

MD ROUTE 175 AT SNOWDEN RIVER PARKWAY

30-INCH WATER MAIN RELOCATION

CAPITAL PROJECT W-8212

CONTRACT NO. 24-3725

ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATED	AS BUILT		
30" WATER	760 L.F.	752 L.F.	18 FLEX CLASS 350 D.I.P.	U.S. PIPE
BLOW OFF VALVE	1 EACH	1 EACH	4" FCC-RESILANT C.V.	MUNICIPAL- CONTR SALES

CONTRACTOR: T.C. SIMONS

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.

Scott L. Smith DATE 10-20-98
WALLACE, MONTGOMERY & ASSOCIATES
110 WEST ROAD - SUITE 345
TOWSON, MARYLAND 21204
(410) 494-9093

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

Charles S. ... 10/19/98
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

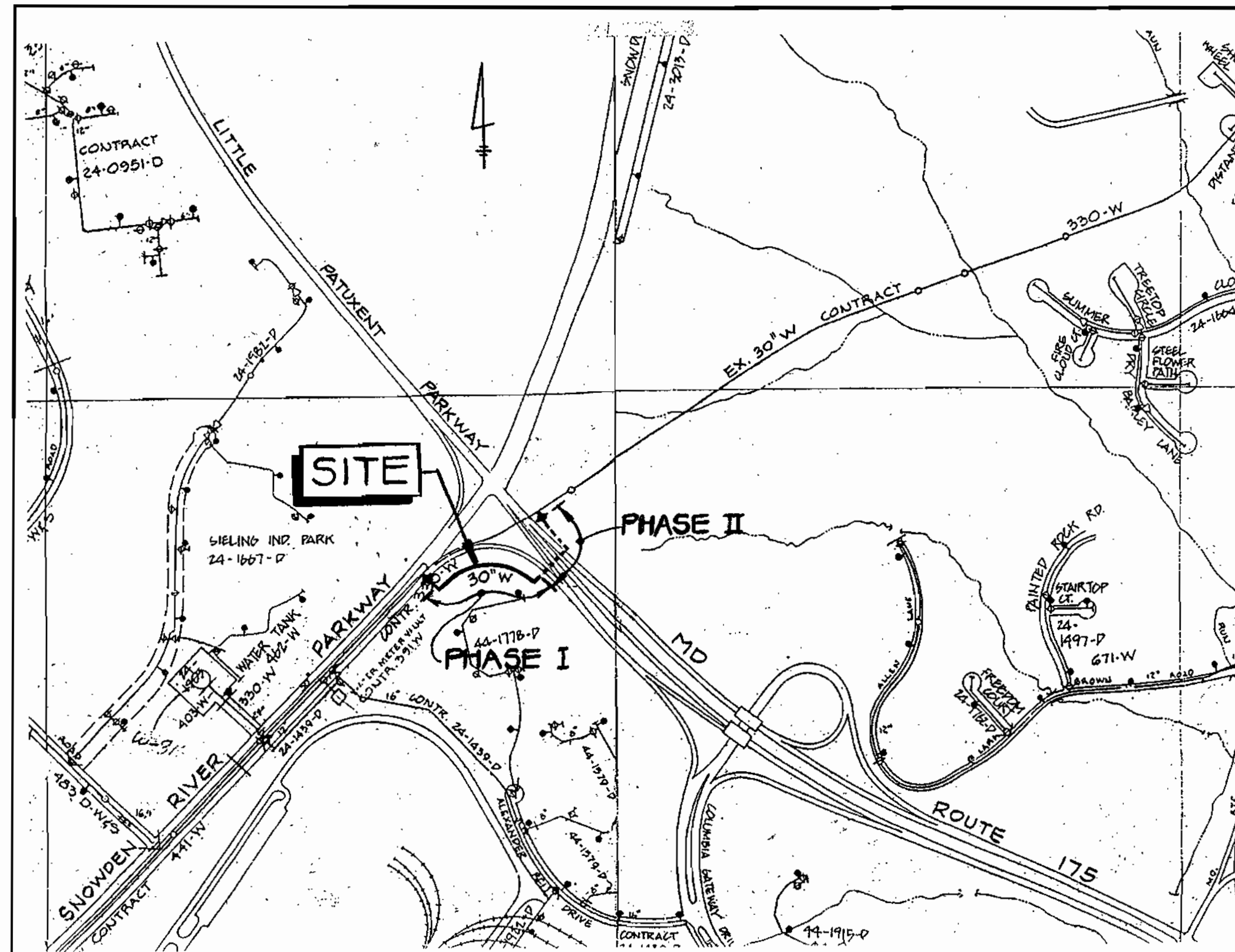
THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John P. ... 10/19/98
APPROVED DATE
HOWARD SOIL CONSERVATION DISTRICT

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."

Robert ... 10/21/98
SIGNATURE OF DEVELOPER DATE
PRINT NAME BELOW SIGNATURE



TYPE OF BUILDING: —
NUMBER OF PARCELS: —
WATER HOUSE CONNECTIONS: N/A
DRAINAGE AREA: —

VICINITY MAP
SCALE: 1" = 600'

WATER CODE FOR COUNTY USE ONLY:
WATER NO. E06 & E08

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN
3	PROFILE
4	SEDIMENT CONTROL NOTES & DETAILS
5	CATHODIC PROTECTION 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 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 4'-0" 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.

AS-BUILT

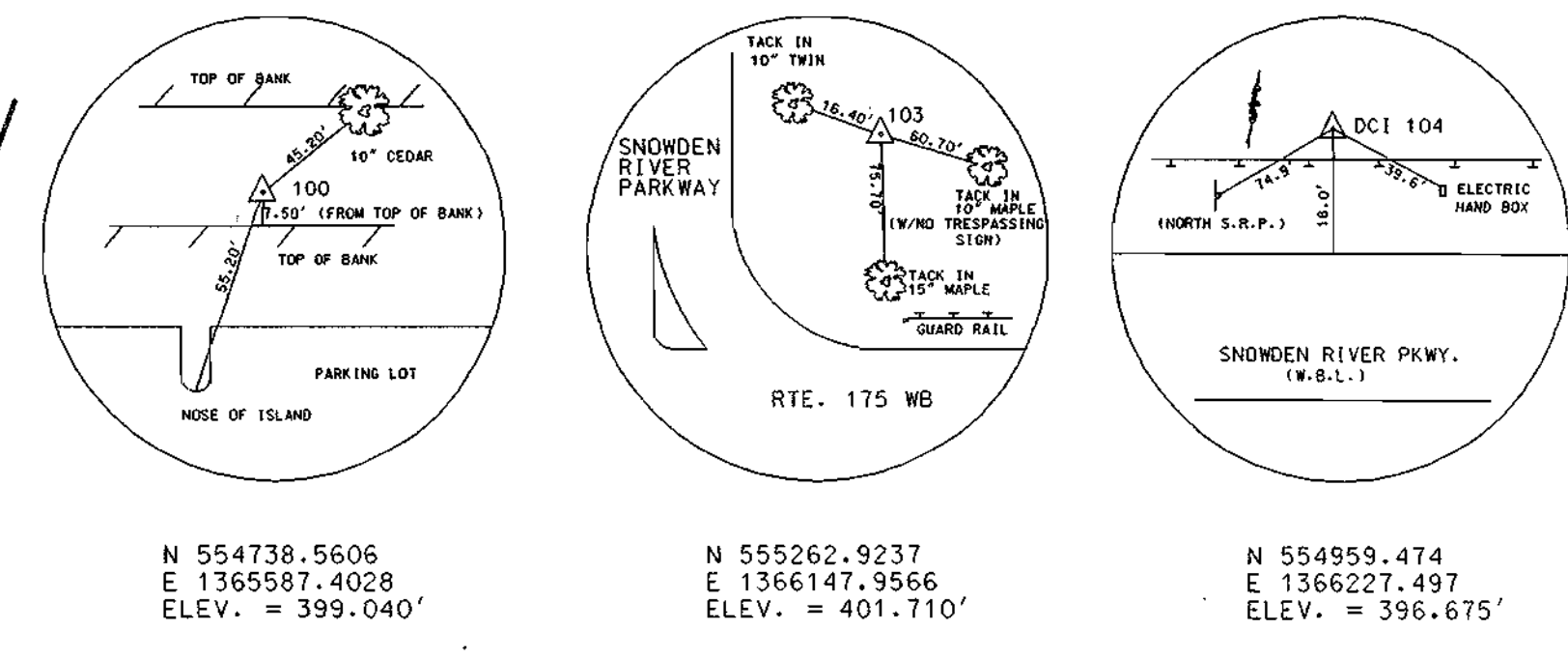
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Robert ...</i> 10-21-98 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Scott L. Smith</i> 10-20-98 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>WALLACE, MONTGOMERY & ASSOCIATES CIVIL AND STRUCTURAL ENGINEERS 110 WEST ROAD TOWSON, MARYLAND 21204</p> <p><i>Scott L. Smith</i> 10/20/98 CHIEF, UTILITY DESIGN DIVISION DATE</p>	<p>DES: DED DRN: DED CHK: JJS DATE: 10/20/98</p>	<p>BY NO. REVISION DATE</p>	<p>TITLE SHEET</p>	<p>MD ROUTE 175 AT SNOWDEN RIVER PARKWAY CAPITAL PROJECT W-8212 CONTRACT NO. 24-3725 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 1 OF 5</p>
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RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
STA. 1+00 TO STA. 1+69	69 FT.	SEEDING
STA. 1+69 TO STA. 2+85	116 FT.	BIT. PAVING
STA. 2+85 TO STA. 2+95	10 FT.	SEEDING
STA. 2+95 TO STA. 4+30	135 FT.	BIT. PAVING
STA. 4+30 TO STA. 4+42	12 FT.	SEEDING
STA. 4+42 TO STA. 5+84	142 FT.	BIT. PAVING
STA. 5+84 TO STA. 5+94	10 FT.	SEEDING
STA. 5+94 TO STA. 6+89	95 FT.	BIT. PAVING
STA. 6+89 TO STA. 7+00	11 FT.	SEEDING
STA. 7+00 TO STA. 8+27	127 FT.	BIT. PAVING
STA. 8+27 TO STA. 8+60	33 FT.	SEEDING

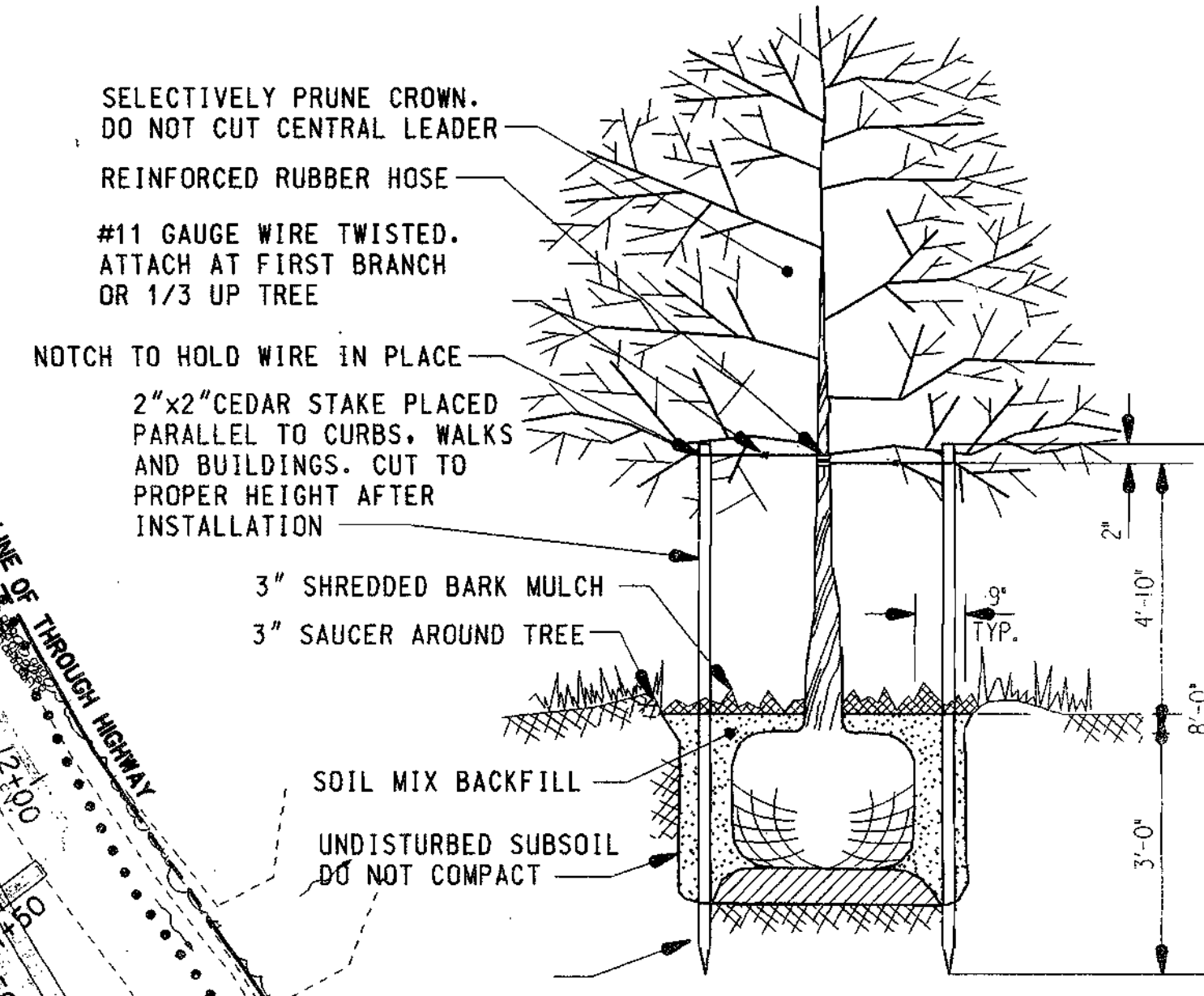
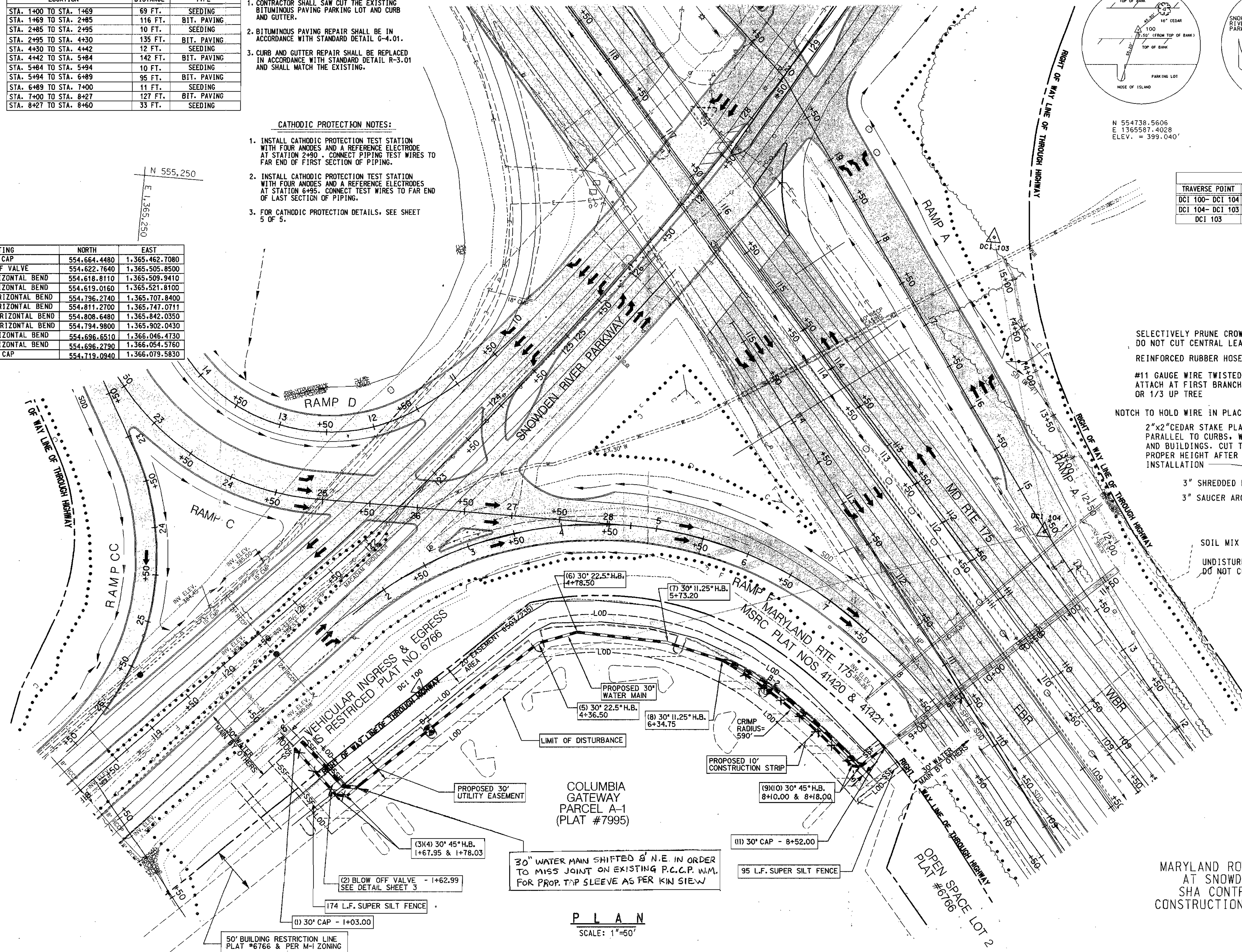
- NOTES:**
- CONTRACTOR SHALL SAW CUT THE EXISTING BITUMINOUS PAVING PARKING LOT AND CURB AND GUTTER.
 - BITUMINOUS PAVING REPAIR SHALL BE IN ACCORDANCE WITH STANDARD DETAIL G-4.01.
 - CURB AND GUTTER REPAIR SHALL BE REPLACED IN ACCORDANCE WITH STANDARD DETAIL R-3.01 AND SHALL MATCH THE EXISTING.

- CATHODIC PROTECTION NOTES:**
- INSTALL CATHODIC PROTECTION TEST STATION WITH FOUR ANODES AND A REFERENCE ELECTRODE AT STATION 2+90. CONNECT PIPING TEST WIRES TO FAR END OF FIRST SECTION OF PIPING.
 - INSTALL CATHODIC PROTECTION TEST STATION WITH FOUR ANODES AND A REFERENCE ELECTRODE AT STATION 6+95. CONNECT TEST WIRES TO FAR END OF LAST SECTION OF PIPING.
 - FOR CATHODIC PROTECTION DETAILS, SEE SHEET 5 OF 5.

