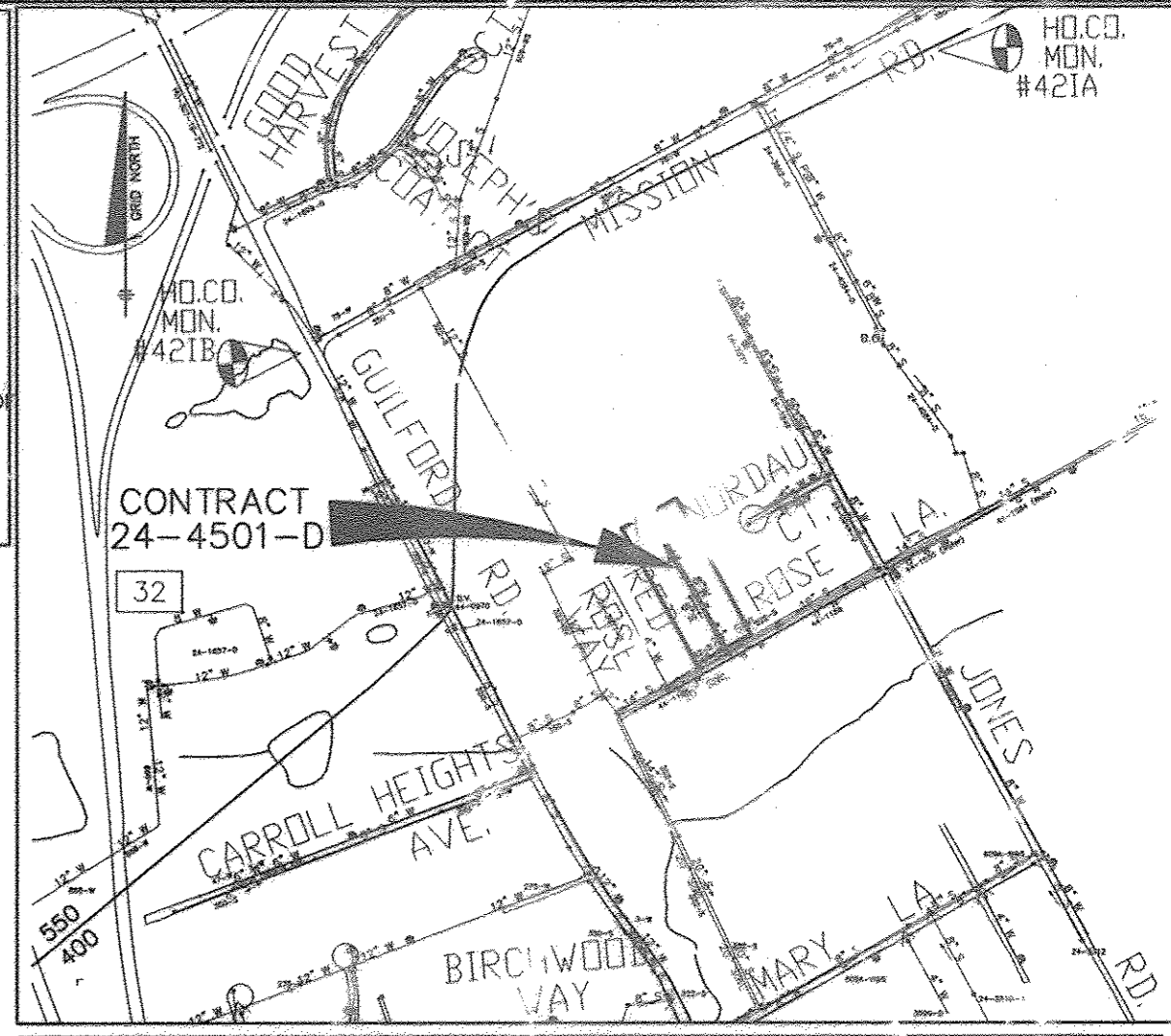


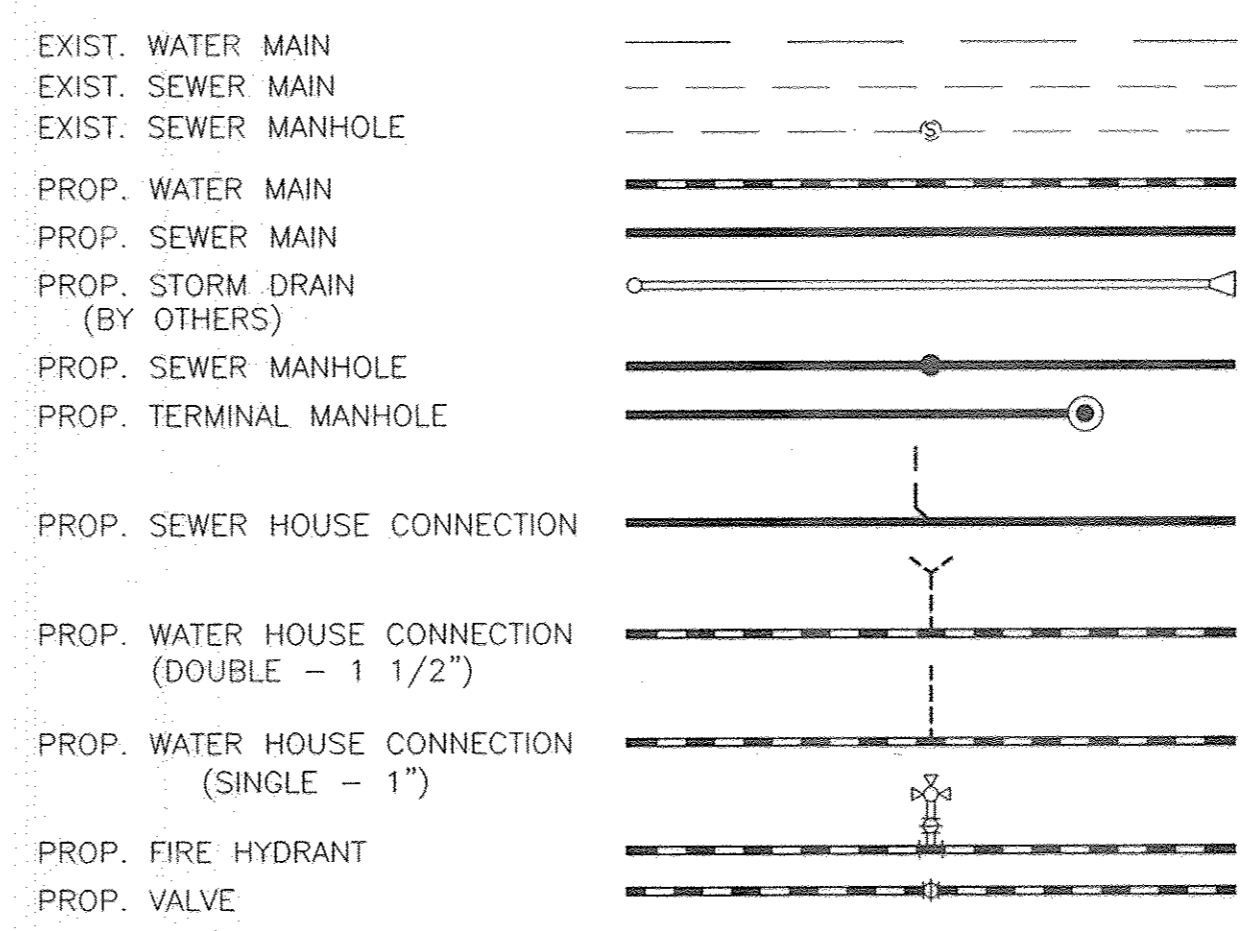
**BENCH MARKS**  
 HO. CO. #421A  
 HOWARD COUNTY CONTROL No. 3241001  
 CONCRETE MONUMENT WEST SIDE OF MISSION  
 ROAD 74.3' NORTH OF BO&E POLE #297906  
 AND 39.2' WEST OF G&B #137114  
 N 543,390.386 E 1,364,912.655  
 ELEV. 312.67  
 HO. CO. #421B  
 HOWARD COUNTY No. 3241002 CONCRETE  
 MONUMENT SOUTH SIDE OF GUILFORD ROAD  
 OPPOSITE OF MISSION ROAD 42.2' SOUTHWEST OF  
 DRAIN INLET 19.4' SOUTHEAST OF BO&E POLE  
 No. 271362 AND 16.3' EAST OF GUY WIRE.  
 N 542,366.879 E 1,363,076.003  
 ELEV. 283.12



