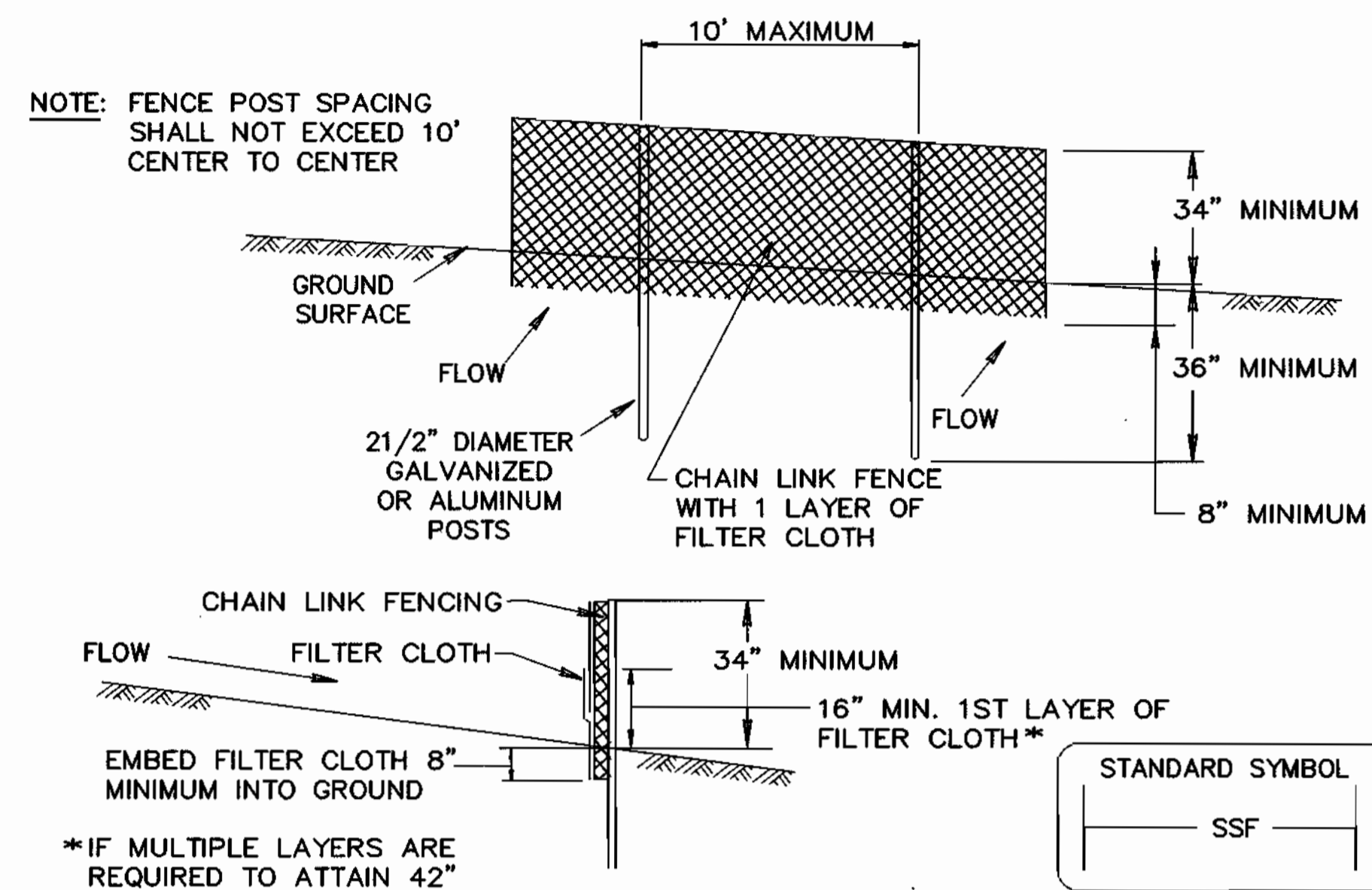


DES:	LAF				
DRN:	KJP				
CHK:	JJS				
DATE:	SEPT. 1999	BY	NO.	REVISION	DATE

600' SCALE MAP NO.	32	BLOCK NO.	15 & 21
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ROCKBURN HILL ROAD  
CAPITAL PROJECT W-8217  
CONTRACT NO. 24-3721  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND

