


HOWARD COUNTY

DEPARTMENT OF PUBLIC WORKS

ELLCOTT CITY, MARYLAND 21043

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 by the Contractor at the Contractor's expense.
- All existing utilities shall be test pitted/located as necessary and in advance of the proposed construction, in order to properly make all required utility crossings and/or connections. Any discrepancies or utility conflicts shall be immediately reported to the Engineer.
- 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 12". Clear all poles by 5'-0" minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from money owed the Contractor. The Contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction (Latest Edition). The Contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol  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 (2) weeks in advance of construction operations at his own expense.
- Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on these plans:
 AT&T 1-800-252-1133
 BGE - Contractor Services 410-850-4620
 BGE - Underground Damage Control 410-787-9068
 Bureau of Utilities (DPW) 410-313-4800
 Verizon 1-800-743-0033 / 410-224-9210
 Colonial Pipeline Co. 410-795-1390
 Miss Utility 1-800-257-7777
- 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 (5) working days before any open cut of any County road or trenchless installation operation in county roads 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.
- The Contractor is responsible for contacting the various businesses and coordinating his work activities so as not to negatively impact connected customers. The installation of water main shall cause a minimum of disturbance to the existing businesses and notification to the businesses of any "interruptions of service" shall be the responsibility of the Contractor. The County requires that the Contractor notify each business affected, by letter or with door tags, of the impending service interruption at least 48 hours in advance of the planned interruption. In the event of an unplanned interruption, the Contractor will be responsible for notifying the businesses by "door to door" canvassing.
- The Contractor shall provide all necessary lines, grades and elevations, and cut sheets shall be prepared based on the lines and grades shown on the Contract drawings.

WATER STAKEOUT TABLE			
ITEM	STATION	NORTHING	EASTING
6" WATER			
CONNECT TO Ex. 6" W	0+00	583,086.655	1,370,126.744
6"x4" TEE	1+32.17	583,136.661	1,370,249.085
6"x6" TEE	1+42.03	583,140.393	1,370,258.216
6"x6" TEE	2+35.73	583,175.845	1,370,344.951
6"x4" TEE	2+41.19	583,177.911	1,370,350.004
6" CAP	2+67.33	583,187.802	1,370,374.203
4" WATER			
6"x4" TS & VALVE	10+00	583,070.585	1,370,087.302
1/4 HB	10+22.96	583,091.840	1,370,078.614
1/8 HB	10+38.06	583,097.553	1,370,092.591
1/8 HB	10+43.18	583,095.570	1,370,097.314
4" TEE	10+60.43 10+60.43	583,098.313	1,370,104.023
1/8 HB	10+50.22 10+50.22	583,099.367	1,370,106.601
1/8 HB	10+56.20	583,101.194	1,370,107.368
4" CAP	11+12.29	583,122.795	1,370,160.216
4" TEE	11+99.90	583,155.904	1,370,241.219
4" WATER			
6"x4" TEE	20+00	583,177.911	1,370,350.004
PC	20+07.37	583,184.729	1,370,347.217
PT	20+14.28	583,190.821	1,370,343.972
PC	20+17.32	583,193.494	1,370,342.531
PT	20+20.96	583,196.785	1,370,340.976
1/4 HB	20+26.49	583,201.908	1,370,338.882
4"x4" TEE	20+88.99	583,225.553	1,370,396.730
4"x2" REDUCER	21+05.40	583,231.761	1,370,411.920
4" WATER (CROSSING)			
6"x4" TEE	30+00	583,136.661	1,370,249.085
4"x4" TEE	30+20.66	583,155.904	1,370,241.219
4" CAP	30+22.94	583,158.010	1,370,240.359

TRAVERSE DATA			
D&D TRAV. PT.	NORTHING	EASTING	ELEV.
DEWBERRY MAG NAIL #100	N 583,235.6610	E 1,370,498.5750	ELEV. 124.88
DEWBERRY MAG NAIL #101	N 583,070.2217	E 1,370,093.8206	ELEV. 125.75
DEWBERRY MAG NAIL #102	N 583,160.0940	E 1,370,313.6971	ELEV. 124.18

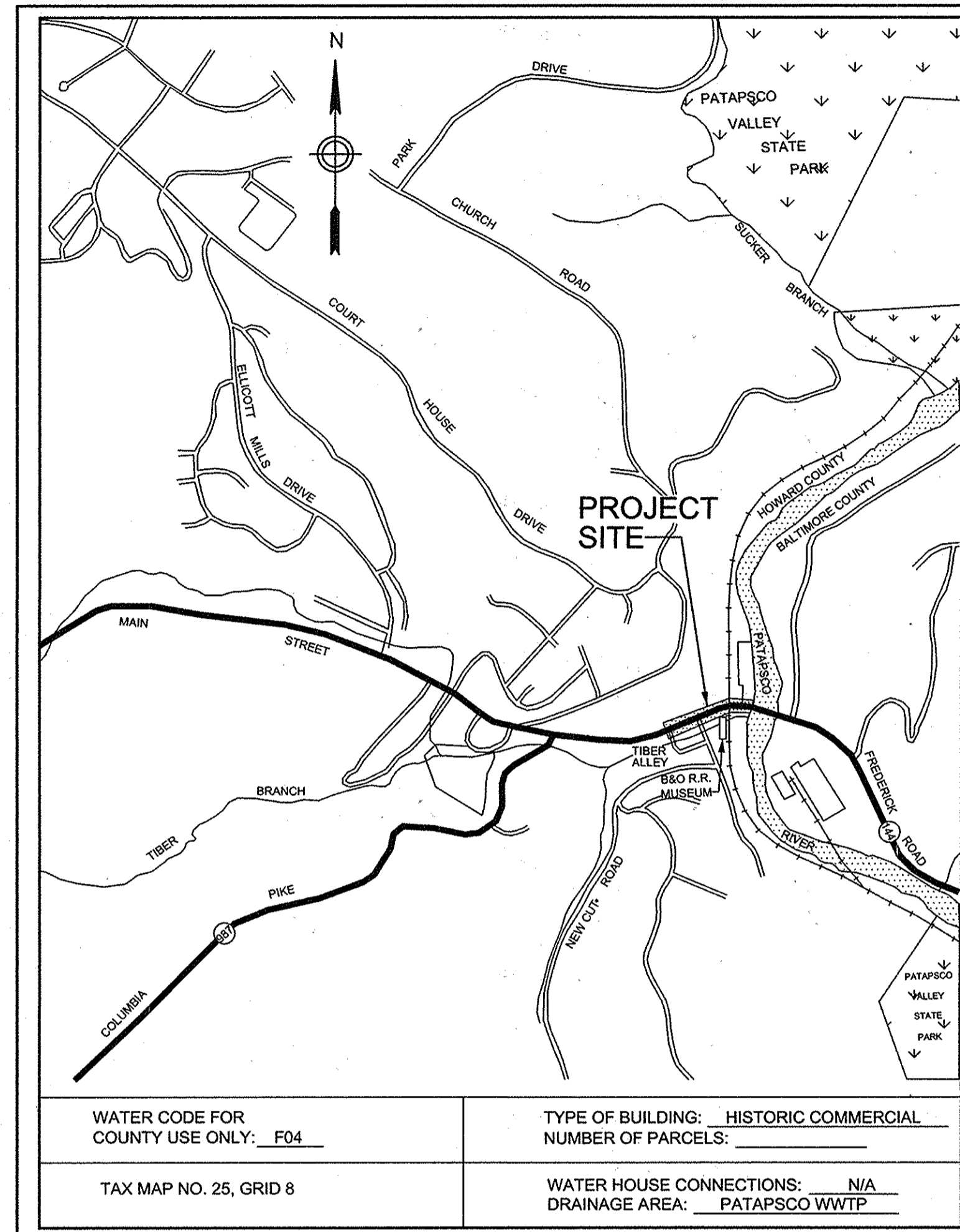
SURVEY CONTROL

B.M. #1

HOWARD CO. B.M. 25DM5
BRASS SCREW NEAR ELLICOTT CITY R.R. STATION
NAVD29 EL. 121.489

B.M. #2

HOWARD CO. B.M. 25DM2
BRASS DISC FLUSH WITH SIDEWALK
MAIN ST. IN FRONT OF FISHER BAKERY
NAVD29 EL. 134.636



VICINITY MAP

SCALE: 1" = 600'

MAIN STREET, ELLICOTT CITY

WATER MAIN EXTENSION AND DRAINAGE IMPROVEMENTS

CAPITAL PROJECTS W-8258 AND D-1118

CONTRACT NO. 44-4139

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE
2A	EROSION AND SEDIMENT CONTROL PLAN AND DETAILS
3	PROFILES AND DETAILS
4	TEMPORARY WATER SYSTEM
5	TRAFFIC CONTROL PLAN
6	PLAN AND PROFILE OF DRAINAGE IMPROVEMENT (RMA)
7	TRENCH DRAIN DETAIL SHEET (RMA)
8	CATHODIC PROTECTION LAYOUT DELETED FROM CONTRACT
9	CATHODIC PROTECTION DETAILS DELETED FROM CONTRACT

AS BUILT DRAWING AUG. 26, 2005

RESTORATION SCHEDULE			
STATION	TO STATION	DISTANCE	MATERIAL
WATER MAINS			
0+00	2+26.33	267.33 L.F.	ASPHALT PAVING
10+00	11+99.80	199.80 L.F.	ASPHALT PAVING
20+00	21+05.40	105.40 L.F.	ASPHALT PAVING
30+00	30+22.94	22.94 L.F.	ASPHALT PAVING
TRENCH DRAIN			
0+00	1+40	140 L.F.	ASPHALT PAVING

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	SUPPLIER
6" AWWA C900 PVC WATER MAIN	L.F.	267	260	PW Eagle
4" AWWA C900 PVC WATER MAIN	L.F.	327	327	PW Eagle
6" VALVE	EA.	2	2	Kennedy Valve
4" VALVE	EA.	4	6	Kennedy Valve
3" W.H.C.	L.F.	6	0	
1" W.H.C.	L.F.	40	124	Carrotube
6" x 4" TEE	EA.	2	2	U.S. Pipe
6" x 6" TEE	EA.	1	1	U.S. Pipe
4" x 4" TEE	EA.	2	3	U.S. Pipe
4" x 2" RED.	EA.	1	0	U.S. Pipe
6" x 6" FH TEE & 6" VALVE	EA.	1	1	Kennedy Valve
TRENCH DRAIN	L.F.	140	140	Multi Drain Sys., Inc.

NAME OF UTILITY CONTRACTOR: PESSOA CONSTRUCTION CO.

CHECK BOX

AS-BUILT DATE: AUGUST 26, 2005

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

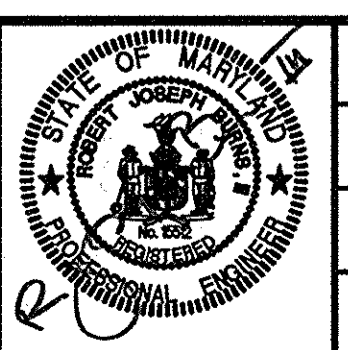
Jan 7, Jan 5/19/04
DIRECTOR OF PUBLIC WORKS
DATE

Robert J. Davis 5/17/04
CHIEF, BUREAU OF ENGINEERING
DATE

5-19-04
CHIEF, BUREAU OF UTILITIES
DATE

5-17-04
CHIEF, UTILITY DESIGN DIVISION
DATE

Dewberry
Dewberry & Davis LLC
3120 LORD BALTIMORE DRIVE
SUITE 211
BALTIMORE, MD 21244-2662
PHONE: 410.265.8500
FAX: 410.265.8875



DES:	SMS		
DRN:	SMS		
CHK:	RJB		
DATE:	RJB	AB	AS BUILT REVISIONS
BY:	NO.	REVISIONS	DATE

TITLE SHEET

600' SCALE MAP NO. 25 BLOCK NO. 8

MAIN STREET
WATER MAIN EXTENSION AND
DRAINAGE IMPROVEMENTS
CAPITAL PROJECTS W-8258 AND D-1118
CONTRACT 44-4139

ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
1 OF 9

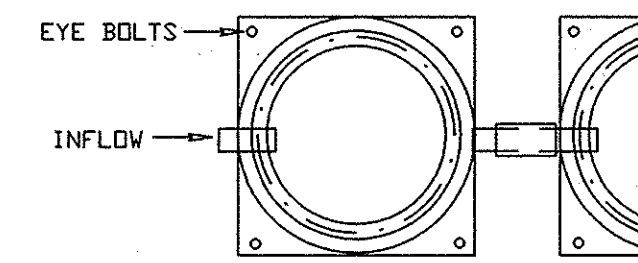
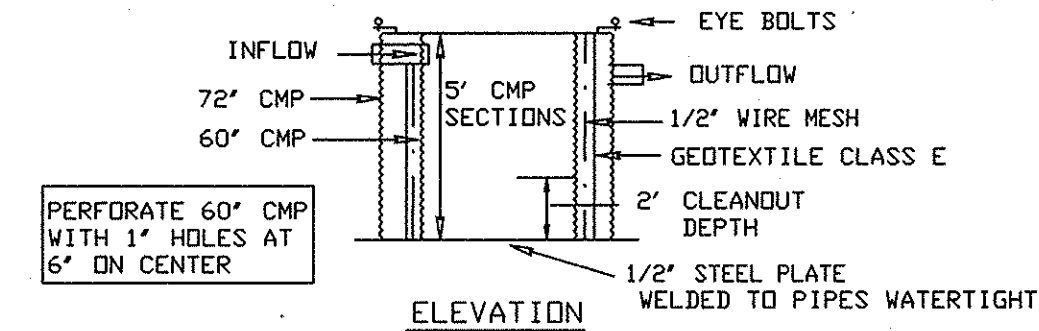
SEDIMENT CONTROL GENERAL NOTES

- A minimum of 48 hours notice must be given to 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 the plan and are to be in conformance with the most current Maryland Standards and Specifications for Soil Erosion and Sediment Control and revisions thereto.
- 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 (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.
- Perform the following sequence for each day of storm drain and water main construction operations:
 - Excavate and install water main and appurtenances. Place backfill and compact.
 - Excavate and install trench drain along north side of Main Street.
 - Repair road surfaces as required.
- Site Analysis
 Site is defined as areas involving any improvement.

Total Area of Site	0.175 Acres
Area Disturbed	0.175 Acres
Area to be roofed or paved	0.175 Acres (New Pavement 1.39 Acres)
Area to be Vegetatively Stabilized	0.000 Acres
Total Cut	475 Cu. Yds.
Total Fill	450 Cu. Yds.

 Offsite waste/borrow area location To be determined by contractor.
- Any sediment control practices 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 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 back-filled and stabilized by the end of each work day, whichever is shorter.

