

Construction and connection to the proposed 12" water main shall be implemented in sequence, as follows. This sequence assumes all Phase I Maintenance of Traffic and sediment control devices are in place and operational prior to construction of water mains, and appurtenances.

SEQUENCE OF SEWER MAIN RELOCATION BASELINE STATION 156+00

- Construct proposed sanitary manhole 3, with 12" stubout over existing 12" sanitary main. Existing 12" main shall remain in operation. Reform channel as required per Howard County Standards.
- Construct proposed 12" sanitary main from proposed sanitary manhole 3 to manhole 3, 1+35.
- Construct proposed sanitary manhole 4, with 12" stubout, over existing 8" sanitary main as shown on plan. Reform channels as required per Howard County Standards. Manhole 4 will have an interim top elevation. Note: During Phase I Construction per the Maintenance of Traffic and Sediment Control Plan, manhole 4 top elevation shall meet existing ground.
- Construct proposed 12" sanitary main from manhole 4 to manhole 5, 0+45.
- Construct proposed sanitary manhole 6 over existing 12" main. Make connection to proposed 12" main. Reform channel as required per Howard County Standards. Remove existing 12" sanitary main where required to construct proposed manhole 6.
- Test and place proposed main in service. Brick shut existing 12" sanitary main entrance into proposed manhole 3. Remove existing 12" main between proposed manhole 3, manhole 6 and sanitary manhole 2240 prior to construction of the proposed twin 7 x 14' box culvert.
- NOTE: Raise proposed sanitary manhole 4 top elevation to finished grade during Phase II Construction per the Maintenance of Traffic and Sediment Control Plan.

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 139+80 TO 144+70

- Construct the 12" water main and temporarily cap and block the ends at the location shown on the plan.
- Construct the prepoured buttresses at baseline station 140+00 (station 0+20 of the proposed 12" water main) and at baseline station 144+70 (5+00 of the proposed 12" water main).

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 140+50 TO 144+70

- Test and chlorinate the new main.
- Close the valves at the intersection of Centennial Lane and Burnside Drive and the three 8" valves in Burleigh Manor Subdivision located in Breconshire Drive at White Rose Way, at the same intersection in White Rose Way, and at the same intersection in Bristol Channel Drive and also at Centennial Lane, baseline station 134+35, which services Tonyo Court. Open the division valve located on Tonyo Court to provide temporary 550 Zone Service. Remove and relocate existing 8" valve at Centennial Lane, baseline station 140+80, offset 30' right. Cut the existing pipe and make connection with 12" sleeve and spacer as shown. Extend 8" water main to relocated valve, Centennial Lane, baseline station 140+80. Close the division valve on Tonyo Court. Open all other valves and put the main back in service.
- Cop and abandon the existing 12" water main from baseline station 139+80 to 140+50. Remove existing 12" water main and appurtenances from baseline station 140+50 to 144+70 and salvage. Remove existing 12" water main as required to construct connection.

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 150+25 TO 156+25

- Construct the 12" water main and temporarily cap and block the ends at the location shown on the plan.
- Construct the prepoured buttresses at the bends at baseline station 156+25 (station 0+10 of the proposed 12" water main), and at baseline station 150+05 (station 2+40 of the proposed 12" water main).

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 155+60 TO 157+60

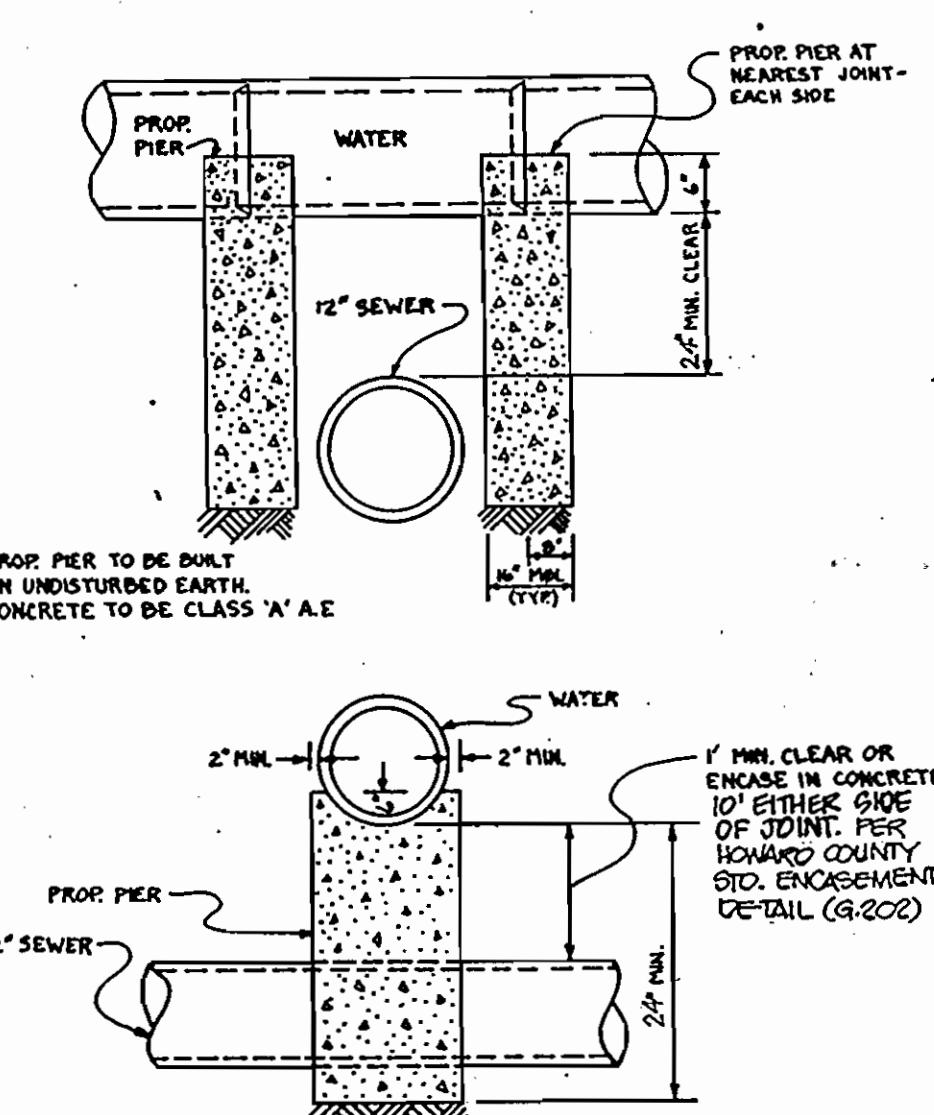
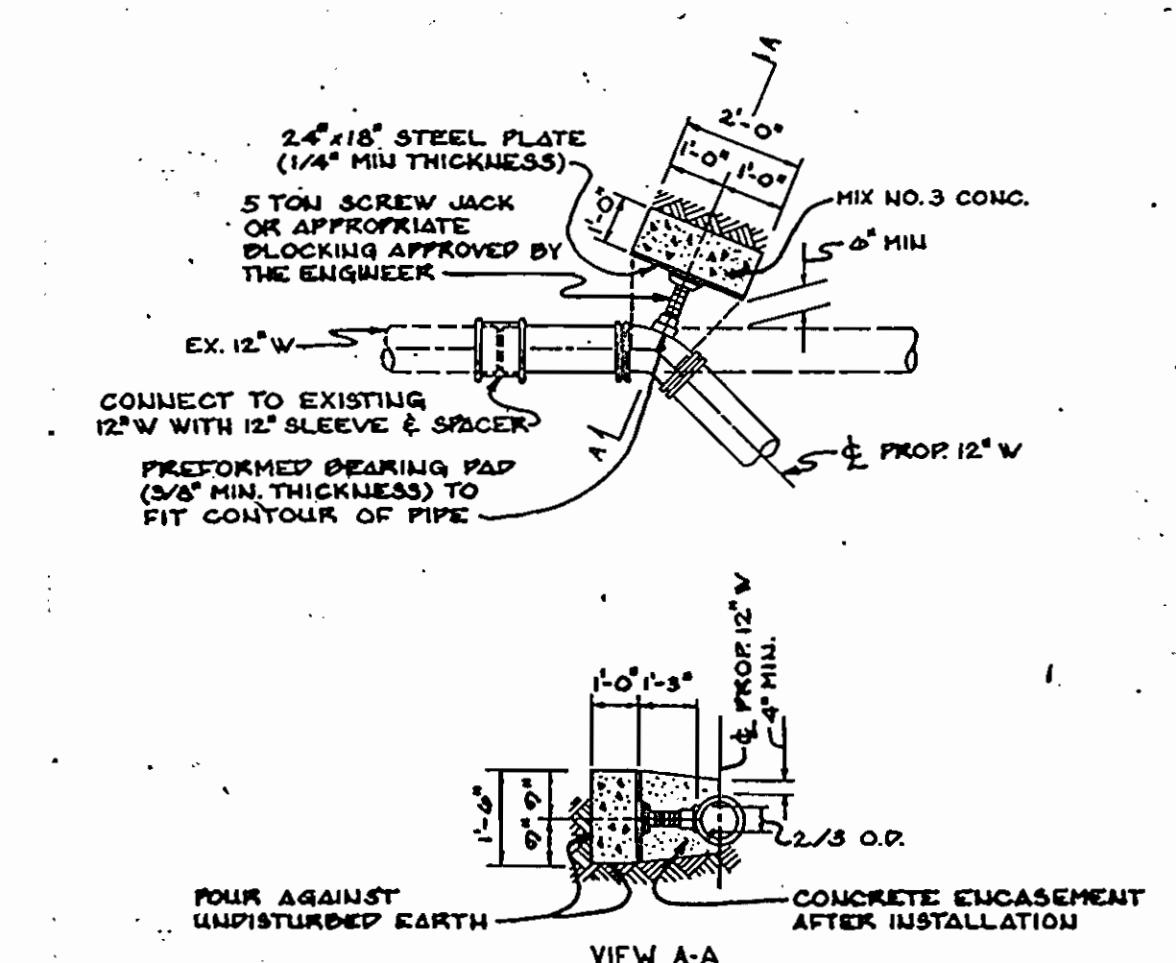
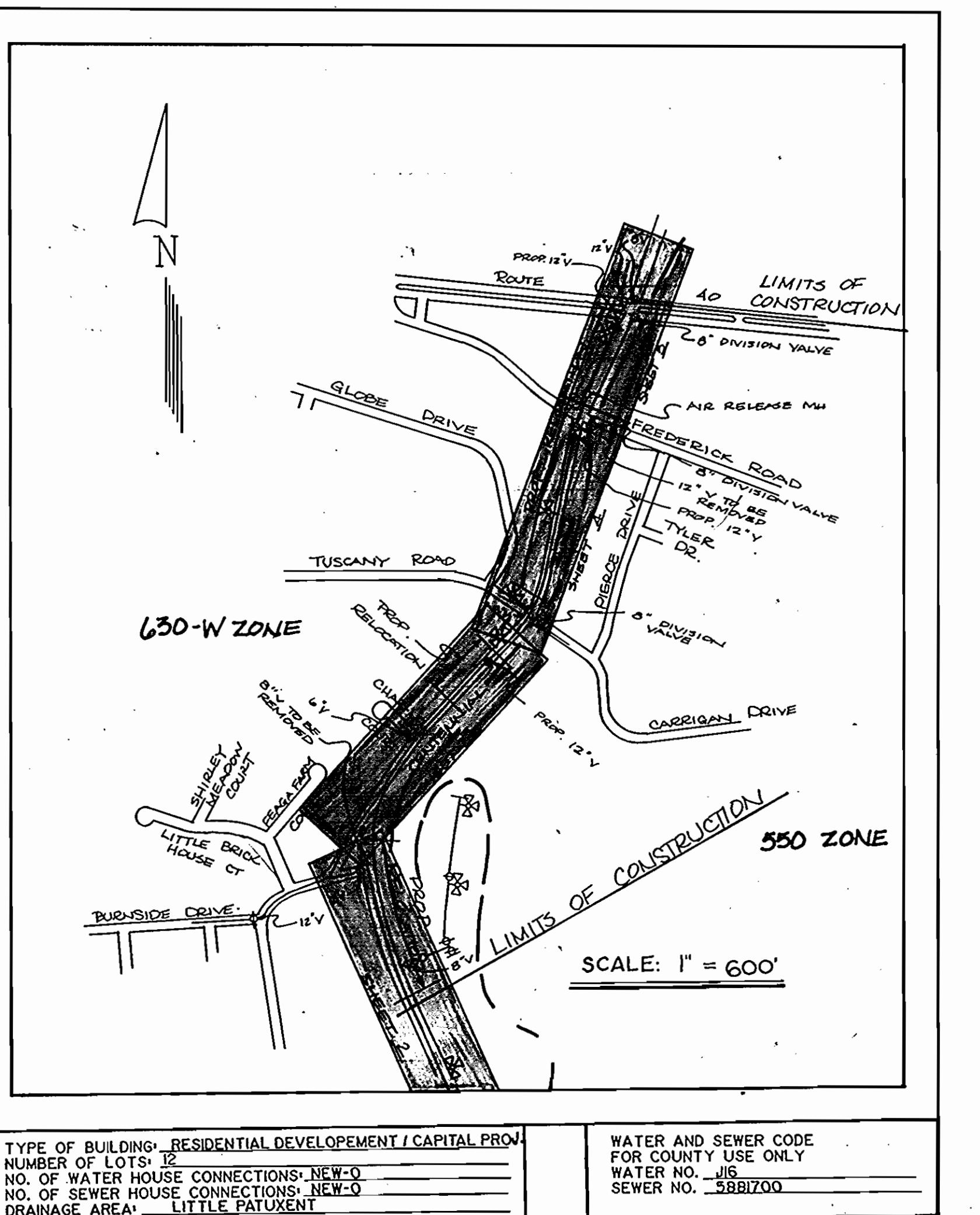
- Test and chlorinate the new main.
- Close the valves at Centennial Lane, baseline station 172+00, at the intersections of Centennial Lane and Burnside Drive; and at Tuscany Road and on Burnside Drive, 280' east of the intersection with Tokayo Drive. Cut the existing pipe and make connections with 12" sleeve and spacer as shown. Remove existing 12" water main and install 4-1/8 vertical bends of baseline station 150+35. Bend water main below proposed storm drain. The existing 8" division valve located in Corrigan Drive is to remain closed. Open all other valves and put the main back in service.
- Remove the existing 12" water main and appurtenances from baseline station 155+60 to baseline station 157+60 and salvage.

