	C	UANTITIE	5	
		,.,.,.	A5-BUILT	
ITEM	ESTIMATED	QUANTITIES	TYPE	SUPPLIER
8" SEWER	763 L.F.	36'	SDR 35	NORTH AMERICAN
MANHOLE	4 EACH	2	CONCRETE	CONTRACTORS PRE
8" WATER	1,085 L.F.	1,075	C900	North American
6" WATER	91 L.F.	90	C900	NORTH AMERICAN
8"X8" TAPPING SLEEVE	2 EACH	2	DIP	Ford Meter Box
6"X6" TAPPING SLEEVE	2 EACH	2	DIP	Ford meter box
8" TAPPING VALVE	2 EACH	2	DIP	Kenneda avtas
6" TAPPING VALVE	2 EACH	2	DIP	KENNEDY YALVE
8" VALVE	4 EACH	4	DIP	Kennedy avtre
6" VALVE	3 EACH	3	DIP	KEHNEDA AVTAE
0"x0" Tee	3 EACH	4	DIP	STAR PIPE
Ø*X6* TEE	4 EACH	4	DIP	STAR PIPE
FIRE HYDRANT	4 EACH	4	DIP	KENNEDY VALVE
1/8 H.B.	1 EACH	Î	C900	Kennedy valve
1/16 H.B.	1 EACH	9	C 900	Kennedy valve
1/32 H.B.	2 EACH	2	C900	KENNEDY VALVE
4° H.B.	1 EACH	1	C 900	Kennedy valve
6" PLUG & BUTTRESS	3 EACH	3	DIP	FORD
CONTINUITY TEST STATION	3 EACH	3	Concrete	Home concrete
8"× 4" TEE	1 EACH	Î	DIP	STAR PIPE
4" VALVE	1 EACH	9	DIP	KENNEDY VALVE
4" MUH & BUTTRESS	1 EACH	Ĵ	DIP	FORD
4"WATER	10 L.F.	10	C 900	North American
U/2" WHC	20 b.F.	22	COPPER	
NAME OF UTILITY CON	TRACTOR:			
SURVEY & DRAFTING I	DIVISION AS-BU	ILT DATE: 3.10-	16	
1" SHALE QUEDE MEIER SETTING	TEACH	J	METER	FORD
8" PW	1 EACH	- A	DIP	NORTH AMERICA
4" GEWER	23し片	20	SDR 35	NORTH AMERICA
G" GENER	tole	10	SDR 35	MORTH AMERICA

BENCHMARK INFORMATION . 24AB (NAD '83) (LOCATED AT THE INTERSECTION OF TUSCANY ROAD & CENTENNIAL LANE; 19.5' NORTH FROM BGE POLE NO. 363191)

E 1,351,345.5468 ELEVATION = 383.205 - VERTICAL - (NAVD '88) B.M. . 2 - HOWARD COUNTY CONTROL STATION . 0066 (NAD '83) (LOCATED IN THE PARKING LOT OF ENCHANTED FOREST SHOPPING CENTER, APPROX. 0.1 MILE EAST OF MAINTENANCE ENTRANCE)

N 587,380.4525 E 1,352,603.4593 ELEVATION = 306.509 - VERTICAL - (NAVD '80)

