

# THE BLUFFS AT PINE ORCHARD

## CONTRACT NO. 24-1848-D 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

### 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 Maryland State coordinates.
- All vertical controls are based on U.S.G.S. data.
- All pipe elevations shown are  $\bigcirc$  Invert elevations.
- Clear all utilities by a minimum of 6".
- For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications, Specifications and Details for Construction. 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  $\square$  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 verified by the contractor to his own personal satisfaction. Any damage to existing facilities due to the contractor's negligence shall be repaired at the contractor's expense.
- The contractor shall notify the following utilities or agencies at least five working days before starting work shown on these plans:
 

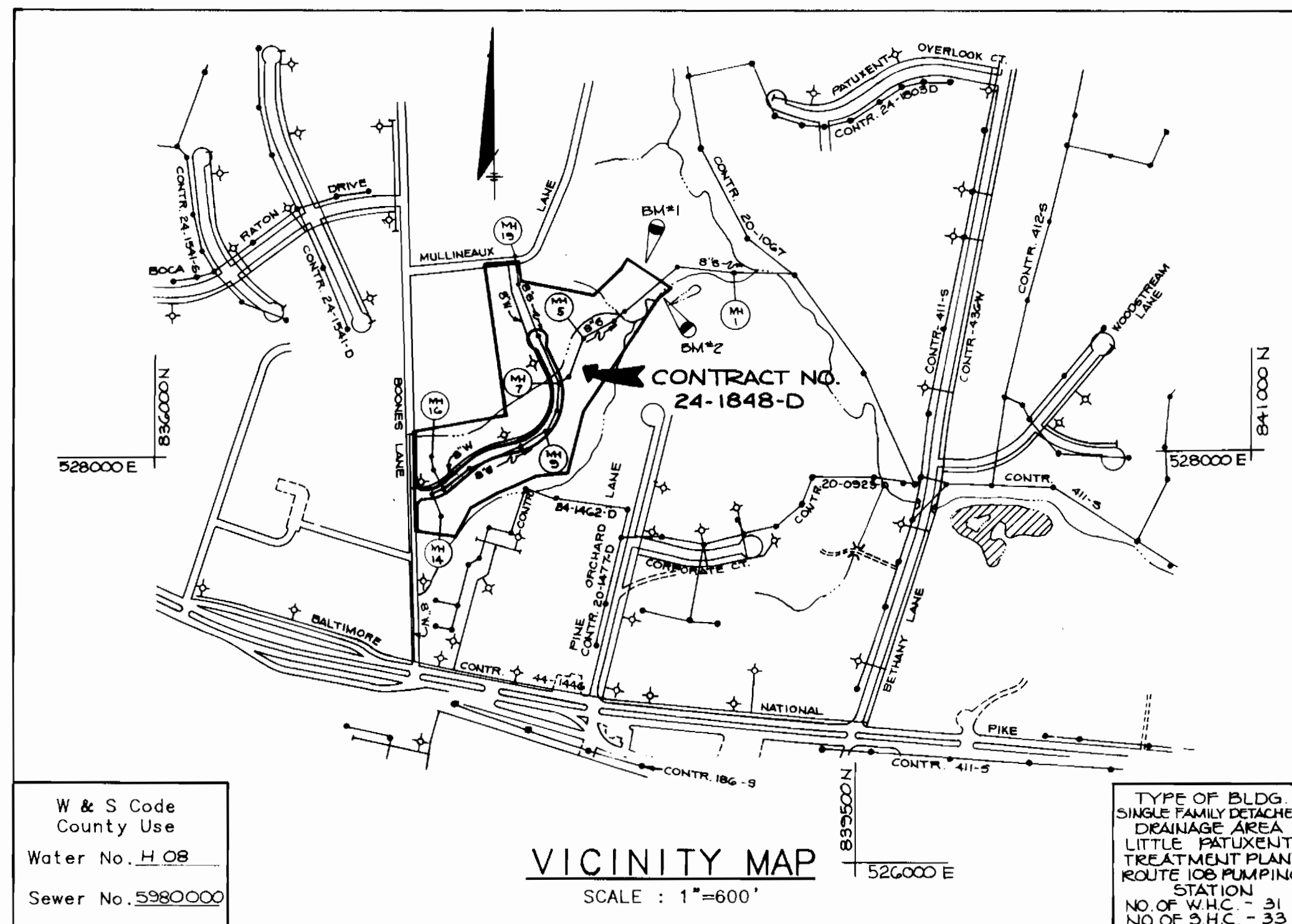
State Highway Administration	531-5533
Baltimore Gas and Electric Co. - Contractor Services	850-4620
Baltimore Gas and Electric Co. - Underground Damage Control	859-9004
Baltimore Gas and Electric Co. - Trouble Shooting	298-9001
Mias Utility	1-559-0100
Colonial Pipeline Co.	795-1390
Bureau of Utilities, Ho.Co. Department of Public Works	992-2366
C & P Telephone Co.	1-800-257-7777
- 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.
- The 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 elevation shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with the Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1003 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 the plans or in the Specifications.
- All service clamps are to have stainless straps.
- All D.I.P. fittings shall be in accordance with A.W.W.A. specifications C-153 Ductile Iron Compact Fittings, 3" through 12" for water and other liquids.
- All sewer mains shall be C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. unless otherwise noted.
- The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail GS.52. Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N.S." indicates that the cellar cannot be served.

SHEET INDEX	
SHEET NO.	ITEM
1	TITLE SHEET
2	PLAN OF WATER AND SEWER MAINS
3	PLAN OF WATER AND SEWER MAINS
4	PROFILES OF WATER AND SEWER MAINS
5	PROFILES OF WATER AND SEWER MAINS
6	PROFILES OF WATER AND SEWER MAINS

### BENCH MARKS

BM #1 ELEV 373.48  
RAILROAD SPIKE IN 14" POPLAR TREE  
BETWEEN TRAVERSE 713 AND 714

BM #2 ELEV 373.60  
RAILROAD SPIKE IN 24" POPLAR TREE  
BETWEEN TRAVERSE 713 AND 714



W & S Code  
County Use  
Water No. H 08  
Sewer No. 5980000

TYPE OF BLDG:  
SINGLE FAMILY DETACHED  
DRAINAGE AREA:  
LITTLE PATIENT  
TREATMENT PLANT:  
ROUTE 100 PUMPING  
STATION  
NO. OF WHIC 31  
NO. OF S.H.C. - 33

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on F-80-2220

*John R. Pheasant* 1/2/90  
HOWARD SOIL CONSERVATION DISTRICT

Review for Howard Soil Conservation District and meets technical requirements.

*James M. Stata* 1-4-90  
U.S. SOIL CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

Item	Quantities		Material Supplier
	Estimated	As Built	
8" SEWER	2167 LF	2119'	Belair Road Supply Co
8" SEWER (D.I.P)	1277 LF	1633'	"
4" SHC	856 LF	859'	"
4" DROP HOUSE CONN.	12 LF	12'	"
MANHOLES	22	22	"
8" WATER	2778 LF	2683'	"
6" WATER	68 LF	76'	"
FIRE HYDRANTS	4 EACH	4	"
1" WHC	831 LF	780'	"
2" AIR RELEASE VALVE	1 EACH	1	"
4" X 8" DIA. MANHOLE	1 EACH	1	"
16" X 8" TS 4V	1 EACH	1	"
8" VALVES	4 EACH	4	"
8" BLOWOFF	1 EACH	1	"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

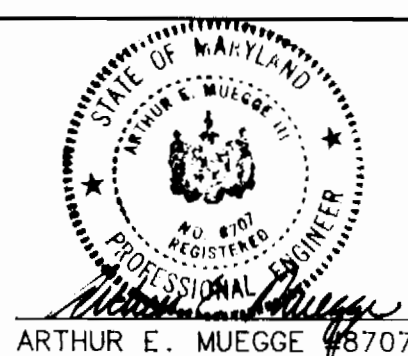
*James M. Stata* 1-8-90  
DIRECTOR OF PUBLIC WORKS DATE

*Michael A. ...* 12-28-89  
CHIEF, BUREAU OF UTILITIES DATE

*Arthur E. Muegge* 1-8-90  
CHIEF, BUREAU OF ENGINEERING DATE

*Arthur E. Muegge* 1-8-90  
CHIEF, LAND DEVELOPMENT DATE

RIEMER MUEGGE & ASSOCIATES, INC.  
3105 NORTH RIDGE ROAD  
ELLCOTT CITY, MARYLAND  
(301) 461-2690



DES: D.A.M.			
DRN: G.D.H.			
CHK:	J.V.	REVISD WATER MAIN QUANTITIES	02/20/90
DATE: 5/24/90	C.D.	REVISD 8" SEWER & 8" SEWER D.I.P. QUANTITIES	4/6/90
BY:	NO.	REVISION	DATE

