

KEY MAP  
NOT TO SCALE

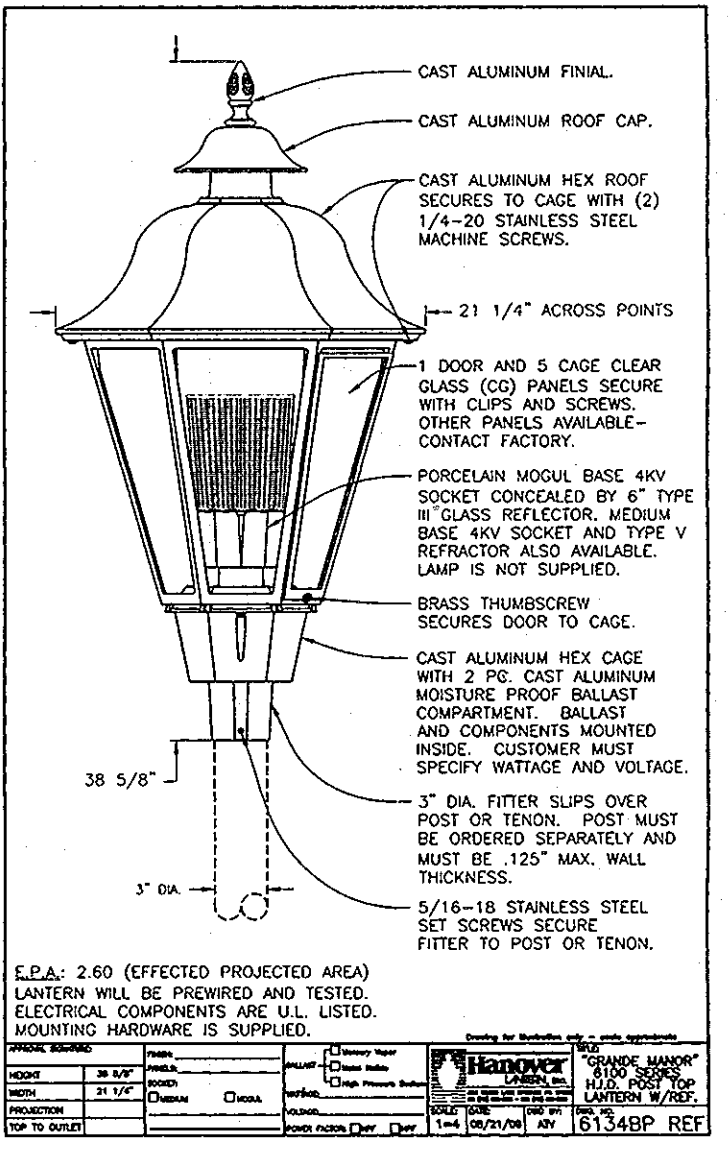
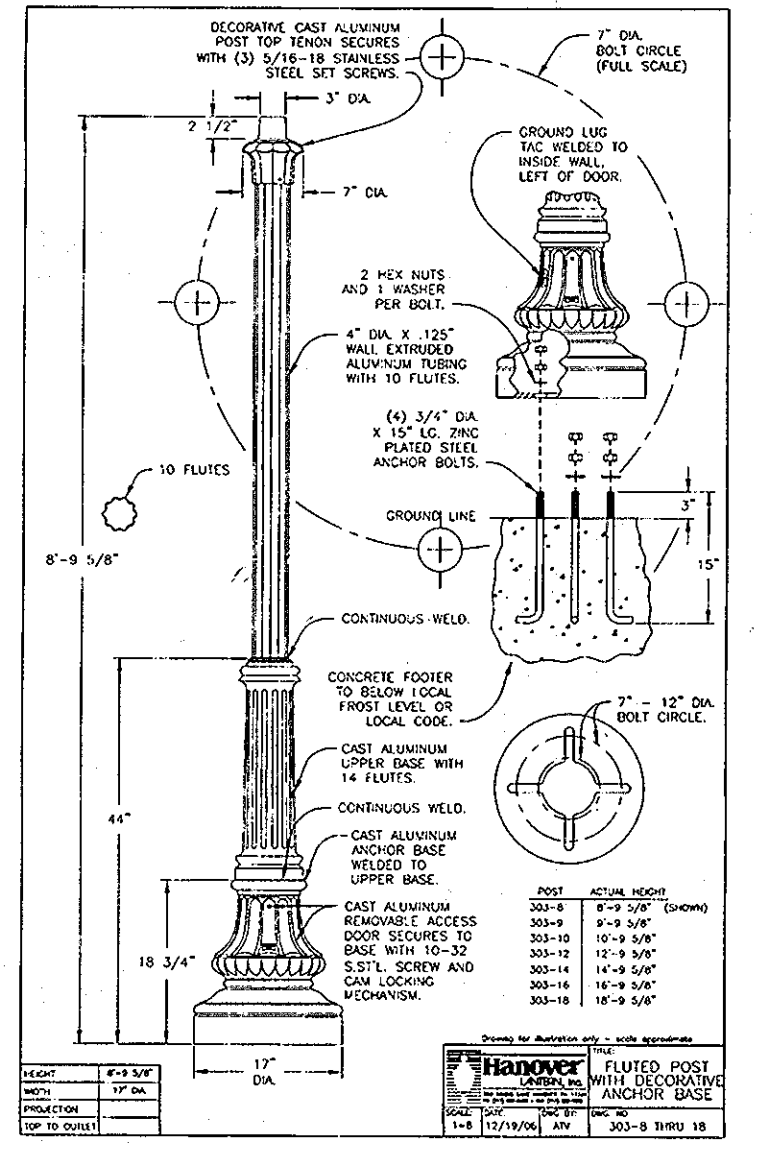
MATCHLINE SHEET 4

MATCHLINE SHEET 3

PLAN VIEW  
SCALE: 1"=30'

MATCHLINE SHEET 3

- LEGEND:**
- EXISTING CURB AND GUTTER
  - PROPOSED CURB AND GUTTER
  - EXISTING UTILITY POLE
  - EXISTING LIGHT POLE
  - EXISTING MAILBOX
  - EXISTING SIGN
  - EXISTING SANITARY MANHOLE
  - EXISTING SANITARY LINE
  - EXISTING SANITARY LINE
  - EXISTING CLEANOUT
  - EXISTING FIRE HYDRANT
  - EXISTING WATER LINE
  - PROPOSED STORM DRAIN
  - PROPOSED STORM DRAIN INLET
  - EXISTING TREELINE (FIELD LOCATED)
  - EXISTING STREET TREES (F-02-35)
  - PROPERTY LINE
  - RIGHT-OF-WAY LINE
  - PROPOSED SIDEWALK
  - PROPOSED STREET LIGHT
  - PROPOSED STREET SIGN



NO.	REVISION	DATE
1	REVISE LANDSCAPING, EXTEND SEWER MAIN, REMOVE RETAINING WALLS 1 AND 2, AND ASSOCIATED GRADING	08-23-12

**SITE DEVELOPMENT PLAN  
LAYOUT PLAN**

**DORSET GARDENS**  
BLUE STREAM  
LOTS 1-125, OPEN SPACE LOTS 126-127, AND BUILDABLE BULK PARCEL J-1  
TOWNHOMES  
ZONED: CAC-CL1  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL  
ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET  
ELLICOTT CITY, MD 21043  
TEL: 410.461.7666  
FAX: 410.461.8966

PROFESSIONAL CERTIFICATE  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DEX LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 09-27-2014.

DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: OCTOBER 2012  
SCALE: AS SHOWN  
W.O. NO.: 06-26-02

2 SHEET OF 11

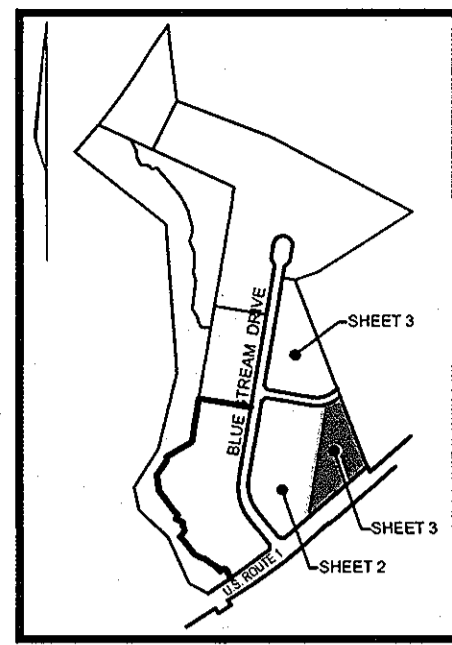
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12/2/12  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

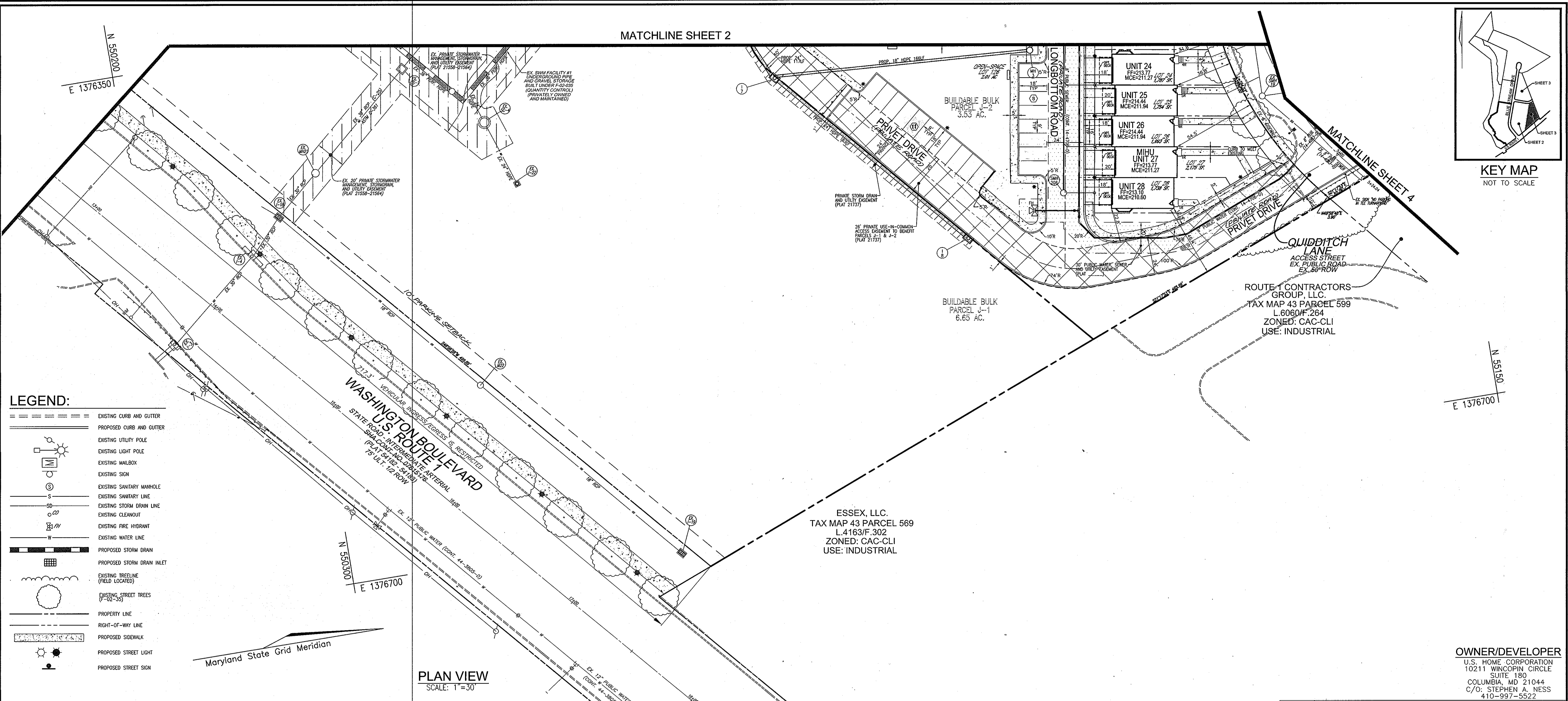
*[Signature]* 12/7/12  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 12/7/12  
DIRECTOR DATE

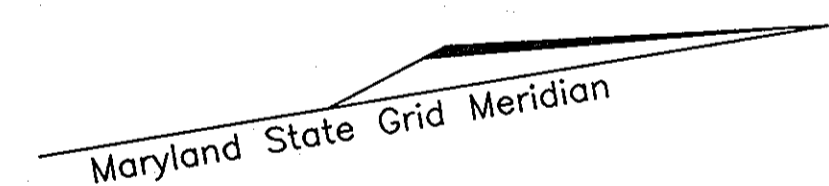
MATCHLINE SHEET 2



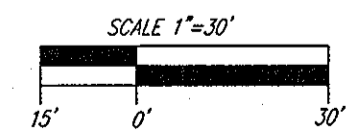
KEY MAP  
NOT TO SCALE



- LEGEND:**
- EXISTING CURB AND GUTTER
  - PROPOSED CURB AND GUTTER
  - EXISTING UTILITY POLE
  - EXISTING LIGHT POLE
  - EXISTING MAILBOX
  - EXISTING SIGN
  - EXISTING SANITARY MANHOLE
  - EXISTING SANITARY LINE
  - EXISTING STORM DRAIN LINE
  - EXISTING CLEANOUT
  - EXISTING FIRE HYDRANT
  - EXISTING WATER LINE
  - PROPOSED STORM DRAIN
  - PROPOSED STORM DRAIN INLET
  - EXISTING TREE LINE (FIELD LOCATED)
  - EXISTING STREET TREES (P-12-23)
  - PROPERTY LINE
  - RIGHT-OF-WAY LINE
  - PROPOSED SIDEWALK
  - PROPOSED STREET LIGHT
  - PROPOSED STREET SIGN



PLAN VIEW  
SCALE: 1"=30'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

\_\_\_\_\_  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/26/12

\_\_\_\_\_  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 7/2/12

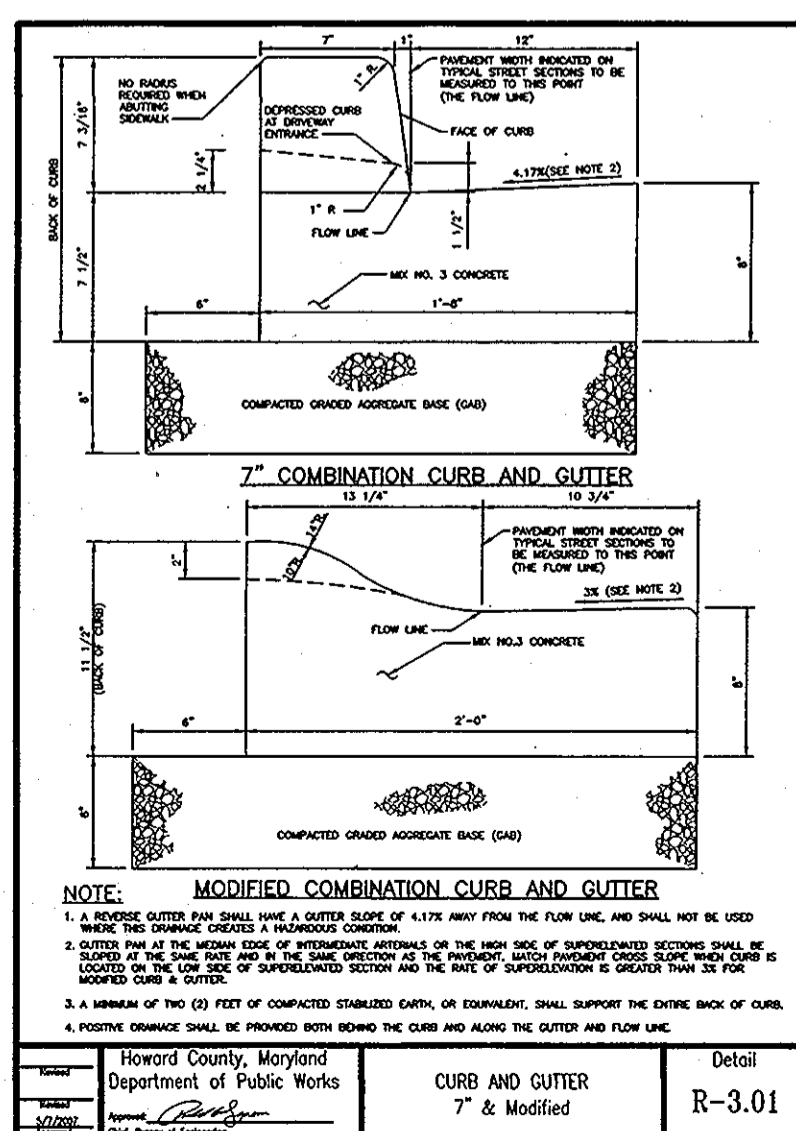
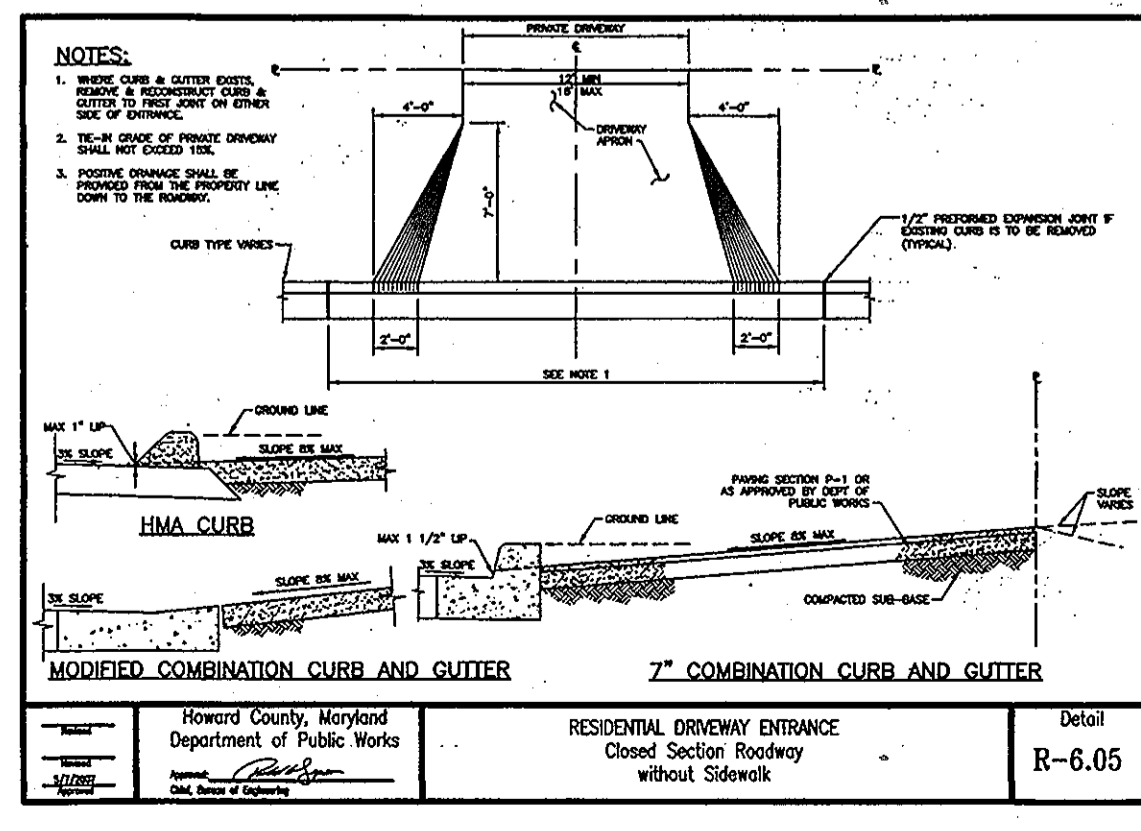
\_\_\_\_\_  
 DIRECTOR  
 DATE: 7/10/12

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CANTONMENT BEARING ROAD (CBR)	3 TO 4.5 TO 4.7	4.5 TO 5.0 TO 4.7	5.0 TO 5.5 TO 4.7
P-1	PARKING DRIVE	PAVEMENT MATERIAL (INCHES)	MIN FRACTION WITH CURB	MAX WITH CONSTANT CURB	
P-2	LOCAL DRIVE				
P-3	ACCESS DRIVE				
P-4	MAJOR COLLECTOR				

**NOTES:**

1. HEAVY TRUCKS ARE DEFINED AS THOSE WITH 500 (G) WHEELS OR MORE INCLUDING GARAGE TRUCKS.
2. MAX SUPERVISEE LAYER SHALL BE PLACED IN ENTIRE WIDTH OF TRUCKS. 18.0 MAX WIDE (12" MIN TO 4.5" MAX).
3. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).
4. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).
5. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).
6. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).
7. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).
8. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).
9. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).
10. 18.0 MAX WIDE (12" MIN TO 4.5" MAX) AND 18.0 MAX SURFACE (12" MIN TO 2.0" MAX).

