

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 on the drawings. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
- All horizontal controls are based on NAD 83.
- Vertical controls are based on U.S.G.S. data.
- All pipe elevations shown are invert elevations.
- Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. The Owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the Owner for 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 required, refer to Specifications.
- Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug, shall be located by the Contractor two weeks in advance of construction operations at his own expense.
- Contractor shall notify the following utility companies or agencies at least five working days before starting utility work shown on these plans:
 State Highway Administration 531-5533
 Baltimore Gas & Electric Co. Contractor Services 850-4620
 Baltimore Gas & Electric Co. Underground Damage Control 787-9068
 Miss Utility 1-800-257-7777
 Colonial Pipeline Co. 795-1390
 Bureau of Utilities, Howard County Department of Public Works 315-4900
- Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
- Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- All water mains to be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains to have a minimum of 3'-1/2" cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the 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 restrained and buttressed with concrete in accordance with Standard Details. 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.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
- The fire hydrant shall be installed as per standard detail W.1.11.
- Fire hydrants will be located 3' FROM BACK OF CURB unless otherwise noted.
- For sprinkler systems, all townhomes or multi-family dwelling units should have a minimum of 1' connection with a 3/4" meter.
- The Contractor shall notify the Bureau of Highways, Howard County, at (410) 315-7450 at least five (5) working days before any open cut of any County road or boring/lacking operation in County roads for laying water/sewer mains or house connections. Soil around the fire hydrant will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.
- Sediment control to be provided on an as needed basis to be determined in the field by the Sediment Control Inspector. Trench length is limited to 3 pipe lengths at any one time. To be stabilized immediately.
- Contractor to provide traffic control during construction in accordance with the Manual On Traffic Control Devices (Latest Edition). The Contractor shall phase the work so as to maintain at least one lane open for access to each school at all times.
- Contractor to protect the existing trees or shrubs and replace any damaged during construction.

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
8" PIPE	1735 LF	1022 L.F.	CLASS 52	GREIFIN PIPE
6" PIPE	165 LF	109	"	"
8"x8" TEE	2	2 EA.	"	"
8"x6" REDUCER	1	1	"	"
8" VALVE	3	3	"	"
8" 1/32 BEND	2	2	"	"
8" 1/16 BEND	2	2	"	"
8" 1/8 BEND	3	3	"	"
6" 1/4 BEND	1	1	"	"
6" VALVE	6	6	"	"
4" PIPE	480 LF	492 L.F.	"	"
4" VALVE	1	1 EA.	MUELLER	"
8"x4" REDUCER	1	"	CLASS 52	"
4" 1/8 BEND	6	6	"	"
4" 1/4 BEND	2	2	"	"
8"x6" TEE	5	5	"	"
FIRE HYDRANT	5	5	AM. DARLING	"
1 1/2" PIPE	12 LF	12 L.F.	'K' COPPER	"
1 1/2" CORP. STOP	1	1 EA.	MUELLER	"
1 1/2" VALVE	1	"	"	"
1" AIR VALVE	1	"	"	"

NAME OF UTILITY CONTRACTOR :

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on the drawings.

CHECKBOX

AS-BUILT DATE

SURVEY AND DRAFTING DIVISION

Review for Howard Soil Conservation District and meets technical requirements.

J. Campbell / *6/1/96*

NATURAL RESOURCES CONSERVATION SERVICE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Mark S. ... / *6/5/96*

HOWARD SOIL CONSERVATION DISTRICT

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT & 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 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.

Thomas C. King / *6/17/96*

DEVELOPER DATE

BY THE ENGINEER:

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

John Donnell, P.E. / *6/17/96*

ENGINEER DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert ... / *5-28-96*

CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

... / *6/1/96*

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX: 410-997-9282
ENTRNG/00001 W-CLARKSV



DES: J.S.C.	G.C.L.	County Review Comments: Added valve and buttress and bury lengths. Adjust any elevations. 5/20/96
DRN: E.L.R.		
CHK: G.C.L.		
DATE: 4/29/96	BY NO.	REVISION

CLARKSVILLE AND POINTERS RUN PLAN

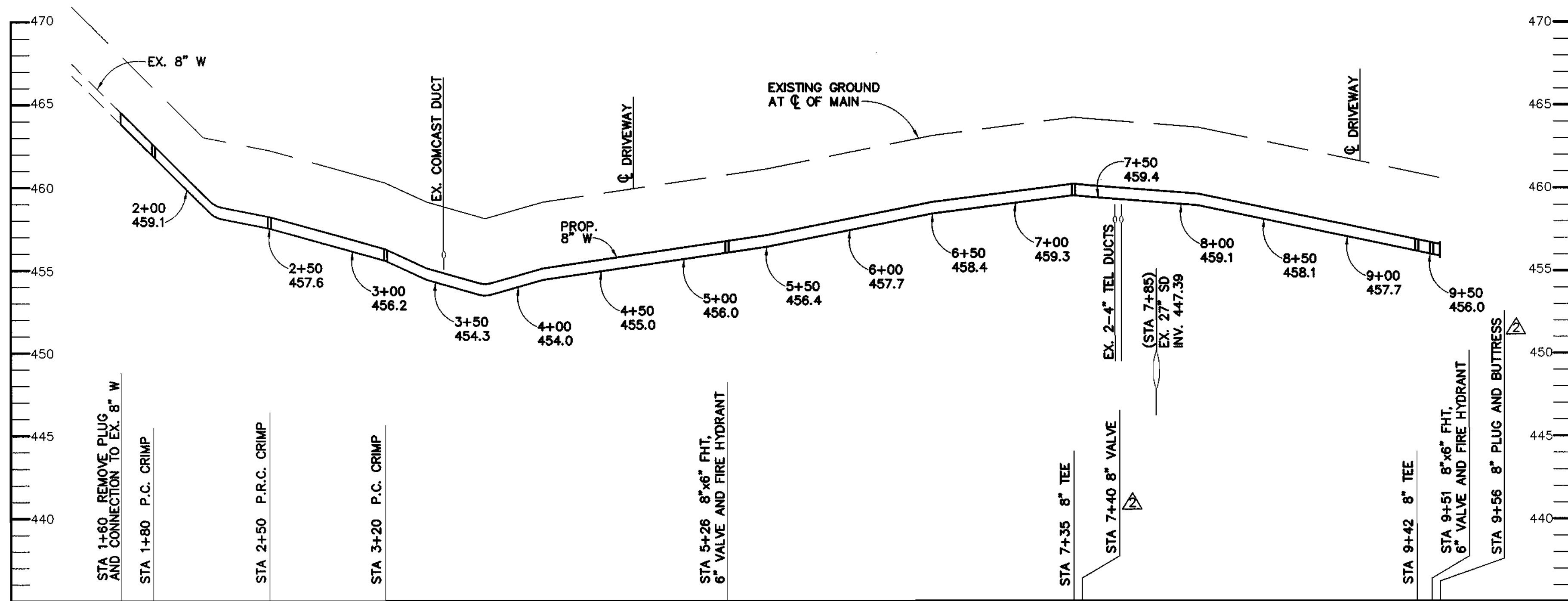
600' SCALE MAP NO. _____ BLOCK NO. _____

GATEWAY, POINTERS RUN & CLARKSVILLE SCHOOL WATER SERVICE CONNECTIONS

5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT: 44-3536-D

SCALE AS SHOWN

SHEET 1 OF 6

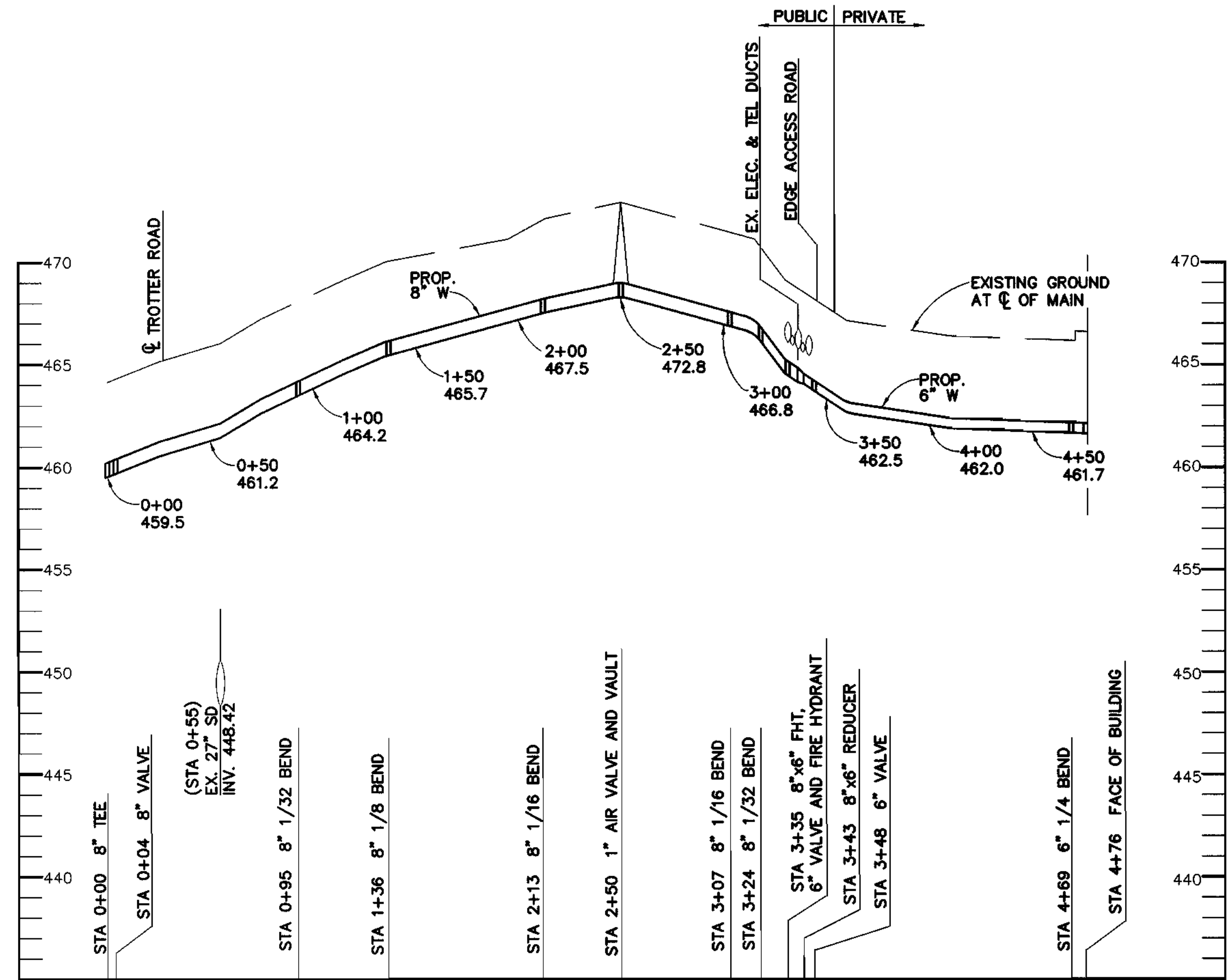


NOTES

- Contractor to verify location and elevation of existing 8" water prior to construction and notify engineer if different than shown.
- Contractor to verify location and elevation of existing BG&E and Bell Atlantic conduits.
- Contractor to verify location and elevation of existing underground Comcast cable facility.

