

MD. ROUTE 108 WATER MAIN HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS CONTRACT NO. 44-3218

GENERAL NOTES

Part I

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 are based on Maryland State Coordinates.
3. All vertical controls are based on U.S.C.S. data.
4. All pipe elevations shown are invert elevations.
5. Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from money owed the Contractor. The Contractor shall coordinate with the utility companies to schedule the bracing of the poles.
6. For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specification and Details for Construction. The Contractor shall have a copy of Volume IV on the job.
7. Where test pits have been made on existing utilities, they are noted by the symbol 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 operation at his own expense.
8. Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:
State Highway Administration -531-5533
Baltimore Gas and Electric Co. -Contractor Services 850-4620
Baltimore Gas and Electric Co. -underground Damage Control 859-9004
Miss Utility -1-800-257-7777
Chesapeake and Potomac Telephone Co. - 597-8585
Colonial Pipeline Co. - 795-1390
Bureau of Utilities, Howard County Department of Public Works 313-4900
9. Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
10. Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.

Part II WATER

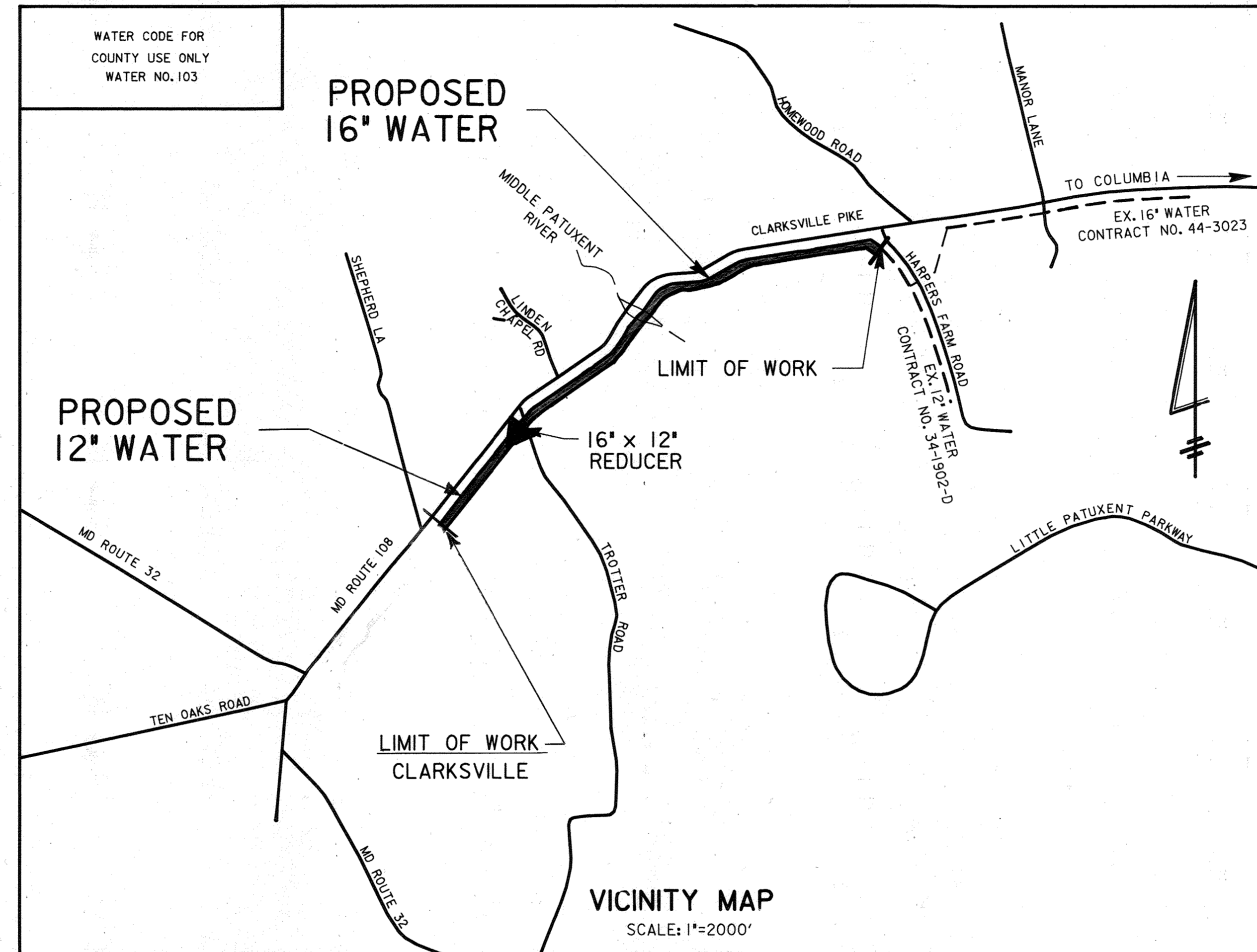
1. All water mains to be D.I.P. Class 52 unless otherwise noted.
2. Tops of all water mains to have a minimum of 3'-6" of cover unless otherwise noted.
3. Valves adjacent to tees shall be strapped to tees.
4. All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details and the fire hydrant shall be compacted in accordance with Section 1000 of the Standard Specifications.
5. Fire hydrant shall be set to bury line elevations shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 of the Standard Specifications.
6. The Contractor shall not operate any water main valves on the existing water system.
7. Length of disturbance/open trench must be limited to three pipe sections or to the length which can be backfilled and stabilized in one working day, whichever is shorter.

TYPE OF BUILDING: RESIDENTIAL,
COMMERCIAL
NUMBER OF PARCELS: 23
NO. OF WATER HOUSE CONNECTIONS: 5
DRAINAGE AREA: MIDDLE PATUXENT
RIVER
BOARD OF EDUCATION : 2 CONN.

AS BUILT 2/7/95

QUANTITIES			
ITEM	BID	AS-BUILT	MATERIAL/SUPPLIER
16" D.I.P.	8942 L.F.		U.S. PIPE AND CO.
12" D.I.P.	2819 L.F.		U.S. PIPE AND CO.
8" D.I.P.	37 L.F.		U.S. PIPE AND CO.
6" D.I.P.	235 L.F.		U.S. PIPE AND CO.
16" VALVE	7 EA.		U.S. PIPE AND CO.
12" VALVE	4 EA.		U.S. PIPE AND CO.
6" VALVE	22 EA.		U.S. PIPE AND CO.
1" AIR REL VALVE	7 EA.		GRIFFIN PIPE PRODUCTS CO.
BLOW-OFF	4 EA.		GRIFFIN PIPE PRODUCTS CO.
6" FIRE HYDRANT	22 EA.		U.S. PIPE AND CO.
8" VALVE	3 EA.		U.S. PIPE AND CO.
1" HSE. CONN.	80 L.F.		K-COPPER BELAIR RD. SUPPLY
3/4" HSE CONN	40 L.F.		K-COPPER BELAIR RD. SUPPLY

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH VOLUME 4, SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND THIS PLAN.



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
2	PLAN & PROFILE STA. 43+52 TO 58+23
3	PLAN & PROFILE STA. 58+23 TO 73+02
4	PLAN & PROFILE STA. 73+02 TO 87+67
5	PLAN & PROFILE STA. 87+67 TO 102+44
6	PLAN & PROFILE STA. 102+44 TO 116+80
7	PLAN & PROFILE STA. 116+80 TO 131+63
8	PLAN & PROFILE STA. 131+63 TO 146+13
9	PLAN & PROFILE STA. 146+13 TO 159+80 +/-
10	SEDIMENT CONTROL NOTES RESTORATION SCHEDULE TRAVERSE DESCRIPTION
11	SEDIMENT CONTROL DETAILS

ENGINEER'S CERTIFICATE

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

Richard H. Caswell 2/1/95
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ANY DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

K. S. Ryan 3-3-93
SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

Jan M. DeLoe 2/10/95
U.S. SOIL CONSERVATION DISTRICT SERVICE DATE

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

Thy P. St. 2/10/95
APPROVED DATE
HOWARD SOIL CONSERVATION DISTRICT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. Linn 3-8-93
DIRECTOR OF PUBLIC WORKS DATE

K. S. Ryan 3-3-93
CHIEF - BUREAU OF ENGINEERING DATE

Robert Deinger 3-8-93
CHIEF, BUREAU OF UTILITIES DATE

O. J. Donohue 3-3-93
CHIEF, UTILITY DESIGN DIVISION DATE

HARRIS, SMARIGA, MATZ, INC.
PLANNERS / ENGINEERS / SURVEYORS
104 CRONK LANE, SUITE 100
BALTIMORE, MARYLAND 21208
(410)-486-1511
FAX (410)-486-2973

R. H. Caswell

DES: WJMA 1 AS BUILT 2/7/95

DRN:

CHK:

DATE:

BY	NO.	REVISION	DATE

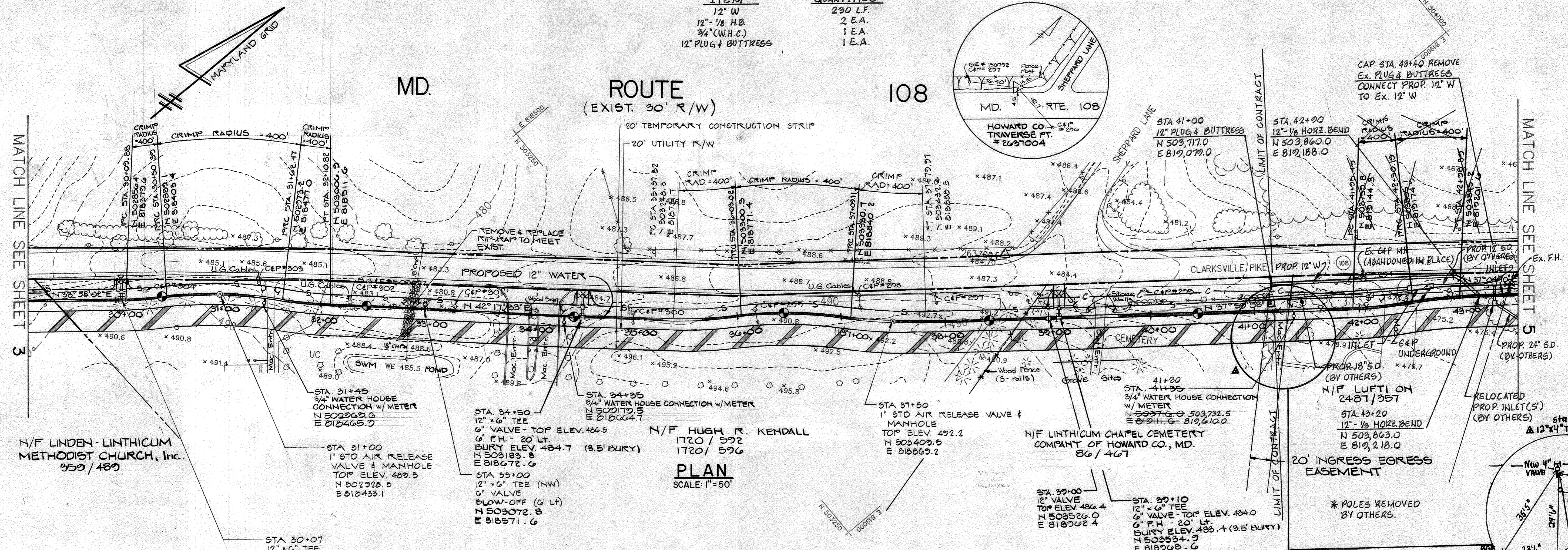
TITLE SHEET
INDEX OF DRAWINGS
GENERAL NOTES

