

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 MISS UTILITY 1-800-257-7777
 VERBENA 1-800-257-7777
 BUREAU OF UTILITIES: 410-313-4900
 E.I.C. (CONSTRUCTION SERVICES): 410-313-4900
 A.I.A.F. 410-637-8713
 E.G.E. (EMERGENCY) 410-685-0123
 STATE HIGHWAY ADMINISTRATION: 410-311-5333
 COLONIAL PIPELINE CO.: 410-795-1390
4. SITE ANALYSIS:
 TOTAL PROJECT AREA: 5.77 AC. (PARCEL I-1)
 PRESENT ZONING: CAC-CL1
 USE OF STRUCTURE: (168) RENTAL APARTMENTS AND (25) RENTAL TOWNHOUSES
 MIHU UNITS REQUIRED: 36 UNITS (193*18.56=36) / MIHU UNITS PROVIDED: 36 UNITS
 BUILDING FLOOR AREA: 177,055 SF
 APARTMENT BUILDING A: 18,900 GSF
 1ST FLOOR AREA: 18,900 GSF
 2ND FLOOR AREA: 18,900 GSF
 3RD FLOOR AREA: 18,900 GSF
 TOTAL BUILDING FLOOR AREA: 56,700 GSF
 TOTAL NUMBER OF UNITS: 52
 3BR TOWNHOUSE W/ 2 CAR GARAGE (END UNIT): 3BR TOWNHOUSE W/ 2 CAR GARAGE (INT. UNIT):
 1ST FLOOR AREA: 743 SF / 1ST FLOOR AREA: 743 SF
 2ND FLOOR AREA: 743 SF / 2ND FLOOR AREA: 743 SF
 3RD FLOOR AREA: 743 SF / 3RD FLOOR AREA: 743 SF
 TOTAL BUILDING FLOOR AREA: 2,229 SF / TOTAL BUILDING FLOOR AREA: 2,229 SF
 TOTAL NUMBER OF TOWNHOUSE UNITS: 8 / TOTAL NUMBER OF TOWNHOUSE UNITS: 17
 BUILDING FOOTPRINT AREAS:
 APARTMENT BUILDING A FOOTPRINT AREA: 38,304 SF (0.88 AC OR 15.25% OF GROSS AREA)
 APARTMENT BUILDING B FOOTPRINT AREA: 13,850 SF (0.31 AC OR 5.5% OF GROSS AREA)
 TOWNHOUSE (END UNITS - 8) FOOTPRINT AREA: 743 SF (0.02 AC OR 0.35% OF GROSS AREA)
 TOWNHOUSE (INTERIOR UNITS - 17) FOOTPRINT AREA: 717 SF (0.02 AC OR 0.35% OF GROSS AREA)
 TOTAL BUILDING COVERAGE: 73,120 SF (1.68 AC OR 28.12% OF GROSS AREA)
 PAVED PARKING LOT/AREA ON SITE: 90,115 SF (2.07 AC OR 35.88% OF GROSS AREA)
 AREA OF LANDSCAPE ISLAND: 13,007 SF (0.25 AC OR 4.33% OF GROSS AREA)
 LIMIT OF DISTURBED AREA: 5.93 AC
 FILL: 0 CF

5. PROJECT BACKGROUND:
 LOCATION: TAX MAP 43 BLOCK 4 PARCELS 14, PARCELS I-1
 ZONING: CAC-CL1
 SUBDIVISION: BLUE STREAM
 SECTION/AREA: 11.05 AC
 ALLOCATION PHASE: PHASES IV AND V
 DEED REFERENCES: L 4389 / F 156, L 4389 / F 150, L 4389/138, 11086/199, PLAT 23211-23212
 DDP REFERENCES: PLAT 14421 & 14422, WP-09-116, P-08-011, P-09-004, P-10-005, F-10-120, SDP-11-032
 PLAT 14421 & 14422, WP-09-116, P-08-011, P-09-004, P-10-005, F-10-120, SDP-11-032
 WP-12-123, WP-12-122, P-12-203, WP-13-042, P-13-051, WP-15-070, WP-13-142, P-13-004, WP-14-046, WP-12-129, WP-12-128, WP-12-127, P-12-203, WP-13-042, P-13-051, WP-15-070, WP-13-142, P-13-004, WP-14-046
6. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
7. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
8. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER EXTENSION PLANS AND AVAILABLE RECORDS SHALL BE SHOWN FOR THE CONTRACTOR'S INFORMATION. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
9. ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3,500 P.S.I.
10. TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL BE INSTALLED BEFORE THE START OF CONSTRUCTION.
 A. THE "R" SIGN AND THE STREET NAME SIGN (SNS) SHALL BE INSTALLED BEFORE THE START OF CONSTRUCTION.
 B. THE TRAFFIC CONTROL DEVICES LOCATED ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUMUCD).
 D. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT OF WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED SQUARE TUBE POST (14 GAUGE) INSERTED IN TO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) 3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO (2) QUICK PUNCH HOLES ABOVE GROUND LEVEL. THE SQUARE TUBE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

11. ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
12. SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST PRIOR TO CONSTRUCTION.
13. THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE SYSTEM. HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE SYSTEM, SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PERFORMED BY VOGEL & ASSOCIATES, INC., DATED FEBRUARY 1998.
14. THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, DATED MARCH, 1998.
15. GEOTECHNICAL REPORT PREPARED BY ECS-MIDATLANTIC, LLC, DATED 06/01/09, REVISED 09/10/09 AND 01/05/2011.
16. THE GEOTECHNICAL ENGINEER TO CONFIRM PAVING SECTION PRIOR TO CONSTRUCTION, ALL PAVING TO BE MINIMUM HOWARD COUNTY STANDARD DETAIL, UNLESS OTHERWISE NOTED.
17. ALL CURBS AND CUTTERS TO BE HOWARD COUNTY STANDARD DETAIL 3.01 UNLESS OTHERWISE NOTED.
18. WHERE DRAINAGE FLOWS AWAY FROM CURB, CONTRACTOR TO REVERSE THE GUTTER PAN.
19. ALL ELEVATIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
20. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
21. CONTRACTOR RESPONSIBLE FOR CONSTRUCTING ALL HANDICAP RAMPS AND HANDICAP ACCESS IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
22. PUBLIC SEWER AVAILABLE THROUGH CONTRACT NO. 4488-30.
23. AFFO TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP DATED MAY 30, 2006, REVISED JUNE 5, 2008, APPROVED UNDER F-02-035 (REDLINE).
24. THE UNLIMITED NODES PREPARED BY ROBERT H. VOGEL ENGINEERING DATED JUNE 2008, THE UNLIMITED ESDBA NOISE CONTOUR GENERATED BY U.S. ROUTE 1 AND I-95 TRAFFIC DOES NOT IMPACT THE REAR YARDS OR AMENITY AREAS ASSOCIATED WITH THIS PROJECT (REFERENCE: 5-08-001, 5-08-002, 5-08-003, 5-08-004, 5-08-005, 5-08-006, 5-08-007, 5-08-008, 5-08-009, 5-08-010, 5-08-011, 5-08-012, 5-08-013, 5-08-014, 5-08-015, 5-08-016, 5-08-017, 5-08-018, 5-08-019, 5-08-020, 5-08-021, 5-08-022, 5-08-023, 5-08-024, 5-08-025, 5-08-026, 5-08-027, 5-08-028, 5-08-029, 5-08-030, 5-08-031, 5-08-032, 5-08-033, 5-08-034, 5-08-035, 5-08-036, 5-08-037, 5-08-038, 5-08-039, 5-08-040, 5-08-041, 5-08-042, 5-08-043, 5-08-044, 5-08-045, 5-08-046, 5-08-047, 5-08-048, 5-08-049, 5-08-050, 5-08-051, 5-08-052, 5-08-053, 5-08-054, 5-08-055, 5-08-056, 5-08-057, 5-08-058, 5-08-059, 5-08-060, 5-08-061, 5-08-062, 5-08-063, 5-08-064, 5-08-065, 5-08-066, 5-08-067, 5-08-068, 5-08-069, 5-08-070, 5-08-071, 5-08-072, 5-08-073, 5-08-074, 5-08-075, 5-08-076, 5-08-077, 5-08-078, 5-08-079, 5-08-080, 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OPEN SPACE
LOT G-2
(TO BE DEDICATED
RECREATION AND PARKS)
TO HOWARD COUNTY
12.75 AC.
PLAT#21558-21564
SDP-11-032

OPEN SPACE
LOT G-1
5.35 AC.
(TO BE DEDICATED
TO THE HOA)
PLAT#21558-21564
(F-02-035)

BUILDABLE BULK
PARCEL H
10.19 AC
ZONED: CAC-CLI
USE: RESIDENTIAL
PLATS 21558-21564
SDP-11-032

BUILDABLE BULK
PARCEL L-3
10.59 AC.
ZONED: CAC-CLI
USE: RESIDENTIAL
PLATS 21558-21564

BUILDING B
52 UNITS
FF=219.05/GARAGE=207.05
(35 SPACES BELOW)

BUILDING A
116 UNITS
FF=219.25/GARAGE=207.25
(85 SPACES BELOW)

BLUE STREAM
TM. 43, P. 14
BUILDABLE BULK PARCEL J-2
USE: MIXED USE
ZONED: CAC-CLI
10.15 AC.
PLATS 22568-22573
SDP-11-040

BLUE STREAM
TM. 43, P. 14
BUILDABLE BULK PARCEL K
USE: MIXED USE
ZONED: CAC-CLI
10.15 AC.
PLATS 22568-22573
SDP-11-040

OWNER/DEVELOPER
BLUE STREAM 2 LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

REVISE THE PRIVATE SEWER FROM THE R-O-W TO AND INCLUDING SMH25 TO PUBLIC
NO. REVISION DATE
1 9/12/16

SITE DEVELOPMENT PLAN
LAYOUT PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
BLUE STREAM
BUILDABLE BULK PARCEL I-1
ZONED: CAC-CLI
HOWARD COUNTY, MARYLAND

TAX MAP 43 GRID 4
1ST ELECTION DISTRICT
PARCEL 14

**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 DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 08-27-2016

DESIGN BY: DZE
DRAWN BY: DZE/KG/MR
CHECKED BY: RHW
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15

2 SHEET OF 22

LEGEND:

- | | | | | | |
|---------|---------------------------|---------|--|---------|------------------------|
| ---=--- | EXISTING CURB AND GUTTER | ---=--- | PROPOSED STORM DRAIN | ---=--- | PROPOSED PUBLIC WATER |
| ---=--- | PROPOSED CURB AND GUTTER | ---=--- | PROPOSED STORM DRAIN INLET | ---=--- | PROPOSED PRIVATE SEWER |
| ---=--- | EXISTING UTILITY POLE | ---=--- | EXISTING TREELINE
(FIELD LOCATED) | ---=--- | |
| ---=--- | EXISTING LIGHT POLE | ---=--- | EXISTING STREET TREES
(F-02-35) | ---=--- | |
| ---=--- | EXISTING MAILBOX | ---=--- | PROPERTY LINE | ---=--- | |
| ---=--- | EXISTING SIGN | ---=--- | RIGHT-OF-WAY LINE | ---=--- | |
| ---=--- | EXISTING SANITARY MANHOLE | ---=--- | PROPOSED SIDEWALK | ---=--- | |
| ---=--- | EXISTING SANITARY LINE | ---=--- | PROPOSED STREET LIGHT | ---=--- | |
| ---=--- | EXISTING SANITARY LINE | ---=--- | PROPOSED STREET SIGN | ---=--- | |
| ---=--- | EXISTING CLEANOUT | ---=--- | EX. PUBLIC FOREST CONSERVATION
EASEMENT #1 (AFFORRESTATION)
PLAT 21558-21564
PLAT 22214-22217 | ---=--- | |
| ---=--- | EXISTING FIRE HYDRANT | ---=--- | | ---=--- | |
| ---=--- | EXISTING WATER LINE | ---=--- | | ---=--- | |

PLAN VIEW
SCALE: 1"=30'

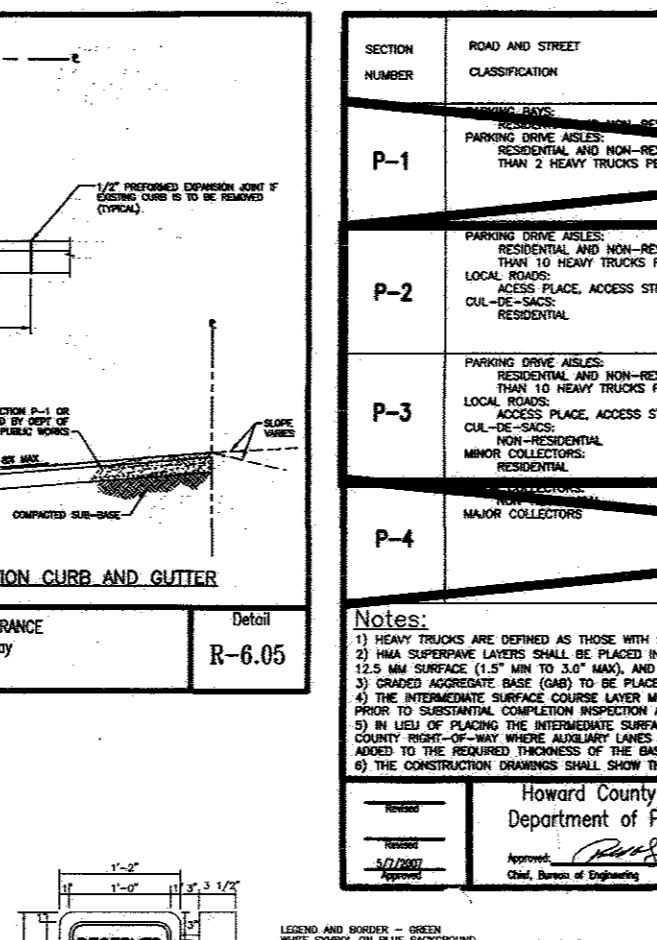
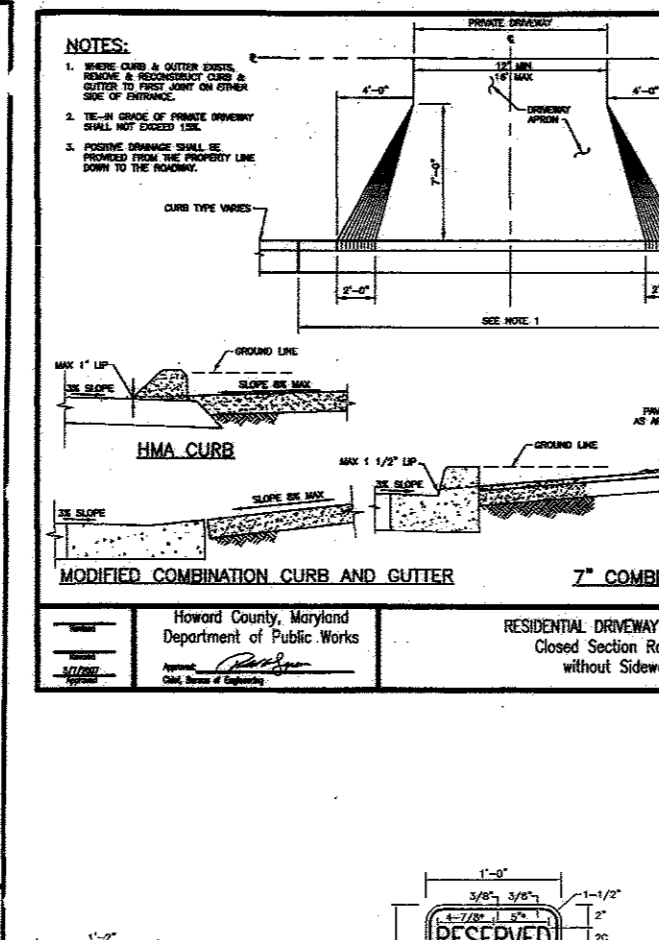
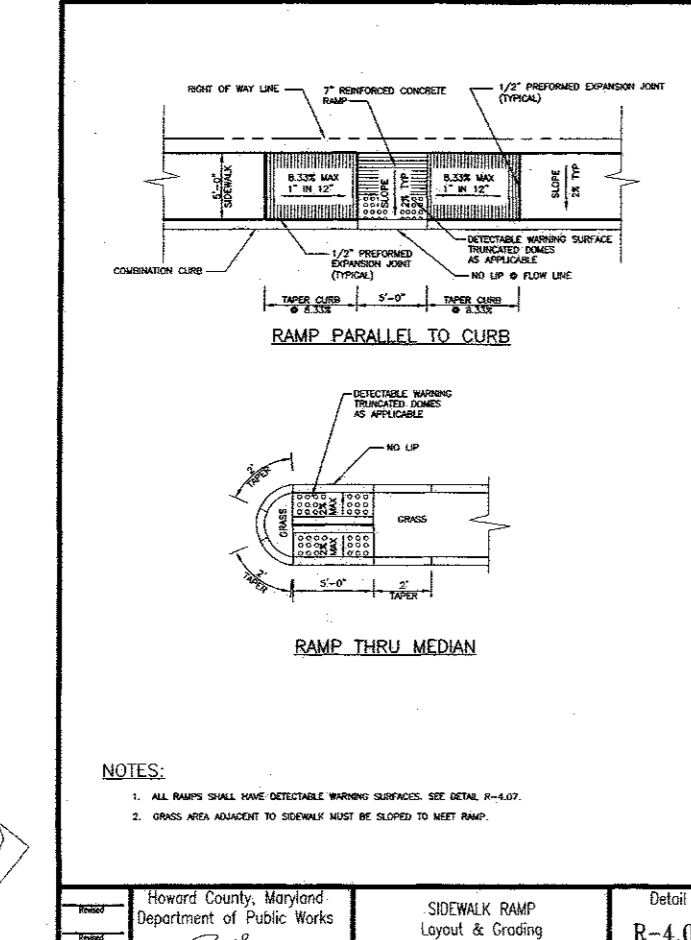
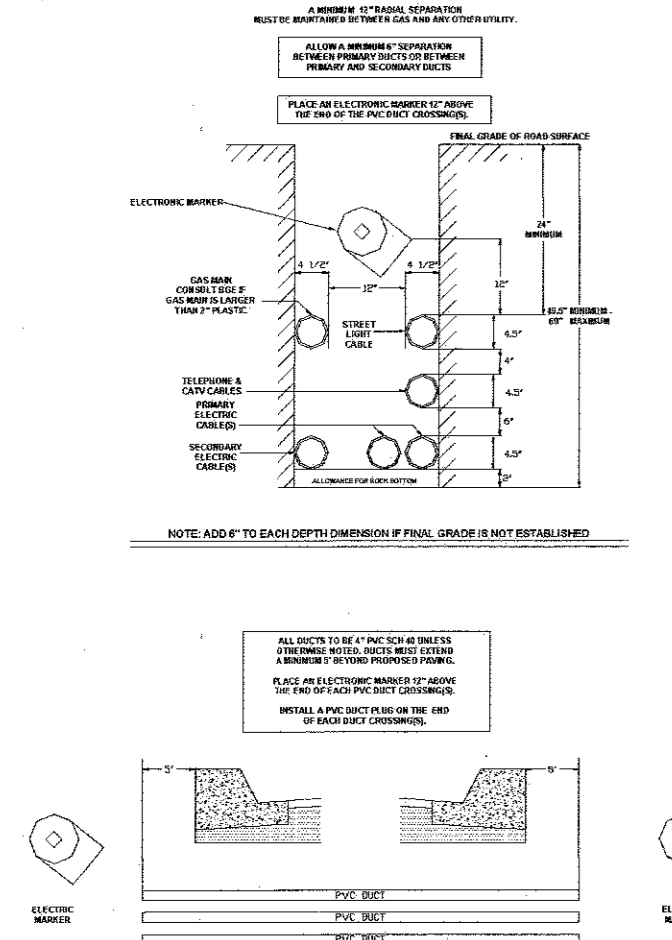
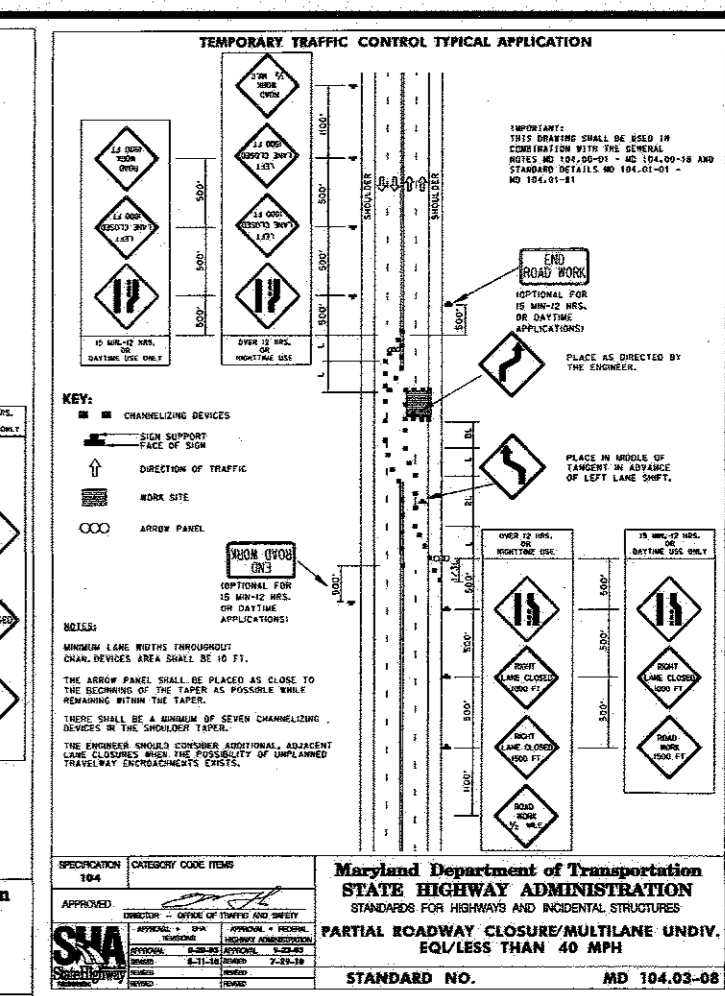
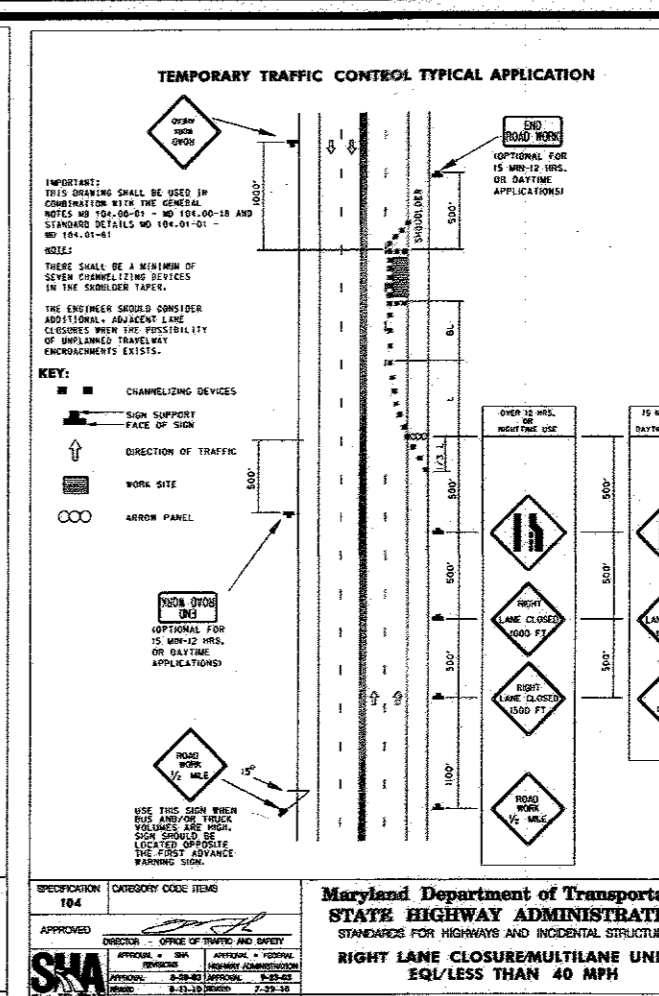
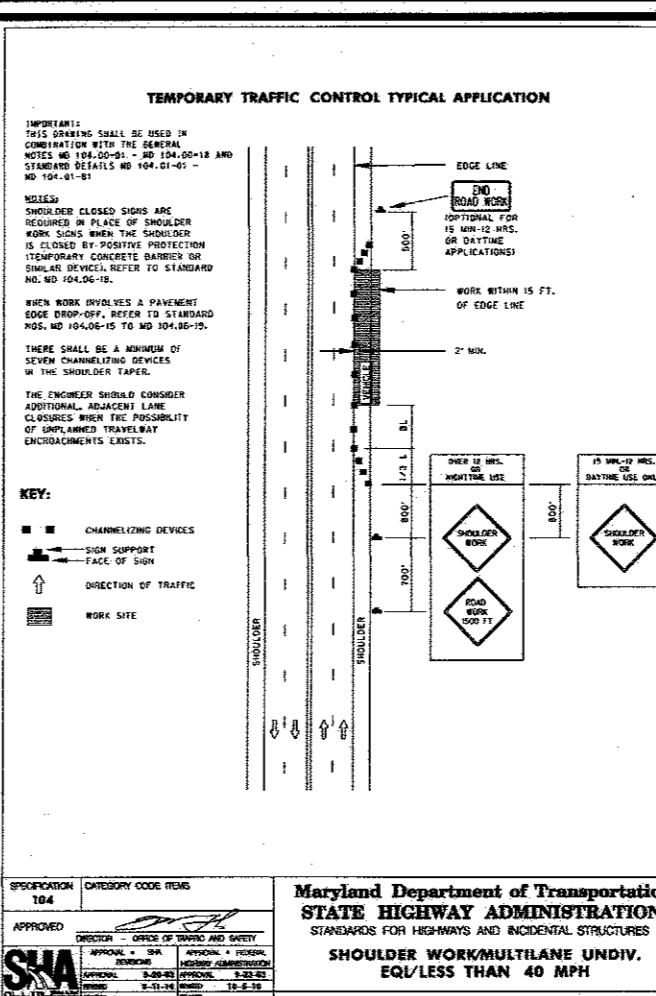
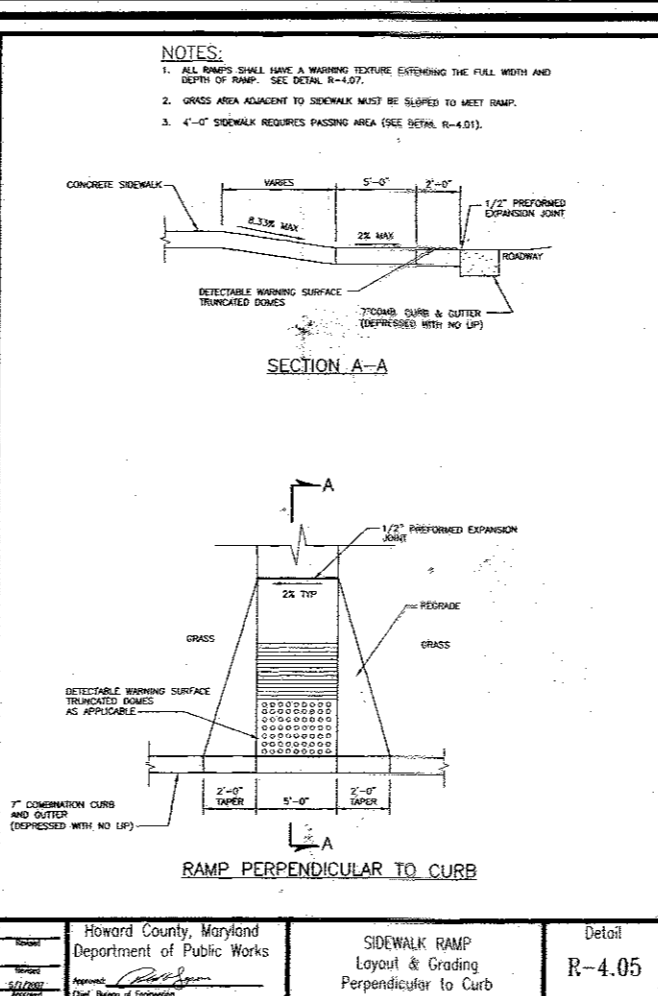
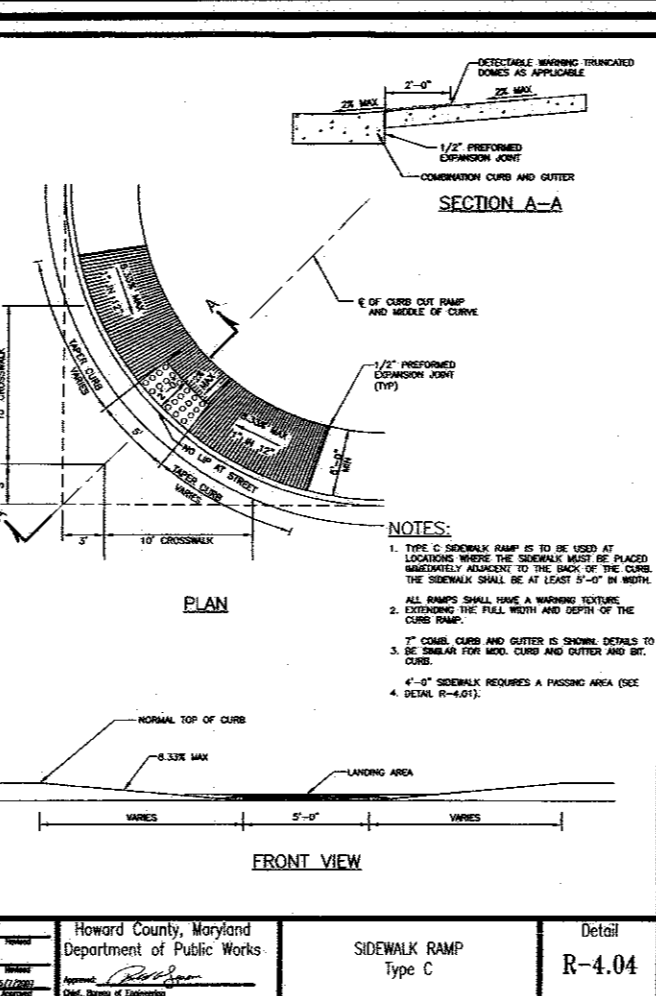
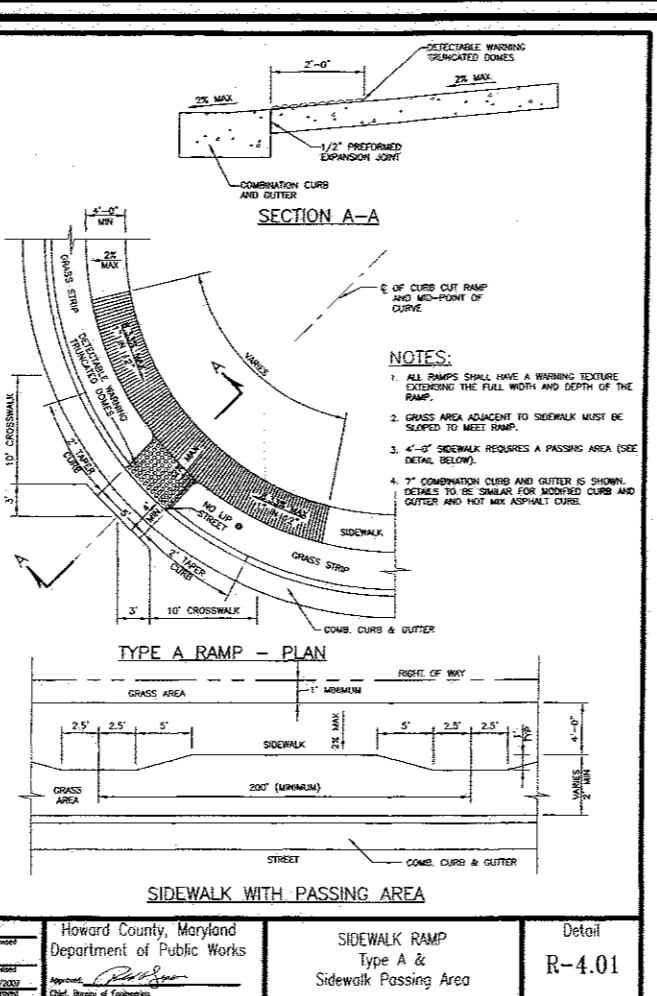
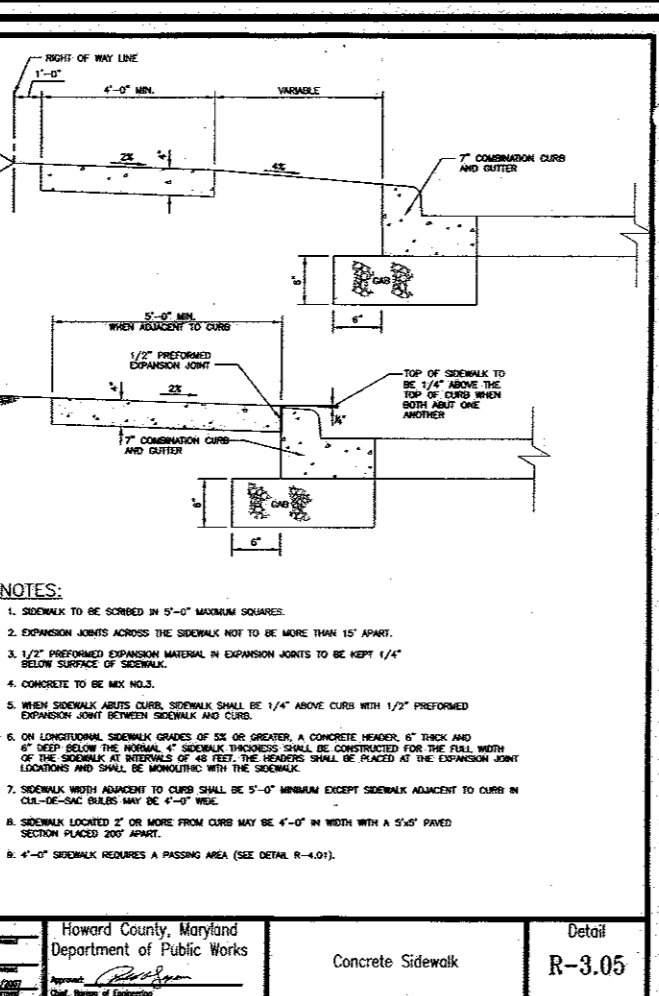
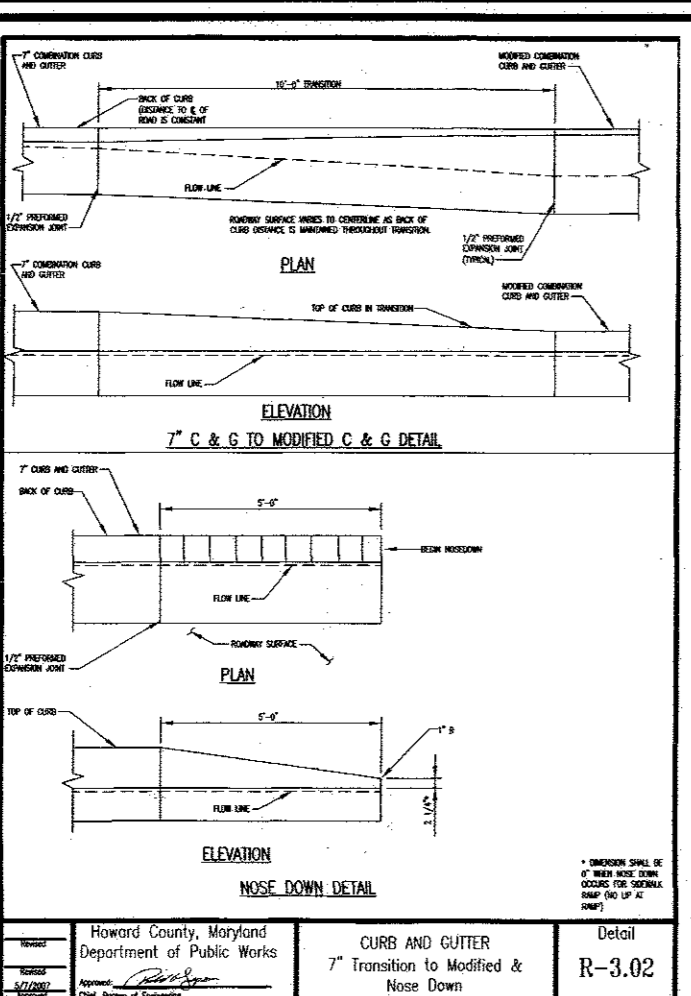
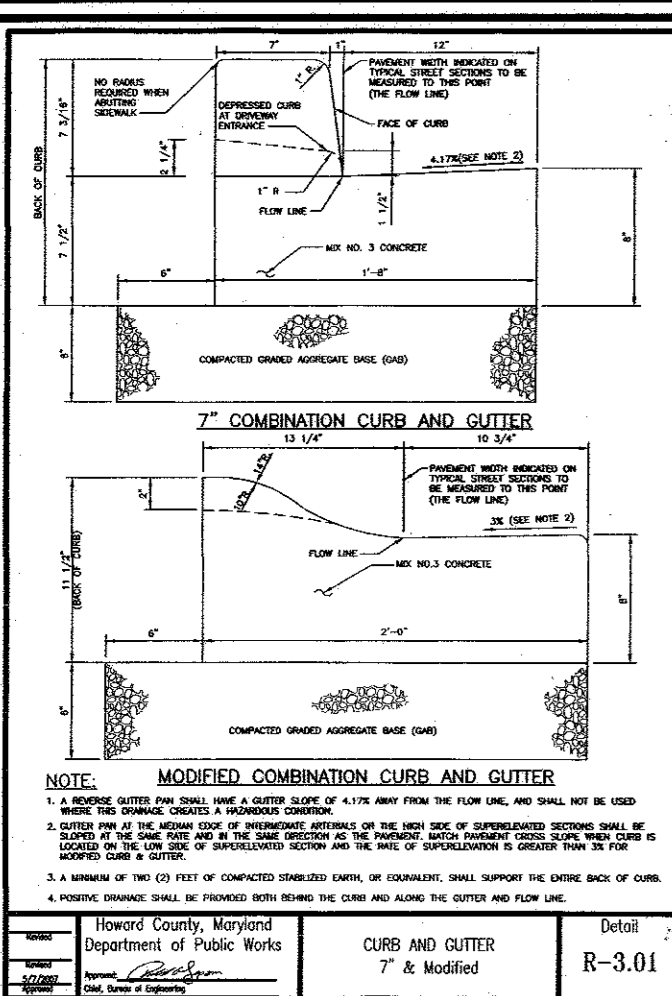
SCALE 1"=30'
15' 0' 30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

