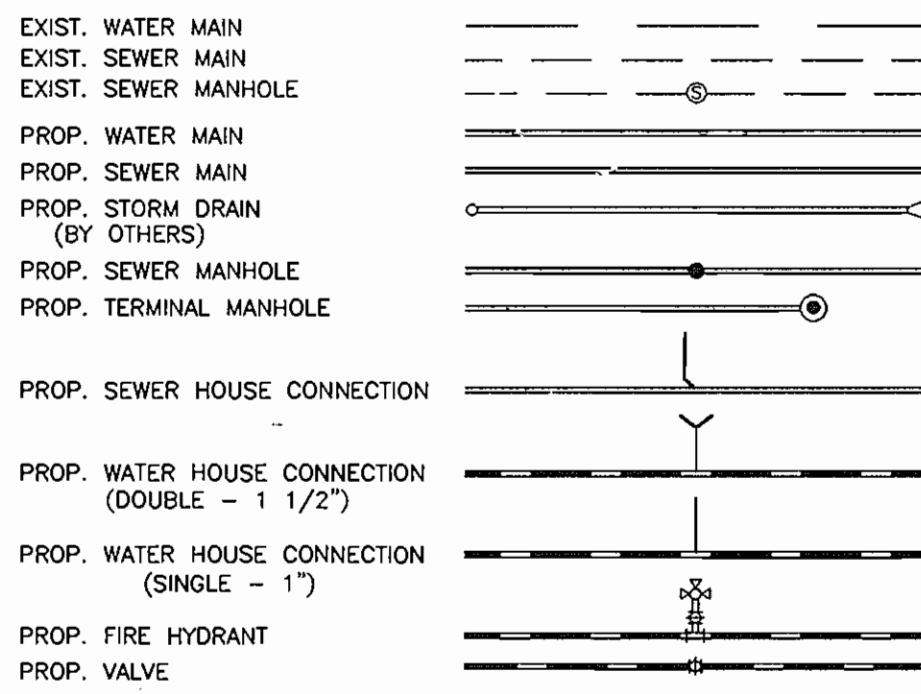
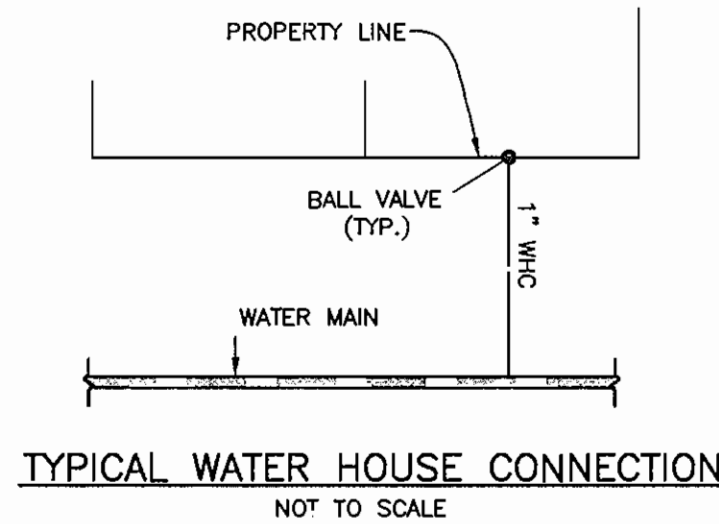


LEGEND



SHC & WHC LOCATIONS - AS BUILT

LOT No.	FROM	TO	DISTANCE
No. 1	LOT 1 WHC (TWIN)	SHC	6.5'
TWIN WHC W/ No. 2	LOT 2 SHC	SHC	25'
	LOT 3 SHC	SHC	28.5'
No. 1	LOT 1 SHC	WHC	6.5'
	LOT 2 SHC	WHC	18.3'
	LAMPHOLE No. 1	WHC	23'
No. 2	LOT 3 SHC	SHC	5'
	LOT 3 WHC	SHC	15.5'
	LAMPHOLE No. 1	SHC	11'
No. 2	LOT 2 SHC	WHC	18.5'
	LOT 3 SHC	WHC	23'
	LAMPHOLE No. 1	WHC	22.5'
No. 3	LOT 2 SHC	SHC	5'
	LOT 3 WHC	SHC	11'
	LAMPHOLE No. 1	SHC	8'
No. 3	LOT 3 SHC	WHC	11'
	LOT 2 SHC	WHC	15.5'
	LAMPHOLE No. 1	WHC	9'
LAMPHOLE No. 1	SMH No. 2		90.5'
PVC (8")	LOT 3 WHC		9'
	LOT 1 WHC		23'