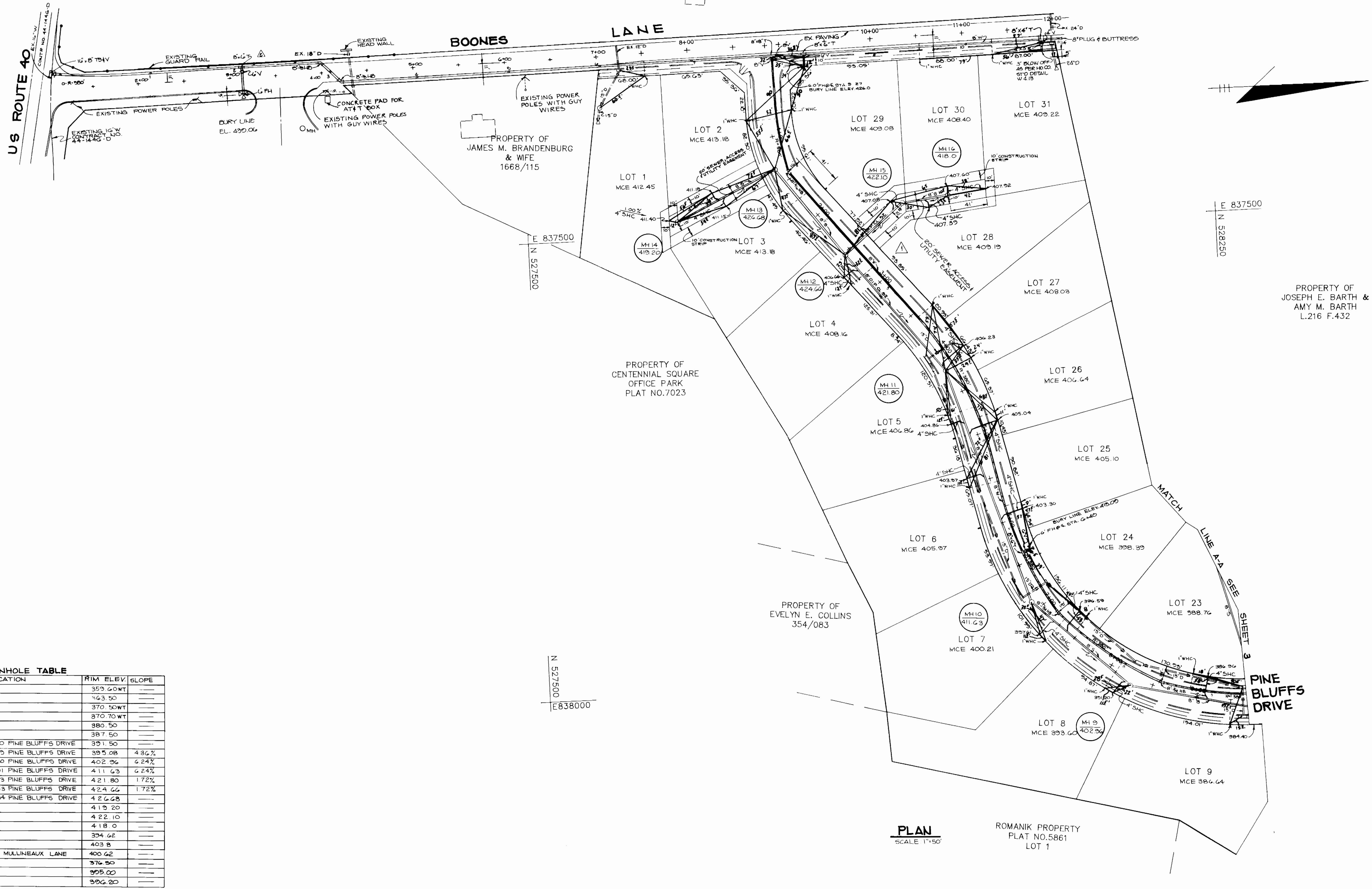
TITLE SHEET

600' SCALE MAP NO. 17824 BLOCK NO.

THE BLUFFS AT PINE ORCHARD  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1848-D

SCALE AS SHOWN

SHEET 1 OF 6



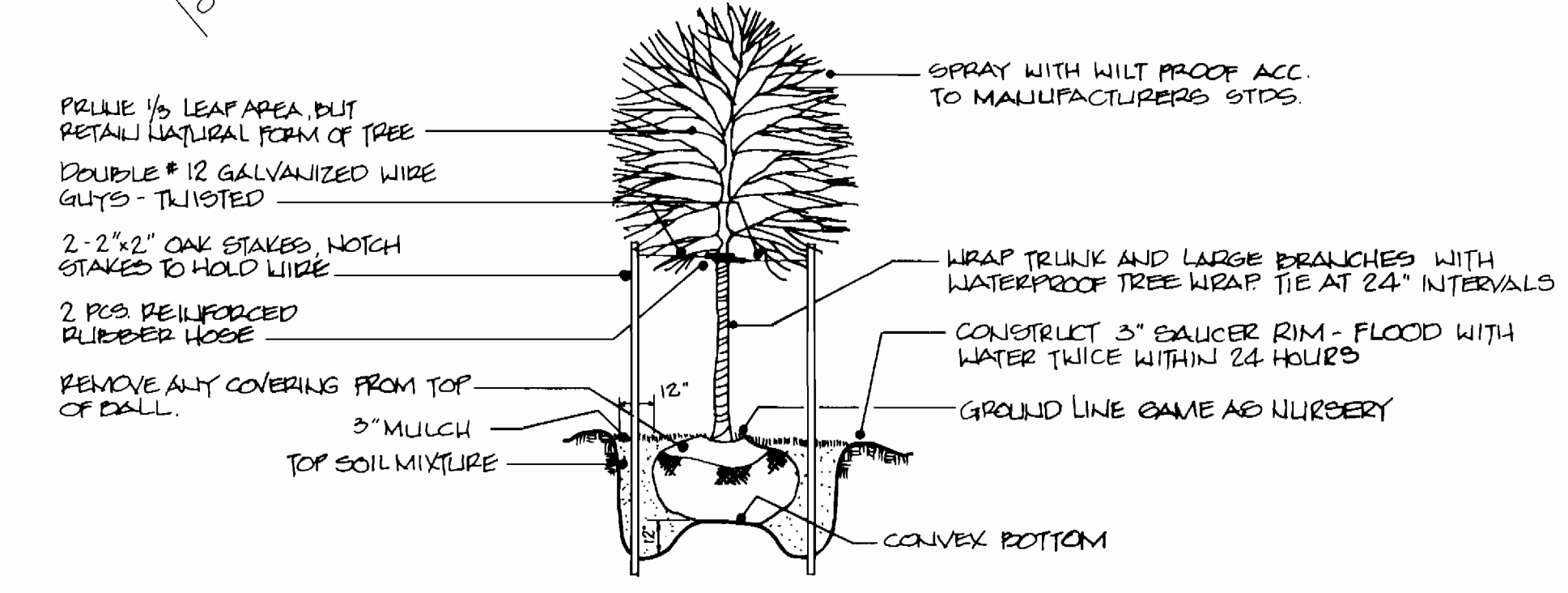
**MANHOLE TABLE**

NO.	LOCATION	RIM ELEV.	SLOPE
1	SEE SHEET 3	359.60WT	---
2	SEE SHEET 3	363.50	---
3	SEE SHEET 3	370.50WT	---
4	SEE SHEET 3	370.70WT	---
5	SEE SHEET 3	380.50	---
6	SEE SHEET 3	387.50	---
7	B'RT OF 6 STA 11+00 PINE BLUFFS DRIVE	391.50	---
8	B'RT OF 6 STA 3+00 PINE BLUFFS DRIVE	395.08	4.86%
9	B'RT OF 6 STA 8+30 PINE BLUFFS DRIVE	402.96	6.24%
10	B'RT OF 6 STA 6+91 PINE BLUFFS DRIVE	411.63	6.24%
11	B'RT OF 6 STA 4+23 PINE BLUFFS DRIVE	421.80	1.72%
12	B'RT OF 6 STA 2+53 PINE BLUFFS DRIVE	424.66	1.72%
13	B'RT OF 6 STA 1+34 PINE BLUFFS DRIVE	426.68	---
14	SEE SHEET 2	419.20	---
15	SEE SHEET 2	422.10	---
16	SEE SHEET 2	418.0	---
17	SEE SHEET 2	394.62	---
18	SEE SHEET 2	403.8	---
19	T'LT OF 6 STA 5+52 MULLINEAUX LANE	400.62	---
20	SEE SHEET 3	376.50	---
21	SEE SHEET 3	395.00	---
22	SEE SHEET 3	396.20	---

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James J. ...</i> 1/8/90 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Michael ...</i> 1/8/90 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>RIEMER MUEGGE &amp; ASSOCIATES, INC. 3105 NORTH RIDGE ROAD ELLCOTT CITY, MARYLAND (301) 461-2690</p> <p><i>Arthur E. Muegge</i> ARTHUR E. MUEGGE 1/8/90</p>	<p>DES: O.A.M.</p> <p>DRN: G.D.H.</p> <p>CHK: J.V.    C.B.</p> <p>DATE: 5/24/90</p>	<p style="text-align: center;"><b>PLAN OF WATER AND SEWER MAINS</b></p> <p>RELOCATE WATER LINE IN BOONES LANE TO EDGE OF ROAD @ STA 20+00</p> <p>CHANGE 6" S TO 8" I.P. MH 15 TO MH 12 &amp; MH 12 TO MH 11 @ 6+20</p> <p>600' SCALE MAP NO. 17 8 24    BLOCK NO. _____</p>	<p style="text-align: center;">THE BLUFFS AT PINE ORCHARD 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 24-1848-D</p> <p style="text-align: right;">SCALE AS SHOWN</p> <p style="text-align: right;">SHEET 2 OF 6</p>
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AS-BUILT 3-14-91