## DEVELOPER'S CERTIFICATION

" I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY." A

12-10-10

### ENGINEER'S CERTIFICATION

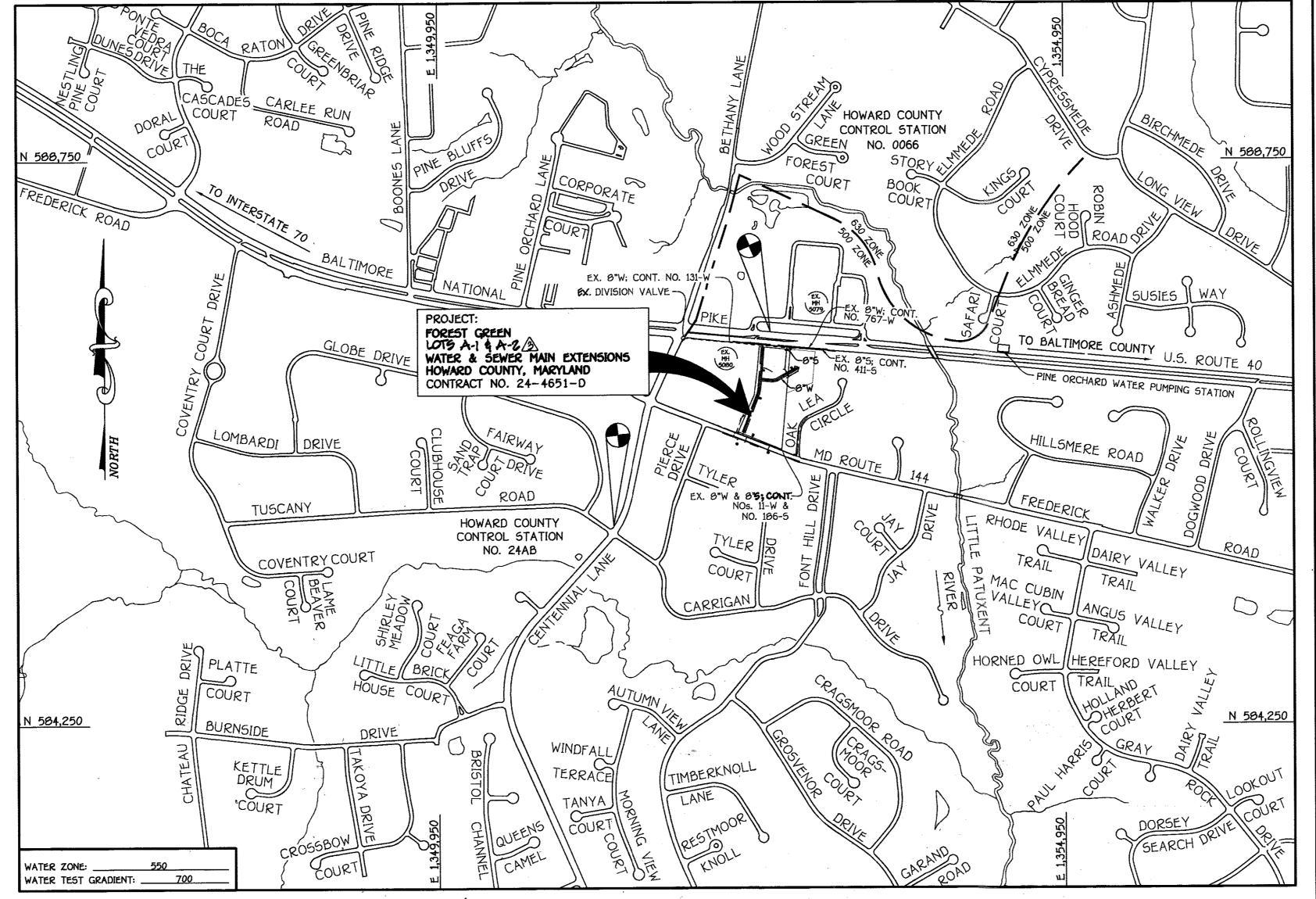
" I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL

SIGNATURE OF ENGINEER

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME IV: STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND AS SHOWN ON THE SITE DEVELOPMENT PLAN, SDP-10-036.
Paul N. Kriebel, FOR:

5DP-10-036

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT

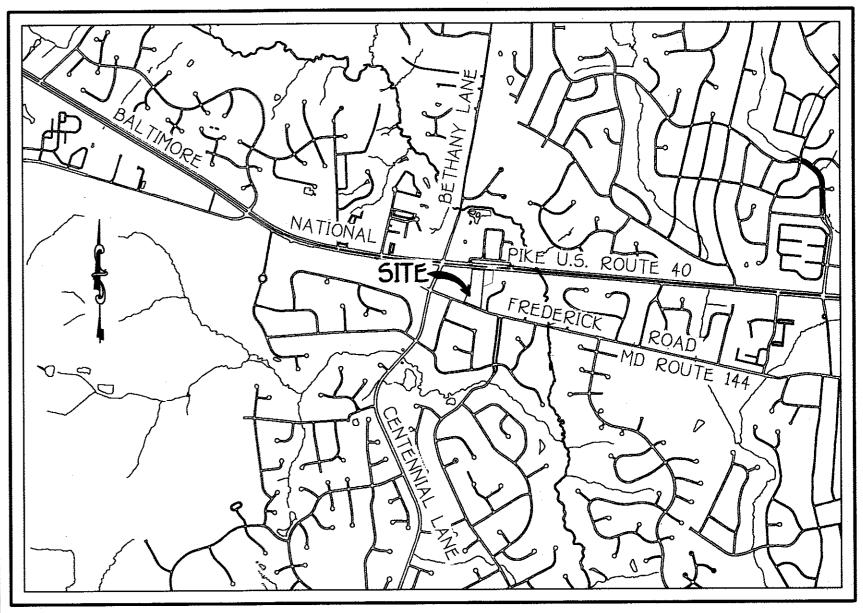


CONTRACT NO. 24-4651-D FOREST GREEN

△ LOTS A-1 & A-2 WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

PLAN REFERENCE NUMBERS:

F-11-020



## 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 AUGUST, 2006 BY FISHER, COLLINS & CARTER, 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. 24AB & NO. 0066. ALL VERTICAL CONTROLS ARE AS INDICATED IN THE BENCHMARK INFORMATION. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS. 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 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 BRACING OF ADDITIONAL POLES. ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES

. FOR DETAILS NOT SHOWN ON THE DRAWINGS, 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 SITE.