600' SCALE NO. _____ BLOCK NO. _____

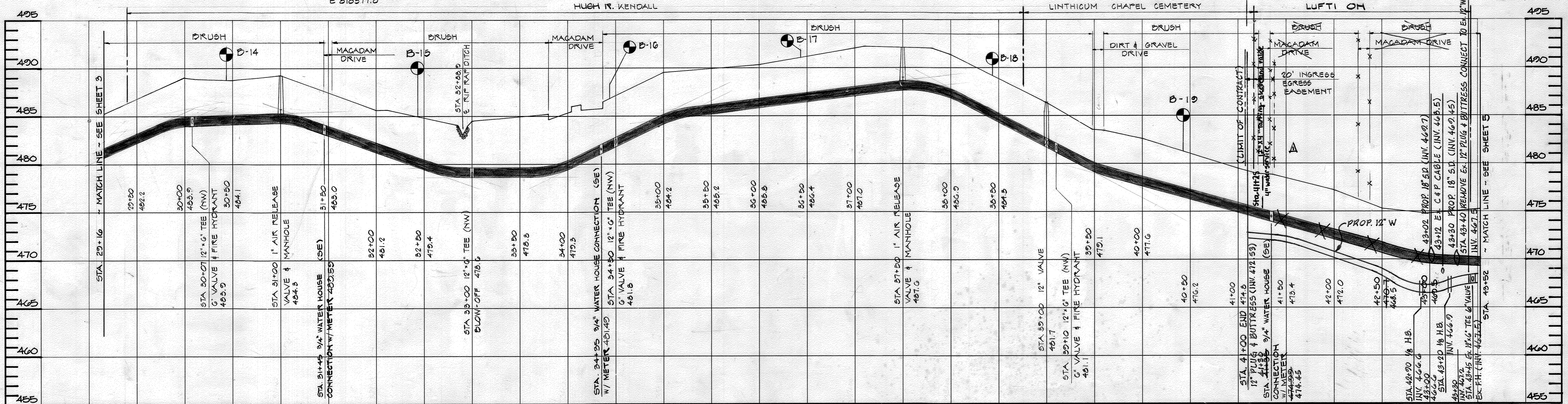
MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 11

ITEM	QUANTITIES
12" W	230 L.F.
12" - 1/8 H.B.	2 E.A.
3/4" (W.H.C.)	1 E.A.
12" PLUG & BUTTRISS	1 E.A.



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'
AS BUILT 2/7/95

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Shaw 3/8/93
DIRECTOR OF PUBLIC WORKS DATE

Robert W. Benson 3-8-93
CHIEF, BUREAU OF UTILITIES DATE

K. S. ... 3-3-93
CHIEF - BUREAU OF ENGINEERING DATE

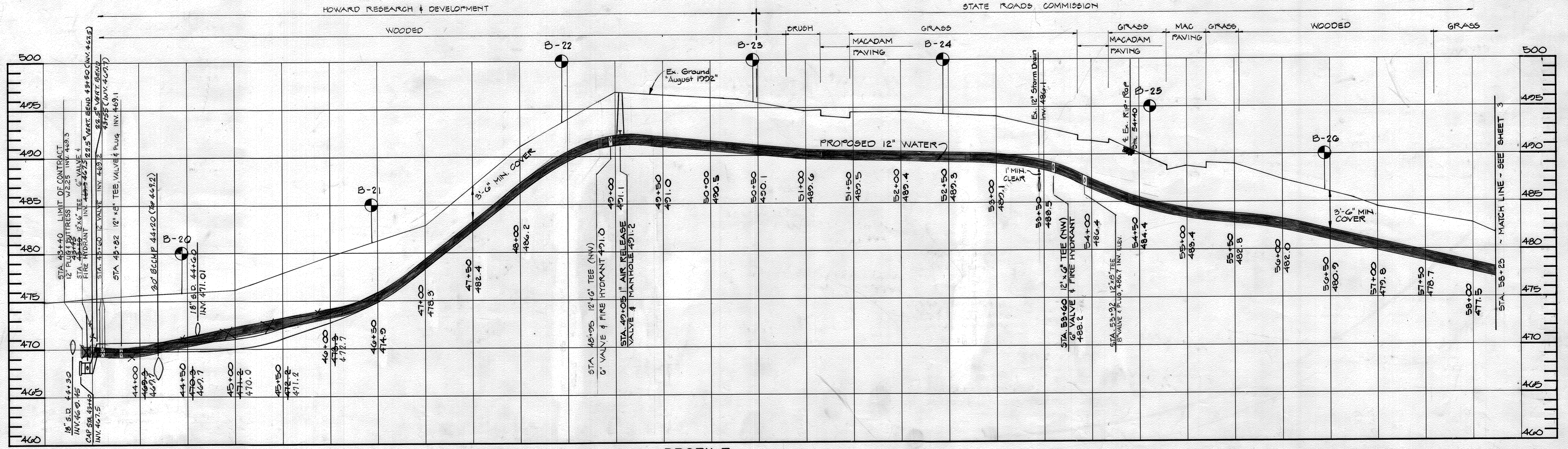
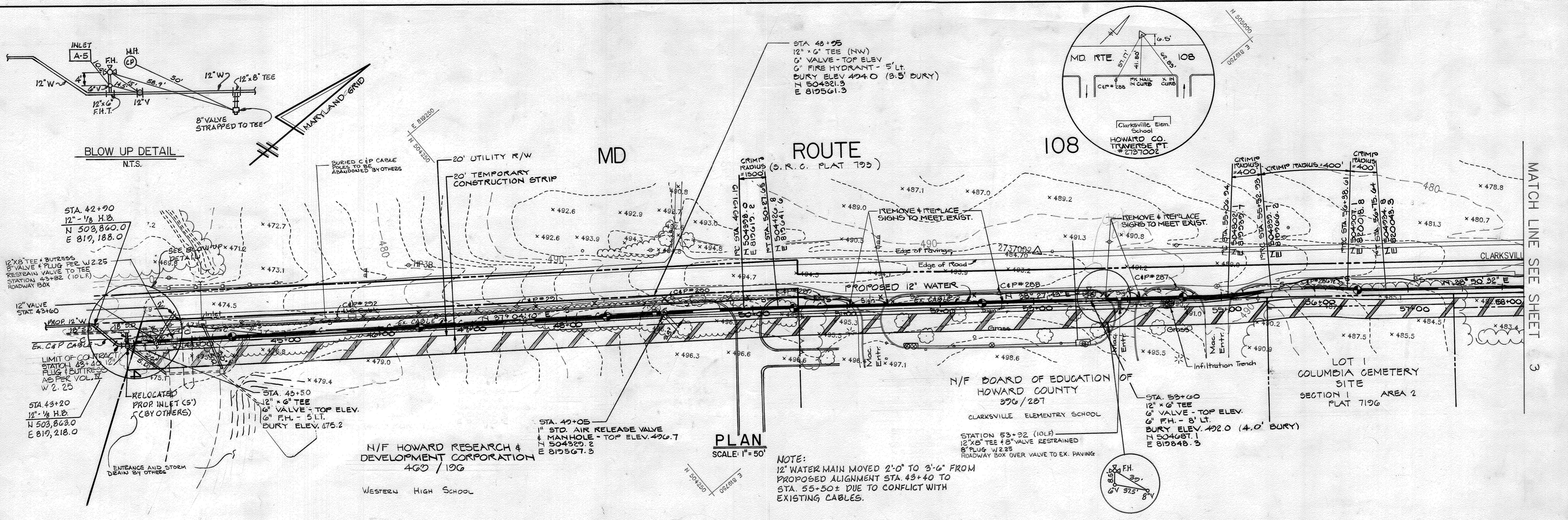
C. J. ... 3-3-93
CHIEF, UTILITY DESIGN DIVISION DATE

HARRIS, SMARIGA, MATZ, INC.
PLANNERS / ENGINEERS / SURVEYORS
104 CHURCH LANE, SUITE 100
BALTIMORE, MARYLAND 21209
(410) 486-1511
FAX (410) 486-2573

DES:	
DRN:	
CHK:	
DATE:	07/1 A
BY:	NO.
REVISION:	Add water service connection to 12443 Clarksville Pike
DATE:	

MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 11



PROFILE
SCALE: HOR: 1" = 50'
VER: 1" = 5'

AS BUILT 2/7/95

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Ronnie J. Shaw
DIRECTOR OF PUBLIC WORKS

Robert Benning
CHIEF, BUREAU OF UTILITIES

DATE: 3-1-93
DATE: 3-8-93

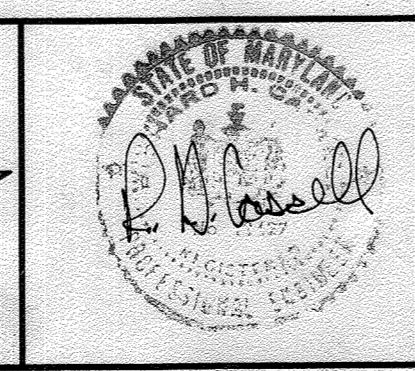
James E. Kelly
CHIEF - BUREAU OF ENGINEERING

Chad L. Lewis
CHIEF, UTILITY DESIGN DIVISION

DATE: 3-3-93
DATE: 3-3-93

HARRIS, SMARIGA, MATZ, INC.
PLANNERS / ENGINEERS / SURVEYORS

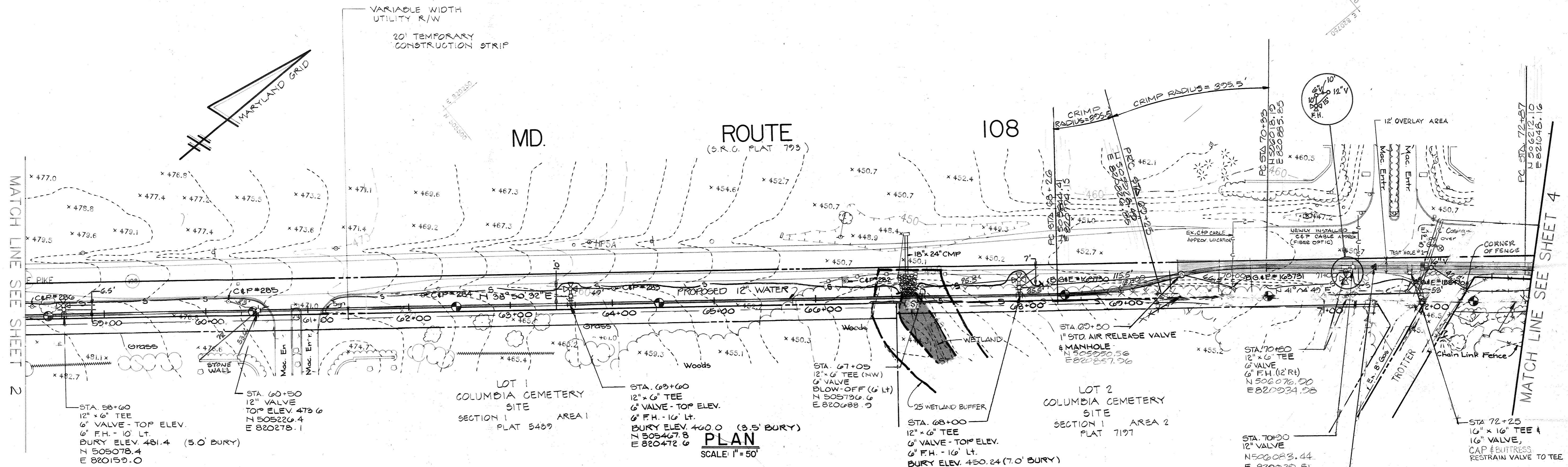
104 CHURCH LANE, SUITE 100
BALTIMORE, MARYLAND 21208
(410) 588-1511
FAX (410) 486-2573



