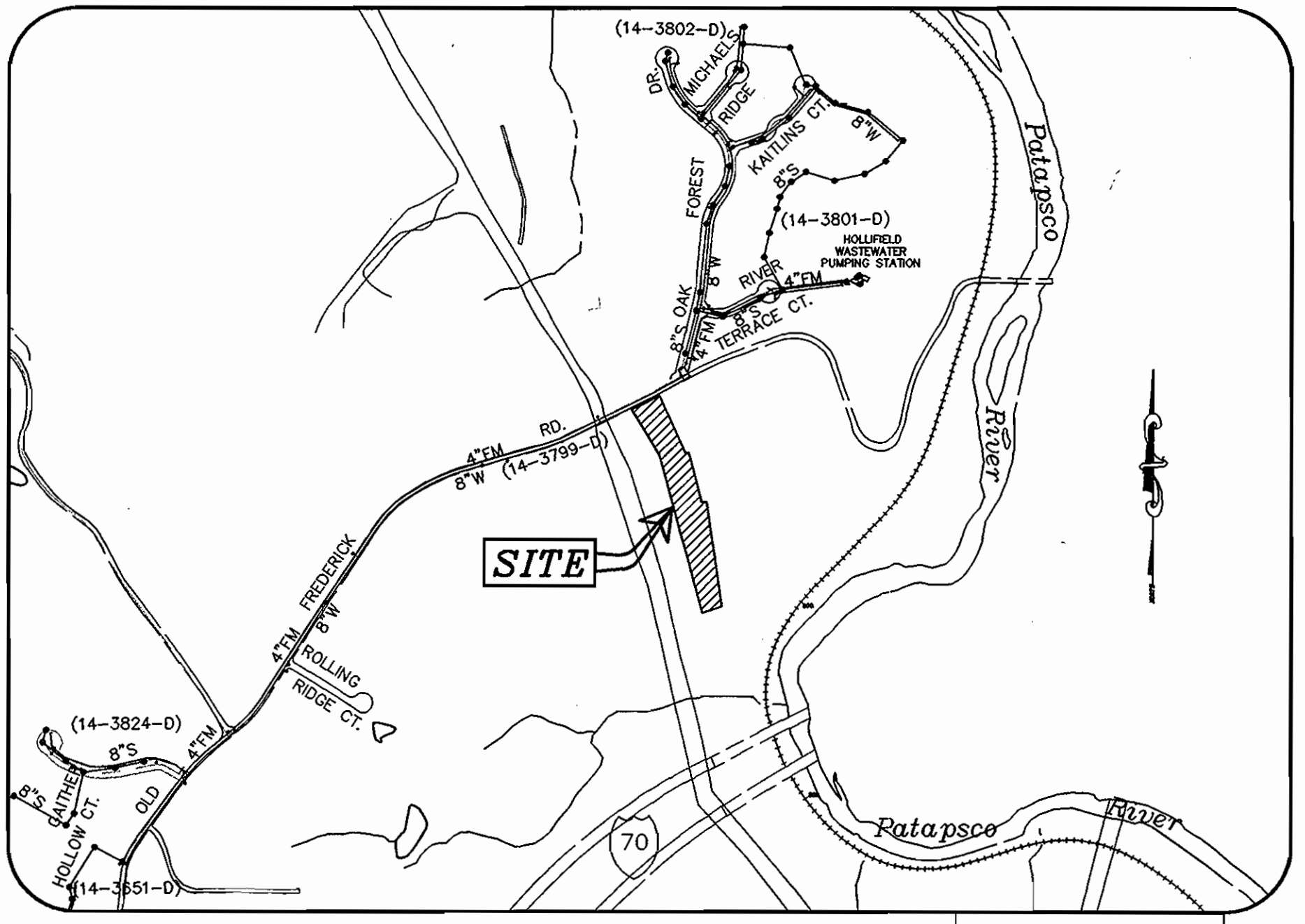


**QUANTITY TABLE**

ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
STANDARD MH (HO. CO. STD.G-5.12)	4	4	G 5.12	CONTRACTOR'S PRECAST CORP.
8" SEWER MAIN (DIP)	416 L.F.	407	D.I.P. CL. 52	BELAIR ROAD SUPPLY/GRIFIN PIPE
8" SEWER MAIN (P.V.C.)	336 L.F.	334	P.V.C. SDR 35	BELAIR ROAD SUPPLY/J.M. MTG.
4" SEWER HOUSE CONNECTION	200 L.F.	191	P.V.C. SDR 35	J.M.M.F.G./GRIFIN PIPE
# SEWER HOUSE CONNECTIONS	8 EACH	8		BELAIR ROAD SUPPLY
6" WATER MAIN / 8" WATER MAIN	365 L.F.	361.50	D.I.P. CL. 52	BELAIR ROAD SUPPLY/GRIFIN PIPE
1" WATER HOUSE CONNECTION	170 L.F.	228		
# 1" WHC	8 EACH	8		
8" x 8" T.S. & V. (6" T.S. & V.)	1 EACH	1 EA		BRS/MUELLER CO./J.C.M.
6" CAP & BUTTRESS	1 EACH	1		BELAIR ROAD SUPPLY/SKMA
1/32 H.B. (4") 6" 1 1/2" BEND M.J.	1 EACH	1		" " " "
1.5" DRAIN	1 EACH	1	TYPE K COPPERTUB.	" " " " CAMBRIDGE LEE
FIRE HYDRANT	12 L.F.	1		MUELLER WATER WORKS INC.
6" FIRE HYDRANT VALVE	1 EACH	1		NO CERT. PAPERS
NAME OF UTILITY CONTRACTOR: C. J. MILLER				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				
6" D.I.P. FOR FIRE HYDRANT		12.0		WATER WORKS INC./MUELLER CO.
6" x 4" REDUCER		1		NO CERT. PAPERS
8" WATER VALVE		1		NO CERT. PAPERS



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

WATER CODE H02  
SEWER CODE 1460000  
TEST GRADIENT 780

TYPE OF BUILDING	SFD
No. OF UNITS	4
No. OF WATER HOUSE CONNECTION	8
No. OF SEWER HOUSE CONNECTIONS	8
DRAINAGE AREA	PATAPSCO RIVER
TREATMENT PLANT	PATAPSCO WATER RECLAMATION PLANT

**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.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES NAD83/91 AS PROJECTED BY HOWARD COUNTY HORIZONTAL AND VERTICAL GEODETIC CONTROL NOS. 31D4 & 31A. THESE WATER AND SEWER DRAWINGS ARE BASED ON A FIELD RUN TOPOGRAPHIC STUDY PERFORMED BY MILDENBERG, BOENDER AND ASSOCIATES, INC. ON OR ABOUT MARCH 2002.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLAN.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-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 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 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 LOCATIONS 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 CONSTRUCTION OPERATIONS 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:  
 AT & T 1-800-252-1133  