PROFILE: TROTTER ROAD

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



NOTES

SEE SHEET 1 OF 6 FOR PLAN

PROFILE: POINTERS RUN

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

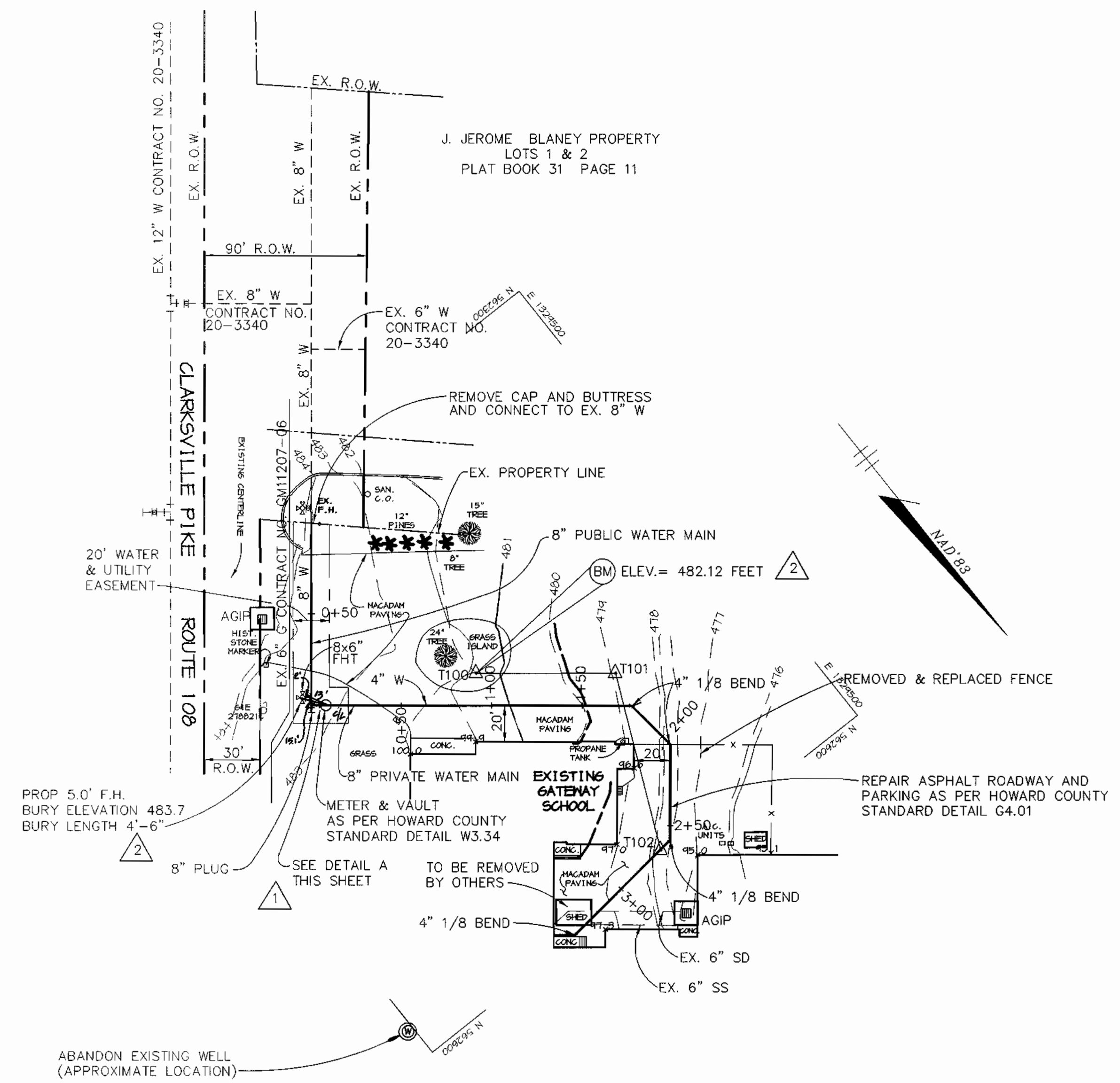


PROFILE: CLARKSVILLE MIDDLE

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

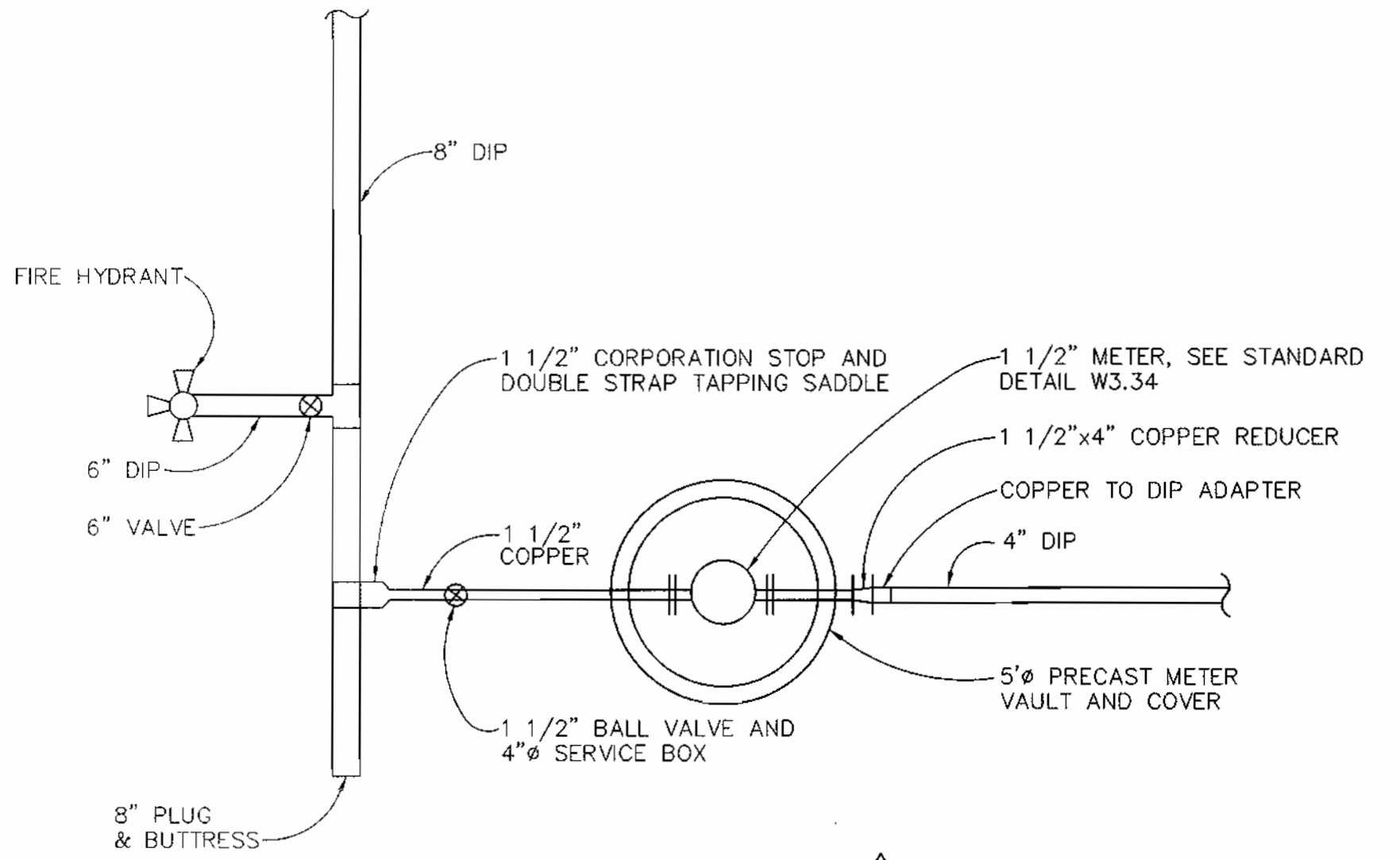


DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND CHIEF, BUREAU OF UTILITIES DATE: 5-28-96	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 4/29/96	RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive • Suite 200 • Columbia, MD 21045 410-997-8900 FAX: 410-997-9282 HYDRO/00001 P-CLARKS.DWG	FRANK DONALDSON #8146	DES: J.S.C. G.C.L.	County Review Comments. Added valve and buttress. STA 7+40 5/20/96	CLARKSVILLE AND POINTERS RUN SCHOOLS WATER MAIN PROFILES	GATEWAY, POINTERS RUN & CLARKSVILLE SCHOOL WATER SERVICE CONNECTIONS 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT: 44-3536-D	SCALE AS SHOWN SHEET 2 OF 6
				DRN: E.L.R. CHK: G.C.L. DATE: 4/29/96	BY: NO. REVISION DATE			

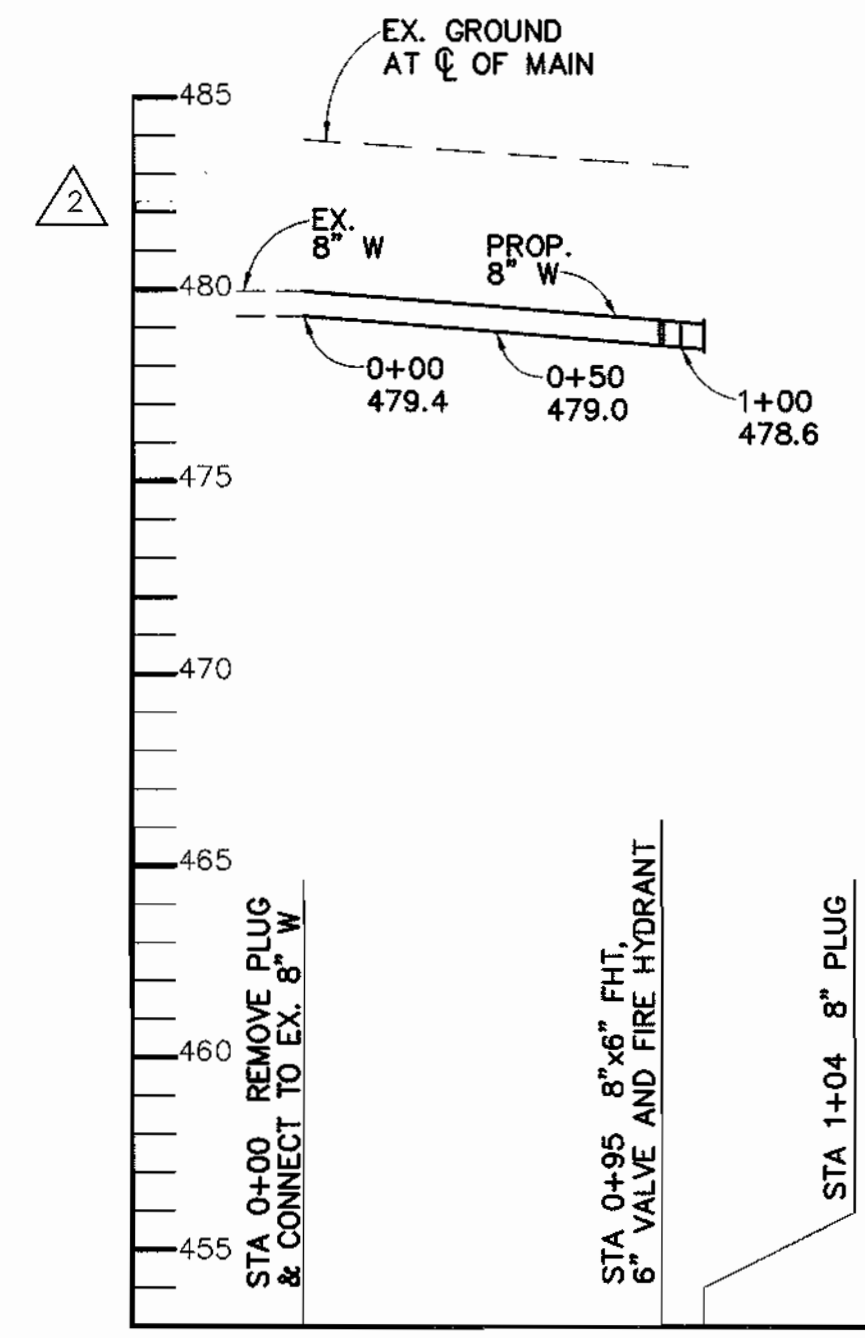


PART SITE PLAN
SCALE: 1"=50'

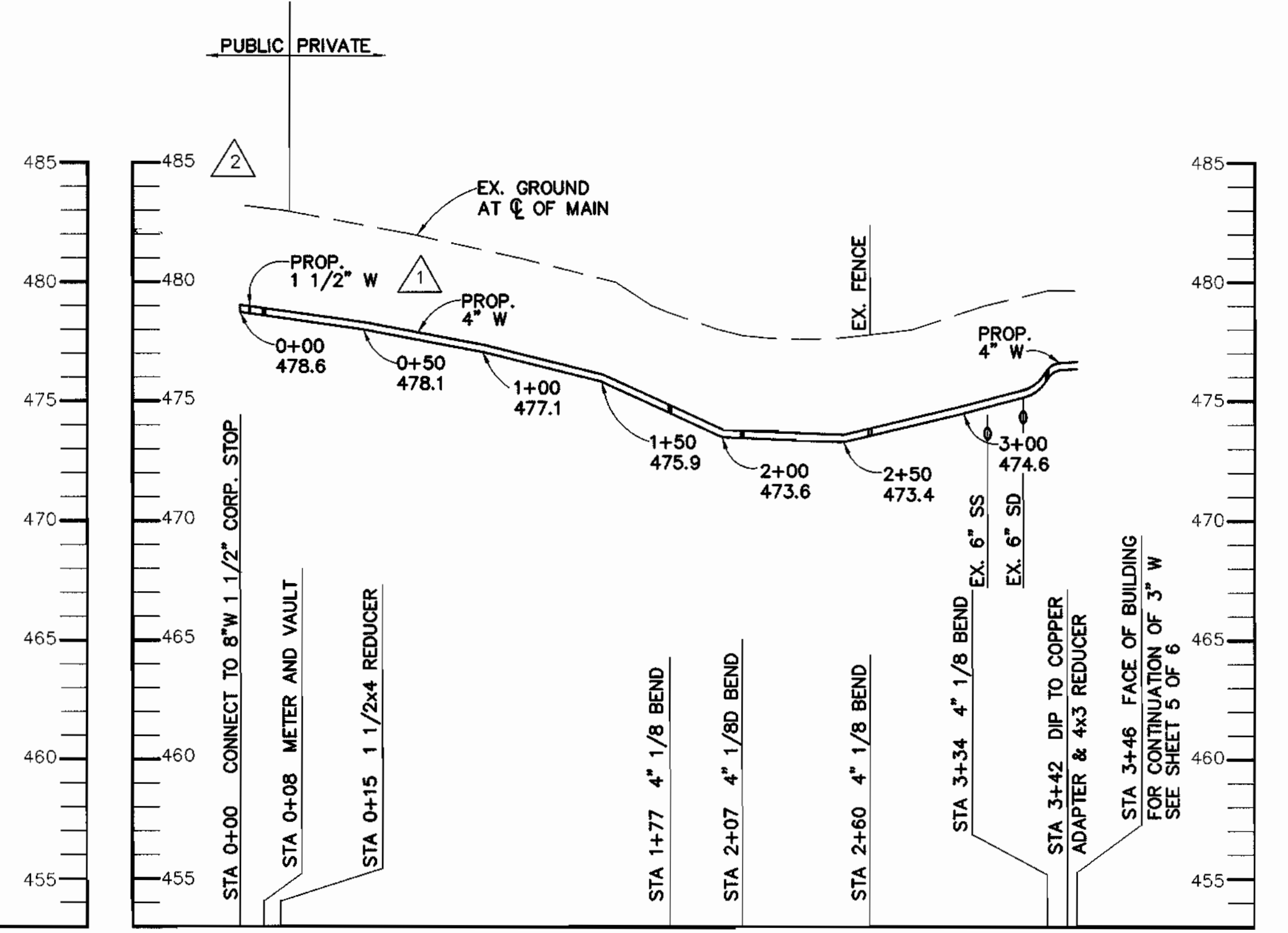
NOTE:
SEE SHEET 5 OF 6 FOR CONNECTIONS
INSIDE BOILER ROOM.