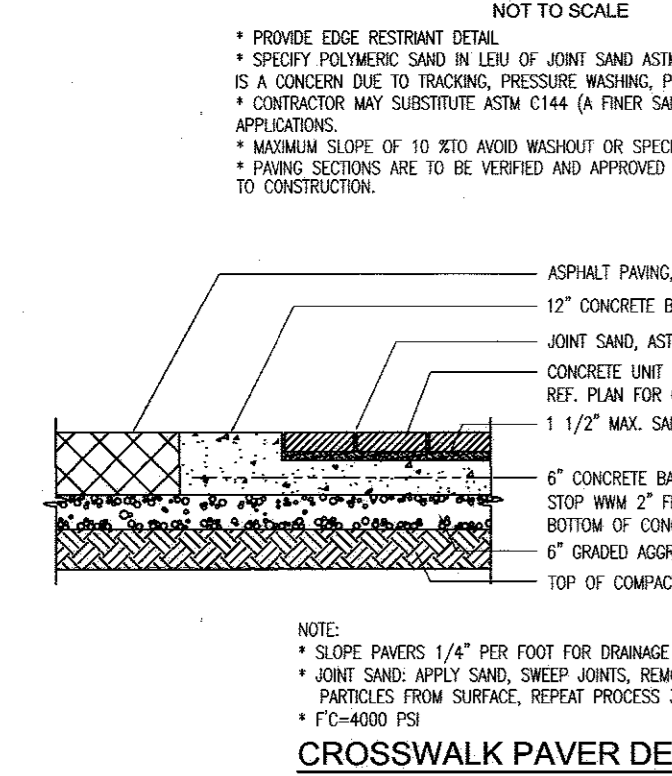
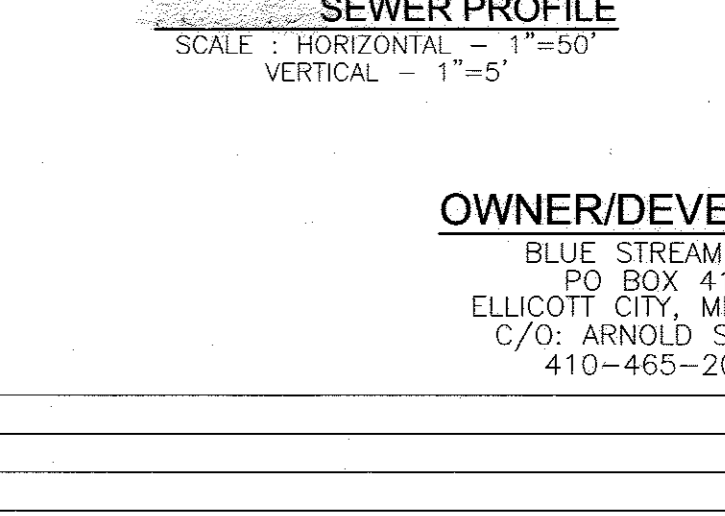
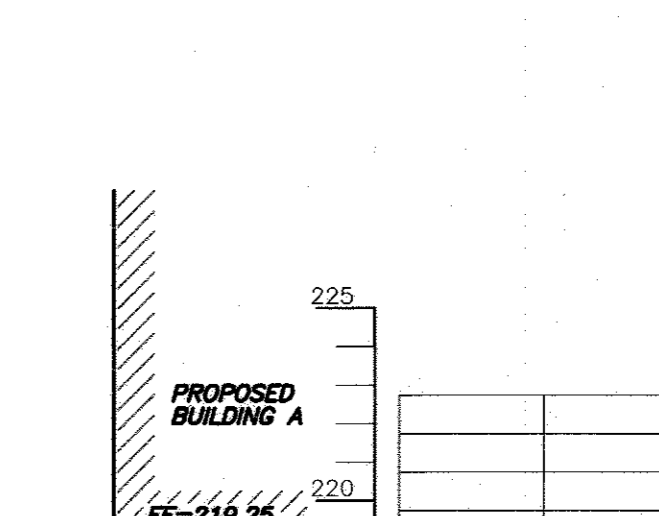
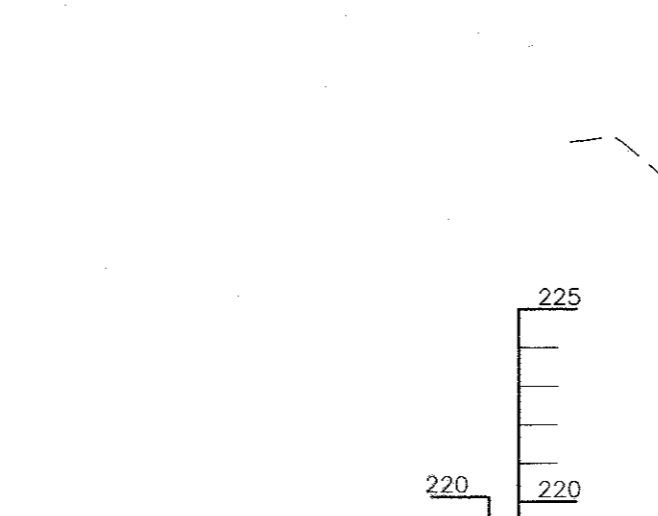
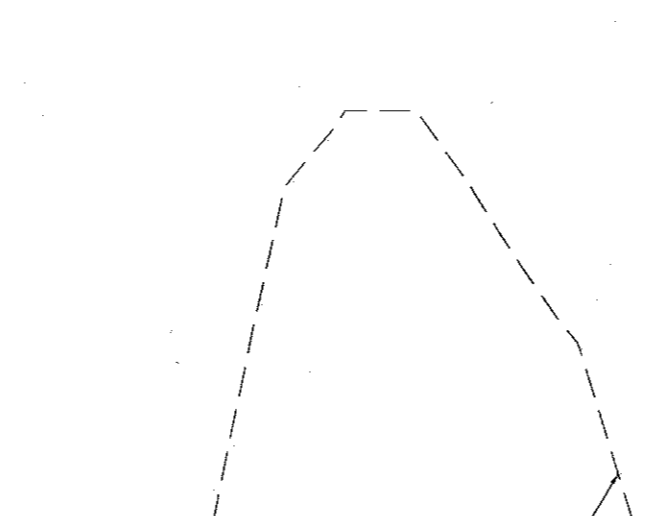
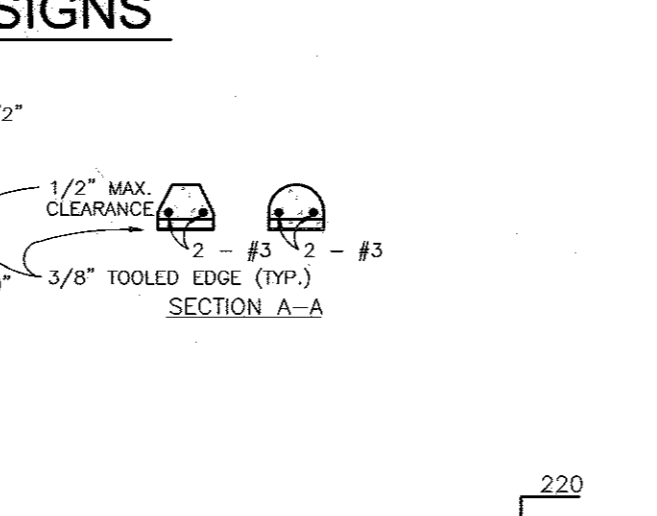
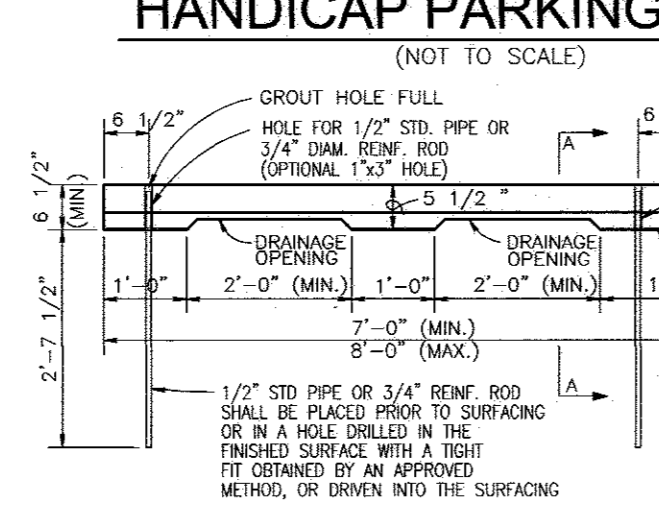
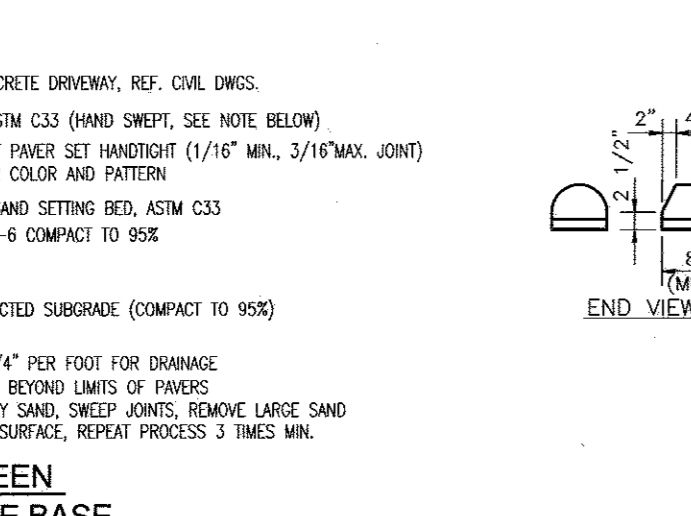
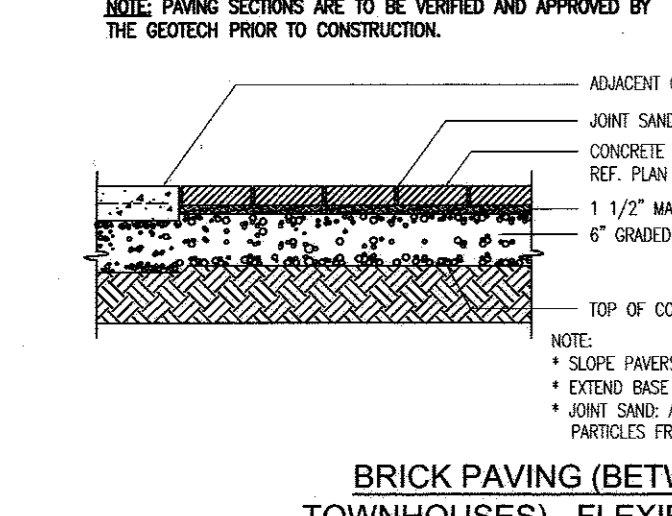
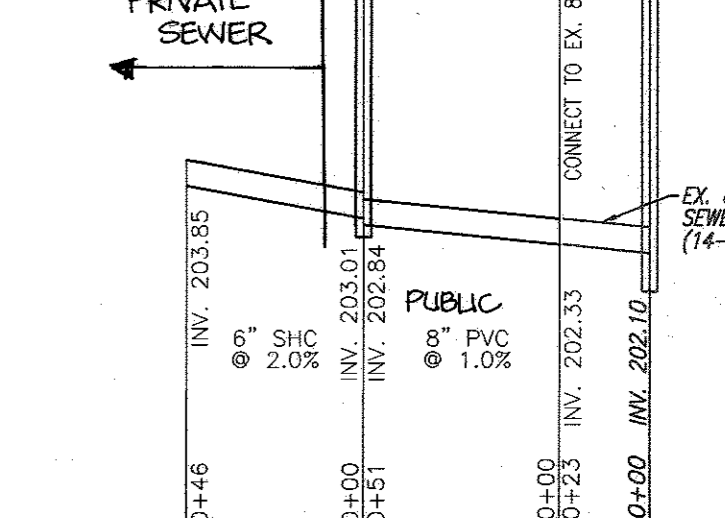
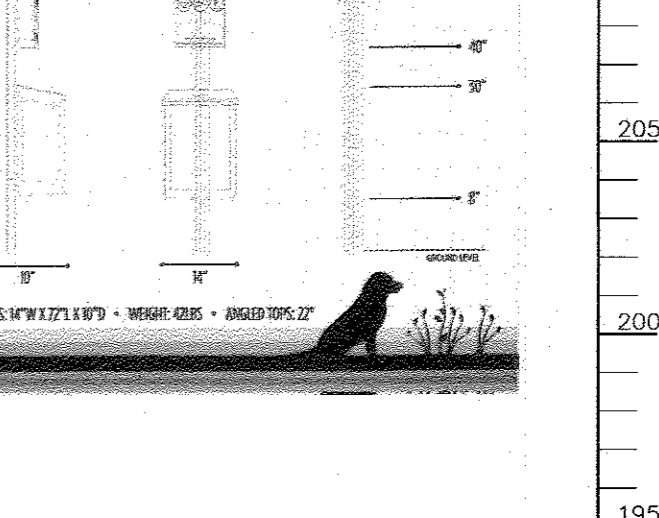
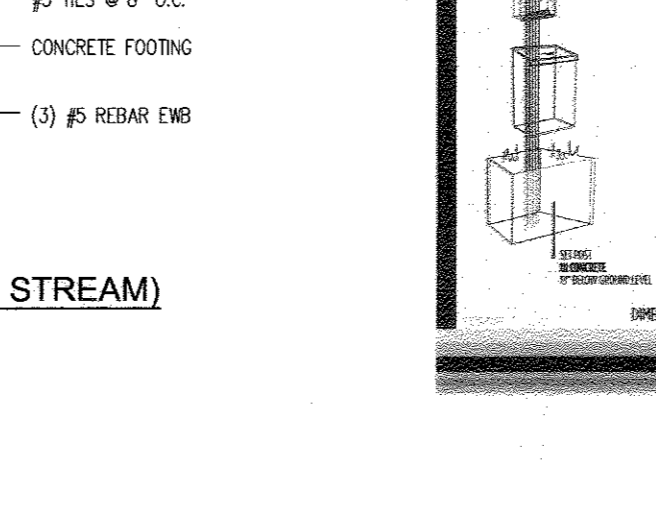
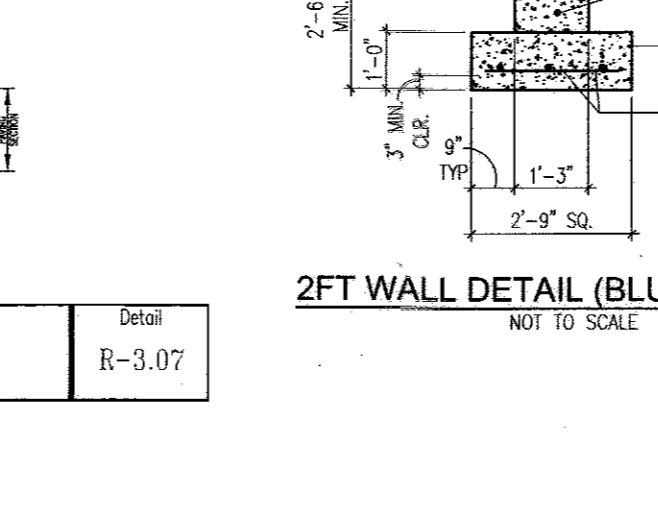
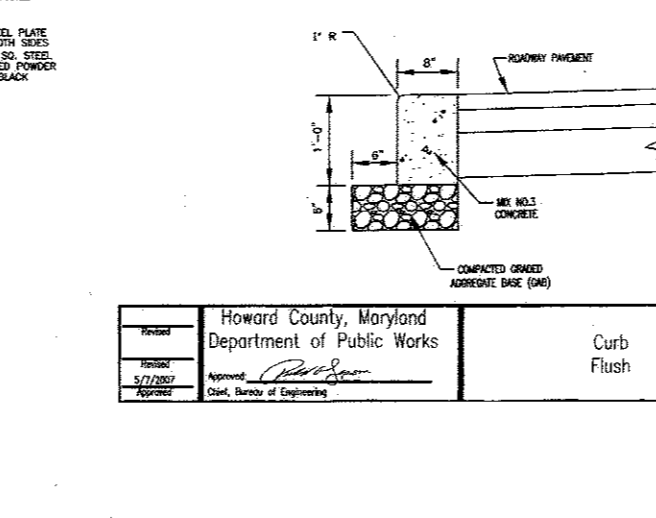
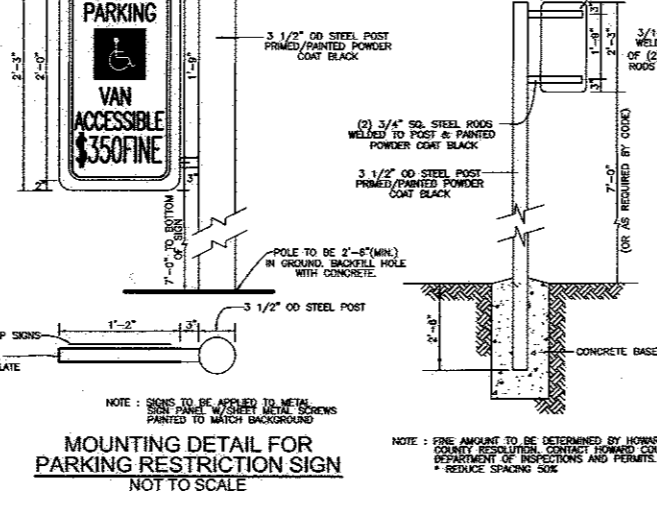
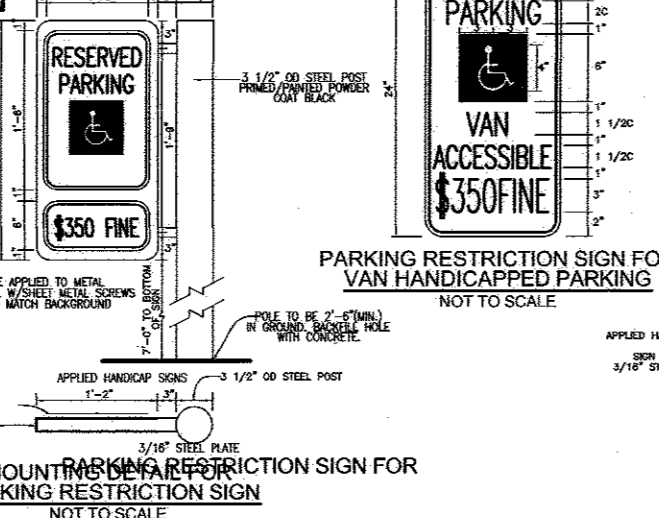
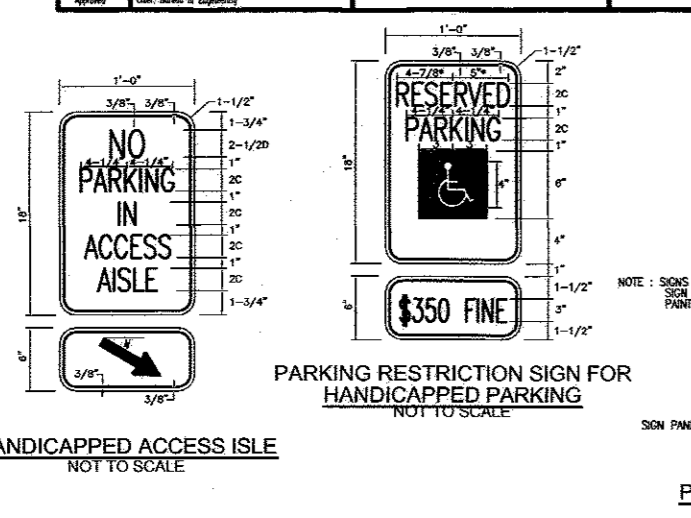
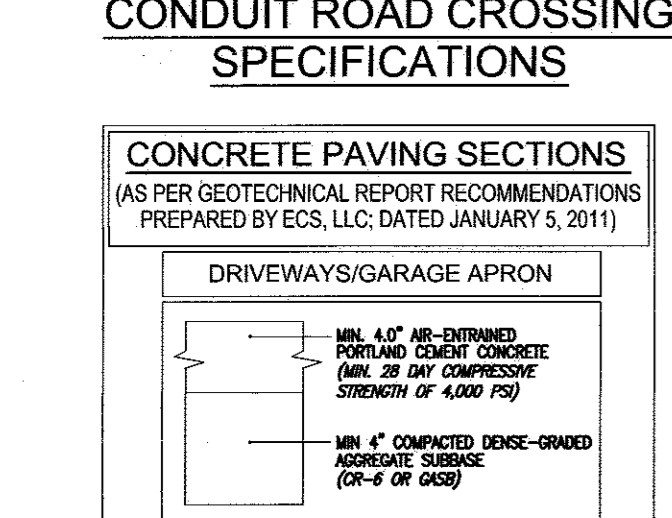
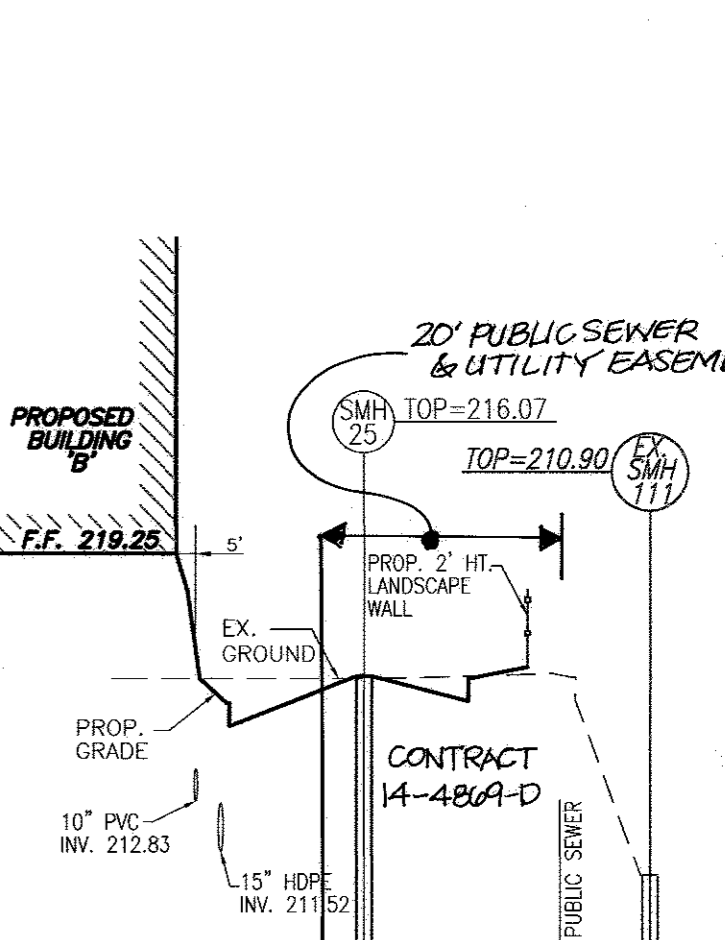
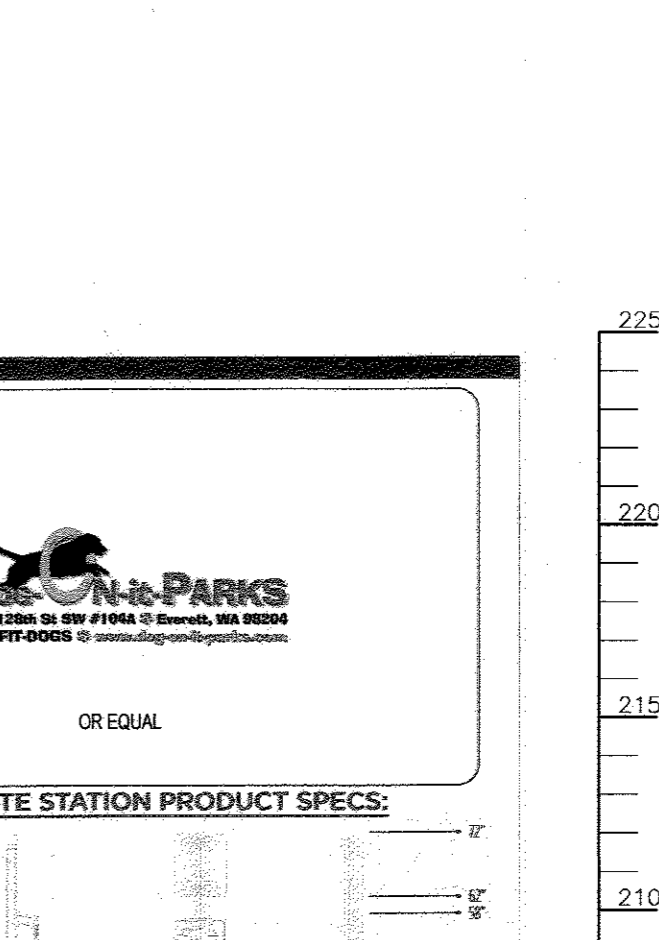
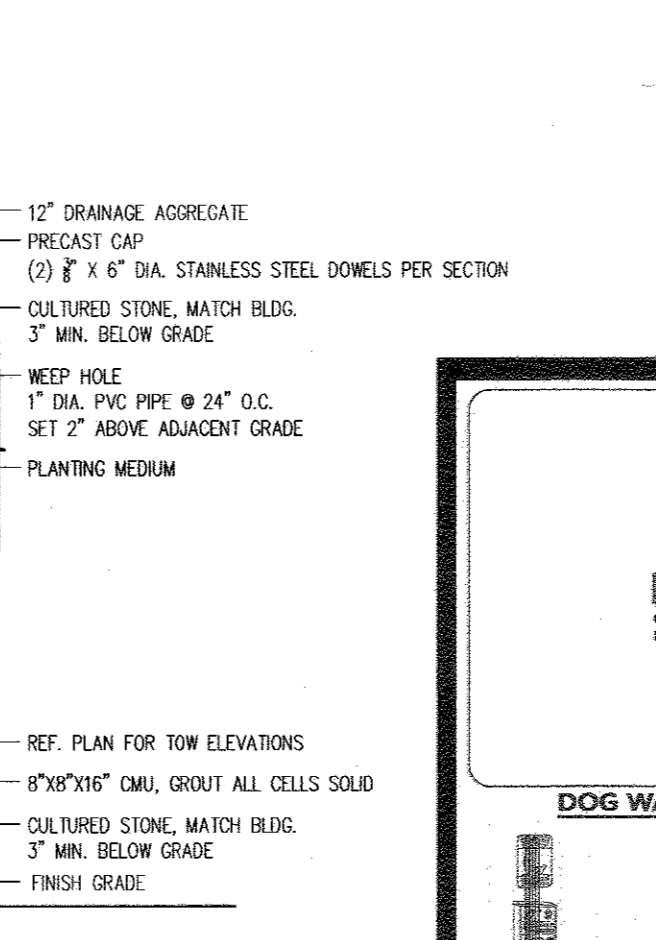
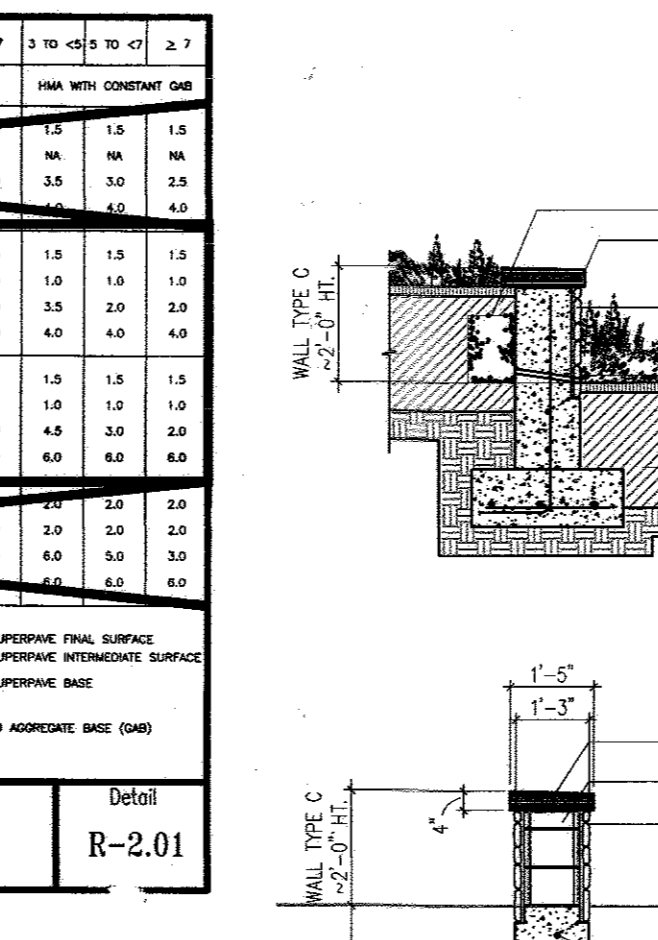
Old John 7-9-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Val 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Val 7-21-15
DIRECTOR DATE

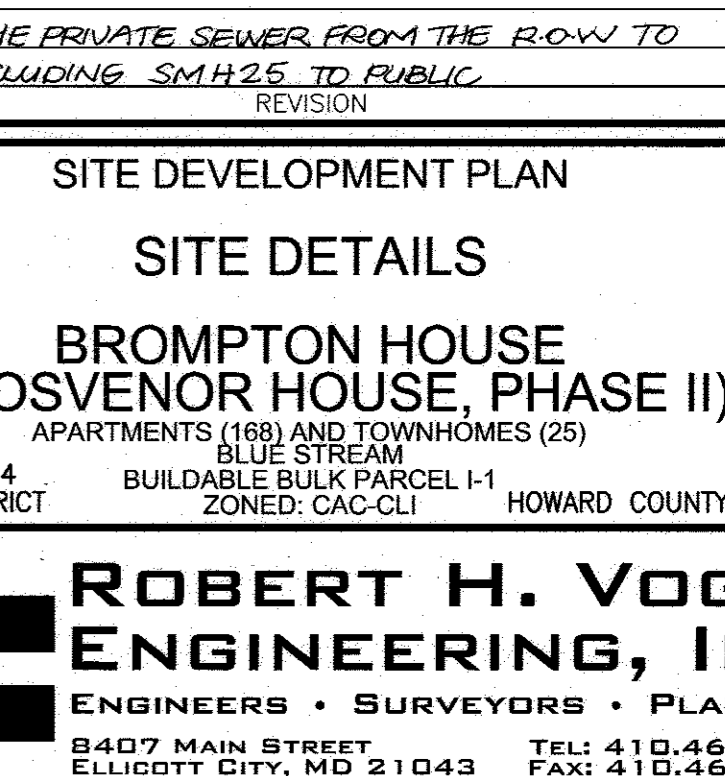
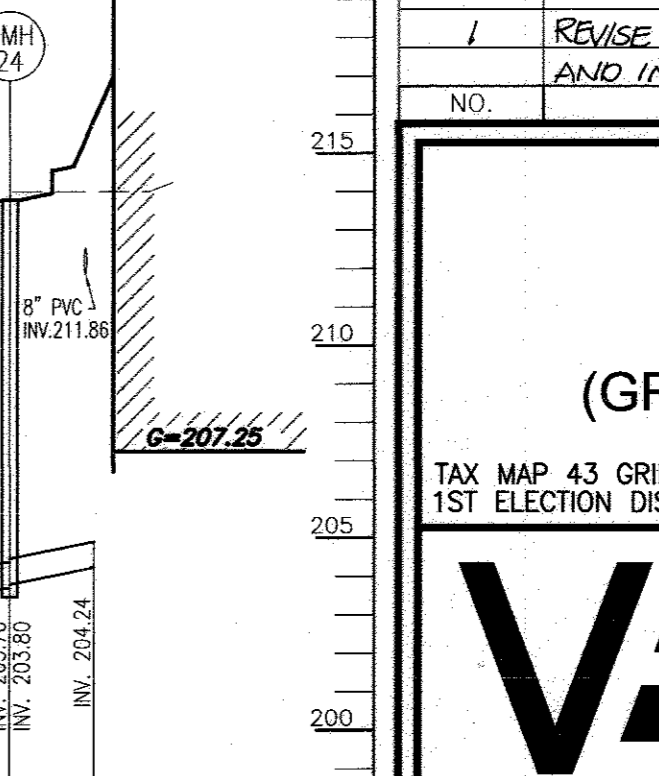
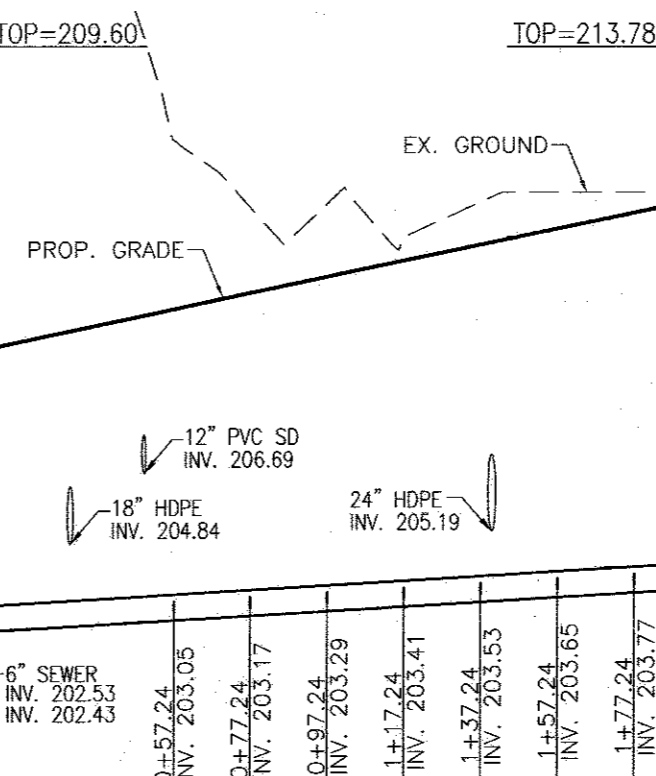
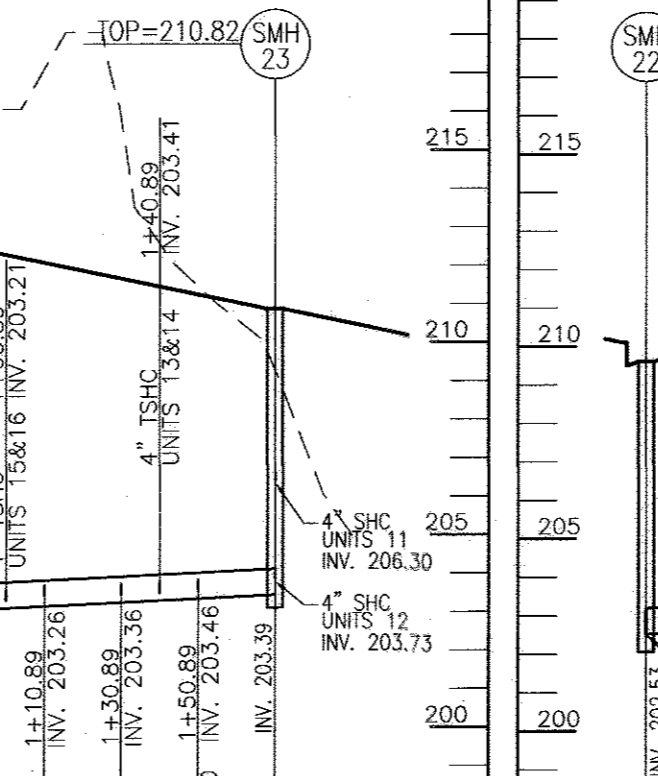
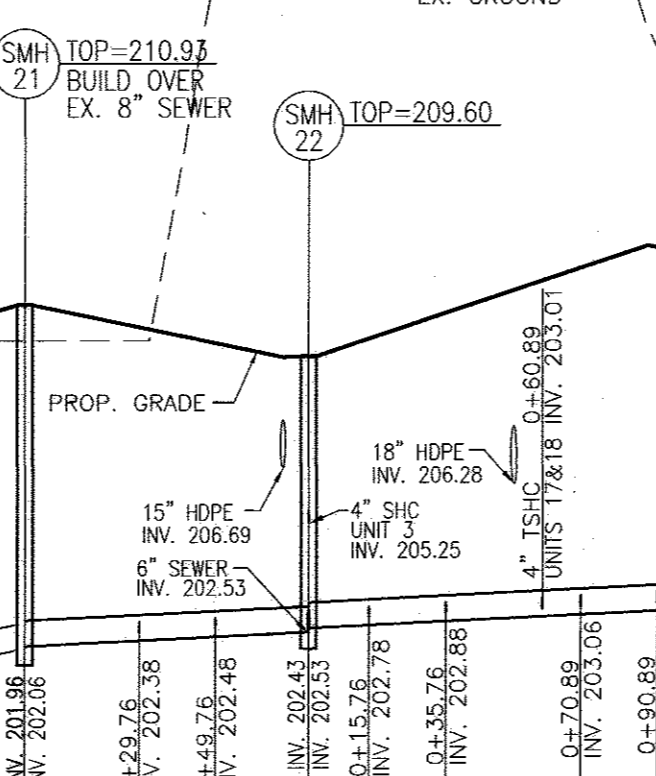
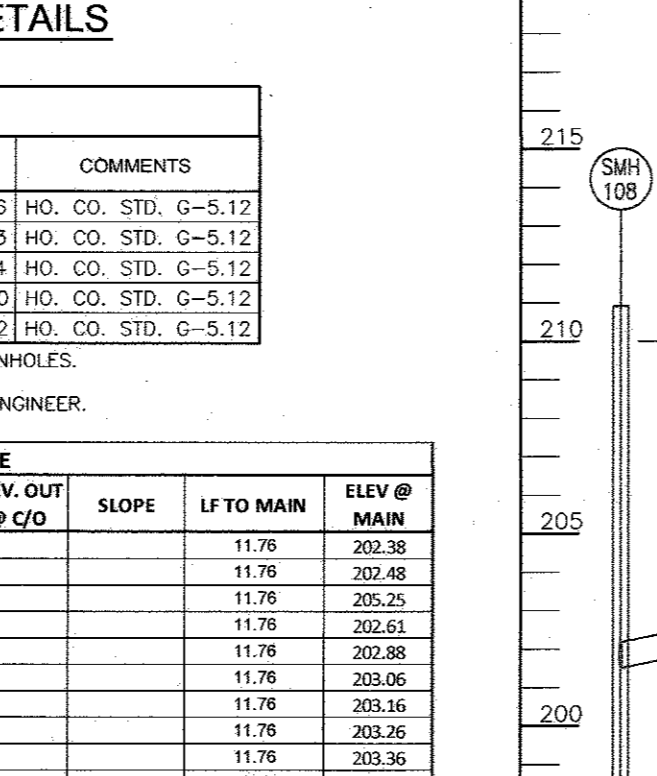


ROAD AND STREET CLASSIFICATION	PAYMENT MATERIAL (INCHES)	1 TO 4 1/2 FT	4 1/2 TO 7 FT	7 TO 10 FT	10 TO 15 FT	15 TO 20 FT	20 TO 25 FT	25 TO 30 FT	30 TO 35 FT	35 TO 40 FT	40 TO 45 FT	45 TO 50 FT
P-1	1/2\"/>											



NO.	TYPE	LOCATION	TOP ELEV.	INV.	COMMENTS
SMH-21	STANDARD	N 550990.79 E 1376010.23	210.93	202.06	201.98 HO. CO. STD. G-5-12
SMH-22	STANDARD	N 551003.03 E 1375937.25	209.60	202.43	HO. CO. STD. G-5-12
SMH-23	STANDARD	N 551031.29 E 1375768.71	210.82	204.24	HO. CO. STD. G-5-12
SMH-24	STANDARD	N 551194.36 E 1375969.33	210.82	207.56	203.70 HO. CO. STD. G-5-12
SMH-25	STANDARD	N 551620.29 E 1376098.54	216.07	209.08	202.52 HO. CO. STD. G-5-12

UNIT	TYPE	IF	MCE	ELEV @ HOUSE	SLOPE	LF TO C/O	ELEV. IN @ C/O	ELEV. OUT @ C/O	SLOPE	LF TO MAIN	ELEV @ MAIN
1	SHC		213.36	209.86	2%					11.76	209.38
2	SHC		213.36	209.86	2%					11.76	209.68
3	SHC		214.03	210.53	2%					205.25	205.25
4	SHC		214.03	210.53	2%					11.76	209.63
5	SHC		214.70	211.20	2%					11.76	209.68
6	SHC		215.46	211.96	2%					11.76	209.66
7	SHC		215.46	211.96	2%					11.76	209.16
8	SHC		215.46	211.96	2%					11.76	209.36
9	SHC		214.79	211.29	2%					11.76	209.36
10	SHC		214.12	210.62	2%					11.76	209.46
11	SHC		214.12	210.62	2%					11.76	206.30
12	SHC		213.08	209.58	2%					34.69	209.73
13	TWIN SHC		213.75	210.75	2%	7.79	204.18	204.98	1%	34.69	209.73
14	TWIN SHC		214.42	210.92	2%	7.79	203.88	203.78	1%	34.69	204.41
15	TWIN SHC		215.09	211.59	2%	29.69	206.29	204.00	1%	34.69	203.21
16	TWIN SHC		215.09	211.59	2%	29.69	206.29	204.00	1%	34.69	203.21
17	TWIN SHC		215.09	211.59	2%	29.69	206.29	204.00	1%	34.69	203.21
18	TWIN SHC		214.42	210.92	2%	29.69	205.81	203.36	1%	34.69	203.01
19	SHC		214.07	210.57	2%					21.21	203.05
20	SHC		214.74	211.24	2%					21.21	203.17
21	SHC		214.74	211.24	2%					21.21	203.29
22	SHC		214.74	211.24	2%					21.21	203.41
23	SHC		214.74	211.24	2%					21.21	203.53
24	SHC		214.74	211.24	2%					21.21	203.65
25	SHC		215.41	211.91	2%					21.21	203.77



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief Development Engineering Division 7/8-15
 DATE

Chief, Division of Land Development 7-16-15
 DATE

Director 7-21-15
 DATE

OWNER/DEVELOPER
 BLUE STREAM LLC
 BOX 411
 ELLICOTT CITY, MD 21041
 C/O: ARNOLD SAGNER
 410-465-2020

REVISION THE PRIVATE SEWER FROM THE B.O.W. TO AND INCLUDING SMH 25 TO PUBLIC
 REVISION DATE 9/12/16

SITE DEVELOPMENT PLAN
 SITE DETAILS
 BROMPTON HOUSE
 (GROSVENOR HOUSE, PHASE II)
 APARTMENTS (168) AND TOWNHOMES (25)
 BLUE STREAM
 BUILDABLE BULK PARCEL I-1
 ZONED: CAC-OL1 HOWARD COUNTY, MARYLAND

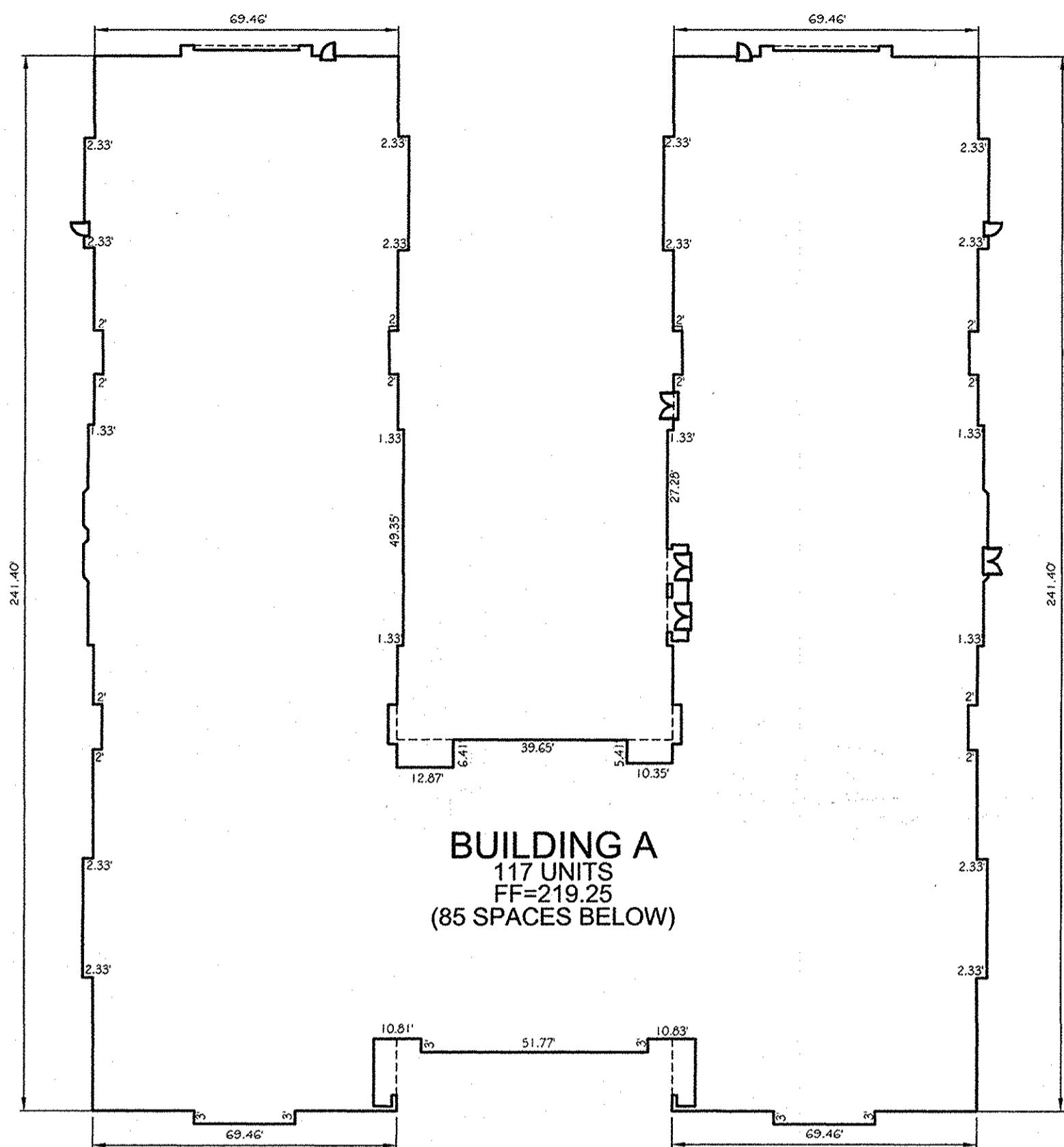
ROBERT H. VOGEL
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: DZE
 DRAWN BY: DZE/KG/MR
 CHECKED BY: RHY
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 06-26.15

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 08-27-2016

3 SHEET OF 22

SDP-14-077

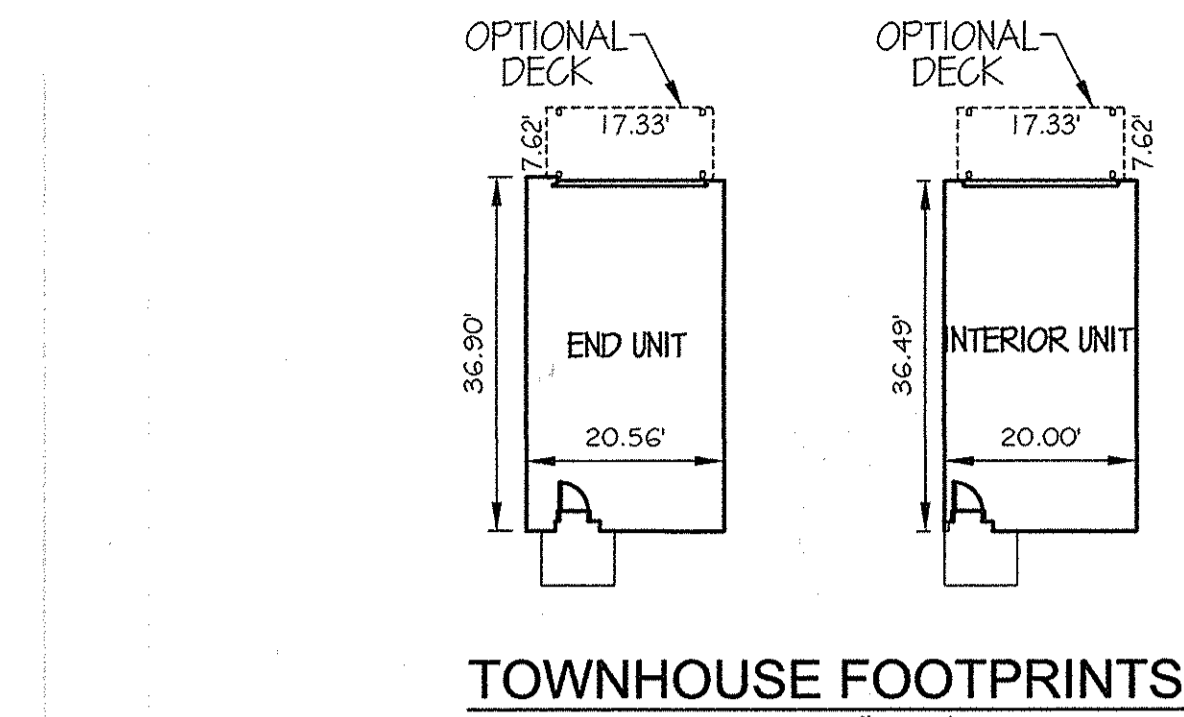


BUILDING A
117 UNITS
FF=219.25
(85 SPACES BELOW)

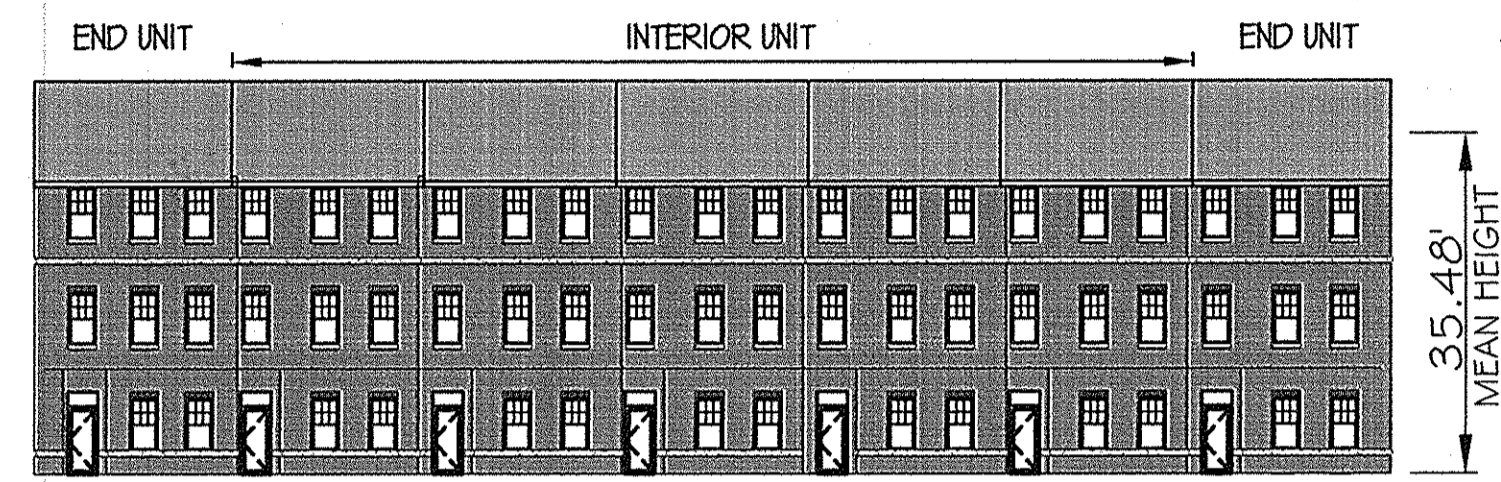
U-SHAPE BUILDING FOOTPRINTS
SCALE: 1"=30'