Howards County, Maryland  
 Department of Public Works  
 PAVING SECTIONS  
 P-1 to P-4  
 Detail  
 R-2.01



**OWNER/DEVELOPER**  
 U.S. HOME CORPORATION  
 10211 WINCOPIN CIRCLE  
 SUITE 180  
 COLUMBIA, MD 21044  
 C/O: STEPHEN A. NESS  
 410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ELIMINATE RET. WALL #118/2, REVISE 2 FT WALLS ALONG BLUE STREAM DRIVE, ADD HARDSCAPE TO EITHER SIDE OF QUIDDITCH LANE.	08/22/12

**SITE DEVELOPMENT PLAN**  
**LAYOUT PLAN**  
**DORSET GARDENS**  
 BLUE STREAM  
 LOTS 1-125, OPEN SPACE LOTS 126-127, AND BUILDABLE BULK PARCEL J-1  
 TOWNHOMES  
 TAX MAP 43 GRID 4 PARCEL 14  
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 ZONED CAC-CLI

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
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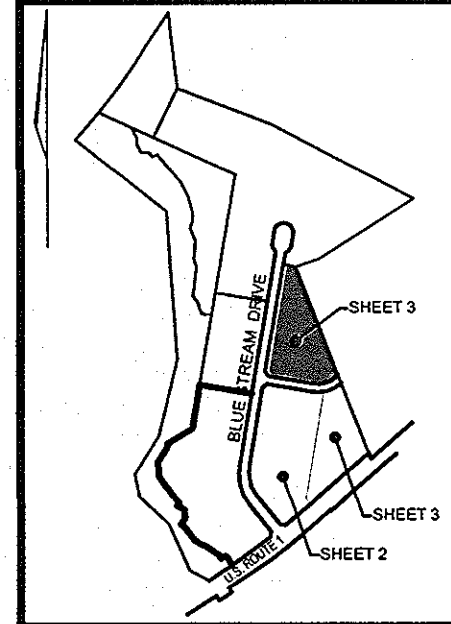
PROFESSIONAL CERTIFICATE

STATE OF MARYLAND  
 ROBERT HARRIS VOGEL  
 PROFESSIONAL ENGINEER  
 No. 18193

DESIGN BY: RHV  
 DRAWN BY: DZ  
 CHECKED BY: RHV  
 DATE: MARCH 2012  
 SCALE: AS SHOWN  
 W.O. NO.: 06-26.02

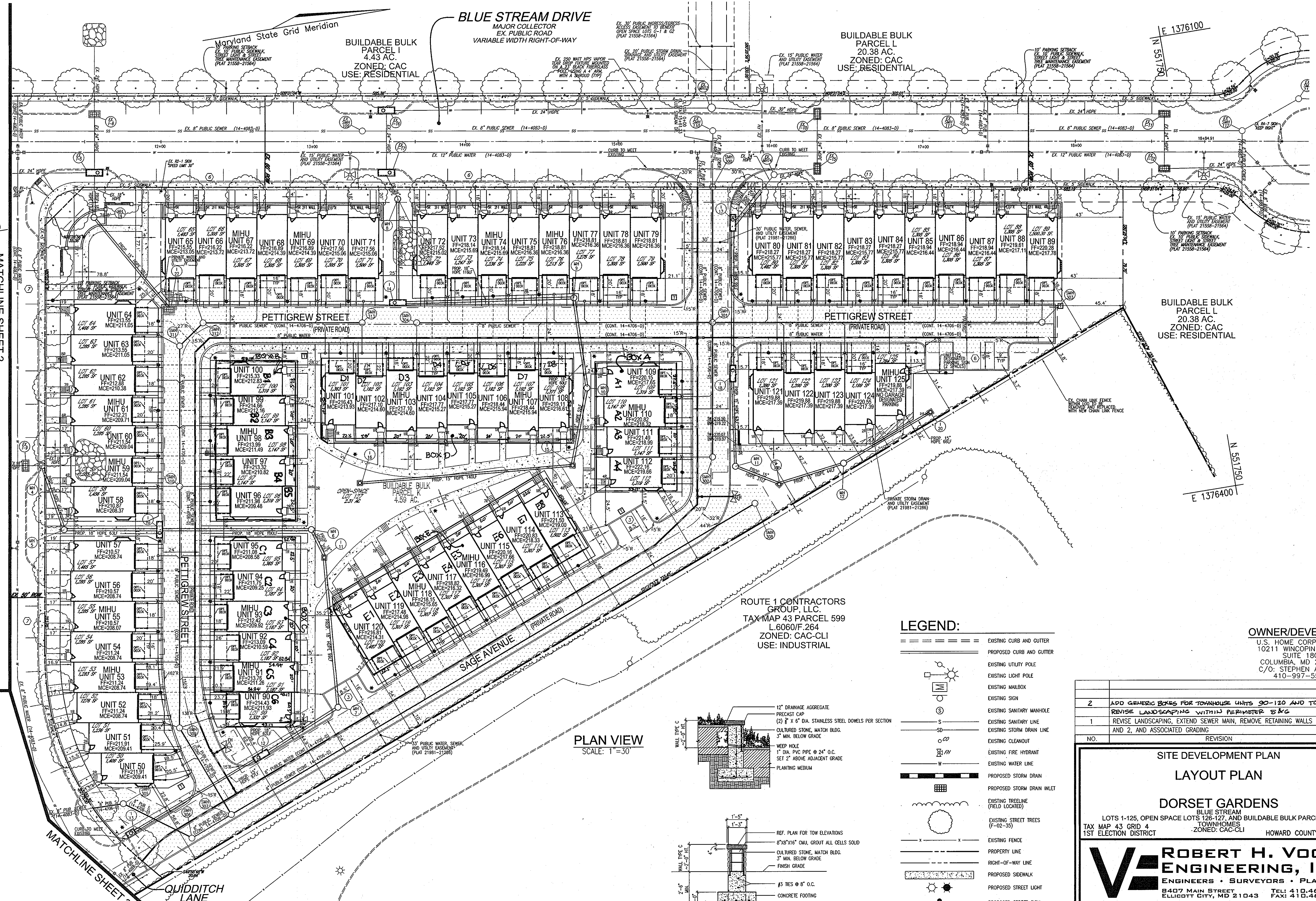
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18193, EXPIRATION DATE: 09-27-2012.

3 SHEET OF 11



KEY MAP  
NOT TO SCALE

E 1376100  
N 550950  
MATCHLINE SHEET 2

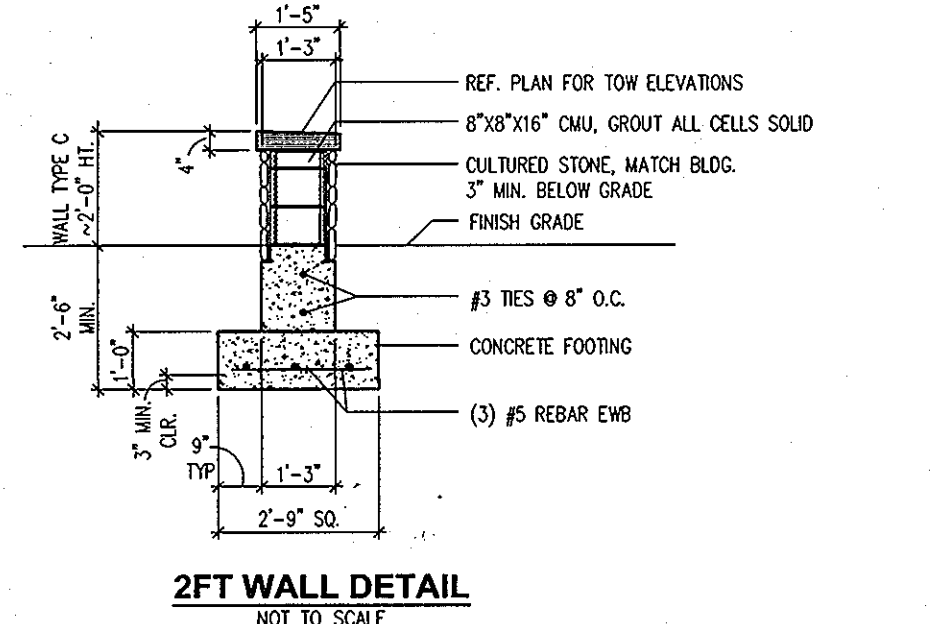
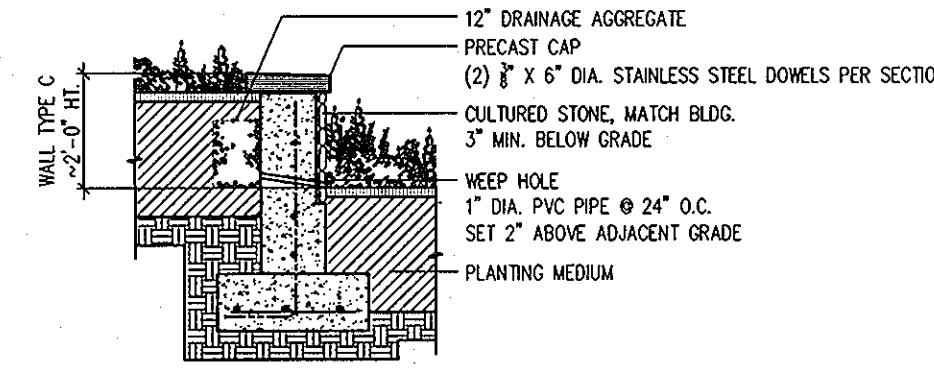


E 1376400  
N 551750

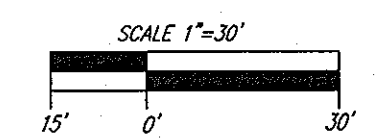
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

12/12/12  
 12/17/12  
 12/11/12  
 DATE

PLAN VIEW  
SCALE: 1"=30'



- LEGEND:**
- EXISTING CURB AND GUTTER
  - PROPOSED CURB AND GUTTER
  - EXISTING UTILITY POLE
  - EXISTING LIGHT POLE
  - EXISTING MAILBOX
  - EXISTING SIGN
  - EXISTING SANITARY MANHOLE
  - EXISTING SANITARY LINE
  - EXISTING STORM DRAIN LINE
  - EXISTING CLEANOUT
  - EXISTING FIRE HYDRANT
  - EXISTING WATER LINE
  - PROPOSED STORM DRAIN
  - PROPOSED STORM DRAIN INLET
  - EXISTING TREELINE (FIELD LOCATED)
  - EXISTING STREET TREES (F-02-35)
  - EXISTING FENCE
  - PROPERTY LINE
  - RIGHT-OF-WAY LINE
  - PROPOSED SIDEWALK
  - PROPOSED STREET LIGHT
  - PROPOSED STREET SIGN



ROUTE 1 CONTRACTORS GROUP, LLC.  
 TAX MAP 43 PARCEL 599  
 L.6060/F.264  
 ZONED: CAC-CLI  
 USE: INDUSTRIAL

BUILDABLE BULK PARCEL L  
 20.38 AC.  
 ZONED: CAC  
 USE: RESIDENTIAL

**SITE DEVELOPMENT PLAN  
 LAYOUT PLAN**  
 DORSET GARDENS  
 BLUE STREAM  
 LOTS 1-125, OPEN SPACE LOTS 126-127, AND BUILDABLE BULK PARCEL J-1  
 TAX MAP 43 GRID 4  
 1ST ELECTION DISTRICT

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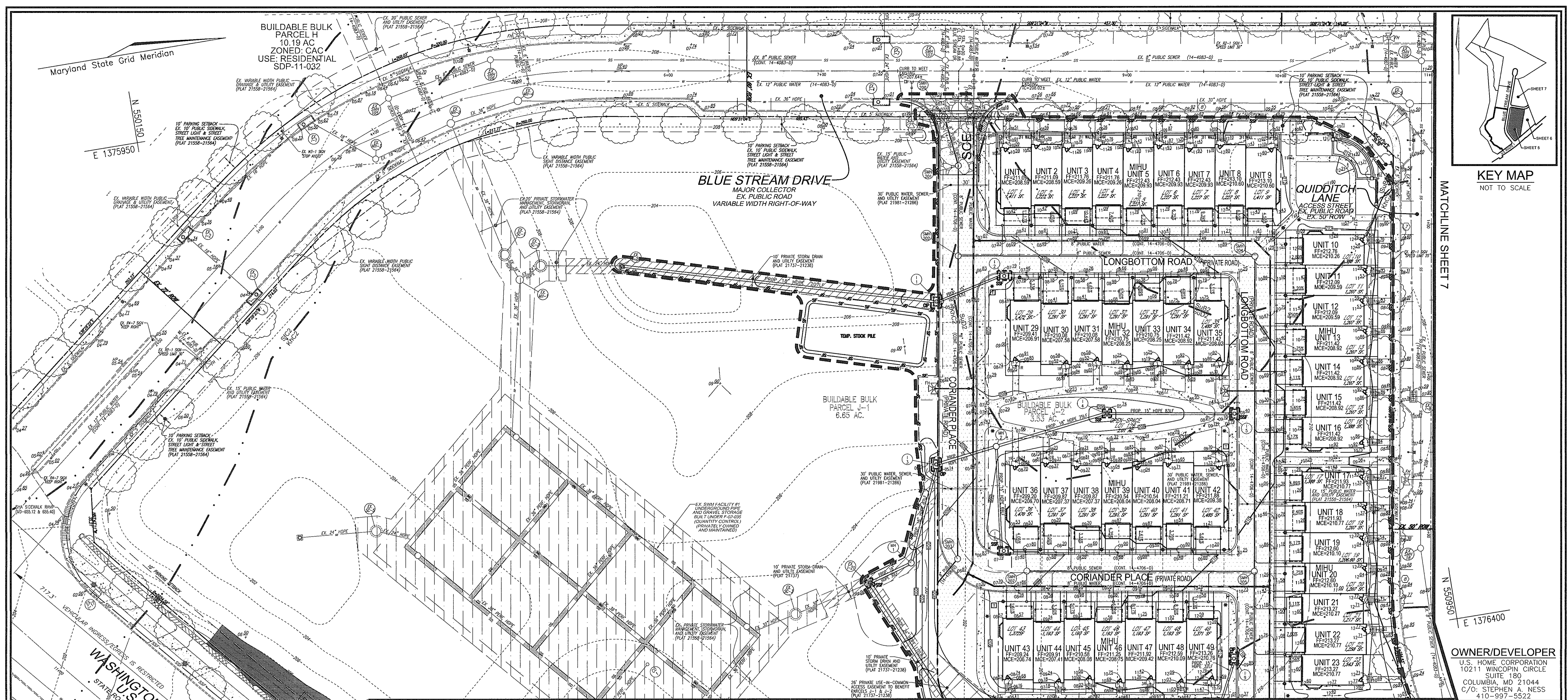
PROFESSIONAL CERTIFICATE  
 DESIGN BY: RHV  
 DRAWN BY: DZ  
 CHECKED BY: RHV  
 DATE: OCTOBER 2012  
 SCALE: AS SHOWN  
 W.O. NO.: 06-26.02

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 EXPIRATION DATE: 09-27-2014

4 SHEET OF 11

**OWNER/DEVELOPER**  
 U.S. HOME CORPORATION  
 10211 WINCOPPER CIRCLE  
 SUITE 180  
 COLUMBIA, MD 21044  
 C/O: STEPHEN A. NESS  
 410-997-5522

NO.	REVISION	DATE
2	ADD GENERIC BOXES FOR TOWNHOUSE UNITS 90-120 AND TO REVISE LANDSCAPING WITHIN PERIMETER 5 & C	08/12/13
1	REVISE LANDSCAPING, EXTEND SEWER MAIN, REMOVE RETAINING WALLS 1 AND 2, AND ASSOCIATED GRADING	08-23-12



PLAN VIEW  
SCALE: 1"=30'

MATCHLINE SHEET 6

LEGEND:

	EXISTING CONTOUR		PROPERTY LINE
	PROPOSED CONTOUR		RIGHT-OF-WAY LINE
	PROPOSED SPOT ELEVATION		PROPOSED STREET LIGHT
	EXISTING SPOT ELEVATION		PROPOSED STREET SIGN
	EXISTING CURB AND GUTTER		SOILS BOUNDARY
	PROPOSED CURB AND GUTTER		PROPOSED SIDEWALK
	EXISTING UTILITY POLE		STEEP SLOPE (>25%)
	EXISTING LIGHT POLE		SILT FENCE
	EXISTING MAILBOX		SUPER SILT FENCE
	EXISTING SIGN		LIMIT OF DISTURBANCE
	EXISTING SANITARY MANHOLE		CURB INLET PROTECTION
	EXISTING SANITARY LINE		AT GRADE INLET PROTECTION
	EXISTING STORM DRAIN LINE		STABILIZED CONSTRUCTION ENTRANCE
	EXISTING CLEANOUT		
	EXISTING FIRE HYDRANT		
	EXISTING WATER LINE		
	PROPOSED STORM DRAIN		
	PROPOSED STORM DRAIN INLET		
	EXISTING TREE LINE (FIELD LOCATED)		
	EXISTING STREET TREES (F-02-35)		

NO.	REVISION	DATE
1	REVISE LANDSCAPING, EXTEND SEWER MAIN, REMOVE RETAINING WALLS 1 AND 2, AND ASSOCIATED GRADING	08-23-12

**SITE DEVELOPMENT PLAN**  
**GRADING, SEDIMENT AND EROSION CONTROL PLAN**  
**DORSET GARDENS**  
 BLUE STREAM  
 LOTS 1-125, OPEN SPACE LOTS 126-127, AND BUILDABLE BULK PARCEL J-1  
 TAX MAP 43 GRID 4 TOWNHOMES PARCEL 14  
 1ST ELECTION DISTRICT ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND

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

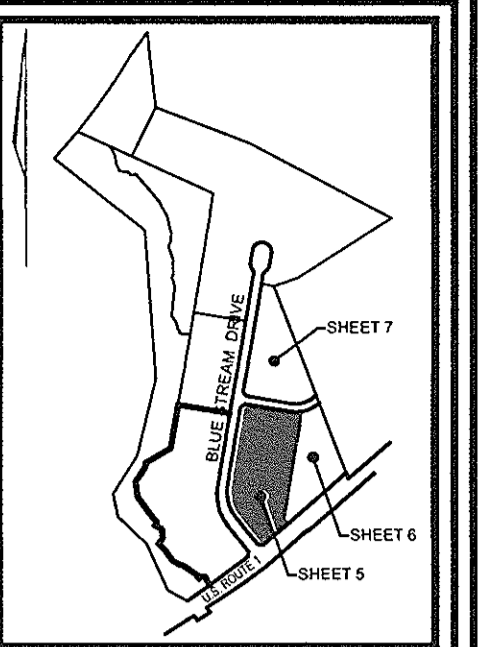
PROFESSIONAL CERTIFICATE  
 DESIGN BY: RHV  
 DRAWN BY: DZ  
 CHECKED BY: RHV  
 DATE: OCTOBER 2012  
 SCALE: AS SHOWN  
 W.O. NO.: 06-26-02  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 09-27-2014.  
 5 SHEET OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 12/12/12  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 12/17/12  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 12/17/12  
 DIRECTOR

BY THE DEVELOPER:  
 [Signature] 11/19/12  
 SIGNATURE OF DEVELOPER  
 DATE

BY THE ENGINEER:  
 [Signature] 11/28/12  
 SIGNATURE OF ENGINEER  
 DATE

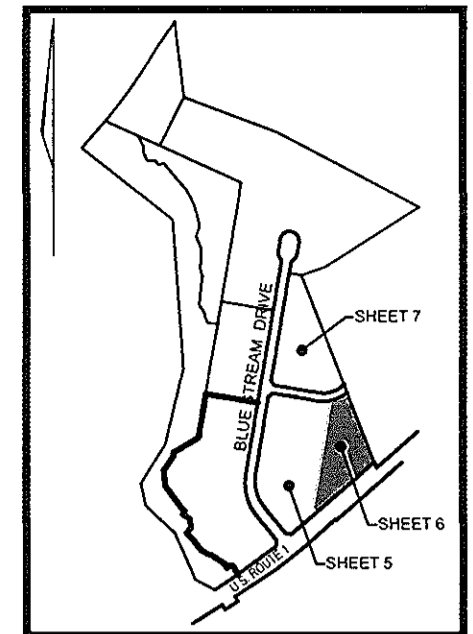
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 12/16/12  
 HOWARD S.C.D. DATE



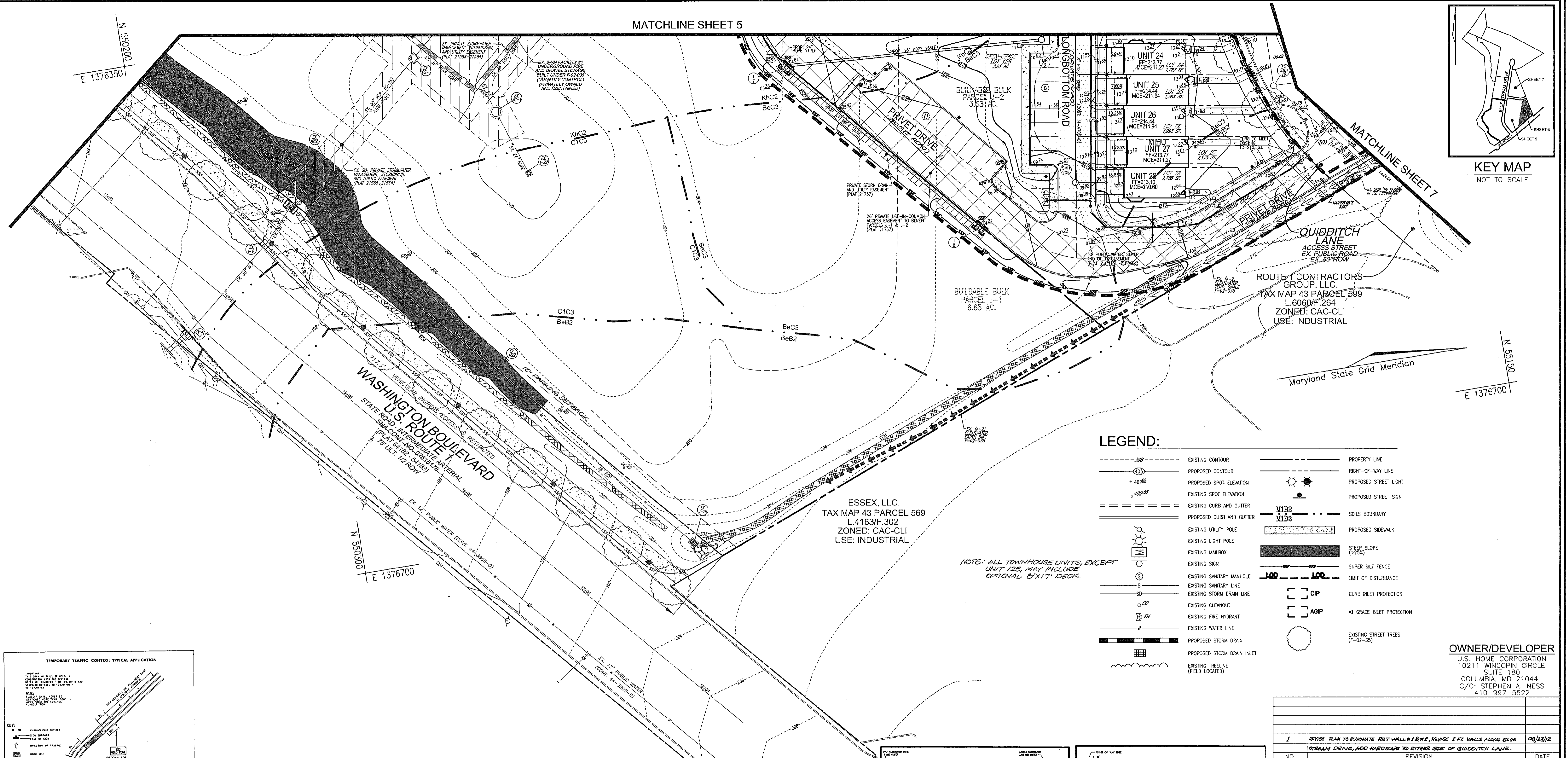
KEY MAP  
NOT TO SCALE

MATCHLINE SHEET 7

OWNER/DEVELOPER  
 U.S. HOME CORPORATION  
 10211 WINCOPIN CIRCLE  
 SUITE 180  
 COLUMBIA, MD 21044  
 C/O: STEPHEN A. NESS  
 410-997-5522



KEY MAP NOT TO SCALE



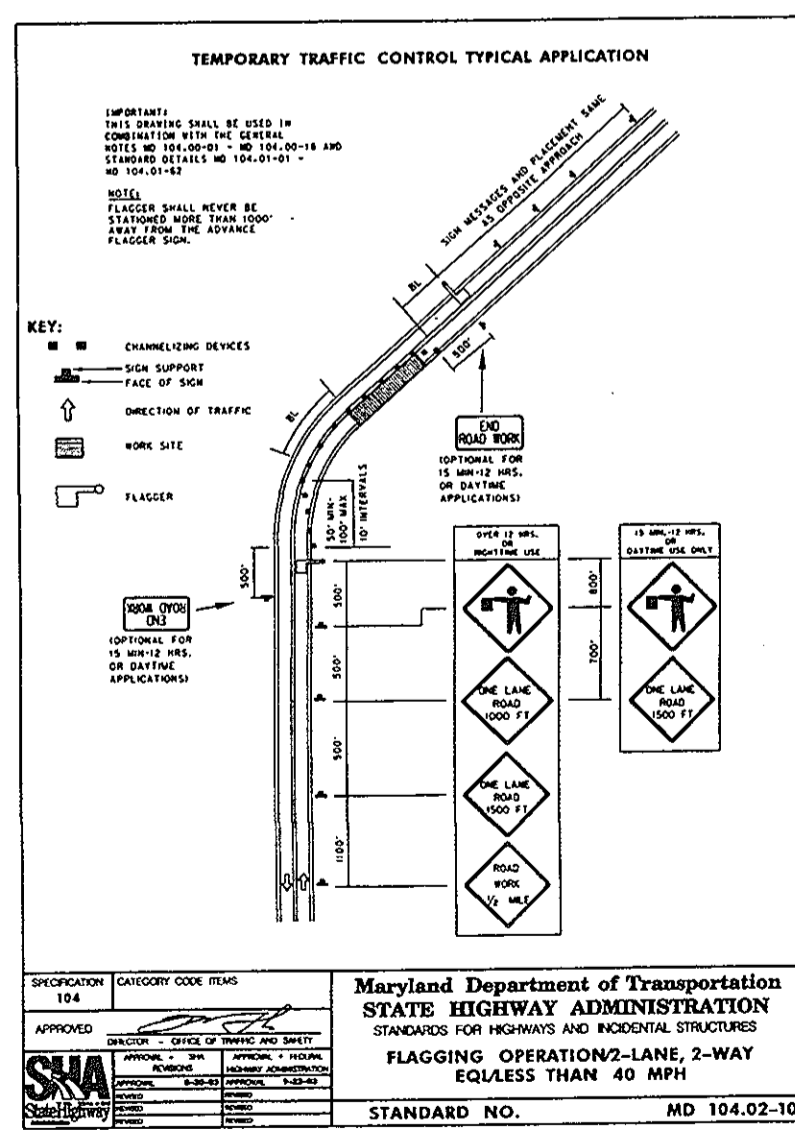
LEGEND:

- Legend items including: EXISTING CONTOUR, PROPOSED CONTOUR, EXISTING SPOT ELEVATION, EXISTING CURB AND GUTTER, EXISTING UTILITY POLE, EXISTING LIGHT POLE, EXISTING MAILBOX, EXISTING SIGN, EXISTING SANITARY MANHOLE, EXISTING SANITARY LINE, EXISTING STORM DRAIN LINE, EXISTING CLEANOUT, EXISTING FIRE HYDRANT, EXISTING WATER LINE, PROPOSED STORM DRAIN, PROPOSED STORM DRAIN INLET, EXISTING TREELINE (FIELD LOCATED), PROPERTY LINE, RIGHT-OF-WAY LINE, PROPOSED STREET LIGHT, PROPOSED STREET SIGN, SOILS BOUNDARY, PROPOSED SIDEWALK, STEEP SLOPE (>25%), SUPER SILT FENCE, LIMIT OF DISTURBANCE, CURB INLET PROTECTION, AT GRADE INLET PROTECTION, EXISTING STREET TREES (F-02-35).

