


**QUANTITY TABLE**

ITEMS	QUANTITIES ESTIMATED	QUANTITIES		
		TYPE	MANUFACTURER/SUPPLIER	
STANDARD MH (HO. CO. STD.G-5.01)	5 EACH	5		
8" SEWER MAIN	406 L.F.	402	2478	ATLANTIC CONC. PROD.
4" SEWER HOUSE CONNECTION	91 L.F.	92	15234	DIAMOND / HD SUPPLY
# 4" SEWER HOUSE CONNECTIONS	4 EACH	4		"
6" WATER MAIN	417 L.F.	415	DIP	D.S. PIPE / "
1" WATER HOUSE CONNECTION	79 L.F.	80	15771	HONNELL METAL / "
# 1" WATER HOUSE CONNECTIONS	4 EACH	4		"
6" CAP & BUTTRESS	1 EACH	1		EAST JORDAN / "
6" x 6" TAPPING SLEEVE & VALVE	1 EACH	1	ACM A-182	MUELLER / "
1/8 HB (6")	3 EACH	3		TYLER / "
NAME OF UTILITY CONTRACTOR: <u>UTILITIES UNLIMITED</u>				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				

**GENERAL NOTES**

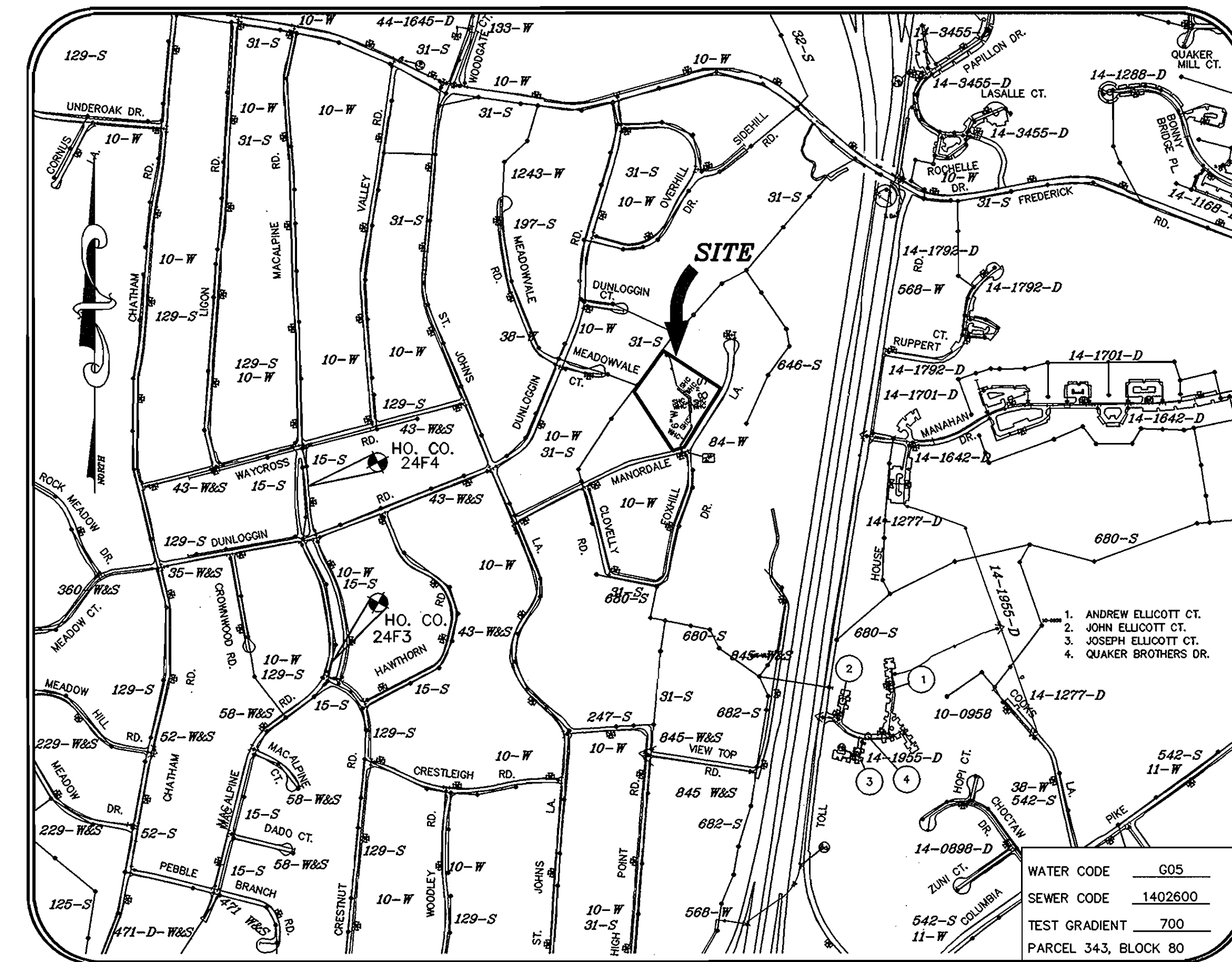
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON DECEMBER 2004 BY TOPOGRAPHIC SURVEY PERFORMED BY MILDENBERG, BOENDER & ASSOCIATES, INC. IN AUGUST 2004.
- 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. 24F3 AND NO. 24F4. ALL VERTICAL CONTROLS ARE BASED ON NAVD '29. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE GEODETIC CONTROL STATIONS 24F3 AND 24F4.
- 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 THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWNED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, 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  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 WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133
BGE(CONSTRUCTION SERVICES)	410-850-4620
BGE(EMERGENCY)	410-685-1400
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO.	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
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 WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR 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.