 BGE (CONTRACTOR SERVICES) (410) 850-4620  
 BGE (UNDERGROUND DAMAGE CONTROL) (410) 787-9068  
 BUREAU OF UTILITIES (410) 313-4900  
 COLONIAL PIPELINE CO. (410) 795-1390  
 MISS UTILITY 1-800-257-7777  
 STATE HIGHWAY ADMINISTRATION (410) 431-5533  
 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.
- 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.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-7450 AT LEAST FIVE (5) WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" 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 ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. 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 THE 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 P.V.C. OR D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAIN SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" OR 16" WALLS ARE FOR BRICK MANHOLE ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 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.
- STATIONING SHOWN IS WATER MAIN AND CENTER LINE STATIONING.
- ALL SEWER HOUSE CONNECTIONS TO BE 4" IN SIZE.
- ALL WATER HOUSE CONNECTIONS TO BE 1" IN SIZE UNLESS OTHERWISE NOTED.
- ALL HOUSES WILL HAVE SERVICE TO LOWEST FLOOR UNLESS OTHERWISE NOTED.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.
- THE PRESSURE AT THE WATER MAIN WILL BE APPROXIMATELY 120 PSI. ADDITIONAL PROTECTION FOR RESIDENTIAL PLUMBING MAY BE REQUIRED.

**EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER GP-07-085 & GP-07-086**

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.

DEVELOPER'S SIGNATURE: *R. JACOBS NIKK* DATE: 10/13/05  
 AUTHORIZED MEMBER PALMER PROPERTY, LLC

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.

