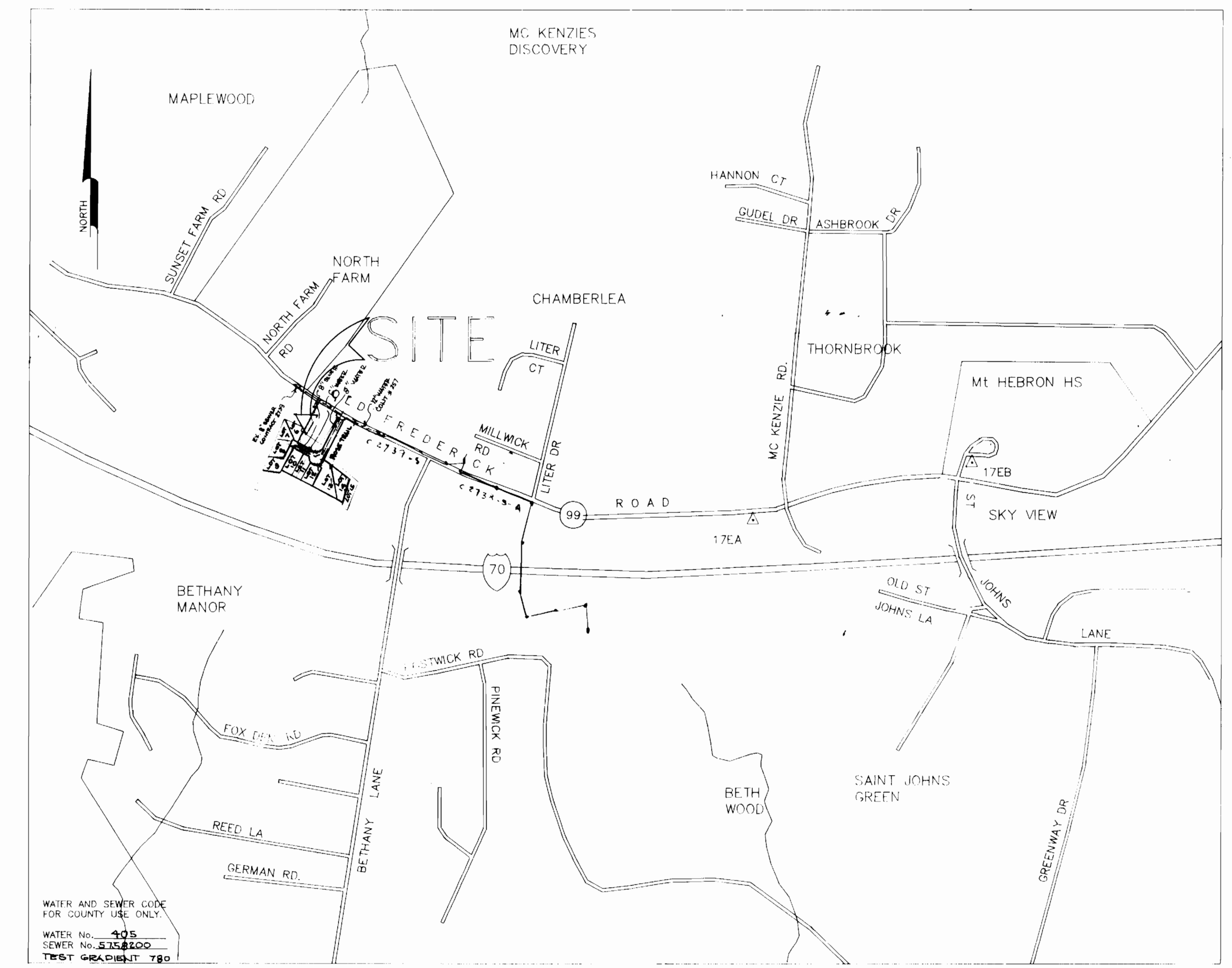


QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS BUILT	TYPE	MANUFACTURER/SUPPLIER
8" SEWER	702 L.F.			
8" WATER	820 L.F.			
6" SMC	97 L.F.			
1" WIC	200 L.F.			
3/4" WIC	100 L.F.			
4" SMC	26 L.F.			
8" VALVE	1 EACH			
12" VALVE	1 EACH			
12" TAPPING SLEEVE	1 EACH			
8" x 6" TEE	1 EACH			
6" PLUG & BUTTRESS	1 EACH			
1/2" HD	2 EACH			
FIRE HYDRANT	1 EACH			
MANHOLES	4 EACH			
6" WATER	225 L.F.			
8" D.P.	440 L.F.			
NAME OF UTILITY CONTRACTOR:				

SEWER STRUCTURE SCHEDULE		
MH No.	RIM ELEVATION	LOCATION
MH-1	342.49	CL OF PRIVATE DRIVE STA. 1+48.81, OFFSET 5.0' LEFT
MH-2	464.92	CL OF MD. ROUTE 99 STA. 1+00.00, OFFSET 17' RT
MH-3	470.0	