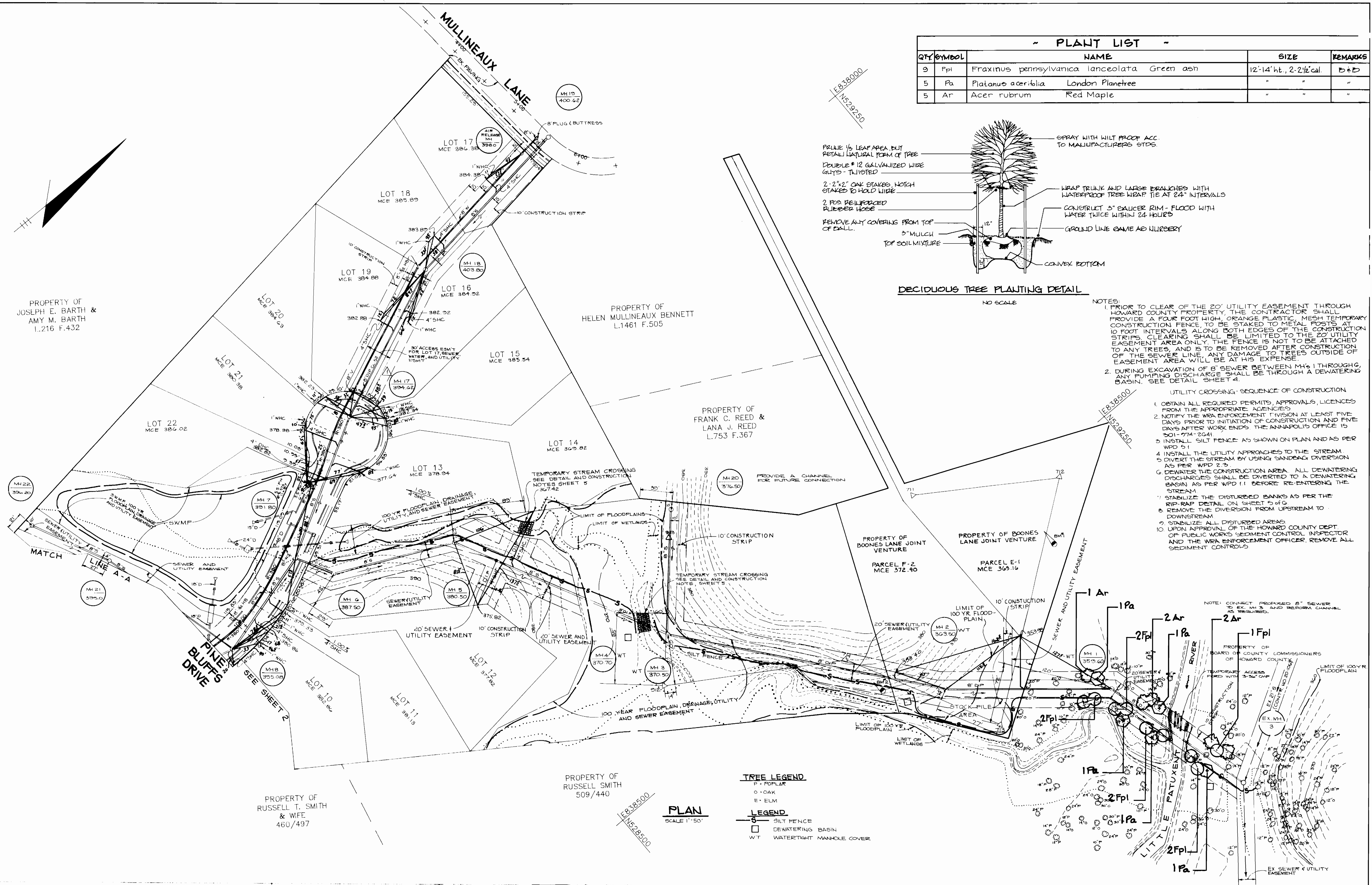
~ PLANT LIST ~				
QTY	SYMBOL	NAME	SIZE	REMARKS
9	Fpl	Fraxinus pennsylvanica lanceolata Green ash	12-14' ht., 2-2 1/2" cal.	B & D
5	Pa	Platanus acerifolia London Planetree	" " "	"
5	Ar	Acer rubrum Red Maple	" " "	"



DECIDUOUS TREE PLANTING DETAIL  
NO SCALE

- NOTES:
- PRIOR TO CLEAR OF THE 20' UTILITY EASEMENT THROUGH HOWARD COUNTY PROPERTY, THE CONTRACTOR SHALL PROVIDE A FOUR FOOT HIGH, ORANGE PLASTIC, MESH TEMPORARY CONSTRUCTION FENCE TO BE STAKED TO METAL POSTS AT 10 FOOT INTERVALS ALONG BOTH EDGES OF THE CONSTRUCTION STRIPS. CLEARING SHALL BE LIMITED TO THE 20' UTILITY EASEMENT AREA ONLY. THE FENCE IS NOT TO BE ATTACHED TO ANY TREES, AND IS TO BE REMOVED AFTER CONSTRUCTION OF THE SEWER LINE. ANY DAMAGE TO TREES OUTSIDE OF EASEMENT AREA WILL BE AT HIS EXPENSE.
  - DURING EXCAVATION OF 8' SEWER BETWEEN MH 1 THROUGH, ANY PUMPING DISCHARGE SHALL BE THROUGH A DEWATERING BASIN. SEE DETAIL SHEET 4.

- UTILITY CROSSING SEQUENCE OF CONSTRUCTION
- OBTAIN ALL REQUIRED PERMITS, APPROVALS, LICENCES FROM THE APPROPRIATE AGENCIES.
  - NOTIFY THE WRA ENFORCEMENT DIVISION AT LEAST FIVE DAYS PRIOR TO INITIATION OF CONSTRUCTION AND FIVE DAYS AFTER WORK ENDS. THE ANNAPOLIS OFFICE IS 301-774-2641.
  - INSTALL SILT FENCE AS SHOWN ON PLAN AND AS PER WPD 5.1
  - INSTALL THE UTILITY APPROACHES TO THE STREAM.
  - DIVERT THE STREAM BY USING SANDBOX DIVERSION AS PER WPD 2.3.
  - DEWATER THE CONSTRUCTION AREA. ALL DEWATERING DISCHARGES SHALL BE DIVERTED TO A DEWATERING BASIN AS PER WPD 1.1 BEFORE RE-ENTERING THE STREAM.
  - STABILIZE THE DISTURBED BANKS AS PER THE RIP-RAP DETAIL ON SHEET 5 OF 6.
  - REMOVE THE DIVERSION FROM UPSTREAM TO DOWNSTREAM.
  - STABILIZE ALL DISTURBED AREAS.
  - UPON APPROVAL OF THE HOWARD COUNTY DEPT. OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR AND THE WRA ENFORCEMENT OFFICER, REMOVE ALL SEDIMENT CONTROLS.



- TREE LEGEND**
- P - POPLAR
  - O - OAK
  - E - ELM
- LEGEND**
- S - SILT FENCE
  - - DEWATERING BASIN
  - WT - WATERTIGHT MANHOLE COVER

PLAN  
SCALE 1"=50'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James H. ...* 1/8/90  
DIRECTOR OF PUBLIC WORKS DATE

*William E. ...* 1/8/90  
CHIEF, BUREAU OF ENGINEERING DATE

*Michael A. ...* 12-2-89  
CHIEF, BUREAU OF UTILITIES DATE

*Arnold ...* 1/8/90  
CHIEF, LAND DEVELOPMENT DATE

REIMER MUEEGE & ASSOCIATES, INC.  
2400 NORTH RIDGE ROAD  
ELLICOTT CITY, MARYLAND  
(301) 481-2890

*Arthur E. Muegge* 1/8/90  
ARTHUR E. MUEEGE 1/8/90

DES: OAM			
DRN: GDH			
CHK:	CB	ADD UTILITY CROSSING SEQUENCE OF CONST.	4 G 20
	CB	CHANGE 8'S TO 8' D.I.P. MH 16 TO MH 17	4 G 20
DATE: 5/24/89	BY: NO.	REVISION	DATE

