

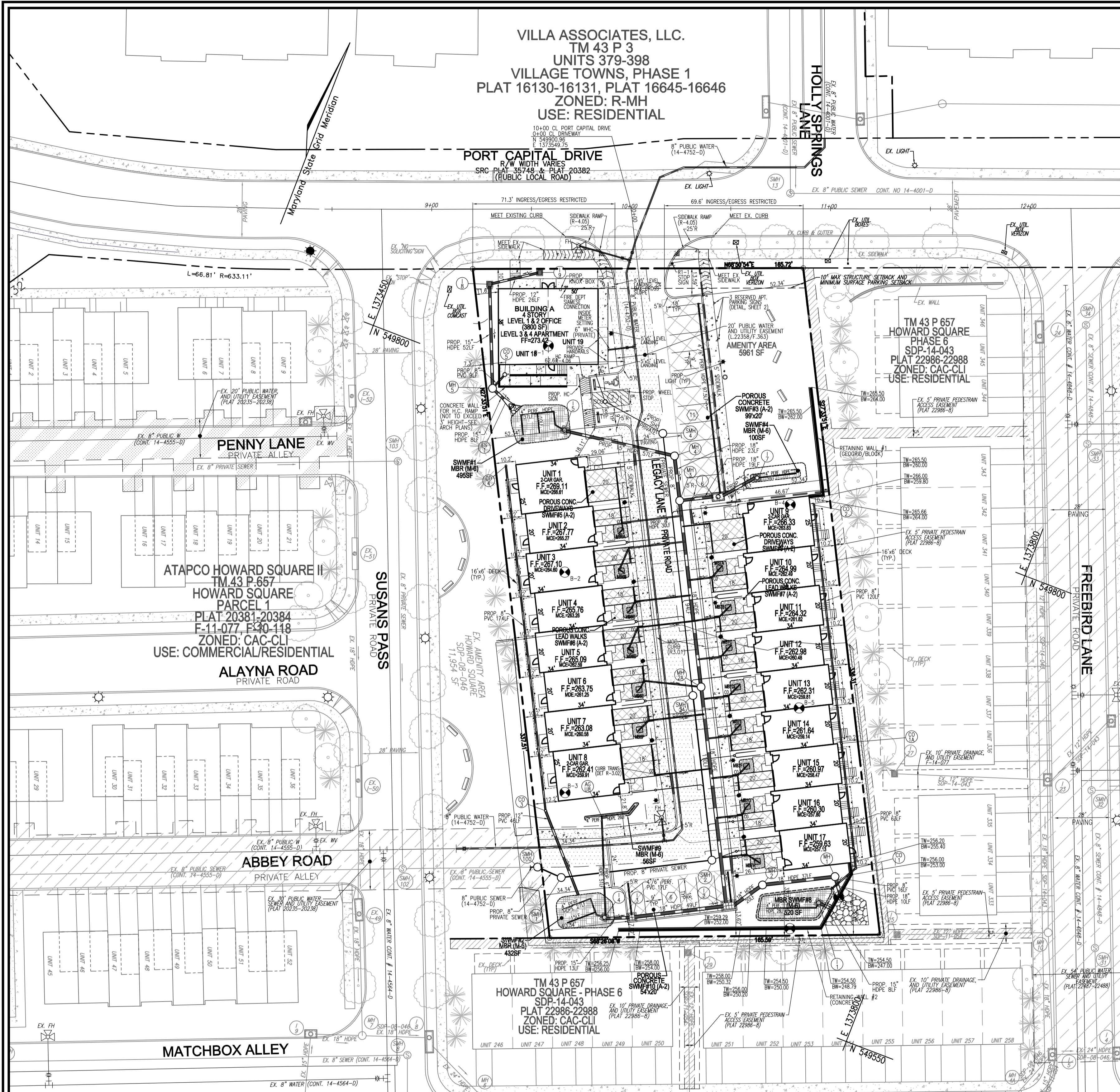
VILLA ASSOCIATES, LLC.
TM 43 P 3
UNITS 379-398
VILLAGE TOWNS, PHASE 1
PLAT 16130-16131, PLAT 16645-16646
ZONED: R-MH
USE: RESIDENTIAL

PORT CAPITAL DRIVE
R/W WIDTH VARIES
SRC PLAT 22986-22988
(PUBLIC LOCAL ROAD)