WATER AND SEWER COUNTY CODE		TYPE OF BUILDING: RESIDENTIAL	
WATER CODE: B03		NUMBER OF BUILDABLE LOTS: 6	
SEWER CODE: 4400000		NUMBER OF WH'S: 6	
TEST GRADIENT: 550		SEWER SHED: LITTLE PATUXENT	
		TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION PLANT	

ADC MAP 20 GRID D-4 VICINITY MAP  
 SCALE: 1" = 600'

**LEGEND**



**PART I - GENERAL NOTES**

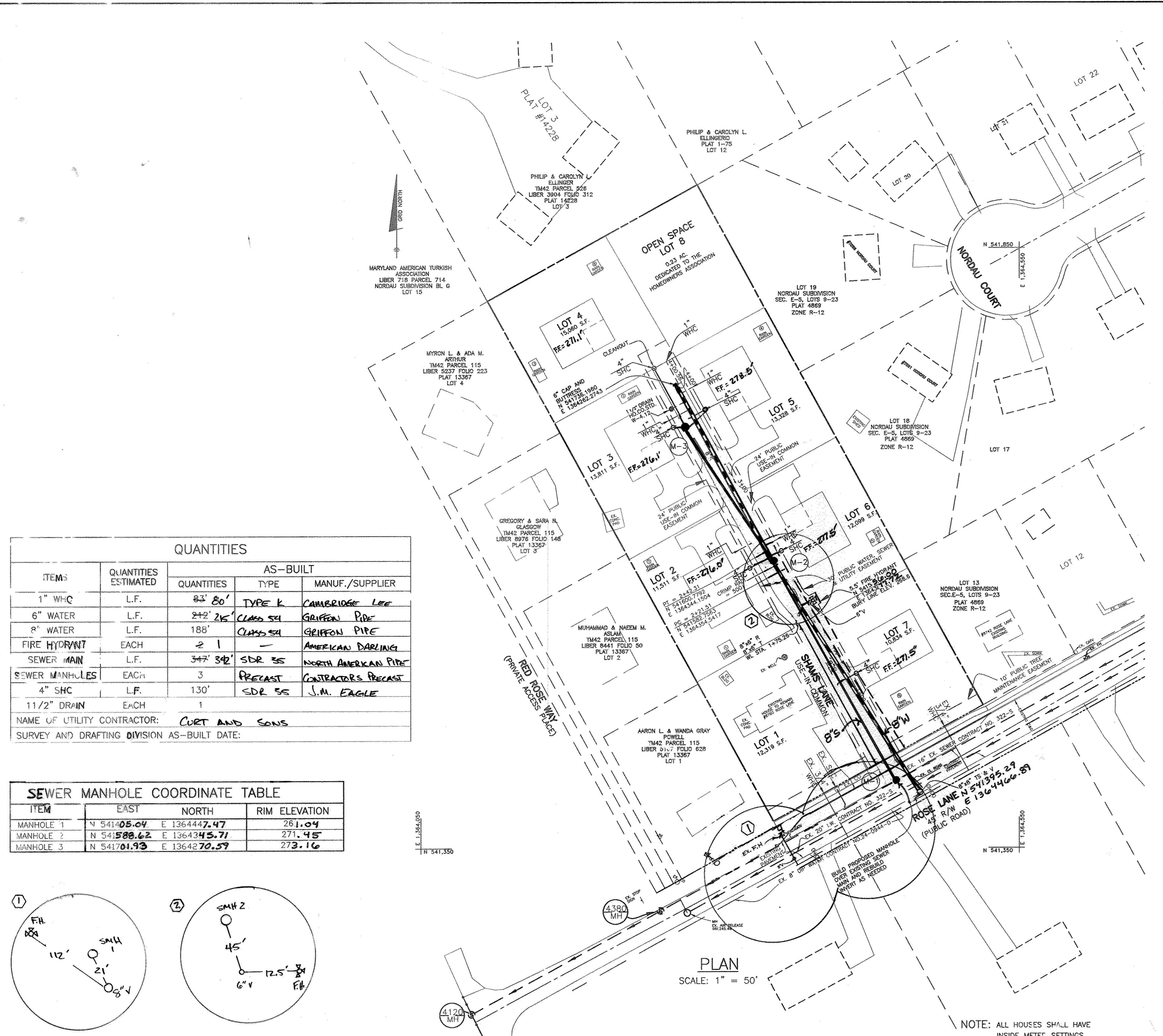
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON NOVEMBER, 2006 BY BENCHMARK ENGINEERING, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:  
 THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS No. 421A AND No. 421B. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. 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 MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL (M) AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
 AT&T 1-800-252-1133  
 BGE (CONSTRUCTION SERVICES) 410-850-4923  
 BGE (EMERGENCY) 410-885-1400  
 BUREAU OF UTILITIES 410-313-4800  
 COLONIAL PIPELINE CO 410-795-1300  
 MESS UTILITY 1-800-717-7777  
 STATE HIGHWAY ADMINISTRATION 410-511-5533  
 VERIZON 1-800-743-0033/410-224-9210
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT 410-313-7450 AT LEAST FIVE (5) WORKING DAYS BEFORE OPEN CUTTING OR SPRING/JACKING OF ANY CONDUIT OR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(c) OF THE HOWARD COUNTY CODE.

