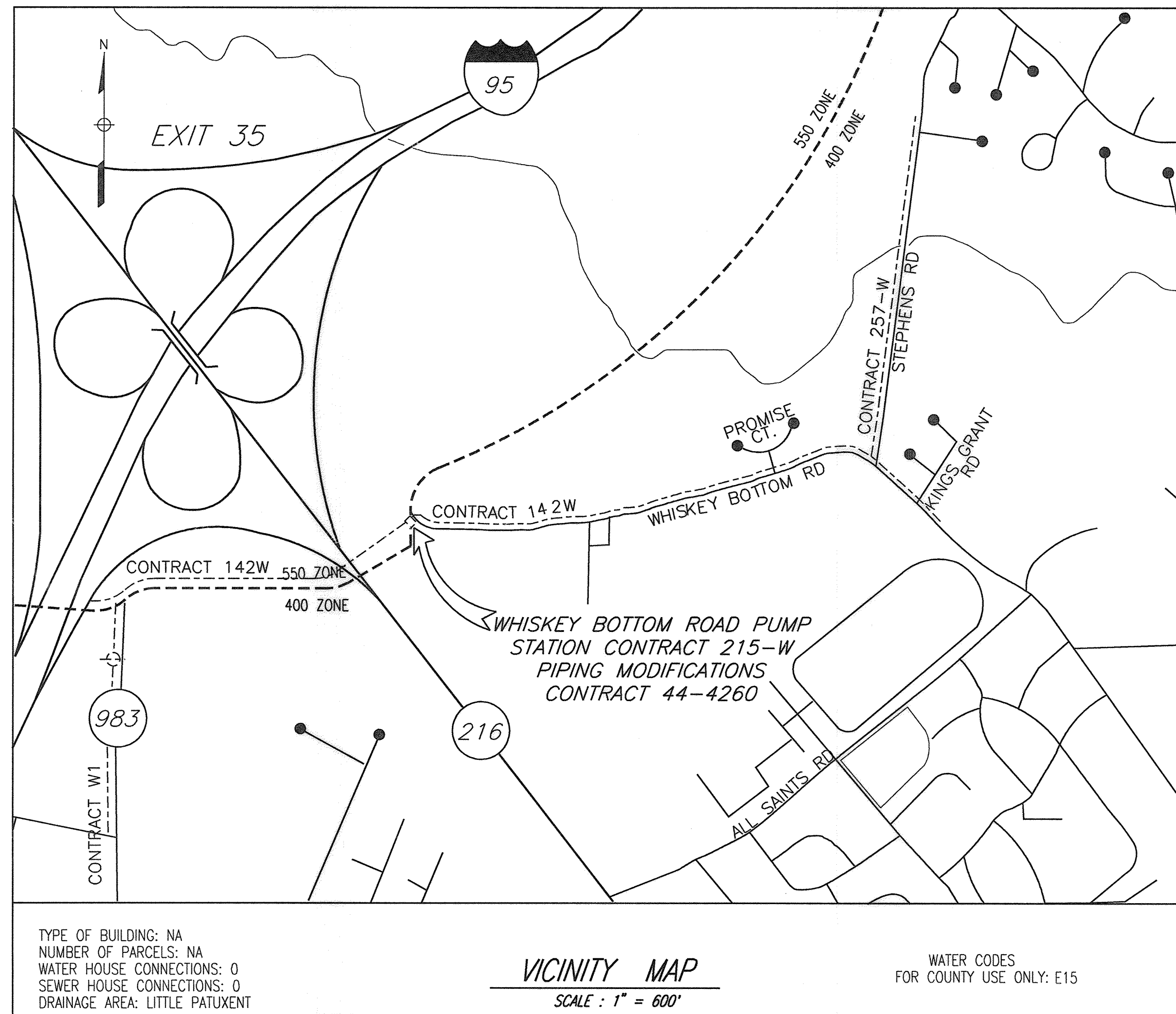


WHISKEY BOTTOM ROAD PUMPING STATION PRV UPGRADE

CONTRACT NO. 44-4260
CAPITAL PROJECT NO. W-8270C
HOWARD COUNTY, MARYLAND

INDEX OF DRAWINGS

| SHEET NO. | DRAWING NO. | DESCRIPTION |
|-----------|-------------|------------------------------------------------------------------|
| 1 | G-1 | TITLE SHEET - VICINITY MAP, INDEX OF DRAWINGS, AND GENERAL NOTES |
| 2 | C-1 | SITE PLAN |
| 3 | ME-1 | DEMOLITION AND INSTALLATION PLANS |
| 4 | ME-2 | SECTIONS AND SCHEMATICS |
| 5 | ME-3 | DETAILS |



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. 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 PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM, OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF THE POLES AS SHOWN ON DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES 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 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 CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES 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.
- THE 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 AND SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH THE DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
- ALL WATER MAINS SHALL BE D.I.P. CLASS 53 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3" - 6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

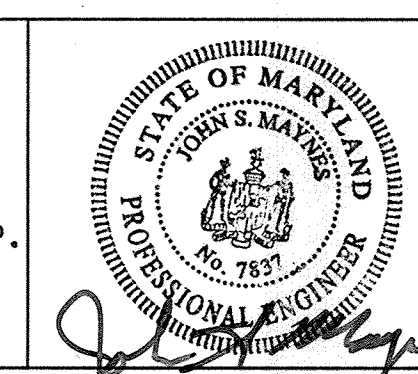
Jan P. ... 1/21/05
DIRECTOR OF PUBLIC WORKS DATE

John ... 1-21-05
CHIEF, BUREAU OF UTILITIES DATE

PREPARED BY:

WR&A

Whitman, Reardon and Associates, LLP.
801 South Caroline Street
Baltimore, Md. 21231
410-235-3450



| | | | | |
|-------|---------|----|-----|----------|
| DES: | LAP | | | |
| DRN: | LAP | | | |
| CHK: | HWL | | | |
| DATE: | 1/18/05 | BY | NO. | REVISION |

