


**GENERAL NOTES
PART I**

- 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 IN JUNE 2007 BY ROBERT H. VOGEL ENGINEERING, INC.
- THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 3044005R AND 3044004R.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
 GEODETIC SURVEY CONTROL 3044005R (N. 578233.92, E. 1473142.33)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED IN THE GRASS MEDIAN ALONG ROUTE 175; 1000 +/- WEST OF TAMAR DRIVE; 4.3' OFF EXISTING PAVING OF WB LANE OF 175, AND 45' WEST AND DIRECTLY SIDE OF THE WEST 175 SHOW RTE SIGN.
 GEODETIC SURVEY CONTROL 3044004R (N. 578128.03, E. 1473460.71)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED IN THE GRASS MEDIAN ALONG ROUTE 175; 0.1 +/- MILE EAST OF TAMAR DRIVE; 4.3' OFF EXISTING PAVING OF WB LANE OF 175.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED.
- 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 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.
- 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.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL  AT THE LOCATION OF THE TEST PIT. A NOTES 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 OPERATION AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN THESE PLANS:
 AT&T. 1-800-252-1133
 BGE (CONTRACTOR SERVICE). 410-850-4620
 BGE (EMERGENCY). 410-685-1400
 BUREAU OF UTILITIES. 410-313-4900
 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
- 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
- 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 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 ANY 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 II - WATER

- ALL WATER MAINS TO BE D.I.P. CLASS 54 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.
- 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 RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAIL. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- FIRE SPRINKLER SYSTEM FOR ALL SINGLE FAMILY DWELLINGS SHALL HAVE A MINIMUM OF A 1-1/2" CONNECTION WITH A 1" METER. FOR 1" OUTSIDE METER SETTING SEE HOWARD COUNTY DETAIL W-3.28, AND FOR 1" TWIN OUTSIDE METER SETTING SEE HOWARD COUNTY DETAIL W-3.32.

PART III - SEWER

- ALL SEWER MAINS SHALL BE D.I.P. 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 WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G5.52.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLAN F-09-021 AND THIS PLAN SHEET 10

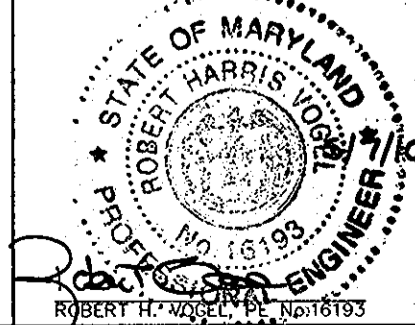
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Blanton 5/12/10
 SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
John C. Carr 5/12/10
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
John C. Carr 5/12/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961



PROFESSIONAL CERTIFICATE
 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. 16193 EXPIRES DATE 09-27-2010
 DRN: KG DES: RHW
 CHK: RHW
 DATE: MAY 2010

NO.	REVISION	DATE
3	REVISE QUANTITIES TO REFLECT ADDITION OF NEW UNITS TO PHASE II PLAN	10/21/11
2	REVISE QUANTITIES TO REFLECT ADDED 8" X 8" TEE AND FIRE HYDRANT	6/2/11

**FINAL WATER & SEWER PLAN
COVER SHEET**

600' SCALE MAP NO. 25 BLOCK NO. 14 & 21

**AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D**

TAX MAP 25 BLOCK 14 & 21 PARCEL 172 & 279
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 1 OF 10

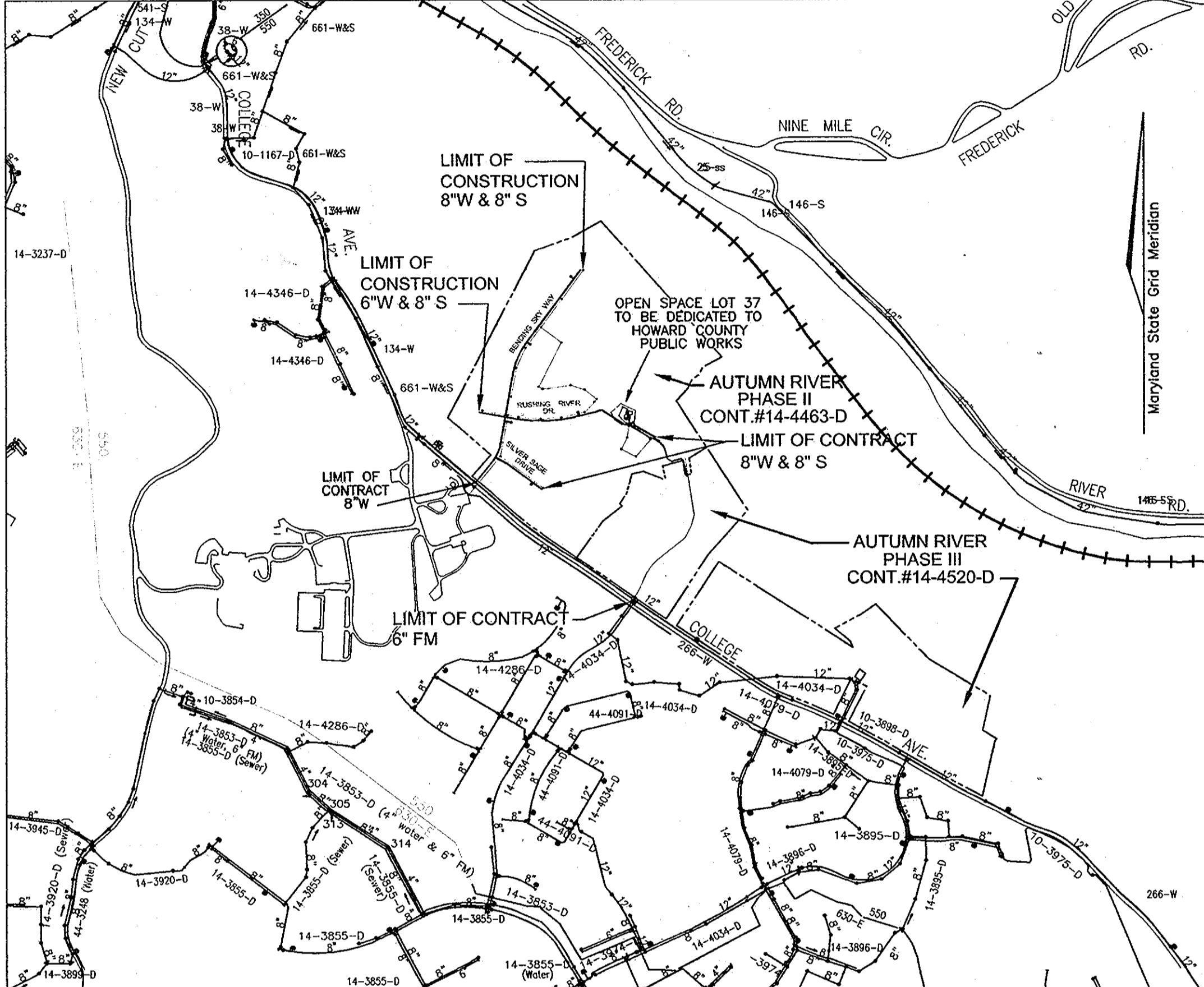
FINAL WATER & SEWER PLAN

AUTUMN RIVER

PHASE II

CONTRACT 14-4463-D

HOWARD COUNTY, MARYLAND



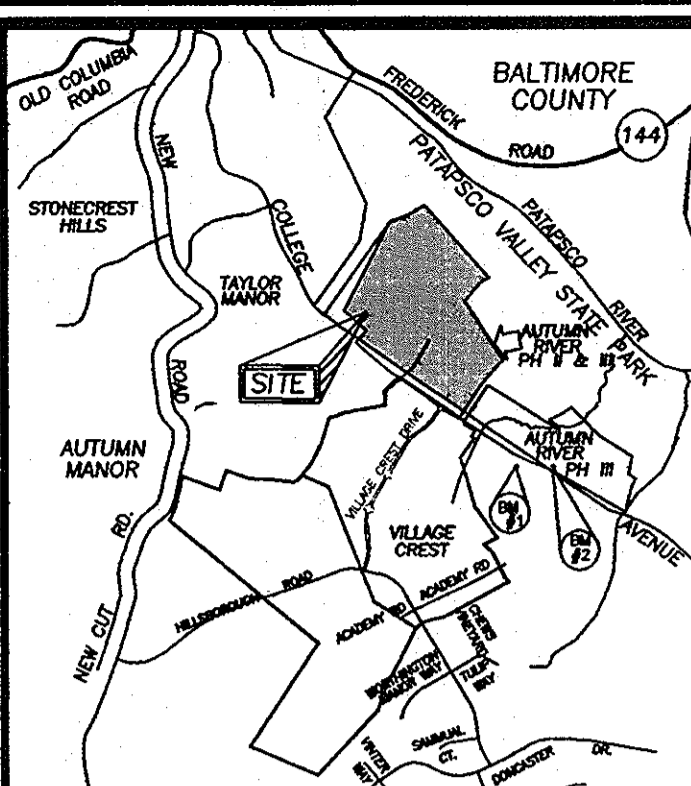
WATER CODE: 550
 TEST GRADIENT: 700

VICINITY MAP
SCALE: 1"=600'

TYPE OF BUILDING :	44 SFD, 20 SFA
NO. OF LOTS/PARCELS :	69
NO. OF SINGLE WATER HOUSE CONNECTIONS :	60
NO. OF TWIN WATER HOUSE CONNECTIONS :	2
NO. OF SEWER HOUSE CONNECTIONS :	64
SEWER SHED :	PATAPSCO WRP VIA
TREATMENT PLANT :	PATAPSCO WRP VIA

BENCHMARKS
 BENCHMARK NO. 1: COUNTY CONTROL #3044005R
 3/4" REBAR 0.8' BELOW SURFACE
 N. 578233.92, E. 1473142.33
 ELEV. = 374.389
 BENCHMARK NO. 2: COUNTY CONTROL #3044004R
 3/4" REBAR 0.8' BELOW SURFACE
 N. 578128.03, E. 1473460.71
 ELEV. = 362.575

ADC MAP COORDINATES:
 N: 517,000
 E: 860,000
 ADC MAP PAGE: 12 & 16
 ADC MAP GRID: H-13



LOCATION MAP
SCALE 1"=2000'

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 10
PLAN VIEW	2 OF 10
PLAN VIEW	3 OF 10
PLAN VIEW	4 OF 10
WATER PROFILES	5 OF 10
WATER PROFILES	6 OF 10
SEWER PROFILES AND CHARTS	7 OF 10
SEWER PROFILES	8 OF 10
SEWER PROFILES	9 OF 10
SEWER FORCE MAIN PROFILES	10 OF 10