DETAIL 21 - PORTABLE SEDIMENT TANK



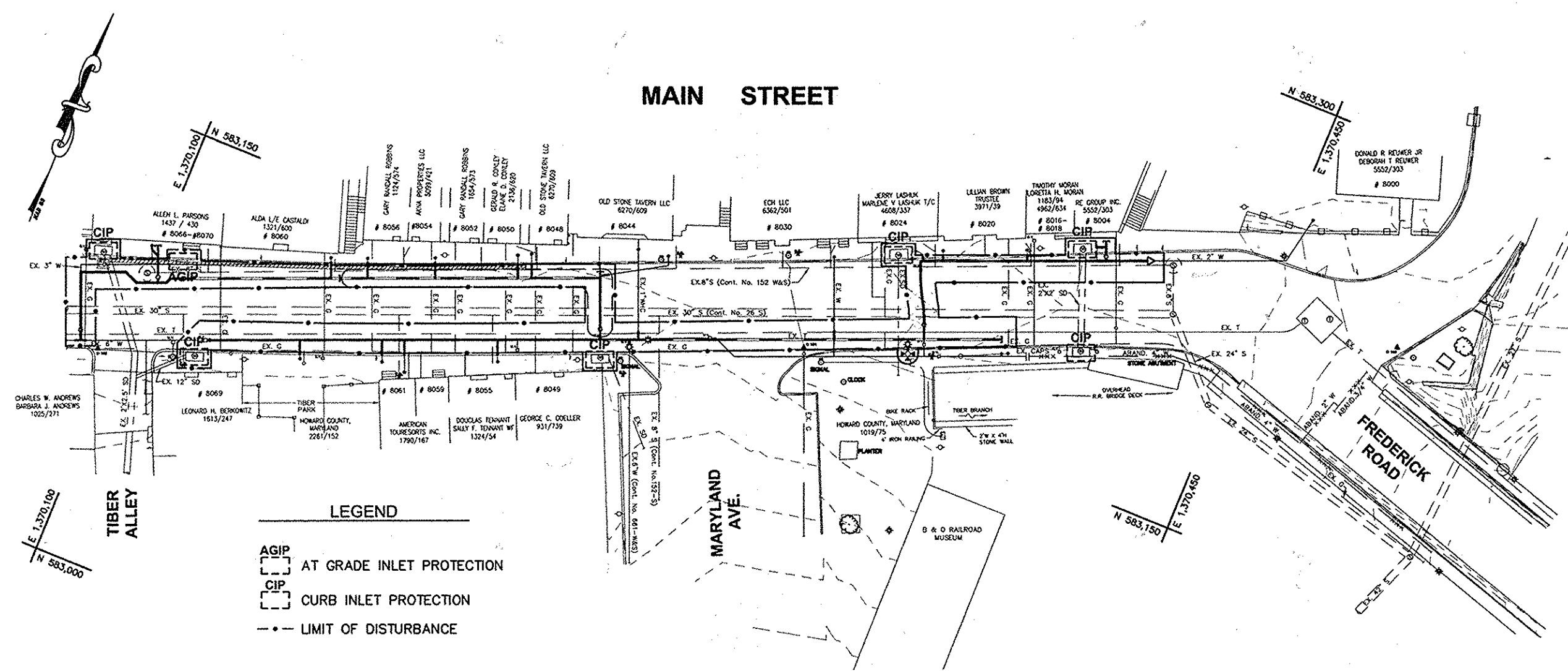
STANDARD SYMBOL
 PST

Construction Specifications

- The following formula should be used in determining the storage volume of the sediment tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity.
- An example of a typical sediment tank is shown above. Other container designs can be used if the storage volume is adequate and approval is obtained from the local approving agency.
- Tanks may be connected in series.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D - 14 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MAIN STREET



EROSION AND SEDIMENT CONTROL PLAN

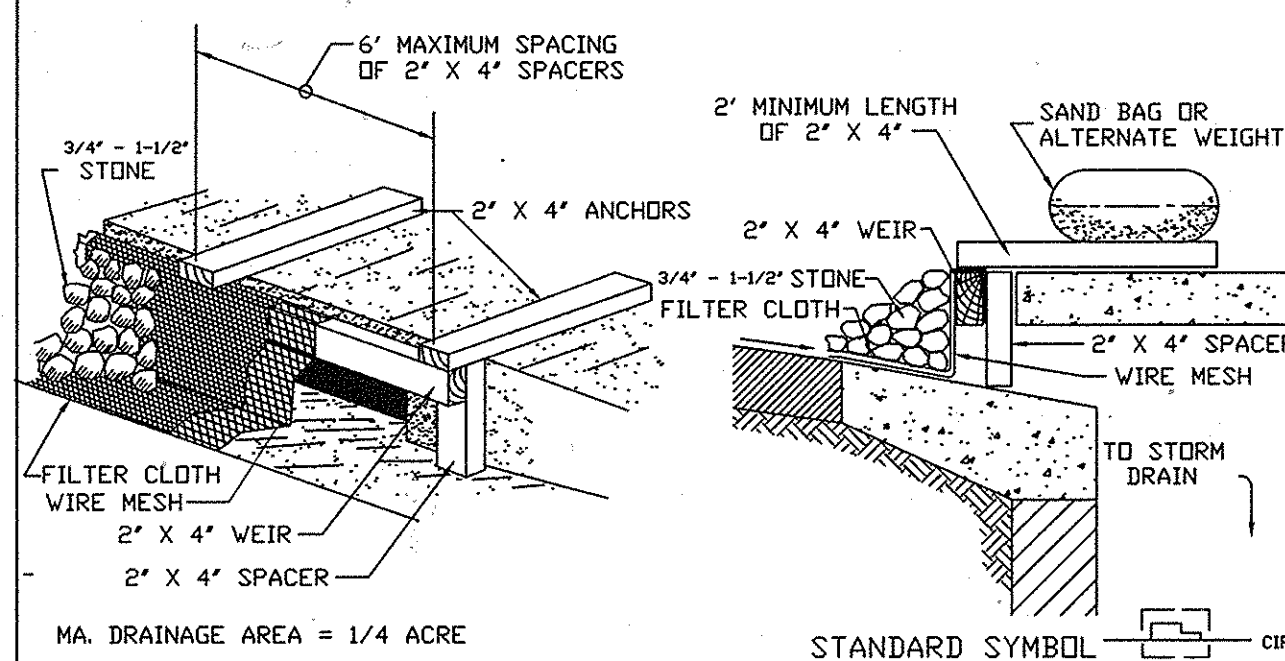
SCALE: 1"=40'

NOTE: THE PROPOSED LIMITS OF DISTURBANCE EQUAL THE PROPOSED LIMITS OF SEDIMENT CONTROLS

UTILITY NOTES:

- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
- CONSTRUCTION SHALL TAKE PLACE SUNDAY THROUGH FRIDAY BETWEEN THE HOURS OF 10 P.M. AND 7 A.M. ONLY.

DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



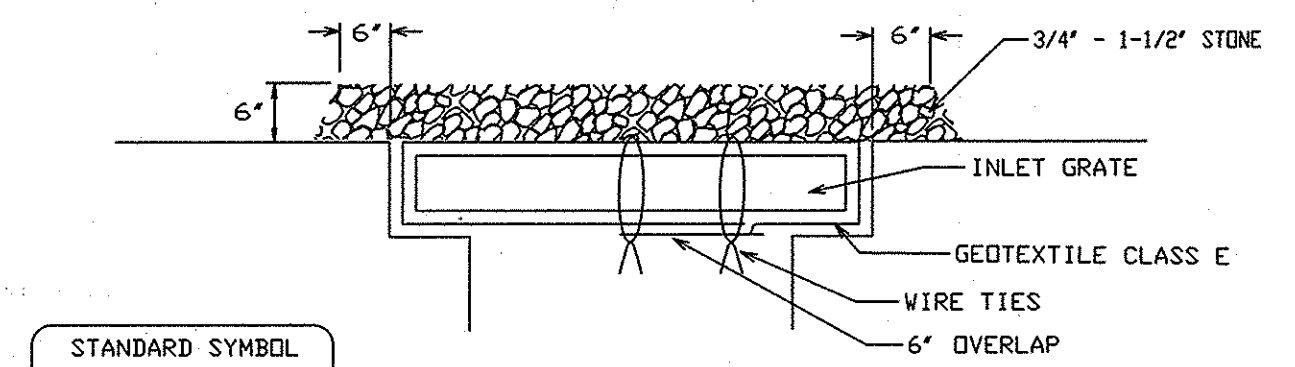
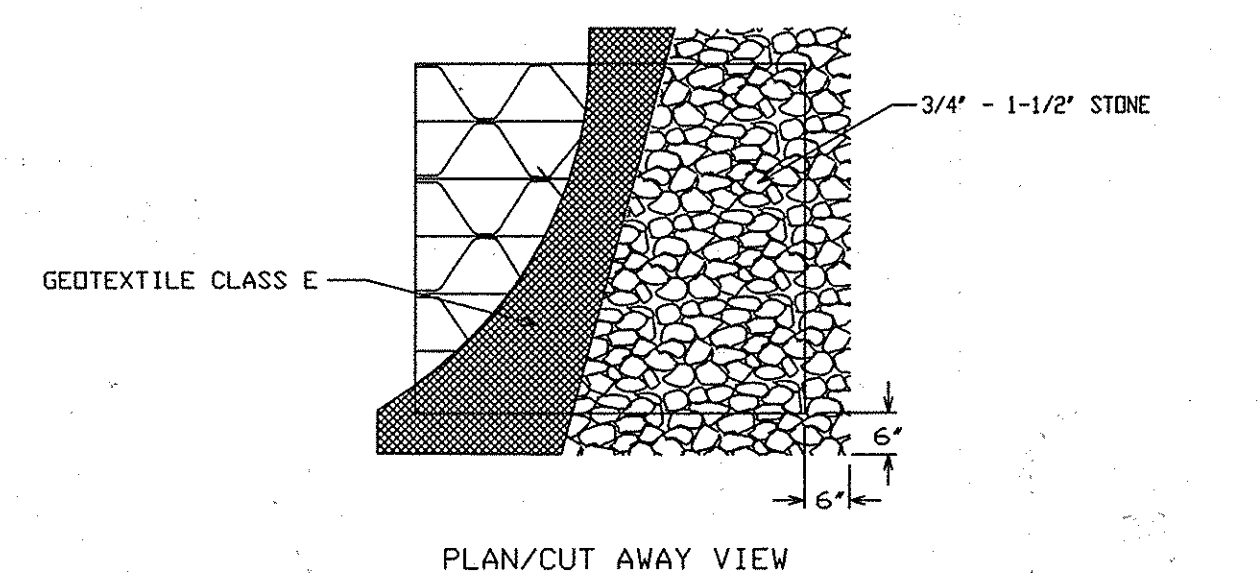
MA. DRAINAGE AREA = 1/4 ACRE STANDARD SYMBOL CIP

Construction Specifications

- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2"x4" weir (measuring throat length plus 2") as shown on the standard drawing.
- Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2"x4" weir.
- Securely nail the 2"x4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
- Place the assembly against the inlet throat and nail (minimum 2' lengths of 2"x4" to the top of the weir at spacer locations). These 2"x4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- Form the 1/2"x1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4"x1-1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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

DETAIL 23B - AT GRADE INLET PROTECTION



STANDARD SYMBOL AGIP

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
- Place 3/4" to 1-1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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

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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Emald G. Lepson 5/17/04
 Signature of Developer Date

Emald G. Lepson
 Print Name

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

Joseph B. Burns, III 4-28-04
 Signature of Engineer Date

R. JOSEPH BURNS, III
 Print Name

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Meyer 5/20/04
 Signature of Natural Resources Conservation Service Date

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

John R. Robertson 5/20/04
 Signature of Howard Soil Conservation District Date

AS BUILT DRAWING AUG. 26, 2005

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. ... 5/19/04
 DIRECTOR OF PUBLIC WORKS DATE

Richard J. ... 5-17-04
 CHIEF, BUREAU OF UTILITIES DATE

Emald G. Lepson 5/17/04
 CHIEF, BUREAU OF ENGINEERING DATE

Ray ... 5-17-04
 CHIEF, UTILITY DESIGN DIVISION DATE

Dewberry
 Dewberry & Davis LLC

3120 LORD BALTIMORE DRIVE
 SUITE 211
 BALTIMORE, MD 21244-2682
 PHONE: 410.285.9500
 FAX: 410.285.9875



DES: SMS	DC	ADD SEDIMENT CONTROL NOTE	5/16/04
DRN: SMS	RJB	AS BUILT REVISIONS	8/26/05
CHK: RJB	AB		
DATE:	BY NO.	REVISIONS	DATE

EROSION AND SEDIMENT CONTROL PLAN AND DETAILS

600' SCALE MAP NO. 25 BLOCK NO. 8

MAIN STREET WATER MAIN EXTENSION AND DRAINAGE IMPROVEMENTS

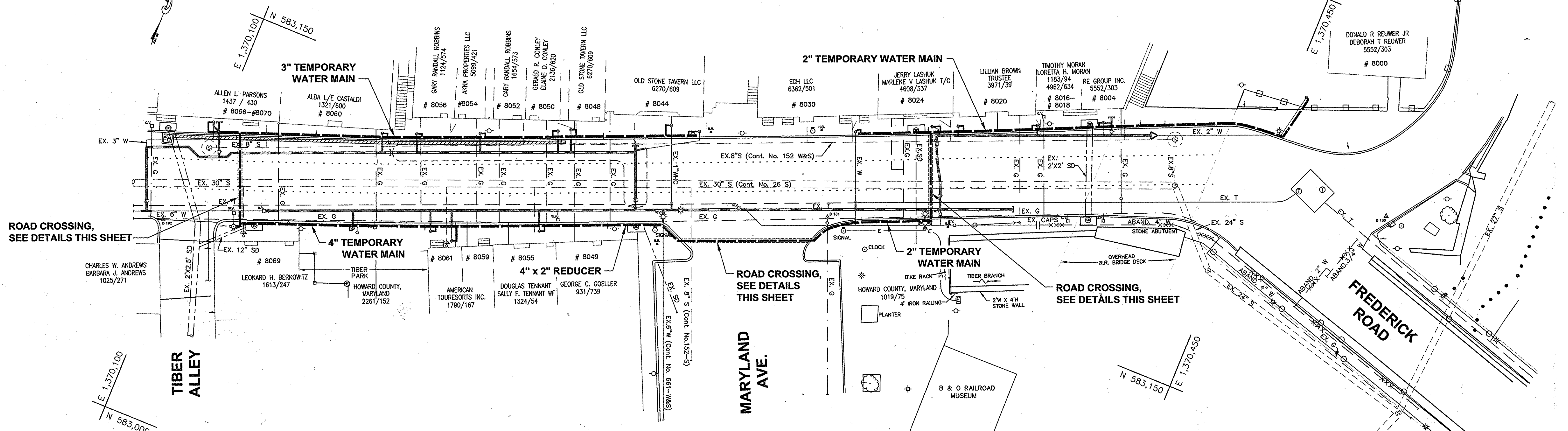
CAPITAL PROJECTS W-8258 AND D-1118
 CONTRACT 44-4139

ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2A OF 9

R:\Projects\011313\313\313\CADD Files\Plan\SEDIMENT EROSION NOTES DETAILS.dwg, 4/28/2004 4:29:27 PM, HP DesignJet 1055C, p.23

MAIN STREET

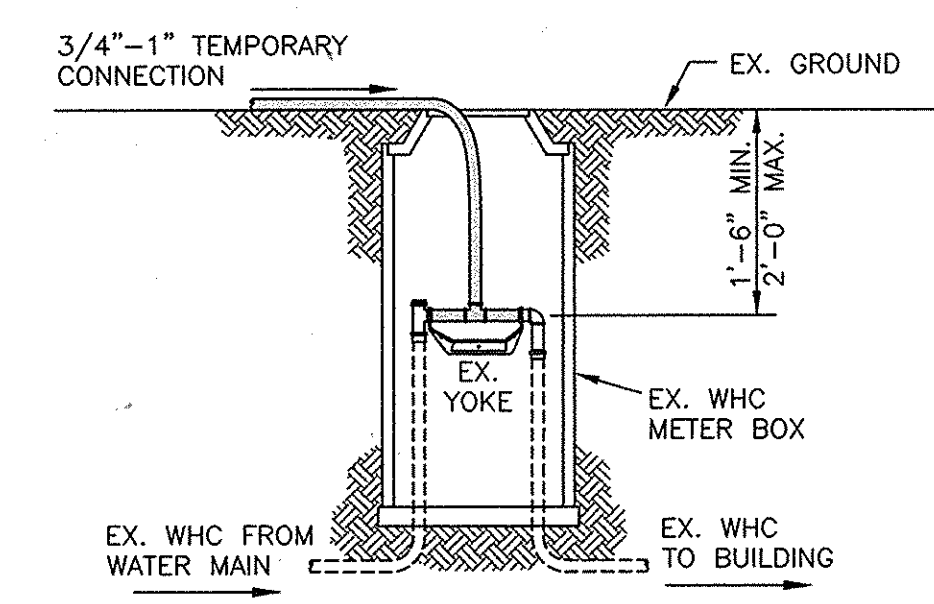


PROVIDE PRV WITH OUTLET
PRESSURE SETTING @ 60 PSI

PLAN
SCALE: 1"=20'

UTILITY NOTES:

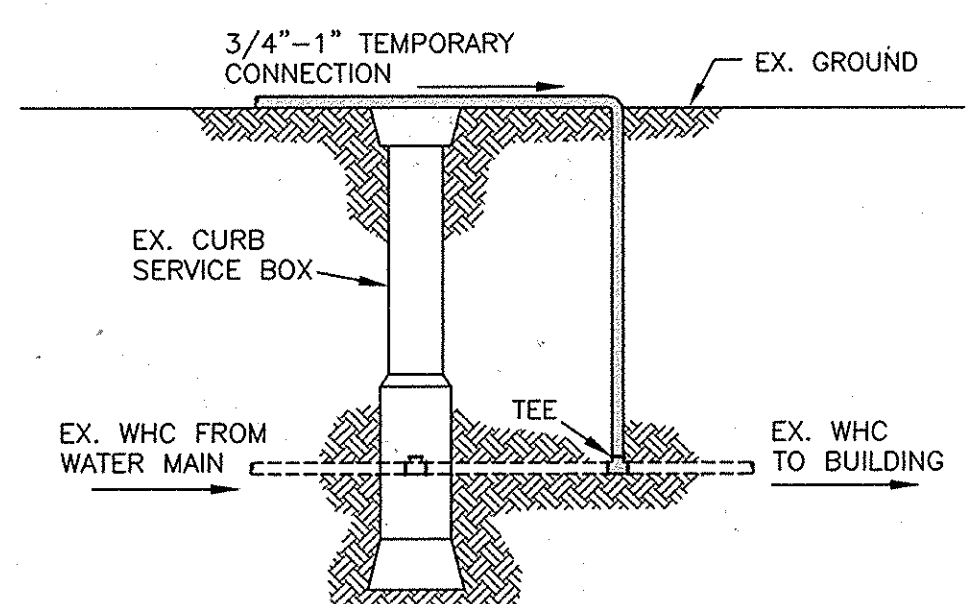
- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
- CONSTRUCTION SHALL TAKE PLACE SUNDAY THROUGH FRIDAY BETWEEN THE HOURS OF 10 P.M. AND 7 A.M. ONLY.