**STANDARD SEDIMENT CONTROL NOTES**



- CONSTRUCTION SPECIFICATIONS**
- FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.
  - CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
  - FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
  - FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
  - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
  - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT
  - FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:
- |                      |  |                |
|----------------------|--|----------------|
| TENSILE STRENGTH     | 50 LBS/IN (MIN.)                       | TEST: MSMT 509 |
| TENSILE MODULUS      | 20 LBS/IN (MIN.)                       | TEST: MSMT 509 |
| FLOW RATE            | 0.3 GAL/FT <sup>2</sup> /MINUTE (MAX.) | TEST: MSMT 322 |
| FILTERING EFFICIENCY | 75% (MIN.)                             | TEST: MSMT 322 |

**SUPER SILT FENCE**  
NOT TO SCALE

- 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 (410-313-1855).
- 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 AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITH: A.) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEPPER 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 7 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 SEEDING, SOD, TEMPORARY SEEDING AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL 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	=	-	ACRES
AREA DISTURBED	=	0.19	ACRES
AREA TO BE ROOFED OR PAVED	=	0.12	ACRES
AREA TO BE VEGETATIVELY STABILIZED	=	0.07	ACRES
TOTAL CUT	=	N/A	CU./YDS.
TOTAL FILL	=	N/A	CU./YDS.
OFF SITE WASTE/BORROW AREA LOCATION:	AS APPROVED BY ENGINEER		
- 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 CONTROL 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 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 PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- SPOIL FROM THE TRENCHING OPERATION IS TO BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN A GRADING PERMIT.
- CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (410-313-1870) PRIOR TO STARTING DATE. (4 DAYS)
- 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" WATER MAIN AS PER STANDARD SEDIMENT CONTROL NOTE NO. 11. (70 DAYS)
- EXCAVATE AND INSTALL PROPOSED WATER HOUSE CONNECTIONS (5 DAYS)
- RESTORE TRENCHES TO THEIR ORIGINAL CONDITION WITH TEMPORARY PAVING PER HOWARD COUNTY STANDARDS AND SPECIFICATIONS. (2 DAYS)
- UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTION, REMOVE SEDIMENT CONTROL DEVICES. (1 DAY)
- INSTALL PERMANENT PAVING PATCH OVER TRENCH. (2 DAYS)

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

**SEEDBED PREPARATION** - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

**SOIL AMENDMENTS** - APPLY 60 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 (0.07 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 GRAIN 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 "1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR RATE 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.

**SEEDBED 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:

- PREFERRED** - APPLY 2 TONS PER ACRES 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 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.)
- 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 DISK 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 AND 2 LBS PER ACRE (0.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, 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 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.

DES: JJS					
DRN: KJP					
CHK: JJS					
DATE: 1999	BY	NO.	REVISION	DATE	

60' SCALE MAP NO. 32 BLOCK NO. 15 & 21

**WATER AS-BUILTS**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

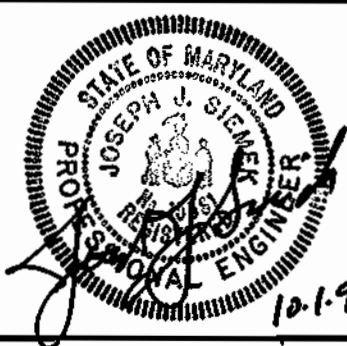
*James M. Shaw* 10-12-99  
DIRECTOR OF PUBLIC WORKS DATE

*Paul J. Seppan* 10/7/99  
CHIEF, BUREAU OF ENGINEERS DATE

*Michael Dismantella* 10-9-99  
CHIEF, BUREAU OF UTILITIES DATE

*Q. D. Quinn* 10-7-99  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



**SEDIMENT CONTROL NOTES & DETAILS**

ROCKBURN HILL ROAD  
CAPITAL PROJECT W-8217  
CONTRACT NO. 24-3721  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 6 OF 6