**PART II - WATER**

- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE PURE LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOLE RESPONSIBILITY FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS SHALL BE THE CONTRACTOR'S. THE CONTRACTOR SHALL COMPLY WITH SECTION 1000 AND SECTION 1002 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.
- SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1' CONNECTION WITH A 3/4" METER.

**PART III - SEWER**

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4' - 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY 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 WATERIGHT FRAME AND COVER. STANDARD DETAIL GS-50 WHERE WATERIGHT MANHOLE FRAMES AND COVERS ARE USED. SET TOP OF FRAME 6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- USE(S) WITH THE SYMBOL (C) INDICATES THAT CELLAR CANNOT BE DUG.

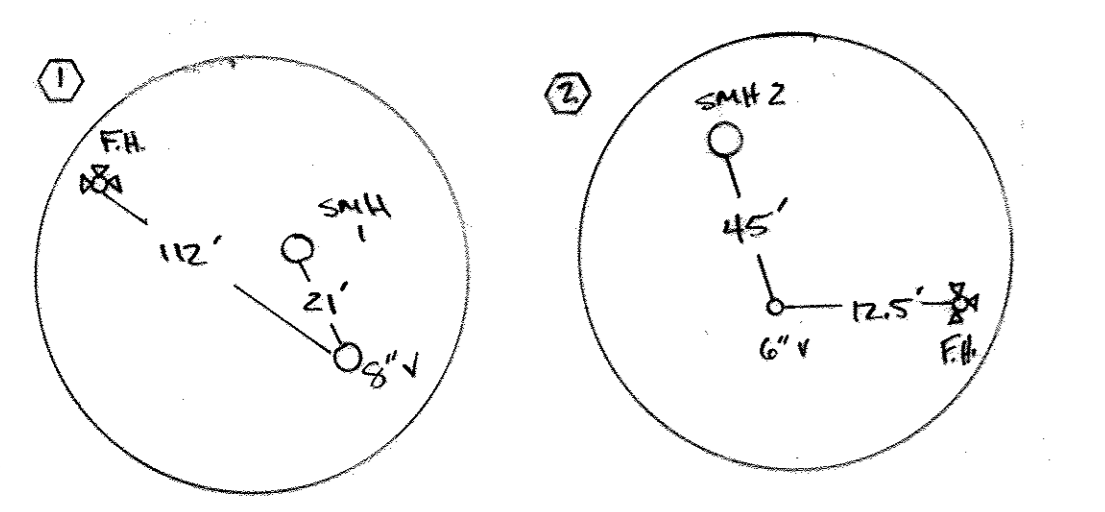


**QUANTITIES**

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
1" WHC	L.F.	83' 80"	TYPE K	CAMBRIDGE LEE
6" WATER	L.F.	242' 26"	CLASS 54	GILFON PIPE
8" WATER	L.F.	188'	CLASS 54	GILFON PIPE
FIRE HYDRANT	EACH	2	1	AMERICAN DARLING
SEWER MAIN	L.F.	347' 34"	SDR 35	NORTH AMERICAN PIPE
SEWER MANHOLES	EACH	3	PRECAST	CONTRACTORS PRECAST
4" SHC	L.F.	130'	SDR 35	J.M. EAGLE
1 1/2" DRAIN	EACH	1		
NAME OF UTILITY CONTRACTOR: CURT AND SONS				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				