DETAIL A
SCALE: 1/4"=1'



NOTE:
CONTRACTOR TO VERIFY LOCATION
AND DEPTH OF EX. 8" W BEFORE
COMMENCING WORK



NOTE:
CONTRACTOR TO VERIFY
LOCATION AND ELEVATION
OF EXISTING 6" SS AND
6" SD BEFORE CONSTRUCTION

WATER MAIN PROFILE

SCALE: HOR: 1"=50'
VERT: 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert Berman 5-28-96
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
H... 6/7/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX: 410-997-9282
ENV2820/00001 W-GATE.DWG

FRANK DONALDSON #8146

DES: J.S.C.	G.C.L.	Detail A added. # pipe changes from 3" to 4" and pipe type to Ductile Iron.
DRN: E.L.R.	G.C.L.	County review comments. Adjust at bury elevation. Add NAD 83 coordinate tick & USGS elevations.
CHK: G.C.L.		
DATE: 4/29/96	BY NO.	REVISION
		DATE

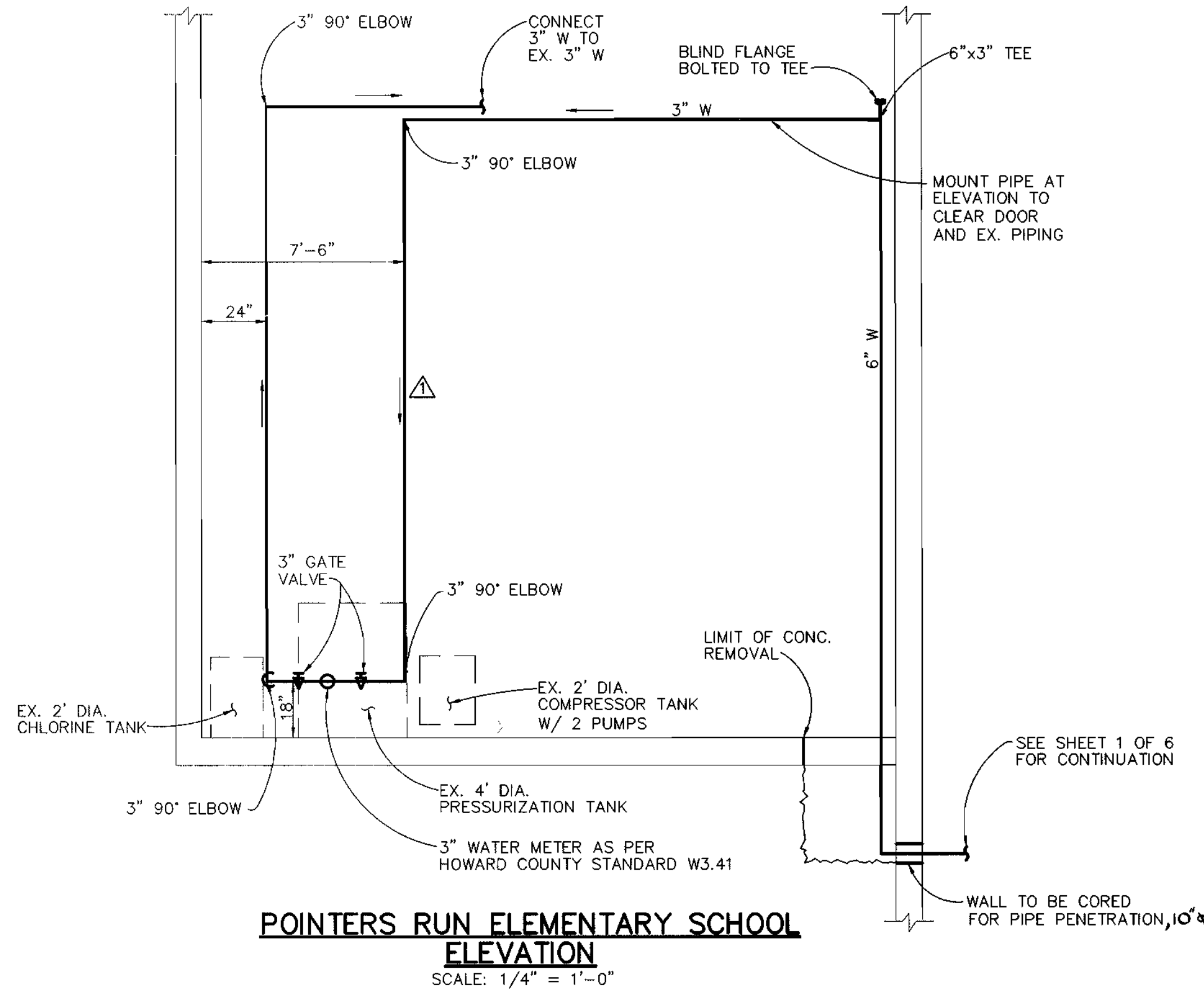