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.

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

BGE (EMERGENCY) . . . . . . . . 410-605-0123 BUREAU OF UTILITIES . . . . . . . . . . . . 410-313-4900 COLONIAL PIPELINE CO . . . . . . . . . . . . MISS UTILITY . . . . . . . . . . . . . . . . . 1-800-257-777' STATE HIGHWAY ADMINISTRATION . . . . 410-531-5533

) 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. 10. 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 THE 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

PART B: WATER MAIN GENERAL NOTES
PUC C900

1. ALL WATER MAINS SHALL BE DIP. CLASS 54 UNLESS OTHERWISE NOTED. 2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF 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 STANDARD DETAILS UNLESS OTHERWISE

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. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.

6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM. 7. 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. 6. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND 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. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. 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. 9. ALL DWELLING UNITS SHALL HAVE A 1-1/2" WATER HOUSE CONNECTION WITH A 1" OUTSIDE METER SETTING; STD. DET. W-3.28.

### PART C: SEWER MAIN GENERAL NOTES

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 COVER, STANDARD DETAIL G5.52. 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.

DEVELOPER FOREST VENTURES 5300 DORSEY HALL DRIVE SUITE 102 ELLICOTT CITY, MARYLAND 21042

CONTRACT NO. 24-4651-D FOREST GREEN 3 W15 A-1 & A-2. WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12. FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYOR

TYPE OF BUILDING: COMMERCIAL: OFFICE/RETAIL

NO. OF WATER HOUSE CONNECTIONS: \_\_\_\_\_\_6-

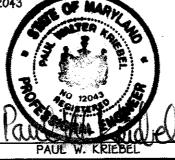
TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION

PLANT; SAVAGE, MARYLAND

NUMBER OF BUILDINGS: \_\_\_\_\_

NO. OF SEWER HOUSE CONNECTIONS: .

DRAINAGE AREA: LITTLE PATUXENT



SIGNED BY :			· ·		_
B.C.R.					
RAWN BY : B.C.R.					•
	FCC	13	REVISE QUANTITIES; APORTIONAL RUBLIC SEWER MAIN & REMSE CONTRACTITIES	3/24	1
ECKED BY : P.W.K.	FOC-	2	ADD HEAD & QUANTITIES; REVISED WATER SECVICE TO BLOCK O' (BANK)	19/23	Ĺ
DATE :	rcc	$\Lambda$	MEMBE QUANTITIES BLOGD ON CONNECTION REMBIONS TO BLOGG "X' & C'	2/1/	ļ
CEMBED 2010	av	NO	PEVIGION	DAT	ì

WATER AND SEWER MAINS TITLE SHEET

600' SCALE MAP NO. \_\_\_\_ 24 BLOCK NO.

