
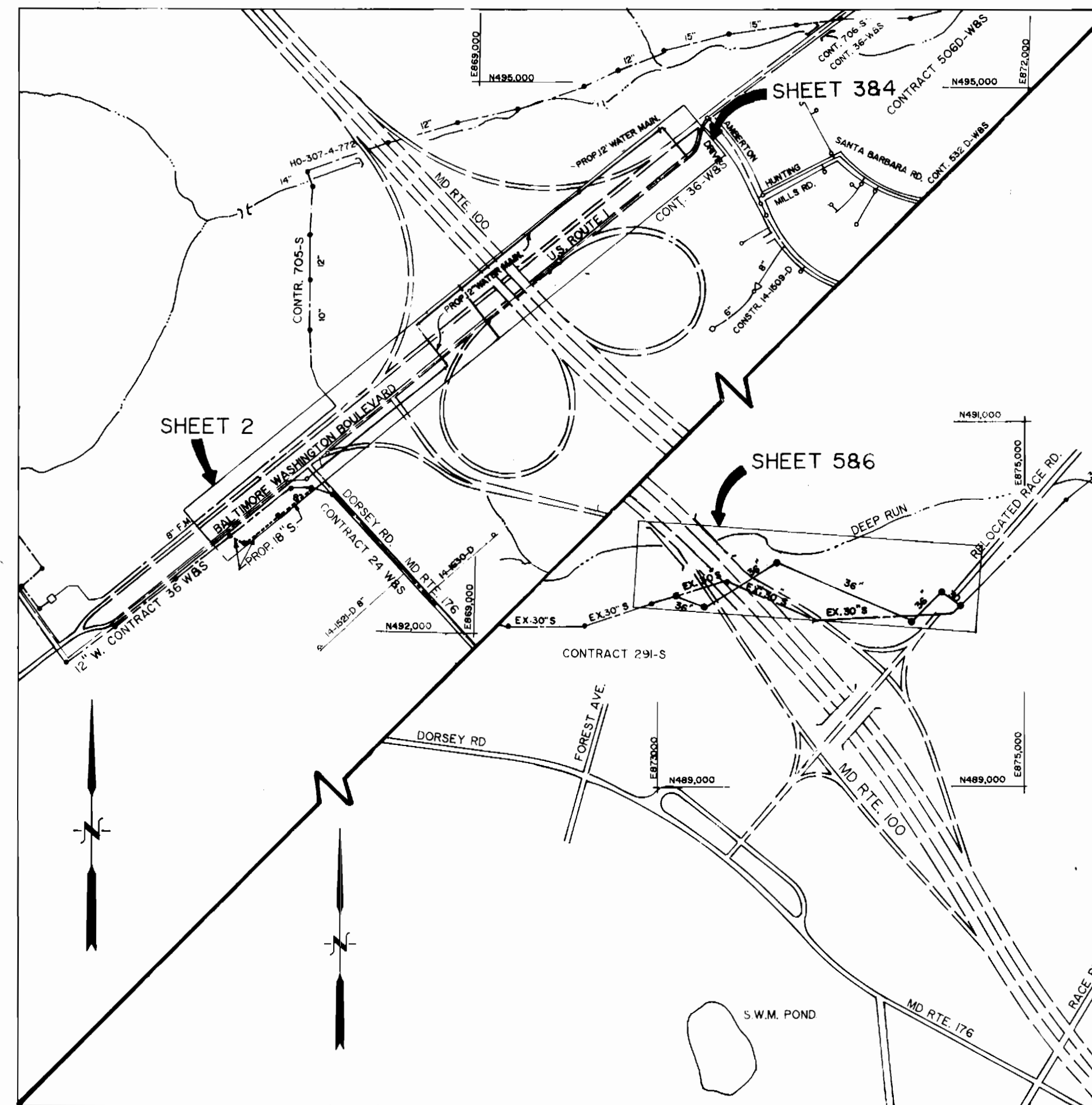


GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'0" MINIMUM OR TUNNEL AS REQUIRED. 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 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. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL  AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE 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:
  - STATE HIGHWAY ADMINISTRATION - 531-5533
  - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES 850-4820
  - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 859-9004
  - BALTIMORE GAS & ELECTRIC CO. - TROUBLE SHOOTING - 298-9001
  - MISS UTILITY - 1-800-257-7777 C&P TELEPHONE - 1-800-257-7777
  - COLONIAL PIPELINE CO. - 795-1390
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL WATER MAINS TO BE D.I.P. CLASS 52, UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1'2" 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 STD. DETAILS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAILS G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- PROPOSED STORM DRAINS DESIGNED BY OTHERS IN ACCORDANCE WITH SHA CONTRACT # AW-890 501 070.
- ADDITIONAL CONSTRUCTION NOTES APPEAR ON SHEETS 2 THROUGH 7.

LIST OF DRAWINGS

- SHEET NO. 1 TITLE SHEET, VICINITY MAP, GENERAL NOTES & INDEX OF SHEETS
- SHEET NO. 2 PLAN AND PROFILES OF WATER MAIN & SEWER MAIN
- SHEET NO. 3 PLAN AND PROFILE OF WATER MAIN
- SHEET NO. 4 STEEL GIRDER BRIDGE ON RTE. 1 OVER MD. RTE. 100 PLAN AND PROFILE OF WATER MAIN
- SHEET NO. 5 PLAN OF DEEP RUN INTERCEPTOR
- SHEET NO. 6 PROFILES OF DEEP RUN INTERCEPTOR
- SHEET NO. 7 PLAN AND PROFILE OF 12" WATERMAIN SAN THOMAS ROAD



SEWER CODE FOR COUNTY USE ONLY: NO.5500000

EXISTING ROADWAY  
PROPOSED ROADWAY

TYPE OF BUILDING N/A  
NUMBER OF PARCELS N/A  
NO. OF SHC'S N/A  
DRAINAGE AREA DEEP RUN

VICINITY MAP  
SCALE: 1" = 600'

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 Soil Conservation District."

*John E. Harms Jr.* DATE: 4/18/90

JOHN E. HARMS JR. & ASSOCIATES  
90 GOVERNOR RITCHIE HWY.  
PASADENA, MARYLAND 21122

# U.S. ROUTE 1 / MD. ROUTE 100

## WATER AND SEWER RELOCATION CAPITAL PROJECT W-8156 CONTRACT NO. 24-1969 HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

WATER QUANTITIES			
ITEM	ESTIMATE	AS-BUILT	MATERIAL/SUPPLIER
12" DIP CL. 52	2,055 L.F.	2,055 L.F.	U.S. PIPE PRODUCTS, INC.
12" CS WITH INSULATION	252 L.F.	252 L.F.	
BLOWOFF VALVE	1	1	ELLIPSE/KIRKBLK
AIR RELEASE VALVE	1	1	J.A. INDUSTRIAL
R.S.G. VAL (12")	2		KENNELLY
12" T.S. & VALVE	1	1	JOHN J. KENNELLY

SEWER QUANTITIES			
ITEM	ESTIMATE	AS-BUILT	MATERIAL/SUPPLIER
36" R.C.P. 1.54' x 2.54'	985 L.F.	241 L.F.	U.S. PIPE PRODUCTS, INC.
18" PVC	489 L.F.	424 L.F.	NATIONAL PIPE PRODUCTS
5' DIA. M.H.	10	10 EA.	ATLANTIC CONCRETE PRODUCTS, INC.
4' DIA. M.H.	3	3 EA.	ATLANTIC CONCRETE PRODUCTS, INC.
30" DIP CL 54	155 L.F.	155 L.F.	U.S. PIPE PRODUCTS, INC.
72" PLATE TUN	150 L.F.	150 L.F.	LANE ENTERPRISE, INC.

REVIEWED FOR HOWARD CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

*James M. Helm* / *JPH*  
SIGNATURE U.S. SOIL CONSERVATION SERVICE DATE: 4/18/90

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

APPROVED *John R. Robinson*  
HOWARD S.C.D. DATE: 4/18/90

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARD SPECIFICATIONS.

SHA SHEET NO. UH-1 OF UH-7  
SHA CONTRACT NO. AW 890-501-070

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

JOHN E. HARMS JR. & ASSOCIATES INC.  
CONSULTING ENGINEERS-PLANNERS  
- SURVEYORS -  
90 GOVERNOR RITCHIE HWY. P.O. BOX 5  
PASADENA, MARYLAND 21122 (TEL) 301-647-6000



DES: A.K.	ADDENDUM NO. 2	12/19/91
DRN: J.R.N.		5/26/92
CHK: W.R.G.		
DATE: 5-10-90	BY: NO	REVISION

TITLE SHEET  
VICINITY MAP  
GENERAL NOTES  
INDEX OF SHEETS

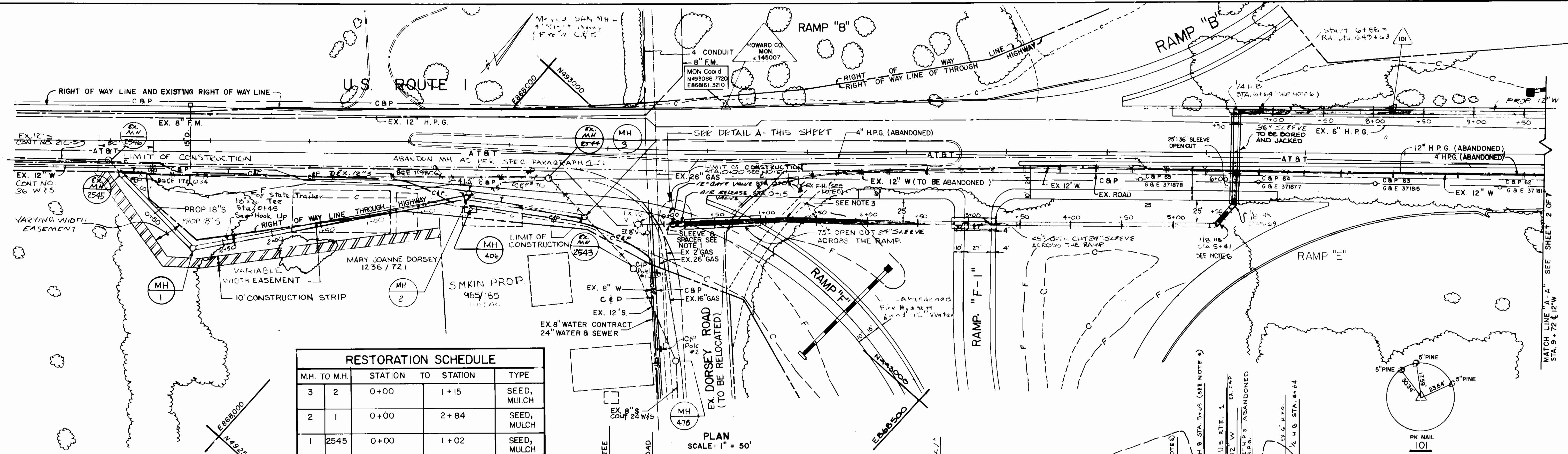
U.S. ROUTE 1 / MD. ROUTE 100

CAPITAL PROJECT W-8156  
CONTRACT NO. 24-1969  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

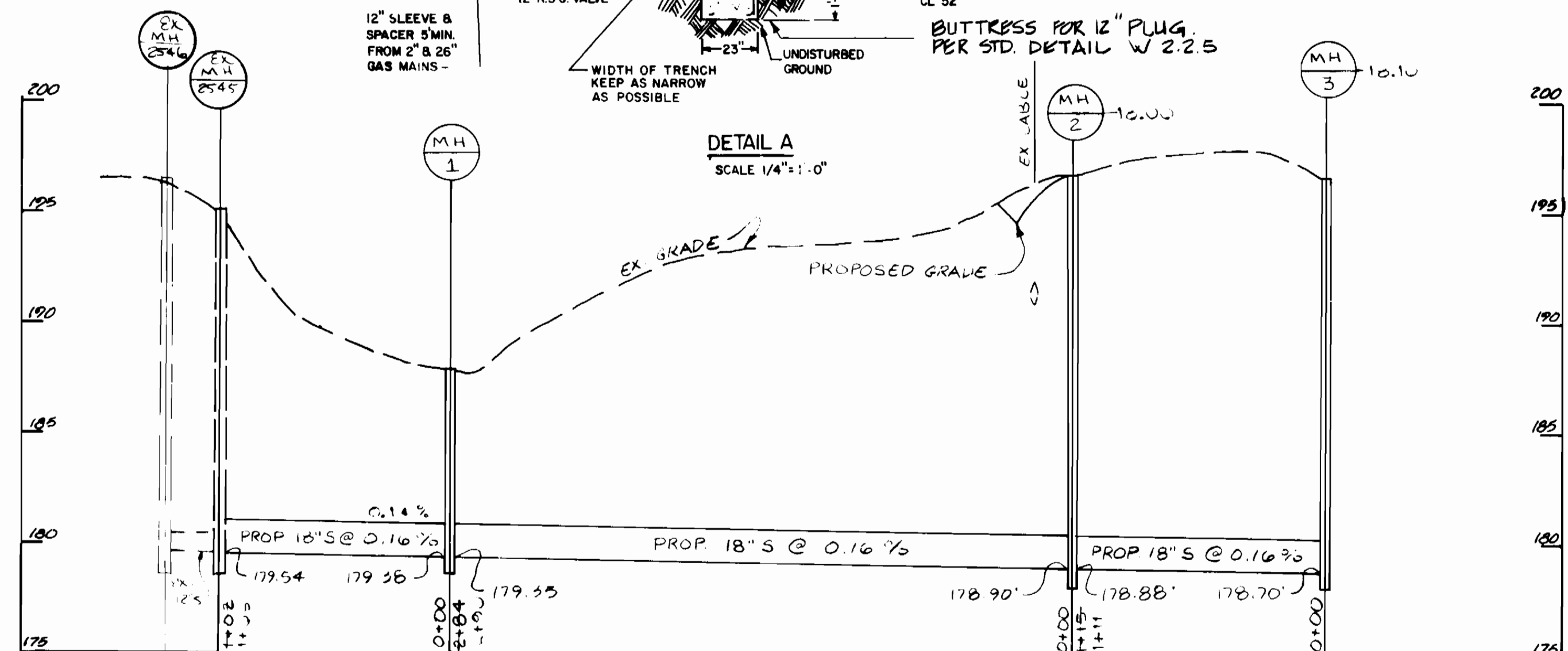
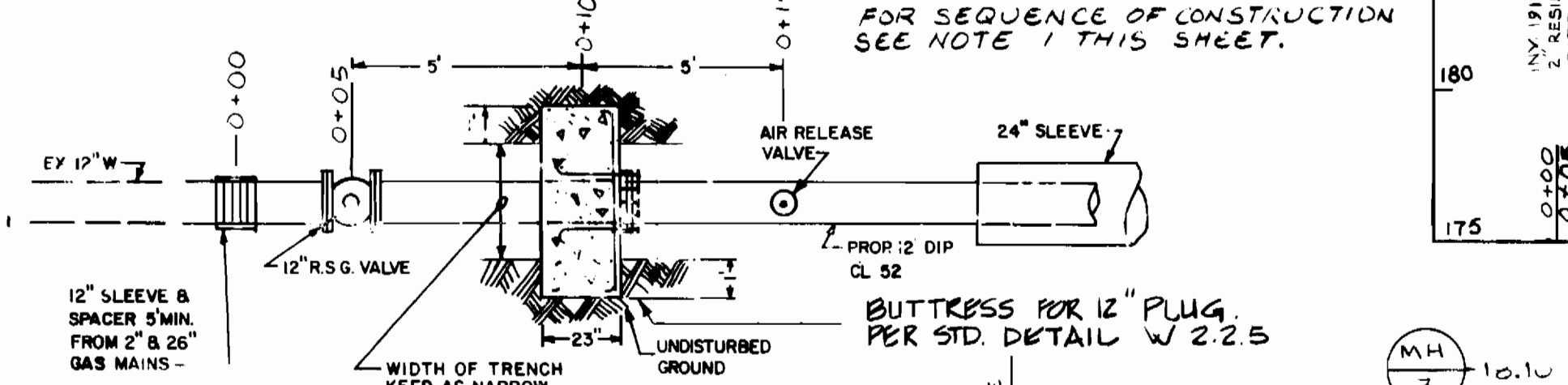
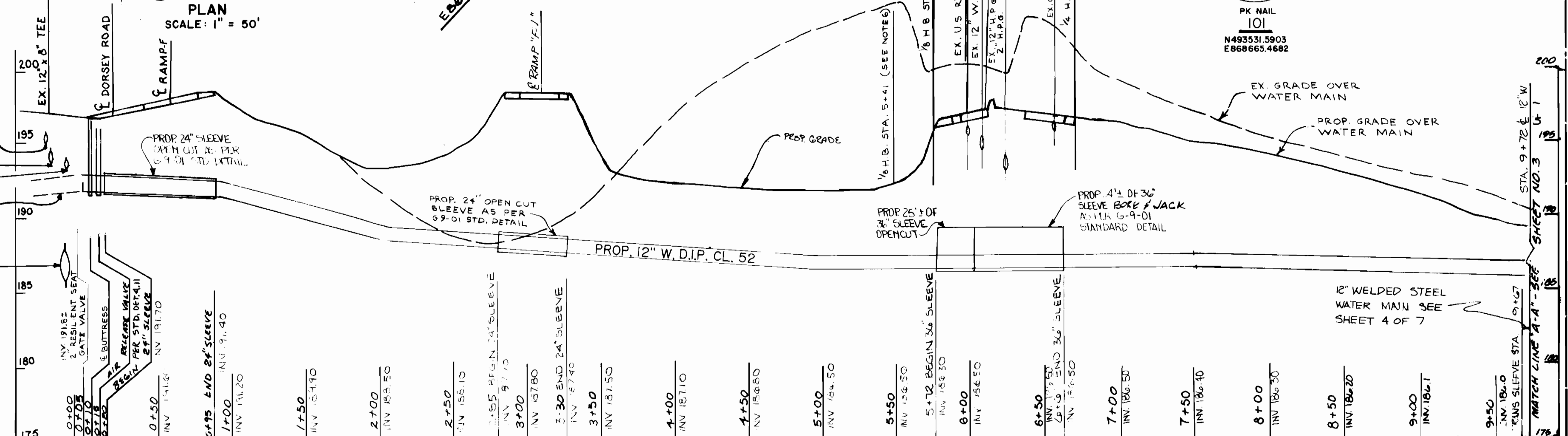
SHEET 291 OF 475





M.H. TO M.H.	STATION	TO STATION	TYPE
3 2	0+00	1+15	SEED, MULCH
2 1	0+00	2+84	SEED, MULCH
1 2545	0+00	1+02	SEED, MULCH

POINT ON 12" W.	TRAVERSE ANGLE OFFSET	RIGHT ANGLE OFFSET
Sta. 0+00 Conn. to exist. 12" W.	101 Toward Ho. Co. Monument No. 2445007 Extended 72'	114' Left
Sta. 0+05 R.S.G. Valve	101 Toward Ho. Co. Monument No. 2445007 Extended 72'	114' Left
Sta. 0+15 Air Release Valve	101 Toward Ho. Co. Monument No. 2445007 Extended 72'	113' Left
Sta. 5+41 45° H.B.	Ho. Co. Monument, No. 2445007 Toward 101 486	109' Right
Sta. 5+69 45° H.B.	Ho. Co. Monument, No. 2445007 Toward 101 507	90' Right
Sta. 6+64 90° H.B.	Ho. Co. Monument, No. 2445007 Toward 101 507	5' Left



POINT ON 12" W.	TRAVERSE ANGLE OFFSET	RIGHT ANGLE OFFSET
STA. 15+50 1/8 H.B.	J.H. 18 TOWARD 102 98'	LEFT 12'
STA. 15+85 1/8 H.B.	J.H. 18 TOWARD 102 120'	LEFT 34'
STA. 16+82 1/8 H.B.	J.H. 18 TOWARD 102 216'	LEFT 33'
STA. 17+26 1/8 H.B.	J.H. 18 TOWARD 102 248'	LEFT 65'
STA. 18+95 BLOW OFF VALVE	J.H. 18 TOWARD 102 413'	LEFT 44'
STA. 22+17 90° H.B.	102 TOWARD J.H. 17 313' EXTENDED	LEFT 42'
STA. 23+07 12" W TEE (CONN TO 12" W)	102 TOWARD J.H. 17 314' EXTENDED	RIGHT 50'

- Notes**
- Close the ex. 12" and 8" valves on the south-west and south-east side of the ex. 12" x 8" tee respectively. Install 4" P.E. x P.E. Spool section to ex. 12" W with sleeve and spacer on the north-east side of the ex. 12" x 8" tee (see Detail A). Install the prop 12" R.S.G. valve. Install 5.5' P.E. x M.J. spool section and construct a buttress on the M.J. side of the spool section as per Standard Detail W-2.25. Open the ex. 12" and 8" valves. Install the prop. 12" main and the air release valve. Close the new 12" R.S.G. valve and connect the new 12" main to the M.J. end of the newly installed pipe. Open the 12" R.S.G. valve.
  - Polyethylene encase 12" DIP CL 52 water main as per AWWA C105/A215 from Sta 0+00 to 9+68 and from 12+20 to 23+07
  - Deflect two joints after the sleeve each by 2° to the right.
  - To be abandoned.
  - Remove ex. F.H. at boot (90° Bend) and deliver to Howard County Bureau of Utilities.
  - Restrain all joint from Sta 5+01 to 7+04. Mechanical joint restraint shall be as manufactured by E.B.A.A. Iron, Inc. or approved equal.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*William W. Wehland* 11/1/90  
DIRECTOR OF PUBLIC WORKS DATE