- NOTES:
- REMOVE METER FROM WHC SETUP AND REPLACE UPON COMPLETION OF JOB.
 - INSTALL TEE TO YOKE AND CONNECT TEMPORARY PIPE TO TEE.

TEMPORARY WHC CONNECTION TO OUTSIDE METER

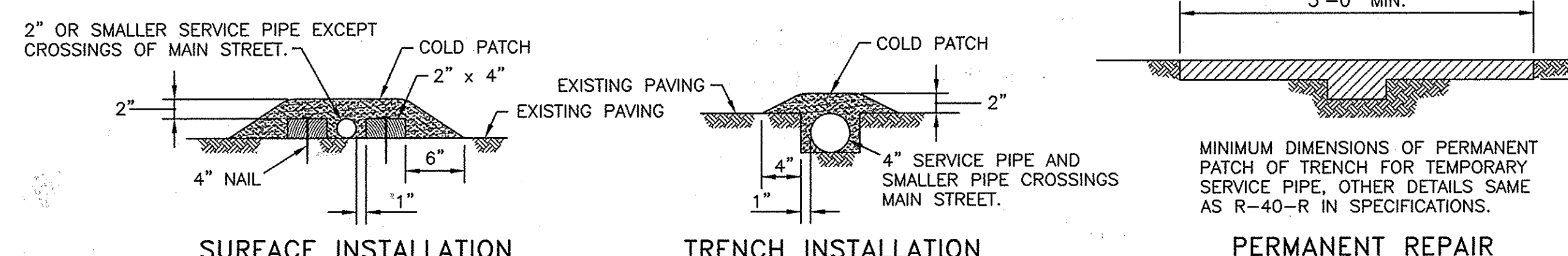
NOT TO SCALE



- NOTES:
- DIG PIT TO CONNECT TEMPORARY WHC CONNECTION.
 - SHUT-OFF CURB STOP VALVE/METER.
 - INSTALL TEE ON BUILDING SIDE OF CURB SERVICE BOX AND CONNECT TEMPORARY WATER LINE TO TEE.

TEMPORARY WHC CONNECTION TO INSIDE METER

NOT TO SCALE



SURFACE INSTALLATION TRENCH INSTALLATION PERMANENT REPAIR

TEMPORARY SERVICE CROSSING ROADS DETAILS

SCALE: 1"=1'-0"

SUGGESTED SEQUENCE OF CONSTRUCTION

- PHASE 1: INSTALLATION OF NEW 6-INCH WATER MAIN ALONG SOUTH SIDE OF MAIN STREET AND NEW 4-INCH WATER MAIN ALONG NORTH SIDE OF MAIN STREET AND EAST OF MARYLAND AVENUE.
- OBTAIN GRADING PERMIT
 - INSTALL SEDIMENT CONTROLS.
 - INSTALL TEMPORARY WATER SYSTEM. IT IS NOT NECESSARY TO CONNECT THE PROPERTIES OF #8060 TO #8070 MAIN STREET TO THE TEMPORARY WATER SYSTEM UNTIL PHASE 2.
 - INSTALL WORK ZONE TRAFFIC CONTROLS FOR CLOSURE OF EASTBOUND TRAVEL LANE.
 - COORDINATE SHUTDOWN OF THE EXISTING 4-INCH WATER MAIN WITH THE BUREAU OF UTILITIES. VALVES TO BE SHUT DOWN: 6-INCH MAIN VALVE IN FRONT OF #8069 MAIN STREET AND 6-INCH MAIN VALVE ON THE MARYLAND AVENUE WATER MAIN AT MAIN STREET.
 - INSTALL NEW WATER SYSTEM.
 - TEST, STERILIZE AND PLACE NEW 6-INCH AND 4-INCH MAINS IN SERVICE.
 - REMOVE PORTION OF THE TEMPORARY WATER SYSTEM THAT WAS PLACED ALONG SOUTH SIDE OF MAIN STREET AND EAST OF MARYLAND AVENUE.
- PHASE 2: INSTALLATION OF NEW 4-INCH WATER MAIN ALONG NORTH SIDE OF MAIN STREET AND WEST OF MARYLAND AVENUE.
- INSTALL SEDIMENT CONTROLS.
 - CONNECT THE PROPERTIES OF #8060 TO #8070 MAIN STREET TO THE TEMPORARY WATER SYSTEM.
 - RELOCATE THE WORK ZONE TRAFFIC CONTROLS FOR THE INSTALLATION OF THE NEW 6"x4" TAPPING SLEEVE AND VALVE.
 - INSTALL NEW TAPPING SLEEVE AND VALVE AND CONSTRUCT 4-INCH WATER MAIN CROSSING OF MAIN STREET WITH APPROPRIATE TRAFFIC CONTROL FOR SINGLE LANE CLOSURES.
 - REMOVE WORK ZONE TRAFFIC CONTROLS FROM EASTBOUND LANE AND OPEN EASTBOUND TRAVEL LANE.
 - INSTALL WORK ZONE TRAFFIC CONTROLS FOR CLOSURE OF THE WESTBOUND SHOULDER (PARKING) LANE.
 - INSTALL NEW WATER SYSTEM TO SERVE #8060 TO #8070 MAIN STREET. IF ADDITIVE-ALTERNATE BID ITEM "D" IS AWARDED, INSTALL NEW WATER SYSTEM TO SERVE #8044 TO #8056 MAIN STREET.
 - TEST, STERILIZE AND PLACE NEW 4-INCH MAIN IN SERVICE.
 - REMOVE TEMPORARY WATER SYSTEM.
 - CONSTRUCT NEW TRENCH DRAIN SYSTEM AND PLACE IN SERVICE.
 - REMOVE WORK ZONE TRAFFIC CONTROLS FROM WESTBOUND SHOULDER LANE.

NOTE: THIS IS ONE SUGGESTED SEQUENCE OF CONSTRUCTION THAT IS DESIGNED TO MINIMIZE THE DISRUPTION OF WATER SERVICE AND VEHICULAR TRAFFIC TO BUSINESSES AND RESIDENTS IN THE PROJECT AREA. ALTERNATIVE SEQUENCES THAT DO NOT INCREASE THE DISRUPTION OR DEGRADE THE HEALTH AND SAFETY OF PERSONS AND PROPERTY MAY BE SUBMITTED FOR REVIEW AND APPROVAL WELL IN ADVANCE OF CONSTRUCTION.

AS BUILT DRAWING AUG. 26, 2005

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 5/19/04 5/17/04	Dewberry & Davis LLC 3120 LORD BALTIMORE DRIVE SUITE 211 BALTIMORE, MD 21244-2662 PHONE: 410.285.9500 FAX: 410.285.8875	ROBERT J. BENIN PROFESSIONAL ENGINEER	DES: SMS	REVISE SEQUENCE OF CONSTRUCTION	MAIN STREET WATER MAIN EXTENSION AND DRAINAGE IMPROVEMENTS CAPITAL PROJECTS W-8258 AND D-1118 CONTRACT 44-4139	SCALE AS SHOWN SHEET 4 OF 9
			DRN: SMS	AS BUILT REVISIONS		
5/19/04 5/17/04			CHK: RJB		ELECTION DISTRICT NO. 2	HOWARD COUNTY, MARYLAND
			DATE:	BY NO.	REVISIONS	DATE

NOTES:

TRAFFIC CONTROL DESIGN PARAMETERS ARE FOR ASSUMED CONDITIONS OF 30 MPH PREVAILING SPEED AND LANE WIDTH OF 11 FT.

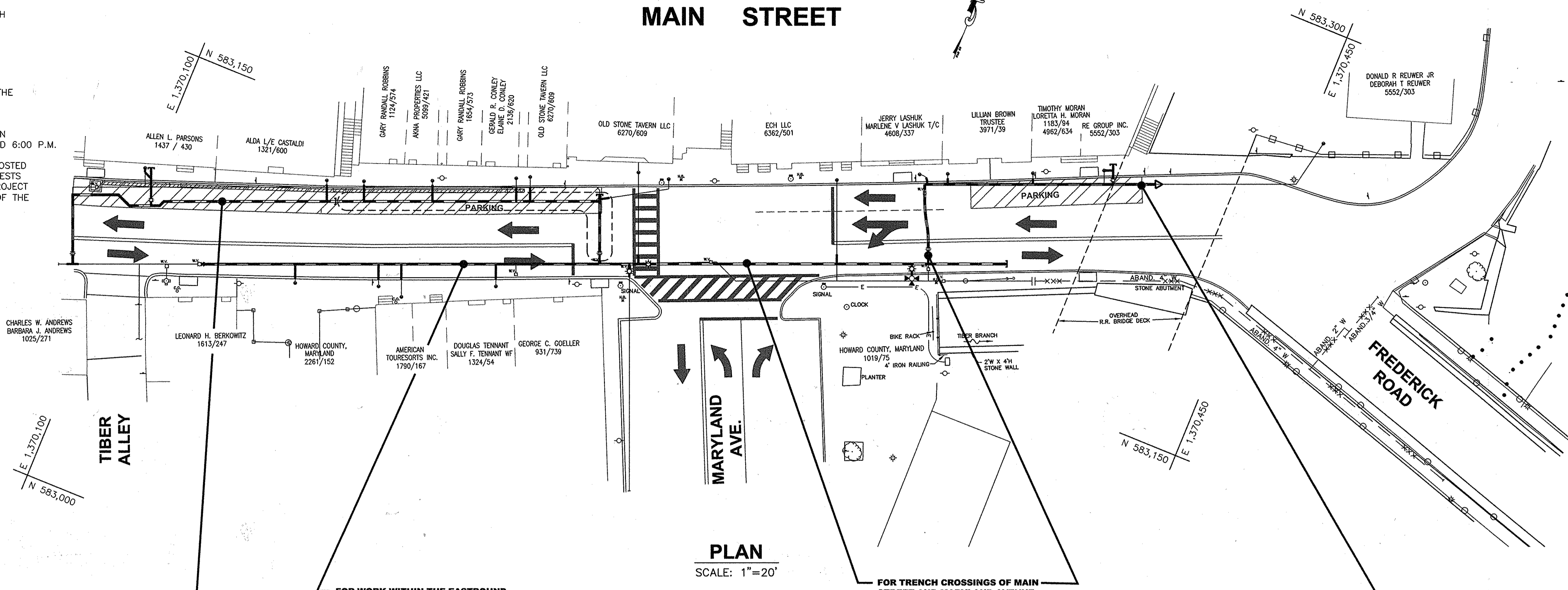
1/3 L = 55 FT.
L = 165 FT.
BL = 85 FT.

ALL CONSTRUCTION WORK SHALL BE AT NIGHT. REFER TO THE MAINTENANCE OF TRAFFIC SUBSECTION OF THE CONTRACT SPECIFICATIONS FOR LIMITATIONS OF WORK HOURS.

NO LANE CLOSURES WILL BE PERMITTED WEEKDAYS BETWEEN THE HOUR OF 7:00 A.M. AND 9:00 A.M. AND 4:00 P.M. AND 6:00 P.M.