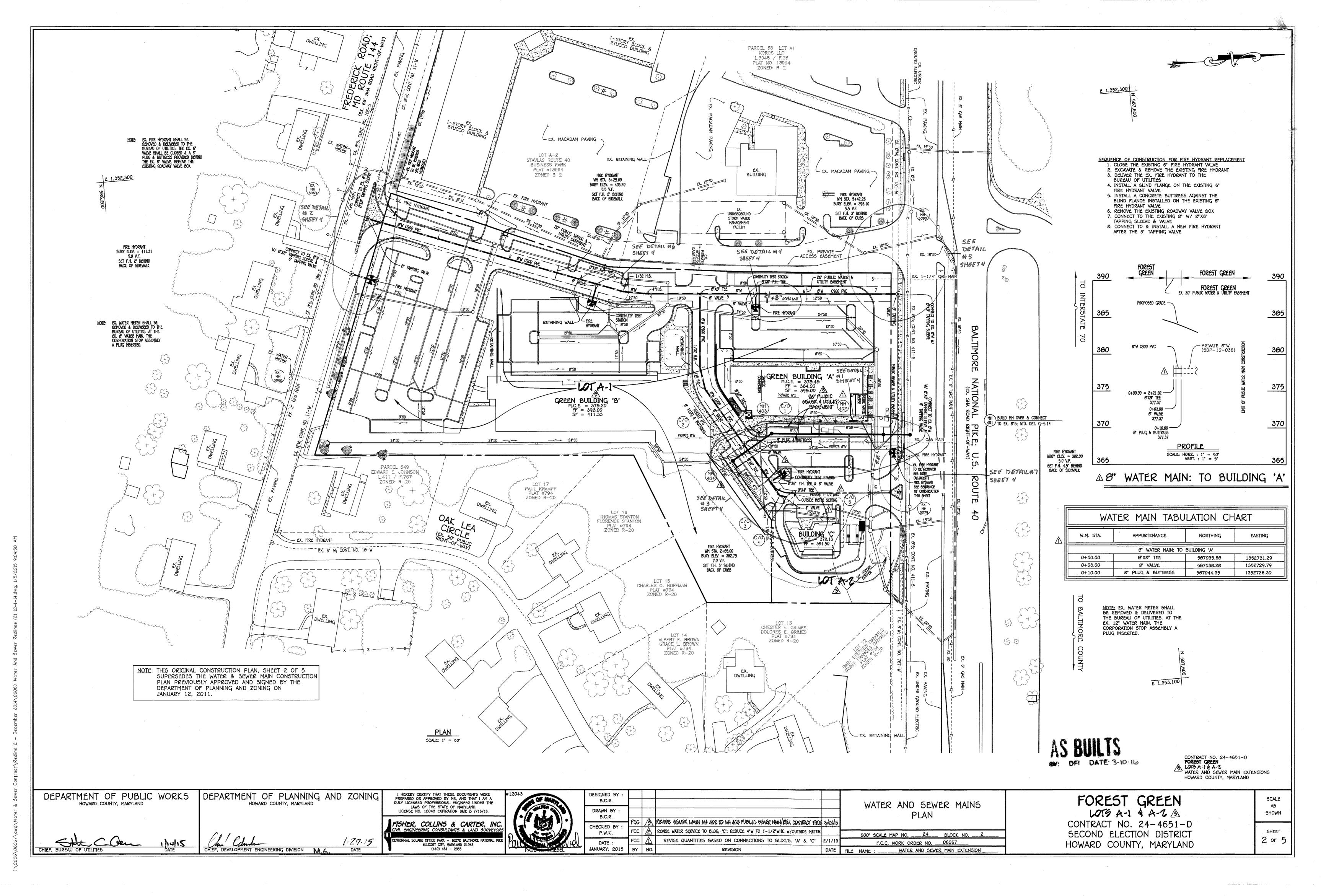
F.C.C. WORK ORDER NO. \_\_\_\_\_06067

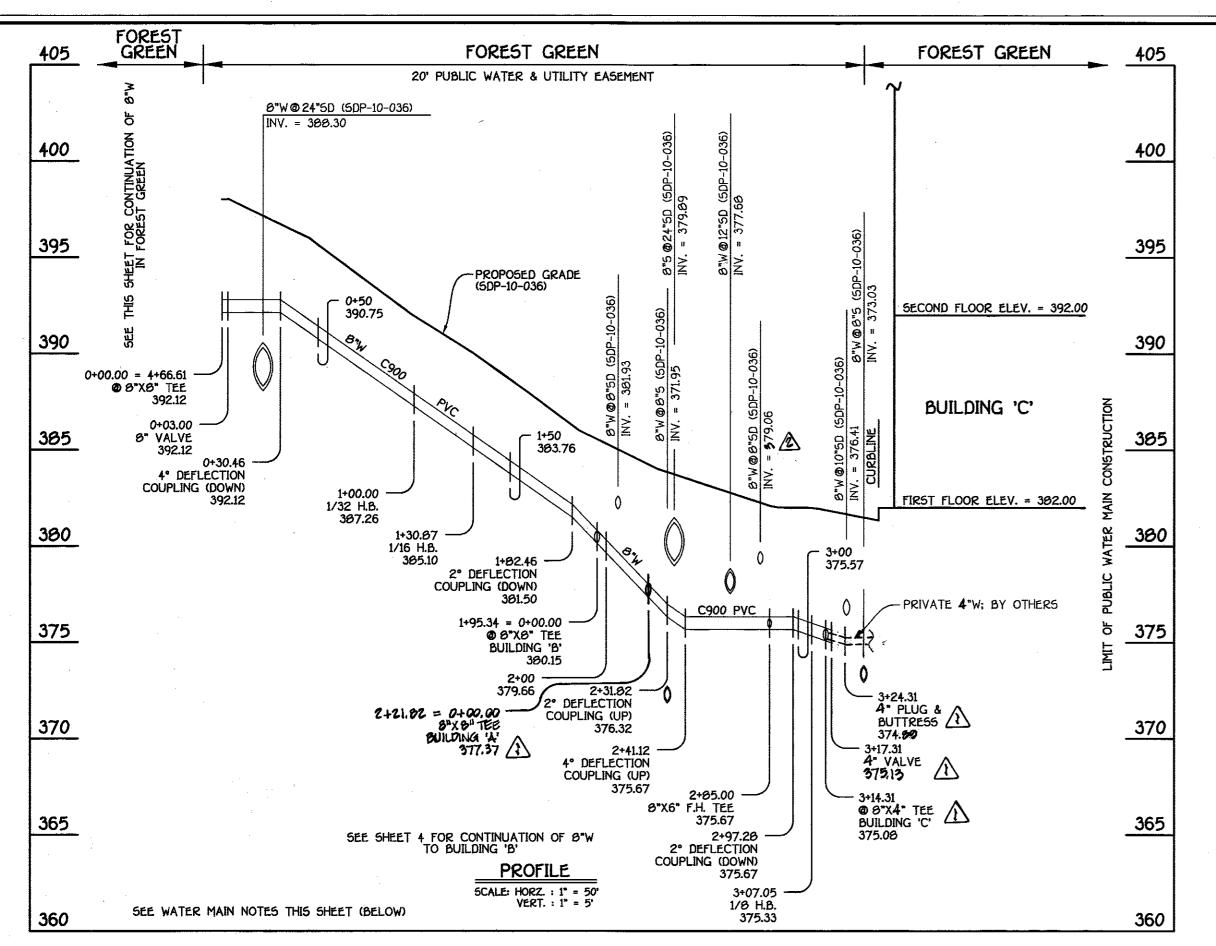
WATER AND SEWER MAIN EXTENSION

FOREST GREEN WIS A-1 & A-2 A CONTRACT NO. 24-4651-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHOWN