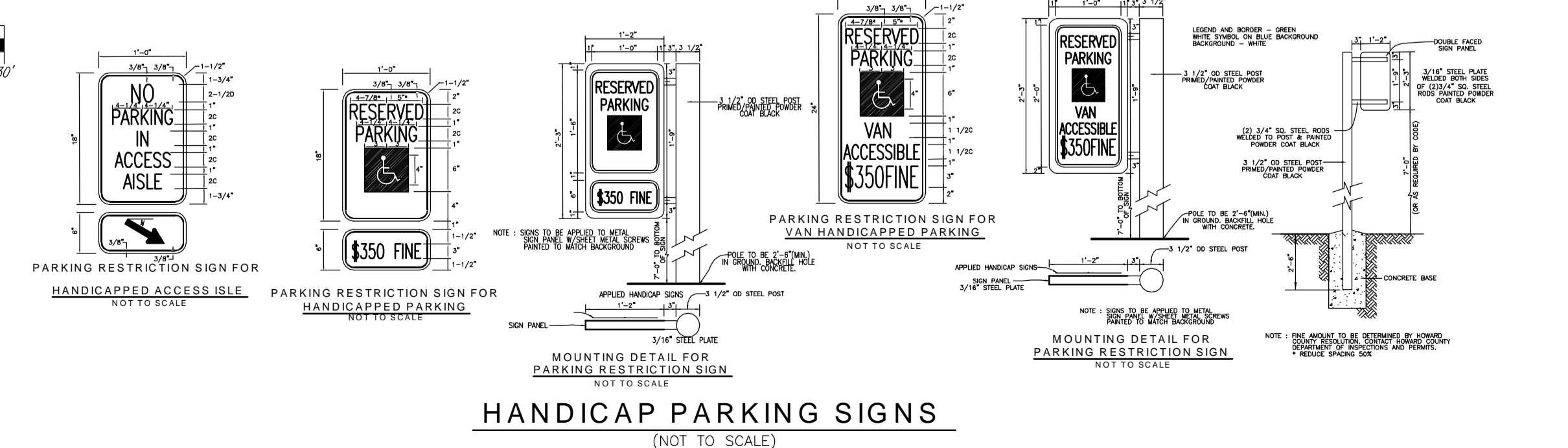
HOLLY SPRINGS
LANE

ATAPCO HOWARD SQUARE II
TM 43 P 657
HOWARD SQUARE
PARCEL 1
PLAT 20381-20384
F-11-077, F-40-118
ZONED: CAC-CL
USE: COMMERCIAL/RESIDENTIAL

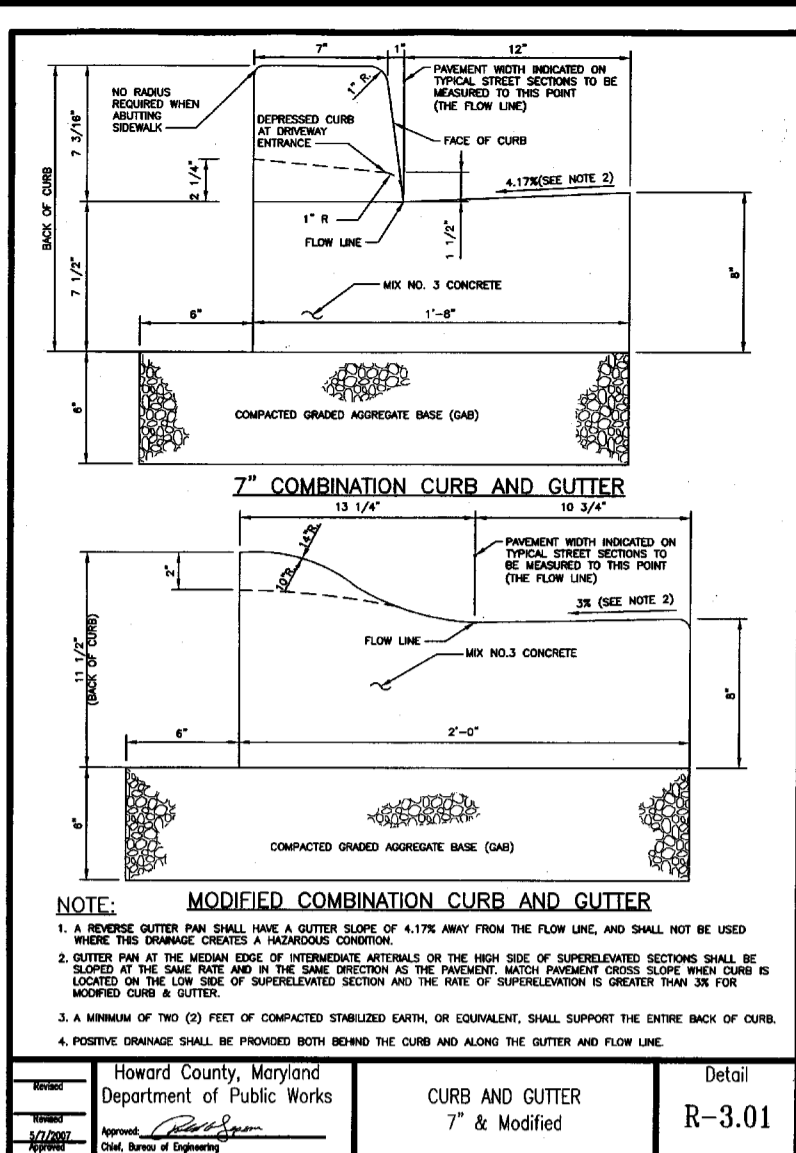
TM 43 P 657
HOWARD SQUARE
PHASE 6
SDP 14-043
PLAT 22986-22988
ZONED: CAC-CL
USE: RESIDENTIAL