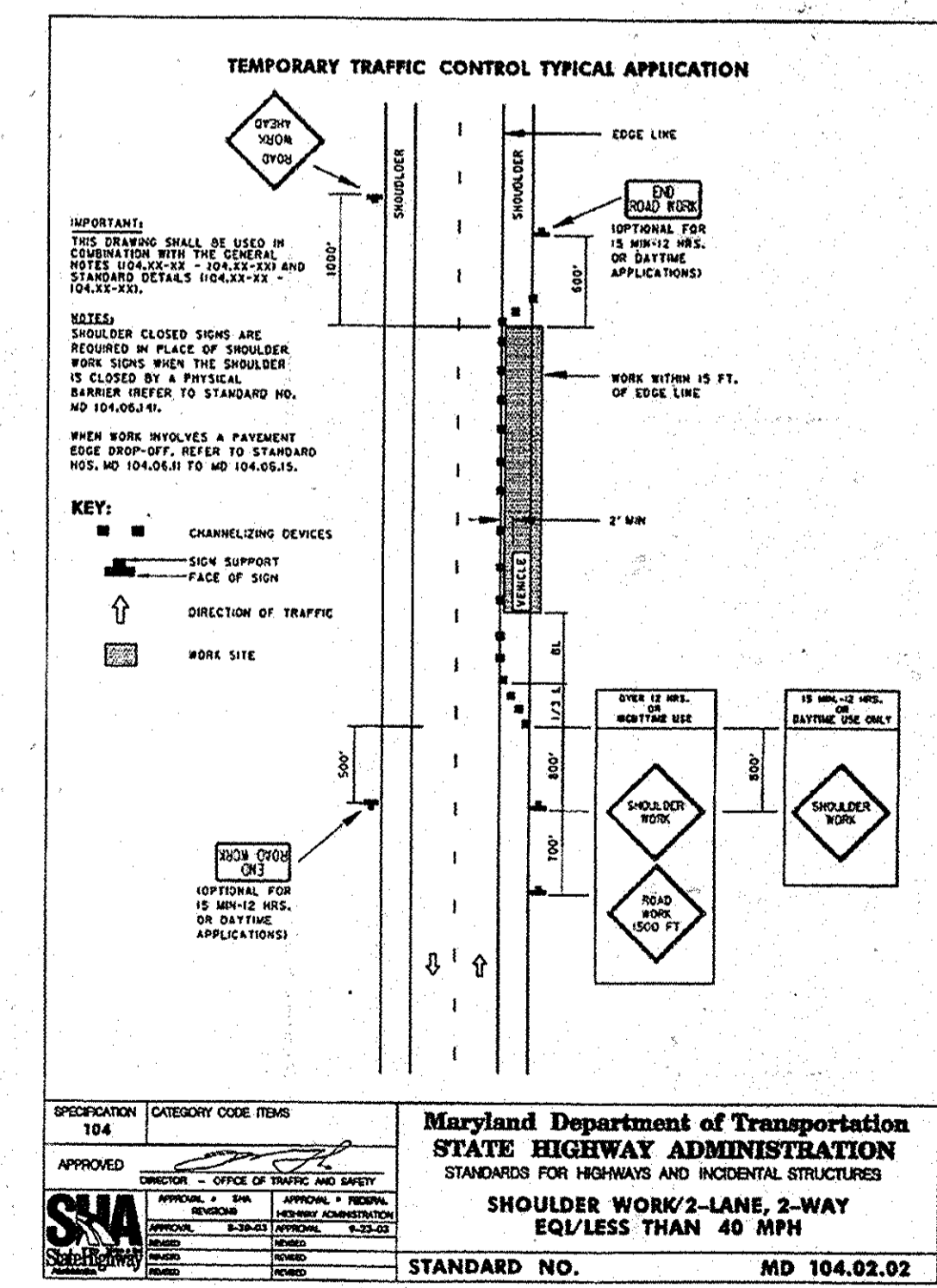
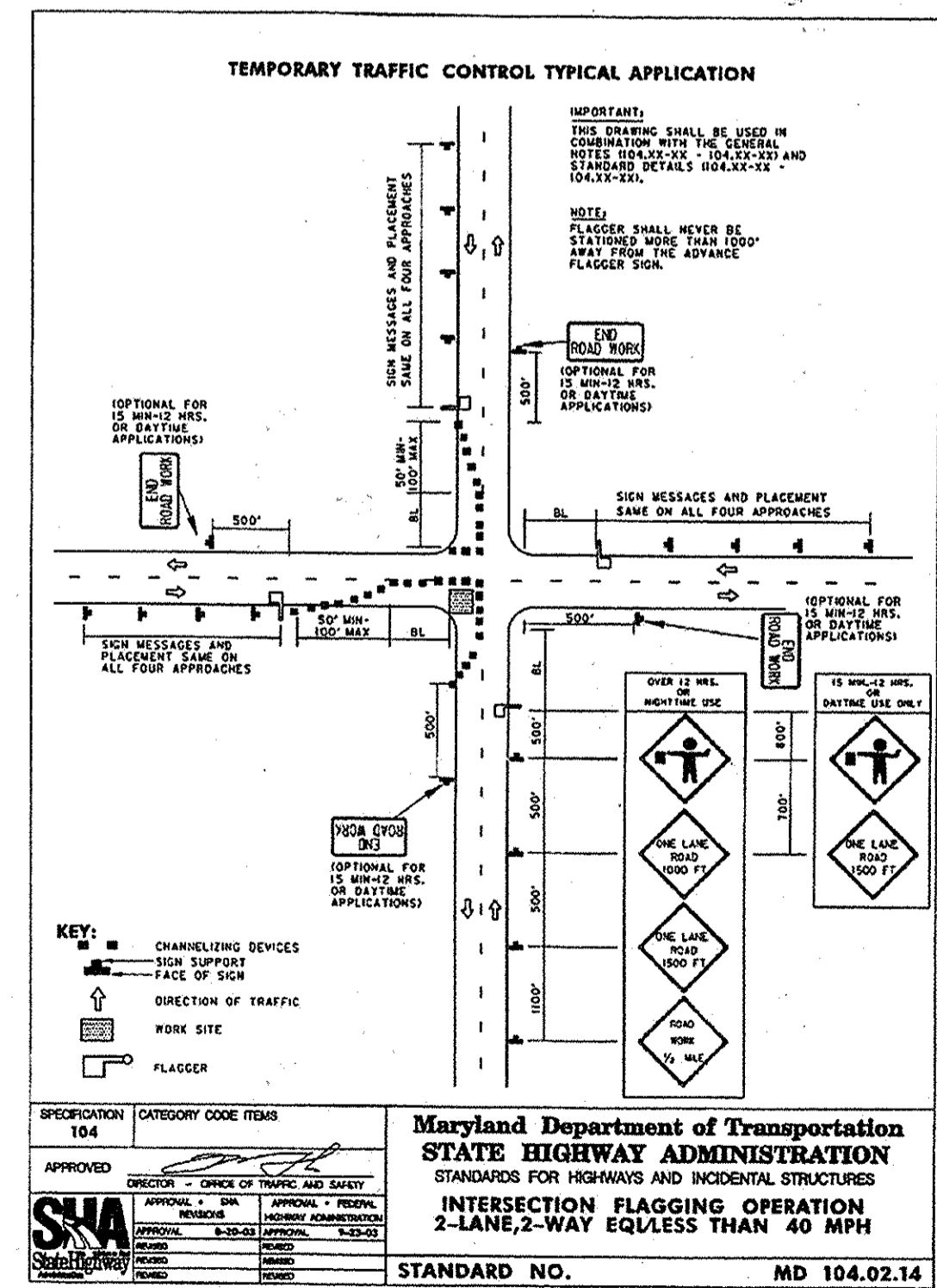
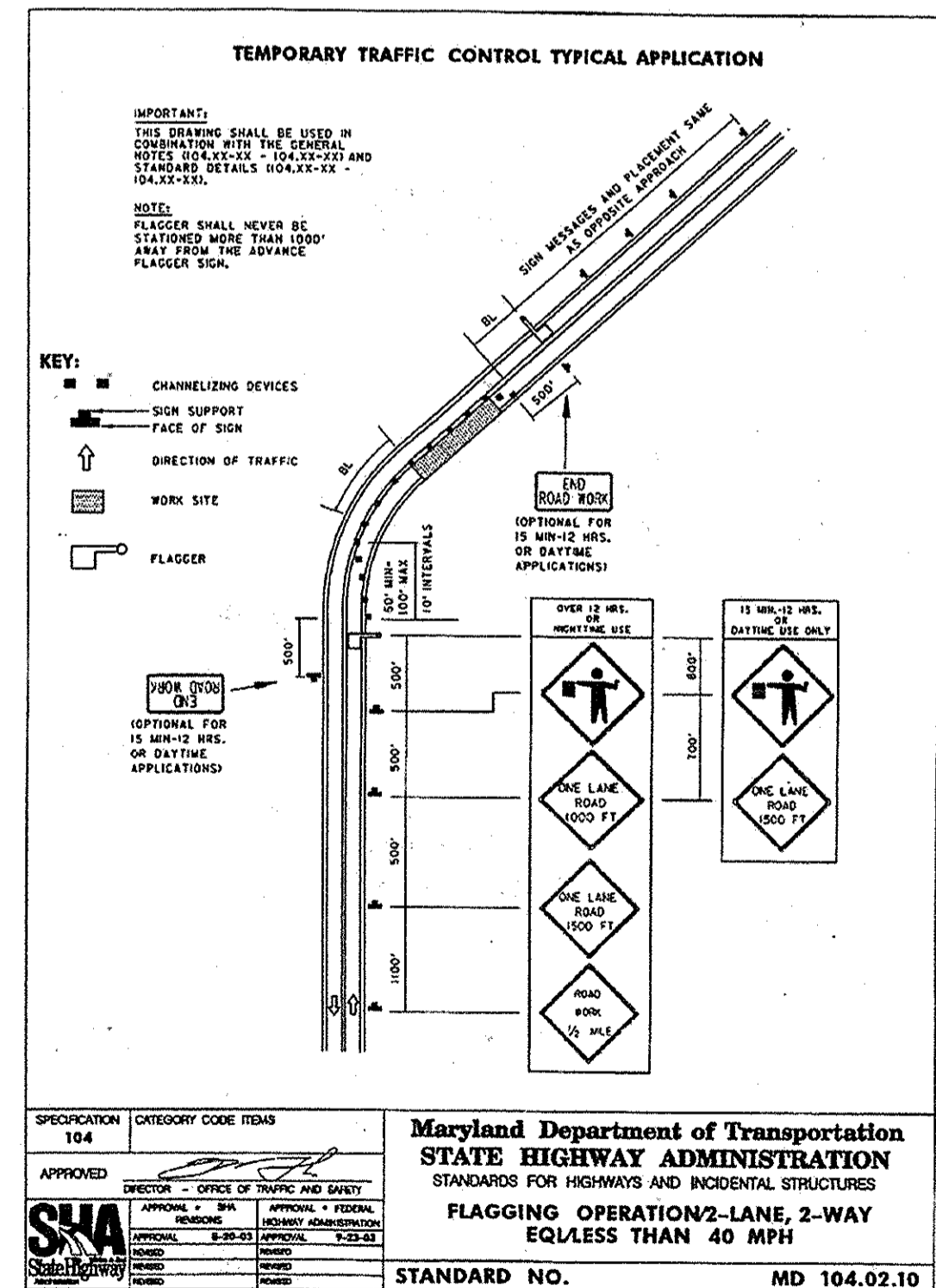
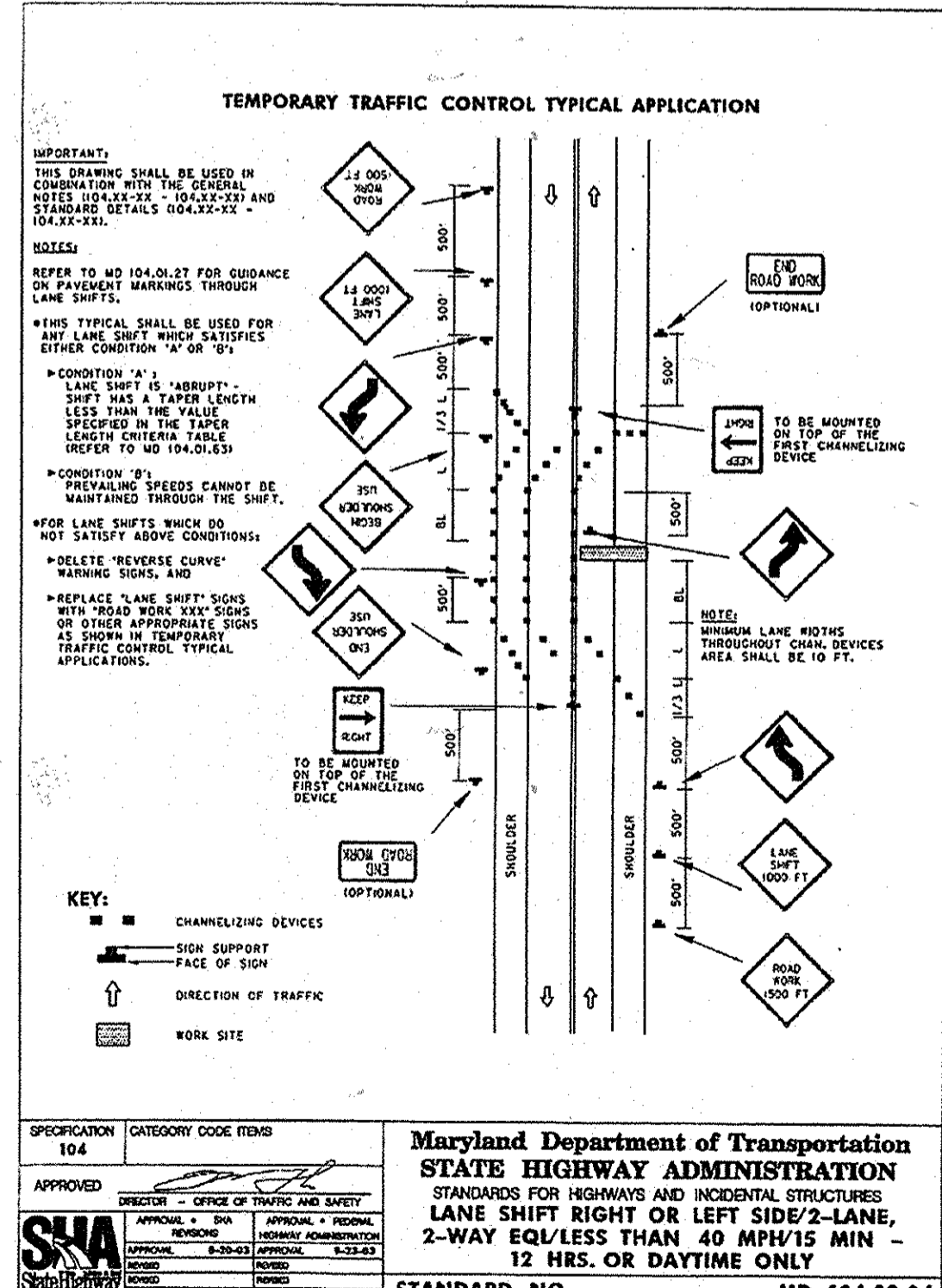
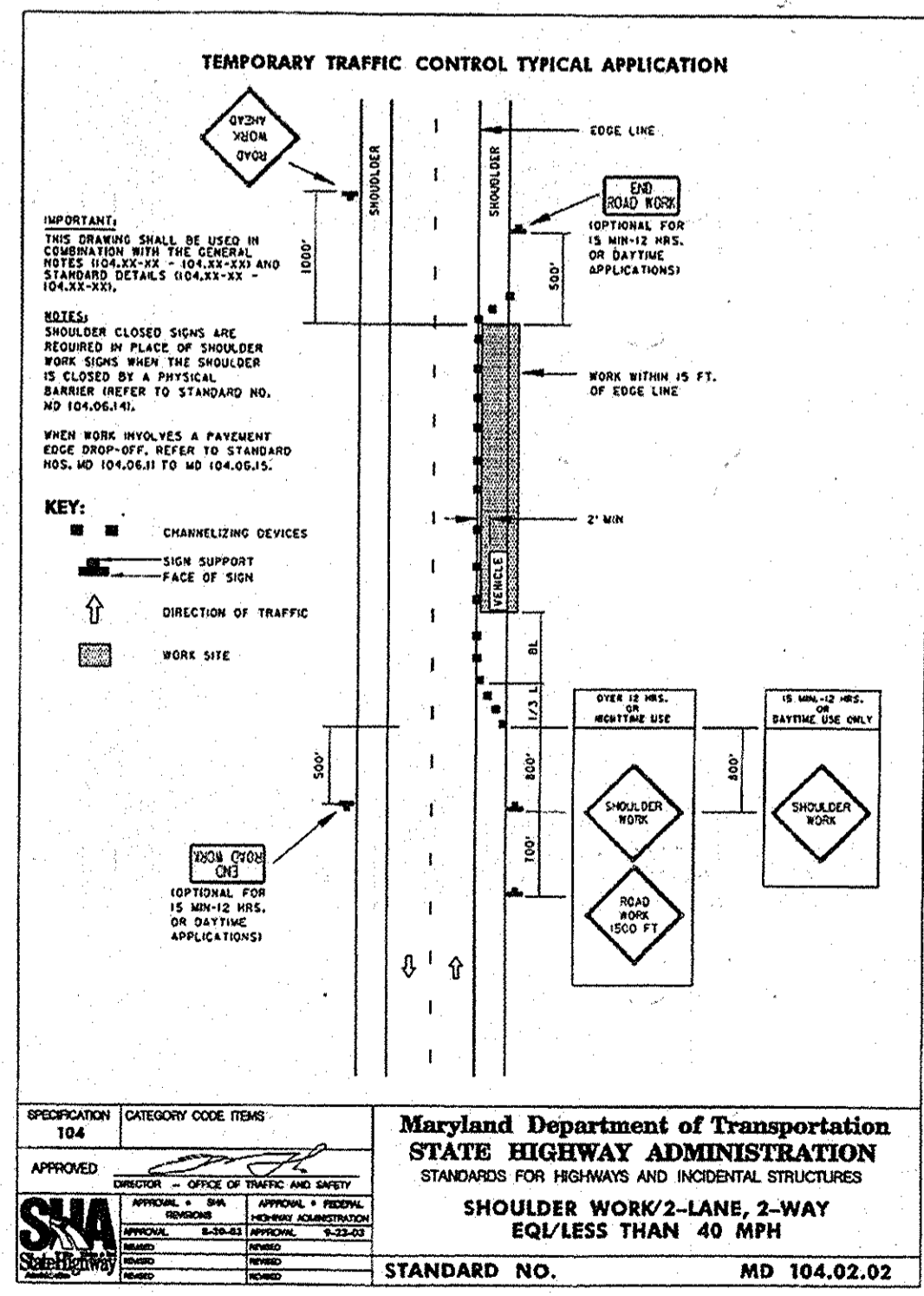
PARKING AREAS MAY NOT BE CLOSED UNLESS NOTICE IS POSTED 48 HOURS IN ADVANCE BY THE POLICE DEPARTMENT. REQUESTS TO CLOSE PARKING AREAS MUST BE SUBMITTED TO THE PROJECT MANAGER AT LEAST FIVE (5) BUSINESS DAYS IN ADVANCE OF THE REQUIRED CLOSURE.