HOWARD SOIL CONSERVATION DISTRICT:
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT
AND MEETS TECHNICAL REQUIREMENTS

Jim Morgan 11/9/06 DATE
NATURAL RESOURCES CONSERVATION SERVICE

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

John K. Roberts 11/9/06 DATE
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-05-05

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jeffrey H. Ross 12/20/05 DATE
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

John J. ... 11/20/05 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELIJAH CITY, MARYLAND 21043
PHONE: 410-485-8105 FAX: 410-485-6644

Donald M. ... 12/14/05
DATE: 8/26/05

DES:	DAM				
DRN:	EDD				
CHK:	DAM	MFW	RELOCATE SEWER BETWEEN MH1 AND MH2	12/14/05	
DATE:	8/26/05	EDD	RELOCATE WATER AND SEWER ALIGNMENT	8/26/05	
BY:	NO.				

AS BUILT
DATE: OCTOBER 2007

WATER AND SEWER PLAN
WITH PROFILE AND DETAILS

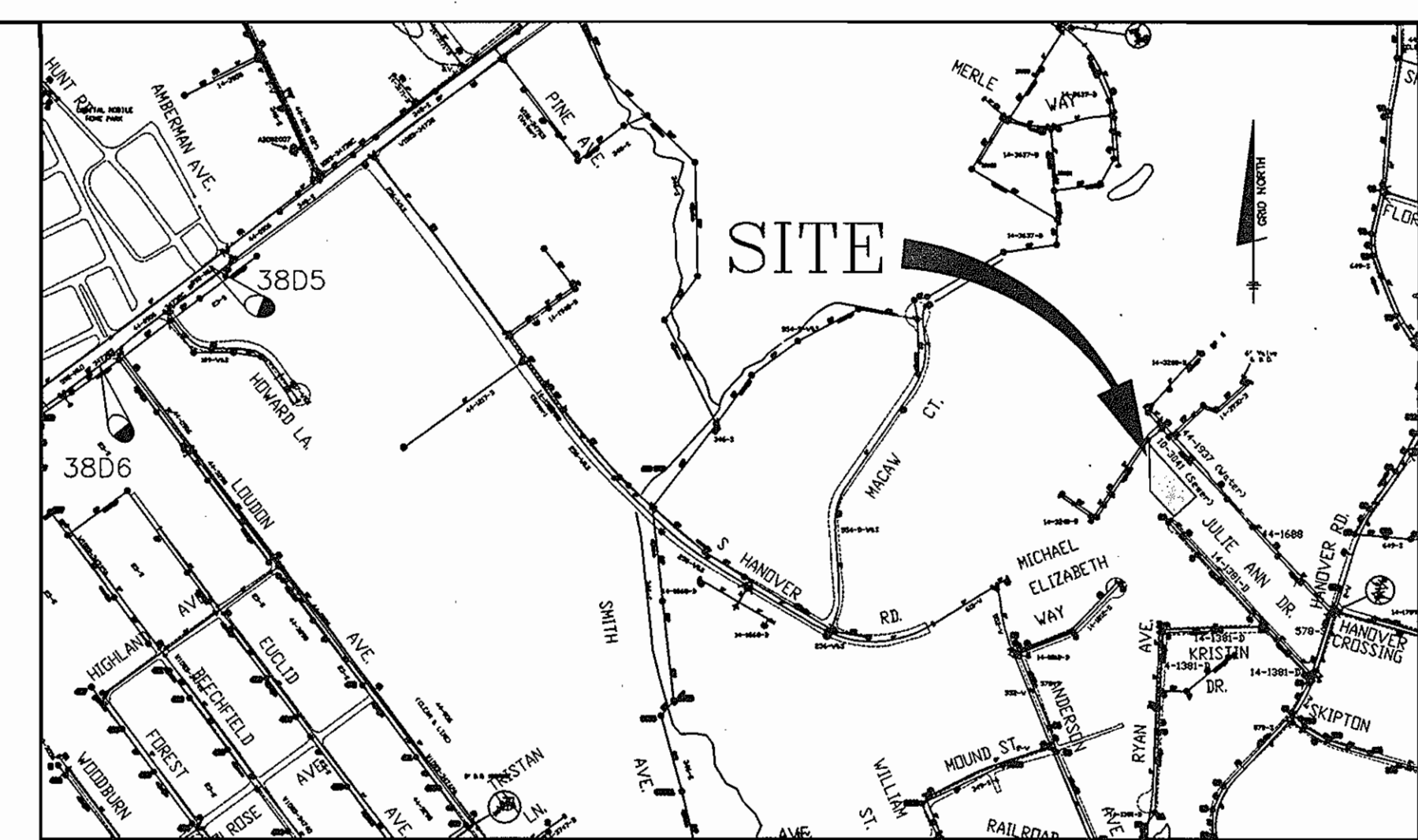
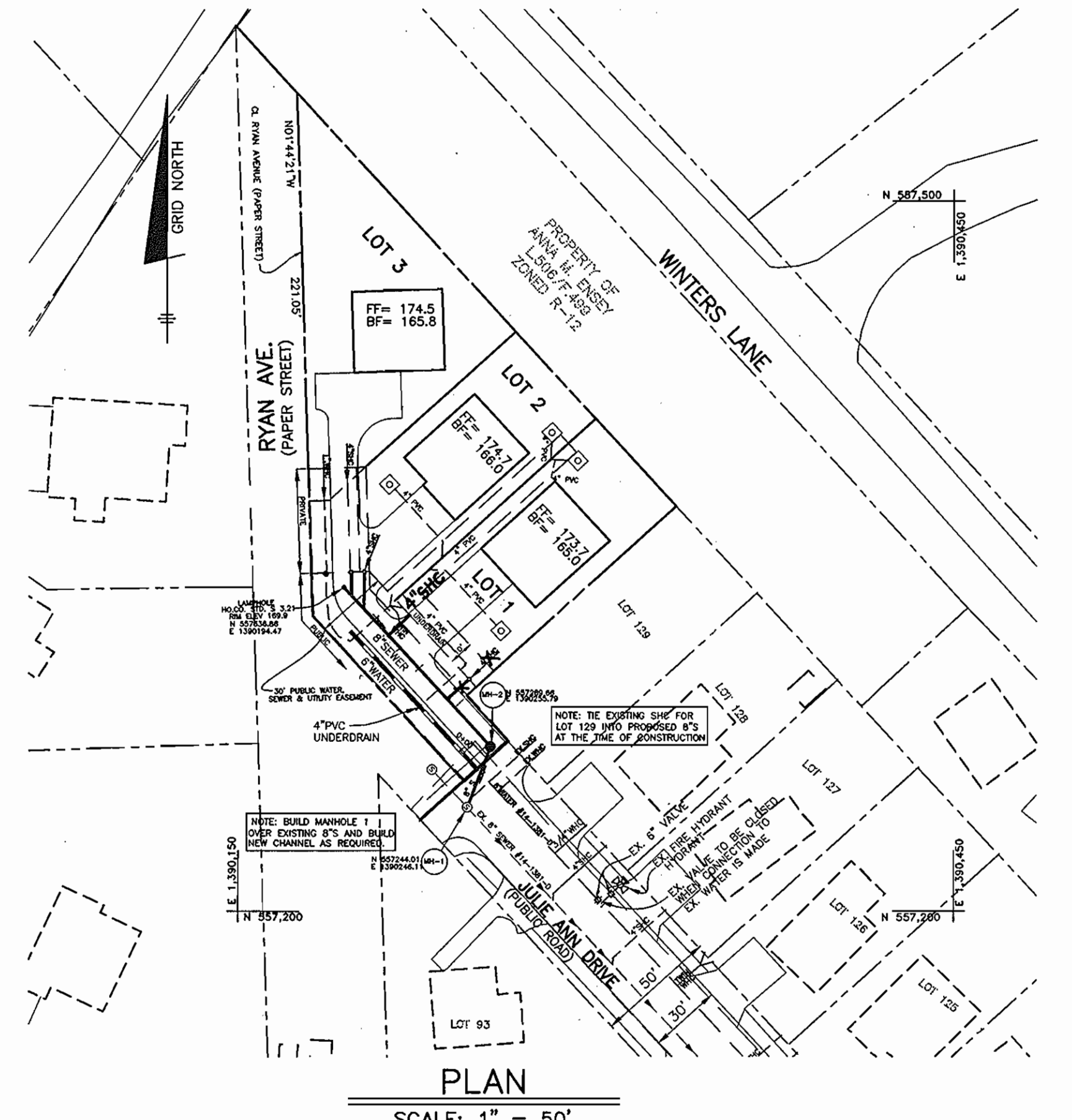
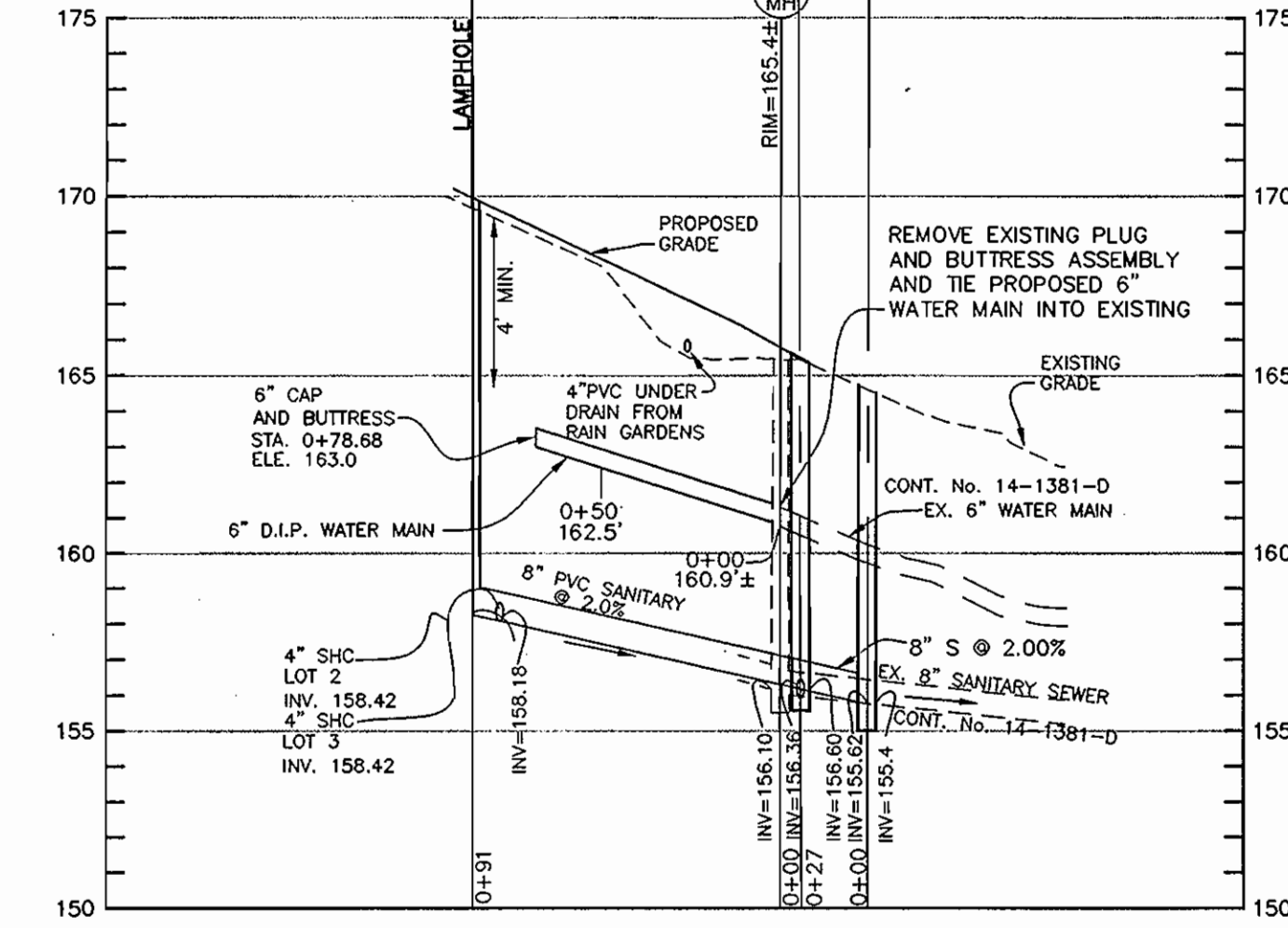
600 SCALE MAP No. 38 BLOCK 14