LEGEND

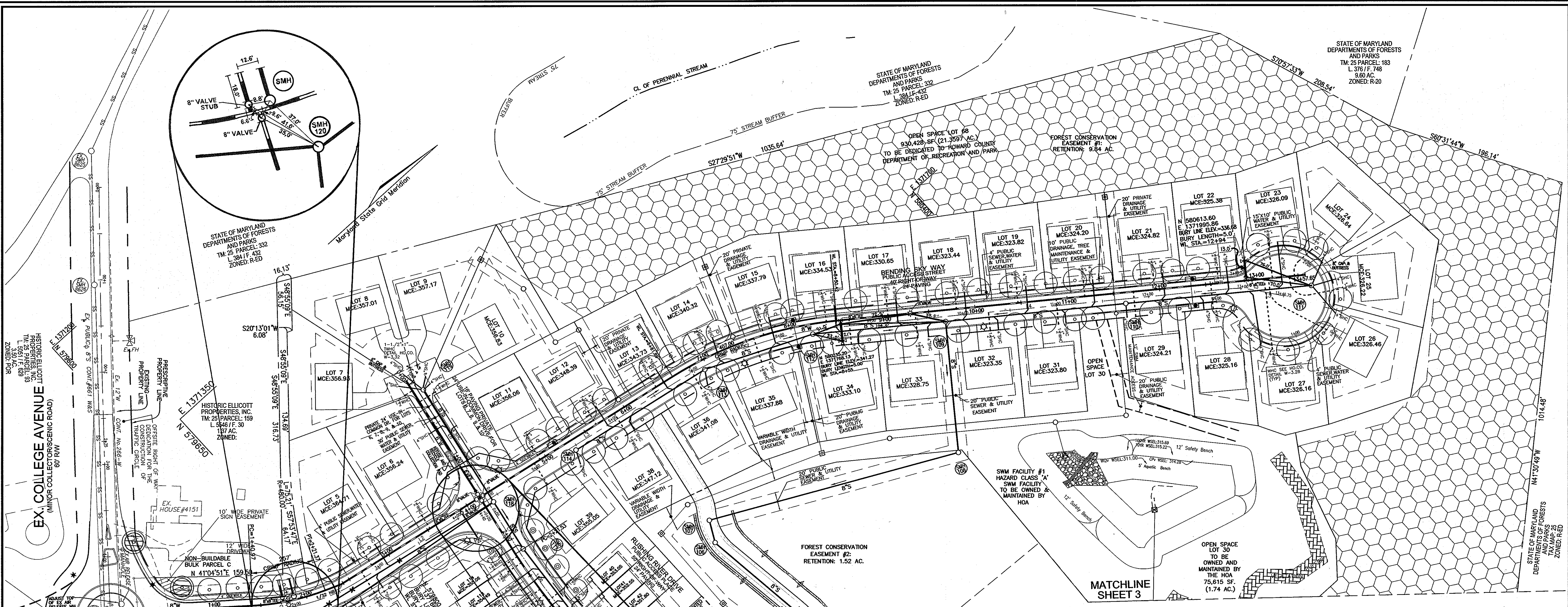
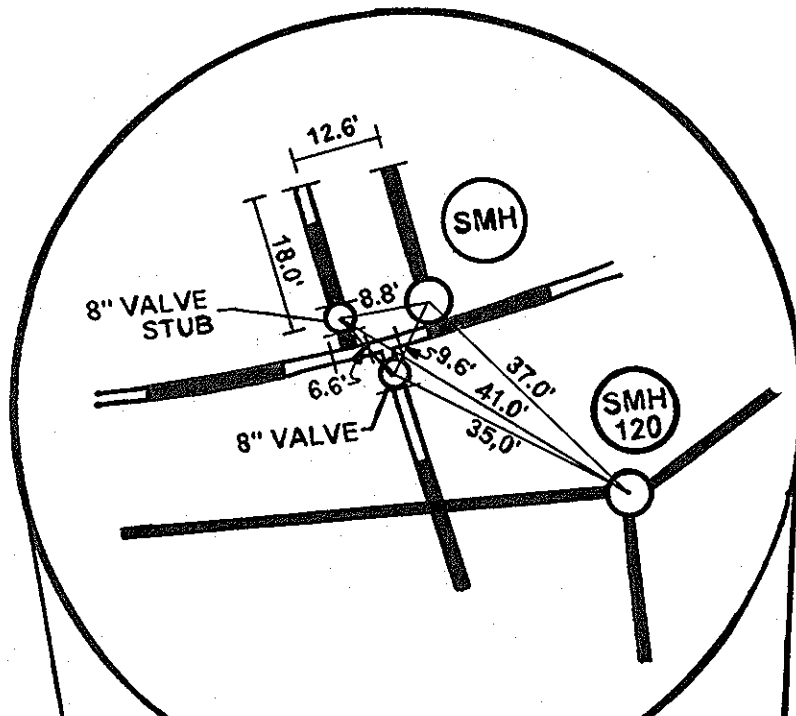
EXISTING TREELINE	
PROPOSED TREELINE	
EXISTING WATER MAIN	
PROPOSED WATER MAIN	
FIRE HYDRANT	
PROPOSED VALVE	
PROPOSED TEE	
PROPOSED STORM DRAIN	
EXISTING STORM DRAIN	
PROPOSED SEWER	
EXISTING SEWER	
SEWER MANHOLE	
WATER HOUSE CONNECTION	
SEWER HOUSE CONNECTION	
PROPOSED SIGN	
PROPOSED LIGHT	

QUANTITIES

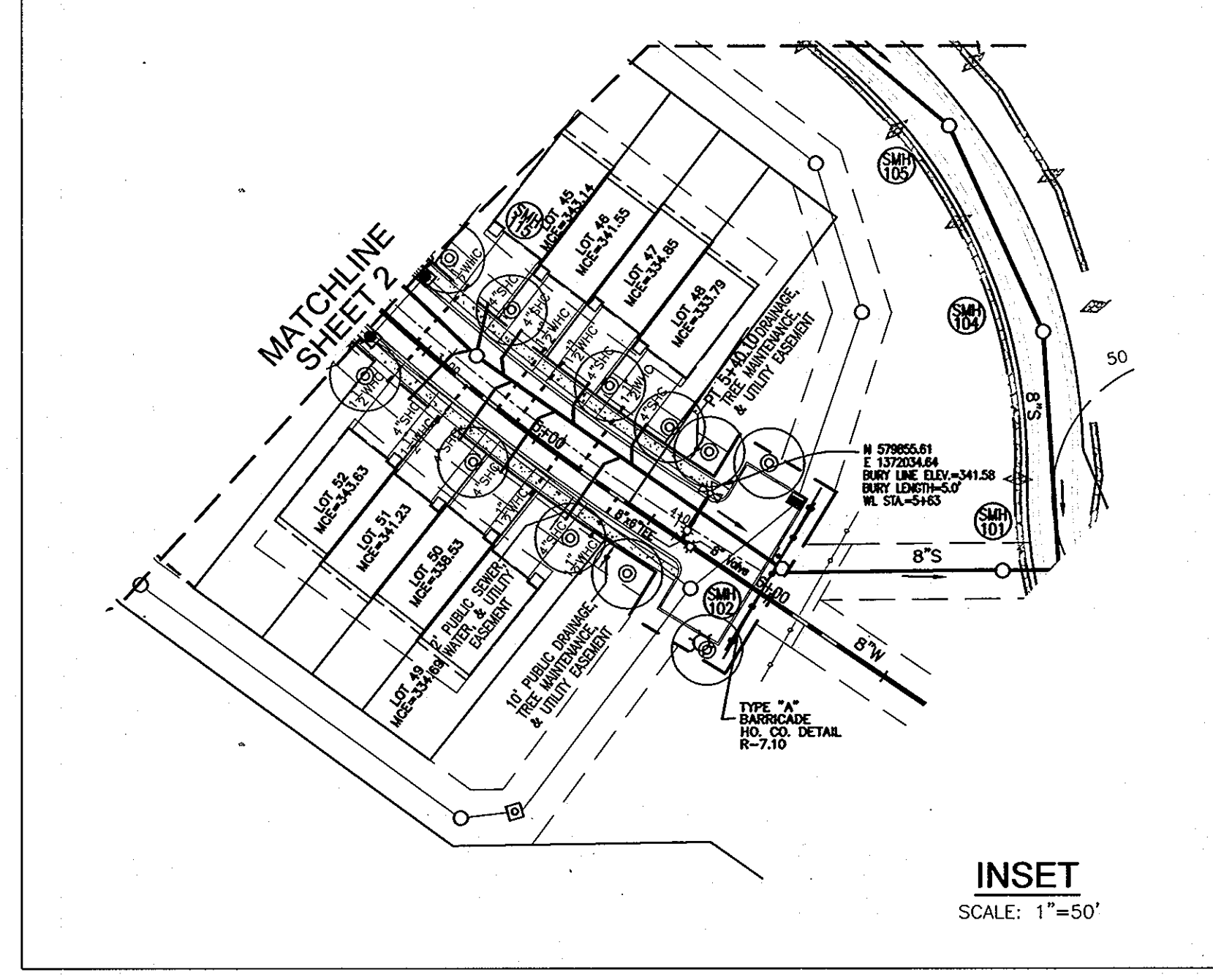
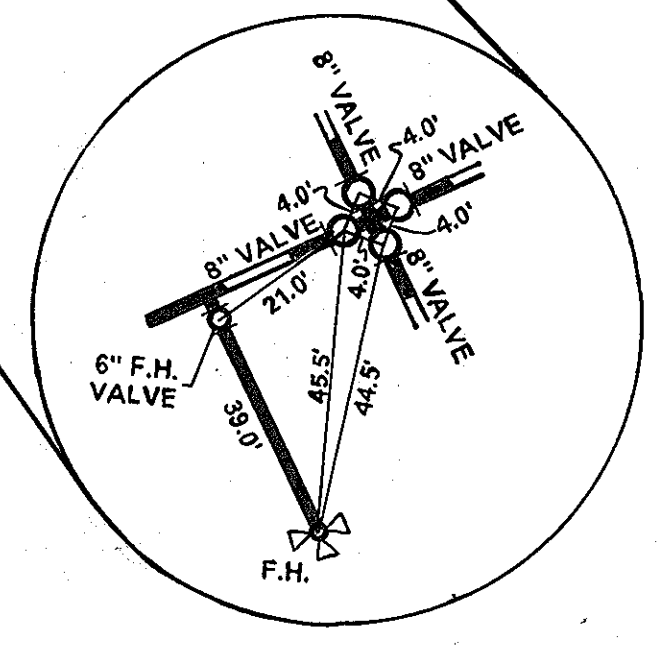
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		MANUFACTURER/SUPPLIER
		QUANTITIES	TYPE	
WATER				
8"x12" TAPPING SLEEVE	1 EA	1 EA		SMITH BLAIR
8" WATER	2721 LF	2795 LF		DIAMOND PLASTICS
6" WATER	250 LF	270 LF		DIAMOND PLASTICS
8" X 8" TEE	2 EA	2 EA		TYLER / UNION FOUNDRY
8" X 6" TEE	6 EA	6 EA		TYLER / UNION FOUNDRY
8" VALVE	10 EA	10 EA		TYLER / UNION FOUNDRY
6" FIRE HYDRANT	6 EA	6 EA		MUELLER INDUSTRIES
1/32 BENDS	2 EA	1 EA		MULTI FITTINGS
1/8 BENDS	3 EA	3 EA		MULTI FITTINGS
8" CAP & BUTTRESS	4 EA	4 EA		MULTI FITTINGS
6" CAP & BUTTRESS	1 EA	1 EA		MULTI FITTINGS
1 1/2" WHC	1417 LF	1460 LF		MUELLER INDUSTRIES
8" X 8" CROSS	1 EA	1 EA		TYLER / UNION FOUNDRY
1-1/2" x 1 1/2" TWHC DETAIL W-3.23	121 LF	125 LF		MUELLER INDUSTRIES
SEWER				
8" SEWER MAIN	3518 LF	3590 LF		DIAMOND PLASTICS
MANHOLE	28 EACH	28 EA		ATLANTIC
4" SHC	1554 LF	1600 LF		DIAMOND PLASTICS
FORCE MAIN				
6" FORCE MAIN	1368 LF	1425 LF		ARMSTEAD / GRIFFIN
1/16 HB	2 EACH	2 EA		ARMSTEAD / GRIFFIN
1/8 HB	6 EACH	6 EA		ARMSTEAD / GRIFFIN
CONTROL VALVE	1 EACH	1 EA		TYLER / UNION FOUNDRY

AS BUILTS
 BY: DFI DATE: 10/22/12
 DEVELOPER
 AUTUMN DEVELOPMENT CORPORATION
 C/O LAND DESIGN & DEVELOPMENT, INC.
 5300 DORSEY HALL DR. STE. 102
 ELLICOTT CITY, MD 21042-7819
 ATTN: MR. DONALD R. REUSER
 (443) 367-0422

STATE OF MARYLAND
DEPARTMENTS OF FORESTS
AND PARKS
TM: 25 PARCEL: 183
L: 376 / F: 748
3.68 AC.
ZONED: R-20



SITE LAYOUT PLAN
SCALE: 1"=50'



INSET
SCALE: 1"=50'

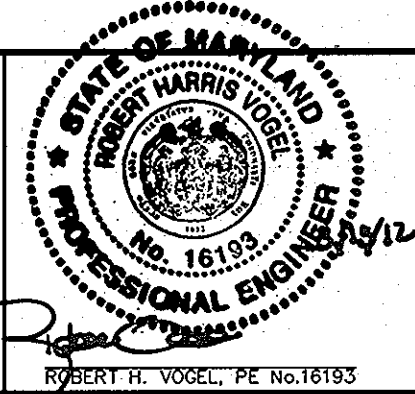
AS BUILT
BY: DFI DATE: 10/22/12

DEVELOPER
AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR STE 102
ELLICOTT CITY MD 21042-7819
ATTN: MR. DONALD R. REUER
(443) 367-0422

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
4/16/12
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
4/16/12
DATE

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961



PROFESSIONAL CERTIFICATE
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. 16193
EXPIRATION DATE: 09-27-2012
DRN: KG DES: RHV
CHK: RHV
DATE: MAY 2010

NO.	REVISION	DATE
2	REVISE LAYOUT FOR ADDITIONAL UNITS. REVISE WHC'S AND SHC'S. ADD DETAIL FOR TRAFFIC BEARING CO.	09/06/11
1	ADJUST WATER AND SEWER DESIGN BASED ON CHANGES TO ROAD ELEVATION	01/26/11