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 161+75 TO 177+80

- Construct the 12" water main and temporarily cap and block the ends at the location shown on the plan.
- Construct the prepoured buttresses at the bend at Centennial Lane, baseline station 161+85 (station 0+25 of the proposed 12" water main).

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 172+50 TO 172+80

- Test and chlorinate the new main.
- Provide temporary service to homes located on Centennial Lane between Corrigan Drive and Frederick Road. Close the 12" valve at baseline station 157+48; the 8" valve of baseline station 177+90; the two valves in the westbound lanes of U.S. Route 40 at Centennial Lane; the 8" valve in the westbound lanes of Frederick Road at Centennial Lane; and at Tuscany Road. Cut the existing pipe and make connection with 12" sleeve and spacer as shown. Remove existing 8" x 8" tee and replace with 8" x 12" cross where shown. Remove existing 8" water main and 8" valve and replace with 12" water main in same trench where shown. Remove existing 12" x 12" cross and 2 existing 8" x 12" reducers where shown and replace with 8" sleeve. Strap existing 8" valve to sleeve. Cut existing 12" water main at 8" x 12" and make connection with 12" sleeve and spacer as shown. Remove existing 8" water main to tee and plug unused 8" outlet as shown. Reset 2 fire hydrants as shown. Repair service connections as shown. The existing division valves, which are located in: Corrigan Drive; the westbound lane of Frederick Road and the eastbound lane of U.S. Route 40, are to remain closed. Open all other valves and put the main back in service. Remove temporary service connections and restore area to existing conditions.
- Remove the existing 8" water main and appurtenances at Centennial Lane, baseline stations 172+50 to 177+80. Cop and abandon the existing 12" water main at baseline stations 161+70 to 172+50. Remove existing 12" water main and appurtenances at baseline stations 172+50 to 177+80.



CENTENNIAL LANE

WATER

CAPITAL PROJECT No. W-8156

CONTRACT No. 24-1726-A

NOTE:
SEDIMENT CONTROL DETAILS SHOWN
ON SHEETS 20 THROUGH 26
OF THE J-4015-II ROAD CONSTRUCTION
DRAWING PACKAGE.

MATERIALS LIST		AS-BUILT	TYPE MAT'L	SUPPLIER
ITEM	ESTIMATED QUANTITY			
12" D.P.	232 L.F.			
8" D.P.	40 L.F.			
6" D.P.	25 L.F.			
8" PVC	25 L.F.			
1" PVC	20 L.F.			
3/4" PVC	170 L.F.			
12" V.	3 EA.			
12" V.	1 EA.			
4" ARM	1 EA.			
1" AIR VACUUM RELEASE VALVES	1 EA.			
8" x 12" C	1 EA.			
8" x 12" C	2 EA.			
12" x 12" HB	12 EA.			
12" x 12" HB	4 EA.			
12" x 12" VR	8 EA.			
BUTTRESSES	5 EA.			
PREPOURED BUTTRESS	5 EA.			
6" x 6" TAPPING SLEEVE AND VALVE	1 EA.			