- WATER
- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 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 BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
  - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

- 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.
  - 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 COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE 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.



**VICINITY MAP**  
SCALE 1"=600'

TYPE OF BUILDING	SFD
No. OF UNITS	0
No. OF WATER HOUSE CONNECTION	0
No. OF SEWER HOUSE CONNECTIONS	0
DRAINAGE AREA	- PATAPSCO
TREATMENT PLANT	- PATAPSCO WWTP

**EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER - GP-06-33**

PLAN REFERENCE NUMBERS:  
GP-06-33  
F-03-073

I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Christopher Brown* 9/11/06  
DEVELOPER'S SIGNATURE DATE  
DEVELOPER'S NAME

I HEREBY 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.

*R. Jacobs* 9/11/06  
ENGINEER'S SIGNATURE DATE  
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Mason* 10/23/06  
SDA/NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Phil R. White* 10/23/06  
HOWARD SCD DATE

**CONTRACT NO.: 14-4298-D  
MANORDALE LANE PROPERTY  
LOTS 1,2,4,6,7 & OPEN SPACE LOT 5  
WATER AND SEWER MAIN EXTENSIONS  
HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS**

**INDEX OF DRAWINGS**

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN AND PROFILES

**DEVELOPER**

HARMONY BUILDERS, INC.  
4228 COLUMBIA RD.  
ELLCOTT CITY MD 21042

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Ball. (301) 621-5521 Wash. (410) 997-0288 Fax.



engineering	JJO				
illustration	JJO				
approval	JJO	2	ADDED WHOLE SHEET, RELOCATED SHEET 2, REVISED PROPERTY LINES, LABELS, FRONTAGE DETAIL, WATER AND SEWER ARRANGEMENTS, PLAN TITLE, QUANTITIES.	6/108	
project	02-068	KCI	AS-BUILT DATA ADDED	6/20/06	
date	SEPT 2006	BY	NO.	REVISION	DATE

**TITLE SHEET**

**MANORDALE LANE PROPERTY  
LOTS 1,2,4,6,7 & OPEN SPACE LOT 5**

PARCEL 343  
CONTRACT NO.: 14-4298-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale AS SHOWN

1 OF 2

02-068 (DWG) half acre lots WS 02-068-ns.dwg

SEWER MANHOLE LOCATION CHART		
MANHOLE NO.	NORTHING	EASTING
MH 1	583062.03	1362587.80
MH 2	583029.42	1362627.49
MH 3	582872.52	1362666.59
MH 4	582805.00	1362745.06
MH 5	582717.93	1366751.45