TITLE SHEET- VICINITY MAP,
INDEX OF DRAWINGS, AND
GENERAL NOTES

600' SCALE MAP NO. 47 BLOCK NO. 20

WHISKEY BOTTOM ROAD PUMPING STATION
PRV UPGRADE
CONTRACT NO. 44-4260
CAPITAL PROJECT NO. W-8270C

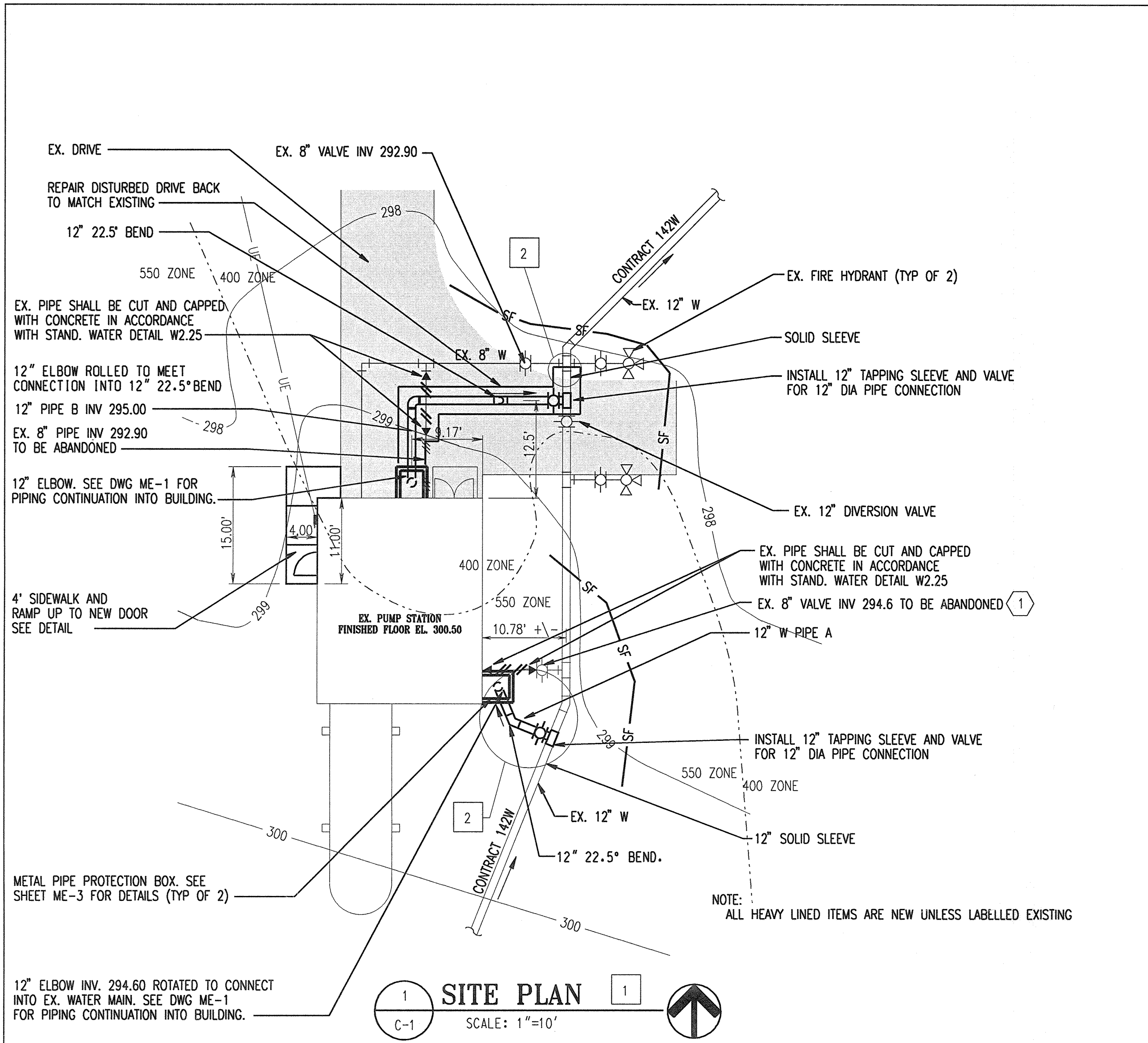
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

G-1

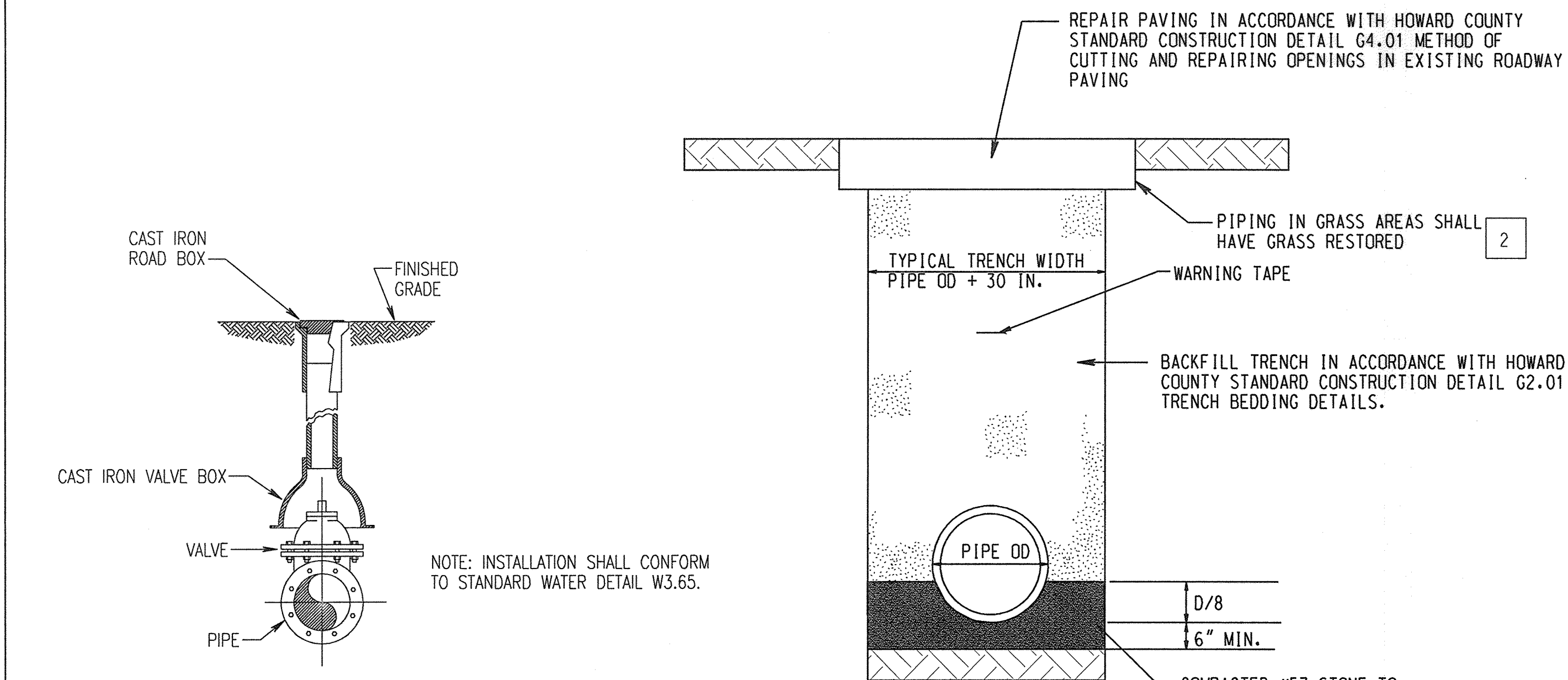
SCALE AS SHOWN

SHEET 1 OF 5





1 SITE PLAN
SCALE: 1"=10'



VALVE BOX INSTALLATION
NOT TO SCALE

TYPICAL TRENCH DETAIL
NO SCALE

CONSTRUCTION NOTES:

- 1 REMOVE VALVE COVER AND FILL WITH STONE

CONSTRUCTION NOTES:

- 1 ALL BURIED PIPING SHALL HAVE MECHANICAL RESTRAINED JOINTS AS SPECIFIED.
- 2 TOPSOIL, SODDING, SEEDING AND MULCHING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 7 OF STANDARD SPECIFICATIONS.