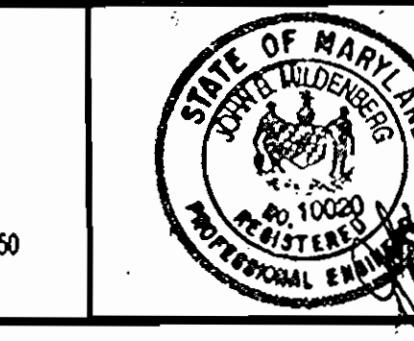
RESTORATION SCHEDULE

Baseline Station Type of Material

WATER
139+80 - 144+70 Bituminous Concrete
150+20 - 150+45 Bituminous Concrete
156+15 - 156+15 Bituminous Concrete

HOWARD COUNTY, MARYLAND	1-25-81
James [Signature]	1-23-91
DIRECTOR OF PUBLIC WORKS	DATE
Robert M. Beamer	11-29-90
CHIEF, BUREAU OF UTILITIES	DATE
Oscar [Signature]	11-13-90
CHIEF, UTILITY DESIGN DIVISION	DATE

MILDENBERG,
MOCHI & ASSOCIATES, INC.
DESIGNERS • SURVEYORS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro No. (301) 521-5768

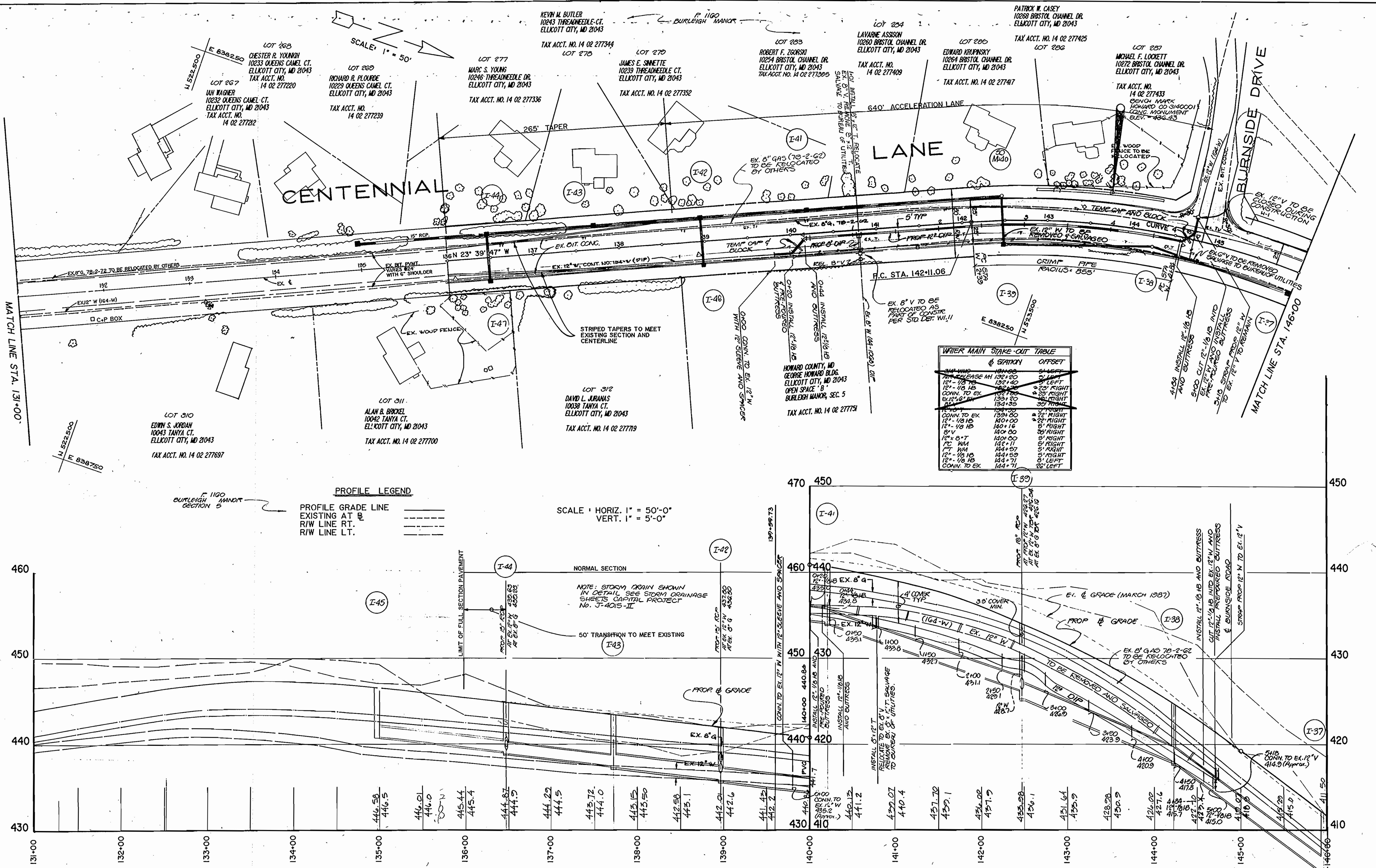


DES: JBN/KAM
DRN: STAFF
CHK: JBN
PROL # 87001-00
DATE: 12/90 BY NO. REVISION DATE 600' SCALE MAP NO. 24 BLOCK NO. 1

TITLE SHEET

CENTENNIAL LANE
WATER AND SEWER
CAPITAL PROJECT No. W-8156
CONTRACT No. 24-1726-A
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

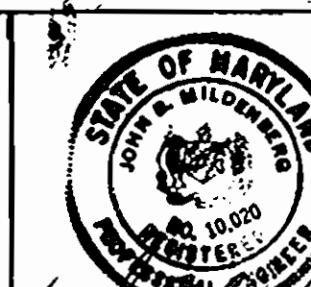
SCALE AS SHOWN
SHEET 1 OF 5



5. REVISED PER CO. 30% COMMENTS 6-26-89
 2. REQUESTED PER CO. COMMENTS 8-25-88
 1. 2nd SUBMISSION CHANGES PER CO. COMMENTS 4-29-88
 (Comments submitted to Howard County 10-20-87) (See Comments 10-20-87)
 MGG-12-269150

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

The logo for Mildenberg, Mochi & Associates, Inc. It features a large, stylized letter 'M' on the left, composed of two stacked 'M's. To the right of the 'M' is the company name in a serif font, with 'MILDENBERG' on top, 'MOCHI &' in the middle, and 'ASSOCIATES, INC.' on the bottom. Below the company name is a horizontal line, followed by the words 'ENGINEERS • SURVEYORS • PLANNERS' in a smaller, sans-serif font.



DES: KAM			
DRN: JMS/KAM			
CHK: JBM			
DATE: 12/90	PV	NO.	REVISION

**WATER & SEWER RELOCATION
PLAN & PROFILE
STA. 131+00 TO STA. 146+00
CENTENNIAL LANE**

NOTE:
SEDIMENT CONTROL DETAILS SHOWN
ON SHEETS 20 THROUGH 26 OF THE
J-4015-II ROAD CONSTRUCTION DRAWING PACKAGE

CENTENNIAL LANE
STATION 136+00 TO U.S. ROUTE 40
CAPITAL PROJECT W-8156 CONTRACT NO. 24-1726-A
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
2 OF 5

WATER MAIN BREAK-OUT TABLE	
# STATION	STATION
AIR RELEASE MH	173+40
12" W/11G 10	177+20
FHT	31' LEFT
12 V	177+60
8" 10" T	41' LEFT
CONN TO EX	177+105
	49' LEFT