- GENERAL NOTES WITHIN COLONIAL PIPELINE CONSTRUCTION**
- NOTICE: THE D.P. (D.1.P.) IS AT LEAST 100' FROM ANY CONSTRUCTION, SUBSEQUENT MAINTENANCE, OR REPAIR, SO THAT HE MAY PROVIDE A REPRESENTATIVE TO THE PROJECT.
 - NO MECHANIZED DITCHING OR EXCAVATION SHALL BE ALLOWED WITHIN FIVE (5) FEET OF THE EXISTING 12" PIPES. EXCAVATION OR DITCHING SHALL BE PERMITTED OVER COLONIAL'S PIPES WITHIN ITS EASEMENTS WITHOUT PERMISSIVE DITCHING. SUBSEQUENT TO THE PLACEMENT OF THE PIPES, THE APPROVAL OF COLONIAL'S FIELD REPRESENTATIVE AS TO METHOD IS REQUIRED.
 - FULL ACCESS TO THE PIPES MUST BE MAINTAINED AT ALL TIMES. STOCKPILING OF SOIL OR TOP SOIL OVER THE PIPES IS NOT PERMITTED, UNLESS OTHERWISE APPROVED BY COLONIAL'S REPRESENTATIVE.
 - UNDERGROUND UTILITIES, I.E., STORM DRAINS, WATERLINES, ELECTRIC AND TELEPHONE CABLES, MAY COVER OR CROSS COLONIAL'S 12" PIPES. A MINIMUM VERTICAL CLEARANCE OF TWO (2) FEET SHALL BE MAINTAINED. IF A 12" PIPES IS TO CROSS AN UNDERGROUND UTILITY, THE CROSSING SHALL BE MADE AT A PERPENDICULAR ANGLE AS PRACTICAL. ALL UTILITY CROSSINGS OF COLONIAL'S PIPES SHALL BE MADE AT A PERPENDICULAR ANGLE AS PRACTICAL. ALL UTILITY CROSSINGS OF COLONIAL'S PIPES SHALL BE MADE AT A PERPENDICULAR ANGLE AS PRACTICAL. ALL UTILITY CROSSINGS OF COLONIAL'S PIPES SHALL BE MADE AT A PERPENDICULAR ANGLE AS PRACTICAL. ALL UTILITY CROSSINGS OF COLONIAL'S PIPES SHALL BE MADE AT A PERPENDICULAR ANGLE AS PRACTICAL.
 - BLASTING WITHIN THE IMMEDIATE VICINITY OF COLONIAL'S RIGHT-OF-WAY SHALL BE CONSIDERED TO BE PROHIBITED. BLASTING ON COLONIAL'S RIGHT-OF-WAY SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF A COLONIAL REPRESENTATIVE AS TO THE METHOD AND THE TIME OF THE APPROVAL OF COLONIAL'S RESIDENT ENGINEERING MANAGER.
 - ANY EROSION CONTROL MEASURES REQUIRED FOR THE DEVELOPMENT INCLUDING TEMPORARY UNDERSOIL DRAIN, SEDIMENT TRAPS, SILT FENCES, GRASS OUTLETS, AND EROSION CONTROL MATS THAT MAY AFFECT OR BE AFFECTED BY THE CONSTRUCTION OF COLONIAL'S PIPES SHALL BE PERMITTED WITHIN THE RIGHT-OF-WAY WITHOUT THE EXPRESS APPROVAL OF COLONIAL'S REPRESENTATIVE AS TO EQUIPMENT AND METHOD. UNDER NO CIRCUMSTANCES SHALL WATER BE IMPOUNDED ON THE PIPELINE RIGHT-OF-WAY.
 - UPON REQUEST BY THE ENCROACHING PARTY, LANDOWNER OR THEIR AGENTS, COLONIAL WILL DETERMINE THE APPROXIMATE LOCATION OF ITS PIPES AND RIGHT-OF-WAY LIMITS. COLONIAL WILL DO SO IN ACCORDANCE WITH THE ACCURACY OF THE RECORD DRAWINGS AND MEASUREMENTS GIVEN. COLONIAL ALSO CANNOT PROVIDE ASSURANCE THAT ITS PERMANENT LINE MARKERS ARE PORTABLE OR THAT THEY WILL REMAIN IN PLACE.
 - FIELD LOCATION OF THE EXISTING 12" PIPES IS REQUIRED. FIELD LOCATION OF THE EXISTING 12" PIPES IS REQUIRED. FIELD LOCATION OF THE EXISTING 12" PIPES IS REQUIRED. FIELD LOCATION OF THE EXISTING 12" PIPES IS REQUIRED. FIELD LOCATION OF THE EXISTING 12" PIPES IS REQUIRED.
 - ORIGINAL RECORDS ON COLONIAL'S EASEMENTS EXCEPT IN AREAS OF APPROVED CONSTRUCTION AND APPROVED EQUIPMENT CROSSINGS, HEAVY VISIBLE PLASTIC STRIPS OR OTHER APPROVED EQUIPMENT MARKERS MUST BE MAINTAINED AT ALL TIMES. COLONIAL'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DAMAGE TO OR REMOVAL OF SUCH MARKERS. COLONIAL'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DAMAGE TO OR REMOVAL OF SUCH MARKERS. COLONIAL'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DAMAGE TO OR REMOVAL OF SUCH MARKERS.