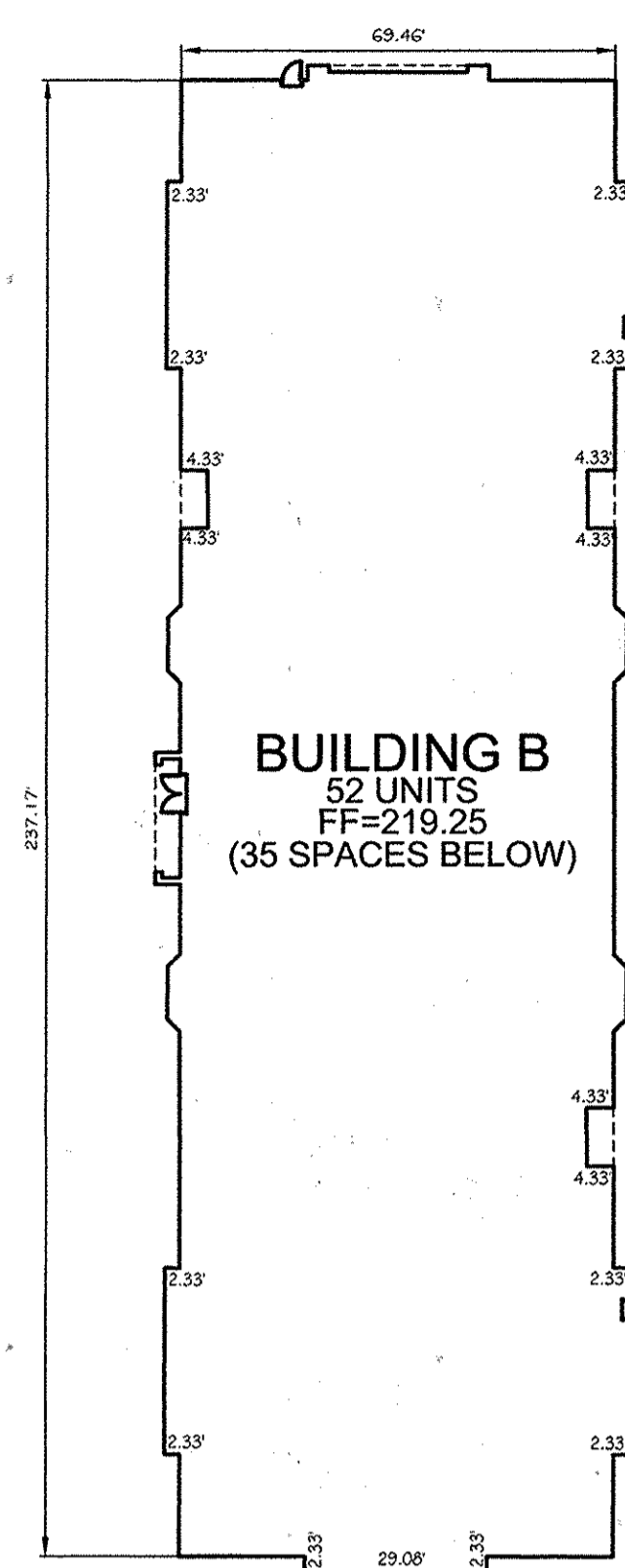
U-SHAPE BUILDING EAST ELEVATION
SCALE: 1"=30'



TOWNHOUSE FOOTPRINTS
SCALE: 1"=30'



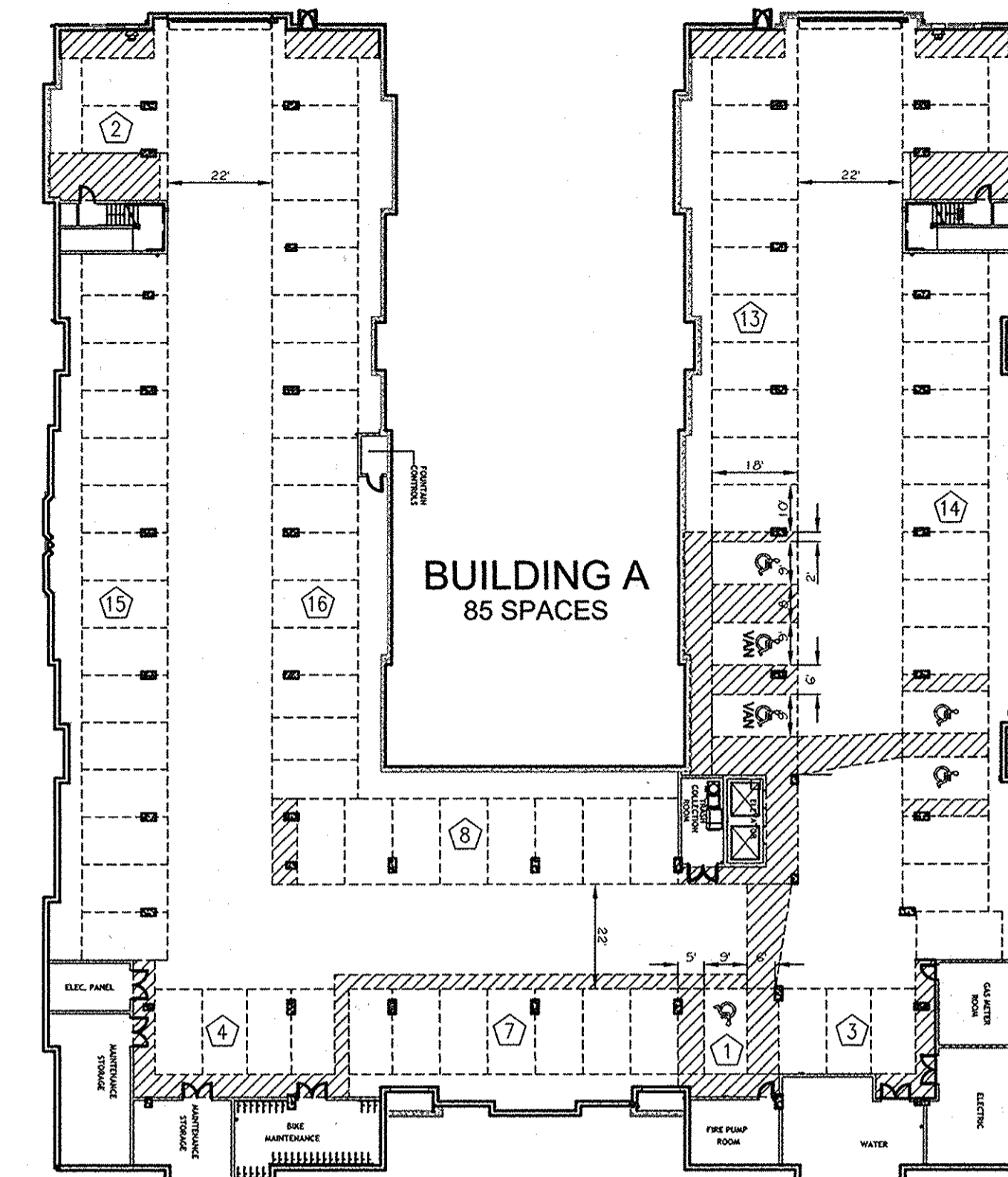
TOWNHOUSE FRONT ELEVATION
SCALE: 1"=30'



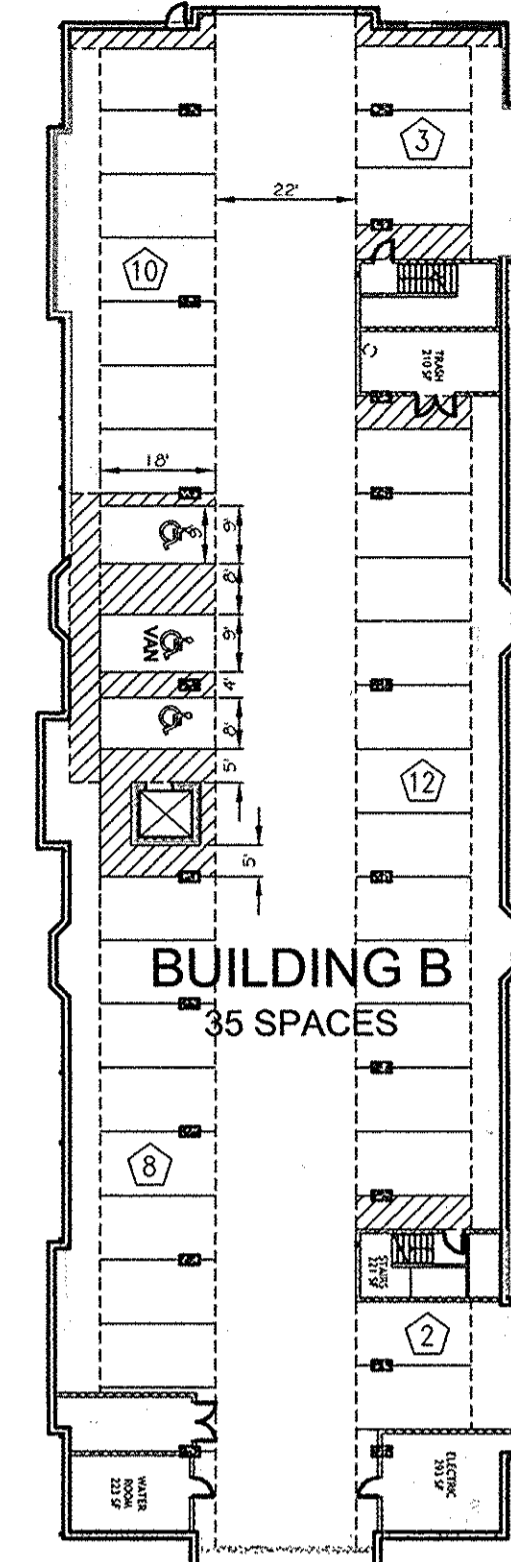
BAR BUILDING FOOTPRINTS
SCALE: 1"=30'



BAR BUILDING SOUTH ELEVATION
SCALE: 1"=30'



BELOW GRADE GARAGE SPACES FOR BUILDING 'A' AND 'B'
SCALE: 1"=30'



BUILDING B
35 SPACES

NO.	TYPE	LOCATION	THROAT	TOP EL.	INV. IN	INV. OUT	COMMENTS
I-1	TYPE 'A-S' INLET	N 551027.61 E 1375760.51	210.53	211.13	206.11	HO. CO. STD D-4.01	
I-2	TYPE 'A-S' INLET	N 551021.68 E 1375694.79	209.45	210.05	206.69	HO. CO. STD D-4.01	
I-3	TYPE 'A-S' INLET	N 550997.02 E 1375942.96	209.48	210.08	206.73	HO. CO. STD D-4.01	
I-4	TYPE 'DOUBLE S' INLET	N 551051.07 E 1375949.88	210.68	211.28	206.44	HO. CO. STD SD-4.23	
I-5	TYPE 'A-S' INLET	N 551162.27 E 1375864.20	211.60	212.20	206.69	HO. CO. STD D-4.01	
I-6	TYPE 'DOUBLE S' INLET	N 551170.95 E 1375812.43	210.49	206.54	206.44	HO. CO. STD SD-4.23	
I-7	TYPE 'A-S' INLET	N 551172.65 E 1375722.48	209.66	210.26	206.76	HO. CO. STD D-4.01	
I-8	TYPE 'A-S' INLET	N 551100.69 E 1375747.41	210.62	211.22	207.50	HO. CO. STD D-4.01	
I-9	TYPE 'A-S' INLET	N 550908.82 E 1375973.33	210.86	208.25	207.50	HO. CO. STD D-4.01	
I-10	TYPE 'DOUBLE WR' INLET	N 550945.33 E 1375741.64	211.12	208.37	207.62		
I-11	TYPE 'A-S' INLET	N 551388.10 E 1375795.60	206.21	206.81	202.72	HO. CO. STD D-4.01	
I-12	TYPE 'A-S' INLET	N 551320.70 E 1375784.30	206.21	206.81	203.56	HO. CO. STD D-4.01	
I-13	TYPE 'A-S' INLET	N 551473.34 E 1375848.00	210.93	211.53	205.50	HO. CO. STD D-4.01	
I-14	TYPE 'A-S' INLET	N 551438.03 E 1376058.72	214.52	215.12	207.18	HO. CO. STD D-4.01	
I-15	TYPE 'A-S' INLET	N 551477.48 E 1376065.34	214.52	215.12	211.87	HO. CO. STD D-4.01	
I-16	TYPE 'A-S' INLET	N 551512.81 E 1375854.62	210.93	211.53	208.28	HO. CO. STD D-4.01	
I-17	TYPE 'A-S' INLET	N 551604.21 E 1375831.83	206.05	206.65	203.15	HO. CO. STD D-4.01	
I-18	TYPE 'A-S' INLET	N 551624.75 E 1375859.78	209.18	209.78	203.99	HO. CO. STD D-4.01	
I-19	TYPE 'A-S' INLET	N 551585.10 E 1376078.39	214.58	215.18	211.93	HO. CO. STD D-4.01	
CO-1	CLEAN OUT	N 550980.57 E 1375940.41	210.23	207.73	207.63	HO. CO. STD S-2.22	
CO-2	CLEAN OUT	N 550982.46 E 1375988.73	211.21	208.71	HO. CO. STD S-2.22		
CO-3	CLEAN OUT	N 550999.11 E 1375889.45	211.80	209.30	HO. CO. STD S-2.22		
CO-4	CLEAN OUT	N 550935.40 E 1375979.83	212.43	209.14	HO. CO. STD S-2.22		
CO-5	CLEAN OUT	N 550951.88 E 1375881.54	214.13	210.91	HO. CO. STD S-2.22		
CO-6	CLEAN OUT	N 550974.23 E 1375748.27	213.00	209.87	209.77	HO. CO. STD S-2.22	
CO-7	CLEAN OUT	N 550854.27 E 1375867.27	214.61	211.44	HO. CO. STD S-2.22		
CO-8	CLEAN OUT	N 551020.96 E 1375759.15	211.28	208.66	208.56	HO. CO. STD S-2.22	
CO-9	CLEAN OUT	N 551001.51 E 1375875.19	212.34	209.84	HO. CO. STD S-2.22		
CO-10	CLEAN OUT	N 551057.72 E 1375910.01	213.00	207.05	HO. CO. STD S-2.22		
CO-11	CLEAN OUT	N 551049.88 E 1375908.70	212.83	208.07	207.97	HO. CO. STD S-2.22	
CO-12	CLEAN OUT	N 551073.96 E 1375765.04	212.20	209.53	HO. CO. STD S-2.22		
CO-13	CLEAN OUT	N 551096.12 E 1375916.45	213.55	207.87	207.77	HO. CO. STD S-2.22	
CO-14	CLEAN OUT	N 551120.21 E 1375772.79	212.00	209.33	HO. CO. STD S-2.22		
CO-15	CLEAN OUT	N 551046.54 E 1375966.06	212.17	208.44	HO. CO. STD S-2.22		
CO-16	CLEAN OUT	N 551184.84 E 1375989.24	214.25	212.35	HO. CO. STD S-2.22		
CO-17	CLEAN OUT	N 551176.20 E 1376037.37	213.78	211.28	HO. CO. STD S-2.22		
CO-18	CLEAN OUT	N 551244.91 E 1375788.63	215.00	210.42	207.96	HO. CO. STD S-2.22	
CO-19	CLEAN OUT	N 551235.87 E 1375902.15	215.00	210.42	207.96	HO. CO. STD S-2.22	
CO-20	CLEAN OUT	N 551204.12 E 1376031.91	217.00	213.23	213.06	HO. CO. STD S-2.22	
CO-21	CLEAN OUT	N 551227.41 E 1376041.12	217.00	213.50	HO. CO. STD S-2.22		
CO-22	CLEAN OUT	N 551376.99 E 1375816.38	209.15	204.55	HO. CO. STD S-2.22		
CO-23	CLEAN OUT	N 551370.18 E 1375856.95	214.15	207.21	HO. CO. STD S-2.22		
CO-24	CLEAN OUT	N 551366.00 E 1375881.92	219.00	216.33	HO. CO. STD S-2.22		
CO-25	CLEAN OUT	N 551351.94 E 1375955.75	219.00	216.23	HO. CO. STD S-2.22		
CO-26	CLEAN OUT	N 551326.96 E 1375807.97	210.44	207.81	207.71	HO. CO. STD S-2.22	
CO-27	CLEAN OUT	N 551323.57 E 1375828.17	211.54	209.29	209.19	HO. CO. STD S-2.22	
CO-28	CLEAN OUT	N 551315.97 E 1375873.54	214.51	211.89	211.59	HO. CO. STD S-2.22	
CO-29	CLEAN OUT	N 551301.91 E 1375957.37	218.77	216.25	HO. CO. STD S-2.22		
CO-30	CLEAN OUT	N 551454.94 E 1375844.92	213.00	208.75	HO. CO. STD S-2.22		
CO-31	CLEAN OUT	N 551441.93 E 1375922.53	219.00	213.70	HO. CO. STD S-2.22		

NO.	TYPE	LOCATION	THROAT	TOP EL.	INV. IN	INV. OUT	COMMENTS
CO-A15	CLEAN OUT	N 551456.64 E 1375834.79	213.10	209.12	HO. CO. STD S-2.22		
CO-A16	CLEAN OUT	N 551419.61 E 1376055.64	218.00	207.85	HO. CO. STD S-2.22		
CO-A17	CLEAN OUT	N 551417.59 E 1376067.70	218.10	208.17	HO. CO. STD S-2.22		
CO-A18	CLEAN OUT	N 551392.56 E 1376068.81	218.15	208.54	HO. CO. STD S-2.22		
CO-A19	CLEAN OUT	N 551357.92 E 1376063.00	218.15	211.40	HO. CO. STD S-2.22		
CO-A20	CLEAN OUT	N 551336.06 E 1376059.33	217.98	211.73	HO. CO. STD S-2.22		
CO-A21	CLEAN OUT	N 551283.91 E 1376050.59	217.67	212.96	HO. CO. STD S-2.22		
CO-A22	CLEAN OUT	N 551282.05 E 1376046.93	217.00	213.50	HO. CO. STD S-2.22		
CO-A23	CLEAN OUT	N 551338.29 E 1376046.06	218.63	213.32	HO. CO. STD S-2.22		
CO-A24	CLEAN OUT	N 551286.14 E 1376037.32	218.63	213.32	HO. CO. STD S-2.22		
CO-A25	CLEAN OUT	N 551436.47 E 1375955.07	219.06	215.18	HO. CO. STD S-2.22		
CO-A1A	CLEAN OUT	N 551287.45 E 1375794.66	208.90	203.06	HO. CO. STD S-2.22		
CO-B1	CLEAN OUT	N 551533.48 E 1375842.08	212.00	209.05	205.34	HO. CO. STD S-2.22	
CO-B2	CLEAN OUT	N 551515.35 E 1375950.05	218.20	212.25	212.15	HO. CO. STD S-2.22	
CO-B3	CLEAN OUT	N 551493.51 E 1376080.39	217.90	213.90	213.57	HO. CO. STD S-2.22	
CO-B4	CLEAN OUT	N 551515.59 E 1376089.39	217.83	214.40	HO. CO. STD S-2.22		
CO-B5	CLEAN OUT	N 551615.77 E 1375860.95	211.50	207.44	207.09	HO. CO. STD S-2.22	
CO-B6	CLEAN OUT	N 551598.49 E 1375963.99	216.00	211.85	211.75	HO. CO. STD S-2.22	
CO-B7	CLEAN OUT	N 551576.60 E 1376094.55	216.00	213.50	213.17	HO. CO. STD S-2.22	
CO-B8	CLEAN OUT	N 551552.61 E 1376095.60	217.83	214.40	HO. CO. STD S-2.22		
MH-1	4'-0" STANDARD PRECAST MANHOLE	N 551054.40 E 1376018.05	212.24	203.74	203.66	HO. CO. STD G-5.11	
MH-2	4'-0" STANDARD PRECAST MANHOLE	N 551029.75 E 1376013.92	212.00	203.99	203.89	HO. CO. STD G-5.11	
MH-3	4'-0" STANDARD PRECAST MANHOLE	N 551031.73 E 1375948.84	210.19	204.31	204.31	HO. CO. STD G-5.11	
MH-4	4'-0" STANDARD PRECAST MANHOLE	N 551041.64 E 1375889.49	212.89	205.11	205.11	HO. CO. STD G-5.11	
MH-5	4'-0" STANDARD PRECAST MANHOLE	N 551081.86 E 1375768.92	212.18	205.92	205.82	HO. CO. STD G-5.11	
MH-6	4'-0" STANDARD PRECAST MANHOLE	N 551140.47 E 1375963.37	212.58	205.17	205.07	HO. CO. STD G-5.11	
MH-7	4'-0" STANDARD PRECAST MANHOLE	N 550925.92 E 1375870.08	213.09	206.72	HO. CO. STD G-5.11		
MH-7A	4'-0" STANDARD PRECAST MANHOLE	N 551473.37 E 1375772.22	208.84	202.15	202.06	HO. CO. STD G-5.11	
MH-8	4'-0" STANDARD PRECAST MANHOLE	N 551601.93 E 1375801.18	207.26	202.51	202.51	HO. CO. STD G-5.11	
EXCH-9	6'-0" STANDARD PRECAST MANHOLE	N 551604.86 E 1375783.71	211.00	199.89	MD-384.05		
I-A1	ADS-12CATCHBASIN	N 551398.50 E 1375817.58	207.20	204.62	ZURN Z158-DT		
I-A2	ADS-12CATCHBASIN	N 551303.75 E 1375801.65	207.20	204.96	ZURN Z158-DT		
I-B1	ADS-12CATCHBASIN	N 551557.59 E 1375848.32	207.00	205.32	ZURN Z158-DT		
CO-B1A	CLEAN OUT	N 551559.18 E 1375838.85	207.32	204.72	HO. CO. STD S-2.22		
CO-B5A	CLEAN OUT	N 551594.84 E 1375852.06	209.25	207.66	HO. CO. STD S-2.22		
I-C1	ADS-12CATCHBASIN	N 551358.16 E 1375854.93	213.87	211.02	ZURN Z158-DT		
I-C2	ADS-12CATCHBASIN	N 551342.06 E 1375852.23	213.67	211.34	ZURN Z158-DT		
I-C3	ADS-12CATCHBASIN	N 551354.20 E 1375892.32	218.93	215.45	ZURN Z158-DT		
I-C4	ADS-12CATCHBASIN	N 551349.83 E 1375918.37	218.89	215.71	ZURN Z158-DT		
I-C5	ADS-12CATCHBASIN	N 551344.97 E 1375947.34	218.85	216.27	ZURN Z158-DT		
I-C6	ADS-12CATCHBASIN	N 551332.26 E 1375945.21	218.60	216.40	ZURN Z158-DT		
I-C7	ADS-12CATCHBASIN	N 551336.81 E 1375889.41	218.63	216.30	ZURN Z158-DT		
I-C8	ADS-12CATCHBASIN	N 551332.44 E 1375915.45	218.64	216.30	ZURN Z158-DT		

SIZE	TYPE	LENGTH
4"	PVC	88 LF
6"	PVC	1,096 LF
8"	PVC	953.5 LF
8"	HDPE	51 LF
10"	PVC	621 LF
12"	PVC	248.5 LF
12"	HDPE	96.5 LF
15"	HDPE	727 LF
18"	HDPE	869 LF
24"	HDPE	393 LF

NOTE:
FOR ZURN Z158-DT DETAIL, PLEASE SEE SHEET 7.

NOTE:
1. TOP ELEVATIONS ARE AT TOP OF CURB FOR ALL TYPE 'A' INLETS.
INLETS AT CENTER TOP OF GRATE FOR DOUBLE TYPE 'S'
INLETS AND TOP OF MANHOLE COVER FOR PRECAST MANHOLES.
2. FOR TOP SURF SLOPES SEE GRADING PLAN.
3. DOUBLE TYPE 'S' INLETS TO HAVE CURVED VANE GRATES W/ FRAME (MD-379.05-01)

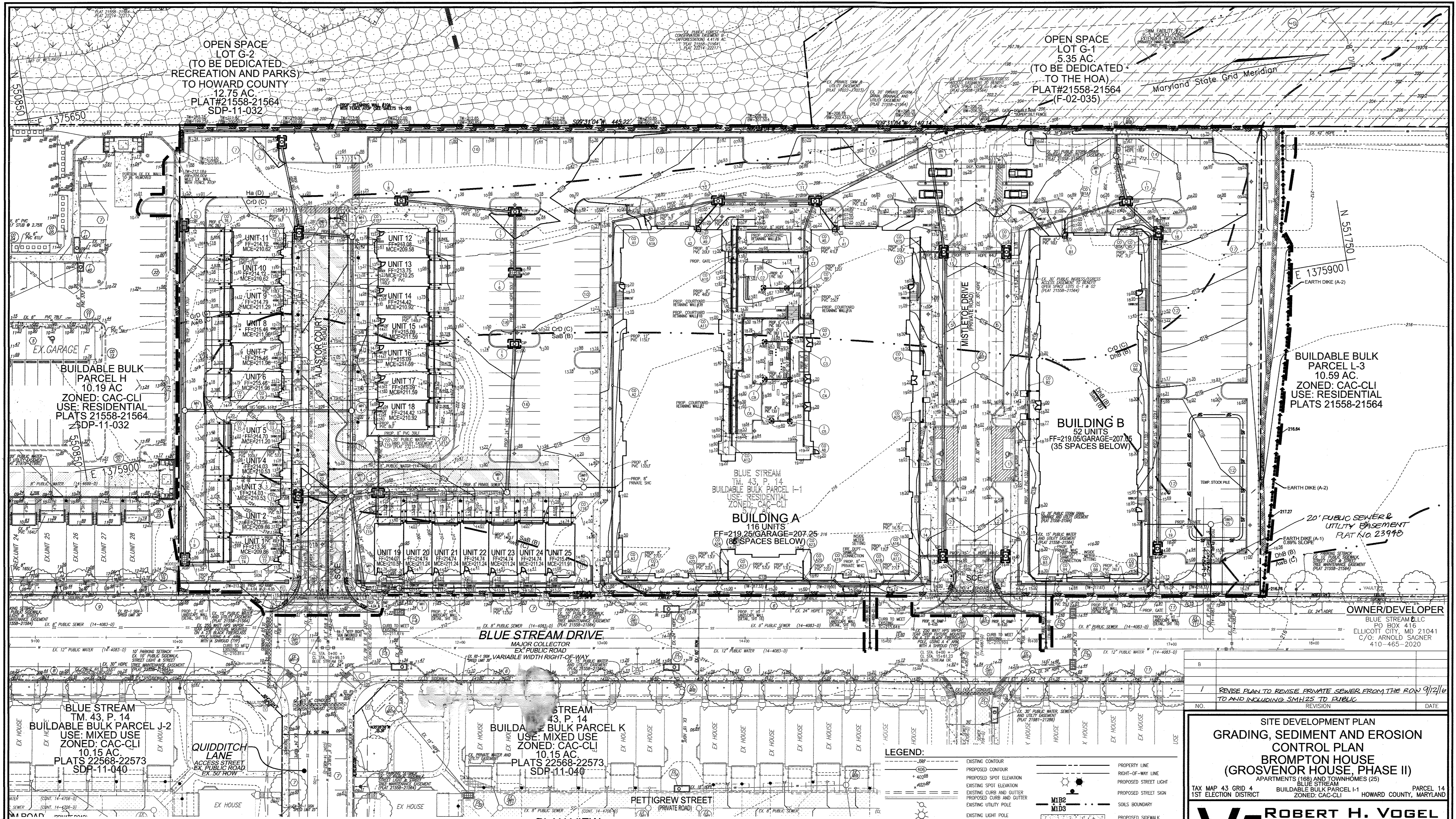
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad E. ... 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Kate ... 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT
Valerie ... 7-21-15
DIRECTOR

OWNER/DEVELOPER
BLUE STREAM 2 LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
BUILDING FOOTPRINTS AND ELEVATIONS;
GARAGE PARKING PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
TAX MAP 43 GRID 4 BUILDABLE BULK PARCEL I-1 PARCEL 14
1ST ELECTION DISTRICT ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND



OPEN SPACE
LOT G-2
(TO BE DEDICATED
RECREATION AND PARKS)
TO HOWARD COUNTY
12.75 AC.
PLAT#21558-21564
SDP-11-032

OPEN SPACE
LOT G-1
5.35 AC.
(TO BE DEDICATED
TO THE HOA)
PLAT#21558-21564
(F-02-035)

BUILDABLE BULK
PARCEL H
10.19 AC
ZONED: CAC-CLI
USE: RESIDENTIAL
PLATS 21558-21564
SDP-11-032

BLUE STREAM
TM. 43, P. 14
BUILDABLE BULK PARCEL J-2
USE: MIXED USE
ZONED: CAC-CLI
10.15 AC.
PLATS 22568-22573
SDP-11-040

BLUE STREAM
TM. 43, P. 14
BUILDABLE BULK PARCEL K
USE: MIXED USE
ZONED: CAC-CLI
10.15 AC.
PLATS 22568-22573
SDP-11-040

BUILDABLE BULK
PARCEL L-3
10.59 AC.
ZONED: CAC-CLI
USE: RESIDENTIAL
PLATS 21558-21564

BUILDING B
52 UNITS
FF=219.05/GARAGE=207.05
(35 SPACES BELOW)

BUILDING A
116 UNITS
FF=219.25/GARAGE=207.25
(86 SPACES BELOW)

REVISION
NO. 1
DATE 9/27/16
TO AND INCLUDING SMH 25 TO PUBLIC

SITE DEVELOPMENT PLAN
GRADING, SEDIMENT AND EROSION
CONTROL PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
BLUE STREAM
BUILDABLE BULK PARCEL I-1
ZONED: CAC-CLI
HOWARD COUNTY, MARYLAND

TAX MAP 43 GRID 4
1ST ELECTION DISTRICT
PARCEL 14

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

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

DESIGN BY: DZE
DRAWN BY: DZE/KG/MR
CHECKED BY: RHY
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15

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: 06-27-2018

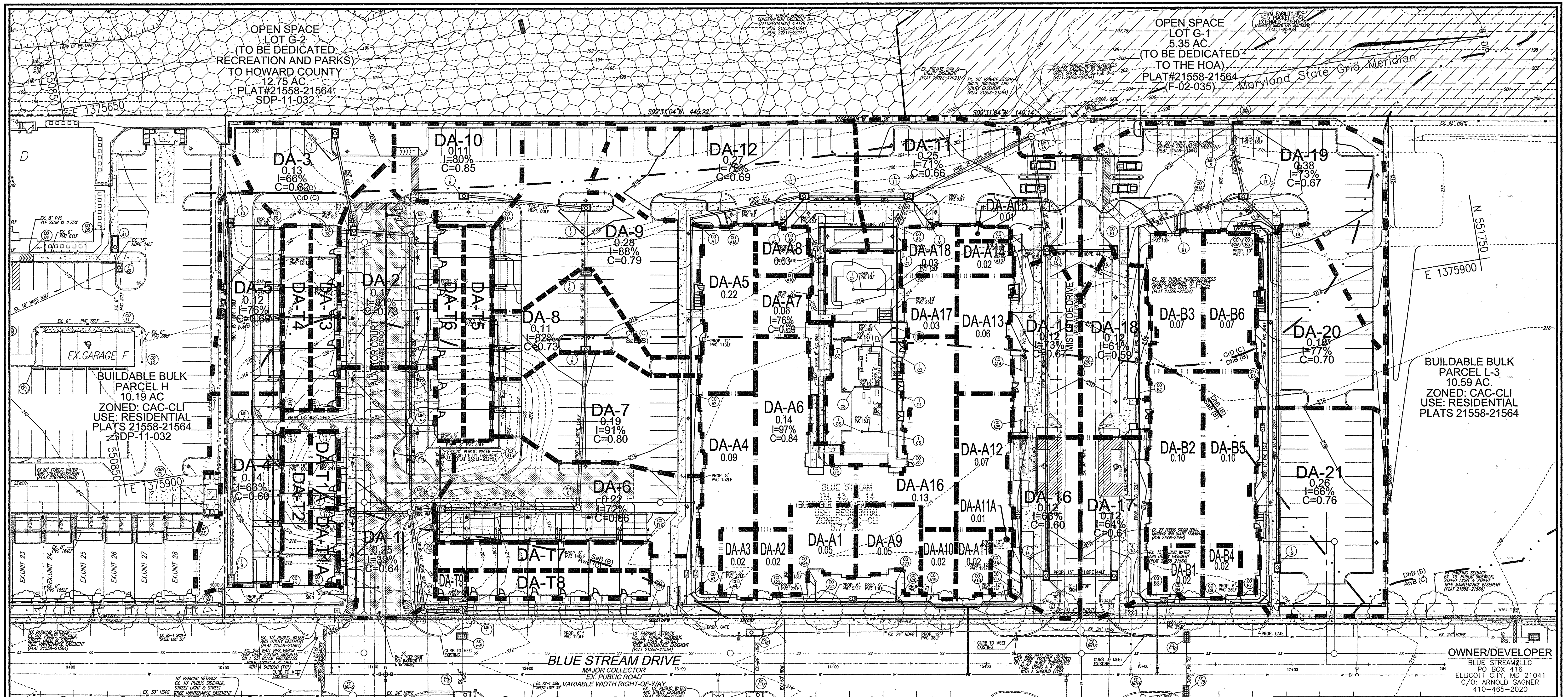
5 SHEET OF 22
ROBERT H. VOGEL, PE No. 16193

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 7-8-15
DATE: 7-16-15
DATE: 7-21-15

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 PER-
SONAL 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.



STORM DRAIN DRAINAGE AREA MAP

SCALE: 1"=30'

LEGEND:

- EXISTING CONTOUR
- - - PROPOSED CONTOUR
- +0.25 PROPOSED SPOT ELEVATION
- +0.25 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
- EX. PUBLIC FOREST CONSERVATION EASEMENT B-1 (AFFORESTATION) PLAT 21558-21564 PLAT 22214-22217
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLETS
- EXISTING TREELINE
- EXISTING STREET TREES (F-02-35)
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- PROPOSED SIDEWALK
- PROPOSED STREET LIGHT
- PROPOSED STREET SIGN
- PROPOSED PUBLIC WATER
- PROPOSED PRIVATE SEWER

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC
Awb	ALLOWAY SILT LOAM, 2 TO 5 PERCENT SLOPES	D	NO
Cd	CROWN AND EMBORSO SOILS, 10 TO 15 PERCENT SLOPES	C	NO
Dnb	DOWNER-HAMMONTON SANDY LOAMS, 2 TO 5 PERCENT SLOPES	B	NO
Hs	HATBORO-CODORUS SILT LOAMS, 0 TO 3 PERCENT SLOPES	D	YES
Ssb	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPES	B	NO

NOTE: BASED ON HOWARD SOIL SURVEY

ZURN Z158-DT

10-58 (27) SQUARE TOP FROM DECK DRAIN W/ DECORATIVE GRATE & ROTATABLE FRAME

ENGINEERING SPECIFICATION ZURN Z158-DT

10-58 (27) Square Top From Deck Drain, Dura-Coated cast iron body with stainless steel grate and rotatable frame with 3/16" (5) wide slots and nickel-plated stainless steel frame and gasket.

OPTIONAL (Check only appropriate options)

PIPE SIZE (Specify alternate pipe sizes)

4 (102)

6 (152)

8 (210)

10 (260)

12 (310)

15 (370)

18 (420)

21 (470)

24 (520)

30 (630)

36 (760)

42 (890)

48 (1020)

54 (1150)

60 (1280)

66 (1410)

72 (1540)

78 (1670)

84 (1800)

90 (1930)

96 (2060)

102 (2190)

108 (2320)

114 (2450)

120 (2580)

126 (2710)

132 (2840)

138 (2970)

144 (3100)

150 (3230)

156 (3360)

162 (3490)

168 (3620)

174 (3750)

180 (3880)

186 (4010)

192 (4140)

198 (4270)

204 (4400)

210 (4530)

216 (4660)

222 (4790)

228 (4920)

234 (5050)

240 (5180)

246 (5310)

252 (5440)

258 (5570)

264 (5700)

270 (5830)

276 (5960)

282 (6090)

288 (6220)

294 (6350)

300 (6480)

306 (6610)

312 (6740)

318 (6870)

324 (7000)

330 (7130)

336 (7260)

342 (7390)

348 (7520)

354 (7650)

360 (7780)

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414 (8950)

420 (9080)

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438 (9470)

444 (9600)

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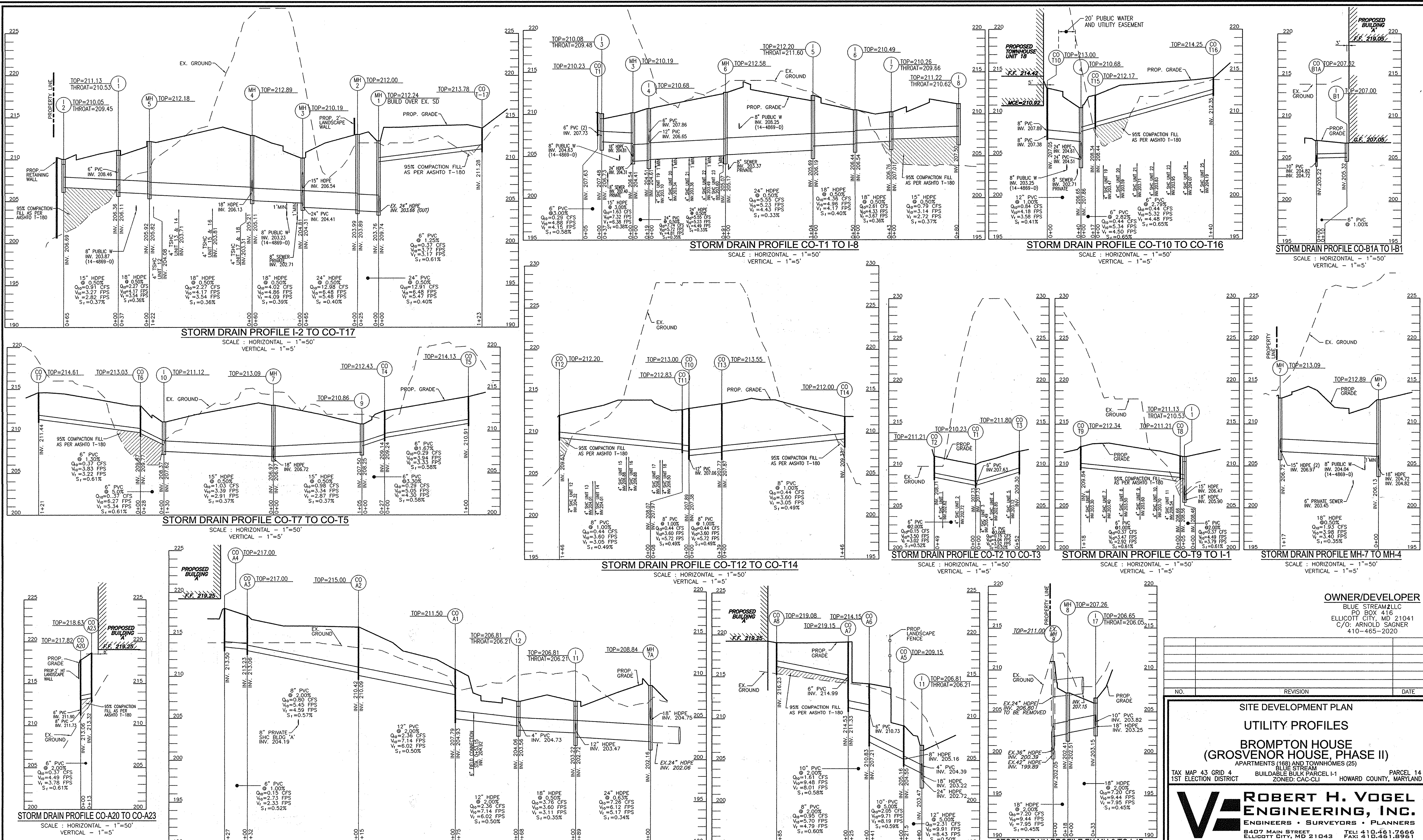
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1350 (29230)

1356 (29360)

1362 (29490)

</



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John E. Chubb 7-8-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Valley J. Jolie 7-21-15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Valley J. Jolie
 DIRECTOR

NOTE:
 FOR STRUCTURE SCHEDULE AND PIPE SCHEDULE, PLEASE SEE SHEET 4.

OWNER/DEVELOPER
 BLUE STREAM LLC
 PO BOX 416
 ELLICOTT CITY, MD 21041
 C/O: ARNOLD SAGNER
 410-465-2020

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN
 UTILITY PROFILES
 BROMPTON HOUSE
 (GROSVENOR HOUSE, PHASE II)
 APARTMENTS (168) AND TOWNHOMES (25)**

TAX MAP 43 GRID 4
 1ST ELECTION DISTRICT BUILDABLE BULK PARCEL I-1 ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND PARCEL 14

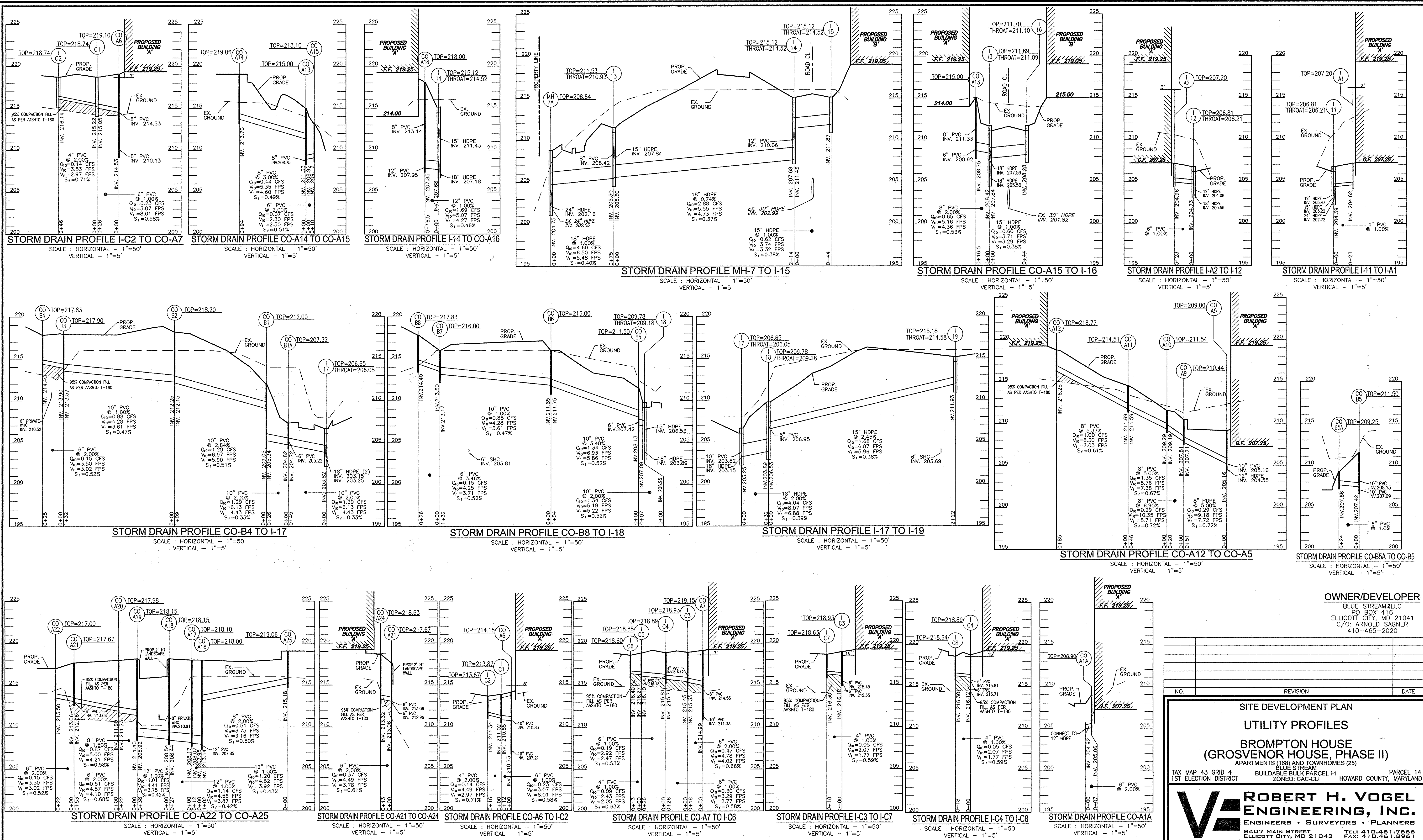
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

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. 10183 EXPIRATION DATE: 09-27-2018

DESIGN BY: DZE
 DRAWN BY: DZE/KG/MR
 CHECKED BY: RHW
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 06-26.15

8 SHEET OF 22

SDP-14-077



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Old Ed 7-8-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kurt Schaefer 7-16-15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Nancy Jaffe 7-21-15
 DIRECTOR DATE

NOTE:
 FOR STRUCTURE SCHEDULE AND PIPE SCHEDULE, PLEASE SEE SHEET 4.

