GENERAL NOTES

- 1. 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
- 2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON MAY 5, 2007 BY MERIDIAN SURVEYS. INC.
- 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3511 AND NO. 3512 AS PROVIDED BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SURVEY DIVISION.
- 4. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SURVEY DIVISION.
- 5. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- 6. 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 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 BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- 7. 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.
- 8. 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
- 9. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

1-800-252-1133 BGE (CONSTRUCTION SERVICES) 410-850-4620 BGE (EMERGENCY) BUREAU OF UTILITIES COLONIAL PIPELINE COMPANY 1-800-257-7777 STATE HIGHWAY ADMINISTRATION 410-531-5533 1-800-743-0033/410-224-9210

- 10. 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.
- 11. 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.
- 12. 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.

STANDARD WATER MAIN GENERAL NOTES

- 1. ALL WATER MAINS TO BE C900 PVC CLASS 150 PIPE.
- 2. TOPS OF ALL WATER MAINS TO 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 THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWNGS.
- 5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. THE 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. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE MFTER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
- 8. FOR SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1' CONNECTION WITH A 34" METER.

STANDARD SEWER MAIN GENERAL NOTES

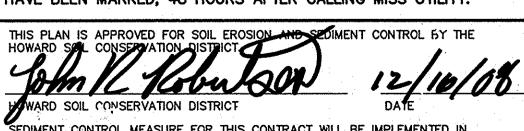
- 1. ALL SEWER MAINS SHALL BE P.V.C. UNLESS OTHERWISE NOTED
- 2. AL! MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 3. FORCE MAINS SHALL BE D.I.P. ONLY.
- 4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.

MANIHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE A WATERTIGHT FRAME AND COVER. STANDARD DETAIL G5-52. WHERE WATERTIGHT FRAME AND COVER ARE USED, SET TOP FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CEULAR CANNOT BE SERVED.

UTILITY NOTE

CALL "MISS UTILITY AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. BEFORE EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CALLING TICKET CHECK AT 1-866-821-4226 TO VERIFY THAT ALL UTILITIES HAVE BEEN MARKED, 48 HOURS AFTER CALLING MISS UTILITY.



ADTEK ENGINEERS, INC.

CIVIL & STRUCTURAL ENGINEERING Inneacy Boulevard, Unit H

MEASURE FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS

AND AS PER SDP-09-02. DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

1215108 CHIEF, BUREAU OF UTILITIES

Frederick, Maryland 21701-5516 Phone: 301-662-4408 Fax: 301-662-7484 www.adtekengineers.com

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY.

MARYLAND 12.24.8 CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNER/DEVELOPER

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

9250 BENDIX ROAD

COLUMBIA, MARYLAND 21045

ATTN: ABEYE GIRMA

TEL: 410.313.6143 FAX: 410.313.6161

SHEET INDEX

COVER SHEET (1 of 4)

SEWEP & WATER PLAN (2 of 4)

SEWER PUMP DETAILS (4 of 4)

SEWER & WATER PROFILES (3 of 4)

DRN: KDL 0/6/08 loward Co. Utilities Comment DES: KDL oward Co. Utilities Comments loward Co. Utilities Comments loward Co. Utilities Comments DATE 600' SCALE MAP NO. 35

REVISION

Cover Sheet

PARCEL NO. 87

Robinson **Nature Center**

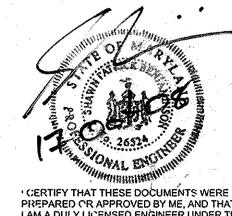
Election District No. 5 CAPITAL PROJECT #: 34-4587-D