 - PERMANENT STRUCTURES ARE NOT PERMITTED ON THE RIGHT-OF-WAY. MANHOLES, JUNCTION BOXES, VALVE BOXES, FIRE HYDRANTS, SERVICE METERS, STORM DRAIN INLETS, AND UTILITY POLES ARE CONSIDERED PERMANENT STRUCTURES. NO POLES OR TEMPORARY STRUCTURES SHALL BE ALLOWED IN THE RIGHT-OF-WAY WITHOUT THE EXPRESS APPROVAL OF COLONIAL'S REPRESENTATIVE. TEMPORARY STRUCTURES INCLUDE SUCH AS SIGNS, TRAILERS, TEMPORARY POWER POLES, ETC.
 - TEMPORARY EQUIPMENT CROSSINGS OVER THE PIPES ARE PERMITTED WITH SIX (6) VERTICAL FEET OF COVER OVER THE PIPES AT SELECTED LOCATIONS AS APPROVED BY COLONIAL'S FIELD REPRESENTATIVE. THE DEPTH OF COVER SHALL BE DETERMINED BY TEST PITS. THE AMOUNT OF TEMPORARY FILL REQUIRED, COLORED SHEETS OF PLASTIC SHALL BE PLACED UNDER THE TEMPORARY FILL AT ORIGINAL GRADE SO THAT ORIGINAL GRADE WILL NOT BE DISTURBED WHEN TEMPORARY FILL IS REMOVED. NO EQUIPMENT OR VEHICLES MAY BE PARKED OVER THE PIPES.
 - THE ENCROACHING PARTY ACKNOWLEDGES THAT COLONIAL'S PIPES HAVE IMPRESSED ELECTRICAL CURRENT FOR THE PROTECTION OF THIS STEEL. ANY LOSS OF THE PROTECTION CAUSED BY THE ENCROACHING PARTY WILL BE CORRECTED BY COLONIAL PERSONNEL. ONLY THE COST TO CORRECT THIS DAMAGE WILL BE PAID BY THE ENCROACHING PARTY.
 - IF ANY LOW GROUND, ENVIRONMENTAL TIME SENSITIVE OR OTHER WITH A MAXIMUM EXPECTED HEIGHT OF FOUR (4) FEET SHALL BE ALLOWED WITHIN THE RIGHT OF WAY, IN ADDITION, NO PIPELINE MARKERS SHALL BE OBTAINED FROM FIELD VIEW.
 - REMOVAL OR RELOCATION OF COLONIAL'S PIPELINE MARKERS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF A COLONIAL REPRESENTATIVE. PIPELINE MARKERS MADE UNSURE OR DAMAGED SHALL BE REPAIRED OR REPLACED AT THE ENCROACHING PARTY'S EXPENSE.
 - PARALLEL OCCUPANCY OF THE PIPELINE'S EASEMENT WITH ROAD RIGHT OF WAY OR UTILITIES IS NOT PERMITTED. CROSSINGS SHALL BE AS NEAR AS A PERPENDICULAR ANGLE TO THE EASEMENT AS PRACTICAL.
 - ALL PROPOSED ROADWAYS AND PARKING AREAS MUST MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 4.5 FEET FROM TOP OF PIPE TO TOP OF FINISHED ROAD SURFACE AND 3 FEET MINIMUM VERTICAL CLEARANCE IN OPEN DRAINAGE OR ROAD CUTS. IF THESE CLEARANCES CANNOT BE MAINTAINED, CONCRETE PROTECTIVE SLABS PER COLONIAL ATTACHED DRAWINGS SHALL BE INSTALLED TO PROTECT THE PIPES.
 - STORAGE OF TRASH, BRUSH, DEBRIS, ETC. SHALL NOT BE PERMITTED WITHIN COLONIAL'S RIGHT OF WAY.
 - SHOULD ANY DAMAGE OCCUR TO THE HEREIN PERMITTED ENCROACHMENT, AS A RESULT OF COLONIAL'S CONSTRUCTION, COLONIAL'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE REPAIR OF SAID DAMAGES, AND ANY EXPENSE OR AGENCY COST INVOLVED IN THE REPAIR OF SAID DAMAGES WILL BE BORNE BY OWNERS OF SAID DAMAGED ENCROACHMENT.
 - WHILE BUILDING CONSTRUCTION AND HOLDING COLONIAL PIPES, THE ENCROACHING PARTY SHALL BE RESPONSIBLE FOR ALL LOSS, COST OR OTHER EXPENSE, INCLUDING PERSONAL PROPERTY AND SOIL, WHICH RESULTS FROM THE INSTALLATION, MAINTENANCE, OR REPAIR OF THE HEREIN PERMITTED WORKS, WITH THE EXCEPTION OF CLAIMS DUE TO THE SOLE NEGLIGENCE OF COLONIAL.