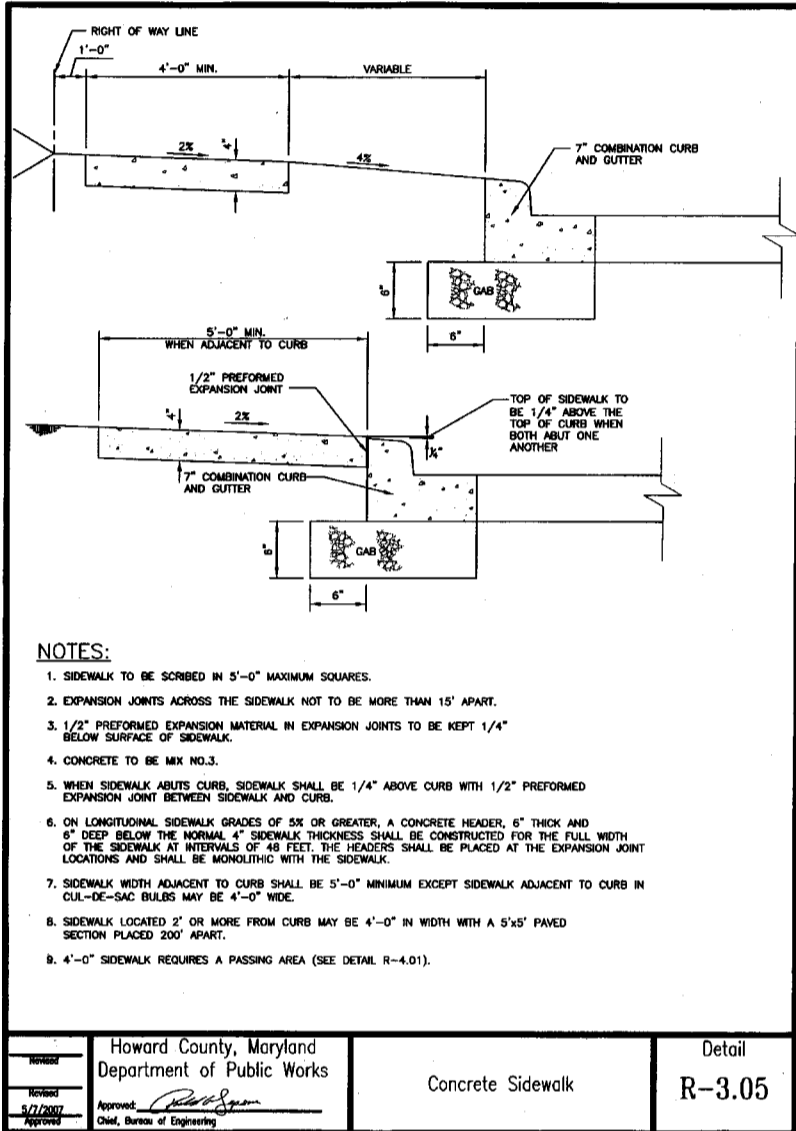
PLAN VIEW
SCALE: 1"=30'



