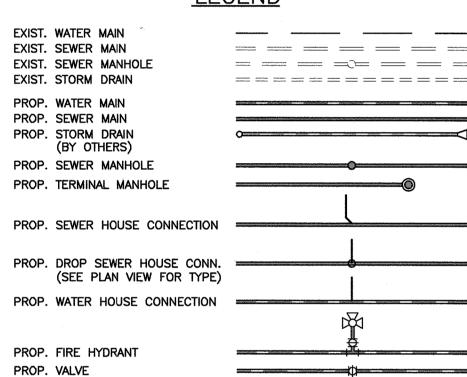
WATER WATER(PVC C900 DR18) 279 LF. PVC-C900 NORTH AMERICAN SA 423 MUELLER COMP FIRE HYDRANT MJ 8"x8" TSV 8" WATER VALVES SEWER (DIP CLASS 52) 84 L.F. | CL52 DIP AMERICAN CAST IRE 297 L.F. PVC 4 EA. PRECAST CONTRACTORS PRECA 187 L.F. 1325 L.E DIP/PVC ACIP/NAP 6 EACH 7 EA. 4" PVC NAP I EA. 4"PYC/DIP ACIP/NAP NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED SURVEY AND DRAFTING DIVISION AS-RUILT DATE

NOTE: THE EXISTING SEWER HOUSE CONNECTION AND WATER HOUSE CONNECTION FOR THE EXISTING BUILDING TO BE RAZED (9801 BALTIMORE AVENUE) IS TO BE ABANDONED AT THE MAIN LINE. THE EXISTING ONSITE WELL IS TO BE SEALED BY A LICENSED WELL DRILLER AND THE WELL ABANDONMENT REPORT RECEIVED BY THE HEALTH DEPARTMENT PRIOR TO

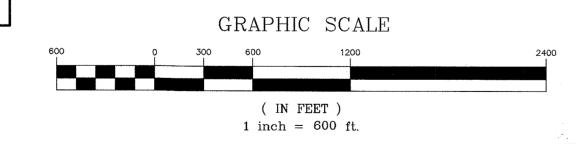
NOTE: USE HO. CO. STD. DETAILS W-3.32 FOR TWIN AND W-3.28 FOR SINGLE OUTSIDE METER SETTINGS

PROP. PLUG & BUTTRESS

NOTE: ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)



ALL WATER HOUSE CONNECTIONS ARE TO BE 1.5" WITH A 1" METER (OUTSIDE SETTING).



THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND MPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER APPROVED DEVELOPMENT PLANS F-14-080

Sta Can alam

SHEET INDEX DESCRIPTION TITLE SHEET PUBLIC WATER & SEWER MAINS WATER & SEWER PLAN AND PROFILE

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE M.

BENCHMARK ENGINEERING, INC 8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

OWNER/DEVELOPER

CLARKSVILLE, MD 21029

301-490-0388

PROFESSIONAL CERTIFICATION:

I hereby certify that these documents were prepared or

icense No. 22390; Expiration Date: 6.30.2015

oved by me, and that I am a duly licensed professiona engineer under the laws of the State of Maryland

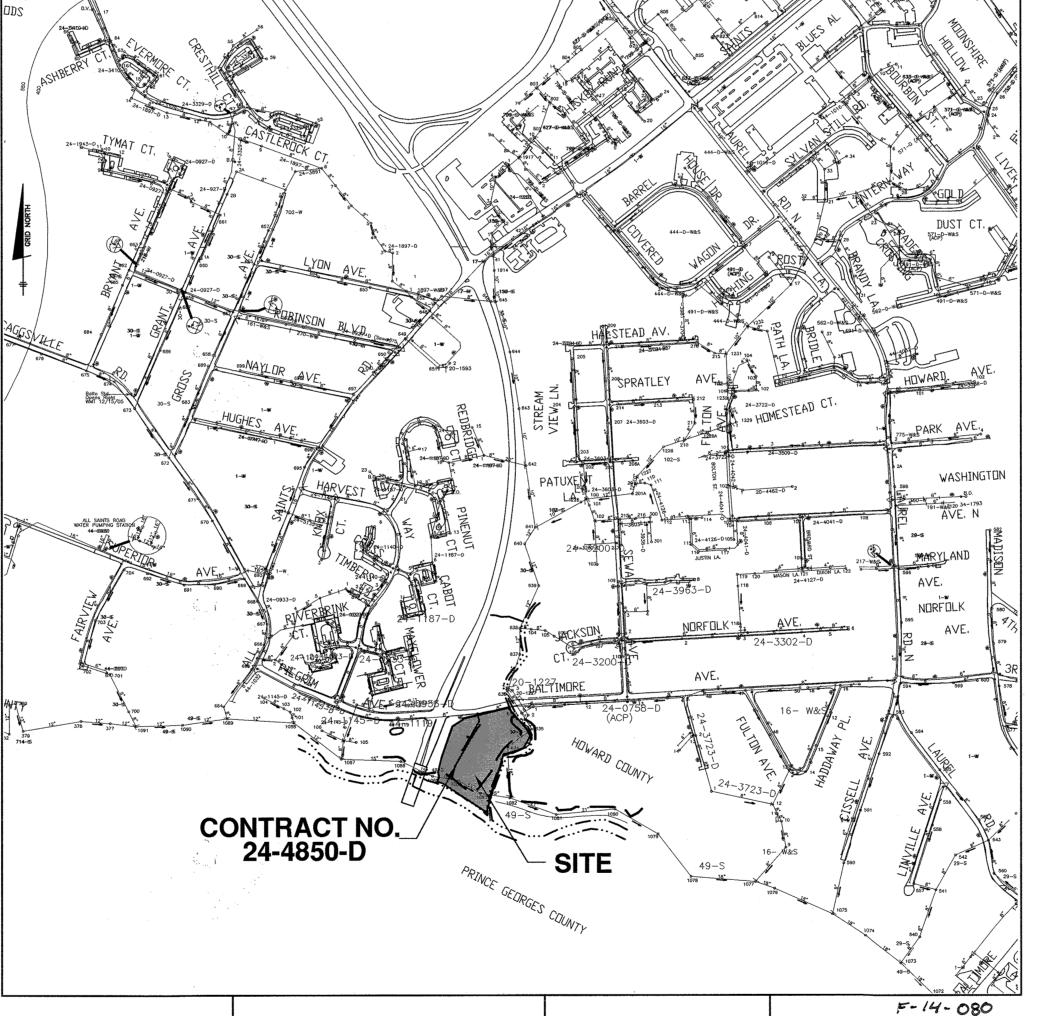
DEVELOPMENT PARTNERS, LLC 11807 WOLLINGFORD COURT