HANOVER'S GRANT
LOTS 1 THRU 3, A RESUBDIVISION OF LOTS 130 - 132
AND PART OF "PAPER STREET" R/W RYAN AVE.
PLAT OF HANOVERVILLE, PREVIOUSLY RECORDED AS PLAT JHO 60/303

TAX MAP 38, GRID 14, PARCEL 276
1st. ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
CONTRACT NO. 14-4232-D

SCALE:
AS SHOWN

SHEET NO.
1 OF 1



(FOR COUNTY USE ONLY) WATER AND SEWER COUNTY CODE	TYPE OF BUILDING: SINGLE FAMILY DETACHED
WATER CODE: A-01	NUMBER OF LOTS: 3 BUILDABLE
SEWER CODE: 2150300	NUMBER OF SHC'S: 3
TEST GRADIENT: 550	NUMBER OF WHC'S: 3
	DRAINAGE AREA: PATAPSCO
	TREATMENT PLANT: WASTEWATER TREATMENT PLANT

BENCH MARKS NAD'83

HO. CO. #3805	ELEV. 193.726
STAMPED BRASS OR ALUMINUM DISC SET ON TOP OF A CONCRETE COLUMN 1" OR 2" BELOW GRADE	
N 558378.575'	E 1386524.155'
HO. CO. #3806	ELEV. 175.228
STAMPED BRASS OR ALUMINUM DISC SET ON TOP OF A CONCRETE COLUMN 1" OR 2" BELOW GRADE	
N 557155.459'	E 1384992.262'

NOTE: THIS PLAN SUPERSEDES THE PREVIOUS
SHEET NO. 1 OF 1 FOR CONTRACT NO.
14-4232-D, DATED 12-04 AND
REVISED 8-26-05

GENERAL NOTES

- PART 1 - GENERAL**
- 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.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
 - ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 2'-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 MONEY 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 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. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION.....531-5533
BALTIMORE GAS & ELECTRIC CO.....850-4620
CONTRACTOR SERVICES.....787-9068
METS UTILITY.....1-800-257-7777
BALTIMORE GAS & ELECTRIC CO.....787-9068
UNDERGROUND DAMAGE CONTROL.....787-9068
METS UTILITY.....1-800-257-7777
COLONIAL PIPELINE CO.....795-1390
HOWARD CO. DEPT. OF PUBLIC WORKS.....313-4900
BUREAU OF UTILITIES.....313-4900
 - 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.
 - 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.
 - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY AT (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.
- PART 2 - WATER**
- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 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 WATER TIGHT FRAME AND COVERS, STANDARD DETAIL G5.52. WHERE WATER TIGHT MANHOLE FRAME AND COVER IS 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 CELLAR CANNOT BE SERVED.
- PART 3 - SEWER**
- ALL SEWER MAINS SHALL BE DIP 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 WATER TIGHT FRAME AND COVERS, STANDARD DETAIL G5.52. WHERE WATER TIGHT MANHOLE FRAME AND COVER IS 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 CELLAR CANNOT BE SERVED.

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
6" D.I.P. WATER	68 L.F.	68 L.F.	D.I.P. CL. 54	GRIFFIN PIPE/HD SUPPLY
1" WHC	38 L.F.	—	K-COPPER	CAMBRIDGE LEE/HD SUPPLY
8" PVC SEWER	118 L.F.	118 L.F.	PVC SDR-35	DIAMOND MFG/HD SUPPLY
MANHOLES	2 EACH	2 EACH	CONC. SANITARY	ATLANTIC CONCRETE
4" SHC	34 L.F.	34 L.F.	PVC SDR-35	DIAMOND MFG/HD SUPPLY
1 1/2" WHC	20 L.F.	—	K-COPPER	CAMBRIDGE LEE/HD SUPPLY
LAMPHOLE	1 EACH	1 EACH	PVC SDR-35	DIAMOND MFG/HD SUPPLY

NAME OF UTILITY CONTRACTOR: HAWKINS BROTHERS UTILITIES
SURVEY AND DRAFTING DIVISION AS-BUILT DATE: OCTOBER 2007

SEWER HOUSE CONNECTION TABLE

LOT NO.	INVERT AT MAIN/MH	INVERT AT ROW/EASEMENT	MCE	REMARKS
1	156.94	157.59	164.29	LATERAL AT 5% MAX
2	158.42	158.97	165.87	LATERAL AT 5% MAX
3	158.42	158.62	163.62	LATERAL AT 2%