CIVIL LEGEND

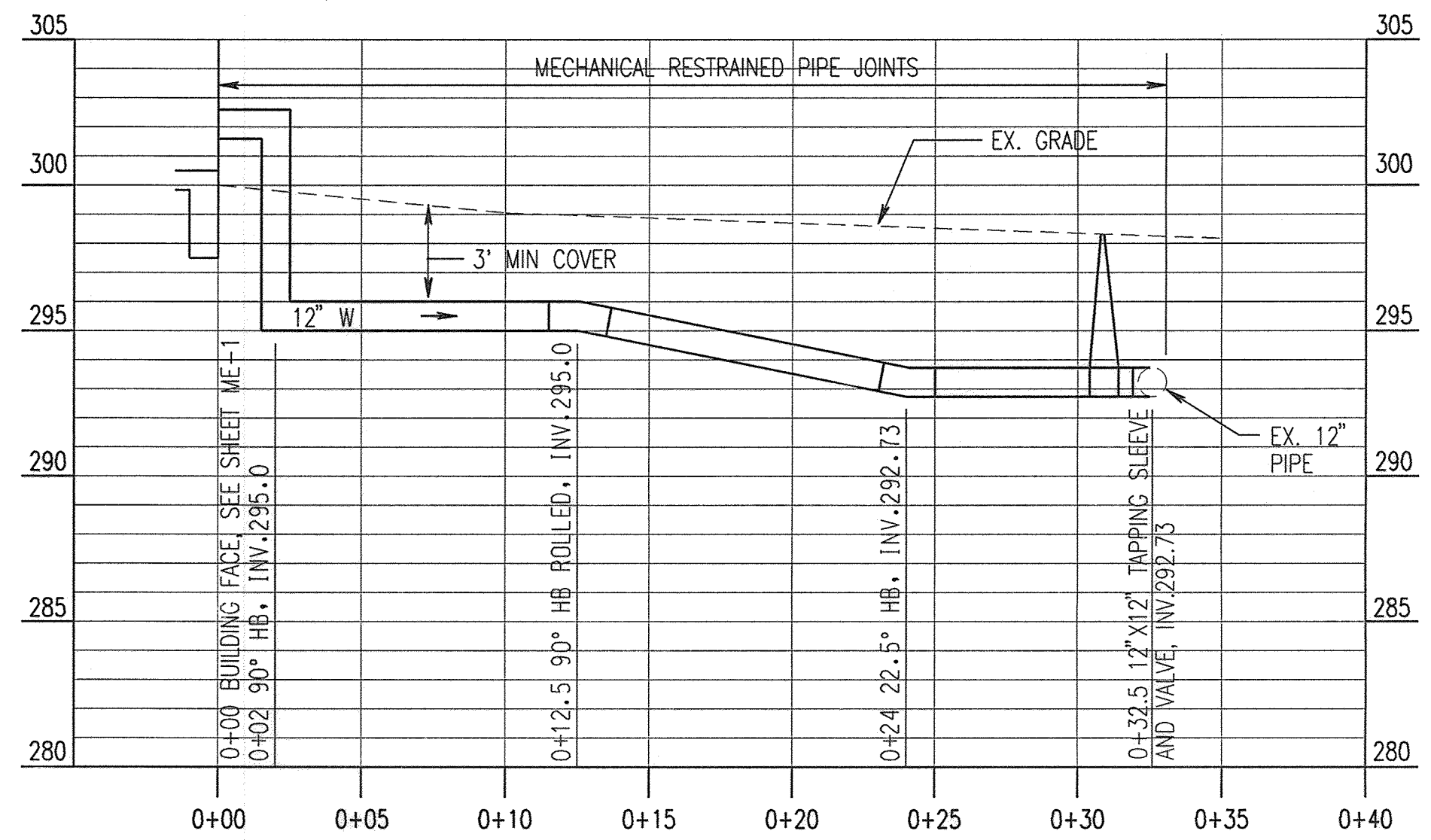
- ABANDON PIPE IN PLACE
- EXISTING PIPING
- NEW PIPING
- UE --- EXISTING UNDERGROUND ELECTRIC UTILITY
- SF --- SILT FENCE
- ⊕ EXISTING VALVE
- ⊕ NEW VALVE
- ⊕ EXISTING FIRE HYDRANT
- REMOVE PIPE

SEQUENCE OF CONSTRUCTION:

1. SECURE APPROVED MATERIALS. A DETAILED SEQUENCE OF CONSTRUCTION IS PROVIDED IN THE BID FORM, SEE CONTRACT SPECIFICATIONS.
2. CONTRACTOR TO CONDUCT TEST PITTING TO DETERMINE FIELD LOCATIONS OF EXISTING PIPING AND JOINTS.
3. NOTIFY COUNTY 48 HOURS PRIOR TO INTERRUPTIONS.
4. CONTRACTOR TO COORDINATE WITH COUNTY TO ISOLATE STATION FOR BY-PASS SERVICE.
5. CONTRACTOR TO COORDINATE WITH COUNTY TO RETURN STATION TO NORMAL PRV FLOW CONTROL AFTER PIPING HAS BEEN TESTED AND CLEANED IN ACCORDANCE WITH SPECIFICATIONS.
6. CHEMICAL ADDITION SHALL NOT OCCUR PRIOR TO START-UP AND TESTING AS SPECIFIED IN DOCUMENTS C AND D AS DELINEATED IN THE CONTRACT SPECIFICATIONS.

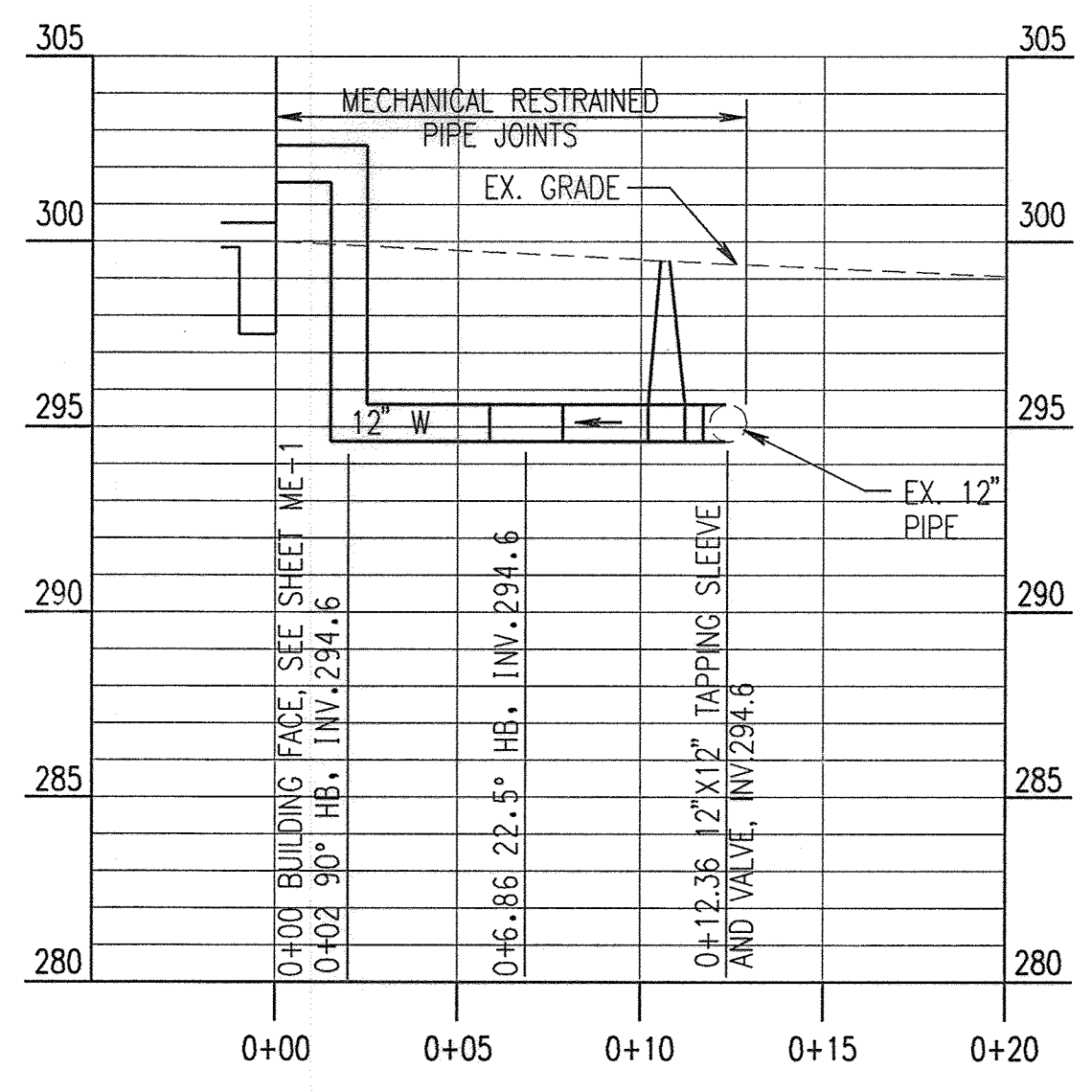
CIVIL ABBREVIATIONS

- BGV BURIED GATE VALVE
- W WATER



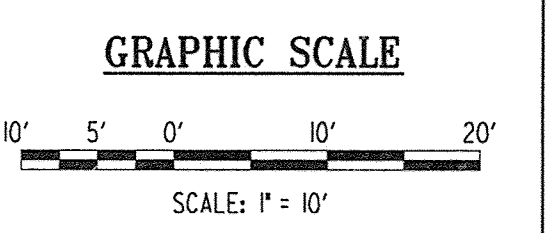
12" W (PIPE B) DOWNSTREAM FROM PS TO EX. 12"

SCALE: 1"=5' HORIZ.
1"=5' VERT.