11'-6" AIR RELEASE MH G-50
WITH A 1" AIR VACUUM RELEASE VALVE

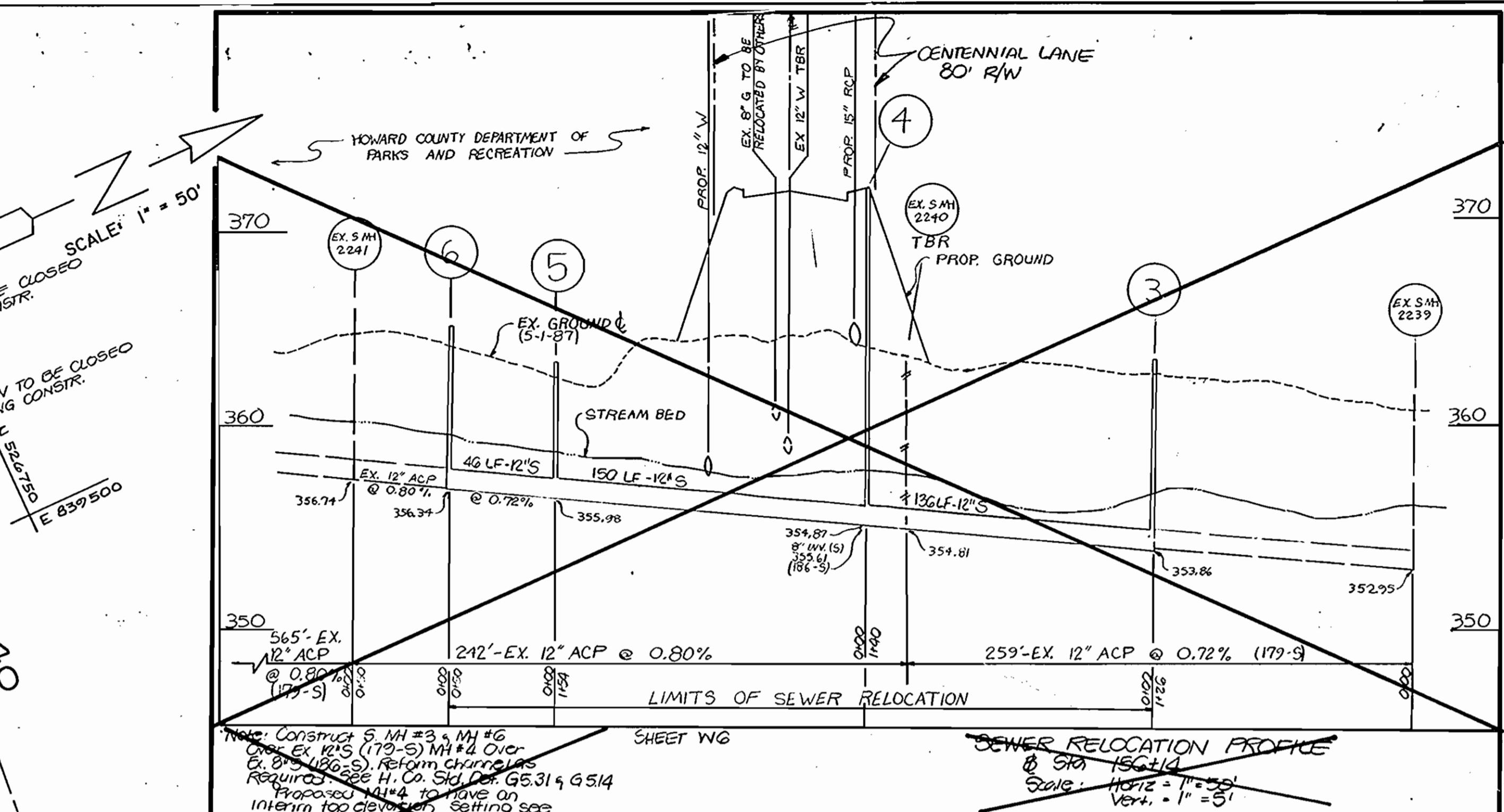
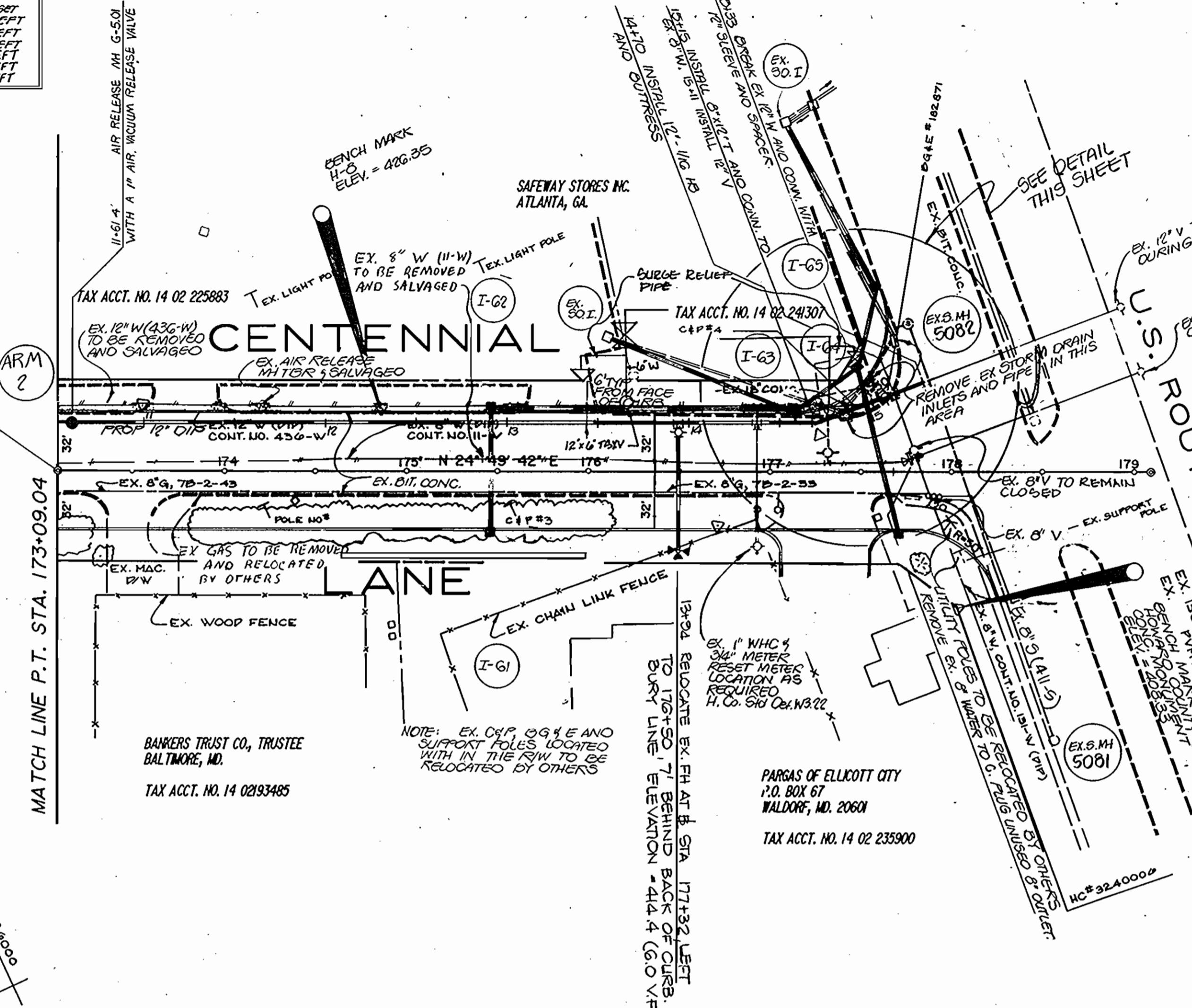
P.T. STA. 173+09.04

MATCH LINE P.T. STA. 173+09.04

ARM 2

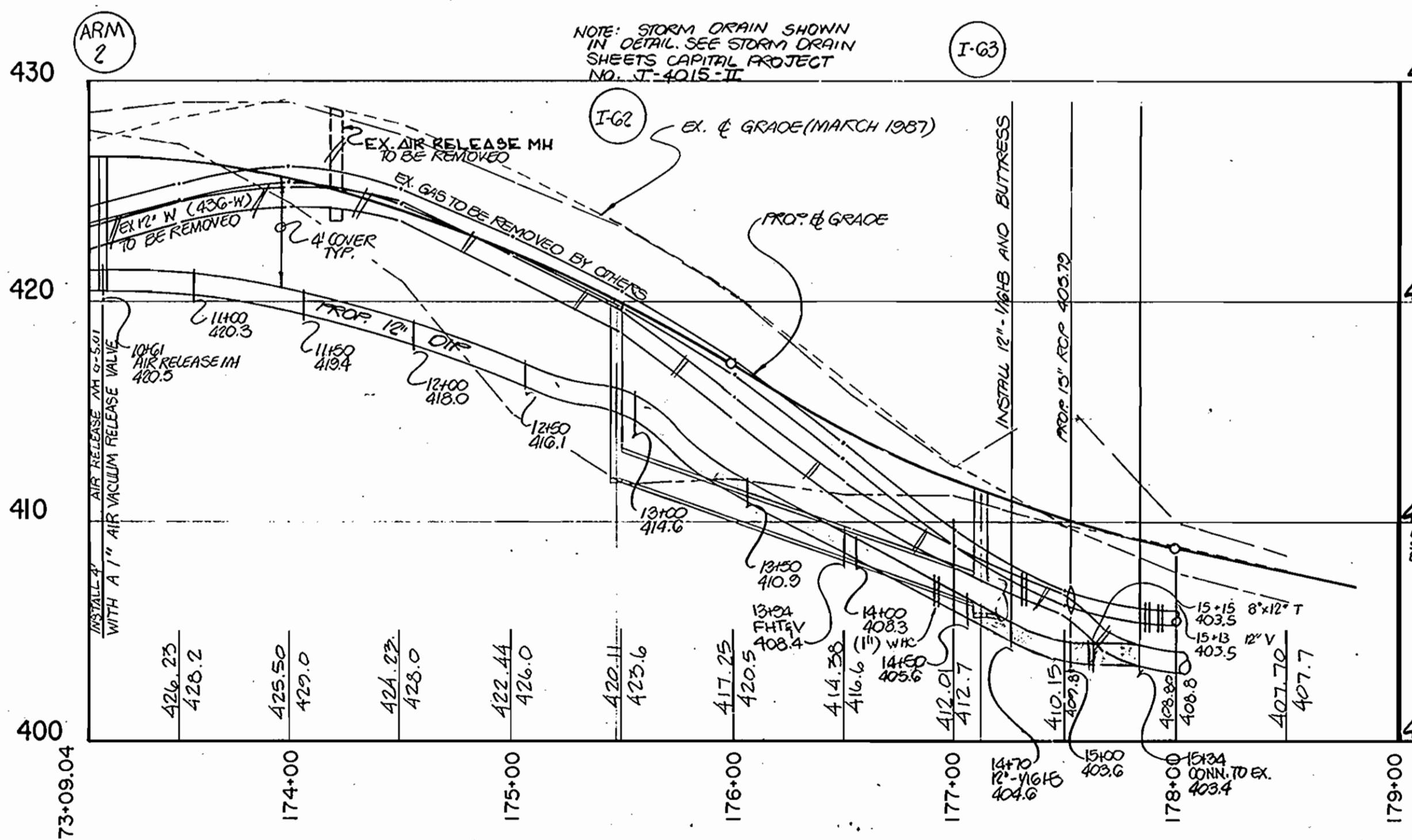
PROFILE LEGEND

EXISTING AT R/W LINE RT.
R/W LINE LT.