*John E. Harms Jr.* 11/1/90  
CHIEF, BUREAU OF ENGINEERING DATE

*John E. Harms Jr.* 11/1/90  
CHIEF, BUREAU OF UTILITIES DATE

JOHN E. HARMS JR. & ASSOCIATES INC.  
CONSULTING ENGINEERS-PLANNERS  
-SURVEYORS-

90 GOVERNOR RITCHIE HWY. P.O. BOX 5  
PASADENA, MARYLAND 21122 (TEL) 301 647-6000



DES: AK	ADDDENDUM NO. 2	12/29/90
DRN: T.V.		
CHK: WRG		
DATE: 5-30-90	BY NO.	REVISION

PLAN AND PROFILES  
OF  
WATERMAIN & SEWER

600' SCALE MAP NO. 37 BLOCK NO. 22

SHA SHEET NO. \_\_\_\_\_  
SHA CONTRACT NO. AW890-501-070

UH-2 OF UH-7

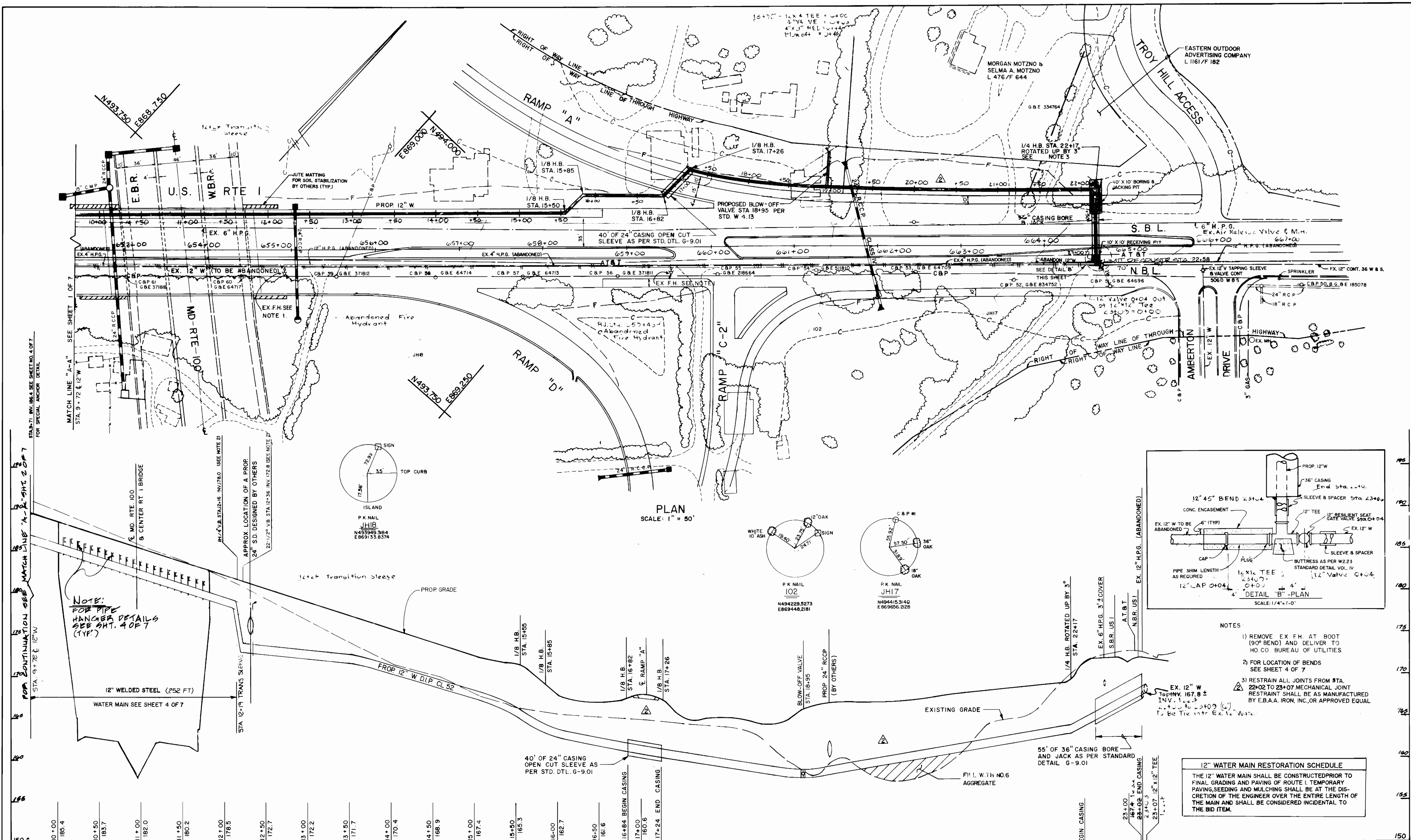
U.S. ROUTE 1 / MD. ROUTE 170  
WATER & SEWER RELOCATION  
CAPITAL PROJECT W-8156

CONTRACT 24-1969  
ELECTION DISTRICT 1  
HOWARD COUNTY, MARYLAND

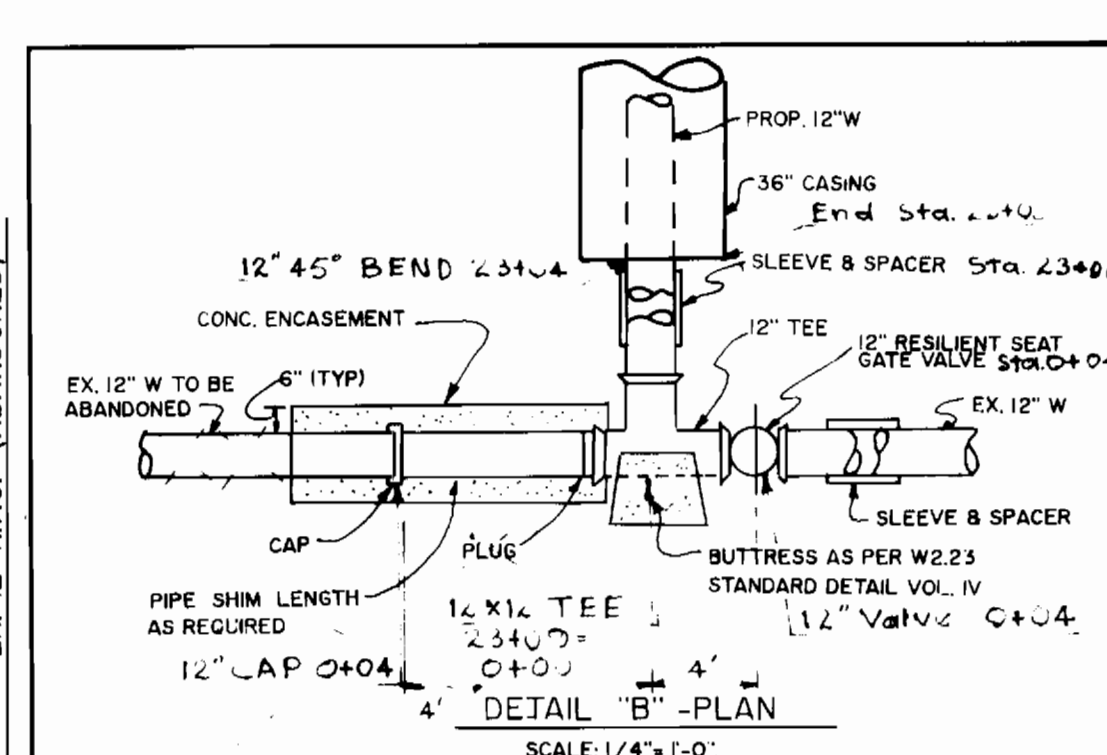
SCALE AS SHOWN

SHEET 1  
292 OF 475



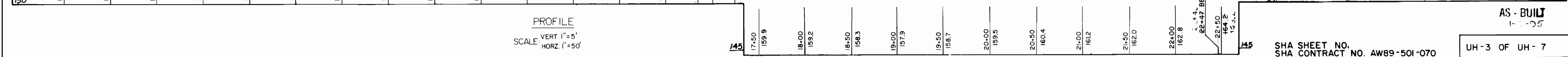


PLAN  
SCALE: 1" = 50'



- NOTES:
- 1) REMOVE EX. F.H. AT BOOT (90° BEND) AND DELIVER TO HO. CO. BUREAU OF UTILITIES.
  - 2) FOR LOCATION OF BENDS SEE SHEET 4 OF 7
  - 3) RESTRAIN ALL JOINTS FROM STA. 22+02 TO 23+07 MECHANICAL JOINT RESTRAINT SHALL BE AS MANUFACTURED BY E.B.A.A. IRON, INC. OR APPROVED EQUAL

**12" WATER MAIN RESTORATION SCHEDULE**  
 THE 12" WATER MAIN SHALL BE CONSTRUCTED PRIOR TO FINAL GRADING AND PAVING OF ROUTE 1. TEMPORARY PAVING, SEEDING AND MULCHING SHALL BE AT THE DISCRETION OF THE ENGINEER OVER THE ENTIRE LENGTH OF THE MAIN AND SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM.



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

AS-BUILT  
1-1-95

SHA SHEET NO. UH-3 OF UH-7  
 SHA CONTRACT NO. AW89-501-070

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works  
 Date: 1-11-90

JOHN E. HARMS AND ASSOCIATES INC.  
 CONSULTING ENGINEERS-PLANNERS  
 SURVEYORS  
 90 GOVERNOR RITCHIE HWY. P.O. BOX 5  
 PASADENA, MARYLAND 21122 (TEL) 301-647-6000

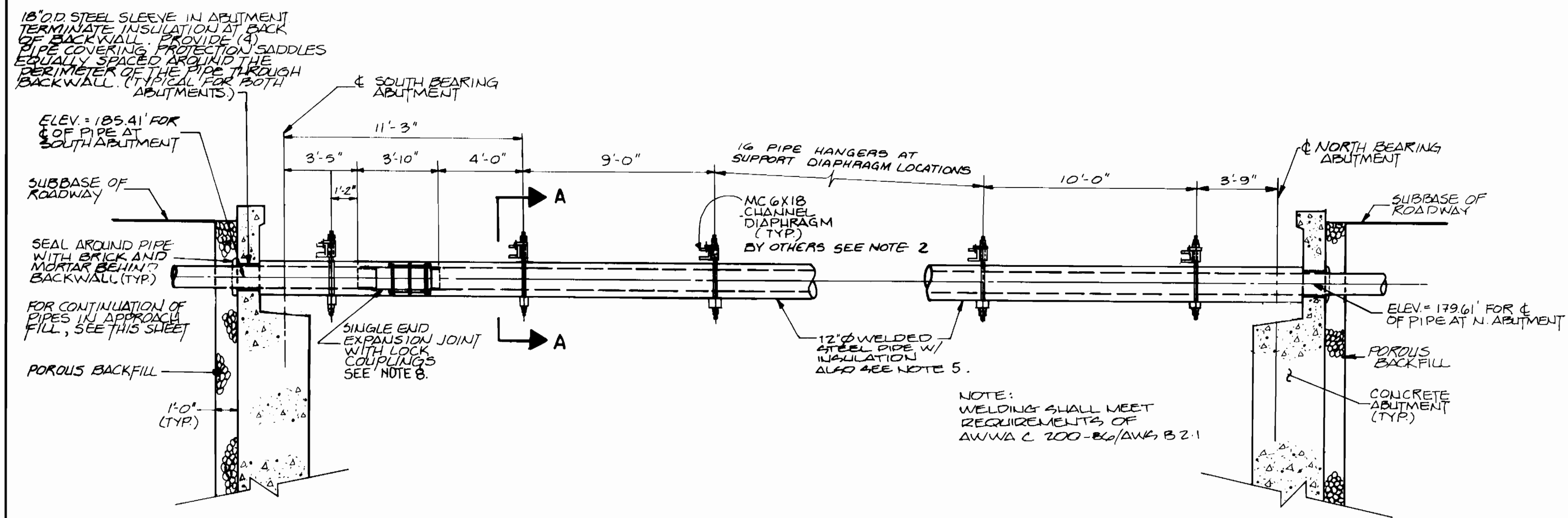


DES: A.K.	ADDENDUM NO. 2	2/19/91
DRN: T.V.		
CHK: W.R.G.		
DATE: 5-31-90	BY: NO.	REVISION

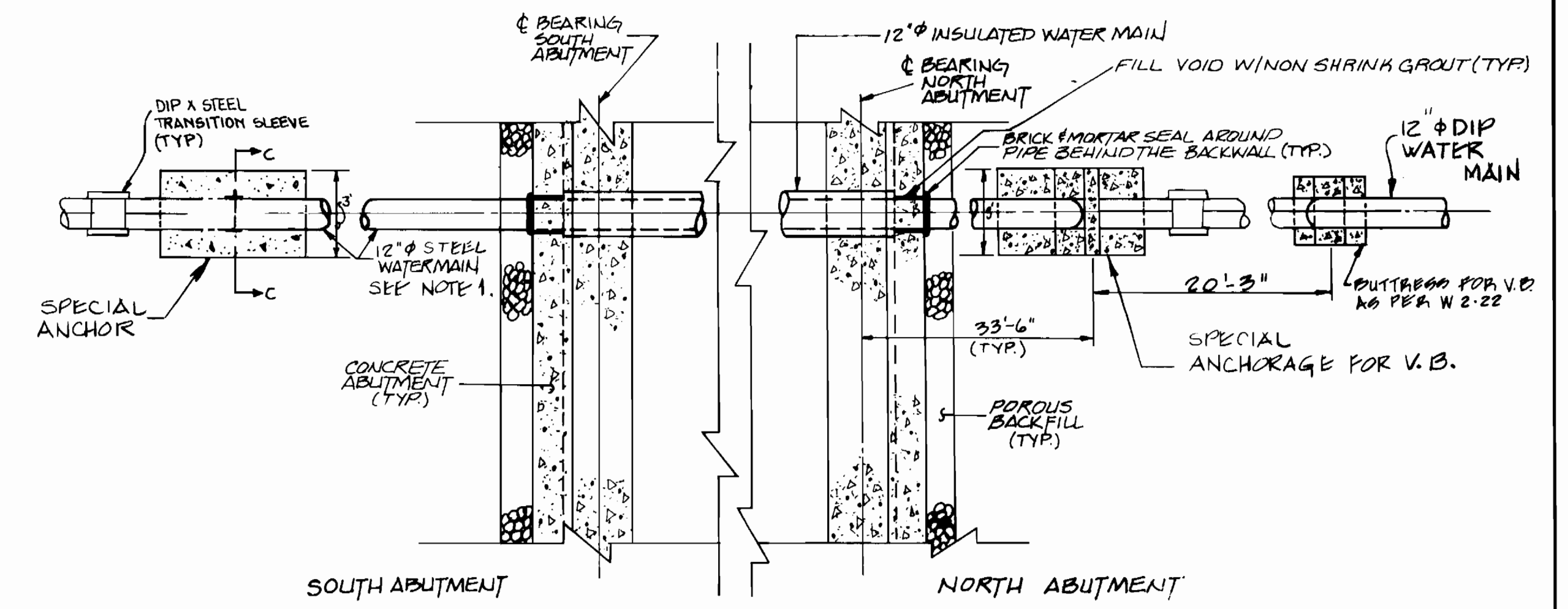
PLAN AND PROFILE  
 OF  
 WATERMAIN  
 600' SCALE MAP NO. 37 BLOCK NO. 24

U.S. ROUTE 1 / MD. ROUTE 100  
 WATER & SEWER RELOCATION  
 CAPITAL PROJECT W-8156  
 CONTRACT 24-1969  
 ELECTION DISTRICT 1  
 HOWARD COUNTY, MARYLAND  
 SCALE AS SHOWN  
 SHEET 293 OF 475

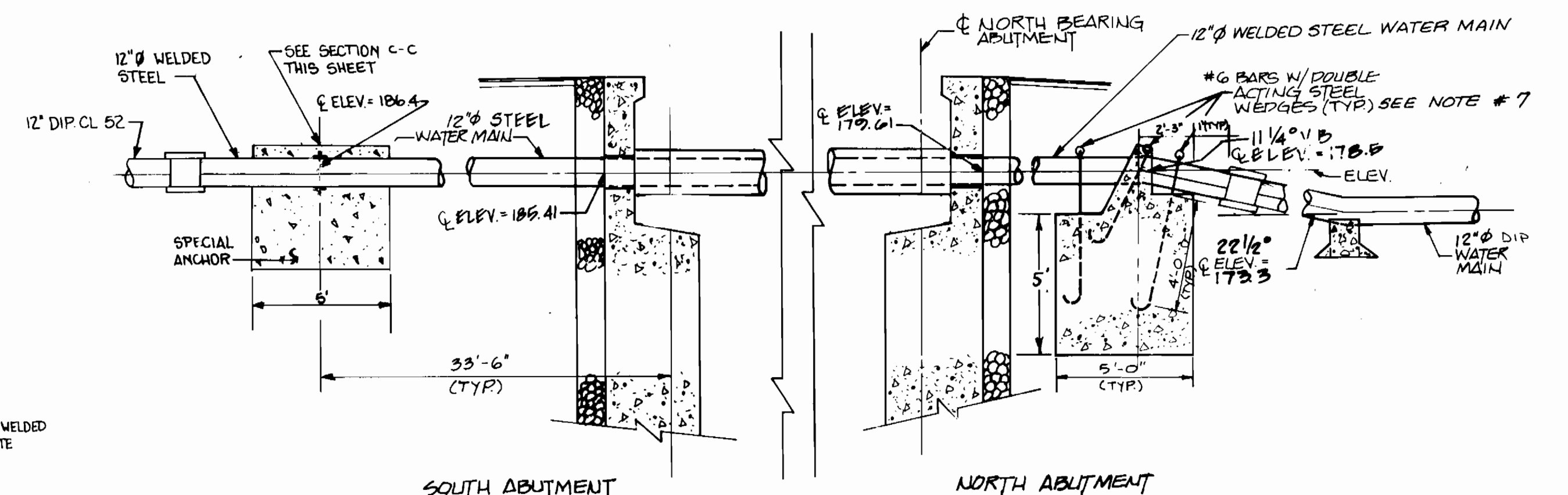




PART ELEVATION - 12"  $\phi$  WATER MAIN  
SCALE: 1/4" = 1'-0"



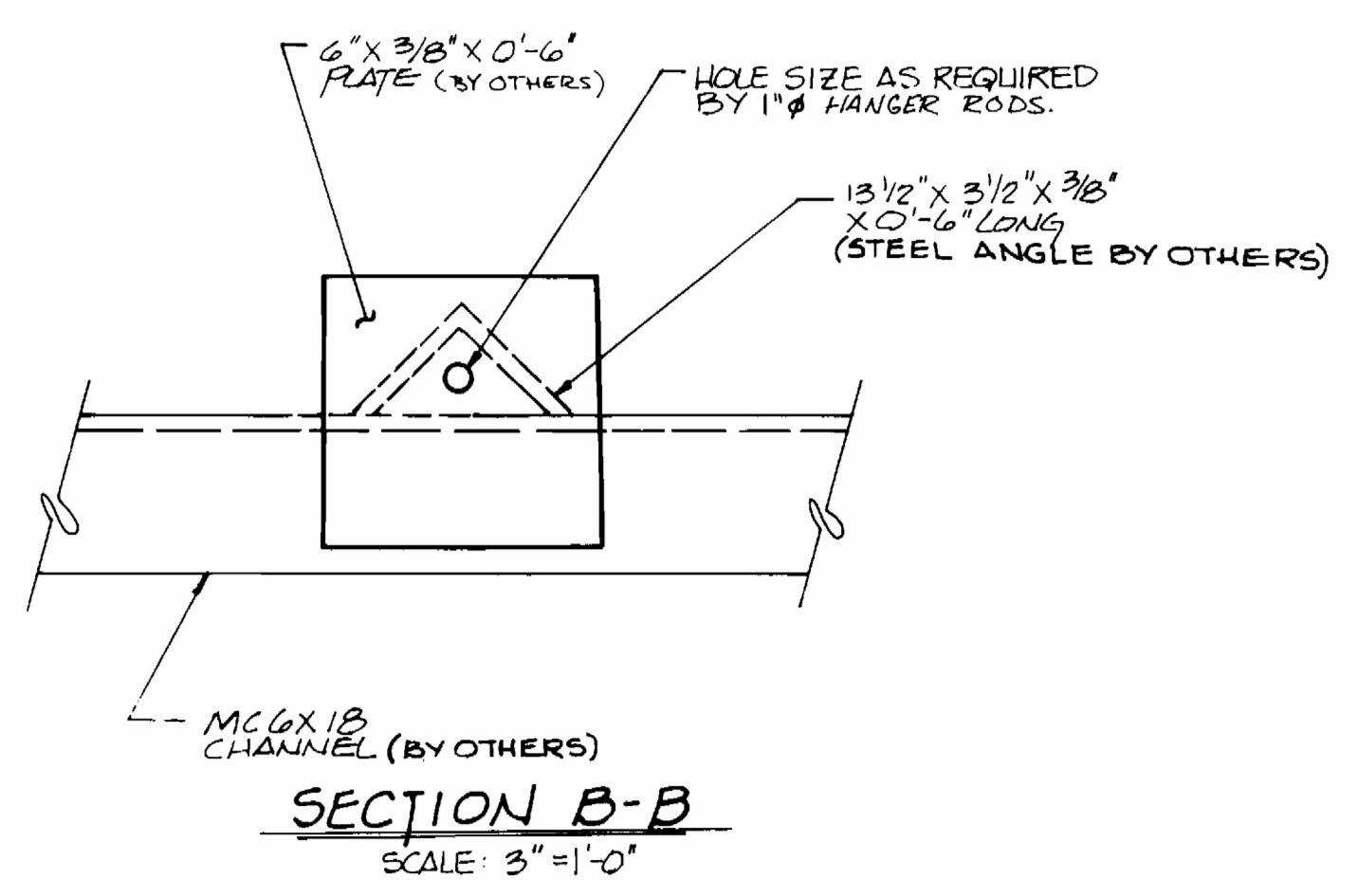
UTILITY LOCATION PLAN  
SCALE: 1/4" = 1'-0"