NO.	STATION	FITTING	NORTH	EAST
1	1+03.00	30" CAP	554,664.4480	1,365,462.7080
2	1+62.99	BLOW OFF VALVE	554,622.7640	1,365,505.8500
3	1+67.95	30" 45° HORIZONTAL BEND	554,618.8110	1,365,509.9410
4	1+78.03	30" 45° HORIZONTAL BEND	554,619.0160	1,365,521.8100
5	4+36.50	30" 22.5° HORIZONTAL BEND	554,796.2740	1,365,707.8400
6	4+78.50	30" 22.5° HORIZONTAL BEND	554,811.2700	1,365,747.0711
7	5+73.20	30" 11.25° HORIZONTAL BEND	554,808.6480	1,365,842.0350
8	6+34.75	30" 11.25° HORIZONTAL BEND	554,794.9800	1,365,902.0430
9	8+10.00	30" 45° HORIZONTAL BEND	554,696.6510	1,366,046.4730
10	8+18.00	30" 45° HORIZONTAL BEND	554,696.2790	1,366,054.5760
11	8+52.00	30" CAP	554,719.0940	1,366,079.5830



TRAVERSE COORDINATES				
TRAVERSE POINT	NORTH COORDINATE	EAST COORDINATE	BEARING	DISTANCE
DCI 100- DCI 104	554,738.5323	1,365,587.3837	N70°57'37.08"E	677.1441
DCI 104- DCI 103	554,959.4739	1,366,221.4971	N54°18'47.16"W	313.7016
DCI 103	555,262.9237	1,366,147.9567	--	--



- NOTES:**
- PROTECT ALL EXISTING TREES FROM DAMAGE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES THAT ARE TO REMAIN.
 - RELOCATE EXISTING TREES WITHIN THE LIMIT OF DISTURBANCE AS DIRECTED BY THE ENGINEER. REMOVE, STORE, PROTECT AND REPLANT ON SITE AT A LOCATION ON SITE AS DIRECTED BY THE ENGINEER.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS _____ DATE _____
CHIEF, BUREAU OF ENGINEERING _____ DATE _____
CHIEF, BUREAU OF UTILITIES _____ DATE _____
CHIEF, UTILITY DESIGN DIVISION _____ DATE _____

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21284

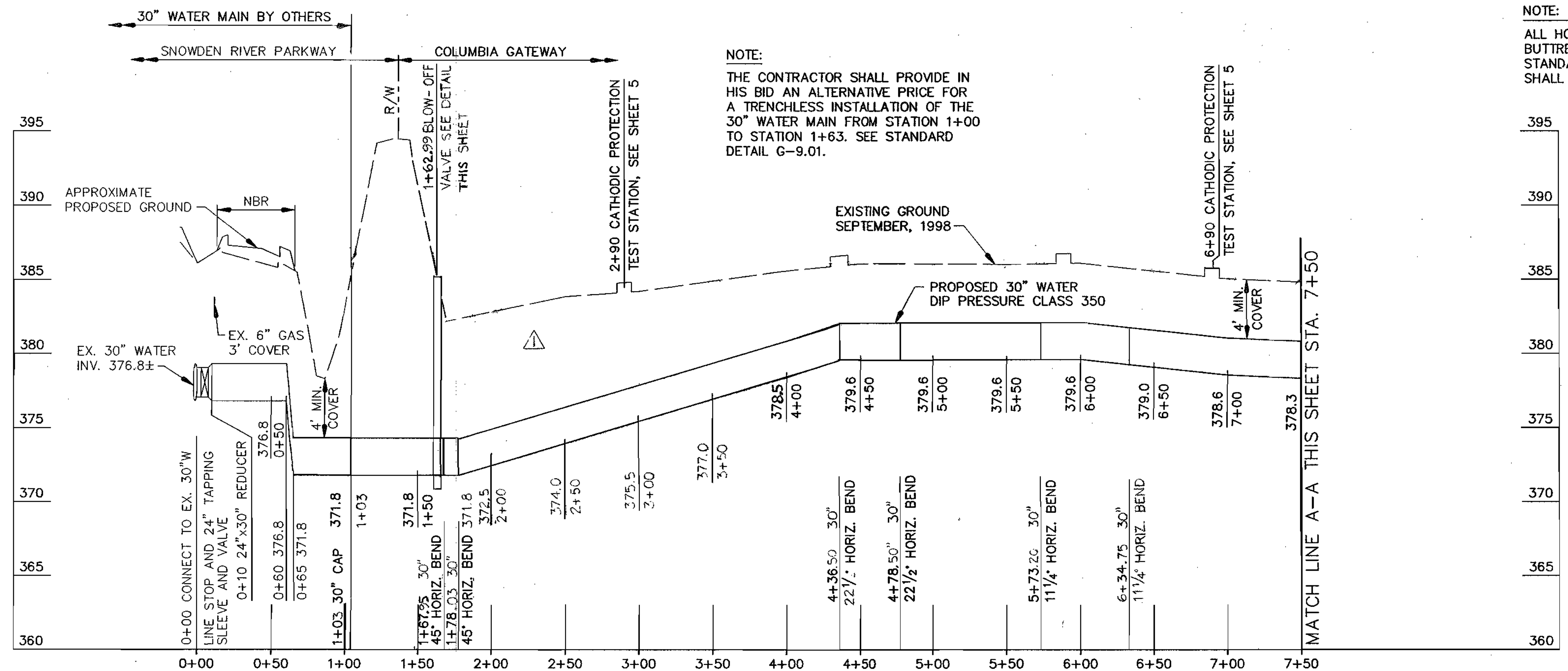
DES: D.E.D.	REVISED LAYOUT	3/15/99
DRN: R.T.		
CHK: J.J.S.		
DATE: 03/15/99	BY: _____	NO. _____
	REVISION	DATE

PLAN

600' SCALE MAP NO. _____ W36 _____ BLOCK NO. _____

MD ROUTE 175 AND SNOWDEN RIVER PARKWAY
CAPITAL PROJECT NO. W-8212
CONTRACT NO. 24-3725
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

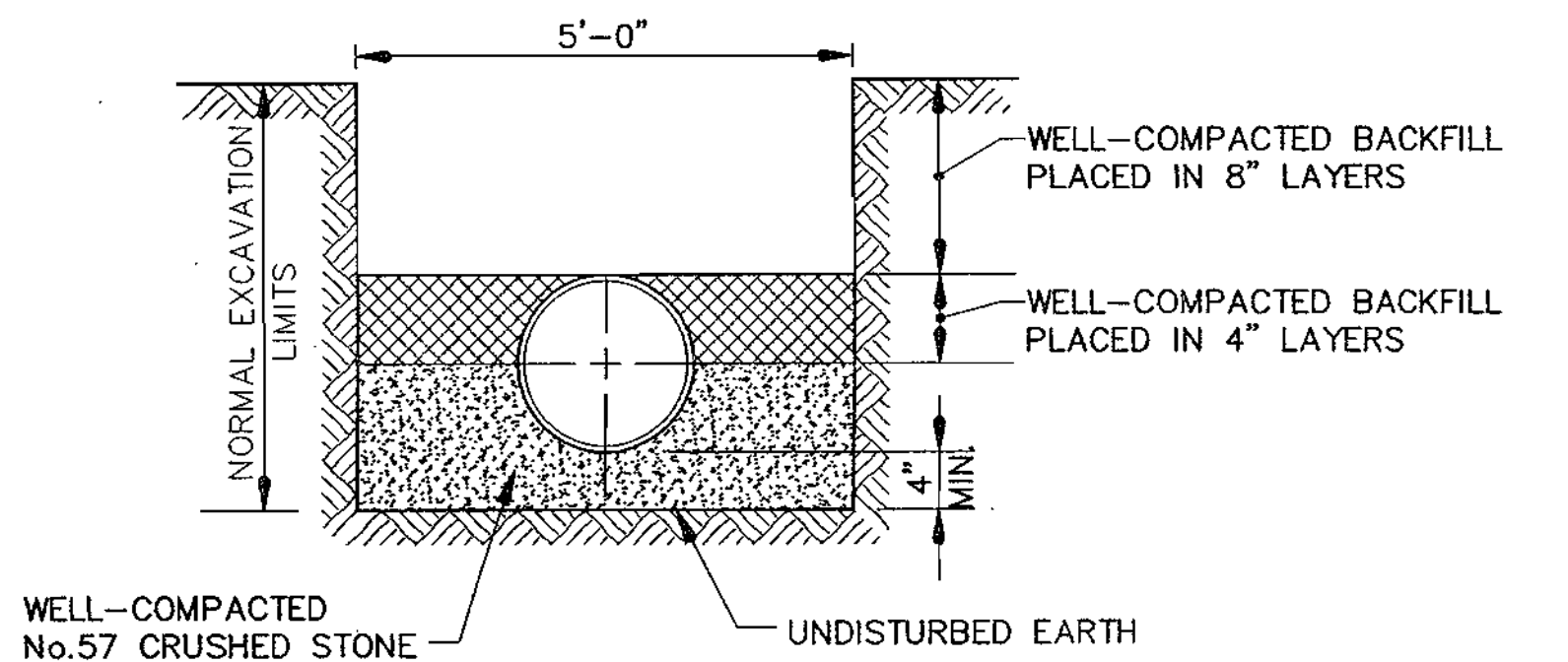
SCALE AS SHOWN
SHEET 2 OF 5
11



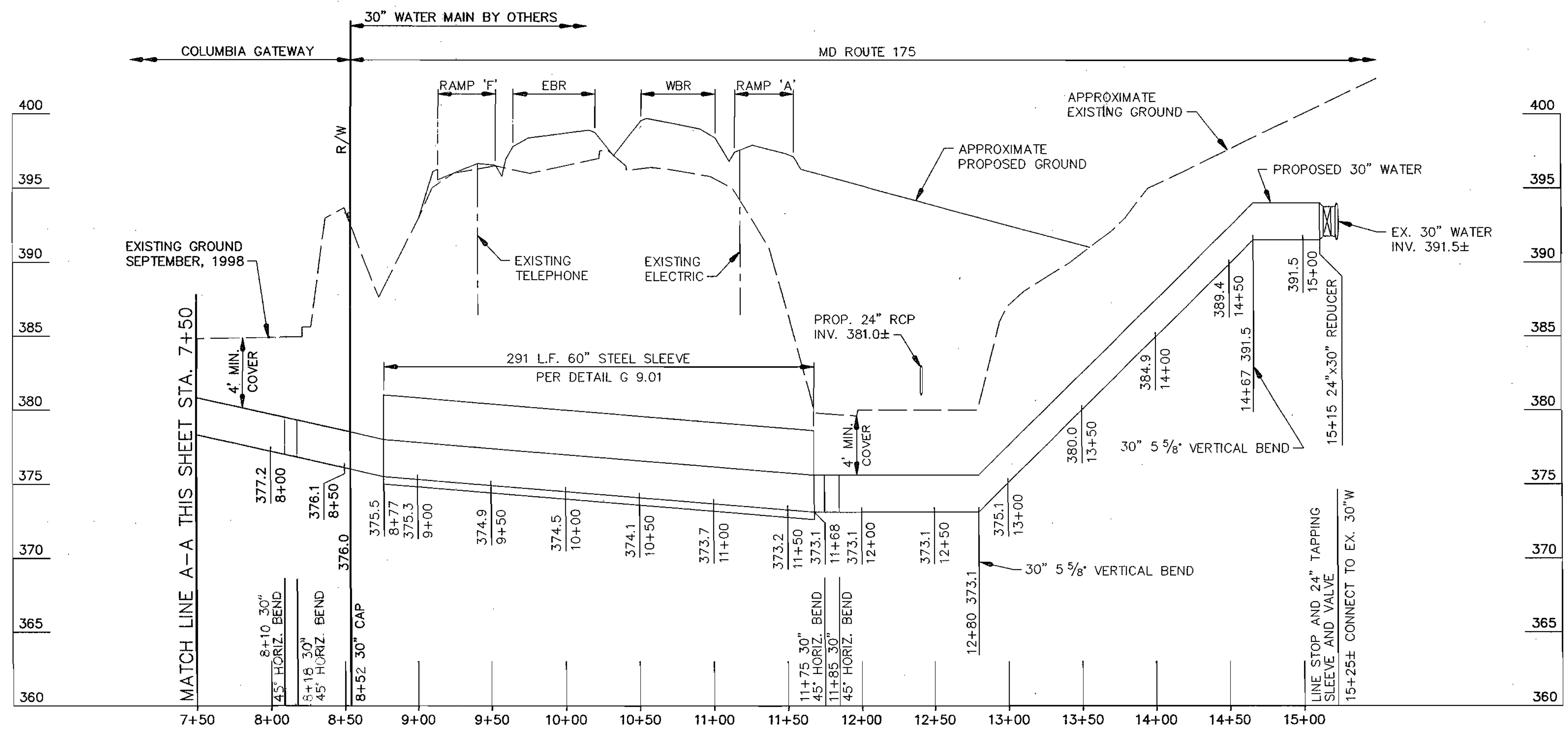
NOTE:
ALL HORIZONTAL AND VERTICAL BENDS SHALL BE BUTTRESSED OR ANCHORED IN ACCORDANCE WITH STANDARD DETAILS W2.21 AND W2.22. DIMENSIONS SHALL BE AS SHOWN ON TABLE 'A' THIS SHEET.

NOTE:
TRENCH COMPACTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY SPECIFICATION SECTION 1003.03.19

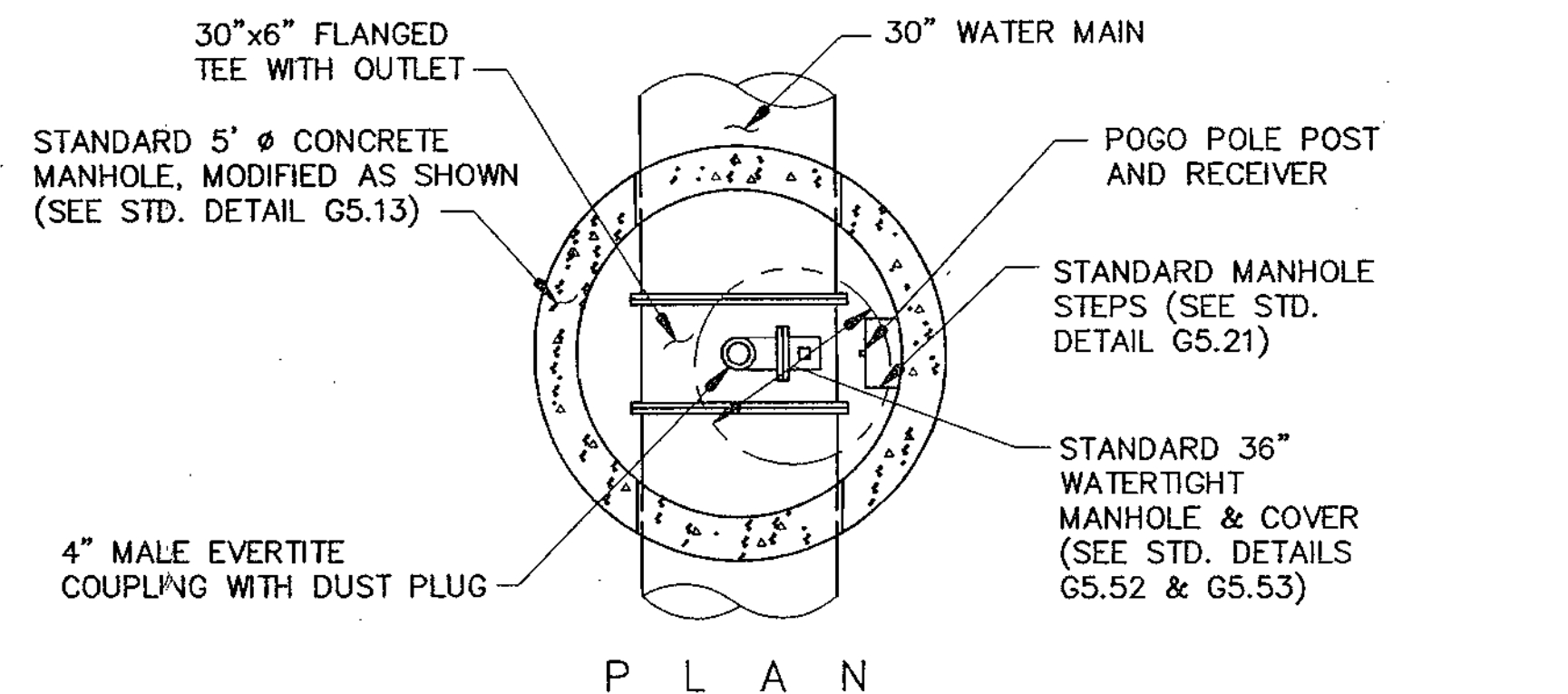
TABLE 'A'					
LOCATION	DETAIL	A	B	C	REINFORCING BARS
BUTTRESS FOR 30" HORIZONTAL BEND	W2.21	6'-6"	2'-6"	3'-2"	-
BUTTRESS FOR 30" VERTICAL BEND	W2.22	7'-6"	2'-6"	2'-6"	-
ANCHORAGE FOR 30" VERTICAL BEND	W2.22	6'-3"	9'-3"	9'-3"	3-#10



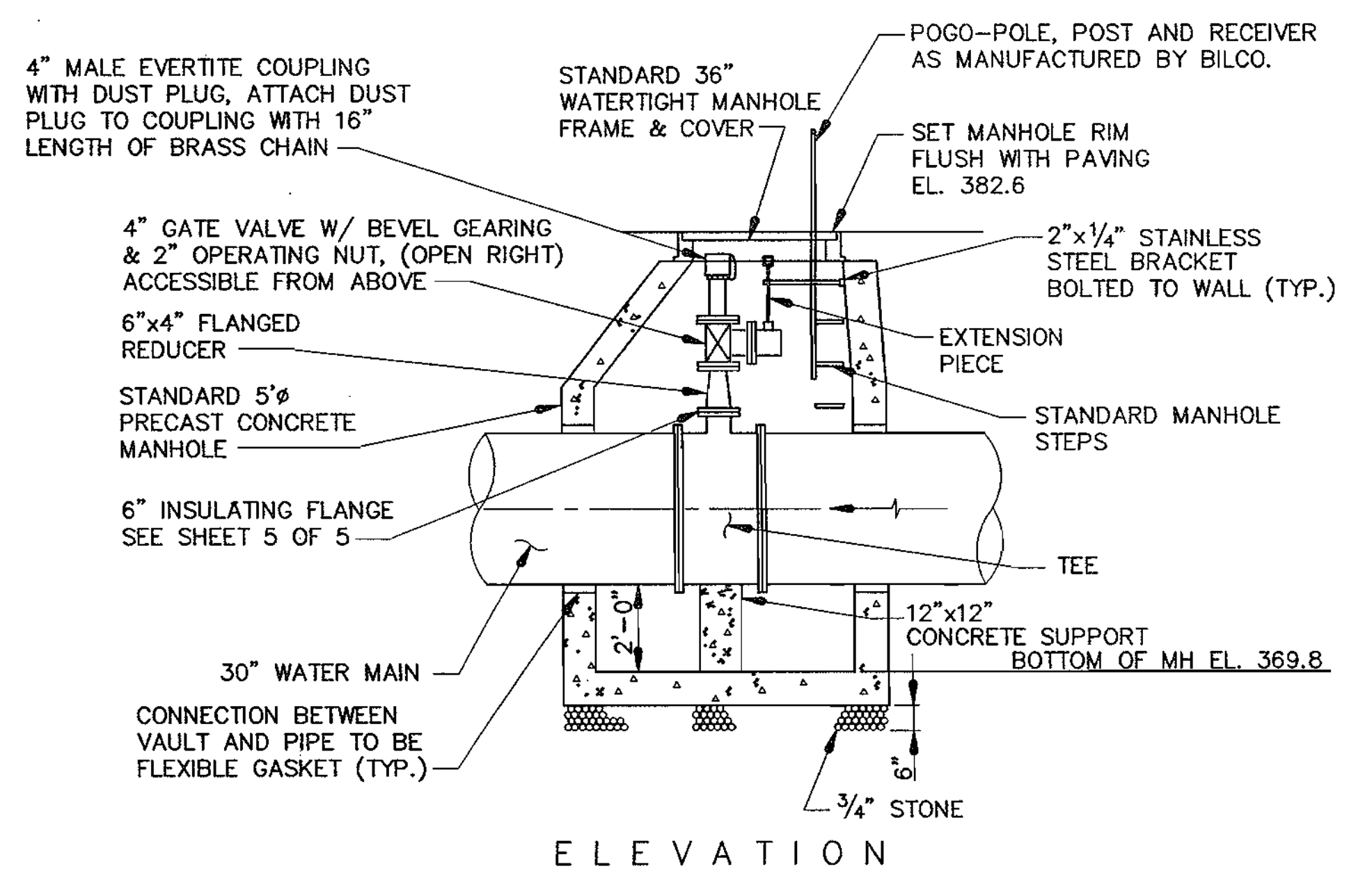
TRENCH DETAIL
NOT TO SCALE



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



P L A N



ELEVATION
BLOW-OFF VALVE DETAIL
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