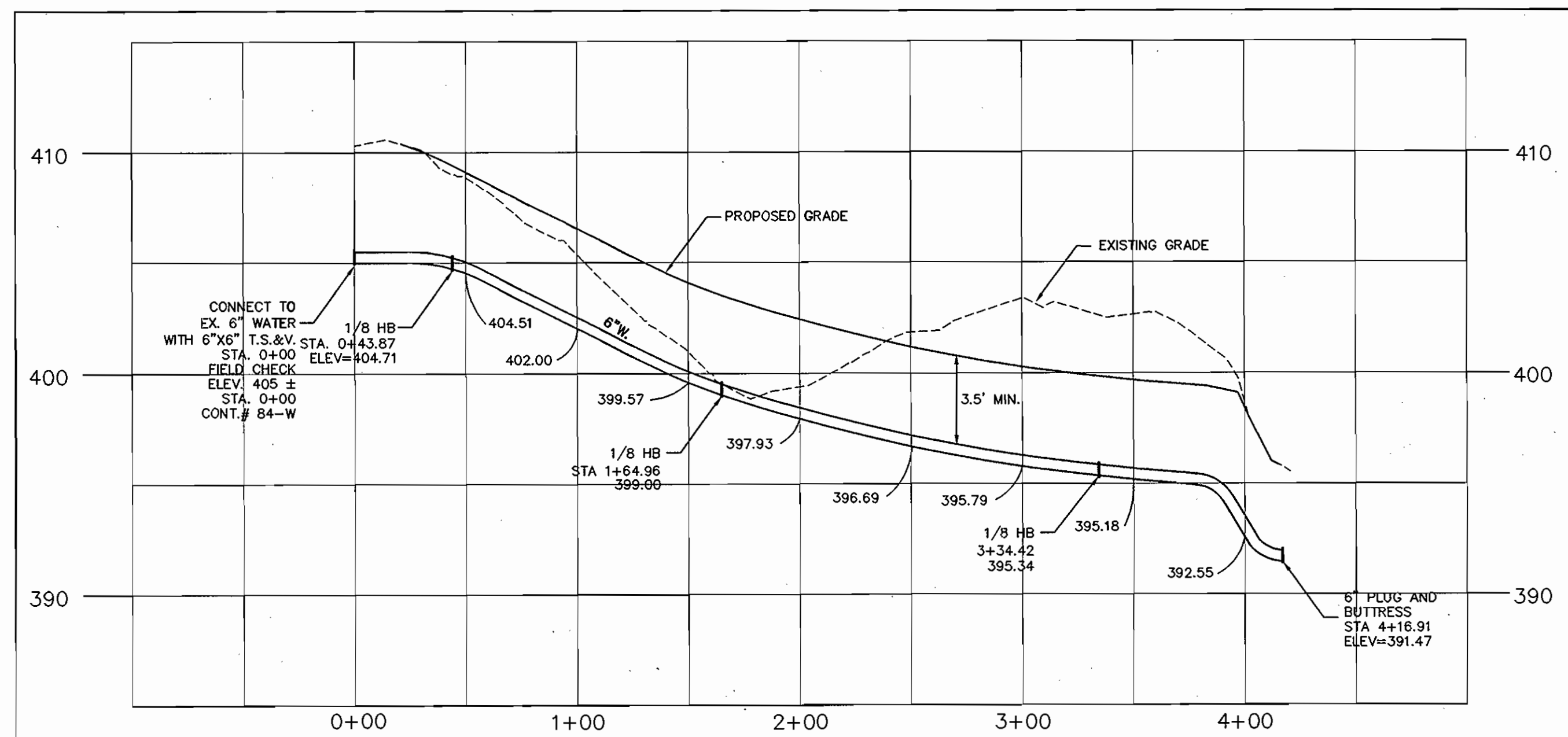
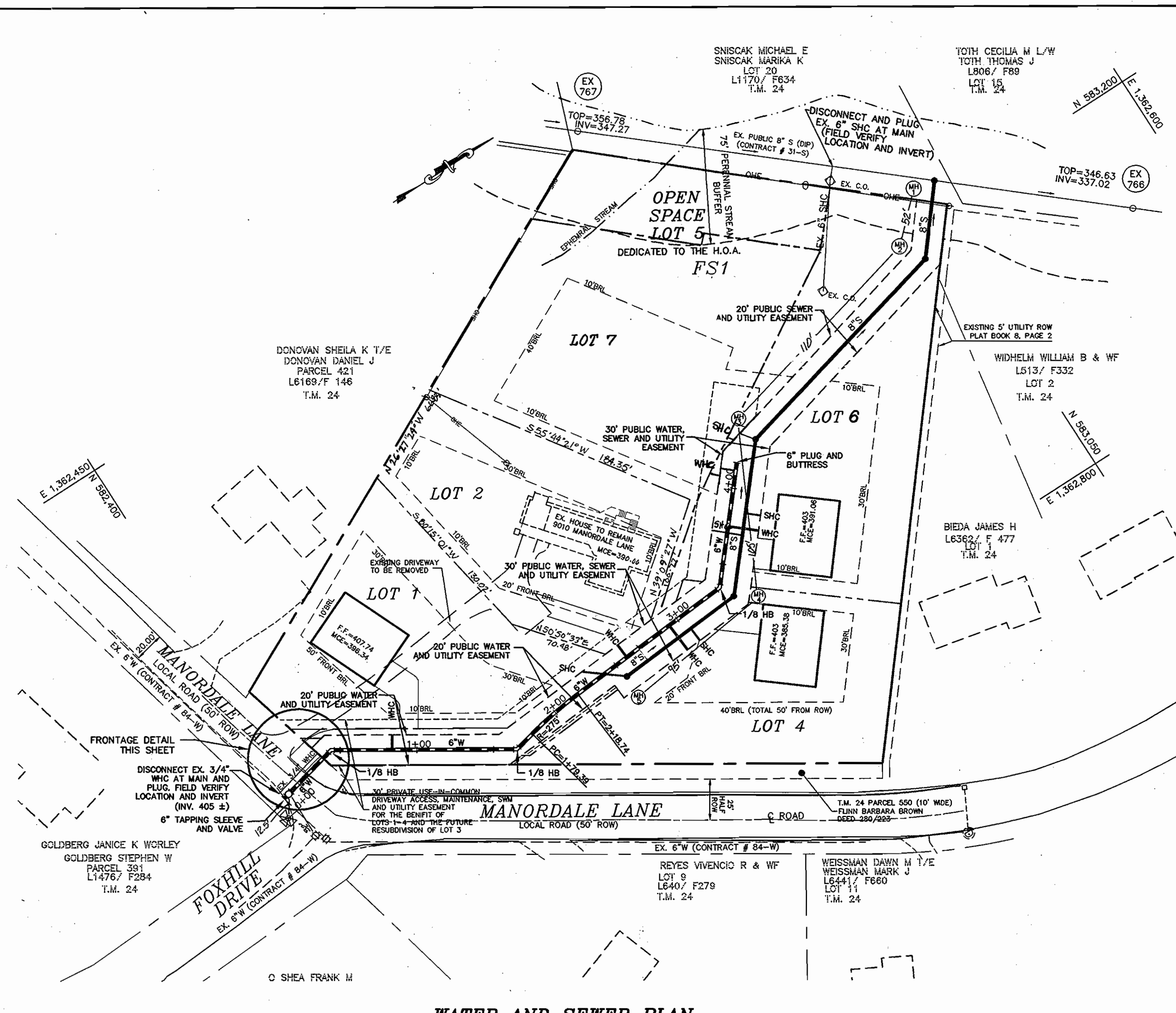
SEWER HOUSE CONNECTION TABLE				
UNIT #	% SLOPE	INV. @ EASE.	MIN. CELLAR ELEV.	
1	2	392.78	396.34	
2	2	391.55	393.93	
6	2	384.16	385.38	
4	2	389.36	391.06	
7	2	385.01	390.00	