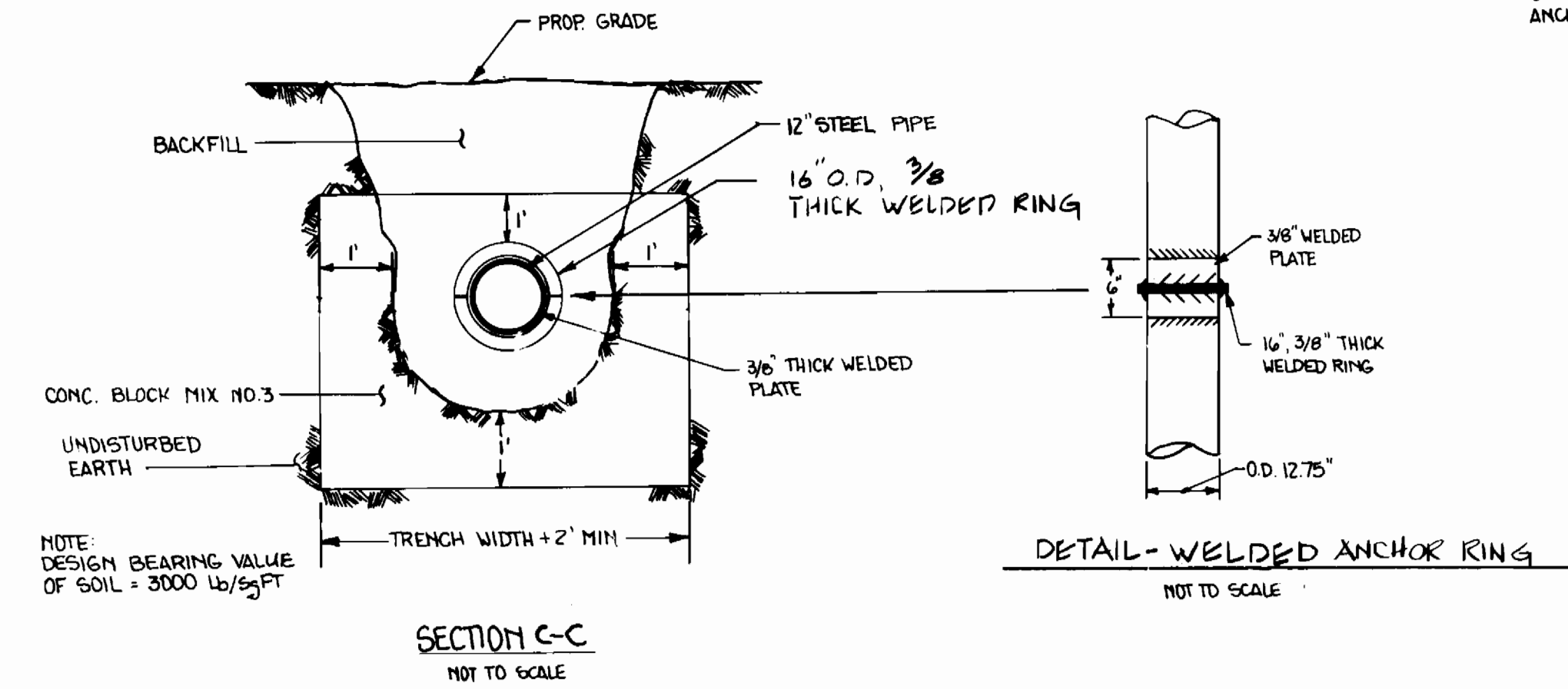
UTILITY LOCATION PROFILE  
SCALE: 1/4" = 1'-0"

NOTES

- FOR DIRECT BURIED STEEL WATER MAIN FROM ABUTMENT TO DIP X STEEL TRANSITION SLEEVE, BOTH NORTH AND SOUTH OF BRIDGE PROVIDE CORROSION PROTECTION TAPE WRAP. CORROSION PROTECTION TAPE SHALL BE FACTORY INSTALLED AND SHALL BE BY POLYKEN YG-III OR APPROVED EQUAL.
- FOR SPACING BETWEEN THE PIPE SUPPORT CHANNEL DIAPHRAGMS SEE STEEL GIRDER BRIDGE FRAMING PLAN SHEET NO. SI-11.
- FOR DETAILS OF PIPE SUPPORT DIAPHRAGMS BETWEEN STRINGERS 1 AND 2 SEE STEEL GIRDER BRIDGE DWG. SI-14.
- FROST PROOF COVERING TO BE WRAPPED SPIRALLY AND STAGGERED. EACH LAYER SHALL BE FASTENED WITH WIRE.
- CONTRACTOR HAS OPTION TO USE NOMINAL 18 FT. OR 20 FT. PIPE LENGTHS. SPACING OF HANGER SUPPORTS INSTALLED UNDER BRIDGE CONTRACT IS SUCH THAT EACH LENGTH OF PIPE IS SUPPORTED AT LEAST BY TWO SETS OF HANGERS.
- HANGER RODS, PIPE ROLLS, PROTECTION SADDLES, INSULATION PROTECTION SHIELD SHALL BE AS MANUFACTURED BY GRINNELL COMPANY, INC., B-LINE SYSTEMS, INC. OR APPROVED EQUAL AND SHALL RECEIVE SAME PAINT TREATMENT AS BRIDGE SUPERSTRUCTURE.
- PAINT EXPOSED BARS WITH 2 COATS OF COAL TAR PROTECTIVE COATING PER AWWA C-203.
- SINGLE END EXPANSION JOINT WITH LOCK COUPLING SHALL BE AS MANUFACTURED BY PRESSER INDUSTRIES INC. OR APPROVED EQUAL.

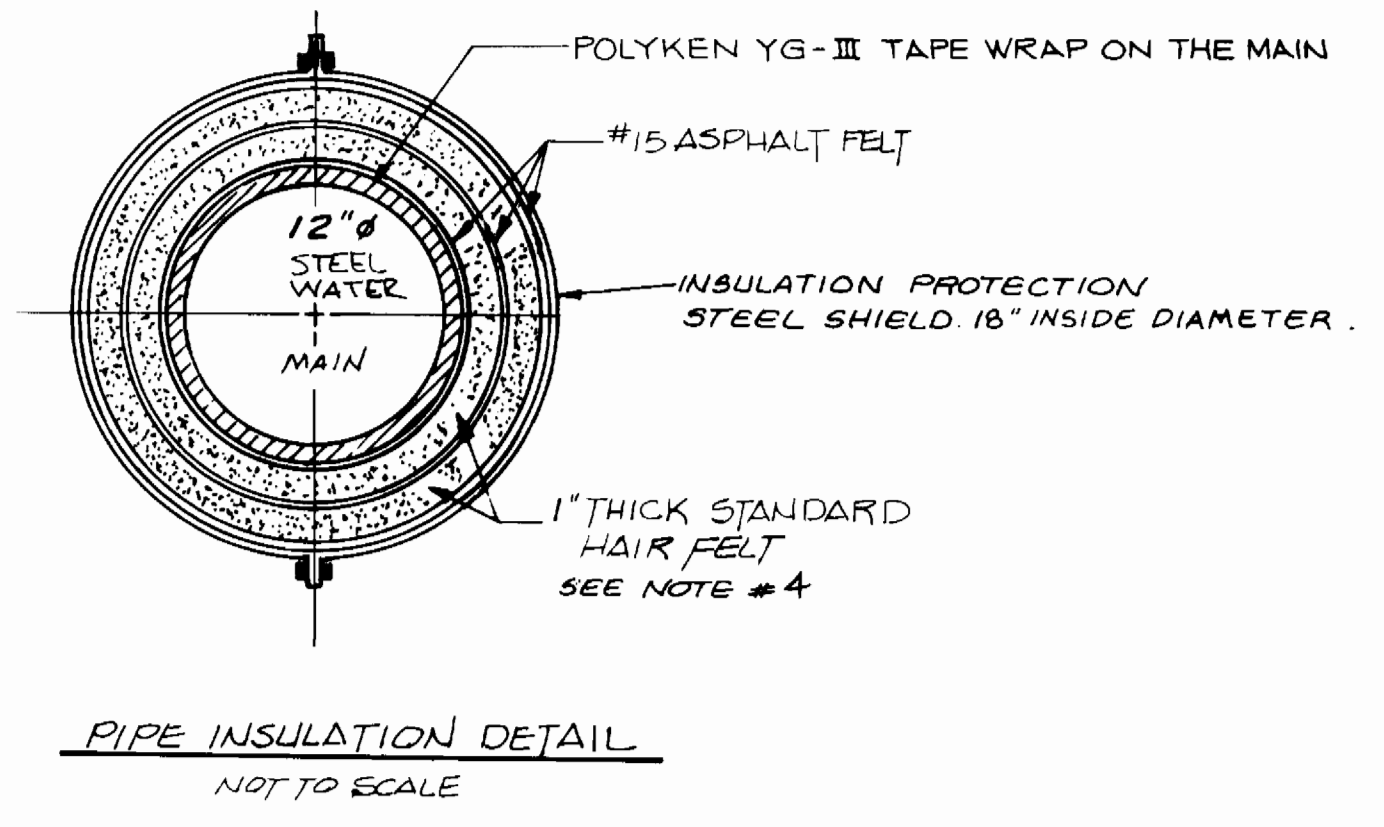


SECTION B-B  
SCALE: 3" = 1'-0"

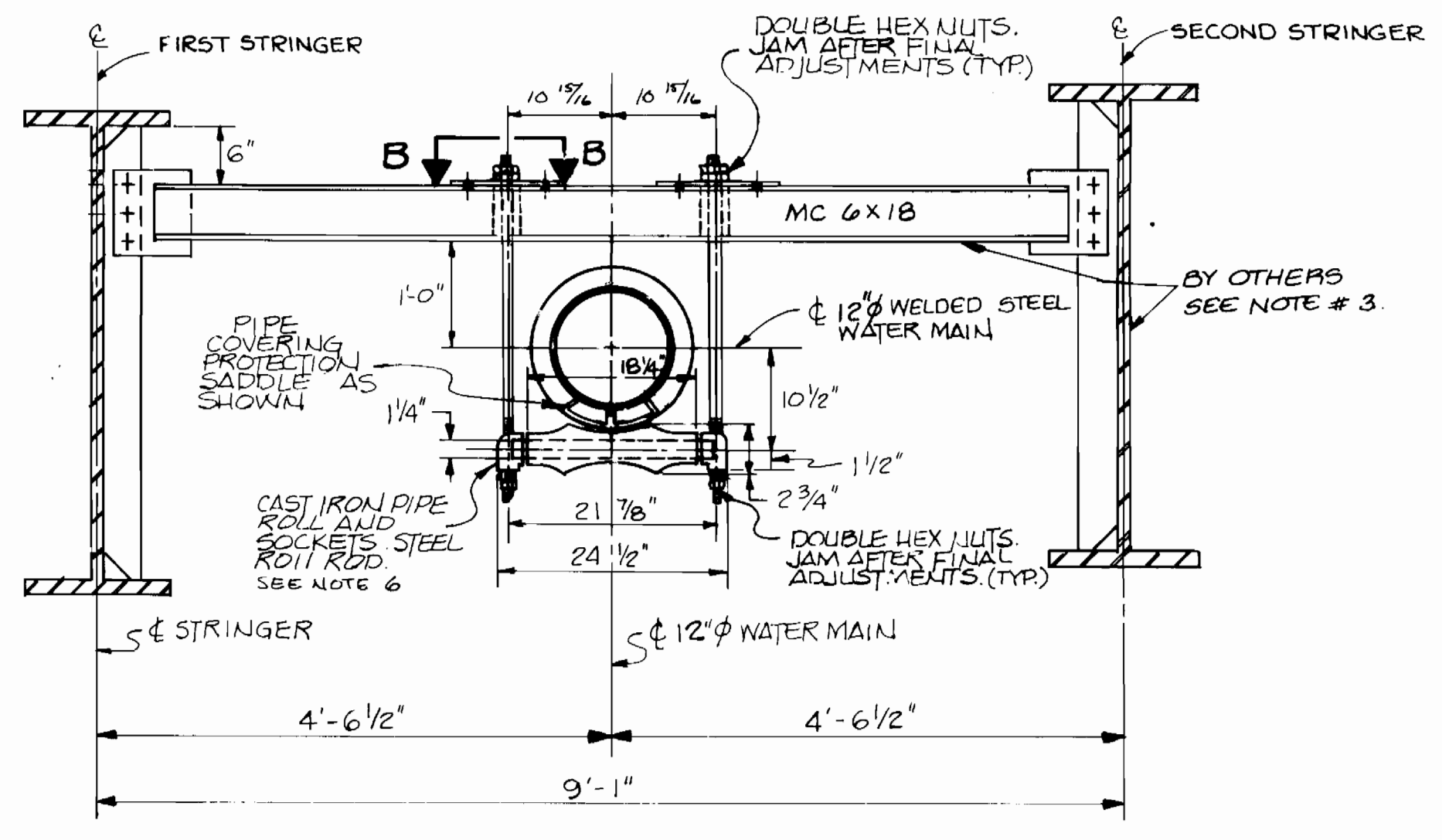


SECTION C-C  
NOT TO SCALE

DETAIL - WELDED ANCHOR RING  
NOT TO SCALE



PIPE INSULATION DETAIL  
NOT TO SCALE



SECTION A-A  
PIPE ROLLER SUPPORT DETAIL  
SCALE: 3/4" = 1'-0"

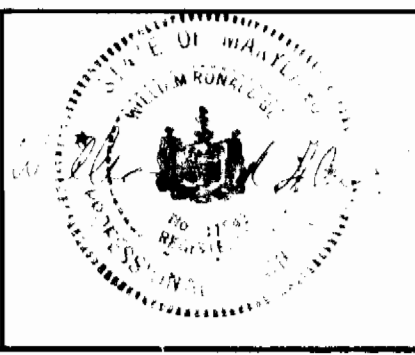
TYPICAL FOR 21 REQUIRED. AT CROSS GIRDER DIAPHRAGM CHANNELS INSTALLED DURING BRIDGE CONSTRUCTION BY OTHERS.

SHA SHEET NO. \_\_\_\_\_  
SHA CONTRACT NO. AW89-501-070

UH-4 OF UH-7

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
1/11/90  
1-11-90

JOHN E. HARMS JR. & ASSOCIATES INC.  
CONSULTING ENGINEERS-PLANNERS  
-SURVEYORS-  
90 GOVERNOR RITCHIE HWY PO BOX 5  
PASADENA, MARYLAND 21122 (TEL) 301-647-6000



DES: AK			
DRN: DL			
CHK: WRG			
DATE: 5-30-90	BY NO.	REVISION	DATE

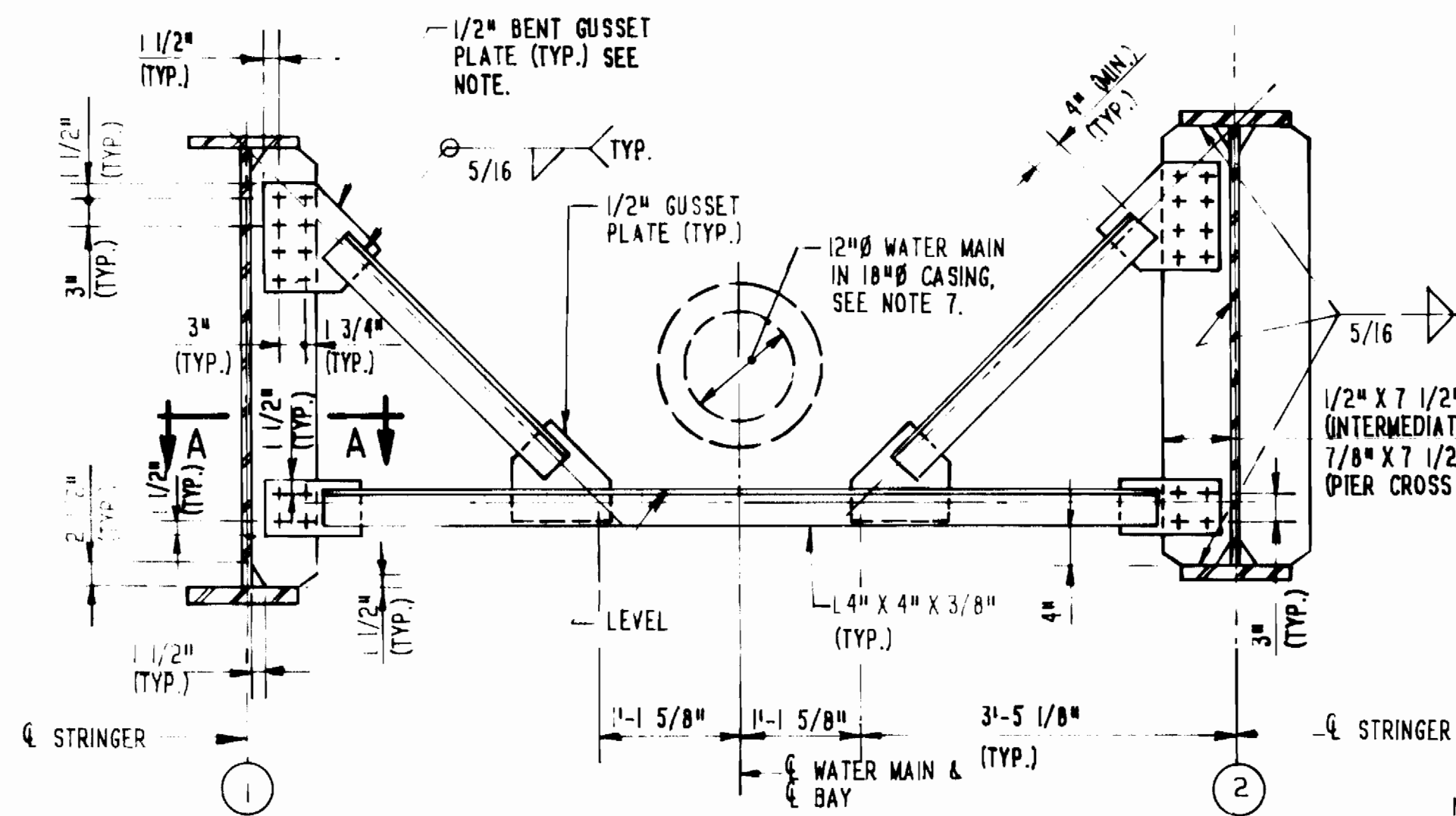
STEEL GIRDER BRIDGE ON RTE. 1  
OVER MD. RTE. 100, PLAN AND  
PROFILE OF WATER MAIN.

U.S. ROUTE 1 / MD. ROUTE 100  
WATER & SEWER RELOCATION  
CAPITAL PROJECT W-8156  
CONTRACT 24-1969  
ELECTION DISTRICT 1  
HOWARD COUNTY, MARYLAND

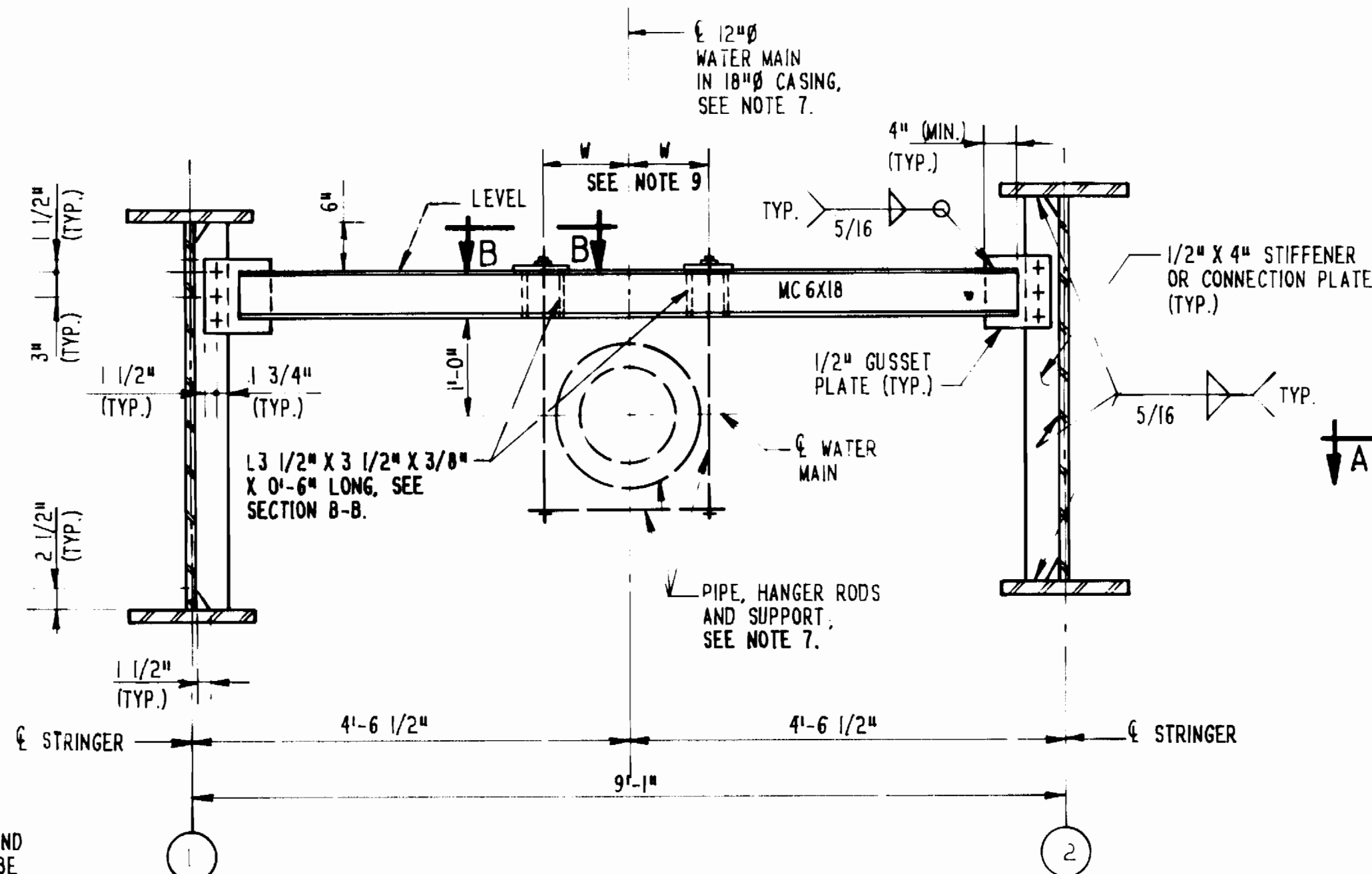
SCALE AS SHOWN  
SHEET 294 OF 475

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	SEE TITLE SHEET		

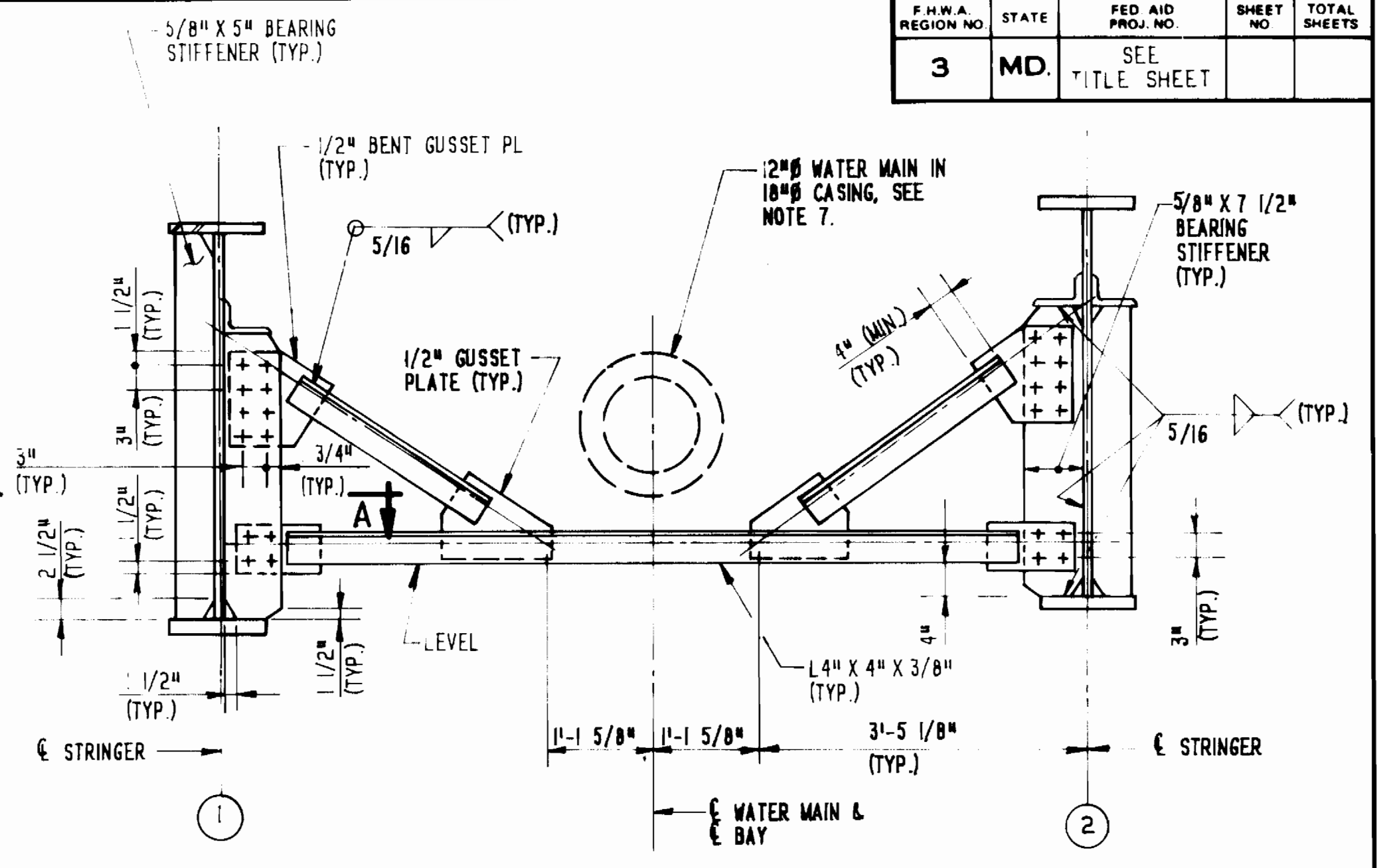
NOTE:  
PLACE ONE BENT PLATE ON FRONT OF BEARING PLATE AND ONE ON BACK OF BEARING PLATE FOR PIER CROSS FRAME. SEE FRAMING PLAN, DWG. SI-II.