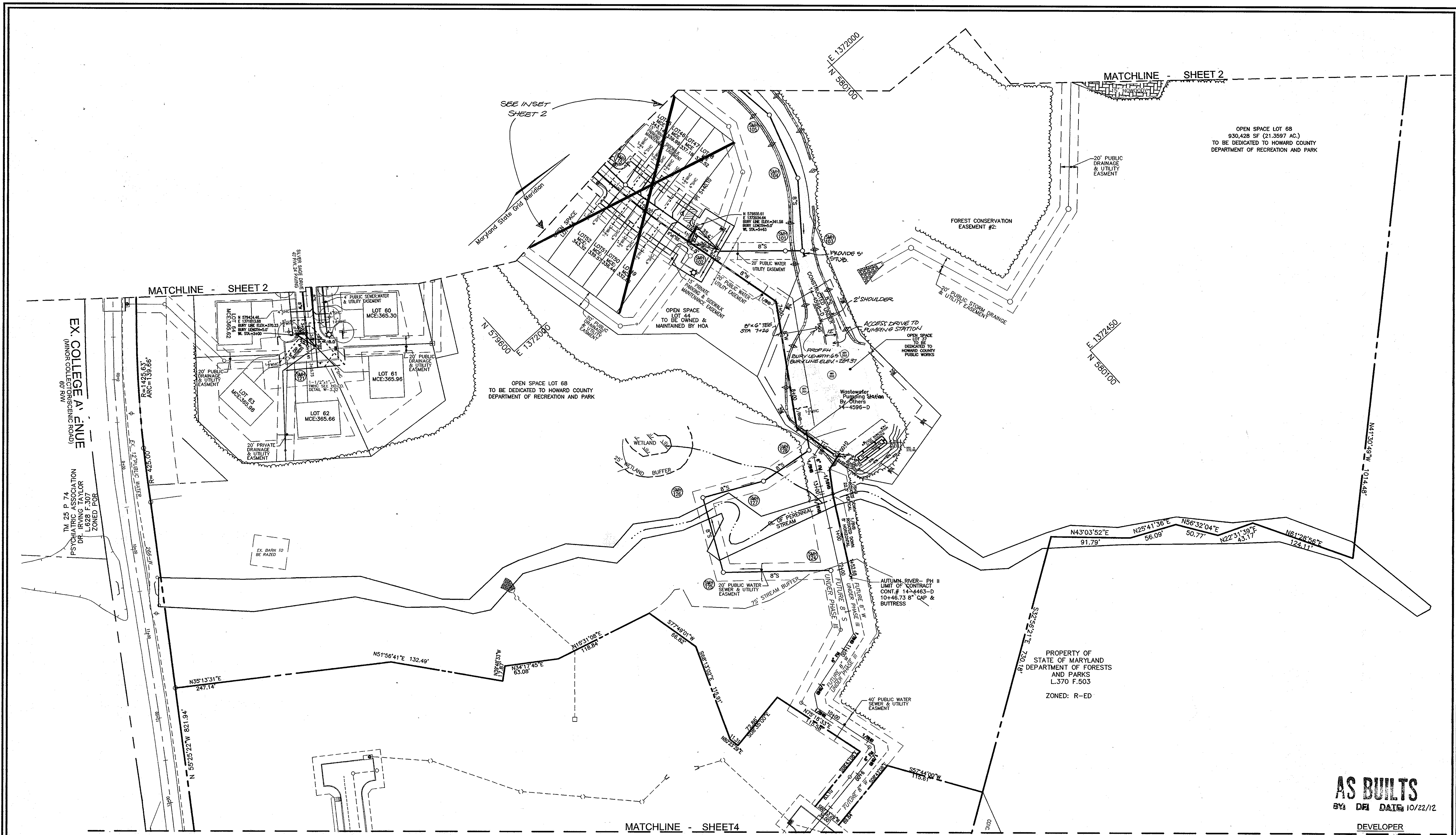
**FINAL WATER & SEWER PLAN
PLAN VIEW**

**AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D**

600' SCALE MAP NO. 25 BLOCK NO. 14& 21 TAX MAP 25 BLOCK 14 & 21 PARCEL 172 & 279 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 10

K:\Projects\04 - 481\ENR\04\1\1\1\1\1\FINAL WS PLAN\DR\INCL WS.dwg, 5/25/2010 1:59:30 PM



PLAN
SCALE: 1"=50'

AS BUILT
BY DATE 10/22/12

DEVELOPER
AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR STE 102
ELLICOTT CITY MD 21042-7819
ATTN: MR. DONALD R. REUWER
(443) 367-0422

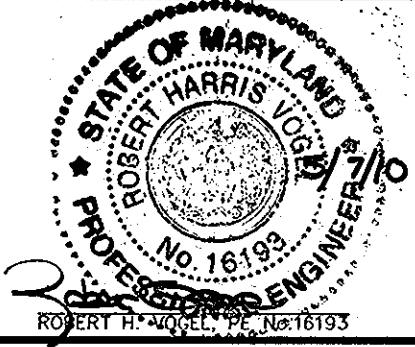
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Steve Chen 6/2/10
CHIEF, BUREAU OF UTILITIES DATE

Mike Dorman 6/2/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961



PROFESSIONAL CERTIFICATE
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. 16103
EXPIRATION DATE: 09-27-2010

DRN:	KG	DES:	RHV
CHK:	RHV		
DATE:	MAY 2010		
BY NO.		REVISION	DATE
		3	REVISE LAYOUT FOR ADDITIONAL UNITS 3/10/11
		2	REVISE SEWER MATERIAL TO BE PVC C900 AND ADD FIRE HYDRANT NEAR PUMPSTATION 6/2/11

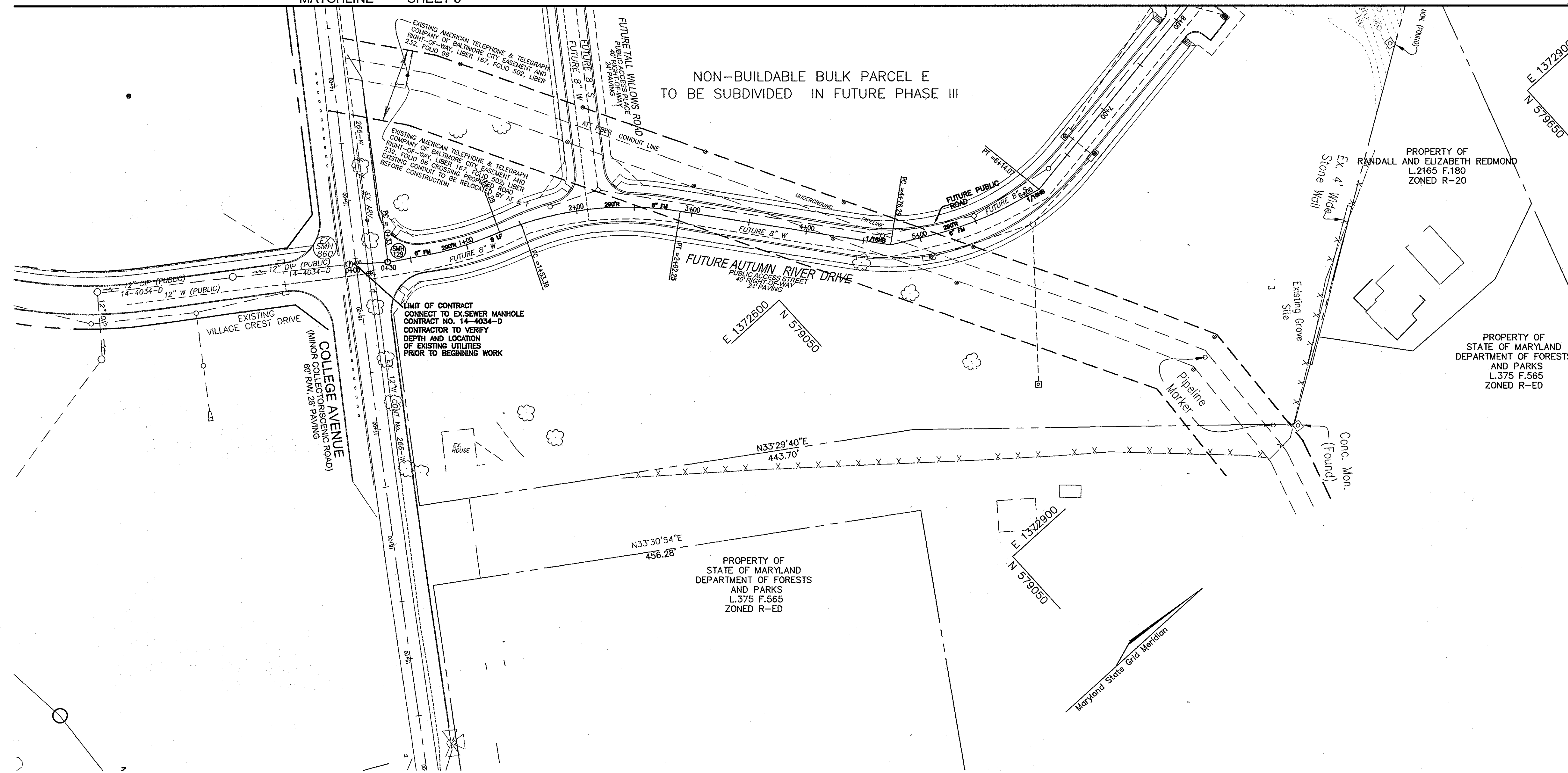
FINAL WATER & SEWER PLAN
PLAN VIEW

AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D

60' SCALE MAP NO. 25 BLOCK NO. 14 & 21
TAX MAP 25 BLOCK 14 & 21 PARCEL 172 & 279
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 10

MATCHLINE - SHEET 3



NON-BUILDABLE BULK PARCEL E
TO BE SUBDIVIDED IN FUTURE PHASE III

PROPERTY OF
RANDALL AND ELIZABETH REDMOND
L.2165 F.180
ZONED R-20

PROPERTY OF
STATE OF MARYLAND
DEPARTMENT OF FORESTS
AND PARKS
L.375 F.565
ZONED R-ED

PROPERTY OF
STATE OF MARYLAND
DEPARTMENT OF FORESTS
AND PARKS
L.375 F.565
ZONED R-ED

PLAN
SCALE: 1"=50'

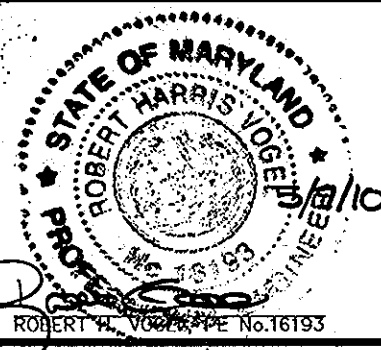
AS BUILT
BY DATE 10/22/12

DEVELOPER
AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR STE 102
ELLICOTT CITY MD 21042-7819
ATTN: MR. DONALD R. REUWER
(443) 367-0422

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Shane C. Coan
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
William J. Dennis
CHIEF, DEVELOPMENT ENGINEERING DIVISION

ROBERT H. VOGEL
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961



PROFESSIONAL CERTIFICATE 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. 16193 EXPIRATION DATE: 09-27-2010	
DRN: KG	DES: RHV
CHK: RHV	
DATE: MAY 2010	
BY	NO. REVISION