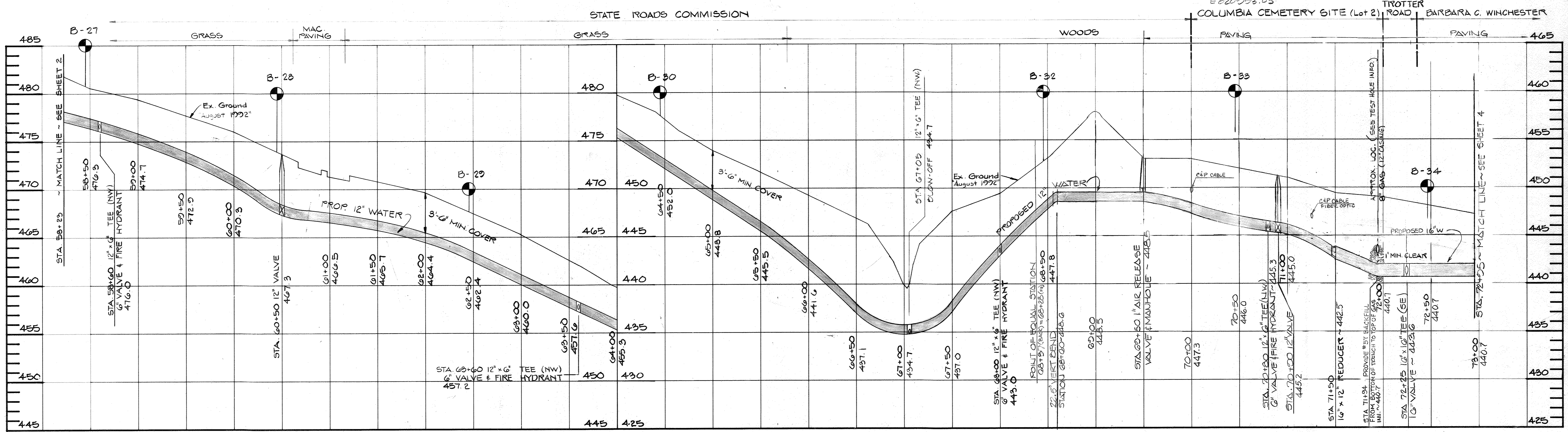
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BY:	NO.
REVISION:	
DATE:	
600' SCALE NO.:	
BLOCK NO.:	

MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 11



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HOR: 1" = 50'
VER: 1" = 5'

AS BUILT 2/7/95

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Shaw
DIRECTOR OF PUBLIC WORKS
DATE: 3/8/93

Robert A. Berry
CHIEF, BUREAU OF UTILITIES
DATE: 3-8-93

James R. Kelly
CHIEF - BUREAU OF ENGINEERING
DATE: 3-3-93

Don L. Lewis
CHIEF, UTILITY DESIGN DIVISION
DATE: 3-3-93

HARRIS, SMARIGA, MATZ, INC.
PLANNERS / ENGINEERS / SURVEYORS
104 DORCH LANE, SUITE 100
BALTIMORE, MARYLAND 21208
410-486-1511
FAX 410-486-2213

R. S. Smariga

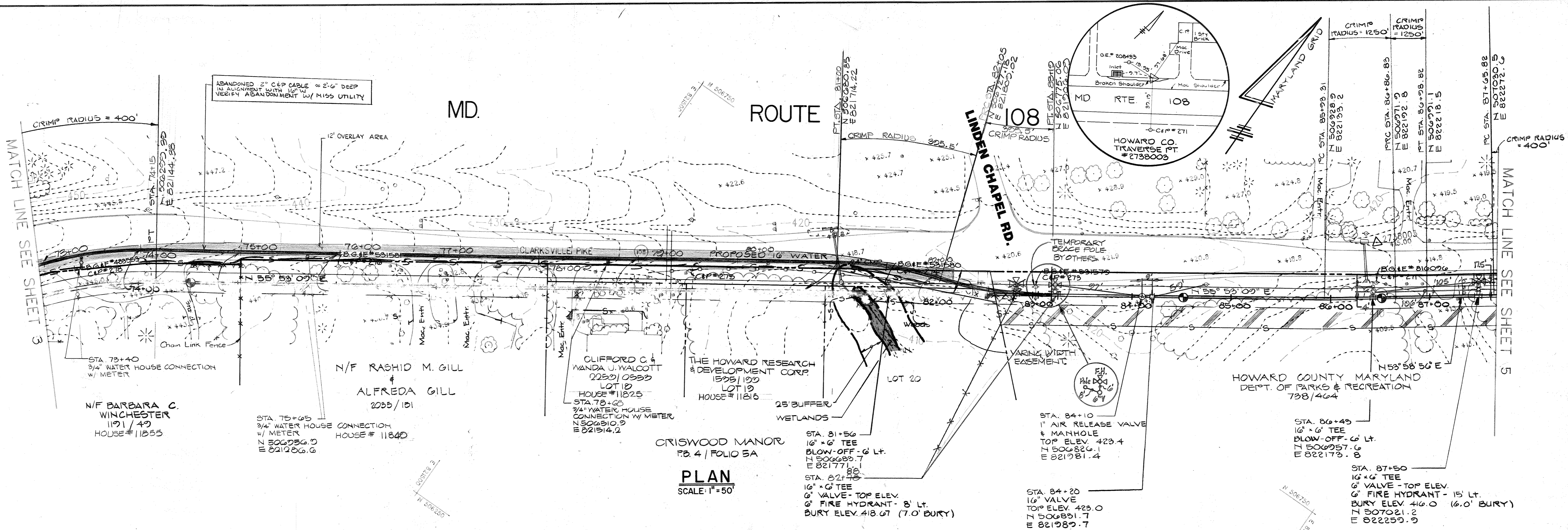
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CHK:				
DATE:	BY	NO.	REVISION	DATE

James P. Shaw

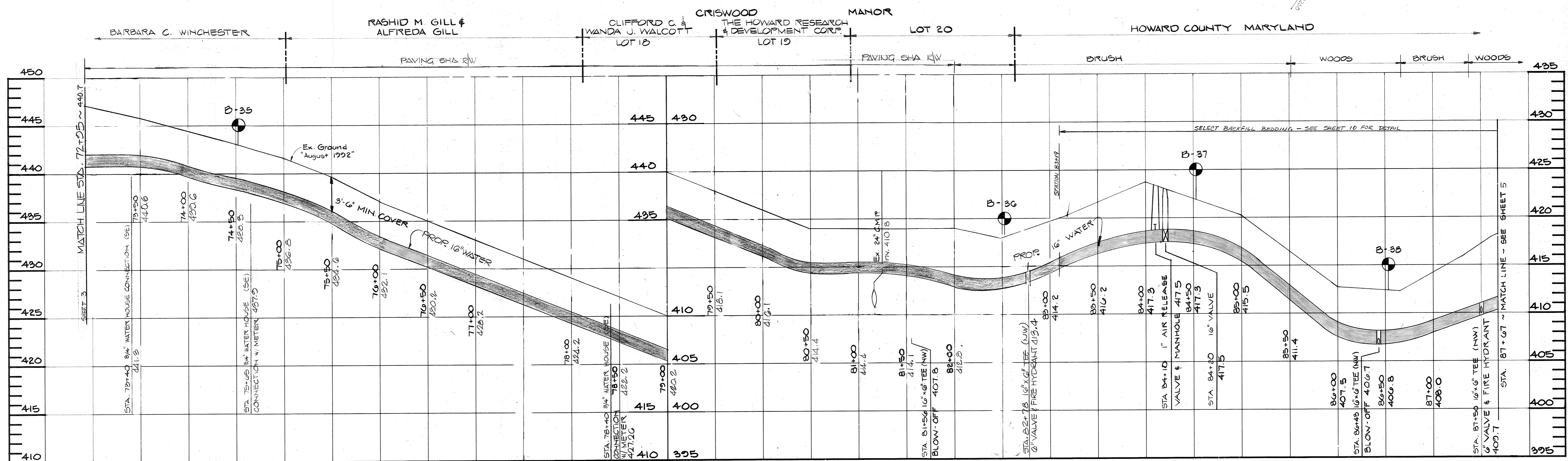
STATE OF MARYLAND
NOTARY PUBLIC
COMMISSION EXPIRES 12/31/95

MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 11



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HOR: 1" = 50'
VER: 1" = 5'

AS BUILT 2/7/95

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Lee 3/8/93
DIRECTOR OF PUBLIC WORKS DATE

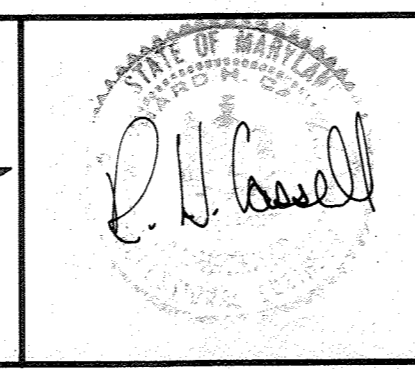
Robert M. Benning 3-3-93
CHIEF, BUREAU OF UTILITIES DATE