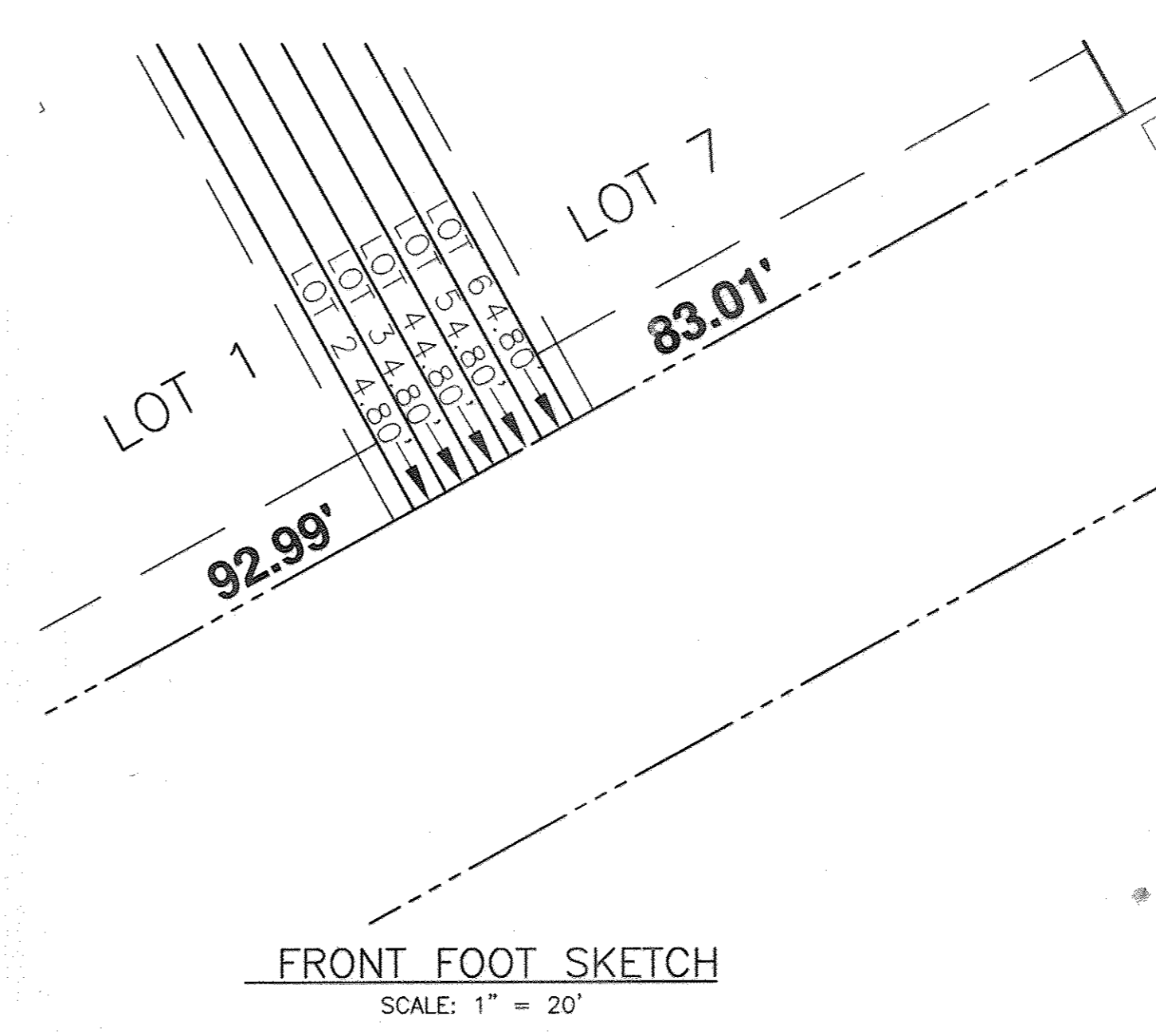
**SEWER MANHOLE COORDINATE TABLE**

ITEM	EAST	NORTH	RIM ELEVATION
MANHOLE 1	N 541,085.04	E 1364447.47	261.04
MANHOLE 2	N 541,888.62	E 1364343.71	271.95
MANHOLE 3	N 541,701.93	E 1364270.57	273.16



**SEWER HOUSE CONNECTION TABLE**

LOT NO.	INVERT AT MAIN/MH	INVERT AT ROW/EASEMENT	MCE	REMARKS	FIRST FLOOR ELEVATION
2	255.0	255.4	258.9	LATERAL AT 2%	276.0'
3	258.0	258.2	261.8	LATERAL AT 2%	276.1'
4	257.8	258.3	261.5	LATERAL AT 1%	271.1'
5	257.8	258.2	261.9	LATERAL AT 2%	278.5'
6	254.7	254.9	258.7	LATERAL AT 2%	277.5'
7	248.3	248.6	252.0	LATERAL AT 2%	271.5'



THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John L. Hunter*  
 HOWARD SOIL CONSERVATION DISTRICT  
 DATE: 8/26/07

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS, AND ROAD CONSTRUCTION PLANS F-07-197

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 8480 BALTIMORE NATIONAL PIKE & SUITE 418  
 ELICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6844  
 www.benchmark-engineering.com

DESIGN: DAM  
 DRAFT: EDD  
 CHK: DAM  
 DATE: AUG, 2007

NO.	REVISIONS	DATE
1	AS-BUILTS	1-20-07
2	REVISE WATER & SEWER	2-22-16
3	REVISE CURB & GUTTER AND REMOVE PROP. FIRE HYDRANT 6-21-10	
4	REVISE S&C TABLE AND ADD F.F. ELEV. FOR LOTS 2-5	7/23/09