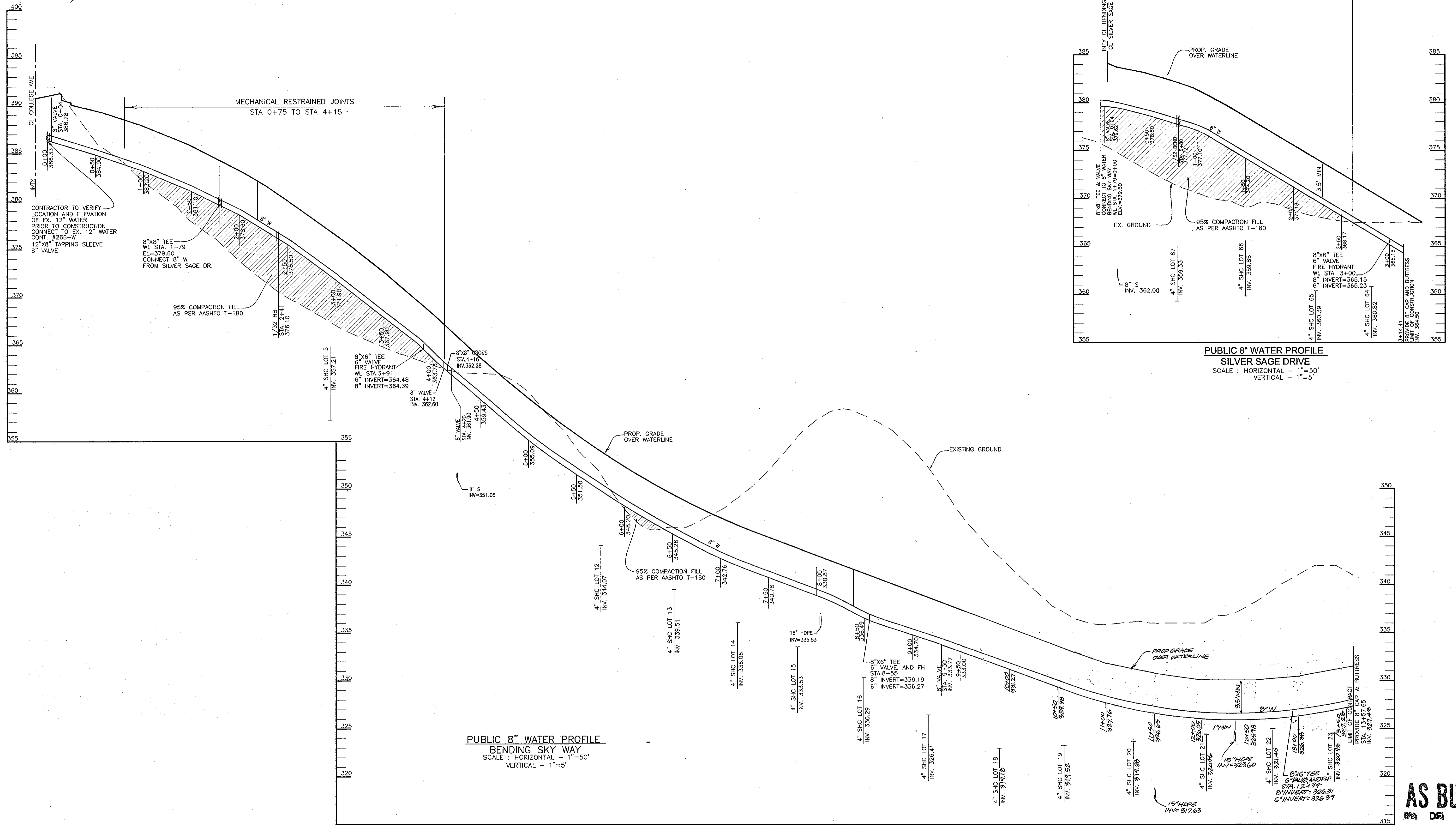
FINAL WATER & SEWER PLAN
PLAN VIEW

AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D

600' SCALE MAP NO. 25 BLOCK NO. 14 & 21 PARCEL 172 & 279
TAX MAP 25 BLOCK 14 & 21 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 10

K:\Projects\14-145\ENGR\DWG\FINAL\FINAL NS PHIL\041314 NS.dwg, 5/5/2010 14:11:14



PUBLIC 8" WATER PROFILE
SILVER SAGE DRIVE
 SCALE: HORIZONTAL = 1"=50'
 VERTICAL = 1"=5'

PUBLIC 8" WATER PROFILE
BENDING SKY WAY
 SCALE: HORIZONTAL = 1"=50'
 VERTICAL = 1"=5'

AS BUILTS
 DATE: 10/22/12

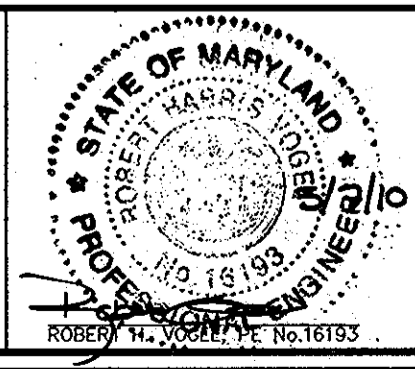
DEVELOPER
 NUTMAN DEVELOPMENT CORPORATION
 C/O LAND DESIGN & DEVELOPMENT, INC.
 5300 DORSEY HALL DR. STE 102
 ELLICOTT CITY MD 21042-7819
 ATTN: MR. DONALD R. REUWER
 (443) 367-0422

K:\Projects\04 - 145\ENGR\04\FINAL\04\FINAL.WS PHINDS-FINAL WS PHINDS-FINAL.WS 5/5/20 11:42:59 AM

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Shirley C. Gann Studio
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
William D. Cannon 6/7/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROBERT H. VOGEL
ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

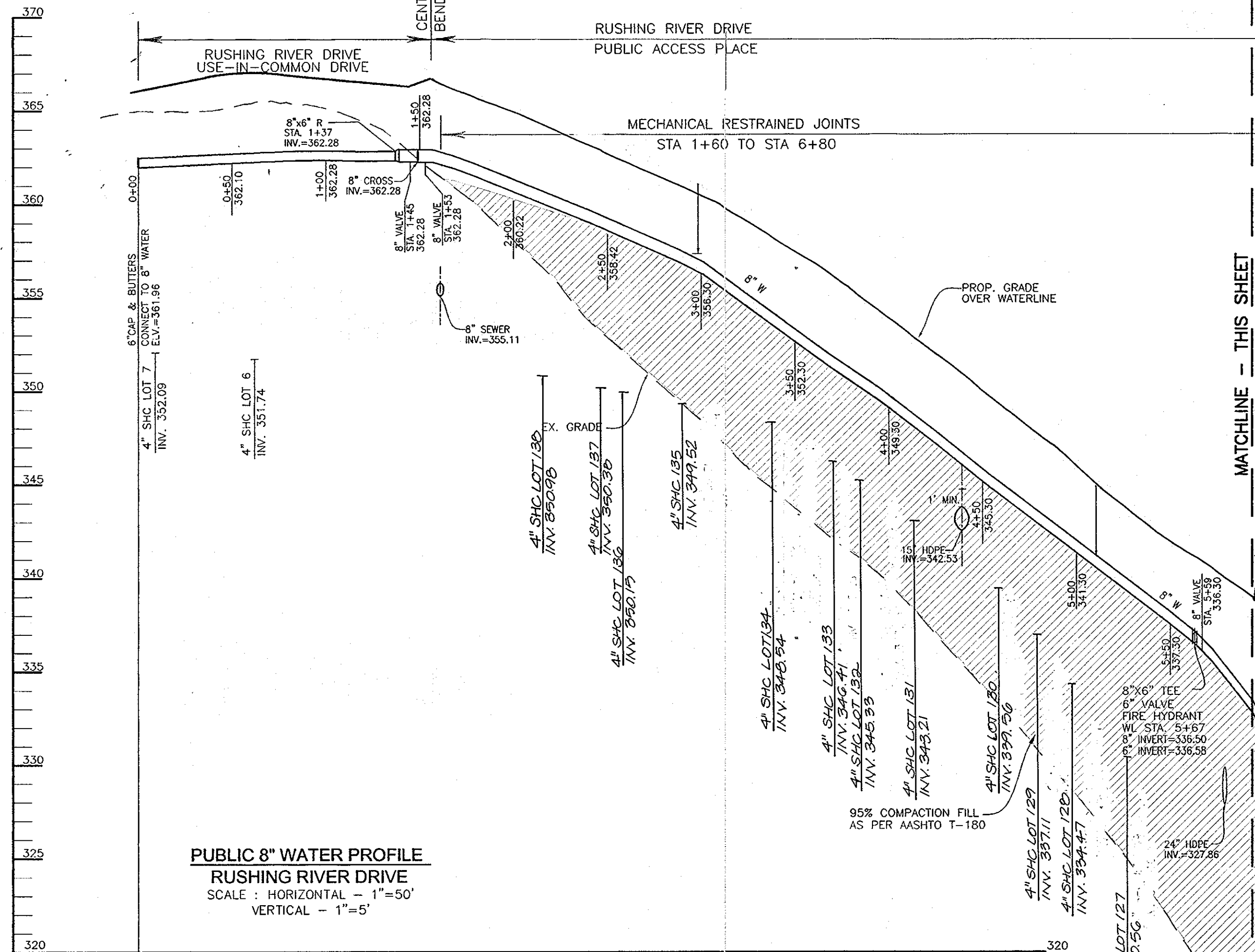


PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010			
DRN:	KG	DES:	RHW
CHK:	RHW	BY 1 ADJUST WATER AND SEWER DESIGN BASED 1-20-11	
DATE:	MAY 2010	ON CHANGES TO ROAD ELEVATION	
BY NO.		REVISION	DATE

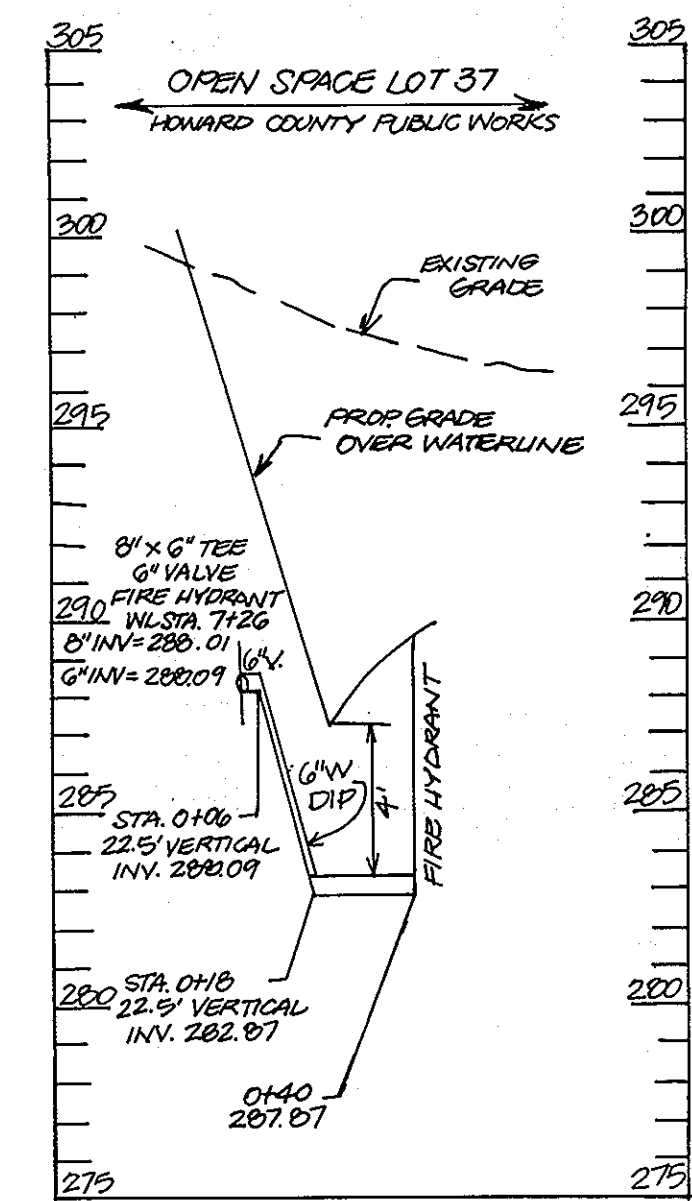
FINAL WATER & SEWER PLAN
WATER PROFILES
 600' SCALE MAP NO. 25 BLOCK NO. 14& 21

AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D
 TAX MAP 25 BLOCK 14 & 21 PARCEL 172 & 279
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