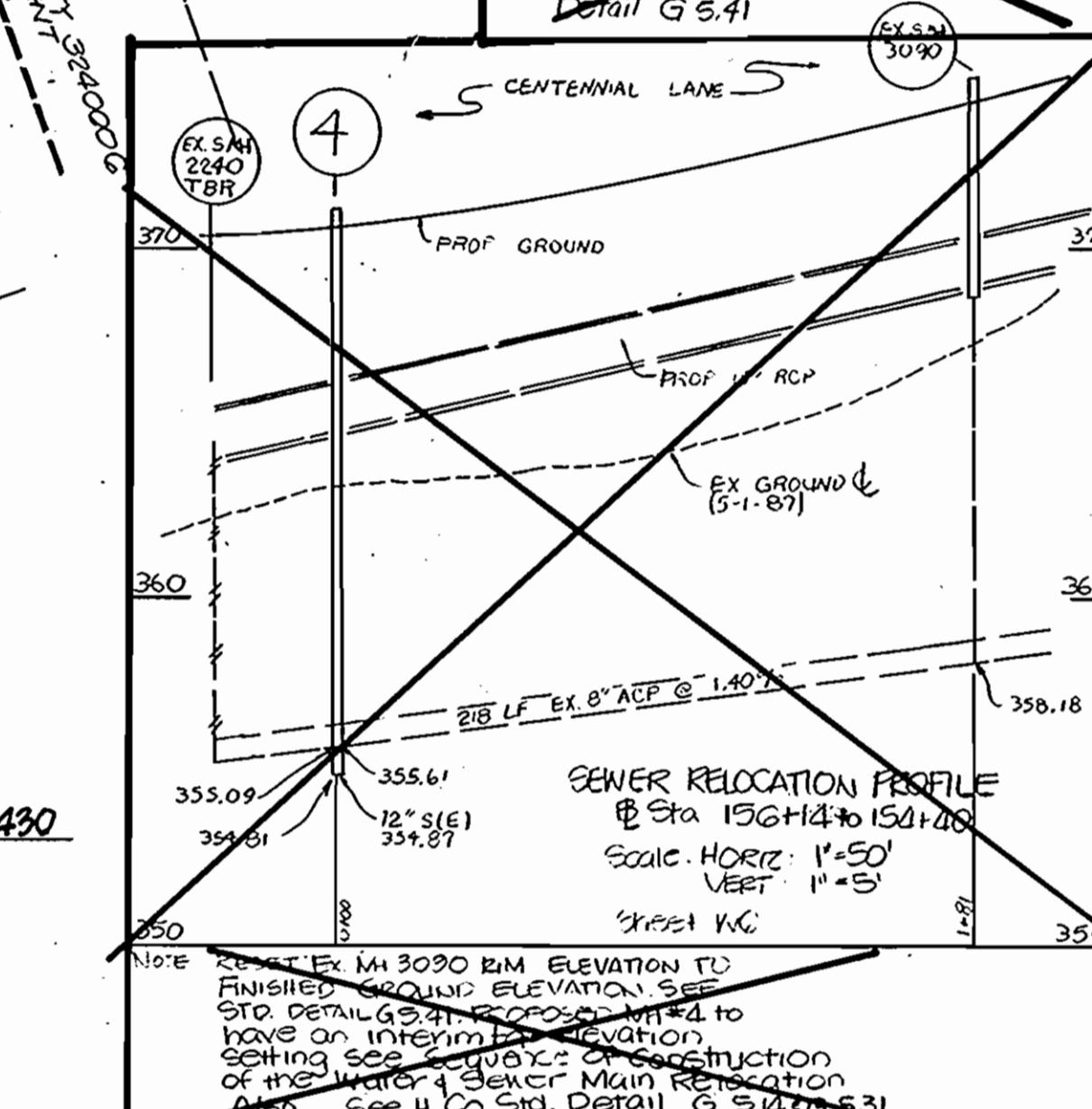


SHEET W7
WATER MAIN RELOCATION DETAIL
FREDERICK ROAD AND CENTENNIAL LANE
SCALE: 1" = 20'

SEWER RELocation PROFILE
@ STA 156+14
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

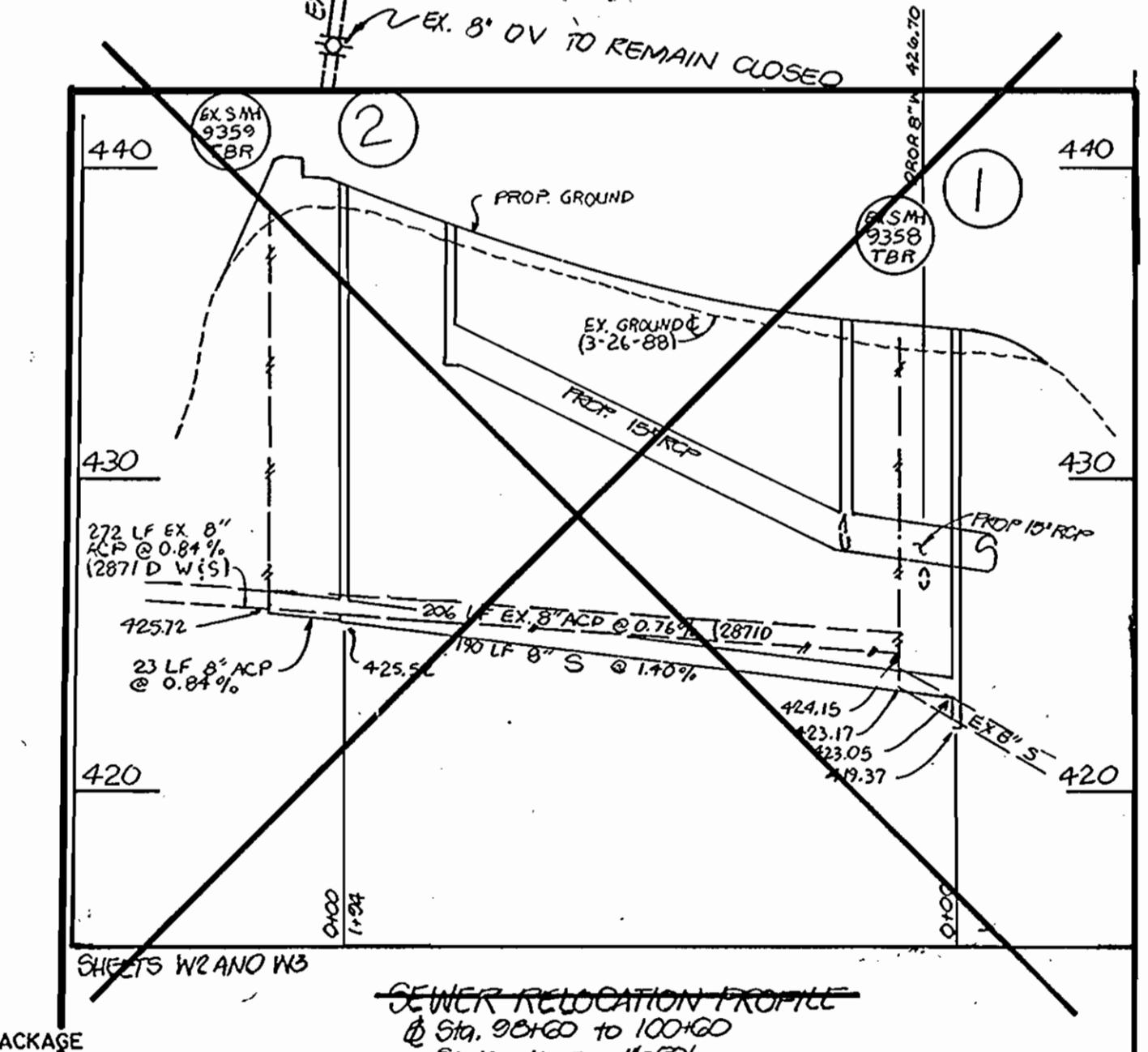


SCALE: HORIZ. 1" = 50'-0"
VERT. 1" = 5'-0"



WATER MAIN RELOCATION DETAIL
US Route 40 and Centennial Lane
No Scale

NOTE:
SEDIMENT CONTROL DETAILS SHOWN
ON SHEETS 2 THROUGH 26 OF THE
J-4015-II ROAD CONSTRUCTION DRAWING PACKAGE



SEWER RELocation PROFILE
@ STA 9060 TO 100160
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
James A. Brown 1/23/91
DIRECTOR OF PUBLIC WORKS DATE
Robert W. Beiriger 11-19-90
CHIEF, BUREAU OF UTILITIES DATE

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ENGINEERS • SURVEYORS • PLANNERS
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(301) 461-0078 O.C. Metro (301) 621-5768



DES: KAM
DRN: JMS/KAM
CHK: JEM
DATE: 12/90

BY NO. REVISION DATE 600' SCALE MAP NO. 24 BLOCK NO.