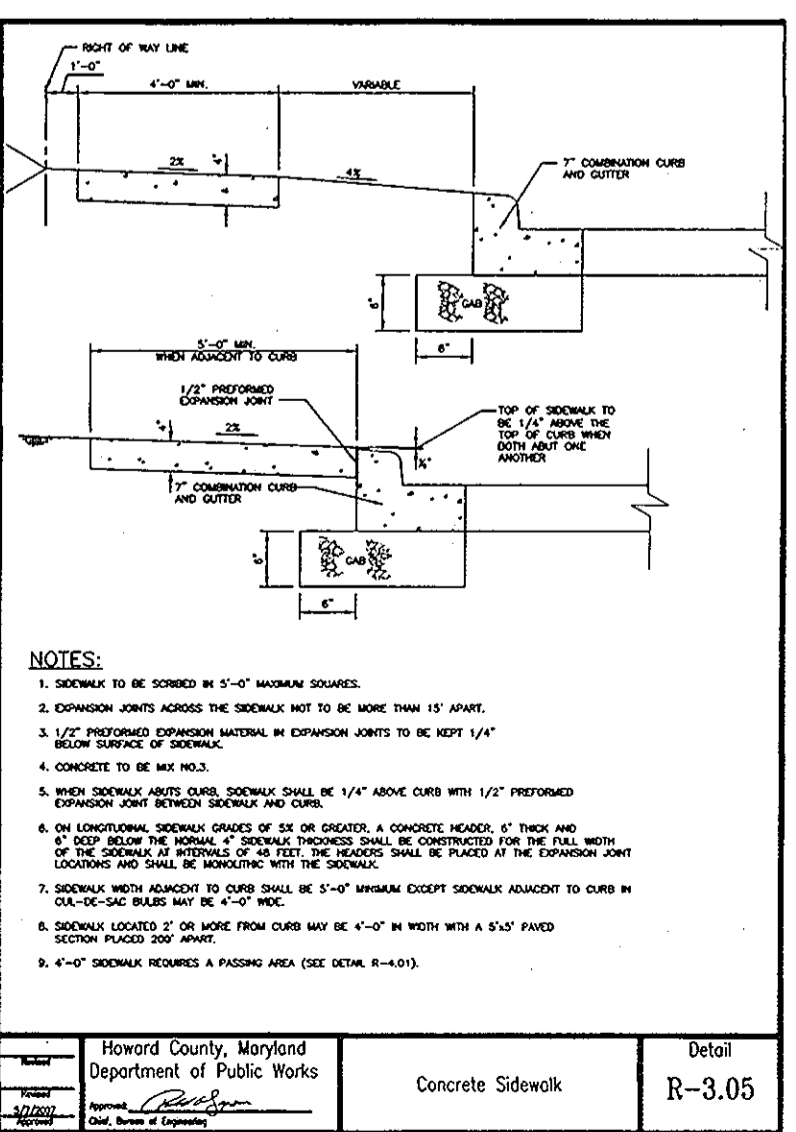
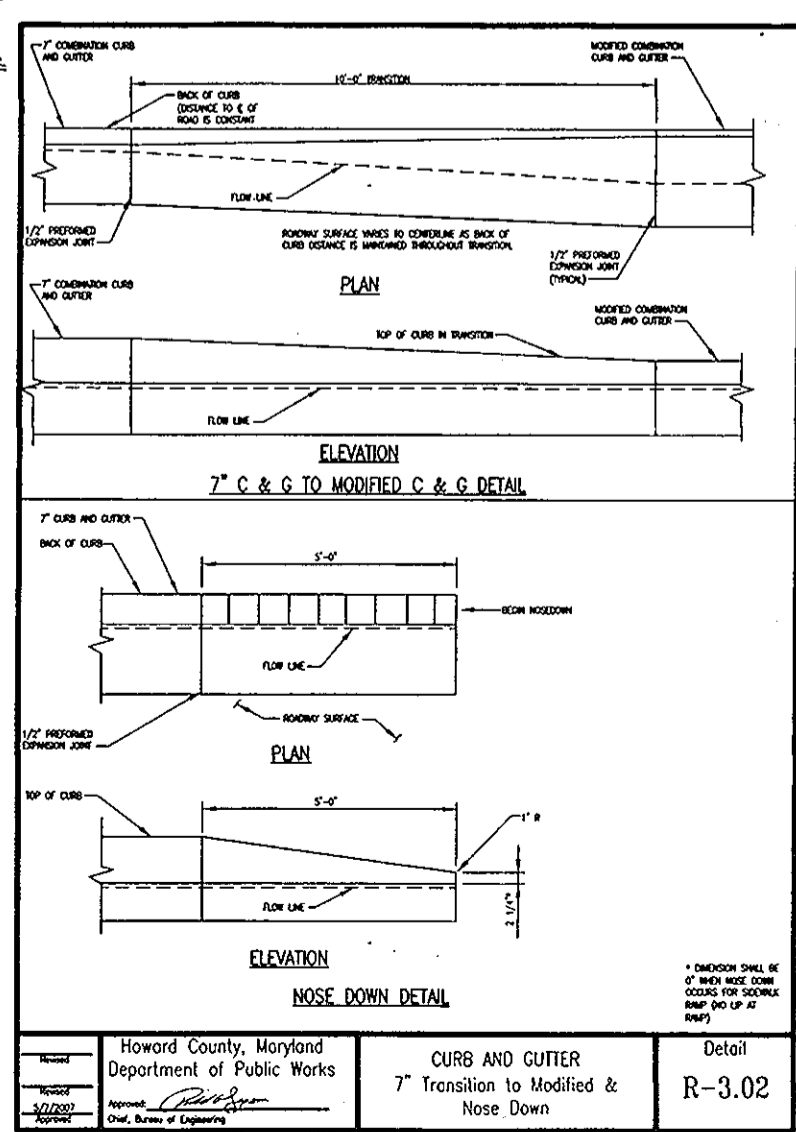
NOTE: ALL TOWNHOUSE UNITS, EXCEPT UNIT 125, MAY INCLUDE OPTIONAL 8'x17' DECK.

ESSEX, LLC. TAX MAP 43 PARCEL 569 L.4163/F.302 ZONED: CAC-CLI USE: INDUSTRIAL

OWNER/DEVELOPER U.S. HOME CORPORATION 10211 WINCOPIN CIRCLE SUITE 180 COLUMBIA, MD 21044 C/O: STEPHEN A. NESS 410-997-5522



PLAN VIEW SCALE: 1"=30'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. CHIEF, DEVELOPMENT ENGINEERING DIVISION. DATE: 6/20/12. CHIEF, DIVISION OF LAND DEVELOPMENT. DATE: 7/03/12. DIRECTOR. DATE: 7/2/12.

BY THE DEVELOPER: I/WE 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.

BY THE ENGINEER: 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.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. Signature: John R. Robertson, DATE: 3/20/12.

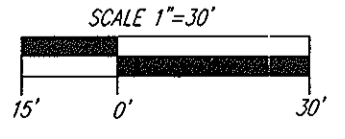
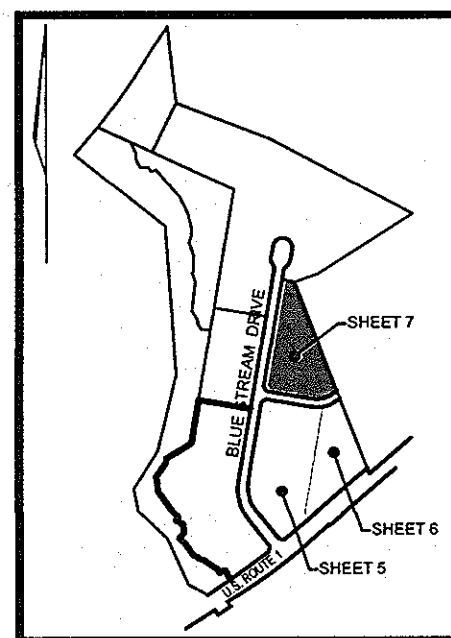


Table with 3 columns: NO., REVISION, DATE. Row 1: 1, REVISE PLAN TO ELIMINATE RET. WALL W/ RHE, REVISE 2 FT WALLS ALONG BLUE STREAM DRIVE, ADD HARDCAPE TO EITHER SIDE OF QUIDDITCH LANE., 08/23/12.

SITE DEVELOPMENT PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN DORSET GARDENS BLUE STREAM LOTS 1-129, OPEN SPACE LOTS 126 & 127, AND BUILDABLE BULK PARCEL U-1 TAX MAP 43 GRID 4 TOWNHOMES PARCEL 14 1ST ELECTION DISTRICT ZONED: CAC-CLI HOWARD COUNTY, MARYLAND

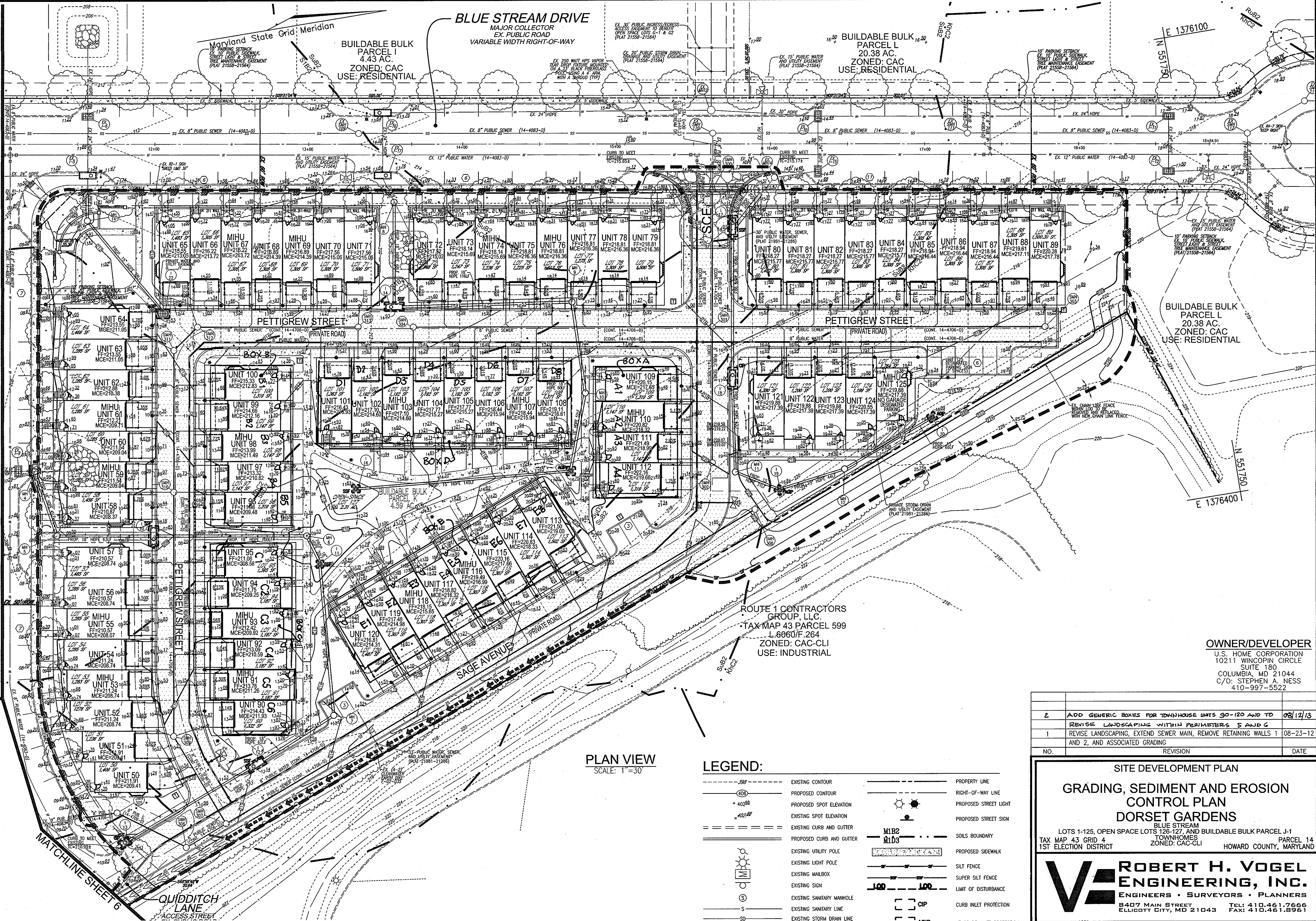
ROBERT H. VOGEL ENGINEERS • SURVEYORS • PLANNERS 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE DESIGN BY: RHV, DRAWN BY: DJ, CHECKED BY: RHV, DATE: MARCH 2012, SCALE: AS SHOWN, W.O. NO.: 06-26-02, 6 SHEET OF 11.



KEY MAP  
NOT TO SCALE

E 1376100  
N 550950  
MATCHLINE SHEET 5



PLAN VIEW  
SCALE: 1"=30'

LEGEND:

	EXISTING CONTOUR		RIGHT-OF-WAY LINE
	PROPOSED CONTOUR		PROPOSED STREET LIGHT
	PROPOSED SPOT ELEVATION		PROPOSED STREET SIGN
	EXISTING CURB AND GUTTER		SOILS BOUNDARY
	PROPOSED CURB AND GUTTER		PROPOSED SIDEWALK
	EXISTING UTILITY POLE		SILT FENCE
	EXISTING LIGHT POLE		SUPER SILT FENCE
	EXISTING MAILBOX		LIMIT OF DISTURBANCE
	EXISTING SIGN		CURB INLET PROTECTION
	EXISTING SANITARY MANHOLE		AT GRADE INLET PROTECTION
	EXISTING SANITARY LINE		STABILIZED CONSTRUCTION ENTRANCE
	EXISTING STORM DRAIN LINE		EXISTING STREET TREES (1-02-35)
	EXISTING CLEANOUT		
	EXISTING FIRE HYDRANT		
	EXISTING WATER LINE		
	PROPOSED STORM DRAIN		
	PROPOSED STORM DRAIN INLET		
	EXISTING TREE LINE (FIELD LOCATED)		

NO.	REVISION	DATE
2	ADD GENERIC BOXES FOR TOWNHOUSE UNITS 90-120 AND TO REINSE LANDSCAPING WITHIN PERIMETERS 5 AND C	08/12/13
1	REVISE LANDSCAPING, EXTEND SEWER MAIN, REMOVE RETAINING WALLS 1 AND 2, AND ASSOCIATED GRADING	08-23-12

SITE DEVELOPMENT PLAN  
GRADING, SEDIMENT AND EROSION CONTROL PLAN  
DORSET GARDENS  
BLUE STREAM  
LOTS 1-125, OPEN SPACE LOTS 126-127, AND BUILDABLE BULK PARCEL J-1  
TAX MAP 43 GRID 4  
1ST ELECTION DISTRICT  
ZONED: CAC-CLI  
HOWARD COUNTY, MARYLAND

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PROFESSIONAL CERTIFICATE  
DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: OCTOBER 2012  
SCALE: AS SHOWN  
W.O. NO.: 06-26.02

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.  
EXPIRATION DATE: 09-27-2014

7 SHEET OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12/12/12  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12/17/12  
DIRECTOR  
DATE: 12/19/12

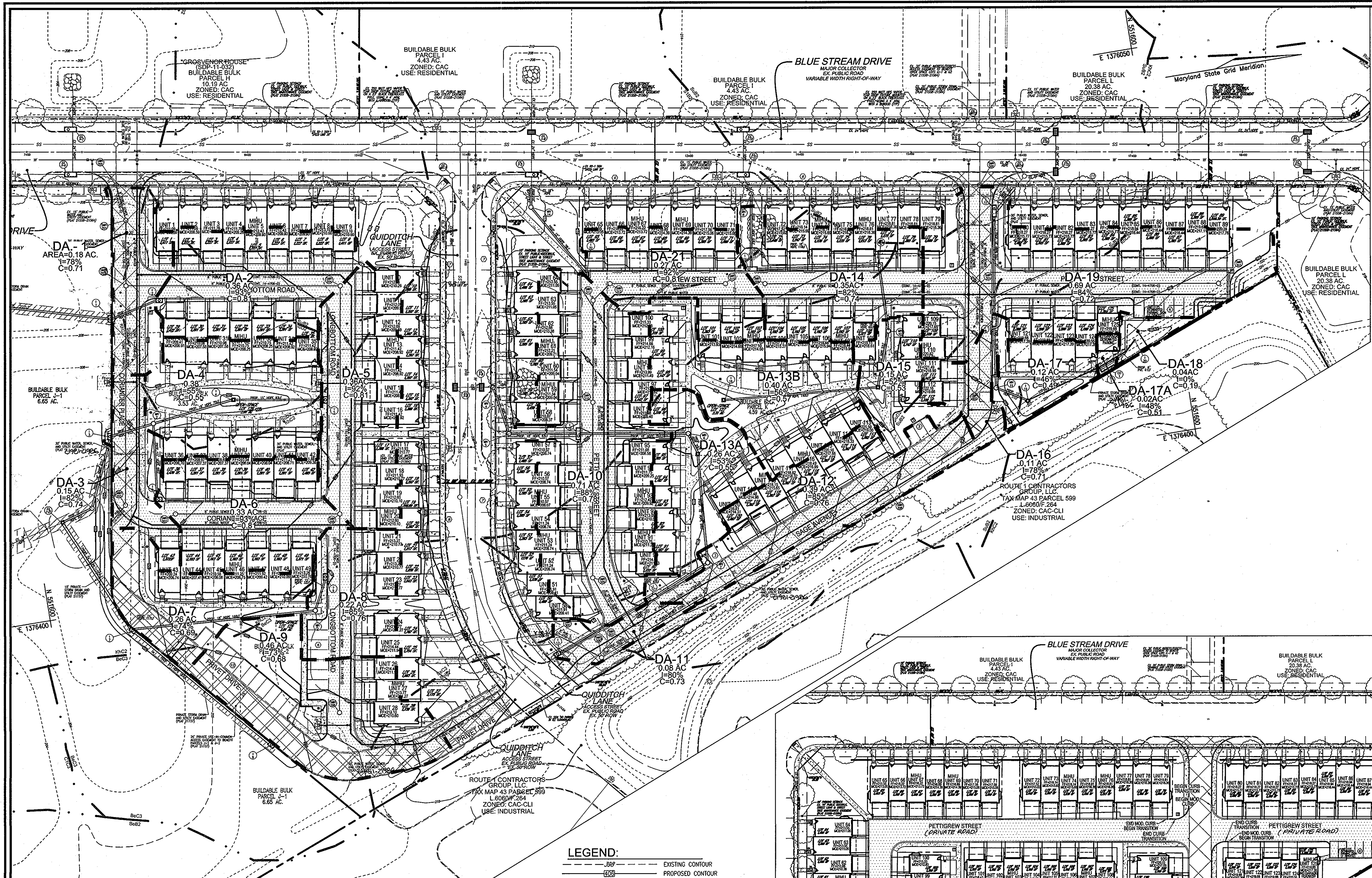
BY THE DEVELOPER:  
"I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING 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. HOME CORP. d/b/a LENOX  
SIGNATURE OF DEVELOPER  
DATE: 11/19/12

BY THE ENGINEER:  
"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."  
HOWARD S.C.D.  
SIGNATURE OF ENGINEER  
DATE: 11/28/12

SCALE 1"=30'  
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
HOWARD S.C.D.  
DATE: 12/16/12







**STORM DRAIN DRAINAGE AREA MAP**  
SCALE: 1"=50'

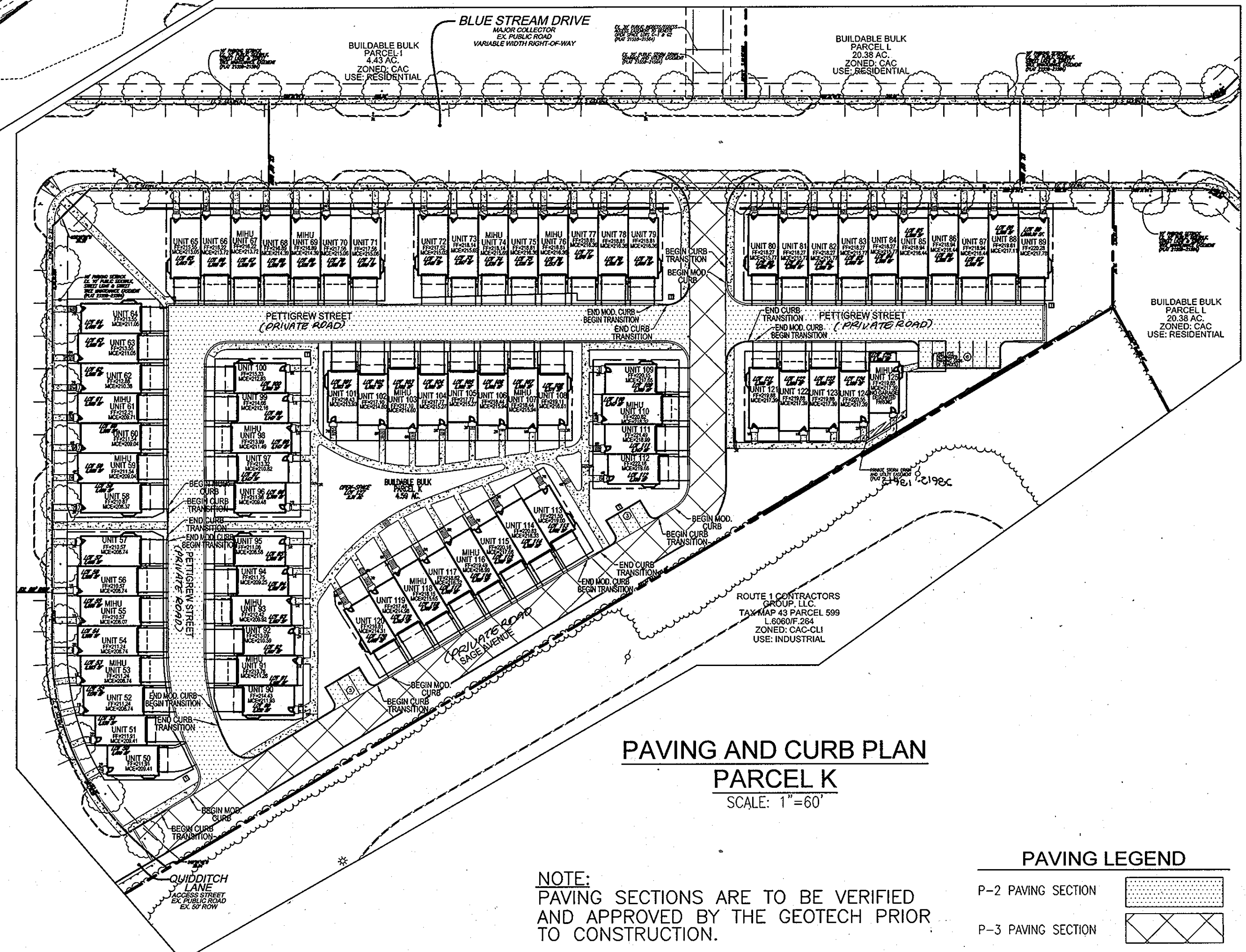
**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP
BsB2	BELTSVILLE SILT LOAM, 0 TO 1 PERCENT SLOPES	C
BsC3	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED	C
ClC3	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED	C
KmC2	KEYPORT SILT LOAM, 3 TO 10 PERCENT SLOPES, MODERATELY ERODED	C
S1B2	SASSAFRAS LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
S1C2	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
SuB2	SUNNYSIDE FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
SuC2	SUNNYSIDE FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED	B
SuO2	SUNNYSIDE FINE SANDY LOAM, 5 TO 15 PERCENT SLOPES, MODERATELY ERODED	B