**TYPICAL INTERMEDIATE AND PIER CROSS FRAME BETWEEN STRINGERS 1 & 2**  
(INTERMEDIATE CROSS FRAME SHOWN, PIER CROSS FRAME SIMILAR)  
SCALE: 3/4" = 1'-0"



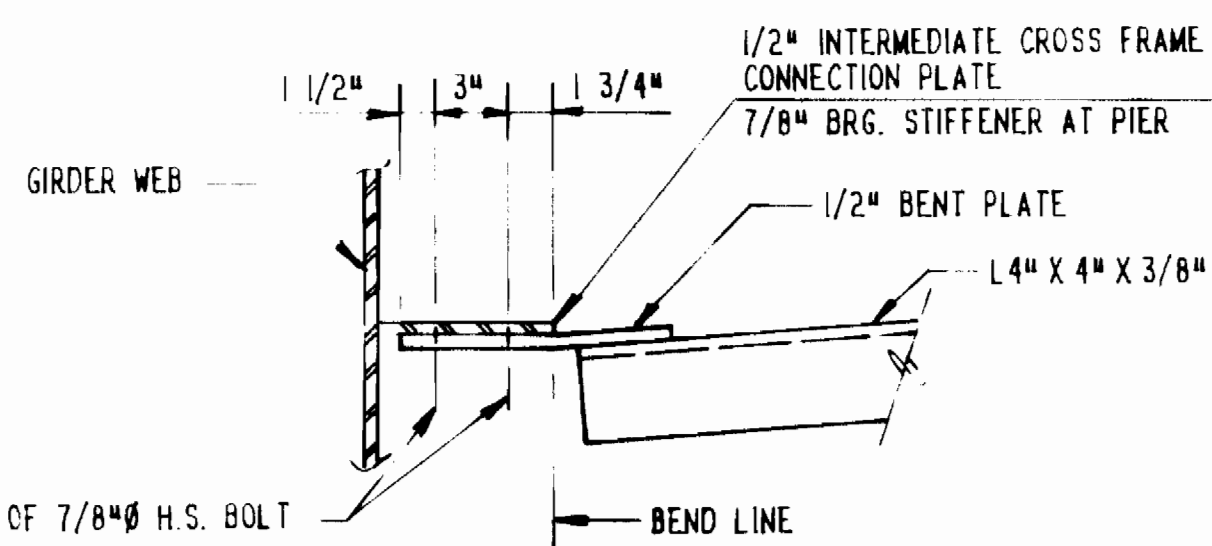
**TYPICAL WATER MAIN SUPPORT DIAPHRAGM**  
SCALE: 3/4" = 1'-0"



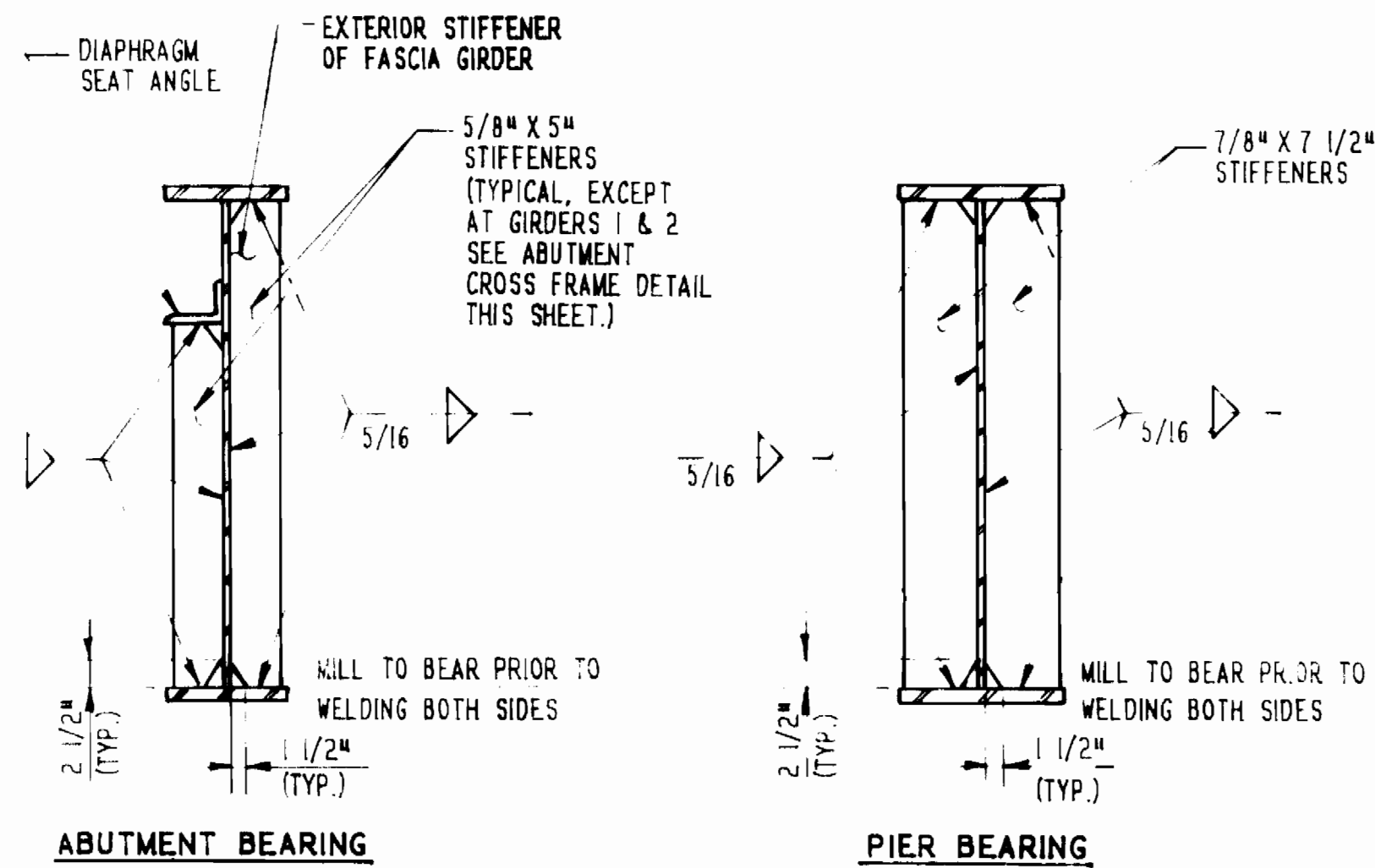
**TYPICAL ABUTMENT CROSS FRAME BETWEEN STRINGERS 1 & 2**  
SCALE: 3/4" = 1'-0"

NOTES:

- ALL CROSS FRAMES AND DIAPHRAGMS ARE TO BE COMPLETELY CONNECTED TO STRINGERS BEFORE DECK SLAB IS POURED.
- ALL BOLTS SHALL BE 7/8" Ø ASTM A325.
- ALL BOLT HOLES IN CROSS FRAMES AND DIAPHRAGMS TO BE 15/16" Ø.
- BOLT HOLES IN CONNECTION PLATES OR BEARING STIFFENERS MAY BE 1 1/16" Ø.
- FOR CROSS FRAME CONNECTION PLATE AND STIFFENER WELD TERMINATION DETAILS, SEE DETAIL NO. BR-SS(8.10)-83-154, DWG. SI-23.
- PLACE WATER MAIN SUPPORT DIAPHRAGMS AT 90° TO STRINGERS 1 & 2. SEE FRAMING PLAN, DWG. SI-II.
- FOR WATER MAIN DETAILS SEE UTILITY DRAWINGS HW-1 THRU HW-4.
- WATER MAIN SHALL NOT BE INSTALLED UNTIL THE ENTIRE S.B.R. DECK SLAB HAS BEEN POURED AND CURED.
- FOR DIMENSION W, SEE UTILITY DWGS. HW-1 THRU HW-4.
- THE COST OF ALL STRUCTURAL STEEL SUPPORTS FOR THE WATER MAIN, INCLUDING CHANNELS, CONNECTION PLATES, NUTS AND BOLTS, ETC. SHALL BE INCLUDED WITH THE COST OF THE WATER MAIN ON THE BRIDGE. SEE UTILITY DWGS. AND SPECIAL PROVISIONS.

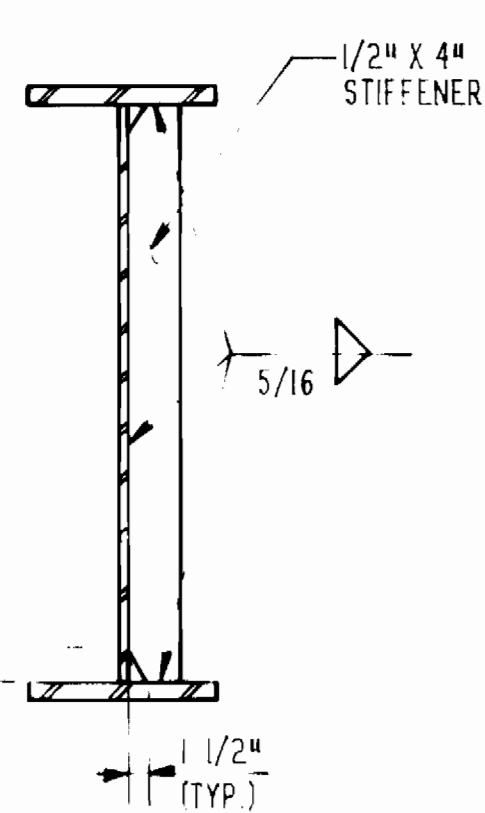


**SECTION A-A**  
SCALE: 1 1/2" = 1'-0"

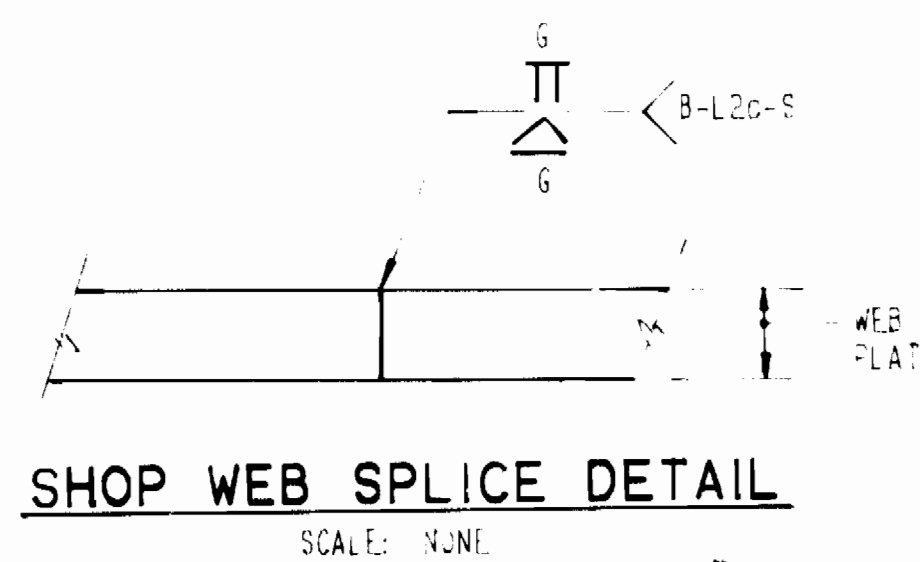


**BEARING STIFFENERS**  
SCALE: 3/4" = 1'-0"

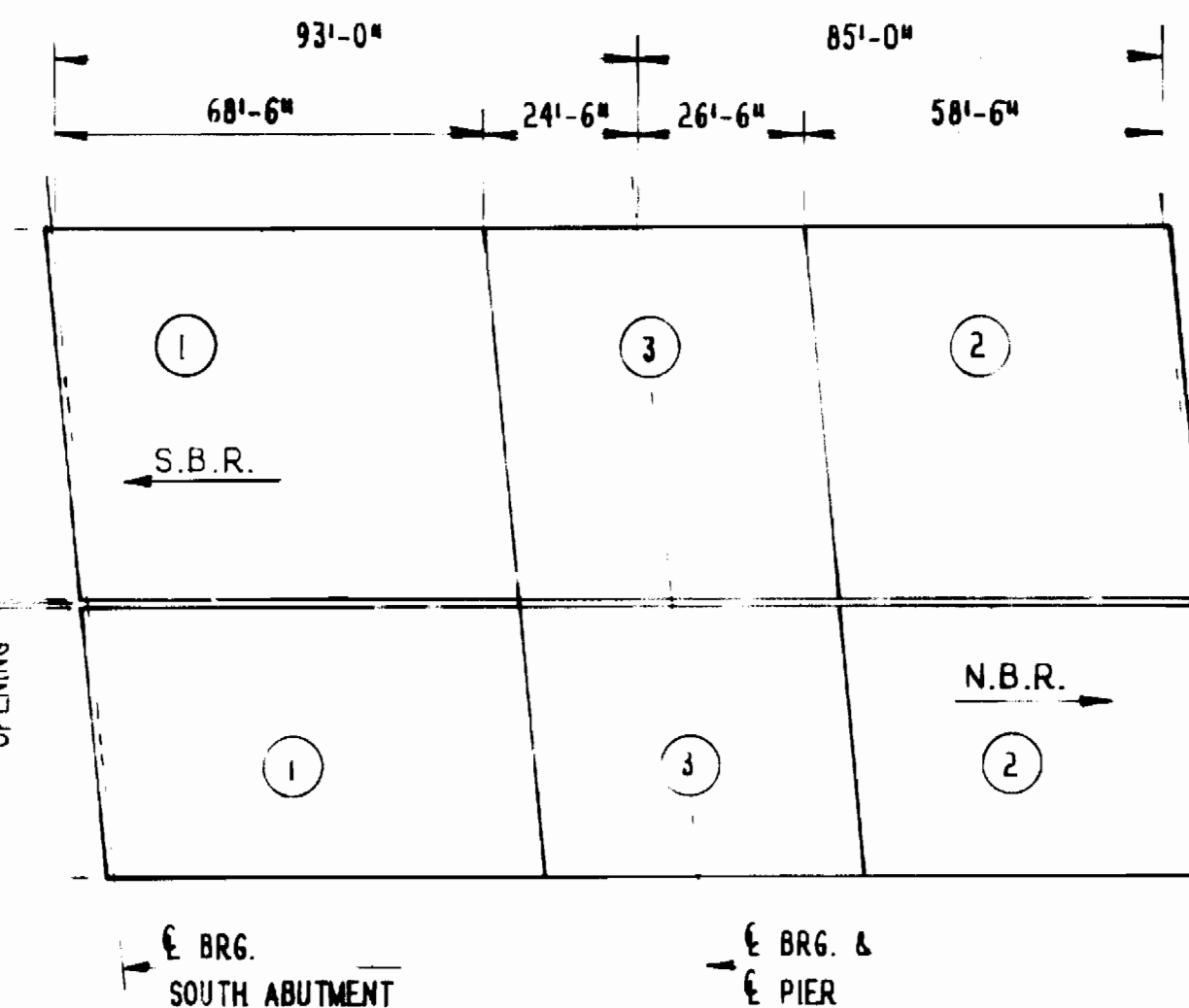
NOTE:  
FOR STIFFENER PLATE WELD TERMINATION, SEE DETAIL NO. BR-SS(8.10)-83-154, DWG. SI-23.



**INTERMEDIATE STIFFENERS**  
SCALE: 3/4" = 1'-0"

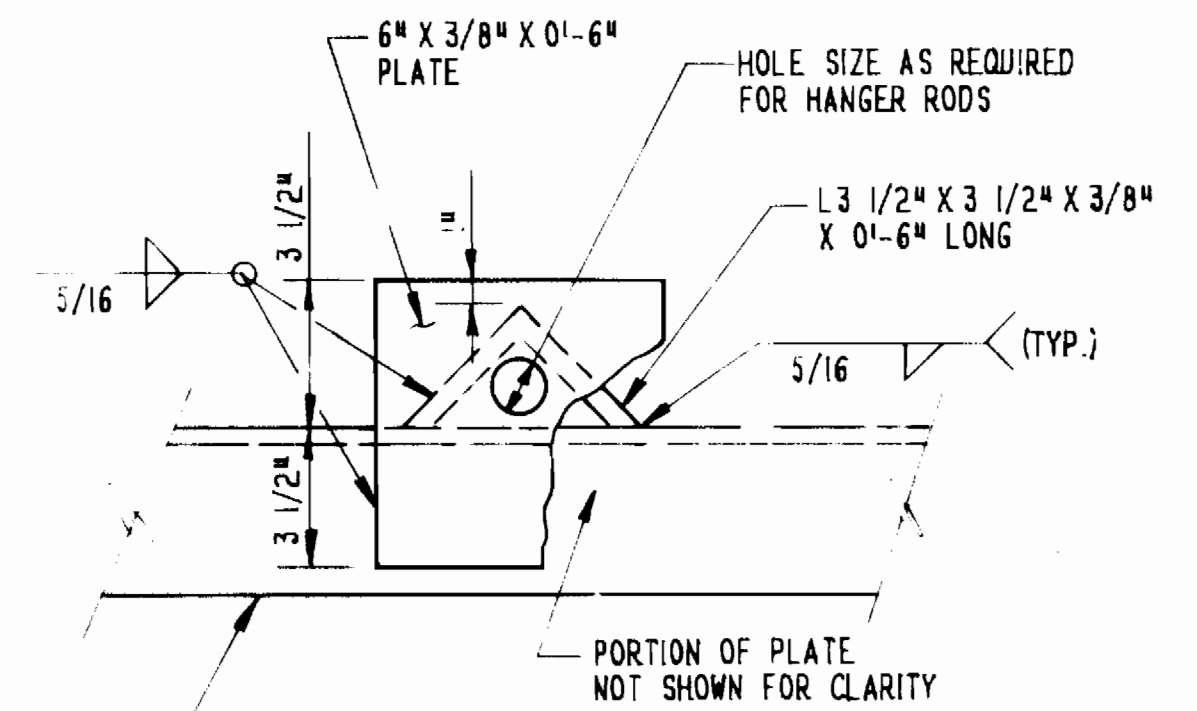


**SHOP WEB SPLICE DETAIL**  
SCALE: 3/4" = 1'-0"



**DECK POURING SEQUENCE**  
NOT TO SCALE

NOTE: THE POURING SEQUENCE FOR THE BRIDGE ROADWAY SLAB SHALL BE MADE IN THE NUMBERED ORDER INDICATED: 1, 2, 3.  
THERE MUST BE AT LEAST FORTY (40) HOURS BETWEEN THE COMPLETION OF ONE POUR AND THE START OF THE NEXT NUMBERED POUR. THE POURING SEQUENCE MAY NOT BE CHANGED AND NO ALTERNATE WILL BE CONSIDERED.  
THE BRIDGE DECKS FOR BOTH S.B.R. AND N.B.R. MAY BE POURED AS IF THE DECKS ARE SEPARATE BRIDGES.