OWNER: SAYED AND SONA HASSAN  
 9467 VOLLMERHAUSEN DRIVE  
 COLUMBIA, MARYLAND 21046  
 301-776-8267

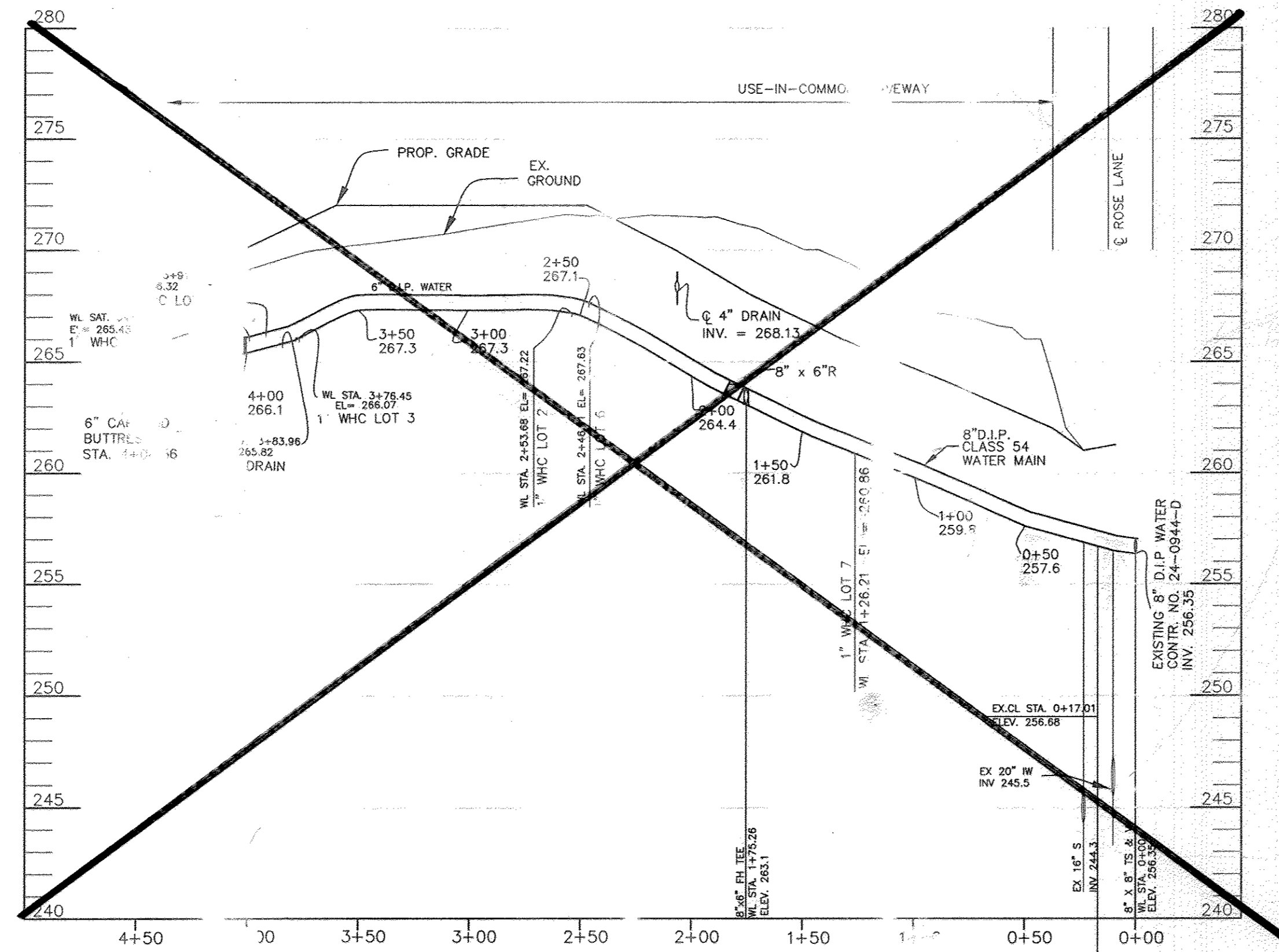
**WATER AND SEWER PLAN**

600 SCALE MAP NO. 42 BLOCK 24

PROJECT: ROSE LANE  
 SECTION E-5  
 LOT 1 THRU LOT 7 AND OPEN SPACE  
 LOT 8, A RESUBDIVISION OF NORDAU  
 SUBDIVISION SECTION E-5, LOTS 3 AND  
 4 PLAT BOOK 3 FOLD 51