NOTE: BASED ON HOWARD SOIL SURVEY

**LEGEND:**

	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN INLETS
	EXISTING TREELINE
	EXISTING STREET TREES (F-02-35)
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	M1B2 SOILS BOUNDARY
	M1D3 SOILS BOUNDARY
	PROPOSED SIDEWALK
	PROPOSED STREET LIGHT
	PROPOSED STREET SIGN

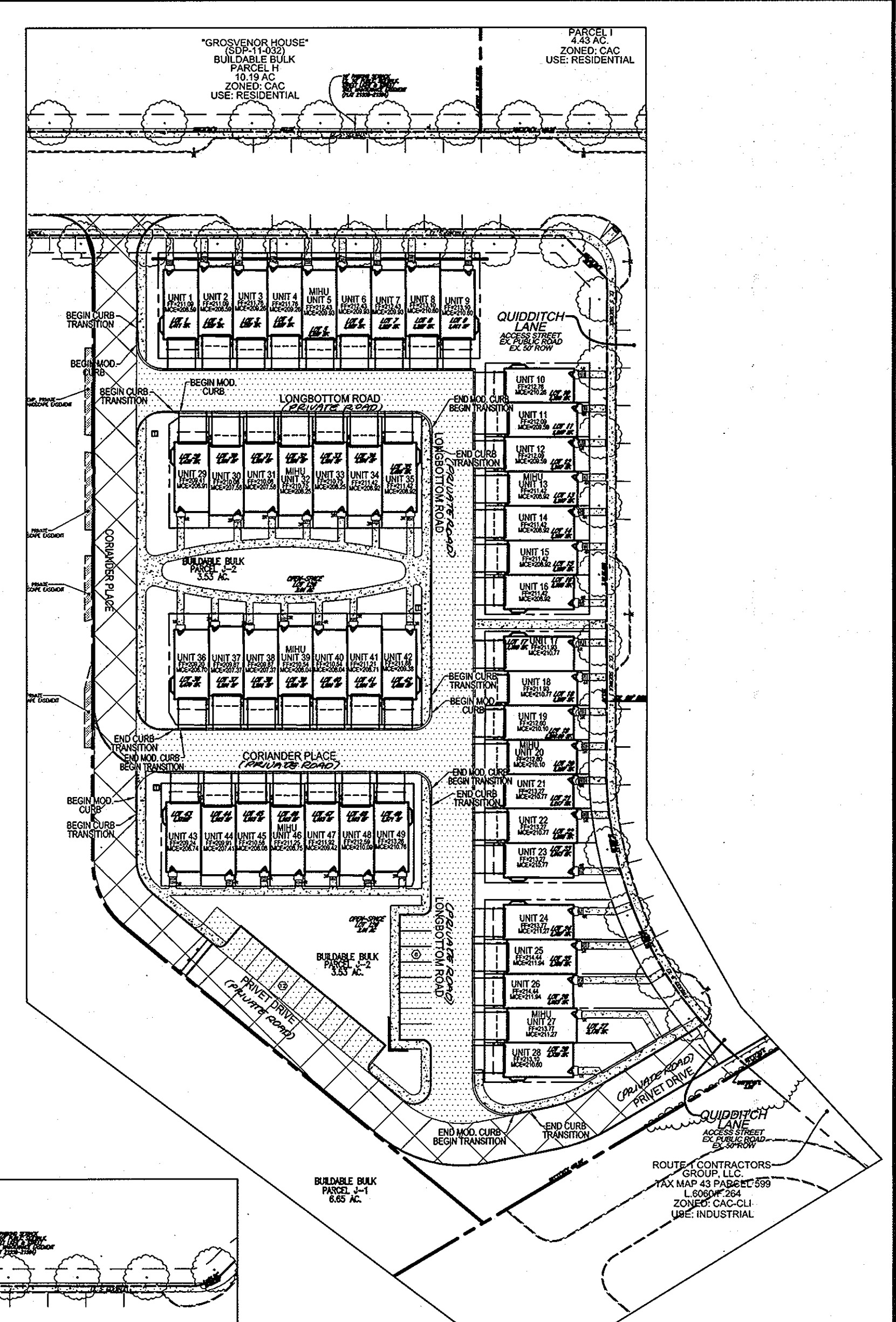


**PAVING AND CURB PLAN**  
**PARCEL K**  
SCALE: 1"=60'

**PAVING LEGEND**

P-2 PAVING SECTION	
P-3 PAVING SECTION	

NOTE:  
PAVING SECTIONS ARE TO BE VERIFIED  
AND APPROVED BY THE GEOTECH PRIOR  
TO CONSTRUCTION.



**PAVING AND CURB PLAN**  
**PARCELS J-2**  
SCALE: 1"=60'

**OWNER/DEVELOPER**  
U.S. HOME CORPORATION  
10211 WINCOPIN CIRCLE  
SUITE 180  
COLUMBIA, MD 21044  
C/O: STEPHEN A. NESS  
410-997-5522

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/26/12

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 7/03/12

DIRECTOR  
 DATE: 7/10/12

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN DRAINAGE AREA MAP;**  
**PAVING PLAN; AND SOILS MAP**  
**DORSET GARDENS**  
BLUE STREAM  
LOTS 1-125, OPEN SPACE LOTS 126 & 127, AND BUILDABLE BULK PARCEL J-1  
TOWNHOMES  
TAX MAP 43 GRID 4  
1ST ELECTION DISTRICT  
ZONED: CAC-CL1  
HOWARD COUNTY, MARYLAND

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

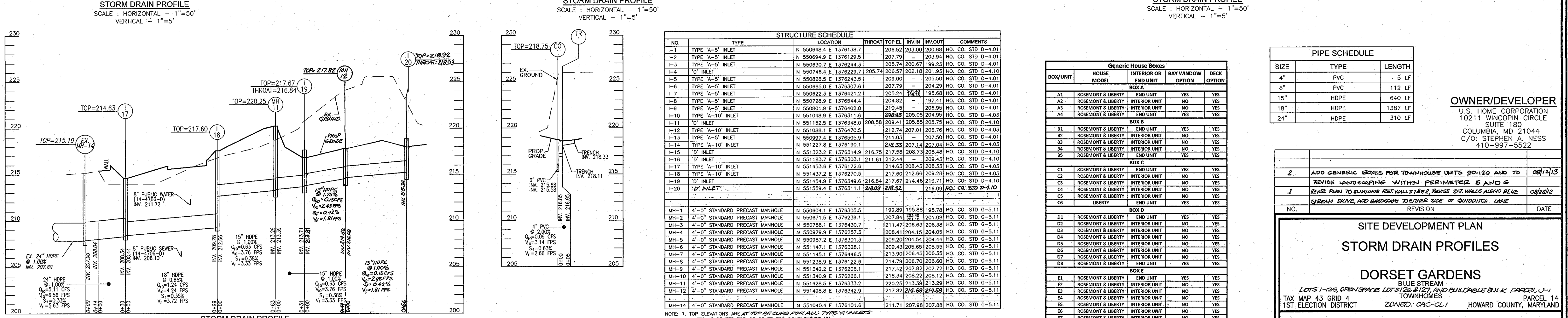
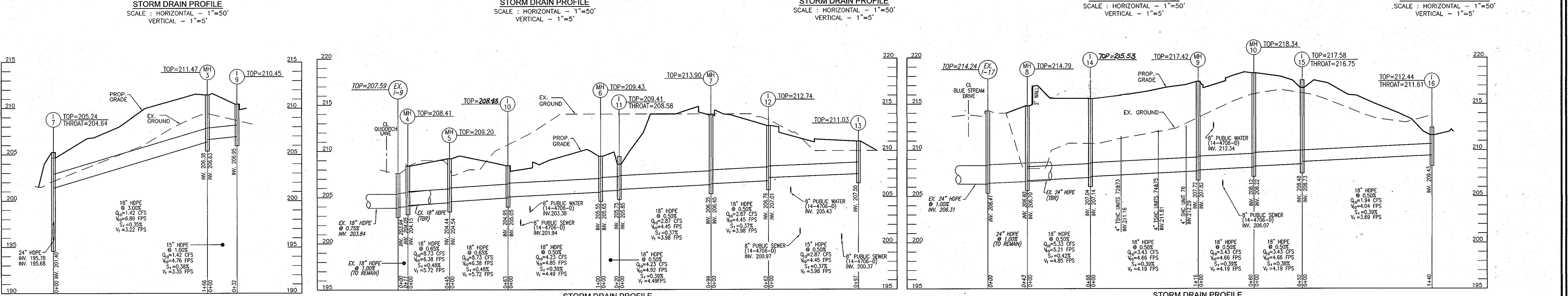
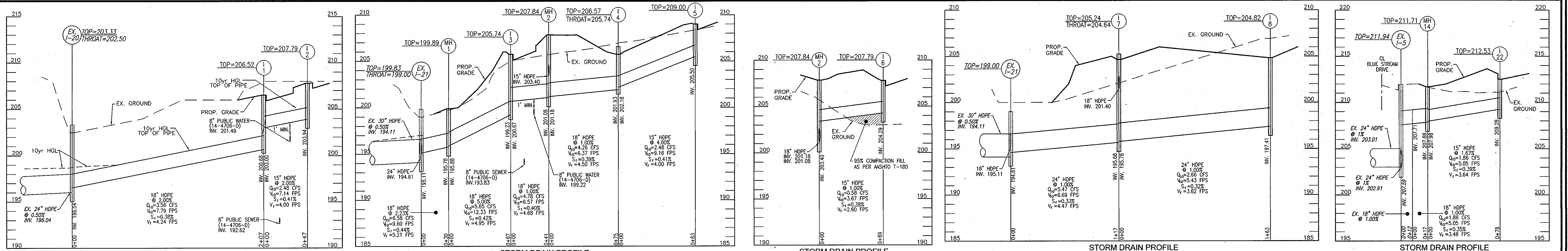
PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS  
 WERE PREPARED OR APPROVED BY ME, AND  
 THAT I AM A FULLY LICENSED PROFESSIONAL  
 ENGINEER UNDER THE LAWS OF THE STATE  
 OF MARYLAND, LICENSE NO. 16193  
 EXPIRATION DATE: 09-27-2012

DESIGN BY: RHV  
 DRAWN BY: DZ  
 CHECKED BY: RHV  
 DATE: MARCH, 2012  
 SCALE: AS SHOWN  
 W.O. NO.: 06-26.02

9 SHEET OF 11

ROBERT H. VOGEL, PE No.16193



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 03/12

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 03/12

DIRECTOR DATE:

NO.	TYPE	LOCATION	THROAT	TOP EL.	INVERT	INVERT	COMMENTS
1-1	TYPE 'A-5' INLET	N 550648.4 E 1376138.7	206.52	203.00	200.68	HO. CO. STD. D-4-01	
1-2	TYPE 'A-5' INLET	N 550694.9 E 1376129.5	207.79	-	203.94	HO. CO. STD. D-4-01	
1-3	TYPE 'A-5' INLET	N 550630.7 E 1376244.3	205.74	200.67	199.23	HO. CO. STD. D-4-01	
1-4	'D' INLET	N 550746.4 E 1376229.7	205.74	201.93	HO. CO. STD. D-4-10		
1-5	TYPE 'A-5' INLET	N 550828.5 E 1376243.5	209.00	-	205.50	HO. CO. STD. D-4-01	
1-6	TYPE 'A-5' INLET	N 550865.0 E 1376307.6	207.79	-	204.29	HO. CO. STD. D-4-01	
1-7	TYPE 'A-5' INLET	N 550922.3 E 1376421.2	205.24	201.58	195.68	HO. CO. STD. D-4-01	
1-8	TYPE 'A-5' INLET	N 550728.9 E 1376544.4	204.82	-	197.41	HO. CO. STD. D-4-01	
1-9	TYPE 'A-5' INLET	N 550801.9 E 1376402.0	210.45	-	206.95	HO. CO. STD. D-4-01	
1-10	TYPE 'A-10' INLET	N 551048.9 E 1376311.6	208.43	205.05	204.95	HO. CO. STD. D-4-03	
1-11	'D' INLET	N 551152.5 E 1376348.0	208.58	205.89	205.75	HO. CO. STD. D-4-10	
1-12	TYPE 'A-10' INLET	N 551088.1 E 1376470.5	212.74	207.01	206.76	HO. CO. STD. D-4-03	
1-13	TYPE 'A-5' INLET	N 550971.4 E 1376595.9	211.03	-	207.50	HO. CO. STD. D-4-01	
1-14	TYPE 'A-10' INLET	N 551227.8 E 1376190.1	208.33	207.14	207.04	HO. CO. STD. D-4-03	
1-15	'D' INLET	N 551323.2 E 1376314.9	216.75	208.73	208.48	HO. CO. STD. D-4-10	
1-16	'D' INLET	N 551183.7 E 1376303.1	211.61	212.44	-	HO. CO. STD. D-4-10	
1-17	TYPE 'A-10' INLET	N 551453.6 E 1376172.6	214.63	208.43	208.33	HO. CO. STD. D-4-03	
1-18	TYPE 'A-10' INLET	N 551437.2 E 1376270.5	217.60	212.66	209.28	HO. CO. STD. D-4-03	
1-19	'D' INLET	N 551454.9 E 1376349.6	216.84	217.67	214.46	HO. CO. STD. D-4-10	
1-20	'D' INLET	N 551559.4 E 1376311.6	216.09	216.92	-	HO. CO. STD. D-4-10	
MH-1	4'-0" STANDARD PRECAST MANHOLE	N 550604.1 E 1376305.5	199.89	195.88	195.78	HO. CO. STD. G-5-11	
MH-2	4'-0" STANDARD PRECAST MANHOLE	N 550671.5 E 1376239.1	207.84	201.18	201.08	HO. CO. STD. G-5-11	
MH-3	4'-0" STANDARD PRECAST MANHOLE	N 550780.1 E 1376430.7	211.47	206.83	206.38	HO. CO. STD. G-5-11	
MH-4	4'-0" STANDARD PRECAST MANHOLE	N 550979.9 E 1376257.3	208.41	204.15	204.05	HO. CO. STD. G-5-11	
MH-5	4'-0" STANDARD PRECAST MANHOLE	N 550987.2 E 1376301.3	209.20	204.54	204.44	HO. CO. STD. G-5-11	
MH-6	4'-0" STANDARD PRECAST MANHOLE	N 551147.1 E 1376328.1	209.43	205.85	205.55	HO. CO. STD. G-5-11	
MH-7	4'-0" STANDARD PRECAST MANHOLE	N 551145.1 E 1376446.5	213.90	206.45	206.35	HO. CO. STD. G-5-11	
MH-8	4'-0" STANDARD PRECAST MANHOLE	N 551238.9 E 1376122.6	214.79	206.70	205.60	HO. CO. STD. G-5-11	
MH-9	4'-0" STANDARD PRECAST MANHOLE	N 551342.2 E 1376206.1	217.42	207.82	207.72	HO. CO. STD. G-5-11	
MH-10	4'-0" STANDARD PRECAST MANHOLE	N 551340.8 E 1376266.1	218.34	208.22	208.12	HO. CO. STD. G-5-11	
MH-11	4'-0" STANDARD PRECAST MANHOLE	N 551425.5 E 1376333.2	220.25	213.39	213.29	HO. CO. STD. G-5-11	
MH-12	4'-0" STANDARD PRECAST MANHOLE	N 551498.8 E 1376342.9	217.82	214.68	214.58	HO. CO. STD. G-5-11	
MH-14	4'-0" STANDARD PRECAST MANHOLE	N 551040.4 E 1376101.6	211.71	207.98	207.88	HO. CO. STD. G-5-11	

NOTE: 1. TOP ELEVATIONS ARE AT TOP OF CURB FROM ASLS TYPE 'A' INLETS AND TOP OF MANHOLE COVER FOR PRECAST MANHOLES.  
2. FOR T.O.S.L.S. SLOPES SEE GRADING PLAN.  
3. DOUBLE TYPE 'S' INLETS TO HAVE CURVED VANE GRATES W/ FRAME (MD-379.05-01).

SIZE	TYPE	LENGTH
4"	PVC	5 LF
6"	PVC	112 LF
15"	HDPE	640 LF
18"	HDPE	1387 LF
24"	HDPE	310 LF

BOX/UNIT	HOUSE MODEL	INTERIOR OR END UNIT	BAY WINDOW OPTION	DECK OPTION
BOX A				
A1	ROSEMONT & LIBERTY	INTERIOR UNIT	YES	YES
A2	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
A3	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
A4	ROSEMONT & LIBERTY	END UNIT	YES	YES
BOX B				
B1	ROSEMONT & LIBERTY	INTERIOR UNIT	YES	YES
B2	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
B3	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
B4	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
B5	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
B6	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
B7	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
B8	ROSEMONT & LIBERTY	END UNIT	YES	YES
BOX C				
C1	ROSEMONT & LIBERTY	END UNIT	YES	YES
C2	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
C3	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
C4	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
C5	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
C6	LIBERTY	END UNIT	YES	YES
BOX D				
D1	ROSEMONT & LIBERTY	END UNIT	YES	YES
D2	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
D3	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
D4	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
D5	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
D6	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
D7	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
D8	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
BOX E				
E1	ROSEMONT & LIBERTY	END UNIT	YES	YES
E2	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
E3	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
E4	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
E5	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
E6	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
E7	ROSEMONT & LIBERTY	INTERIOR UNIT	NO	YES
E8	ROSEMONT & LIBERTY	END UNIT	YES	YES

NOTE: GENERIC BOXES HAVE BEEN SIZED TO ENCOMPASS BAY WINDOW OPTION ON END UNIT.

NO.	REVISION	DATE
2	ADD GENERIC BOXES FOR TOWNHOUSE UNITS 90-120 AND TO REVISE LANDSCAPING WITHIN PERIMETER B AND G	08/12/13
1	REVISE PLAN TO ELIMINATE RET. WALL AT 118.2, REVISE EXT. WALLS ALONG BLUE STREAM DRIVE, AND LANDSCAPE TO EITHER SIDE OF QUIDDITCH LANE	08/26/12

NO.	REVISION	DATE
2	ADD GENERIC BOXES FOR TOWNHOUSE UNITS 90-120 AND TO REVISE LANDSCAPING WITHIN PERIMETER B AND G	08/12/13
1	REVISE PLAN TO ELIMINATE RET. WALL AT 118.2, REVISE EXT. WALLS ALONG BLUE STREAM DRIVE, AND LANDSCAPE TO EITHER SIDE OF QUIDDITCH LANE	08/26/12

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN PROFILES**

**DORSET GARDENS**  
BLUE STREAM  
LOTS 1-126, OPEN SPACE LOTS 126 & 127, AND BUILDABLE BULK PARCELS 1-1  
TOWNHOMES  
TAX MAP 43 GRID 4  
1ST ELECTION DISTRICT

PARCEL 14  
ZONED: CAG-CL1  
HOWARD COUNTY, MARYLAND

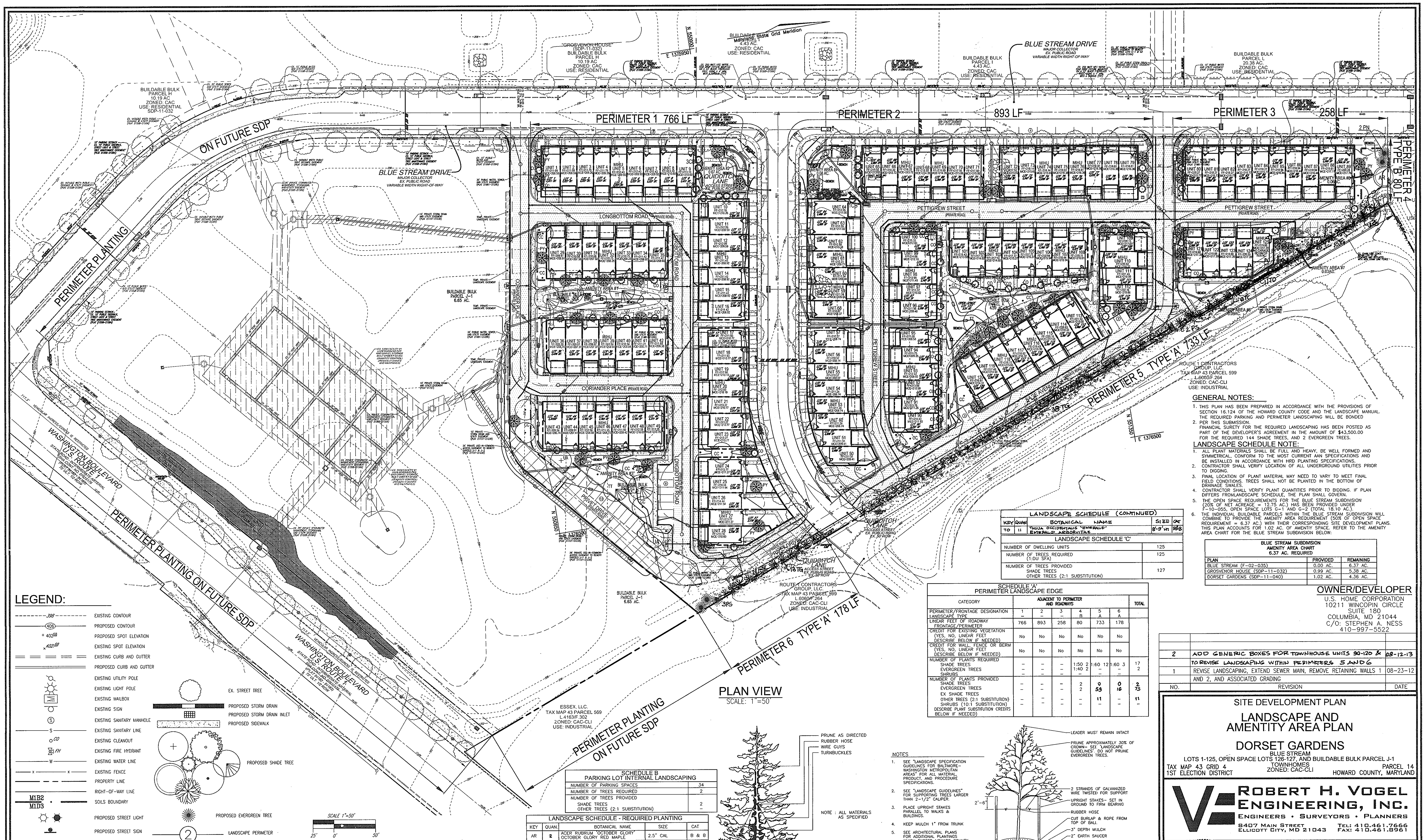
**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET  
ELLIOTT CITY, MD 21043  
TEL: 410.461.7666  
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: MARCH 2012  
SCALE: AS SHOWN  
W.O. NO.: 06-26.02

