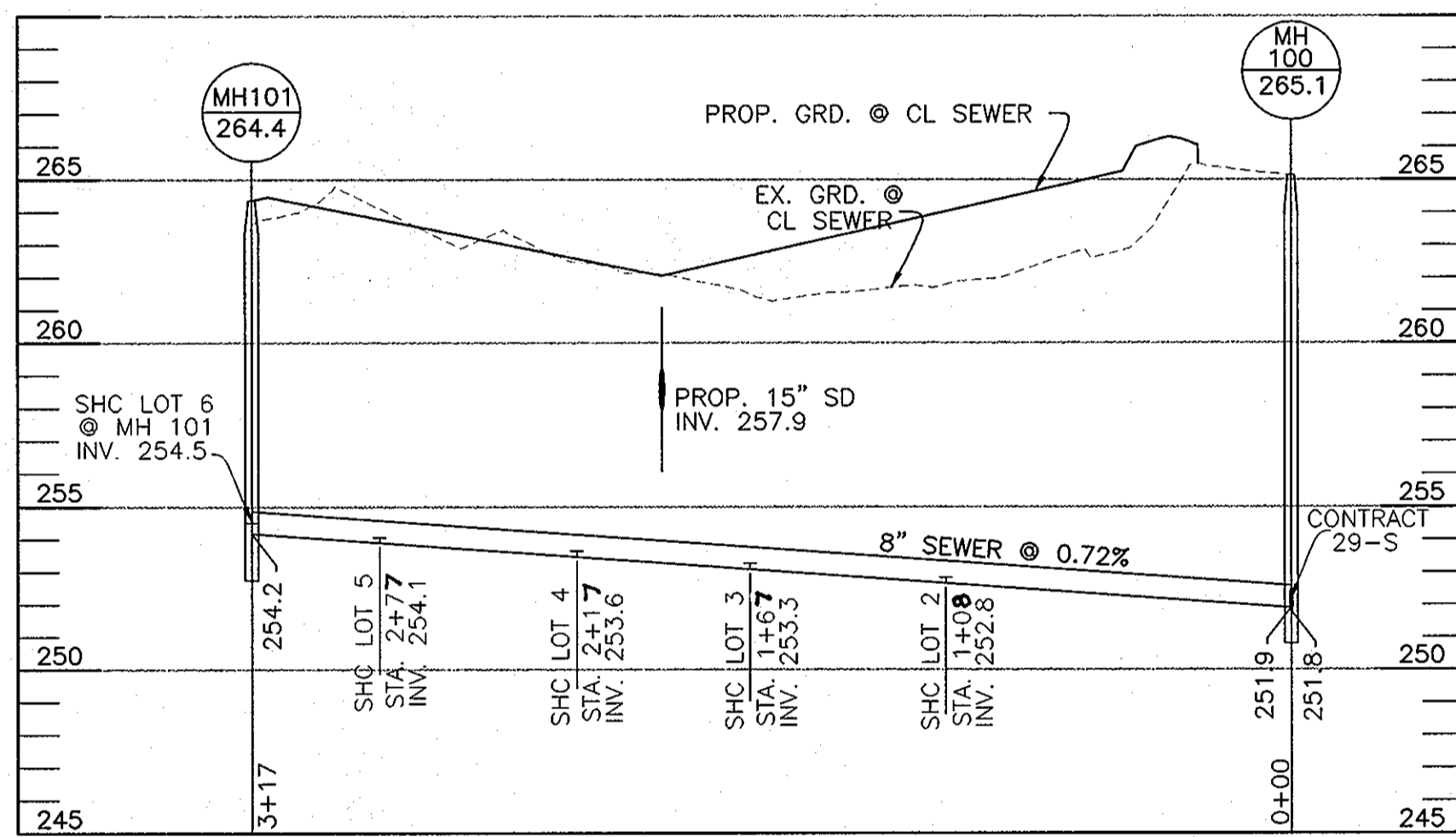