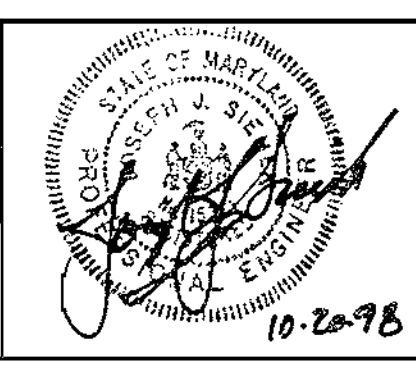
[Signature] 10/21/98
DIRECTOR OF PUBLIC WORKS

[Signature] 10/21/98
CHIEF, BUREAU OF ENGINEERING

[Signature] 10-21-98
CHIEF, UTILITY DESIGN DIVISION

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

[Signature] 10-20-98



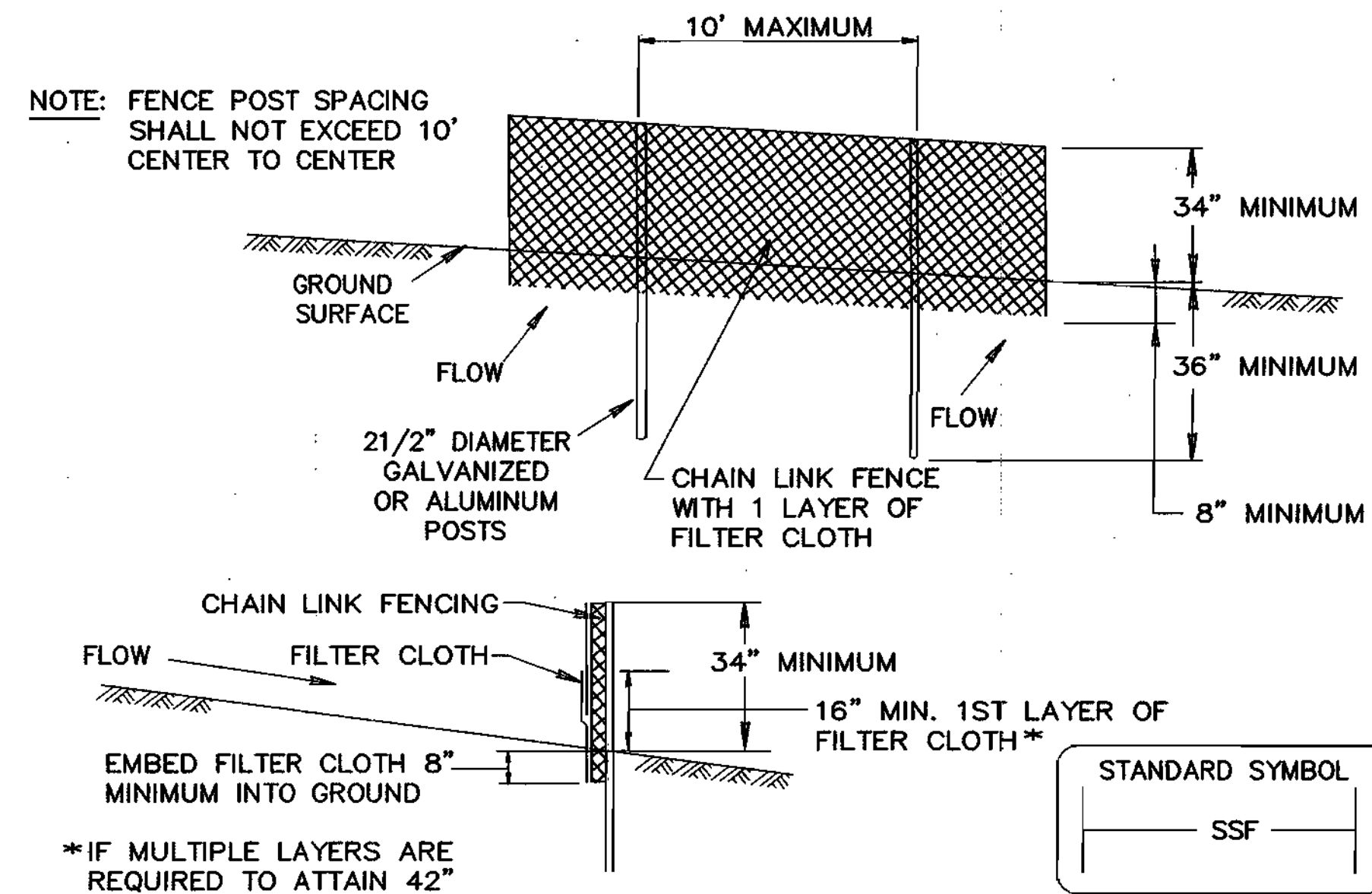
DES: DED	REVISED PROFILE	3/16/99
DRN: DED		
CHK: JJS		
DATE: 10/20/98	BY NO.	REVISION

600' SCALE MAP NO. W36 BLOCK NO. -

MD ROUTE 175 AT SNOWDEN RIVER PARKWAY
CAPITAL PROJECT W-8212
CONTRACT NO. 24-3725
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 8
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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 ² /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	=	0.86	ACRES
AREA DISTURBED	=	0.23	ACRES
AREA TO BE ROOFED OR PAVED	=	0.17	ACRES
AREA TO BE VEGETATIVELY STABILIZED	=	0.06	ACRES
TOTAL CUT	=	-	CU./YDS.
TOTAL FILL	=	-	CU./YDS.
OFF SITE WASTE/BORROW AREA LOCATION:	TO BE DETERMINED		
- 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 30" WATER MAIN (14 DAYS)
- RESTORE TRENCHES TO THEIR ORIGINAL CONDITION AS PER HOWARD COUNTY STANDARDS WITH TEMPORARY PAVING HOWARD COUNTY STANDARD SPECIFICATION. (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.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10-21-98

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



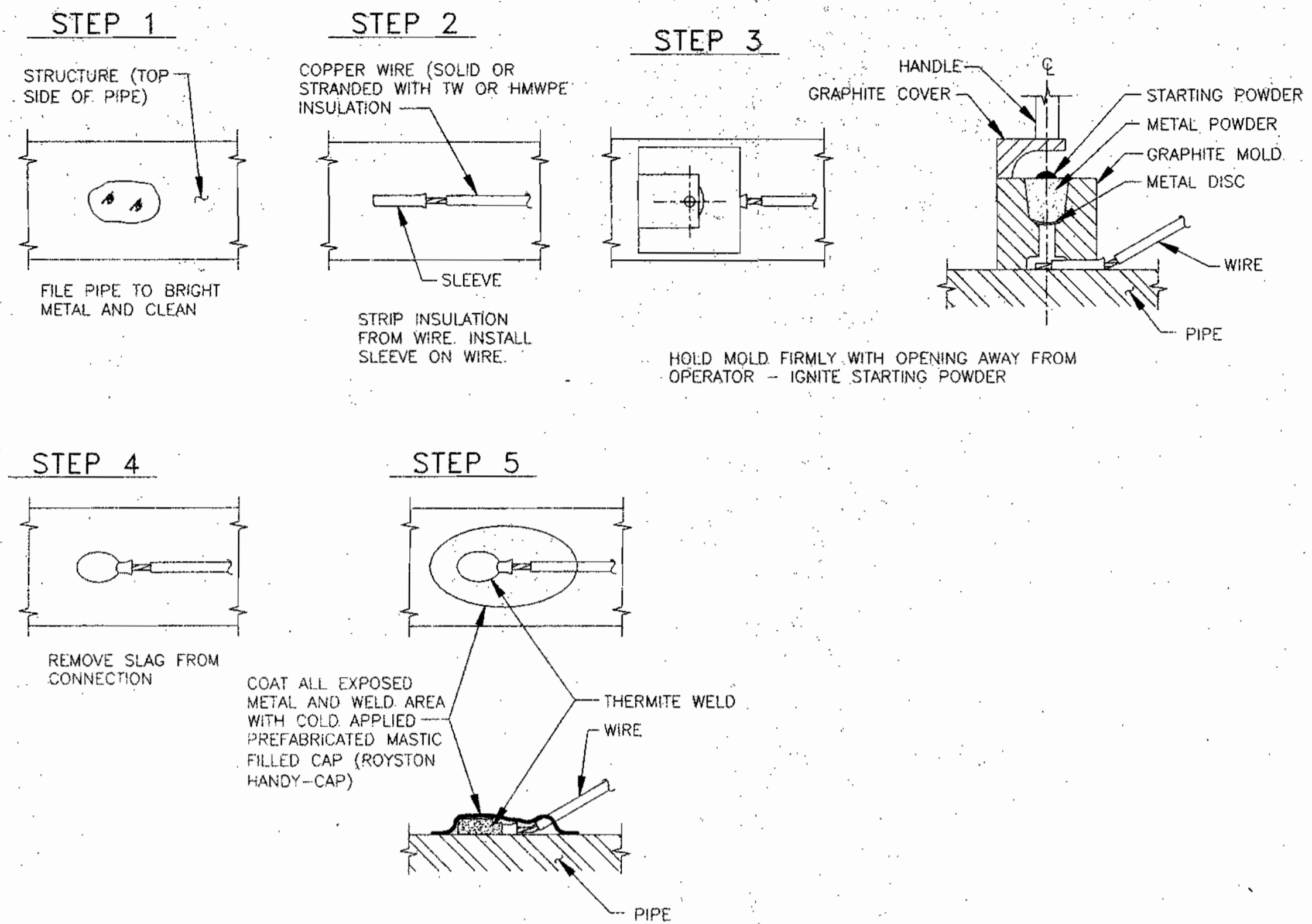
DES: DED					
DRN: DED					
CHK: JJS					
DATE: 10/20/98	BY	NO.	REVISION	DATE	

SEDIMENT CONTROL NOTES & DETAILS

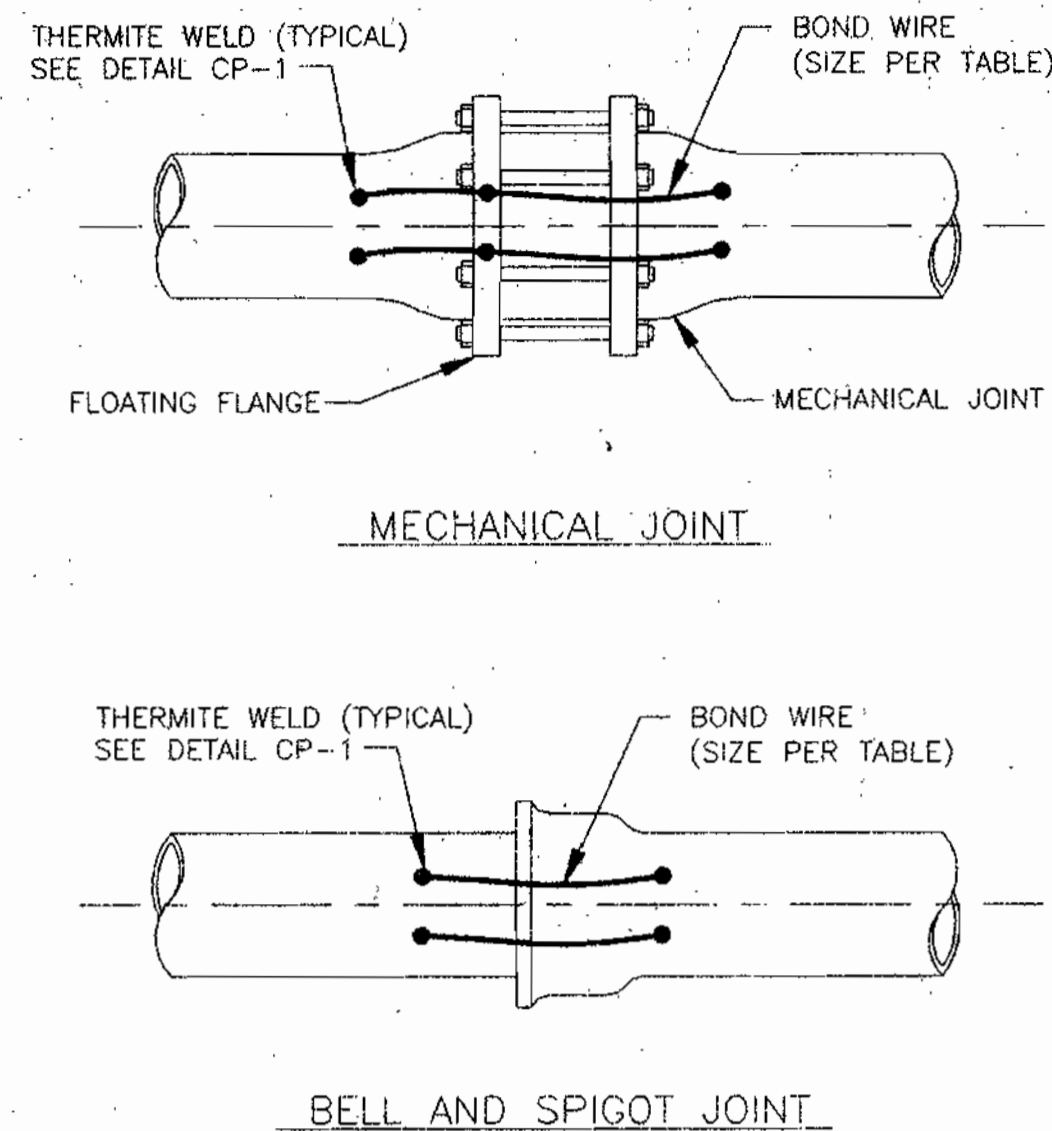
600' SCALE MAP NO. W36 BLOCK NO.

MD ROUTE 175 AT SNOWDEN RIVER PARKWAY
CAPITAL PROJECT W-8212
CONTRACT NO. 24-3725
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 5