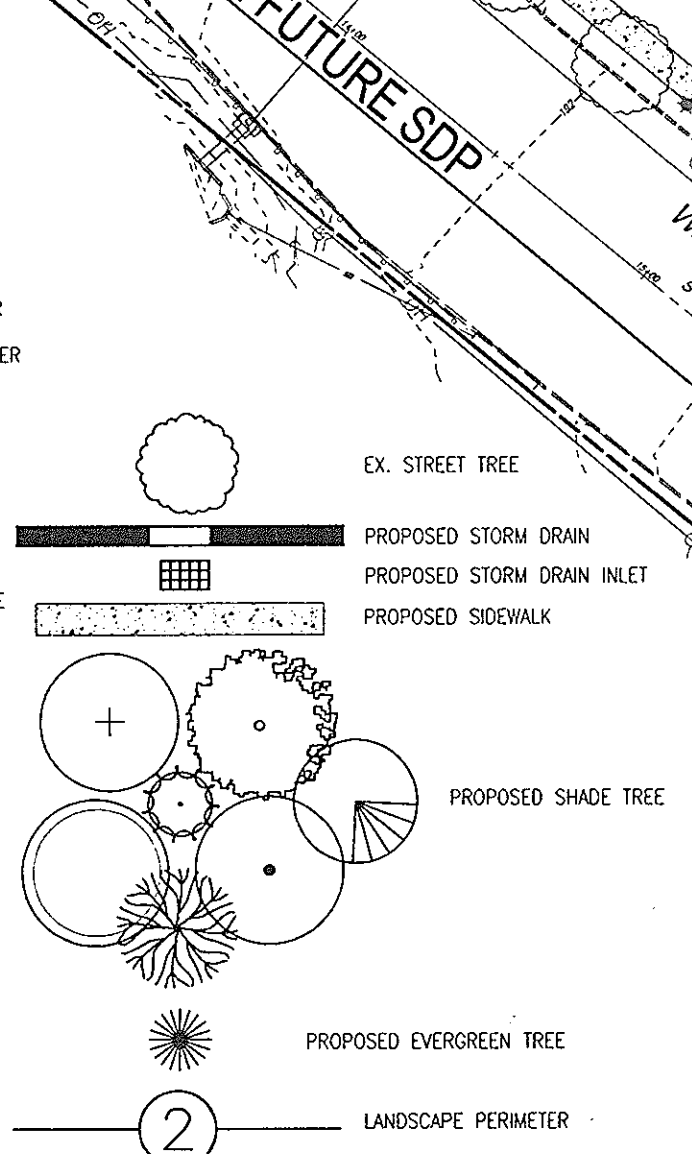
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. MY LICENSE NO. IS 15193. EXPIRATION DATE: 09-30-2013

10 SHEET OF 11



**LEGEND:**

- 0.00' --- EXISTING CONTOUR
- 0.00' --- PROPOSED CONTOUR
- + 402.68' --- PROPOSED SPOT ELEVATION
- 402.68' --- EXISTING SPOT ELEVATION
- ==== EXISTING CURB AND GUTTER
- ==== PROPOSED CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- PROPOSED STREET LIGHT
- PROPOSED STREET SIGN

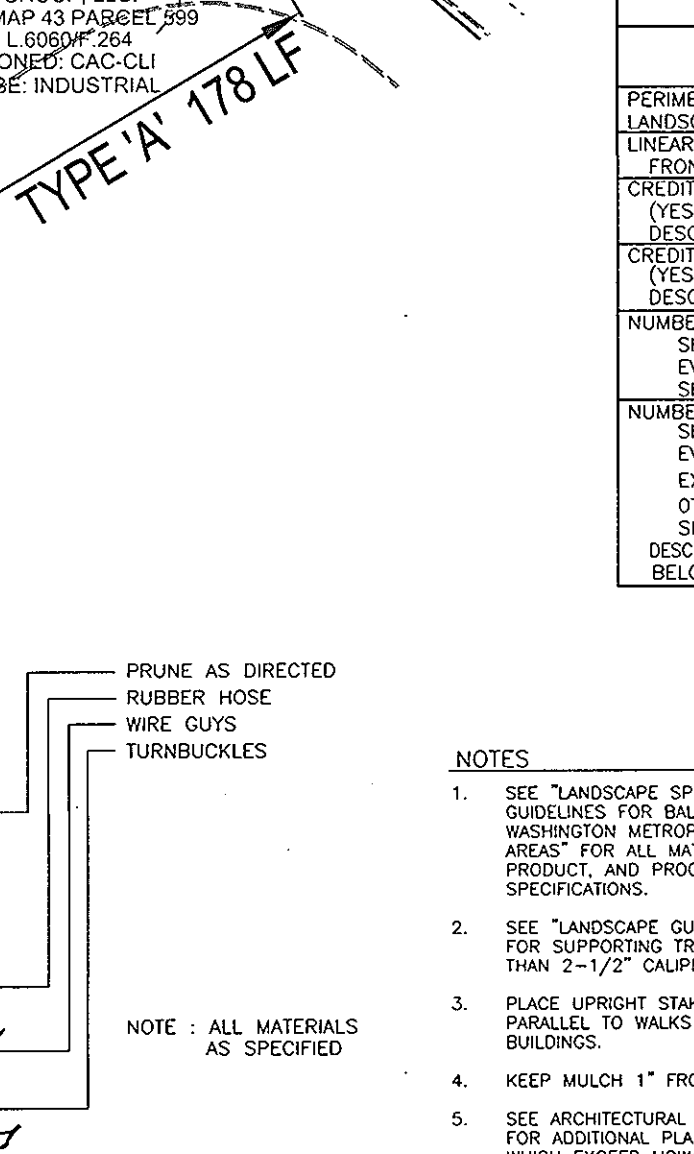
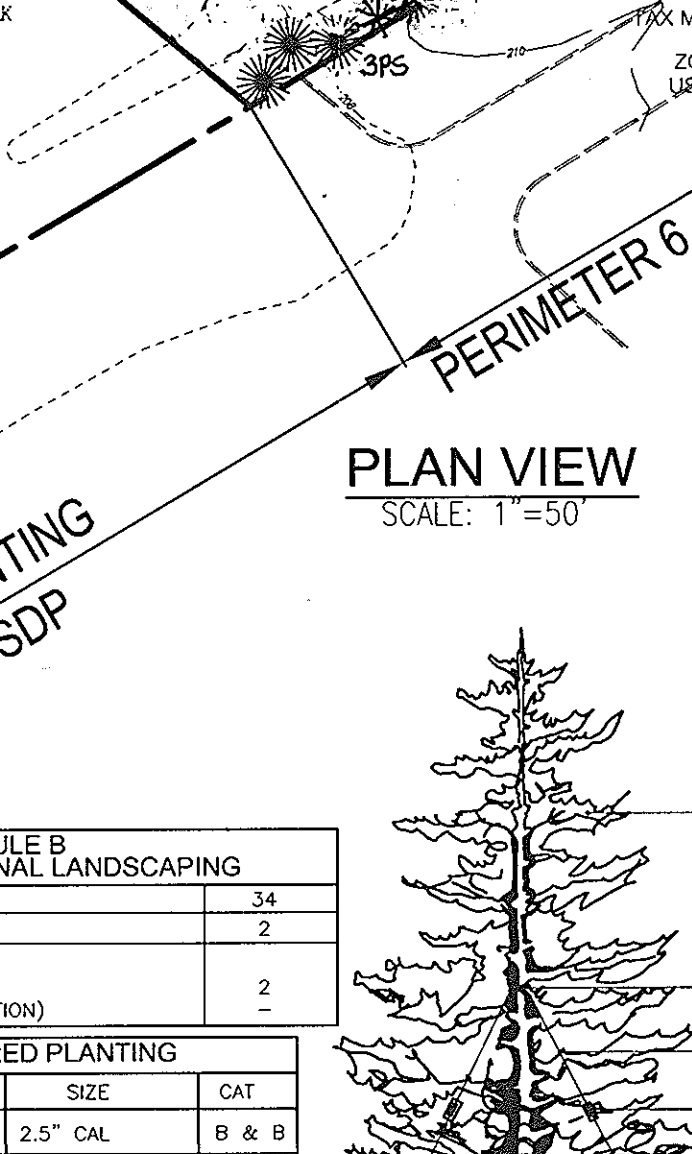


**SCHEDULE B  
PARKING LOT INTERNAL LANDSCAPING**

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT.
AR	2	ACER RUBRUM 'OCTOBER GLORY'	2.5" CAL	B & B
UA	2	ULMUS AMERICANA 'VALLEY FORGE'	2.5" CAL	B & B
PS	6	PRUNUS SP. 'WHITE PINE'	12"-14" HT.	B & B
TT	6	TRIFOLIUM 'WHITE PINE'	2.5" CAL	B & B
CC	17	CORNUS 'CAROLINIANA'	1.5"-2" CAL	B & B
CO	41	CORNUS 'OKLAHOMA'	8" HT.	B & B
PY	48	PRUNUS 'YEDONENSIS'	12" HT.	B & B
PN	2	PRUNUS 'RIGIDA'	8" HT.	B & B
CB	12	CORNUS 'BETULLIS'	1 1/2"-2" CAL.	B & B
TG	67	TRIFOLIUM 'WHITE PINE'	12"-14" HT.	B & B

**LANDSCAPE SCHEDULE - REQUIRED PLANTING**

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT.
AR	2	ACER RUBRUM 'OCTOBER GLORY'	2.5" CAL	B & B
UA	2	ULMUS AMERICANA 'VALLEY FORGE'	2.5" CAL	B & B
PS	6	PRUNUS SP. 'WHITE PINE'	12"-14" HT.	B & B
TT	6	TRIFOLIUM 'WHITE PINE'	2.5" CAL	B & B
CC	17	CORNUS 'CAROLINIANA'	1.5"-2" CAL	B & B
CO	41	CORNUS 'OKLAHOMA'	8" HT.	B & B
PY	48	PRUNUS 'YEDONENSIS'	12" HT.	B & B
PN	2	PRUNUS 'RIGIDA'	8" HT.	B & B
CB	12	CORNUS 'BETULLIS'	1 1/2"-2" CAL.	B & B
TG	67	TRIFOLIUM 'WHITE PINE'	12"-14" HT.	B & B



**LANDSCAPE SCHEDULE (CONTINUED)**

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT.
TO II	11	TRIFOLIUM 'WHITE PINE'	8"-9" HT.	B & B

**LANDSCAPE SCHEDULE 'C'**

NUMBER OF DWELLING UNITS	NUMBER OF TREES PROVIDED	NUMBER OF TREES REQUIRED
125	127	125

**SCHEDULE 'A'  
PERIMETER LANDSCAPE EDGE**

CATEGORY	1	2	3	4	5	6	TOTAL
PERIMETER FRONTAGE DESIGNATION	1	2	3	4	5	6	
LANDSCAPE TYPE	A	B	C	D	E	F	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	766	893	258	80	733	178	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	No	No	No	No	No	No	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	No	No	No	No	No	No	
NUMBER OF PLANTS REQUIRED							
SHADE TREES				1:50	1:60	1:60	3
EVERGREEN TREES				1:40	2		2
SHRUBS							
NUMBER OF PLANTS PROVIDED				2	0	0	2
SHADE TREES				0	59	16	75
EVERGREEN TREES							
EX SHADE TREES							
OTHER TREES (2:1 SUBSTITUTION)					11		11
SHRUBS (10:1 SUBSTITUTION)							
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED							

**GENERAL NOTES:**

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. THE REQUIRED PARKING AND PERIMETER LANDSCAPING WILL BE BONDED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$43,500.00 FOR THE REQUIRED 144 SHADE TREES, AND 2 EVERGREEN TREES.
- PER THIS SUBMISSION, FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$43,500.00 FOR THE REQUIRED 144 SHADE TREES, AND 2 EVERGREEN TREES.
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLANT DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- THE OPEN SPACE REQUIREMENTS FOR THE BLUE STREAM SUBDIVISION (20% OF NET ACREAGE = 12.7% AC.) HAS BEEN PROVIDED UNDER F-10-050, OPEN SPACE LOTS G-1 AND G-2 (TOTAL 18.10 AC.). THE INDIVIDUAL BUILDABLE PARCELS WITHIN THE BLUE STREAM SUBDIVISION WILL COMBINE TO PROVIDE THE AMENITY AREA REQUIREMENT (50% OF OPEN SPACE REQUIREMENT = 6.37 AC.) WITH THEIR CORRESPONDING SITE DEVELOPMENT PLANS. THIS PLAN ACCOUNTS FOR 1.02 AC. OF AMENITY SPACE. REFER TO THE AMENITY AREA CHART FOR THE BLUE STREAM SUBDIVISION BELOW:

BLUE STREAM SUBDIVISION AMENITY AREA CHART 6.37 AC. REQUIRED			
PLAN	PROVIDED	REMAINING	
BLUE STREAM (F-02-035)	0.00 AC.	6.37 AC.	
GROSVENOR HOUSE (SDP-11-032)	0.99 AC.	5.38 AC.	
DORSET GARDENS (SDP-11-040)	1.02 AC.	4.36 AC.	

**OWNER/DEVELOPER**  
U.S. HOME CORPORATION  
10211 WINCOPIN CIRCLE  
SUITE 180  
COLUMBIA, MD 21044  
C/O: STEPHEN A. NESS  
410-997-5522

NO.	REVISION	DATE
2	ADD GENERIC BOXES FOR TOWNHOUSE UNITS 90-120 & 28-12-13 TO REVISE LANDSCAPING WITHIN PERIMETERS 5 AND 6	08-23-12
1	REVISE LANDSCAPING, EXTEND SEWER MAIN, REMOVE RETAINING WALLS 1 AND 2, AND ASSOCIATED GRADING	08-23-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12/12/12

CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12/19/12

DIRECTOR  
DATE: 12/19/12

**DEVELOPER'S/BUILDER'S CERTIFICATE**

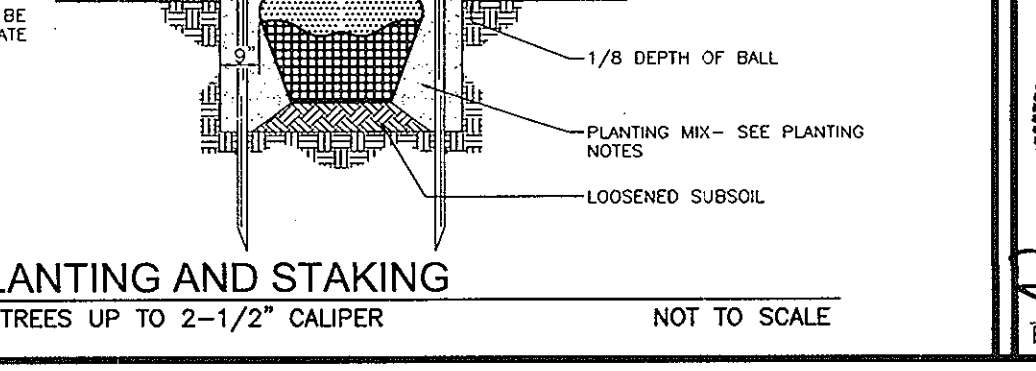
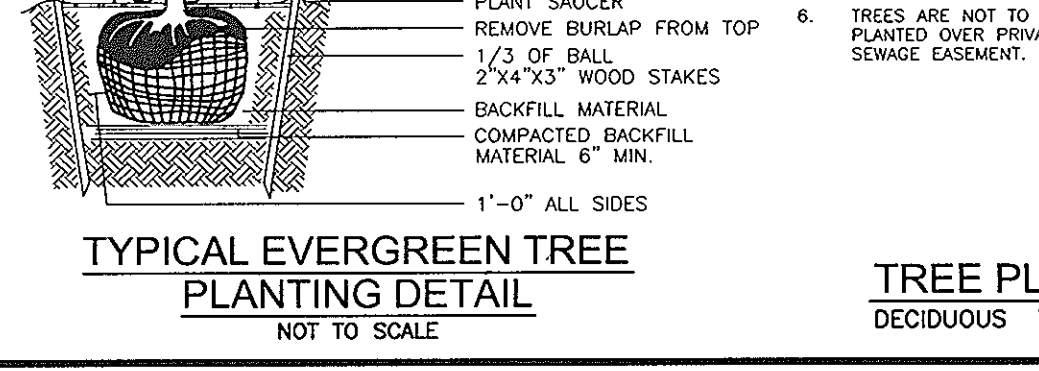
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

U.S. HOME CORP. dba. LENNAR

SIGNATURE OF DEVELOPER  
DATE: 11/19/12

**LANDSCAPE SCHEDULE - REQUIRED PLANTING**

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT.
AR	2	ACER RUBRUM 'OCTOBER GLORY'	2.5" CAL	B & B
UA	2	ULMUS AMERICANA 'VALLEY FORGE'	2.5" CAL	B & B
PS	6	PRUNUS SP. 'WHITE PINE'	12"-14" HT.	B & B
TT	6	TRIFOLIUM 'WHITE PINE'	2.5" CAL	B & B
CC	17	CORNUS 'CAROLINIANA'	1.5"-2" CAL	B & B
CO	41	CORNUS 'OKLAHOMA'	8" HT.	B & B
PY	48	PRUNUS 'YEDONENSIS'	12" HT.	B & B
PN	2	PRUNUS 'RIGIDA'	8" HT.	B & B
CB	12	CORNUS 'BETULLIS'	1 1/2"-2" CAL.	B & B
TG	67	TRIFOLIUM 'WHITE PINE'	12"-14" HT.	B & B



**SITE DEVELOPMENT PLAN  
LANDSCAPE AND AMENITY AREA PLAN  
DORSET GARDENS**

LOTS 1-125, OPEN SPACE LOTS 126-127, AND BUILDABLE BULK PARCEL J-1  
TAX MAP 43 GRID 4  
1ST ELECTION DISTRICT

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

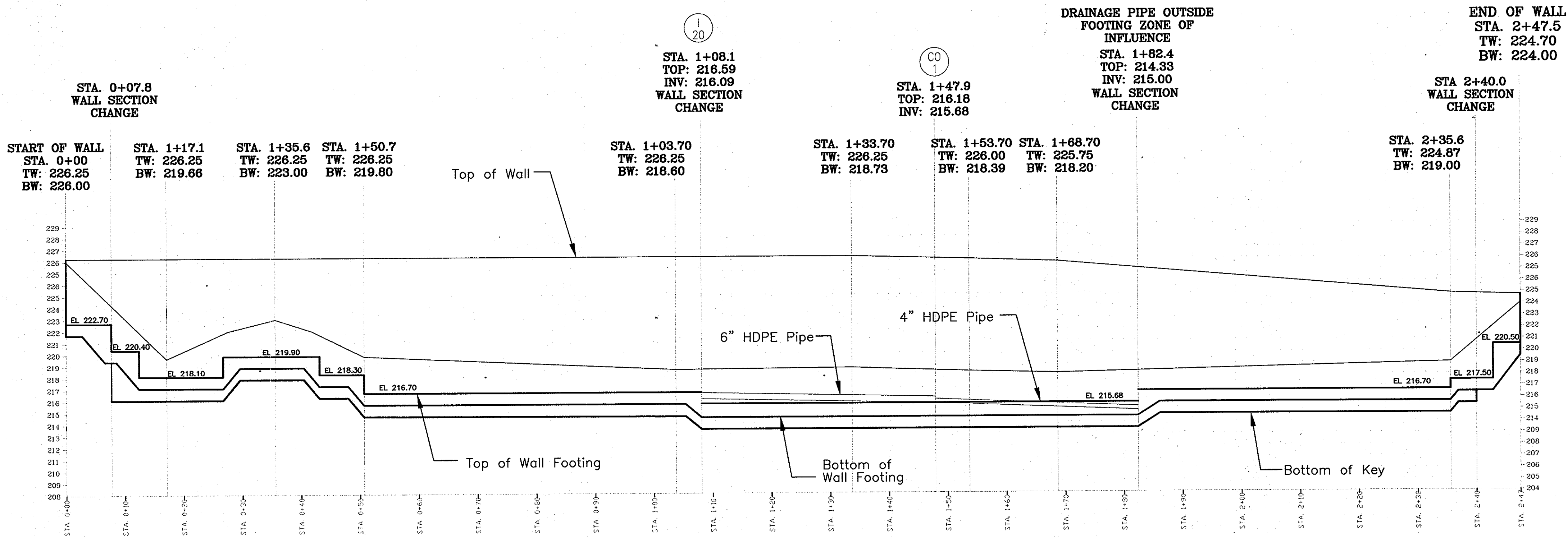
PROFESSIONAL CERTIFICATE

DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: OCTOBER 2012  
SCALE: AS SHOWN  
W.O. NO.: 06-26.02

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 09-27-2014.