SCALE: $1" = 2.000' \pm$ HOWARD COUNTY ADC MAP PAGE: 15

	QUA	NTITIES	X.		
	·		AS-BUILT		
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUF./SUPPLIER	
8"W C900 PVC CL 150	1323 LF	(323)	C-900 PVC	NORTH AMERICAN	
8"W C900 PVC CAP	. 2	2	DIP	SIGMA	
FIRE HYDRANT	2	2	GUARDIAN	KENNEDY 🍜	
8" X 8"T	2	2	DIP	SIGMA	
8"VALVE	6	6	C-905 CAST	KENNEDY	
6"VALVE	2	2	C-905 CAST	KENNEDY	
6"W C900 PVC CL 150	160 LF	160	C-900 PVC	NORTH AMERICAN	
2"W COPPER TYPE "K"	436 LF	436	TYPE K	CAMBRIDGE LEE	
2"CAP .	4	4	DIP	SIGMA	
2*VALVE	3	3	70 SERIES		
8"x 2" corp valve w/saddle	2	2	F 202 8 4 4 SA DDLE CORP	FORD	
2"METER BOX	4	4	PRECAST CONC	HORNE	
8"SEWER	544 LF	544	SDR-35 PVC	NORTH AMERICAN	
6"SEWER	62 LF	62	SDR-35 PVC	NORTH AMERICAN	
4"S WER	55 LF	55	SDR-35 PVC	NORTH AMERICAN	
2" FORCE MAIN	183 LF	183	SDR-21PVC	NORTH AMERICAN	
2"x 3/4" CORP VALVE W/ SADDLE	1			FORD	
MANHOLES	5	5	PRECAST CONC	AMERICAST	
PUMP STATION	1 .	1	DH-272	ENVIRONMENT ONE	
NAME OF UTILITY CONTI	RACTOR: JOS	EPH CANO	VA AND S	ON, LLC	
SURVEY AND DRAFTING	VEY AND DRAFTING DIVISION AS-BUILT DATE:				

			BENCHM	ARK TABLE
NO.	NORTHING	EASTING	ELEVATION	LOCATION
1	555008.8277	1342754.7008	325.05	X-CUT ON SOUTH SIDE CATCH BASIN. EAST SIDE OF CEDAR LANE.
3	554843.0589	1342691.0659	317.38	X-CUT ON SOUTH SIDE CATCH BASIN. EAST SIDE OF CEDAR LANE.
4	554559.1082	1342592.8203	305.26	X-CUT ON SOUTH SIDE CATCH BASIN. EAST

		,	STRUCTU	RE SCHEE)ULE		**
STRUCTURE NO	TYPE	TOP ELEV	IMMER'I IN	INVERT OUT	NORTHING	EASTING	REMARKS
EX 5-1	EXISTING MANHOLE	303.92	299.10 299.10	299.00	554547.8646	1342531.5310	
S-40	MANHOLE	310.00	301.64	301.54	554620.6917	1342463.6625	MANHOLE S/1.31
S-41	MANHOLE	324.60	313.26	313.16	554761.5686	1342311.5976	MANHOLE 3/1.31
S-42	MANHOLE	327.00	315.97	315.87	554759.6293	1342176.9569	MANHOLE S/1.31
S-43	MANHOLE	326.10	318.39	318.22	554738.8989	1342)62.2787	MANHOLE S/1.31
S-44	MANHOLE	324.50	318.08	318.98	554737.4246	1342037.3222	MANHOLE S/1.31
PS-1	MANHOLE	297.20	SEE DETAIL	SEE DITAIL	554847.0638	1341900.5322	SEE DETAIL SHT C 4.2



PREPARED OR APPROVED BY ME, AND THAT LAWS OF THE STATE OF A MARYLAND,

SHEET NO. Howard County, Maryland 1 OF 4

SDP-09-002

NTS

LEGEND BENCHMARK

EXISTING MANHOLE EXISTING SANITARY SEWER **EXISTING STORM DRAIN** EXISTING WATER LINE EXISTING WATER VALVE **EXISTING FIRE HYDRANT EXISTING CONTCUR**