12" W (PIPE A) UPSTREAM FROM EX. 12" TO PS

SCALE: 1"=5' HORIZ.
1"=5' VERT.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Ray J. Williams 1/21/05
DIRECTOR OF PUBLIC WORKS DATE

Robert Repom 1/21/05
CHIEF, BUREAU OF ENGINEERING DATE

Ray J. Williams 1-21-05
CHIEF, BUREAU OF UTILITIES DATE

Robert Repom 1-21-05
CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:

WR&A

Whitman, Reardon and Associates, LLP.
801 South Caroline Street
Baltimore, Md. 21231
410-235-3450



| | | | | |
|-------|---------|----------|------|--|
| DES: | LAP | | | |
| DRN: | LAP | | | |
| CHK: | HWL | | | |
| DATE: | 1/18/05 | | | |
| BY | NO. | REVISION | DATE | |

SITE PLAN AND DETAILS

600' SCALE MAP NO. 47 BLOCK NO. 20

WHISKEY BOTTOM ROAD PUMPING STATION
PRV UPGRADE
CONTRACT NO. 44-4260
CAPITAL PROJECT NO. W-8270C

ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 5

MA13777.C01-1377761-06.dgn
Wed Jun 19 14:46:39 2005







DEMOLITION NOTES:

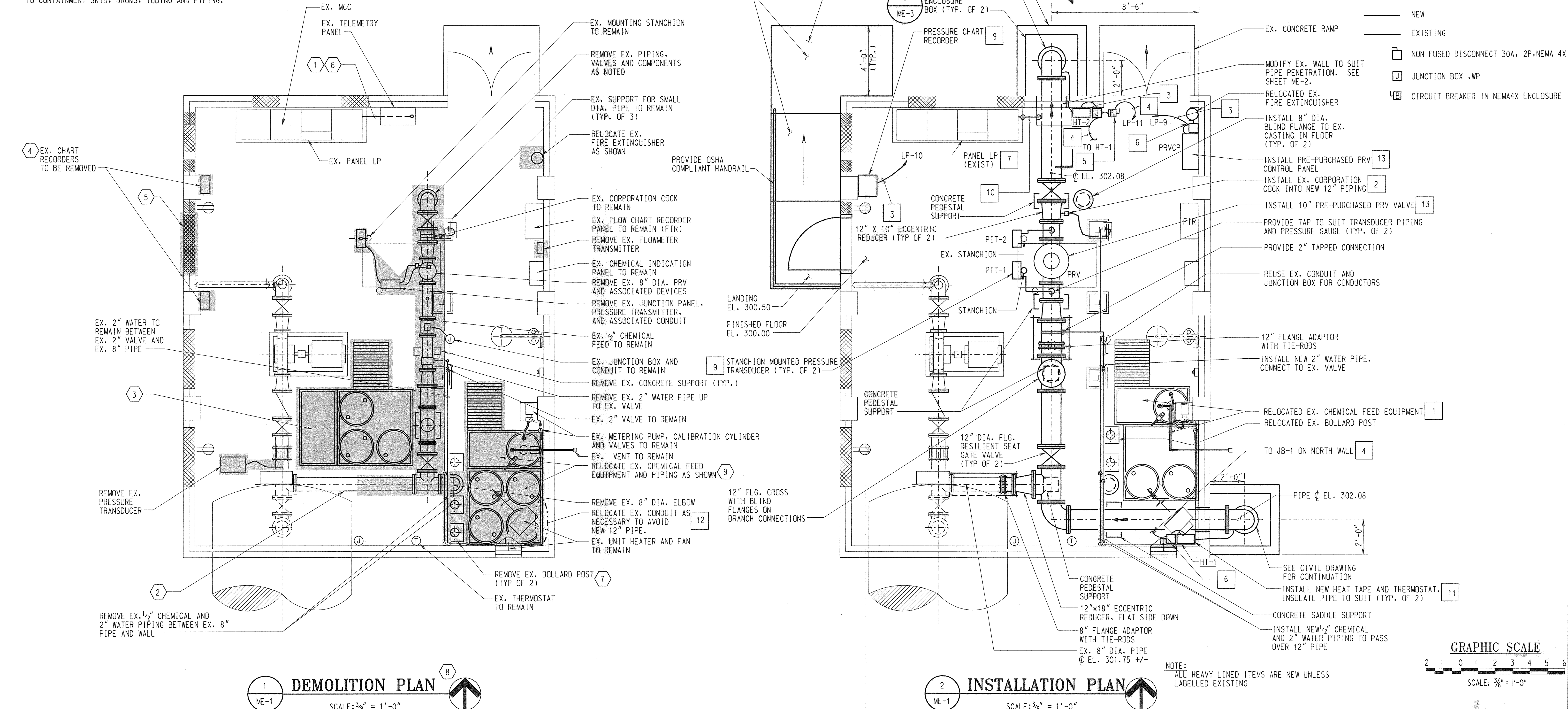
- 1 REMOVE CONDUIT AND CONDUCTORS BETWEEN TELEMETRY PANEL AND MCC.
- 2 CUT EX. 8" DIA. PIPE TO LENGTH TO SUIT INSTALLATION OF NEW FLANGE ADAPTOR.
- 3 REMOVE CONTAINMENT SKID, RAMP, AND DRUMS. COORDINATE WITH OWNER TO RELOCATE AS NECESSARY.
- 4 REMOVE EX. PANELS AND ASSOCIATED CONDUIT AND CONDUCTORS.
- 5 REMOVE EX. CMU BLOCK IN WINDOW OPENING. MODIFY WALL STRUCTURE AS DETAILED ON ME-3.
- 6 RELOCATE CONDUIT AND CONDUCTORS TO AVOID NEW 12" DIA PIPE.
- 7 RELOCATE ONE BOLLARD AS SHOWN.
- 8 ALL EQUIPMENT, VALVES AND PIPING THAT THE OWNER WANTS TO KEEP SHALL BE TURNED OVER TO THE OWNER. ALL OTHER ITEMS SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
- 9 RELOCATED ITEMS SHALL INCLUDE BUT NOT BE LIMITED TO CONTAINMENT SKID, DRUMS, TUBING AND PIPING.