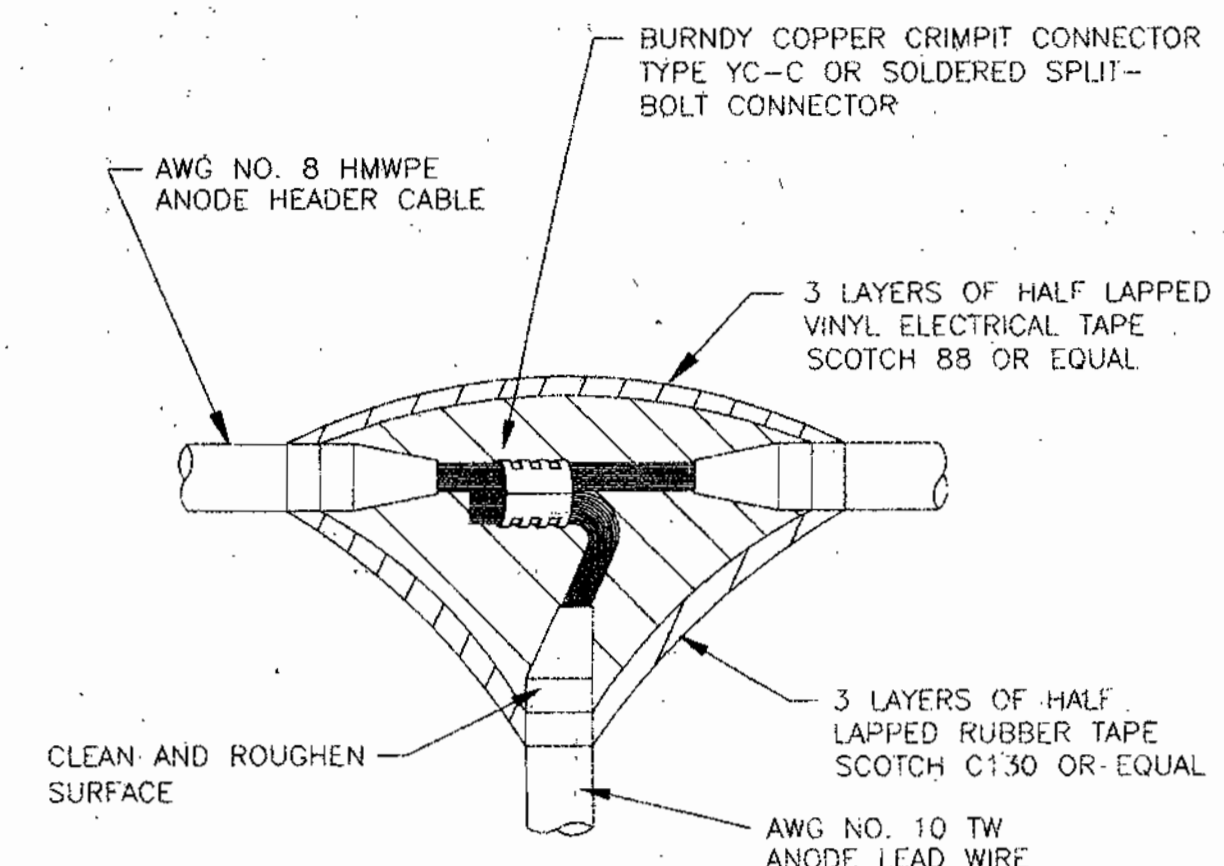


CP-1: TYPICAL THERMITE WELD

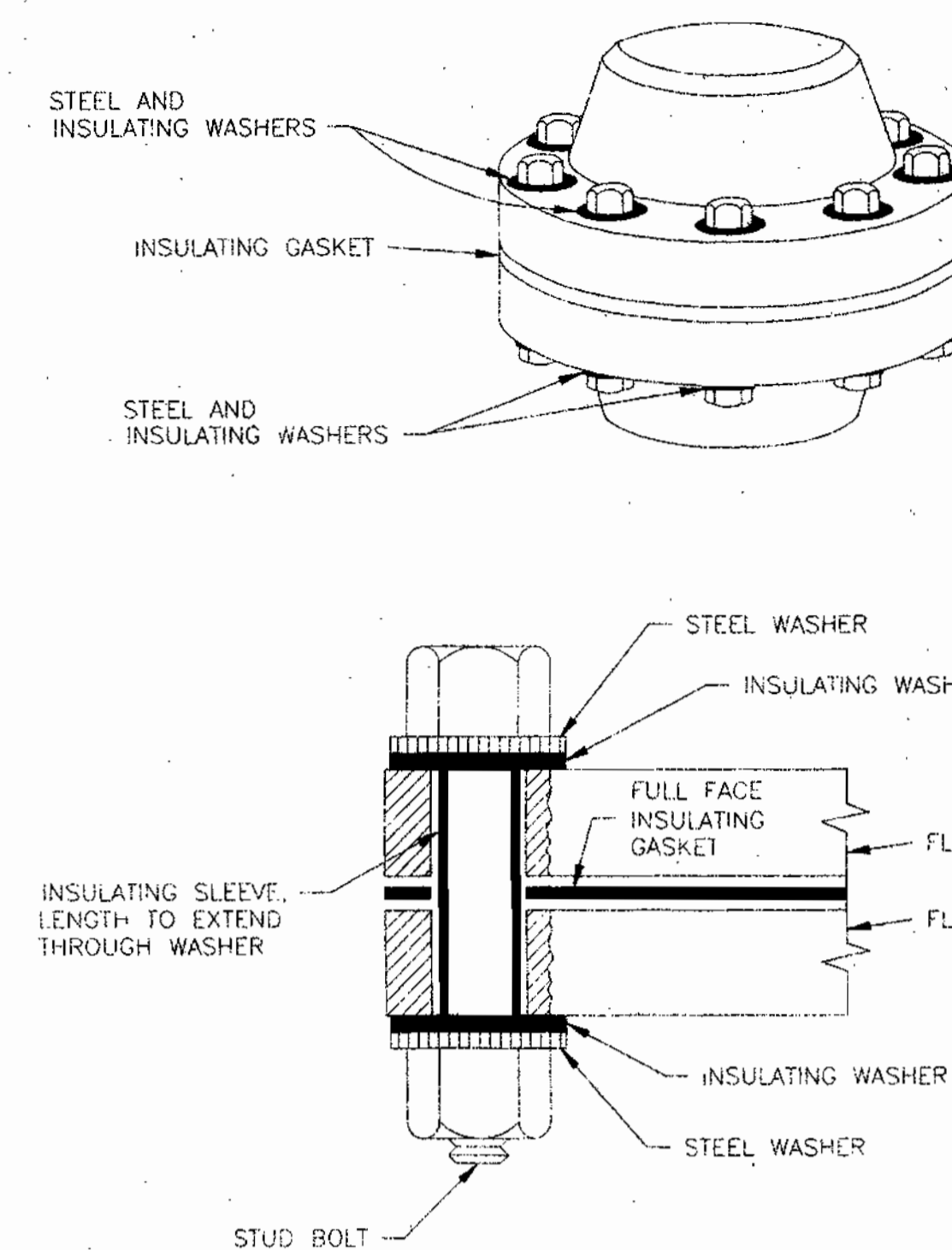


PIPE SIZE	WIRE SIZE
48" & SMALLER	#2 AWG
32" & SMALLER	#4 AWG
12" & SMALLER	#6 AWG

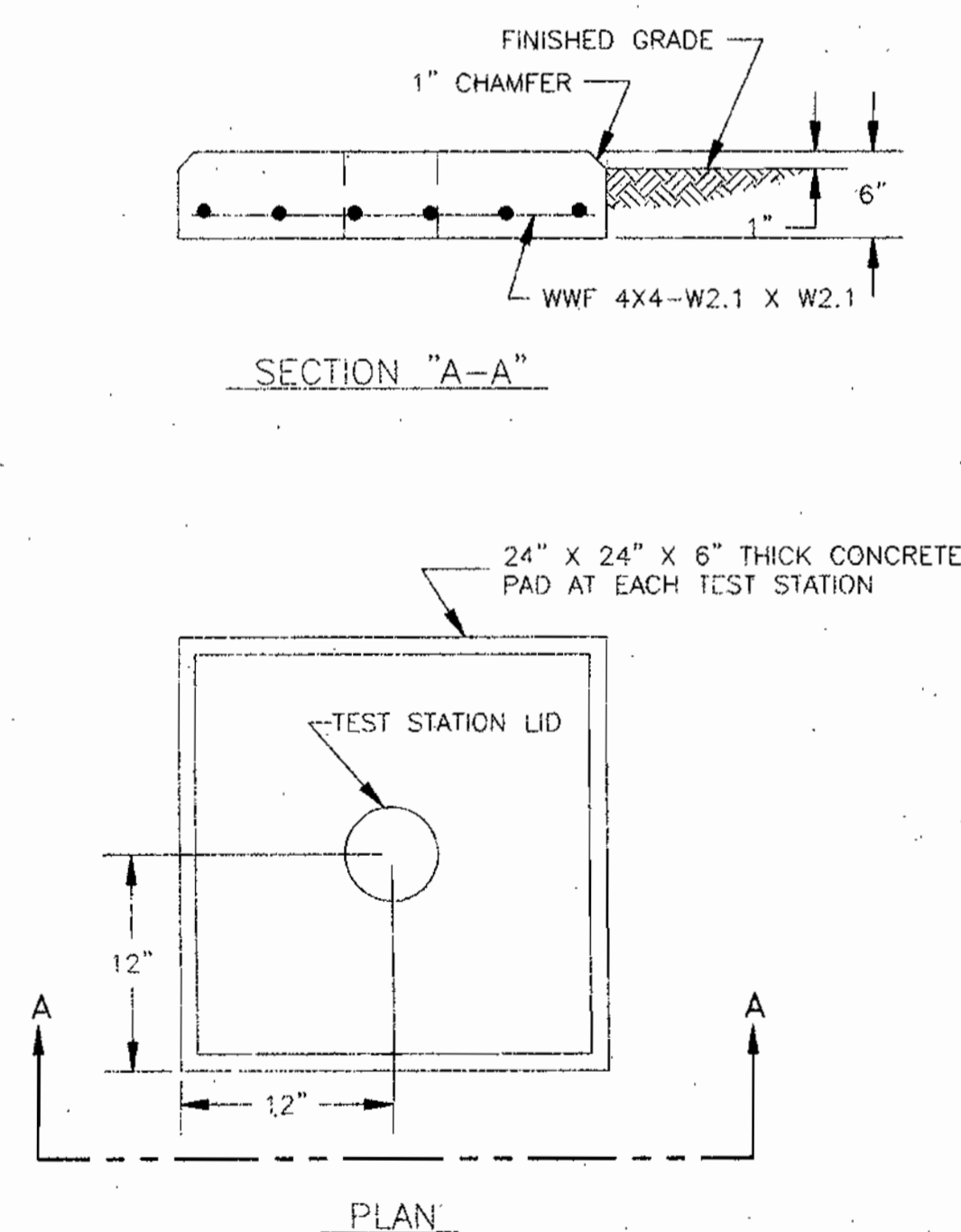
CP-2: TYPICAL PIPE JOINT BOND



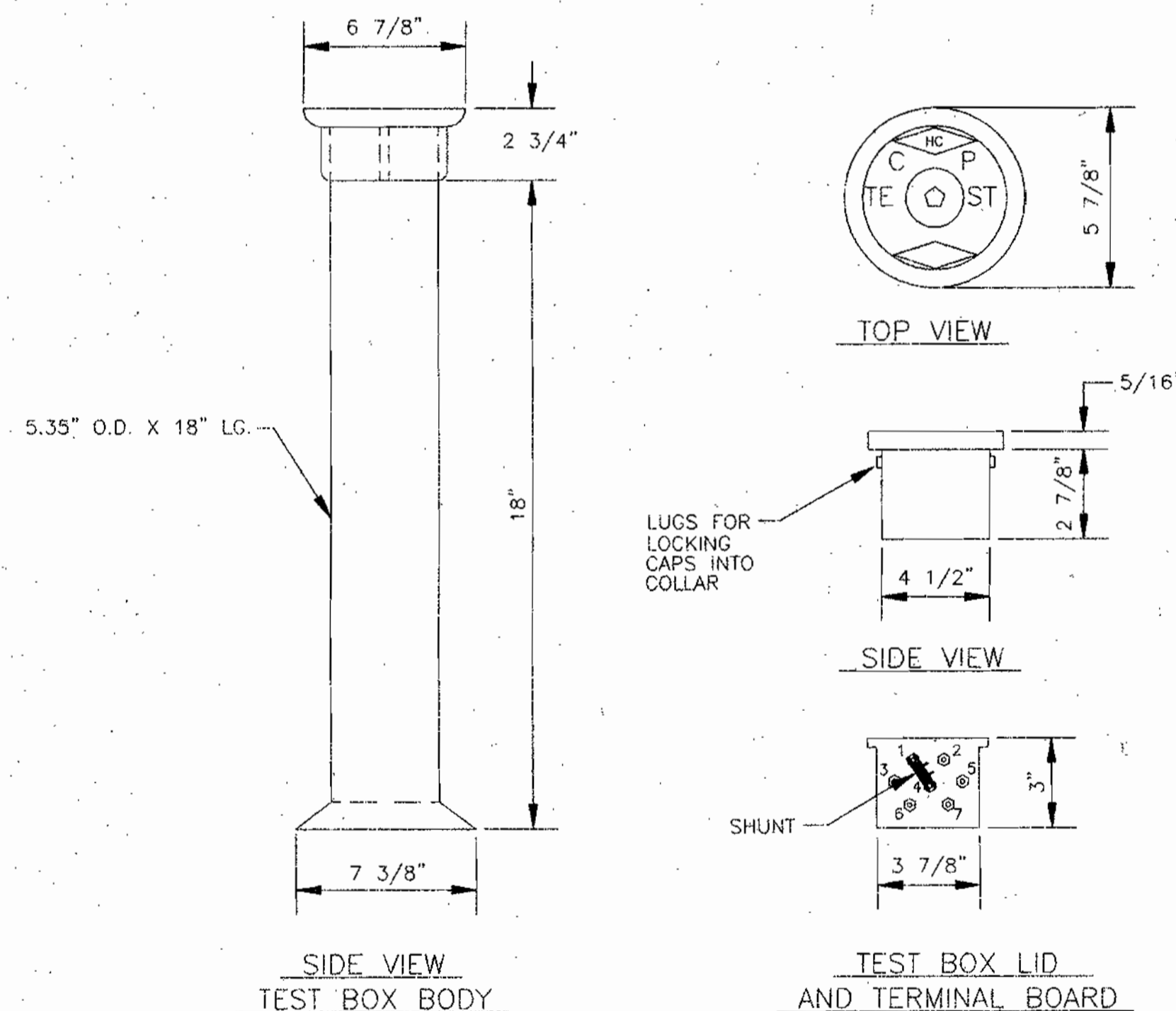
CP-3: ANODE SPLICE



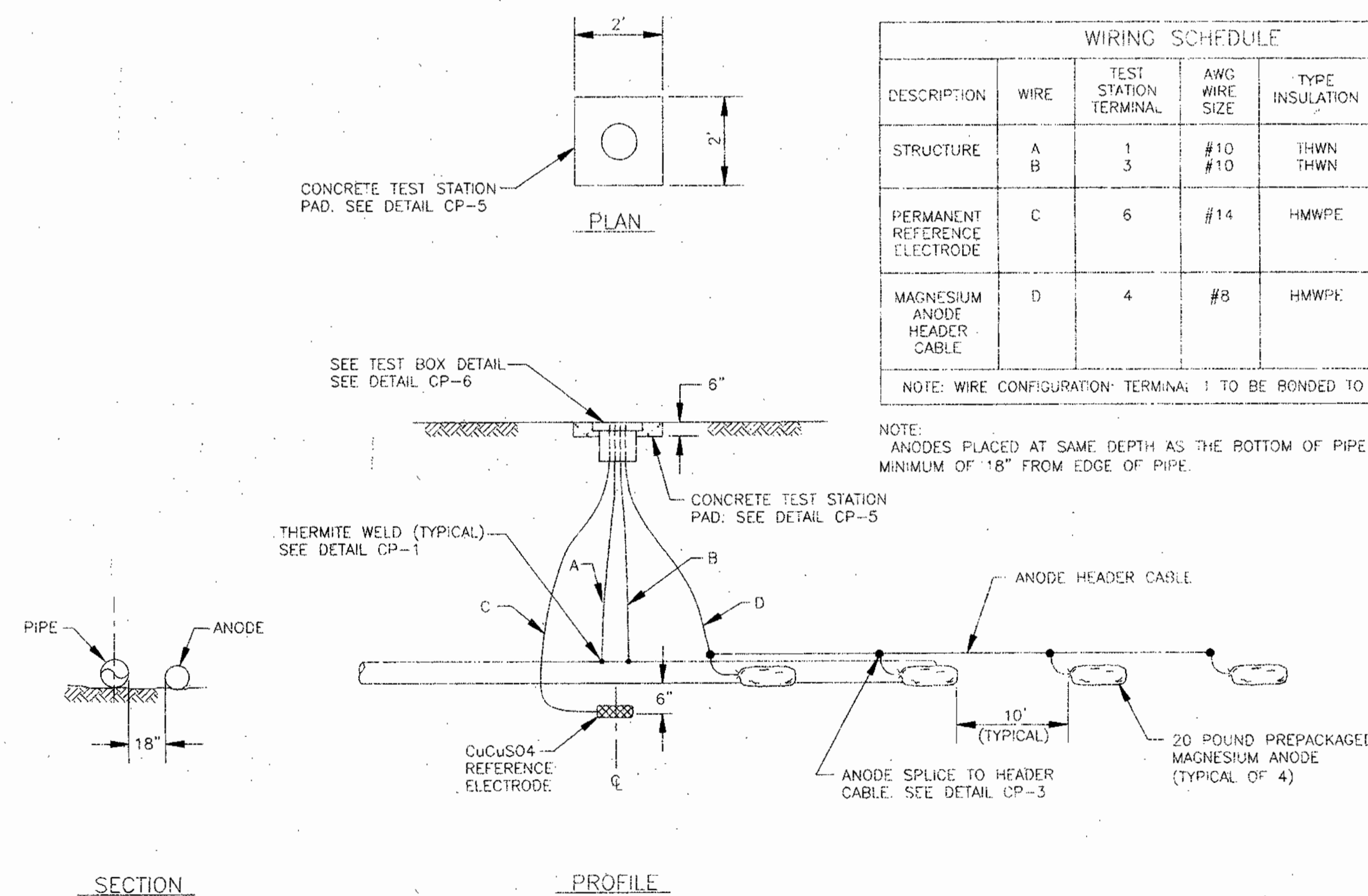
CP-4: INSULATING JOINT



CP-5: TEST STATION PAD



CP-6: TEST BOX



CP-7: CATHODIC PROTECTION TEST STATION

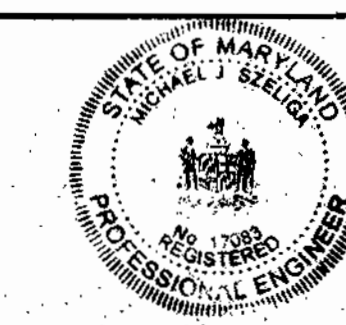
WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
STRUCTURE	A	1	#10	THWN	BLUE
	B	3	#10	THWN	BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
MAGNESIUM ANODE HEADER CABLE	D	4	#8	HMWPE	BLACK

NOTE: WIRE CONFIGURATION: TERMINAL 1 TO BE BONDED TO TERMINAL 4

NOTE: ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 18" FROM EDGE OF PIPE.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
10/21/98
10/21-98

RUSSELL CORROSION CONSULTANTS, INC.
5405 TWIN KNOLLS RD., SUITE 3
COLUMBIA, MD 21045



DES: MJS			
DRN: DJD			
CHK: MJS			
DATE: 10/98	BY: NO.	REVISION	NO.

CATHODIC PROTECTION DETAILS
600' SCALE MAP NO. BLOCK NO.

MD ROUTE 175 & SNOWDEN RIVER PARKWAY
CAPITAL PROJECT W-8212
CONTRACT NO. 24-3725
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

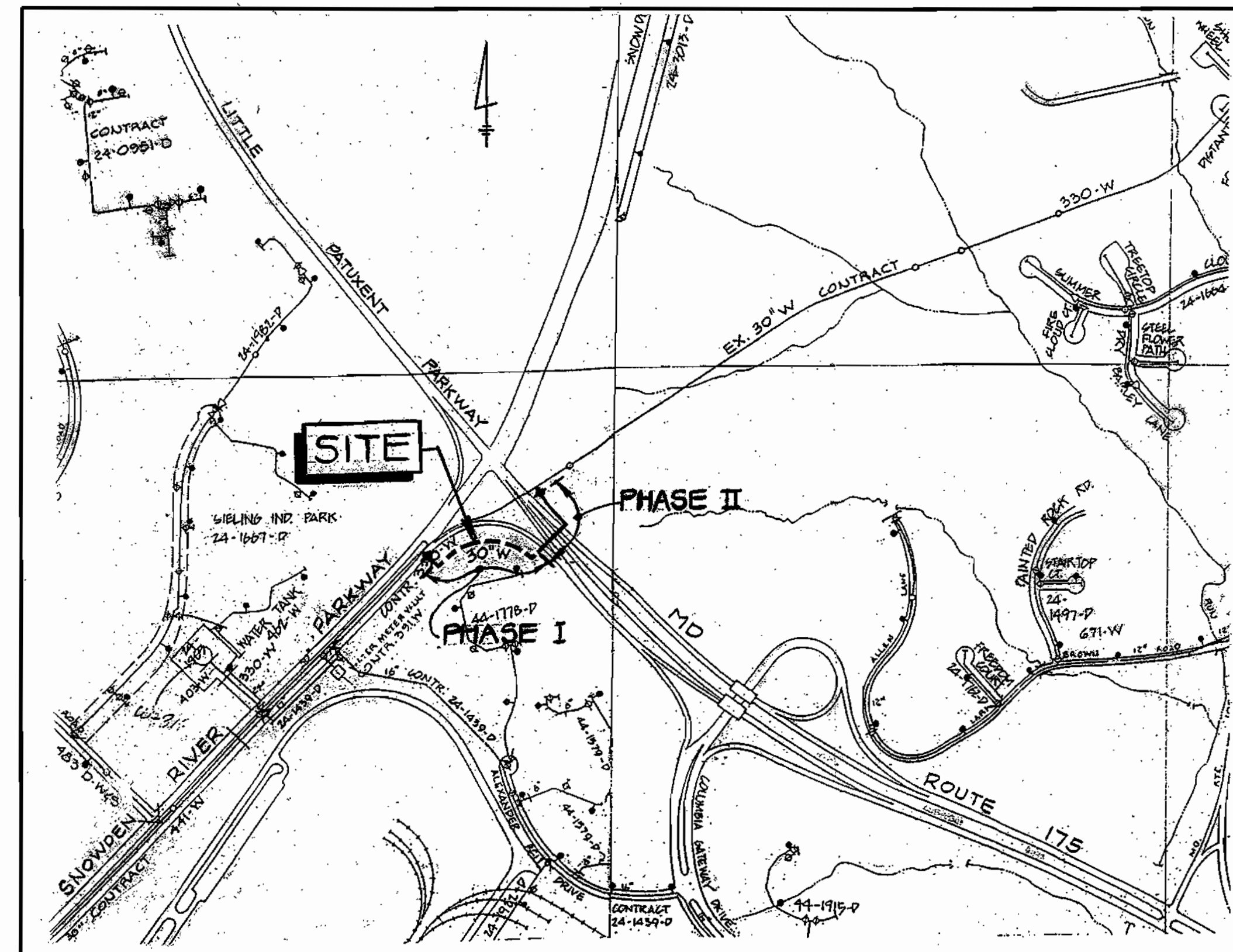
SCALE: NONE
SHEET 5 OF 8

MD ROUTE 175 AT SNOWDEN RIVER PARKWAY 30-INCH WATER MAIN RELOCATION - PHASE II

CAPITAL PROJECT W-8212

CONTRACT NO. 24-3725

ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATED	AS BUILT		
30" WATER	765 L.F.	781.5 L.F.	CLASS 350 D.I.P.	U.S. PIPE
BLOW OFF VALVE ASSEMBLY	1 EACH	1 EACH	AWWA C 509	U.S. PIPE
30" LINE STOP	2 EACH	2 EACH	RATED TO 150 PSI	IPS CO.
30"x24" TAPPING SLEEVE AND VALVE ASSEMBLY	2 EACH		AWWA C 509	U.S. PIPE
60" O.D. CASING	290 L.F.	291.2 L.F.	STEEL	PERM-A-LOC



TYPE OF BUILDING: _____
 NUMBER OF PARCELS: _____
 WATER HOUSE CONNECTIONS: N/A
 DRAINAGE AREA: _____

VICINITY MAP
 SCALE: 1" = 600'

WATER CODE FOR COUNTY USE ONLY:
 WATER NO. E06 & E08

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN
3	PROFILE
4	WATER DETAILS
5	CATHODIC PROTECTION DETAILS
6	CATHODIC PROTECTION 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 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 4'-0" 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.