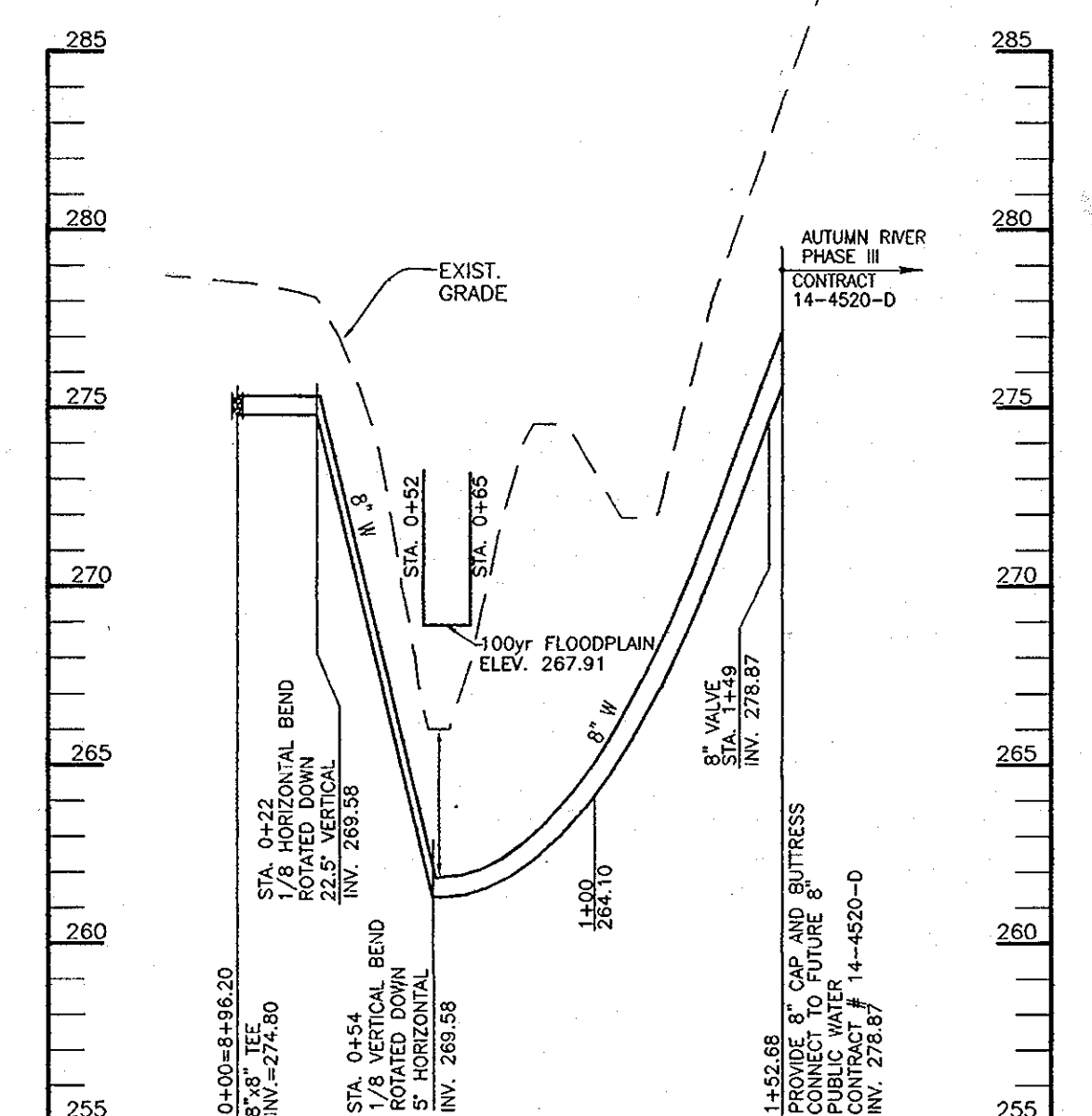
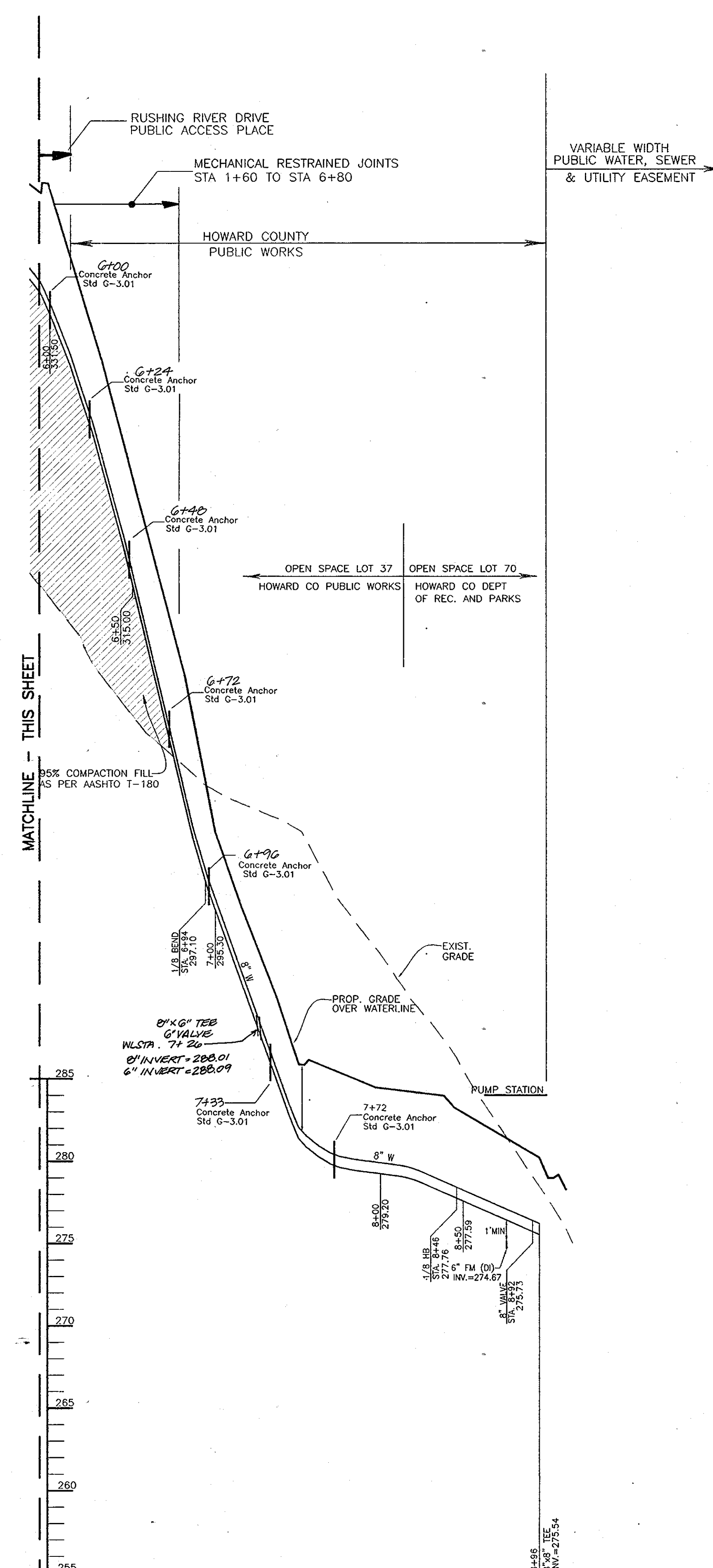
SCALE AS SHOWN
 SHEET 5 OF 10



PUBLIC 8" WATER PROFILE
RUSHING RIVER DRIVE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



PUBLIC 6" WATER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



PUBLIC 8" WATER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

AS BUILT
DATE: 10/22/12

DEVELOPER
AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR STE 102
ELLICOTT CITY MD 21042-7819
ATTN: MR. DONALD R. REUWER
(443) 367-0422

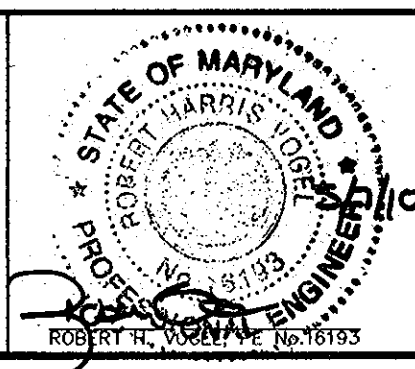
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities
DATE: 6/7/10

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Chief, Development Engineering Division
DATE: 6/7/10

ROBERT H. VOGEL
ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961



PROFESSIONAL CERTIFICATE	1	REVISE GRADE, SHC CROSSINGS, AND CONCRETE ANCHOR STATIONING FOR WATER PROFILE ALONG RUSHING RIVER DR.	10/10/11
DRN:	KG	DES:	RHV
CHK:	RHV	DATE:	MAY 2010
BY:	NO.	REVISION	DATE
		2	REVISE SEWER MATERIAL TO BE PVC 0900 (6/2/11)
			AND ADD FIRE HYDRANT NEAR PUMP STATION

FINAL WATER & SEWER PLAN
WATER PROFILES

AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D

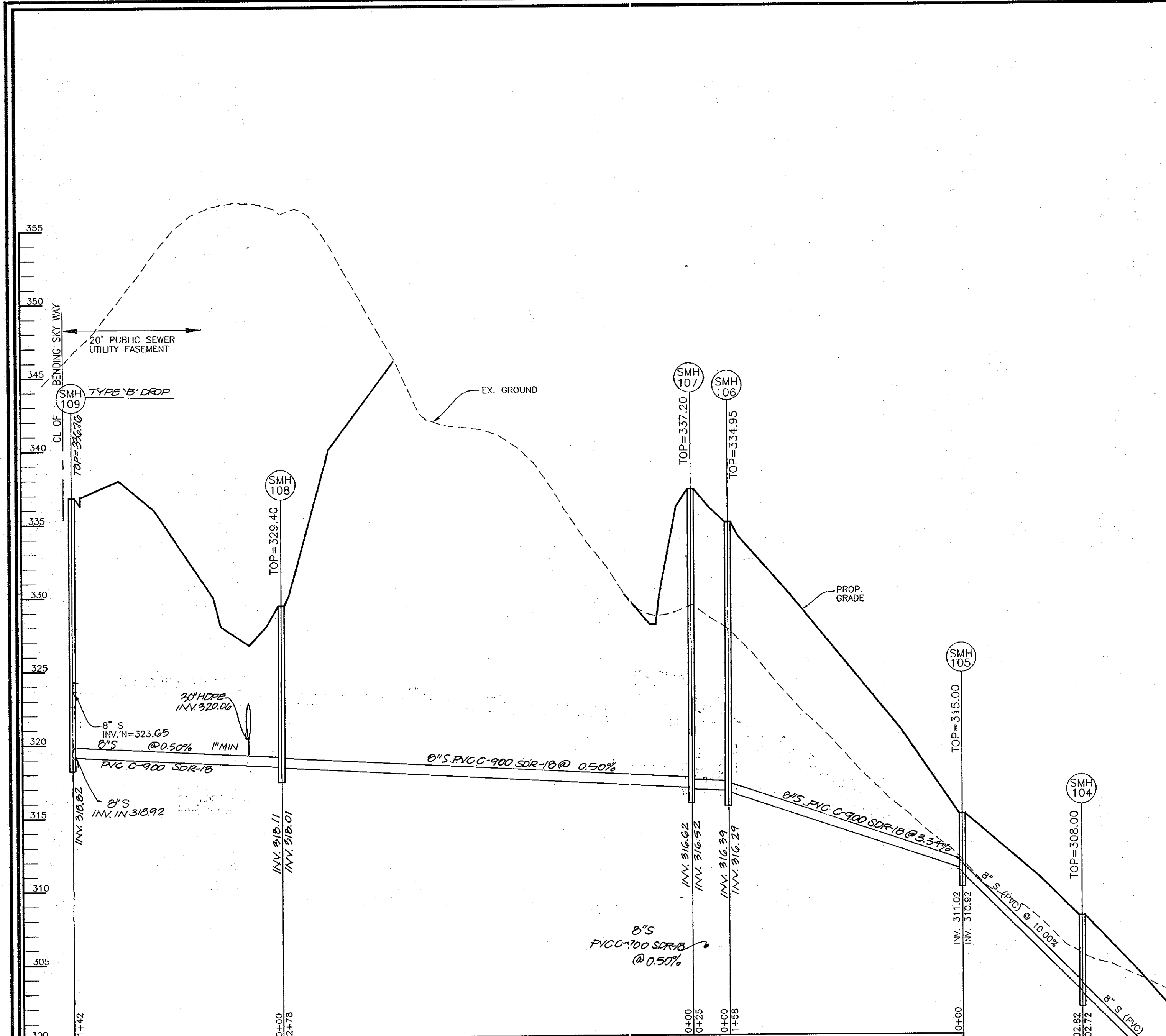
TAX MAP 25 BLOCK 14 & 21 PARCEL 172 & 279
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