OWNER/DEVELOPER
 BLUE STREAM LLC
 PO BOX 416
 ELLICOTT CITY, MD 21041
 C/O: ARNOLD SAGNER
 410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
UTILITY PROFILES
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
 APARTMENTS (188) AND TOWNHOMES (25)

TAX MAP 43 GRID 4
 1ST ELECTION DISTRICT

BUILDABLE BULK PARCEL I-1
 ZONED: CAC-CL1

PARCEL 14
 HOWARD COUNTY, MARYLAND

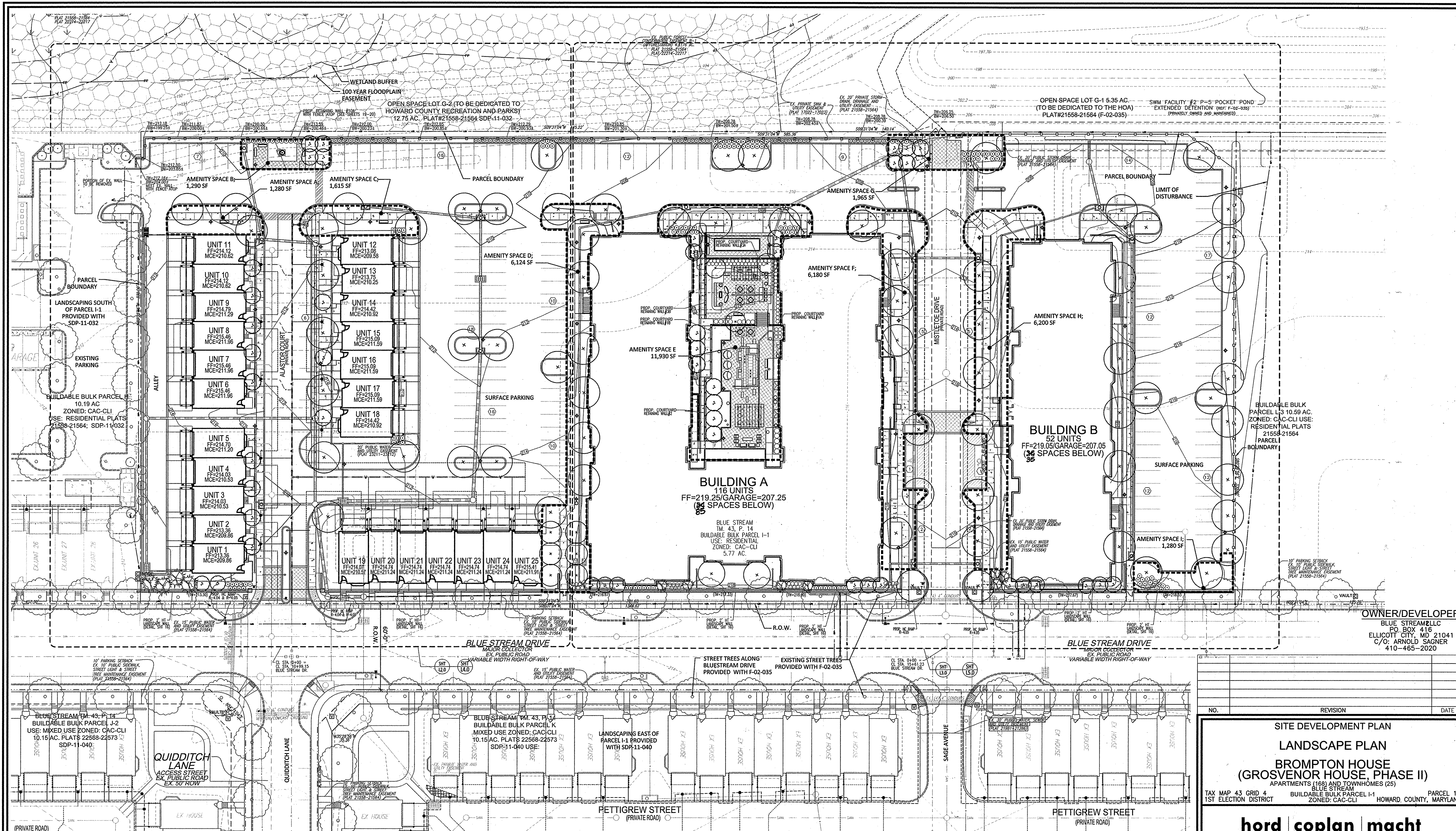
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

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. MY LICENSE NO. IS 18933. EXPIRATION DATE: 09-30-2018

DESIGN BY: DZE
 DRAWN BY: DZE/KG/MR
 CHECKED BY: RHY
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 06-26-15

9 SHEET OF 22

SDP-14-077



OWNER/DEVELOPER
 BLUE STREAM LLC
 PO BOX 416
 ELLICOTT CITY, MD 21041
 C/O: ARNOLD SAGNER
 410-465-2020

SITE DEVELOPMENT PLAN
 LANDSCAPE PLAN
 BROMPTON HOUSE
 (GROSVENOR HOUSE, PHASE II)
 APARTMENTS (168) AND TOWNHOMES (25)
 TAX MAP 43 GRID 4 BUILDABLE BULK PARCEL I-1 PARCEL 14
 1ST ELECTION DISTRICT ZONED: CAC-CLI HOWARD COUNTY, MARYLAND

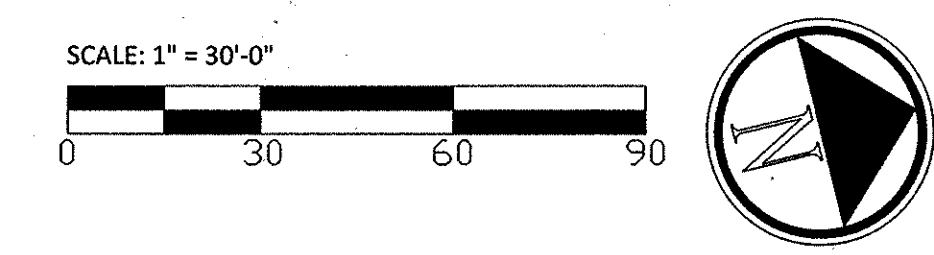
hord | coplan | macht

ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
 750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 7-8-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 7-21-15
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 7-21-15
 DIRECTOR

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.
 [Signature] Arnold Sagner Authorized Person 06/17/15
 SIGNATURE OF DEVELOPER DATE

- GENERAL NOTES:**
- THIS SHEET IS FOR LANDSCAPE PURPOSES ONLY.
 - FOR OVERALL SITE LAYOUT AND GRADING, SEE CIVIL DRAWINGS.
 - FOR INFORMATION REGARDING AMENITY SPACES, SEE HARDSCAPE DRAWINGS, L2.0 AND L2.1 AND AMENITY SPACE TABLE ON SHEET L6.0.
 - FOR PLANTING PLAN, SEE SHEETS L4.0 AND L5.0.
 - FOR HARDSCAPE DETAILS AND SITE FURNISHINGS, SEE SHEETS L7.0 - AND L9.0.

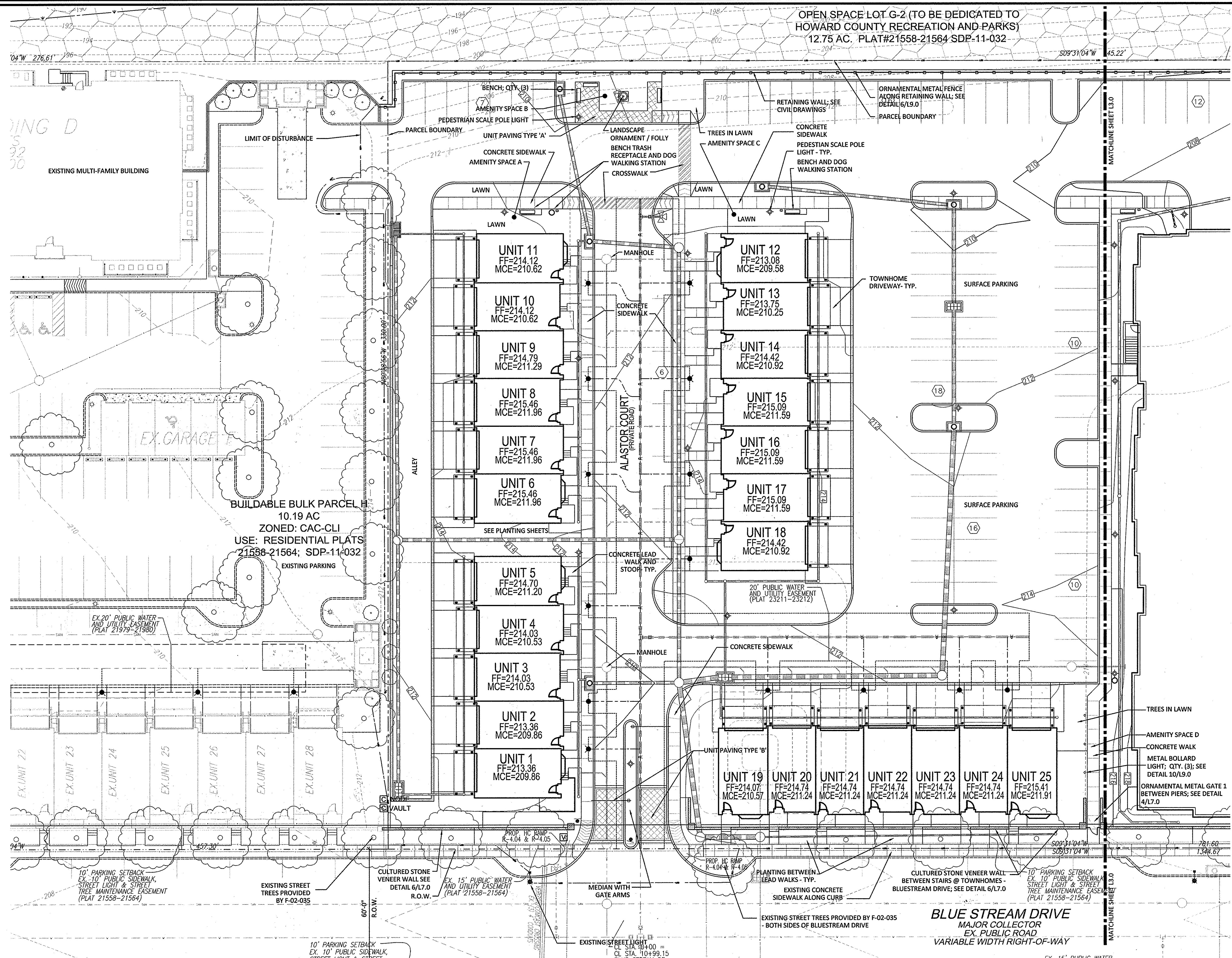


DESIGN BY: CS/DJD
 DRAWN BY: DJD
 CHECKED BY: CS
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 06-26.15

PROFESSIONAL CERTIFICATE
 I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 694

OVERALL LANDSCAPE KEY PLAN
 10 SHEET OF 22
 CHRIS SCHEIN, PLA No. 694

OPEN SPACE LOT G-2 (TO BE DEDICATED TO HOWARD COUNTY RECREATION AND PARKS)
12.75 AC. PLAT#21558-21564 SDP-11-032



- FURNISHINGS LEGEND:**
- EXISTING STREET LIGHT
 - PROPOSED PEDESTRIAN SCALE POLE LIGHT, QTY. (40)
 - BENCH, QTY. (15)
 - TRASH RECEPTACLE, QTY. (5)
 - DOG-WALKING STATION, QTY. (5)

- UTILITY / CIVIL SYMBOL LEGEND:**
- STORM DRAIN
 - SANITARY
 - WATER
 - ELECTRIC
 - GAS
 - CABLE
 - LIMIT OF DISTURBANCE

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (188) AND TOWNHOMES (25)
TAX MAP 43 GRID 4 BUILDABLE BULK PARCEL I-1 PARCEL 14
1ST ELECTION DISTRICT ZONED: CAC-CLI HOWARD COUNTY, MARYLAND

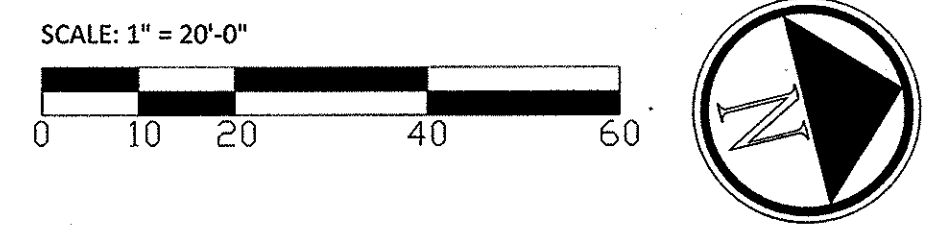
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ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRAIRY STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad E. Smith 7-9-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Mark J. Lee 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT
Mark J. Lee 7-21-15
DIRECTOR

DEVELOPER'S/BUILDER'S CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 18.124 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.
Arnold Sagner 06/18/15
SIGNATURE OF DEVELOPER AUTHORIZED PERSON DATE

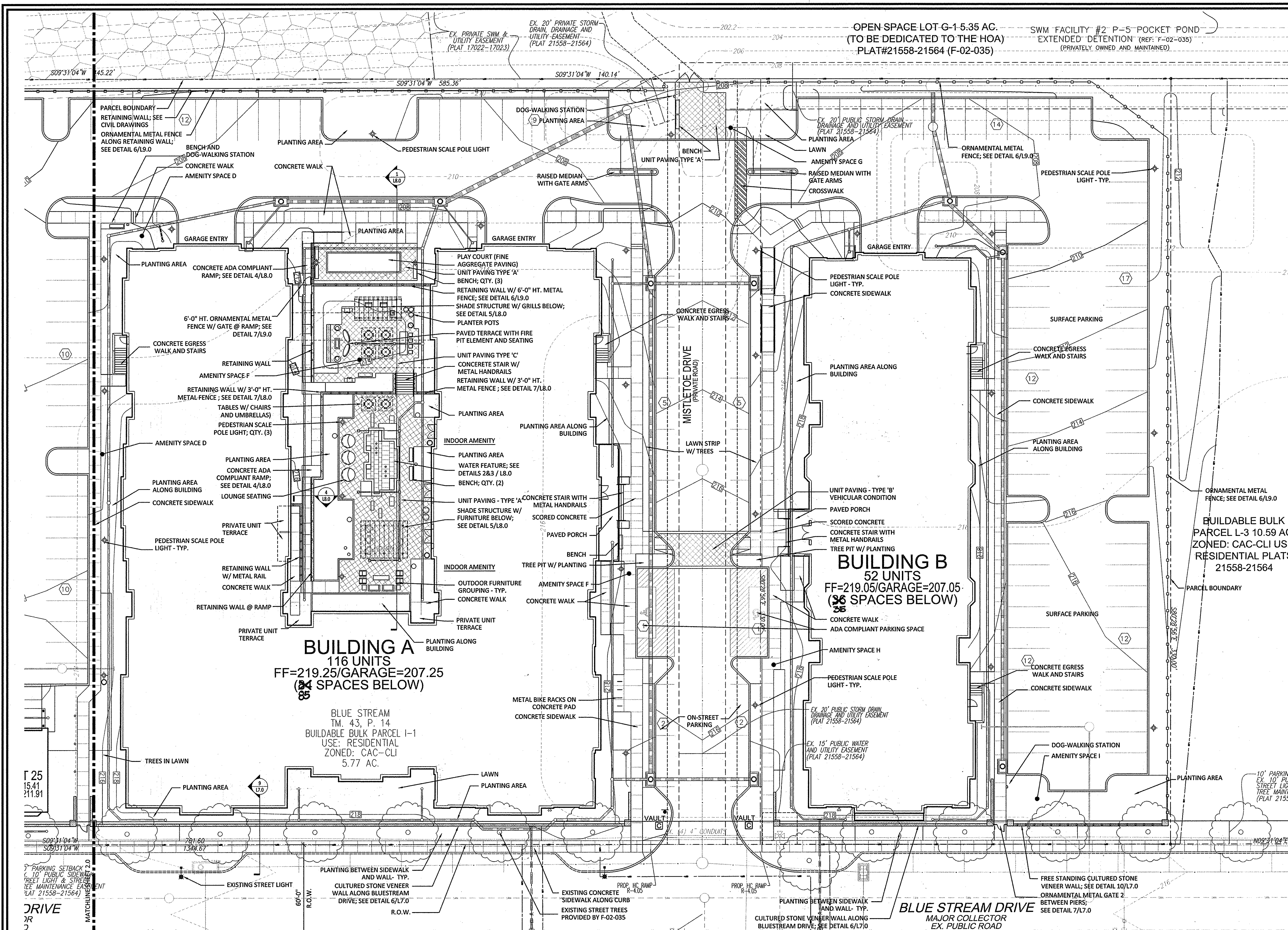
- GENERAL NOTES:**
- THIS SHEET IS FOR LANDSCAPE PURPOSES ONLY.
 - FOR OVERALL SITE LAYOUT AND GRADING, SEE CIVIL SHEETS.
 - FOR DETAILED INFORMATION RELATED TO EACH AMENITY AREA, SEE AMENITY SPACE TABLE ON SHEET L6.0.
 - FOR PLANTING PLAN, SEE SHEETS L4.0 AND L5.0.
 - FOR HARDSCAPE DETAILS AND SITE FURNISHINGS, SEE SHEETS L7.0 AND L8.0.



PROFESSIONAL CERTIFICATE
DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15
PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 694
L2.0 HARDSCAPE PLAN - SOUTH
11 SHEET OF 22
CHRIS SCHER, PLA No. 694

OPEN SPACE LOT G-1 5.35 AC.
(TO BE DEDICATED TO THE HOA)
PLAT#21558-21564 (F-02-035)

SWM FACILITY #2 P-5 POCKET POND
EXTENDED DETENTION (REF: F-02-035)
(PRIVATELY OWNED AND MAINTAINED)



FURNISHINGS LEGEND:

- EXISTING STREET LIGHT
- PROPOSED PEDESTRIAN SCALE POLE LIGHT, QTY. (40)
- BENCH, QTY. (15)
- TRASH RECEPTACLE, QTY. (5)
- DOG-WALKING STATION, QTY. (5)

UTILITY / CIVIL SYMBOL LEGEND:

- STORM DRAIN
- SANITARY
- WATER
- ELECTRIC
- GAS
- CABLE
- LIMIT OF DISTURBANCE

BUILDABLE BULK
PARCEL L-3 10.59 AC.
ZONED: CAC-CLI USE:
RESIDENTIAL PLATS
21558-21564

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)**
APARTMENTS (168) AND TOWNHOMES (25)

TAX MAP 43 GRID 4 1ST ELECTION DISTRICT BUILDABLE BULK PARCEL I-1 ZONED: CAC-CLI HOWARD COUNTY, MARYLAND PARCEL 14

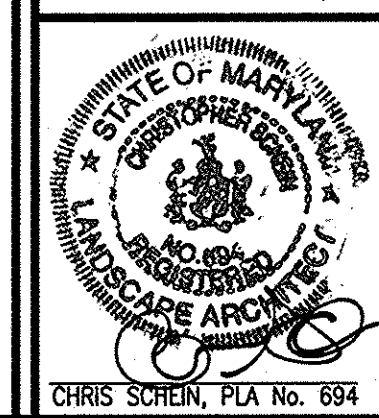
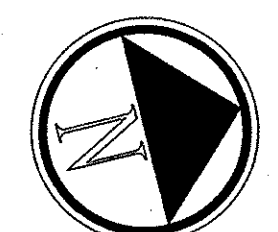
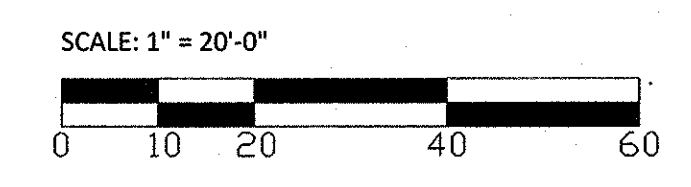
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ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311

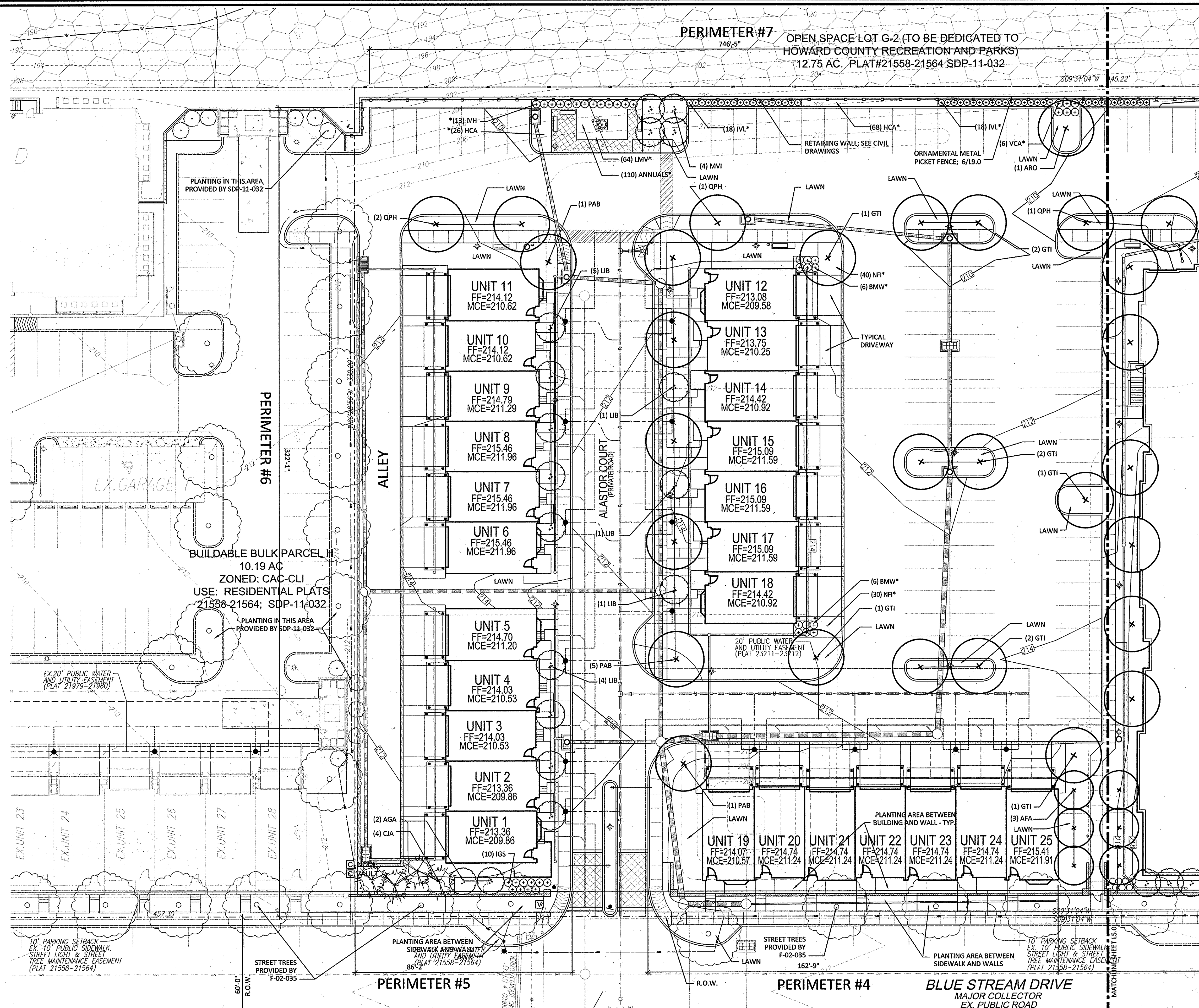
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad E. Egan 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Kristen L. Kestel 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Valerie J. Jelic 7-21-15
DIRECTOR DATE

DEVELOPER'S/BUILDER'S CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 18.124 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.
Arnold Sagner 06/17/15
SIGNATURE OF DEVELOPER AUTHORIZED PERSON DATE

- GENERAL NOTES:**
- THIS SHEET IS FOR LANDSCAPE PURPOSES ONLY.
 - FOR OVERALL SITE LAYOUT AND GRADING, SEE CIVIL SHEETS.
 - FOR DETAILED INFORMATION RELATED TO EACH AMENITY AREA, SEE AMENITY SPACE TABLE ON SHEET L6.0.
 - FOR PLANTING PLAN, SEE SHEETS L4.0 AND L5.0.
 - FOR HARDSCAPE DETAILS AND SITE FURNISHINGS, SEE SHEETS L7.0 AND L8.0.



PROFESSIONAL CERTIFICATE
DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 694
L3.0 HARDSCAPE PLAN NORTH
12 SHEET OF 22
CHRIS SOREIN, PLA No. 694



PERIMETER #7
746'-5"
OPEN SPACE LOT G-2 (TO BE DEDICATED TO HOWARD COUNTY RECREATION AND PARKS)
12.75 AC. PLAT#21558-21564 SDP-11-032

PLANTING IN THIS AREA PROVIDED BY SDP-11-032

BUILDABLE BULK PARCEL H
10.19 AC
ZONED: CAC-CL1
USE: RESIDENTIAL PLATS
21558-21564; SDP-11-032

PLANTING IN THIS AREA PROVIDED BY SDP-11-032

EX. 20' PUBLIC WATER AND UTILITY EASEMENT (PLAT 21479-21484)

10' PARKING SETBACK EX. 10' PUBLIC SIDEWALK STREET LIGHT & STREET TREE MAINTENANCE EASEMENT (PLAT 21558-21564)

PLANTING AREA BETWEEN SIDEWALK AND UTILITY EASEMENT (PLAT 21558-21564)

STREET TREES PROVIDED BY F-02-035

PLANTING AREA BETWEEN SIDEWALK AND WALLS

10' PARKING SETBACK EX. 10' PUBLIC SIDEWALK STREET LIGHT & STREET TREE MAINTENANCE EASEMENT (PLAT 21558-21564)

PLANTING LEGEND:

- EXISTING STREET TREE, PROVIDED WITH F-02-035
- DECIDUOUS SHADE TREE
- COLUMNAR DECIDUOUS TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- SHRUBS

UTILITY SYMBOL LEGEND:

- STORM DRAIN
- SANITARY
- WATER
- ELECTRIC
- GAS
- CABLE

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

NO.	REVISION	DATE

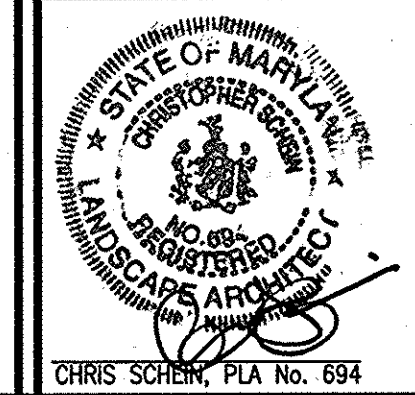
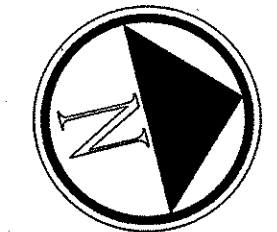
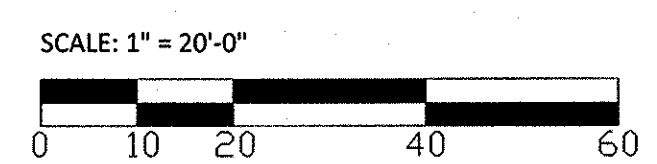
SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
TAX MAP 43 GRID 4 BLUE STREAM
1ST ELECTION DISTRICT BUILDABLE BULK PARCEL I-1 ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND PARCEL 14

hord | coplan | macht
ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311

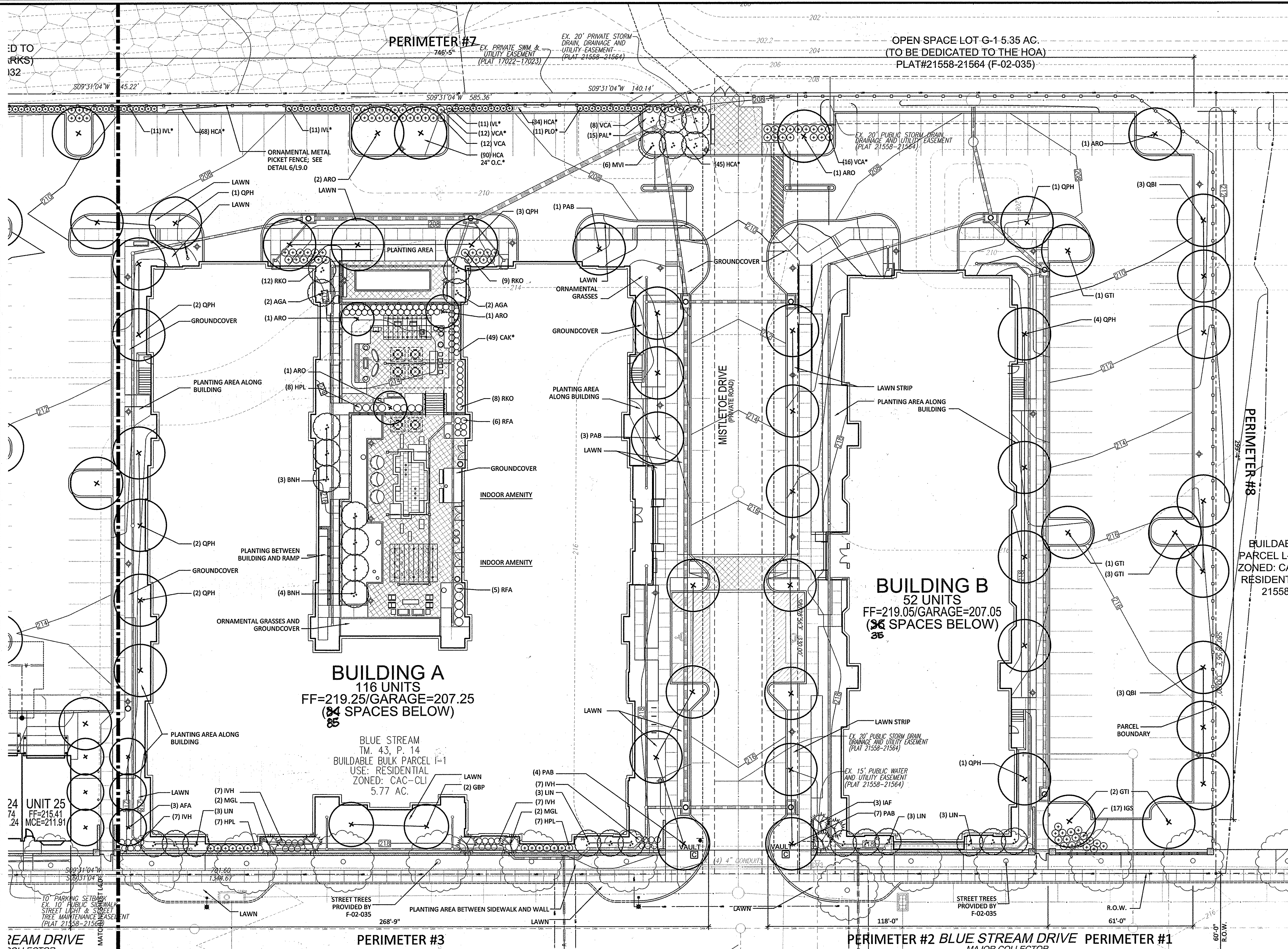
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Phil Chisholm 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Vaughan Jones 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT
Vaughan Jones 7-21-15
DIRECTOR

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.
Arnold Sagner Authorized Person 06/17/15
SIGNATURE OF DEVELOPER DATE

LANDSCAPE NOTES
1. FOR PLANT SCHEDULE, LANDSCAPE REQUIREMENT CALCULATIONS TABLES AND TYPICAL PLANTING DETAILS, SEE SHEET L6.0.
2. ORNAMENTAL GRASSES AND GROUND COVER PLANTING AREAS ARE INCLUDED FOR REFERENCE ONLY. THEY ARE NOT COUNTED TOWARDS ANY LANDSCAPE MANUAL REQUIREMENTS.
* PLANTING PROVIDED IN ADDITION TO REQUIRED PLANTING.



PROFESSIONAL CERTIFICATE
DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 08-26.15
PLANTING PLAN SOUTH
13 OF 22 SHEETS



PLANTING LEGEND:

- EXISTING STREET TREE, PROVIDED WITH F-02-035
- DECIDUOUS SHADE TREE
- COLUMNAR DECIDUOUS TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- SHRUBS

UTILITY SYMBOL LEGEND:

- STORM DRAIN
- SANITARY
- WATER
- ELECTRIC
- GAS
- CABLE

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
BLUE STREAM
BUILDABLE BULK PARCEL I-1
ZONED: CAC-CLI
PARCEL 14
HOWARD COUNTY, MARYLAND

hord | coplan | macht
ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John E. ... 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kevin ... 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT

William ... 7-21-15
DIRECTOR

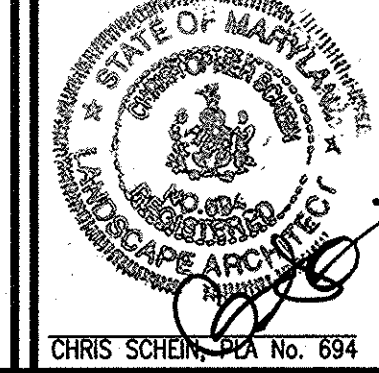
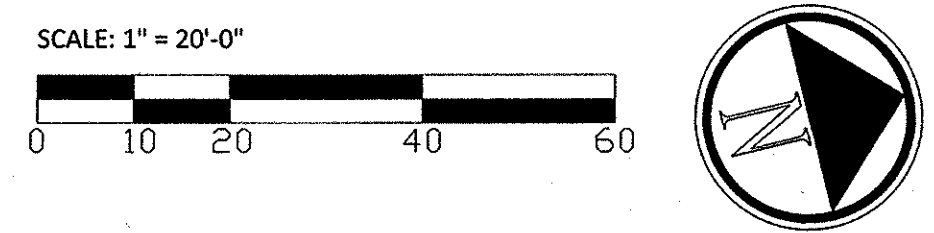
DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 18.124 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.

Arnold Sagner 06/17/15
SIGNATURE OF DEVELOPER AUTHORIZED PERSON DATE

LANDSCAPE NOTES

- FOR PLANT SCHEDULE, LANDSCAPE REQUIREMENT CALCULATIONS TABLES AND TYPICAL PLANTING DETAILS, SEE SHEET L6.0.
- ORNAMENTAL GRASSES AND GROUNDCOVER PLANTING AREAS ARE INCLUDED FOR REFERENCE ONLY. THEY ARE NOT COUNTED TOWARDS ANY LANDSCAPE MANUAL REQUIREMENTS.
- PLANTING PROVIDED IN ADDITION TO REQUIRED PLANTING.



DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 08-26.15

PROFESSIONAL CERTIFICATE
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 694

L5.0 PLANTING PLAN
NORTH
14 SHEET OF 22

PLANT SCHEDULE - REQUIRED PLANTING

QTY.	SYM.	BOTANICAL/Common Name	SIZE	CONTAINER	REMARKS
DECIDUOUS SHADE TREES					
8	ARO	Acer rubrum 'October Glory'	2 1/2" - 3" Cal.	B&B	Limb lowest branch to 7'-0"
		Red Maple			Matched specimens
7	BNH	Betula nigra 'Heritage'	11'-12" Ht.	B&B	Min. 3 stems
		River Birch			
2	GBP	Ginkgo biloba 'Princeton Sentry'	2 1/2" - 3" Cal.	B&B	Limb lowest branch to 7'-0"
		Princeton Sentry Ginkgo			Matched specimens, male
17	GTI	Gleditsia triacanthos var. inermis 'Shademaster'	2 1/2" - 3" Cal.	B&B	Limb lowest branch to 7'-0"
		Thomless Honeylocust			Matched specimens
22	PAB	Platanus x acerifolia 'Bloodgood'	2 1/2" - 3" Cal.	B&B	Limb lowest branch to 7'-0"
		Bloodgood London Planetree			Matched specimens
20	QPH	Quercus phellos 'Hightower'	2 1/2" - 3" Cal.	B&B	Limb lowest branch to 7'-0"
		Hightower Willow Oak			Matched specimens
6	QBI	Quercus bicolor	2 1/2" - 3" Cal.	B&B	
		Swamp White Oak			
ORNAMENTAL TREES					
6	AFA	Acer freemanii 'Armstrong'	2 1/2" - 3" Cal.	B&B	Limb lowest branch to 7'-0"
		Columnar Red Maple			Matched specimens
6	AGA	Amelanchier x grandiflora 'Autumn Brilliance'	7'- 8" Ht.	B&B	Min. 5 stems
		Downy Serviceberry			
12	LIB	Lagerstroemia indica 'Biloxi'	8' - 9" Ht.	B&B	Min. 5 stems
		Upright Crape Myrtle			
12	LIN	Lagerstroemia indica 'Natchez'	8' - 9" Ht.	B&B	Min. 5 stems
		Natchez Crape Myrtle			
10	MVI	Magnolia virginiana var. australis	10' - 11" Ht.	B&B	Min. 3 stems
		Sweetbay Magnolia			
EVERGREEN TREES					
4	CJA	Cryptomeria japonica	7' - 8" Ht.	B&B	
		Japanese Cryptomeria			
3	IAF	Ilex x attenuata 'Fosterii #2'	7' - 8" Ht.	B&B	Single Stem, full to ground
		Foster's Holly			
4	MGL	Magnolia grandiflora 'Little Gem'	8' - 9" Ht.	B&B	Single Stem
		Dwarf Southern Magnolia			
SHRUBS					
12	BMW	Buxus microphylla var. koreana 'Wintergreen'	24" - 30" Ht.	3 Gal.	Heavy/Full
		Wintergreen Korean Boxwood			36" o.c.
22	HPL	Hydrangea paniculata 'Limelight'	24" - 30" Ht.	3 Gal.	Heavy/Full
		Limelight Hydrangea			42" o.c.
27	IGS	Ilex glabra 'Shamrock'	18" - 24" Ht.	3 Gal.	Heavy/Full
		Inkberry Holly			36" o.c.
34	IVH	Itea virginica 'Henry's Garnet'	24" - 30" Ht.	3 Gal.	Heavy/Full
		Virginia Sweetspire			36" o.c.
69	IVL	Itea virginica 'Little Henry'	18" - 24" Ht.	2 Gal.	Heavy/Full
		Dwarf Virginia Sweetspire			24" o.c.
11	PLO	Prunus laurocerasus 'Otto Luyken'	12" - 18" Ht.	3 Gal.	Heavy/Full
		Otto Luyken English Cherry Laurel			36" o.c.
29	RKO	Rosa 'Knockout'	24" - 30" Ht.	3 Gal.	Heavy/Full
		Knockout Rose (magenta)			36" o.c.
11	RFA	Rosa 'The Fairy'	18" - 24" Ht.	3 Gal.	Heavy/Full
		Fairy Rose			30" o.c.
66	VCA	Viburnum carlesii	24" - 30" Ht.	3 Gal.	Heavy/Full
		Koreanspice Viburnum			36" o.c.
PERENNIALS & ORNAMENTAL GRASSES					
15	CAK	Calamagrostis x acutiflora 'Karl Foerster'		2 Gal.	
		Feather Reed Grass			30" o.c.
331	HCA	Hypericum calycinum		1 Gal.	
		Creeping St. John's Wort			18" o.c.
64	LMV	Liriope muscari 'Variegata'		1 Gal.	
		Variegated Lilyturf			15" o.c.
78	NFI	Nepeta x faassenii 'Blue Wonder'		1 Gal.	
		Catmint			15" o.c.
15	PAL	Pennisetum alopecuroides		1 Gal.	
		Fountain Grass			36" o.c.