LOCATION MAP
SCALE: 1" = 600'

WATER AND SEWER CODE FOR COUNTY USE ONLY
WATER No. - 405
SEWER No. - 515-B-000
TEST GRABBIT 780

TYPE OF BUILDING - SINGLE FAMILY
NUMBER OF LOTS - 11
No. OF WATER HOUSE CONNECTIONS - 6
No. OF SEWER HOUSE CONNECTIONS - 10
DRAINAGE AREA - 5.0 ACRES
TREATMENT PLANT - PATAPSCO VIA ROUTE 100 PUMPING STATION

BENCHMARKS

HOWARD CO. MON. #	ELEV. 474.2
BENCHMARK # 1 TOP OF NUT OF FH	
HOWARD CO. MON. #	ELEV. 477.06
BENCHMARK # 2 R R SPIKE IN CAMP POLE No. 79	

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH ARTICLE 15 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN P. 93 73

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

APPROVED: *Patricia Engler* 12-20-93 DATE
U.S. SOIL CONSERVATION SERVICE

APPROVED: *Steffen W. Ad...* 12/20/93 DATE
HOWARD COUNTY CONSERVATION DISTRICT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

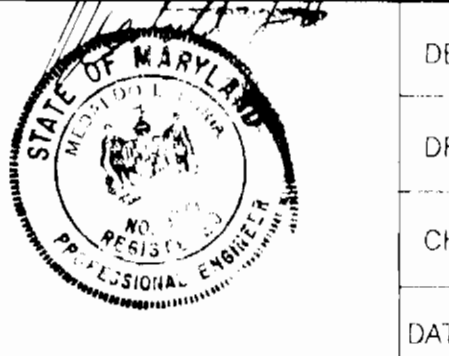
James P. Sk... 12/23/93 DATE
DIRECTOR OF PUBLIC WORKS

Robert J. Sp... 12/22/93 DATE
CHIEF, BUREAU OF ENGINEERING

Robert J. Sp... 12/14/93 DATE
CHIEF, BUREAU OF UTILITIES

... 12/23/93 DATE
CHIEF, LAND DEVELOPMENT DIVISION

Voria Engineering Inc.
CONSULTING ENGINEERS-LAND PLANNERS-SURVEYORS
3230 BETHANY LANE, SUITE 4, ELLICOTT CITY, MD.
410-465-0400



DESIGNER	DATE	REVISION	DATE
JER 1	8-22-94	RED-LINED	
JER 2	6-29-94	PROVIDE NEW SEWER MANHOLE	
JER 3	07-29-94	CONNECT SEWER TO EX. MH#367	
CHK : MLL			
DATE : 12-30-92			
BY NO.		REVISION	DATE