**GATEWAY SCHOOL
PLAN AND PROFILE**

600' SCALE MAP NO. _____ BLOCK NO. _____

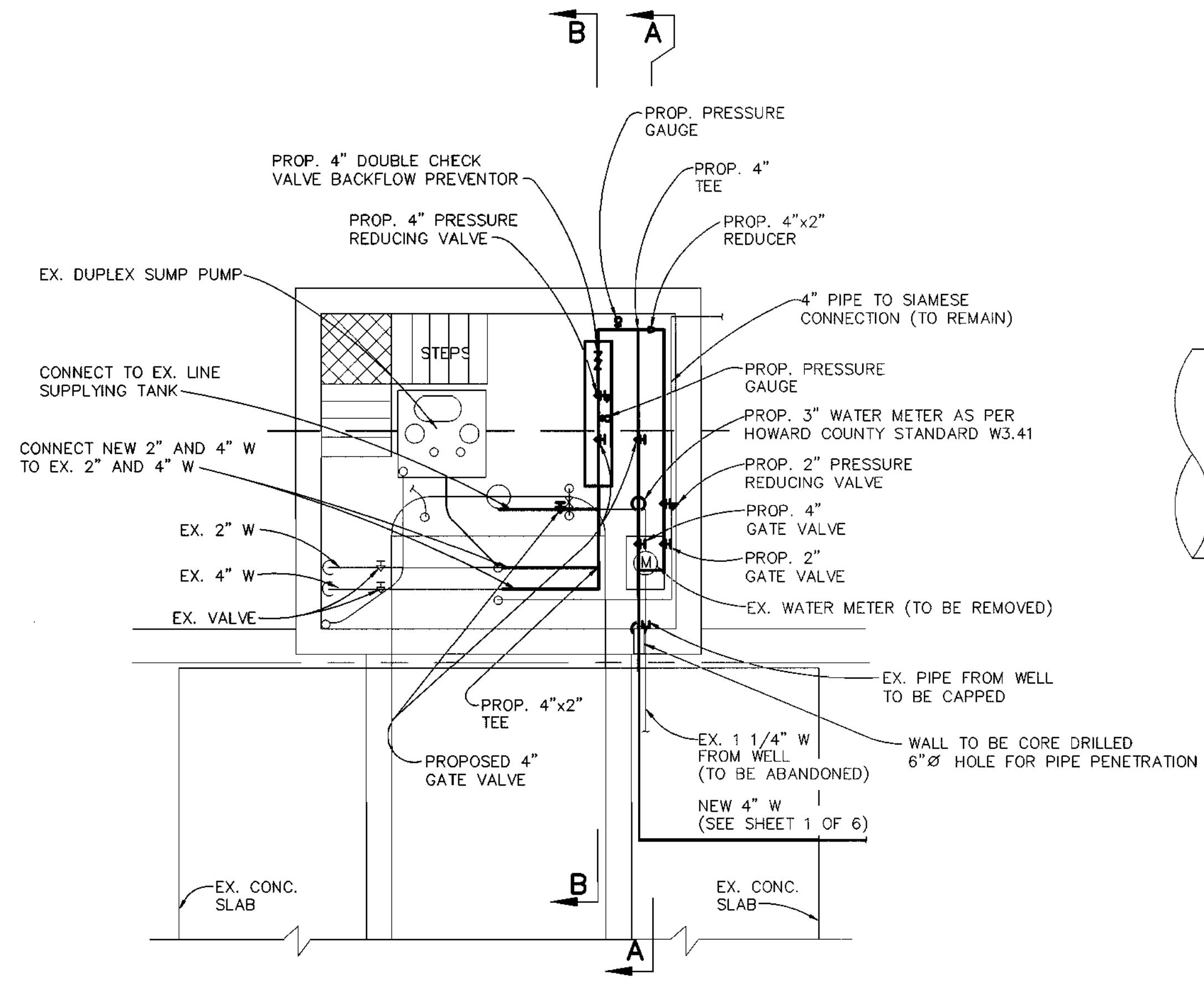
**GATEWAY, POINTERS RUN & CLARKSVILLE
SCHOOL WATER SERVICE CONNECTIONS**

5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT: 44-3536-D

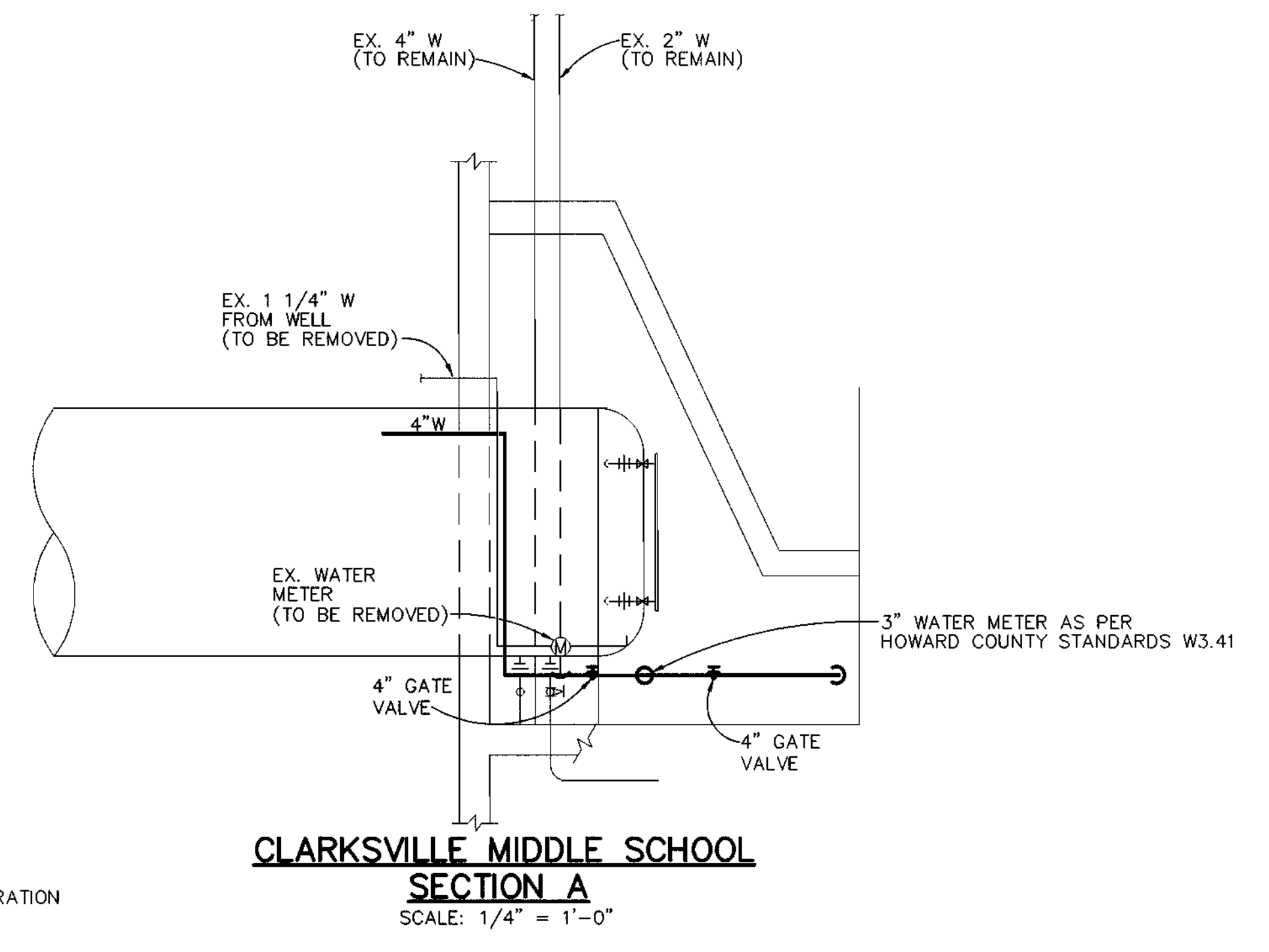
SCALE AS SHOWN
SHEET 3 OF 6



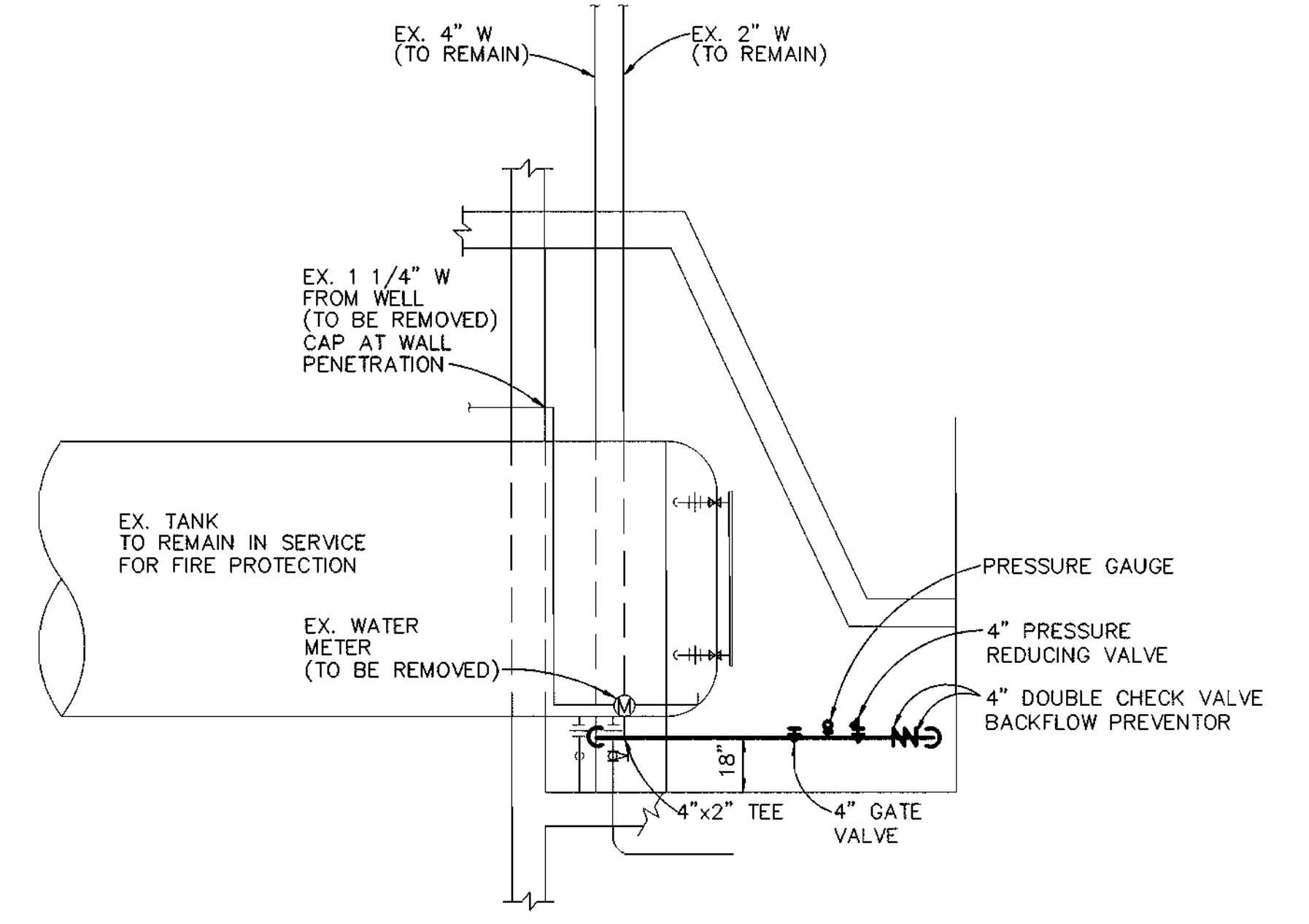
**POINTERS RUN ELEMENTARY SCHOOL
ELEVATION**
SCALE: 1/4" = 1'-0"



**CLARKSVILLE MIDDLE SCHOOL
UTILITY ROOM PLAN**
SCALE: 1/4" = 1'-0"

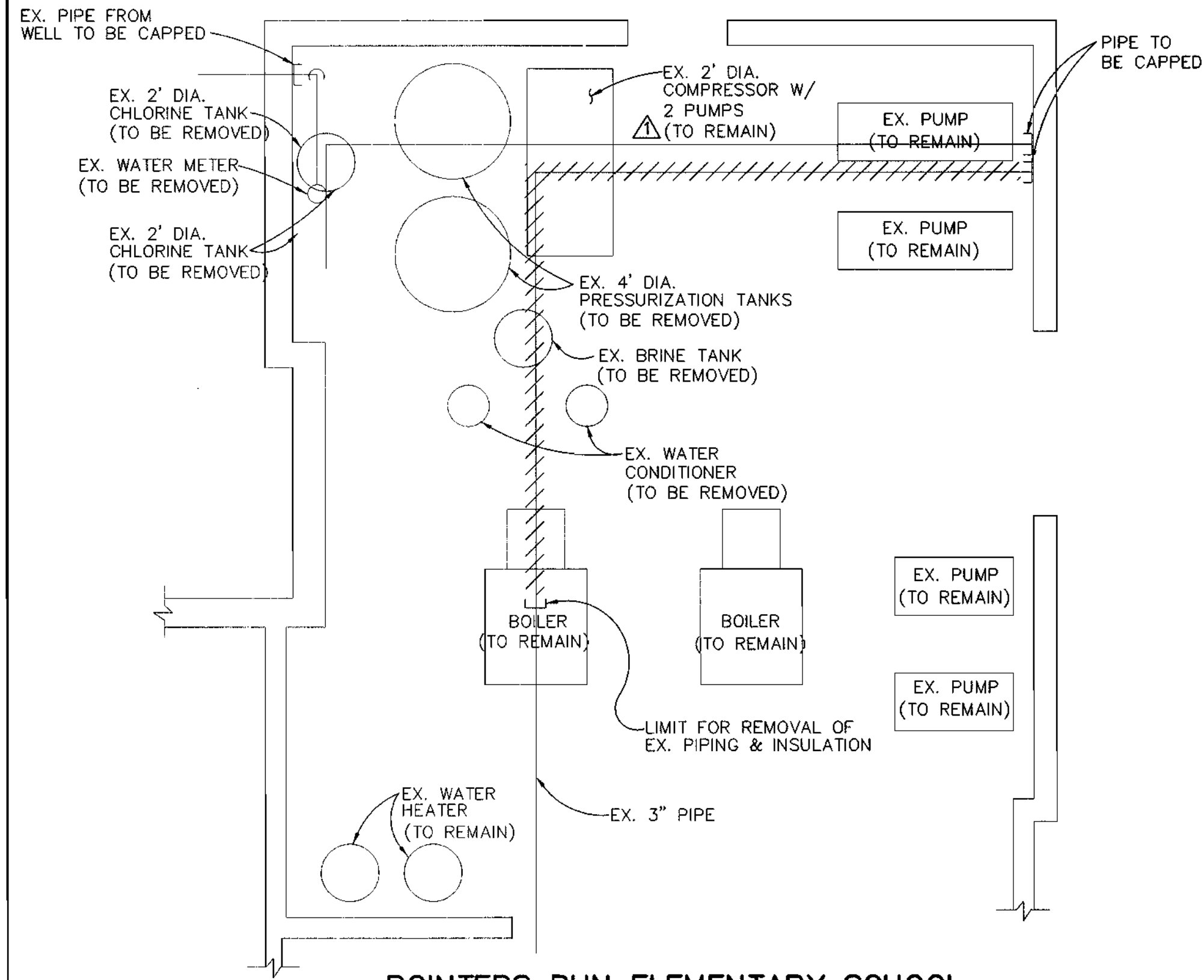


**CLARKSVILLE MIDDLE SCHOOL
SECTION A**
SCALE: 1/4" = 1'-0"

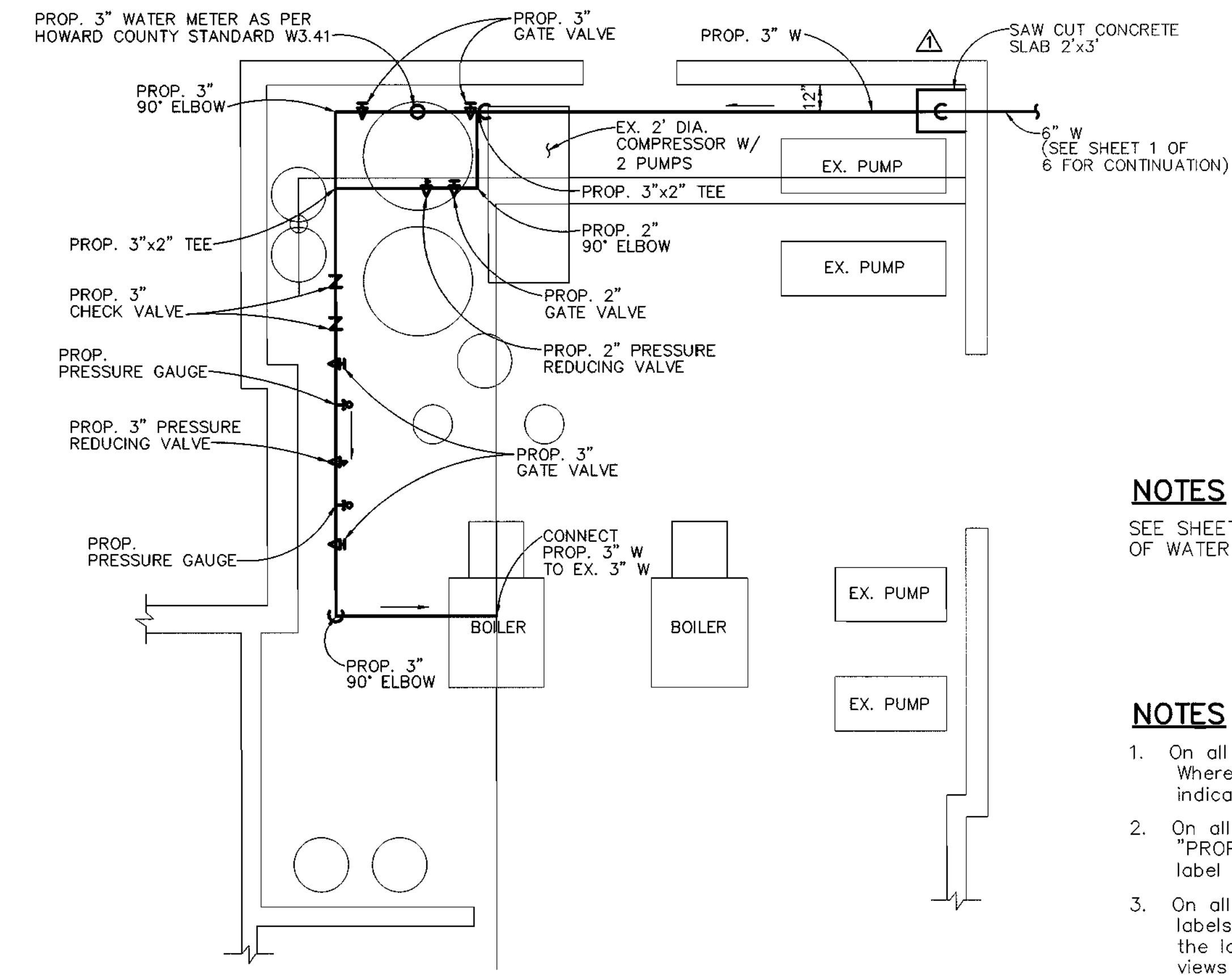


**CLARKSVILLE MIDDLE SCHOOL
SECTION B**
SCALE: 1/4" = 1'-0"

NOTE:
REMOVE ±140 FT. OF PIPE AND INSULATION AS DIRECTED BY THE ENGINEER. ALL PIPE REMOVALS ARE NOT SHOWN ON THE DRAWING.