**PLAN OF WATER AND SEWER MAINS**

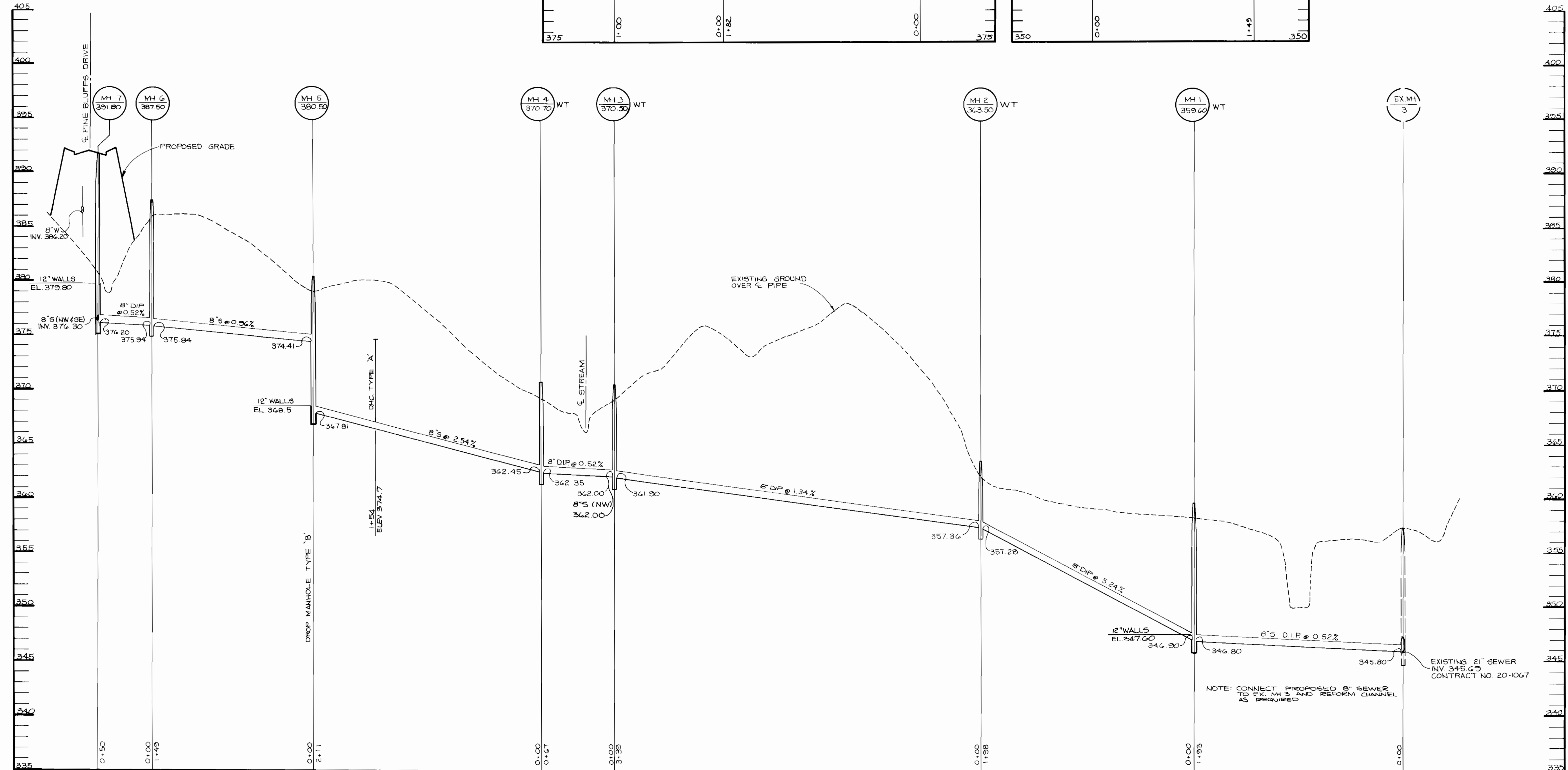
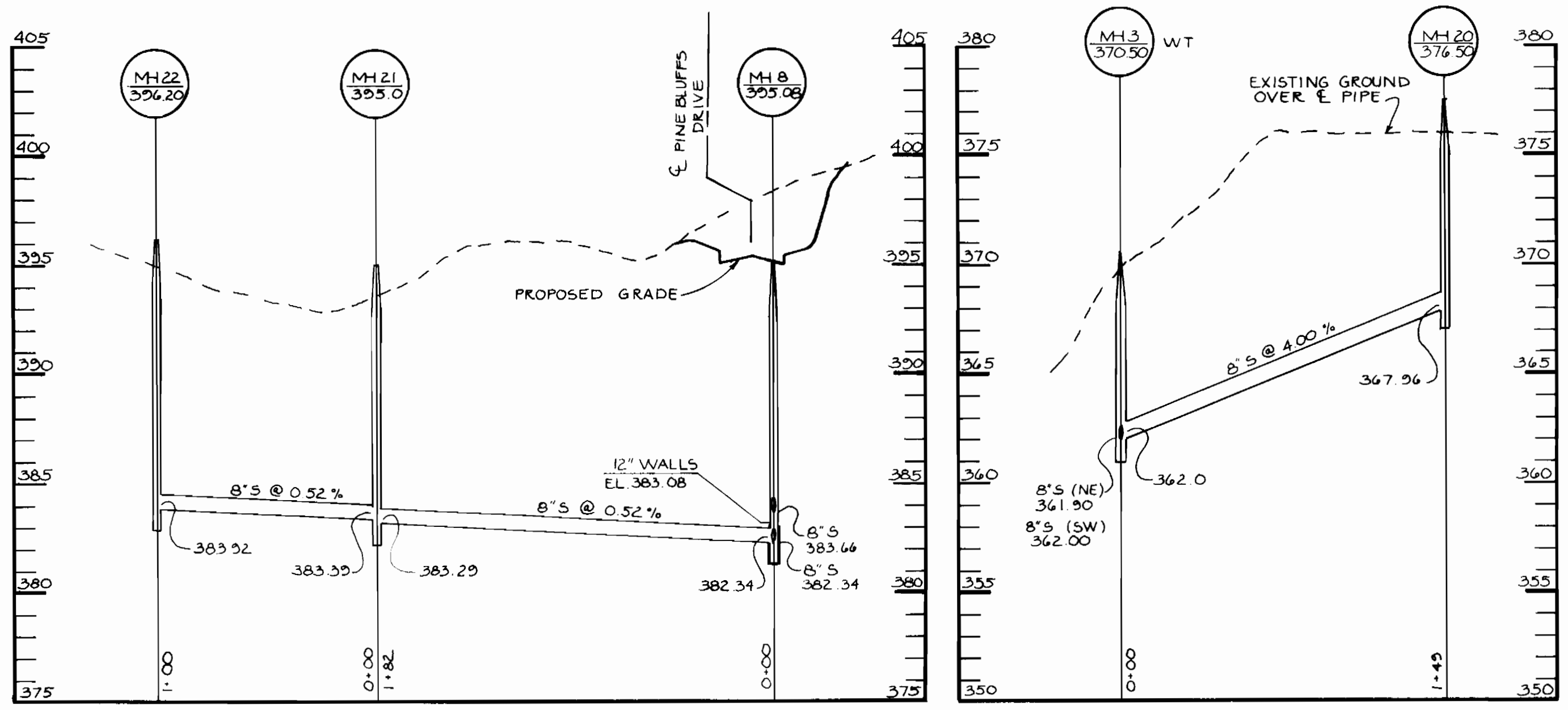
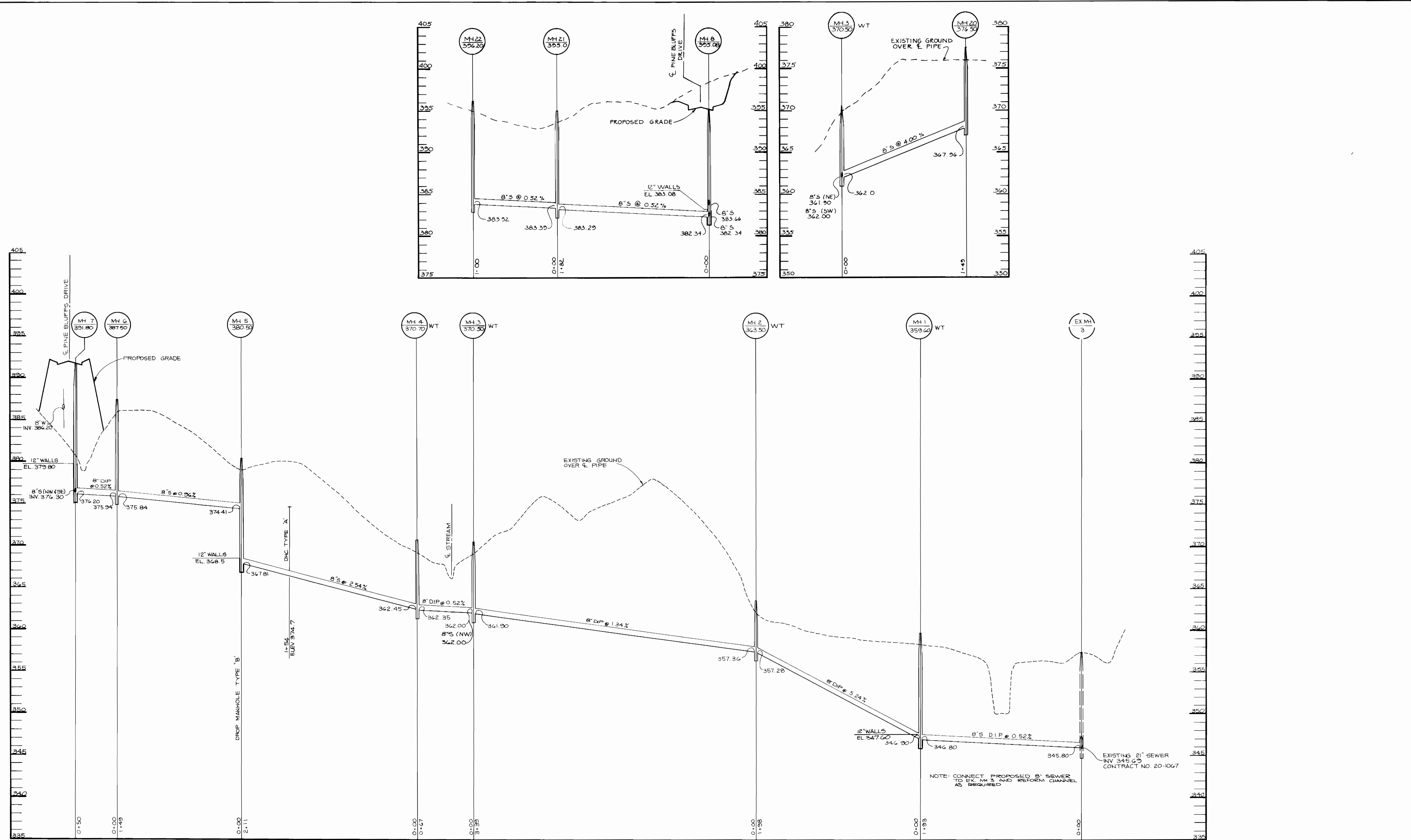
600' SCALE MAP NO. 17 & 24 BLOCK NO.