WATER MAIN TABULATION CHART		
APPURTENANCE	NORTHING	EASTING
6" X 6" TS & V	582487.05	1362697.47
1/8" HB	582529.75	1362687.39
1/8" HB	582531.76	1362752.63
1/8" HB	582800.13	1362735.39
6" CAP & BUTRESS	582853.93	1362672.86

ALL WATER METERS ARE INSIDE SETTINGS.

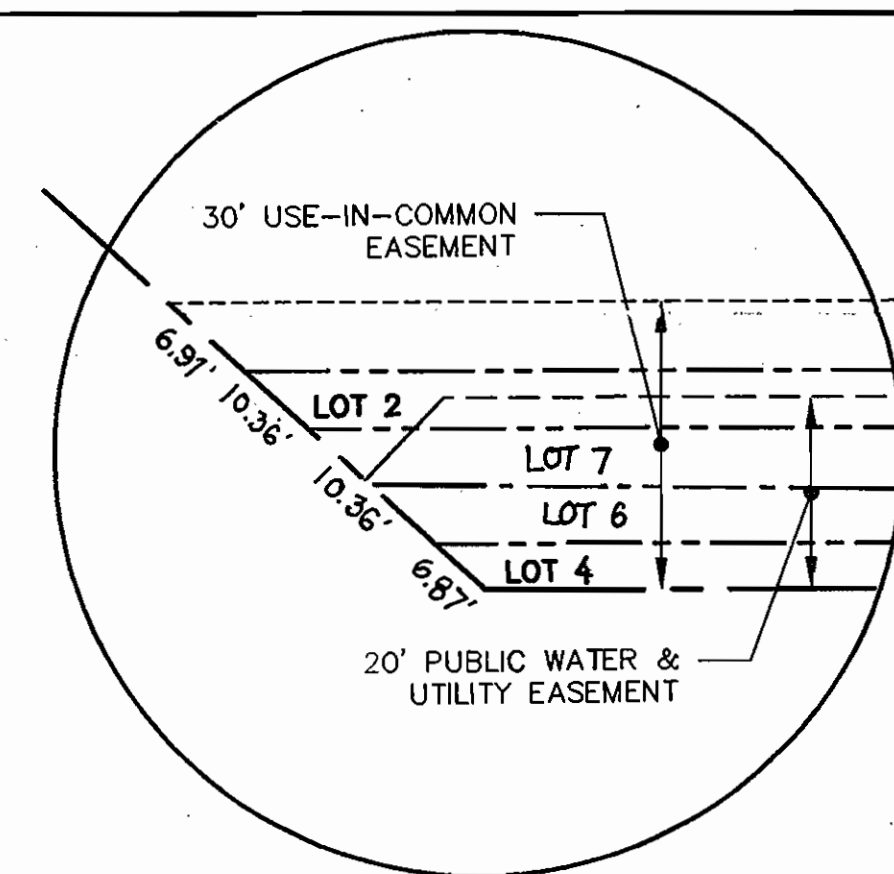
AS-BUILT DATA

LOT	FRM	TD	DIST
SMH 1	SMH 2	SMH 1	58'
SMH 2	SMH 1	SMH 2	58'
SMH 3	SMH 3	SMH 2	110'
SMH 4	SMH 4	SMH 5	125'
SMH 5	SMH 5	SMH 4	90'
SMH 6	SMH 4	SMH 5	90'
LOT 5	SMH 3	SHC	14'
LOT 3	SMH 3	SHC	49'
LOT 2	WHC	SHC	37'
LOT 4	SMH 4	SHC	47'
LOT 1	SMH 3	SHC	28'
LOT 1	SMH 4	SHC	112'
LOT 1	WHC	LOT 4	70'
LOT 5	SHC	WHC	40'
LOT 3	SMH 3	SHC	26'
LOT 3	SMH 4	WHC	65'
LOT 3	SMH 4	WHC	59'
LOT 4	SHC	LOT 2	10'
LOT 4	SMH 4	WHC	30'
LOT 2	WHC	LOT 2	43'
LOT 2	SHC	LOT 4	46'
LOT 1	SMH 4	WHC	21'
LOT 1	SMH 4	WHC	79'
LOT 1	SMH 5	WHC	143'