ENGINEER'S SIGNATURE: *John Mildenberg* DATE: 10/13/05  
 ENGINEER'S NAME: John Mildenberg

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

DATE: 10/17/05  
 JIM MAYER

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

DATE: 10/17/05  
 JOHN K. ROBERTSON

PLAN REFERENCE NUMBERS:  
F-03-210

14-4228-D  
**PALMER HILL**  
**WATER AND SEWER MAIN EXTENSIONS**  
**HOWARD COUNTY, MARYLAND**  
**DEPARTMENT OF PUBLIC WORKS**

**INDEX OF DRAWINGS**

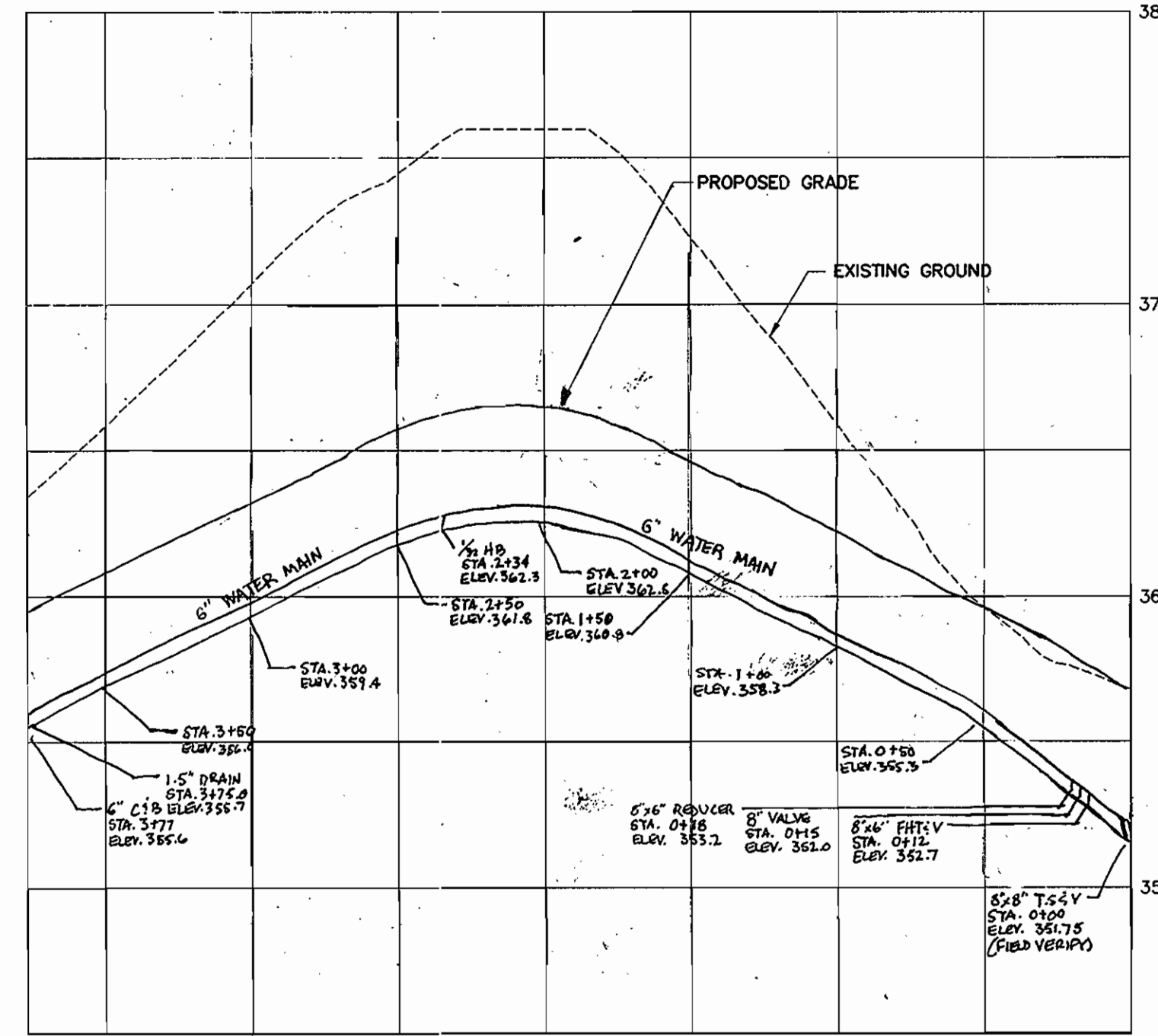
NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN AND PROFILES