CONSTRUCTION NOTES:

- 1 CONTRACTOR SHALL MODIFY EXISTING TUBING AND PIPING AND PROVIDE NEW COMPONENTS AS NECESSARY TO SUIT NEW EQUIPMENT LOCATIONS.
- 2 PROVIDE NEW TUBING AND COUPLINGS AS NECESSARY TO CONNECT TO EX. 1/2" CHEMICAL PIPE.
- 3 PROVIDE 2 # 12, 1 # 12G-3/4"C.
- 4 PROVIDE 2 # 10, 1 # 12G-3/4"C.
- 5 PROVIDE 15 A SINGLE POLE, GFCI CIRCUIT BREAKER IN NEMA 4 X ENCLOSURE. (SQUARE D OWIK-GUARD CIRCUIT BREAKER)
- 6 PROVIDE 30A, 2P, NONFUSED, DISCONNECT.
- 7 PROVIDE TWO NEW BREAKERS 20A, 1P, FOR CKT #11, 12 IN PANEL LP.
- 8 CONCRETE RAMP, SIDEWALK AND PAD SHALL CONFORM TO SECTION 603 SIDEWALKS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
- 9 MOUNT PRESSURE TRANSMITTERS IN RECORDER PANEL. SEE PROCESS AND INSTRUMENTATION DIAGRAM.
- 10 PROVIDE CONDUIT AND WIRE TO SCADA PANEL FROM MCC SUCH THAT CONDUIT ENTERS SCADA PANEL FROM TOP OR SIDE INSTEAD OF BOTTOM TO AVOID CONFLICT WITH 12" PIPE.
- 11 PROVIDE REMOTE CAPILLARIES TO SUIT.
- 12 PROVIDE CONDUIT AND WIRE AS NECESSARY.
- 13 PRE-PURCHASED PRV AND ASSOCIATED CONTROL PANEL SUPPLIED BY OTHERS. CONTRACTOR SHALL INSTALL AS SHOWN.

LEGEND:

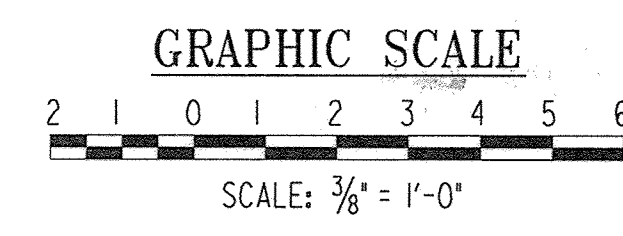
-  ITEMS TO BE REMOVED OR RELOCATED
-  NEW
-  EXISTING
-  NON FUSED DISCONNECT 30A, 2P, NEMA 4X
-  JUNCTION BOX, WP
-  CIRCUIT BREAKER IN NEMA4X ENCLOSURE



1 DEMOLITION PLAN
ME-1
SCALE: 3/8" = 1'-0"

2 INSTALLATION PLAN
ME-1
SCALE: 3/8" = 1'-0"

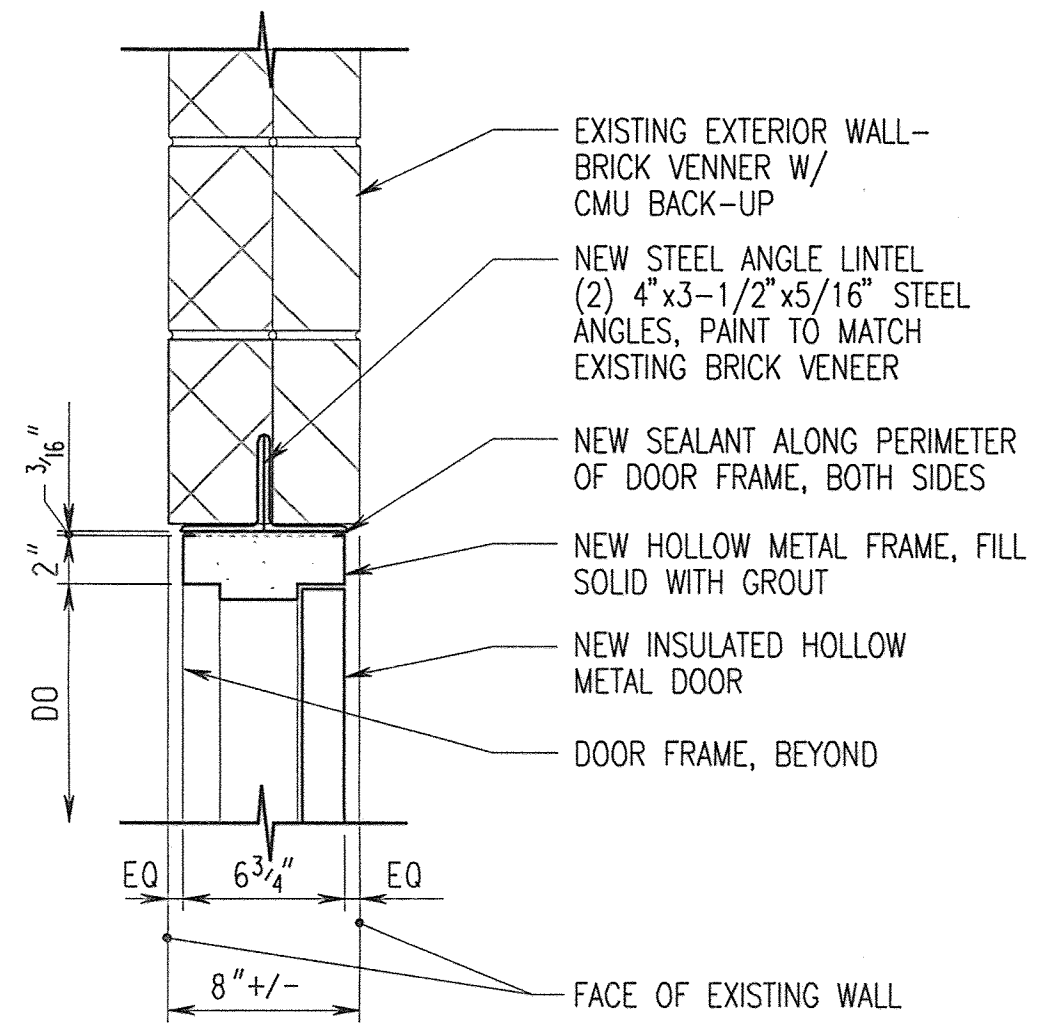
NOTE: ALL HEAVY LINED ITEMS ARE NEW UNLESS LABELLED EXISTING



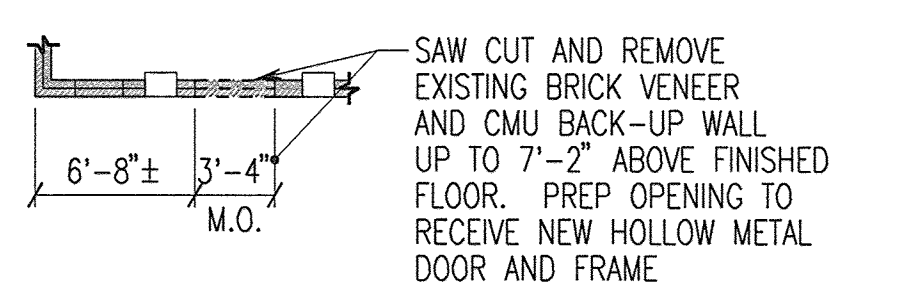
CONSTRUCTION NOTES:
 1 CONTRACTOR SHALL REPAIR DAMAGE DONE TO EXISTING COATING SYSTEMS AS SPECIFIED.