> CAM SEPT DATE: 2014 BY REVISIONS

PUBLIC WATER AND SEWER MAIN EXTENSIONS PATUXENT OVERLOOK

> LOTS 1-9 AND OPEN SPACE LOTS 10 & 11 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CONTRACT NO.: 24-4850-D



NUMBER OF UNITS: ____9___ DRAINAGE AREA:_____ PATUXENT TREATMENT PLANT:_____ LITTLE PATUXENT WWTP NUMBER OF WHC'S: WATER ZONE:_____400W _____ TEST GRADIENT:_____550____ LOCATION MAP

SCALE: 1" = 600'

OVERHEAD LINES ALONG BALTIMORE AVENUE NOTE: HOUSE CONNECTIONS TO BE SIZED ACCORDINGLY:

DATE 600 SCALE MAP: 27

SINGLE WHC = 1-1/2" TWIN WHC = 1-1/2SINGLE SHC = 4"TWIN SHC = 6"x4"

PUBLIC WATER AND SEWER

TITLE SHEET

BLOCK:

NOTE: CONTRACTORS TO EXERCISE EXTREME

CAUTION WHEN WORKING IN AREA OF EXIST

NOTE: ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)

9801 BALTIMORE AVENUE PATUXENT OVERLOOK LOTS 1-9 AND OPEN SPACE LOTS 10 & 11 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ADC MAP 40 GRID B8

GENERAL NOTES

APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION 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. THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM, NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 47GA AND 47GB. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE HO.CO. GEODETIC CONTROL STA. 47GA & 47GB. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON PLANS.

FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD ODESIGN 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.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

BG&E (CONSTRUCTION SERVICES)
BG&E (EMERGENCY).
HO. CO. DPW — BUREAU OF UTILITIES.

THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT 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.

ALL WATER MAINS TO BE PVC C900 DR18 UNLESS OTHERWISE NOTED. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED

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. 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

N ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

TRACE WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND P.V.C. WATER MAINS IN CCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL

FOR PVC WATER MAINS, ALL RECORDS FOR THE QUANTITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF MATERIAL FOR USE. 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 RECORD RECEIVED.

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 HARNESSES. 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

10. PROPER ASSEMBLY OF GASKETED P.V.C. PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GAKETED 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 P.V.C. PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION INTO THE SPIGOT BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER HOME THE SPIGOT INTO THE BELL OF THE

11. ALL CHANGES IN HORIZONTAL AND VERTICAL DIRECTION OF P.V.C. WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5—DEGREE SWEEPS, OR HIGH—DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF P.V.C. PIPE JOINTS IS PERMITTED. WHERE HIGH—DEFLECTION (HD) 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 (HD) COUPLINGS OR 5—DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE THE #57 STONE ON BOTH SIDES OF THE HIGH—DEFLECTION (HD) COUPLING OR 5—DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

P.V.C. HIGH-DEFLECTION (HD) COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1-1/2 DEGREES ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM OF 200-PSI MEETING THE REQUIREMENTS OF AWWA-C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. P.V.C. HIGH-DEFLECTION (HD) COUPLINGS SHALL BE CERTAIN-TEED P.V.C. HIGH-DEFLECTION (HD) COUPLINGS OR EQUAL.

5-DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225-PSI, DR-18 MEETING THE REQUIREMENTS OF AWWA-C900, AND SHALL BE MULTI-FITTING (IPEX) BLUE BRUTE DR-18 OR EQUAL.

OR VERTICAL ALIGNMENTS OF AWWA-C900 P.V.C. PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE P.V.C. SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION (HD) 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

13. FIRE SPRINKLER SYSTEMS FOR ALL SINGLE FAMILY DWELLINGS SHALL HAVE A MINIMUM OF A 1-1/2" CONNECTION WITH A 1" OUTSIDE METER SETTING.

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.

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

G-5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS. 6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

NOTE: HO. CO. STD. DETAILS C-5.01 THRU C-5.03 ARE NOT APPLICABLE; THIS PROJECT IS NOT WITHIN AN AREA IDENTIFIED AS HAVING CORROSIVE SOILS

> SCALE: AS SHOWN SHEET NO.

> > 1 OF 2

CONTRACT No. 24-4850-D

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CHIEF BUREAU OF UTILITIES

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