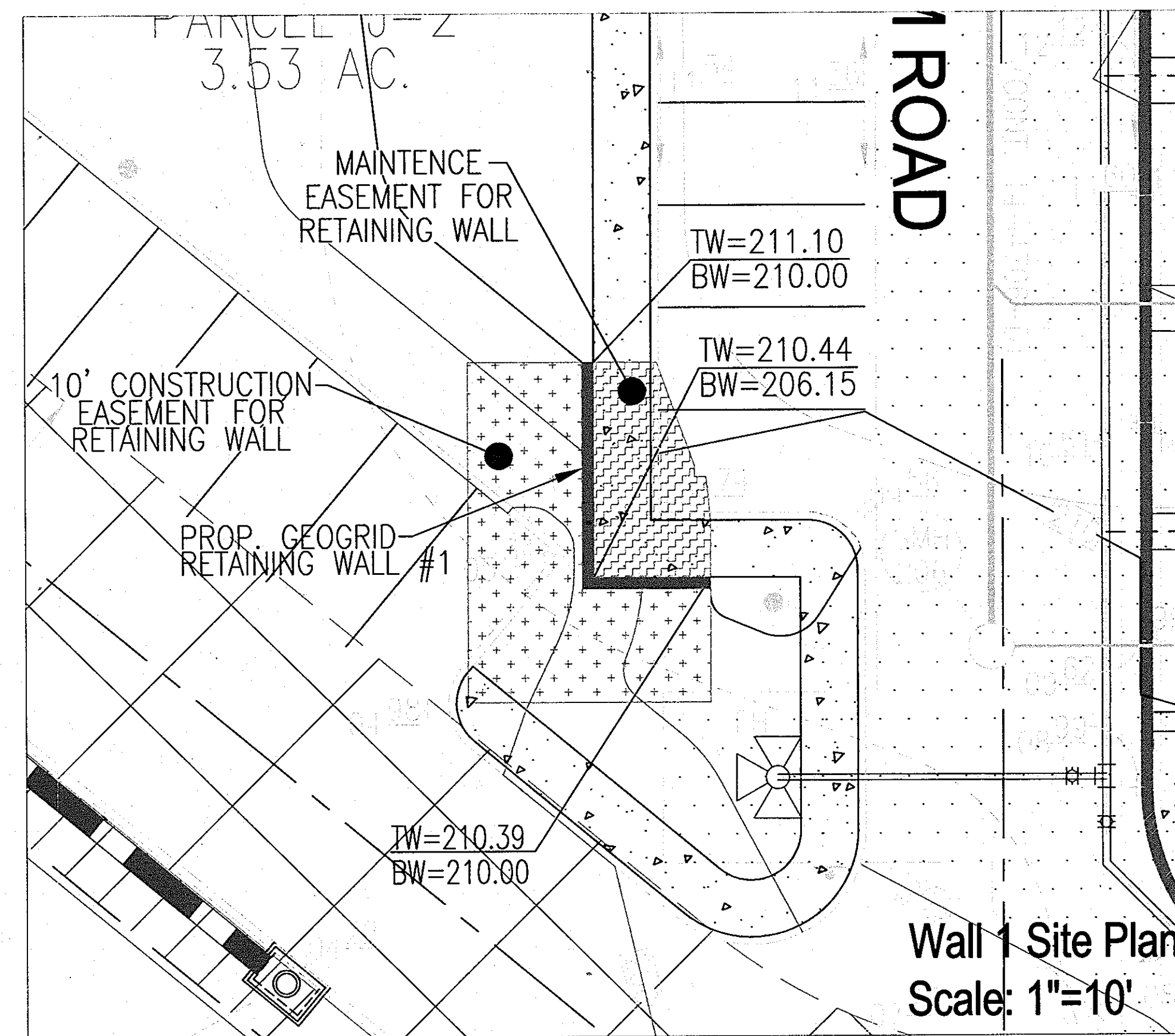
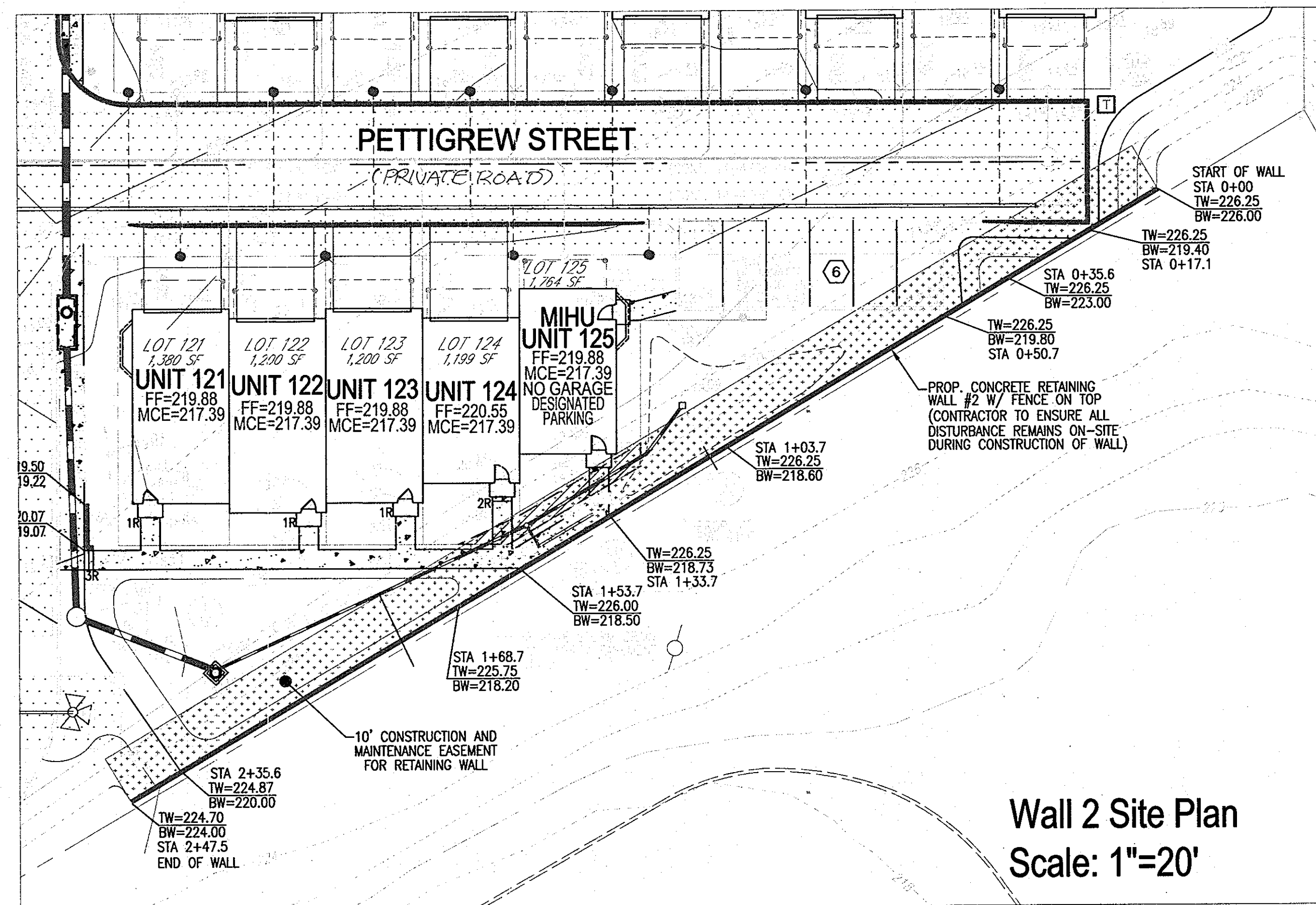
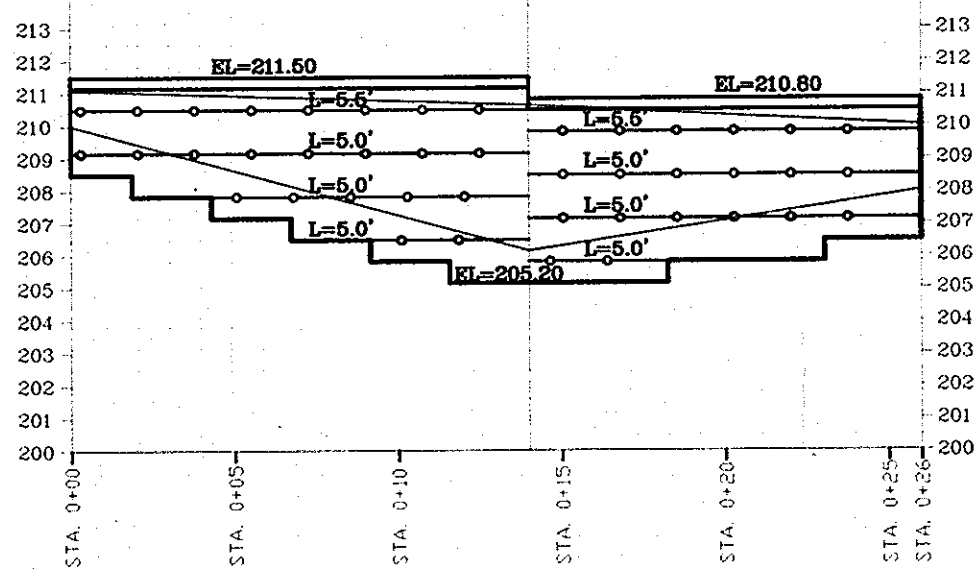
11 SHEET OF 11

WALL No. 2  
SCALE: 1" = 12'  
TW: HIGH SIDE FINISHED GRADE  
BW: LOW SIDE FINISHED GRADE



START OF WALL STA. 0+00 TW: 211.10 BW: 210.00  
WALL TURN STA. 0+14 TW: 210.62 BW: 206.15  
END OF WALL STA. 0+26 TW: 210.00 BW: 208.00

WALL NO. 1  
SCALE: 1" = 6'



OWNER/DEVELOPER  
U.S. HOME CORPORATION  
10211 WINCOPIN CIRCLE  
SUITE 180  
COLUMBIA, MD 21044  
C/O: STEPHEN A. NESS  
410-997-5522

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 6/26/12  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE 7/03/12  
DIRECTOR DATE 7/9/12

NO.	REVISION	DATE

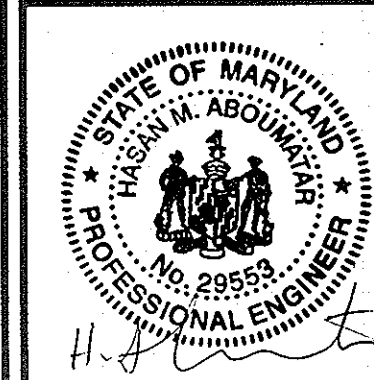
SITE DEVELOPMENT PLAN

DORSET GARDENS

BLUE STREAM  
LOTS 1-125, OPEN SPACE, LOTS 126-127, AND BUILDABLE/BULK PARCEL J-1  
TOWNHOMES PARCEL 14  
TAX MAP 43 GRID 4 & 5 ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND  
1ST ELECTION DISTRICT



1340 CHARWOOD ROAD  
SUITE A  
HANOVER, MARYLAND 21076  
PHONE: (410) 859-4300  
FAX: (410) 859-4324



DESIGN BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DATE: MAR. 16, 2012  
SCALE: AS SHOWN  
W.O. NO.: 06-26.02

PROFESSIONAL CERTIFICATE  
I HEREBY CERTIFY THAT THESE DOCUMENTS  
WERE PREPARED OR APPROVED BY ME, AND  
THAT I AM A FULLY LICENSED PROFESSIONAL  
ENGINEER UNDER THE LAWS OF THE STATE  
OF MARYLAND, LICENSE NO. 29553  
EXPIRATION DATE 12-31-2015

12 SHEET OF 14

**Retaining Wall Specifications and Guidelines**

**Part 1: General**

- 1.01 Description  
 A. Retaining walls must be constructed under the supervision of a Maryland Registered Professional Engineer.  
 B. Work includes preparation of foundation soils, furnishing all materials to the lines and grades shown on the construction drawings.

- 1.02 Codes and Standards  
 A. "International Building Code - 2009", International Code Council, Inc.  
 B. "ACI Manual of Concrete Practice - Parts 1 Through 5 - 2001"  
 C. "Manual of Standard Practice" - Concrete Steel Reinforcing Institute  
 D. "American Society for Testing and Materials"

- 1.03 Damage, Storage, and Handling  
 A. The Contractor shall check the materials upon delivery to assure that the proper materials have been received.  
 B. The Contractor shall properly handle and store the materials to prevent damage to the materials. Damaged materials shall not be incorporated into the wall.

- 1.04 Quality Assurance  
 A. The Owner shall engage a qualified testing agency to provide observation and testing services as described below.  
 B. Concrete Placement  
 1. The agency shall inspect the formwork and reinforcing steel placement for compliance with the contract documents. Reinforcing steel should be inspected for correct size, quantity, and spacing.  
 2. Fresh concrete shall be sampled in accordance with ASTM C 172, and tested for slump, air entrainment, and temperature.  
 3. Test cylinders shall be molded in accordance with ASTM C 31. Four test cylinders shall be molded for each day's pour, or for every 50 cubic yards of concrete placed, whichever is greater.  
 C. Fill Placement  
 1. All soil fills shall be tested in accordance with ASTM D 2922.  
 2. A minimum of one compaction test per lift should be made per 2,500 square feet of fill lift area, but not fewer than two tests per lift should be made.  
 3. The elevations and locations of the field density tests should be clearly identified at the time of fill placement and compaction.

**Part 2: Materials**

- 2.01 Concrete  
 A. Concrete shall conform to Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414  
 B. Concrete shall have a minimum 28-day compressive strength of 4,500 psi  
 C. Concrete shall have a slump range of 2 to 5 inches and shall be air entrained to 6% (+/- 1%) by volume.  
 D. Concrete shall have a minimum density of 145 pcf and a maximum water-to-cement ratio of 0.45.

- 2.02 Steel Reinforcement  
 A. Steel reinforcing shall conform to ASTM A-615, Grade 60.  
 B. Submit shop drawings at least 15 business days before date reviewed submittals will be needed. Shop drawings shall bear the contractor's stamp of approval which shall constitute that he has verified all field measurements, construction criteria, materials, and similar data, and has checked each drawing for completeness, coordination, and compliance with contract documents.

- 2.03 Soil Backfill  
 A. Material should consist of soil classified as SM, SC, or more granular, in accordance with ASTM D 2487.  
 B. Material should have no particle larger than 2.5 inches and shall contain no more than 30 percent, by weight, passing the U.S. No. 200 sieve.  
 C. Materials should have a Liquid Limit less than 40, and a Plasticity Index less than 12.  
 D. Material should have a minimum friction angle of 30 degrees and a minimum dry unit weight of 125 pcf.  
 E. The Contractor should submit samples of the proposed backfill soils to the Geotechnical Engineer of Record for approval prior to their use.

- 2.04 Drainage Board  
 A. Drainage board used behind the walls shall consist of Miradrain 9900.

**Part 3: Construction**

- 3.01 General  
 A. All existing underground utilities shall be properly marked, and relocated if necessary, prior to construction.  
 B. All proposed underground utilities or structures in the general wall area shall be completely installed prior to the construction of the wall.  
 C. Protect all existing and/or new structures from damage by construction equipment. Immediately repair any damage that may occur.

- 3.02 Foundation  
 A. The wall foundation shall be excavated to the grades and lines as shown on the construction drawings. Contractor should take care not to disturb foundation soils beyond the lines and grades shown.  
 B. The Foundation shall bear at the minimum embedment depths indicated, as measured from the final grade at the front of the wall.  
 C. The Foundation subgrade soils shall be tested by a qualified representative of the Geotechnical Engineer to verify the availability of the design bearing pressure of 3,000 psf.  
 D. If unsuitable soils are encountered at design foundation levels, the unsuitable soils shall be removed and the over-excavated areas shall be replaced with compacted structural fill.

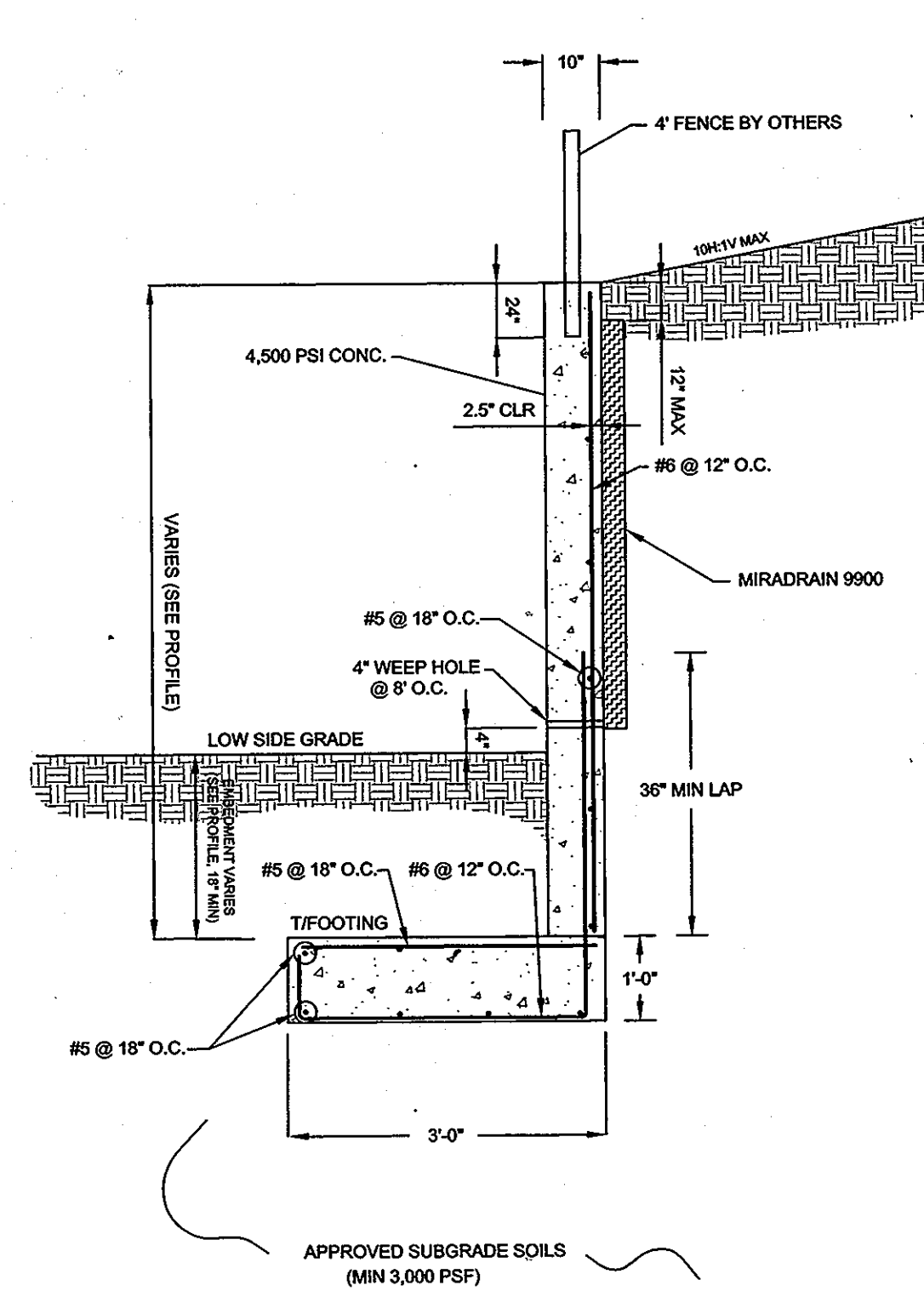
- 3.03 Steel Reinforcement  
 A. All steel reinforcing shall have a minimum clear cover of 3 inches unless otherwise noted on the contract documents.  
 B. Where applicable, splices for reinforcing steel shall be made by contact tension lap splices.  
 C. Welding and field-bending of reinforcing steel is not permitted.  
 D. Furnish all accessories, chairs, space bars, supports, etc. necessary to secure reinforcing.

**3.04 Cast-In-Place Concrete**

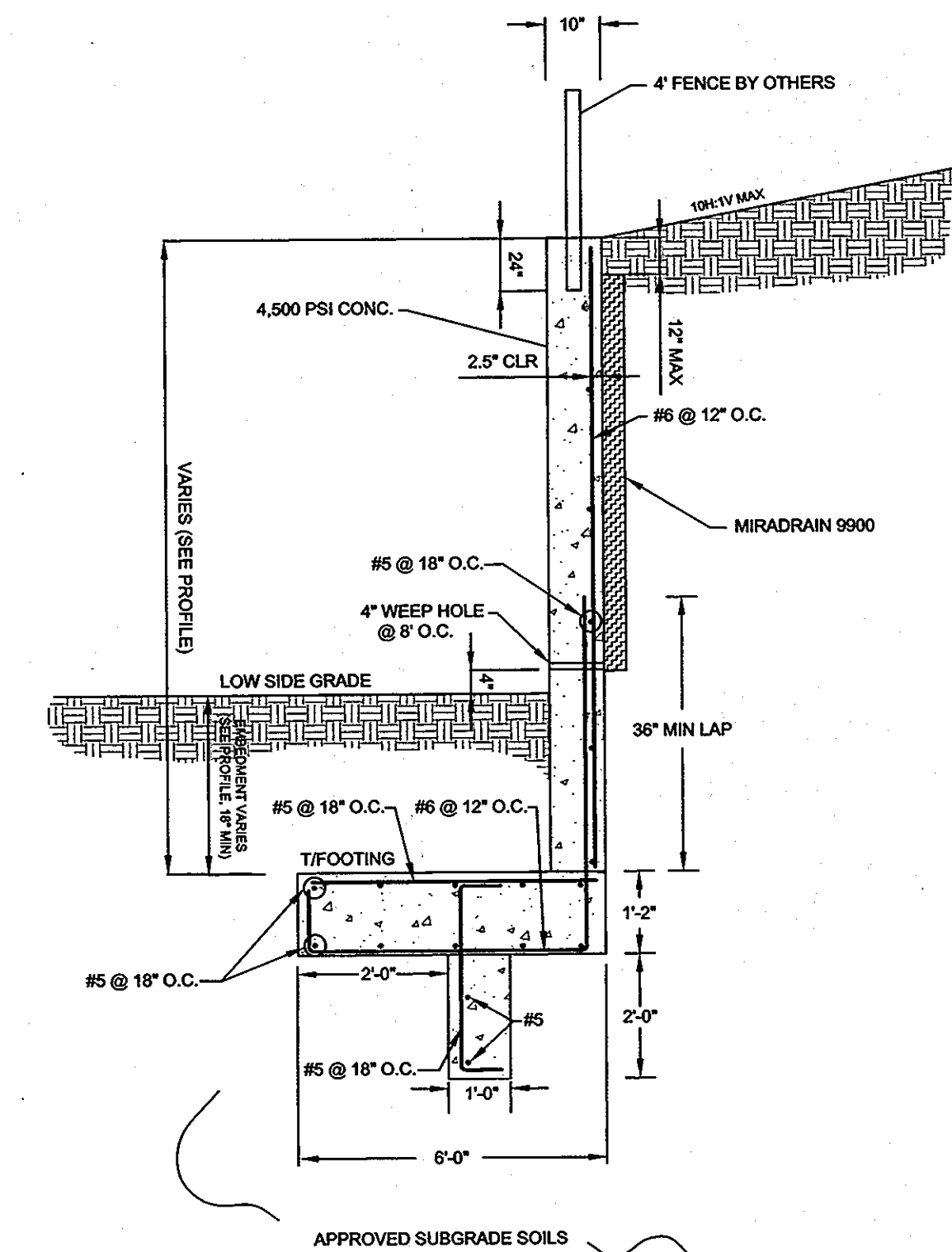
- A. Footing Concrete  
 1. The vertical faces of the footing and key excavation may be used as forms for placement of foundation concrete.  
 2. Foundation concrete, or protective mud mats, should be placed the same day that the foundation subgrade is approved.  
 3. Provide concrete protection against freezing during placement and for 5 days thereafter.
- B. Wall Concrete  
 1. Furnish and erect concrete forms to the lines and grades shown on the construction drawings.  
 2. Locate construction joints as to not impair the strength of the structure, but not more than 60 feet in any direction. Provide continuous bentonite strip waterstrip at all construction joints.  
 3. Make stops in concrete pours using vertical bulkheads.  
 4. All reinforcing shall be continuous through joints and bulkheads.  
 5. Chamfer exposed concrete corners 3/4" by 3/4" minimum.  
 6. Provide 4" diameter weep holes every 8 feet along the bottom of the wall and at wall ends. The weep holes should be formed in place prior to concrete placement by using PVC pipe. Weep hole locations must not interfere with steel reinforcing, and shall be no greater than 4 inches above final grade at the front of the wall.  
 7. Where a fence is required, it is recommended that the fence posts be installed during wall concrete placement. The fence posts shall have a minimum of 24 inches of embedment into the wall, and be located along the center of the wall. Alternatively, provide 4 inch diameter by 24 inch deep post holes at the designated fence post locations along the centerline of the wall. The post holes should be formed in place prior to concrete placement by using PVC pipe. An alternate method for fastening the fence to the wall may be utilized, provided it meets Howard County requirements.