THE BLUFFS AT FINE ORCHARD  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1848-D

SCALE AS SHOWN

SHEET 3 OF 6

AS-BUILT 3-14-91



NOTE: CONNECT PROPOSED 8" SEWER TO EX. MH 3 AND REFORM CHANNEL AS REQUIRED

EXISTING 21" SEWER - INV. 345.60 CONTRACT NO. 20-1067

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

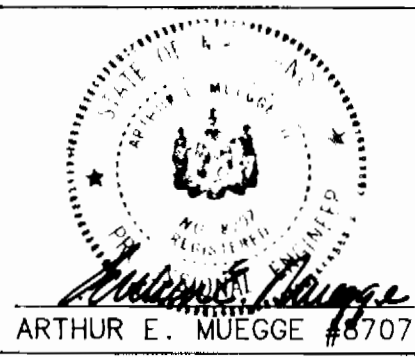
*James P. [Signature]* 1/8/90  
 DIRECTOR OF PUBLIC WORKS DATE

*William B. [Signature]* 1/8/90  
 CHIEF, BUREAU OF ENGINEERING DATE

*Michael [Signature]* 12/2/89  
 CHIEF, BUREAU OF UTILITIES DATE

*Charles [Signature]* 1/8/90  
 CHIEF, LAND DEVELOPMENT DATE

RTEMER MUEGGE & ASSOCIATES, INC.  
 2115 NORTH RIDGE ROAD  
 ELLICOTT CITY, MARYLAND  
 (301) 491-2200



DES: DAM	
DRN: GDH	
CHK:	
DATE: 5/24/90	
BY: NO.	
REVISION	
DATE	

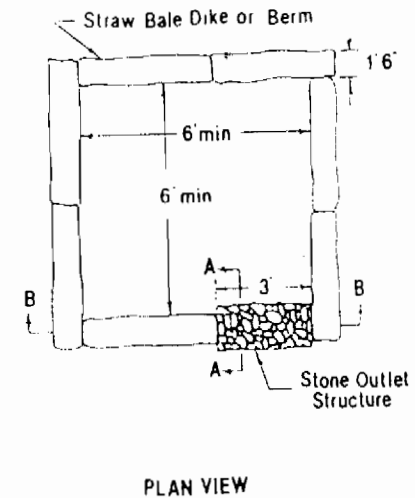
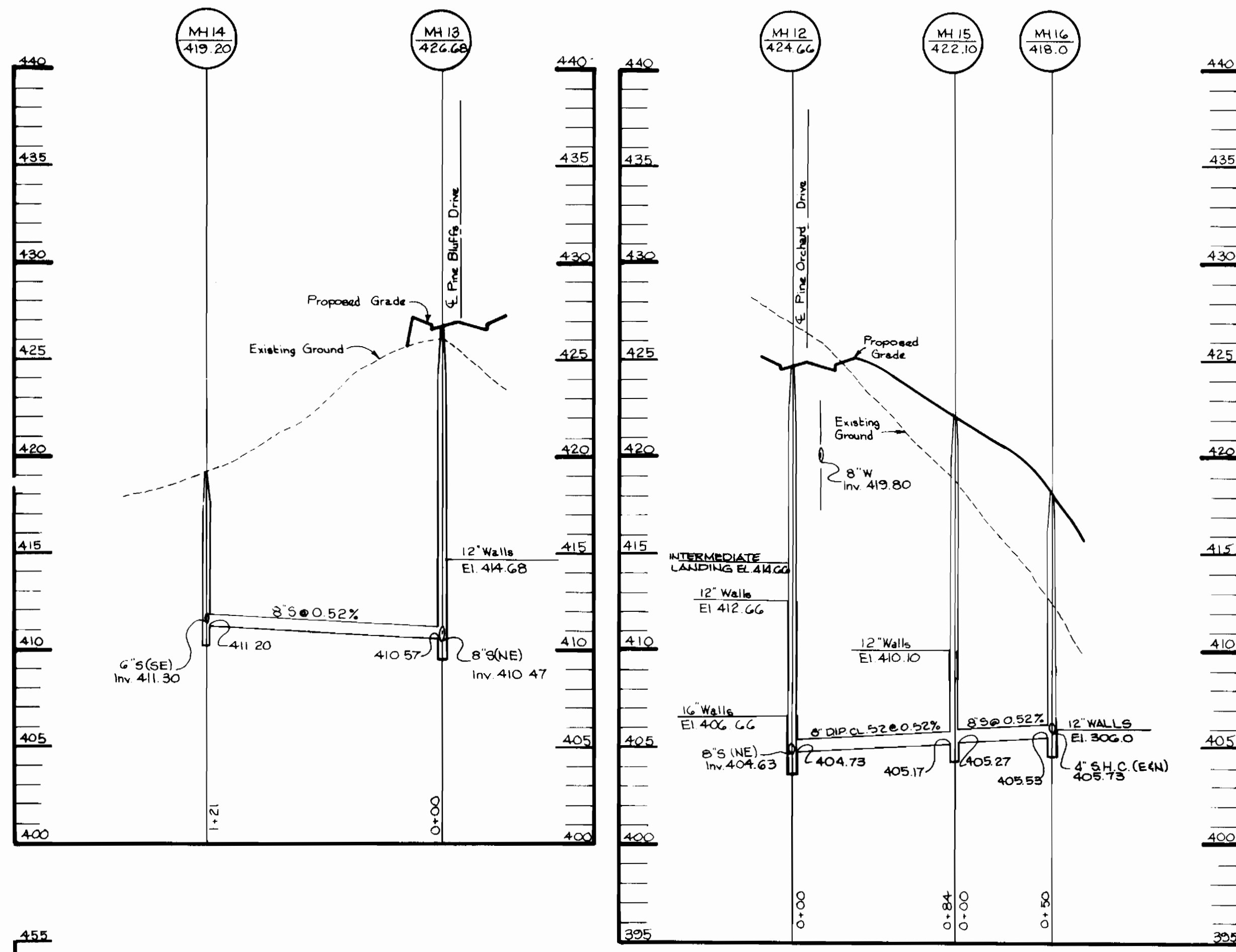
**PROFILES OF WATER AND SEWER MAINS**

600' SCALE MAP NO. 17 & 24 BLOCK NO. \_\_\_\_\_

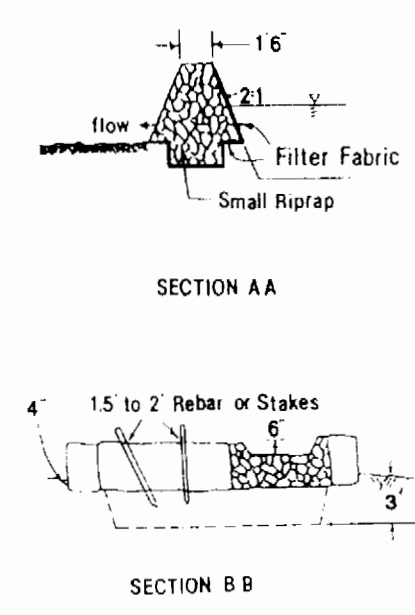
THE BLUFFS AT FINE ORCHARD  
 2nd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT NO. 24-1848-D