William E. Rely 3-3-93
CHIEF - BUREAU OF ENGINEERING DATE

Clayton L. Lewis 3-3-93
CHIEF, UTILITY DESIGN DIVISION DATE

HARRIS, SMARIGA, MATZ, INC.
PLANNERS • ENGINEERS • SURVEYORS

104 GRANGE LANE • SUITE 100
340 FENWICK, MARYLAND 21208
410-486-1010



DES:	TEB	1	STA. 72+95 - STA. 83+19 (LINE & GRADE)	5/12
DRN:				
CHK:				
DATE:	BY	NO.	REVISION	DATE

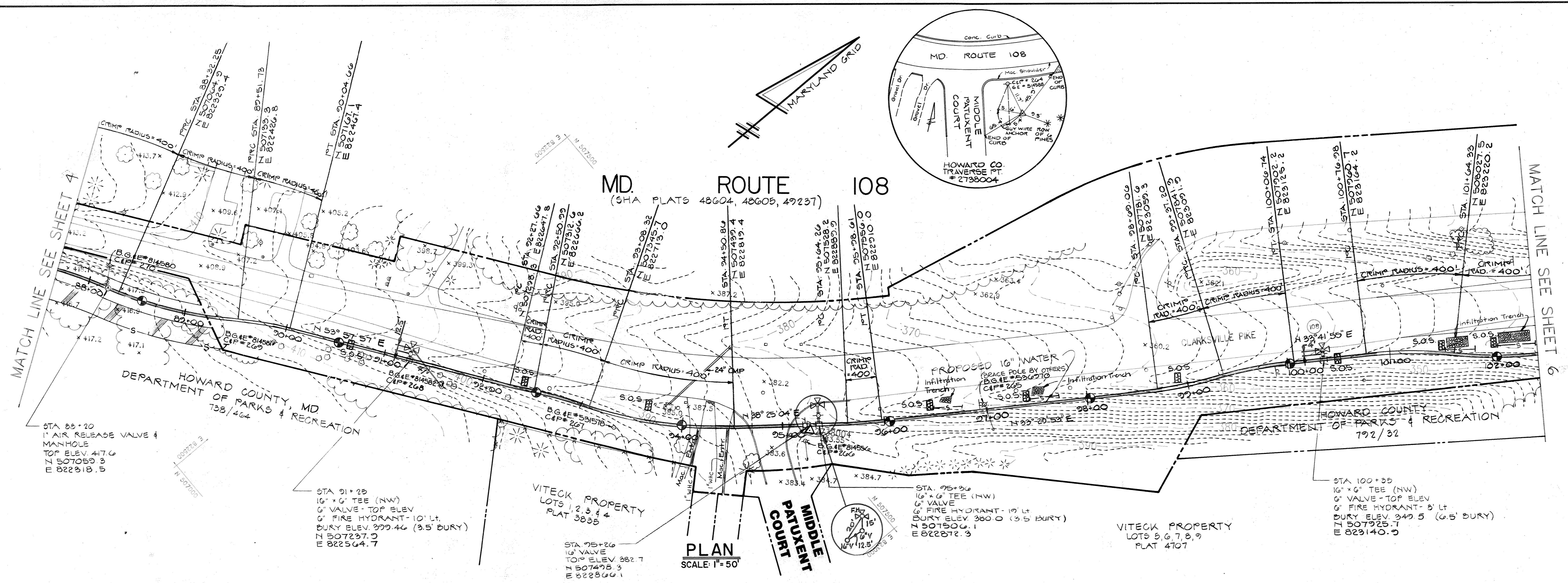
STATE OF MARYLAND
PROFESSIONAL ENGINEER

James J. Lee
REGISTERED PROFESSIONAL ENGINEER

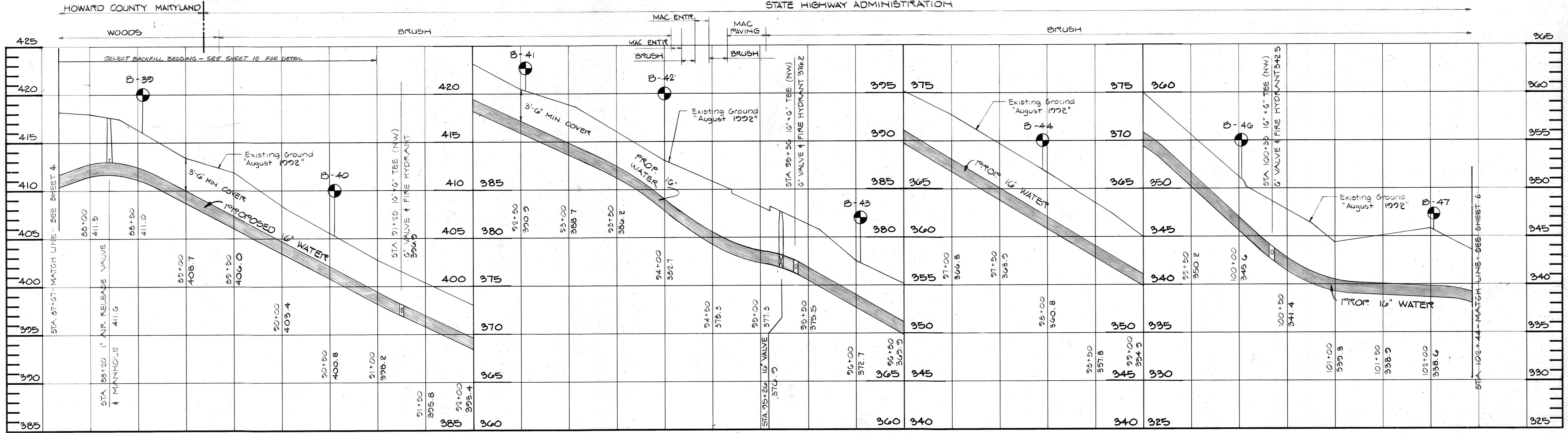
600 SQUARE NO. _____
BLOCK NO. _____

MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 4 OF 11



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HOR: 1" = 50'
VER: 1" = 5'

AS BUILT 2/7/95

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Blair 3-8-93
DIRECTOR OF PUBLIC WORKS DATE

Robert Benner 3-8-93
CHIEF, BUREAU OF UTILITIES DATE

Richard E. Riley 3-3-93
CHIEF, BUREAU OF ENGINEERING DATE

Clayton Don Lee 3-3-93
CHIEF, UTILITY DESIGN DIVISION DATE

HARRIS, SMARIGA, MATZ, INC.

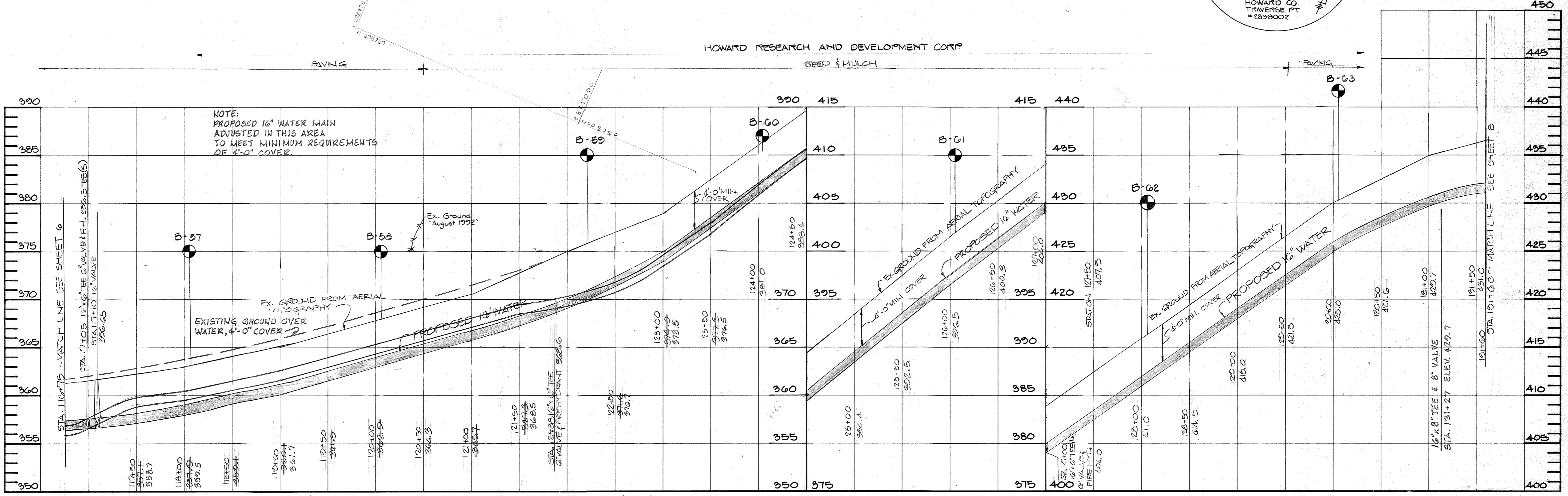
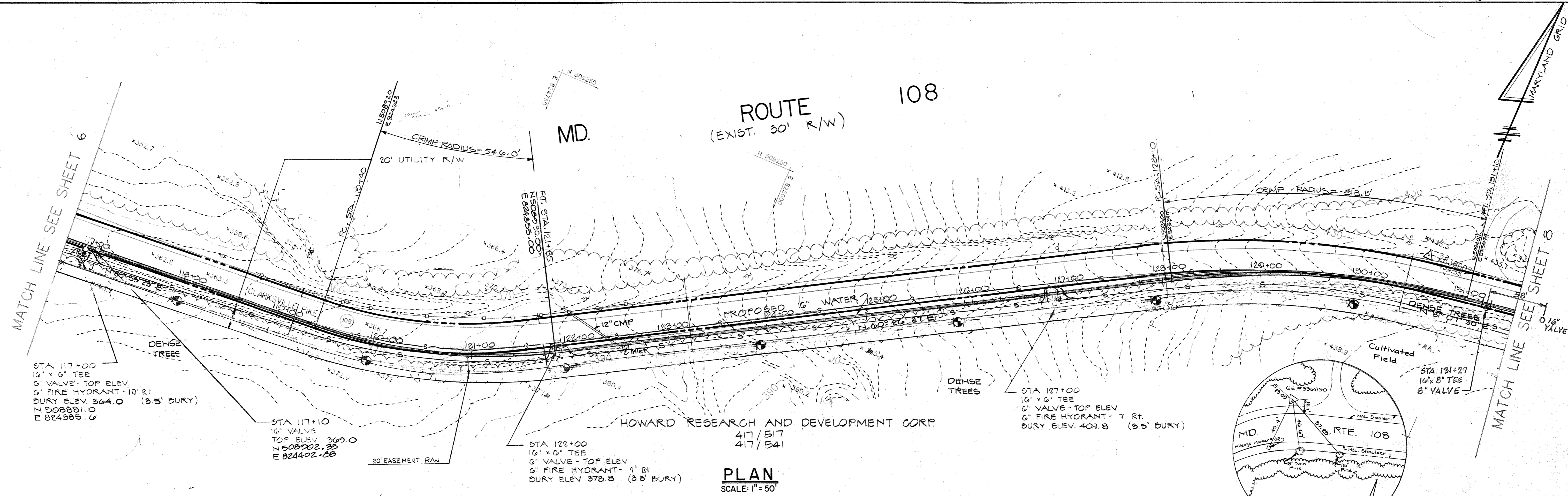
PLANNERS / ENGINEERS / SURVEYORS
104 DUNBAR LANE, SUITE 100
BALTIMORE, MARYLAND 21208
410-546-1211
FAX: 410-546-9213

R. J. Smariga

DES:	
DRN:	
CHK:	
DATE:	
BY:	NO.
REVISION:	
DATE:	
600' SCALE NO.:	
BLOCK NO.:	

MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 11



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Robert B. Benner</i> 3-8-93 Chief, Bureau of Utilities: <i>Robert B. Benner</i> 3-8-93		HARRIS, SMARIG, MATZ, INC. PLANNERS / ENGINEERS / SURVEYORS 104 CHURCH LANE, SUITE 100 BALTIMORE, MARYLAND 21202 (410) 486-4311 FAX (410) 486-2212		DES: <i>R. J. Caswell</i> DRN: CHK: DATE:		1 STA. 116+75 - STA. 131+00 (LINE & GRADE) 5/12 BY: NO. REVISION DATE				MD. ROUTE 108 WATER MAIN EXTENSION CAPITAL PROJECT W-8178 CONTRACT NO. 44-3218 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 7 OF 11
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SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 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, DICES, 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 SECTION 219 OF VOLUME IV OF THE HOWARD COUNTY DESIGN MANUAL.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). 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	14.4 ACRES
AREA DISTURBED	14.4 ACRES
AREA TO BE ROOFED OR PAVED	0.2 ACRES
AREA TO BE VEGETATIVELY STABILIZED	N/A
TOTAL CUT	11610 CU. YDS
TOTAL FILL	11610 CU. YDS
OFFSITE WASTE/BORROW AREA LOCATION	N/A
- 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.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION:
LOOSEN UPPER 3 INCHES BY DISCING, RAKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:
APPLY 600 LBS. PER ACRE (4 LBS./1,000 SQ. FT.) OF 10-10-10 FERTILIZER.

SEEDING:
FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 LBS. PER ACRE OF ANNUAL RYE (2 LBS./1,000 SQ. FT.).
FOR PERIOD MAY 1 THRU AUG. 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (2 LBS./1,000 SQ. FT.).
FOR PERIOD NOV. 16 THRU FEB. 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.

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

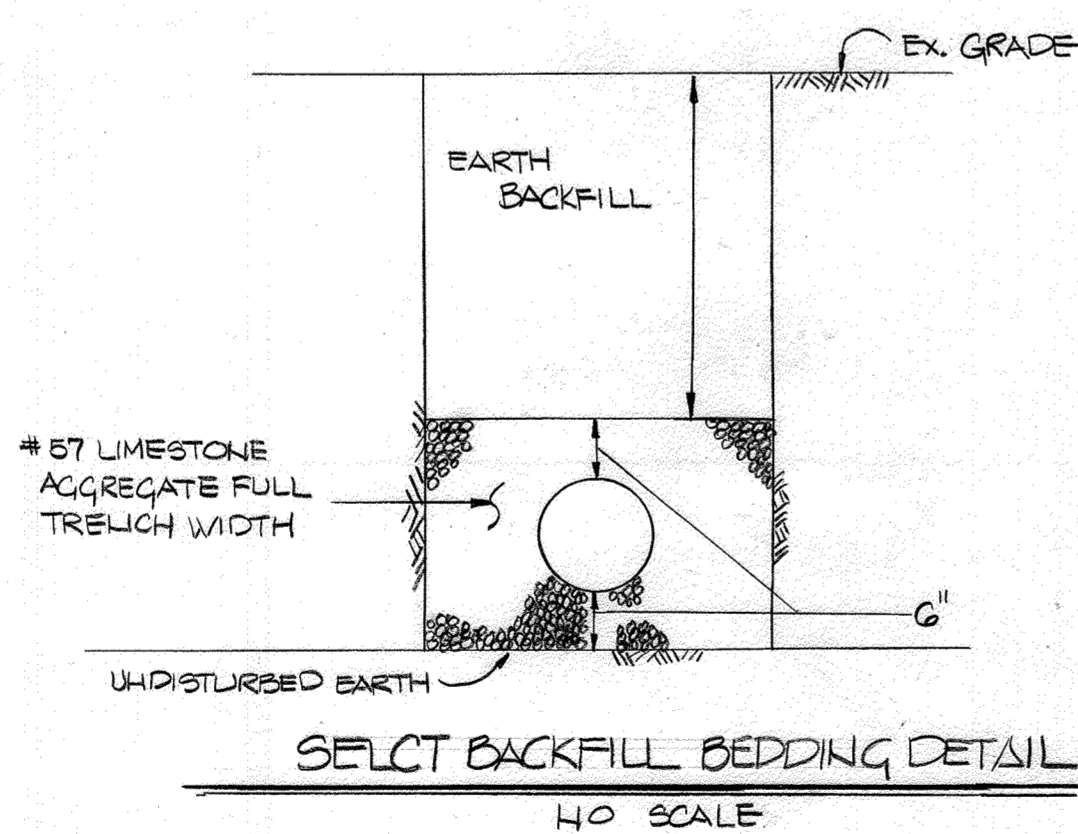
SEEDBED PREPARATION:
LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:
APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ. FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (4 LBS./1,000 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 (3 LBS./1,000 SQ. FT.).