LANDSCAPE NOTES

- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING, IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL, IN THE AMOUNT OF \$36,510 FOR 113 SHADE TREES, 14 EVERGREEN TREES, AND 17 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN. THE EXISTING PUBLIC STREET TREES ALONG BLUESTREAM DRIVE HAVE BEEN PROVIDED UNDER F-02-035.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIAL SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS, AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THE SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

SCHEDULE A: PERIMETER LANDSCAPE EDGE

PERIMETER	BUFFER TYPE	LINEAR FEET	PLANTING REQUIREMENT	PLANTING REQUIRED	PLANTING PROVIDED
1	TYPE E	64'-6"	SHADE TREES: 1:40 SHRUBS: 1:4	SHADE TREES: 2 SHRUBS: 17	SHADE TREES: 2 SHRUBS: 17
2	TYPE B	118'-0"	SHADE TREES: 1:50 EVERGREEN TREES: 1:40	SHADE TREES: 3 EVERGREEN TREES: 3	SHADE TREES: 0 (6 ORN. TREES SUB 2:1): 3 EVERGREEN TREES: 3
3	TYPE B	268'-9"	SHADE TREES: 1:50 EVERGREEN TREES: 1:40	SHADE TREES: 6 EVERGREEN TREES: 7	SHADE TREES: 2 (6 ORN. TREES SUB 2:1): 3 (10 SHRUBS SUB 10:1): 1 EVERGREEN TREES: 4 (32 SHRUBS SUB 10:1): 3
4	N/A	162'-9"	NONE, FRONT OF TOWNHOMES	NONE	NONE
5	TYPE C	86'-2"	SHADE TREES: 1:40 EVERGREEN TREES: 1:20	SHADE TREES: 2 EVERGREEN TREES: 4	SHADE TREES: 0 (2 ORN. TREES SUB 2:1): 1 (10 SHRUBS SUB 10:1): 1 EVERGREEN TREES: 4
6	N/A	322'-1"	NONE, TOWN HOMES TO TOWN HOMES	NONE	NONE
7	N/A	746'-5"	NONE, CREDIT FOR FOREST CONSERVATION EASEMENT & EXISTING SWM FACILITY	NONE	SHRUBS: 127 PLANTS (RESPONSE TO DAP COMMENT)
8	N/A	299'-4"	NONE, IN PARCEL, UNDEVELOPED PROPERTY	NONE	NONE
PROJECT TOTALS				SHADE TREES: 13 EVERGREEN TREES: 14 SHRUBS: 17	SHADE TREES: 4 (14 ORN. TREE SUB 2:1): 7 (20 SHRUBS SUB 10:1): 2 EVERGREEN TREES: 11 (32 SHRUBS SUB 10:1): 3 SHRUBS: 17

SCHEDULE B

PARKING LOT INTERNAL LANDSCAPING

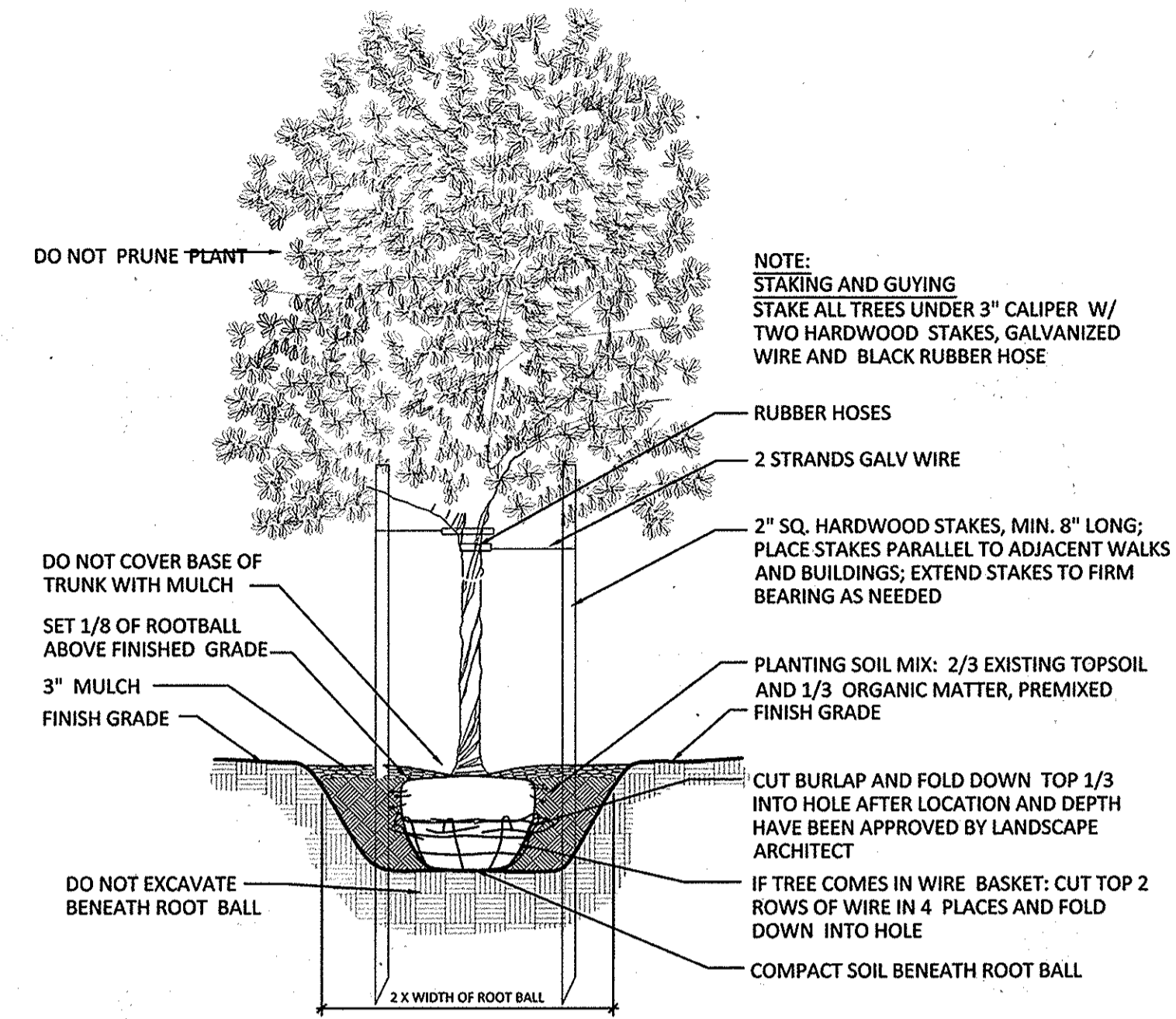
NUMBER OF PARKING SPACES:	181
NUMBER OF LANDSCAPED ISLANDS REQUIRED (1 PER 10 SPACES):	19
NUMBER OF LANDSCAPED ISLANDS PROVIDED:	19
NUMBER OF SHADE TREES REQUIRED (1 PER 10 SPACES):	19
NUMBER OF SHADE TREES PROVIDED:	14 SHADE TREES 10 ORN. TREES (SUB. 2:1): 5

SCHEDULE C - RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

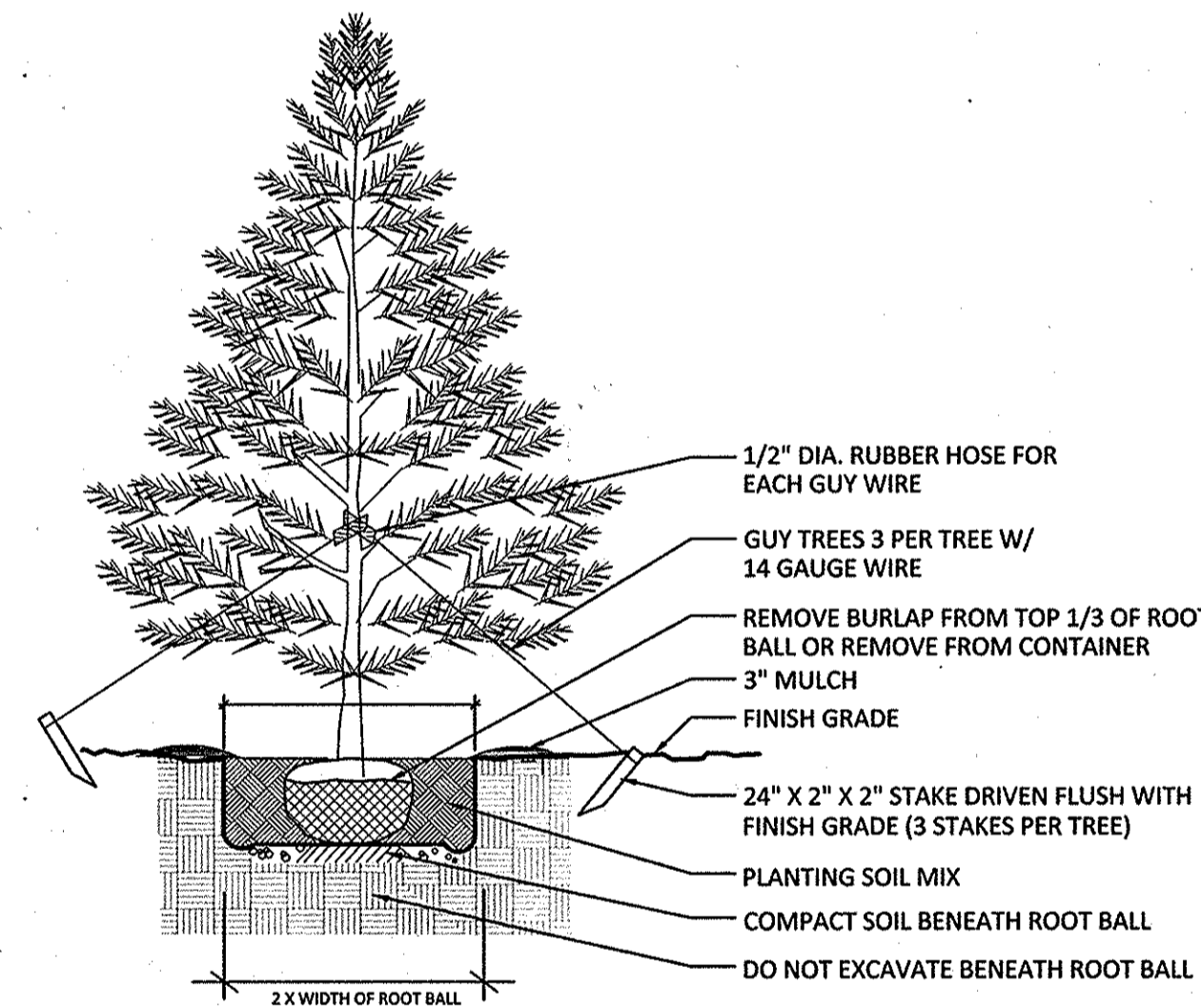
CATEGORY:	SINGLE FAMILY ATTACHED	APARTMENT	TOTAL
NUMBER OF DWELLING UNITS	25	168	193
NUMBER OF SHADE TREES REQUIRED	1 PER UNIT	1 PER 3 UNITS	81
TOTAL REQUIRED	25	56	
NUMBER OF PLANTS PROVIDED			63 SHADE TREES 24 ORNAMENTAL TREES (SUB. 2:1): 12 60 SHRUBS (SUB. 10:1): 6

PROPOSED AMENITY SPACES

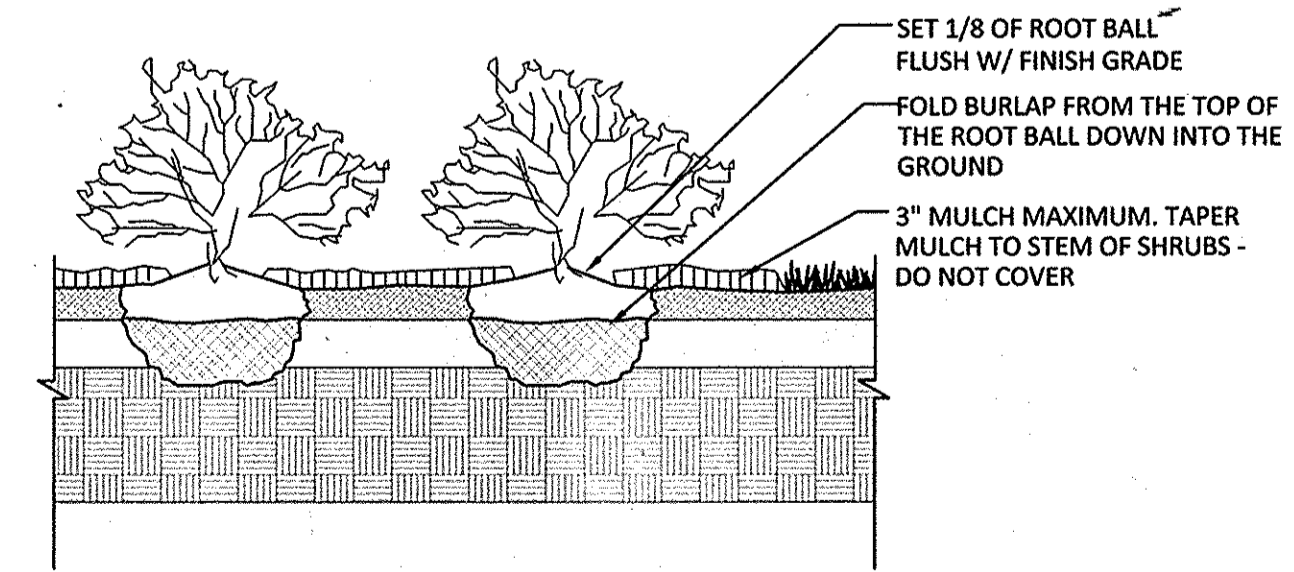
AMENITY SPACE	SQUARE FOOTAGE	PROVIDED AMENITIES
A	1,280	PAVED WALK, TRASH RECEPTACLE, DOG-WALKING STATION, SHADE TREES, PLANTING AND OPEN LAWN AREAS
B	1,290	PAVED AREA, BENCHES, LANDSCAPE ORNAMENT IN PLANTING AREA, TREES, PLANTING AREAS
C	1,615	PAVED WALK, BENCH, DOG-WALKING STATION, SHADE TREES, PLANTING AND OPEN LAWN AREAS
D	6,124	PAVED WALK, ORNAMENTAL NON-LOCKING METAL GATE WITH MASONRY PIERS, METAL BOLLARD LIGHTS, BENCH, DOG-WALKING STATION, SHADE TREES, PLANTING AND OPEN LAWN AREAS
E	11,930	UNIT PAVED PLAZA, PLAY COURT, WATER FEATURE, SHADE STRUCTURES, VARIED SEATING AREAS, GRILLS, BENCHES, SHADE AND ORNAMENTAL TREES, PLANTING AREAS
F	6,180	UNIT-PAVED PLAZA AT BUILDING ENTRY, BENCH, BIKE RACKS, PEDESTRIAN RAMP, PAVED WALKWAY, SHADE TREES, PLANTING AREAS
G	1,965	UNIT-PAVED PLAZA, BENCH, DOG-WALKING STATION, SHADE TREES, PLANTING AREAS
H	6,200	UNIT-PAVED PLAZA AT BUILDING ENTRY, BENCH, PEDESTRIAN RAMP, DOG-WALKING STATION, PAVED WALKWAY, SHADE TREES, PLANTING AREAS
I	1,280	PLANTING AREAS, DOG-WALKING STATION, SHADE TREES, MASONRY VENEER WALL
	(0.87 ACRES)	
	37,864	TOTAL AMENITY SQUARE FOOTAGE



1 DECIDUOUS TREE PLANTING - TYPICAL
3/4" = 1'-0"



2 EVERGREEN TREE PLANTING - TYPICAL
3/4" = 1'-0"



3 SHRUB PLANTING - TYPICAL
3/4" = 1'-0"

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLICOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)

TAX MAP 43 GRID 4
1ST ELECTION DISTRICT
BLUE STREAM
BUILDABLE BULK PARCEL I-1
ZONED: CAC-CL1
PARCEL 14
HOWARD COUNTY, MARYLAND

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ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311



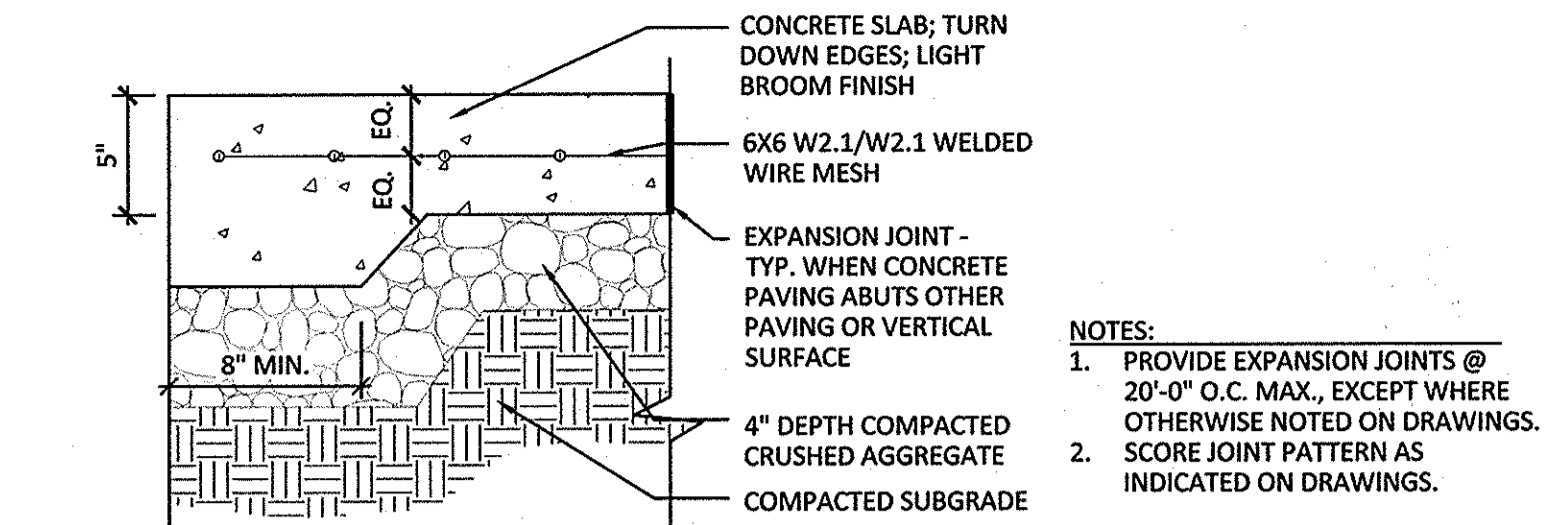
PROFESSIONAL CERTIFICATE
DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15
PLANTING SCHEDULE, CALCULATIONS & DETAILS
L6.0
15 SHEET OF 22

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

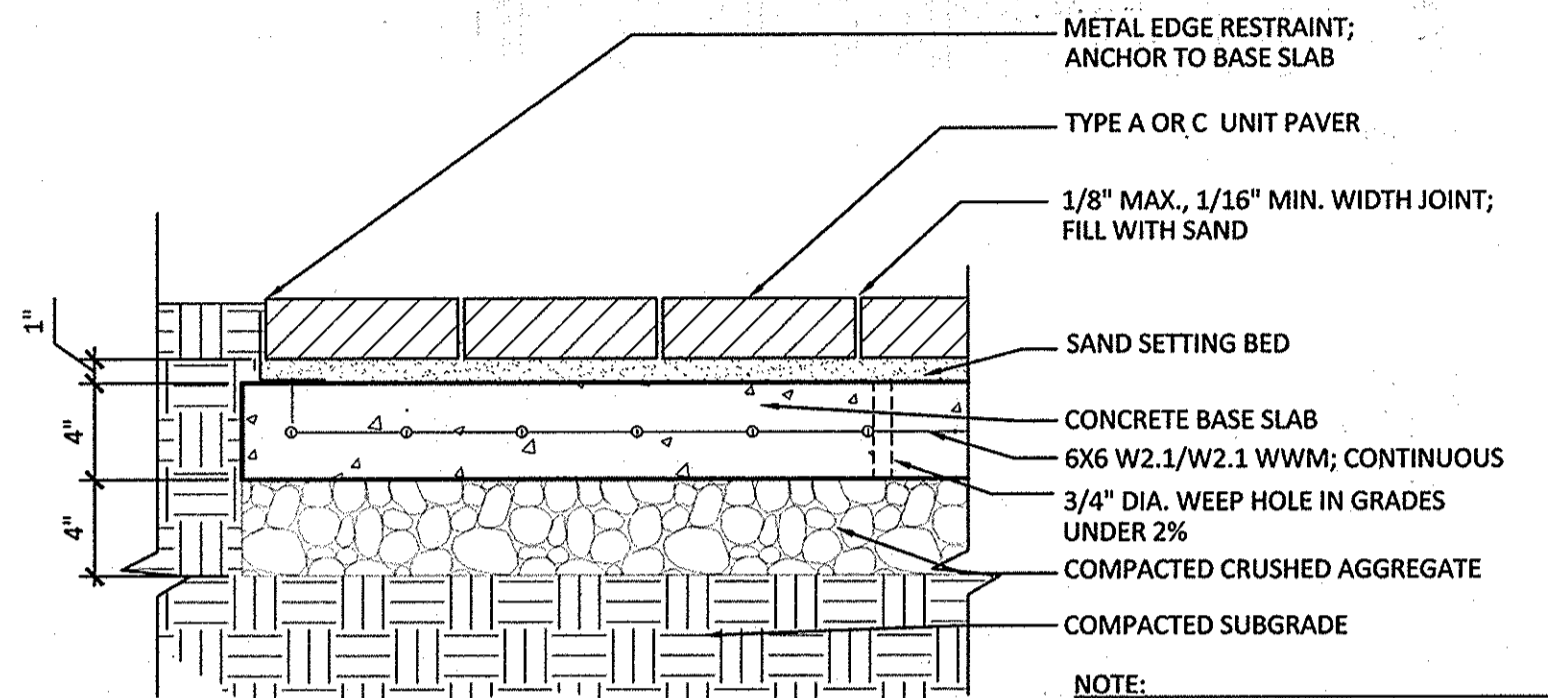
Chad Pank 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Vicki Sledz 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT
Valerie Jolic 7-21-15
DIRECTOR

DEVELOPER'S/BUILDER'S CERTIFICATE

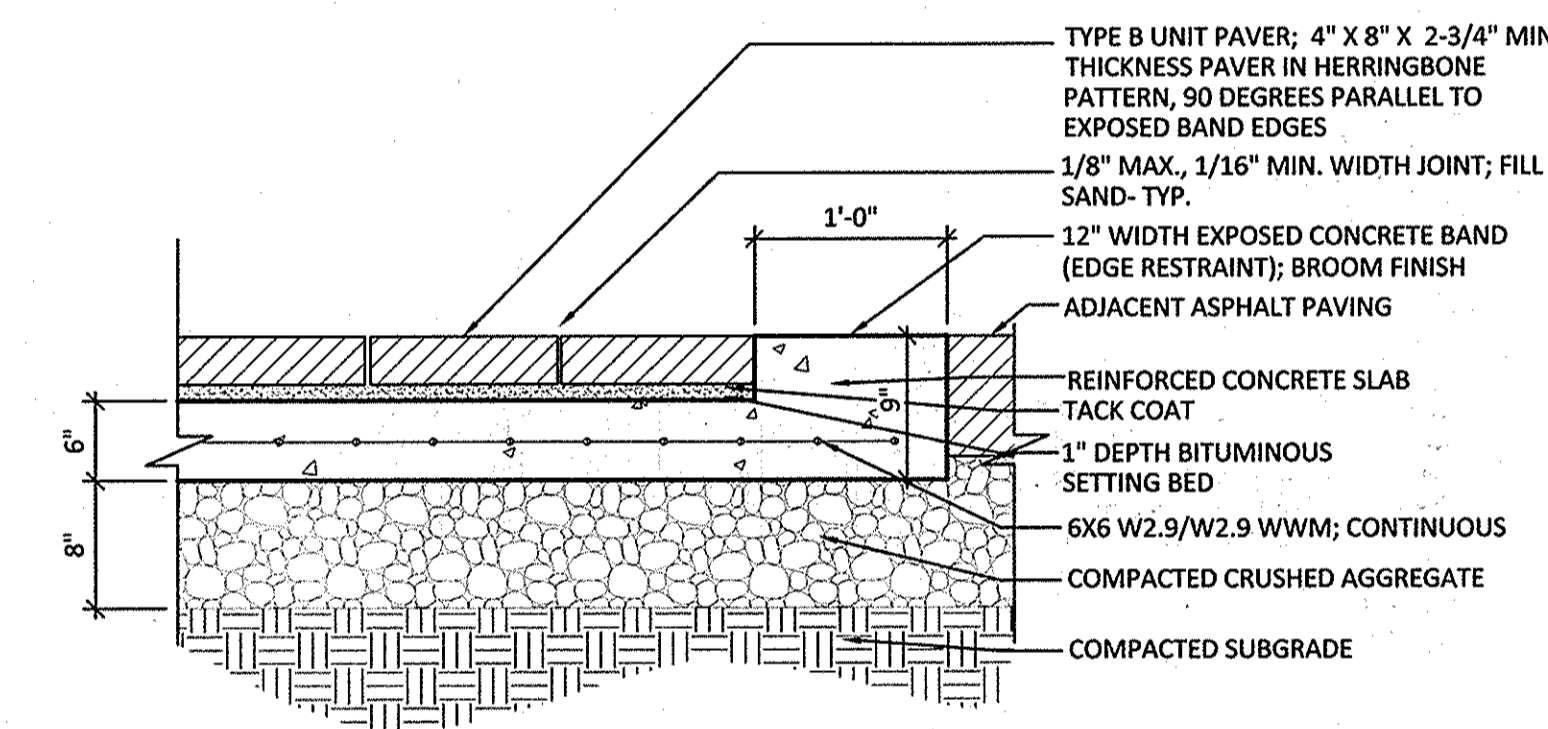
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Arnold Sagner
AUTHORIZED PERSON 06/17/15
SIGNATURE OF DEVELOPER DATE



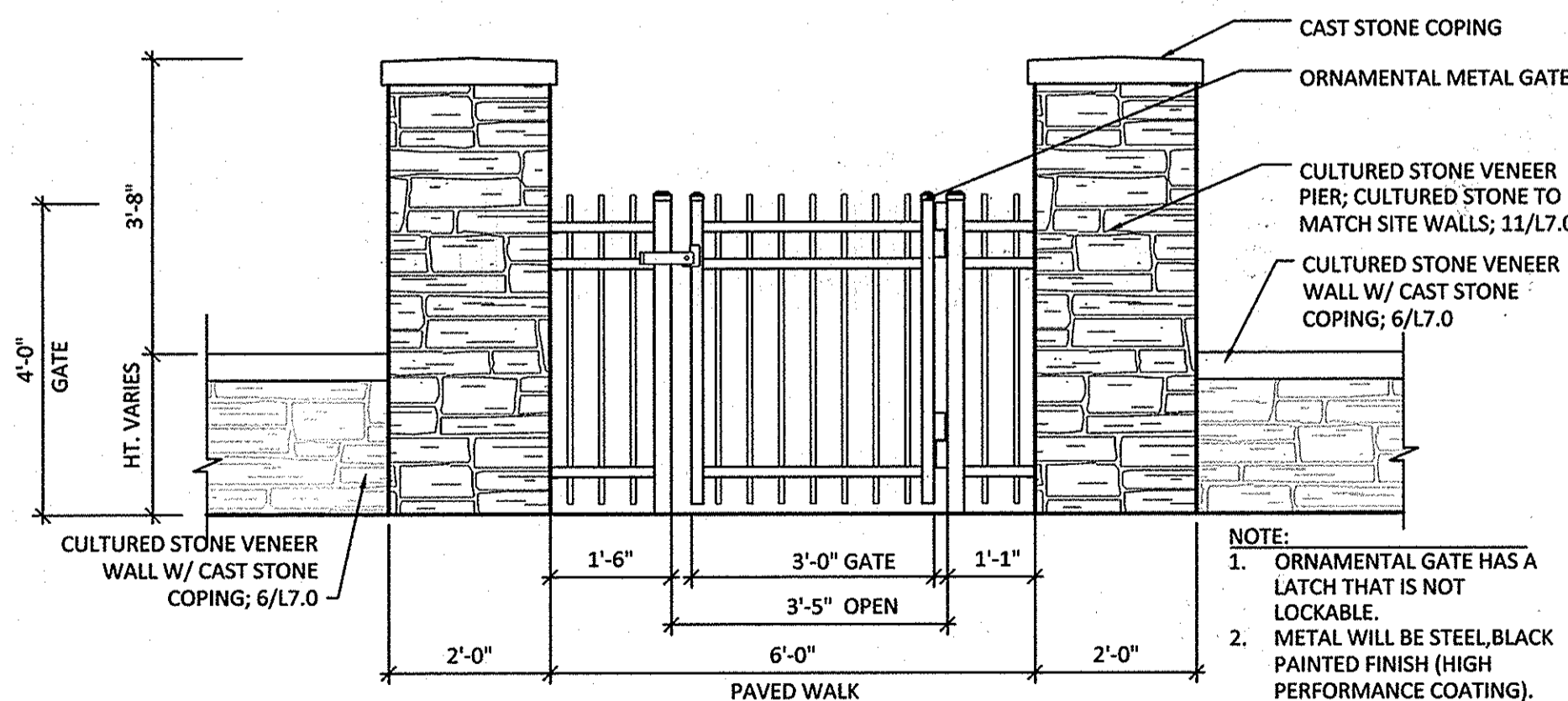
1 SCORED CONCRETE PAVING (SIDEWALKS)
1-1/2" = 1'-0"



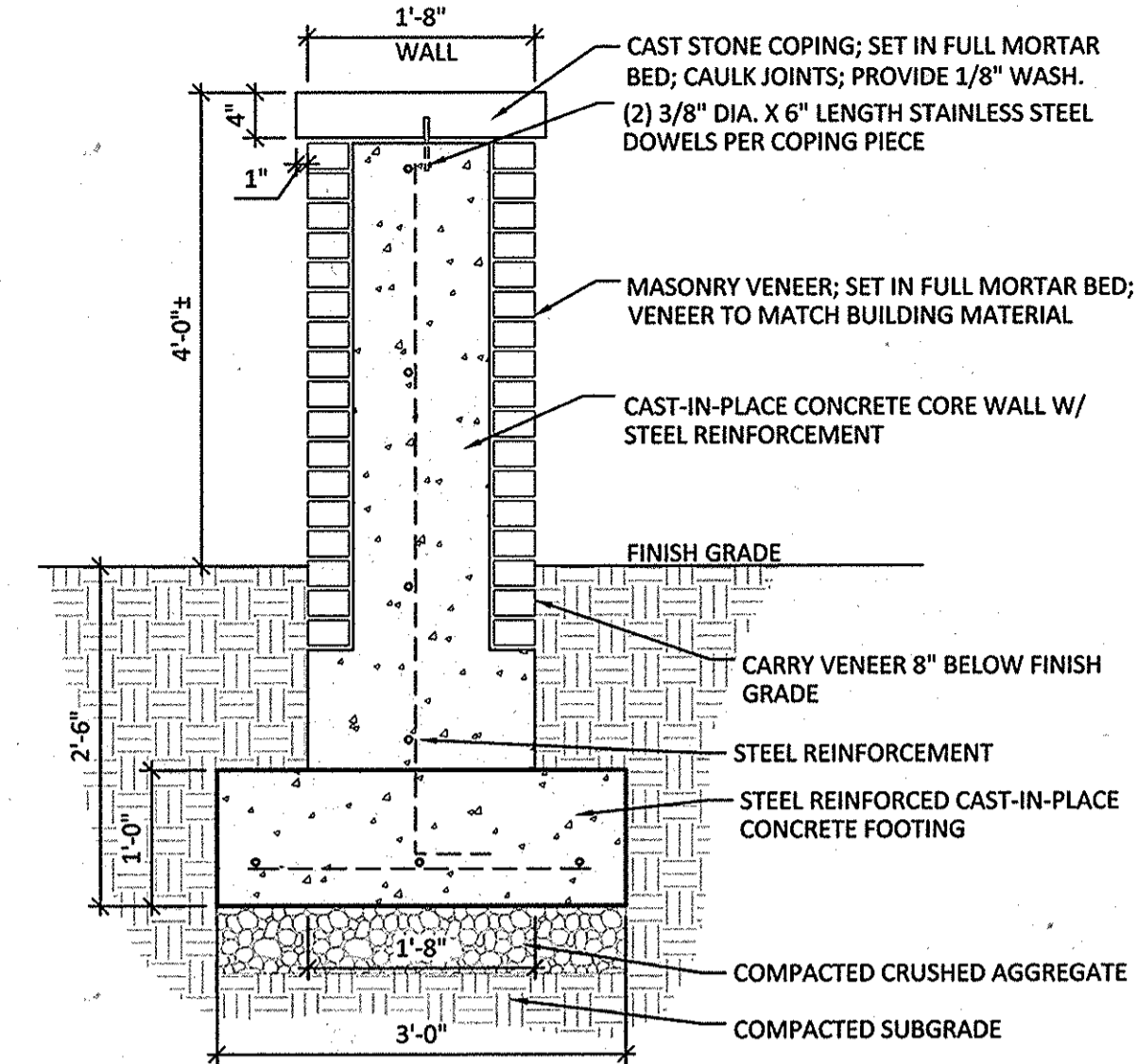
2 UNIT PAVING - PEDESTRIAN CONDITION
1-1/2" = 1'-0"



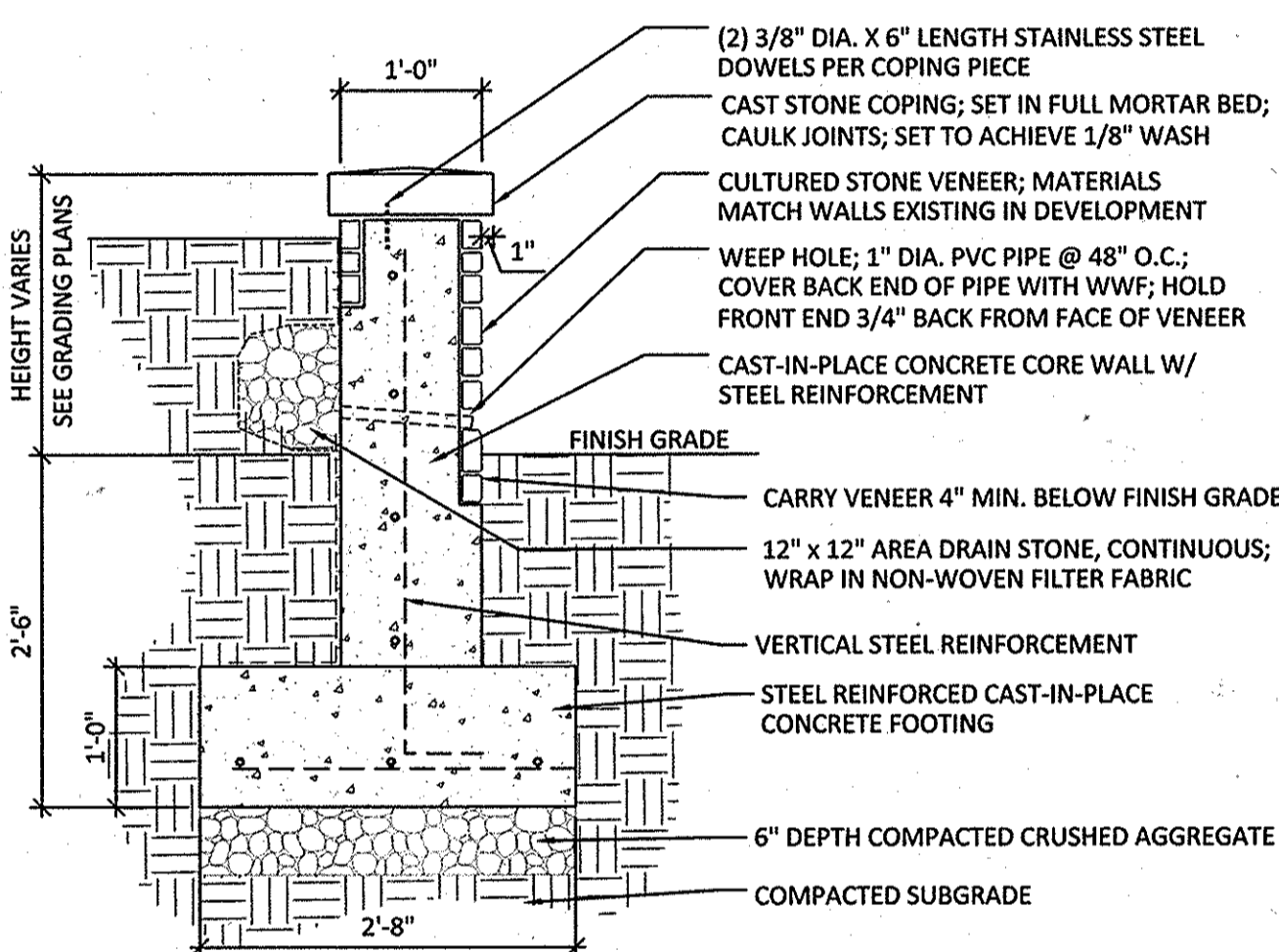
3 UNIT PAVING - VEHICULAR CONDITION
1" = 1'-0"



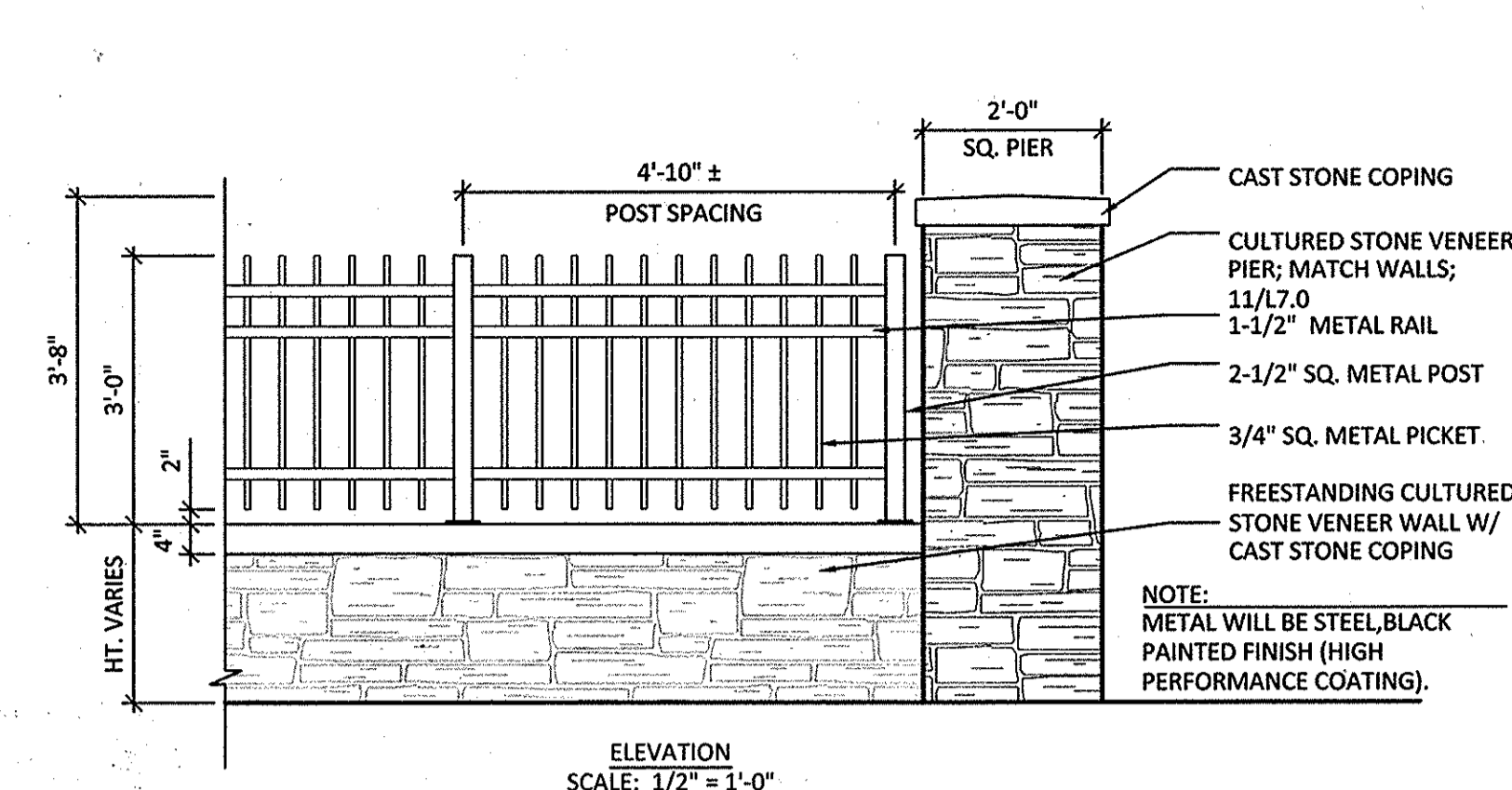
4 ORNAMENTAL METAL GATE 1 @ BLUESTREAM DRIVE
1/2" = 1'-0"



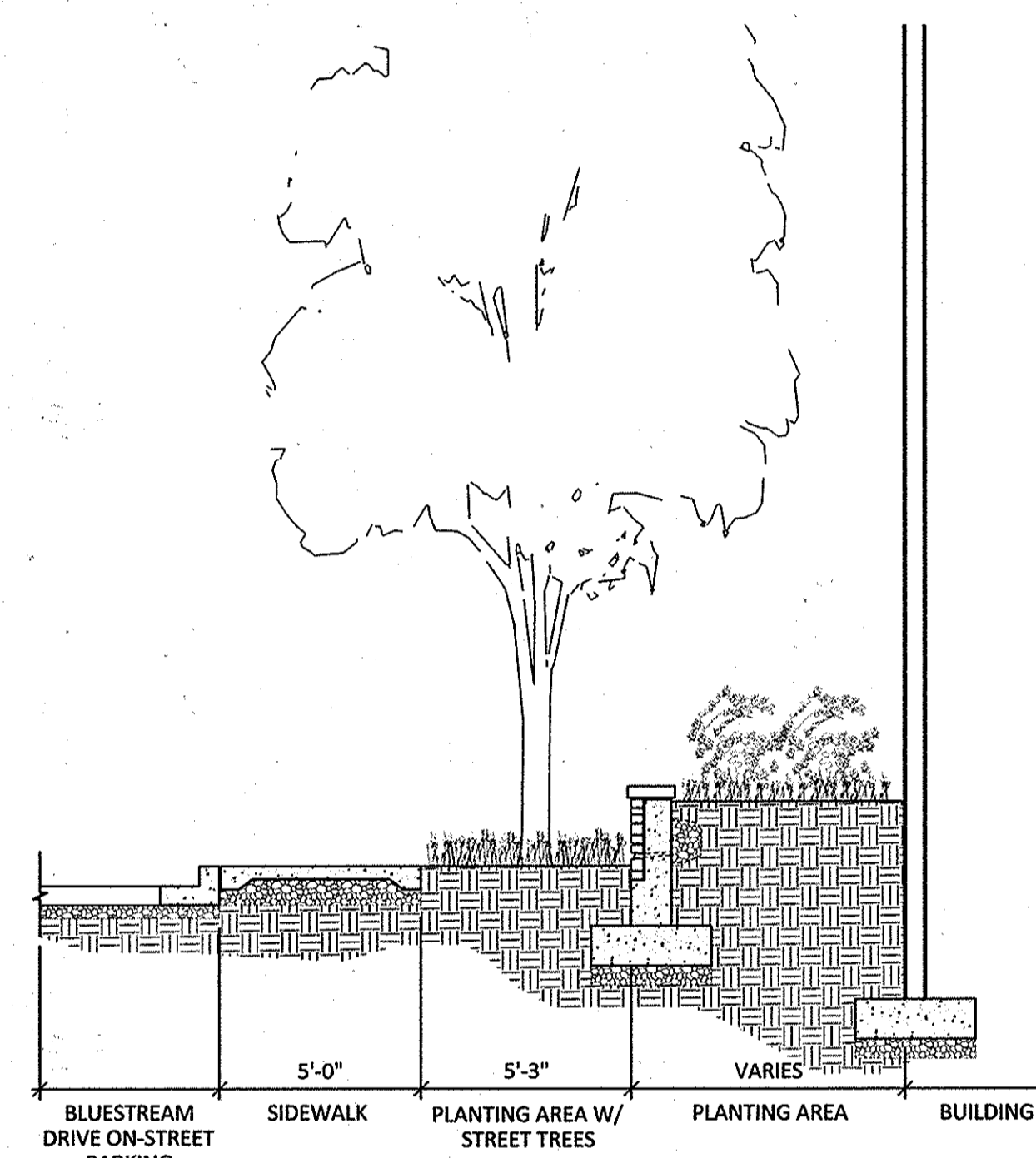
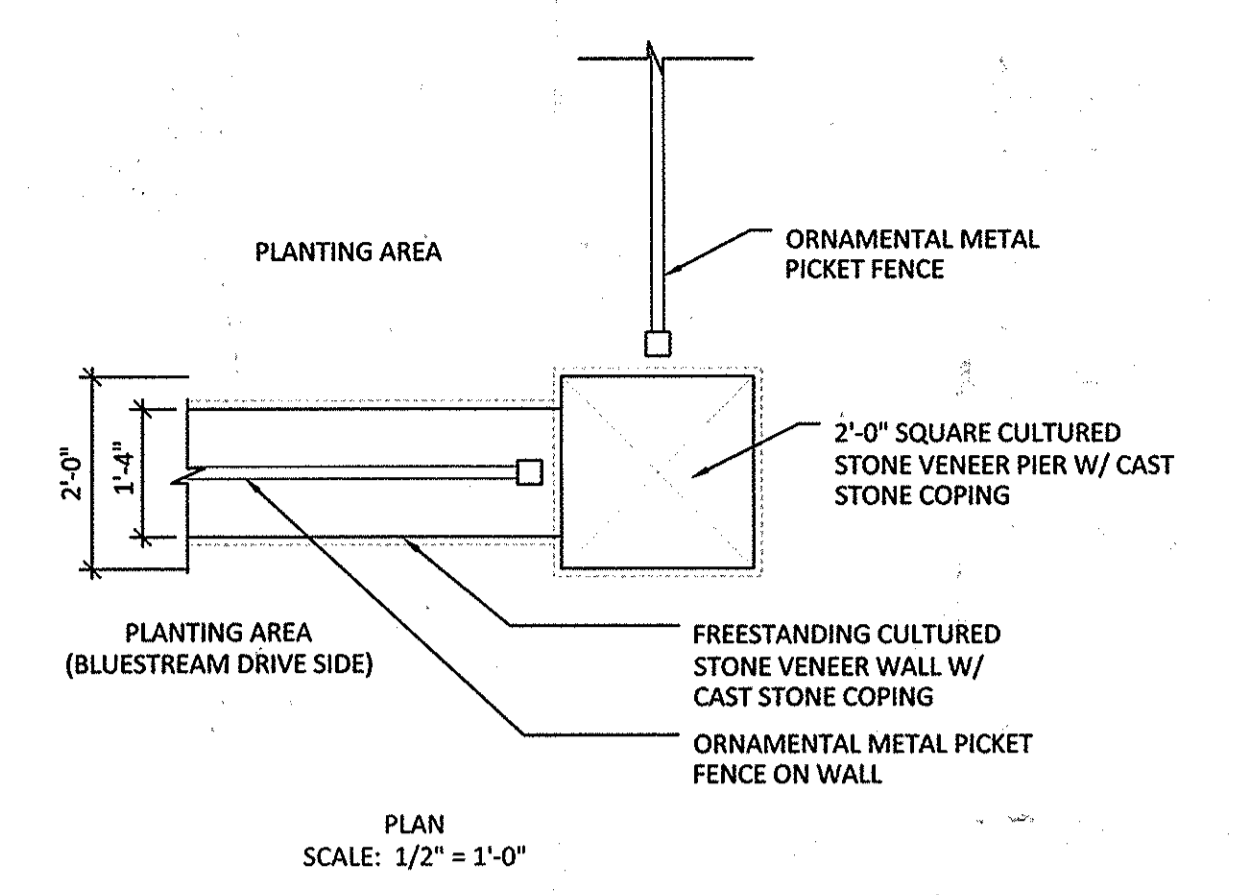
5 MASONRY VENEER WALL @ COURTYARD
3/4" = 1'-0"