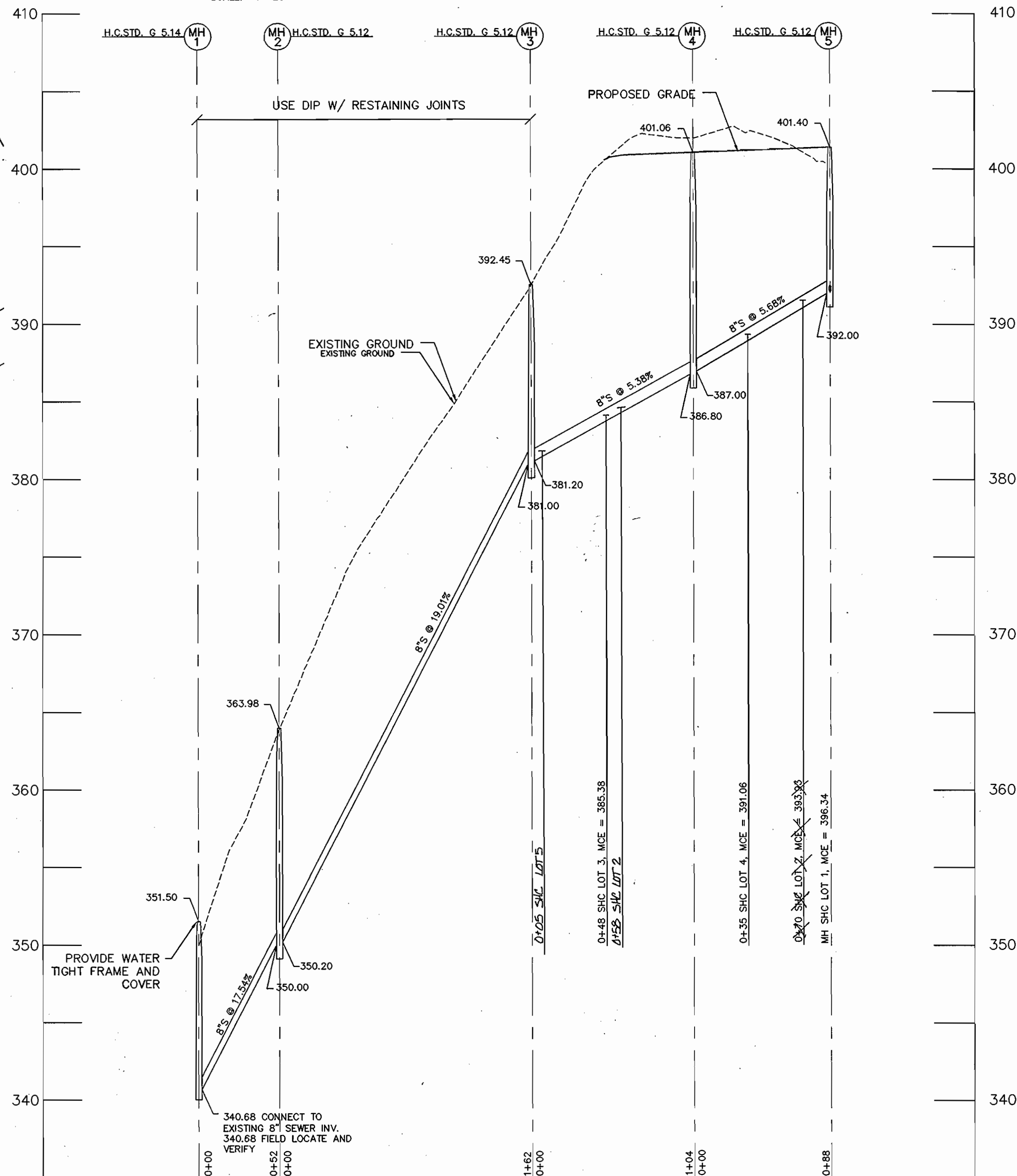
WATER MAIN PROFILE

SCALE: HOR. 1"=50'  
VER. 1"=5'



