

QUANTITY TABLE

ITEMS	QUANTITIES		TYPE	MANUFACTURER/SUPPLIER
	ESTIMATED	QTY		
8" WATER MAIN (PVC C-900, DR-18)	315 LF	315 LF	PVC	JM EAGLE
1 1/2" WATER HOUSE CONNECTION	95 LF		COPPER	CAMBRIDGE-LEE
# 1 1/2" WHC	6 EACH	6 EA	COPPER	SADDLE - ROMAIC
8"x8" TAPPING SLEEVE AND VALVE	1 EACH	1 EA	SS/DIP	ROMAIC - MUELLER
8"x8" F.H.T. & V.	1 EACH	1 EA	DIP	STAR PIPE
8" CAP AND BUTTRESS	1 EACH	1 EA	DIP	STAR PIPE
STANDARD MH (HO. CO. STD.G-5.11)	3 EACH	3 EA	CONCRETE	FREDEBK PRECAST
8" SEWER MAIN (PVC)	91 LF	91 LF	PVC	JM EAGLE
8" SEWER MAIN (DIP CLASS 52)	264 LF	264 LF	DIP	TYTON JOINT
4" SHC	97 LF	98 LF	PVC	JM EAGLE
# 4" SHC	2 EACH	2 EA	PVC	JM EAGLE
# 4" DROP SHC	4 EACH	4 EA		
8" EPOXY SLEEVE	2 EA	2 EA	DIP	EBAA IRON
NAME OF UTILITY CONTRACTOR: J+A CONSTRUCTION				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				
6" C900 PVC WATER MAIN	19 LF	19 LF	PVC	

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	COVER SHEET
2	WATER AND SEWER PLAN
3	WATER AND SEWER PROFILES

LEGEND

- EXISTING SEWER MAIN AND MANHOLE
- EXISTING WATER MAIN AND VALVE
- EXISTING FIRE HYDRANT
- 8" W --- PROPOSED WATER MAIN
- 8" W --- PROPOSED WATER HOUSE CONNECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TEE
- PROPOSED BEND
- PROPOSED VALVE
- 8" S --- PROPOSED SEWER MAIN
- PROPOSED SEWER MANHOLE

EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER : F-15-036

OWNER
FRANK A. MANAGO III
4109 WALRAD STREET
BALTIMORE, MD 21229-4142
C/O (410)375-1052

DEVELOPER
PATAPSCO BUILDERS, LLC
C/O BURKARD HOMES, LLC
5300 DORSEY HALL DRIVE
ELLICOTT CITY, MD 21042
(410)375-1052

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.

Timothy C. Burdick 7/27/15
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. Jacob Hikmat, P.E. 7/27/15
ENGINEER'S SIGNATURE DATE
ENGINEER'S NAME

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

John R. Robertson 8/31/15
HOWARD SOIL CONSERVATION DISTRICT DATE

PLAN REFERENCE NUMBERS:
ECP-14-092
F-15-036



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.: 47942, EXPIRATION DATE: 09/03/16
7/27/15
R. JACOB HIKMAT, P.E.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Steve C. Oem 8/14/15
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
David Chubb 9/4/15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0286 Cell. (410) 997-0288 Fax.

engineering	JLS				
illustration	JLS				
approval	MMM				
project	14-015	KCI	I	As-Built	11/17
date	JULY 2015	BY	NO.	REVISION	DATE