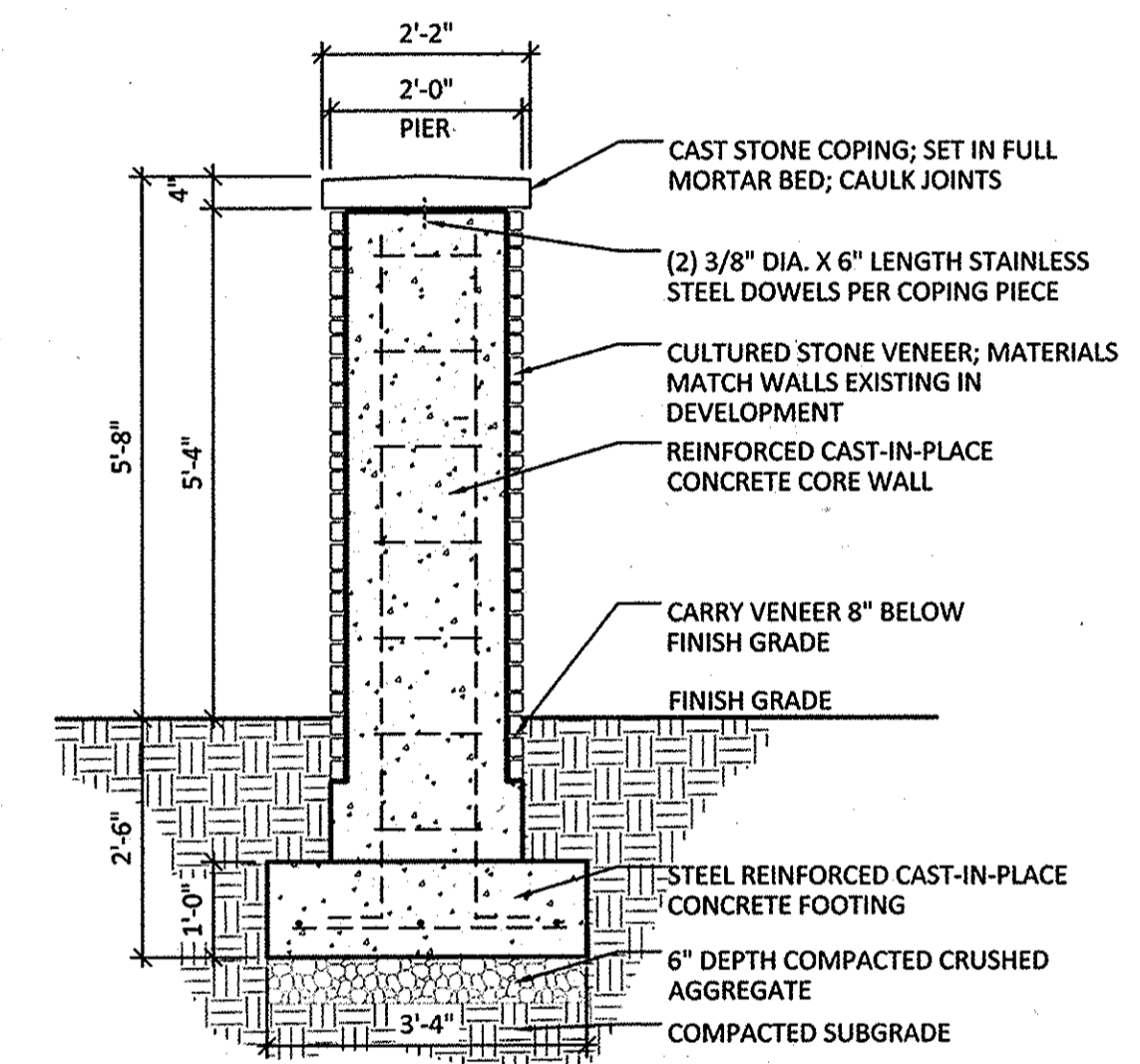
6 CULTURED STONE VENEER RETAINING WALL ALONG BLUE STREAM DRIVE
3/4" = 1'-0"



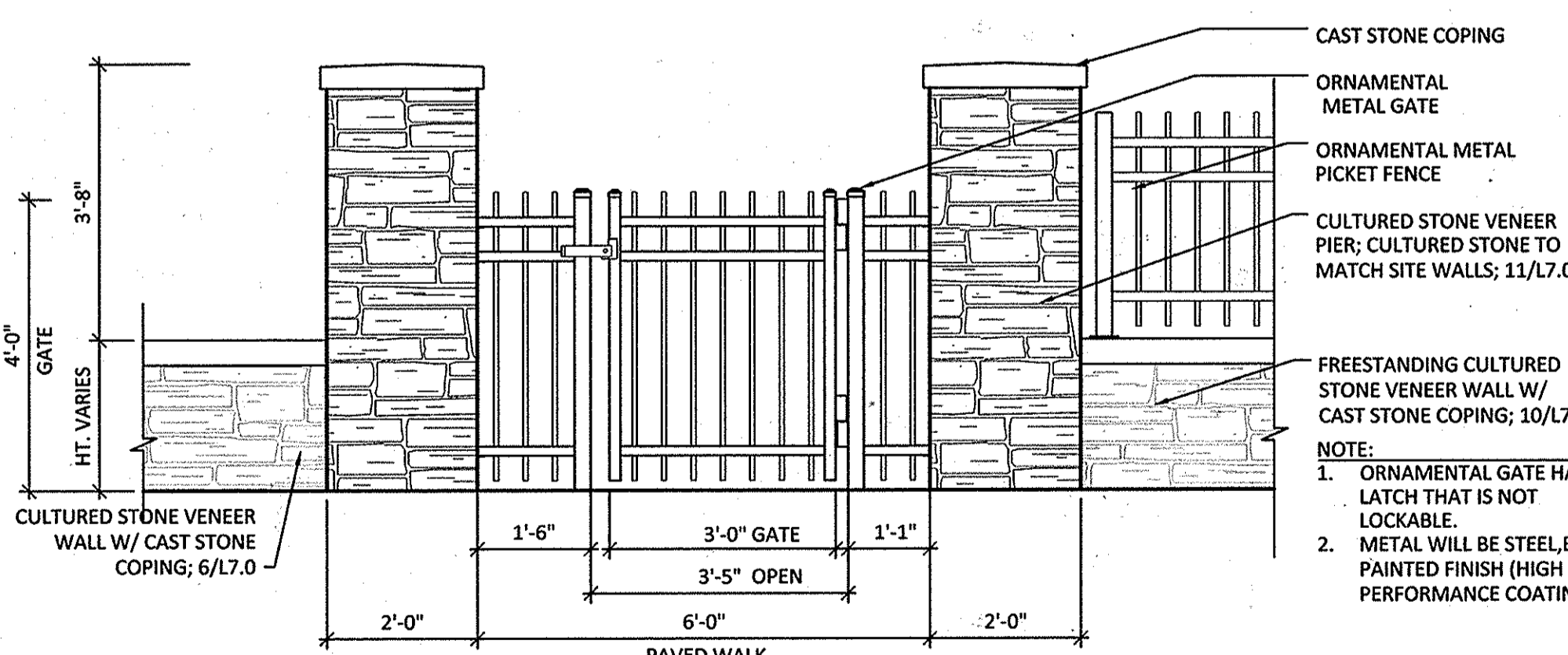
8 ORNAMENTAL METAL PICKET FENCE ON FREESTANDING CULTURED STONE VENEER WALL
AS INDICATED



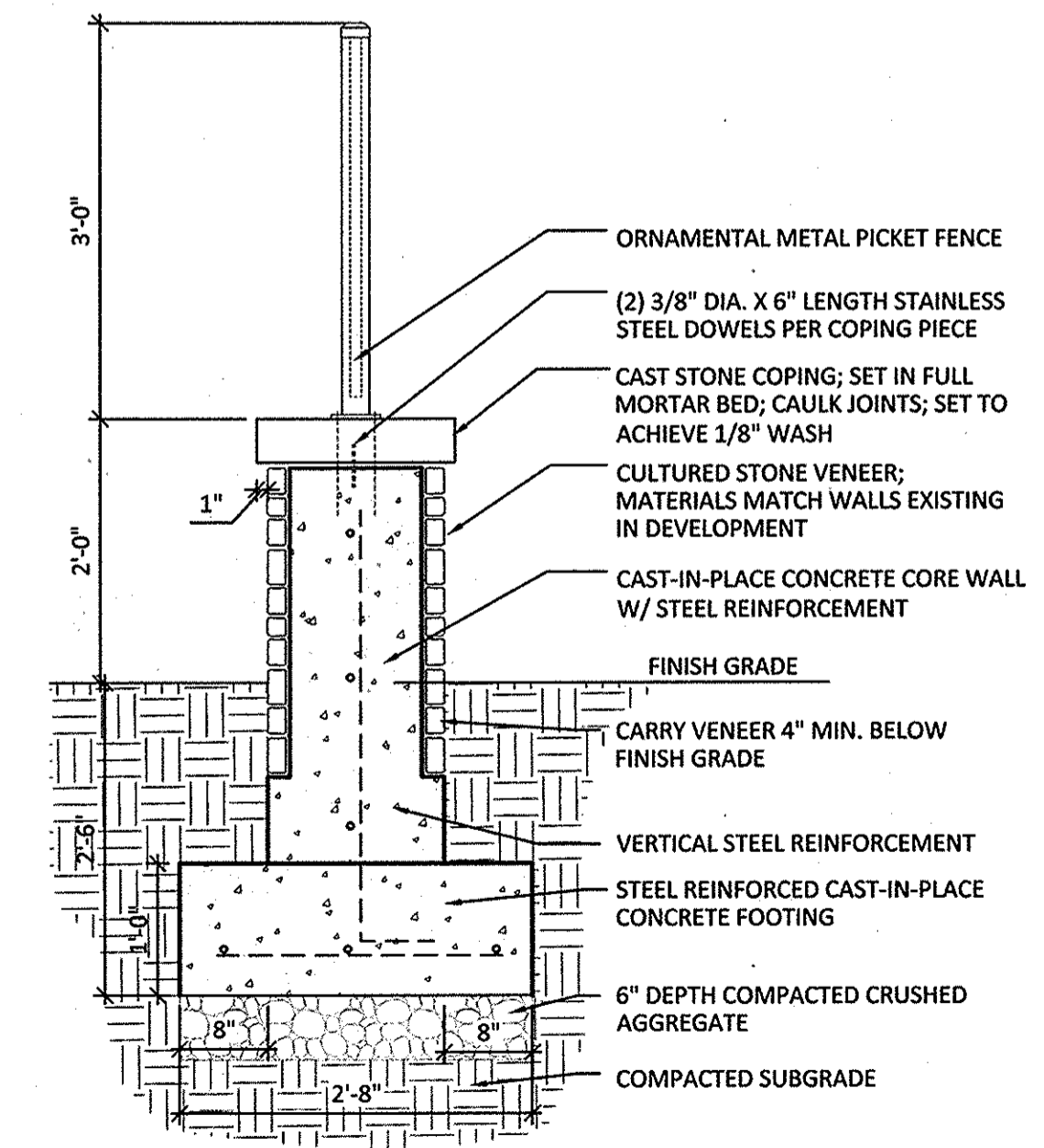
9 CULTURED STONE VENEER RETAINING WALL ALONG BLUESTREAM DRIVE
1/4" = 1'-0"



11 CULTURED STONE VENEER PIER @ WALL ALONG BLUESTREAM DRIVE
1/2" = 1'-0"



7 ORNAMENTAL METAL GATE 2 @ BLUESTREAM DRIVE
1/2" = 1'-0"



10 FREESTANDING CULTURED STONE VENEER WALL
3/4" = 1'-0"

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLICOTT CITY, MD 21041
C/O: ARNOLD SAONBA
410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
TAX MAP 43 GRID 4 BUILDABLE BULK PARCEL I-1 PARCEL 14
1ST ELECTION DISTRICT ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND

hord | coplan | macht
ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311

DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15

PROFESSIONAL CERTIFICATE
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 694

L7.0 HARDSCAPE DETAILS
16 SHEET OF 22

CHRIS SCHEIN, PLA No. 694

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad E. ... 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

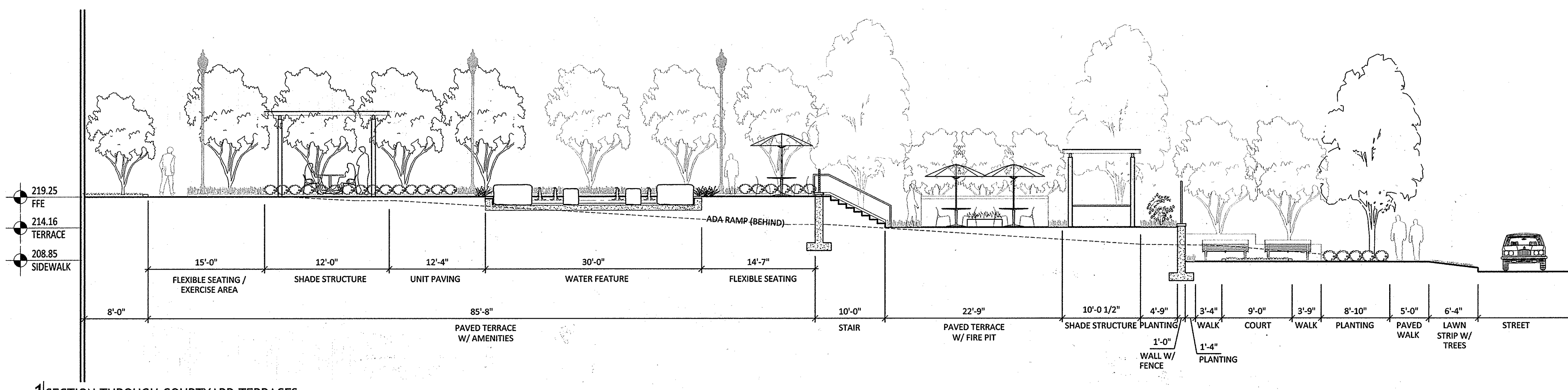
Walter J. ... 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Walter J. ... 7-21-15
DIRECTOR DATE

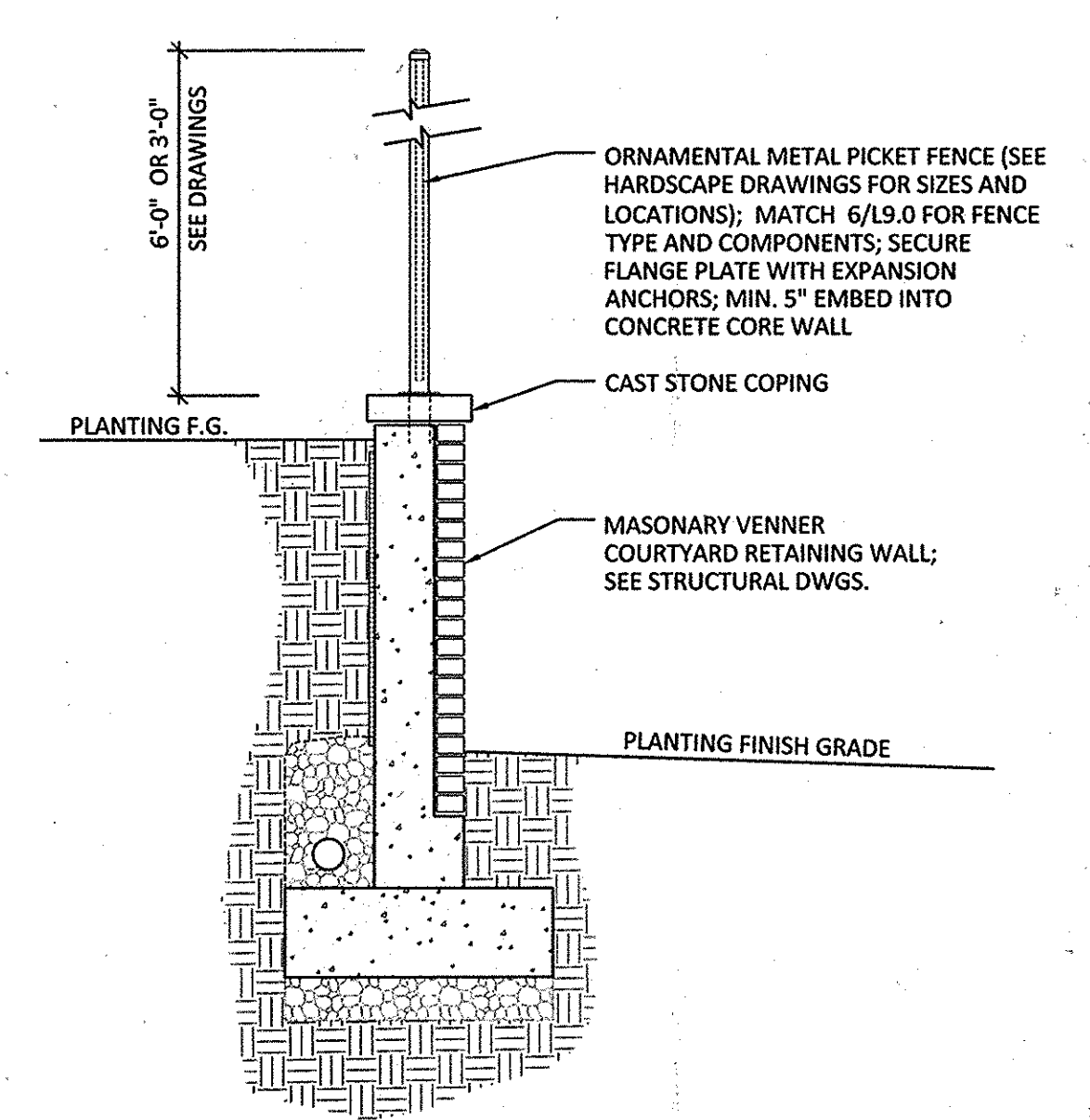
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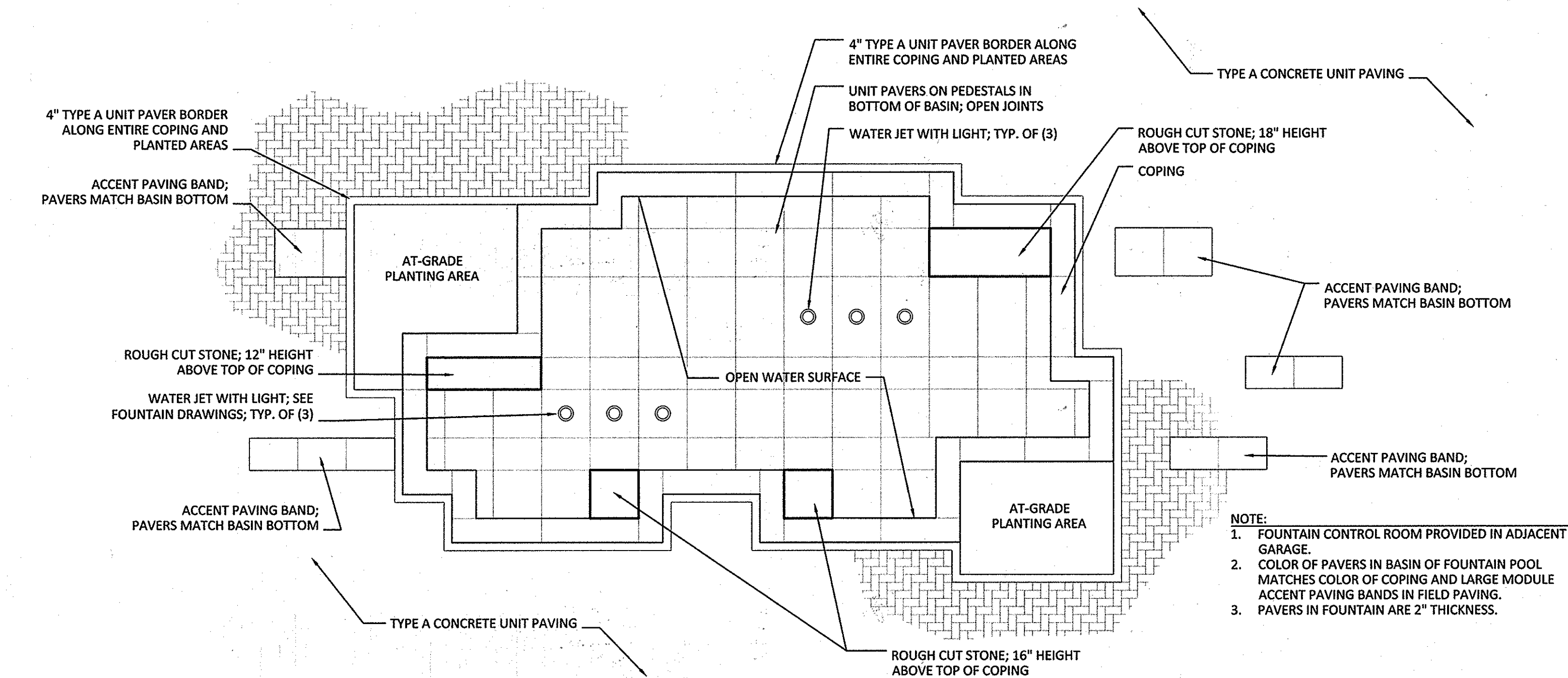
Arnold Saonba Authorized Person 06/17/15
SIGNATURE OF DEVELOPER DATE



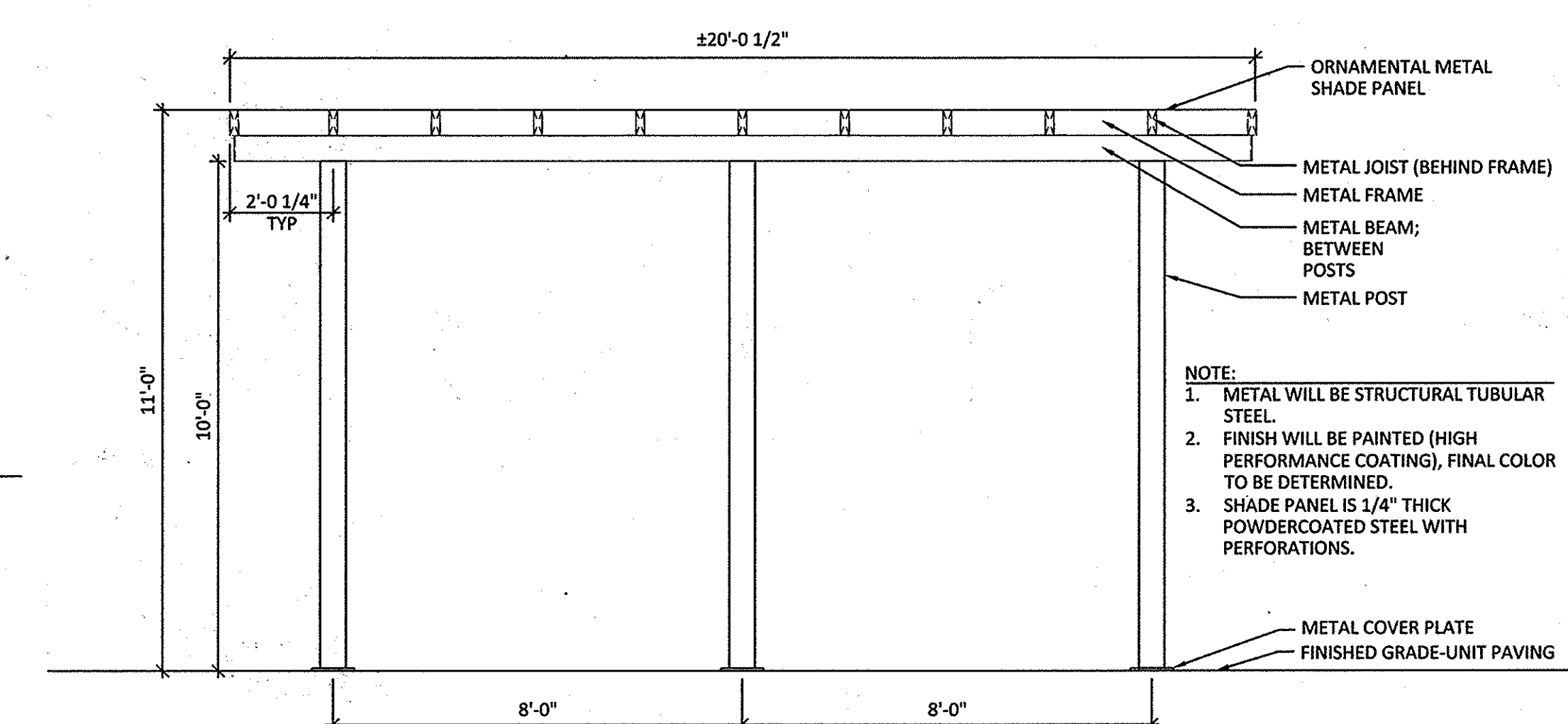
1 SECTION THROUGH COURTYARD TERRACES
1/8" = 1'-0"



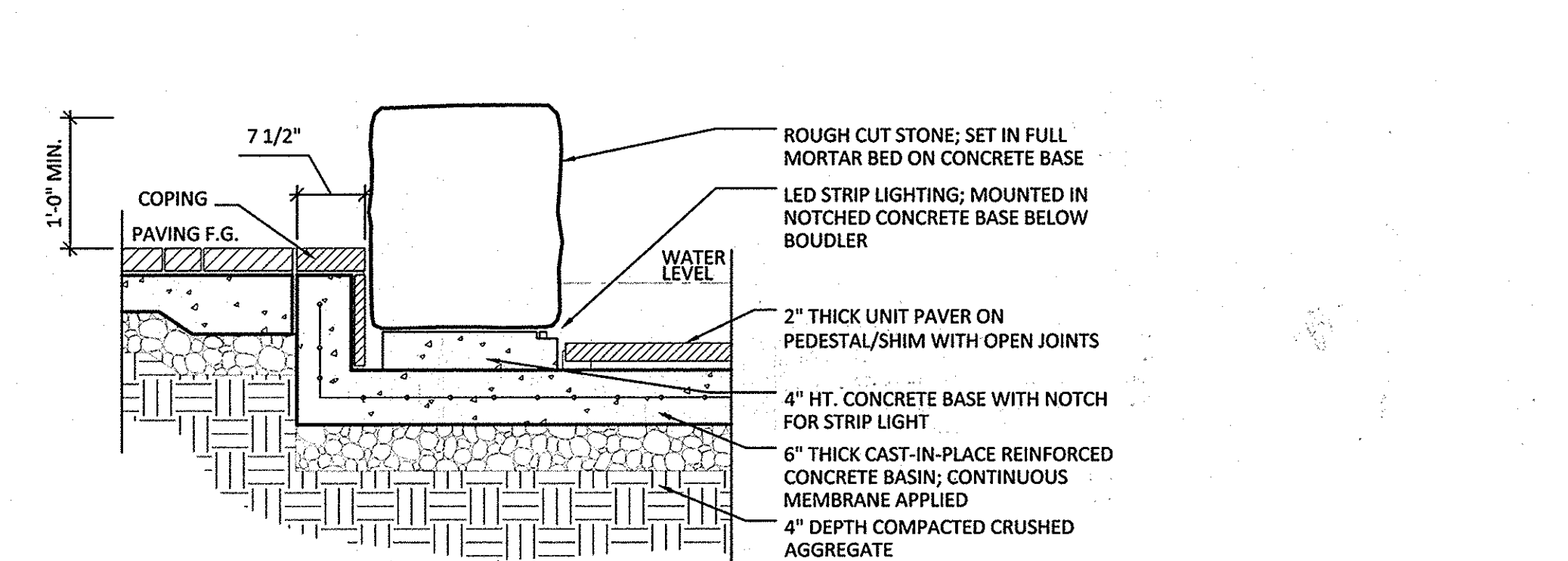
7 GUARD RAIL ON RETAINING WALL
1/2" = 1'-0"



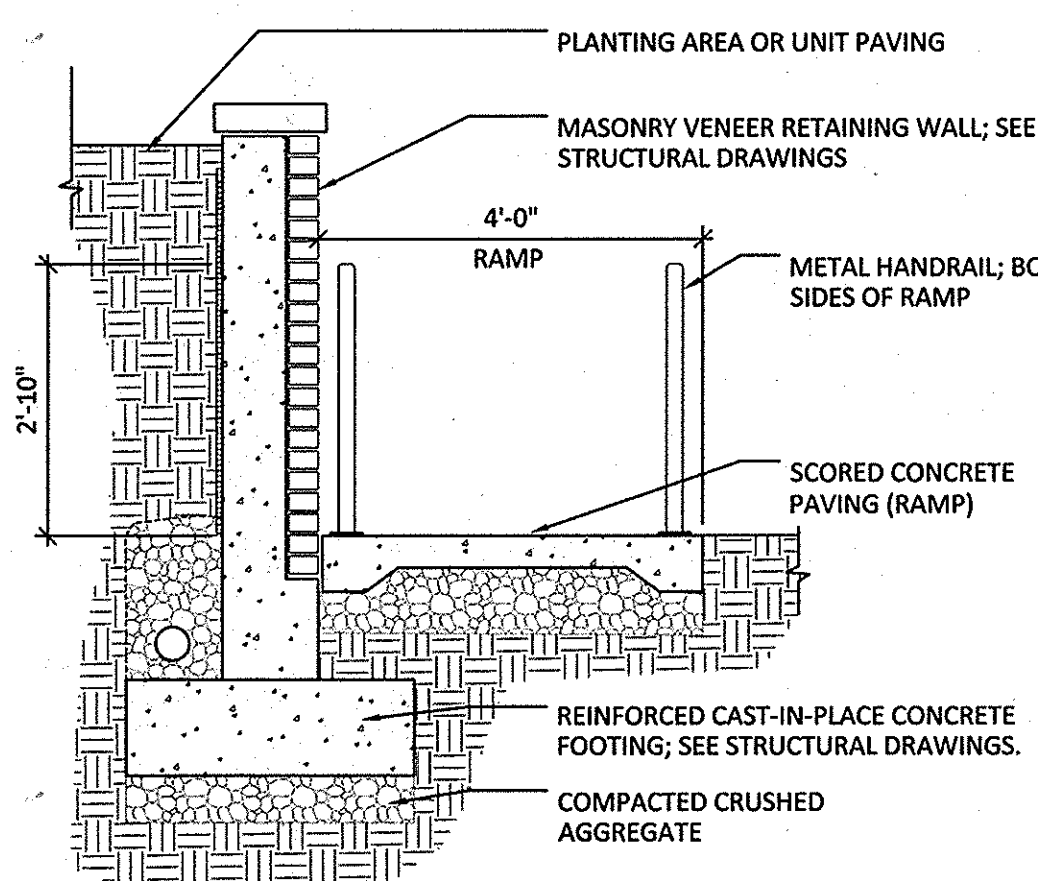
2 WATER FEATURE - PLAN
1/4" = 1'-0"



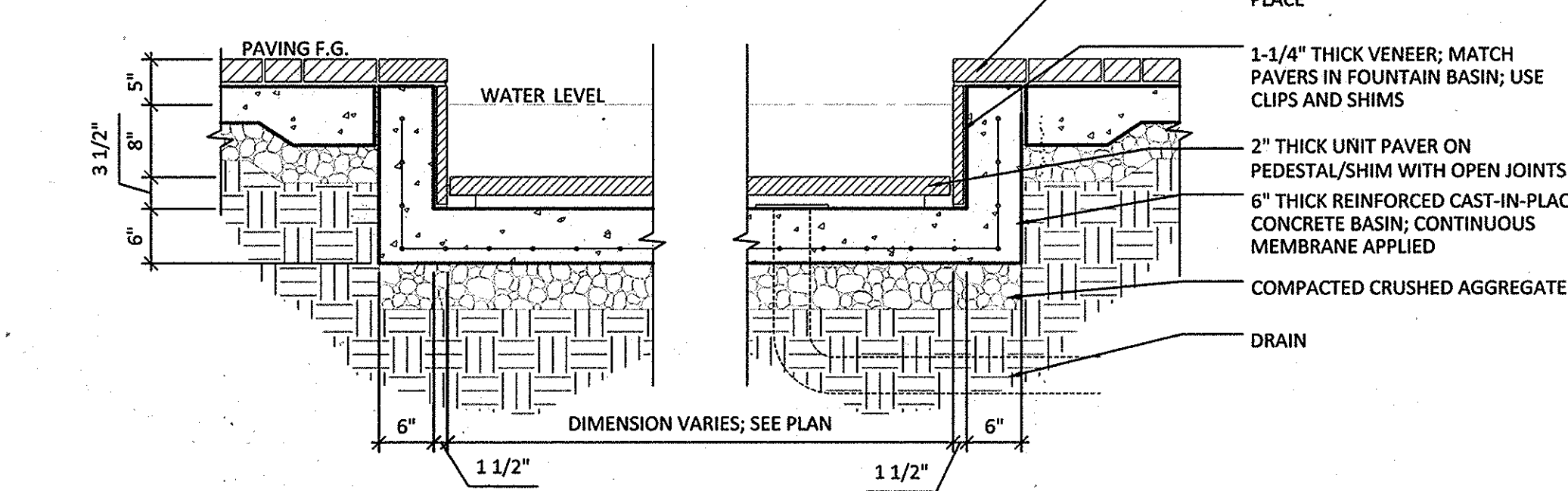
5 METAL SHADE STRUCTURE - FRONT ELEVATION
3/8" = 1'-0"



3 WATER FEATURE ROUGH CUT STONE SEAT - SECTION
3/4" = 1'-0"



4 CONCRETE ADA COMPLIANT RAMP WITH RETAINING WALL
1/2" = 1'-0"



6 WATER FEATURE - SECTION
3/4" = 1'-0"

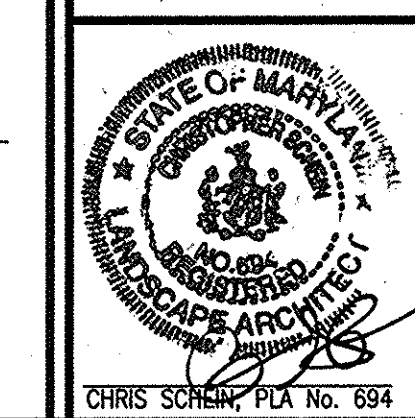
OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
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C/O: ARNOLD SAGNER
410-485-2020

NO.	REVISION	DATE

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LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
BLUE STREAM
BUILDABLE BULK PARCEL I-1
ZONED: CAC-CL1
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HOWARD COUNTY, MARYLAND

hord | coplan | macht

ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311



DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15

PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 694

L8.0 SITE FURNISHINGS
17 SHEET OF 22

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
7-8-15
7-16-15
7-21-15

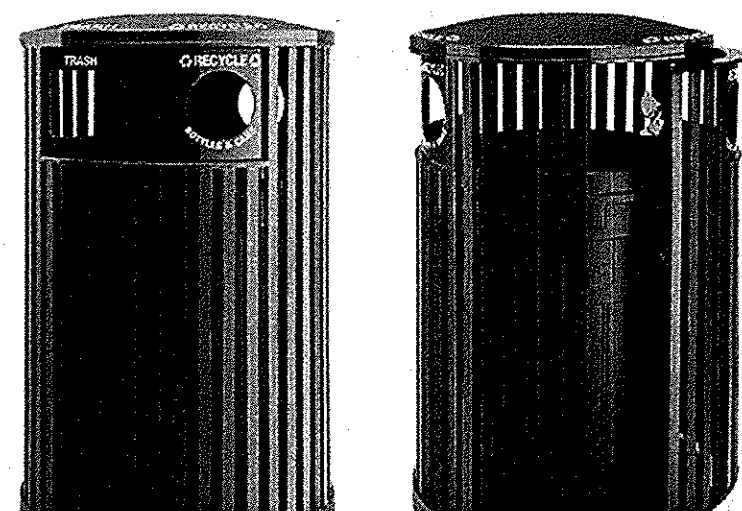
DEVELOPER'S/BUILDER'S CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
Arnold Sagner
Authorized Person 06/17/15



6 FOOT LENGTH
WOOD SEAT AND BACK
POWDERCOATED METAL FRAME
SURFACE MOUNT

1 BENCH
N.T.S.

OR EQUAL

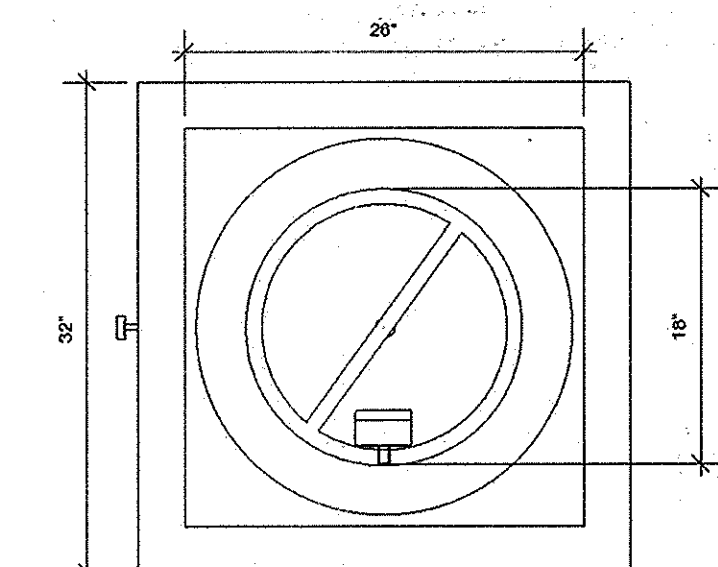
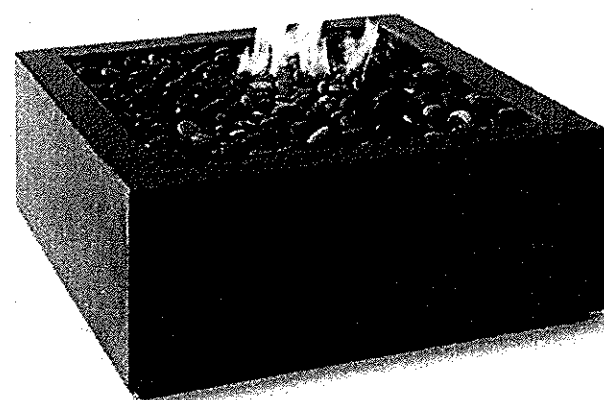


- 36 GALLON CAPACITY
- STANDARD GREY POWDERCOAT FINISH
- SIDE-DEPOSIT, SIDE DOOR
- SURFACE MOUNT

2 TRASH RECEPTACLE WITH RECYCLING UNIT
N.T.S.

OR EQUAL

BENTO | CONCRETE
Material: handcast concrete
Burner: natural gas or propane
60,000-80,000 BTU/H, ETL listed (US & Canada)
manually lit pilot with safety thermocouple
or electronic ignition
Topping: river rock or lava rock
Dimensions: 32" x 32" x 12.75"



3 FIRE PIT (GAS POWERED)
N.T.S.

OR EQUAL



- NEW ENGLAND GARDEN ORNAMENT
- ARMILLARY SPHERE - ARCTURUS
 - COPPER, 22" DIAMETER
 - P4 CONCRETE PEDESTAL
 - 12" SQUARE X 32" HEIGHT

3.1 GARDEN ORNAMENT
N.T.S.

OR EQUAL

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Chris Schein Authorized Person 06/17/15
SIGNATURE OF DEVELOPER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Paul Clark 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

W. J. Schindler 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Walter J. Jaffe 7-21-15
DIRECTOR DATE

Ordering Guide:
C12741: LUMINAIRE
CP12741: POLE

Color:
Black

Luminaire Detail
Scale 1:16

17.95
39.37

Lamping Detail

15'-4 1/8"

12'

21.92

16.00

POLE:
4" ROUND STRAIGHT
FLUTED W/ 3" TENON,
0.125" WALL THICKNESS,
CAST ALUMINUM BASE W/
ACCESS COVER

BASE TEMPLATE:
#T0100826

PRODUCT APPROVALS

HADCO	JAZ
CUST.	

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NOTICE:
THIS DRAWING IS FOR REFERENCE ONLY. CHECK FOR LATEST REVISION PRIOR TO ORDERING.

Full Specification Drawing
(Complete Assembly)

PHILIPS HADCO

100 Craftway Drive
Littletown, Pa 17340
Phone: 800-331-4185
Fax: 717-359-9289
www.hadco.com

JOB NAME:
Bluestone Development

REP. TERRITORY: 142 DRAWN BY: SMK

SCALE: DATE: 1:20 04/02/14

DRAWING NUMBER:
C12741-DWG01

REP: Deporter, Dominick

REV. A PCL: 14-018

BY: DATE:

GLOBE:
X: ACRYLIC TYPE V

FASTENERS:
X: HEX HEAD BOLTS
- ALLEN HEAD SCREWS

COLOR:
X: BLACK
- WHITE
- VERDE
- BRONZE
- GREEN

REFLECTOR:
- SM REFLECTOR
- SM REFLECTOR W/H.S.S.
- FULL TOP W/H.S.S.
- H.S.S.
- INTERNAL LOUVER ASSY
- FULL TOP
X: NONE

PHOTO CONTROL:
- BUTTER-EYE
X: TWIST-LOCK RECEPT.
- NONE

SOCKET:
X: MEDIUM
- MEDIUM
- INDUSTRIAL

WATTAGE:
- 70W MH
- 100W MH
X: 150W MH
- 200W MH
- 250W MH
- 70W HPS
- 100W HPS
- 150W HPS
- 200W HPS
- 250W HPS
- 50R
- 50R
- 165R

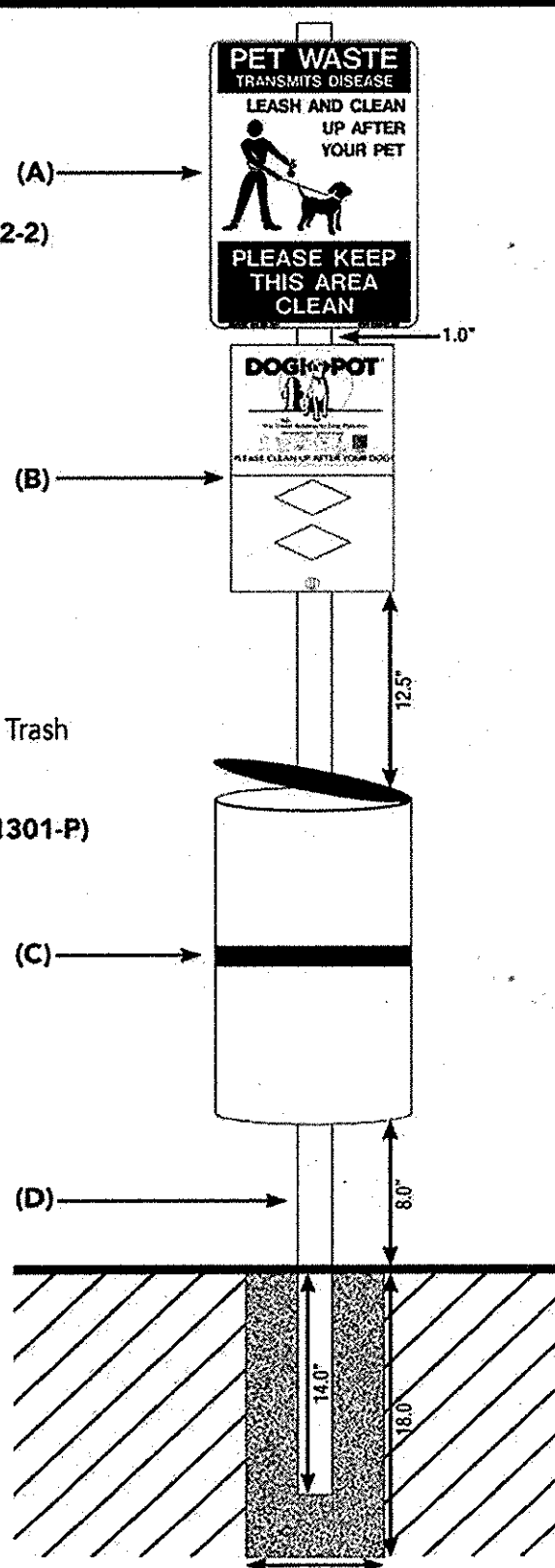
VOLTAGE:
X: 120V
- 209V
- 240V
- 277V
- 347V

4 PEDESTRIAN SCALE POLE LIGHT - WASHINGTON GLOBE STYLE
N.T.S.

ON STREETS OTHER THAN BLUESTREAM DRIVE

ALL ALUMINUM DOGIPOT® PET STATION (ITEM #1003A-L)
SPECIFICATION, INSTALLATION AND OPERATION SHEET

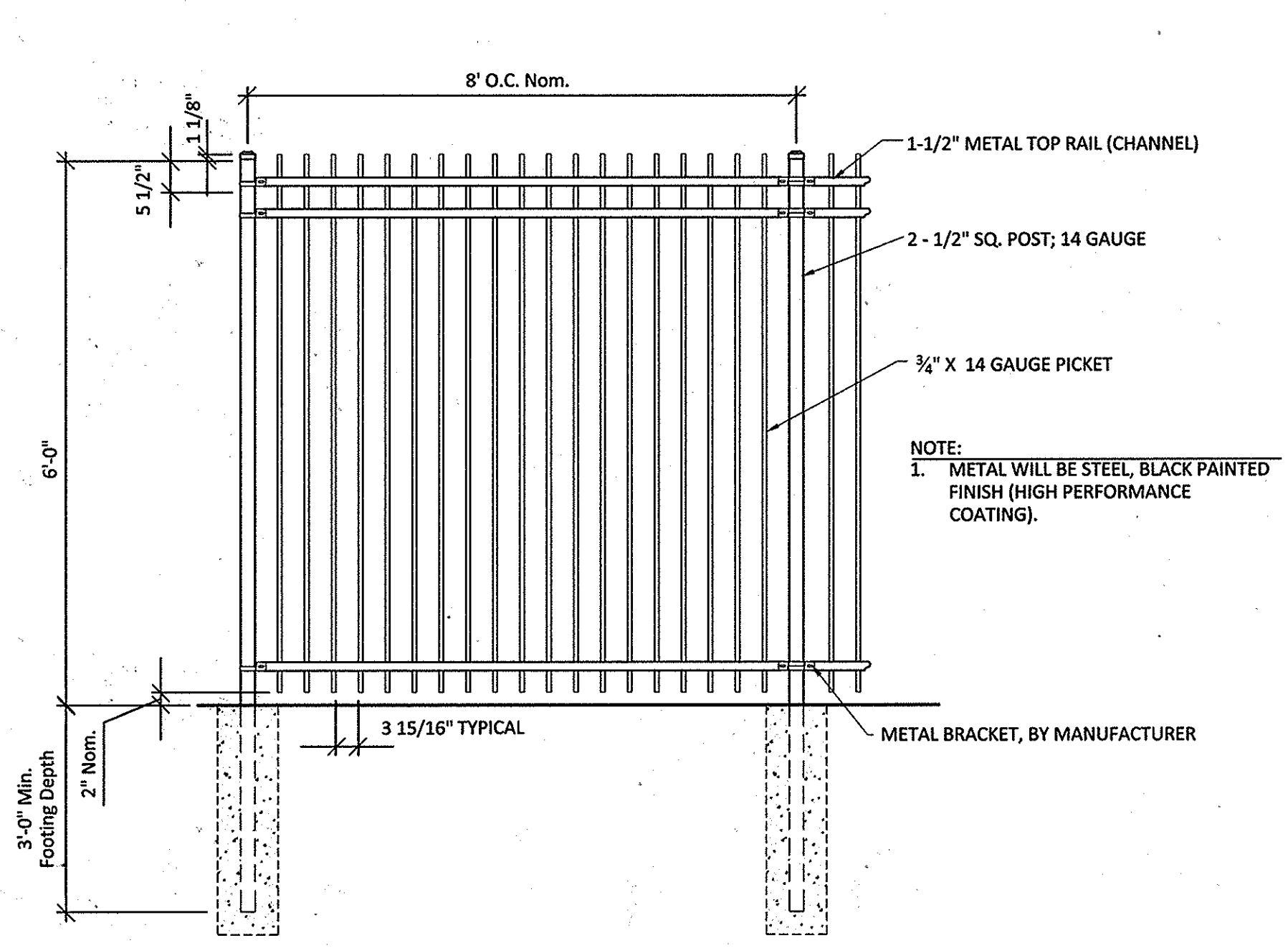
- (A) DOGIPOT® PET SIGN (ITEM #1203 / 1204)
- H: 18" x W: 11.5"
 - 14 gauge reflective aluminum
 - Weight: 1.35 lbs.
 - Forest green on white
- (B) ALUMINUM DOGIPOT® JUNIOR BAG DISPENSER (ITEM #1002-2)
- H: 15.5" x W: 9.4" x D: 3.25"
 - 12 gauge powder coated forest green aluminum
 - Weight: 7 lbs.
 - 400 bag capacity
 - Two diamond shaped bag dispenser slots
 - Front locking access panel
 - Clearly posted instructions
- (C) ALUMINUM TRASH RECEPTACLE WITH LID (ITEM #1206A-L)
- H: 23" x 11.5" diameter
 - 11 gauge powder coated forest green aluminum
 - Weight: 9 lbs.
 - 10 gallon capacity with interior trash liner bag retainer bands
 - Attached aluminum hinged lid
 - One (1) box 50 count OXO-BIODEGRADABLE DOGIPOT® Liner Trash Bags (ITEM #1404) included (5 lbs.)
- (D) TELESCOPIC GALVANIZED STEEL MOUNTING POST (ITEM #1301-P)
- 2" x 2" x 8"
 - 11 gauge galvanized steel
 - Weight: 15 lbs.