PLAN & PROFILE OF WATER & SEWER MAINS
CONTRACT NO. 24-3252-D
600' SCALE MAP NO. 17 BLOCK

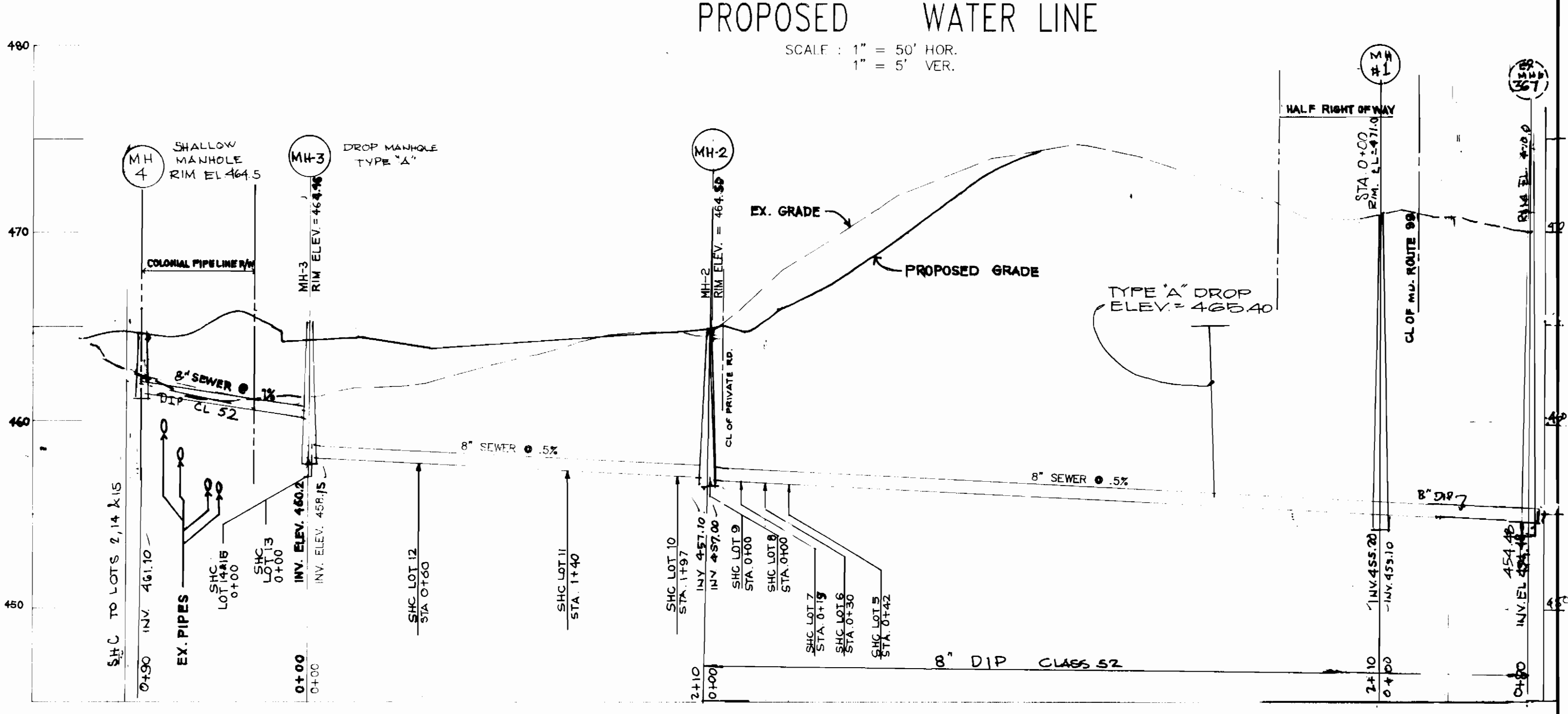