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

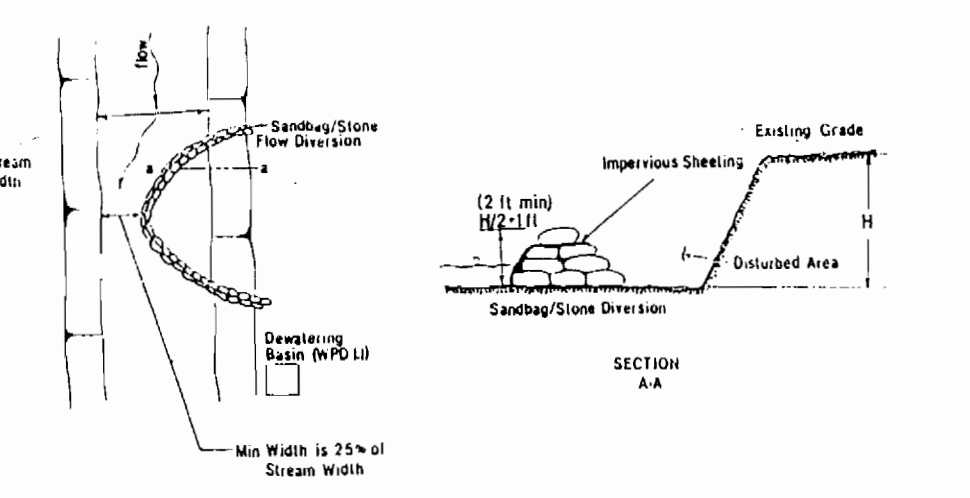
SHEET  
 4 OF 6



- Description**  
The work shall consist of the construction of a dewatering basin for the purpose of receiving and treating storm water runoff from a construction site to allow it to drain before the water enters the waterway.
- Material Specifications**
- Riprap: Riprap shall consist of 4-8 inch washed stone or gravel.
  - Filter Fabric: The filter cloth shall be a woven or non-woven fabric consisting of polypropylene or polyethylene fibers of polypropylene. The fabric shall be resistant to chemical, mechanical, and biological degradation. It shall be resistant to ultraviolet radiation, tearing and puncture and woven tightly enough to prevent leakage of fine material (fine sand, fine gravel, etc.).
  - Strawbales: Strawbales shall meet the criteria as specified in the Maryland Standards and Specifications for Soil Erosion and Sediment Control.

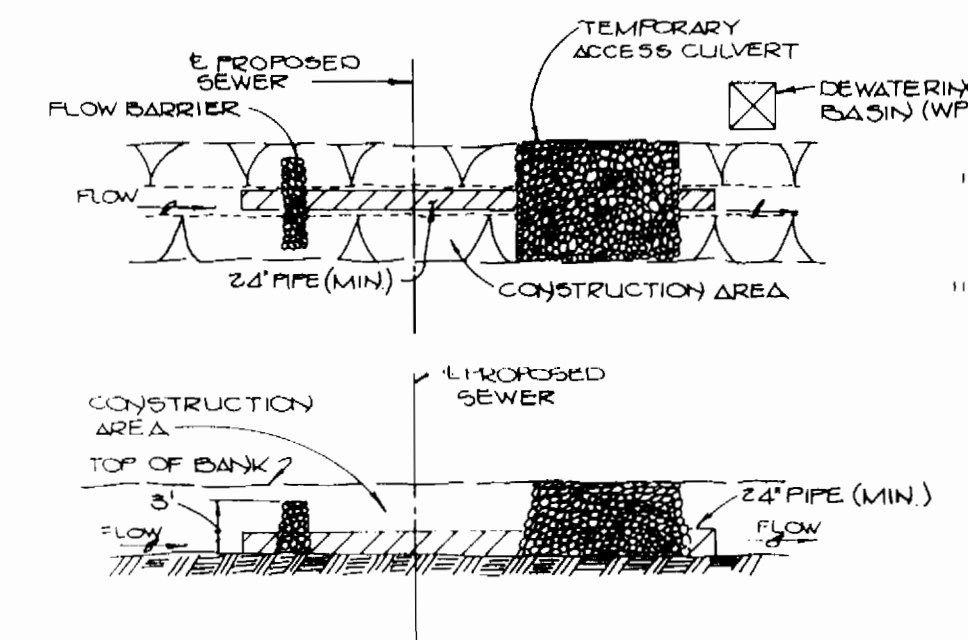


**DEWATERING BASIN**  
NO SCALE

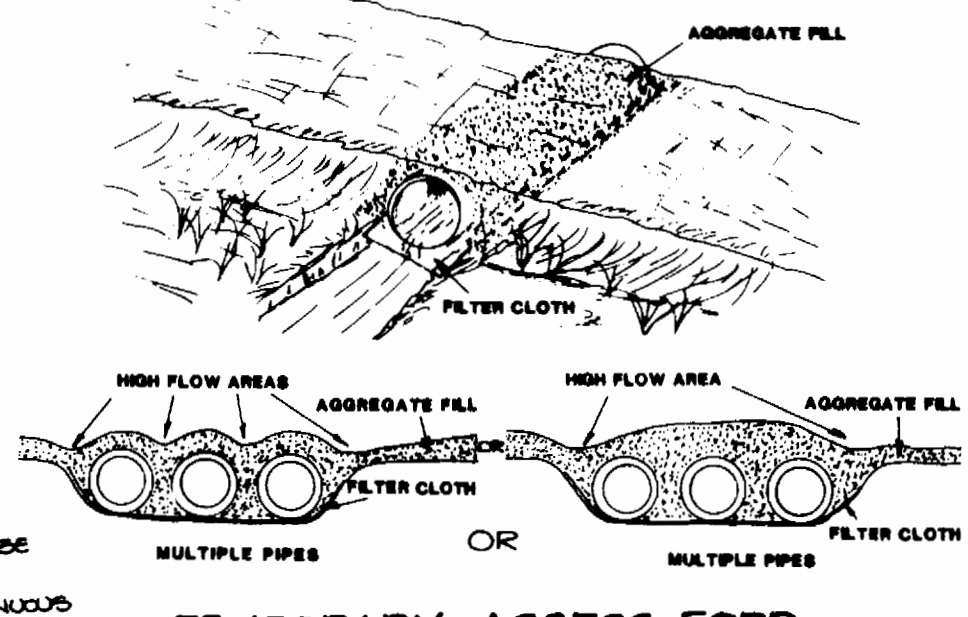


- Description**  
The work shall consist of installing flow diversions for the purpose of erosion control when construction activities take place within the stream channel such as bank stabilization or bridge abutment construction.
- Material Specifications**
- Sandbags: Sandbags shall consist of materials which are resistant to ultraviolet radiation, tearing and puncture and woven tightly enough to prevent leakage of fine material (fine sand, fine gravel, etc.).
  - Stone: Stone shall be washed and have a minimum diameter of 6 inches.
  - Flowing: Flowing shall consist of polypropylene or other material which is impermeable and resistant to puncture and tearing.
- Construction Requirements**
- All erosion and sediment control devices shall be installed as the first order of work.
  - The diversion structure shall be installed from upstream to downstream.
  - The height of the diversion structure shall be one half the distance from stream bed to stream bank plus one foot, as indicated on the construction view.
  - All excavated materials shall be disposed of in a 500 approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the MHA.
  - All dewatering of the construction area shall be pumped to a dewatering basin prior to reentering the stream.
  - Shoring shall be installed such that the upstream portion covers the downstream portion with at least an 18-inch overlap.
  - Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