MAIN STREET



PLAN
SCALE: 1"=20'

- FOR WORK WITHIN THE EASTBOUND TRAVEL LANE OF MAIN STREET:**
USE MD 104.02.04 (2003 REV.) FOR WORK ZONE TRAFFIC CONTROL CLOSURE OF THE RIGHT LANE. COORDINATE CLOSURE OF PARKING IN THE WESTBOUND SHOULDER LANE WITH THE HOWARD COUNTY POLICE DEPARTMENT.
- FOR WORK WITHIN THE WESTBOUND SHOULDER (PARKING) LANE OF MAIN STREET, WEST OF MARYLAND AVENUE:**
USE MD 104.02.02 (2003 REV.) FOR WORK ZONE TRAFFIC CONTROL CLOSURE OF THE SHOULDER (PARKING) LANE.
- FOR TRENCH CROSSINGS OF MAIN STREET AND MARYLAND AVENUE:**
 - USE MD 104.02.10 (2003 REV.) FOR MAIN STREET TEMPORARY TRAVEL LANE DIVERSIONS USING FLAGGING OPERATIONS.
 - USE MD 104.02.14 (2003 REV.) FOR MARYLAND AVENUE TEMPORARY INTERSECTION LANE DIVERSIONS USING FLAGGING OPERATIONS.
- FOR WORK WITHIN THE WESTBOUND TRAVEL LANE OF MAIN STREET, EAST OF MARYLAND AVENUE:**
USE MD 104.02.02 (2003 REV.) FOR WORK ZONE TRAFFIC CONTROL CLOSURE OF THE RIGHT LANE.



AS BUILT DRAWING AUG. 26, 2005

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

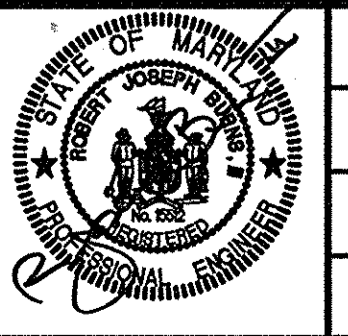
5/16/04
DIRECTOR OF PUBLIC WORKS

5/19/04
CHIEF, BUREAU OF UTILITIES

5/17/04
CHIEF, BUREAU OF UTILITIES

5/17/04
CHIEF, UTILITY DESIGN DIVISION

Dewberry
Dewberry & Davis LLC
3120 LORD BALTIMORE DRIVE
SUITE 211
BALTIMORE, MD 21244-2662
PHONE: 410.265.9500
FAX: 410.265.9875



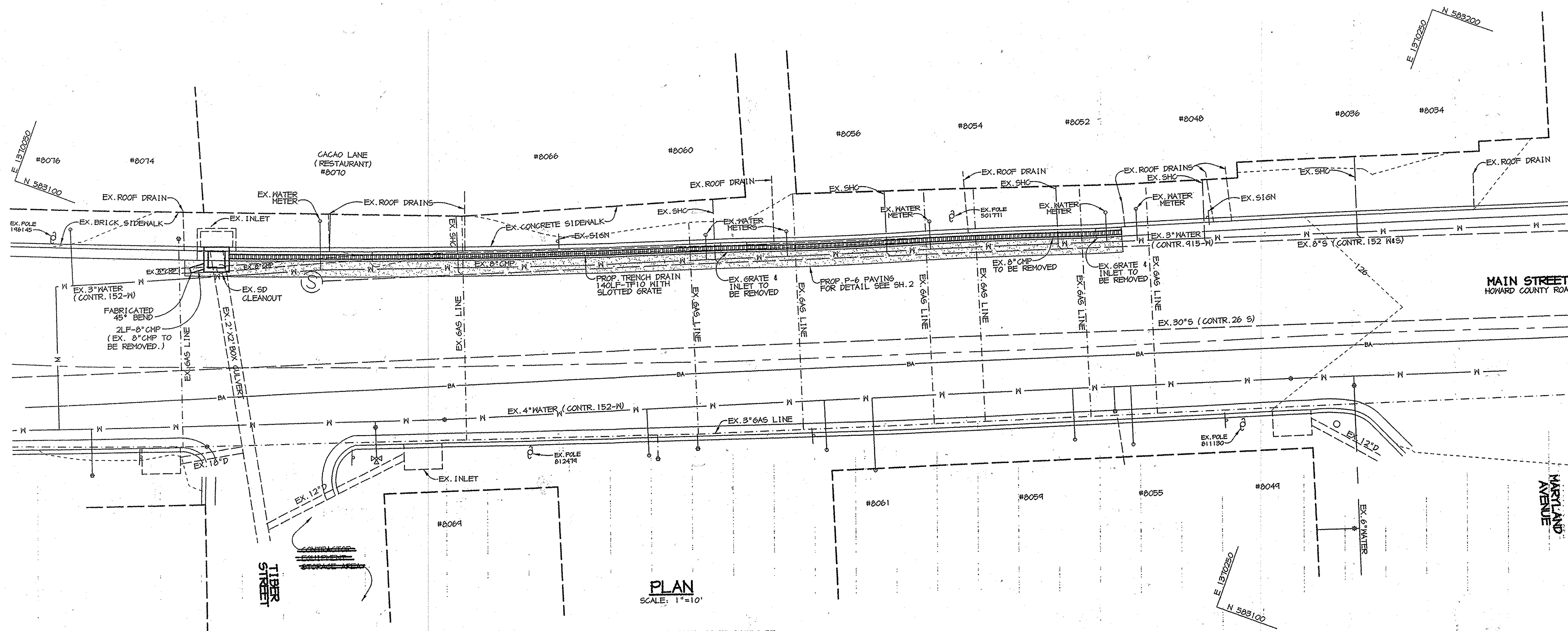
DES:	SMS
DRN:	SMS
CHK:	RJB
DATE:	8/26/05
BY:	RJB
NO.:	AB
AS BUILT REVISIONS:	3/26/05
REVISIONS:	
DATE:	600' SCALE MAP NO. 25
	BLOCK NO. 8

TRAFFIC CONTROL PLAN

MAIN STREET
WATER MAIN EXTENSION AND
DRAINAGE IMPROVEMENTS
CAPITAL PROJECTS W-8258 AND D-118
CONTRACT 44-4139

ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 9

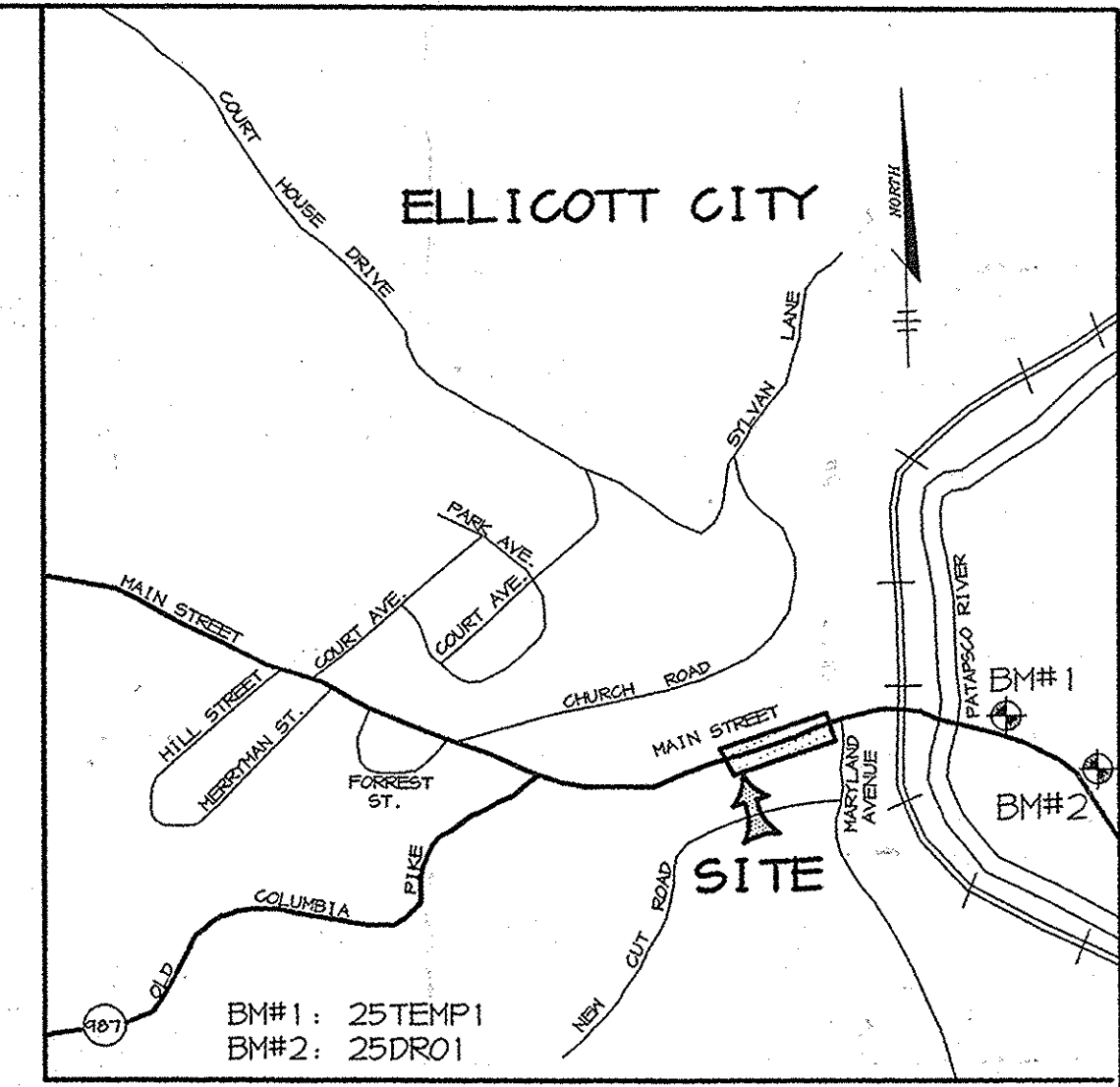


PLAN
SCALE: 1"=10'

NOTE: EX. STORM DRAIN GRATES SHOULD BE RETURNED TO THE BUREAU OF HIGHWAYS.

LEGEND

- P-6 PAVING
- TRENCH DRAIN



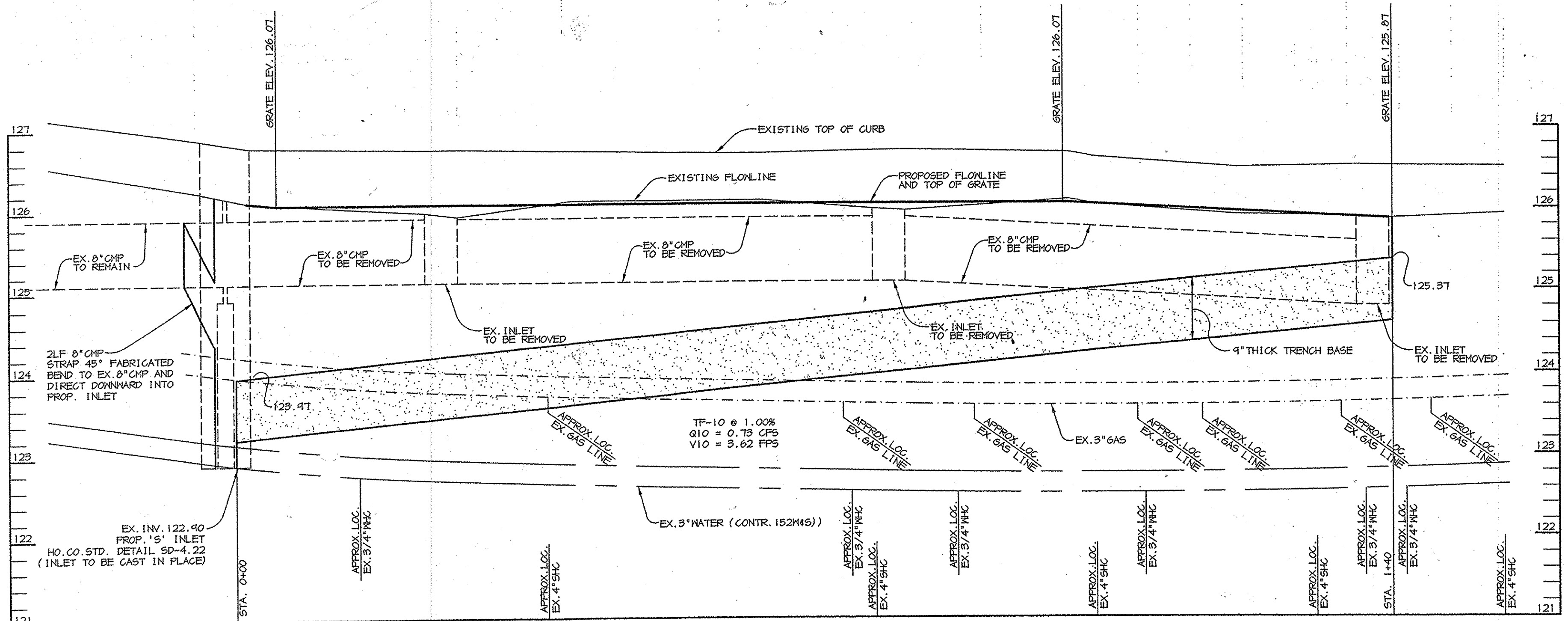
VICINITY MAP
SCALE: 1"=500'

BENCH MARKS

1. HOWARD COUNTY SURVEY CONTROL PKNAIL 25TEMP1
N 583271.58 E 1370518.58 ELEV. 125.87
2. HOWARD COUNTY 3rd ORDER SURVEY CONTROL 25DR01
N 582964.25 E 1370496.53 ELEV. 126.00

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. TRENCH DRAINAGE (TF-10) APPURTENANCES SHALL BE MANUFACTURED BY ABT, INC. OR AN APPROVED EQUAL. USE DUCTILE IRON GRATES 1'-1 1/2" LENGTHS WITH LOCKING DEVICE. (PART NO. 854)
4. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN TO THE HOWARD COUNTY TRAFFIC ENGINEERING DIVISION. APPROVAL SHALL BE OBTAINED PRIOR TO BEGINNING WORK. INSTALLATION SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS.
5. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-251-TITI AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
6. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO BEGINNING WORK.
7. ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
8. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED BY RIEMER MUEGGE & ASSOC. DATED OCTOBER 1948.
9. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. STATION NUMBERS 25DR01 AND 25TEMP1 WERE USED.
10. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
11. WATER IS PUBLIC, CONTRACT NO. 44-0915.
12. SEWER IS PUBLIC, CONTRACT NO. 152 M4S.
13. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
14. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
15. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
16. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
17. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
18. STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
19. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 98% COMPACTION OF AASHTO T-180.
20. ALL HARDWARE TO BE STAINLESS STEEL.
21. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
22. A SEDIMENT CONTROL PLAN IS NOT REQUIRED FOR THIS PROJECT.