**SECTION B-B**  
SCALE: 3" = 1'-0"

SI DWG. 14 OF 35

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION DIVISION OF BRIDGE DEVELOPMENT STEEL GIRDER BRIDGE ON U.S. RTE. 1 OVER MD. RTE. 100 BRIDGE NO. 13118 SUPERSTRUCTURE DETAILS - I
DESIGNED BY	SCALE AS SHOWN DATE CONTRACT AW 890-501-070
DRAWN BY	
CHECKED BY	
AS - BUILT 1-6-95	W-8156 SHEET NO. 4a OF 7 INDEXED 24-1969

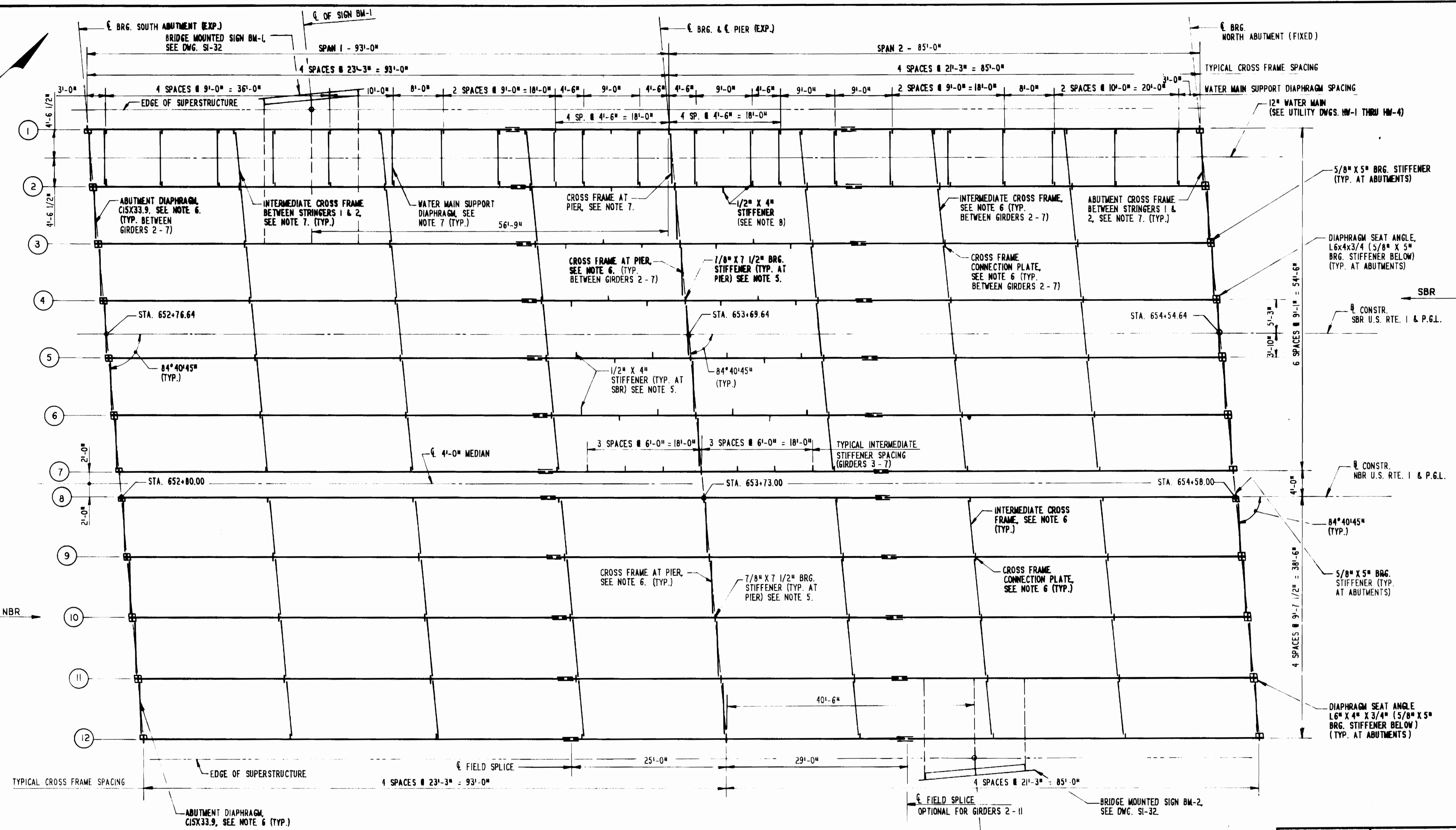
**KCI**  
KIDDE CONSULTANTS, INC.  
1020 CROMWELL BRIDGE ROAD  
TOWSON, MARYLAND 21284  
PHONE: (301) 321-5500

SURVEY BOOK NO.

BRIDGE No. 13118



F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	SEE TITLE SHEET		



**FRAMING PLAN**  
SCALE: 1/8" = 1'-0"

**NOTES:**

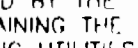
- AT SOUTH ABUTMENT USE EXPANSION BEARING ME-I MODIFIED AS SHOWN ON DETAIL NO. BR-SS(9.01)-80-114, DWG. SI-22.
- AT PIER USE EXPANSION BEARING ME-IV FOR S.B.R. AND ME-V FOR N.B.R. AS SHOWN ON DETAIL NO. BR-SS(9.01)-80-114, DWG. SI-22.
- AT NORTH ABUTMENT USE FIXED BEARING MF-I AS SHOWN ON DETAIL NO. BR-SS(9.02)-80-115, DWG. SI-22.
- FOR DIAPHRAGM SEAT ANGLE DETAILS, SEE DETAIL NO. BR-SS(8.12)-85-170, DWG. SI-23.
- FOR BEARING STIFFENER AND INTERMEDIATE STIFFENER DETAILS SEE DWG. SI-14.
- FOR DETAILS OF INTERMEDIATE AND PIER CROSS FRAMES AND ABUTMENT DIAPHRAGMS BETWEEN GIRDERS 2 - 7 AND 8 - 12, SEE DWG. SI-10.
- FOR DETAILS OF INTERMEDIATE, PIER AND ABUTMENT CROSS FRAMES, AND WATER PIPE SUPPORT DIAPHRAGMS BETWEEN STRINGERS 1 & 2, SEE DWG. SI-14.
- FOR GIRDERS 1 - 7 THE CONTRACTOR HAS THE OPTION OF FURNISHING GIRDERS WITH 1/2" WEB PLATES FOR THE GIRDER SECTION OVER THE PIER, THAT IS FROM FIELD SPLICE LOCATION TO FIELD SPLICE LOCATION AS SHOWN ON THE GIRDER ELEVATION. THIS OPTION WOULD ELIMINATE THE NEED FOR INTERMEDIATE STIFFENERS ADJACENT TO THE PIER. AT THE TIME OF BIDDING THE CONTRACTOR SHALL SPECIFY WHETHER HE ELECTS TO USE THE AS-PLANNED GIRDER OR THE ALTERNATE. IF THE ALTERNATE IS TO BE USED, REVISIONS TO THE DRAWINGS WILL BE MADE BY THE SHA TO DETAIL THE ALTERNATE.

NOTE: THE CONTRACTOR, AFTER PROJECT IS AWARDED MAY OFFER OTHER SPLICING COMBINATIONS OF "FIELD SPLICES" AND "OPTIONAL FIELD SPLICES" (LOCATIONS OF SPLICES WILL REMAIN THE SAME) PROVIDED THE TOTAL NUMBER OF "FIELD SPLICES" FOR A BRIDGE IS MAINTAINED. THE OFFICE OF BRIDGE DEVELOPMENT WILL EVALUATE EACH PROPOSAL FOR ALTERNATE SPLICE PATTERNS (WITHIN THE RESTRICTION LIMITS LISTED ABOVE) AND WILL BE THE SOLE JUDGE AS TO WHETHER OR NOT THE PROPOSAL IS ACCEPTABLE.

**KCI**  
KIDDE CONSULTANTS, INC.  
1020 CROMWELL BRIDGE ROAD  
TOWSON, MARYLAND 21284  
PHONE: (301) 321-5500

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT STEEL GIRDER BRIDGE ON U.S. RTE. 1 OVER MD RTE. 100 BRIDGE NO. 13118 FRAMING PLAN	
DESIGNED BY	SCALE AS SHOWN	DATE
DRAWN BY	CONTRACT	AW 890-501-070
CHECKED BY	AS - BUILT	1-6-95
	W-0156	SHEET NO 46 OF 7
	INDEXED	24-1969

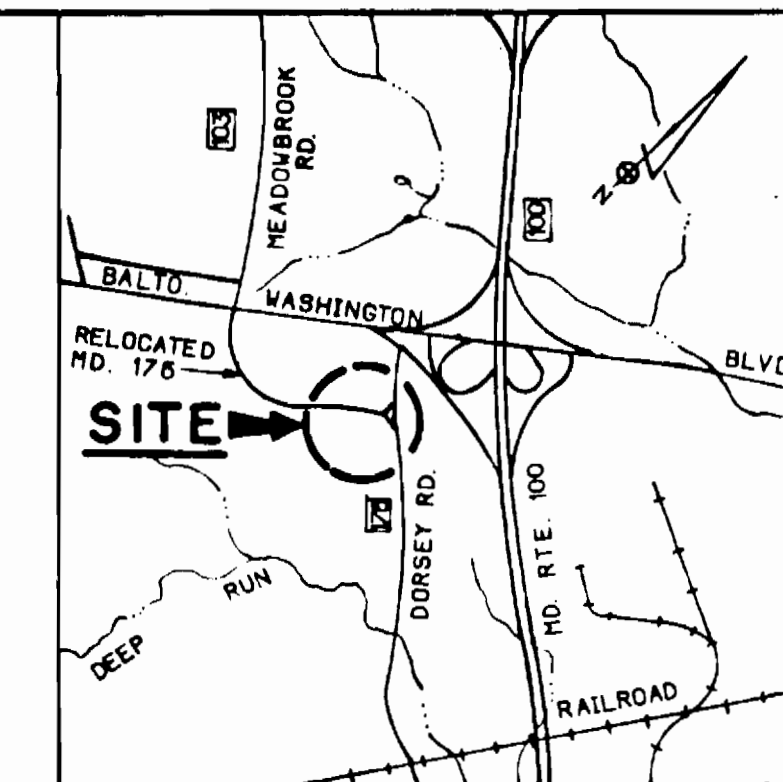
**GENERAL NOTES**

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE AND DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES. (SEE NOTE 18)
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA. (SEE NOTE 18)
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 1'-0" CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED 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 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. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL  AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST AND THE 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.  
STATE HIGHWAY ADMINISTRATION - 531-5533  
BALTIMORE GAS & ELECTRIC CO. SERVICES 850-4620  
BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL 859-9004  
BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING 298-9001  
MISSISSIPPI 1-800-267-3777  
CROSSING PIPELINE 746-1519  
BUREAU OF UTILITIES, HOWARD COUNTY DEPT. OF PUBLIC WORKS 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL WATER MAINS TO BE D.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE MINIMUM OF 3-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEST PITS SHALL BE STRAPPED TO TESTS.
- 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 STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1003 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER VALVES ON THE EXISTING WATER SYSTEM. CONTRACTOR BUREAU OF UTILITIES 72 HOURS IN ADVANCE FOR OPERATING VALVES AND FOR WATER MAIN TIE-IN.
- ALL WORK SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL SECTION 219.
- BASED ON TOPOGRAPHY OBTAINED FROM MD S.H.A. CONTRACT NO. AW-890-501-070, SHEETS 49 & 50 OF 475, DATED 5/13/92 (ADDENDUM NO. B) AND ASSOCIATED S.H.A. CROSS-SECTIONS AND FROM HOWARD COUNTY "AS-BUILT" WATER AND SEWER MAIN DRAWINGS CONTRACT NO. 14-1521-D AS SUPPLIED BY HOWARD COUNTY DPW.
- CONTRACTOR IS TO NOTIFY SAVAL FOOD, 48 HOURS IN ADVANCE TIE-IN. SAVAL FOODS IS NOT IN OPERATION ON WEEK WEEKENDS. CONNECTION SHALL BE ON ONE SATURDAY OR SUNDAY SO THAT SERVICE IS RESTORED BY MONDAY.
- ALL FITTINGS SHALL HAVE STANDARD BUTTRESSES PER HOWARD COUNTY DETAILS VOL. IV.
- SALVAGE EX. F.H. AND VALVE. TRANSPORT TO BUREAU OF UTILITIES, HO. CO. PORTER PLUG END FOR ABANDONMENT.
- MORTAR PLUG ALL ENDS FOR ABANDONMENT.

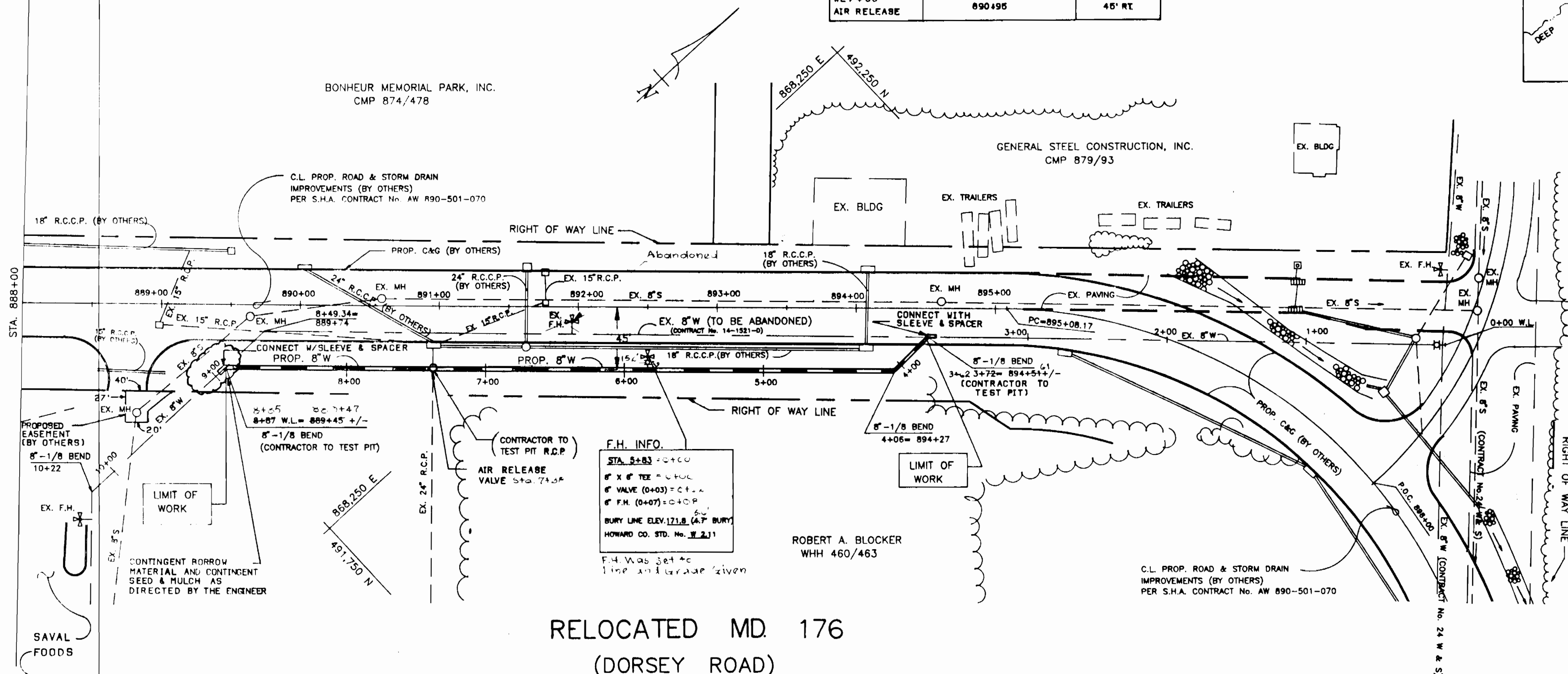
**WATER AS-BUILT**

QUANTITIES			
ITEM	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
8" WATER	L.F. 515	523	GRIFFIN PIPE
F.H., 8" VALVE, PIPE & FIT.	EA. 1	1	F.H. (See U.S. PIPE & VALVE)
3/4" AIR RELEASE	EA. 1	1	Air Release - 24 IN. TRENCH

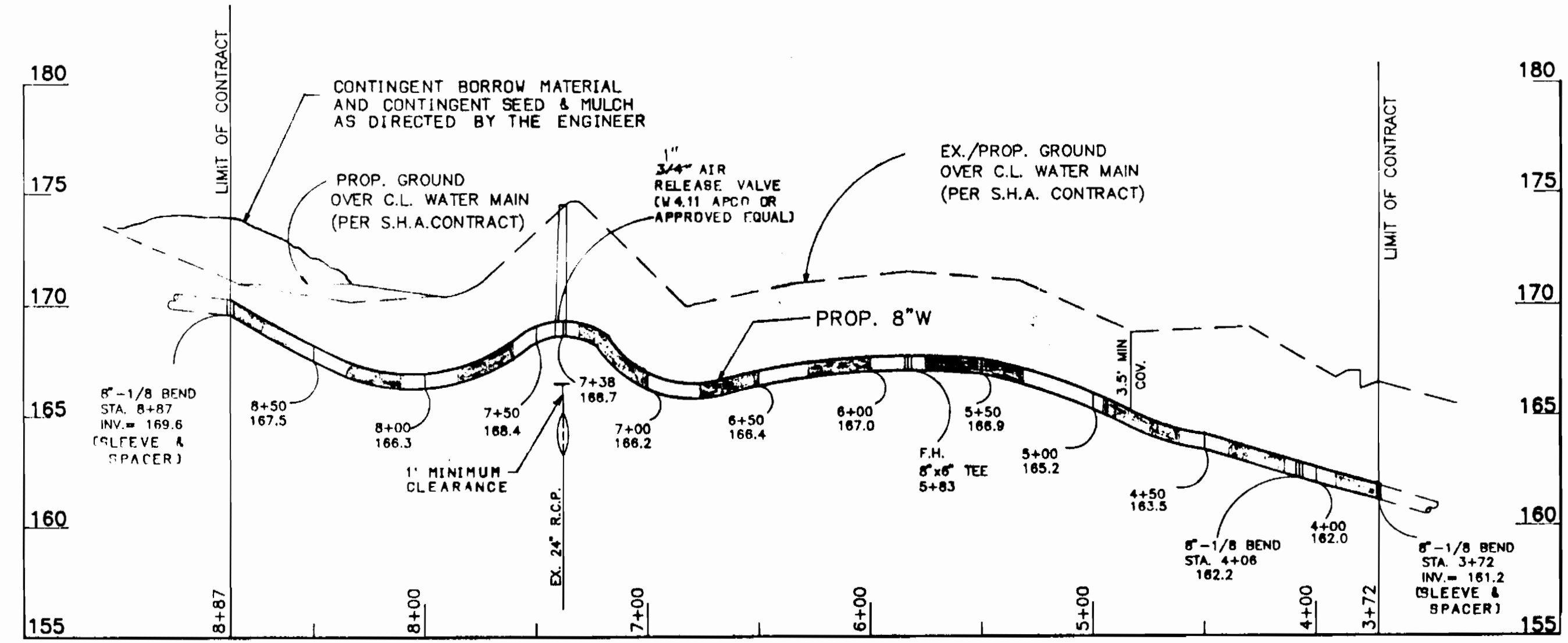
STAKEOUT TABLE 8" W		
POINT ON 8" W	C.L. PROPOSED ROAD IMPROVEMENTS (BY S.H.A.)	RIGHT ANGLE OFFSET
WL 3+72 8"-1/8 BEND	895+51	20' RT.
WL 4+08 8"-1/8 BEND	894+27	45' RT.
WL 5+83 8" X 8" TEE	892+50	45' RT.
WL 8+87 8"-1/8 BEND	889+45	45' RT.
WL 7+38 AIR RELEASE	890+95	40' RT.



LOCATION MAP  
SCALE: 1" = 2000'

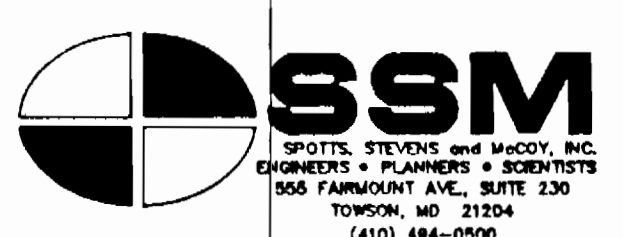



RELOCATED MD 176  
(DORSEY ROAD)  
**PLAN**  
SCALE: 1" = 50'

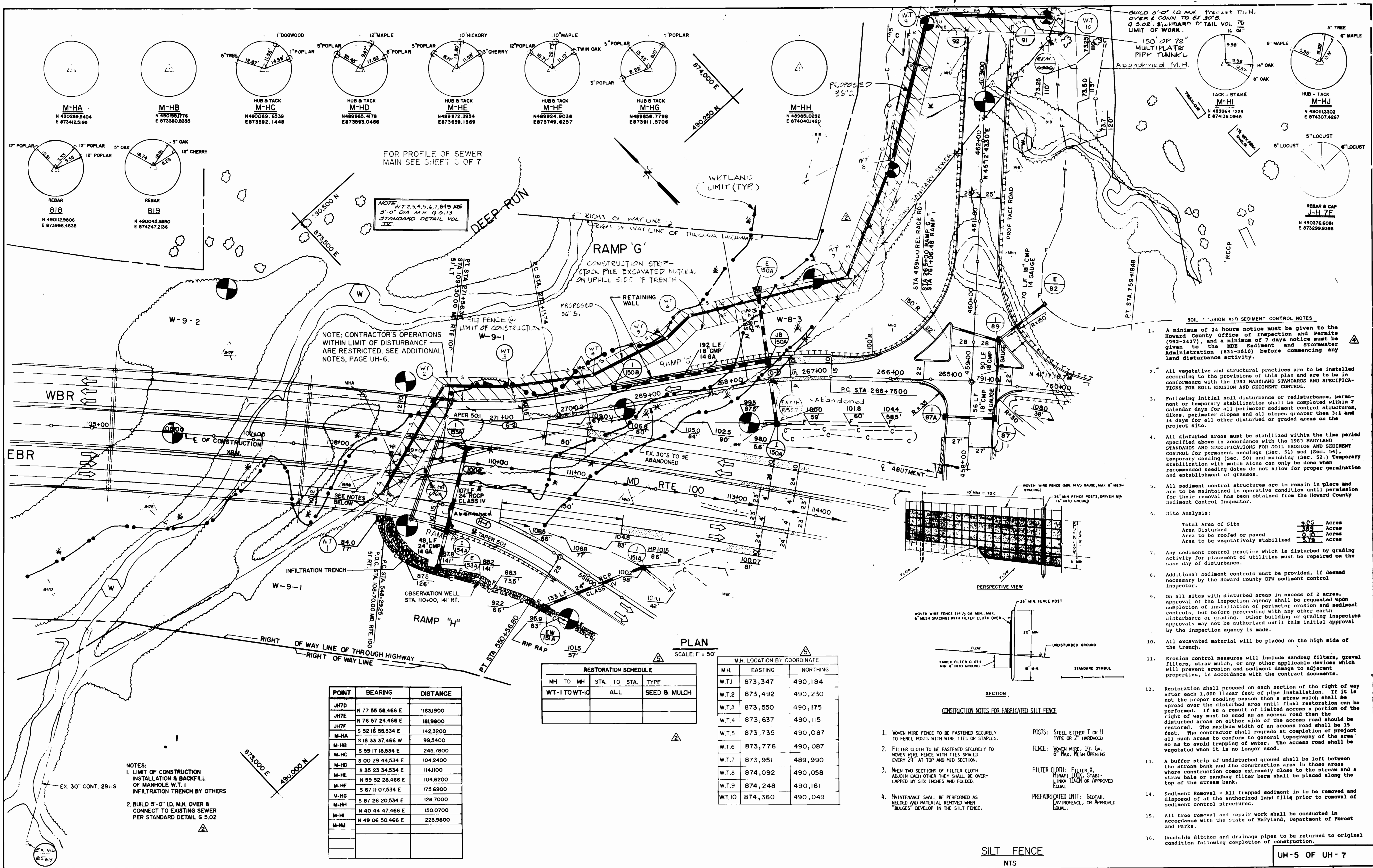


**PROFILE**  
SCALE: HORIZ.: 1" = 50'  
VERT.: 1" = 5'

S.H.A. AW-890-501-070

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> DATE: 2/9/93 Chief, Bureau of Utilities: <i>[Signature]</i> DATE: 2-5-93		 SSM SPOTTS, STEVENS AND MADDY, INC. ENGINEERS & PLANNERS & SURVEYORS 856 FARMOUNT AVE., SUITE 230 TOWSON, MD. 21284 (410) 484-0000		 DES: G.S. DRN: G.S. CHK: T.W.W. DATE: JAN. '93		8-INCH WATER MAIN PLAN & PROFILE 600' SCALE MAP NO. W-37 BLOCK NO. 23		MARYLAND ROUTE 100 PROJECT DORSEY ROAD WATER MAIN RELOCATION CAPITAL PROJECT: W-8156 ELECTION DISTRICT: 1 CONTRACT No.: 24-1969		SCALE AS SHOWN SHEET 40 OF 1
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FOR PROFILE OF SEWER MAIN SEE SHEET G OF 7

NOTE: W.T. 2, 3, 4, 5, 6, 7, 8, 19 ARE 3'-0" DIA. M.H. Q.S. 13 STANDARD DETAIL VOL. 12E.