SHEET of 5

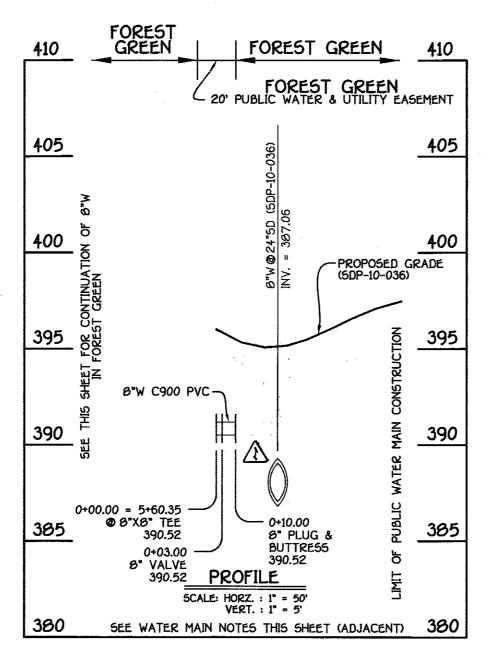




# 8" WATER MAIN: TO BUILDING 'B' & 'C'

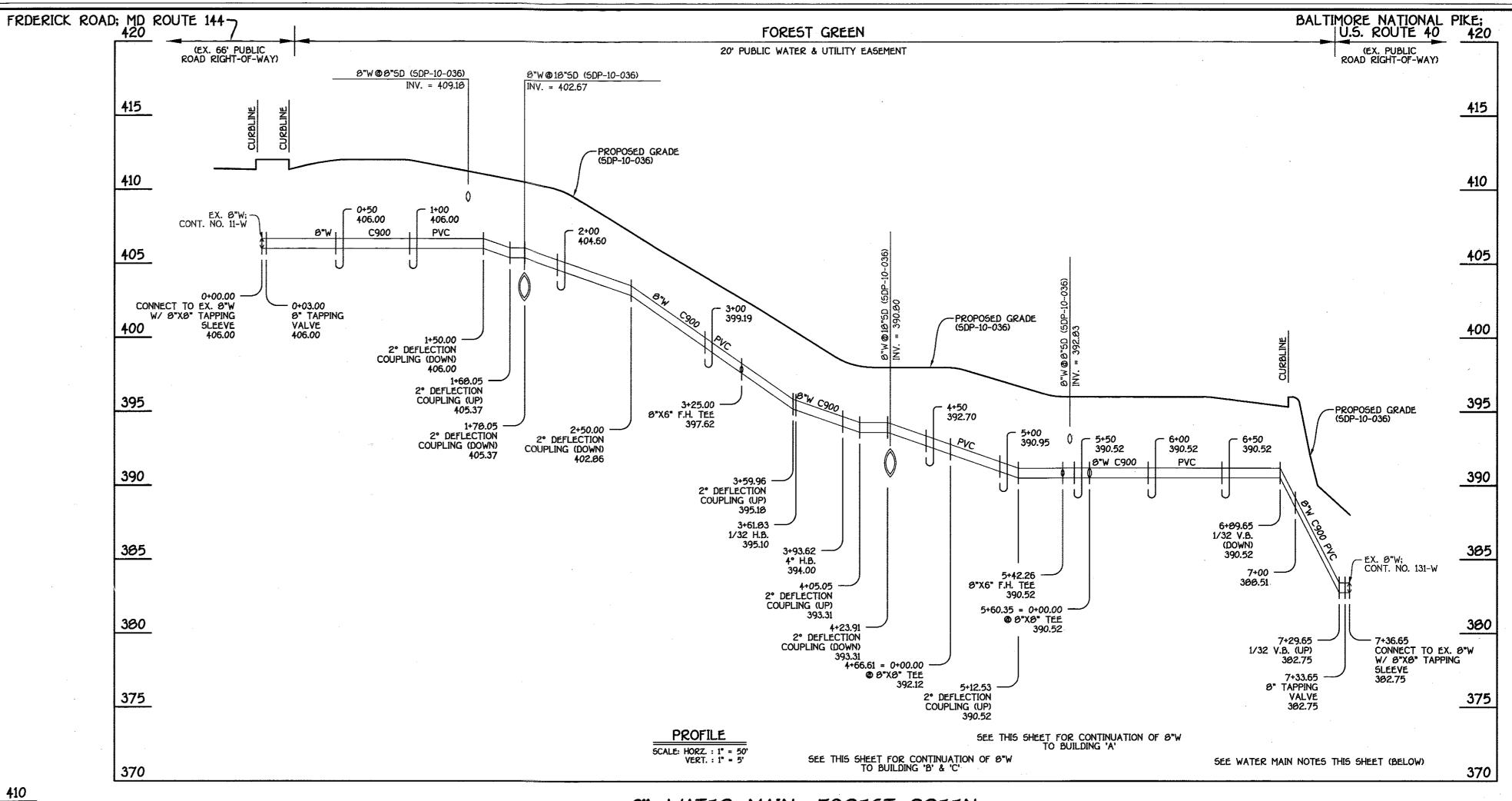
WA	TER MAIN TABU	LATION CH	IART
W.M. STA.	APPURTENANCE	NORTHING	EASTING
	8" WATER MAIN: TO BU	ILDING 'B' & 'C'	
0+00.00	8"X8" TAPPING SLEEVE	586994.51	1352522.33
0+03.00	8" VALVE	586994.25	1352525.32
1+00.00	1/32 H.B.	586985.68	1352621.94
1+30.87	1/16 H.B.	5ø6990.30	1352652.47
1+95.34	8"X8" TEE	587022.47	1352708.34
2+85.00	Ø"X6" F.H. TEE	587067.20	1352786.04
3+07.05	1/Ø H.B.	587078.20	1352805.15
3+14.31	↑ 8"X 4" TEE	587085.22	1352806.98
3+17.31	4" VALVE	507004.46	1352809.88
3+24.31	4" PLUG & BUTTRESS	587082.70	1352016.65
2+21.82	B"X B" TEE	587035,68	1352731.29

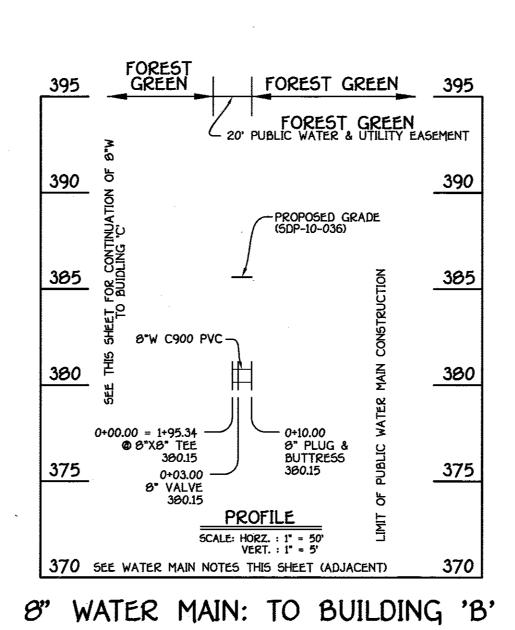
- WATER MAIN NOTES: 1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE. 2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA
  - C900 PVC WATER PIPE INSTALLATION.
  - 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
  - 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING