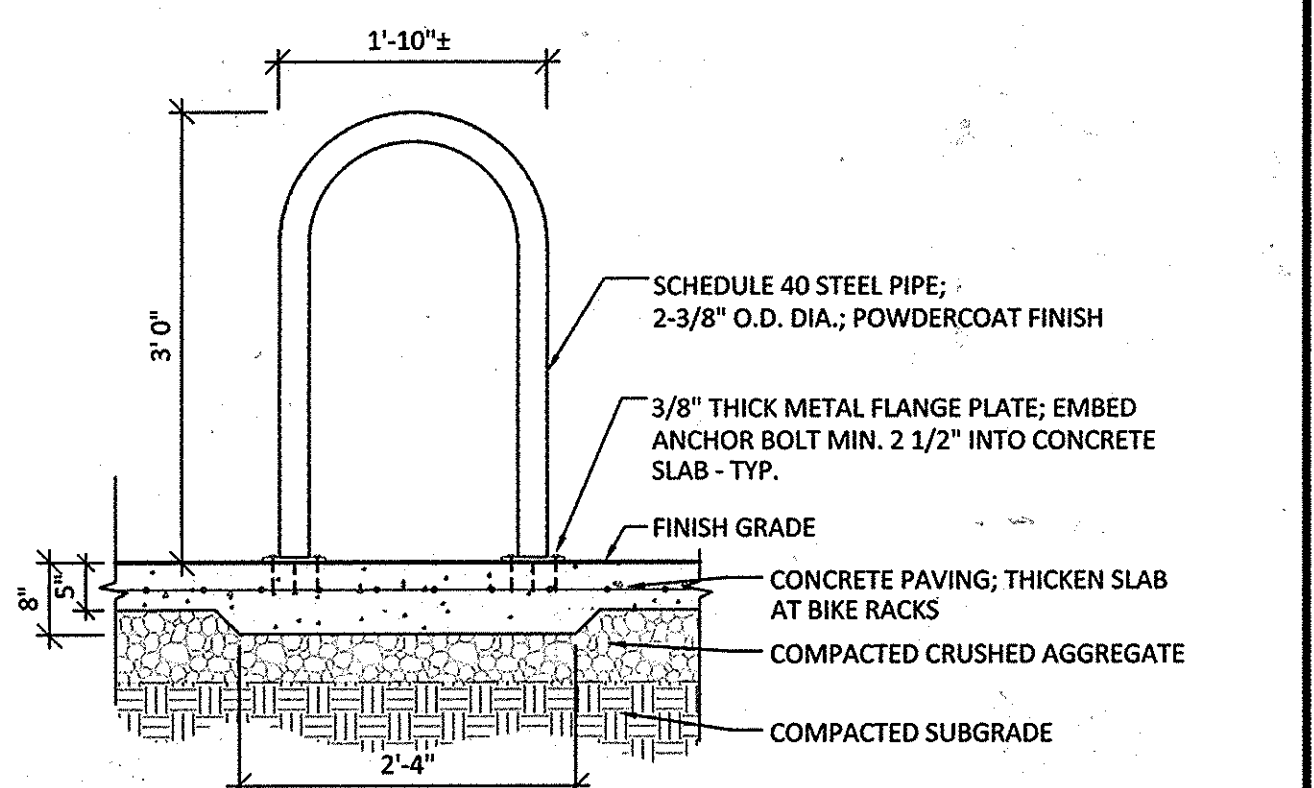
- TOTAL HEIGHT FROM ABOVE GROUND:
• 6'-6"
- SPACE BETWEEN DISPENSER AND SIGN:
• 1.0"
- SPACE BETWEEN RECEPTACLE AND DISPENSER:
• 12.5"
- SPACE BETWEEN GROUND AND RECEPTACLE:
• 8.0"
- HOLE:
• D: 18.0" x W: 8.0"
• Fill with 40 lbs. "ready to use" cement
- TOTAL SHIP WEIGHT: 45 LBS.
(MOUNTING HARDWARE INCLUDED)

5 DOG-WALKING STATION
N.T.S.

OR EQUAL

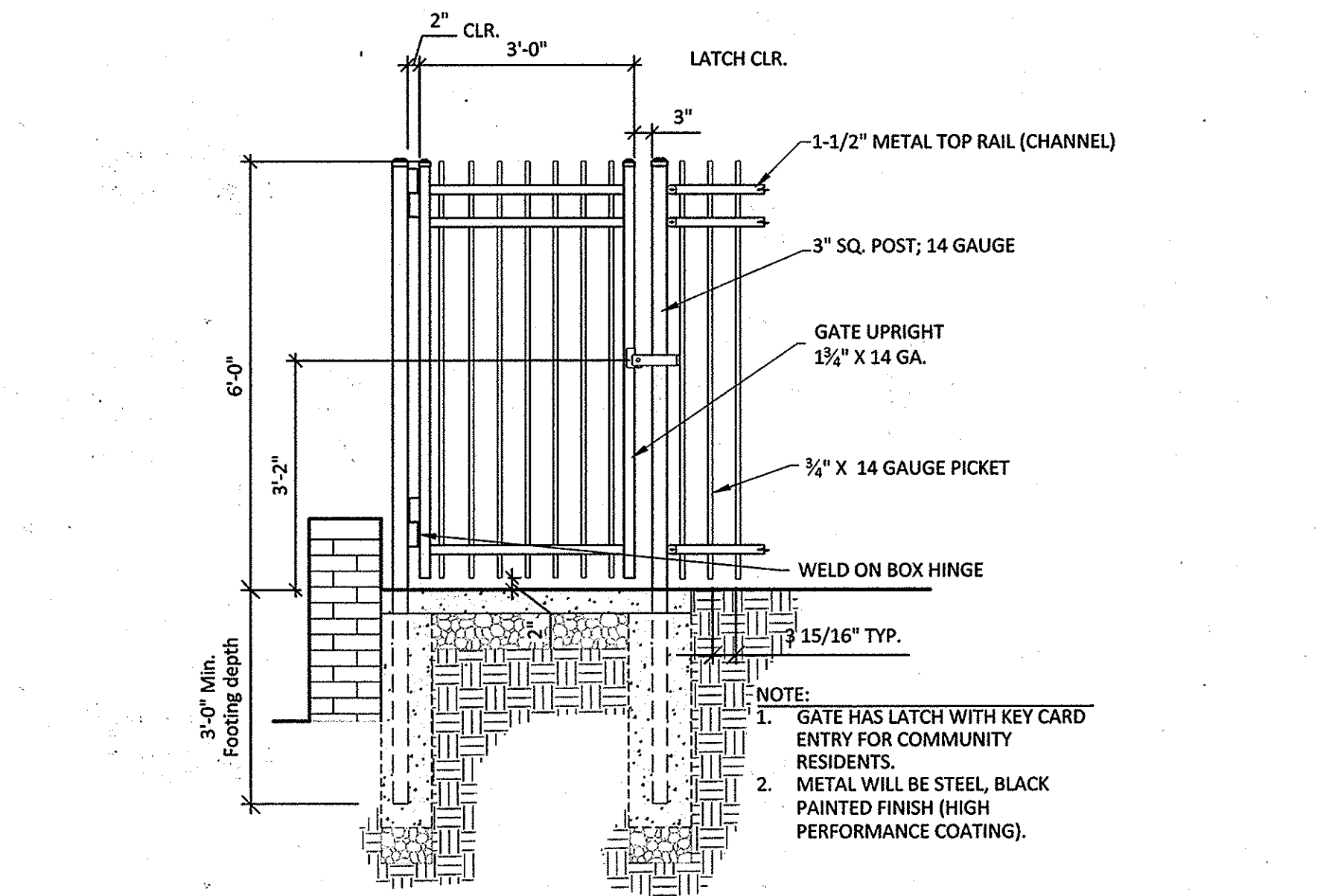


6 ORNAMENTAL METAL PICKET FENCE @ PERIMETER
1/2" = 1'-0"

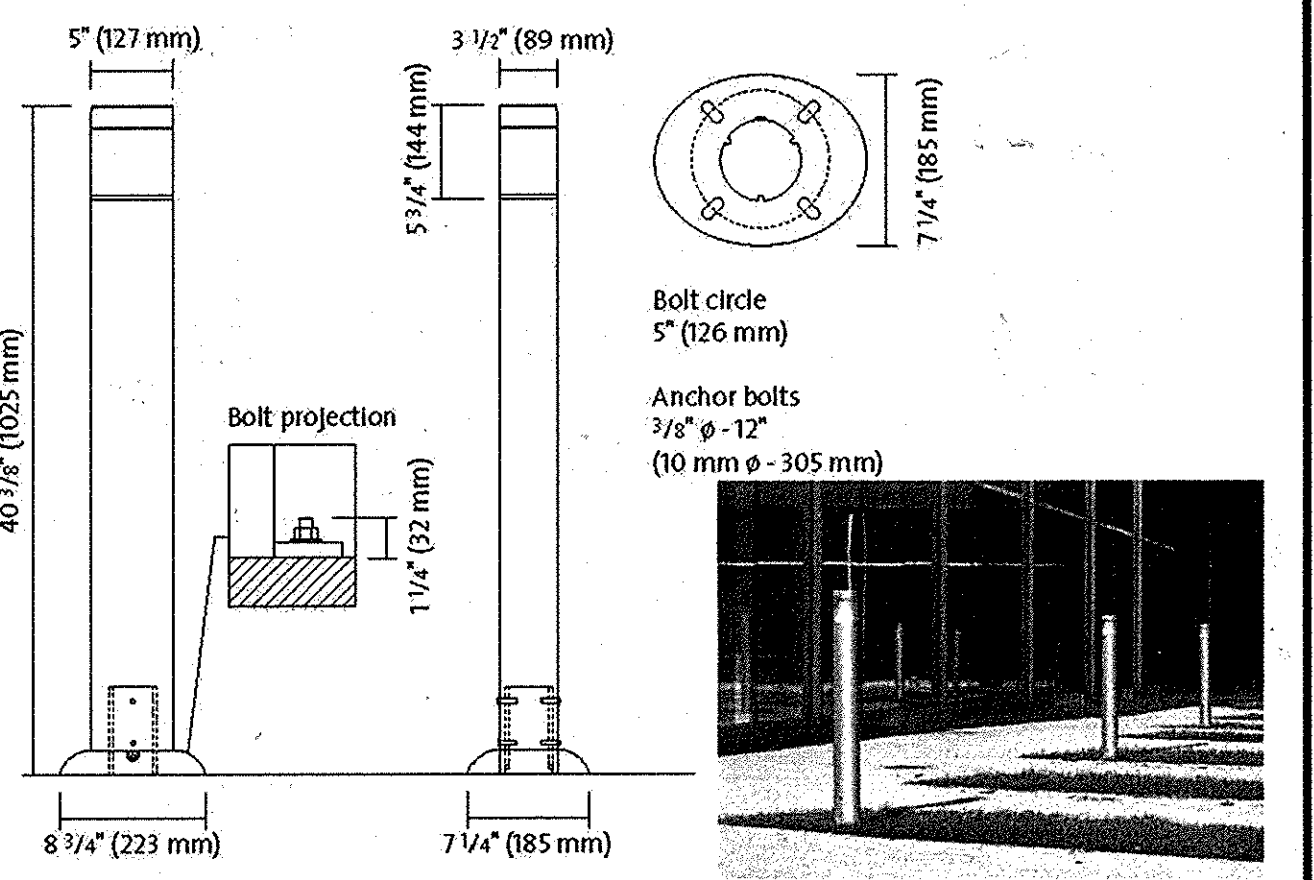


9 METAL BIKE RACK
3/4" = 1'-0"

OR EQUAL

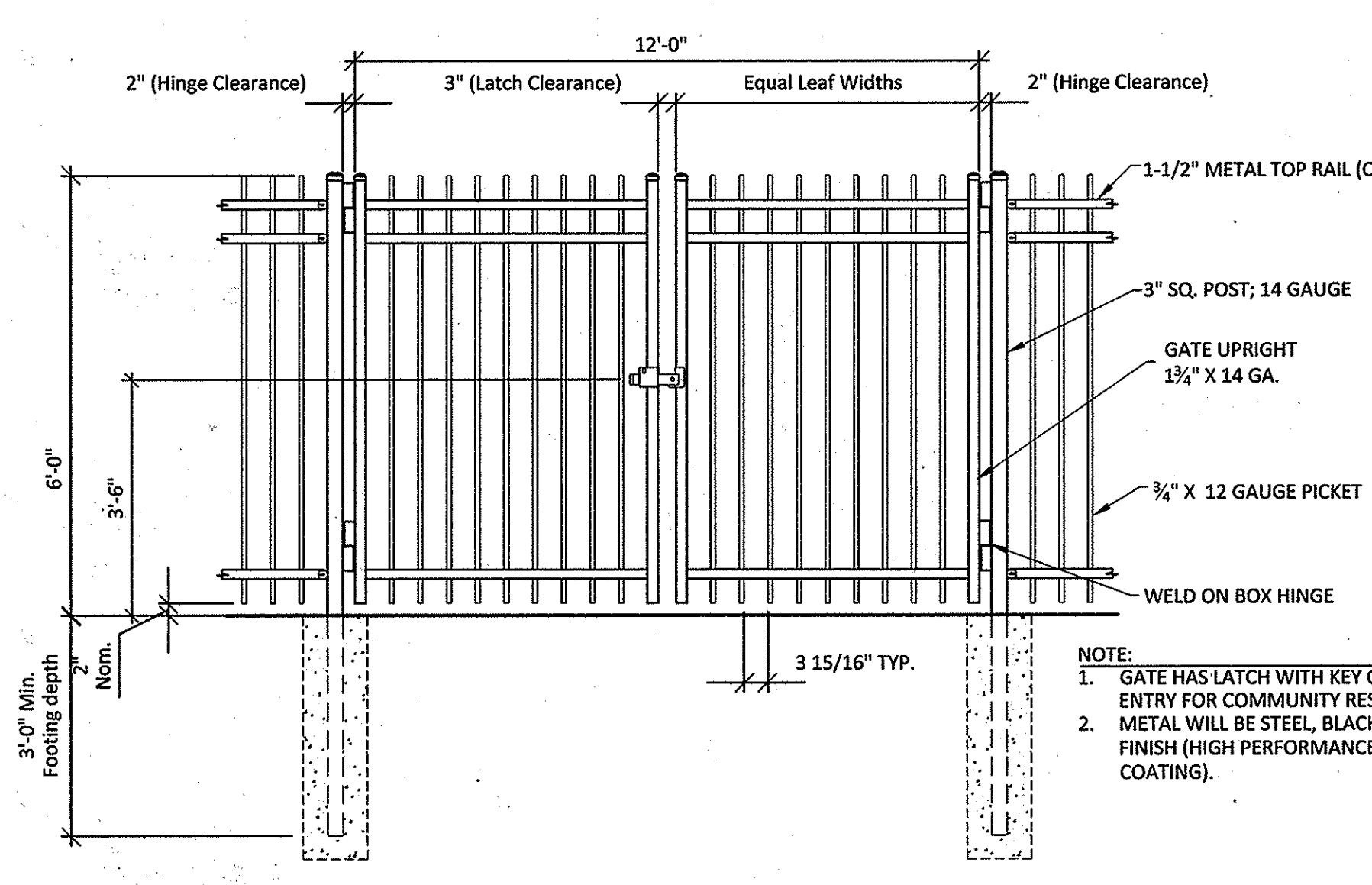


7 ORNAMENTAL METAL PICKET GATE @ COURTYARD
1/2" = 1'-0"



10 METAL BOLLARD W/ LIGHT
N.T.S.

OR EQUAL



8 DOUBLE GATE @ ORNAMENTAL METAL PICKET FENCE (ACCESS EASEMENT)
1/2" = 1'-0"

OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (168) AND TOWNHOMES (25)
TAX MAP 43 GRID 4 BLUE STREAM
1ST ELECTION DISTRICT BUILDABLE BULK PARCEL I-1 ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND PARCEL 14

hord | coplan | macht
ARCHITECTURE LANDSCAPE ARCHITECTURE PLANNING INTERIOR DESIGN
750 EAST PRATT STREET, SUITE 1100, BALTIMORE, MARYLAND 21202 PH. 410.837.7311

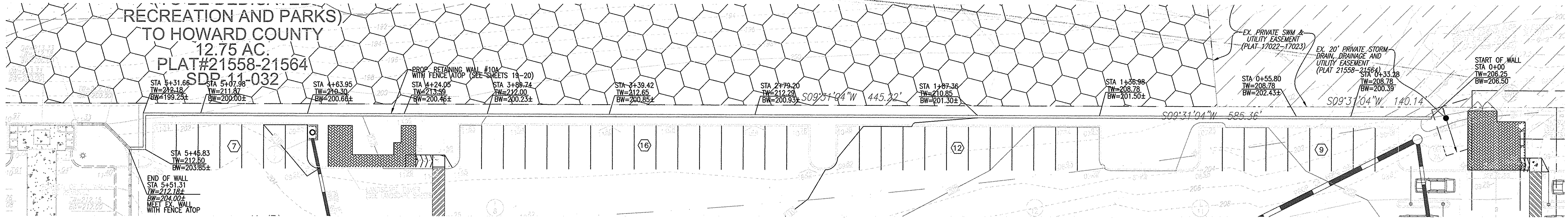
DESIGN BY: CS/DJD
DRAWN BY: DJD
CHECKED BY: CS
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.15

PROFESSIONAL CERTIFICATE
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 604

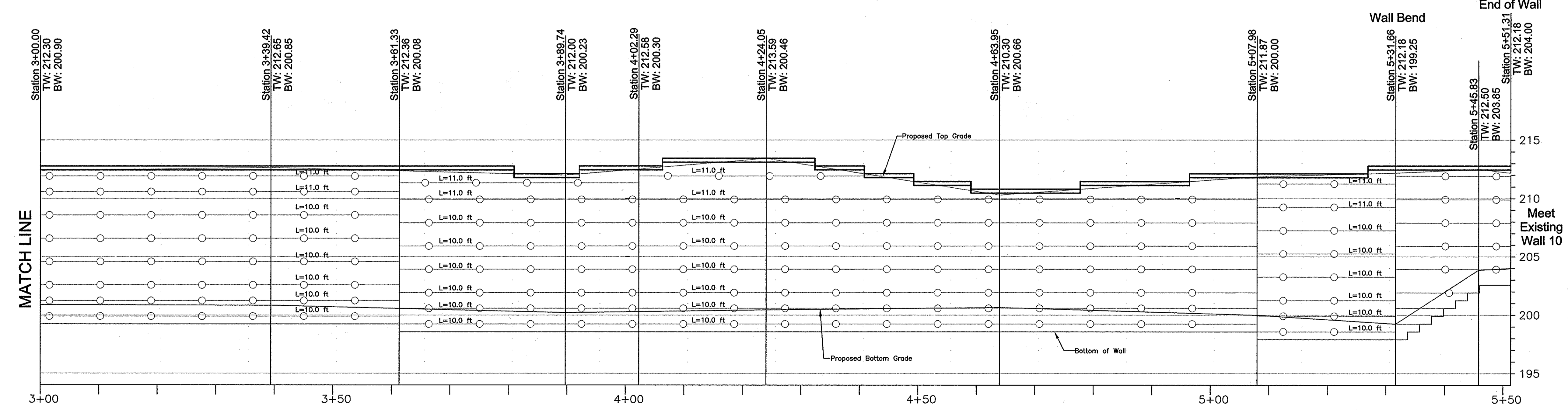
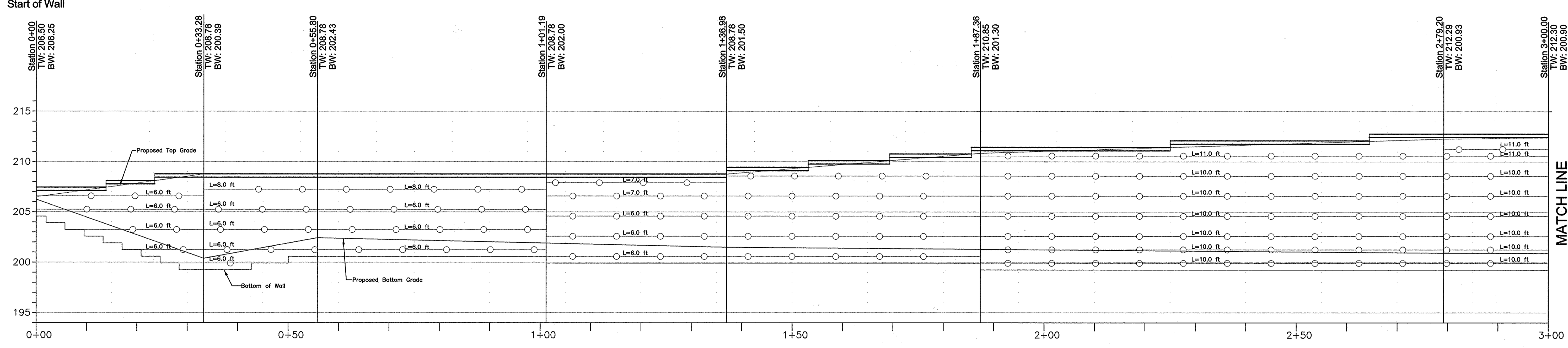
L9.0 SITE FURNISHINGS
18 SHEET OF 22

CHRIS SCHEIN, PER No. 684

RECREATION AND PARKS
TO HOWARD COUNTY
12.75 AC.
PLAT #21558-21564
SDP-11-032



SITE PLAN (BASED ON PLAN PROVIDED BY ROBERT H. VOGEL ENGINEERING)
SCALE: 1" = 20'



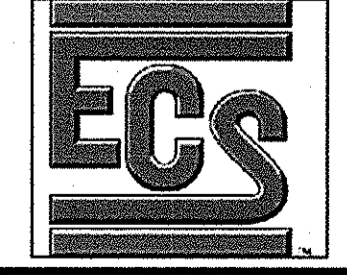
OWNER/DEVELOPER
BLUE STREAM LLC
PO BOX 416
ELLCOTT CITY, MD 21041
C/O: ARNOLD SAGNER
410-485-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
SITE RETAINING WALL
PLAN & PROFILE
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
APARTMENTS (188) AND TOWNHOMES (25)
BLUE STREAM
BUILDABLE BULK PARCEL I-1
ZONED: CAC-CL1

TAX MAP 43 GRID 4
1ST ELECTION DISTRICT

PARCEL 14
HOWARD COUNTY, MARYLAND



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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad P. ... 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kurt ... 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Wally ... 7-21-15
DIRECTOR DATE

WALL #10A PROFILE
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

NOTE: ALL GEOGRIDS ARE MIRAFI 5XT

PROFESSIONAL CERTIFICATE

DESIGN BY: DMA
DRAWN BY: DMA
CHECKED BY: HMA
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 5656-1

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. 29553, EXPIRES 12/31/15

HASAN M. ABOUMATAR, P.E.

19 SHEET OF 22

RETAINING WALL SPECIFICATION GUIDELINES




- PART 1: GENERAL**
- 1.01 Description
- Retaining walls must be constructed under the supervision of a Maryland Registered Professional Engineer.
 - 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.
 - 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.
 - 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
- ASTM C 90 Load Bearing Concrete Masonry Units.
 - ASTM C 140 Sampling and Testing Concrete Masonry Units.
 - ASTM D 448 Sizes of Aggregate for Road and Bridge Construction.
 - ASTM D 698 Laboratory Compaction Characteristics using Standard Effort.
- 1.03 Delivery, Storage and Handling
- Contractor shall check the materials upon delivery to assure that proper materials have been received.
 - Contractor shall prevent excessive mud, wet cement, epoxy, and similar materials (which may offit themselves) from coming in contact with the materials.
 - 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
- 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
- Modular Wall Units - KEYSTONE modular concrete facing and corner units, machine made from portland cement, water, and mineral aggregates.
 - Structural Geogrid - a structural geogrid formed by a regular network of integrity connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.
 - 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.
 - Reinforced Backfill - Compacted soil which is within the reinforced soil volume as shown on the plans.
 - 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.
 - Retained Backfill - On-site material located behind the reinforced zone of soil.
- 2.02 Concrete Units
- Concrete segmental units shall conform to the requirements of NCMA TEK 2-4 and have a minimum 28-day compression strength of 4,000 psi. The units shall also pass 150 freeze thaw cycles in water with less than 1% weight loss for samples tested in accordance with ASTM C-1202.
 - Wall Face Units for general wall construction shall be KEYSTONE Compac II Units. Sculptured face or straight (flat) face may be used.
 - Top of wall Cap Units shall have fiberglass connecting pins.
 - KEYSTONE Compac II Units shall be tan in color, based on manufacturer's availability.
- 2.03 Fiberglass Connecting Pins
- Connecting pins shall be 1/2" diameter thermostat isophthalic polyester resin-pultruded fiberglass reinforcement rods supplied by the unit manufacturer.
- 2.04 Construction Adhesive
- Construction adhesive for top of wall cap blocks shall be KEYSTONE KapSealTM. Material shall conform to ASTM 2339 and shall be supplied by the block unit supplier.
- 2.05 Soil Fill Materials
- Base Leveling and Pad Material
 - Material shall consist of crushed stone (GA S/B) 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.
 - Unit Fill/Drainage Aggregate
 - 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 5% passing the No. 50 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.
 - Reinforced Backfill
 - Material shall consist of soil classified as SM 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.
 - Impervious Soil
 - 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.
 - Sample Submittal
 - 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.
 - Soil must meet or exceed the friction angle specified in design parameters.
- 2.07 Structural Geogrid
- The geogrid identified for the retaining wall consists of the following:
 - Mirafi 5XT.
 - The material shall be protected from sunlight and weather while stored on site in accordance with the manufacturer's recommendation.
- 2.08 Geotextile
- 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.
 - The geotextile shall consist of a Mirafi 140N.
 - Where geogrids 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.
 - 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.

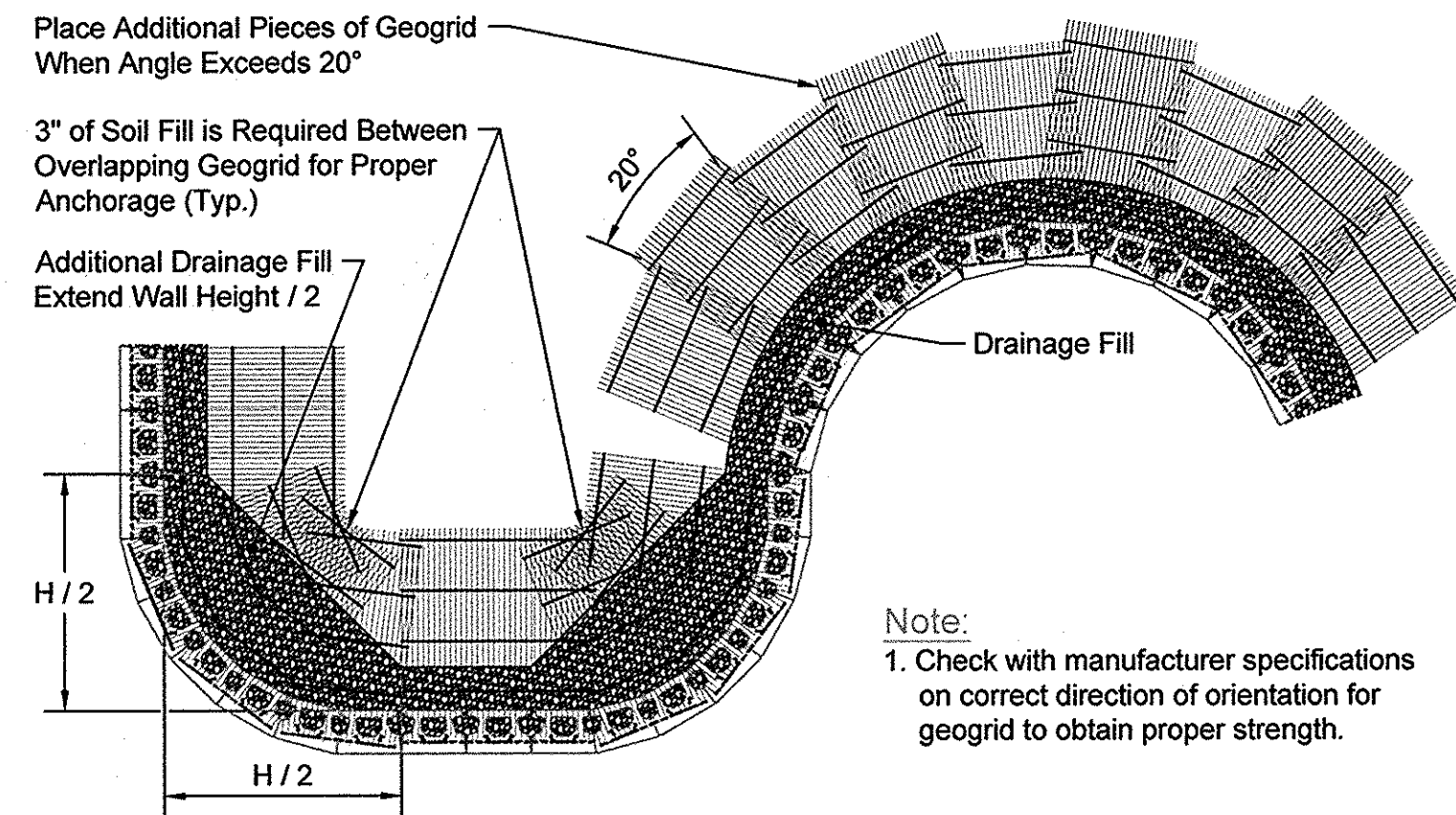
- PART 3: INSTALLATION**
- 3.01 Excavation
- Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown.
 - All existing topsoil, rootmat and other soft or unsuitable materials shall, at a minimum, be removed from the footprint of the retained soil mass.
 - 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
- Foundation shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the Geotechnical Engineer.
 - The required bearing pressure beneath the footing of the wall must be verified in the field by a Geotechnical Engineer.
 - Unsuitable soils shall be removed and replaced with approved material.
 - Over-excavated areas shall be backfilled with approved, compacted backfill material or as approved by the Geotechnical Engineer.
- 3.03 Base Leveling Pad
- Leveling pad materials shall be placed upon an approved foundation as shown on the construction drawings to a minimum thickness of 6 inches.
 - 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
- 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.
 - Install fiberglass connecting pins and fill all voids in and around the modular units with unit fill material. Tamp or rod unit fill to ensure that all voids are completely filled.
 - Sweep excess material from top of units and install the next course. Ensure that the units of each course are completely filled, backfilled and compacted prior to proceeding to next course.
 - 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 against the pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height. Wall construction shall not exceed 2 courses in height before reinforced backfill is placed.
 - Follow wall erection and unit fill placement closely with any other backfilling required. Compaction of all soils shall be to 95% of the maximum dry density as determined in accordance with ASTM D 698.
 - As appropriate where the wall changes elevation, units can be stepped with the grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.
- 3.05 Geogrid Installation
- 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.
 - Correct orientation (roll direction) of the geogrid shall be verified by the Contractor.
 - The geogrid shall be connected to the modular wall units by placing geogrid over fiberglass pins and laying the grid back to the fill side.
 - 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.
 - The geogrid shall be pulled taut 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 geogrid from immediately behind the wall to the back end of the geogrid.
 - 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 overlapping layers of geogrid.
- 3.06 Drainage Installation
- Provide 4-inch weep holes every 8 feet along the wall.
- 3.07 Fill Placement
- 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.
 - Backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid. Backfill shall be placed in horizontal layers. The excavation face shall be stepped or notched to provide compaction of backfill on a level surface and to increase the interlock between the retained soils and the reinforced backfill.
 - Only hand-operated compaction equipment shall be allowed within 5 feet of the back surface of the KEYSTONE or equivalent units.
 - 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.
 - Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles shall not be permitted overtop the geogrid.
 - Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds (less than 10 mph). Avoid sudden braking and sharp turning.
 - The suitability of the fill material must be confirmed by a Geotechnical Engineer.
 - 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
- Provide permanent mechanical connection to wall units with KEYSTONE KapSealTM.
 - Apply adhesive to top surface of lower unit and place cap unit atop adhesive.
 - Place Cap Units over projecting pins from the units below. Pull forward to setback position.
 - Backfill and compact to finished grade.

DESIGN PARAMETERS

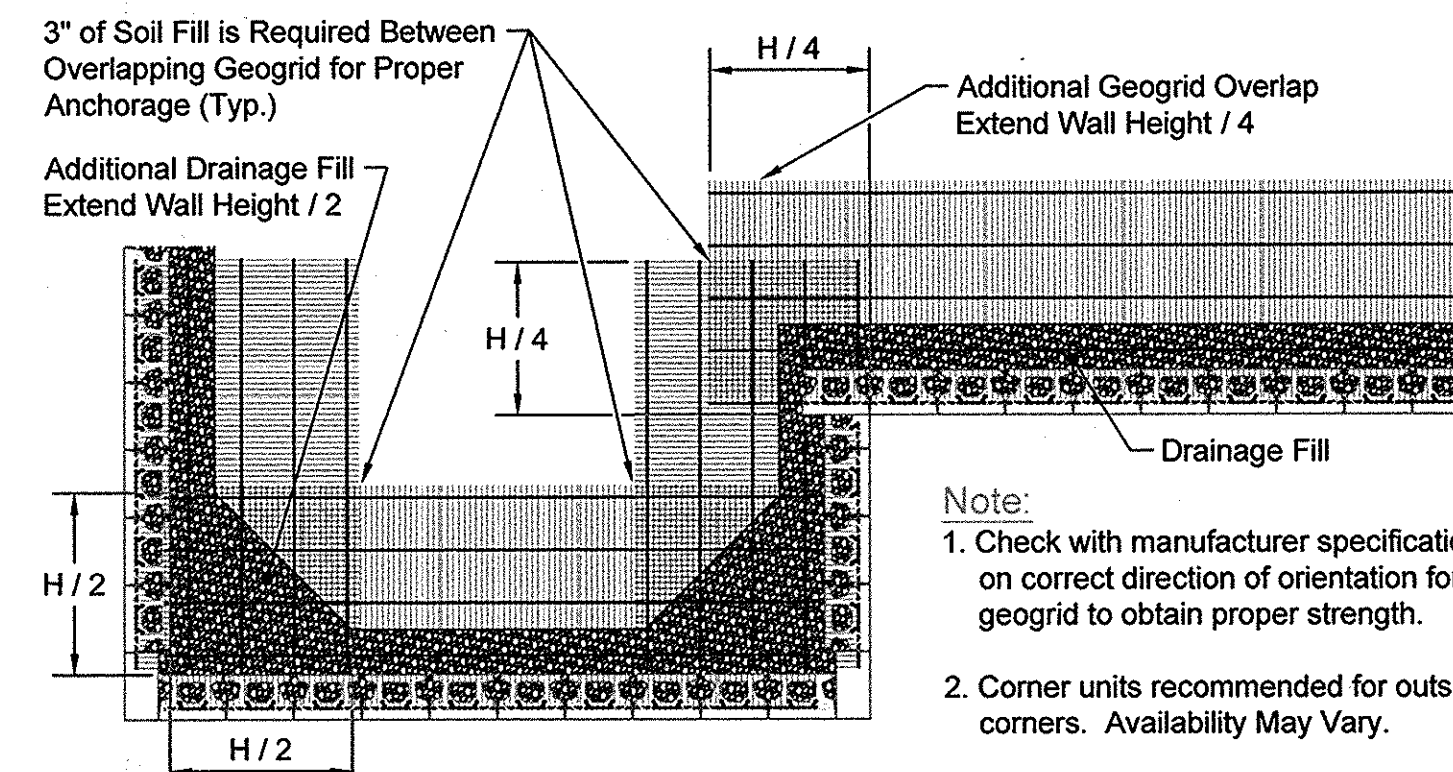
Configuration:	Soil Parameters:	Minimum Friction Angle	Minimum Unit Weight (pcf)
Battered face wall (4 DEG.)	Soil Type		
10'-6" / 3,000	Reinforced fill (94, 95, or more granular)	30	120
Maximum Exposed Wall Height / Minimum Allowable Bearing Pressure (psf):	Retained soils	28	120
Backslope Angle:	Foundation soils	28	120
Toe Slope Angle:			
Wall Embedment:			
Varies (3H:1V maximum)			
Varies (4H:1V maximum)			
Varies (16 inches minimum)			
(See Profile)			

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

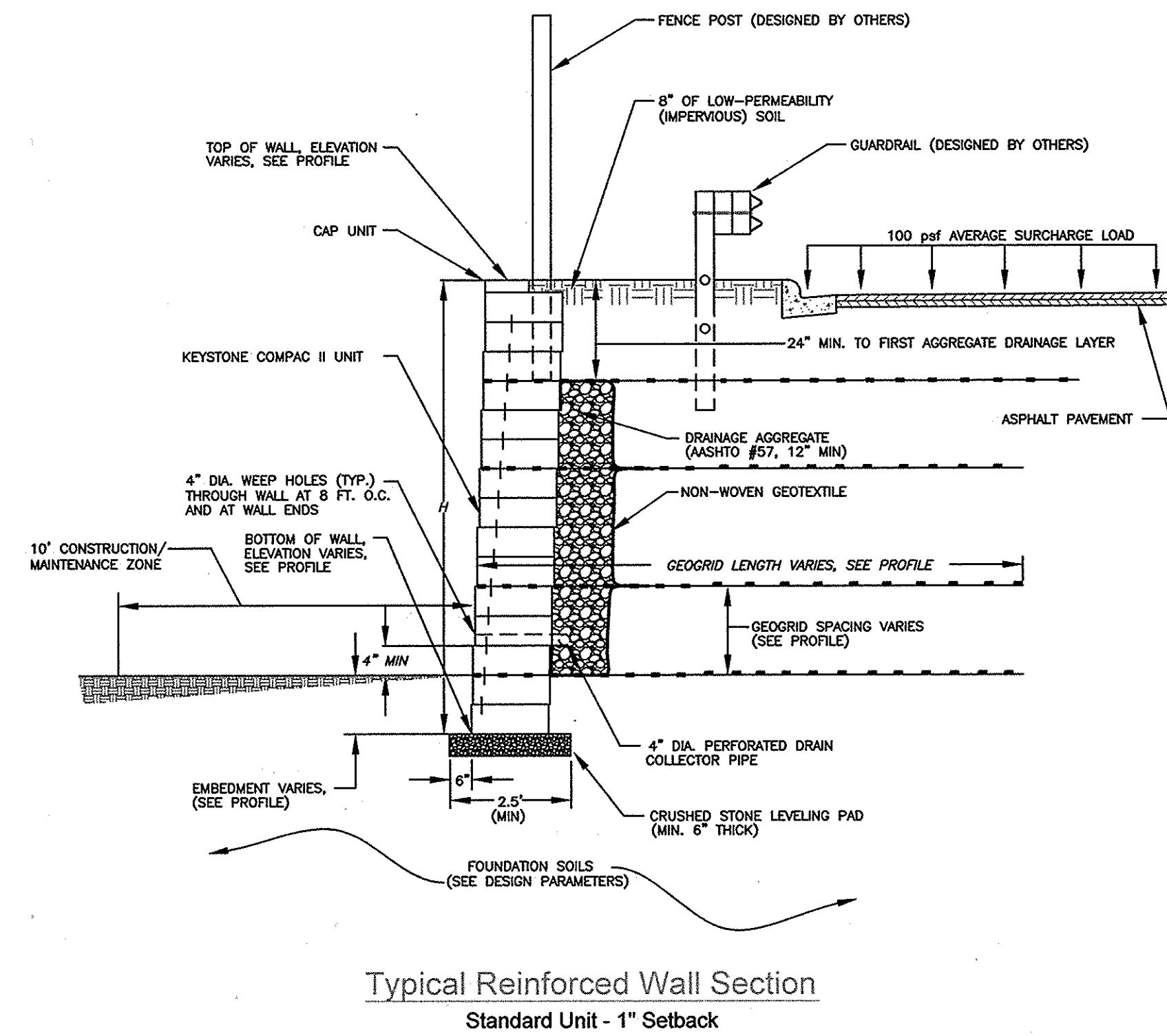
 7-8-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 7-16-15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 7-21-15
 DIRECTOR DATE