600' SCALE MAP NO. 25 BLOCK NO. 14 & 21

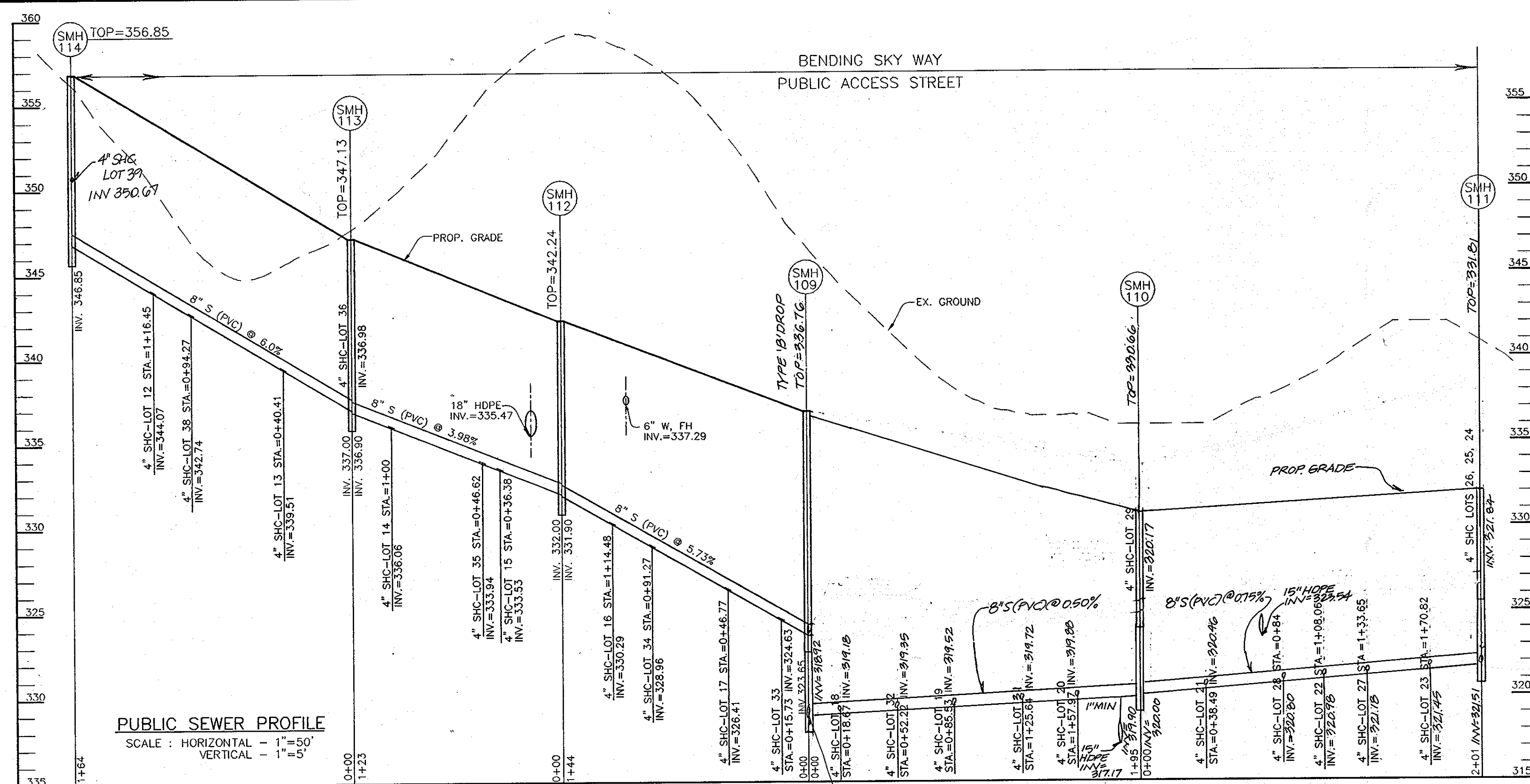
SCALE AS SHOWN
SHEET 6 OF 10

K:\Projects\14-4463-FINAL\FINAL\14-4463-FINAL.dwg, 5/5/2010 1:44:02 PM

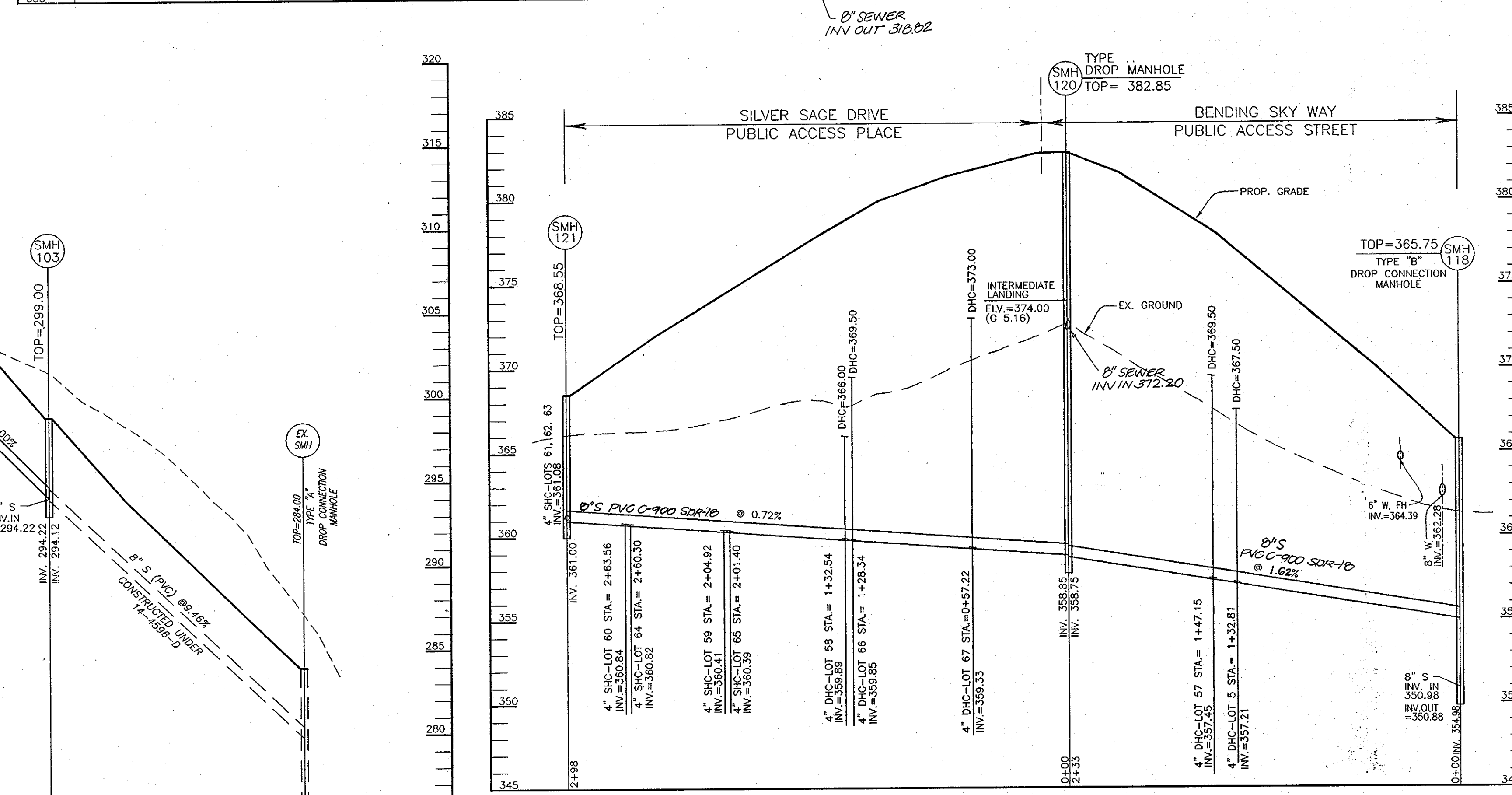
K:\Projects\14-4463\14-4463-FINAL-VS.dwg, 5/15/2010 14:40:10 PM



PUBLIC 8" SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



PUBLIC SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



PUBLIC 8" SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

DEVELOPER
AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR. STE 102
ELLCOTT CITY MD 21042-7819
ATTN: MR. DONALD R. REUWER
(443) 367-0422

AS BUILTS
BY DRI DATE: 10/22/12

NO.	REVISION	DATE
3	ADD SHC INFORMATION FOR LOT 39 TO PROFILE REMOVE SHC FOR LOT 50 FROM PROFILE	10/18/11
2	REVISE SEWER MATERIAL TO PVC C900 AND ADD FIRE HYDRANT NEAR RMD STATION	6/8/11
1	ADJUST WATER AND SEWER DESIGN BASED ON CHANGES TO ROAD ELEVATION	1-26-11

FINAL WATER & SEWER PLAN
SEWER PROFILES

AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D

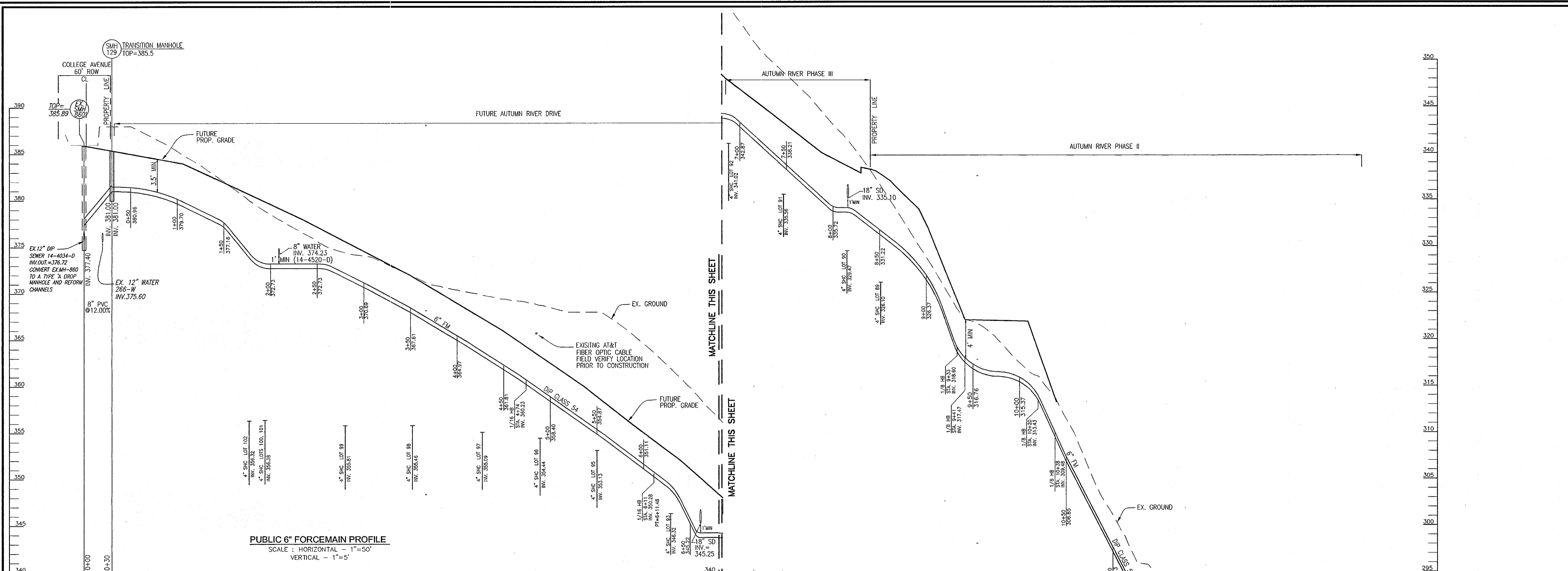
DATE: MAY 2010
600' SCALE MAP NO. 25
BLOCK NO. 14& 21
TAX MAP 25 BLOCK 14 & 21
1ST ELECTION DISTRICT
PARCEL 172 & 279
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 8 OF 10

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
S. J. CLARK
CHIEF, BUREAU OF UTILITIES
DATE: 5/15/10

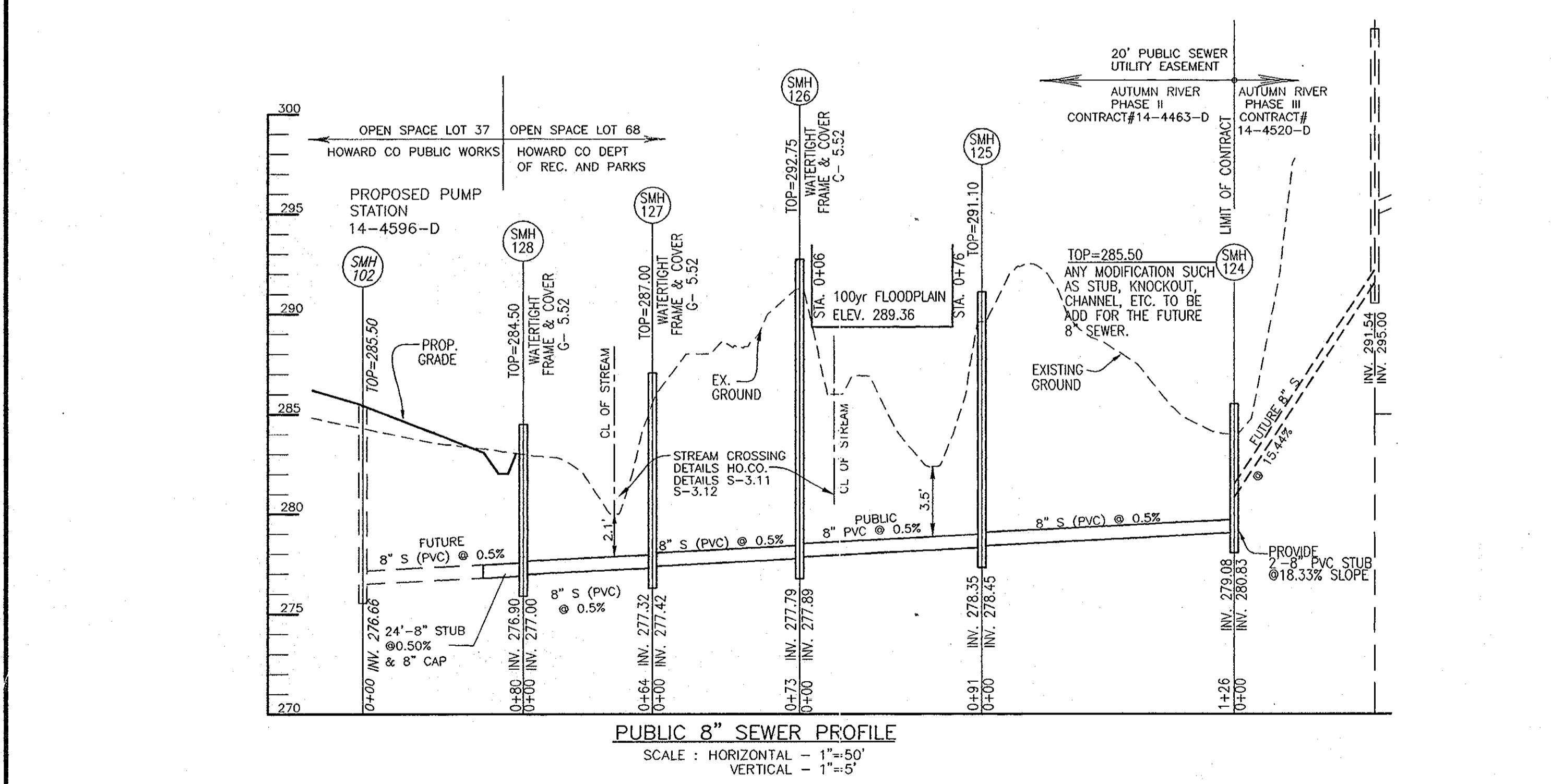
DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
M. J. REUWER
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 6/7/10