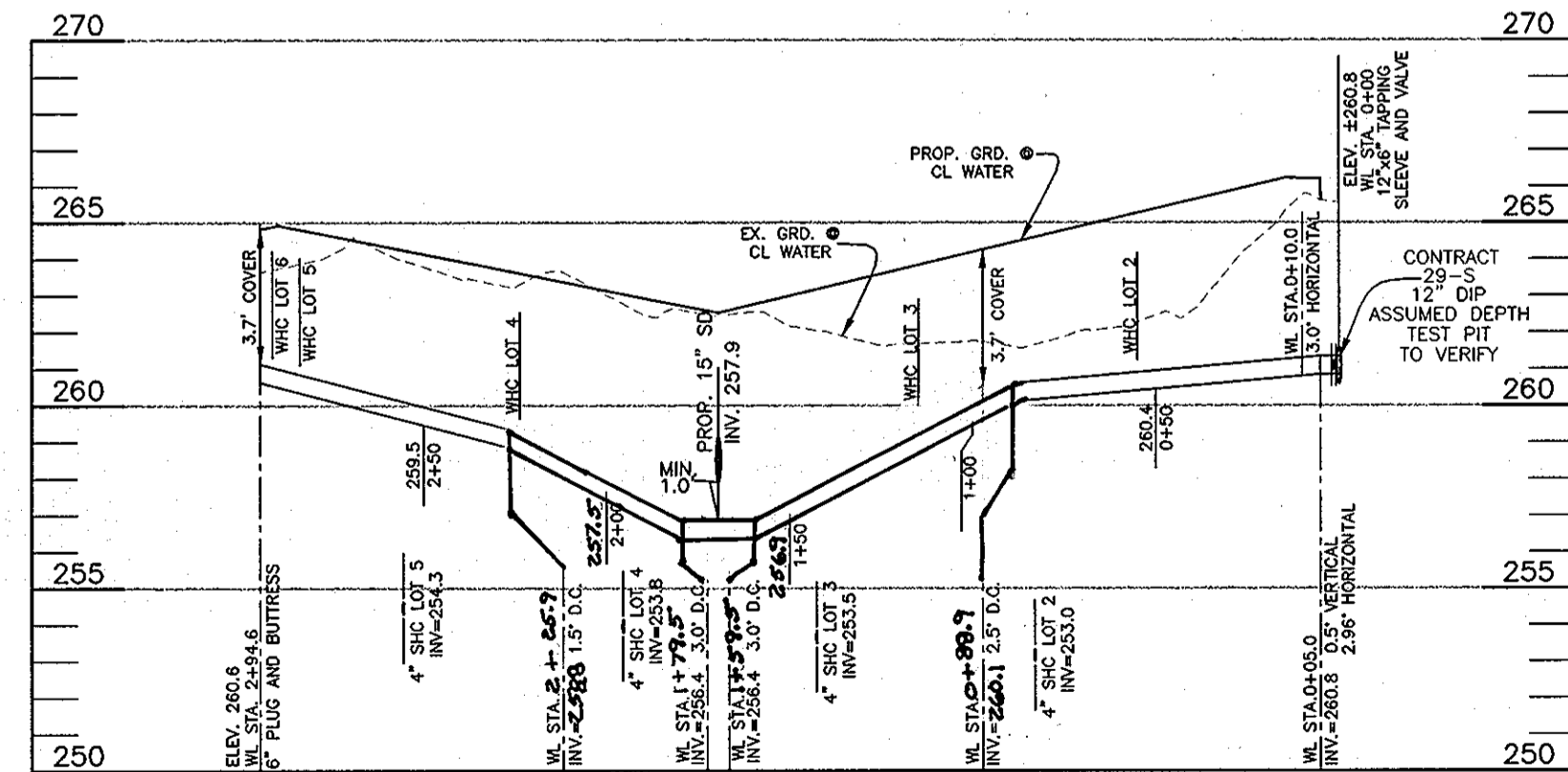