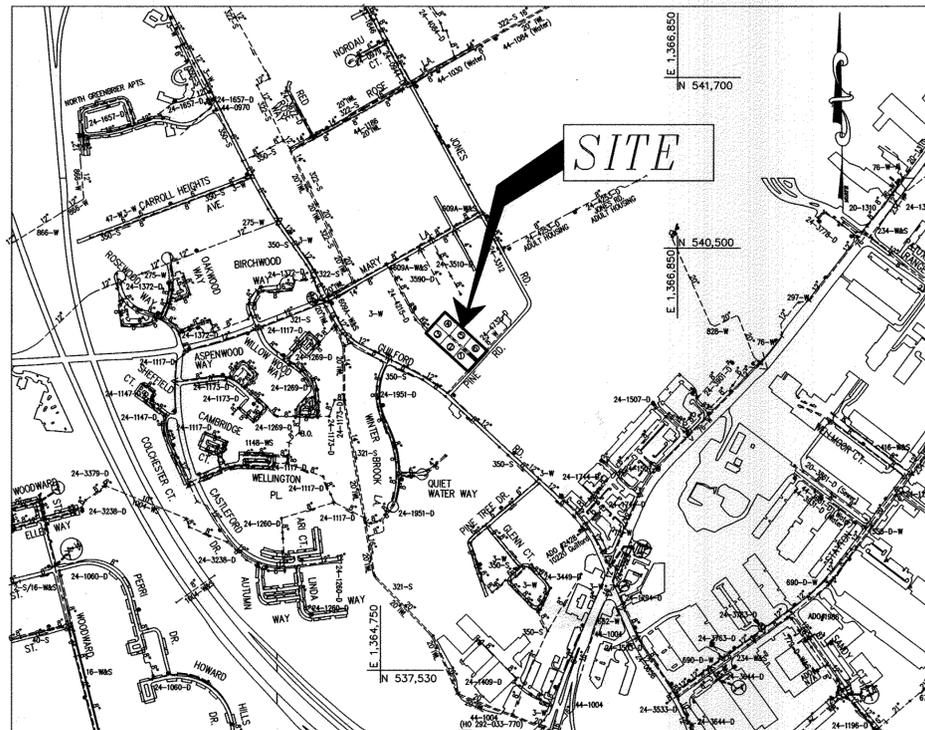
TITLE SHEET

60' SCALE MAP NO. 47 BLOCK NO. 6

PINE GROVE ADDITION
LOTS 1 THRU 6
CONTRACT NO.: 24-4895-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY

scale

1 of 3



LOCATION MAP

SCALE: 1" = 600'

TYPE OF BUILDING	RESIDENTIAL
No. OF UNITS	6
No. OF WATER HOUSE CONNECTIONS	6
No. OF SEWER HOUSE CONNECTIONS	6
DRAINAGE AREA	LITTLE PATUXENT
TREATMENT PLANT	LITTLE PATUXENT

WATER ZONE: 400
TEST GRADIENT: 550

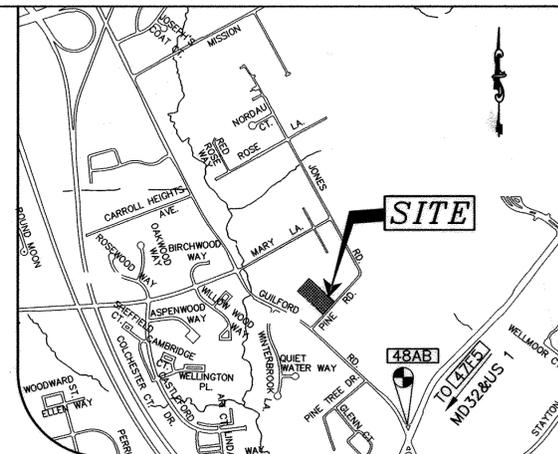
CONTRACT NO.: 24-4895-D
PINE GROVE ADDITION
LOTS 1 - 6
WATER AND SEWER MAIN
EXTENSION
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE.

- ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTOR EQUIPMENT DIRECTLY OVER THE FITTING. PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1/4-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTIED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.
- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5 DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.

- 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.
 - 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 GS.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.

- ALL PROPOSED DWELLINGS WILL BE EQUIPPED WITH FIRE SPRINKLERS AND WATER HOUSE CONNECTIONS (WHC) SHALL HAVE A MINIMUM DIAMETER OF 1-1/2 IN. 1" OUTSIDE METERS WILL ALSO BE INSTALLED.



BENCHMARKS
STA. No. 475 N 535985.0412 ELEV. 234.996
E 136653.4555
STA. No. 484B N 538364.4474 ELEV. 225.653
E 136645.7904
SCALE: 1" = 1000'
ADD MAP 20 - GRID D5

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 OR ABOUT OCTOBER, 2004 BY CHRISTOPHER CONSULTANTS, 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. 0912 AND NO. 100B. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88, MILDENBERG, BOENDER AND ASSOCIATES, INC. SHALL PROVIDE DESCRIPTION OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC).
- 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 THINNER 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 OWED TO 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. 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).....410-637-8713
BGE (EMERGENCY).....410-685-0123
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
- 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(A) OF THE HOWARD COUNTY CODE.