**OWNER/DEVELOPER**  
 PALMER PROPERTY, LLC  
 5072 DORSEY HALL DRIVE, SUITE 202  
 ELLICOTT CITY, MARYLAND 21043  
 (410) 997-0296

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 10-11-05	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND DATE: 10/25/05	MILDENBERG, BOENDER & ASSOC., INC. Engineers Planners Surveyors 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042 (410) 997-0296 Fax: (301) 621-5521 Wash. (410) 997-0298 Fax.	engineering: MMM illustration: MMM approval: KCI 2 AS-BUILT DATA SHOWN project: RDB 2 REVISOR TO SHOW PALMER EROSION 15 L. OF NUMBERS & REV. RTYS date: 03-047 date: OCT. 05 BY NO. REVISION	TITLE SHEET 600' SCALE MAP NO. 18 BLOCK NO. 7	PALMER HILL CONTRACT NO.: 14-4228-D SECOND ELECTION DISTRICT HOWARD COUNTY	scale AS SHOWN 1 OF 2
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MANHOLE LOCATION CHART			
MH #	ROAD NAME OR NORTHING & EASTING		
01	N 598,271.8	E 1,369,444.8	
02	N 598,152.8	E 1,369,219.9	
03	N 567,928.2	E 1,369,352.5	
04	N 597,776.8	E 1,369,393.9	

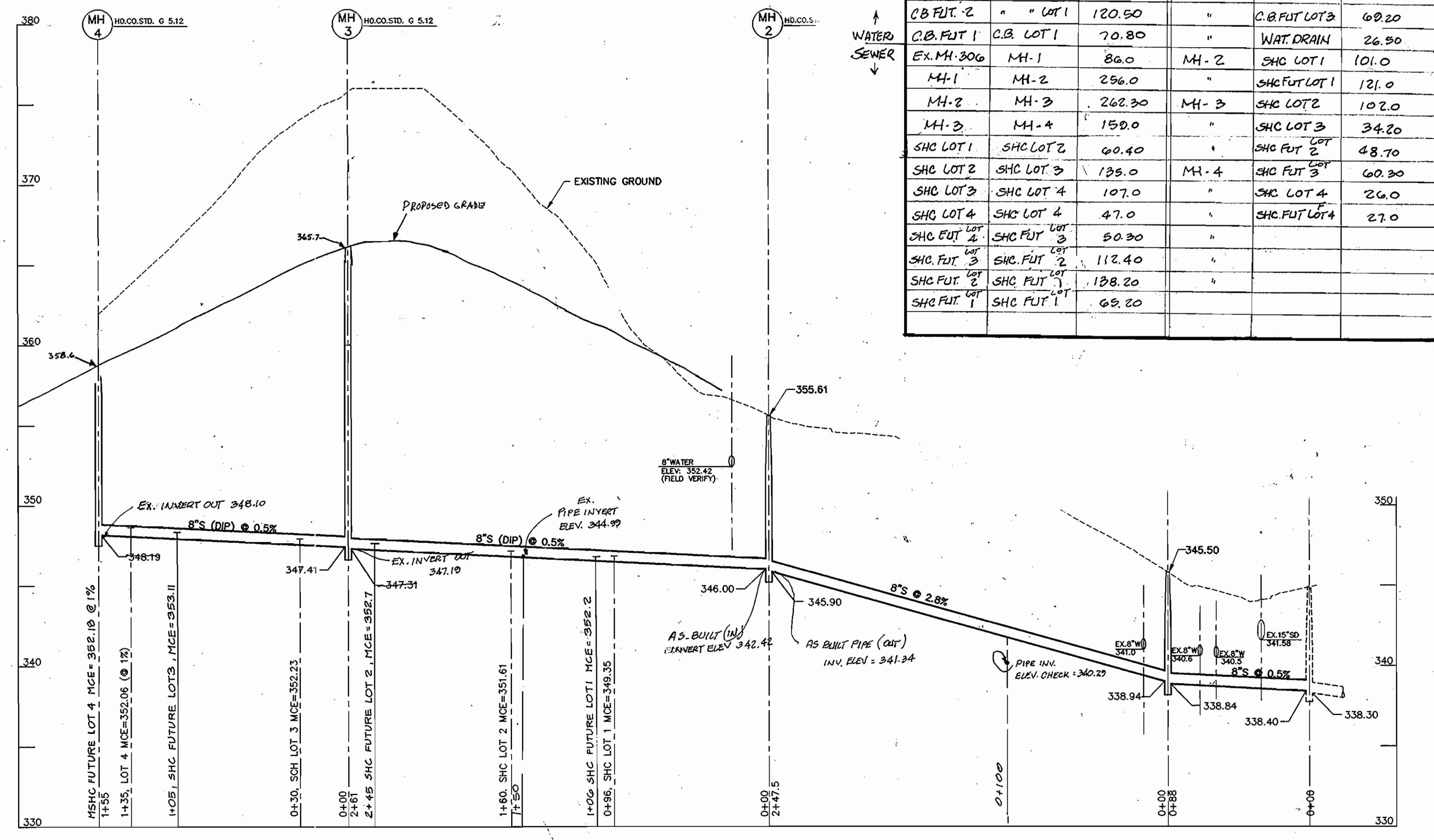
6" WATER MAIN TABULATION CHART			
NORTHING & EASTING		APPURTENANCE	
N 598,122.9	E 1,369,220.6	8"x8" T.S. & V.	
N 597,921.9	E 1,369,339.9	1/32 H.B.	
N 597,784.6	E 1,369,372.4	1.5" DRAIN	
N 597,782	E 1,369,377.1	6" CAP & BUTRESS	
N 598,107.3	E 1,369,218.0	6" FIRE HYDRANT	
N 598,112.4	E 1,369,226.6	8"x6" FHT&V	
N 598,109.8	E 1,369,128.2	8" VALVE	
N 598,107.2	E 1,369,129.7	8"x6" REDUCER	