PROFILE THRU TRENCH DRAIN

SCALE:
HOR. - 1"=10'
VERT. - 1"=1'

NOTE: EX. UTILITIES ARE TAKEN FROM THE BEST AVAILABLE INFORMATION AND MAY NOT BE ACCURATE. THE VERTICAL ELEVATIONS ARE BASED ON ESTIMATED DEPTHS.

AS BUILT DRAWING AUG. 26, 2005

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

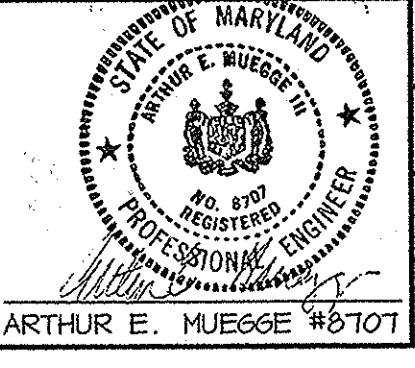
Jan G. Shavar 5/16/04
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Mason 5/17/04
CHIEF, BUREAU OF ENGINEERING DATE

Steve Shavar 5/17/04
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED DATE

William J. Mahan 5-15-04
CHIEF, BUREAU OF HIGHWAYS DATE

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282
48213 BASE.DWG



DES: AAP/DAM					
DRN: DAM					
CHK: AAP					
DATE: 5/4/99					
RJB	AB	AS BUILT REVISIONS		8-26-05	
BY	NO.	REVISION		DATE	

PLAN AND PROFILE OF DRAINAGE IMPROVEMENT

600' SCALE MAP NO. 25 BLOCK NO. 8

MAIN STREET WATER MAIN EXTENSION AND DRAINAGE IMPROVEMENTS
CAPITAL PROJECTS W-8258 AND D-118
CONTRACT 44-4139

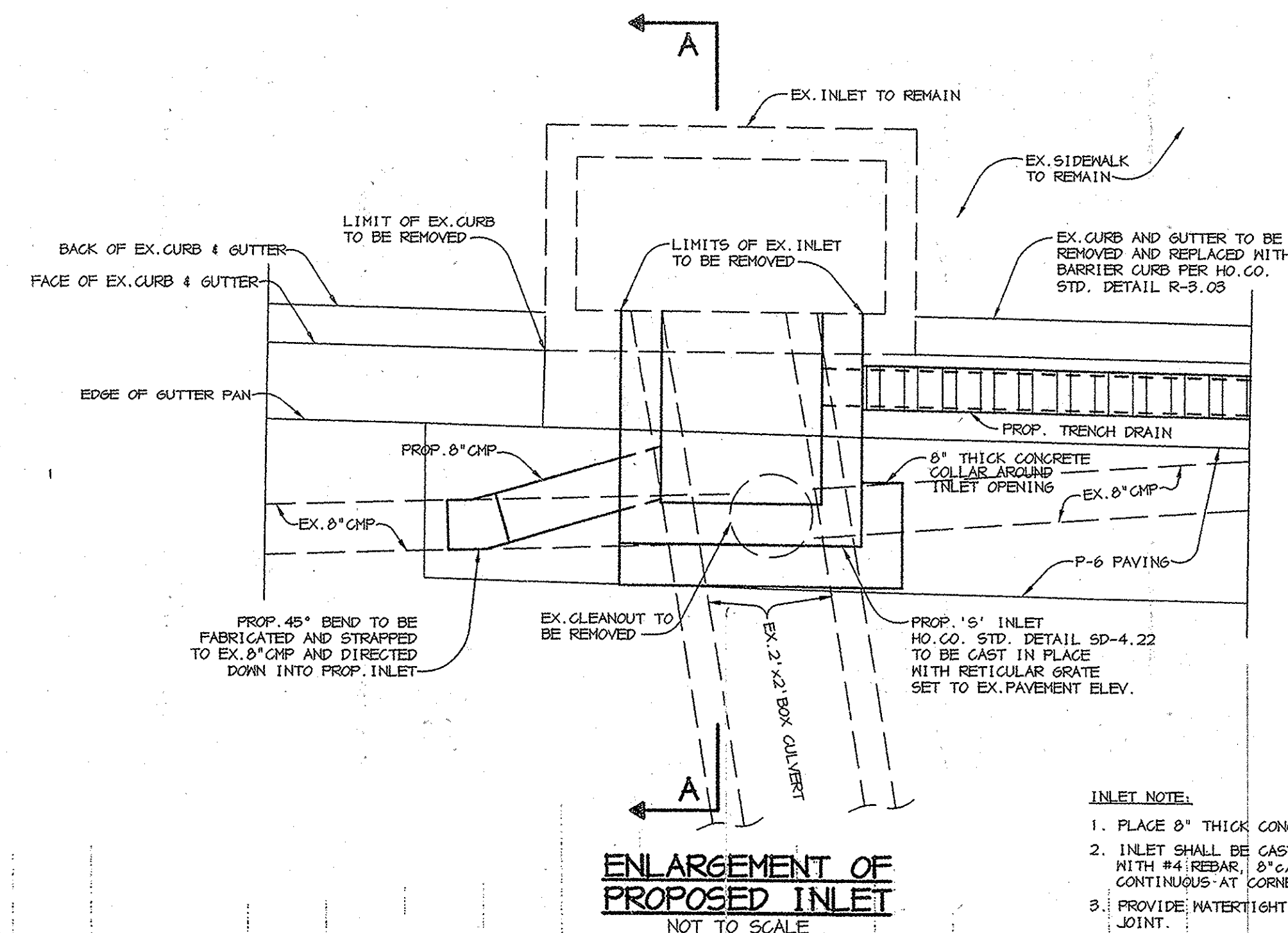
ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 6 OF 9

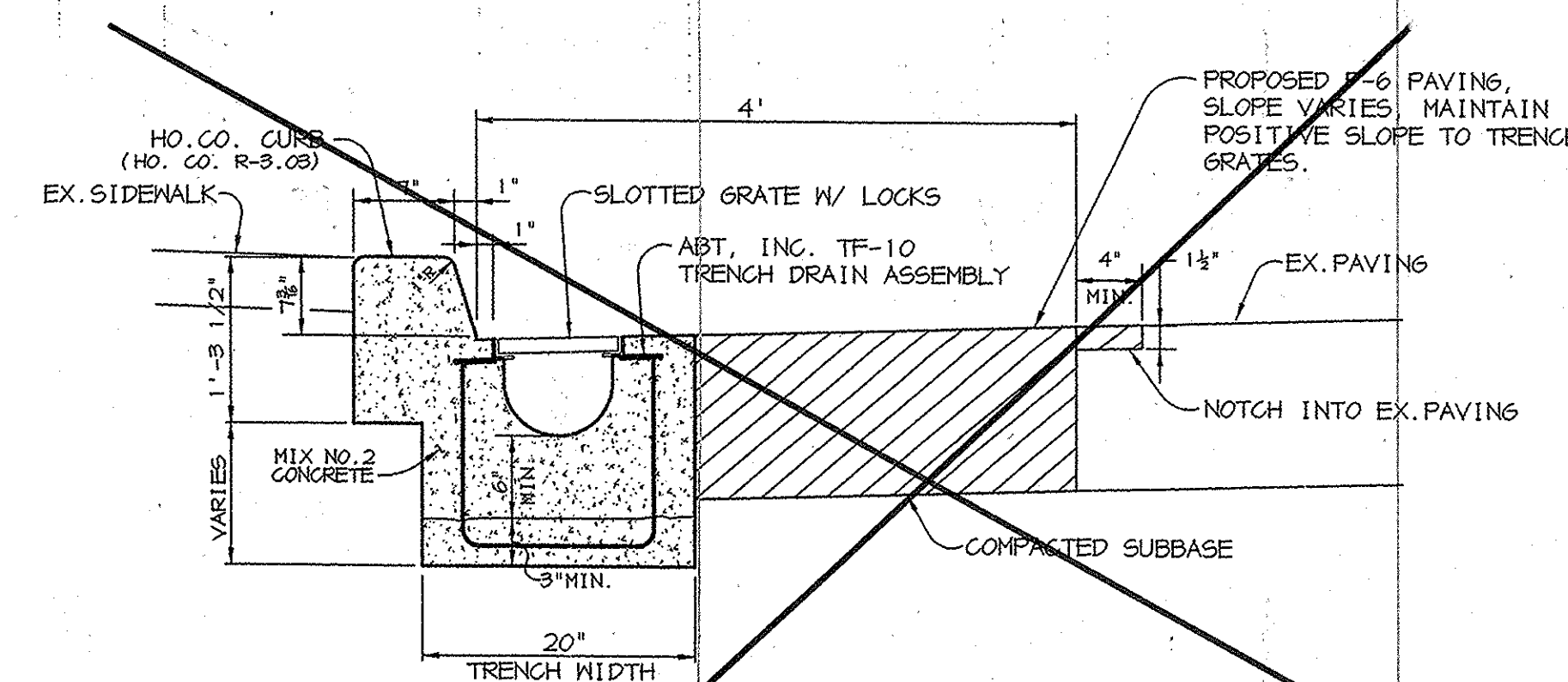
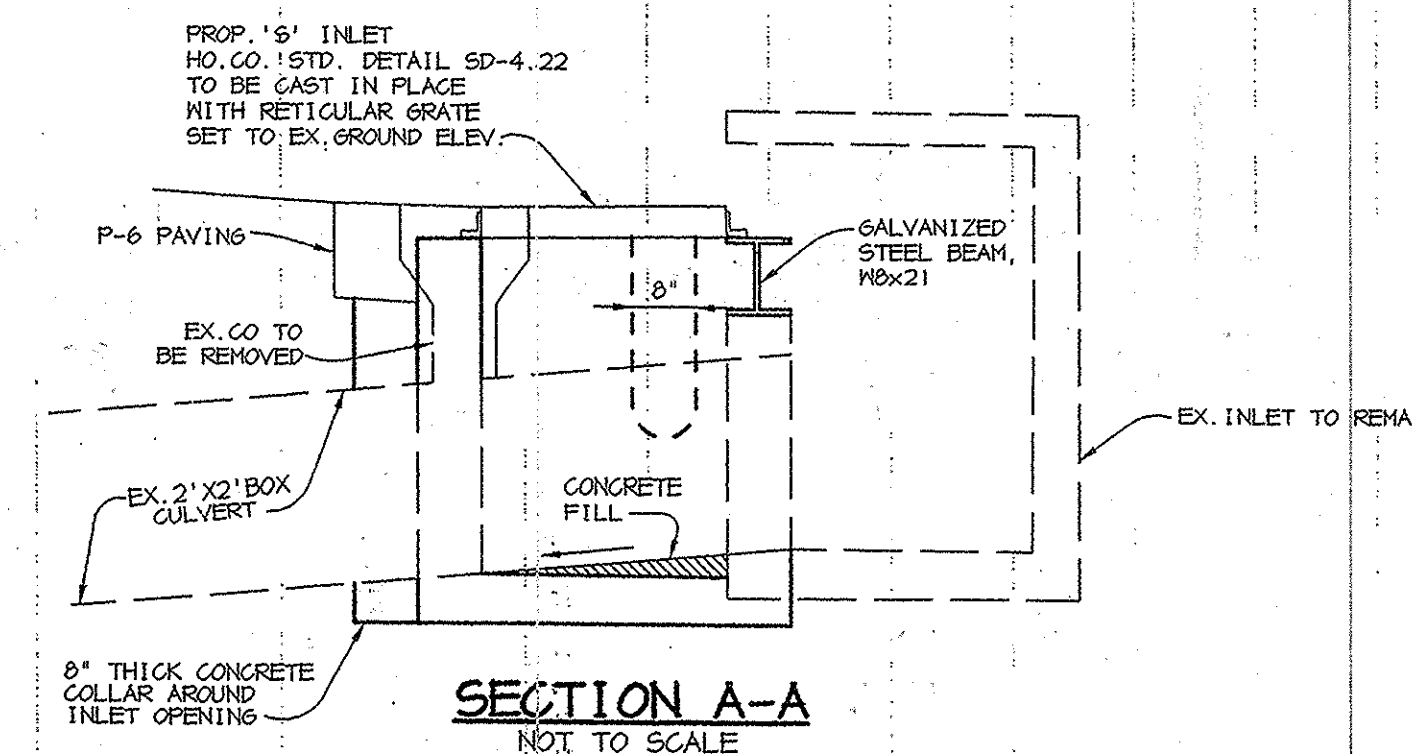
FULL FLOW VELOCITY

VELOCITY (V) = $\frac{1.49}{n} R^{2/3} S^{1/2}$
 $V = \frac{1.49}{0.013} \left(\frac{0.19}{1.04}\right)^{2/3} (0.01)^{1/2}$
 $V = 3.6 \text{ FPS} > 2.5 \text{ FPS OK}$

WHERE n = MANNING'S COEFFICIENT = 0.013
 R = HYDRAULIC RADIUS = $\frac{\text{FLOW AREA} = 0.19 \text{ SF}}{\text{NETTED PERIMETER} = 1.04 \text{ FT}}$
 S = CHANNEL SLOPE = 0.01 FT/FT



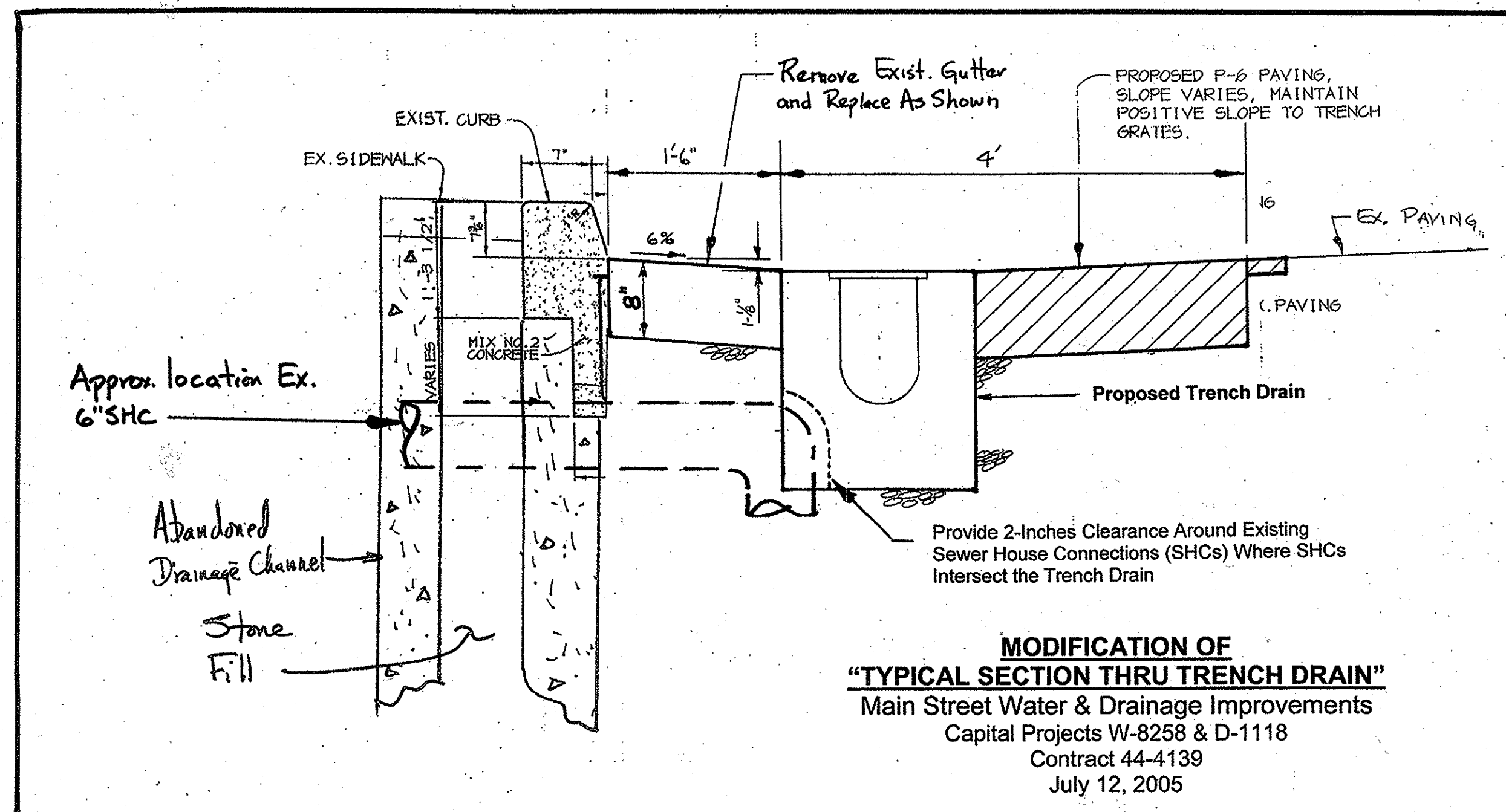
- INLET NOTE:**
1. PLACE 8" THICK CONCRETE COLLAR AS SHOWN.
 2. INLET SHALL BE CAST-IN-PLACE AND REINFORCED WITH #4 REBAR, 8" O.C. O/N. REBAR SHALL BE CONTINUOUS AT CORNERS.
 3. PROVIDE WATER-TIGHT SEAL AT TRENCH/INLET JOINT.