- 3.05 Backfilling  
 A. All soil backfill shall conform to the material requirements of section 2.03.  
 B. Backfill shall be moisture conditioned to within 2 percentage points of the optimum moisture content, as determined in accordance with ASTM D-698.  
 C. Backfill shall be placed in loose lifts, not exceeding 8 inches in thickness, and then compacted to at least 95 percent of the maximum dry density, as determined in accordance with ASTM D-698.  
 D. Backfilling shall not occur against the wall until the wall concrete has attained at least 75 percent of the 28-day design strength, and no earlier than 3 days after placement.  
 E. Where feasible, maintain equal grades on each side of the wall during backfilling to prevent overturning and lateral movements. When the grade differential at the wall exceeds 12 inches, only hand-operated compaction equipment shall be allowed.  
 F. Drainage boards shall be placed against the wall, extending from the weep hole up within 12 inches of final grade at the top of the wall.

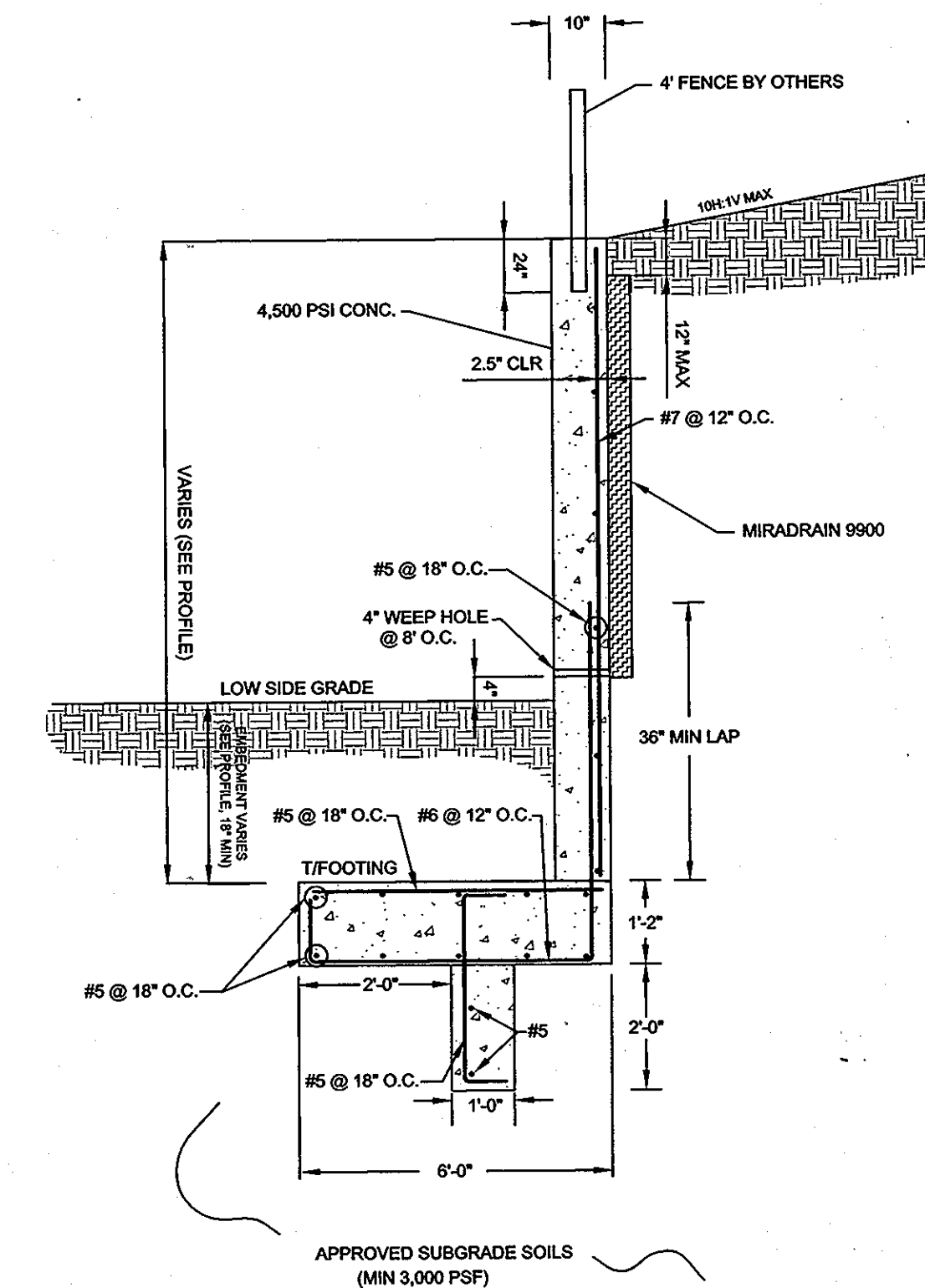
- 3.06 Finish  
 A. Final grades at the wall shall be established by the Contractor in accordance with the most recent site grading plans.  
 B. Final grades shall be stabilized and seeded per the approved civil plans unless noted otherwise on the site grading plans.  
 C. Install fence at the top of the wall in accordance with project documents. If fence posts are installed subsequent to wall construction, the fence posts shall be grouted into the PVC post holes using 3,000 psi non-shrink grout.  
 D. Concrete wall face shall have faux stone finish. See Architectural or Landscape plans and specifications for additional wall finish details and additional fence details.



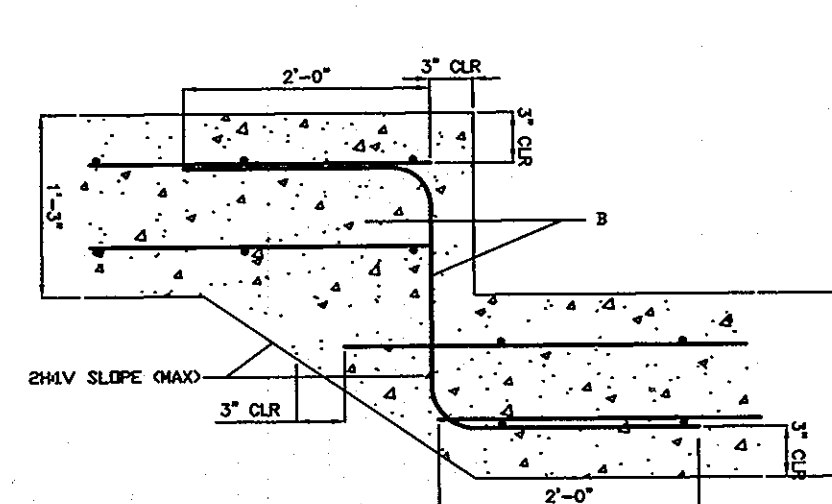
**WALL 2 TYPICAL SECTION**  
 (Start of Wall to STA 0+07.8; STA 2+40.0 to End of Wall)  
 NTS



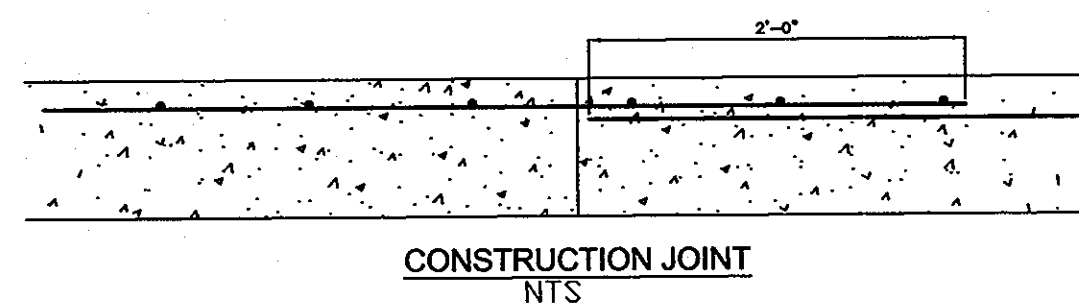
**WALL 2 TYPICAL SECTION**  
 (STA 0+07.8 - STA 1+08.1)  
 (STA 1+82.4 - STA 2+40.0)  
 NTS



**WALL 2 TYPICAL SECTION**  
 (STA 1+08.1 - STA 1+82.4)  
 NTS



**FOOTING STEP**  
 NTS



**CONSTRUCTION JOINT**  
 NTS

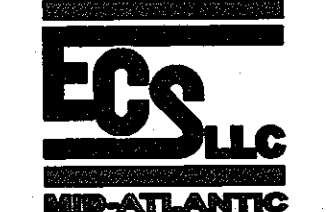
**OWNER/DEVELOPER**  
 U.S. HOME CORPORATION  
 10211 WINDCOPIN CIRCLE  
 SUITE 180  
 COLUMBIA, MD 21044  
 C/O: STEPHEN A. NESS  
 410-997-5522

NO.	REVISION	DATE

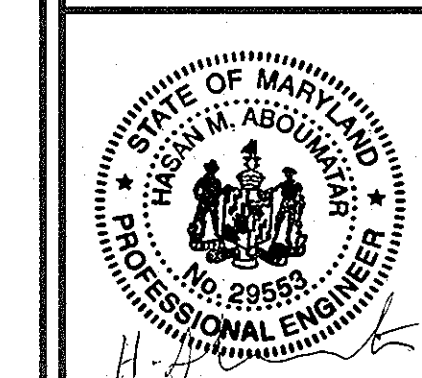
**SITE DEVELOPMENT PLAN**

**DORSET GARDENS**

BLUE STREAM  
 LOTS 1-125, OPEN SPACE LOTS 126-127 AND BUILDABLE BULK PARCEL U-1  
 TAX MAP 43 GRID 4 & 5 PARCEL 14  
 1ST ELECTION DISTRICT ZONED: OAC-CL1 HOWARD COUNTY, MARYLAND



1340 CHARWOOD ROAD  
 SUITE A  
 HANOVER, MARYLAND 21076  
 PHONE: (410) 859-4300  
 FAX: (410) 859-4324



**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. 29559, EXPIRES DATE: 12-31-2013

DESIGN BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: MAR. 16, 2012  
 SCALE: AS SHOWN  
 W.O. NO.: 06-26-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* 6/26/12  
 Chief, Division of Land Development: *[Signature]* 7/3/12  
 Director: *[Signature]* 7/5/12

**RETAINING WALL SPECIFICATION GUIDELINES**

**PART 1: GENERAL**  
**1.01 Description**  
 A. Retaining wall shall be constructed under the supervision of a Maryland Registered Professional Engineer.  
 B. Work includes furnishing and installing concrete modular block retaining wall units to the lines and grades shown on the construction drawings and as specified herein.  
 C. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and reinforced backfill to the lines and grades shown on the construction drawings.  
 D. Work includes furnishing and installing all related materials required for construction of the retaining wall as shown on the construction drawings.  
**1.02 Reference Standards**  
 A. ASTM C 900 Load Bearing Concrete Masonry Units.  
 B. ASTM C 140 Load Bearing and Testing Concrete Masonry Units.  
 C. ASTM D 448 Size of Aggregate for Road and Bridge Construction.  
 D. ASTM D 698 Laboratory Compaction Characteristics using Standard Effort.  
**1.03 Delivery, Storage and Handling**  
 A. Contractor shall check the materials upon delivery to ensure that proper materials have been received.  
 B. Contractor shall prevent excessive mud, wet cement, epoxy, and similar materials (which may affix themselves) from coming in contact with the materials.  
 C. Contractor shall protect the materials from damage and exposure to sunlight. Damaged materials shall not be incorporated into the retaining wall structure and backfill.  
**1.04 Quality Assurance**  
 A. Owner will be responsible for soil testing and construction observations for quality control during earthwork and retaining wall construction operations.

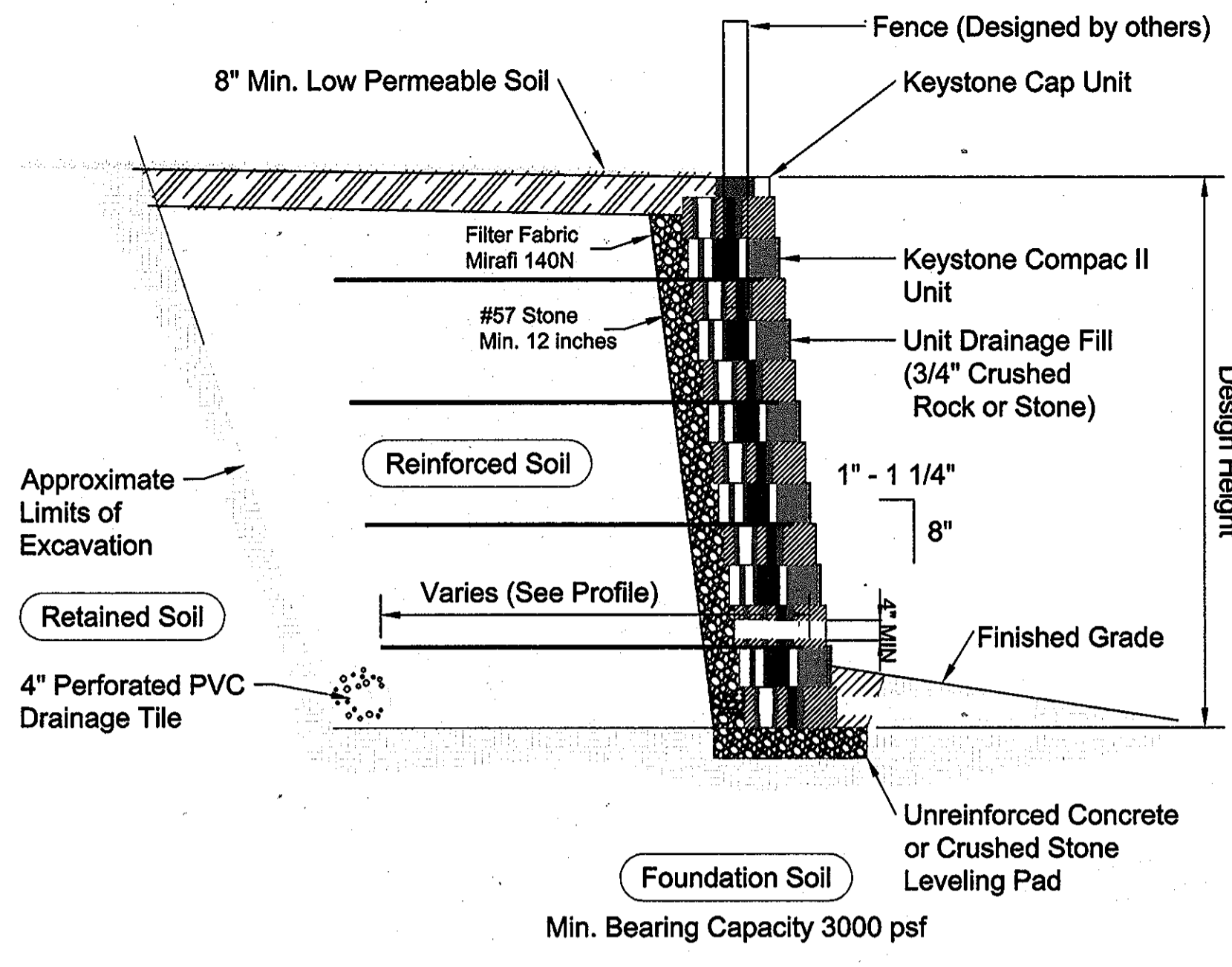
**PART 2: MATERIALS**  
**2.01 Definitions**  
 A. Modular Wall Unit - KEYSTONE or equivalent modular concrete facing and corner units, machine made from portland cement concrete, and finished with a smooth or textured surface.  
 B. Structural Geogrid - a structural geogrid formed by a regular network of tensile elements with sufficient strength to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.  
 C. Unit Fill/Drainage Aggregate - drainage aggregate such as No. 57 stone which is placed within the cells of the modular concrete units and immediately behind the units to a width of at least 12 inches.  
 D. Reinforced Backfill - compacted soil which is within the reinforced soil volume as shown on the plans.  
 E. Excavation Face - the interface between the reinforced backfill and the retained fill. During construction, measures shall be taken to avoid developing a shear plane at this interface.  
 F. Retained Backfill - On-site material located behind the reinforced zone of soil.  
**2.02 Concrete Units**  
 A. Concrete segmental units shall conform to the requirements of NMA TEC 2-4 and have a minimum 28-day compressive strength of 4,000 psi. The units shall also pass 100 sieves through cycles in water with less than 1% weight loss for samples tested in accordance with ASTM C-1292.  
 B. Wall Face Units for general wall construction shall be KEYSTONE Compac II Units or equivalent. Sculptured face or straight (S/F) Laboratory Compaction Characteristics using Standard Effort.  
 C. Top of wall Cap Units shall be KEYSTONE Cap Units or equivalent with fiberglass connecting pins.  
**2.03 Fiberglass Connecting Pins**  
 A. Connecting pins shall be 1/2" diameter thermoset isophthalic polyester resin-pultruded fiberglass reinforcement rods supplied by the unit manufacturer.  
**2.04 Construction Adhesive**  
 A. Construction adhesive for top of wall cap blocks shall be KEYSTONE KapSeal™ or an approved equivalent construction adhesive. Material shall conform to ASTM 2339 and shall be supplied by the block unit supplier.  
**2.05 Drainage Pipe**  
 A. Continuous collection pipe shall consist of 4-inch diameter slotted or perforated PVC pipe (Schedule 40).  
 B. Outlet (catcher) pipe shall consist of 4-inch diameter solid PVC pipe (Schedule 40).  
 C. All pipe fittings shall be appropriate for the pipe size and schedule use.  
**2.06 Soil Fill Materials**  
 A. Base Leveling and Pad Material  
 1. Material shall consist of crushed stone (SA 3/3) as shown on the construction drawing. The leveling pad shall be at a minimum 6-inches thick. MSHA No. 57 Stone or pea gravel is not permitted.  
 B. Unit Fill/Drainage Aggregate  
 1. Fill for units shall be free draining crushed stone or gravel, with a maximum aggregate size of 1/2" to 3/4" and no more than 2% passing the No. 20 sieve and conforming to ASTM D 448. Gradation of the unit fill shall be approved by the Geotechnical Engineer. Pea gravel shall not be used. MSHA No. 57 stone may be used.  
 C. Reinforced Backfill  
 1. Material shall consist of soil classified as SM, SC or more granular soils per USCS with minimum soil parameters as indicated under design parameters. The backfill material shall contain no particles greater than 2.5 inches in diameter. The backfill material shall contain at least 30 percent by weight retained on the US Standard No. 200 sieve. Other backfill materials may be approved by the Geotechnical Engineer.  
 D. Impervious Soil  
 1. Material may be imported or site excavated soils exhibiting a USCS designation of a lean clay (CL) or clayey sand (SC). The material shall contain no less than 40 percent by weight passing the US Standard No. 200 sieve and exhibit a plasticity index no less than 4 and no greater than 20. Other materials may be approved by the Geotechnical Engineer.  
 E. Sample Submittal  
 1. The contractor shall submit samples and material specifications of the proposed backfill soils (unit fill, pad material, reinforced backfill) to the Geotechnical Engineer for approval.  
 2. Soil must meet or exceed the friction angle specified in design parameters.  
 3. Direct shear testing is required for all soil samples used for Reinforced Backfill.

**2.07 Structural Geogrid**  
 A. The geogrid identified for the retaining wall consists of the following:  
 Mirafi 587c and 7X1c.  
 B. Other geogrid may be utilized provided the materials meet or exceed the minimum strength with similar or better strain characteristics of the Mirafi geogrid and are approved by the Geotechnical Engineer for use with soil backfill. The material shall be protected from sunlight and weather while stored on site in accordance with the manufacturer's recommendation.  
**2.08 Geotextiles**  
 A. A non-woven geotextile shall be utilized as shown on the plans to provide a filter between the unit fill/drainage aggregate and the reinforced backfill.  
 B. The geotextile shall consist of a Mirafi 140N, or an approved equivalent.  
 C. Where geotextiles are located, the geotextile shall be placed as illustrated on the plans. At junctions and ends, the geotextile shall be overlapped at least 12 inches. The geotextile shall be placed so that intimate contact is made between the geotextile and the backfill material.  
 D. Ripped or otherwise damaged material shall not be used. The material shall be protected from sunlight and weather while stored on site in accordance with the manufacturer's recommendation.

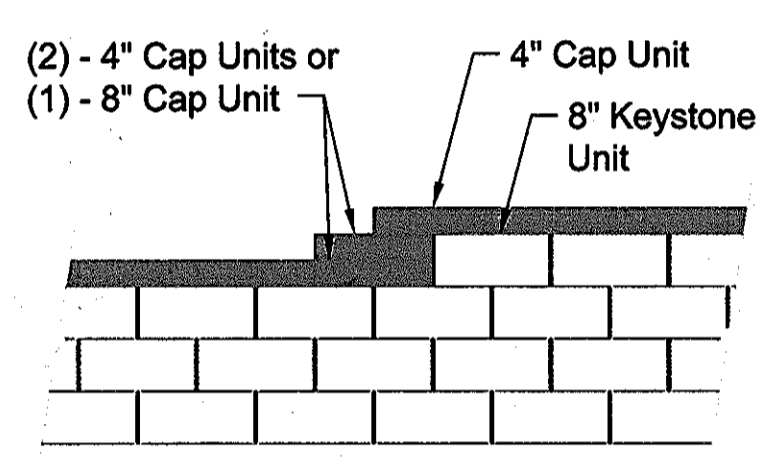
**PART 3: INSTALLATION**  
**3.01 Excavation**  
 A. Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown.  
 B. All existing basins, ruts and other soft or unstable materials shall, at a minimum, be removed from the footprint of the retained soil mass.  
 C. If groundwater is encountered during the excavation of the backslope, a backslope drainage system shall be utilized. The system shall tie into the internal wall drainage system to provide adequate release of any water which accumulates behind the reinforced zone.  
**3.02 Foundation Preparation**  
 A. Foundation shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the Geotechnical Engineer.  
 B. The required bearing pressure beneath the footing of the wall must be verified in the field by a Geotechnical Engineer.  
 C. Unusable soils shall be removed and replaced with approved material.  
 D. Over-excavated areas shall be backfilled with approved, compacted backfill material or as approved by the Geotechnical Engineer.  
**3.03 Base Leveling Pad**  
 A. Leveling pad materials shall be placed upon an approved foundation as shown on the construction drawings to a minimum thickness of 6 inches.  
 B. Aggregate material shall be compacted to provide a dense, level surface on which to place the first course of modular units. Compaction shall be to at least 95% of the maximum dry density as determined by the Standard Proctor Compaction Test (ASTM D 698). Leveling pad shall be prepared and leveled to ensure complete contact of retaining wall unit with base.  
**3.04 Unit Installation**  
 A. The first course of concrete modular units shall be carefully placed on the base leveling pad. Each unit shall be checked for level (in both directions) and alignment.  
 B. Install fiberglass connecting pins and fill all voids in and around the modular units with unit fill material. Tamp or rod unit to ensure that all voids are completely filled.  
 C. Sweep excess material from top of units and install the next course. Ensure that the units of each course are completely filled, bedded and compacted prior to proceeding to next course.  
 D. Place each subsequent course, ensuring that pins protrude into adjoining courses a minimum of 1 inch. Two pins are required per unit. Pull each unit forward to obtain the desired offset (as noted on the plans), away from the fill zone. Locking protrude pins in the previous course and backfill as the course is completed.  
 E. Repeat procedure to the extent of wall height. Wall construction shall not exceed 2 courses in height before reinforced backfill is placed.  
 F. Follow wall erection and unit fill placement closely with any other backfilling required. Compaction of soil shall be to 95% of the maximum dry density as determined by the Geotechnical Engineer.  
 G. As appropriate where the wall changes elevation, units can be stepped with the grade or turned into the embankment with a corner return. Provide appropriate buried units on a compacted leveling pad in area of corner return end.  
**3.05 Geogrid Installation**  
 A. The geogrid type and length (direction perpendicular to the wall face) shall conform to those indicated on the construction drawings. Geogrid shall be laid continuously at the proper elevations and orientation as shown on the construction drawings or as directed by the Geotechnical Engineer.  
 B. Correct orientation (roll direction) of the geogrid shall be verified by the Contractor.  
 C. The geogrid shall be connected to the modular wall units by placing the geogrid over fiberglass pins and laying the grid back to the fill edge.  
 D. A filtering, non-woven geotextile shall be located between the drainage aggregate/unit fill and the reinforced backfill. The geotextile shall be folded back parallel, above and below the geogrid as necessary to ensure continuous grid placement.  
 E. The geogrid shall be folded back to set the geogrid against the fiberglass pins and to eliminate loose folds in the material. The fill surface shall be level. To tension the geogrid, backfill shall be placed over the geogrid from immediately behind the wall to the back end of the geogrid.  
 F. No geogrid overlaps will be allowed in any length of geogrid perpendicular to the wall face except at corners or angled locations. The geogrid shall overlap rather than provide no coverage. A minimum of 4 inches of soil cover is required between over lapping layers of geogrid.  
**3.06 Drainage Installation**  
 A. Provide continuous 4-inch slotted or perforated PVC pipe behind the wall, no greater than 4 inches above finished grade at the bottom of the wall.  
 B. Provide 4-inch solid PVC pipe outlets every 10 feet along the wall, and at each end of the wall.  
**3.07 Fill Placement**  
 A. Backfill material shall be placed in 8 inch loose lifts and compacted to at least 95% of the maximum dry density as determined by ASTM D 698. The in-place moisture content shall be in the range of at the optimum moisture content to 2 percentage points higher than the optimum moisture content, as determined in accordance with ASTM D 698.  
 B. Backfill shall be placed, spread and compacted in a manner that minimizes the development of slick or loss of penetration of the geogrid. Backfill shall be placed in horizontal layers. The excavation face shall be stepped or notched to provide retention of backfill on a level surface and to increase the interlock between the retained soils and the reinforced backfill.  
 C. Only hand-operated compaction equipment shall be allowed within 5 feet of the back surface of the KEYSTONE or equivalent units.  
 D. Backfill shall be placed from immediately behind the wall towards the excavation face/retained soils and compacted to the specifications presented herein with appropriate compaction equipment. A minimum backfill thickness of 8 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles shall not be permitted overtop the geogrid.  
 E. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds (less than 10 mph). Avoid sudden braking and sharp turning.  
 F. The suitability of the fill material must be confirmed by a Geotechnical Engineer.  
 G. The upper 8 inches of wall backfill shall consist of impervious soil, compacted to at least 95% of the maximum dry density as determined by ASTM D 698. The in-place moisture content shall be in the range of at the optimum moisture content to 2 percentage points higher than the optimum moisture content, as determined in accordance with ASTM D 698.  
**3.08 Cap Installation**  
 A. Provide permanent mechanical connection to wall units with KEYSTONE KapSeal™ or equivalent construction adhesive. Apply adhesive to top surface of lower unit and place cap unit atop adhesive.  
 B. Place Cap Units over projecting pins from the units below. Pull forward to setback position.  
 C. Backfill and compact to finished grade.