AS BUILT 6-15-2000

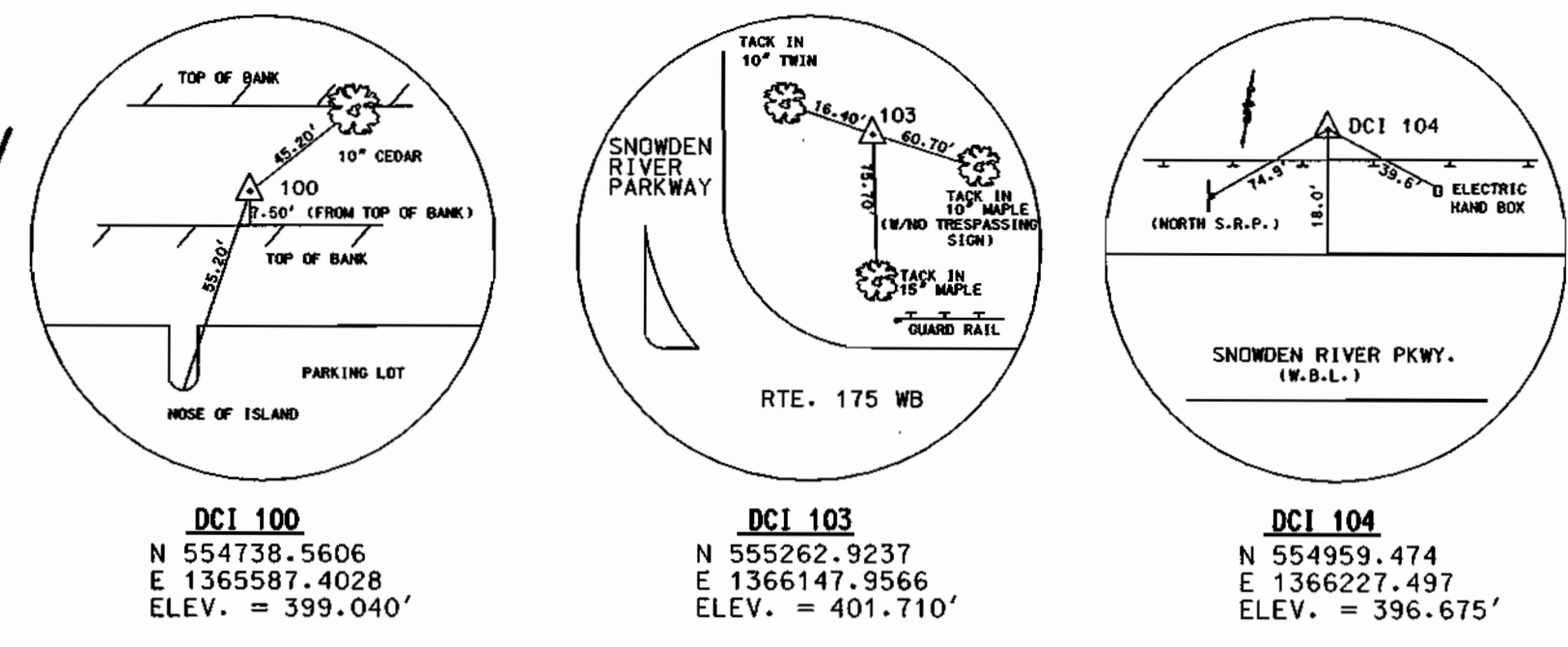
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 12/3/98 DIRECTOR OF PUBLIC WORKS</p> <p><i>[Signature]</i> 12-3-98 CHIEF, BUREAU OF UTILITIES</p>	<p>WALLACE, MONTGOMERY & ASSOCIATES CIVIL AND STRUCTURAL ENGINEERS</p> <p>110 WEST ROAD TOWSON, MARYLAND 21204</p> <p><i>[Signature]</i> 12/3/98 CHIEF, UTILITY DESIGN DIVISION</p>	<p>DES: DED DRN: DED CHK: JJS DATE: 11/30/98</p>	<p>BY: _____ NO. _____ REVISION _____ DATE _____</p>	<p>TITLE SHEET</p>	<p>MD ROUTE 175 AT SNOWDEN RIVER PARKWAY CAPITAL PROJECT W-8212 CONTRACT NO. 24-3725 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 1 OF 8</p> <p>6 11</p>
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RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
STA. 0+00 TO STA. 1+05	105 FT.	TEMPORARY SEEDING
STA. 8+50 TO STA. 9+00	50 FT.	TEMPORARY SEEDING
STA. 11+50 TO STA. 15+25	375 FT.	TEMPORARY SEEDING

STAKEOUT TABLE 30" WATER MAIN			
WATER STA.	DESCRIPTION	NORTH	EAST
0+00	30"x24" TAPPING SLEEVE	554,742.7470	1,365,393.1740
1+04.5	EX. 30" CAP	554,670.5950	1,365,468.0490
8+54	EX. 30" CAP	554,719.0940	1,366,079.5630
8+71.69	BEGIN 60" CASING	554,731.0135	1,366,092.6480
11+62.88	END 60" CASING	554,927.2770	1,366,307.7710
11+80.09	30" 45° HORIZ. BEND	554,932.1388	1,366,315.0919
11+90.08	30" 45° HORIZ. BEND & PC	554,942.1888	1,366,343.8889
11+96.08	30"x24" TEE	554,954.4890	1,366,303.4213
13+63	5 5/8" 30" HORIZ. BEND	-	-
14+95.70	30" 22 1/2" HORIZ. BEND & PT	555,226.8286	1,366,172.9430
15+20.33	30"x24" TAPPING SLEEVE	555,241.6130	1,366,160.0510

CATHODIC PROTECTION NOTES:

1. INSTALL CATHODIC PROTECTION TEST STATION WITH FOUR ANODES AND A REFERENCE ELECTRODE AT STATION 0+15. CONNECT PIPING TEST WIRES TO FAR END OF FIRST SECTION OF PIPING.
2. INSTALL CATHODIC PROTECTION TEST STATION WITH FOUR ANODES AND A REFERENCE ELECTRODES AT STATION 15+05. CONNECT TEST WIRES TO FAR END OF LAST SECTION OF PIPING.
3. FOR CATHODIC PROTECTION DETAILS, SEE SHEET 5 OF 5.
4. ADDED 4 EA ANODES AT STA 0+10 & AT STA 15+15 FOR PROTECTION OF UNWRAPPED SLEEVE.
5. ADDED CORROSION RATE PROBES AT EACH END OF CASING AS PER 9/10/99 LETTER.



TRAVERSE COORDINATES				
TRAVERSE POINT	NORTH COORDINATE	EAST COORDINATE	BEARING	DISTANCE
DCI 100 - DCI 104	554,738.5323	1,365,587.3837	N70°57'37.08"E	677.1441
DCI 104 - DCI 103	554,959.4739	1,366,227.4971	N345°18'47.16"W	313.7016
DCI 103	555,262.9237	1,366,147.9567	-	-

ABANDON EXISTING 30" PCCP WATER. INSTALL 30" CAP AND BUTTRISS SEE TABLE 'A', SHEET 2

30" LINE STOP CONNECT TO EXISTING 30" PCCP WATER CONTRACT NO. 330-W

30"x24" TAPPING SLEEVE AND VALVE, CONNECT TO EXISTING 30" PCCP WATER CONTRACT NO. 330-W

CATHODIC PROTECTION TEST STATION

REMOVE 30" CAP CONNECT TO PHASE ONE 30" WATER

REMOVE 30" CAP CONNECT TO PHASE ONE 30" WATER

10.0' ADDED TO 30" TR FLEX TO OFFSET LINE & AVOID 2 WITH THRUST BLOCK STRUCTURE

60" LINER PLATE TUNNEL

- NOTES:**
1. SHA REDLINE REVISION TO PROVIDE 3 TRAVEL LANES. SEE SHA ROADWAY PLANS (BY OTHERS)

PLAN
SCALE: 1"=50'

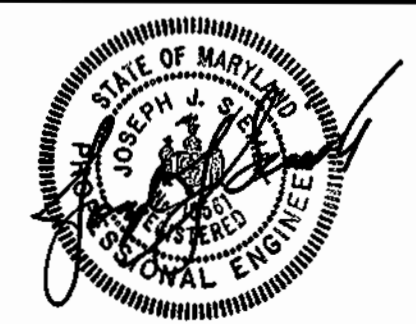
MARYLAND ROUTE 175 INTERCHANGE AT SNOWDEN RIVER PARKWAY
SHA CONTRACT NO. HO764N29
CONSTRUCTION DATE: SPRING 1999

AS BUILT 6-15-2000

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James Wilson* 12/3/98
Chief, Bureau of Engineering: *Robert Johnson* 12/3/98
Chief, Bureau of Utilities: *Robert Johnson* 12-3-98
Chief, Utility Design Division: *Robert Johnson* 12-3-98

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

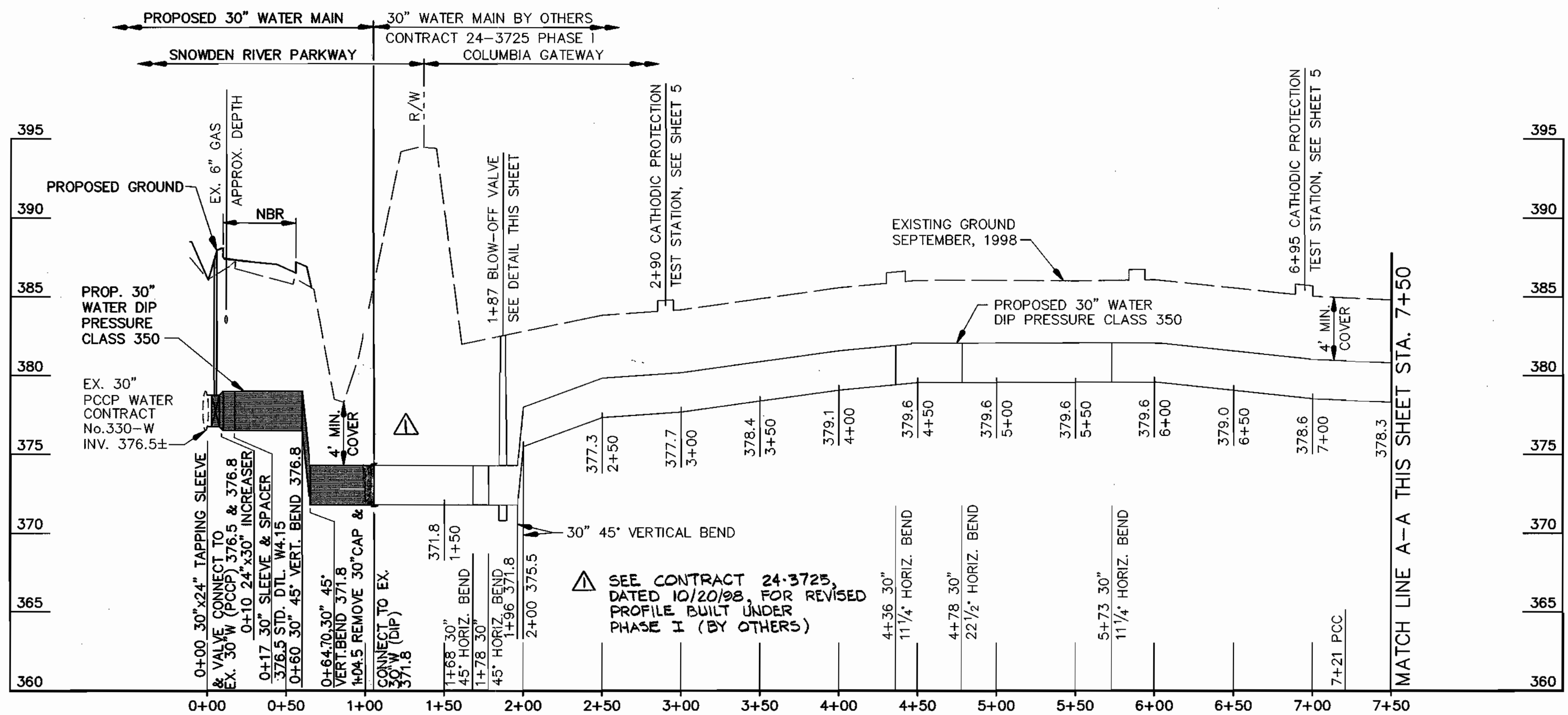


DESIGNED BY	WMA	DATE	REVISION	DATE
D.E.D.		11/30/98	REVISED WATER LAYOUT & PROP. CURBS	11/30/98
DRN: R.J.				
CHK: J.J.S.				
DATE: 11/30/98	BY NO.		REVISION	DATE

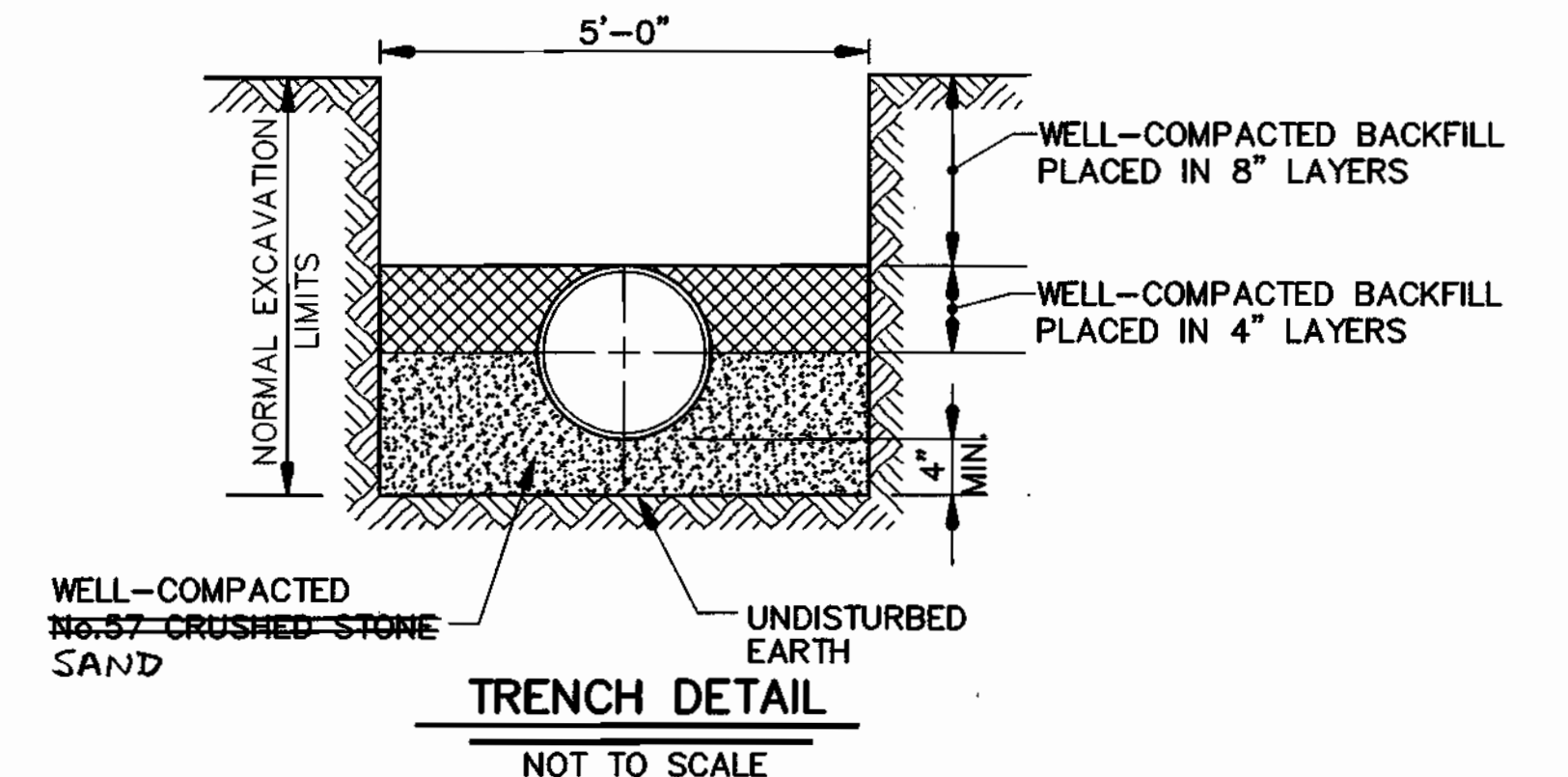
600' SCALE MAP NO.	BLOCK NO.
126	

MD ROUTE 175 AND SNOWDEN RIVER PARKWAY
CAPITAL PROJECT NO. W-8212
CONTRACT NO. 24-3725
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