TYPICAL SECTION THRU TRENCH DRAIN
NOT TO SCALE

BITUMINOUS CONCRETE SURFACE (S0)	1 1/2"
BITUMINOUS CONCRETE BASE (B0)	2 1/2"
BITUMINOUS CONCRETE BASE	2"
GRADED AGGREGATE SUB-BASE	4"

P-6 PAVING SECTION
NO SCALE



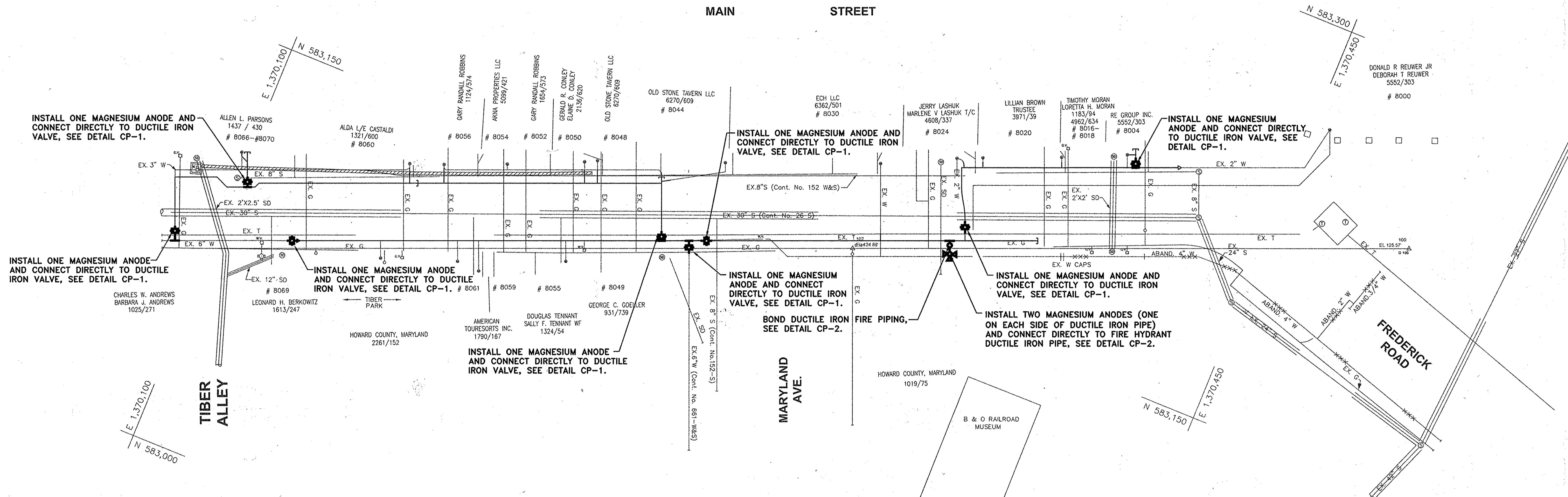
MODIFICATION OF TYPICAL SECTION THRU TRENCH DRAIN
Main Street Water & Drainage Improvements
Capital Projects W-8258 & D-1118
Contract 44-4139
July 12, 2005

AS BUILT DRAWING AUG. 26, 2005

PROJECT 982130 DETAILS Tue May 4 13:20:06 1999 RIEMER MUEGGE & ASSOCIATES, INC.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282 98213 DETAILS.DWG				DES: AAP/DAM DRN: DAM CHK: AAP DATE: 5/4/99		TRENCH DRAIN DETAIL SHEET		MAIN STREET WATER MAIN EXTENSION AND DRAINAGE IMPROVEMENTS CAPITAL PROJECTS W-8258 AND D-1118 CONTRACT 44-4139 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 7 OF 9
Director of Public Works Steve Shavar 5/17/04	Chief, Bureau of Engineering Robert Ryan 5/17/04	Chief, Bureau of Highways William J. ... 5-17-04	RJB AB BY NO.	AS BUILT REVISIONS REVISION	8-26-05	600' SCALE MAP NO. 25	BLOCK NO. 8					

MAIN STREET



PLAN
SCALE: 1"=20'

NOTE:
CATHODIC PROTECTION SYSTEM
WAS DELETED FROM CONTRACT.