NOTE: CONTRACTOR'S OPERATIONS WITHIN LIMIT OF DISTURBANCE ARE RESTRICTED. SEE ADDITIONAL NOTES, PAGE UH-6.

SOIL EROSION AND SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits (992-2437), and a minimum of 7 days notice must be given to the MDE Sediment and Stormwater Administration (631-3510) before commencing any land disturbance activity.
- 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 redistribution, permanent or temporary stabilization shall be completed within 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1 and 14 days for all other disturbed or graded areas on the project site.
- 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: 4.00 Acres  
 Area Disturbed: 3.85 Acres  
 Area to be roofed or paved: 0.10 Acres  
 Area to be vegetatively stabilized: 3.75 Acres
- 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 approvals may not be authorized until this initial approval by the inspection agency is made.
- All excavated material will be placed on the high side of the trench.
- Erosion control measures will include sandbag filters, gravel filters, straw mulch, or any other applicable devices which will prevent erosion and sediment damage to adjacent properties, in accordance with the contract documents.
- Restoration shall proceed on each section of the right of way after each 1,000 linear foot of pipe installation. If it is not the proper seeding season then a straw mulch shall be spread over the disturbed area until final restoration can be performed. If as a result of limited access a portion of the right of way must be used as an access road then the disturbed areas on either side of the access road should be restored. The maximum width of an access road shall be 15 feet. The contractor shall grade at completion of project all such areas to conform to general topography of the area so as to avoid trapping of water. The access road shall be vegetated when it is no longer used.
- A buffer strip of undisturbed ground shall be left between the stream bank and the construction area in those areas where construction crosses extremely close to the stream and a straw bale or sandbag filter berm shall be placed along the top of the stream bank.
- Sediment Removal - All trapped sediment is to be removed and disposed of at the authorized land fill prior to removal of sediment control structures.
- All tree removal and repair work shall be conducted in accordance with the State of Maryland, Department of Forest and Parks.
- Roadside ditches and drainage pipes to be returned to original condition following completion of construction.

PLAN SCALE: 1" = 50'

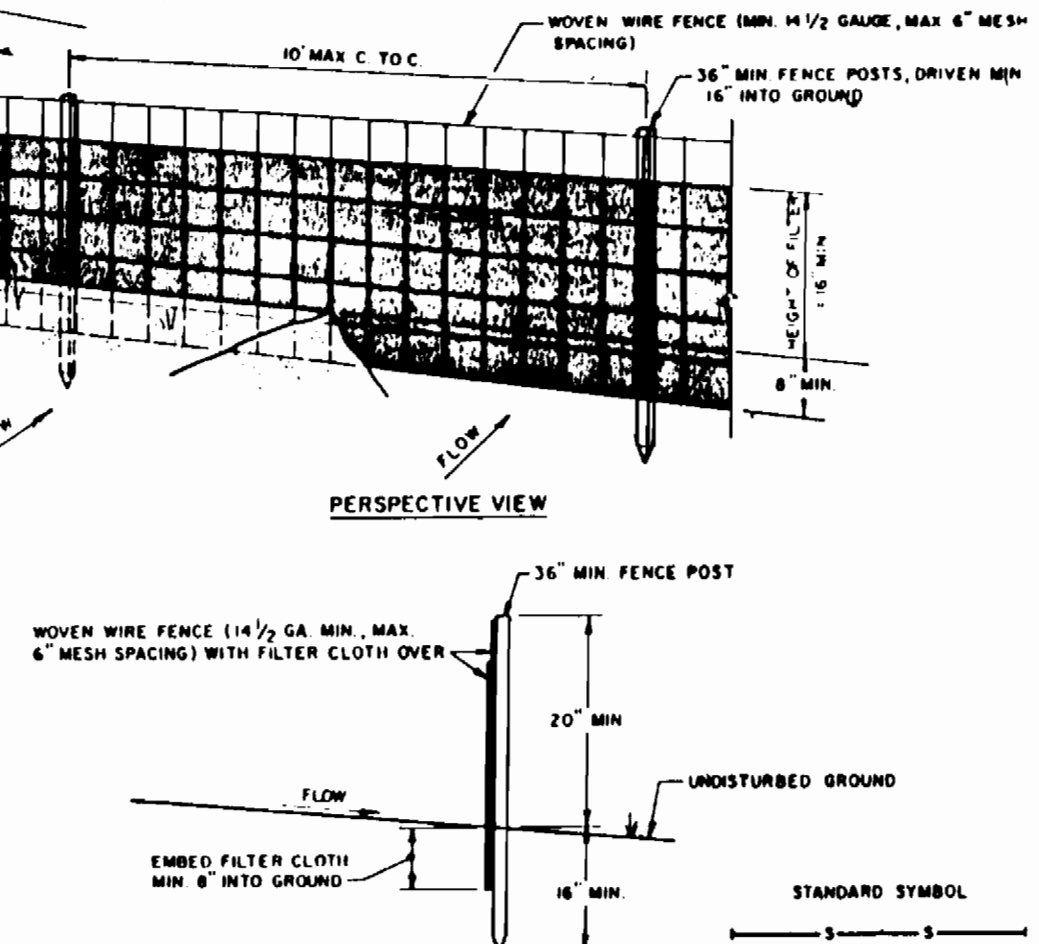
RESTORATION SCHEDULE			
MH TO MH	STA. TO STA.	TYPE	
WT-1 TO WT-10	ALL	SEED & MULCH	

M.H. LOCATION BY COORDINATE		
M.H.	EASTING	NORTHING
W.T.1	873,347	490,184
W.T.2	873,492	490,230
W.T.3	873,550	490,175
W.T.4	873,637	490,115
W.T.5	873,735	490,087
W.T.6	873,776	490,087
W.T.7	873,951	489,990
W.T.8	874,092	490,058
W.T.9	874,248	490,161
W.T.10	874,360	490,049

POINT	BEARING	DISTANCE
JHTD	N 77 55 58.466 E	163.1900
JHTE	N 76 57 24.466 E	181.9800
JHTF	S 52 16 55.534 E	142.3200
M-HA	S 18 33 37.466 W	99.5400
M-HB	S 59 17 18.534 E	245.7800
M-HC	S 00 29 44.534 E	104.2400
M-HD	S 35 23 34.534 E	114.1100
M-HE	N 59 52 28.466 E	104.6200
M-HF	S 67 11 07.534 E	175.6900
M-HG	S 87 26 20.534 E	128.7000
M-HH	N 40 44 47.466 E	150.0700
M-HI	N 49 06 50.466 E	223.9800

NOTES:  
 1. LIMIT OF CONSTRUCTION INSTALLATION & BACKFILL OF MANHOLE W.T. 1 INFILTRATION TRENCH BY OTHERS  
 2. BUILD 5'-0" I.D. M.H. OVER & CONNECT TO EXISTING SEWER PER STANDARD DETAIL G 5.02

- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
  - FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
  - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
  - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD  
 FENCE: WOVEN WIRE, 14" GA. 6" MAX. MESH OPENING  
 FILTER CLOTH: FILTER X, MIRAFL 1000, STABILMA 1140N OR APPROVED EQUAL  
 PREFABRICATED UNIT: GEOTAB, ANY SOURCE, OR APPROVED EQUAL



SILT FENCE NTS

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Director of Public Works* DATE: 1/11/92  
 CHIEF, BUREAU OF UTILITIES

*Chief, Bureau of Engineering* DATE: 1/11/92  
 CHIEF, BUREAU OF ENGINEERING

JOPH. L. HARMS JR. & ASSOCIATES INC.  
 CONSULTING ENGINEERS - PLANNERS  
 - SURVEYORS

90 GOVERNOR RITCHIE HWY PO BOX 5  
 PASADENA, MARYLAND 21122 (TEL) 301-647-6000

DES: A.K. ADDENDUM NO. 2 12/19/91  
 ADDENDUM NO. 4 2/11/92

DRN: J.D. D.M.D. 5/26/92

CHK: W.R.G.

DATE: BY NO REVISION DATE

PLAN OF DEEP RUN INTERCEPTOR

600' SCALE MAP NO. 44 BLOCK NO. 122

U.S. ROUTE 1 / MD. ROUTE 100  
 WATER AND SEWER RELOCATION  
 CAPITAL PROJECT W-8156

CONTRACT NO. 24 - 1969  
 ELECTION DISTRICT I  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 295 OF 475

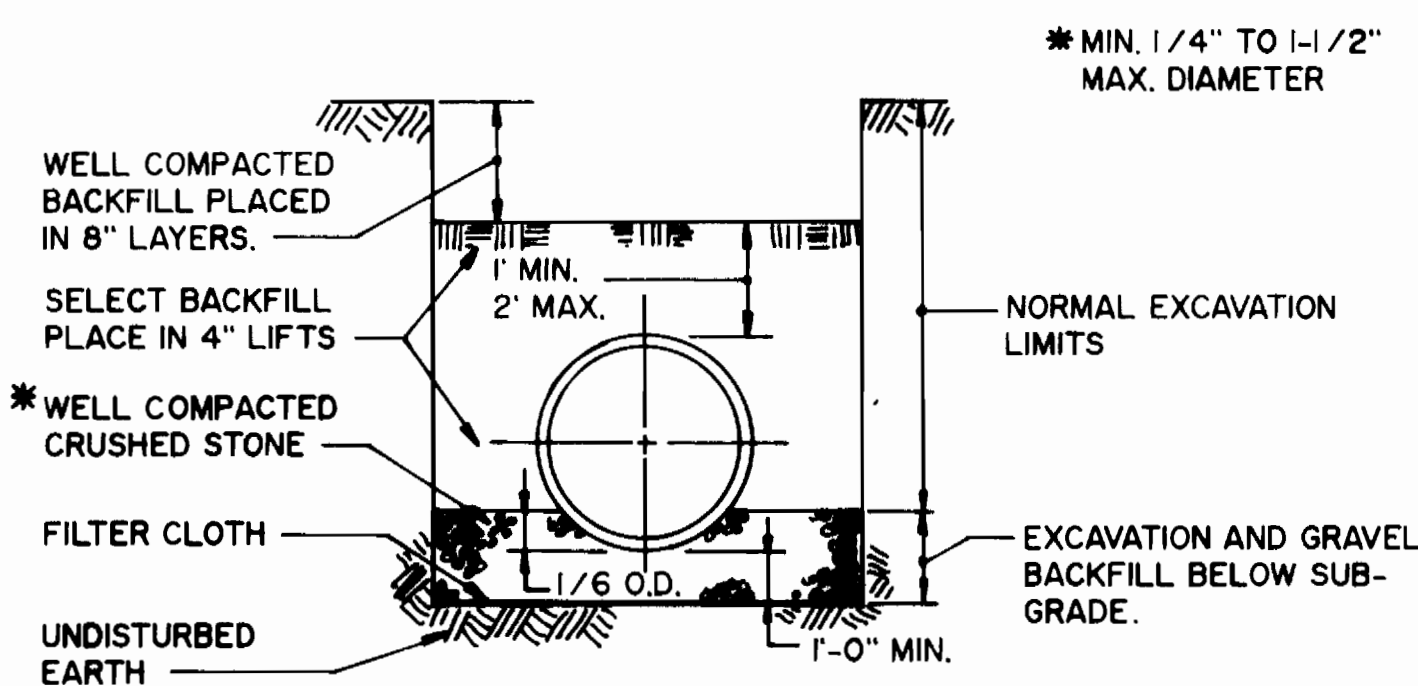


**ADDITIONAL NOTES:**

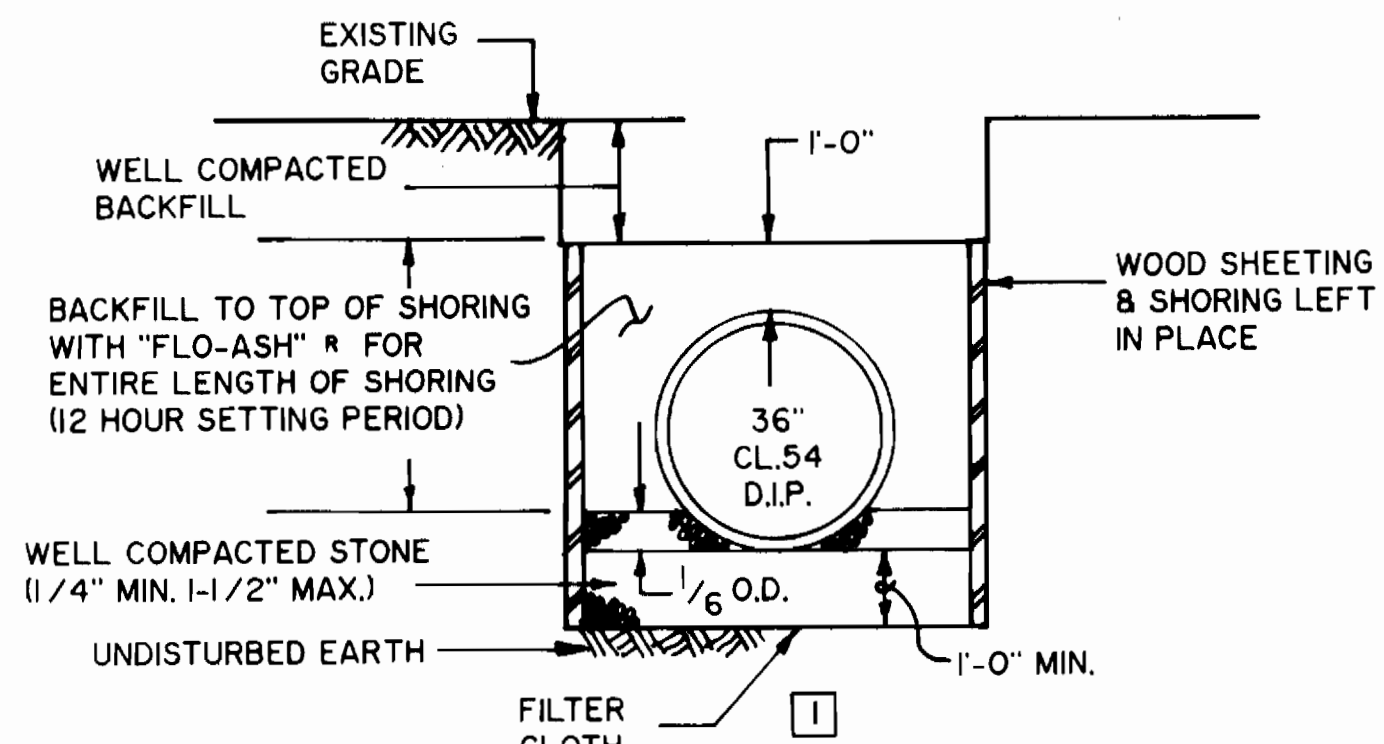
- QUANTITY ESTIMATES FOR SEWER CONSTRUCTION DO NOT INCLUDE DISTANCE THROUGH MANHOLES.
- CONTRACTOR MAY NOT CUT ANY TREES BEYOND THE LIMIT OF DISTURBANCE, BUT MAY TRIM TREES AND LIMBS VERTICALLY FROM THE LIMIT OF DISTURBANCE.
- EXCAVATED MATERIAL SHALL BE STORED ON THE SOUTH SIDE OF THE TRENCH WITHIN THE LIMIT OF DISTURBANCE.
- CONTRACTOR TO PROVIDE ANY REQUIRED ACCESS FOR CONSTRUCTION OF THE SEWER THROUGH UPLAND AREAS AND NOT THROUGH WETLANDS.
- STAKEOUT OF THE SEWER AND LIMIT OF DISTURBANCE IS THE RESPONSIBILITY OF THE CONTRACTOR.
- PRIOR TO REMOVAL OF ANY TREES, THE CONTRACTOR SHALL FLAG THE TREES HE PROPOSES TO REMOVE AND OBTAIN THE APPROVAL OF THE S.H.A. AND/OR THE CORPS OF ENGINEERS.
- CONCRETE SEWER PIPE SHALL CONFORM TO HOWARD COUNTY DESIGN MANUAL VOL. IV, SECT. 908.03.04-05 AND AWWA C302 STEEL JOINT RINGS ONLY.
- MULTIPLATE PIPE TUNNEL SHALL BE CONSTRUCTED IN ACCORDANCE WITH S.H.A. STANDARD SPECIFICATION, SECTION 602.03

**NON-TIDAL WETLANDS NOTES:**

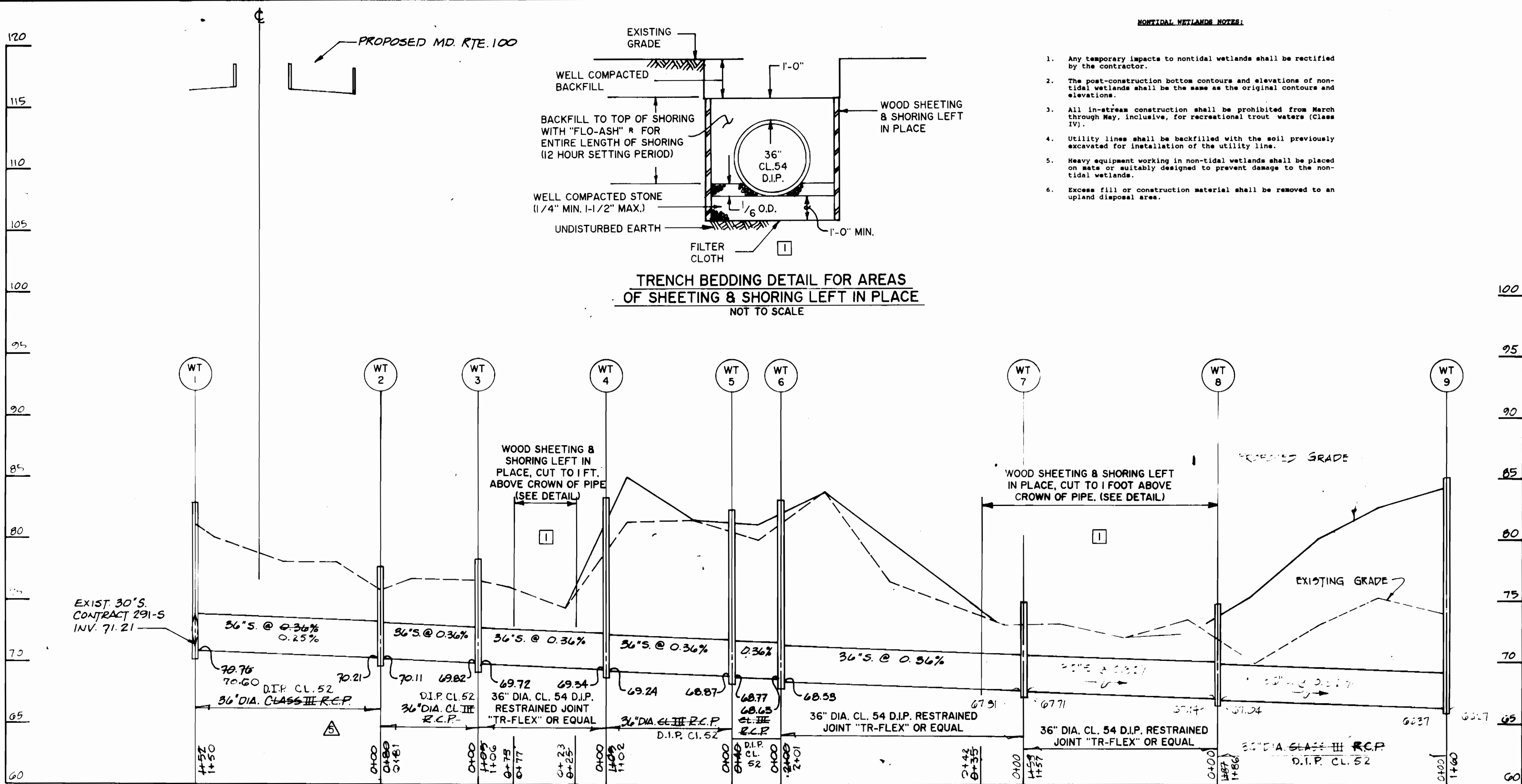
- Any temporary impacts to non-tidal wetlands shall be rectified by the contractor.
- The post-construction bottom contours and elevations of non-tidal wetlands shall be the same as the original contours and elevations.
- All in-stream construction shall be prohibited from March through May, inclusive, for recreational trout waters (Class IV).
- Utility lines shall be backfilled with the soil previously excavated for installation of the utility line.
- Heavy equipment working in non-tidal wetlands shall be placed on mats or suitably designed to prevent damage to the non-tidal wetlands.
- Excess fill or construction material shall be removed to an upland disposal area.