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.481.8961
FAX: 410.481.8961

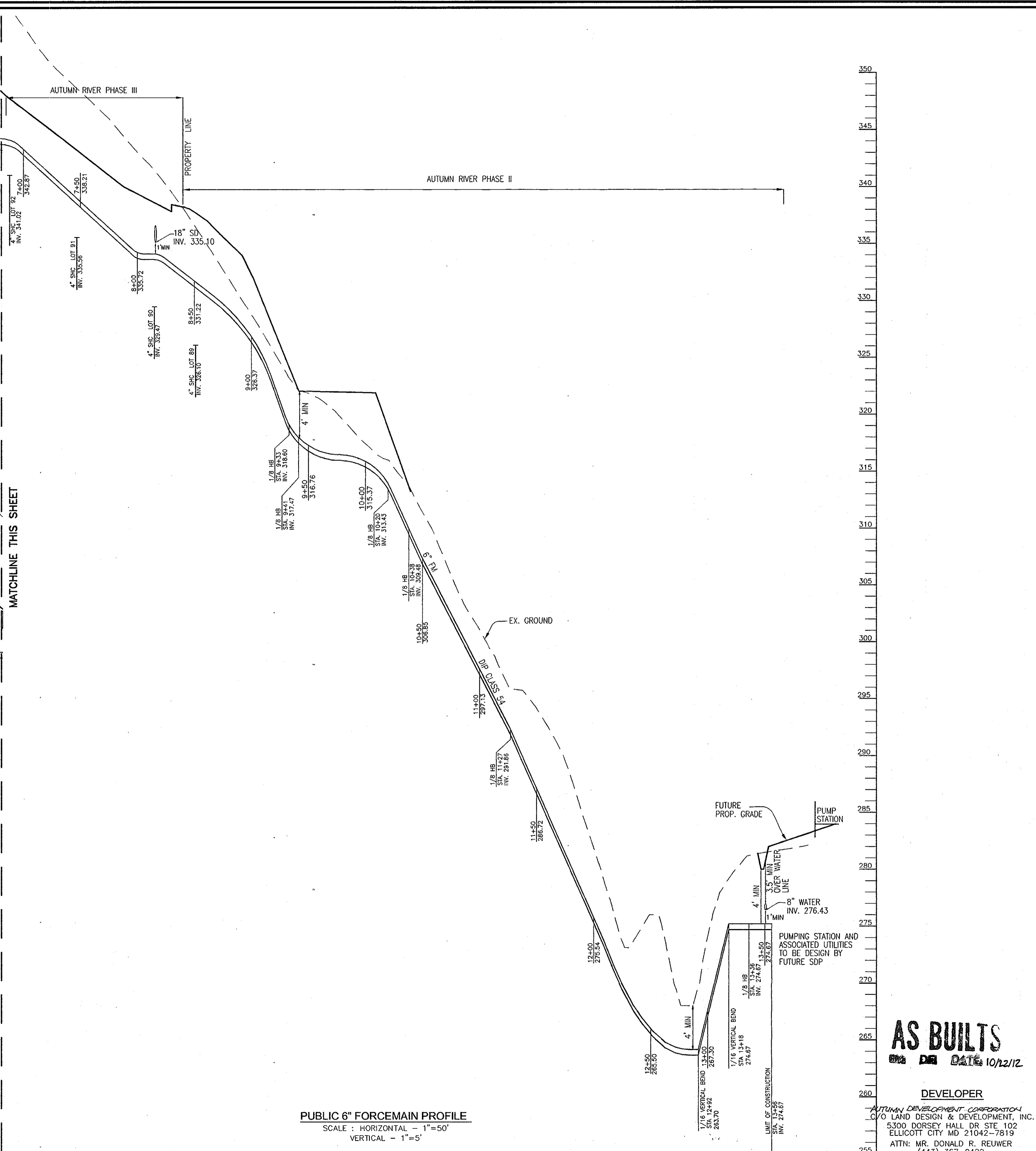
STATE OF MARYLAND
PROFESSIONAL ENGINEER
ROBERT H. VOGEL
PE NO. 16193



PUBLIC 6" FORCEMAIN PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



PUBLIC 8" SEWER PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



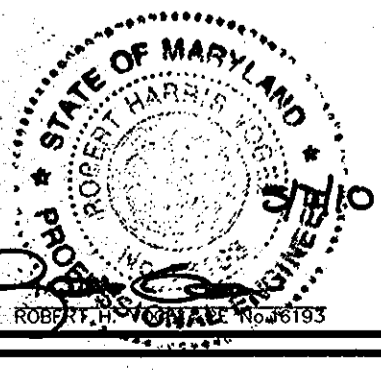
PUBLIC 6" FORCEMAIN PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'

AS BUILT
 DATE 10/12/12
 DEVELOPER
 AUTUMN DEVELOPMENT CORPORATION
 C/O LAND DESIGN & DEVELOPMENT, INC.
 5300 DORSEY HALL DR STE 102
 ELLICOTT CITY MD 21042-7819
 ATTN: MR. DONALD R. REUWER
 (443) 367-0422

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Steve C. Lane
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961



PROFESSIONAL CERTIFICATE		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. 16183, EXPIRATION DATE: 09-27-2010	
DRN:	KG	DES:	RHV
CHK:	RHV		
DATE:	MAY 2010	BY:	NO. REVISION

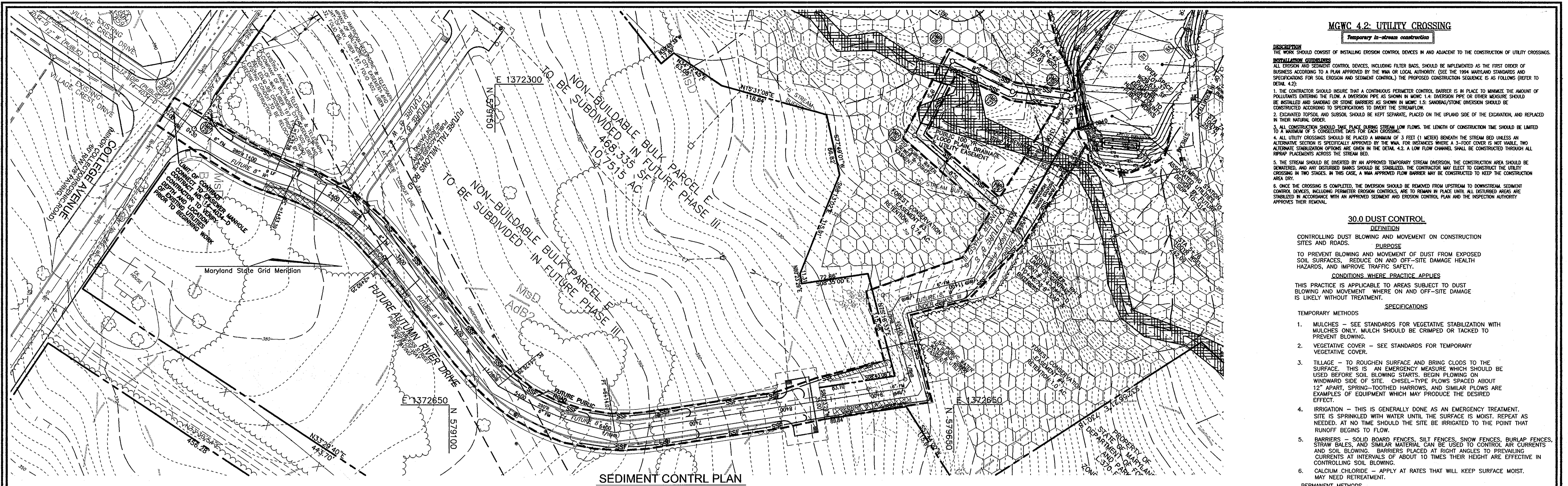
FINAL WATER & SEWER PLAN
SEWER FORCE MAIN PROFILES

AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D

TAX MAP 25 BLOCK 14 & 21 PARCEL 172 & 279
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 600' SCALE MAP NO. 25 BLOCK NO. 14& 21

SCALE AS SHOWN
 SHEET 9 OF 10

K:\Projects\04-145\ENR\dwg\FINAL\15.dwg, 2/5/20 1:49:30 PM



MGWC 4.2: UTILITY CROSSING
Temporary in-stream construction

DESCRIPTION
 THE WORK SHOULD CONSIST OF INSTALLING EROSION CONTROL DEVICES IN AND ADJACENT TO THE CONSTRUCTION OF UTILITY CROSSINGS.

INSTALLATION GUIDELINES
 ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING FILTER BAGS, SHOULD BE IMPLEMENTED AS THE FIRST ORDER OF BUSINESS ACCORDING TO A PLAN APPROVED BY THE MWA OR LOCAL AUTHORITY. (SEE THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.) THE PROPOSED CONSTRUCTION SEQUENCE IS AS FOLLOWS (REFER TO DETAIL 4.2):

1. THE CONTRACTOR SHOULD INSURE THAT A CONTINUOUS PERIMETER CONTROL BARRIER IS IN PLACE TO MINIMIZE THE AMOUNT OF POLLUTANTS ENTERING THE FLOW. A DIVERSION PIPE AS SHOWN IN MGWC 1.4; DIVERSION PIPE OR OTHER MEASURE SHOULD BE INSTALLED AND SANDED OR STONE BARRIERS AS SHOWN IN MGWC 1.5; SANDING/STONE DIVERSION SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS TO INVERT THE STREAMFLOW.
2. EXCAVATED TOPSOIL AND SUBSOIL SHOULD BE KEPT SEPARATE, PLACED ON THE UPLAND SIDE OF THE EXCAVATION, AND REPLACED IN THEIR NATURAL ORDER.
3. CONSTRUCTION SHOULD TAKE PLACE DURING STREAM LOW FLOWS. THE LENGTH OF CONSTRUCTION TIME SHOULD BE LIMITED TO A MAXIMUM OF 3 CONSECUTIVE DAYS FOR EACH CROSSING.
4. ALL UTILITY CROSSINGS SHOULD BE PLACED A MINIMUM OF 3 FEET (1 METER) BENEATH THE STREAM BED UNLESS AN ALTERNATE SECTION IS SPECIFICALLY APPROVED BY THE MWA. FOR INSTANCES WHERE A 3-FOOT COVER IS NOT Viable, TWO ALTERNATE STABILIZATION OPTIONS ARE GIVEN IN THE DETAIL 4.2. A LOW FLOW CHANNEL SHALL BE CONSTRUCTED THROUGH ALL RIPRAP PLACEMENTS ACROSS THE STREAM BED.
5. THE STREAM SHOULD BE DIVERTED BY AN APPROVED TEMPORARY STREAM DIVERSION. THE CONSTRUCTION AREA SHOULD BE DENATURED, AND ANY DISTURBED BANKS SHOULD BE STABILIZED. THE CONTRACTOR MAY ELECT TO CONSTRUCT THE UTILITY CROSSING IN TWO STAGES. IN THIS CASE, A MWA APPROVED FLOW BARRIER MAY BE CONSTRUCTED TO KEEP THE CONSTRUCTION AREA DRY.
6. ONCE THE CROSSING IS COMPLETED, THE DIVERSION SHOULD BE REMOVED FROM UPSTREAM TO DOWNSTREAM. SEDIMENT CONTROL DEVICES, INCLUDING PERIMETER EROSION CONTROLS, ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTION AUTHORITY APPROVES THEIR REMOVAL.