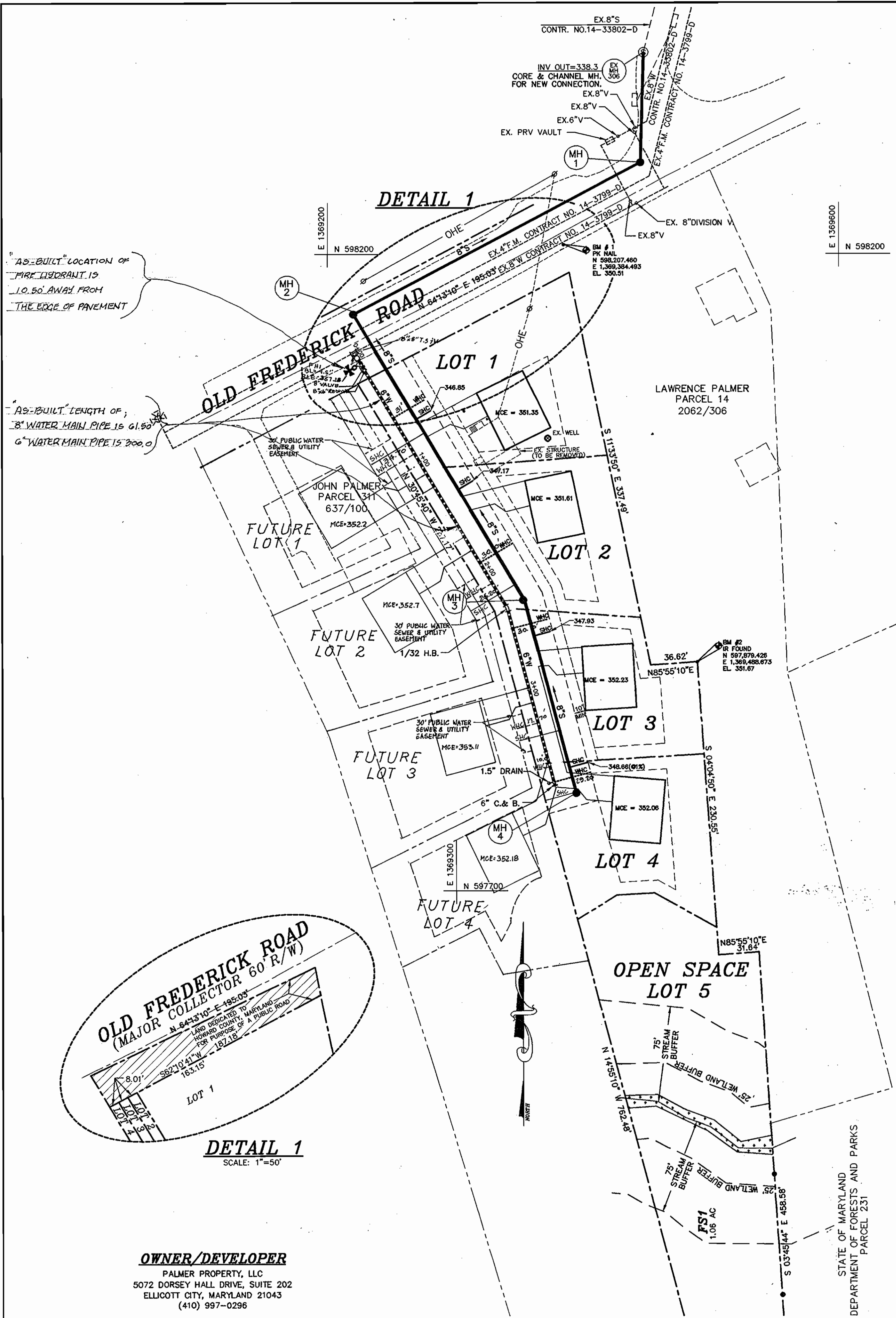
**WATER PROFILE**  
SCALE: HOR. 1"=50'  
VER. 1"=5'