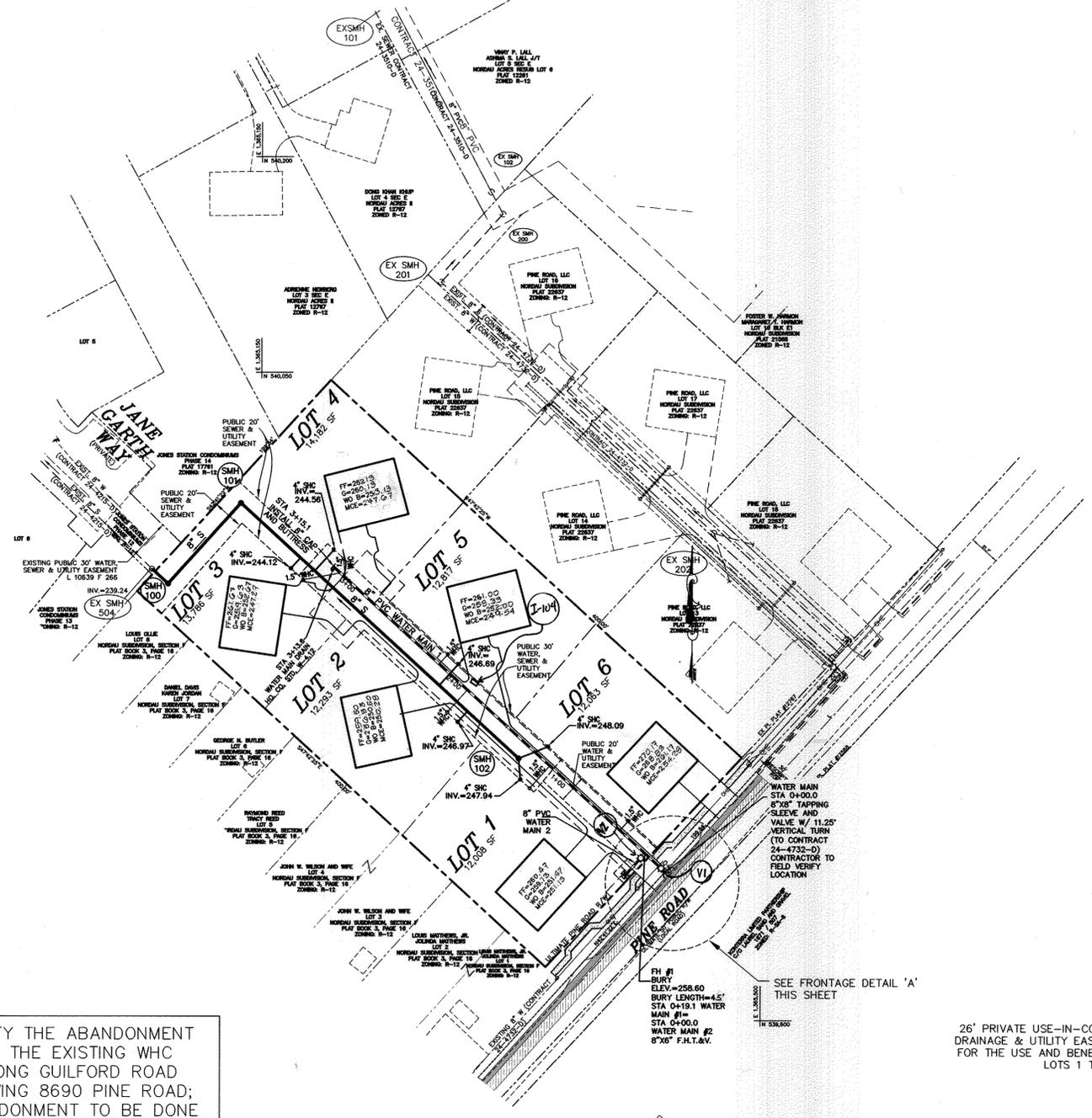
PART II WATER

- 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 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.
- TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.

WATER / SEWER MAIN TABULATION CHART		
APPURTENANCE	NORTHING	EASTING
SMH 100	539,903.1556	1,365,084.6850
SMH 101	539,959.3017	1,365,135.5422
SMH 102	539,781.9086	1,365,330.5421
8" 8' TAPPING SLEEVE & VALVE	539,703.2540	1,365,433.3501
F.H.T.&V.	539,718.1351	1,365,419.1905
FIRE HYDRANT #1	539,701.2963	1,365,405.5853
8" CAP AND BUTTRISS	539,915.2897	1,365,200.2691

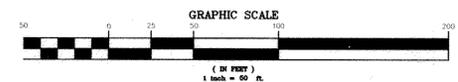
WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	PINE ROAD	SMH-102 24'	FH 81'
2	PINE ROAD	SMH-102 54'	I-104 27'
3	PINE ROAD	SMH-102 84'	SMH-101 72'
4	PINE ROAD	SMH-102 114'	SMH-101 84'
5	PINE ROAD	SMH-102 89'	I-104 36'
6	PINE ROAD	SMH-102 88'	FH 37'
WATER MAIN DRAIN		SMH-100 107'	SMH-101 81'