WATER & SEWER RELOCATION
PLAN & PROFILE
STA.173+09.04 TO END
CENTENNIAL LANE

CENTENNIAL LANE
STATION 136+00 TO U.S. ROUTE 40
CAPITAL PROJECT W-8156 CONTRACT NO. 24-1726-A
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 5

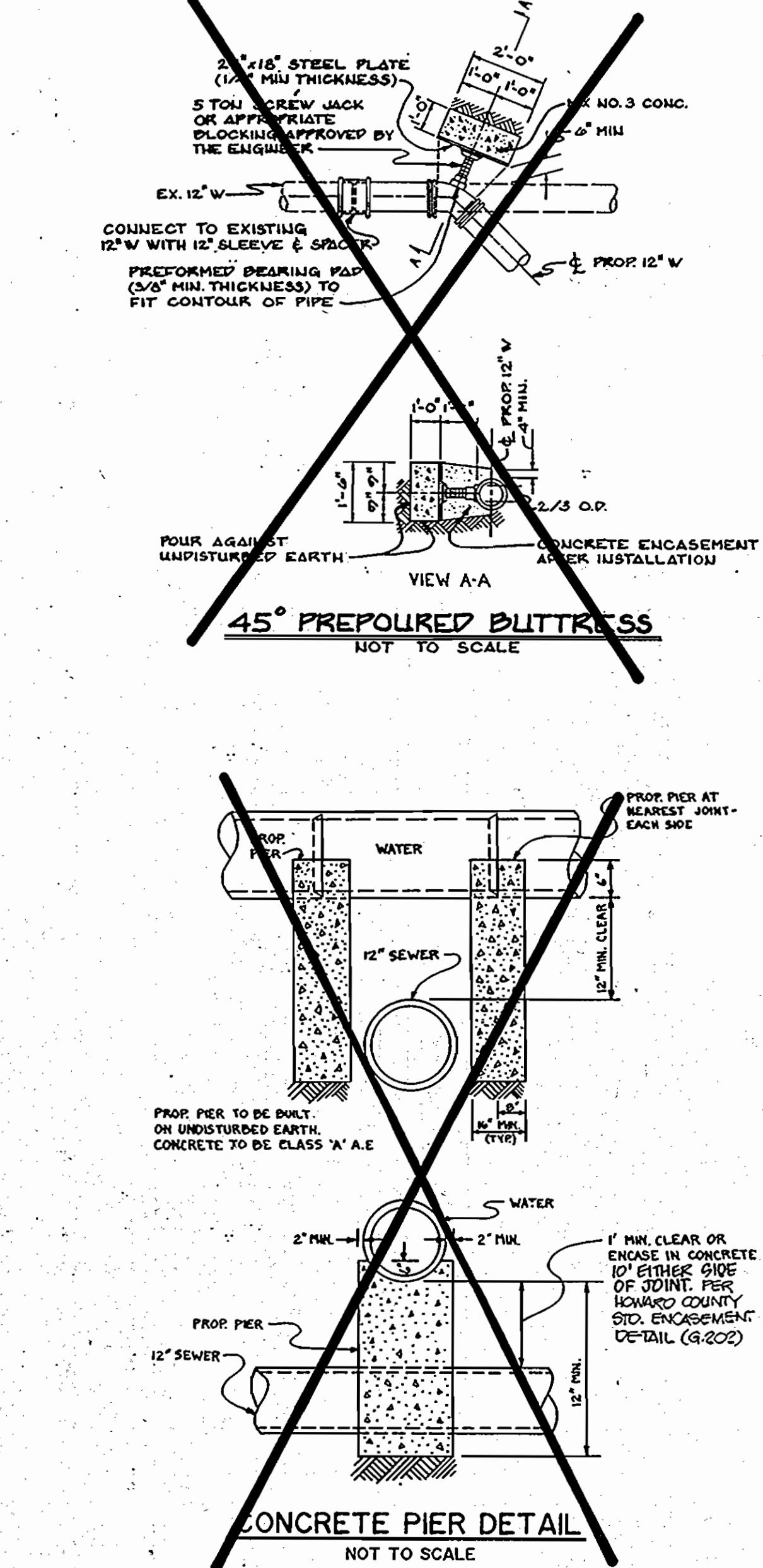
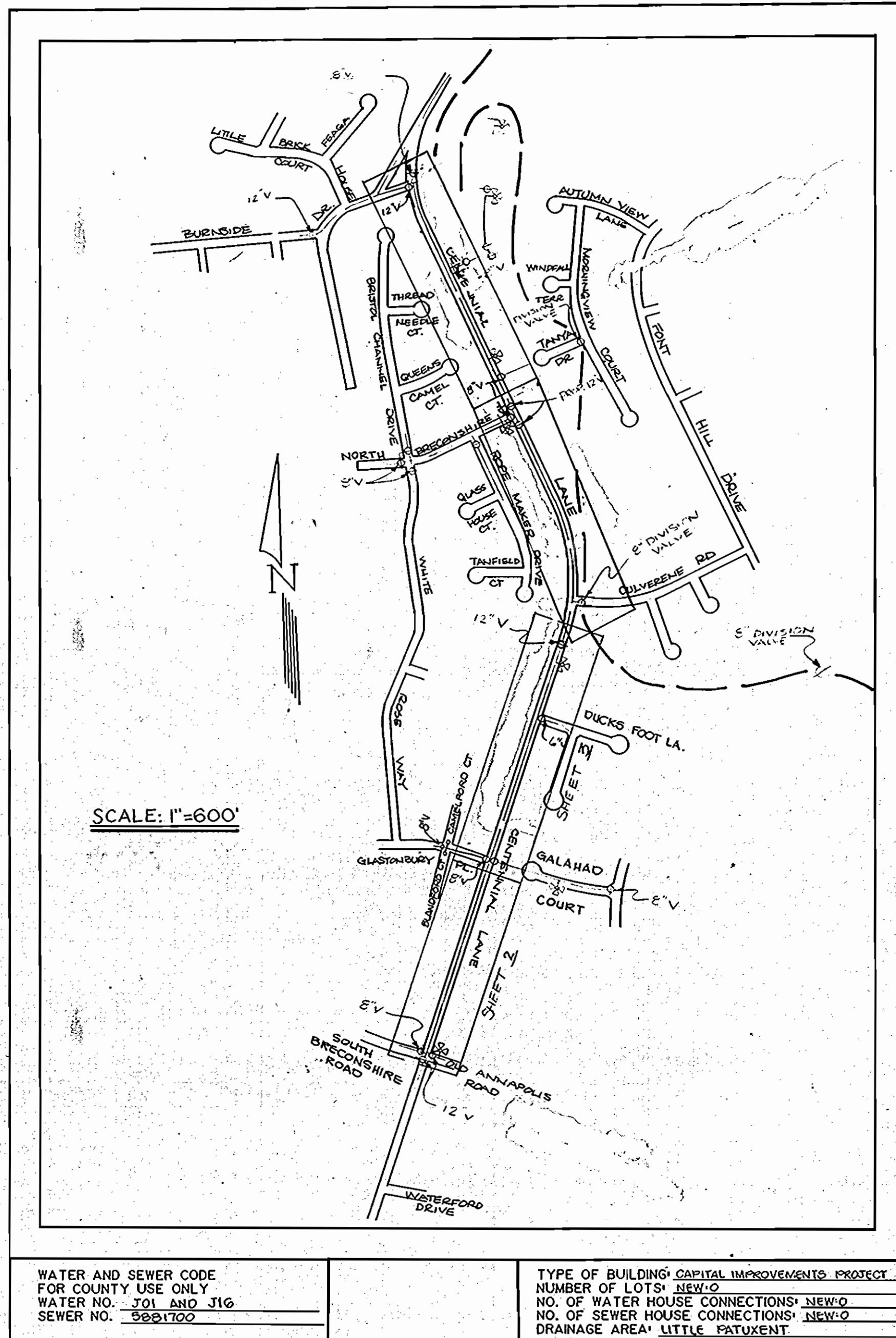
GENERAL NOTES FOR WATER AND SEWER MAIN CONSTRUCTION

- Approximate locations of existing utilities are shown. The Contractor shall take all necessary precautions to protect the existing utilities and maintain uninterrupted services, any damage to existing utilities shall immediately be repaired to the satisfaction of the Engineer at the Contractor's expense.
- Clear all utilities by a minimum of 6". Clear all poles by 2' - 0" minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from money owed the Contractor. The Contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- Trees and shrubs are to be protected from damage to maximum extent.
- For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction. The Contractor shall have a copy of Volume IV on the job.
- Contractor shall locate existing utilities a minimum of two (2) weeks in advance of construction operations in the vicinity of proposed utilities 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 - Contractor Services - 850-4620
 - Baltimore Gas & Electric - Underground Damage Control - 859-9004
 - Baltimore Gas & Electric - Trouble Shooting - 298-9001
 - Miss Utility - 1-559-0100
 - Colonial Pipeline Company - 795-1390
 - Bureau of Utilities, Howard County Dept. of Public Works - 312-4900
 - Chesapeake & Potomac (C&P) Telephone Company - 1-800-257-7777