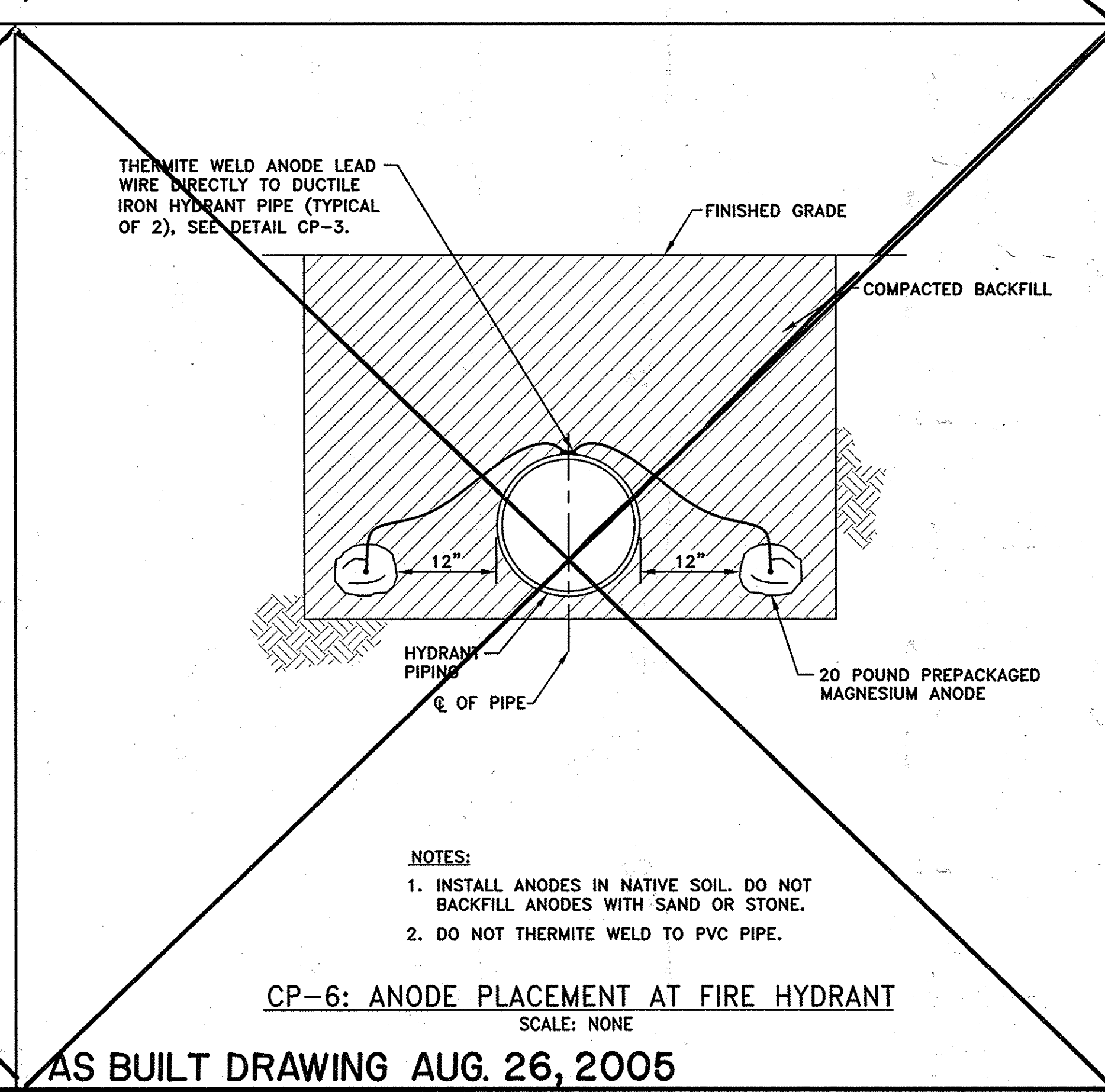
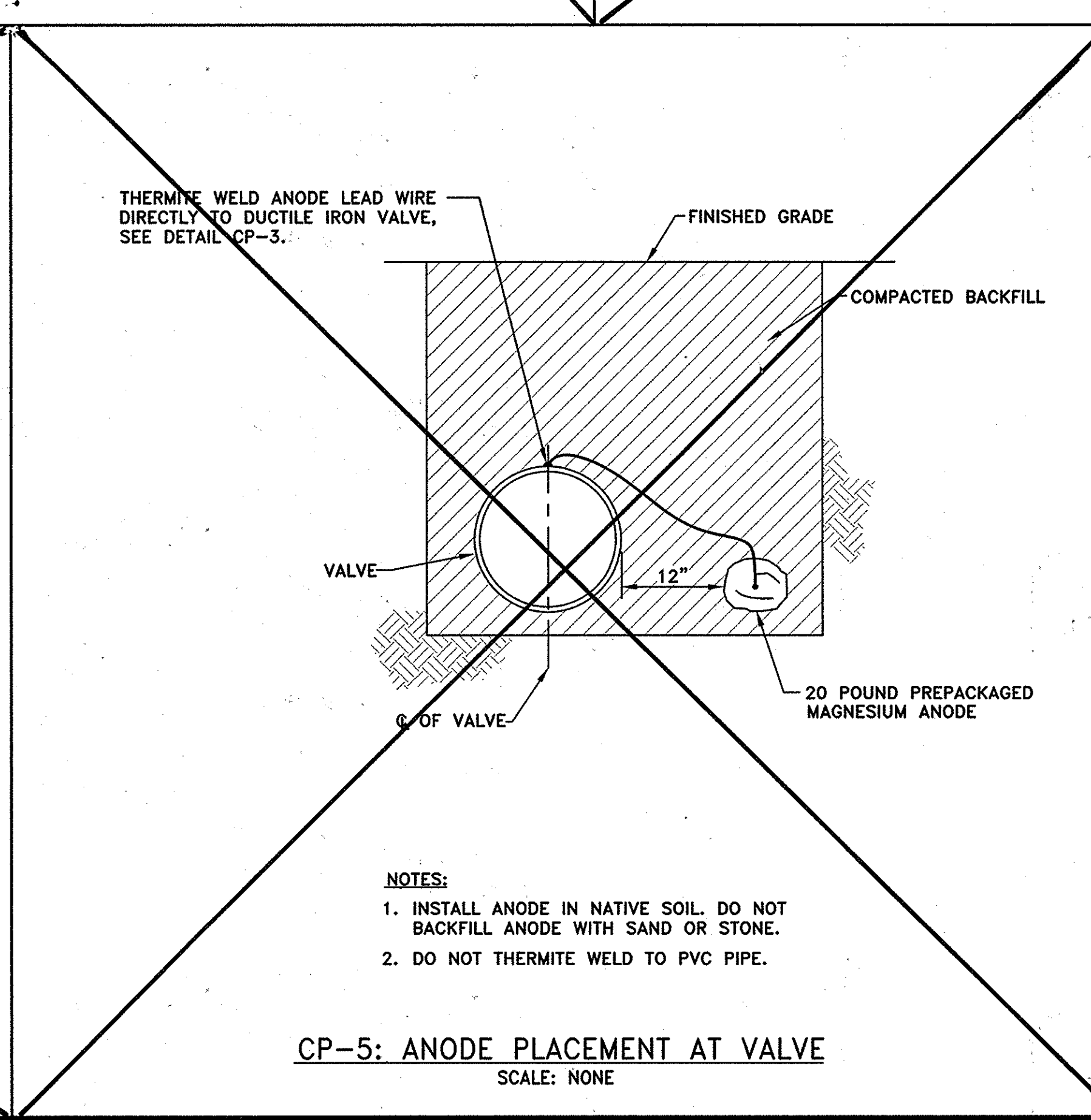
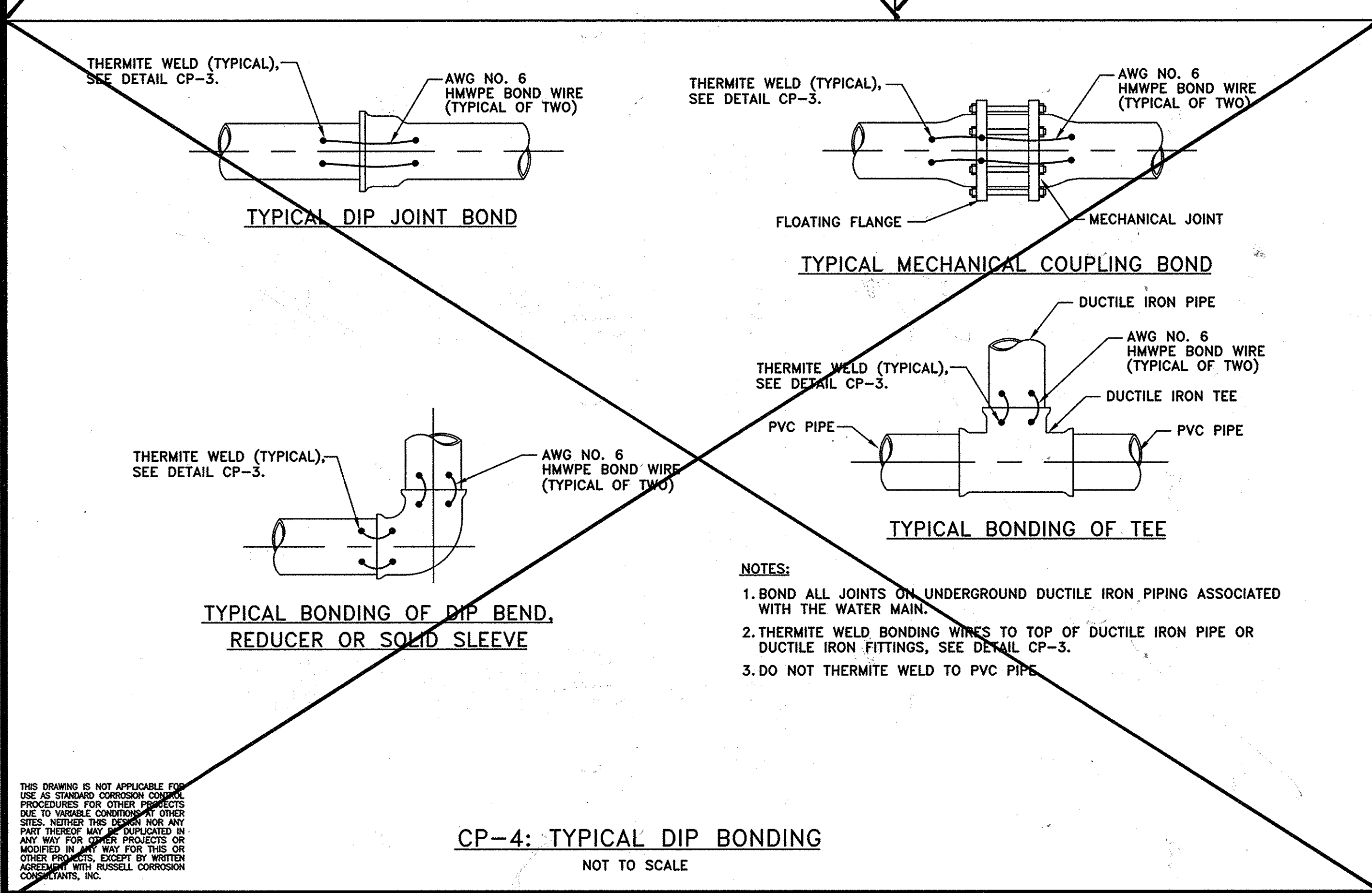
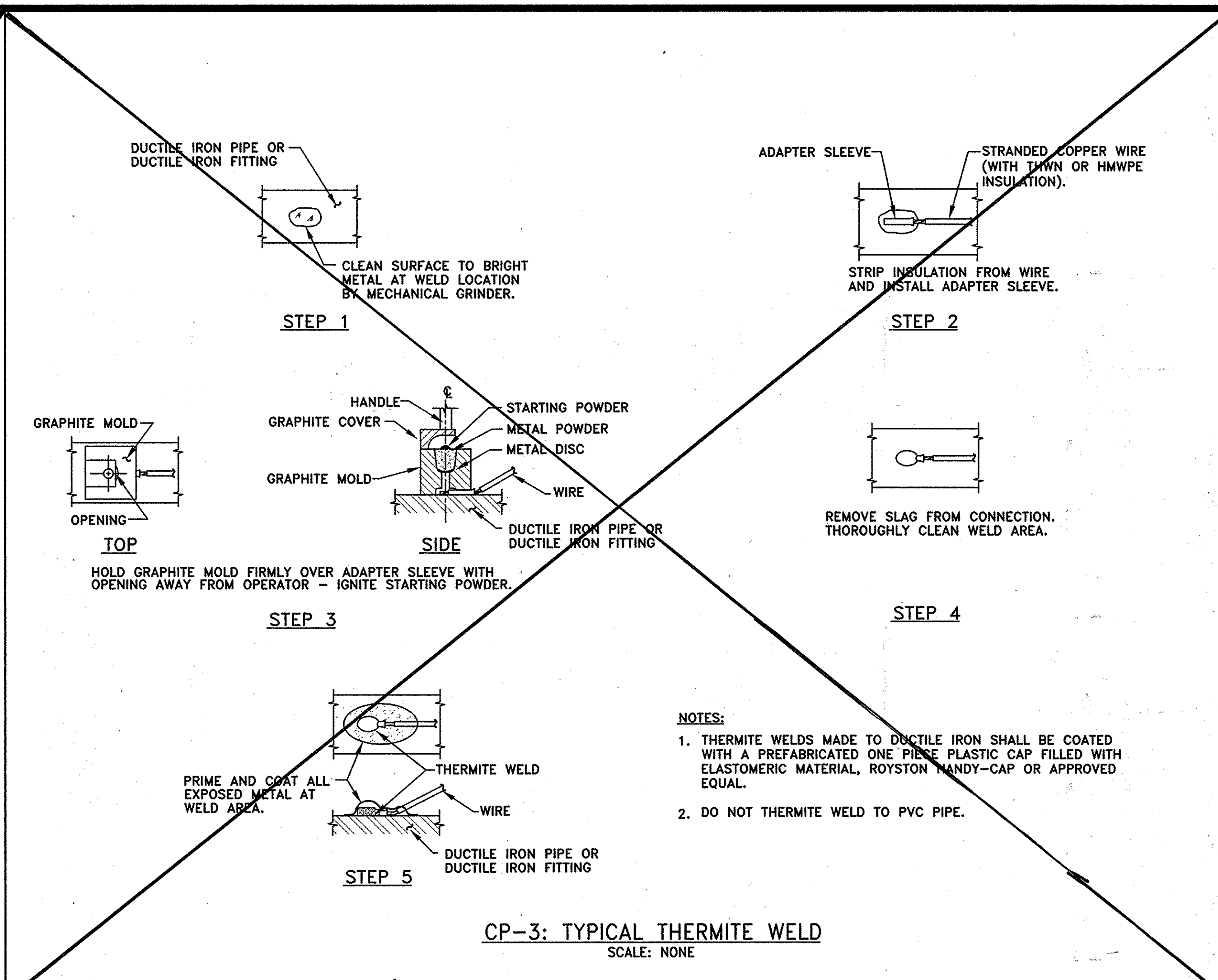
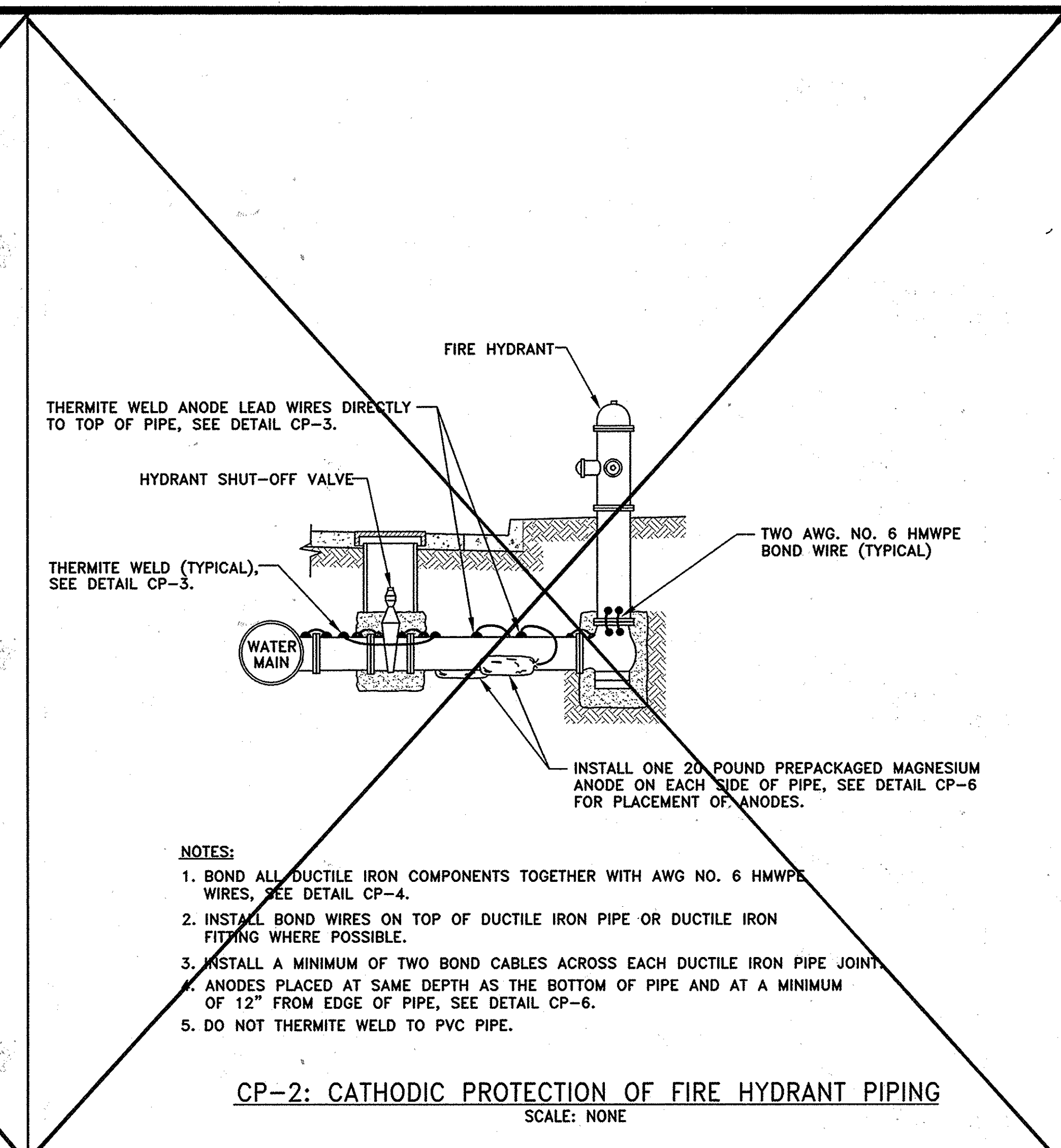
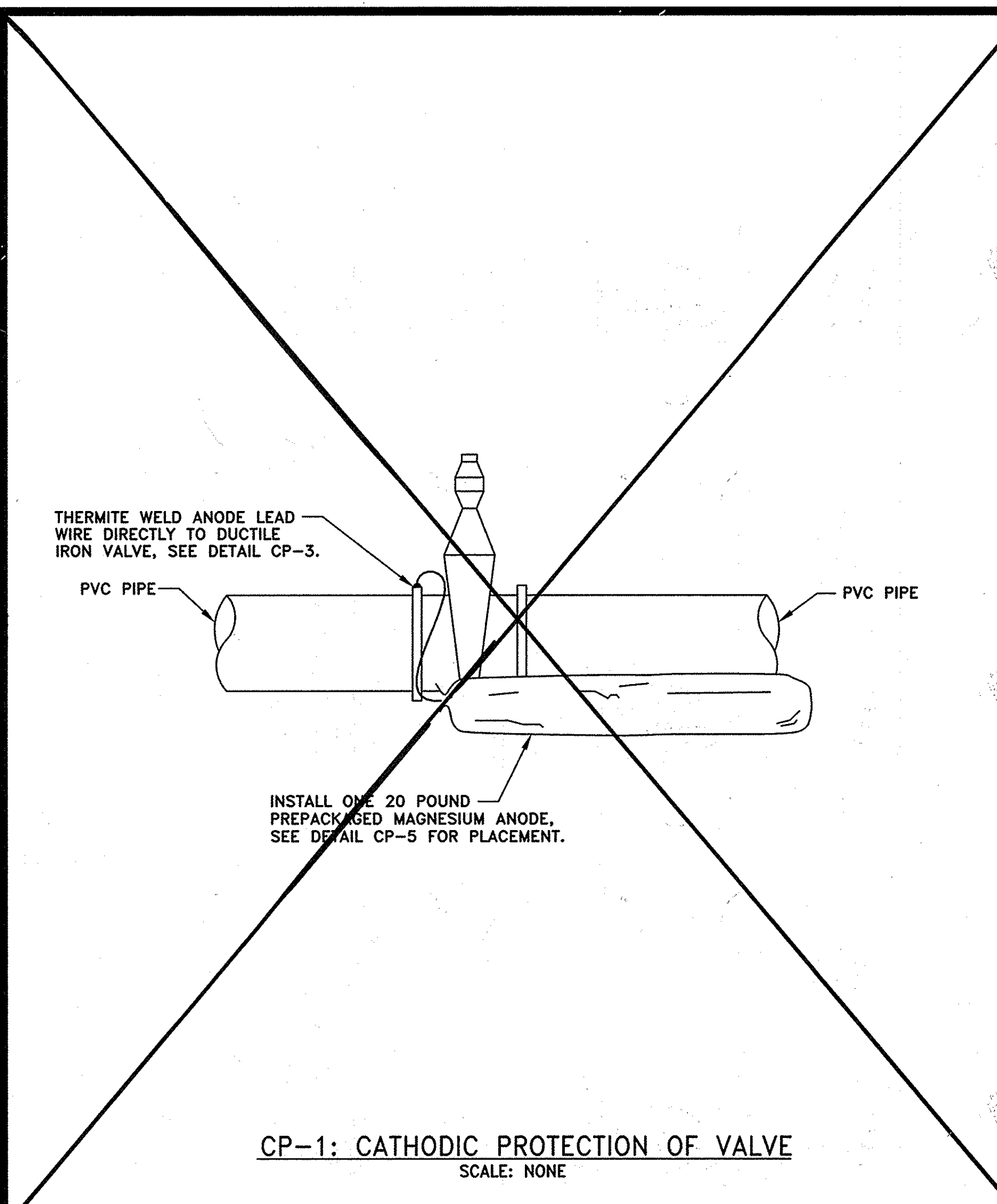
- NOTES:
1. BOND ALL JOINTS OF DUCTILE IRON PIPING, SEE DETAIL CP-4.
 2. DO NOT THERMITE WELD TO PVC PIPE.
 3. DUCTILE IRON BENDS AND TEES NOT SHOWN ON THIS DRAWING SHALL HAVE ONE MAGNESIUM ANODE INSTALLED ADJACENT TO, AND 12 INCHES FROM, THE BEND OR TEE. THERMITE WELD THE ANODE LEAD WIRE DIRECTLY TO THE FITTING, SEE DETAIL CP-3.

LEGEND
 — PVC PIPE
 — DUCTILE IRON PIPE

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

AS BUILT DRAWING AUG. 26, 2005

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Jan 7. [Signature]</i> 5/14/04 Chief, Bureau of Utilities: <i>Rhonda [Signature]</i> 5-19-04		RUSSELL CORROSION CONSULTANTS, INC. Columbia, Maryland Chief, Bureau of Engineering: <i>[Signature]</i> 5/17/04 Chief, Utility Design Division: <i>[Signature]</i> 5-17-04		STATE OF MARYLAND PROFESSIONAL ENGINEER No. 17983		DES: MJS DRN: PGD CHK: MJS RJB AB AS BUILT REVISIONS: CATHODIC PROTECTION SYSTEM DELETED FROM CONTRACT 8-28-05 DATE: 4/29/04 BY NO. REVISION DATE		CATHODIC PROTECTION LAYOUT 600' SCALE MAP NO. 25 BLOCK NO. 8		MAIN STREET WATER MAIN EXTENSION AND DRAINAGE IMPROVEMENTS CAPITAL PROJECT No: W-8258 CONTRACT NO. 44-4139 ELECTION DISTRICT NO. 2 ELECTION DISTRICT NO. 2		SCALE AS SHOWN SHEET 8 OF 9
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THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DRAWING NOR ANY PART THEREOF MAY BE REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF RUSSELL CORROSION CONSULTANTS, INC.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

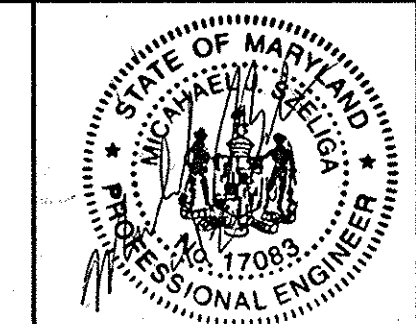
Jay 5/19/04
DIRECTOR OF PUBLIC WORKS DATE

Robert Bauman 5-19-04
CHIEF, BUREAU OF UTILITIES DATE

Robert Bauman 5/17/04
CHIEF, BUREAU OF ENGINEERING DATE

Robert Bauman 5-17-04
CHIEF, UTILITY DESIGN DIVISION DATE

RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland



DES:	MJS				
DRN:	PGD				
CHK:	MJS	RJB	AB	AS BUILT REVISIONS: CATHODIC PROTECTION	8-26-05
DATE:	4/29/04	BY:	NO.	REVISION	DATE

CATHODIC PROTECTION DETAILS 1

600' SCALE MAP NO. 25 BLOCK NO. 8

AS BUILT DRAWING AUG. 26, 2005

MAIN STREET
WATER MAIN EXTENSION
AND DRAINAGE IMPROVEMENTS

CAPITAL PROJECT No: W-8258
CONTRACT NO. 44-4139

ELECTION DISTRICT NO. 2

SCALE AS SHOWN

SHEET 9 OF 9