**POINTERS RUN ELEMENTARY SCHOOL
EXISTING UTILITY ROOM PLAN**
SCALE: 1/4" = 1'-0"



**POINTERS RUN ELEMENTARY SCHOOL
PROPOSED UTILITY ROOM PLAN**
SCALE: 1/4" = 1'-0"

NOTES
SEE SHEET 1 OF 6 FOR CONTINUATION OF WATER OUTSIDE

- NOTES**
- On all drawings the label "EXISTING" is utilized for identifying existing facilities. Where the label "EXISTING" is omitted, the Contractor shall assume the work indicated is new work.
 - On all drawings of Plan views showing new work in existing structures the label "PROPOSED" or "CONSTRUCT" are utilized for distinguishing new work and the label "EXISTING" for identifying existing facilities.
 - On all drawings of Sections, Elevations and Details in existing structures the labels "PROPOSED" and "CONSTRUCT" are not repeated for new work. However, the label "EXISTING" for identifying existing facilities is retained for all drawing views for purposes of distinguishing between new and existing work.
 - Except as otherwise noted, heavy weight lines are utilized on drawings to depict new work and light weight lines are utilized to depict existing facilities.

LEGEND

	VALVE
	VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	PRESSURE GAUGE
	DROP OR RISE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature]
CHIEF DEVELOPMENT ENGINEERING DIVISION

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8800 FAX: 410-997-9282
ENVIRING/00001 W-CLARKSV.MD

[Seal]
FRANK DONALDSON #8146

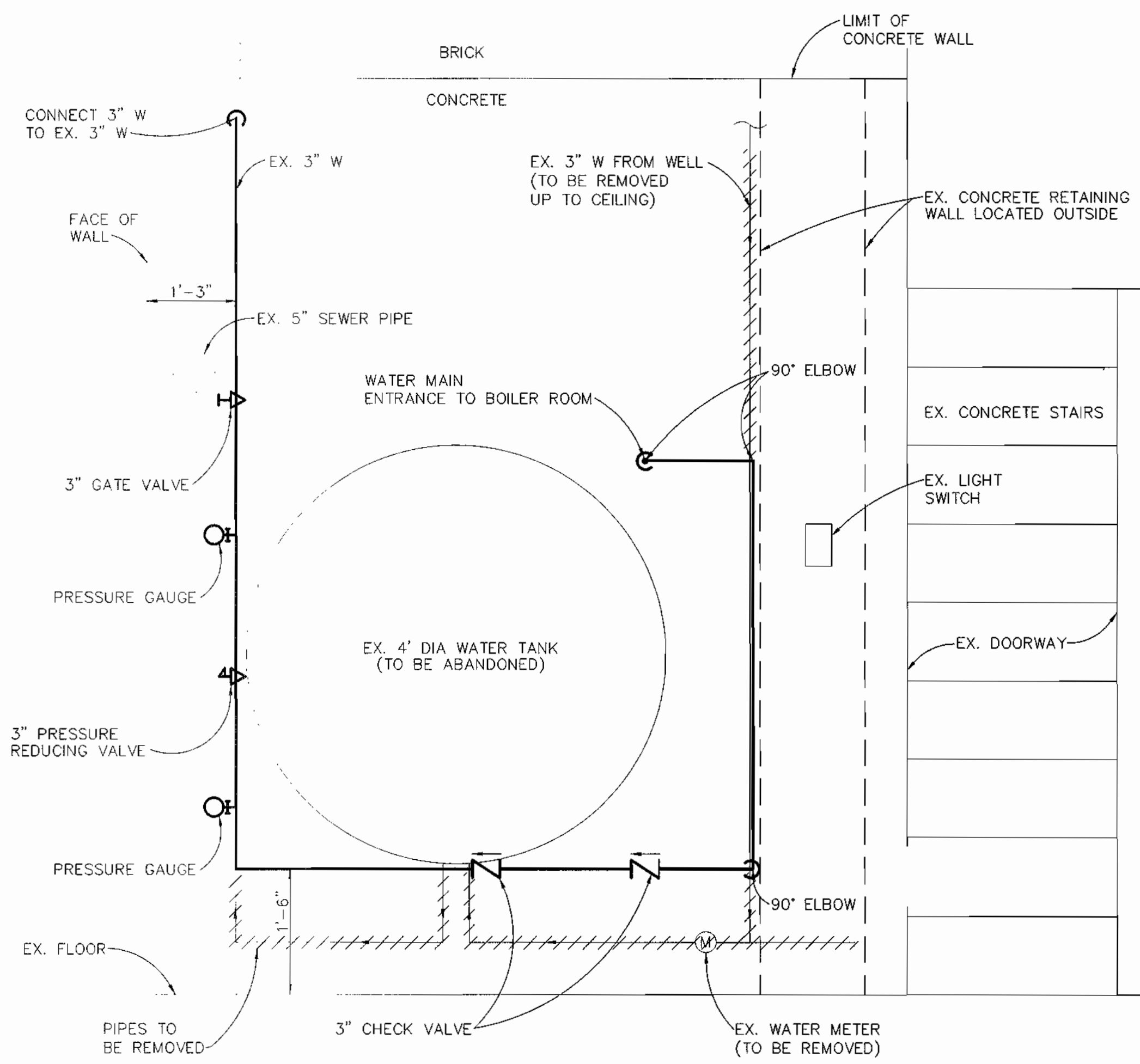
BES: J.S.C.	G.C.L.	Pointers Run: Compressor to remain. Pipe alignment relocated. Pipe # changed to 3". Addendum #2. 9/10/96
DRN: E.L.R.		
CHK: G.C.L.		
DATE: 4/29/96	BY: NO.	REVISION

**CLARKSVILLE AND POINTERS RUN
INTER CONNECTION DETAILS**

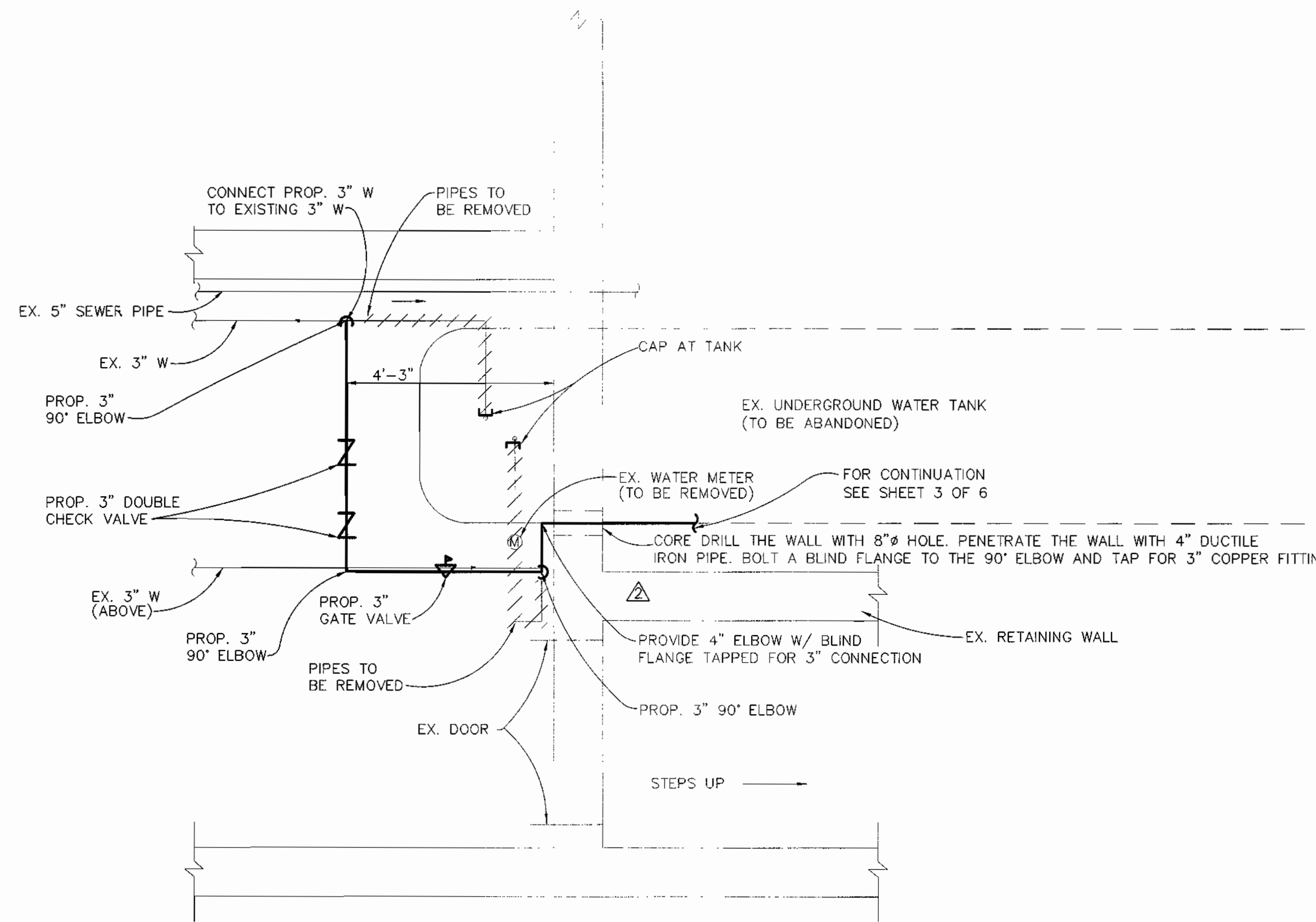
600' SCALE MAP NO. _____ BLOCK NO. _____

**GATEWAY, POINTERS RUN & CLARKSVILLE
SCHOOL WATER SERVICE CONNECTIONS**
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT: 44-3536-D

SCALE AS SHOWN
SHEET 4 OF 6



ELEVATION
SCALE: 1"=1'



PART SITE PLAN
SCALE: 1/2"=1'

NOTE:
SEE SHEET 3 OF 6 FOR CONTINUATION
OF WATER SERVICE OUTSIDE

LEGEND

- VALVE
- VALVE
- CHECK VALVE
- PRESSURE REDUCING VALVE
- PRESSURE GAUGE
- DROP OR RISE

NOTES

- On all drawings the label "EXISTING" is utilized for identifying existing facilities. Where the label "EXISTING" is omitted, the contractor shall assume the work indicated is new work.
- On all drawings of Plan views showing new work in existing structures the label "PROPOSED" or "CONSTRUCT" are utilized for distinguishing new work and the label "EXISTING" for identifying existing facilities.
- On all drawings of Sections, Elevations and Details in existing structures the labels "PROPOSED" and "CONSTRUCT" are not repeated for new work. However, the label "EXISTING" for identifying existing facilities is retained for all drawing views for purposes of distinguishing between new and existing work.
- Except as otherwise noted, heavy weight lines are utilized on drawings to depict new work and light weight lines are utilized to depict existing facilities.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX: 410-997-9282
M-08_35 GATEWAY

FRANK DONALDSON #8146

DES: J.S.C.	G.C.L.	County Review Comments: Added core drill notes.
DRN: E.L.R.		
CHK: G.C.L.		
DATE: 4/29/96	BY	NO.
	REVISION	DATE