- All water mains to be D.I.P. Class 52, unless otherwise noted. All sewer mains to be CSPX, RCSP, VCPX, or PVC. All pipe elevations are shown as invert elevations.
- Top of all water mains to have a minimum of 3.5" 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.
- Bury line elevations on fire hydrants shall be set to the elevations shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with Standard Detail: M.W. - Sidewalk adjacent to curb. Soil around fire hydrants to be compacted in accordance with Section 1003 of the Standard Specifications.
- Homes currently served by outside meters shall be reconnected to these meters.
- The Contractor shall not operate any water main valves on the existing system.
- The Contractor shall do everything possible to minimize the length of time for water service shut down. In no case shall the Water Main be shut down for more than six (6) hours at a time.
- It will be the responsibility of the Contractor to notify all water customers of the County, in writing, who will be without service, a minimum of 48 hours in advance of the schedule shutdown.
- The Contractor shall notify the Bureau of Utilities of Howard County, in writing, at least one (1) week prior to making any tie-in to the existing system.
- All roadway valves and manholes shall be adjusted to finished grade by the Contractor. The price for adjusting existing roadway valves and manholes shall be included in the price bid for "Adjusting Existing Manholes" and "Adjusting Existing Roadway Valves" items.
- 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.
- TBA denotes "To Be Abandoned". TBR denotes "To Be Removed".
- All horizontal controls are based on Maryland State Coordinates. All vertical controls are based on U.S.G.S. data.
- Refer to Howard County Field Books: 118, 119, 138 and 139, for information regarding this project.
- Six Howard County Control Stations have been used to survey this project: 3040001; 3140001; 3140002; 3140005; 3240005 and 324006.
- Manholes shall be 4'-0" inside diameter unless otherwise noted.
- Contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole walls.
- Manholes shown with 12" and 16" walls are for brick manholes only.

MATERIALS LIST	
ITEM	ESTIMATED QUANTITY
6" DIP.	2670 L.F.
6" DIP. (FH)	120 L.F.
6" W.H.	1 L.F.
2" W.H.	45 L.F.
1/4" WHG	50 L.F.
12" V.	3 EA.
6" V. (FH)	2 EA.
6" DIP. ARM.	1 EA.
6" Air Vacum.	1 EA.
Release Valves	1 EA.
6" C.R.	1 EA.
6" X-BR. (FH)	2 EA.
10" H.C. UP.	1 EA.
10" H.C. VP.	6 EA.
6" H.C. VP.	1 EA.
Buttresses	1 EA.
Prepared Buttress	4 EA.
C.G. Tapping	0 EA.
Shallow Manholes	0 EA.
Sanitary Sewer Manholes	2 EA.
Sanitary Sewer Manholes, (IVF12")	1.5 VF
12" Sewer Pipe	0 L.F.
8" Sewer Pipe	213 L.F.



CONSTRUCTION SEQUENCE FOR THE WATER AND SEWER MAIN RELOCATION

Construction and connection to the proposed 8" sewer main shall be implemented in sequence, as follows. This sequence assumes all Phase I Maintenance of Traffic and sediment control devices are in place and operational prior to construction of the sewer mains and appurtenances.

SEQUENCE OF SEWER MAIN RELOCATION BASELINE STATION 98+50 TO 100+60
SEE SHEET 243 OF 3

- Construct proposed sanitary manhole 2 and 8" sanitary main between manhole 1, 0+05 to manhole 2, 0+18.
- Temporarily place stopper in existing 8" main entering existing sanitary manhole 9359. Construct proposed sanitary manhole 1 over existing 8" main. Make connection to proposed 8" main. Reform channel as required per Howard County Standards. Remove existing 8" sanitary main where required to construct proposed manhole 1.
- Remove the existing sanitary manhole 9358. Remove the existing sanitary manhole 9359. Maintain line and grade of existing pipe and extend to proposed pipe. Test and place main in service. Remove existing 8" sewer main from baseline station 98+50 to baseline station 100+60.

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 101+50
SEE SHEET 3 OF 3

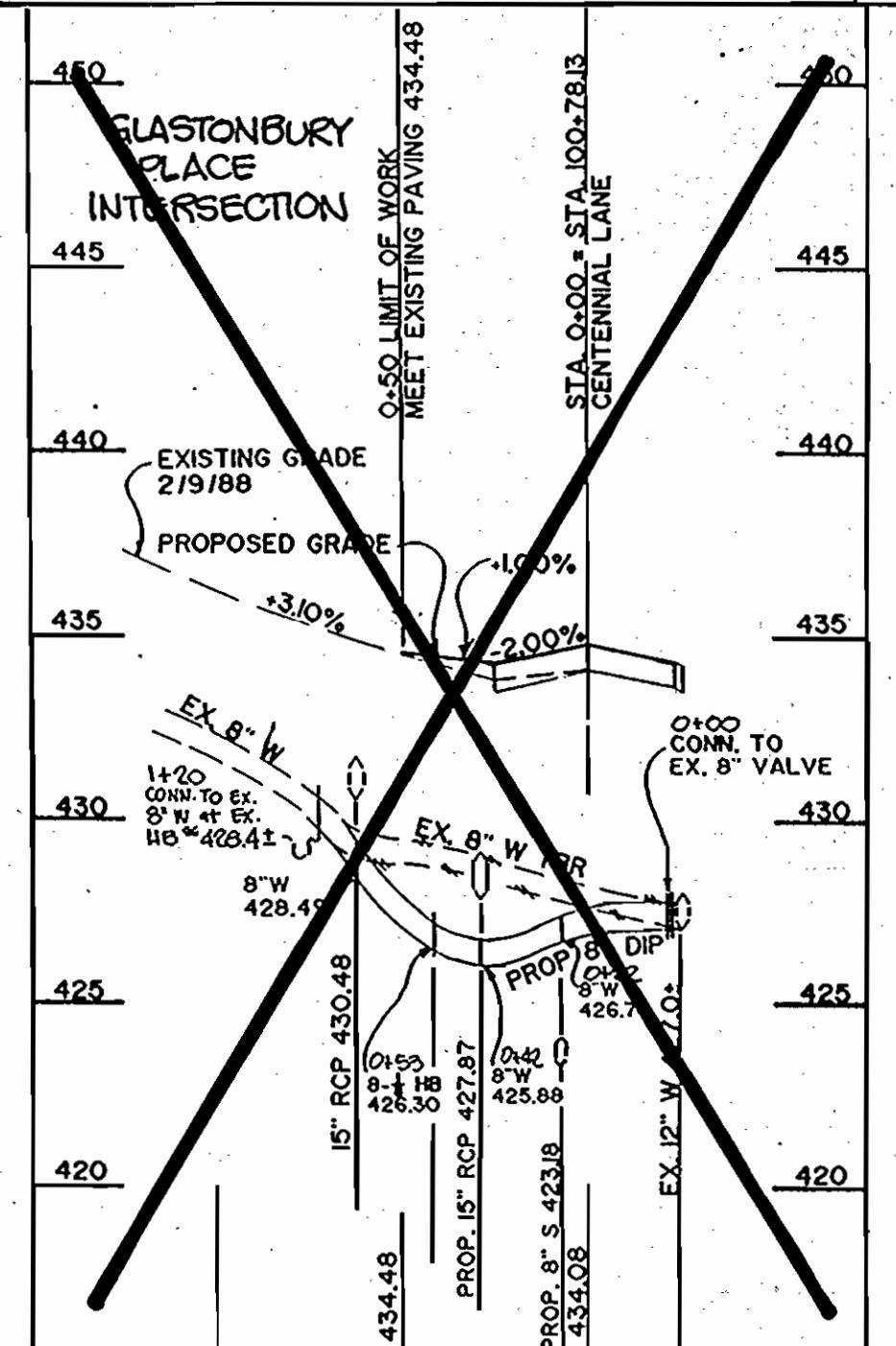
- Construct the proposed 8" water main.
- Test and chlorinate the new main.
- Close the 8" valve in Centennial Lane, at baseline station 100+50, which serves Glastonbury Road and an 8" valve west of the intersection of Blandford and Camelot Courts. Make connections. Open all other valves and put main back in service.
- Remove existing 8" watermain where required to construct connections. Abandonment shall occur after new mains are placed in service.

VALVES LISTED TO BE CLOSED ARE TO BE CLOSED FOR "TIE-IN" PURPOSES ONLY.
THESE VALVES ARE NOT TO BE CLOSED DURING FULL CONSTRUCTION OPERATIONS.