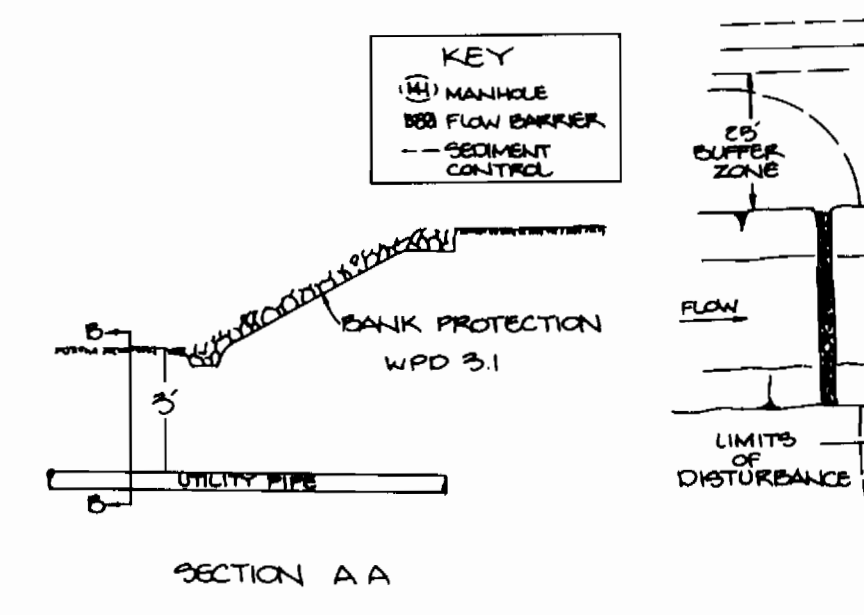
**SANDBAG DIVERSION**  
NO SCALE



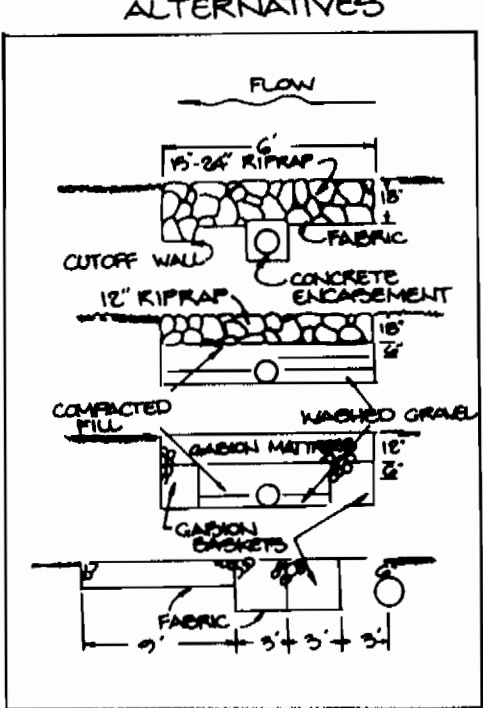
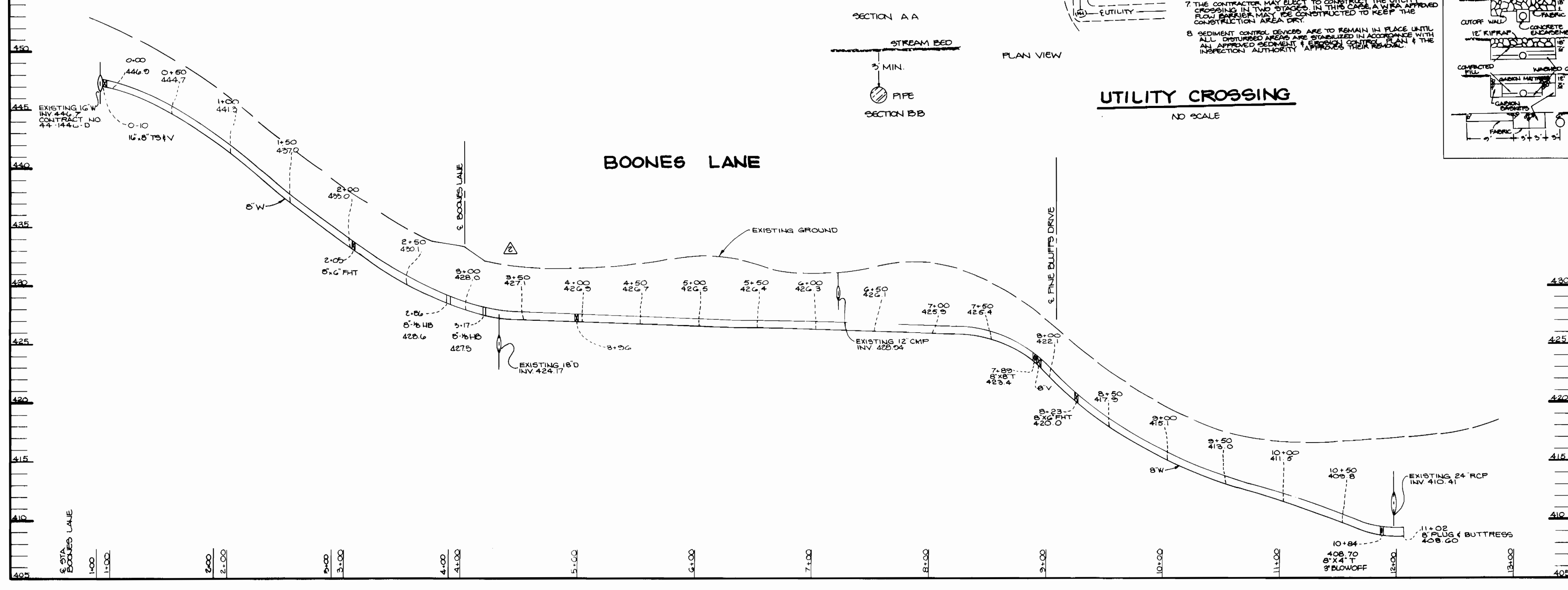
**TEMPORARY STREAM CROSSING**  
NO SCALE



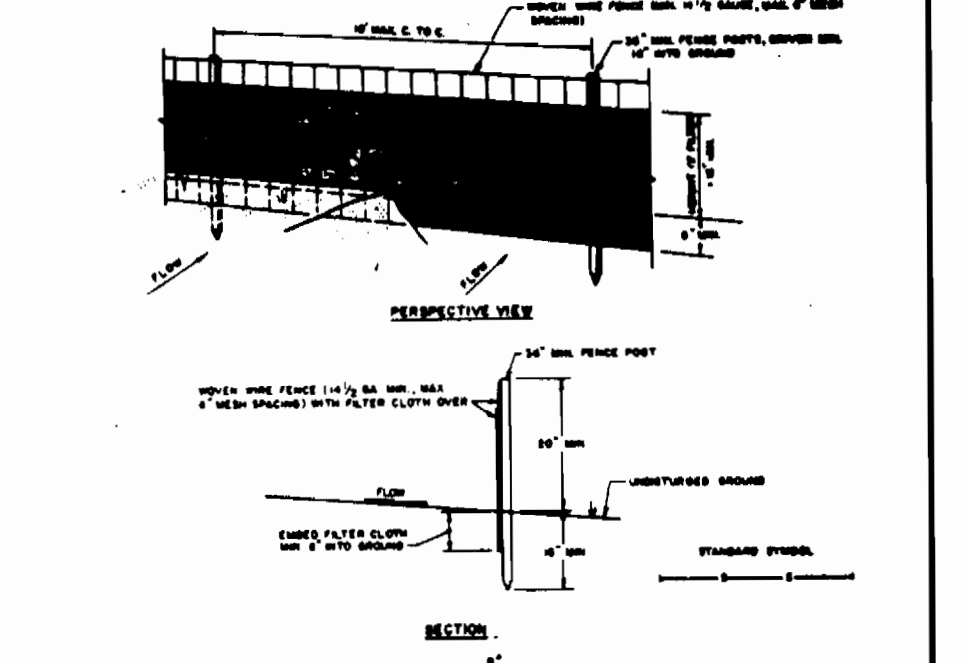
**TEMPORARY ACCESS FORD**  
NO SCALE



**UTILITY CROSSING**  
NO SCALE

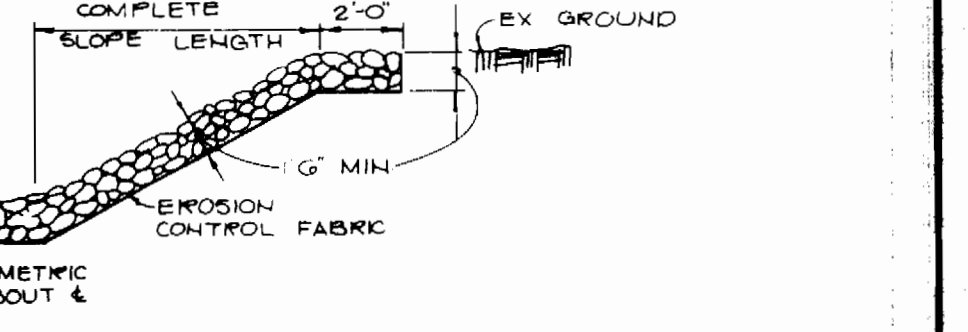


- SEDIMENT CONTROL NOTES**
- A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2437).
  - All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
  - Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1; b) 14 days as to all other disturbed or graded areas on the project site.
  - All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) and (Sec. 54), temporary seedings (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.



**SILT FENCE**  
NO SCALE

Rip-rap to consist of dense rocks of random shape and sizes, resistance to the action of the air and water and suitable for bank protection. All rocks to weigh a minimum of 75 lbs.



**RIP RAP DETAIL**  
NO SCALE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature] 1/8/90  
Date: 1/8/90

Chief, Bureau of Engineering: [Signature] 1/8/90  
Date: 1/8/90

Chief, Bureau of Utilities: [Signature] 1/8/90  
Date: 1/8/90

Chief, Land Development: [Signature] 1/8/90  
Date: 1/8/90

RIEMER MUEGGE & ASSOCIATES, INC.  
3105 NORTH RIDGE ROAD  
ELLICOTT CITY, MARYLAND  
(301) 461-6900

ARTHUR E. MUEGGE #8707

DES: DAM			
DRN: G.D.H.			
CHK: J.V.	REVISION	DATE	
CD	CHANGE 6'S TO 6" DIP MH 15 TO MH 12	02/21/90	
	CHANGE 6'S TO 6" DIP MH 15 TO MH 12	4/6/90	
DATE: 5/24/90	BY: NO.	REVISION	