LOCATION MA

NUMBER OF WHC'S: 1 NUMBER OF SHC'S: 1

WATER AND SEWER

COUNTY CODE

WAREP CODE: E 28 SEWER CODE: 5326200

UTILITY POLE

EXISTING LIGHT

TEST GRADIENT: 700

TYPE OF BUILDINGS: NUMBER OF BUILDING LOTS: 1
NUMBER OF NON-BUILDING LOTS: NONE

TREATMENT PLANT: LITTLE CAUSENT WATER
QUALITY MANAGEMENT CENTER, SAVAGE, MARYLAND

PRAINAGE AREA: MIDDLE PATUXENT

PROPOSED PUBLIC WATER & SEWER

ROBINSON NATURE CENTER

5TH ELECTION DISTRICT, TAX MAP 35

HOWARD COUNTY, MARYLAND 21044

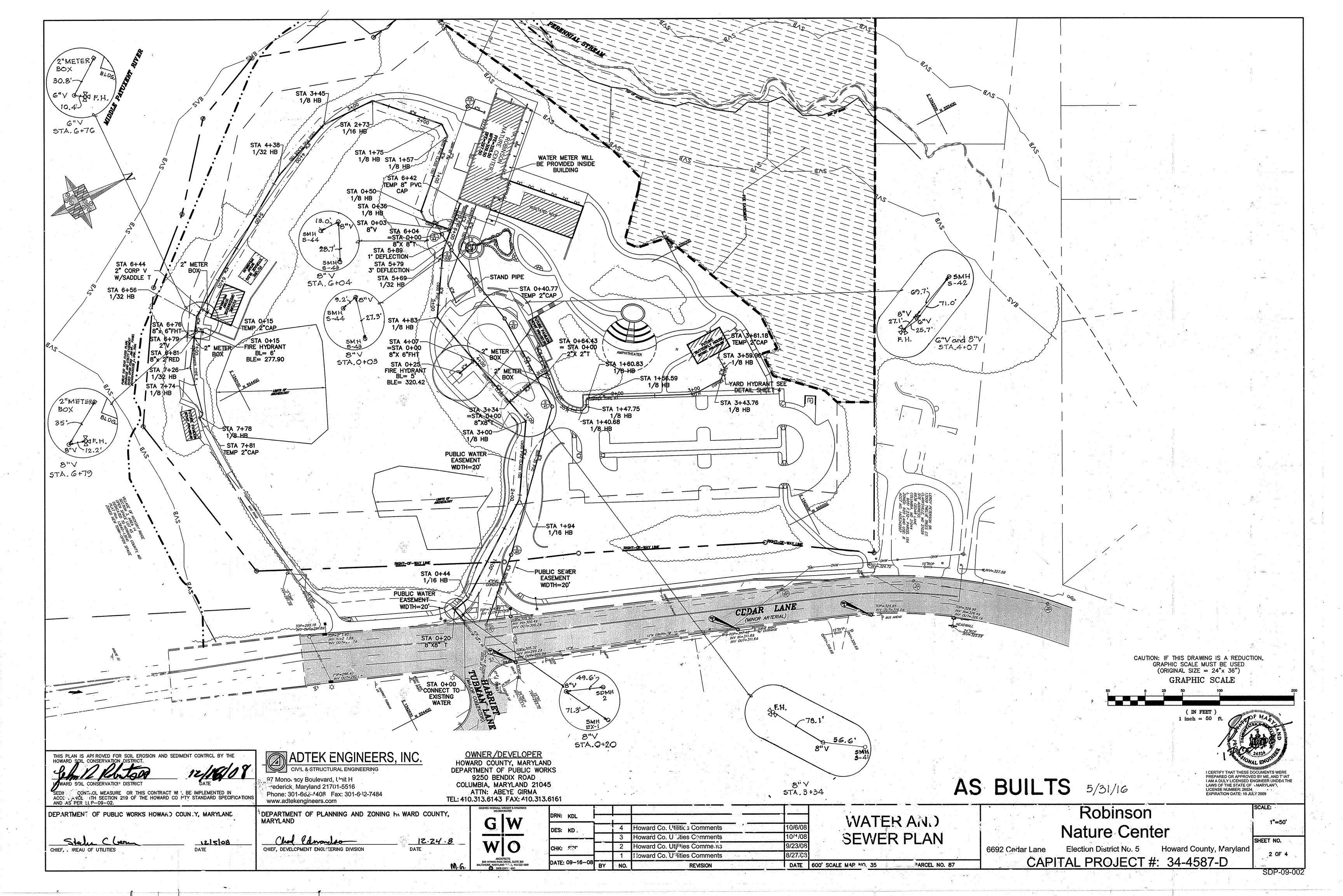