AS-BUILT WATER AND SEWER FIELD MEASUREMENTS

FROM	TO	DISTANCE'	FROM	TO	DISTANCE'
FIRE HYD	WV2	12.0	MH 2	FH	50.0
W.V.1	WV3	9.20		W.V.1	39.0
WV2	WV1	5.20		W.V.2	44.20
WV2	WV2	4.20		W.V.3	47.90
CURB BOX 1	CURB BOX 2	132.70		C.B. LOT 1	88.20
CURB BOX 2	" 3	66.0		C.B. FUT LOT 1	120.80
CURB BOX 3	" 4	125.20	MH-3	C.B. LOT 2	44.20
CURB BOX 4	WATER CR.	38.40		C.B. LOT 3	24.20
WATER DRAIN	C.B. FUT LOT 4	15.0		C.B. FUT 2	49.60
FUT LOT 4	C.B. FUT LOT 3	36.20	MH-4	C.B. LOT 4	19.0
C.B. FUT 3	C.B. FUT LOT 2	109.0		C.B. FUT LOT 4	36.10
C.B. FUT 2	" " LOT 1	120.50		C.B. FUT LOT 3	69.20
C.B. FUT 1	C.B. LOT 1	70.80		WAT. DRAIN	26.90
EX. MH-306	MH-1	86.0	MH-2	SHC LOT 1	101.0
MH-1	MH-2	256.0		SHC LOT 1	121.0
MH-2	MH-3	262.30	MH-3	SHC LOT 2	102.0
MH-3	MH-4	150.0		SHC LOT 3	34.20
SHC LOT 1	SHC LOT 2	60.40		SHC FUT 2	48.70
SHC LOT 2	SHC LOT 3	135.0	MH-4	SHC FUT 3	60.30
SHC LOT 3	SHC LOT 4	107.0		SHC LOT 4	26.0
SHC LOT 4	SHC LOT 4	47.0		SHC FUT LOT 4	27.0
SHC FUT 1	SHC FUT 3	50.90			
SHC FUT 2	SHC FUT 2	112.40			
SHC FUT 3	SHC FUT 1	138.20			
SHC FUT 4	SHC FUT 1	69.20			



**SEWER PROFILE**  
SCALE: HOR. 1"=50'  
VER. 1"=5'



**OWNER/DEVELOPER**  
PALMER PROPERTY, LLC  
5072 DORSEY HALL DRIVE, SUITE 202  
ELLCOTT CITY, MARYLAND 21043  
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND	<b>MILDENBERG, BOENDER &amp; ASSOC., INC.</b> Engineers, Planners, Surveyors 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042 (410) 997-0296 Ball. (301) 821-5521 Wash. (410) 997-0298 Fax.	engineering <b>MMM</b>	illustration <b>MMM</b>	approval <b>JBM KCI 3</b>	project <b>03-047</b>	date <b>OCT. 05</b>	BY <b>NO.</b>	REVISION	DATE	<b>PLAN AND PROFILES</b>	600' SCALE MAP NO. 18	BLOCK NO. 7	<b>PALMER HILL</b>	scale
<p>CONTRACT NO.: 14-4228-D SECOND ELECTION DISTRICT HOWARD COUNTY</p>											2 OF 2				