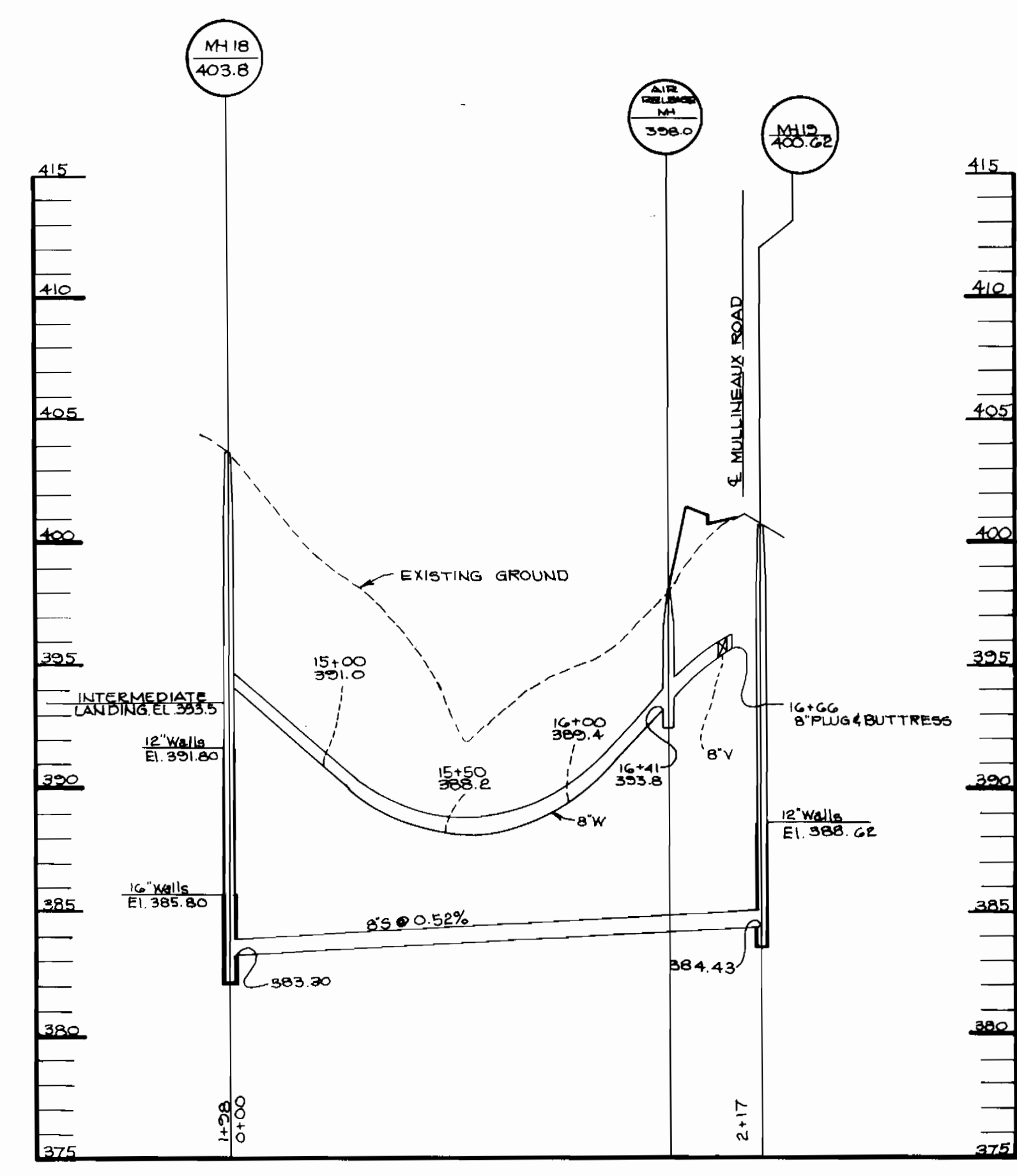
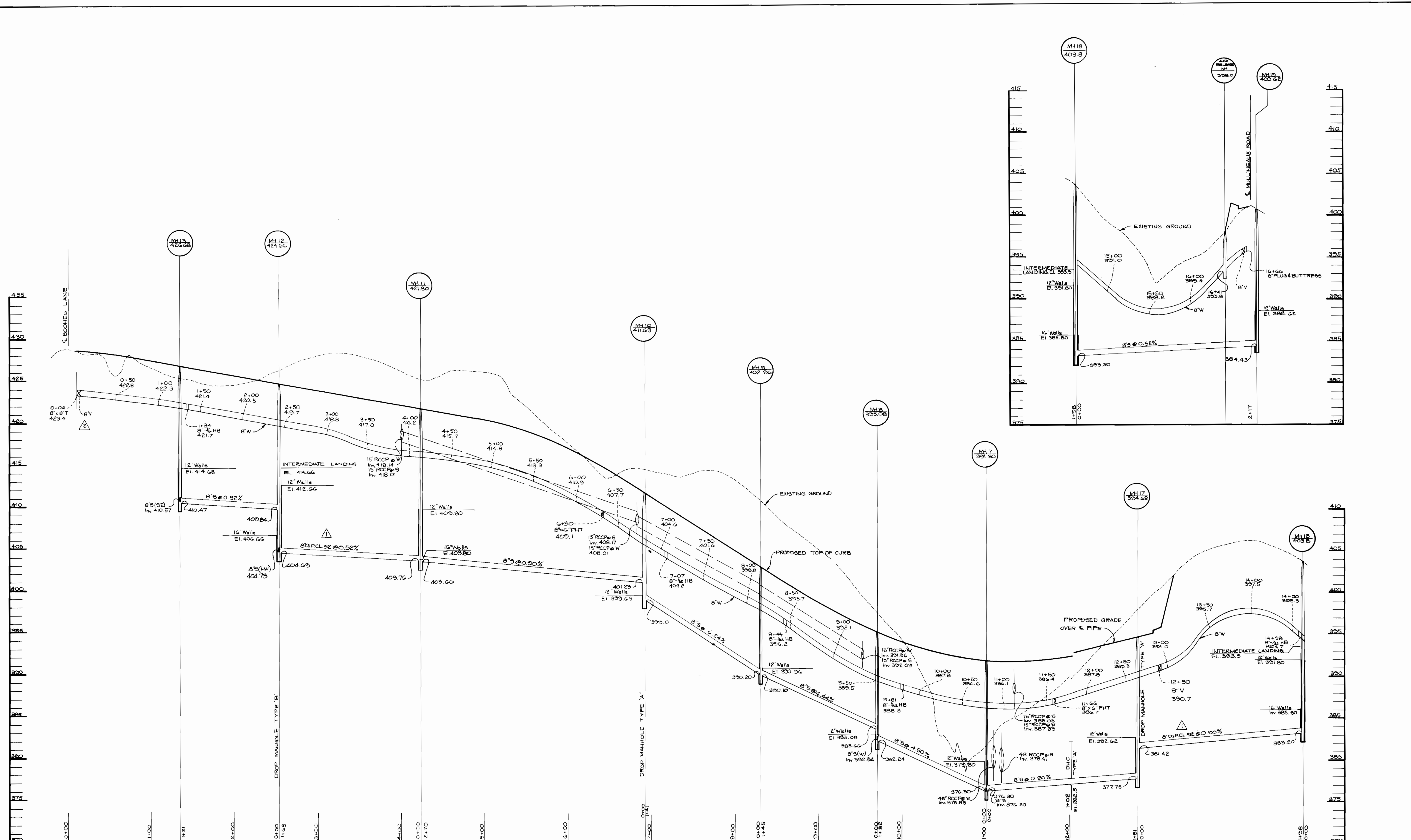
PROFILES OF WATER AND SEWER MAINS

600' SCALE MAP NO. 17B24 BLOCK NO.

THE BLUFFS AT FINE ORCHARL  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1848-D

SCALE: HOR: 1"=20'  
VERT: 1"=4'

SHEET 5 OF 6



**PINE BLUFFS DRIVE**

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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

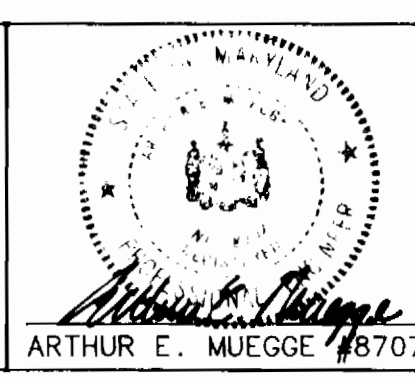
*James J. ...* 1/8/90  
DIRECTOR OF PUBLIC WORKS DATE

*Michael A. ...* 12/28/89  
CHIEF, BUREAU OF UTILITIES DATE

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CHIEF, BUREAU OF ENGINEERING DATE

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CHIEF, LAND DEVELOPMENT DATE

RIEMER MUEGGE & ASSOCIATES, INC.  
3105 NORTH RIDGE ROAD  
ELLCOTT CITY, MARYLAND  
(301) 481-2690



DES: DAM			
DRN: G.D.H.			
CHK:	J.V.	REVIEWED STARTING STATION ON PINE BLUFFS WATER LINE	2/24/90
	C.B.	CHANGED 8' S/D TO 8' D.I.P. MH 12 TO MH 11 / MH 17 TO MH 16	4/6/90
DATE: 5/24/89	BY: NO.	REVISION	DATE

**PROFILES OF WATER AND SEWER MAINS**

600' SCALE MAP NO. 17 B 24 BLOCK NO.

THE BLUFFS AT PINE ORCHARD  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-1848-D

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

SHEET  
6 OF 6