PLAN VIEW
SCALE: 1" = 50'



SEWER PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.



WATER PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.

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

John K. Roberts 8/1/13
HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS, F-13-085

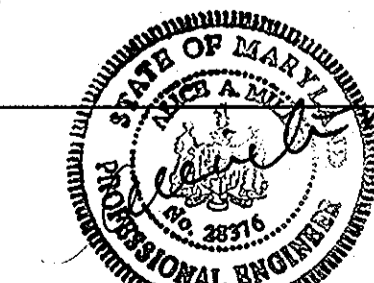
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Steve Lem 08/15
CHIEF, BUREAU OF UTILITIES

William 8/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE SUITE 315 • ELICOTT CITY, MARYLAND 21043
(P) 410-465-6100 (F) 410-465-6844
75 THOMAS JOHNSON DRIVE • SUITE E • FREDERICK, MARYLAND 21702
(F) 301-710-5888
WWW.BE-CIVILENGINEERING.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. 28716, Expiration Date: 11/2015.

DESIGN: AAM
DRAFT: AAM
CHK: CAM
DATE: JUL 2013

DEVELOPER/OWNER:
CORNERSTONE HOLDINGS, LLC
9695 NORFOLK AVENUE
LAUREL, MARYLAND 20723
410-792-2565

NOTE: NO IMPROVEMENTS SHALL BE PERMITTED TO BE CONSTRUCTED OR PLACED WITHIN THE PUBLIC WATER, SEWER AND UTILITY EASEMENTS THAT WILL IMPEDE OR HINDER ACCESS TO THE PUBLIC WATER AND SEWER MAINS. IMPROVEMENTS SUCH AS AIR CONDITIONING UNITS, DECKS, FENCING, FOUNDATION PLANTINGS AND TREES SHALL NOT BE PLACED WITHIN THE EASEMENTS.

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN AREA OF EXISTING OVERHEAD LINES.

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
1 1/2" WHC	49 LF.			
12"x8" TS&V	1 EACH			
6" PVC	296 LF.			
6" CAP	1 EACH			
4" SHC	91 LF.			
8" SEWER	317 LF.			
MANHOLES	2 EACH			

SHC TABLE					
LOT NO.	INVERT AT MAIN OR MH	INVERT AT ESMT.	INVERT AT HOUSE	MCE	REMARKS
2	252.8	253.2	253.9	257.1	
3	253.3	253.7	254.4	257.5	
4	253.6	254.0	254.7	257.8	
5	254.1	254.5	255.2	258.4	
6	254.5	254.7	255.4	258.6	

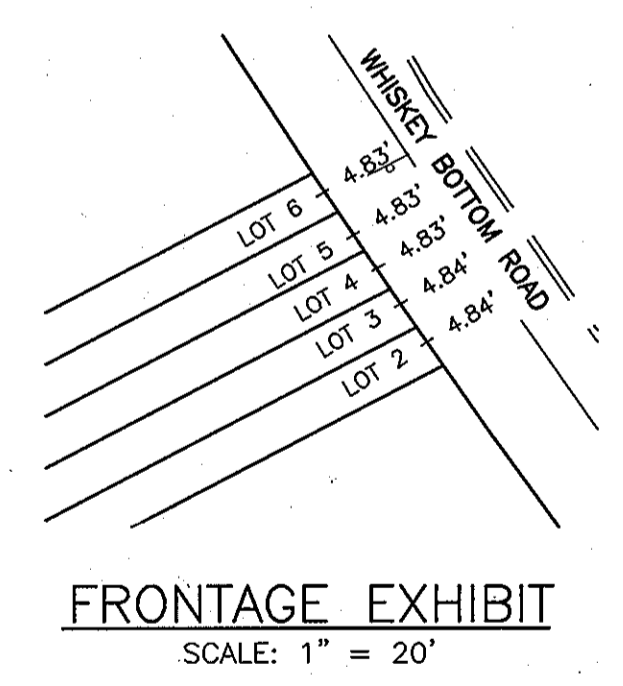
WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT NO.	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 2	WHISKEY BOTTOM ROAD		
LOT 3	WHISKEY BOTTOM ROAD		
LOT 4	WHISKEY BOTTOM ROAD		
LOT 5	WHISKEY BOTTOM ROAD		
LOT 6	WHISKEY BOTTOM ROAD		

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT NO.	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 2	WHISKEY BOTTOM ROAD		
LOT 3	WHISKEY BOTTOM ROAD		
LOT 4	WHISKEY BOTTOM ROAD		
LOT 5	WHISKEY BOTTOM ROAD		
LOT 6	WHISKEY BOTTOM ROAD		

SANITARY SEWER MANHOLE DATA						
NO.	TYPE	LOCATION	SHC INV. IN	INV. IN	INV. OUT	RIM ELEV.
100	4.0' PRECAST	STA 11+41.14 WHISKEY BOTTOM ROAD, 8.28' RT	-	251.9	251.8	255.1±
101	STD. 4.0' PRECAST	N 528,562.49 E 1,358,913.66	254.3 (2)	-	254.2	254.4±