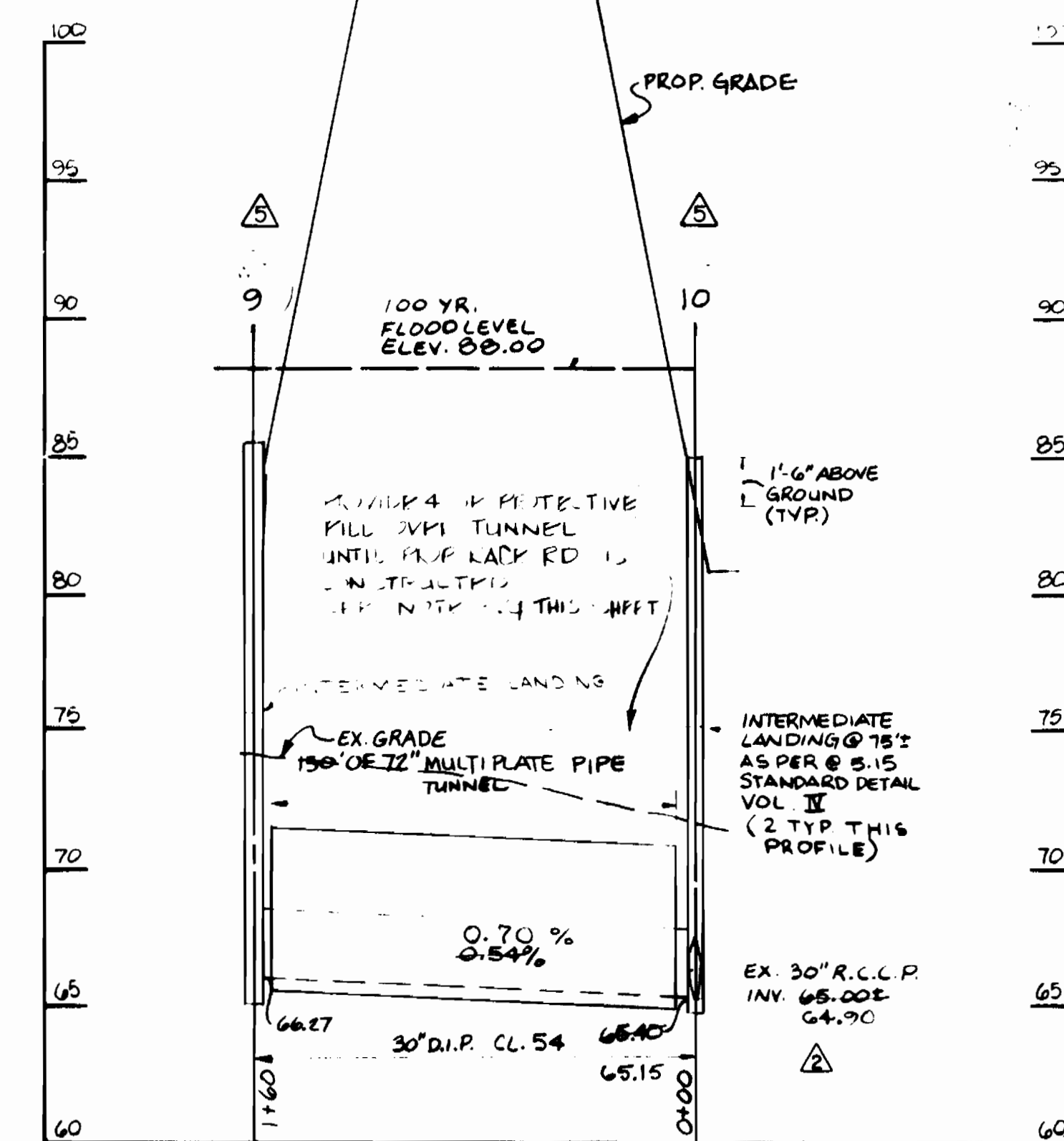
**TRENCH BEDDING DETAIL**  
NOT TO SCALE



**TRENCH BEDDING DETAIL FOR AREAS OF SHEETING & SHORING LEFT IN PLACE**  
NOT TO SCALE



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



THE MULTIPLATE PIPE SHALL BE 0.138" CIRCULAR MULTIPLATE PIPE AS MANUFACTURED BY CONTECH CONSTRUCTION PRODUCTS INC. OR APPROVED EQUIVALENT.

AFTER COMPLETING INSTALLATION OF CARRIER PIPE'S 30" D.I.P. IN MULTIPLATE PIPE TUNNEL THE VOID BETWEEN THE CARRIER PIPE AND MULTIPLATE PIPE SHALL BE FILLED FULL WITH SAND, FLO-ASH OR EQUIVALENT.

BACKFILL SHOULD BE FREE OF LARGE STONE, FROZEN LUMPS AND OTHER DEBRIS. BACKFILL MATERIALS SHOULD BE PLACED IN LAYERS ABOUT SIX INCHES DEEP, DEPOSITED ALTERNATELY ON OPPOSITE SIDES OF THE PIPE. EACH LAYER SHOULD BE COMPACTED CAREFULLY UNTIL REACHING A HEIGHT OF AT LEAST 3/4 OF THE STRUCTURE.

INSTALLATION PROCEDURE SHOULD BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND/OR RECOMMENDATIONS CONTAINED IN THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION INSTALLATION MANUAL.

CLASS C BEDDING REQUIRED FOR PIPELINE BETWEEN MANHOLE W.T. 1 & W.T. 9 TOP 6' OF BACKFILL IN WETLAND AREAS TO BE NATURALLY OCCURRING HYDRIC SOILS.

- SEQUENCE OF CONSTRUCTION FOR RELOCATED SEWER MAIN**
- At Ex. M.H. #6566, plug the 30" outlet. Install a submersible pump at ex. M.H. #6566 and discharge to ex. M.H. #6566 (8' x 178' L.F., not in plan) by temporary force main, steel pipe Schedule 40 with Victaulic piping system.
  - Install new M.H. #10 on the ex. 30" S and plug the prop. 30" inlet. Remove the pump and temporary force main and unplug the 30" outlet at ex. M.H. #6566.
  - Extend the prop. 30" S to new M.H. #9 and test.
  - Construct the remainder of the 36" S to the vicinity of proposed M.H. #1.
  - Plug the exist. outlet at exist. M.H. #6569. Install a submersible pump at exist. M.H. #6569 and discharge to exist. M.H. #6568 via temporary force main as above.
  - Construct remaining 36" S and new M.H. #1 on exist. 30" S. Remove plug at M.H. #10 then permanently seal outlet to 30" S and abandon 30" S. Remove pump, plug, and temporary force main from M.H. #6569.
  - Pump capacity shall be sufficient accommodate average daily flow of 1.0 MGD, peak flow of 1.5 MGD.
  - All costs associated with provision of continuous bypass sewer service shall be included in the price bid for construction of 36" sewer.

**SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT**

- Permanent Seeding**
  - Soedbed Preparation:** Loosen upper 3" of soil by raking, discing or other acceptable means prior to seeding.
  - Soil Amendments:** In lieu of soil test use one of the following:
    - Before seeding apply 92 lbs. of dolomitic limestone and 14 lbs. of 10-10-10 fertilizer per 1,000 square feet. Harrow or disc into upper 3" of soil. At time of seeding apply 5 lbs. of 10-0-0 ureaform fertilizer per 1,000 square feet.
    - Before seeding apply 92 lbs. of dolomitic limestone and 23 lbs. of 10-10-10 fertilizer per 1,000 square feet. Harrow or disc into upper 3" of soil.
  - Seeding:** Apply 1.4 lbs. per 1,000 square feet of Kentucky 31 Tall Fescue between March 1 and April 30 or between August 1 and October 15. Apply 1.4 lbs. of Kentucky 31 Tall Fescue and 0.05 lbs. of Weeping Lovegrass per 1,000 square feet between May 1 and July 31. Apply 1.4 lbs. of Kentucky 31 Tall Fescue per 1,000 square feet and mulch with 2 tons per acre of well anchored straw between October 16 and February 28 or apply sod.
  - Mulching:** Apply 70 to 90 lbs. per 1,000 square feet of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 5 gal. per 1,000 square feet of emulsified asphalt on flat areas. On slopes 8" or higher use 8 gal. per 1,000 square feet for anchor.
- Temporary Seeding**
  - Soedbed Preparation:** Loosen upper 3" of soil by raking, discing or other acceptable means prior to seeding.
  - Soil Amendments:** Apply 14 lbs. per 1,000 square feet of 10-10-10 fertilizer.
  - Seeding:** Apply 2.2 lbs. per 1,000 square feet of Annual Ryegrass between March 1 and April 30 or between August 15 and November 15. Apply 0.07 lbs. per 1,000 square feet of Weeping Lovegrass between May 1 and August 14. Apply 2 tons of well anchored straw mulch and seed as soon as possible in the spring between November 16 and February 28, or use sod.

- Permanent Sod**

Permanent sod is to be Kentucky 31 Tall Fescue state approved sod; lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior to laying sod. Sod is to be laid on the contour with all ends tightly shutting. Water and roll or tamp sod to insure positive root contact with the soil. All slopes greater than 2 to 1, as shown, are to be permanently sodded. Additional watering for establishment may be required. Sod is not to be applied on frozen ground.

**SEQUENCE OF CONSTRUCTION**

- Obtain grading permit for overall project. Construct pipelines.
- Gravity sewer construction shall proceed in an uphill fashion.
- Install sediment control measures down grade of construction. Excavate trench and place material on upstream side of trench.
- Immediately following pipe installation the trench shall be backfilled and compacted. All disturbed areas shall be stabilized in accordance with requirements set forth on this sheet.
- Temporary straw bale dikes shall be placed immediately down hill of any disturbed area intended to remain disturbed longer than one working day.
- The contractor shall disturb no more than the maximum area that can be worked, backfilled, compacted, and stabilized at the end of each work day.

SHA SHEET NO. AW 890-501-070  
SHA CONTRACT NO. AW 890-501-070

UH-6 OF UH-7

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

JOHN E. HARMS JR. & ASSOCIATES INC.  
CONSULTING ENGINEERS-PLANNERS  
-SURVEYORS-  
90 GOVERNOR RITCHIE HWY. PO BOX 5  
FASADENA, MARYLAND 21122 (TEL) 410.647.6000

DES: A.R.	ADDENDUM NO. 2	2/19/91
DRN: E.C.H.	ADDENDUM NO. 4	2/11/92
CHK: W.R.G.	REVISION #1	5/28/92
		8/31/92
DATE: 5/20/92	BY: NO.	REVISION
		DATE

PROFILE  
DEEP RUN INTERCEPTOR SEWER

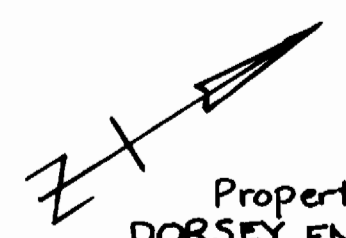
600' SCALE MAP NO. 44 BLOCK NO. 142

U.S. ROUTE 1 / MD. ROUTE 100  
WATER AND SEWER RELOCATION  
CAPITAL PROJECT W-856  
CONTRACT NO. 24-1969  
ELECTION DISTRICT I  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 296 OF 475

DIRECTOR OF PUBLIC WORKS DATE 8/10/90  
CHIEF, BUREAU OF ENGINEERING DATE  
CHIEF, BUREAU OF UTILITIES DATE 8-12-90  
CHIEF, UTILITY DIVISION DATE





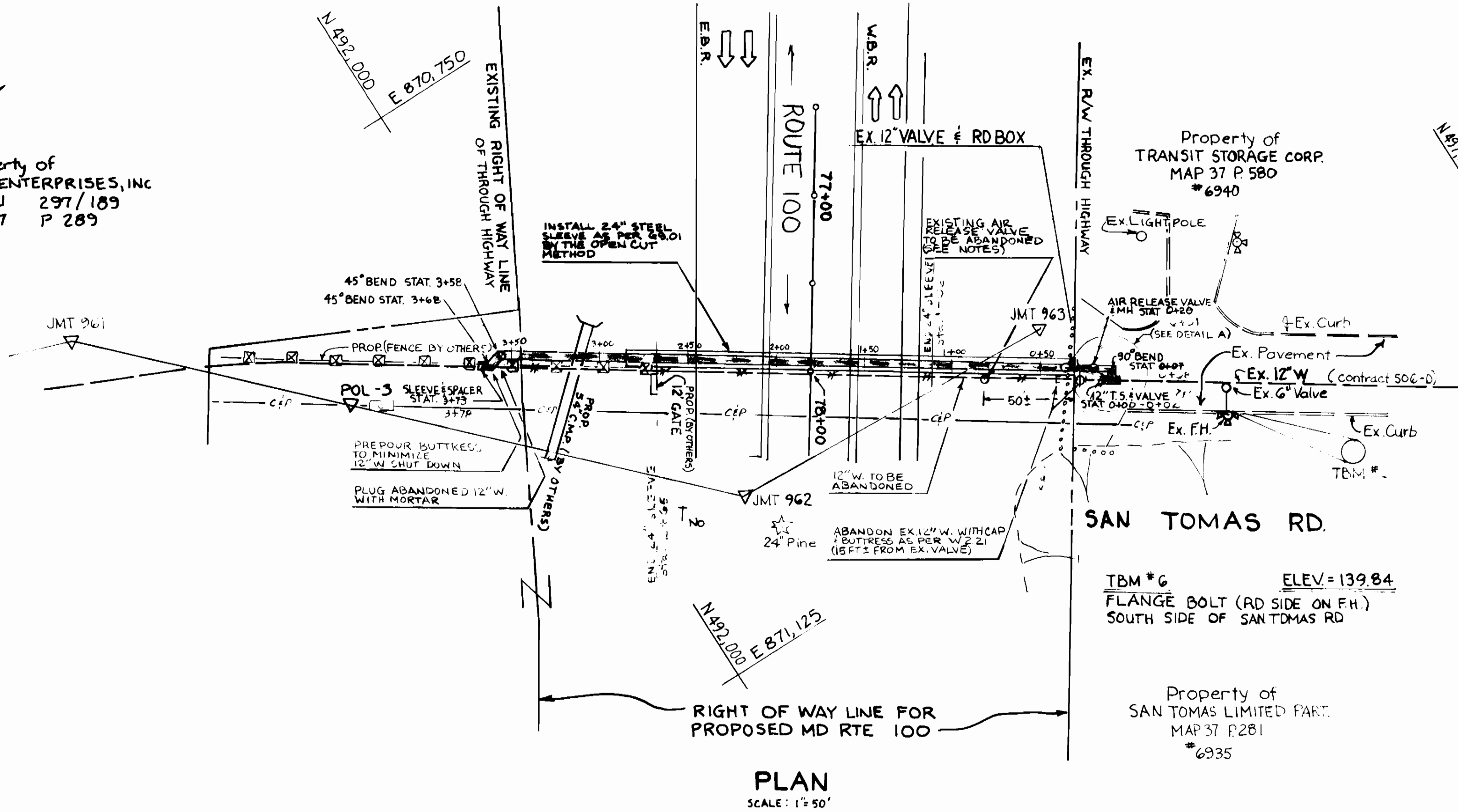
Property of  
DORSEY ENTERPRISES, INC  
607/421 297/189  
M 31 P 289

**NOTES**

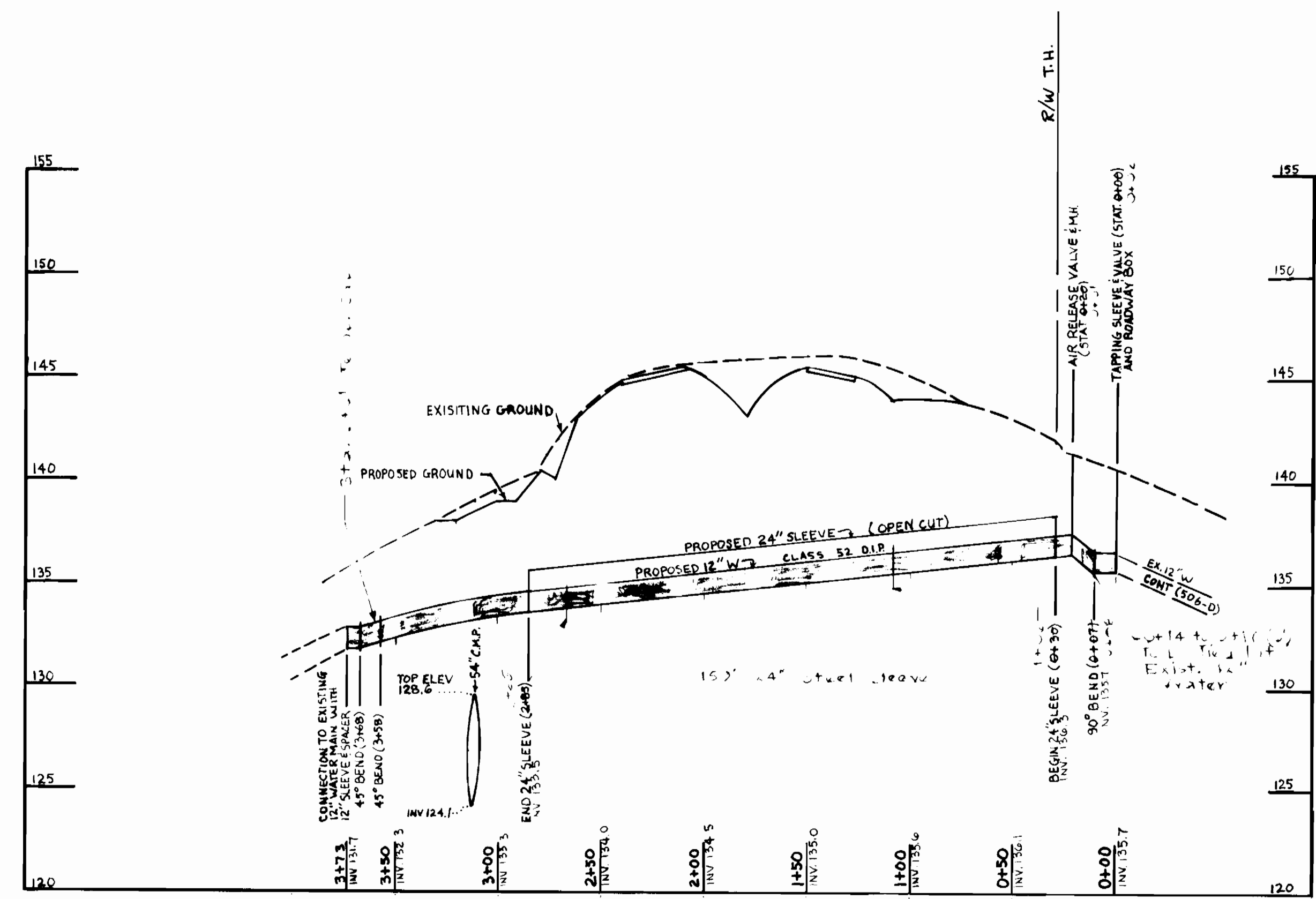
1. THE CONTRACTOR SHALL ABANDON THE EXISTING AIR RELEASE VALVE & MANHOLE. THE VALVE, FRAME AND COVER SHALL BE DELIVERED TO THE BUREAU OF UTILITIES STOCK YARD. THE TOP SECTION OF THE MANHOLE SHALL BE REMOVED AND REMAINS SHALL BE BACKFILLED WITH EXISTING MATERIAL TO FINAL GRADE. COST SHALL BE INCLUDED IN THE COST PER LF OF 12" D.I.P.

STAKEOUT TABLE 12" W.		
POINT ON 12" W.	TRAVERSE ANGLE OFFSET	RIGHT ANGLE OFFSET
STA. 0+00 CONN TO 12" W.	JMT 962 TOWARD JMT 963 EXTENDED 215'	45' RT
STA. 0+07 90° BEND	JMT 962 TOWARD JMT 963 EXTENDED 218'	40' RT
STA. 0+20 AIR RELEASE VALVE	JMT 962 TOWARD JMT 963 EXTENDED 208'	34' RT
STA. 3+58 45° BEND	JMT 961 TOWARD JMT 962 EXTENDED 240'	46' LT
STA. 3+68 45° BEND	JMT 961 TOWARD JMT 962 EXTENDED 230'	40' LT
STA. 3+73 12" W CONN.	JMT 961 TOWARD JMT 962 EXTENDED 230'	37' LT

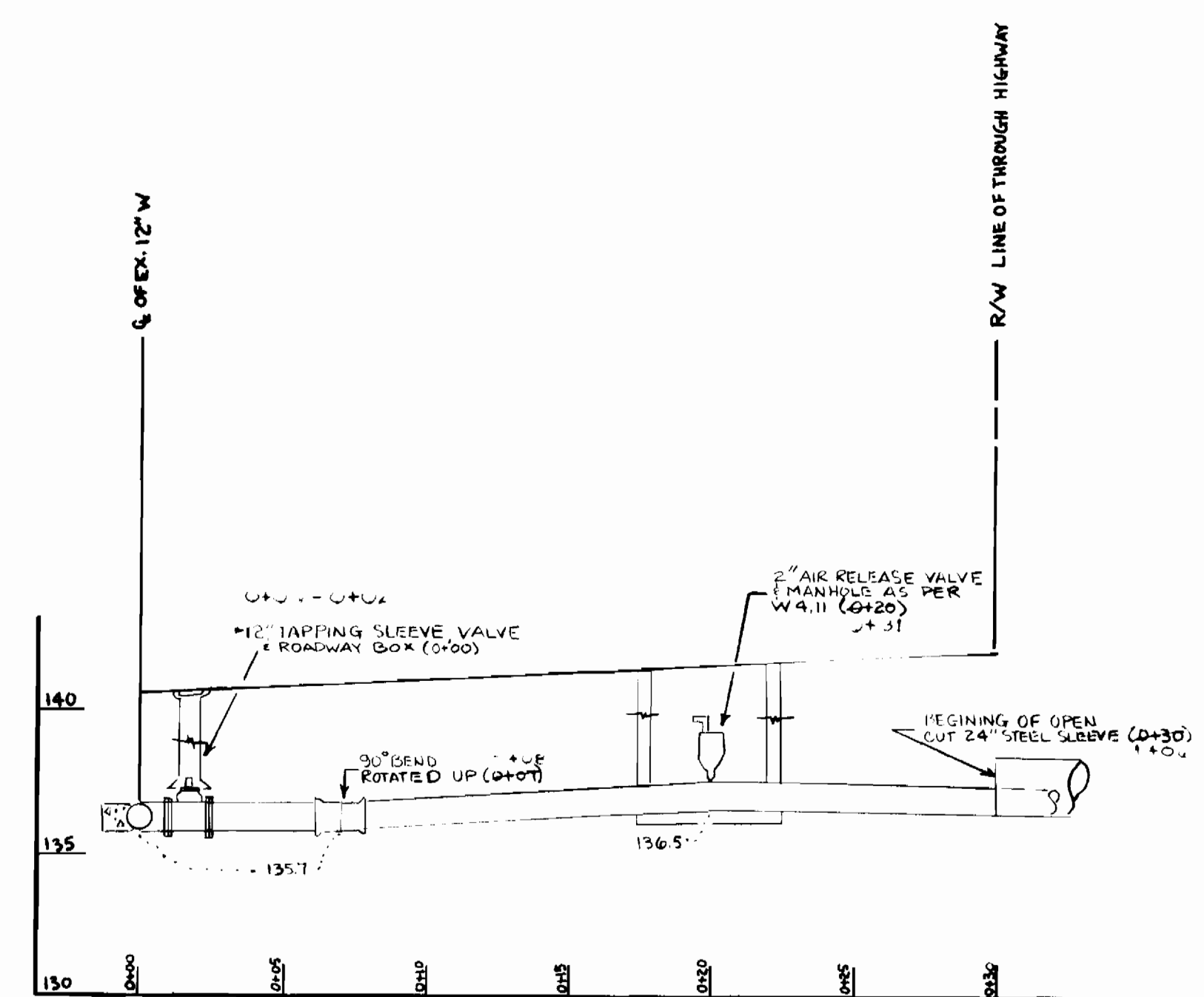
RESTORATION SCHEDULE			
	STATION TO	STATION	TYPE
CONN TO EDGE OF RD.	0+00	0+30	BIT PAVING AS PER G 4.01
EDGE OF RD TO WOODEN PILES	0+30	0+35	SEED & MULCH & RESET WOOD PILE BARKER
EDGE OF PILES TO 12" W. CONN.	0+35	3+73	SEED & MULCH