SEEDING:
FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (4 LBS./1,000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD OF MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.06 LBS./1,000 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.

MAINTENANCE:
INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS, AND RESEEDINGS.

LOCATION	LENGTH	MATERIAL
STA 43+00 to 43+68	28'	Bituminous concrete paving/curb & gutter
STA 43+68 to 44+35	67'	Bituminous concrete paving/curb & gutter
STA 44+35 to 51+15	680'	Permanent seeding
STA 51+15 to 51+46	31'	Bituminous concrete paving/curb & gutter
STA 51+46 to 53+85	239'	Permanent seeding
STA 53+85 to 54+18	33'	Bituminous concrete paving/curb & gutter
STA 54+18 to 54+38	20'	Permanent seeding
STA 54+38 to 54+44	6'	Rip-Rap Class II
STA 54+44 to 54+79	35'	Permanent seeding
STA 54+79 to 55+21	42'	Bituminous concrete paving/curb & gutter
STA 55+21 to 60+07	546'	Permanent seeding
STA 60+07 to 61+15	48'	Bituminous concrete paving/curb & gutter
STA 61+15 to 69+45	830'	Seed and mulch
STA 69+45 to 82+20	1275'	Concrete trench repair with 12" x 1" overlay (See Permit)
STA 82+20 to 94+08	1188'	Permanent seeding
STA 94+08 to 94+19	11'	Bituminous concrete paving
STA 94+19 to 94+33	14'	Permanent seeding
STA 94+33 to 94+47	14'	Bituminous concrete paving
STA 94+47 to 94+67	20'	Permanent seeding
STA 94+67 to 95+07	40'	Bituminous concrete paving/curb & gutter
STA 95+07 to 95+52	45'	Permanent seeding
STA 95+52 to 104+84	932'	Permanent seeding
STA 104+84 to 109+96	12'	Wetland restoration*
STA 104+96 to 105+07	See Sheet #6	Rip-Rap
STA 105+07 to 105+16	9'	Stream bed/Select backfill
STA 105+16 to 105+25	See Sheet #6	Rip-Rap
STA 105+25 to 105+51	26'	Wetland restoration*
STA 105+51 to 105+60	See Sheet #6	Rip-Rap
STA 105+60 to 105+70	10'	Selected backfill/Stream bed
STA 105+70 to 105+80	See Sheet #6	Rip-Rap
STA 105+80 to 116+00	1020'	Permanent seeding
STA 116+00 to 120+00	400'	Bituminous concrete paving-(trench repair)
STA 120+00 to 129+00	960'	Permanent seeding
STA 129+00 to 137+00	740'	Bituminous concrete paving-(trench repair)
STA 137+00 to 137+12	12'	Gravel
STA 137+12 to 139+75	263'	Permanent seeding
STA 139+75 to 139+90	15'	Gravel
STA 139+90 to 146+88	698'	Permanent seeding
STA 146+88 to 147+60	72'	Bituminous concrete paving/curb & gutter
STA 147+60 to 159+80	1220'	Permanent seeding



LEGEND

- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- RIGHT-OF-WAY
- EXISTING STORM DRAIN
- 100 YEAR FLOOD PLAIN
- WETLANDS
- WETLANDS BUFFER
- STONE OUTLET STRUCTURE
- STABILIZED CONSTRUCTION ENTRANCE
- DEWATERING BASIN
- SANDBAG/STONE DIVERSION
- SILT FENCE

TRAVERSE DESCRIPTION				
POINT	NORTH	EAST	BEARING	DIST.
2636001	501165.21	815335.31		
2637003	501750.36	817419.04	N74° 18' 52" E	2164.33
2637004	503537.20	818890.87	N39° 28' 43" E	2314.97
2737002	504601.05	819776.53	N37° 44' 59" E	1446.65
2738003	507009.08	822147.77	N45° 31' 37" E	3323.03
2738004	507498.21	822873.02	N56° 00' 10" E	874.78
2838005	508778.58	823611.34	N29° 58' 10" E	1477.99
2838003	508916.63	824630.47	N82° 17' 09" E	1028.45
2838002	509424.94	825626.56	N62° 56' 28" E	1117.39
2839007	510128.06	830176.65	N81° 13' 03" E	4605.09

SEQUENCE OF CONSTRUCTION

- * NOTIFY WRA ENFORCEMENT DIVISION AT LEAST FIVE DAYS PRIOR TO CONSTRUCTION - (SDI) 074-2641.
- 1. OBTAIN ALL REQUIRED PERMITS AND APPROVALS FROM APPROPRIATE AGENCIES.
- 2. NOTIFY HOWARD COUNTY SEDIMENT CONTROL DIVISION AT (410) 313-1850 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK ON SITE.
- 3. CLEAR AND GRUB MINIMAL AREA FOR INSTALLATION OF SEDIMENT AND EROSION CONTROL MEASURES ACCORDING TO PLANS.
- 4. INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES.
- 5. NOTIFY HOWARD COUNTY SEDIMENT CONTROL DIVISION AT (410) 313-1850 UPON COMPLETION OF SAID INSTALLATION.
- 6. WITH THE APPROVAL FROM HOWARD COUNTY SEDIMENT CONTROL DIVISION CLEAR AND GRUB REMAINDER OF SITE.
- 7. IMMEDIATELY FOLLOWING THE CLEARING ACTIVITY AND PRIOR TO EXCAVATION, SILT FENCING WILL BE INSTALLED ALONG THE CONSTRUCTION LIMITS.
- 8. LENGTH OF DISTURBANCE/OPEN TRENCH MUST BE LIMITED TO THREE PIPE SECTIONS OR TO THE LENGTH WHICH CAN BE BACKFILLED AND STABILIZED IN ONE WORKING DAY, WHICHEVER IS SHORTER.
- 9. EXCAVATION TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF TRENCH AND WITHIN THE LIMIT OF DISTURBANCE.
- 10. ANY EXCAVATION SOIL SHALL BE SEEDDED AND MULCHED WITHIN 7 DAYS.
- 11. STREAM CROSSING WILL BE PERFORMED IN ACCORDANCE WITH STREAM CROSSING SEQUENCE OF OPERATION.
- 12. UPON STABILIZATION AND WITH THE GRADING INSPECTORS APPROVAL REMOVE SEDIMENT CONTROLS. *SEDIMENT CONTROL NOTES

STREAM CROSSINGS SEQUENCE OF OPERATIONS

- OBTAIN ALL REQUIRED PERMITS, APPROVALS AND LICENSES FROM THE APPROPRIATE AGENCIES.
- NOTIFY THE HOWARD COUNTY SEDIMENT CONTROL DIVISION AT LEAST FIVE DAYS PRIOR TO INITIATION OF CONSTRUCTION AND FIVE DAYS AFTER WORK ENDS.
- CONTRACTOR IS TO REFER TO RIVER CROSSING DETAILS AND THE RELATIVE SEDIMENT CONTROL MEASURES.
- THE STREAM CROSSINGS WILL BE PERFORMED IN ACCORDANCE WITH WPD1.1, WPD1.2, WPD2.3, WPD3.1, AND WPD5.1.
- THE CONTRACTOR WILL NOT BE PERMITTED TO WORK IN CLASS VI-P STREAM FROM MARCH 1 THROUGH MAY 31.
- INSTALL PERIMETER CONTROLS PER WPD 5.1 FOR STREAM CROSSING #1. THE PERIMETER CONTROLS SHALL CONSIST OF STRAW BALE DIKES AND/OR SILT FENCING.
- INSTALL THE UTILITY APPROACHES TO THE STREAM.
- STREAM CROSSINGS WILL BE PERFORMED WITHIN TEN (10) WORKING DAYS FOR CROSSING #2 AND THREE (3) WORKING DAYS FOR CROSSING #1.
- INSTALL SANDBAG DIVERSION BARRIER AT EAST SIDE OF THE RIVER MEETING THE REQUIREMENTS OF WPD 2.3. THESE CONTROLS MUST REMAIN IN PLACE UNTIL A VEGETATIVE STAND HAS BEEN ESTABLISHED TO PROTECT WATERMAIN. (SEE PLAN PHASE 1 ONLY CROSSING #2)
- DEWATER THE CONSTRUCTION AREA USING DEWATERING BASIN AS PER WPD 1.1 DURING CONSTRUCTION. (STR CROSSING #1 & #2)
- STABILIZE THE DISTURBED BANKS USING FILTER FABRIC AND RIP-RAP. RIP-RAP MUST BE SIZED AND INSTALLED PER WPD 3.1 SEE BANK STABILIZATION DETAIL. (STR CROSSING #1 & #2)
- REMOVE THE SANDBAG DIVERSION BARRIER FROM EAST SIDE AND INSTALL IT AT WEST SIDE (SEE PLAN PHASE 1). CONSTRUCT WATERMAIN. (STR CROSSING #2)
- DEWATER THE CONSTRUCTION AREA AND STABILIZE THE DISTURBED BANKS.
- STABILIZE ALL DISTURBED AREAS.
- REMOVE PERIMETER CONTROLS WITH THE APPROVAL OF THE HOWARD COUNTY GRADING INSPECTOR.