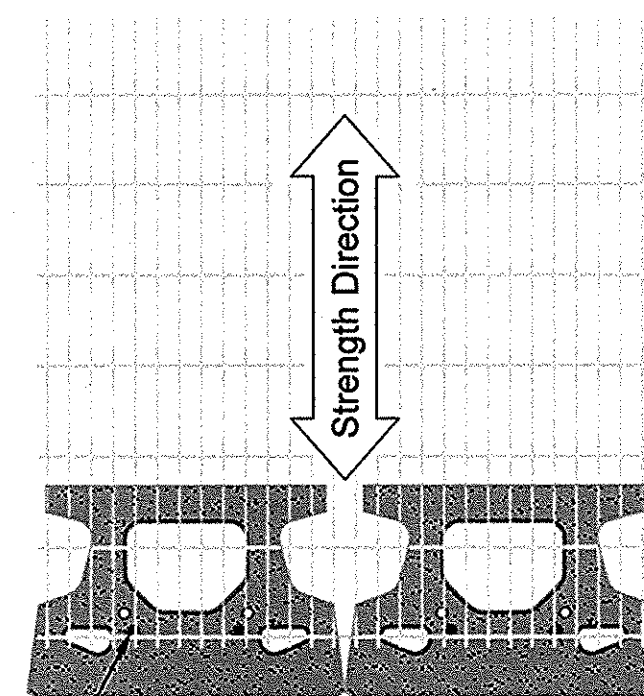
Geogrid Installation on Curves



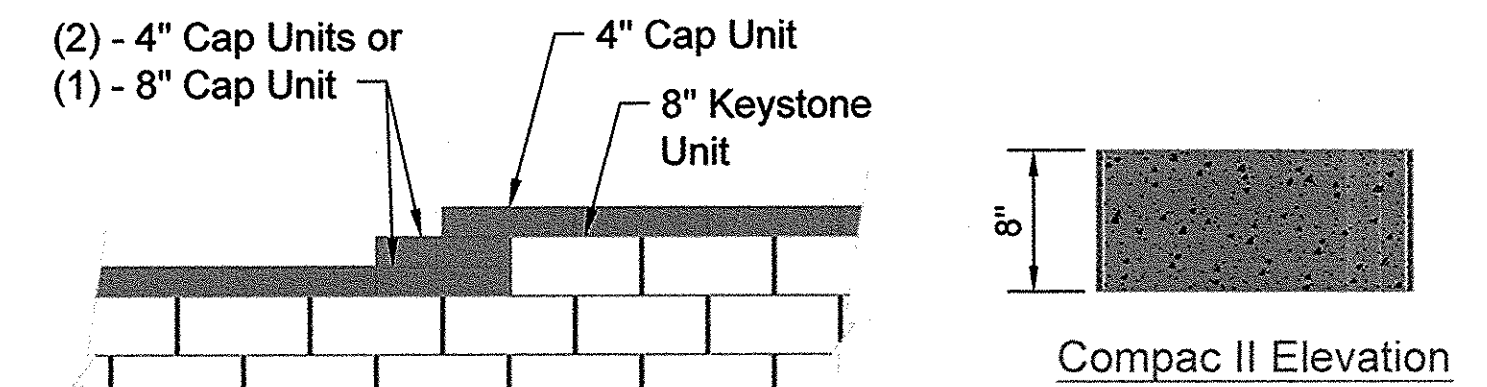
Geogrid Installation at Corners



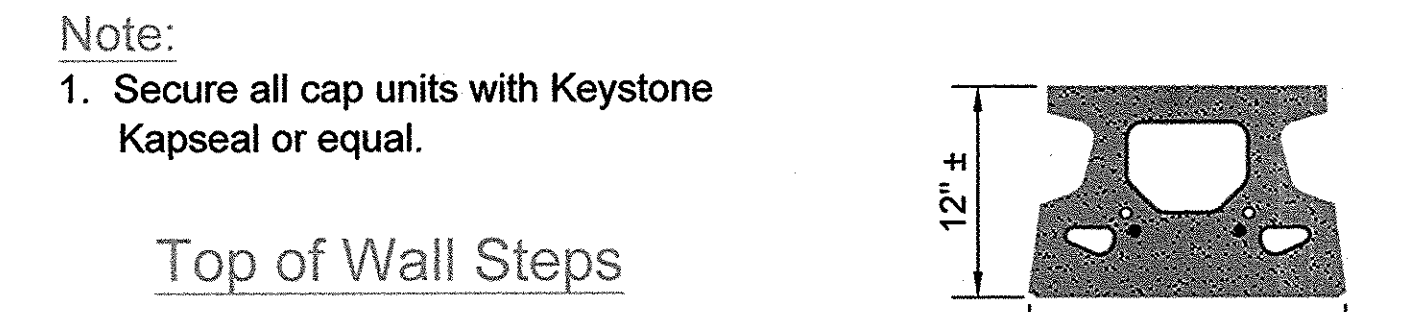
Typical Reinforced Wall Section Standard Unit - 1" Setback



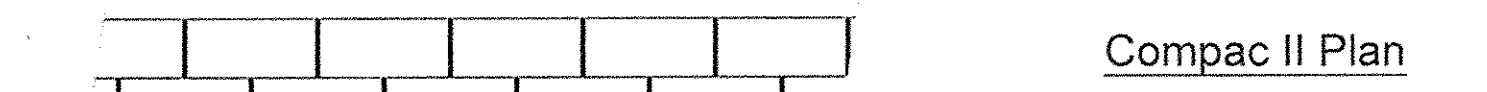
Grid & Pin Connection



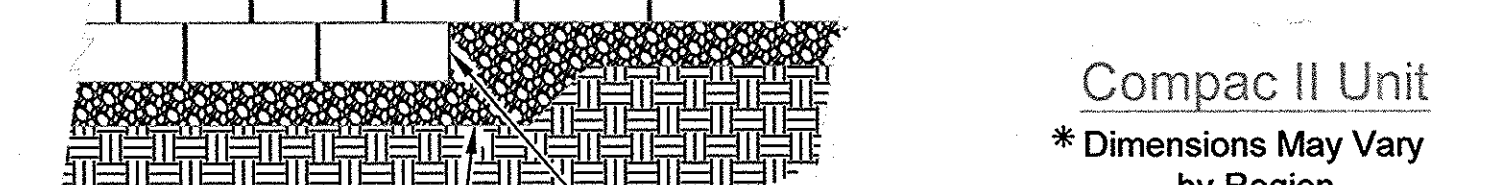
Compac II Elevation



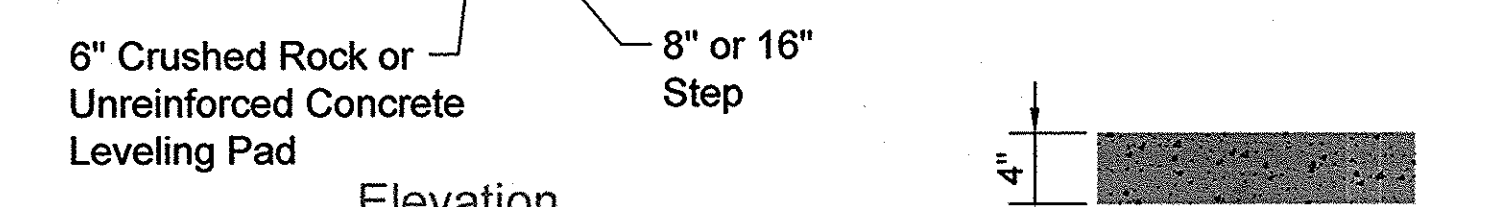
Top of Wall Steps



Compac II Plan

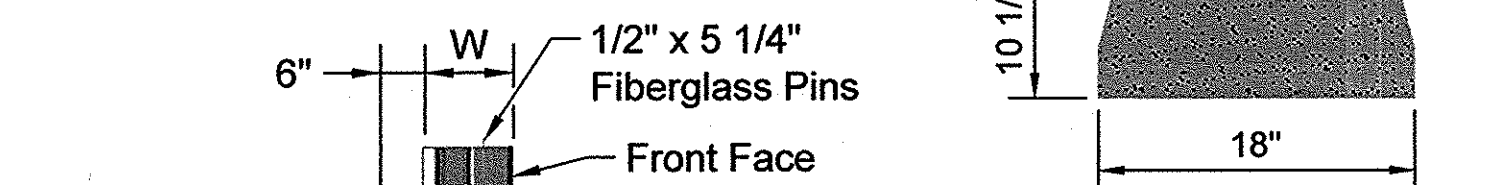


Compac II Unit

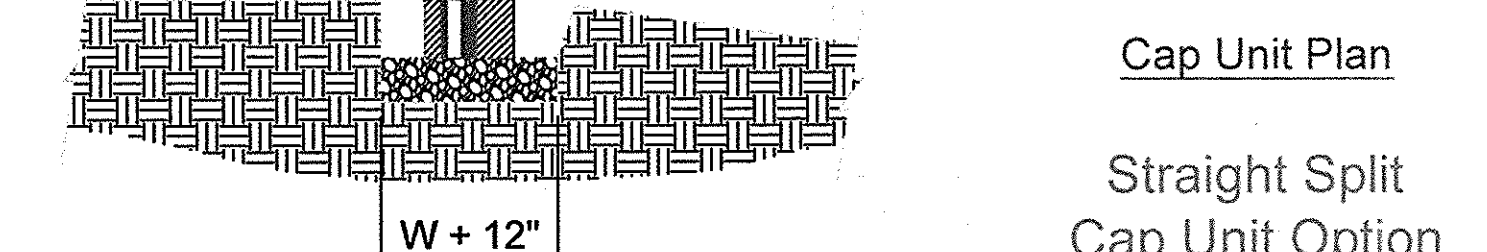


Cap Unit Elevation

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



Cap Unit Plan



Straight Split Cap Unit Option



Leveling Pad Detail

OWNER/DEVELOPER
 BLUE STREAM LLC
 PO BOX 416
 ELLICOTT CITY, MD 21041
 C/O: ARNOLD SAGNER
 410-465-2020

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
SITE RETAINING WALL DETAILS
BROMPTON HOUSE (GROSVENOR HOUSE, PHASE II)
 APARTMENTS (168) AND TOWNHOMES (25)
 BLUE STREAM BUILDABLE BULK PARCEL I-1
 ZONED: GAC-CL1 HOWARD COUNTY, MARYLAND

TAX MAP 43 GRID 4 1ST ELECTION DISTRICT PARCEL 14

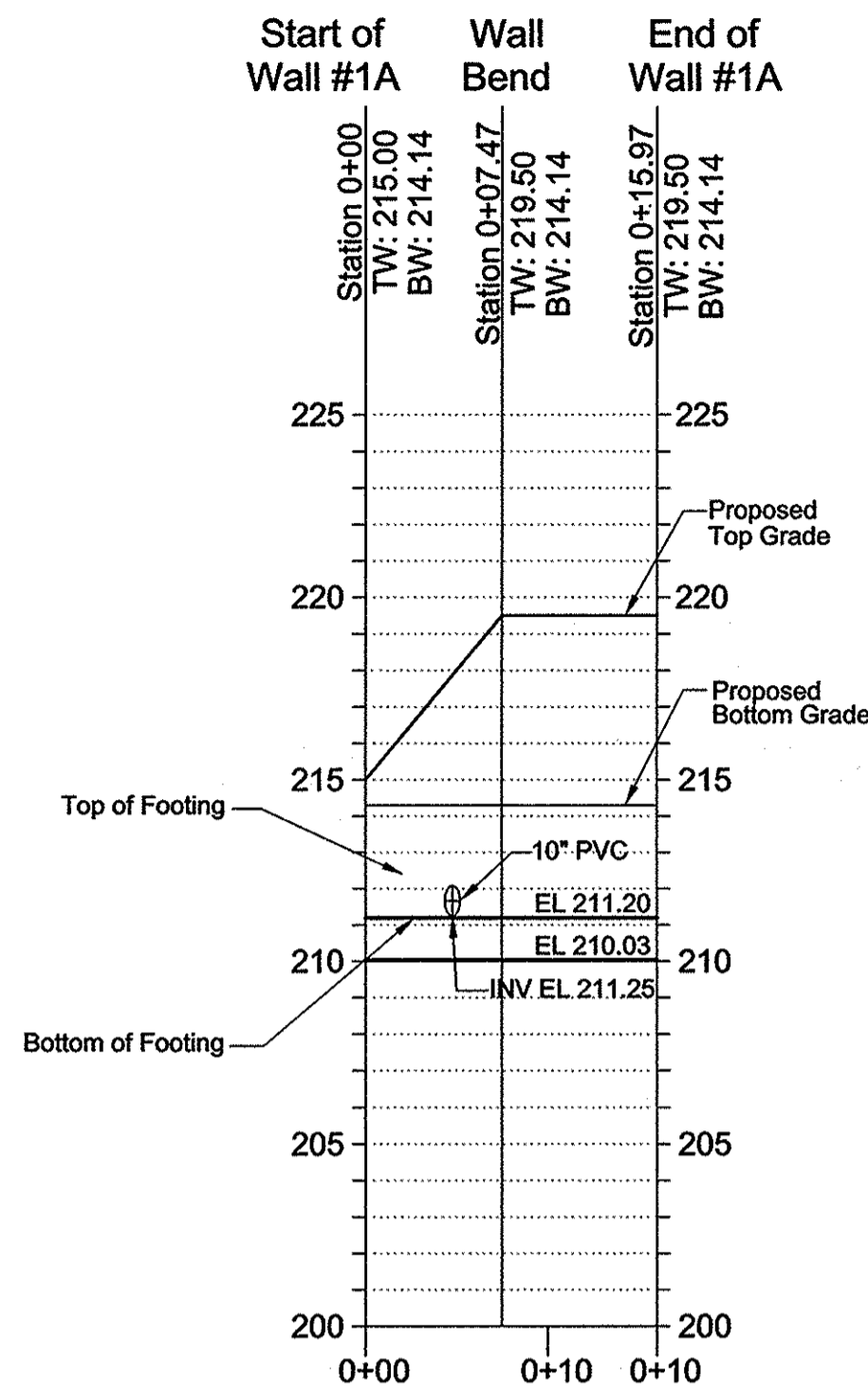
ECS 1340 CHARWOOD ROAD SUITE A HANOVER, MARYLAND 21076 PHONE: (410) 858-4300 FAX: (410) 859-4324

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. 29553 EXPIRATION DATE: 12/31/15

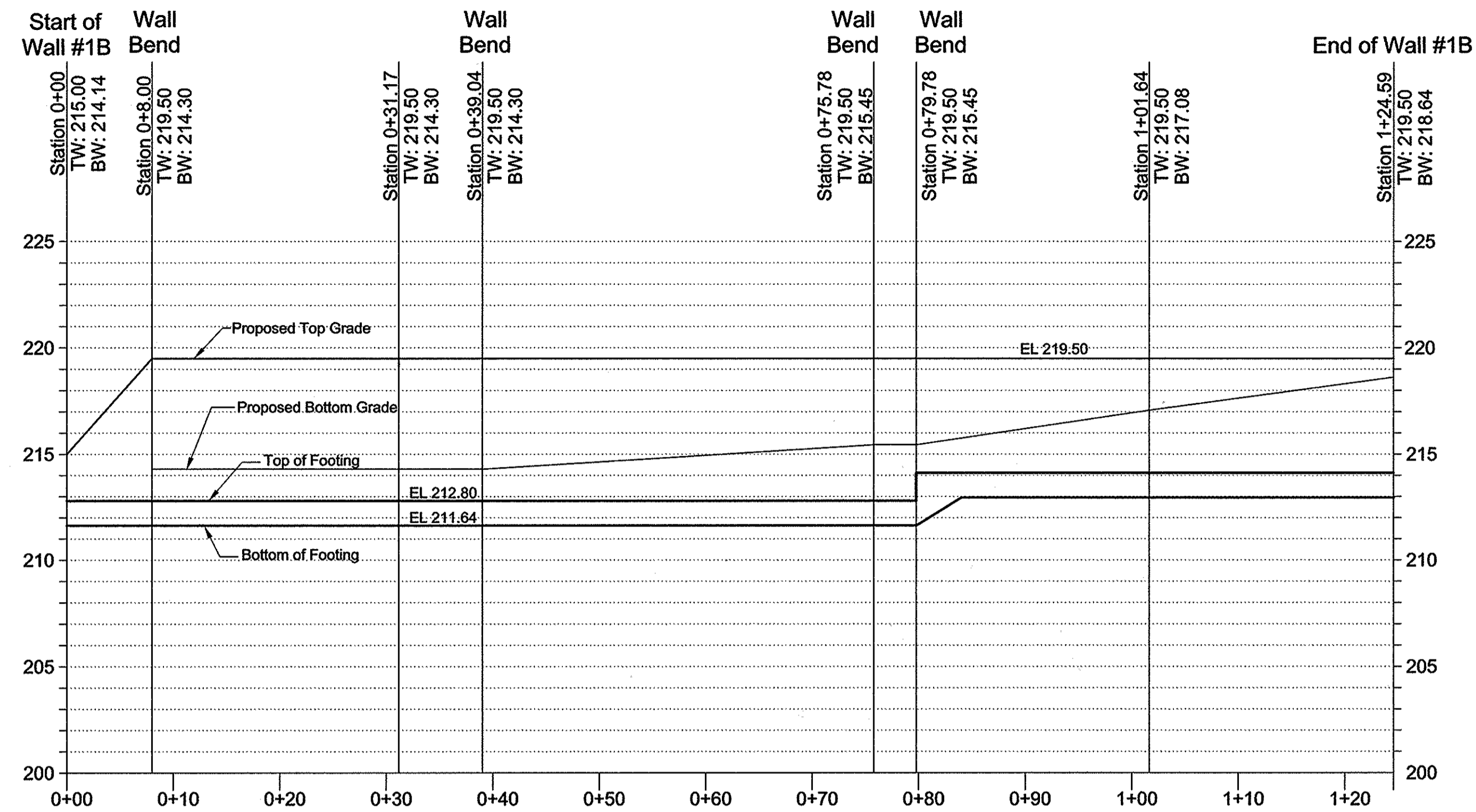
DESIGN BY: DMA
 DRAWN BY: DMA
 CHECKED BY: HMA
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 5656-1

20 SHEET OF **22**

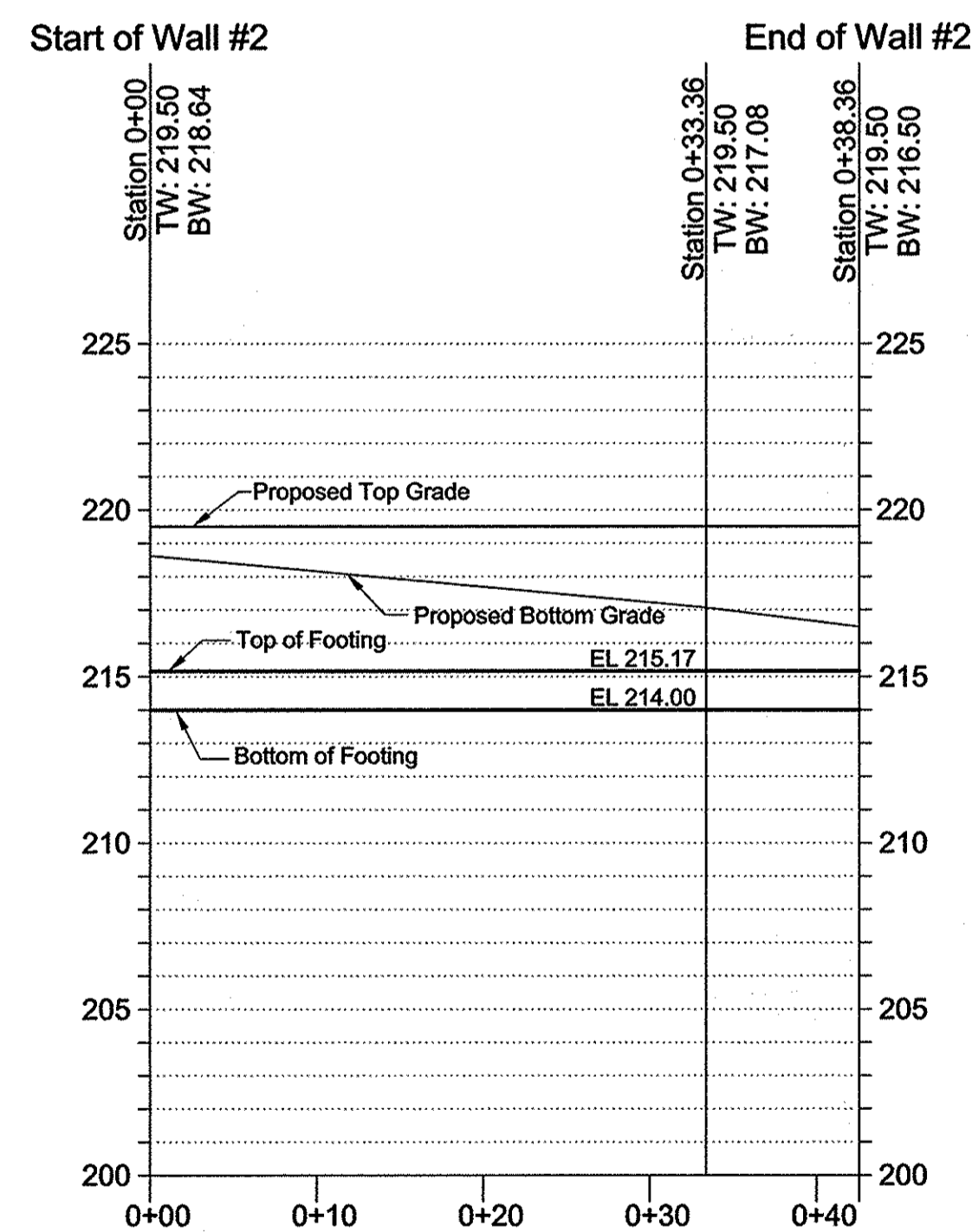
HASAN M. ABDUMATAR, P.E.



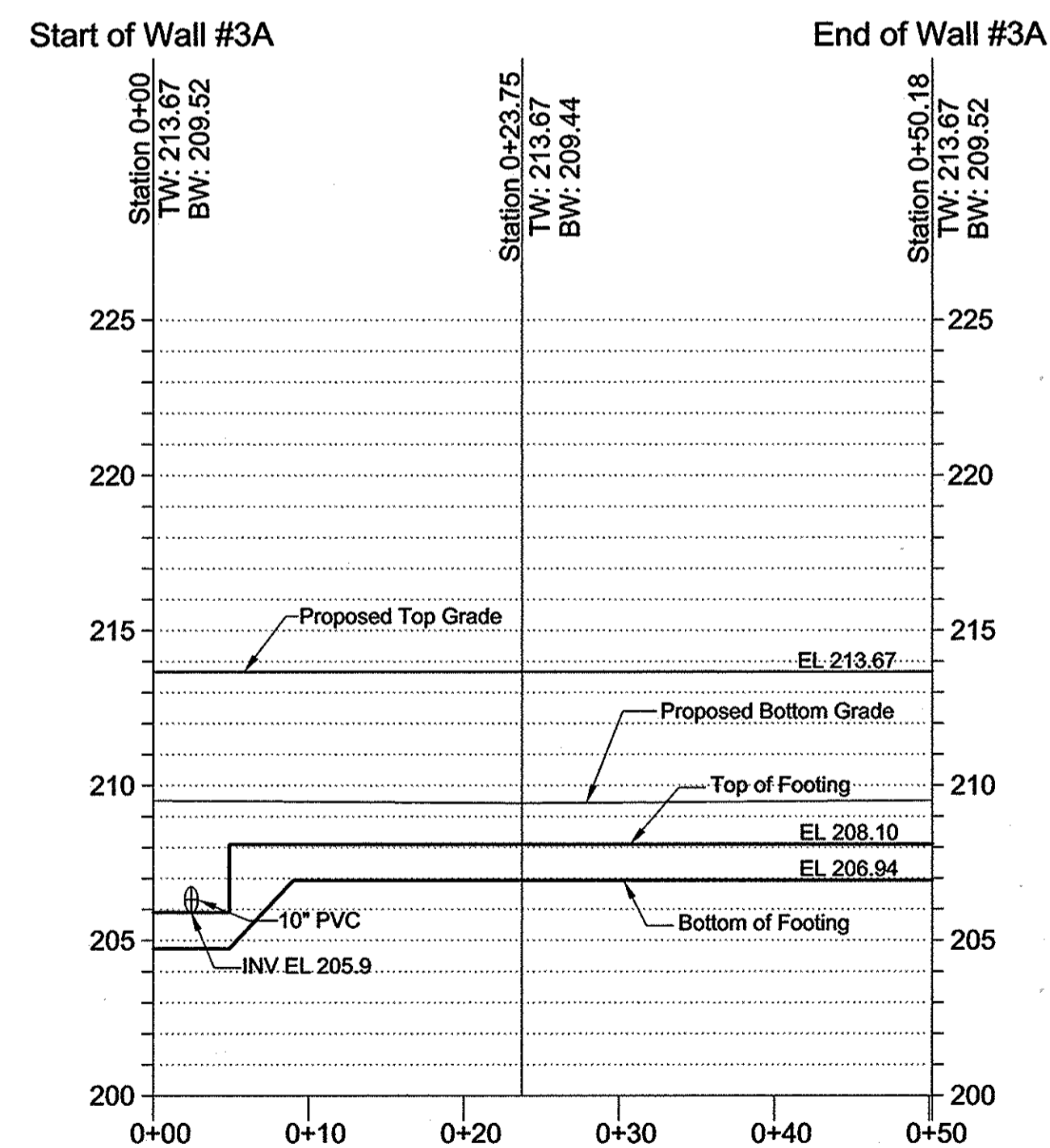
WALL #1A PROFILE
 HORIZONTAL SCALE: 1"=10'
 VERTICAL SCALE: 1"=5'



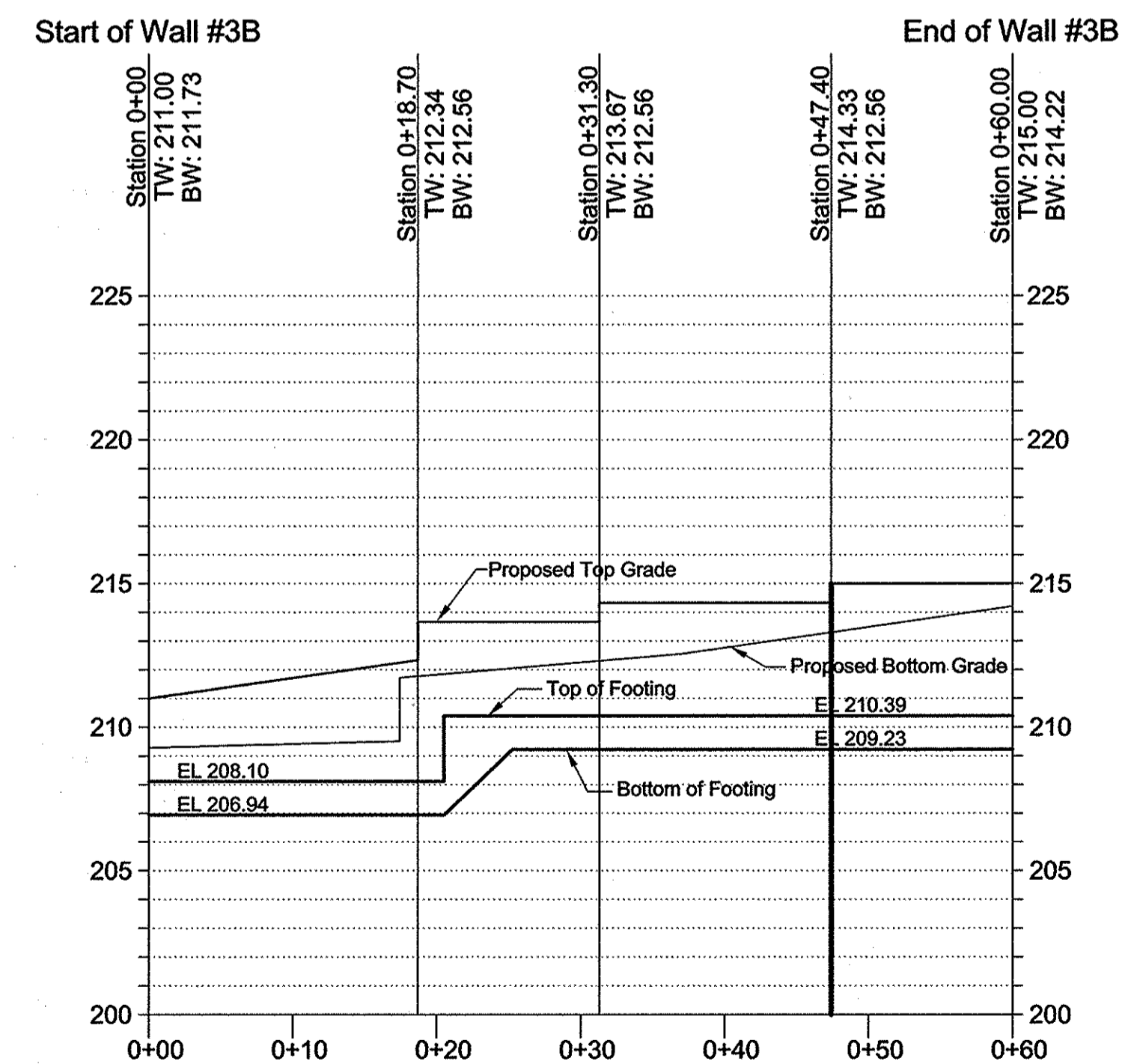
WALL #1B PROFILE
 HORIZONTAL SCALE: 1"=10'
 VERTICAL SCALE: 1"=5'



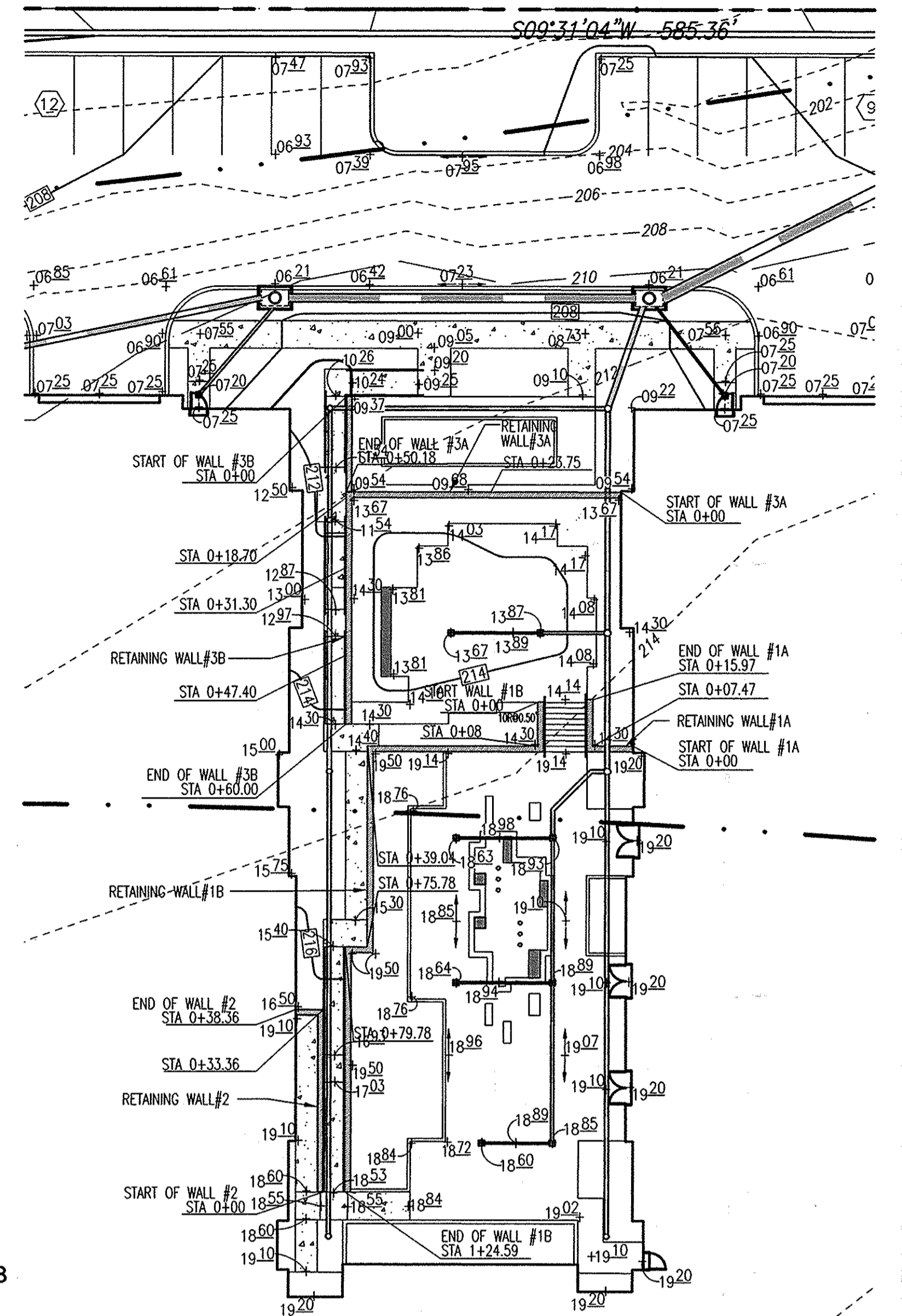
WALL #2 PROFILE
 HORIZONTAL SCALE: 1"=10'
 VERTICAL SCALE: 1"=5'



WALL #3A PROFILE
 HORIZONTAL SCALE: 1"=10'
 VERTICAL SCALE: 1"=5'



WALL #3B PROFILE
 HORIZONTAL SCALE: 1"=10'
 VERTICAL SCALE: 1"=5'



SITE PLAN
 SCALE: 1"=20'

OWNER/DEVELOPER
 BLUE STREAM LLC
 PO BOX 416
 ELLICOTT CITY, MD 21041
 C/O: ARNOLD SAGNER
 410-465-2020

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SITE DEVELOPMENT PLAN
COURTYARD RETAINING WALLS
PLAN & PROFILES
BROMPTON HOUSE
(GROSVENOR HOUSE, PHASE II)
 APARTMENTS (168) AND TOWNHOMES (25)
 BLUE STREAM
 TAX MAP 43 GRID 4 BUILDABLE BULK PARCEL 1-1 PARCEL 14
 1ST ELECTION DISTRICT ZONED: CAC-CL1 HOWARD COUNTY, MARYLAND

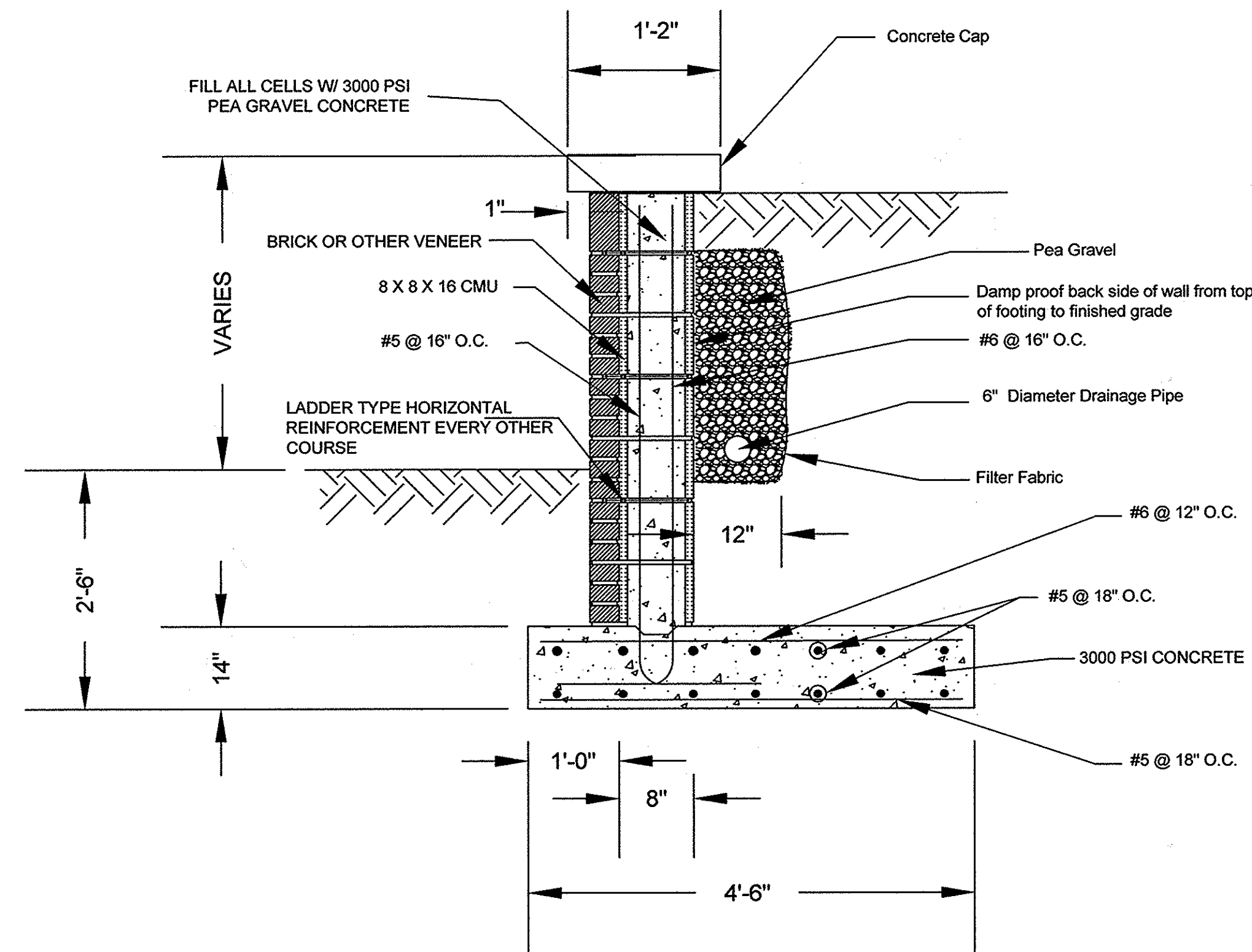
ECS
 1340 CHARWOOD ROAD
 SUITE A
 HANOVER, MARYLAND 21076
 PHONE: (410) 859-4300
 FAX: (410) 859-4324

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad Edwards 7-8-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
Kristina Orvola 7-16-15
 CHIEF, DIVISION OF LAND DEVELOPMENT
Walter J. Miller 7-21-15
 DIRECTOR

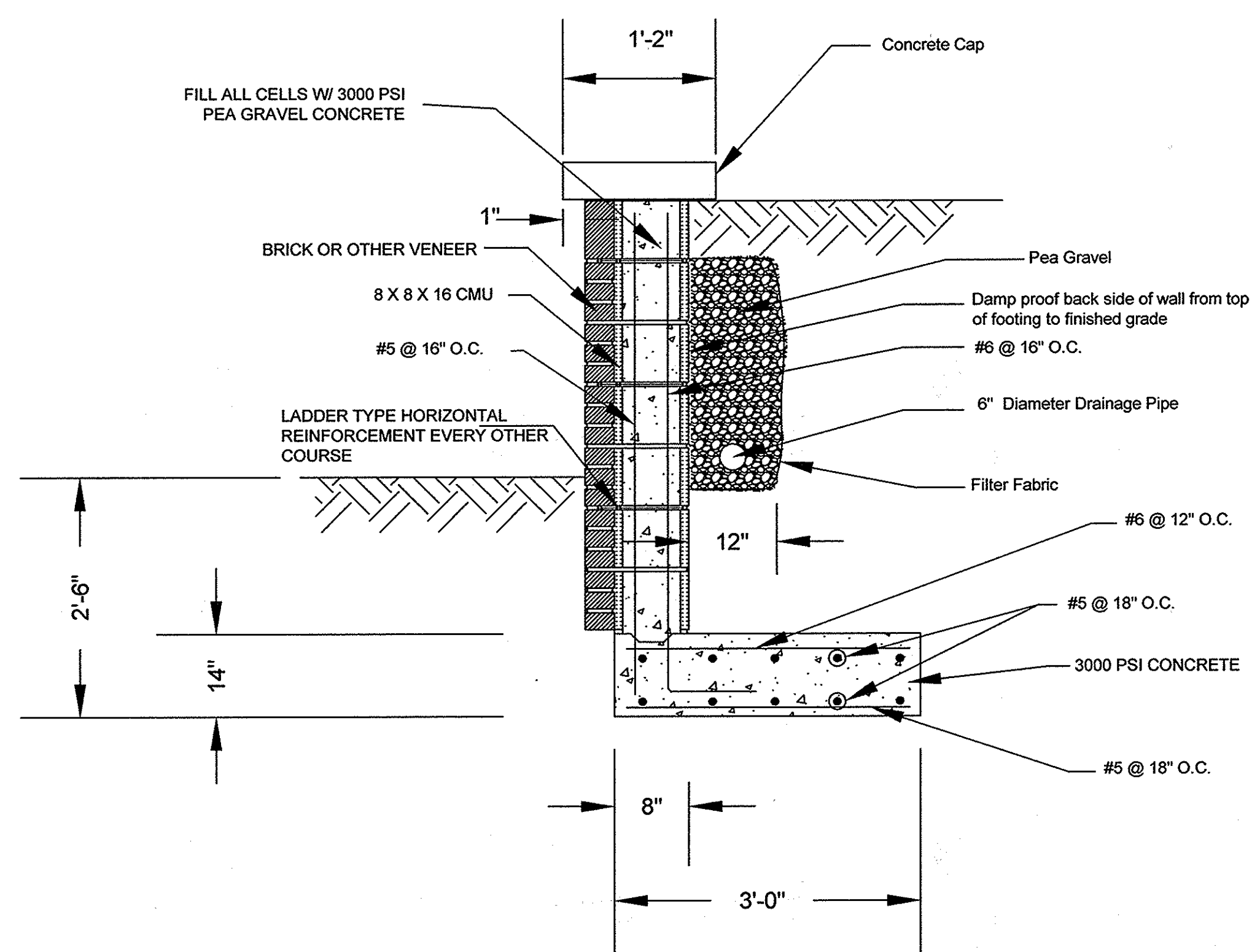
DESIGN BY: HMA/DMA
 DRAWN BY: DMA
 CHECKED BY: HMA
 DATE: JUNE 2015
 SCALE: AS SHOWN
 W.O. NO.: 02-5656-12

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. 25593
 EXPIRATION DATE 12/31/15

21 SHEET OF 22



TYPICAL WALL SECTION - WALLS #1A, #1B, #3A AND #3B
NOT TO SCALE



TYPICAL WALL SECTION - WALL #2
NOT TO SCALE

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, and installing all materials to the lines and grades shown on the construction drawings.

1.02 Codes and Standards

- A. "International Building Code - 2012", International Code Council, Inc.
- B. "ACI Manual of Concrete Practice - Parts 1 Through 5 - 2013"
- C. "Manual of Standard Practice" - Concrete Steel Reinforcing Institute
- D. "American Society for Testing and Materials"
- E. ASTM C 90 Load Bearing Concrete Masonry Units.
- F. ASTM C 140 Sampling and Testing Concrete Masonry Units.
- G. ASTM D 448 Sizes of Aggregate for Road and Bridge Construction.
- H. ASTM D 698 Laboratory Compaction Characteristics using Standard Effort.

1.03 Delivery, 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 100 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 3,000 psi.
- C. Concrete shall have a maximum slump of 6 inches and shall be air entrained to 6% (+/- 1%) by volume. Concrete for foundations does not require air entrainment.
- D. Concrete shall have a minimum density of 145 pcf and a maximum water-to-cement ratio of 0.50

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 at least 30 percent, by weight, retained on the U.S. No. 200 sieve.
- C. Materials should have a Liquid Limit less than 45, and a Plasticity Index less than 20.
- D. Material should have a minimum friction angle of 28 degrees and a minimum dry unit weight of 120 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 Masonry Units

- A. Concrete Masonry Units - Modular concrete facing units, machine made from portland cement, water, and mineral aggregates.
- B. Unit Fill/Concrete - A high-slump pea gravel concrete, with a minimum design strength of 3,000 psi.
- C. Concrete masonry units shall conform to the requirements of NCM TEK 2-4 and have a minimum 28-day compression strength of 4,000 psi. The units shall also pass 150 freeze thaw cycles in water with less than 1% weight loss for samples tested in accordance with ASTM C-1262.

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.

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 of the wall exceeds 12 inches, only hand-operated compaction equipment shall be allowed.
- F. Drainage pea gravel layer shall be placed against the wall, extending from the 6" below drain pipe up to within 12 inches of final grade at the top of the wall.

3.06 Unit Installation

- A. The first course of CMU's shall be carefully placed on concrete footing. Each unit shall be checked for level (in both directions) and alignment.
- B. Spliced rebar must overlap at least 20 inches.
- C. Reinforcement must be placed prior to grouting.
- D. Fill all voids in and around the concrete masonry units with unit fill material.
- E. As appropriate where the wall changes elevation, units can be stepped with the grade.
- F. Installation of corners and curves shall be per the unit manufacturer's recommendations.
- G. Brick Veneer shall be connected with horizontal reinforcement of CMU or equivalent.

3.07 Cap Installation

- A. Concrete cap can be installed using Z-ties.

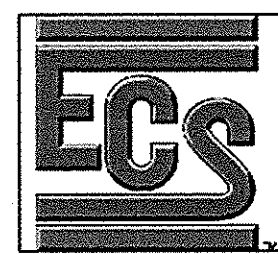
3.08 Finish

- 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.

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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad E. ... 7-8-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Keith ... 7-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William ... 7-21-15
DIRECTOR DATE

DESIGN BY: HMA/DMA
DRAWN BY: DMA
CHECKED BY: HMA
DATE: JUNE 2015
SCALE: AS SHOWN
W.O. NO.: 02-5656-12

PROFESSIONAL CERTIFICATE
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OF MARYLAND, LICENSE NO. 25553
EXPIRATION DATE 12/31/15

HASAN M. ABOUMATAR, P.E.
22 SHEET OF 22