SEQUENCE OF WATER MAIN RELOCATION BASELINE STATION 103+00 TO 117+00
SEE SHEET 3 OF 5

- Construct the proposed 12" water main. At baseline station 109+60 install 6" x 12" tee.
- Construct the prepared buttresses at the bends at baseline station 103+10 (station 0+10 of the proposed 12" water main) and at baseline station 116+50 (station 13+70 of the proposed 12" water main).
- Test and chlorinate the new main.
- Close the valves at Centennial Lane, baseline station 88+10; at the intersections of Centennial Lane: at Old Annapolis, south of south Breckinridge Drive; at Colahod Court, baseline station 100+50; at Glastonbury Plaza; and at north Breckinridge. Cut the existing pipe and make connections with 12" sleeve and spacer as shown. Extend 6" water main to existing 8" valve of Ducks Foot Lane. The existing 8" division valve located in Culverine Road is to remain closed. Open all other valves and put the main back in service.
- At baseline station 129+40, copy and abandon the existing 12" water main from baseline station 103+00 to baseline station 117+00. Remove existing 12" water mains where required to construct connections. Abandonment shall occur after new mains are placed in service.

◆ Valves listed to be closed are to be closed for "tie-in" purposes. Only not closed during full construction operations.



CENTENNIAL LANE WATER AND SEWER CAPITAL PROJECT No. W-8156 CONTRACT No. 24-1726-B

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	4/16/92
DIRECTOR OF PUBLIC WORKS	DATE
4/16/92	4/16/92
CHIEF, BUREAU OF ENGINEERING	DATE
2-12-92	2-12-92
CHIEF, UTILITY DESIGN DIVISION	DATE
2-11-92	2-11-92

MILDENBERG,
MOCHI & ASSOCIATES, INC.
DESIGNERS SURVEYORS PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro No. (301) 621-5768

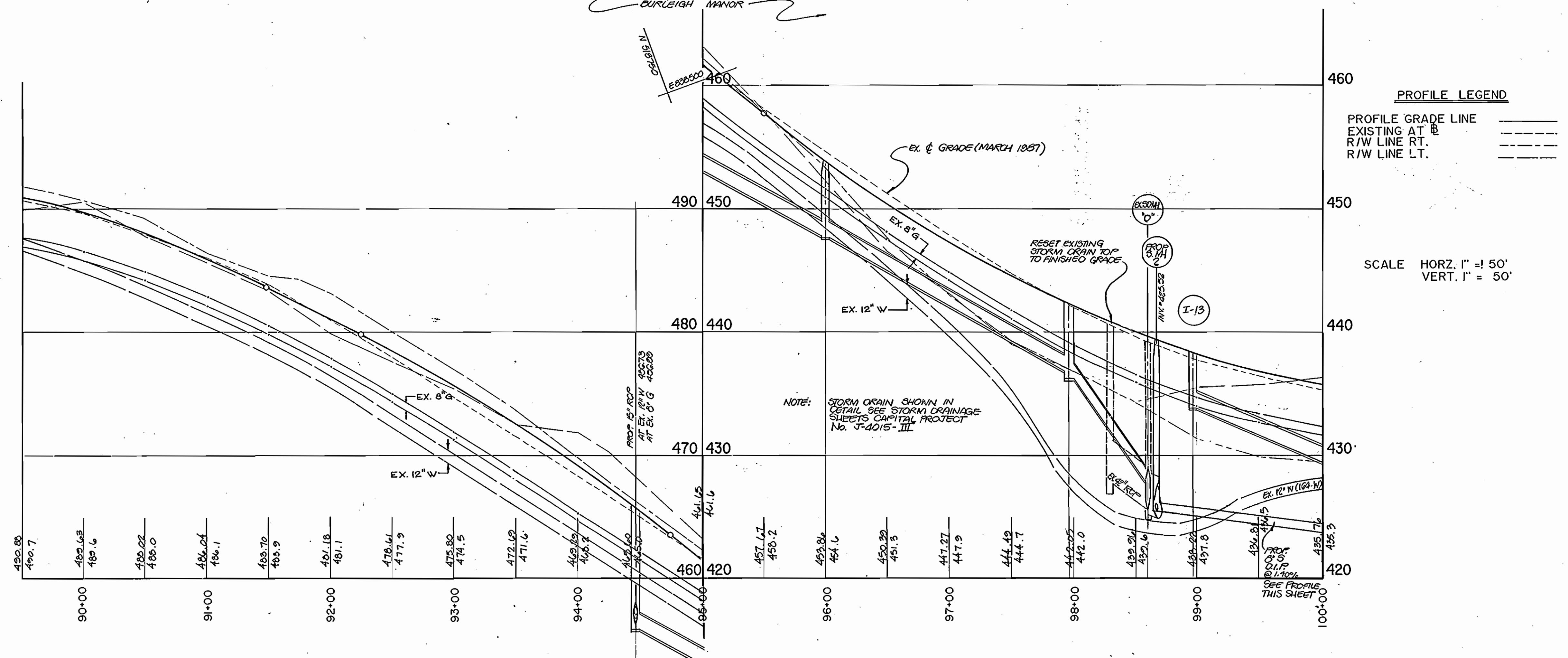
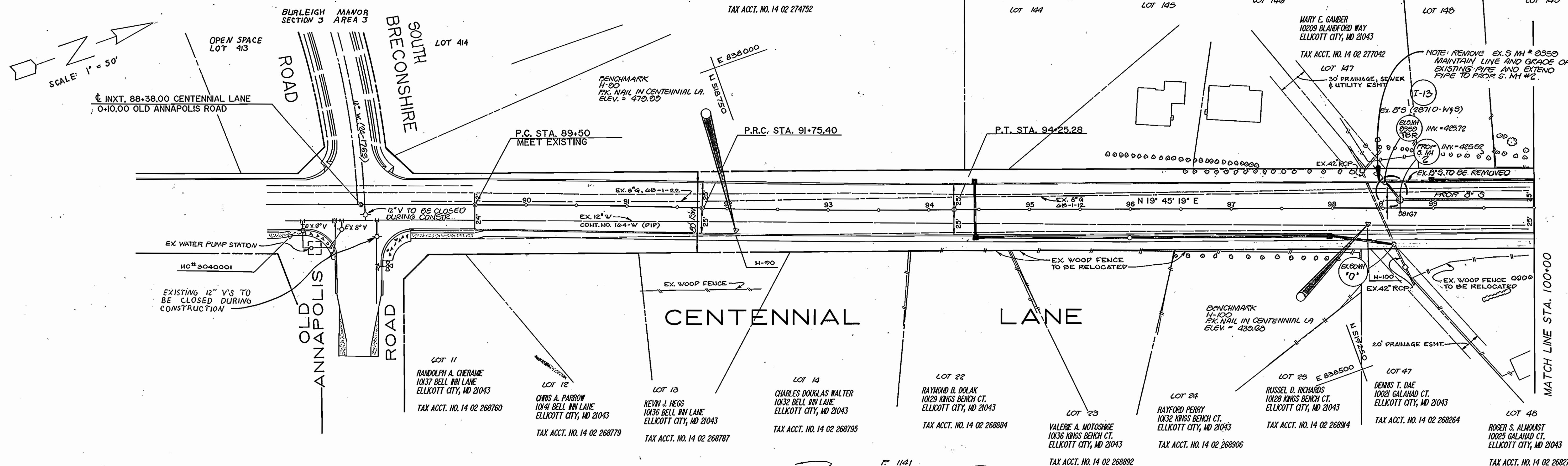
[Signature]

DES: JBM/KAM				
DRK: STAFF				
CHK: JBM				
PROJ # 87001-00				
DATE	BY	NO.	REVISION	DATE
				600' SCALE MAP NO. BLOCK NO.

TITLE SHEET

CENTENNIAL LANE
WATER AND SEWER
CAPITAL PROJECT NO. W-8156, CONTRACT NO. 24-1726-B
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

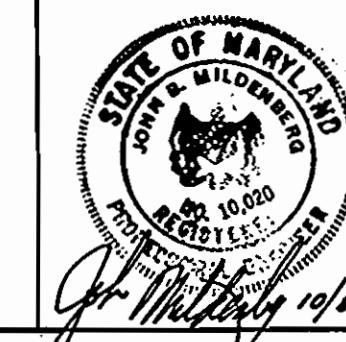
SCALE AS SHOWN
SHEET
1 OF 3



BRUNING 44-13269150

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

James J. Dunn 4/16/92
DIRECTOR OF PUBLIC WORKS DATE
Michael A. Luminello 4/10/92
CHIEF, BUREAU OF UTILITIES DATE
James J. Dunn 2-12-92
CHIEF, BUREAU OF ENGINEERING DATE
John D. Lien 2-11-92
CHIEF, UTILITY DESIGN DIVISION DATE



DES: KAM				
DRN: JMS/KAM				
CHK: JBM				
DATE: /07	BY	NO.	REVISION	DATE

WATER & SEWER RELOCATION
PLAN & PROFILE
STA. 89+50 TO STA. 100+00
CENTENNIAL LANE

600' SCALE MAP NO. 24 BLOCK NO. _____

**WATER & SEWER RELOCATION
PLAN & PROFILE
STA. 89+50 TO STA. 100+00
CENTENNIAL LANE**

CENTENNIAL LANE
CAPITAL PROJECT W-8156 CONTRACT NO. 24-1726-B
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
2 OF 3