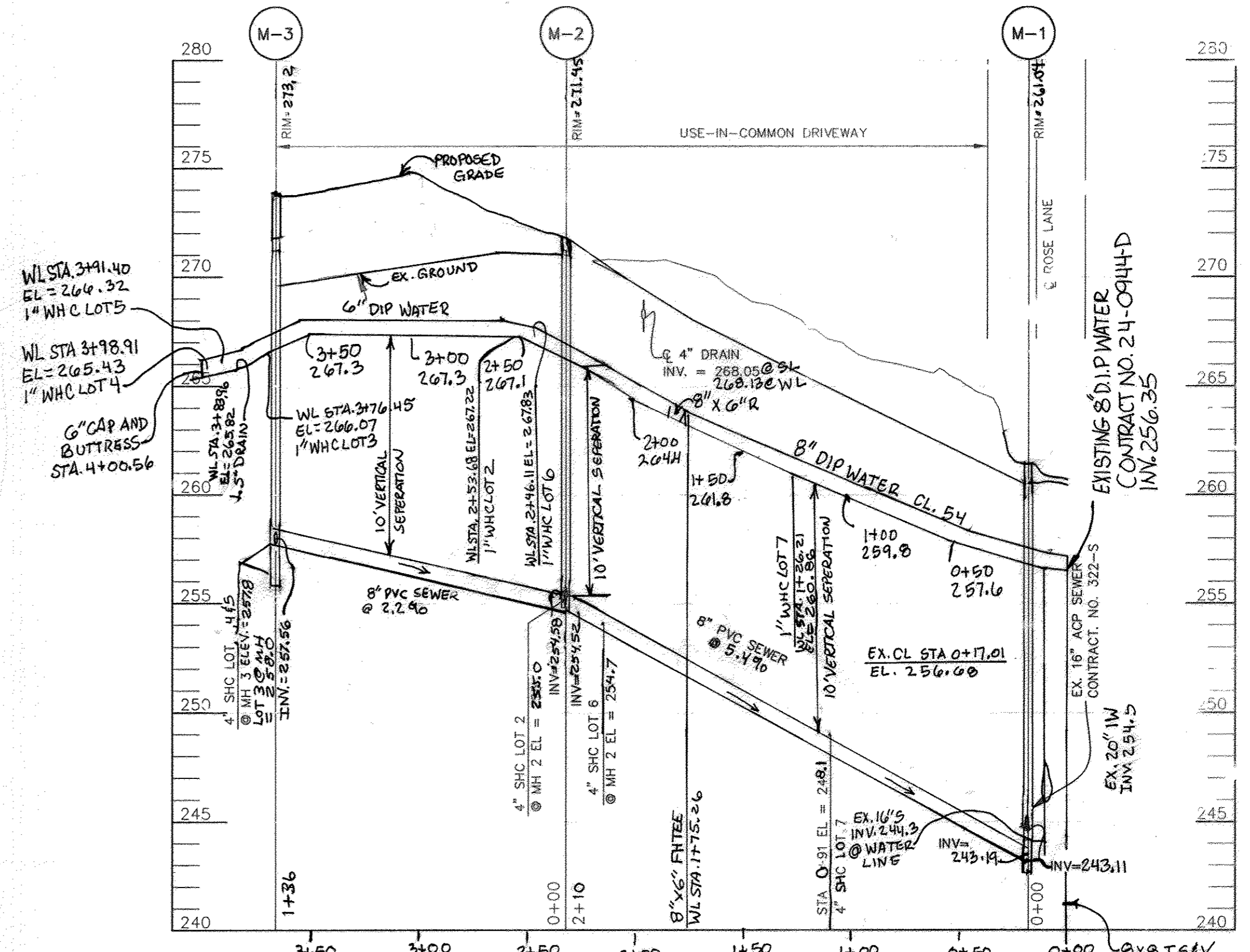
LOCATION: TAX MAP 42 - GRID 24  
 PARCEL 160 AND 240  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
 SHEET NO: 1 OF 2  
 CONTRACT NO. 24-4501-D  
 F-07-197



WATER MAIN PROFILE

HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



SEWER MAIN PROFILE

HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

**BENCHMARK**  
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ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-8105 FAX: 410-465-6644  
www.benchmark-engineering.com

Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 21945, Expiration Date: 12/31/2016  
*Donald Mason*  
12/31/07

DESIGN: DAM			
DRAFT: EDD			
CHK: DAM	EDD 3	REVISE SEWER PROFILE TO SHOW WATER MAINS PED LOCATIONS 2-22-06	6-21-10
DATE: AUG, 2007	EDD 2	REMOVE PROPOSED FIRE HYDRANT PROFILE	7-23-09
	EDD 1	LOWER SEWER BETWEEN M-2 AND M-3, REVISE RIM ELEV.	
	BY NO.	REVISIONS	DATE

WATER AND SEWER PROFILE

600 SCALE MAP NO. 42 BLOC: 24

PROJECT: ROSE LANE SECTION F  
LOT 1 THRU LOT 7 AND OPEN SPACE  
LOT 8, A RESUBDIVISION OF MORROW  
SUBDIVISION SECTION E-2, LOTS 3 AND  
4 PLAT BOOK 3 FOLD 81  
LOCATION: TAX MAP 42 - GRID 2  
PARCEL 180 AND 240  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
OWNER: SAY S AND SONA HASSAN  
9467 JOLLMER-AUS. DRIVE  
COLLMBIA, MARYLAND 21146  
-776-P23  
SCALE: AS SHOWN  
SHEET NO. 2 OF 2  
CONTRACT NO. 24-4501-D