ARCHITECTURAL ABBREVIATIONS

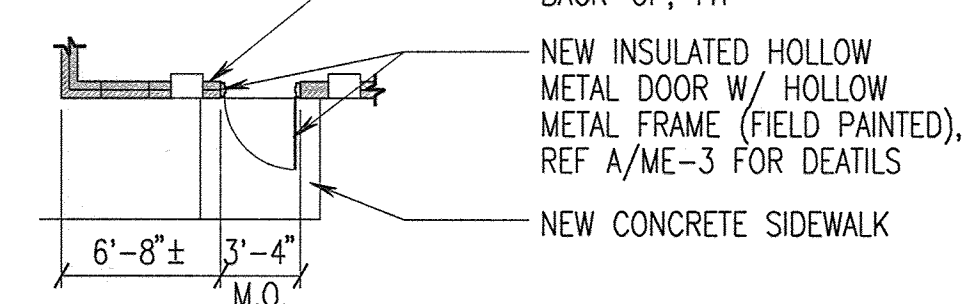
| | |
|-------|-----------------------|
| CMU | CONCRETE MASONRY UNIT |
| CONC. | CONCRETE |
| DO | DOOR OPENING |
| EQ. | EQUAL |
| EXP. | EXPANSION |
| MO | MASONRY OPENING |
| O.C. | ON CENTER |



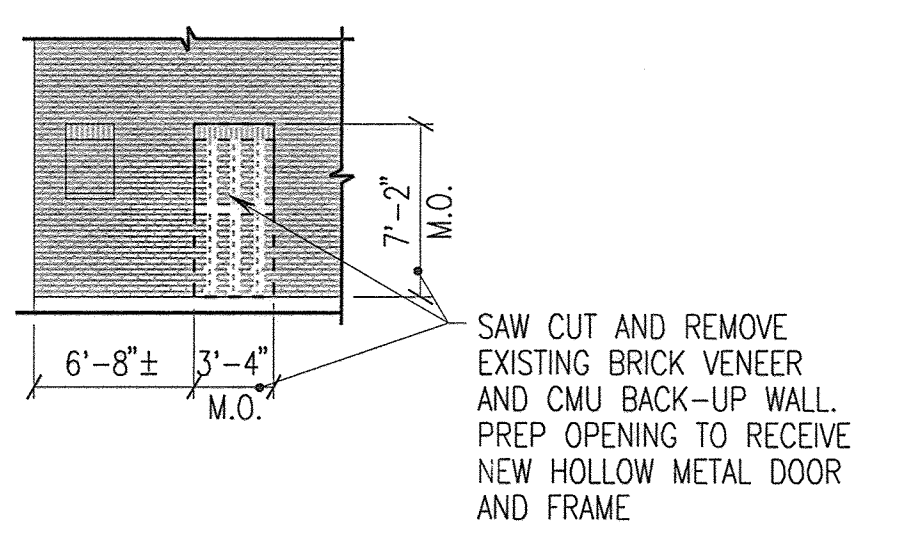
HEAD H-8



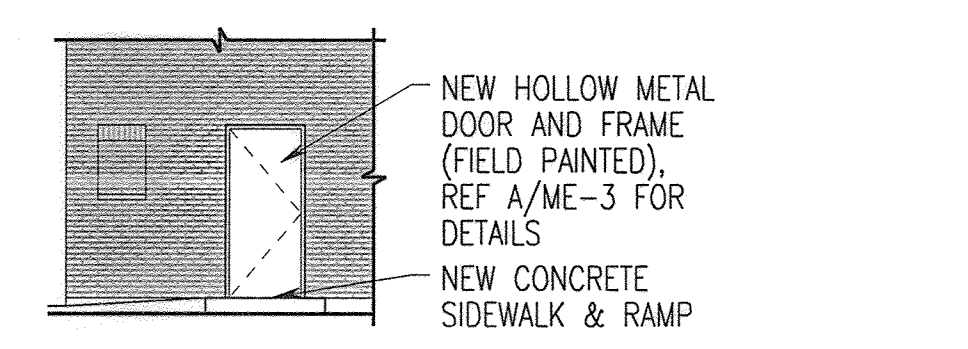
1 PARTIAL DEMO PLAN
 ME-3 SCALE: 1/8" = 1'-0"



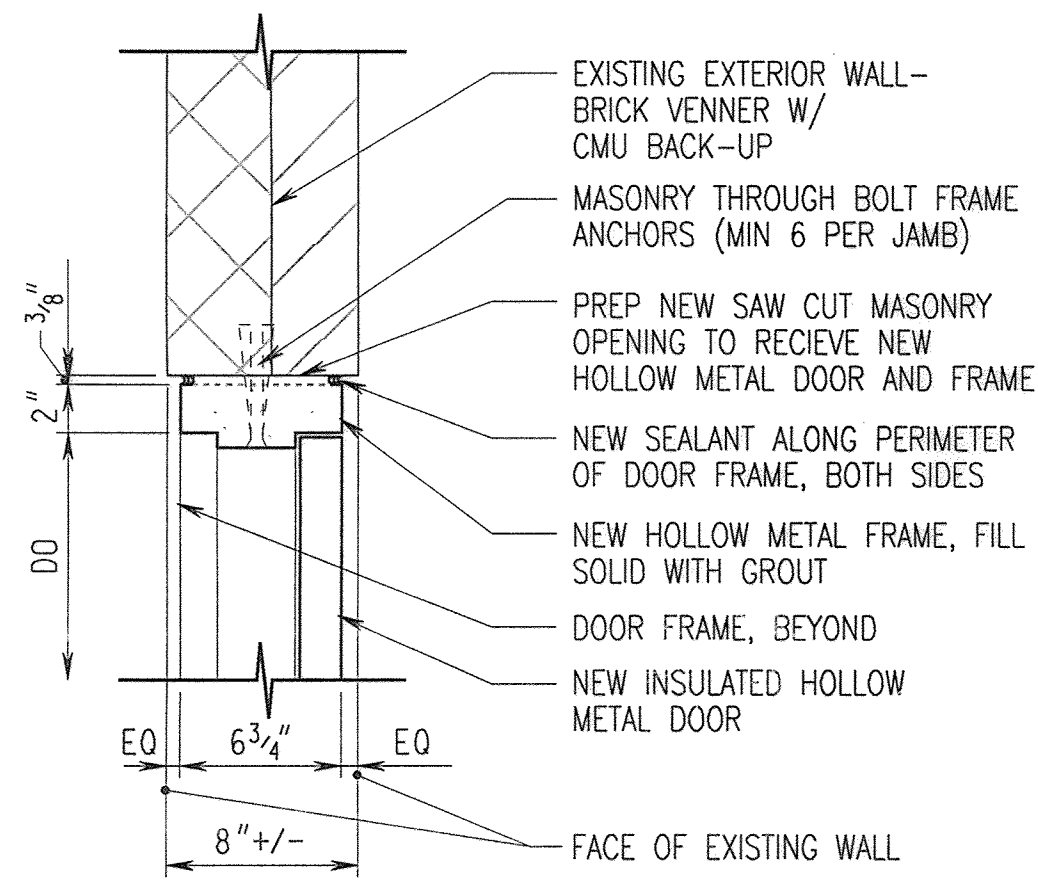
2 PARTIAL FLOOR PLAN
 ME-3 SCALE: 1/8" = 1'-0"