CAPITAL PROJECT NO. 34-4587-D

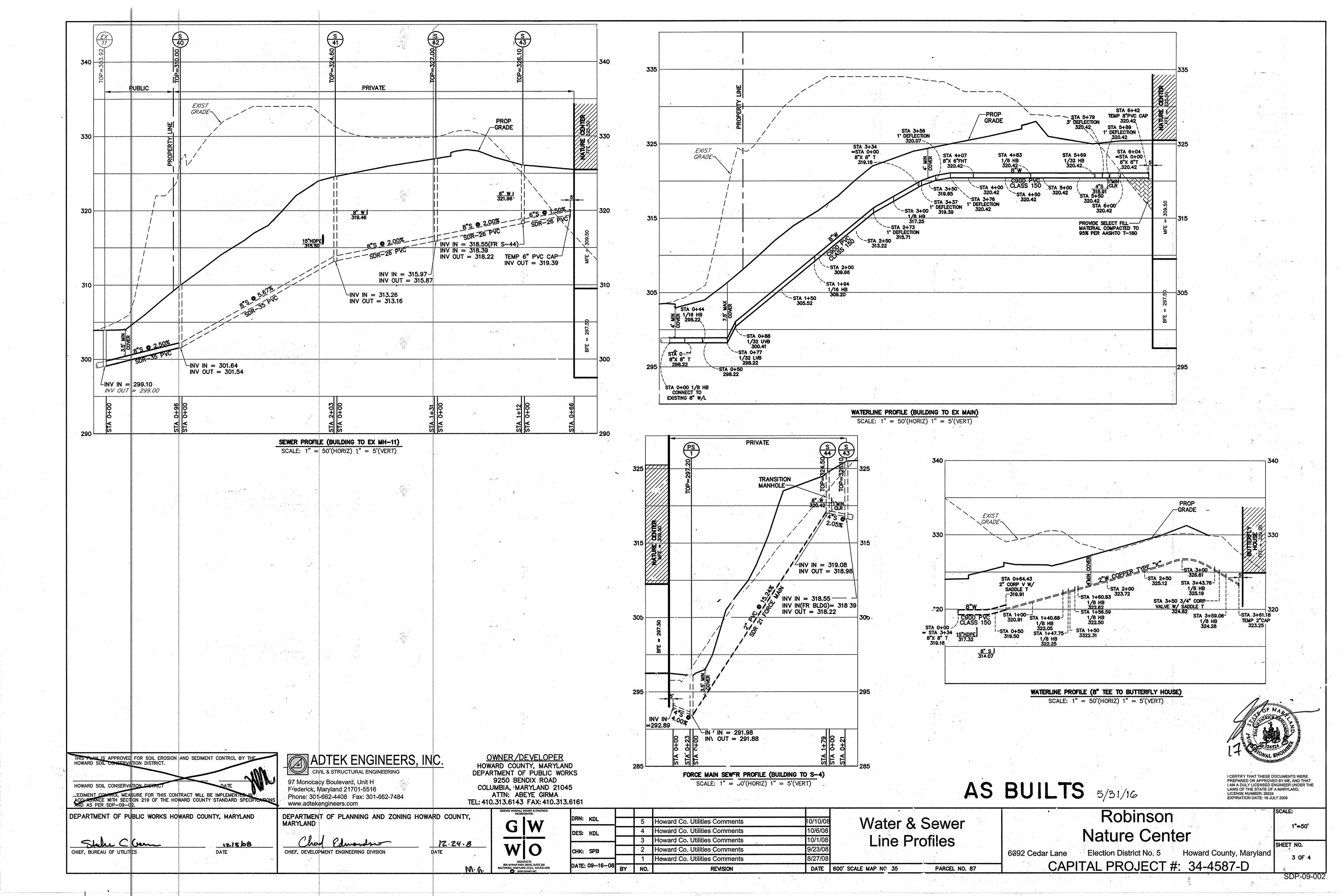
EXISTING FENCE PROPERTY LINE

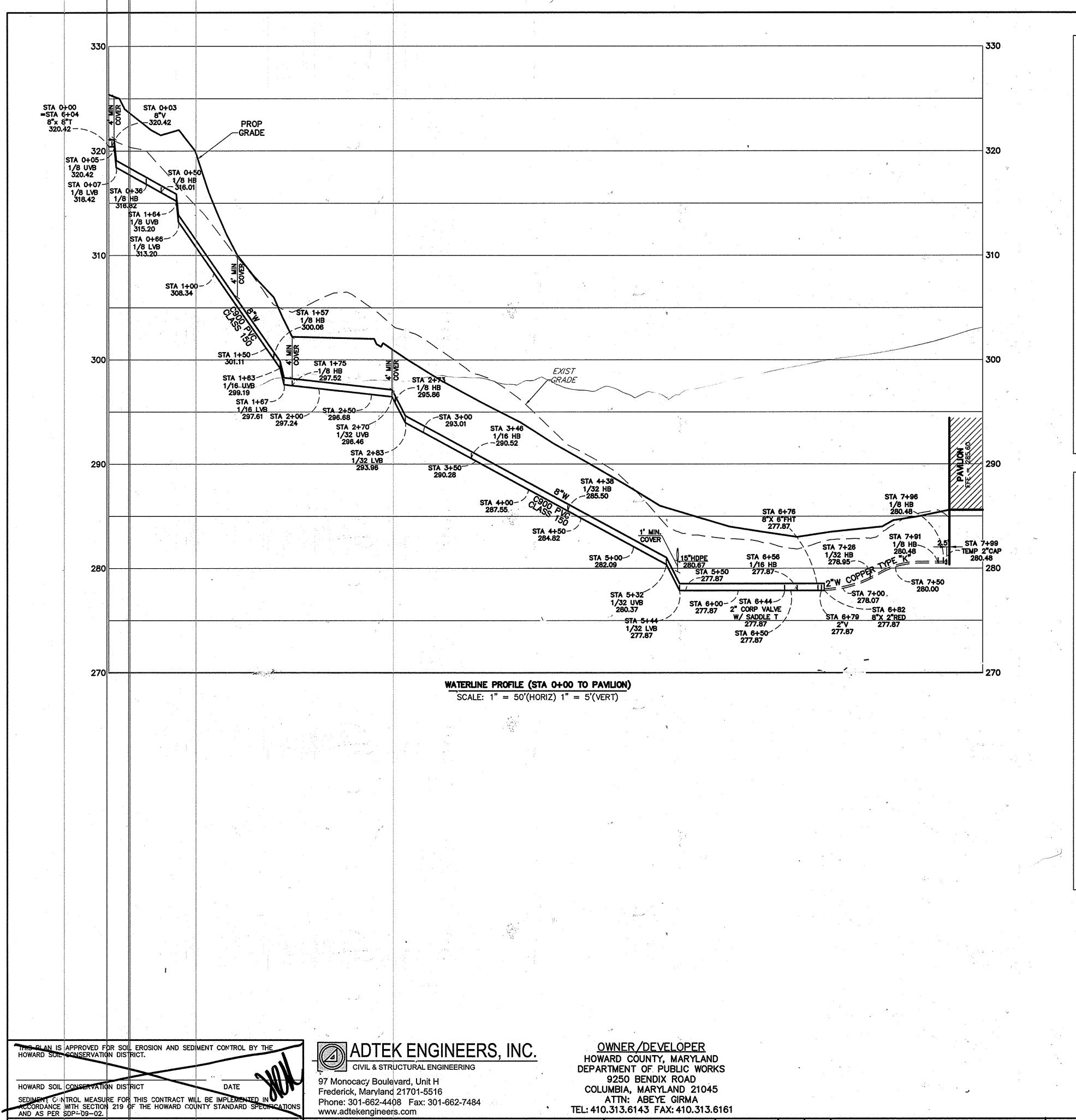
PROPOSED STORM DRAIN EASEMENT PROPOSED SEWER LINE PROTOSED WATER LINE PROPOSED FIRE HYDRANT