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	PINE ROAD	SMH-102 16'	FH 74'
2	PINE ROAD	SMH-102 49'	I-104 28'
3	PINE ROAD	SMH-102 71'	SMH-101 54'
4	PINE ROAD	SMH-102 110'	SMH-101 74'
5	PINE ROAD	SMH-102 77'	I-104 20'
6	PINE ROAD	SMH-102 21'	FH 105'



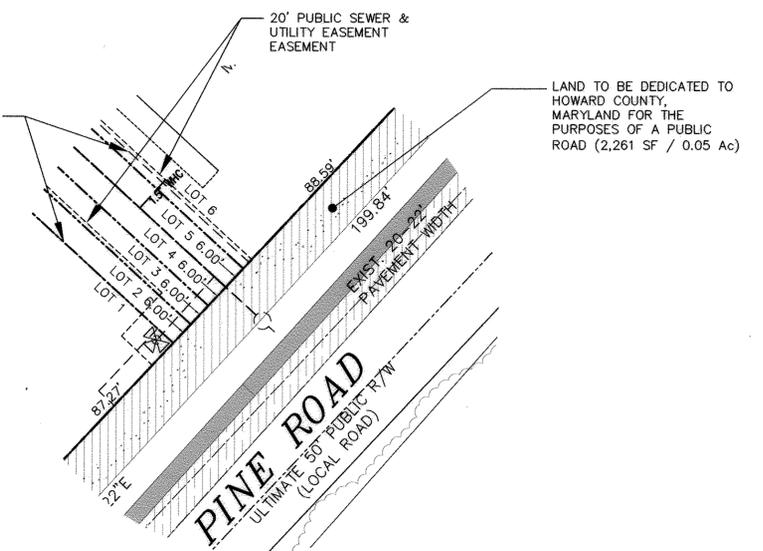
- LEGEND**
- EXISTING SEWER MAIN AND MANHOLE
 - EXISTING WATER MAIN AND VALVE
 - EXISTING FIRE HYDRANT
 - 8" W PROPOSED WATER MAIN
 - 8" S PROPOSED WATER HOUSE CONNECTION
 - 8" S PROPOSED FIRE HYDRANT
 - PROPOSED TEE
 - PROPOSED BEND
 - PROPOSED VALVE
 - 8" S PROPOSED SEWER MAIN
 - PROPOSED SEWER MANHOLE

VERIFY THE ABANDONMENT OF THE EXISTING WHC ALONG GUILFORD ROAD SERVING 8690 PINE ROAD; ABANDONMENT TO BE DONE UNDER CONTRACT 24-4732-D.



EXISTING BUILDING ADDRESS: 8690 PINE ROAD

EXISTING HOUSE, DRIVEWAY AND SHED TO BE REMOVED.



FRONTAGE DETAIL 'A'
SCALE: 1"=20'

OWNER
FRANK A. MANAGO III
4109 WALRAD STREET
BALTIMORE, MD 21229-4142
c/o (410)375-1052

DEVELOPER
PATAPSCO BUILDERS, LLC
C/O BURKARD HOMES, LLC
5300 DORSEY HALL DRIVE
ELLCOTT CITY, MD 21042
(410)375-1052

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.: 47942, EXPIRATION DATE: 09/03/16

JACOB HIKMAT, P.E. 7/27/15



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0286 Ball. (410) 997-0288 Fax.



engineering	JLS				
illustration	JLS				
approval	MMM				
project	14-015	KCI	Z	AS-BUILTS	1/17
date	JULY 2015	MBA	I	REVISE HOUSE ELEVATIONS	3/16
		BY	NO.	REVISION	DATE