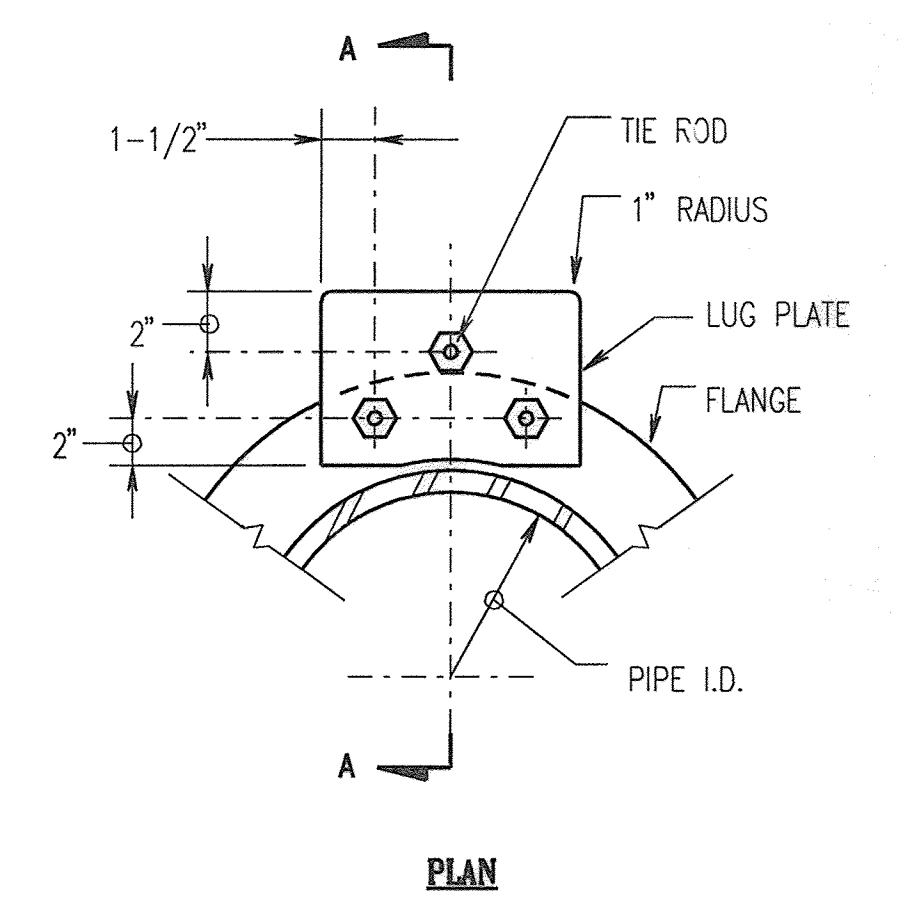
3 PARTIAL WEST DEMO ELEVATION
 ME-3 SCALE: 1/8" = 1'-0"



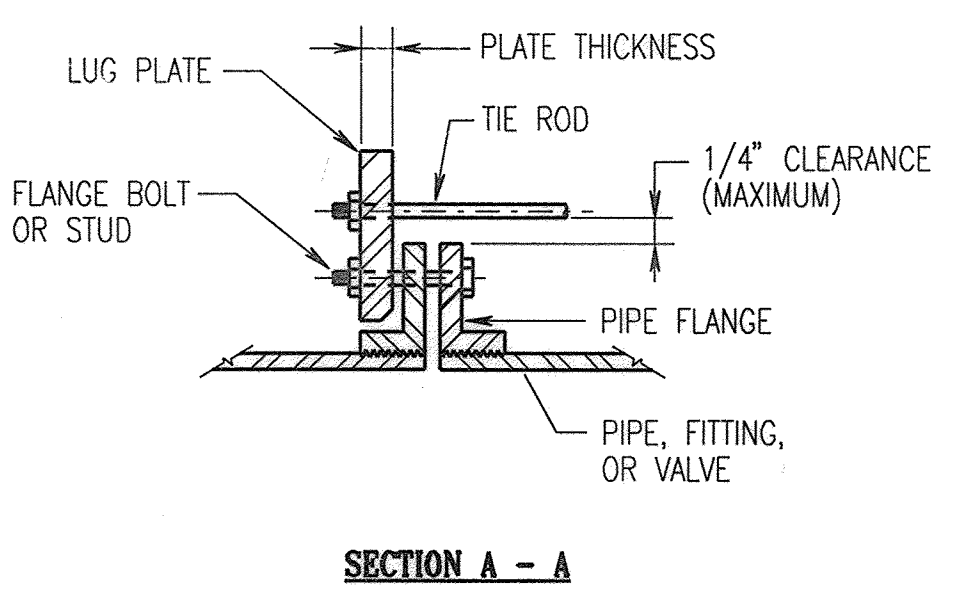
4 PARTIAL WEST ELEVATION
 ME-3 SCALE: 1/8" = 1'-0"



JAMB J-8



B TIE-ROD DETAIL
 ME-1 SCALE: NONE

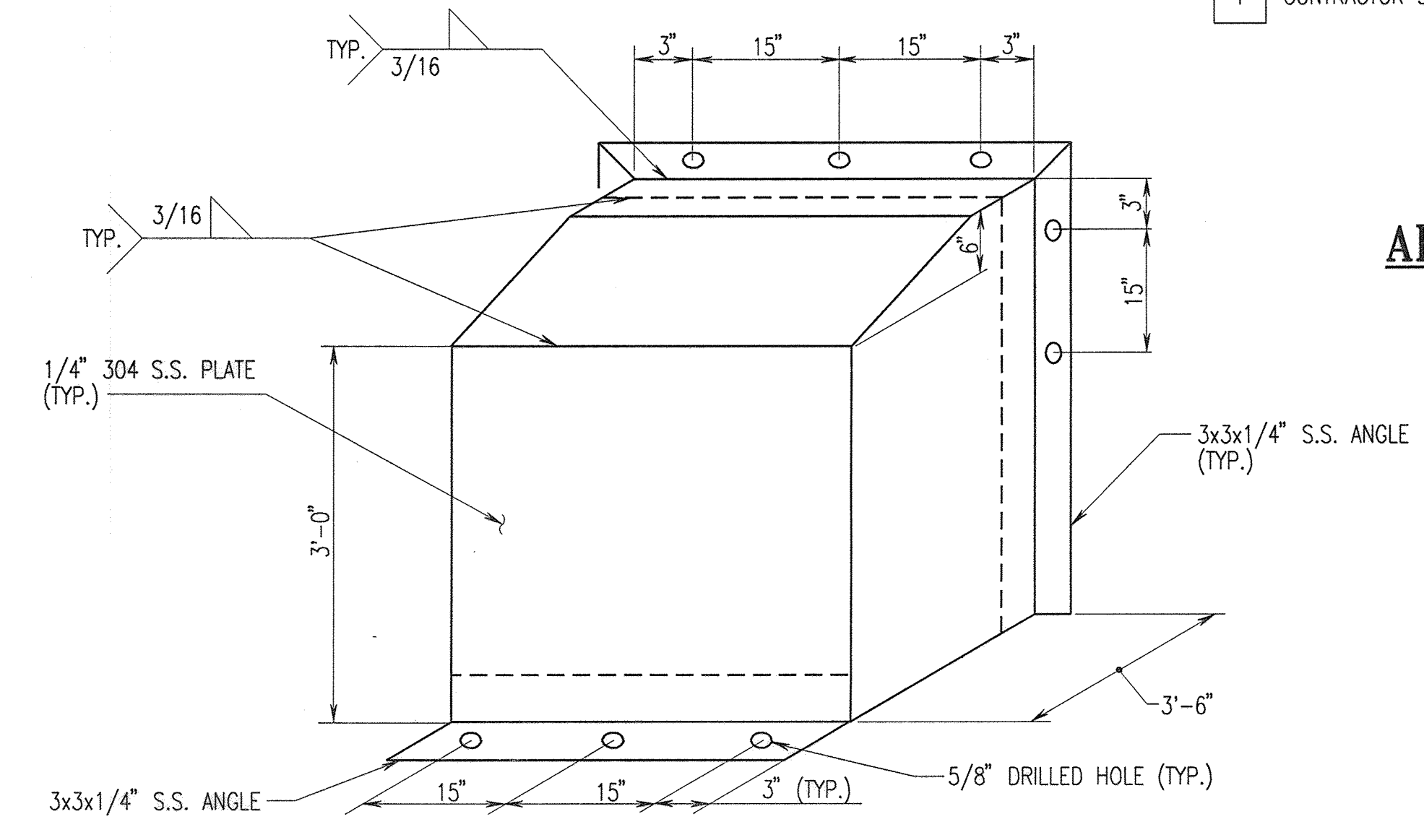


SECTION A - A

| PIPE SIZE | NUMBER OF RODS | DIAMETER OF RODS | PLATE THICKNESS | PIPE SLEEVE (IF REQUIRED) | DESIGN PRESSURE (PSI) |
|-----------|----------------|------------------|-----------------|---------------------------|-----------------------|
| 8" | 2 | 3/4" | 1" | 7/8" | 150 |
| 12" | 4 | 3/4" | 1" | 7/8" | 150 |