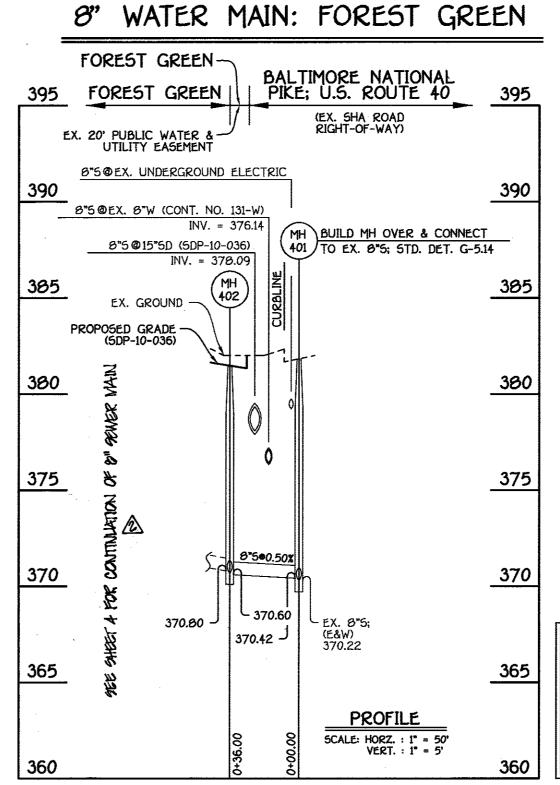
### 8" WATER MAIN: TO BUILDING 'A'

WA	TER MAIN TABU	LATION CH	HART
W.M. STA.	APPURTENANCE	NORTHING	EASTING
	8" WATER MAIN: TO	BUILDING 'A'	
0+00.00	8"X8" TEE	587087.88	1352530.62
0+03.00	8" VALVE	587087.62	1352533.60
0+10 00	8" PLUG & BUTTRESS	587087.00	1352540 57





WAT	ER MAIN TABU	LATION CH	HART
W.M. STA.	APPURTENANCE	NORTHING	EASTING
	6" WATER MAIN: TO	BUILDING 'B'	**************************************
0+00.00	Ø"XØ" TEE	587022.47	1352700.34
0+03.00	8" VALVE	587019.87	1352709.84
0+10.00	0" PLUG & BUTTRESS	597013.90	1352713.33



8" SEWER MAIN

W.M. STA.	APPURTENANCE	NORTHING	EASTING
	8" WATER MAIN: FO	rest green	
0+00.00	8"X8" TAPPING SLEEVE	596552.69	1352300.6
0+03.00	6" TAPPING VALVE	586555.48	1352361.7
3+25.00	Ø"X6" F.H. TEE	586856.15	1352496.9
3+61.03	1/32 H.B.	586890.54	1352510.10
3+93.62	4° H.B.	586921.81	1352515.0
4+66.61	8"X8" TEE	586994.51	1352522.3
5+42.26	Ø"X6" F.H. TEE	587069.86	1352529.0
5+60.35	8"X8" TEE	587087.88	1352530.6
7+33.65	8" TAPPING VALVE	587260.51	1352545.9
7+36.65	0"X0" TAPPING SLEEVE	567263.49	1352546.1

MA	NHOLE TABU	LATION CHA	RT
NO.	NORTHING	EASTING	RIM ELEVATION
401	587262.04	1352737.94	301.05
402	587226.20	1352734.56	381.50

NOTE: SET MH RIM FLUSH W/PROPOSED GRADE.

CONTRACT NO. 24-4651-D
FOREST GREEN

LOTG A-1 4 A-2
WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

PA BSI DATE: 3-10-16

FOREST GREEN

LOTS A-1 & A-2 A CONTRACT NO. 24-4651-D SECOND ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