**GATEWAY SCHOOL
INTER CONNECTION DETAILS**

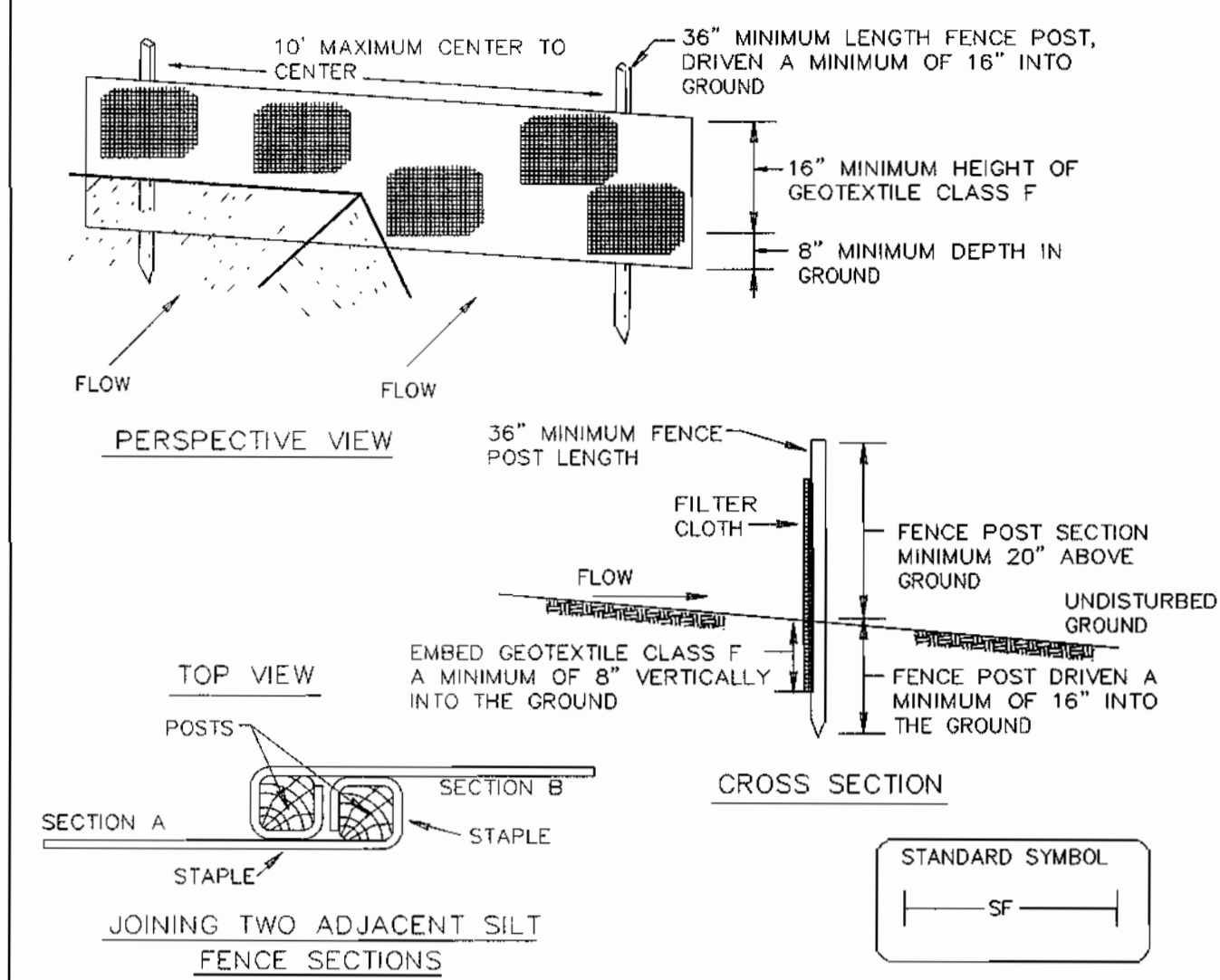
**GATEWAY, POINTERS RUN & CLARKSVILLE
SCHOOL WATER SERVICE CONNECTIONS**

5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT: 44-3536-D

SCALE
AS
SHOWN

SHEET
5
OF 6

DETAIL 22 - SILT FENCE



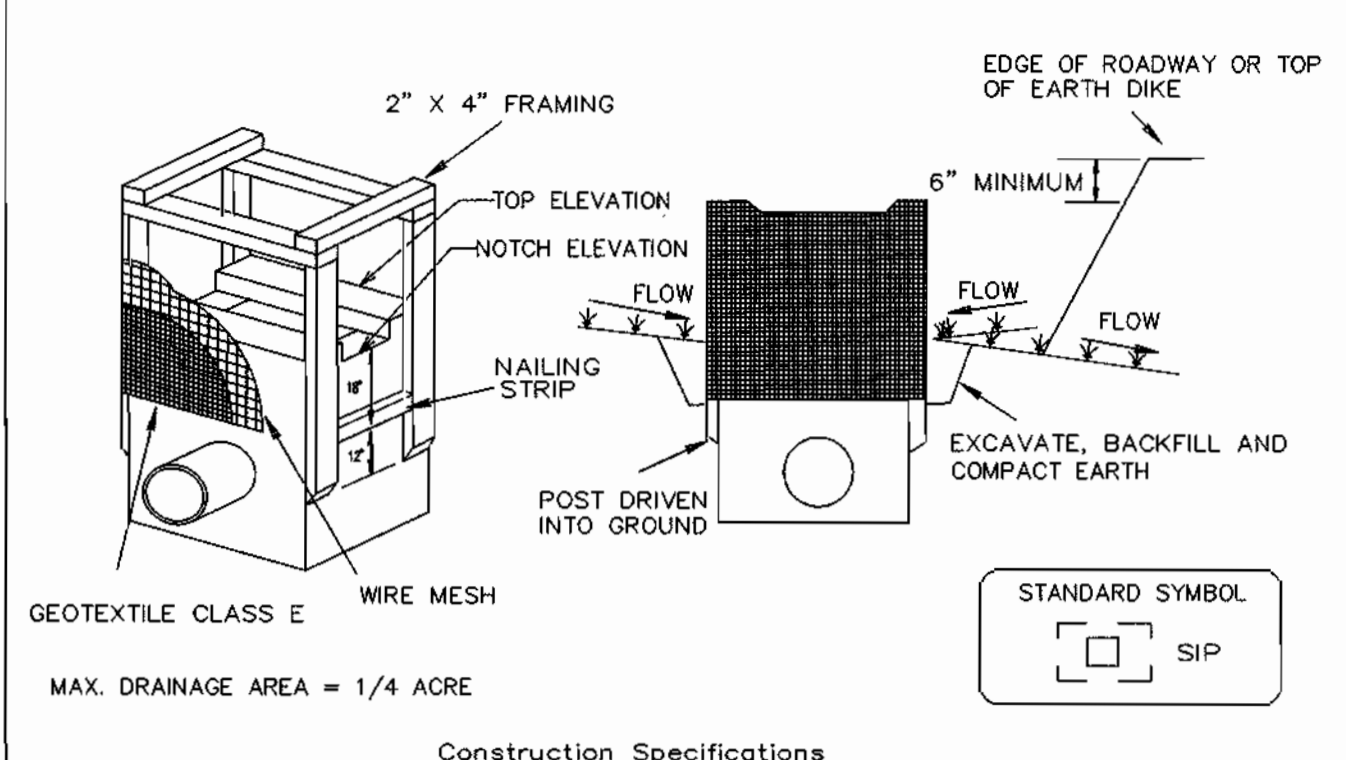
Construction Specifications

- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
- Geotextile 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
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23A - STANDARD INLET PROTECTION

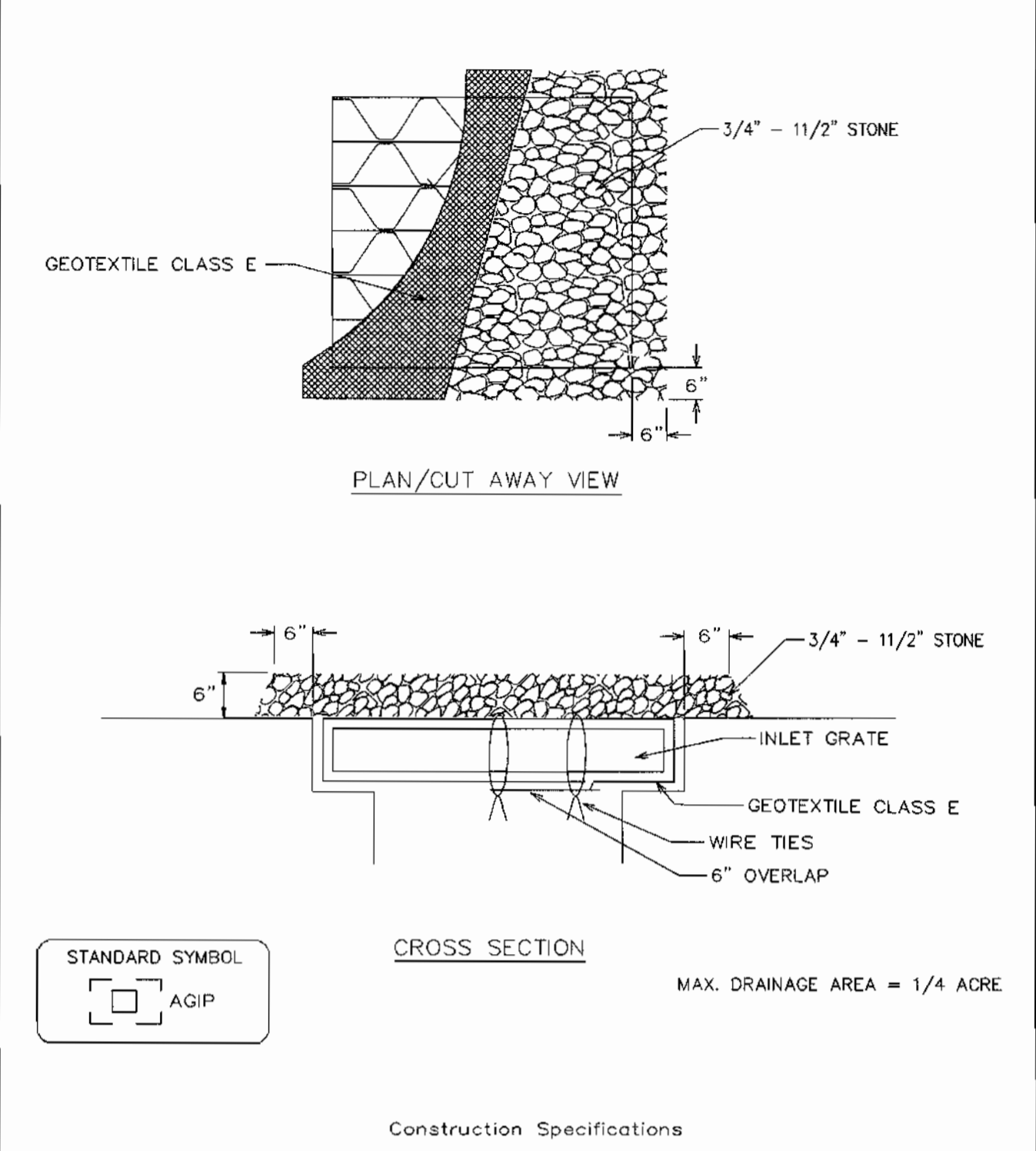


Construction Specifications

- Excavate completely around the inlet to a depth of 18" below the notch elevation.
- Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
- Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
- Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
- If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
- The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

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

DETAIL 23B - AT GRADE INLET PROTECTION



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

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

Seedbed Preparation - Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding - For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 15 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 soil.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 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, discing 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 acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 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. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- Use soil.
- Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (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 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONG CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	< 30 ACRES
AREA DISTURBED	1.0 ACRES
AREA TO BE ROOFED OR PAVED	0.06 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.92 ACRES
TOTAL CUT	1270 CU.YDS.
TOTAL FILL	1270 CU.YDS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC., 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 CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SEQUENCE OF CONSTRUCTION

- OBTAIN A GRADING PERMIT AND ALL OTHER NECESSARY PERMITS.
- ADVISE SEDIMENT AND EROSION CONTROL INSPECTOR 48 HOURS IN ADVANCE OF COMMENCING WORK. (1 DAY)
- INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS DIRECTED BY HOWARD COUNTY DWP SEDIMENT CONTROL INSPECTOR AND AS SHOWN ON DRAWINGS. TRENCHES LIMITED TO 3 PIPE LENGTHS TO BE STABILIZED AT END OF DAY. (2 DAY)
- INSTALL NEW WATERMAIN. (25 DAYS)
- STABILIZE DISTURBED AREA AS INDICATED ON THE DRAWING. (4 DAYS)
- REMOVE SEDIMENT AND EROSION CONTROL DEVICES WITH PERMISSION OF INSPECTOR AND STABILIZE BALANCE OF AREA. (1 DAY)