**DESIGN PARAMETERS**

Characteristics:	Configuration:	Soil Parameters:	Minimum Friction Angle	Minimum Unit Weight (pcf)
Maximum Exposed Wall Height / Minimum Allowable Bearing Pressure (psf):	Battered face wall (8.8 DEG.) 6'-8" / 3,000	Soil Type: Reinforced fill (ML, SL, or more granular)	30	120
Backslope Angle:	Varies (10:1V maximum)	Retained soils	28	120
Toe Slope Angle:	Varies (2:1:1V maximum)	Foundation soils	30	120
Wall Embankment:	Varies (16 to 24 inches minimum) (See Profile)			

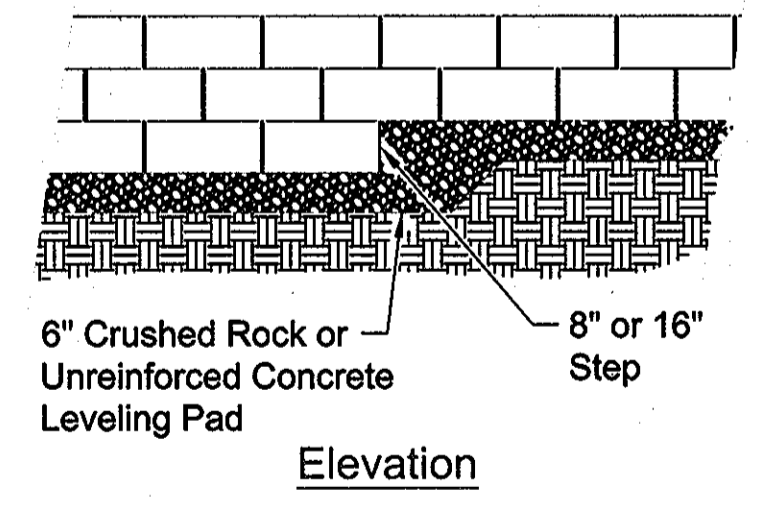


Typical Reinforced Wall Section  
Standard Unit - 1' Setback

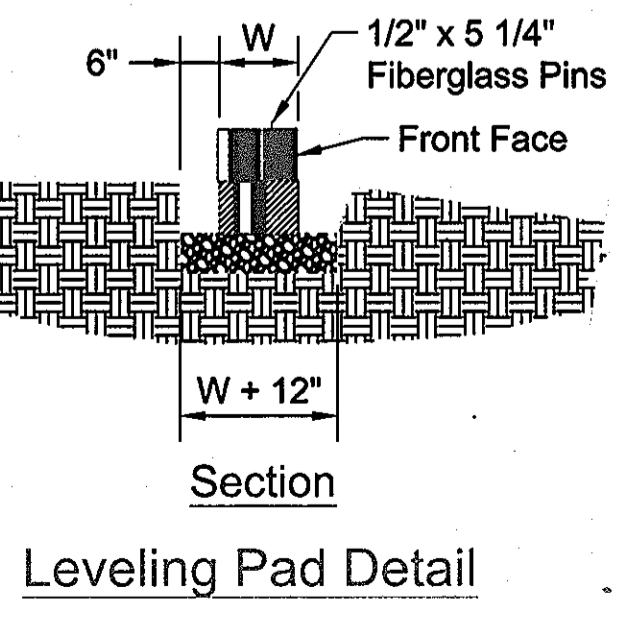


Note:  
1. Secure all cap units with Keystone KapSeal or equal.

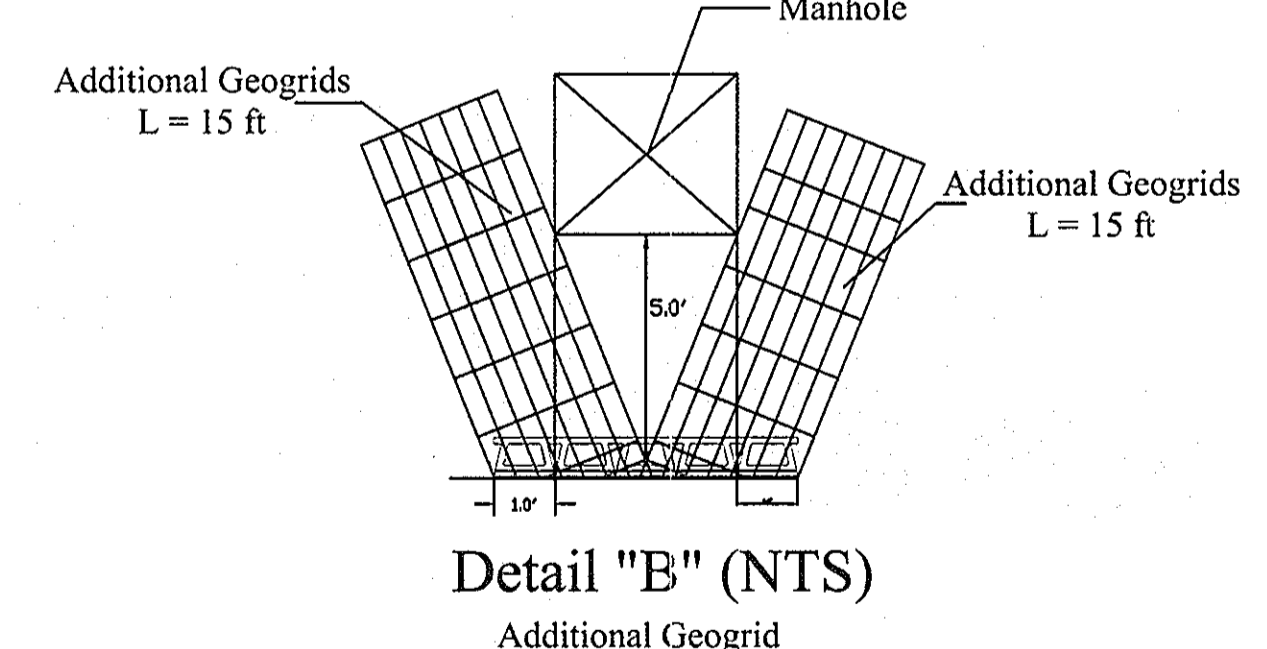
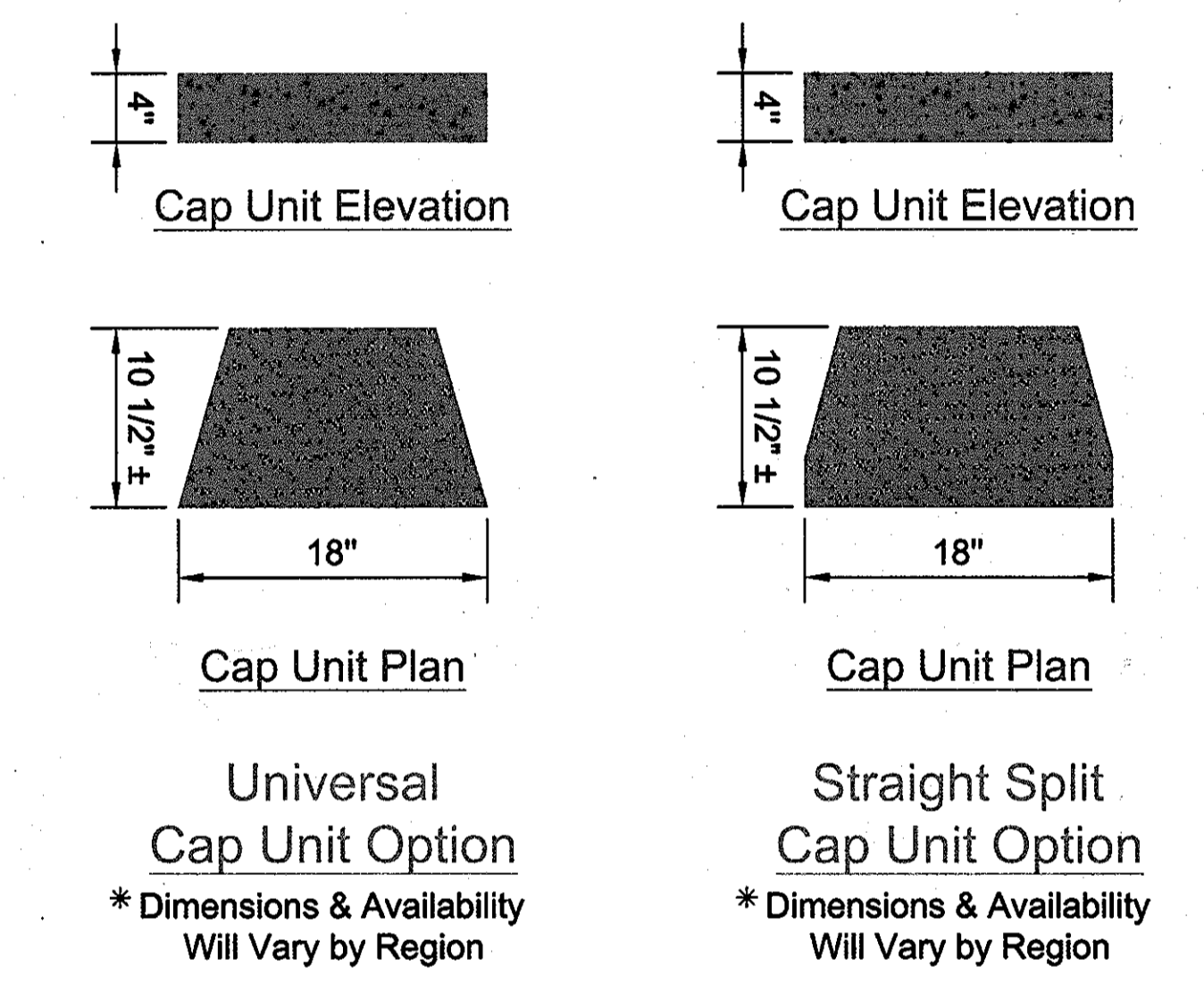
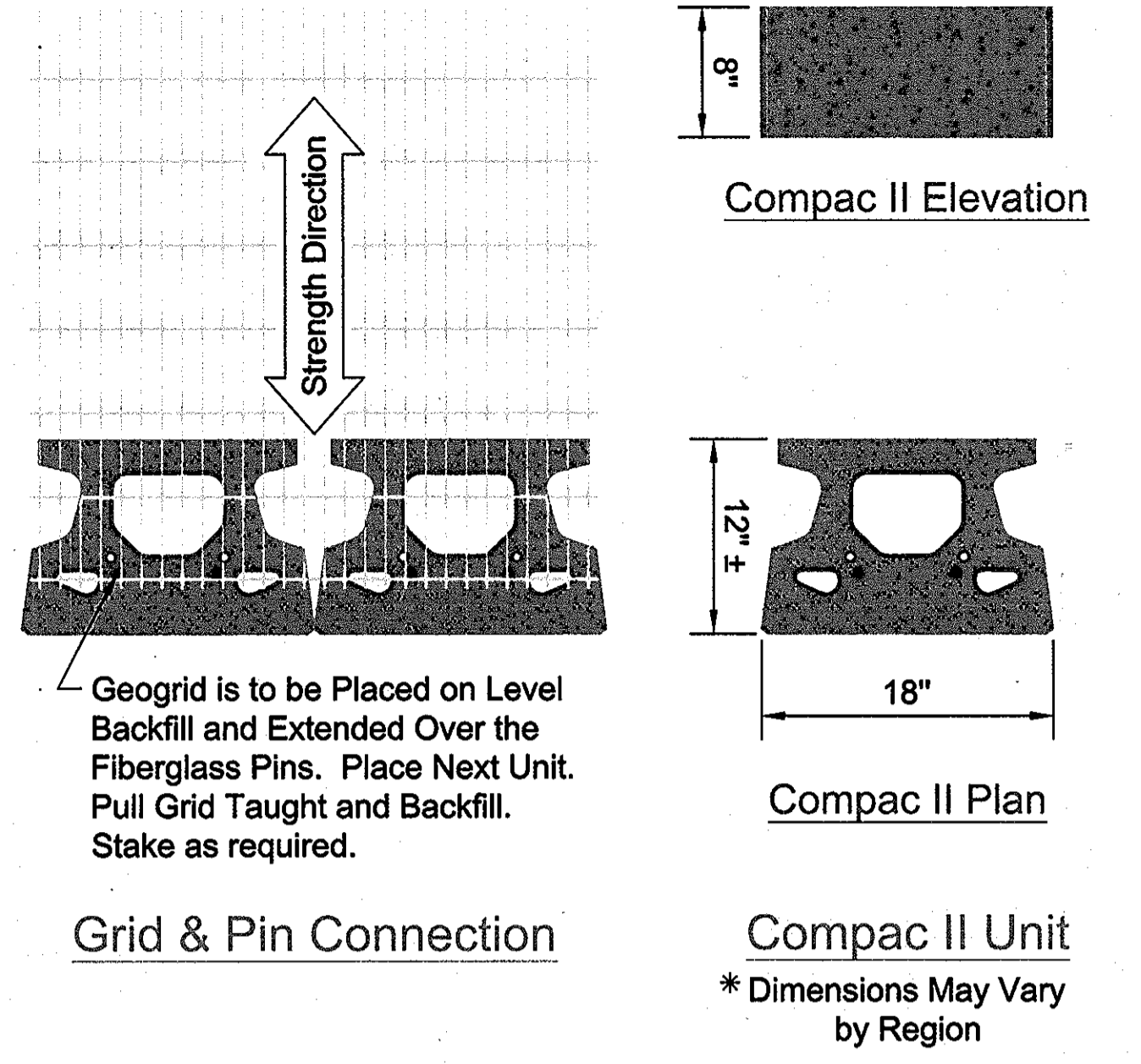
Top of Wall Steps



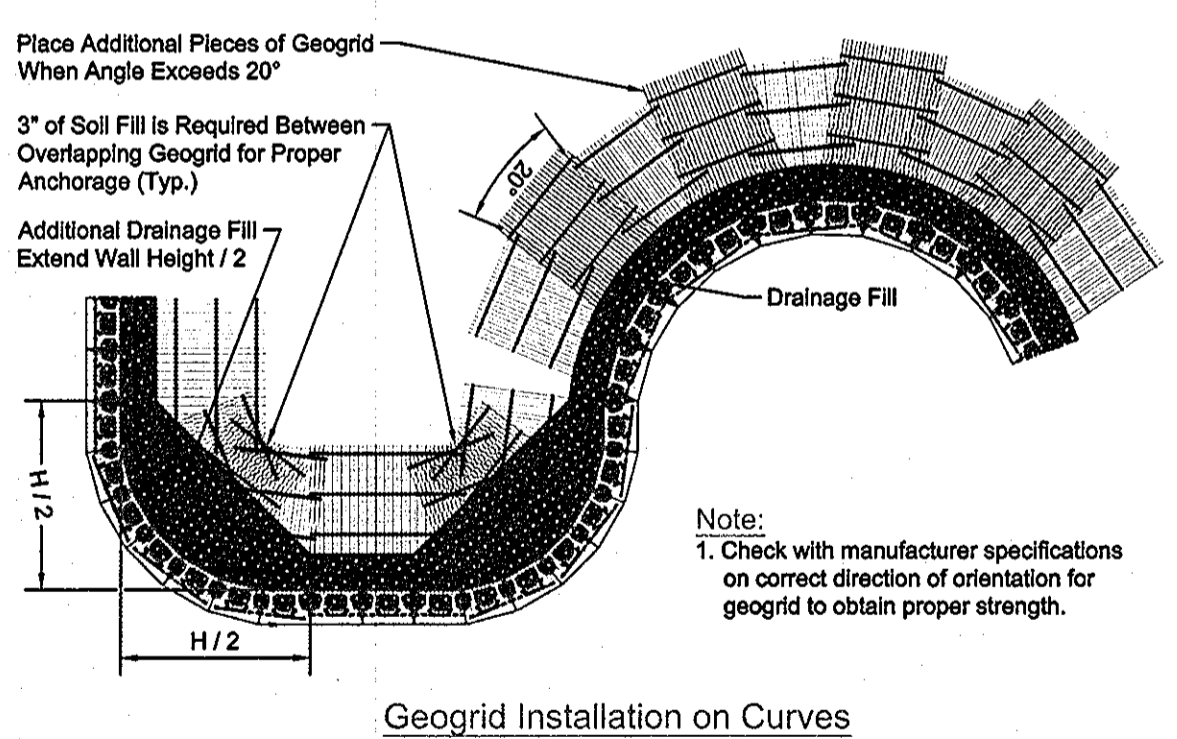
Note:  
1. The leveling pad is to be constructed of crushed stone or 2000 psi ± unreinforced concrete.



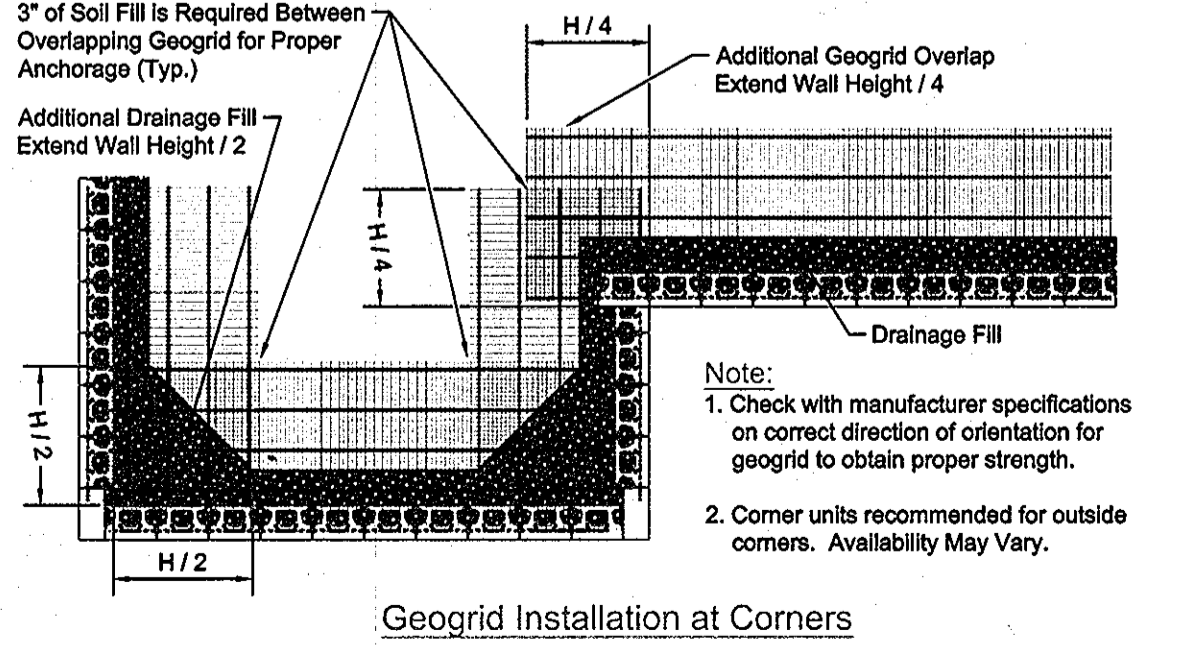
Leveling Pad Detail



Detail "B" (NTS)  
Additional Geogrid



Geogrid Installation on Curves



Geogrid Installation at Corners

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/26/12  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 7/03/12  
 DIRECTOR  
 DATE: 7/12/12

OWNER/DEVELOPER  
 U.S. HOME CORPORATION  
 10211 WINCOPIN CIRCLE  
 SUITE 180  
 COLUMBIA, MD 21044  
 C/O: STEPHEN A. NESS  
 410-997-5522

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**

**DORSET GARDENS**  
 BLUE STREAM  
 TOWNHOMES  
 LOTS 1-125, OPEN SPACE LOTS 126 & 127, AND BUILDABLE BULK PARCEL J-1  
 TAX MAP 43 GRID 4 & 5  
 1ST. ELECTION DISTRICT  
 ZONED: CAC-GL1  
 HOWARD COUNTY, MARYLAND

**ECS LLC**  
 MID-ATLANTIC  
 1340 CHARWOOD ROAD  
 SUITE A  
 HANOVER, MARYLAND 21076  
 PHONE: (410) 859-4300  
 FAX: (410) 859-4324

DESIGN BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: MAR. 15, 2012  
 SCALE: AS SHOWN  
 W.O. NO.: 06-26.02

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. 9553  
 EXPIRATION DATE: 12/31/13

14 SHEET OF 14