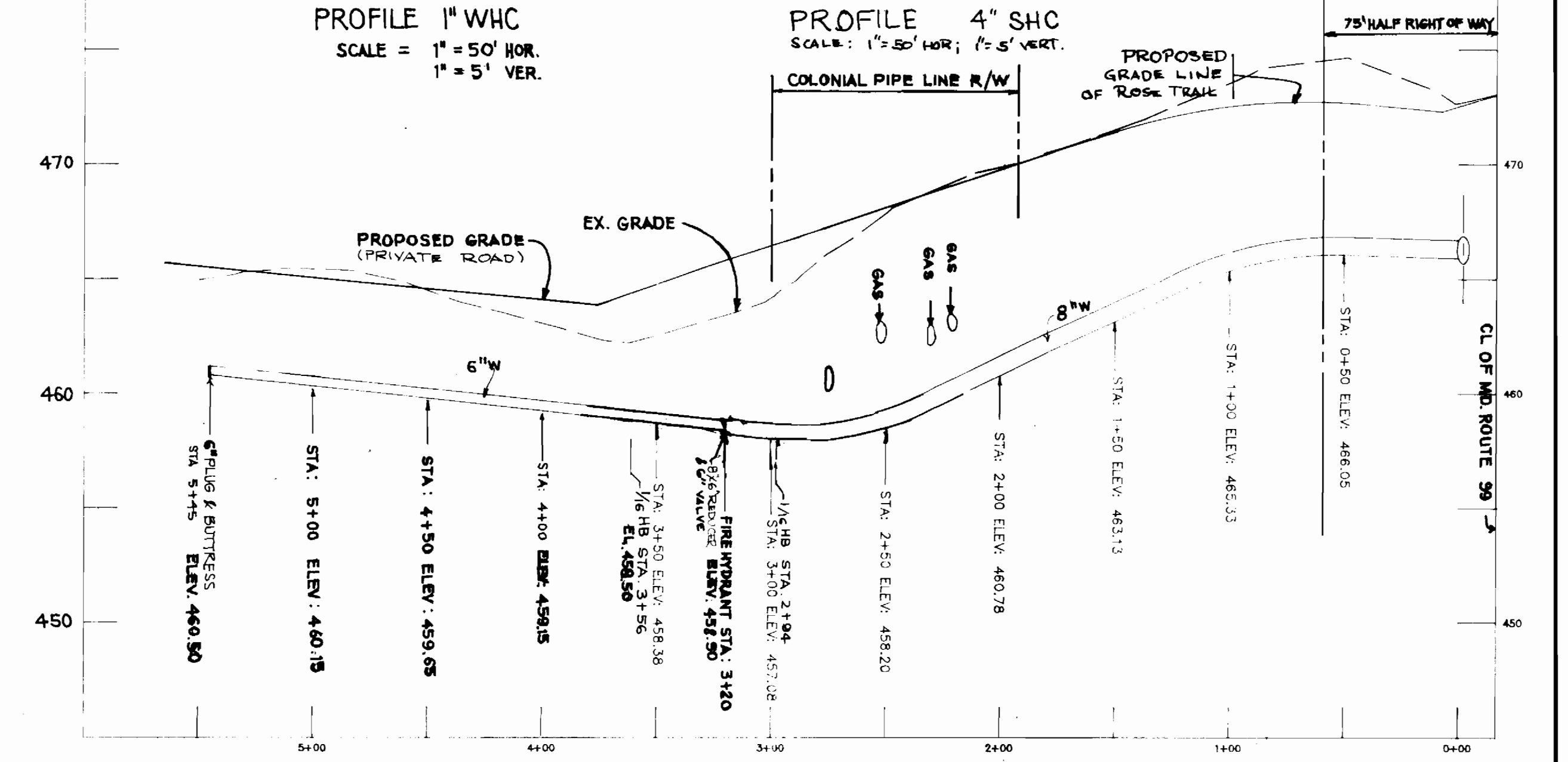
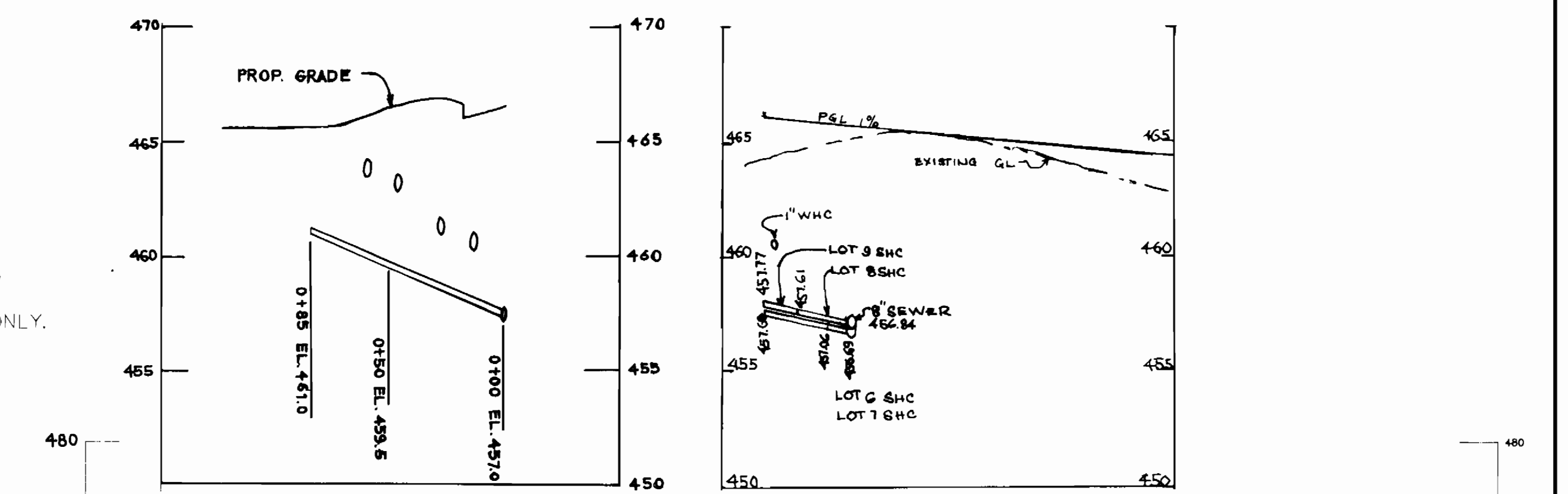
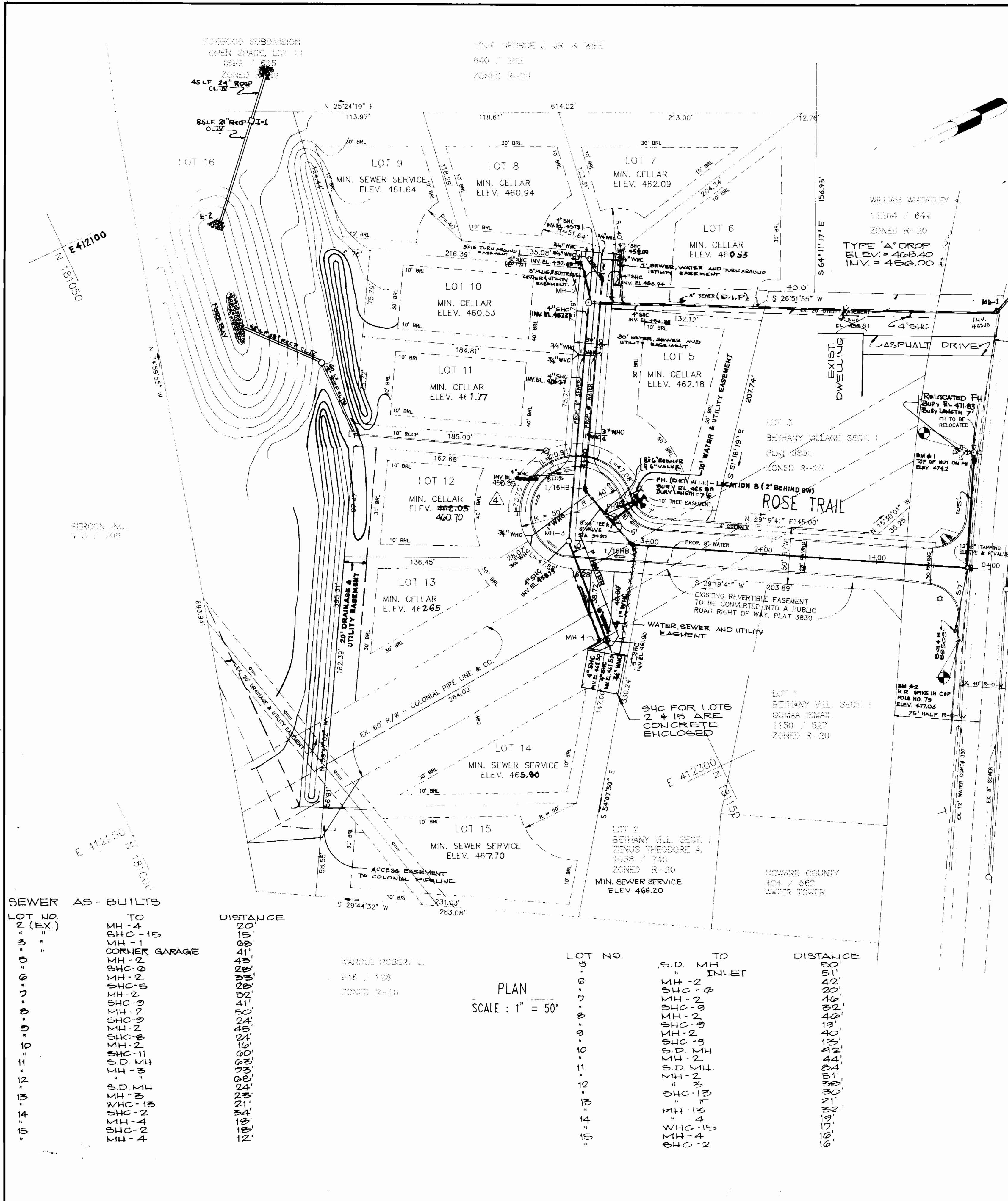
COVER SHEET
BETHANY VILLAGE SECTION 3
LOTS 5 THRU 17
TAX MAP 17 PARCEL 645
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 2