SILT FENCE

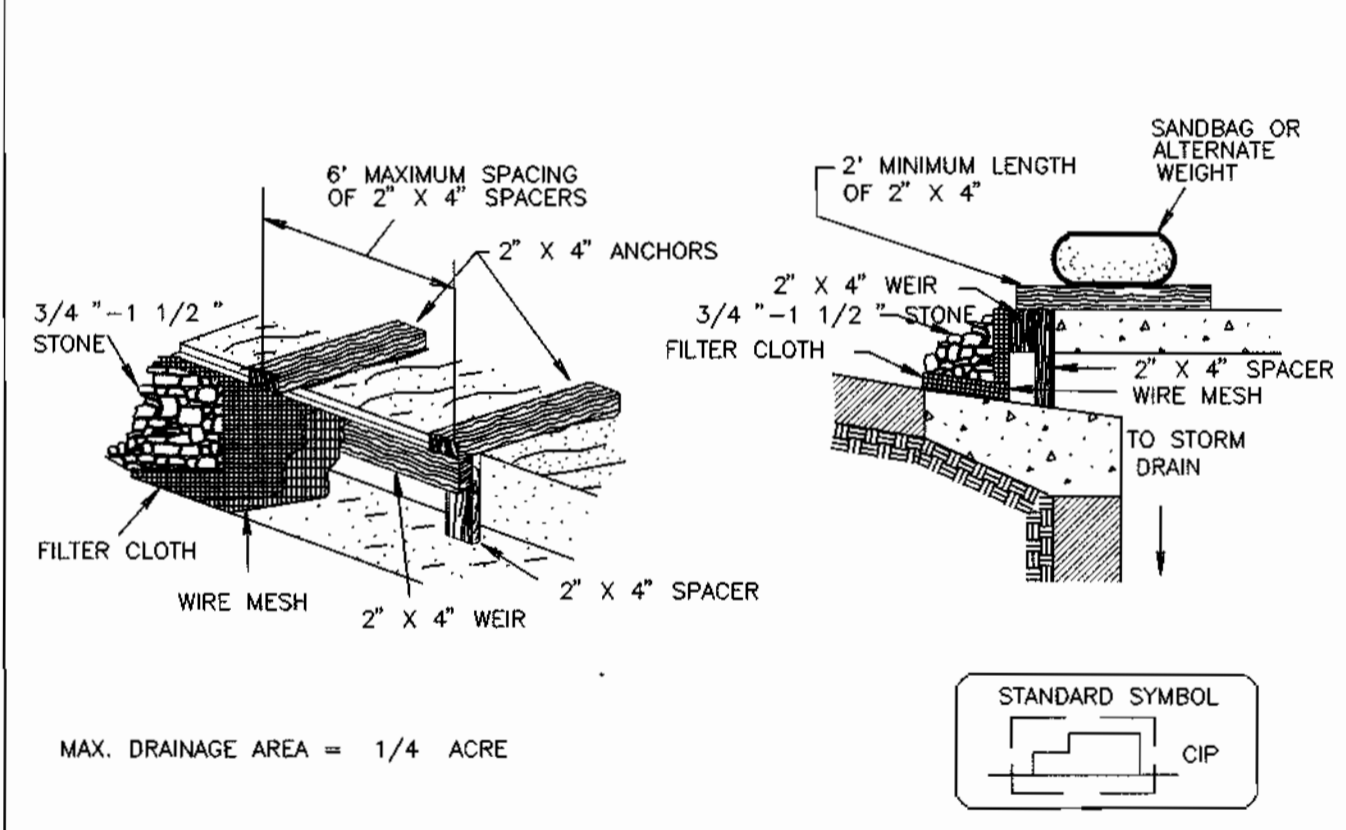
Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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



Construction Specifications

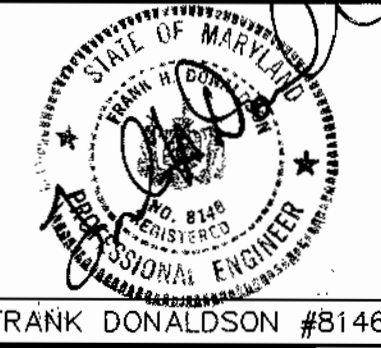
- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
- Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
- Securely nail the 2" x 4" 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" x 4" to the top of the weir at spacer locations). These 2" x 4" 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" x 1/2" 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" x 1 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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX: 410-997-9282
ENVREG01/00001 9-CLARKS.DWG



DES: J.S.C
DRN: E.L.R.
CHK: G.C.L.
DATE: 4/29/96

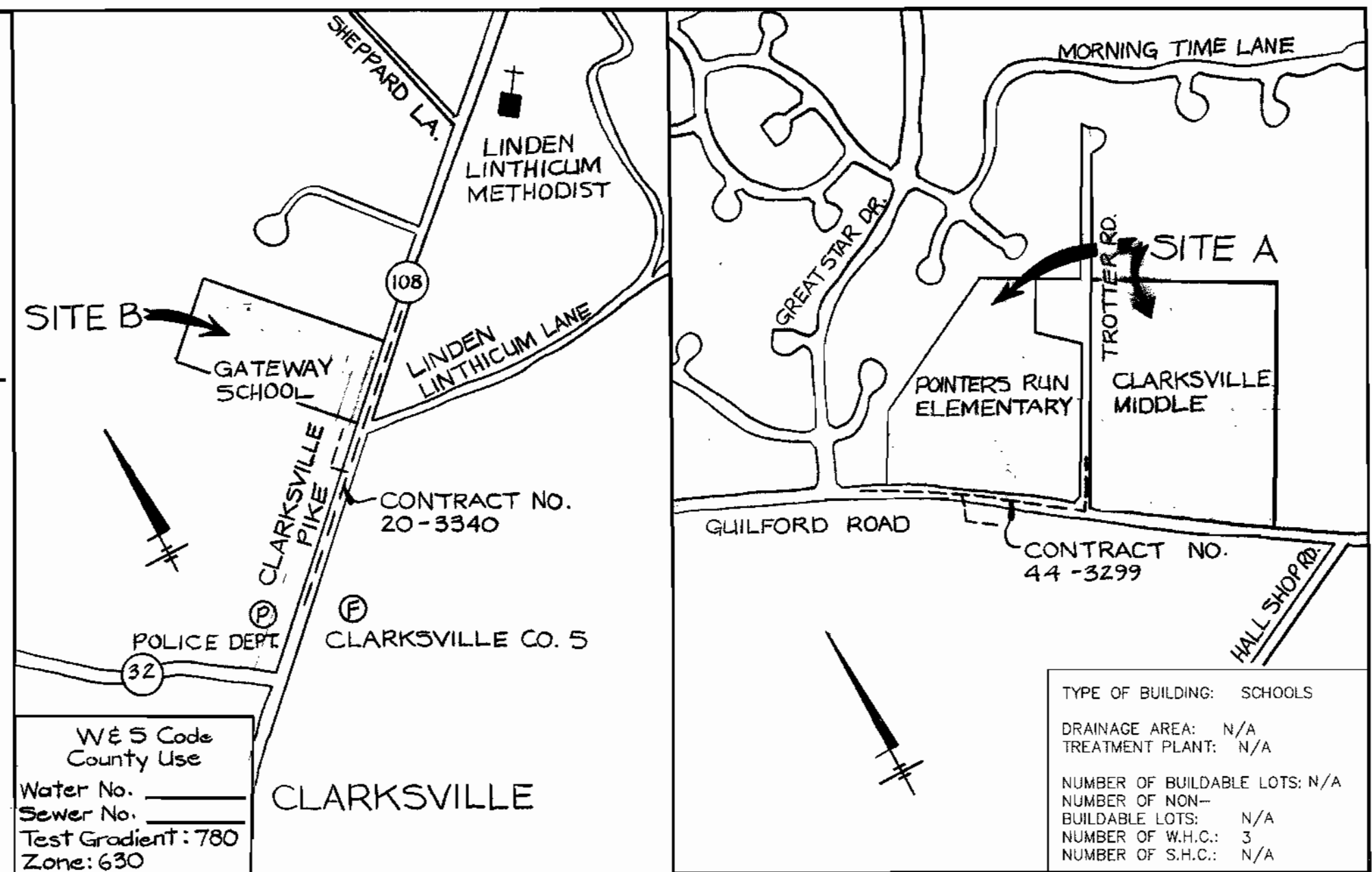
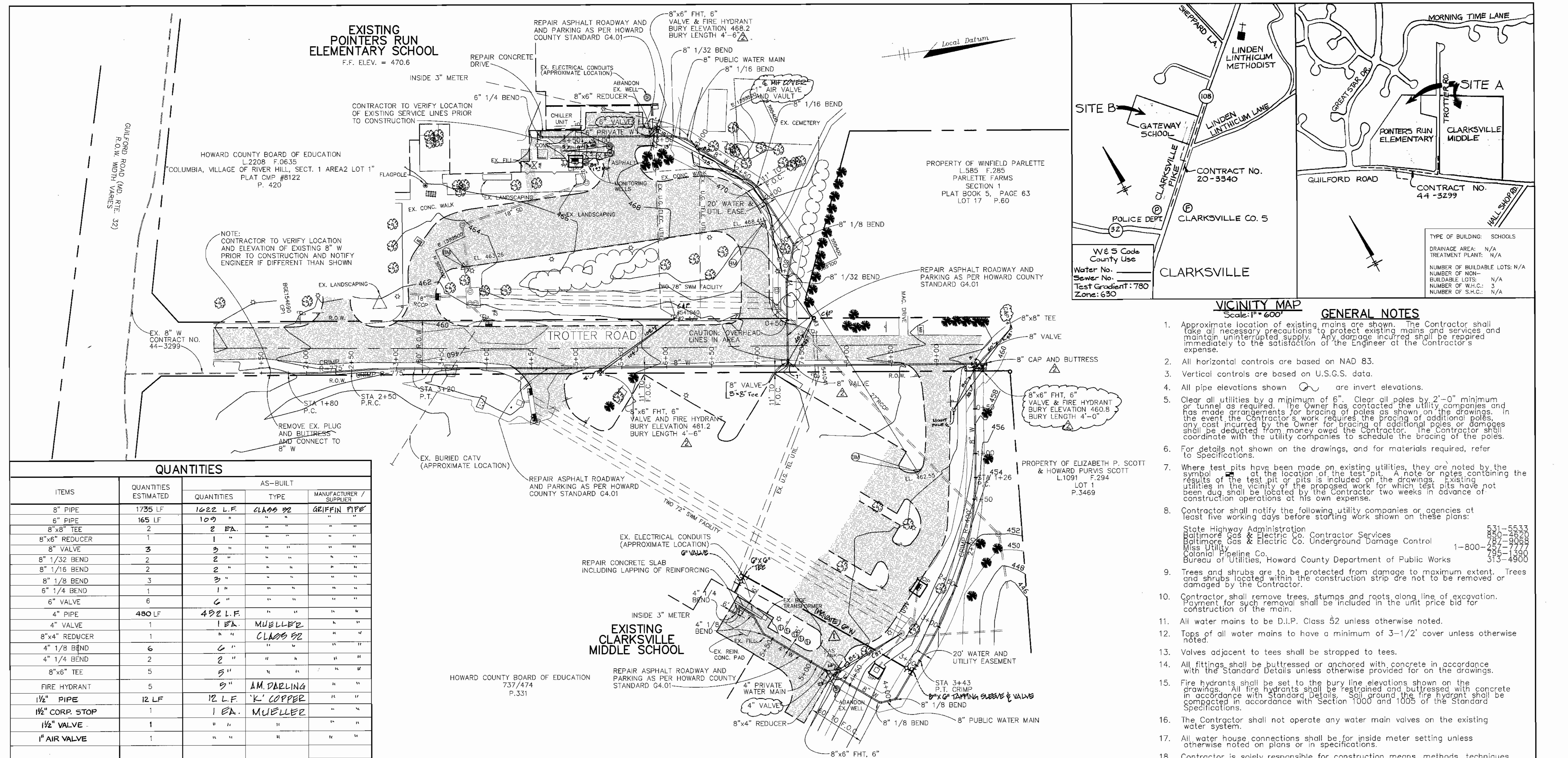
BY	NO.	REVISION	DATE

SEDIMENT AND EROSION CONTROL

600' SCALE MAP NO. _____ BLOCK NO. _____

GATEWAY, POINTERS RUN & CLARKSVILLE
SCHOOL WATER SERVICE CONNECTIONS
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT: 44-3536-D

SCALE AS SHOWN
SHEET 6 OF 6



GENERAL NOTES

- Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains on services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
- All horizontal controls are based on NAD 83.
- Vertical controls are based on U.S.G.S. data.
- All pipe elevations shown \circ are invert elevations.
- Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. The Owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the Owner for 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 required, refer to Specifications.
- Where test pits have been made on existing utilities, they are noted by the symbol \oplus at the location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the Contractor two weeks in advance of construction operations at his own expense.
- Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:
 State Highway Administration 531-5533
 Baltimore Gas & Electric Co. Contractor Services 480-2870
 Baltimore Gas & Electric Co. Underground Damage Control 487-9068
 Miss Utility 1-800-257-7777
 Colonial Pipeline Co. 795-1390
 Bureau of Utilities, Howard County Department of Public Works 313-4900
- Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
- Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- All water mains to be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains to have a minimum of 3'-1/2' cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the 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 restrained and buttressed with concrete in accordance with Standard Details. 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.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
- The fire hydrant shall be installed as per standard detail W.1.11.
- Fire hydrants will be located 3' FROM BACK OF CURB unless otherwise noted.
- For sprinkler systems, all townhomes or multi-family dwelling units should have a minimum of 1' connection with a 3/4" meter.
- 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 boring, jacking 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.
- Sediment control to be provided on an as needed basis, to be determined in the field by the Sediment Control Inspector. Trench length is limited to 3 pipe lengths at any one time, to be stabilized immediately.
- Contractor to provide traffic control during construction in accordance with the Manual On Traffic Control Devices (Latest Edition). The Contractor shall phase the work so as to maintain at least one lane open for access to each school at all times.
- Contractor to protect the existing trees or shrubs and replace any damaged during construction.