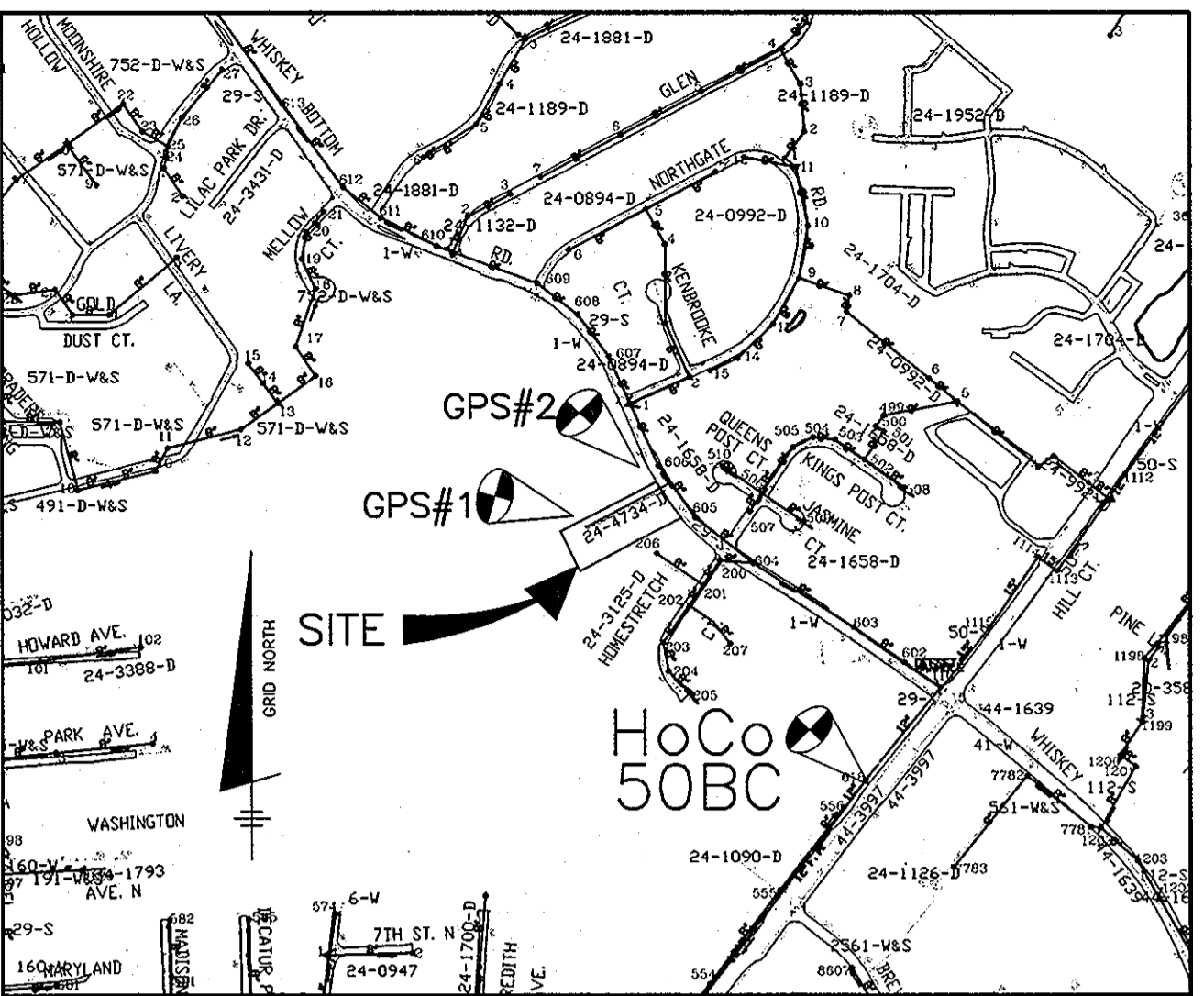
LEGEND

- EXIST. WATER MAIN
- EXIST. SEWER MAIN
- EXIST. SEWER MANHOLE
- PROP. WATER MAIN
- PROP. SEWER MAIN
- PROP. STORM DRAIN (BY OTHERS)
- PROP. SEWER MANHOLE
- PROP. SEWER HOUSE CONNECTION
- PROP. DROP HOUSE CONNECTION
- PROP. WATER HOUSE CONNECTION (SINGLE - 1")
- PROP. FIRE HYDRANT
- PROP. VALVE
- PROP. PLUG & BUTTRESS



FRONTAGE EXHIBIT
SCALE: 1" = 20'

BENCHMARK NAD'83 HORIZONTAL
GPS#1
REBAR AND CAP SET NORTH SIDE TO THE REAR OF SUBJECT PROPERTY WITHIN PROPERTY BOUNDARY.
N 528709.91' E 1359118.00'
ELEVATION: 262.22'
GPS#2
REBAR AND CAP SET NORTH SIDE TO THE FRONT OF SUBJECT PROPERTY OUTSIDE OF PROPERTY BOUNDARY.
N 528570.97' E 1358878.47'
ELEVATION: 262.29'