- 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 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 or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
 - For details not shown on the drawings, and for materials and construction methods use Howard County Design Manuals, Vol. IV, Standard specifications and Detail for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
 - Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of the construction operations at his own expense.
 - Contractors 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
 - B-W-E Co. Contractor Services 850-4620
 - B-W-E Co. Under Ground Damage Control 787-9068
 - Miss Utility 1 800 257-7777
 - Colonial Pipeline Co. 795-1390
 - Howard County Department of Public Works Bureau of Utilities 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.
 - Contractors 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 3.12' cover otherwise noted.
 - Valve 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 in accordance with detail W.1-11 and W.2-13. 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 an existing water system.
 - All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
 - All sewer mains shall be D.I.P. RCP, VCPX, CSPX, RCP and P.V.C. unless otherwise noted.
 - The contractor shall provide a joint in all sewer mains with in 2'-0" of exterior manhole wall.
 - All manholes shall be 4'-0" inside diameter unless otherwise noted.
 - Force mains shall be D.I.P. only.
 - Manholes shown with 12" and 18" walls are for brick manholes only.
 - Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Details 05-52. 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 cellar cannot be served.
 - Horizontal and vertical datum are based on Maryland State coordinate system as projected by Howard County Station (NAD 83) 17EA AND 17EB.

9/96

W 3/2 Bethany Village S/3



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. Shaw 12/23/93
 DIRECTOR OF PUBLIC WORKS

Paul D. Seaman 12/22/93
 CHIEF, BUREAU OF ENGINEERING

Robert J. Seaman 12-14-93
 CHIEF, BUREAU OF UTILITIES

Mark Conner 12/23/93
 CHIEF, LAND DEVELOPMENT DIVISION

Woria Engineering Inc.
 CONSULTING ENGINEERS-LAND PLANNERS-SURVEYORS
 3230 BETHANY LANE, SUITE 4, ELLICOTT CITY, MD.
 410-465-0400

DES: MLL	JER 1	RED-LINED	8-21-94
	JER 2	PROVIDE NEW SEWER MANHOLE	5-29-94
DRN: AVG	JER 3	CONNECT SEWER TO EX. MH # 367	7-02-94
	FCC	REVISE INLET SHC PER ELEVATION FOR LOT 12 IN ACCORDANCE WITH FIELD CONDITIONS	1-10
CHK: MLL			
DATE: 8-17-92	BY NO.	REVISION	DATE

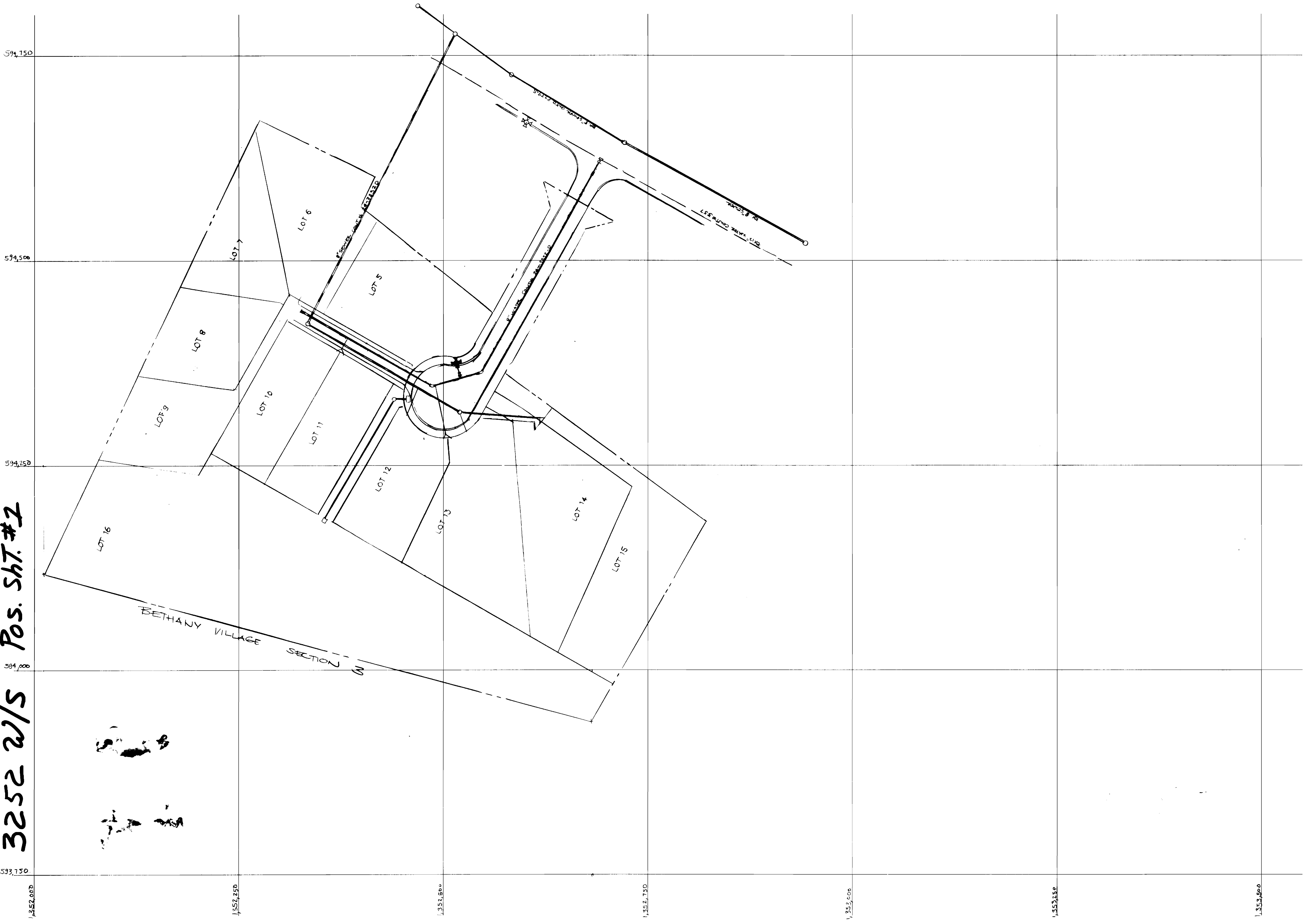
PLAN & PROFILE OF WATER & SEWER MAINS
 CONTRACT NO. **24-3252-D**
 600' SCALE MAP NO. **17** BLOCK

BETHANY VILLAGE SECTION 3
 LOTS 5 THRU 17
 TAX MAP 17 PARCEL 645
 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1" = 50'
 SHEET 2 OF 2

9196

3252 2/5 Pos. Sht. #2



HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
SURVEY & DRAFTING DIVISION

Scale : 1" = 50'

Map No. 1021