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
8" PIPE	1735 LF	1622 L.F.	CLASS 92	GEIFFIN PIPE
6" PIPE	165 LF	109 "	"	"
8"x8" TEE	2	2 EA.	"	"
8"x6" REDUCER	1	1 "	"	"
8" VALVE	3	3 "	"	"
8" 1/32 BEND	2	2 "	"	"
8" 1/16 BEND	2	2 "	"	"
8" 1/8 BEND	3	3 "	"	"
6" 1/4 BEND	1	1 "	"	"
6" VALVE	6	6 "	"	"
4" PIPE	480 LF	492 L.F.	"	"
4" VALVE	1	1 EA.	MUELLER	"
8"x4" REDUCER	1	1 "	CLASS 52	"
4" 1/8 BEND	6	6 "	"	"
4" 1/4 BEND	2	2 "	"	"
8"x6" TEE	5	5 "	"	"
FIRE HYDRANT	5	5 "	AM. DARLING	"
1/2" PIPE	12 LF	12 L.F.	"K" COPPER	"
1/2" CORR. STOP	1	1 EA.	MUELLER	"
1/2" VALVE	1	1 "	"	"
1" AIR VALVE	1	1 "	"	"

NAME OF UTILITY CONTRACTOR :

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on the drawings.

Review for Howard Soil Conservation District and meets technical requirements.

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive • Suite 200 • Columbia, MD 21046 410-997-8900 FAX: 410-997-9282

FRANK DONALDSON #8146

PLAN
SCALE: 1"=50'

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT & 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 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.

Thomas C. Ruiz, Developer DATE 6/17/96

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

John H. Donohue, P.E., Engineer DATE 6/17/96

DES: J.S.C. G.C.L. County Review Comments: Added valve and buttress and bury lengths. Adjust any elevations. 5/20/96

DRN: E.L.R.

CHK: G.C.L.

DATE: 4/29/96

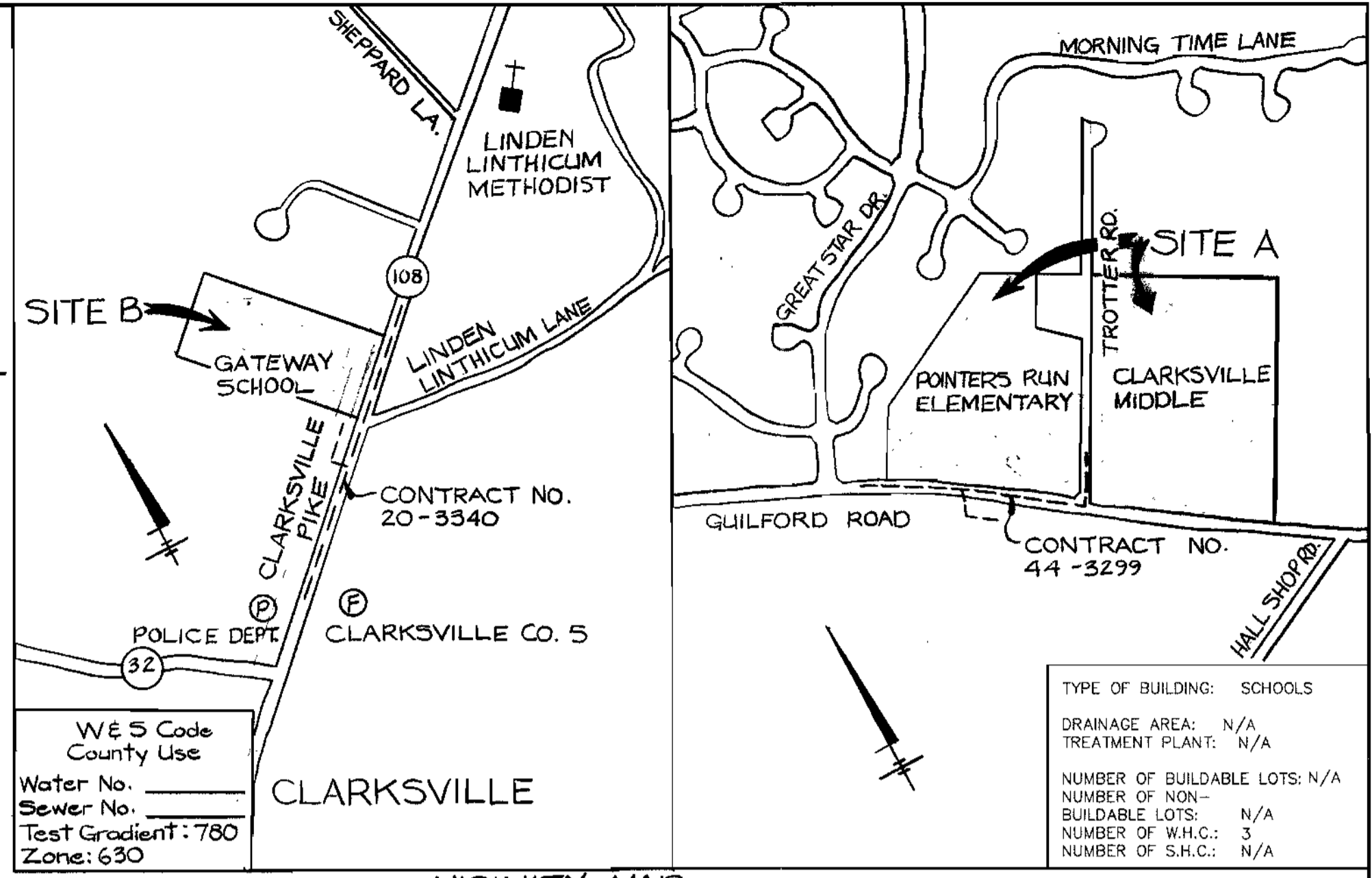
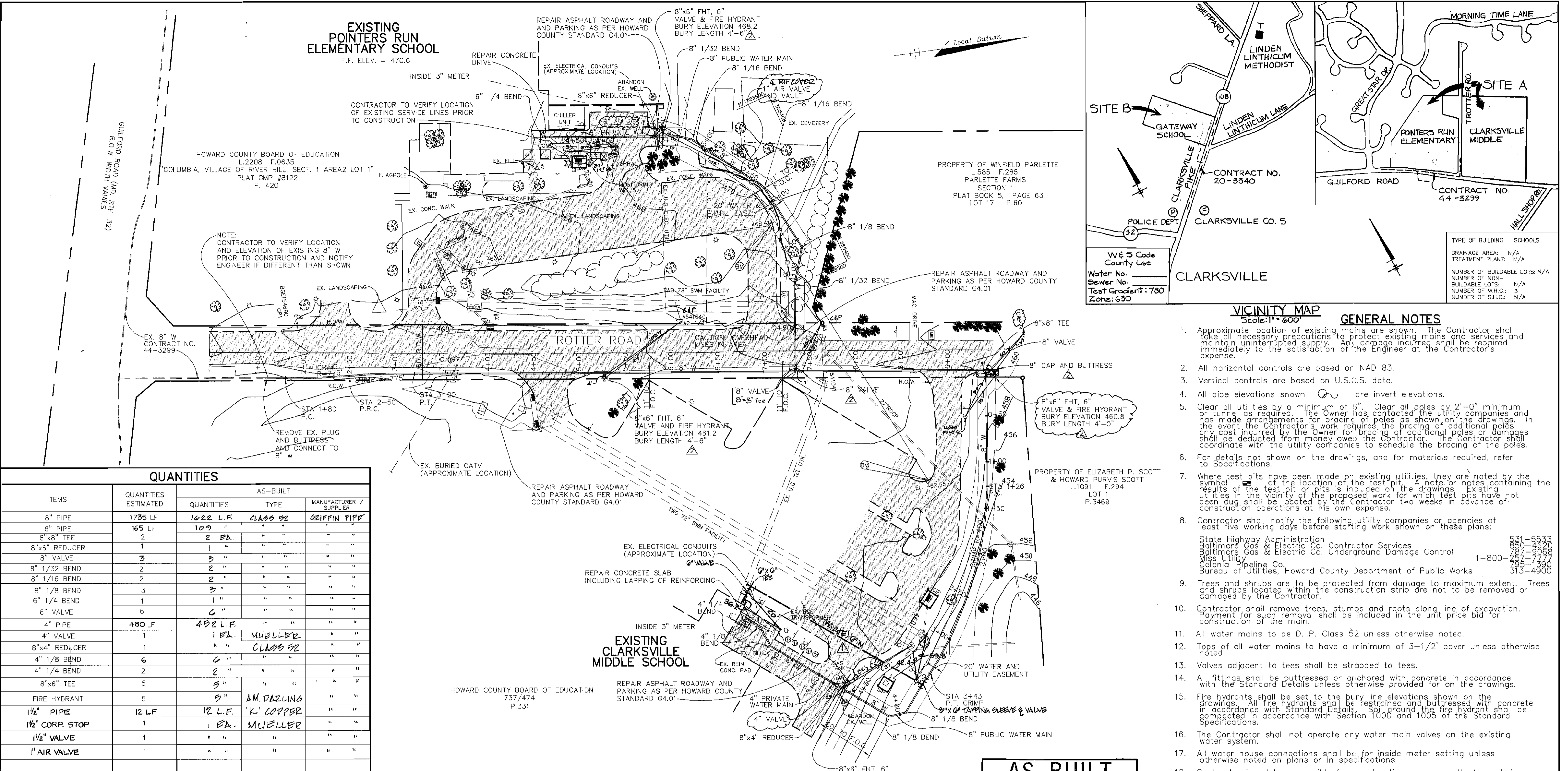
INDICATE INSTALLATION OF (PRIVATE) 6" WATER MAIN 4/20/96

CLARKSVILLE AND POINTERS RUN PLAN

GATEWAY, POINTERS RUN & CLARKSVILLE SCHOOL WATER SERVICE CONNECTIONS

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT: 44-3536-D

SCALE AS SHOWN SHEET 1 OF 6



GENERAL NOTES

- Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
- All horizontal controls are based on NAD 83.
- Vertical controls are based on U.S.C.S. data.
- All pipe elevations shown are invert elevations.
- Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. The Owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the Owner for 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 required, refer to Specifications.
- Where test pits have been made on existing utilities, they are noted by the symbol [square with 'X'] at the location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the Contractor two weeks in advance of construction operations at his own expense.
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 Baltimore Gas & Electric Co. Underground Damage Control 1-800-287-3068
 Miss Utility 495-1390
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- Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
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- Contractor to protect the existing trees or shrubs and replace any damaged during construction.

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
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8"x6" REDUCER	1	1 "	"	"
8" VALVE	3	3 "	"	"
8" 1/32 BEND	2	2 "	"	"
8" 1/16 BEND	2	2 "	"	"
8" 1/8 BEND	3	3 "	"	"
6" 1/4 BEND	1	1 "	"	"
6" VALVE	6	6 "	"	"
4" PIPE	480 LF	452 L.F.	"	"
4" VALVE	1	1 EA.	MUELLER	"
8"x4" REDUCER	1	"	CLASS 52	"
4" 1/8 BEND	6	6 "	"	"
4" 1/4 BEND	2	2 "	"	"
8"x6" TEE	5	5 "	"	"
FIRE HYDRANT	5	5 "	AM. DARLING	"
1/2" PIPE	12 LF	12 L.F.	K. COPPER	"
1/2" CORP. STOP	1	1 EA.	MUELLER	"
1/2" VALVE	1	"	"	"
1" AIR VALVE	1	"	"	"

NAME OF UTILITY CONTRACTOR : _____

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on the drawings.

CHECKBOX
 AS-BUILT DATE **JULY 2004**
 SURVEY AND DRAFTING DIVISION

Review for Howard Soil Conservation District and meets technical requirements.

J.C. [Signature] 6/5/96 DATE

NEUTRAL RESOURCES CONSERVATION SERVICE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

[Signature] 6/5/96 DATE

HOWARD SOIL CONSERVATION DISTRICT

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT & 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 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.

Thomas C. [Signature] 6/17/96
 DEVELOPER DATE

BY THE ENGINEER:
 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.

J.H. [Signature], P.E. 6/17/96
 ENGINEER DATE

NOTE:
 SEE SHEET 2 OF 6 FOR PROFILES
 SEE SHEET 4 OF 6 FOR CONNECTION DETAILS IN BOILER ROOMS.

AS BUILT
 DATE: JULY 2004

PLAN
 SCALE: 1"=50'

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND	RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive • Suite 200 • Columbia, MD 21045 410-997-8900 FAX: 410-997-9282 ENTRANCE/WOODS 1-CLASSES-DWG	FRANK DONALDSON #8146 PROFESSIONAL ENGINEER	DES: J.S.C. G.C.L. County Review Comments. Added valve and buttress and bury lengths. Adjust any elevations. 5/20/96	DRN: E.L.R.	CHK: G.C.L.	DATE: 4/29/96	INDICATE INSTALLATION OF (PRIVATE) 6" WATER MAIN 4/2/96	CLARKSVILLE AND POINTERS RUN PLAN	GATEWAY, POINTERS RUN & CLARKSVILLE SCHOOL WATER SERVICE CONNECTIONS	SCALE AS SHOWN
<i>[Signature]</i> 5-28-96 DATE	<i>[Signature]</i> 4/2/96 DATE									5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT: 44-3536-D	SHEET 1 OF 6