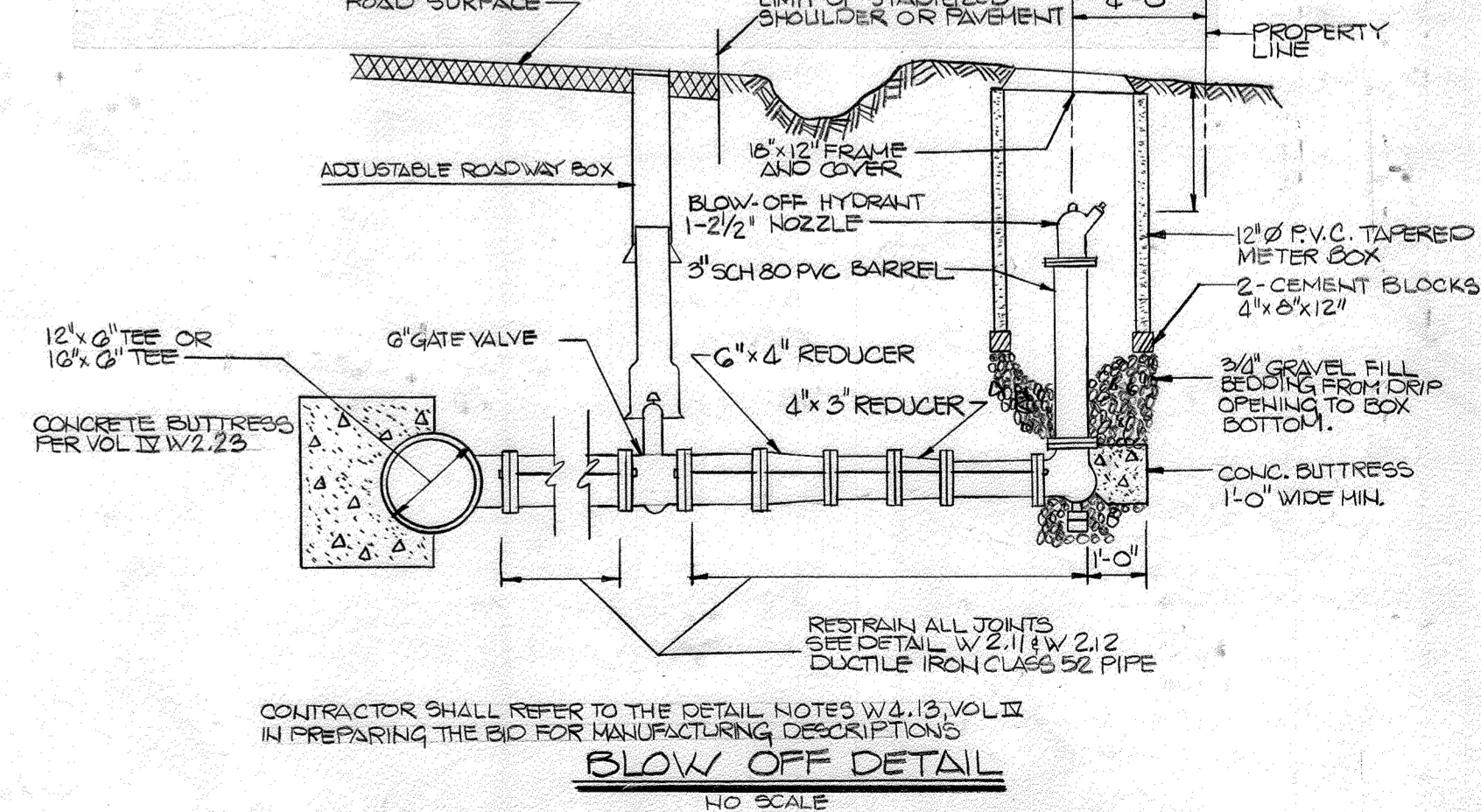
*-MIDDLE PATUXENT RIVER

- WORK IN 100 YEAR PLAIN
- ALL WORK IN FLOOD PLAINS MUST BE DONE IN STRICT ACCORDANCE WITH APPLICABLE STATE PERMIT REQUIREMENTS.
 - WORK IN STREAMS IS PROHIBITED DURING CERTAIN TIMES OF THE YEAR AS FOLLOWS:

USE I STREAMS	MARCH 1 THRU JUNE 15
USE II STREAMS	AS STATED IN PERMIT
USE III STREAMS	OCTOBER 1 THRU APRIL 30
USE IV STREAMS	MARCH 1 THRU MAY 31

CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS

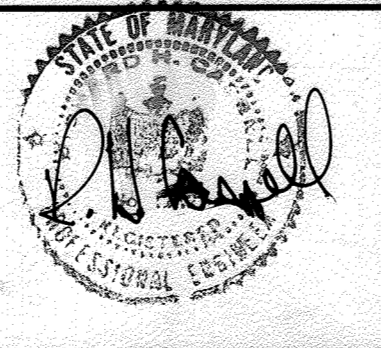
- STRIP, STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6" OF SOIL MATERIAL. TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL.
- REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND.
- USE PREVIOUSLY EXCAVATED MATERIAL AS 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.
- RECTIFY ANY NONTIDAL WETLANDS AND BUFFERS TEMPORARILY IMPACTED BY ANY PROPOSED REPAIR AND MAINTENANCE ACTIVITY OR INSTALLATION OF THE UTILITY LINE. ALL TEMPORARY FILLS SHALL BE REMOVED IN THEIR ENTIRETY ON OR BEFORE THE COMPLETION OF 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 (UNIOILA SP.), AND/OR RYE (SECALE CEREALE). 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 BUFFERS. WETLANDS AND BUFFERS SHOULD BE SEEDDED 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.
- TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:
 - CLASS IV WATERS. IN-STREAM WORK MAY NOT BE CONDUCTED UNDER THE PERIOD MARCH 1 THROUGH MAY 31.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

<i>James J. Sullivan</i> DIRECTOR OF PUBLIC WORKS	3/8/93	<i>Richard J. Kelly</i> CHIEF - BUREAU OF ENGINEERING	3-3-93
<i>Robert Benjamin</i> CHIEF, BUREAU OF UTILITIES	3-8-93	<i>Op. Don Lane</i> CHIEF, UTILITY DESIGN DIVISION	3-3-93

HARRIS, SMARIGA, MATZ, INC.
PLANNERS / ENGINEERS / SURVEYORS
104 CHURCH LANE, SUITE 100
BALTIMORE, MARYLAND 21208
(410) 486-1511
FAX (410) 486-2573