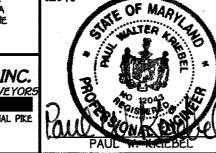
**SHOWN** SHEET 3 of 5

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

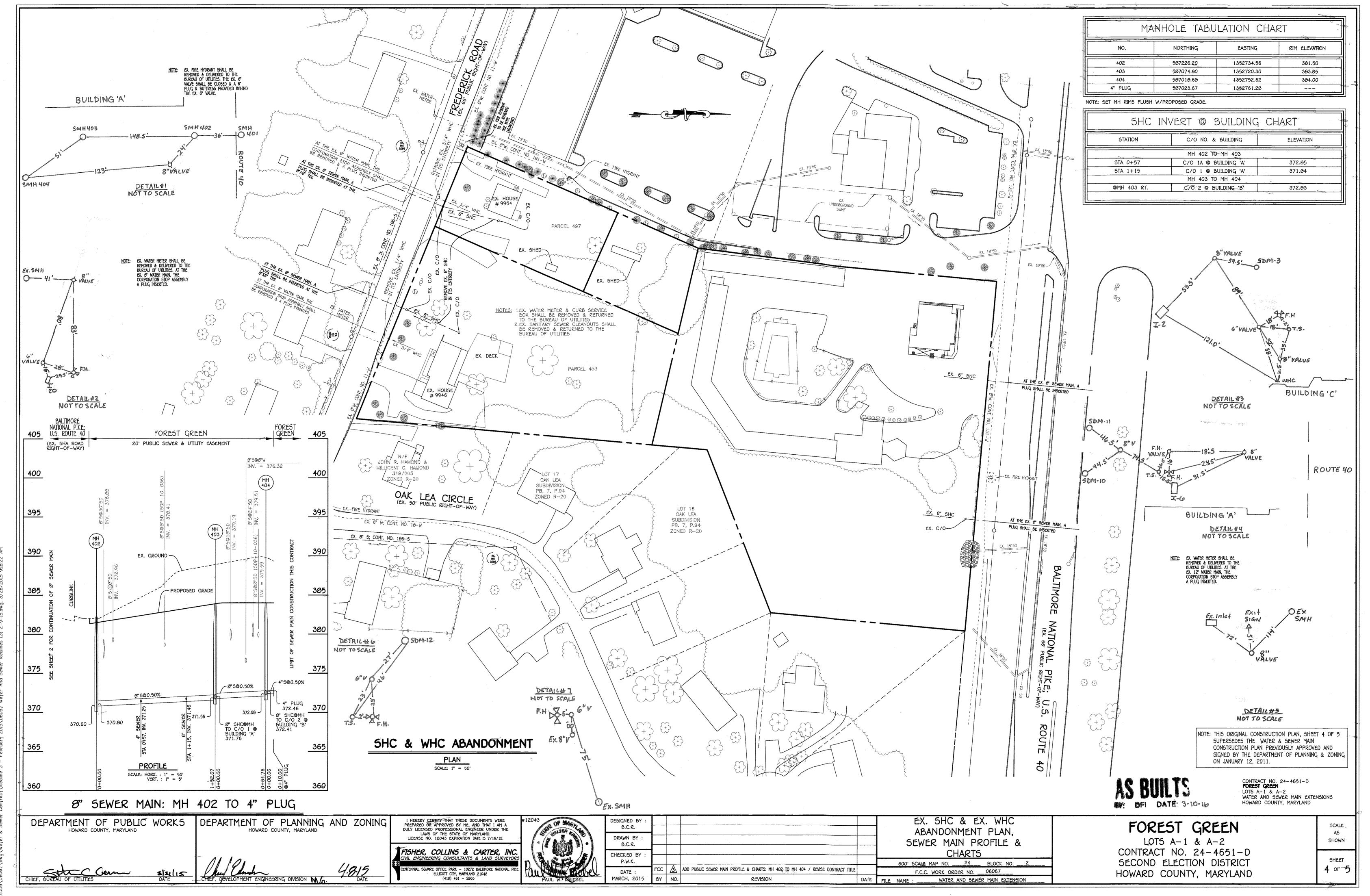
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12. FISHER, COLLINS & CARTER, INC.



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A P	L
40 120AP 15	
918 87 0	┝
XONAX PERCOPEL	۱
JE W. KRIEBEL	I

DESIGNED BY:					
B.C.R.				WATER & SEWER MAINS	
DRAWN BY : B.C.R.				PROFILES & CHARTS	
CHECKED BY :	<u> </u>			, <u>,</u>	
P.W.K.	FCC		INDICATE REMAINS AS A REGULT OF ADMITIONAL PLANC GOMER, NEW, COMPRECEDING 3/44/10	15 600' SCALE MAP NO2 BLOCK NO2	
DATE :	FCC	$\triangle$	revise location & size of connections to buildings 'a' & 'C'   2/1/19		
DECEMBER, 2010	βY	NO.	REVISION DATE	FILE NAME : WATER AND SEWER MAIN EXTENSION	



1:\2006\08067\dwq\Water & Sewer Contract\Redline 3 — February 2015\06067 Water And Sewer Redlines (3) 2-9-1