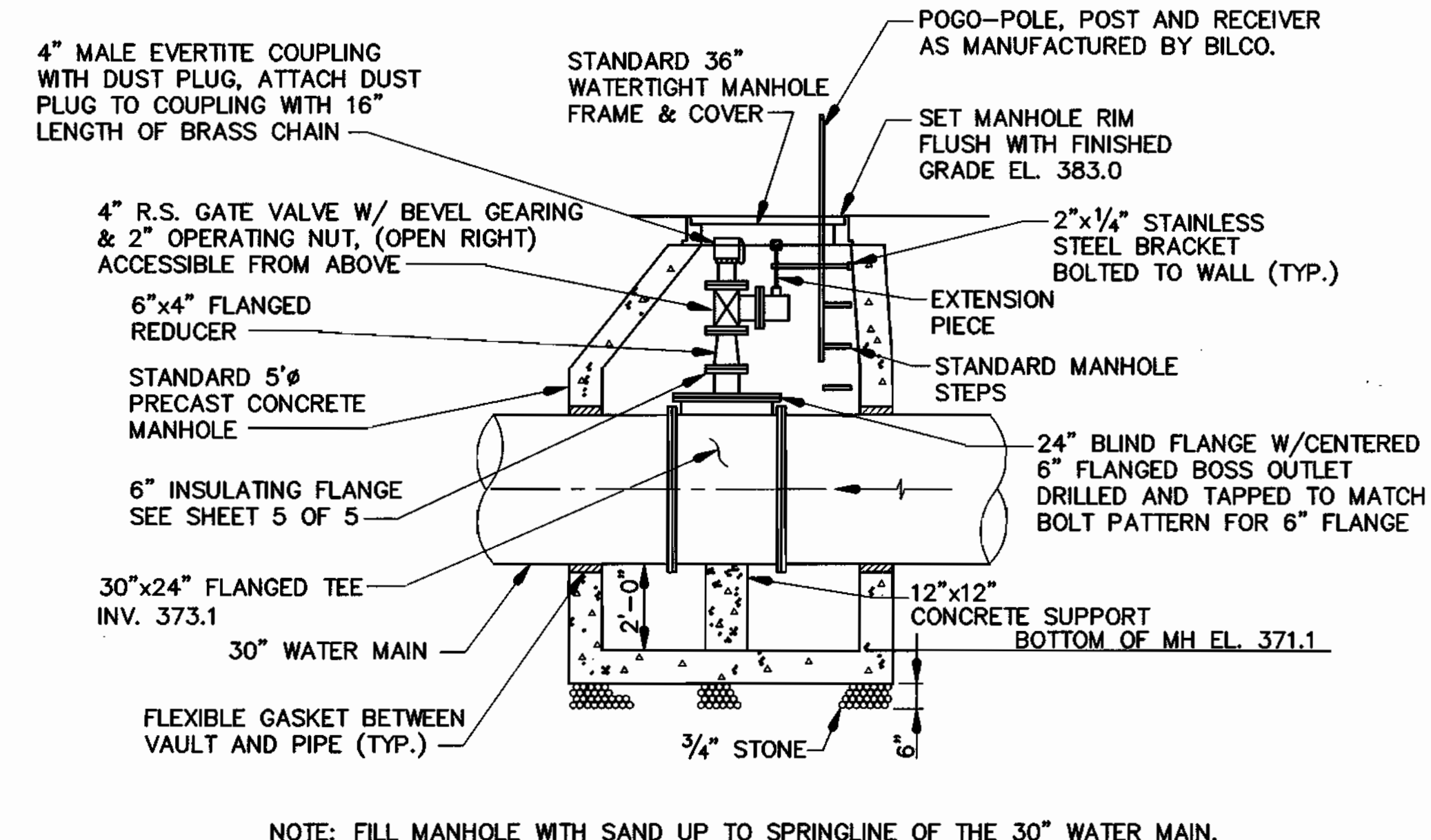
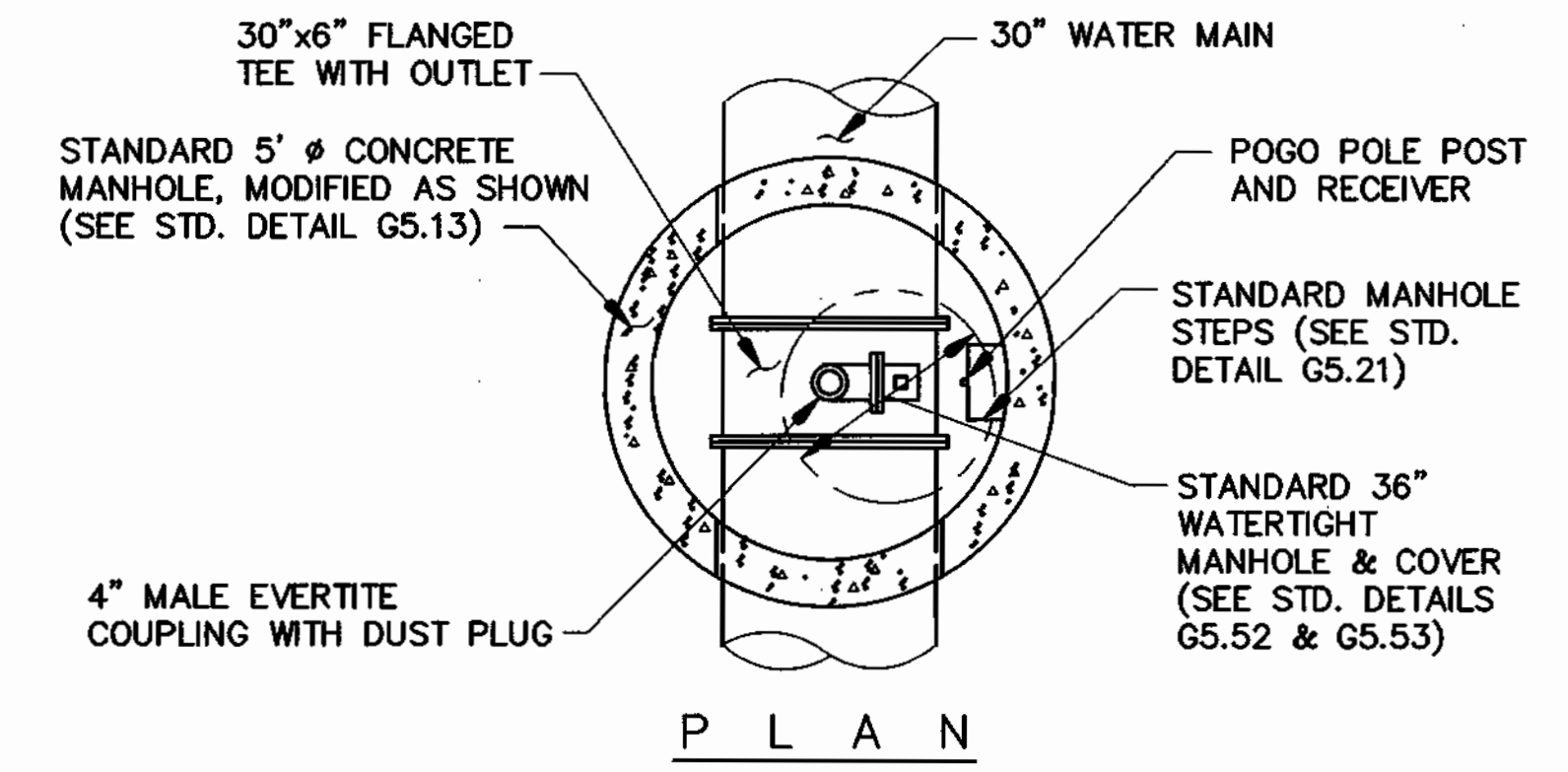
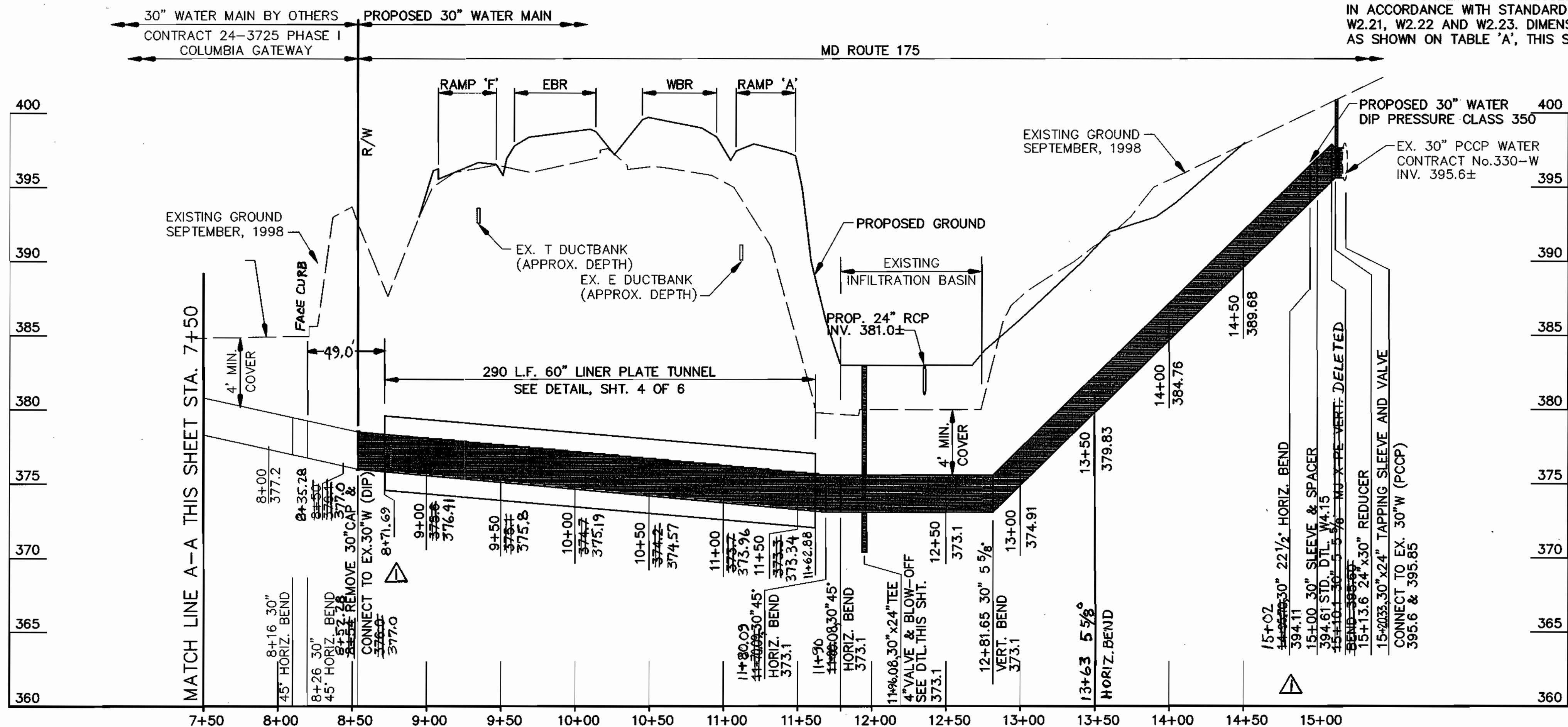
SCALE AS SHOWN
SHEET 2 OF 8
7/11



LOCATION	DETAIL	A	B	C	E	F	G	H	I	J	K	REINFORCING BARS
BUTTRESS FOR 30" HORIZONTAL BEND	W2.21	6'-6"	2'-6"	3'-2"	-	-	-	-	-	-	-	-
BUTTRESS FOR 30" VERTICAL BEND	W2.22	7'-6"	2'-6"	2'-6"	-	-	-	-	-	-	-	-
ANCHORAGE FOR 30" VERTICAL BEND	W2.22	6'-3"	9'-3"	9'-3"	-	-	-	-	-	-	-	3-#10
BUTTRESS FOR 30" CAP	W2.21	-	-	-	3'-6"	6'-0"	9'-0"	-	-	-	-	-
BUTTRESS FOR 30" TEE	W2.23	-	-	-	-	-	-	3'-4"	4'-7"	3'-0"	2'-0"	-



NOTE:
 1. ALL HORIZONTAL AND VERTICAL BENDS, CAPS AND TEES SHALL BE BUTTRESSED OR ANCHORED IN ACCORDANCE WITH STANDARD DETAILS W2.21, W2.22 AND W2.23. DIMENSIONS SHALL BE AS SHOWN ON TABLE 'A', THIS SHEET.

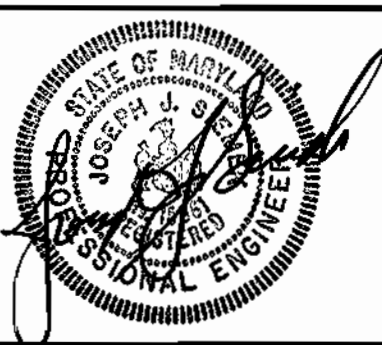


PROFILE
 SCALE: 1"=50' HORIZONTAL
 1"=5' VERTICAL

ELEVATION
 BLOW-OFF VALVE DETAIL
 NOT TO SCALE
 AS BUILT 6-15-2000

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: James J. Linn
 Chief, Bureau of Engineering: Robert M. Brown
 Chief, Bureau of Utilities: Robert M. Brown

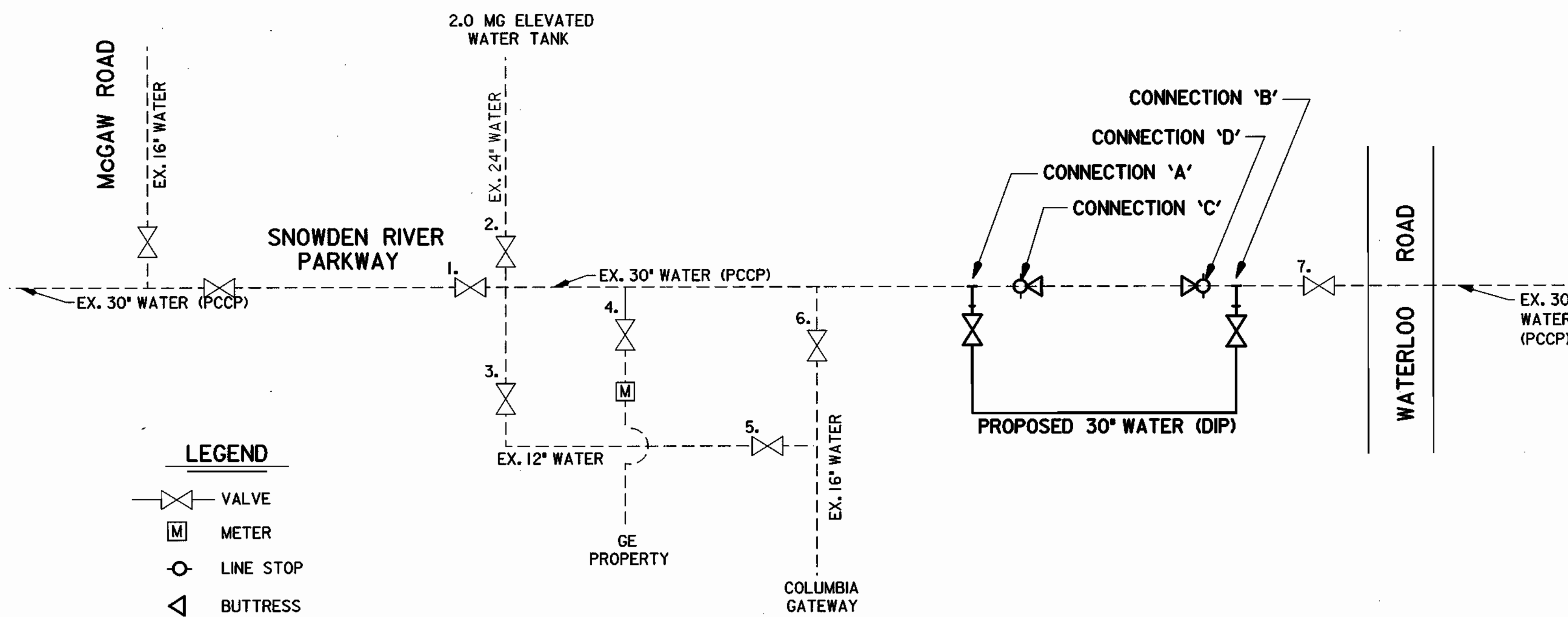
WALLACE, MONTGOMERY & ASSOCIATES
 CIVIL AND STRUCTURAL ENGINEERS
 110 WEST ROAD
 TOWSON, MARYLAND 21204



DES: LAF	WMA	REVISED STATIONING	4/13/99
DRN: MEK		REVISED PROFILE ELEVATION - CASING	4/18/99
CHK: JJS			
DATE: 11/30/98	BY: NO.	REVISION	DATE

PROFILE
 600' SCALE MAP NO. W36 BLOCK NO. -

MD ROUTE 175 AT SNOWDEN RIVER PARKWAY
 CAPITAL PROJECT W-8212
 CONTRACT NO. 24-3725
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND
 SHEET 8 OF 8
 8/11



WATER SYSTEM SCHEMATIC
NOT TO SCALE

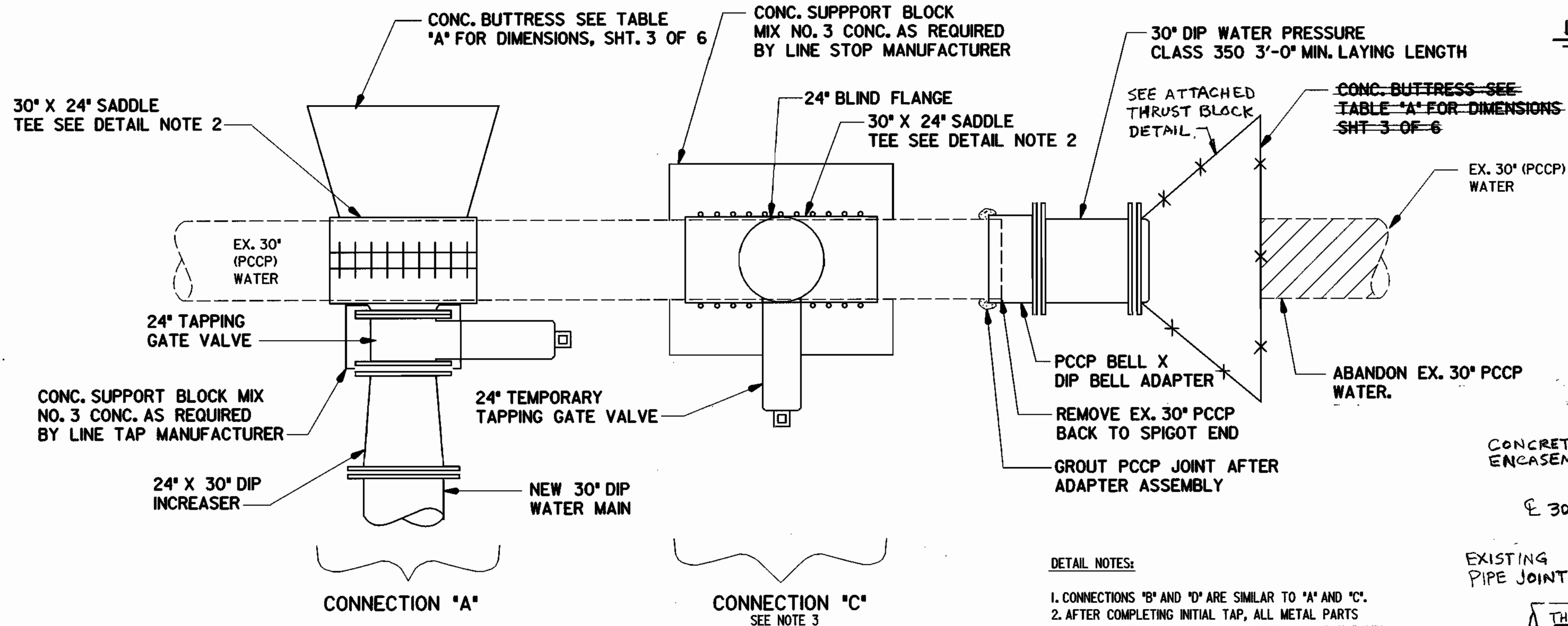
SEQUENCE OF CONSTRUCTION FOR 30" PCCP CONNECTIONS

TAPPING SLEEVE & VALVE OPERATIONS

1. REMOVE MORTAR COATING, CUT AND TACK WELD PRESTRESSED WIRES, AND INSTALL 30" X 24" SADDLE TEE WITH ATTACHED 24" RESILIENT WEDGE GATE VALVE AT CONNECTION 'A'. CLOSE 24" VALVE.
2. POUR CONCRETE BUTTRESS NEXT TO SADDLE TEE.
3. ATTACH TAPPING MACHINE TO 24" VALVE. OPEN VALVE AND CUT 24" HOLE IN EXISTING PIPE. RETRACT CUTTER WITH PIPE COUPON. CLOSE 24" VALVE AND REMOVE TAPPING MACHINE.
4. REPEAT STEPS 1, 2 AND 3 FOR WET TAP CONNECTION 'B'.
5. INSTALL 24" X 30" INCREASER ON 24" VALVES AT BOTH CONNECTIONS. INSTALL AND TEST ENTIRE RELOCATED 30-INCH WATER MAIN. CONNECT TO 24" X 30" INCREASERS.
6. OPEN BOTH 24" VALVES AND PUT RELOCATED MAIN IN SERVICE.