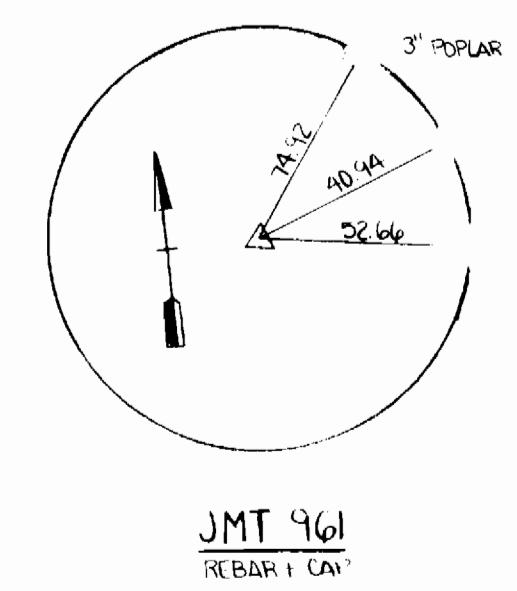
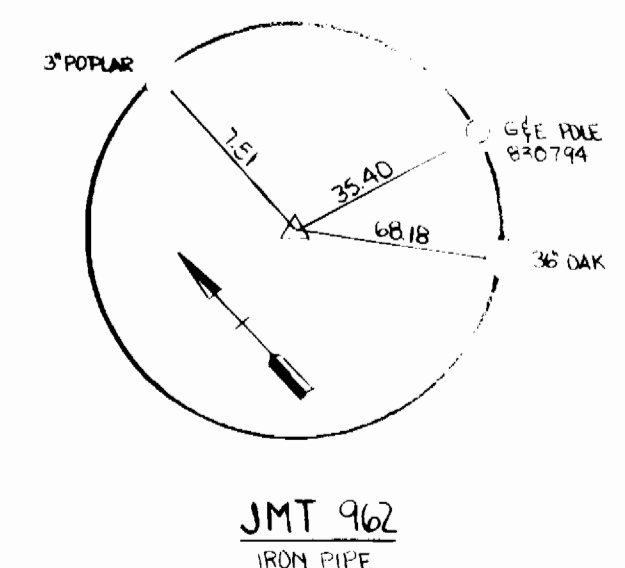
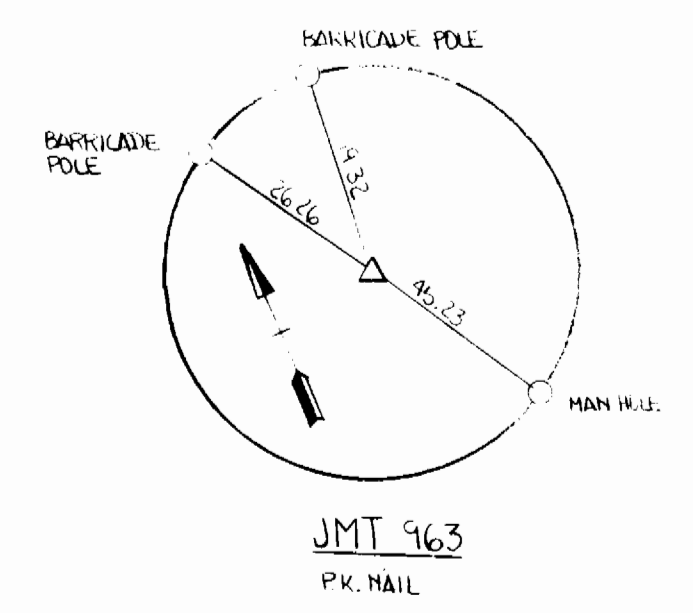
**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: VER = 1/2" = 5'  
HOR = 1" = 50'



**DETAIL A**  
SCALE: VER = 1/2" = 5'  
HOR = 1" = 5'

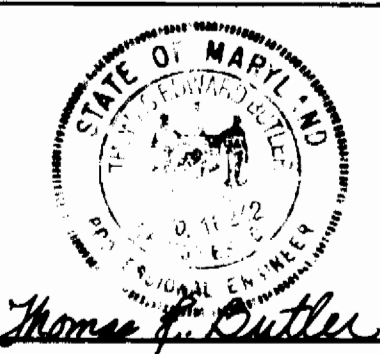


SHA SHEET NO. UH-7 OF UH-7  
SHA CONTRACT NO. AW890-501-070

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 2-14-90  
Chief, Bureau of Engineering: *[Signature]* 2-19-90  
Chief, Bureau of Utilities: *[Signature]* 2-13-90  
Chief, Utility Division: *[Signature]* 2-12-90

PREPARED BY  
HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
UTILITY DESIGN DIVISION



DES: T.E.B.				
DRN: T.E.B.				
CHK: T.E.B.				
DATE: 2-12-90	BY: NO.	REVISION	DATE	600' SCALE MAP NO. 37 BLOCK NO. 23

PLAN AND PROFILE  
OF  
12" WATERMAIN  
SAN TOMAS ROAD

U.S. ROUTE 1 / MD ROUTE 100  
WATER & SEWER RELOCATION  
CAPITAL PROJECT W-8156  
CONTRACT 24-1969  
ELECTION DISTRICT 1  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 297 OF 475



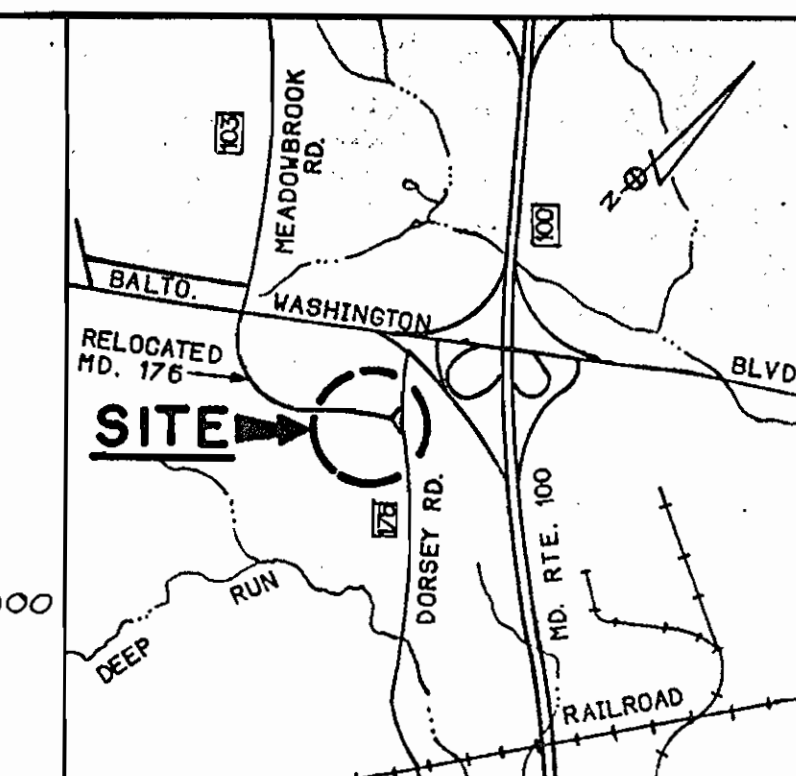
**GENERAL NOTES**

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES. (SEE NOTE 1B)
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA. (SEE NOTE 1B)
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 1'-0". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED 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. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE 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.  
STATE HIGHWAY ADMINISTRATION - 531-5533  
BALTIMORE GAS & ELECTRIC CO. SERVICES 850-4620  
BALTIMORE GAS & ELECTRIC CO. UNDER GROUND DAMAGE CONTROL 859-9004  
BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING 298-9001  
MISS UTILITY 1-800-257-7777  
COLONIAL PIPELINE, 795-1390  
BUREAU OF UTILITIES, HOWARD COUNTY DEPT. OF PUBLIC WORKS 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE MINIMUM OF 3-1/2" 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 STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1003 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER VALVES ON THE EXISTING WATER SYSTEM. CONTRACT BUREAU OF UTILITIES 72 HOURS IN ADVANCE FOR OPERATING VALVES AND FOR WATER MAIN TIE-IN
- ALL WORK SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL SECTION 219.
- BASED ON TOPOGRAPHY OBTAINED FROM MD S.H.A. CONTRACT NO. AW-890-501-070, SHEETS 49 & 50 OF 475, DATED 5/13/92 (ADDENDUM NO. 8) AND ASSOCIATED S.H.A. CROSS-SECTIONS AND FROM HOWARD COUNTY "AS-BUILT" WATER AND SEWER MAIN DRAWINGS CONTRACT NO. 14-1521-D AS SUPPLIED BY HOWARD COUNTY DPW.
- CONTRACTOR IS TO NOTIFY SAVAL FOOD, 48 HOURS IN ADVANCE TIE-IN. SAVAL FOODS IS NOT IN OPERATION ON WEEK WEEKENDS. CONNECTION SHALL BE ON ONE SATURDAY OR SUNDAY SO THAT SERVICE IS RESTORED BY MONDAY.
- ALL FITTINGS SHALL HAVE STANDARD BUTTRESSES PER HOWARD COUNTY DETAILS VOL. II
- SALVAGE EX. F.H. AND VALVE. TRANSPORT TO BUREAU OF UTILITIES, HO. CO. MORTAR PLUG END FOR ABANDONMENT.
- MORTAR PLUG ALL ENDS FOR ABANDONMENT.

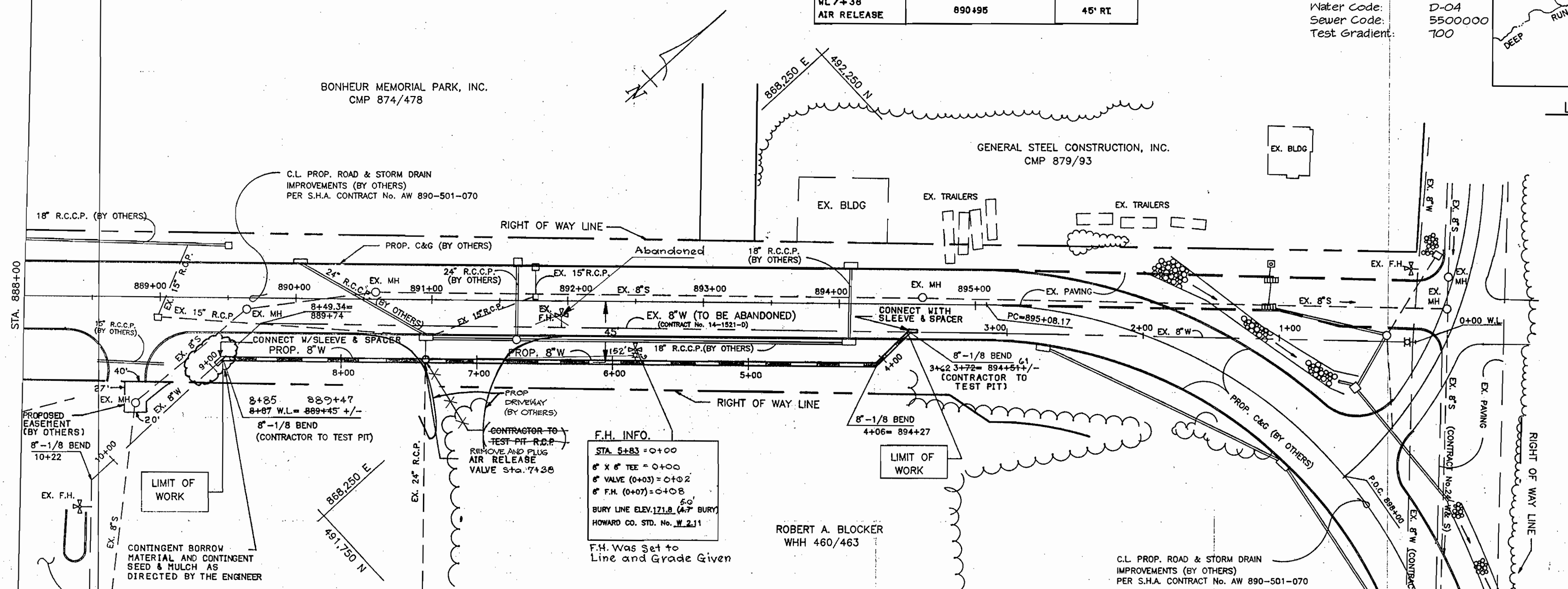
**WATER AS-BUILT**

QUANTITIES			
ITEM	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
8" WATER	LF. 515	523	GRIFFIN PIPE
F.H. 8" VALVE, PIPE & FTG.	EA. 1	1	F.H. (1Ea.) U.S. PIPE & VALVE
3/4" AIR RELEASE	EA. 1	1	Air Release - GA INDUSTRIES
1"			Sandwich - FORD

STAKEOUT TABLE 8" W		
POINT ON 8" W	C.L. PROPOSED ROAD IMPROVEMENTS (BY S.H.A.)	RIGHT ANGLE OFFSET
WL 3+72 8"-1/8 BEND	895+51	20' RT.
WL 4+06 8"-1/8 BEND	894+27	45' RT.
WL 5+83 8"x6" TEE	892+50	45' RT.
WL 8+87 8"-1/8 BEND	889+45	45' RT.
WL 7+36 AIR RELEASE	890+95	45' RT.

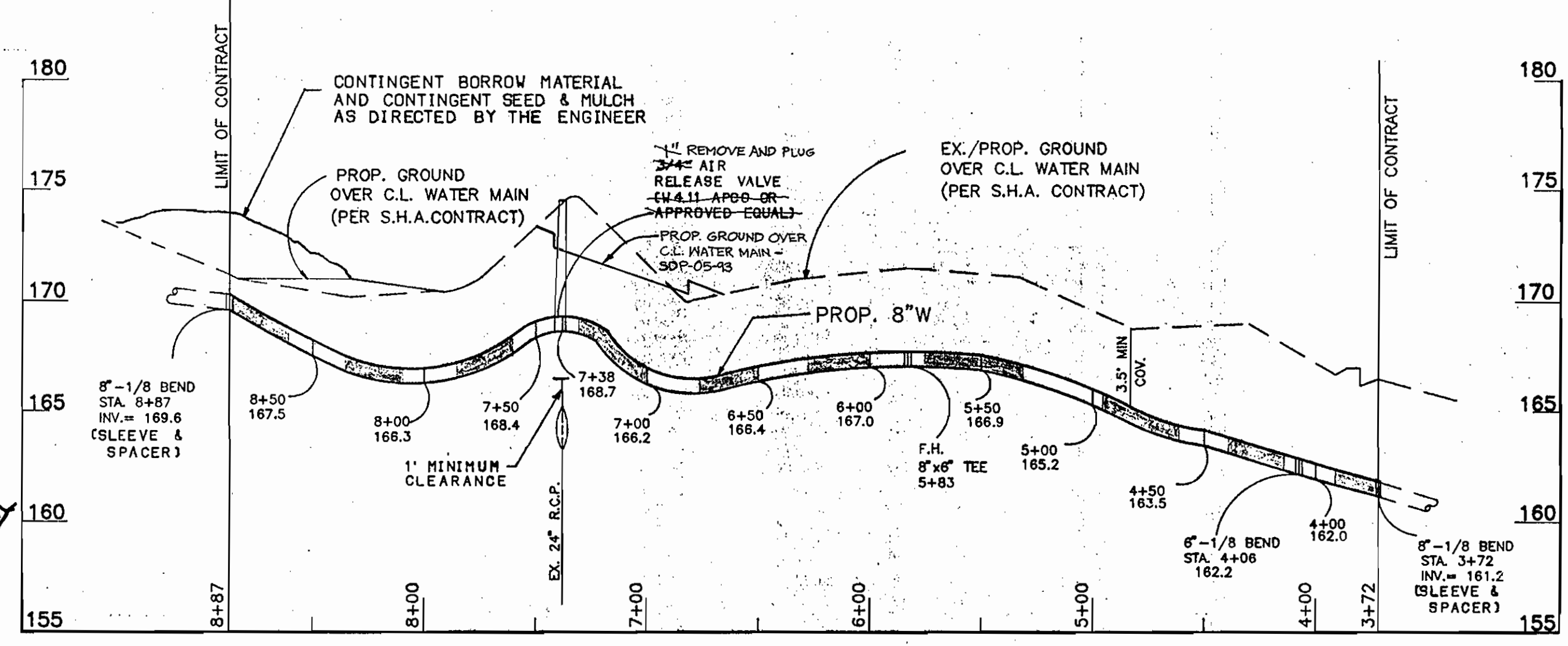


LOCATION MAP  
SCALE: 1" = 2000'

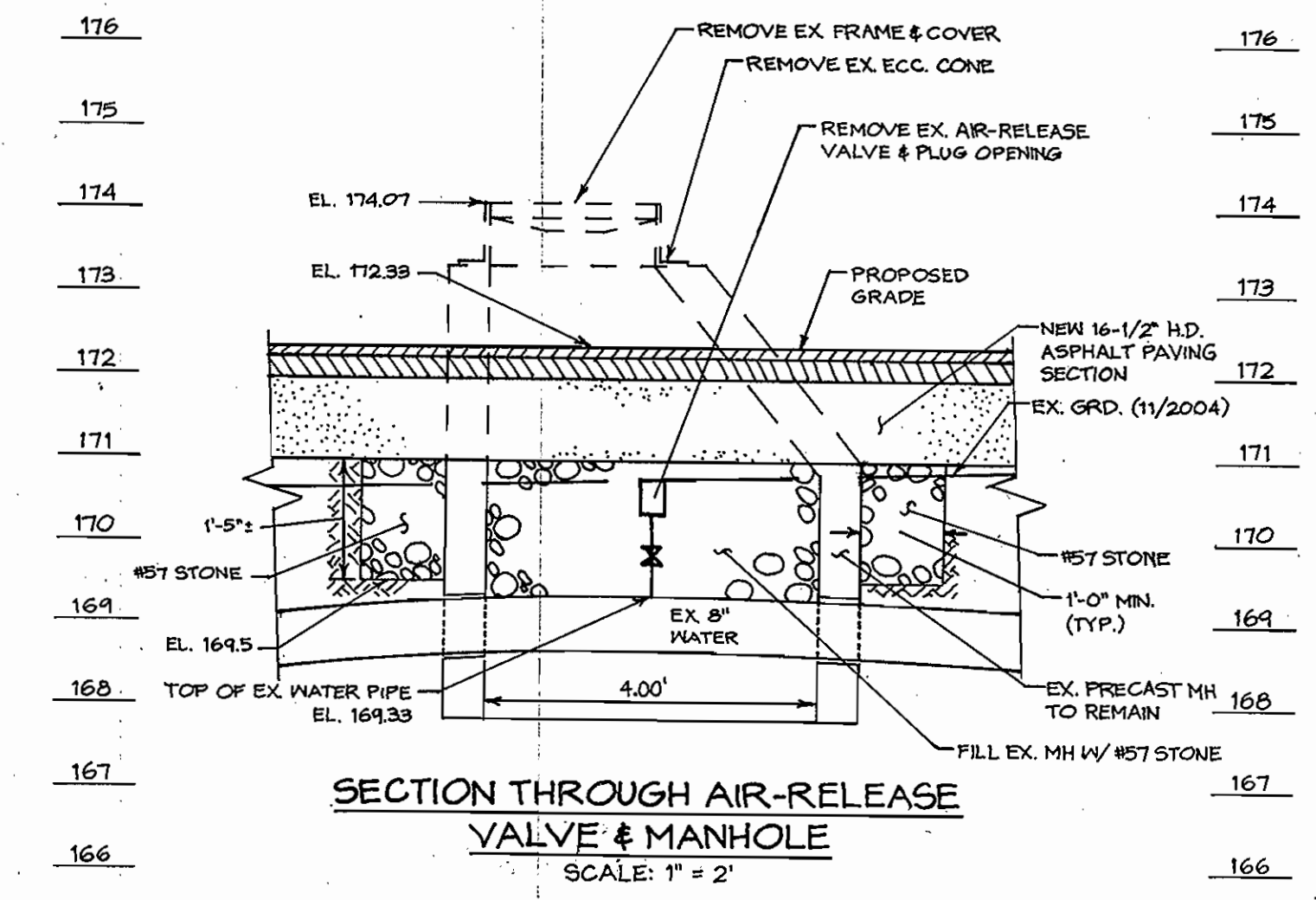


**RELOCATED MD 176 (DORSEY ROAD)**

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



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



**SECTION THROUGH AIR-RELEASE VALVE & MANHOLE**  
SCALE: 1" = 2'

SEAL FOR REV. 1 ONLY

S.H.A. AW-890-501-070

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

2/4/93  
DIRECTOR OF PUBLIC WORKS  
 2-5-93  
CHIEF, BUREAU OF UTILITIES

**SSM**  
SPOTTIS, STEVENS and MCCOY, INC.  
ENGINEERS & PLANNERS & SCIENTISTS  
555 FAIRMOUNT AVE., SUITE 230  
TOWSON, MD 21284  
(410) 494-0000

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
 2/10/93

DES: G.S.			
DRN: G.S.			
CHK: T.W.W.			
DATE: JAN. '93	CHG: 1	REVISION: REMOVE AIR RELEASE VALVE AT STA. 7+36	DATE: 9/18/06
	BY: NO.		

**8-INCH WATER MAIN  
PLAN & PROFILE**

600' SCALE MAP NO. W-37 BLOCK NO. 23

MARYLAND ROUTE 100 PROJECT  
DORSEY ROAD WATER MAIN RELOCATION  
CAPITAL PROJECT: W-8156  
ELECTION DISTRICT: 1  
CONTRACT NO.: 24-1969

SCALE AS SHOWN  
SHEET 4c OF 1