ADC MAP 5169 GRID F1
VICINITY MAP
SCALE: 1" = 600'
TYPE OF BUILDING: SINGLE FAMILY DETACHED
NUMBER OF LOTS: 5 BUILDABLE
NUMBER OF SHC'S: 5
NUMBER OF WHC'S: 5 PATIENT
DRAINAGE AREA: LITTLE PATIENT
TREATMENT PLANT: LITTLE PATIENT
TEST GRADIENT: 550

- PART 2 - WATER CONT.**
10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETS AND PIPE JOINTS SHALL BE 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 GASKETS SHALL BE PLACED THE MAXIMUM AND MINIMUM DEPTHS OF INSERTION INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE PIPE.
 11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF P-LAYED PIPE SHALL BE MADE WITHIN THE 15' DEGREE SWEEPS. 25 DEGREE HIGH DEFLECTION (H.D.) COUPLINGS, NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE. COUPLERS ARE LIMITED TO ONE HIGH DEFLECTION COUPLING OF ONE FOOT LENGTH PER 100-FOOT LENGTH OF PIPE. THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LENGTH) OF 5 DEGREE SWEEP COUPLING TO BE USED IN ALL HIGH DEFLECTION COUPLINGS. THE CONTRACTOR SHALL USE VIBRATORY PLATE COMPACTOR SIDES TO THE HIGH DEFLECTION COUPLING OR 5 DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTOR DIRECTLY OVER THE HIGH DEFLECTION COUPLING OR SWEEP.
 12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENT OF P-LAYED PIPE, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LENGTH) OF 5 DEGREE SWEEP COUPLING TO BE USED IN ALL HIGH DEFLECTION COUPLINGS AND 5 DEGREE SWEEPS. BELL STOPS SHALL BE USED AT EACH END OF HIGH DEFLECTION COUPLINGS AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. BELL STOPS SHALL BE MANUFACTURED TO MEET OR EXCEED THE REQUIREMENTS OF AASHTO M 250. ALL APPROVED QUALITY CONTROL TESTS SHALL BE PERFORMED BY THE CONTRACTOR.
 13. THE FIRE SPRINKLER CODE REQUIRES A MINIMUM 1 1/2" HOUSE CONNECTION WITH 1" METER, OUTSIDE SETTING.

- GENERAL NOTES**
- PART 1 - GENERAL**
1. 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.
 2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN SEPTEMBER, 2010 BY BENCHMARK ENGINEERING INC.
 3. THE COORDINATES SHOWN ON THE DRAWING ARE BASED UPON GLOBAL POSITIONING SYSTEM COORDINATES WHICH ARE BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. GPS#1 AND GPS#2 AS DEFINED ON THIS SHEET WERE USED FOR THIS PROJECT.
 4. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88, PROJECTED FROM GPS#1 AND GPS #2.
 5. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON PLAN.
 6. CLEAR ALL UTILITIES BY A MINIMUM OF 12". 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.
 7. 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.
 8. 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 CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 9. 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.....410-637-8713
BGE (EMERGENCY).....410-685-0123
BUREAU OF UTILITIES.....410-313-4800
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
 10. 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.
 11. 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.
 12. 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 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 2 - WATER**
1. ALL WATER MAINS TO BE 8" PVC G900 WATER (DR18) UNLESS OTHERWISE NOTED.
 2. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 4'-0" COVER UNLESS OTHERWISE NOTED.
 3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 5. 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.
 6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 7. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
 8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE ANWA STANDARD SPECIFICATION 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.
 9. 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 SECTION 5.1 OF THE ANWA STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN (17) ROUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HANGES. TWELVE (12) ROUND ZINC ANODES SHALL BE INSTALLED ON ALL SPRINKLER STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL TEES SHALL BE DUCTILE IRON.
- PART 3 - SEWER**
1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
 2. ALL MANHOLES SHALL BE 4' - 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 3. FORCE MAINS SHALL BE D.I.P. ONLY.
 4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
 5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS. STANDARD DETAIL G-52, WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 6. HOUSES WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
 7. COORDINATES SHOWN ARE TO CENTER OF STRUCTURE.

FINAL PUBLIC WATER AND SEWER PLAN

PARKSIDE ESTATES
LOTS 2-6 AND OPEN SPACE LOTS 1 & 7
TAX MAP 50 - GRID 4
PARCEL 438 - ZONE: R-SC
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET NO. 1 OF 1

CONTRACT NO. 24-4734-D