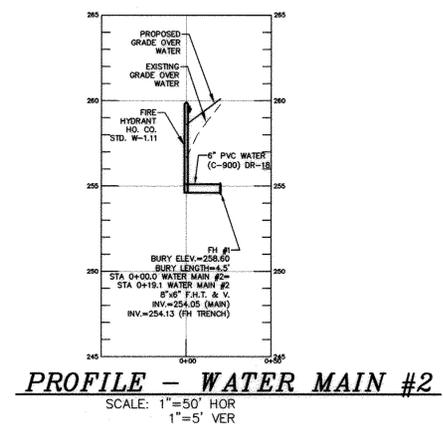
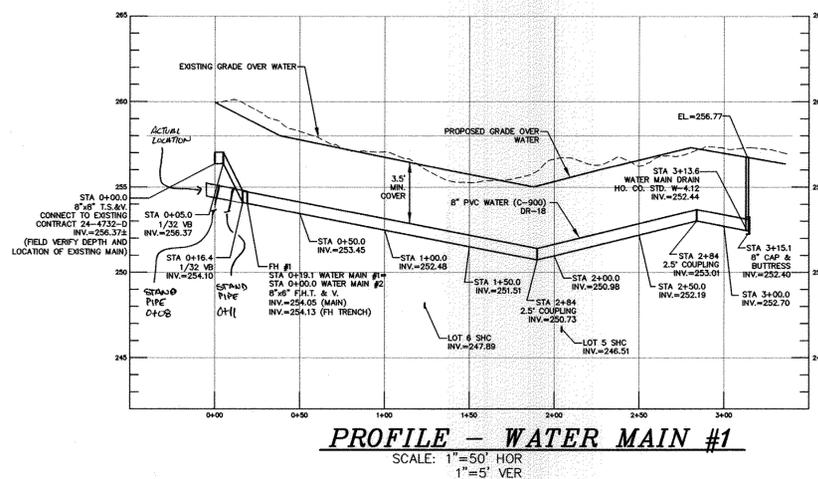
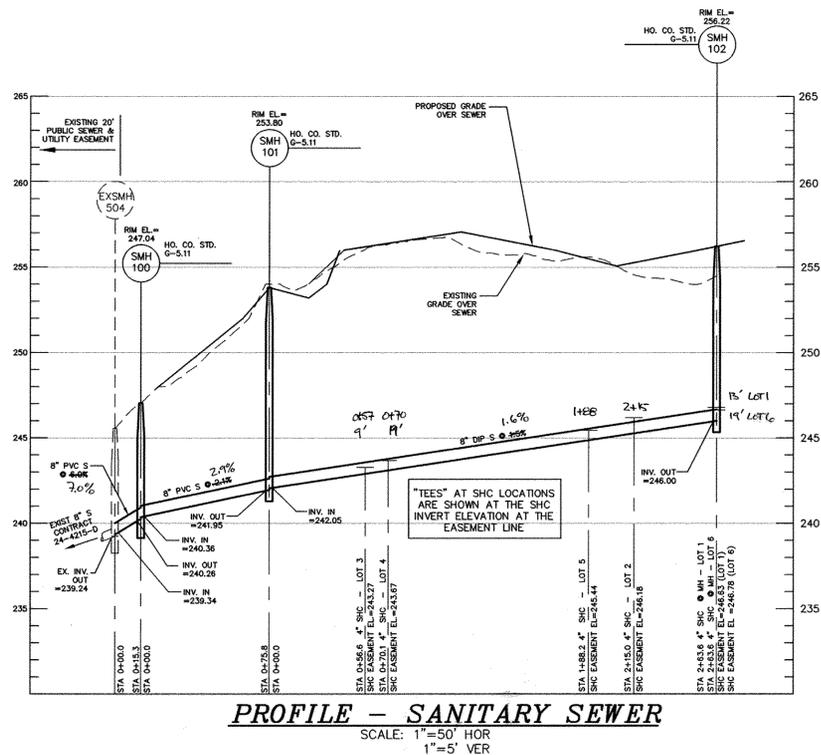
WATER AND SEWER PLAN

600' SCALE MAP NO. 47 BLOCK NO. 6

PINE GROVE ADDITION
LOTS 1 THRU 6
CONTRACT NO.: 24-4895-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY

scale
1"=50'
2 OF 3

LOT	INV. @ R/W (OR EASEMENT)	MCE	SLOPE
1	246.63	251.13	2.0%
2	246.18	250.28	2.0%
3	243.27	247.27	2.0%
4	243.67	247.67	2.0%
5	245.44	249.54	2.0%
6	246.78	254.28	5.0%



OWNER
FRANK A. MANAGO III
4109 WALRAD STREET
BALTIMORE, MD 21229-4142
C/O (410)375-1052

DEVELOPER
PATAPSCO BUILDERS, LLC
C/O BURKARD HOMES, LLC
5500 DORSEY HALL DRIVE
ELLICOTT CITY, MD 21042
(410)375-1052

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.: 47942, EXPIRATION DATE: 09/03/16

R. JACOB HIKMAT, P.E. 3/30/16



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0286 Fax: (410) 997-0238 Fax



engineering	JLS			
illustration	JLS			
approval	MMM			
project	14-015	Z	M/S - BUILTS	1/16
date	MSR, 2015	BY	NO.	REVISION
DATE	600' SCALE MAP NO. 47	BLOCK NO.	6	

WATER AND SEWER PROFILES

PINE GROVE ADDITION
LOTS 1 THRU 6
CONTRACT NO.: 24-4895-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY

P:\2014\14-015 Pine Grove Addition\Utility Water and Sewer\15-MBS-OCT 2014.dwg