EXISTING TREE LINE

AS BUILTS







DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

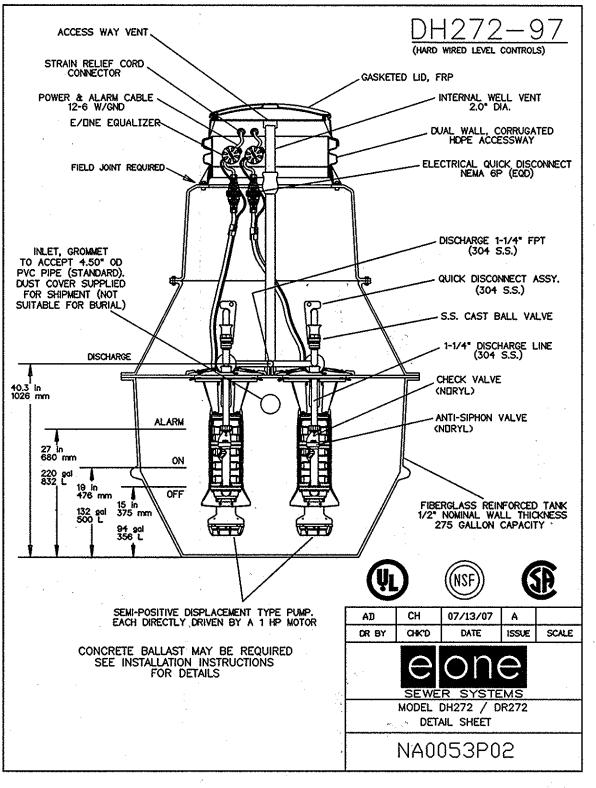
CHIEF, DEVELOPMENT ENGINEERING DIVISION

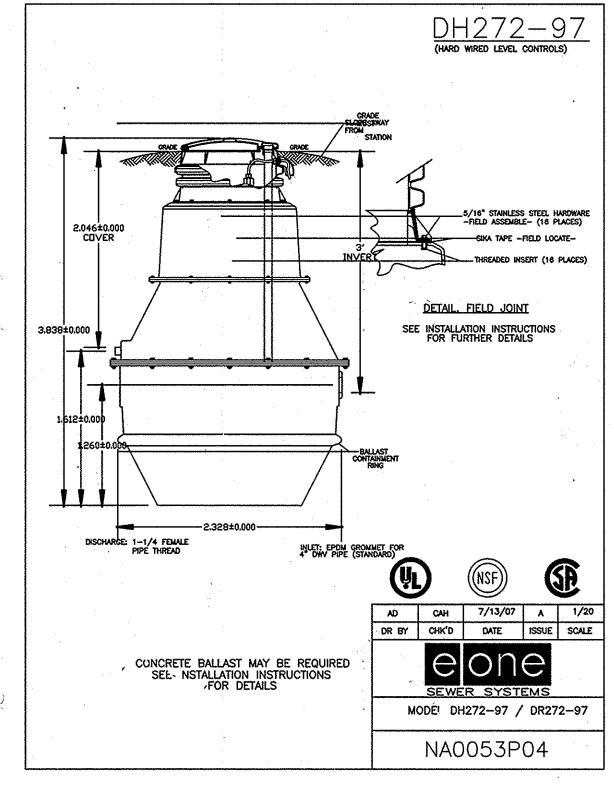
12.24.8 DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

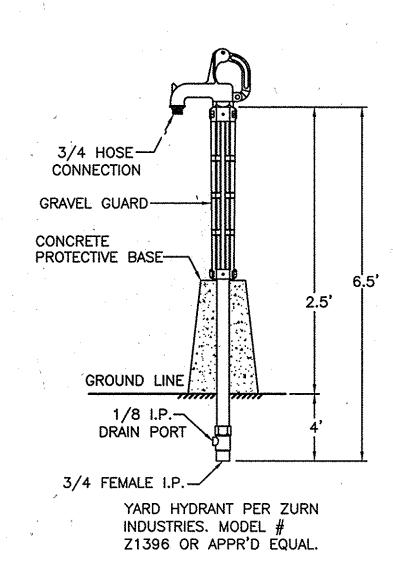
CHIEF, BUREAU OF UTILITIES

12/5/09





NOTE: FORCE MAIN RECEIVES FROM MIDLEVEL FLOORS OF	NLY
DESCRIPTION	
DESIGN POPULATION (MAX OCCUPANCY OF LOWER & MID FLOORS)	441
AVERAGE DAILY FLOW 10 GPD/PERSON	4,441 GPD 3.1 GPM
PEAKING FACTOR (APP. D)	4.0
DESIGN PEAK FLOW	12.4 GPM
C-FACTOR (PVC SDR-21)	140
PIPE DIAMETER	. 2 *
C-FACTOR (PVC)	150
DIAMETER OF FORCE MAIN	1 1/2"
GRAVITY HEAD	30'
PIPE LENGTH	206'
PUMP DISCHARGE (E/ONE PUMP CURVE)	12 GPM
FRICTION HEAD AT DESIGN POINT	3.16'
TDH AT DESIGN POINT	33'
FM PIPE VELOCITY AT DESIGN PT	2.18 FPS



YARD HYDRANT NOT TO SCALE

AS BUILTS 5/31/16

Robinson

Nature Center

NOT TO SCALE SHEET NO.

Election District No. 5 Howard County, Maryland

4 OF 4

I CERTIFY THAT THE WELL UMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF A MARYLAND,

LICENSE NUMBER: 26524 EXPIRATION DATE: 19 JULY 2009

SEWER PUMP DETAILŞ

PARCEL NO. 87

10/10/08

10/6/08

10/1/08

9/23/08

8/27/08

DATE 600' SCALE MAP NO. 35

5 Howard Co. Utilities Comments

DATE: 09-16-08

Howard Co. Utilities Comments

Howard Co. Utilities Comments

Howard Co. Utilities Comments

6692 Cedar Lane

CAPITAL PROJECT #: 34-4587-D

SDP-09-002