30.0 DUST CONTROL
DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE
 TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES
 THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

TEMPORARY METHODS

1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
 2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
 3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12' APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
 4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOST. REPAIR AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
 5. BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
 6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.
- PERMANENT METHODS**
1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
 2. TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
 3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.
- REFERENCES**
1. AGRICULTURAL HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USE IN PREDICTING SOIL LOSS.
 2. AGRICULTURAL INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION. USDA-ARS.

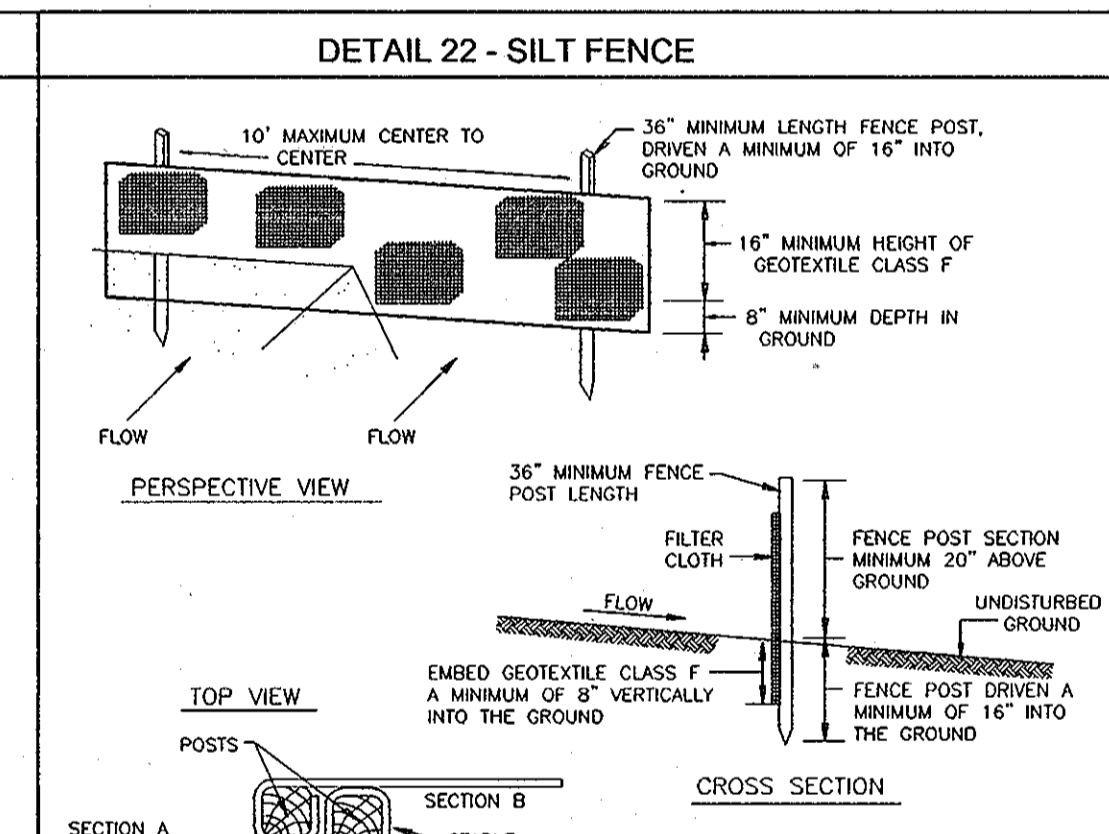
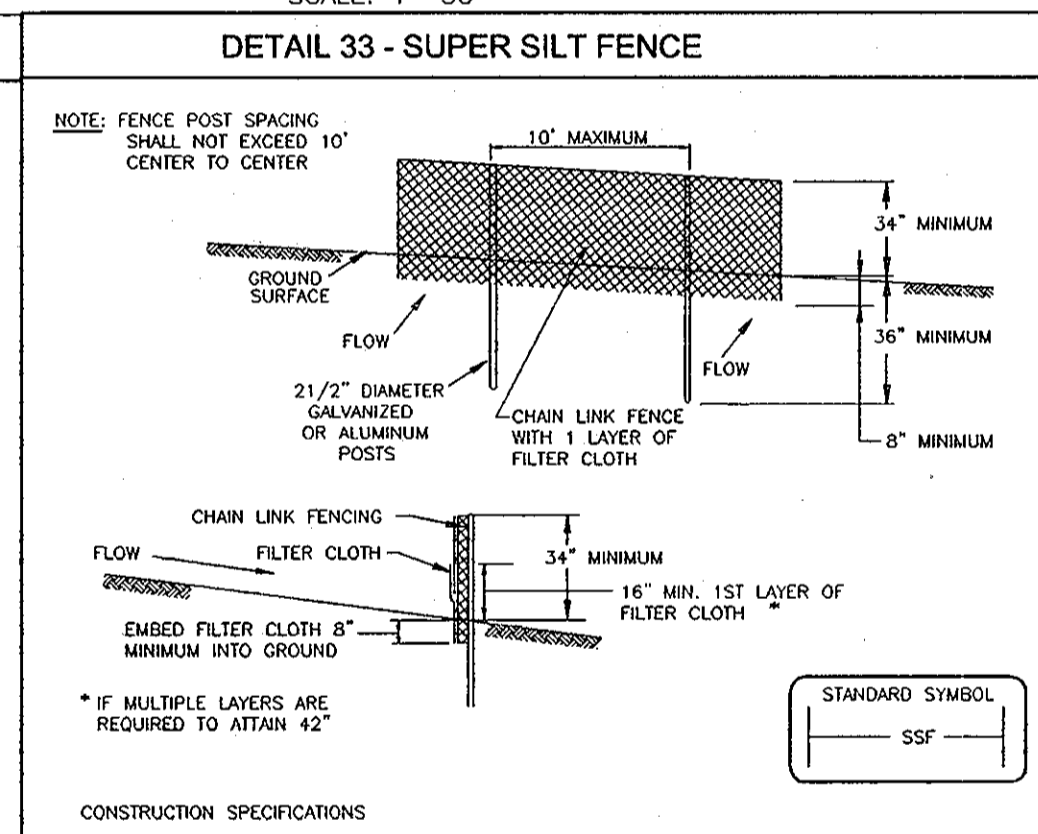
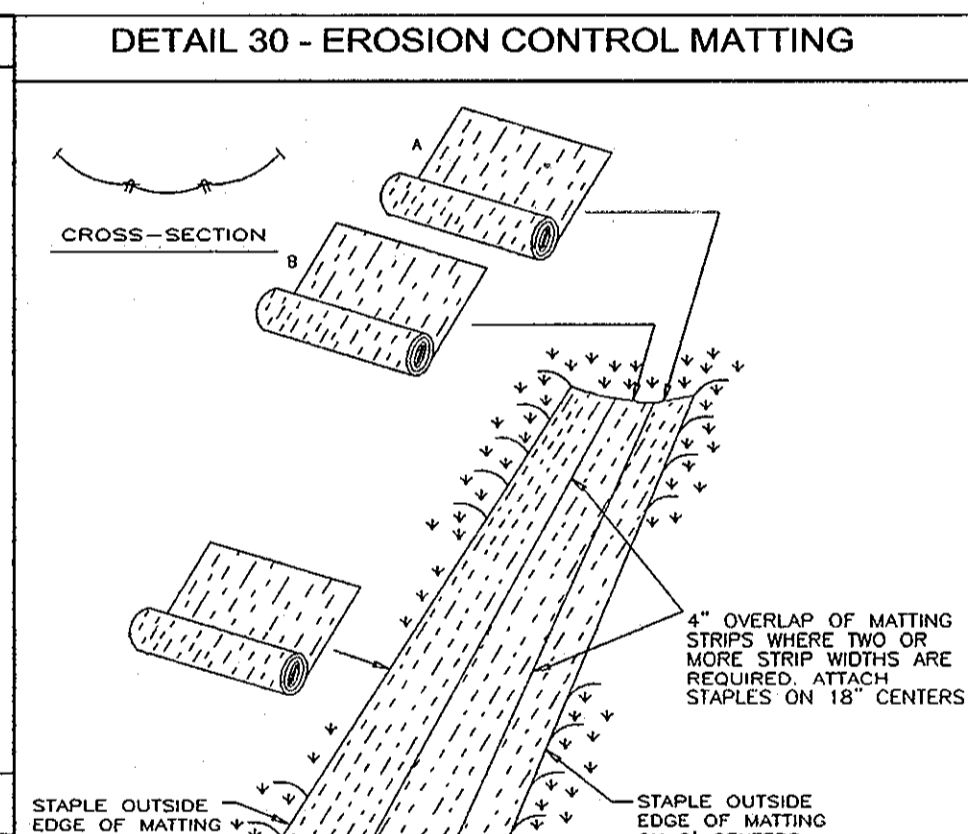
SEDIMENT CONTROL PLAN
 SCALE: 1"=50'

EROSION CONTROL MATTING
 CONSTRUCTION SPECIFICATIONS

1. KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH, 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
4. STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP. 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4". SHIPLAP FASHION. REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6" APART IN A STAGGERED PATTERN ON EITHER SIDE.
6. THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH 2 DOUBLE ROWS OF STAPLES.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEYS-IN.

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-22-2A MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPT. OF INSPECTION LICENSE AND PERMITS DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1852).
 2. ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. TEMPORARY SEEDING, SOIL, TEMPORARY SEEDING, AND MULCHING (SEC. C). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 7. SITE ANALYSIS:

TOTAL AREA	NA
AREA TO BE ROOFED OR PAVED	1.42 AC.
AREA TO BE VEGETATIVELY STABILIZED	0 AC.
TOTAL CUT	NA
TOTAL FILL	1000 CY
 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- * TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT.

PERMANENT SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
- SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, LOOSENEED.
- SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
- 1) PREFERRED-APPLY 2 TONS PER ACRE DOLOMITE LIMESTONE (92 LBS./100 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS./100 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT THE TIME OF SEEDING. APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
 - 2) ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMITE LIMESTONE (92 LBS./1000 SQ.FT.) AND APPLY 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.
- SEEDING FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.5 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOIL. OPTION (3) SEED WITH 60 LBS./ACRE STRAW.
- MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROOTED SMALL BRASH STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 216 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.
- MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

LEGEND:

- 100 --- EXISTING CONTOUR
- 100 --- PROPOSED CONTOUR
- 100 --- PROPOSED SPOT ELEVATION
- 100 --- EXISTING SPOT ELEVATION
- 100 --- EXISTING CURB AND CUTTER
- 100 --- PROPOSED CURB AND CUTTER
- 100 --- EXISTING UTILITY POLE
- 100 --- EXISTING MAILBOX
- 100 --- EXISTING SIGN
- 100 --- EXISTING SANITARY MANHOLE
- 100 --- EXISTING SANITARY LINE
- 100 --- EXISTING CLEAHOUT
- 100 --- EXISTING FIRE HYDRANT
- 100 --- EXISTING WATER LINE
- 100 --- PROPOSED STORM DRAIN INLET
- 100 --- EXISTING TIE LINE (FIELD LOCATED)
- 100 --- EROSION CONTROL MATTING

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-22-2A MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-22-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

HOWARD S.C.D. DATE 5/7/10

BY THE ENGINEER: *[Signature]* DATE 5/7/10

BY THE DEVELOPER: *[Signature]* DATE 5/6/10

I 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 CONSERVATION DISTRICT.

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A 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.

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-22-2A MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-22-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-22-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE PAGE 6-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

NOTES

DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON.

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

- A. 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
- B. 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.

DEVELOPER
AS BUILT
 DATE 10/22/12

AUTUMN RIVER DEVELOPMENT CORPORATION
 C/O LAND DESIGN & DEVELOPMENT, INC.
 5300 DORSEY HALL DR. STE 102
 ELLICOTT CITY MD 21104-7819
 ATTN: MR. DONALD R. REULWER
 (443) 367-0422

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

[Signature] 5/12/10 DATE
 CHIEF, BUREAU OF UTILITIES

[Signature] 4/21/10 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21104
 TEL: 410.461.7666 FAX: 410.461.8961

STATE OF MARYLAND PROFESSIONAL ENGINEER LICENSE NO. 16193 EXPIRATION DATE: 09-27-2010

PROFESSIONAL CERTIFICATE	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. 16193 EXPIRATION DATE: 09-27-2010
DRN:	KG DES: RHV
CHK:	RHV
DATE:	MAY 2010
BY:	NO. REVISION
DATE:	600' SCALE MAP NO. 25

FINAL WATER & SEWER PLAN
SEWER FORCE MAIN LAYOUT

AUTUMN RIVER - PHASE II
CONTRACT 14-4463-D

TAX MAP 25 BLOCK 14 & 21 PARCEL 172 & 279
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 10 OF 10

F-09-021