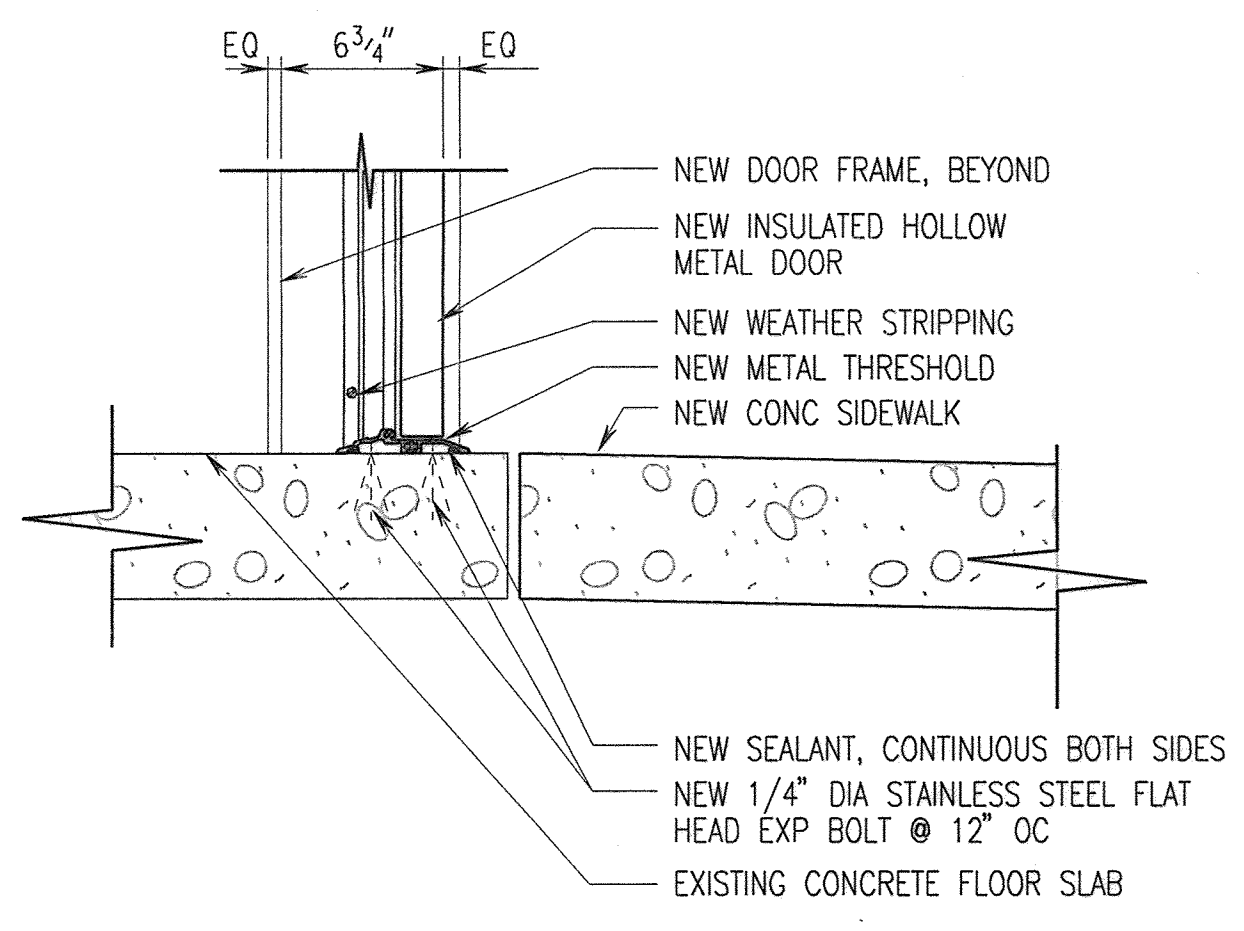
NOTE: IF PLATE IS REQUIRED TO BE MOUNTED ON REVERSE SIDE OF FLANGE, PROVIDE A PIPE SLEEVE AND WASHER ON THE END OF THE TIE ROD SO THAT THE MAXIMUM CLEARANCE BETWEEN THE SLEEVE AND THE FLANGE CAN BE MAINTAINED. FLANGE SURFACE IN CONTACT WITH LUG PLATE SHALL BE GROUND SMOOTH TO CLEAR THE CASTING IRREGULARITY AND EMBOSSED LETTERING. CONTACT SURFACE OF LUG PLATE SHALL BE MACHINED TO A ONE DEGREE TAPER FOR PIPE DIAMETERS 12-INCH AND LARGER.

ROD MATERIAL - ASTM A588
 PLATE MATERIAL - ASTM A36
 SLEEVE MATERIAL - SCHEDULE 40 STEEL PIPE



C BOX DETAIL
 ME-1, ME-2 SCALE: NONE

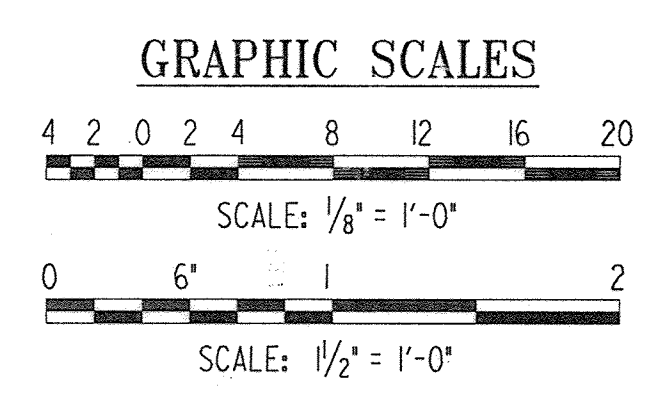
D DETAIL
 ME-1, ME-2 SCALE: NONE



SILL S-8

A DOOR & FRAME DETAILS
 ME-3 SCALE: 1-1/2" = 1'-0"

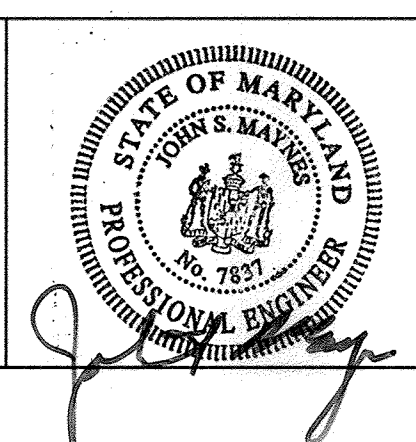
NOTE: SEE DOOR HARDWARE AND STEEL DOOR & FRAME SPECIFICATIONS ON THIS SHEET



As-Built ME-3

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.
 Director of Public Works: 1/21/05
 Chief, Bureau of Utilities: 1-21-05

PREPARED BY:
WR&A
 Whitman, Requardt and Associates, LLP.
 801 South Caroline Street
 Baltimore, Md. 21231
 410-235-3450



| | | | | | |
|---------------|----|-----|----------|------|------------------------------------|
| DES: MWM/LAP | | | | | |
| DRN: MWM/LAP | | | | | |
| CHK: HWL | | | | | |
| DATE: 1/18/05 | BY | NO. | REVISION | DATE | 600' SCALE MAP NO. 47 BLOCK NO. 20 |

WHISKEY BOTTOM ROAD PUMPING STATION
 PRV UPGRADE
 CONTRACT NO. 44-4260
 CAPITAL PROJECT NO. W-8270C
 ELECTION DISTRICT 3
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 5 OF 5