LINE STOP OPERATIONS

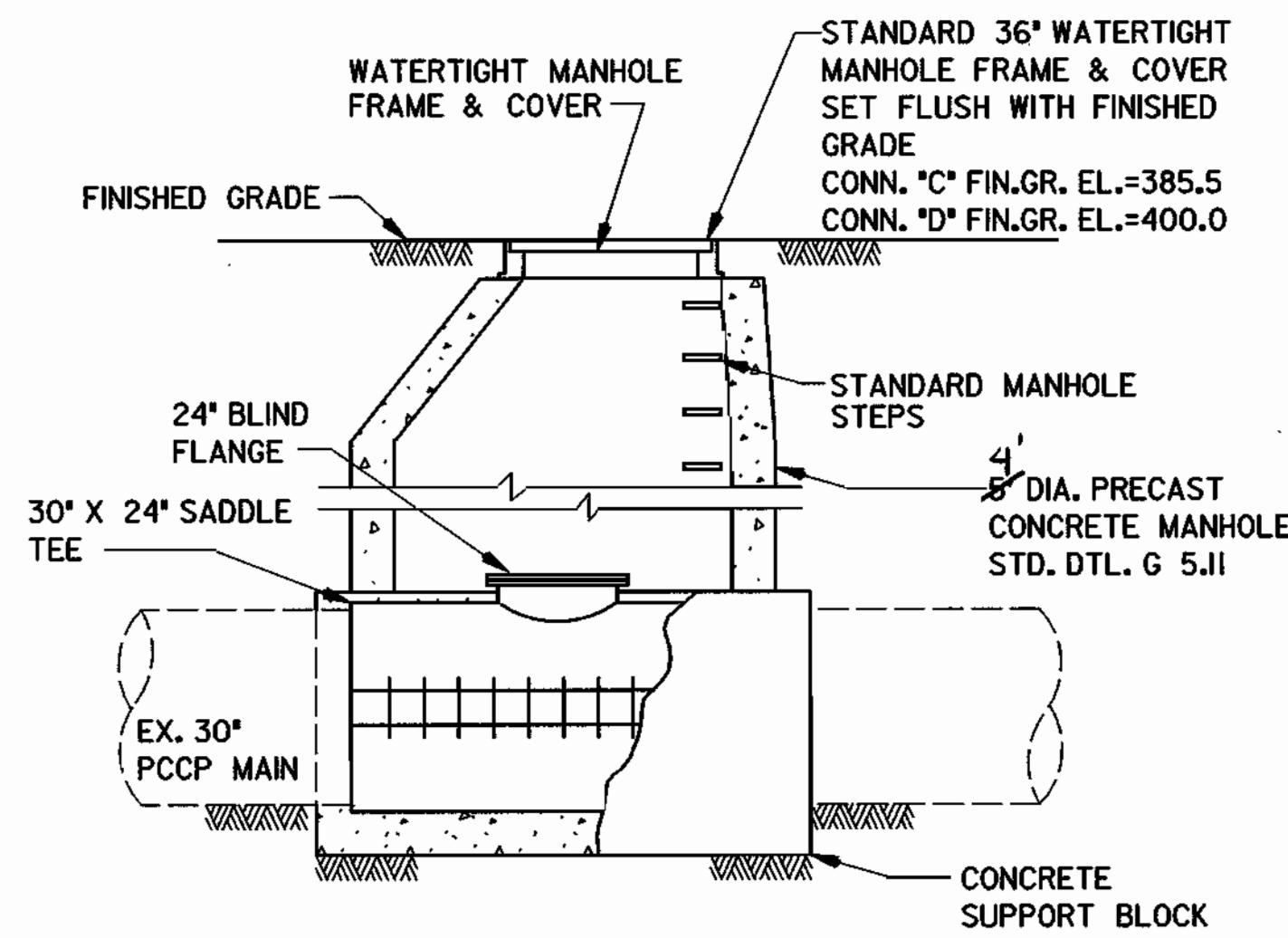
7. REMOVE MORTAR COATING, CUT AND TACK WELD PRESTRESSED WIRES, AND INSTALL 30" X 24" SADDLE TEE WITH ATTACHED 24" TEMPORARY GATE VALVE AT CONNECTION 'C'. CLOSE TEMPORARY VALVE.
8. REPEAT STEP 7 AT WET TAP CONNECTION 'D'.
9. REPEAT STEP 3 AT WET TAP CONNECTION 'C'.
10. REPEAT STEP 3 AT WET TAP CONNECTION 'D'.
11. INSTALL LINESSTOPPING MACHINES ON EACH TEMPORARY GATE VALVE.
12. OPEN TEMPORARY VALVES AND SIMULTANEOUSLY INSERT LINESSTOPPING PLUG HEADS AT EACH LOCATION TO STOP FLOW THROUGH EXISTING MAIN. ALL FLOW WILL CONTINUE THROUGH THE RELOCATED MAIN.
13. CUT EXISTING PIPE AT EACH LOCATION, FILL ABANDONED MAIN WITH FLOWABLE FILL AND INSTALL NEW 30" CAPS AND BUTTRESSES.
14. REMOVE LINESSTOPPING PLUG HEADS AT EACH LOCATION. CLOSE TEMPORARY VALVES.
15. REMOVE LINESSTOPPING MACHINES, INSTALL TAPPING MACHINES AND INSTALL COMPLETION PLUGS IN EACH 24" TEE OUTLET.
16. CLOSE TEMPORARY VALVES, REMOVE TAPPING MACHINE AND INSTALL 24" BLIND FLANGES ON EACH TEE OUTLET.
17. INSTALL MH OVER LINE STOP TEE ASSEMBLY



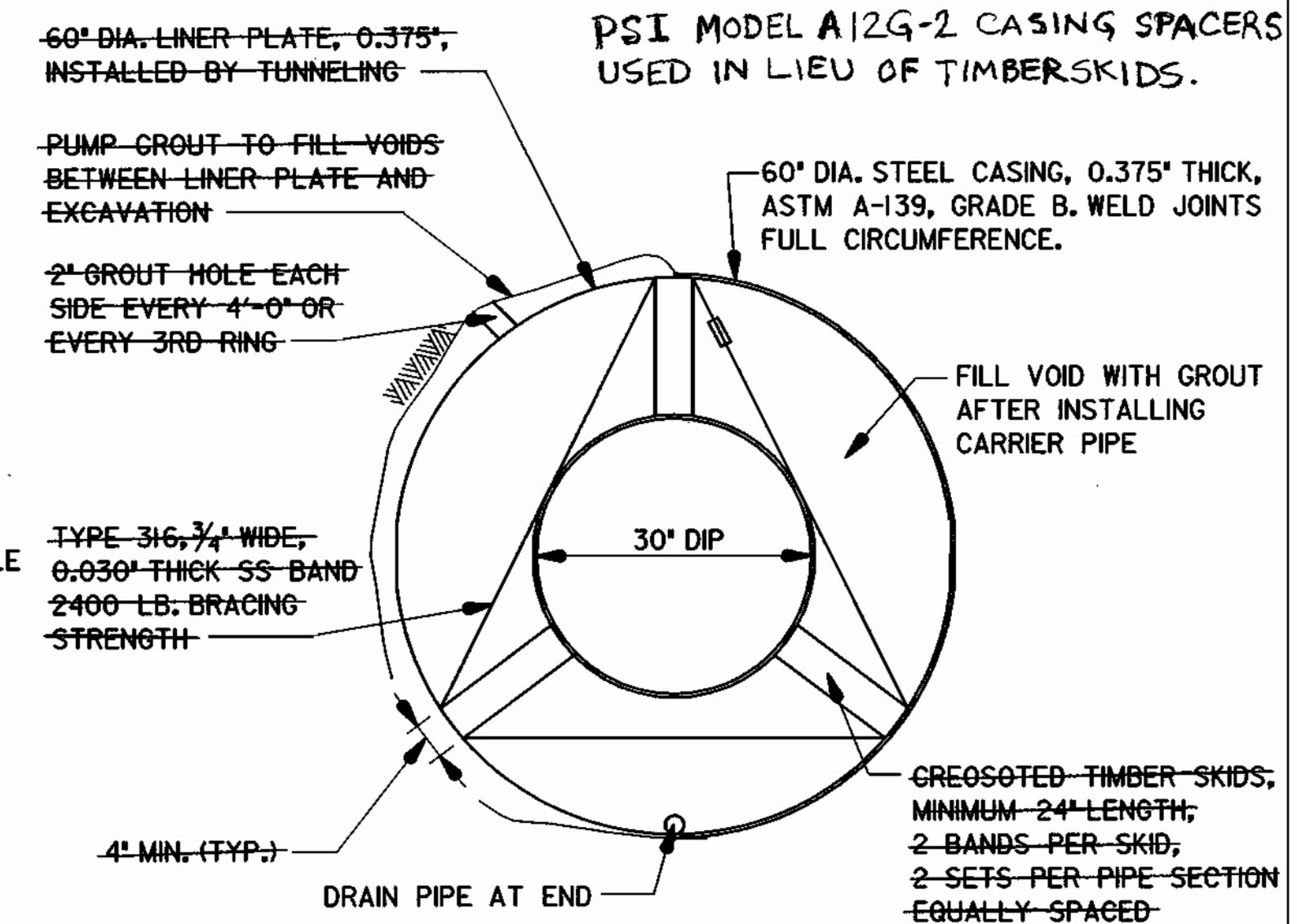
PCCP x DIP CONNECTION DETAIL
NOT TO SCALE

DETAIL NOTES:

1. CONNECTIONS 'B' AND 'D' ARE SIMILAR TO 'A' AND 'C'.
2. AFTER COMPLETING INITIAL TAP, ALL METAL PARTS SHALL BE ENCASED IN A 3H CONCRETE OR MORTAR MIX WITH A MINIMUM COVER OF 1 INCH.
3. AFTER INSTALLING 24" BLIND FLANGE INSTALL PRECAST MANHOLE OVER TEE FOR FUTURE ACCESS. SEE 'ACCESS MANHOLE' DETAIL THIS SHEET.

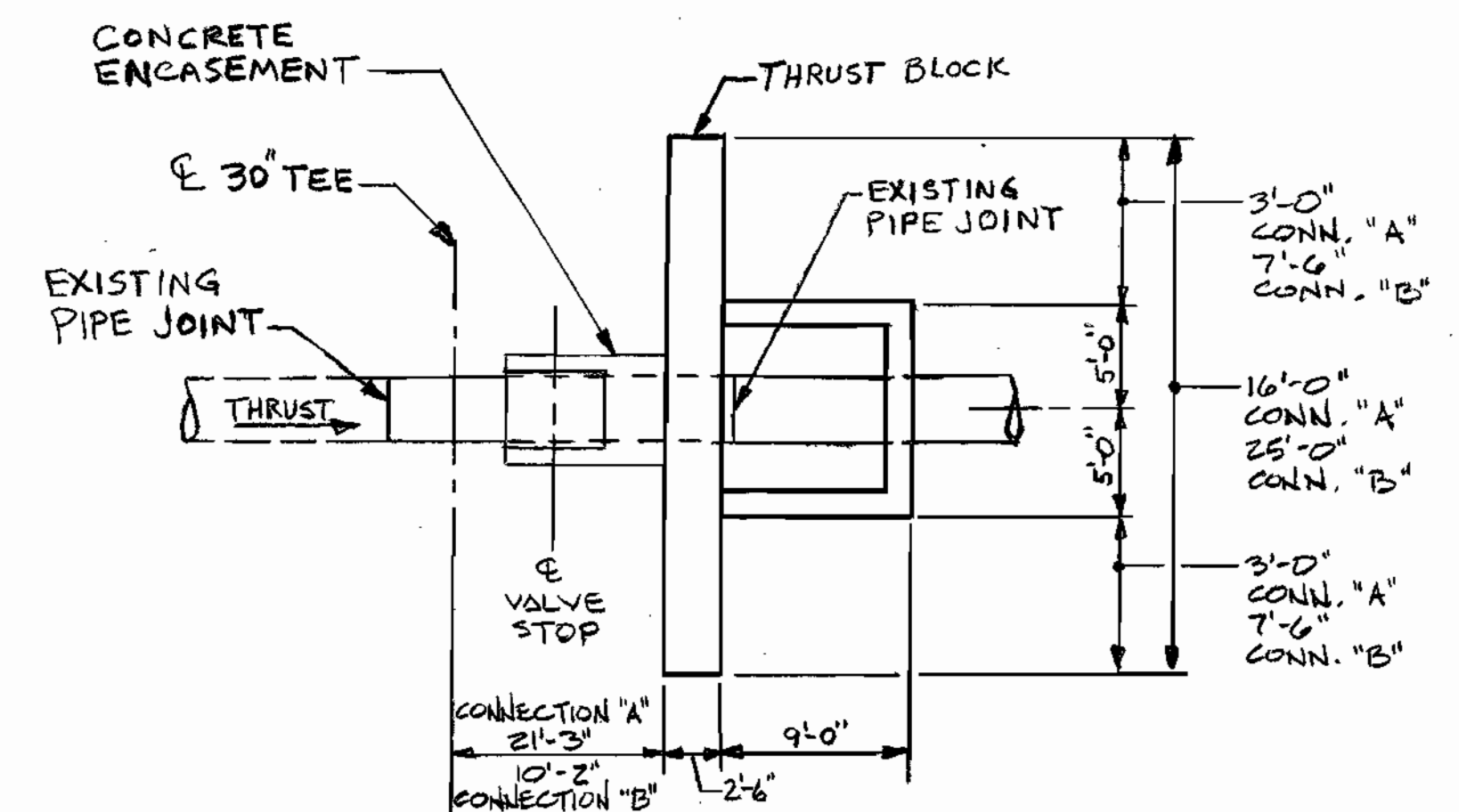


ACCESS MANHOLE
NOT TO SCALE



- NOTES:**
1. PROVIDE 8" BRICK BULKHEAD AT EACH END OF CASING WITH 2" DIAMETER PIPE THROUGH EACH BULK HEAD FOR DRAINAGE PRIOR TO FILLING WITH GROUT.
 2. PROVIDE END PIPE JOINT 2'-0" MAX. FROM OUTSIDE OF 8" BRICK BULKHEAD.
 3. STEEL TUNNEL LINER PLATES SHALL CONFORM TO ALL A.A.S.H.T.O. DESIGN SPECIFICATIONS.
 4. LINER PLATES SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH A.S.T.M. A 123. ALL GALVANIZED SURFACES SHALL BE TREATED WITH A VINYL WASH PRIMER AND COATED WITH KOPPERS BITUMASTIC 300M THINMETAR 46-413 OR EQUAL.
 5. COAT ALL STRAPS AND OTHER EXPOSED STEEL IN ACCORDANCE WITH NOTE 4.

LINER PLATE TUNNEL & STEEL CASING DETAIL
NOT TO SCALE



PLAN
EXISTING PIPE - CONNECTIONS
THRUST BLOCK
1/8" = 1'-0"
AS BUILT 6-15-2000

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

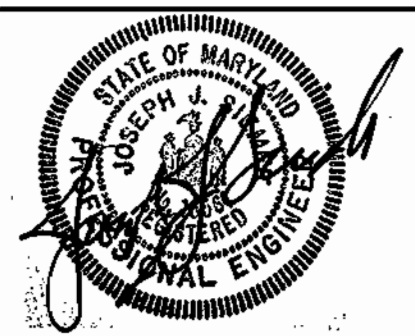
James P. Clum 12/3/98
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Brown 12-3-98
CHIEF, BUREAU OF UTILITIES DATE