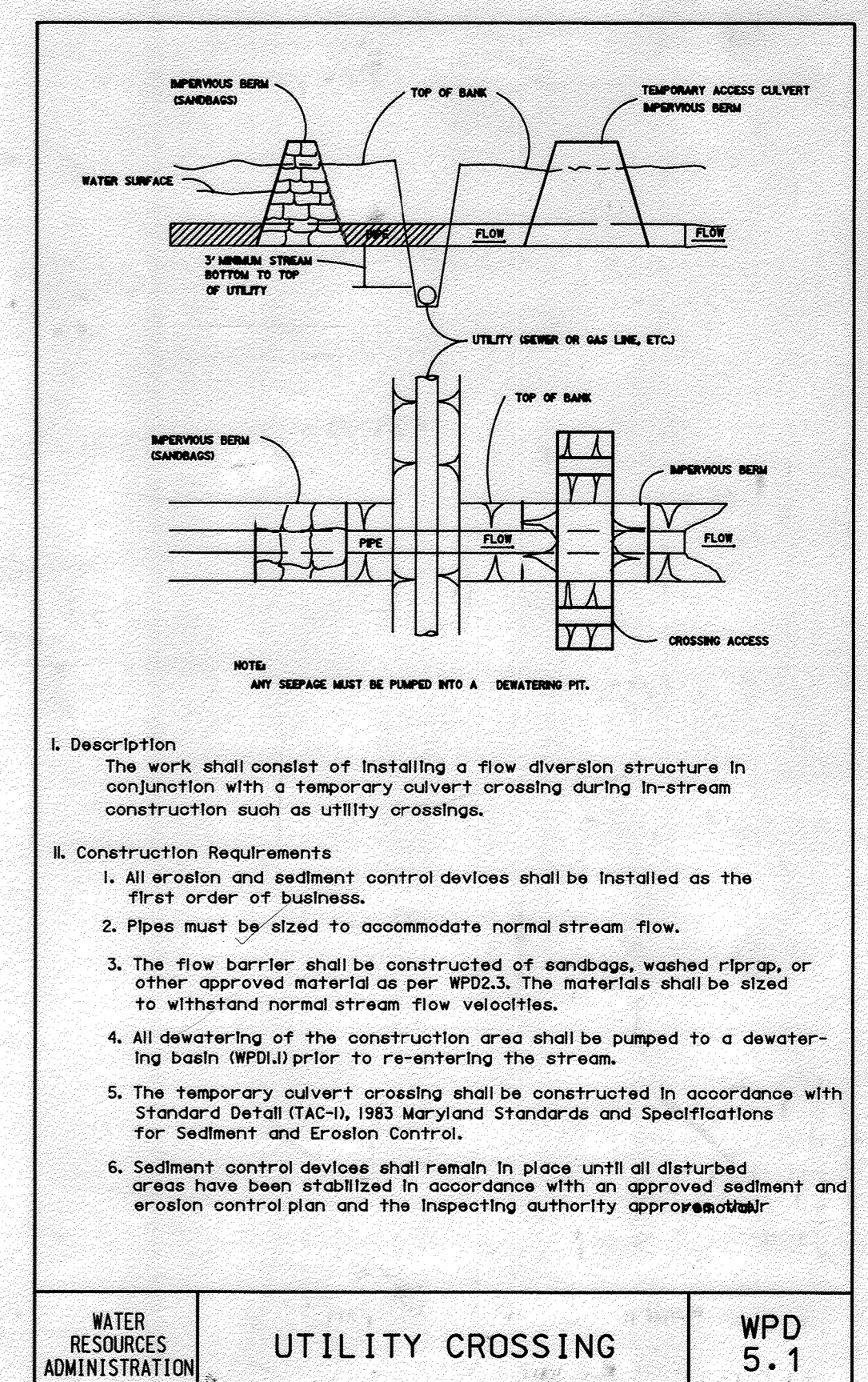
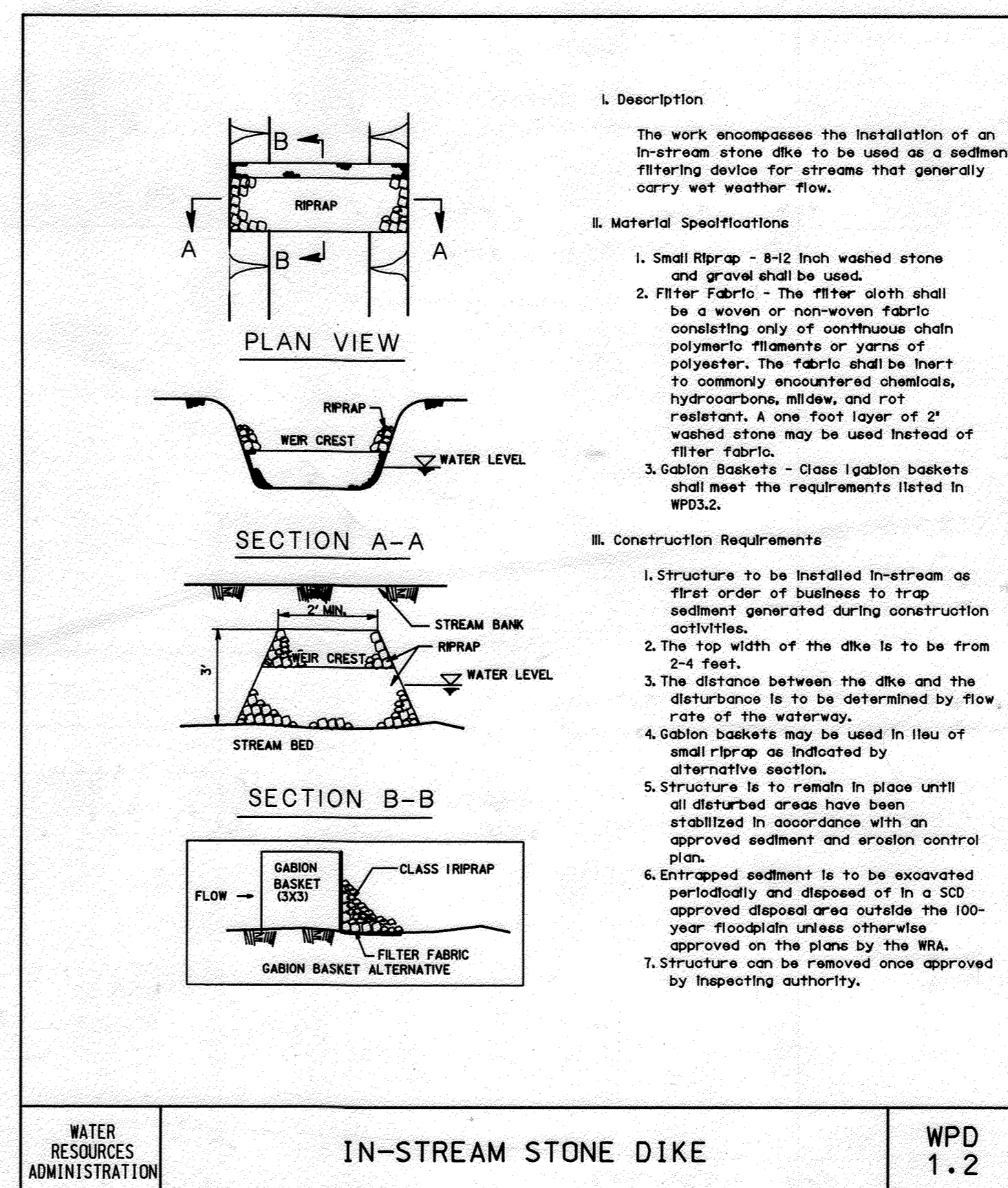
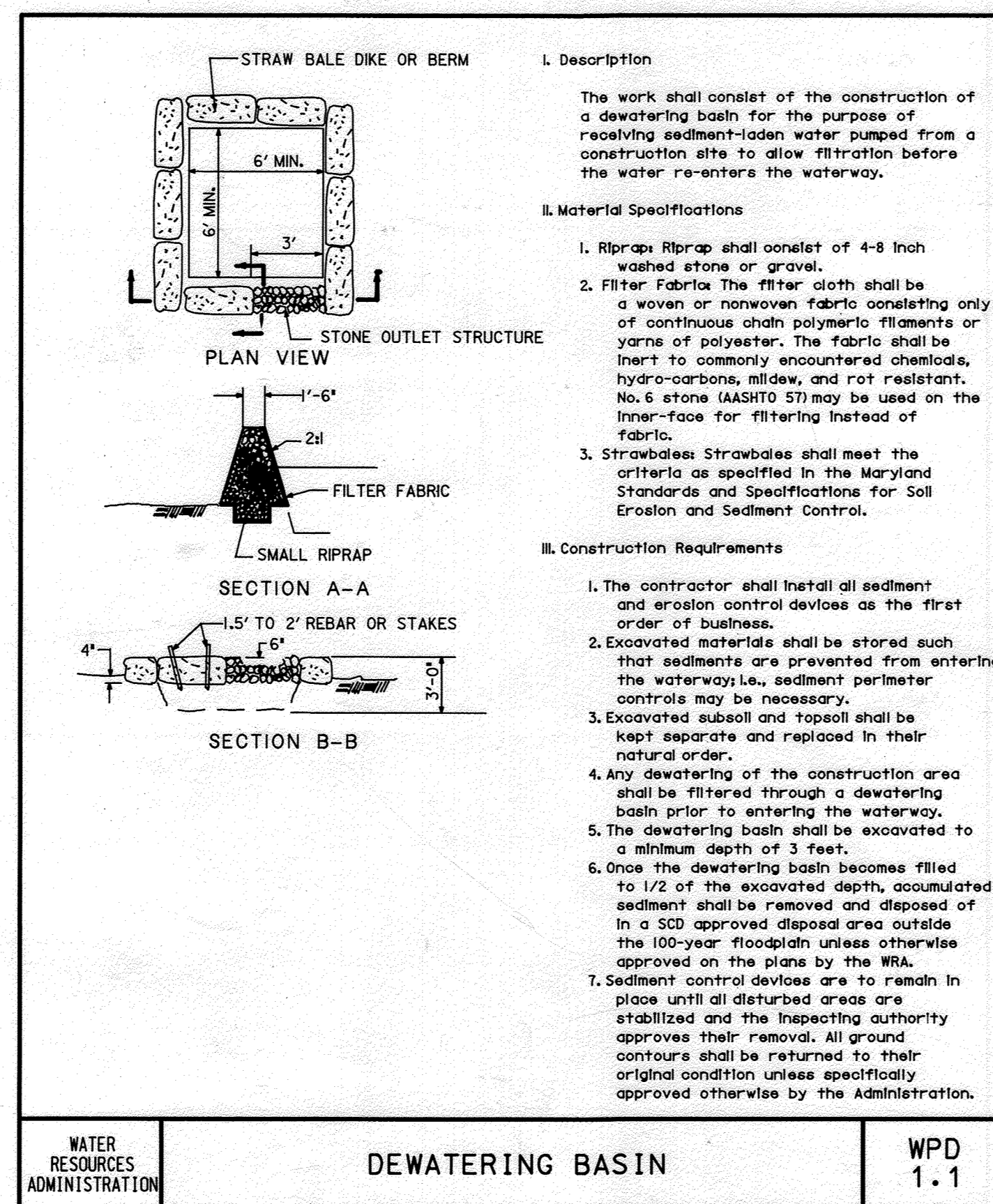
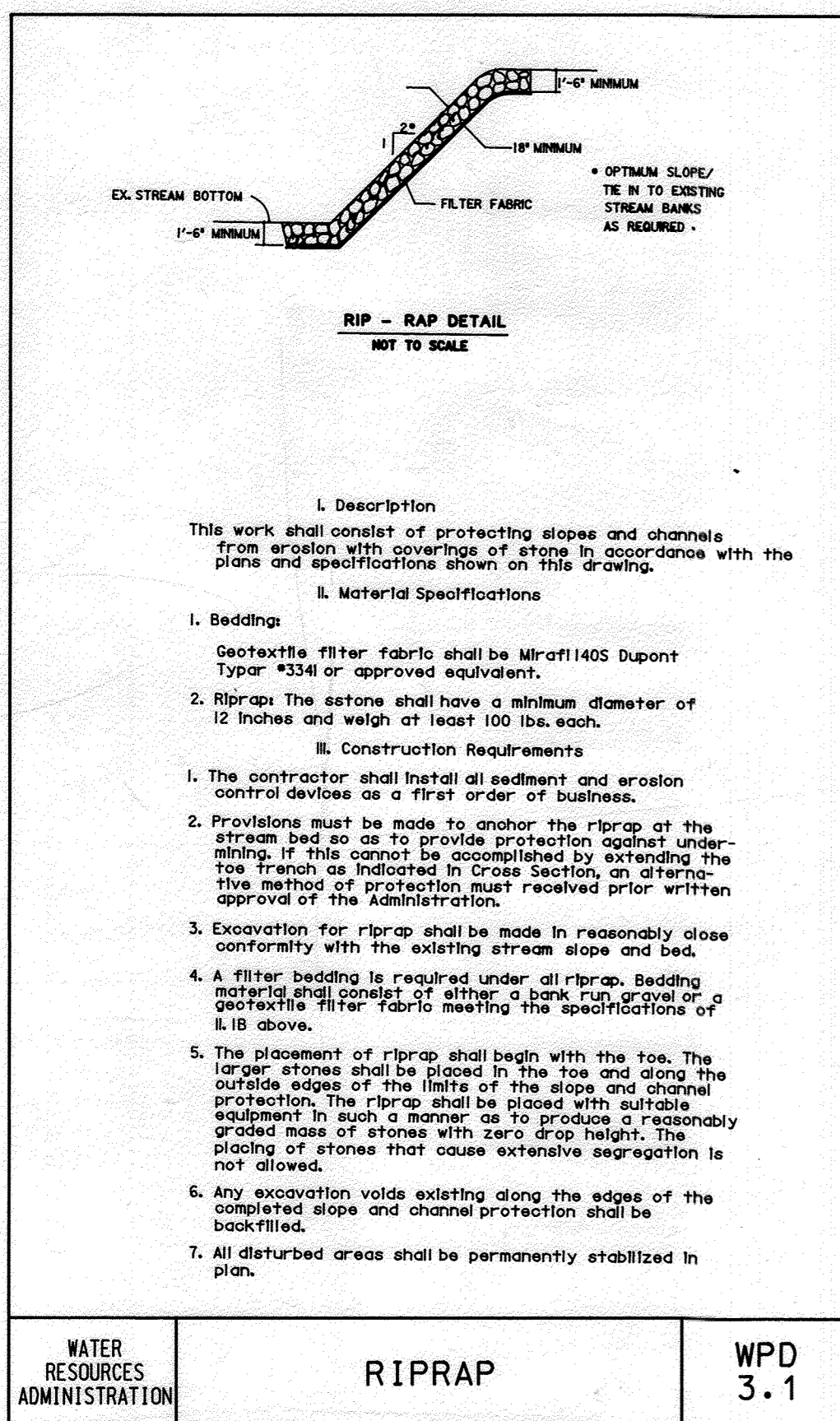
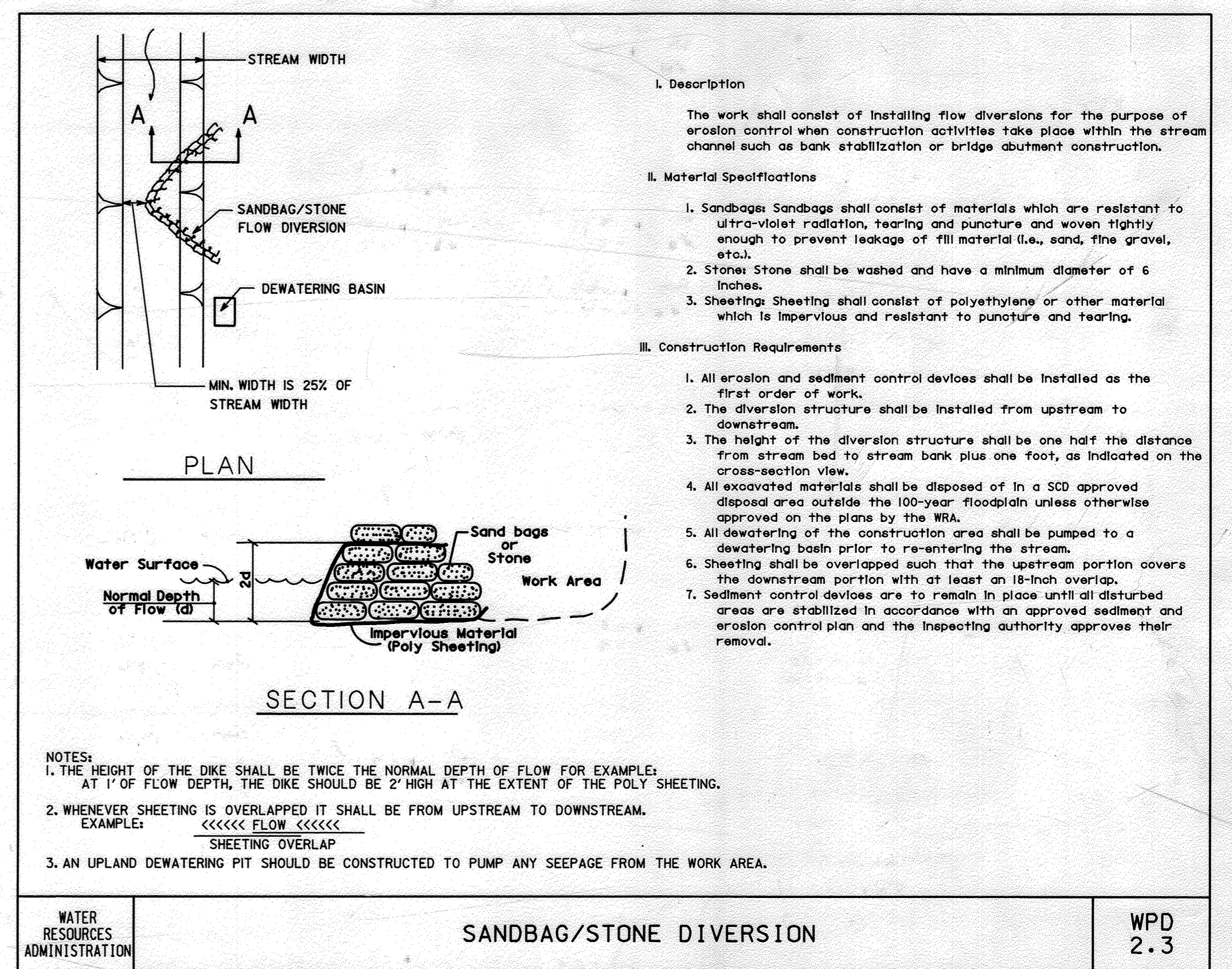
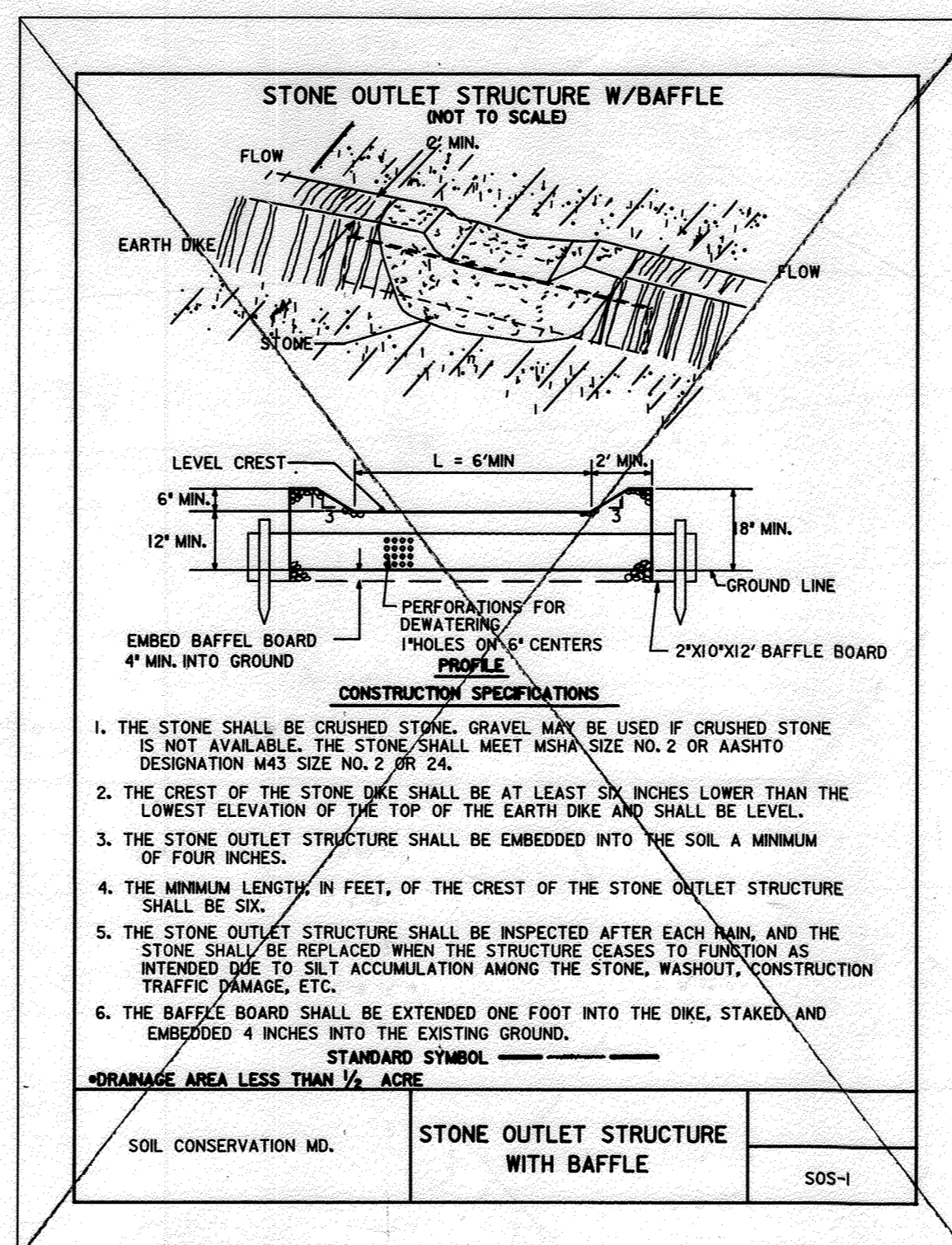
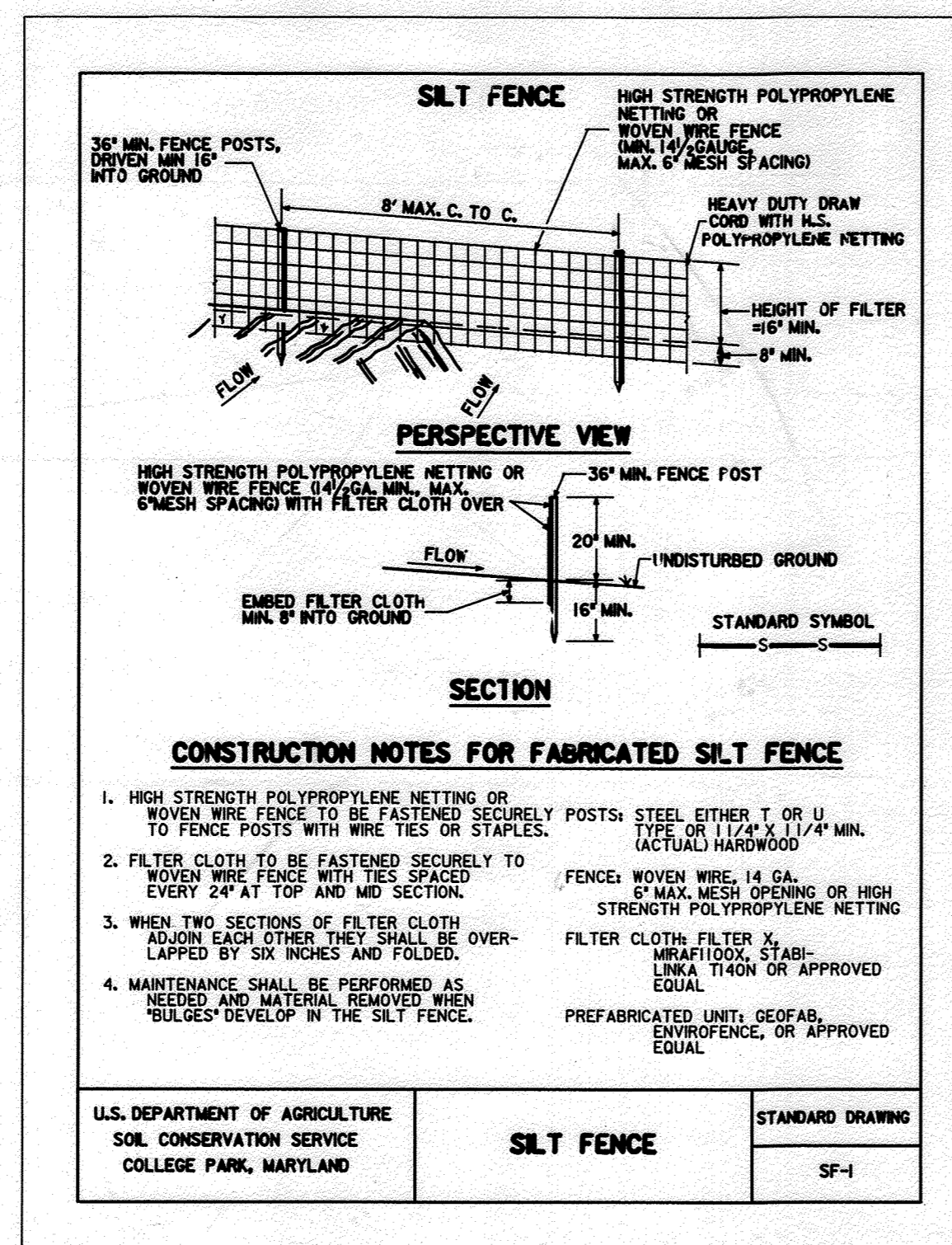
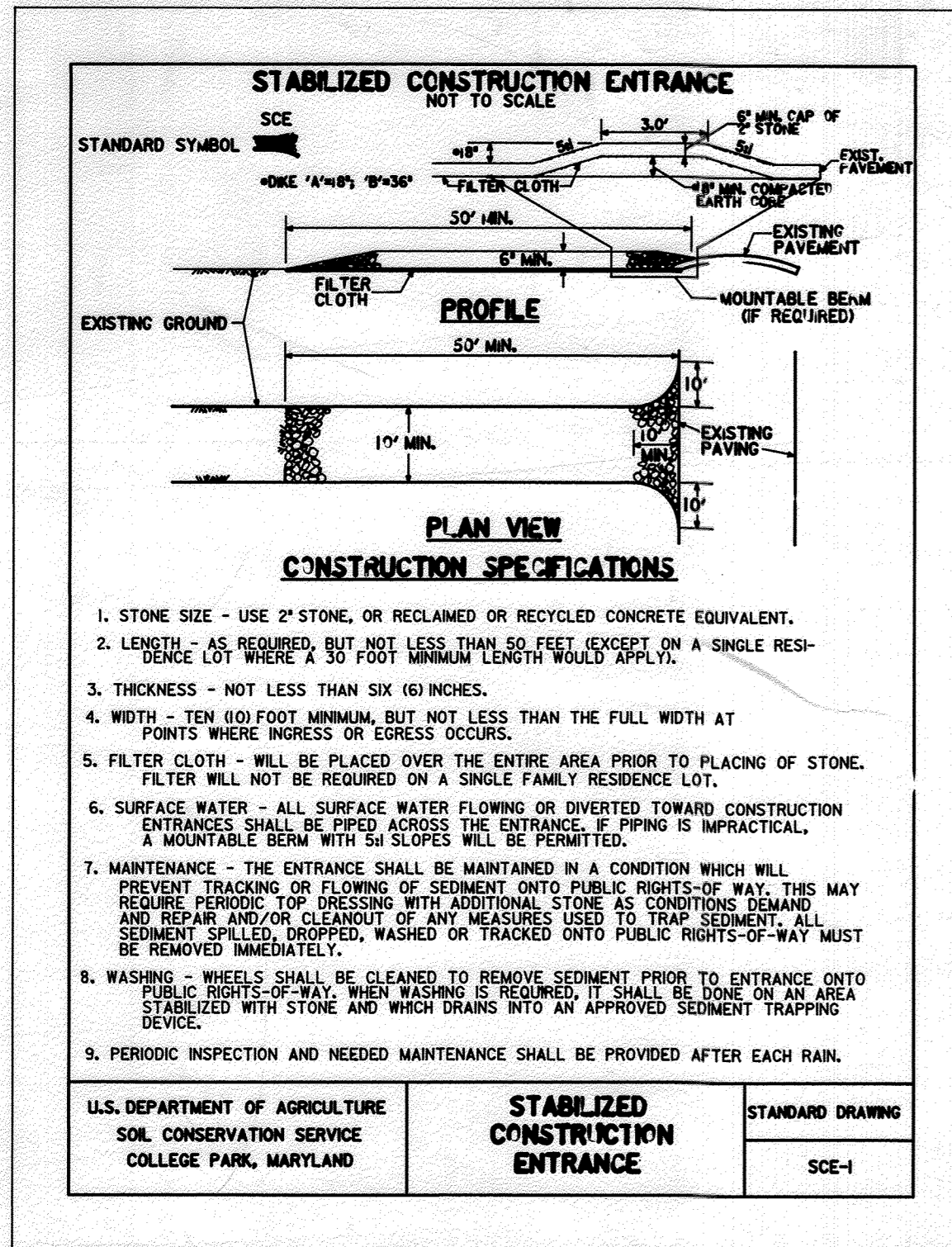
DES:	
DRN:	
CHK:	
DATE:	
BY:	NO.
REVISION:	
DATE:	

SEDIMENT CONTROL NOTES
RESTORATION SCHEDULE
TRAVERSE DESCRIPTION

600' SCALE NO. _____ BLOCK NO. _____

MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 11



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Slum 3/8/93
DIRECTOR OF PUBLIC WORKS DATE

William E. Kelly 3-22-93
CHIEF - BUREAU OF ENGINEERING DATE

Ralph B. ... 3-8-93
CHIEF, BUREAU OF UTILITIES DATE

... 3-3-93
CHIEF, UTILITY DESIGN DIVISION DATE

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PLANNERS / ENGINEERS / SURVEYORS
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DES:					
DRN:					
CHK:					
DATE:					
BY:	NO.	REVISION	DATE	600' SCALE NO.	BLOCK NO.

SEDIMENT CONTROL
DETAILS

MD. ROUTE 108 WATER MAIN EXTENSION
CAPITAL PROJECT W-8178
CONTRACT NO. 44-3218
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
11 OF 11