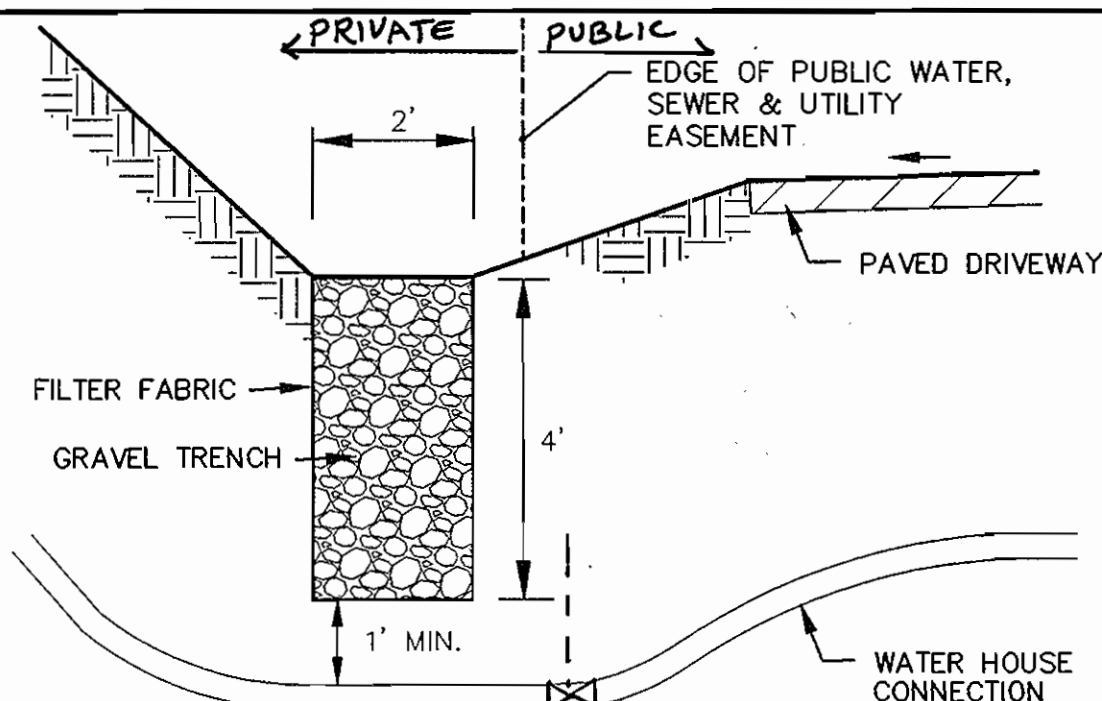
FRONTAGE DETAIL

SCALE: 1"=20'



SEWER MAIN PROFILE

SCALE: HOR. 1"=50'  
VER. 1"=5'



WATER HOUSE CONNECTION CROSSING AT GRAVEL TRENCH

NTS

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HARMONY BUILDERS, INC.  
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ELLICOTT CITY MD 21042

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engineering	JJO				
illustration	JJO				
approval	JJO	2	ADDED WHC SHC LOT 7. RELOCATED SHC LOT 2. REVISED PROPERTY LINES, LABELS, FRONTAGE DETAIL, WATER & SEWER BASINMENTS, PLAN TITLE	6/08	
project	02-068	KU	AS-BUILT DATA ADDED	7/6/08	
date	SEPT 2008	BY: NO.	REVISION	DATE	

**WATER AND SEWER PLAN AND PROFILES**

**MANORDALE LANE PROPERTY**  
LOTS 1, 2, 4, 6, 7 & OPEN SPACE LOT 5  
PARCEL 343  
CONTRACT NO.: 14-4298-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale AS SHOWN  
2 OF 2