Robert J. Brown 12/3/98
CHIEF, BUREAU OF ENGINEERING DATE

Robert J. Brown 12-3-98
CHIEF, WATER & SEWER DIVISION DATE

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

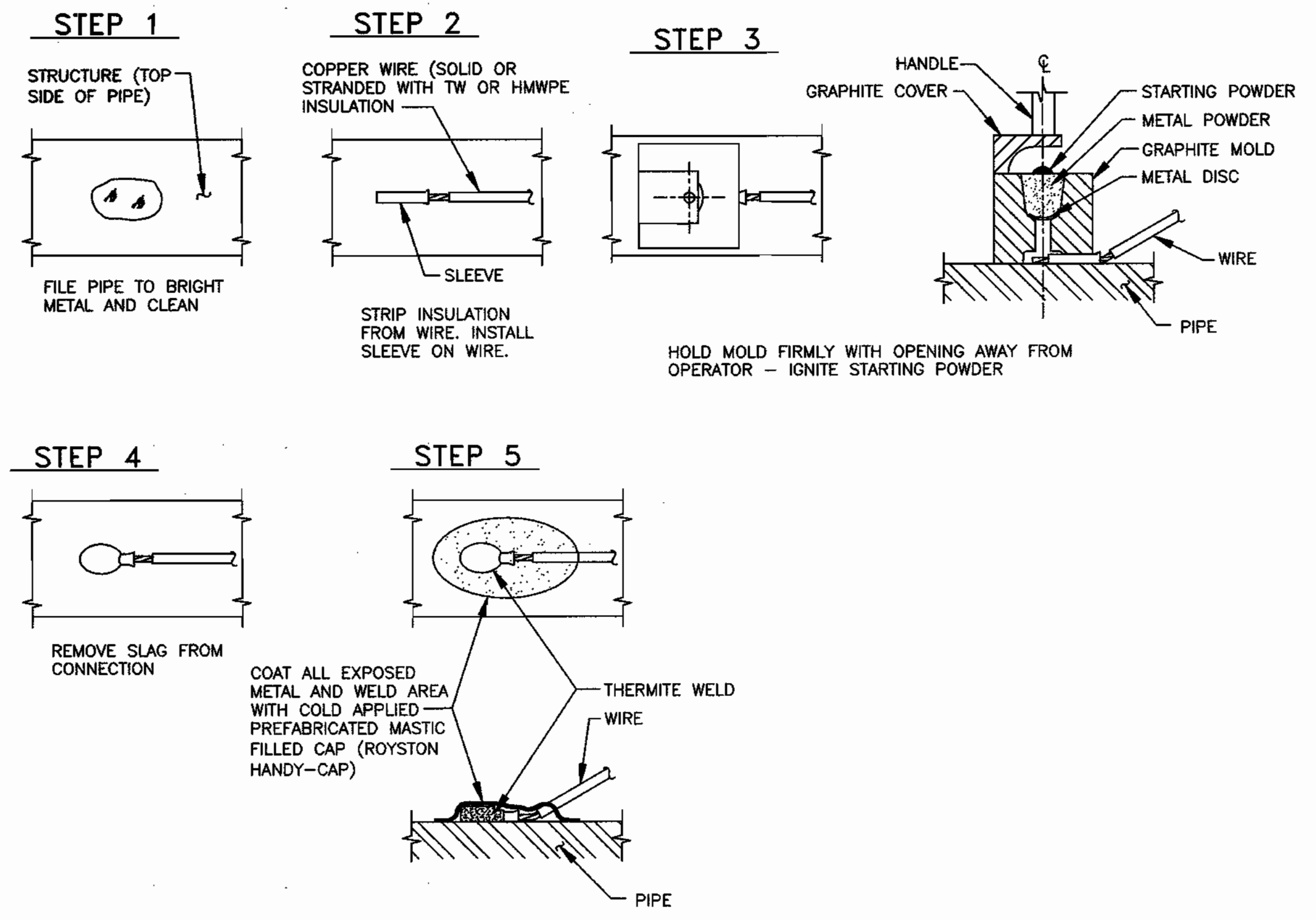


DES: LAF					
DRN: MEK					
CHK: JJS					
DATE: 11/30/98	BY	NO.	REVISION	DATE	600' SCALE MAP NO. _____ BLOCK NO. _____

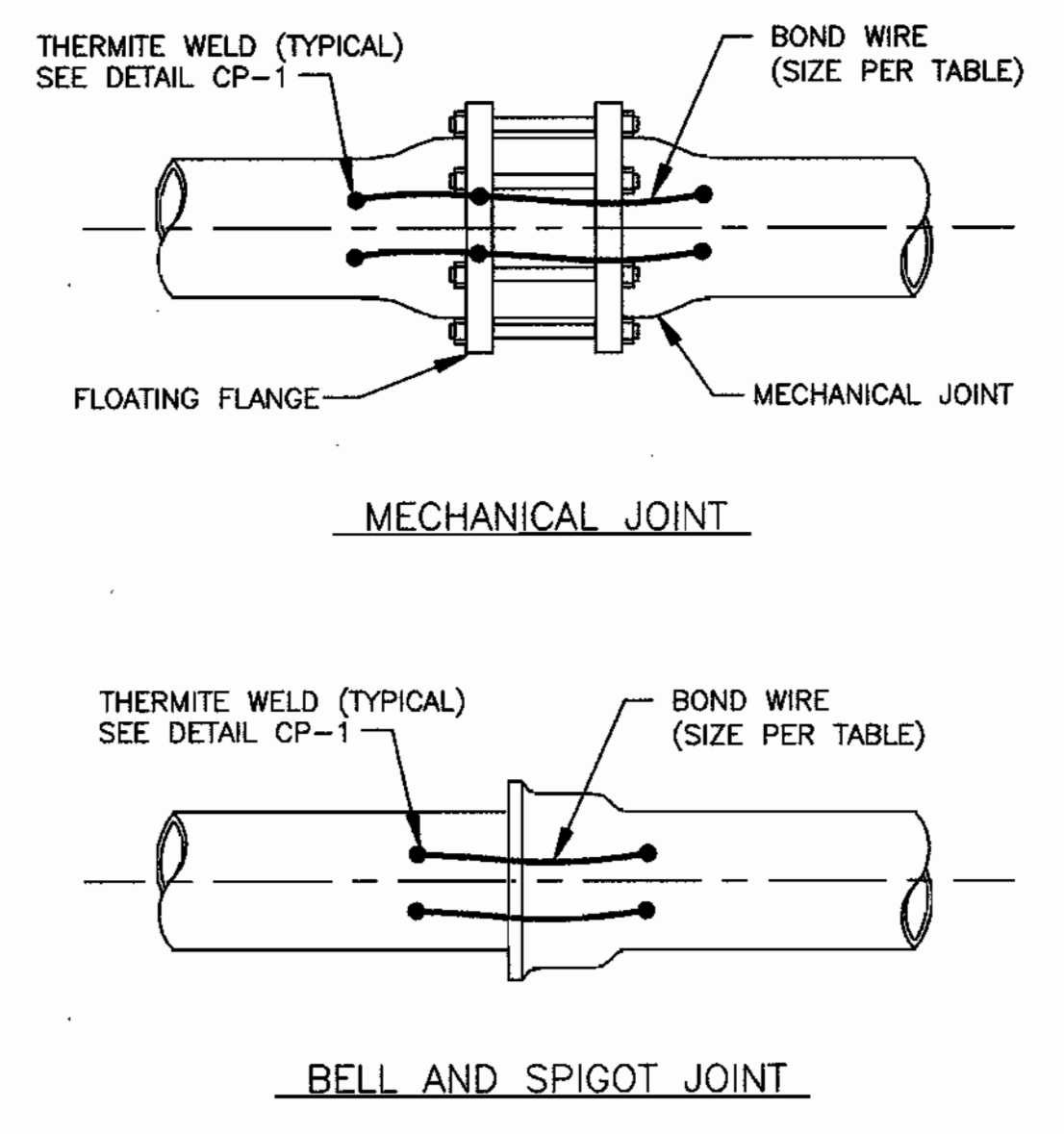
MD ROUTE 175 & SNOWDEN RIVER PARKWAY
CAPITAL PROJECT W-8212
CONTRACT NO. 24-3725
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 8
9 11

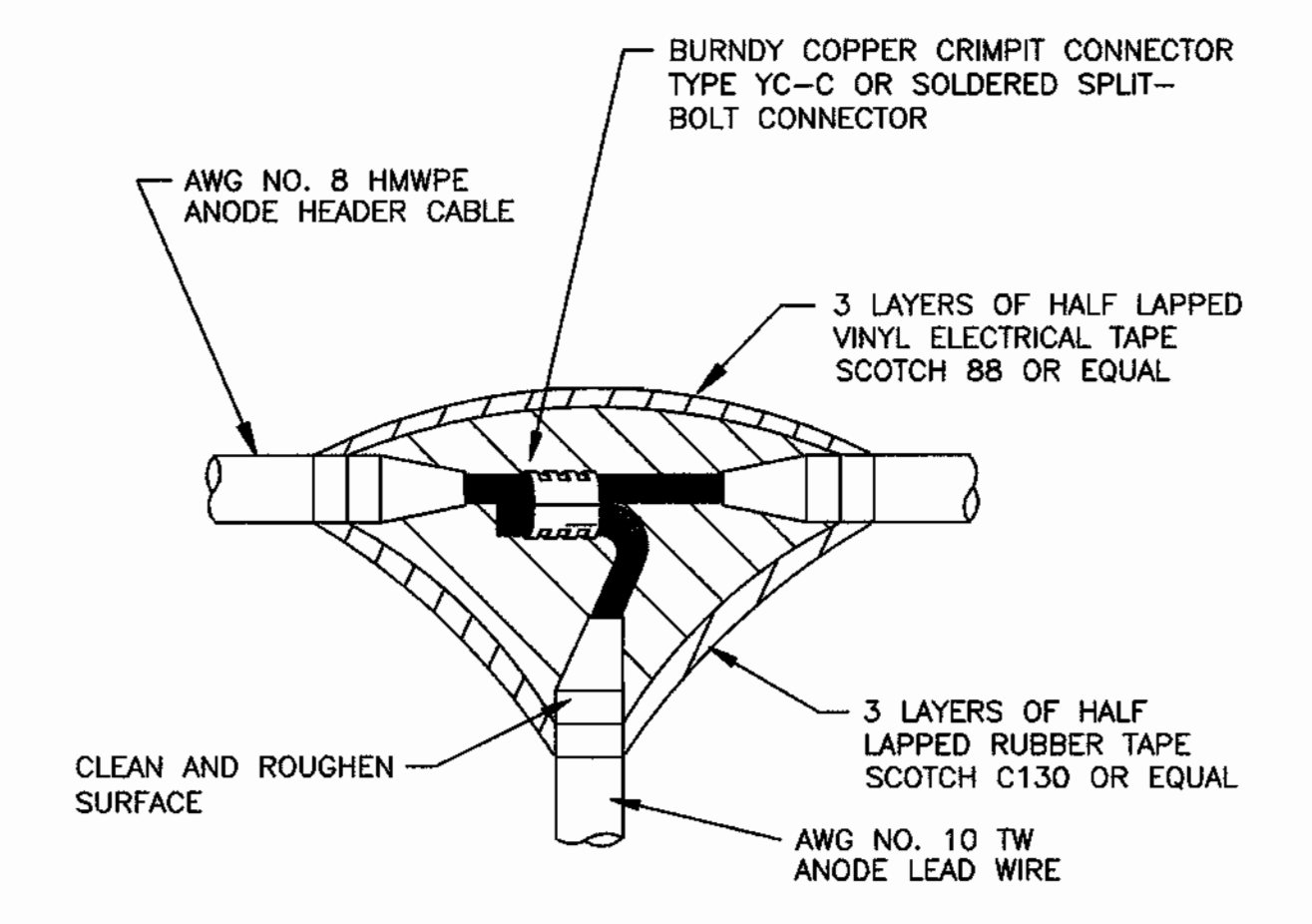


CP-1: TYPICAL THERMITE WELD

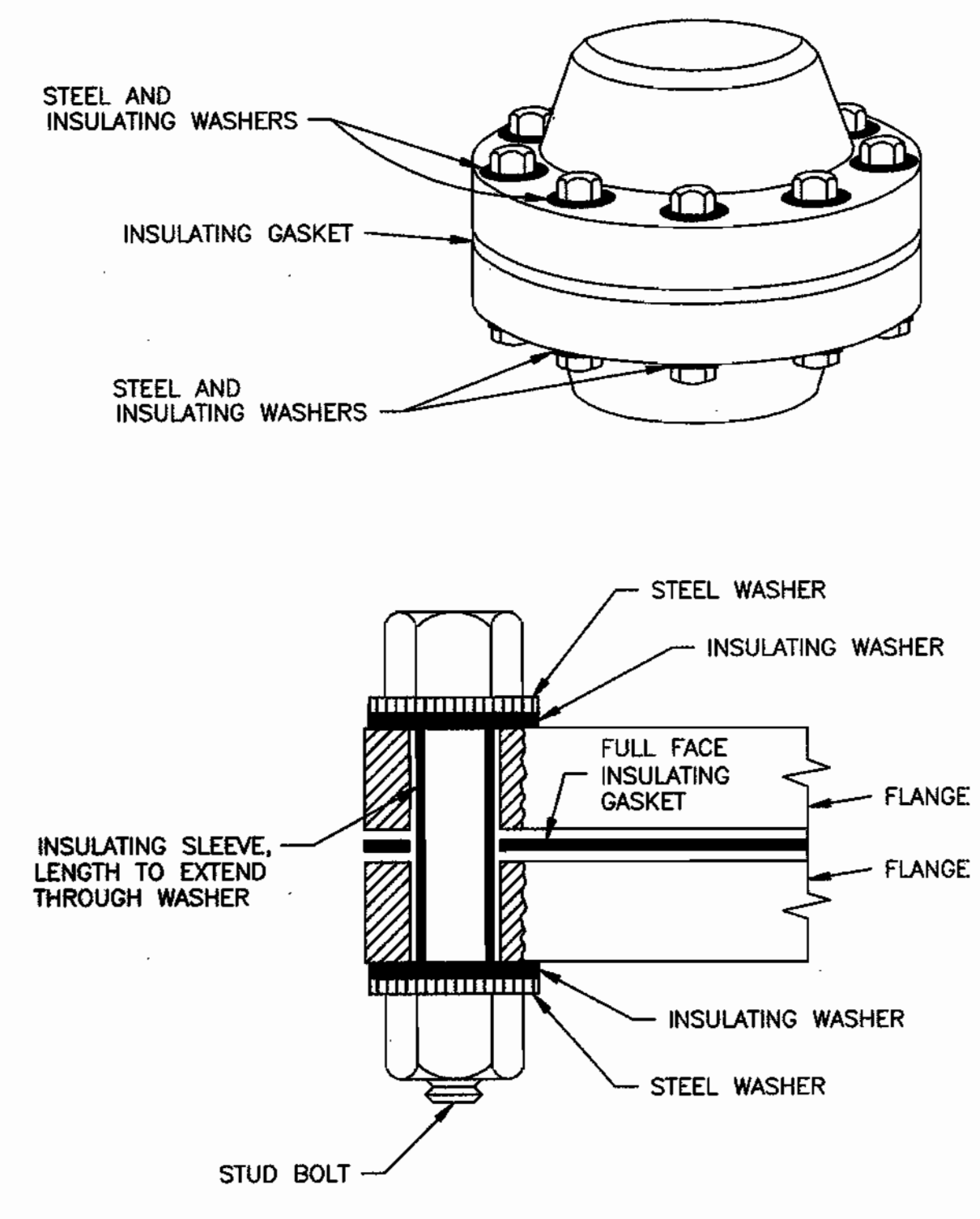


BOND WIRE SIZE	
PIPE SIZE	WIRE SIZE
48" & SMALLER	#2 AWG
32" & SMALLER	#4 AWG
12" & SMALLER	#6 AWG

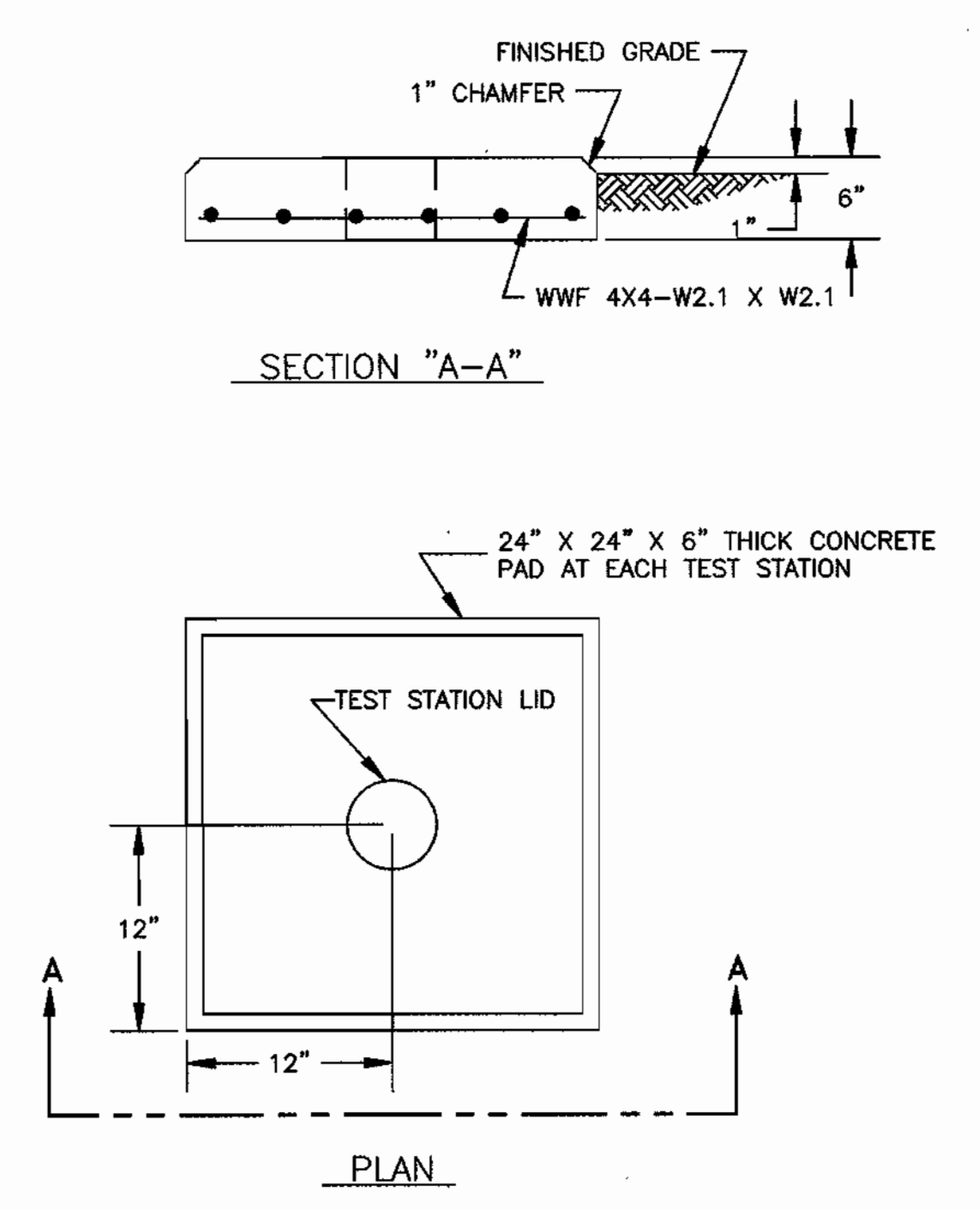
CP-2: TYPICAL PIPE JOINT BOND



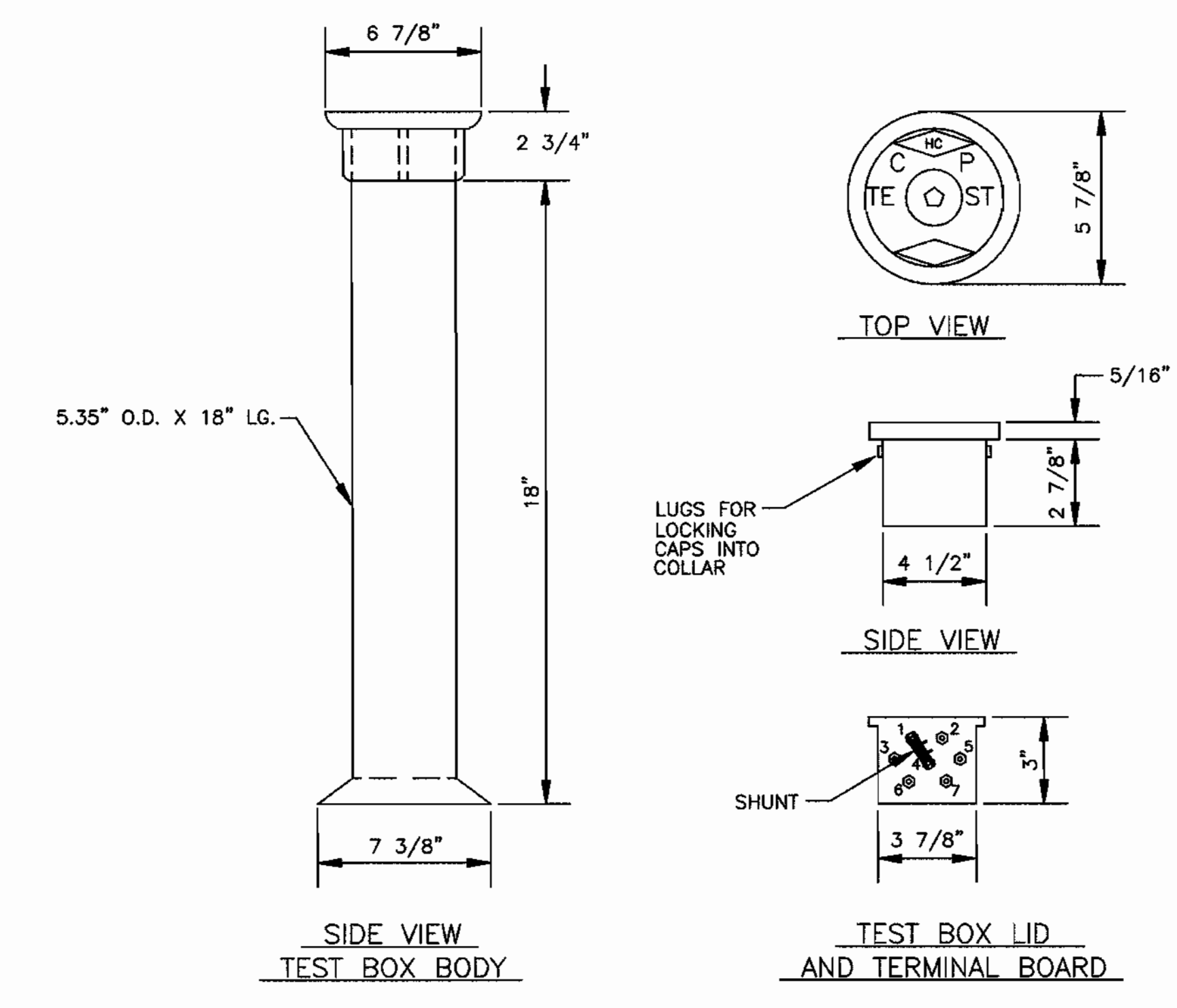
CP-3: ANODE SPLICE



CP-4: INSULATING JOINT



CP-5: TEST STATION PAD

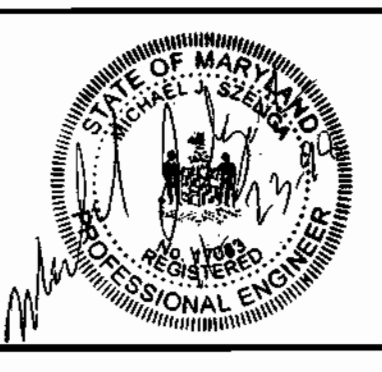


CP-6: TEST BOX

AS BUILT 6-15-2000

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
12/3/98
12-3-98

RUSSELL CORROSION CONSULTANTS, INC.
5405 TWIN KNOLLS RD., SUITE 3
COLUMBIA, MD 21045



DES: MJS
DRN: DJD
CHK: MJS
DATE: 10/98

CATHODIC PROTECTION DETAILS
600' SCALE MAP NO. _____ BLOCK NO. _____

MD ROUTE 175 & SNOWDEN RIVER PARKWAY
CAPITAL PROJECT W-8212
CONTRACT NO. 24-3725
ALIGNMENT A, PHASE 2
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE: NONE
SHEET 8 OF 8
10 11