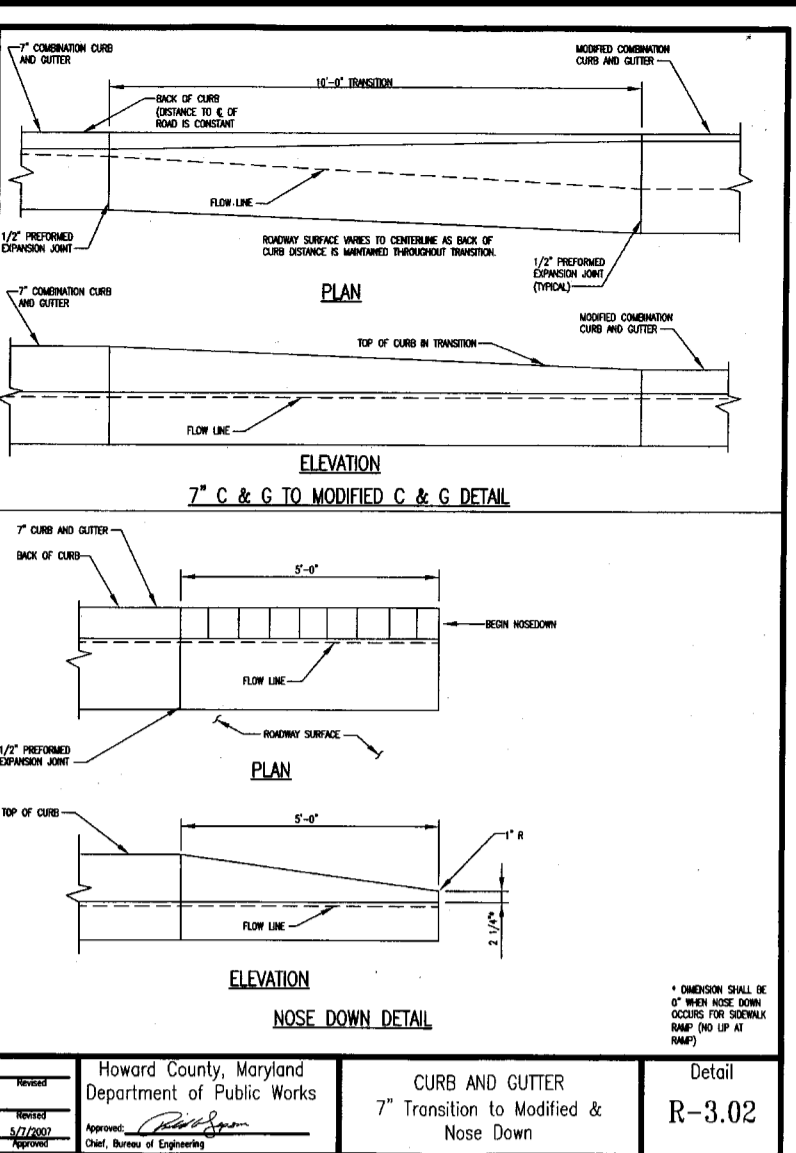
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR



Howard County, Maryland
Department of Public Works
CURBS AND GUTTER
7" Modified
R-3.01



Howard County, Maryland
Department of Public Works
Concrete Sidewalk
R-3.05



Howard County, Maryland
Department of Public Works
CURBS AND GUTTER
7" Transition to Modified & Nose Down
R-3.02

RESERVED FOR RESIDENTS OF 7704 LEGACY LANE
6pm - 6am
VIOLATORS WILL BE TOWED AWAY AT VEHICLE OWNER'S EXPENSE

RESERVED PARKING SIGN
FOR APARTMENT UNITS
NOT TO SCALE

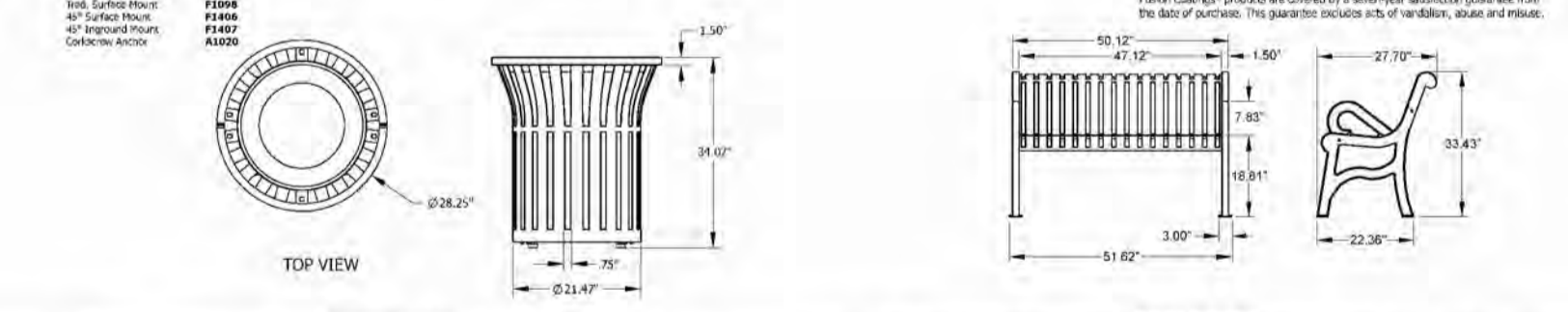


Howard County, Maryland
Department of Public Works
L1361 Rendezvous 4' Contour Bench
Portable / Surface Mount
R-2.01

LEGEND: Table listing symbols for existing and proposed curbs, gutters, poles, signs, manholes, lines, and pavement.

Table with columns for ROAD AND STREET, PAVEMENT MATERIAL (INCHES), and various subgrade and base layer specifications.

Table titled 'CONCRETE PAVING SECTIONS' with columns for DRIVEWAYS/GARAGE APRON and POROUS PAVING, listing material and thickness requirements.



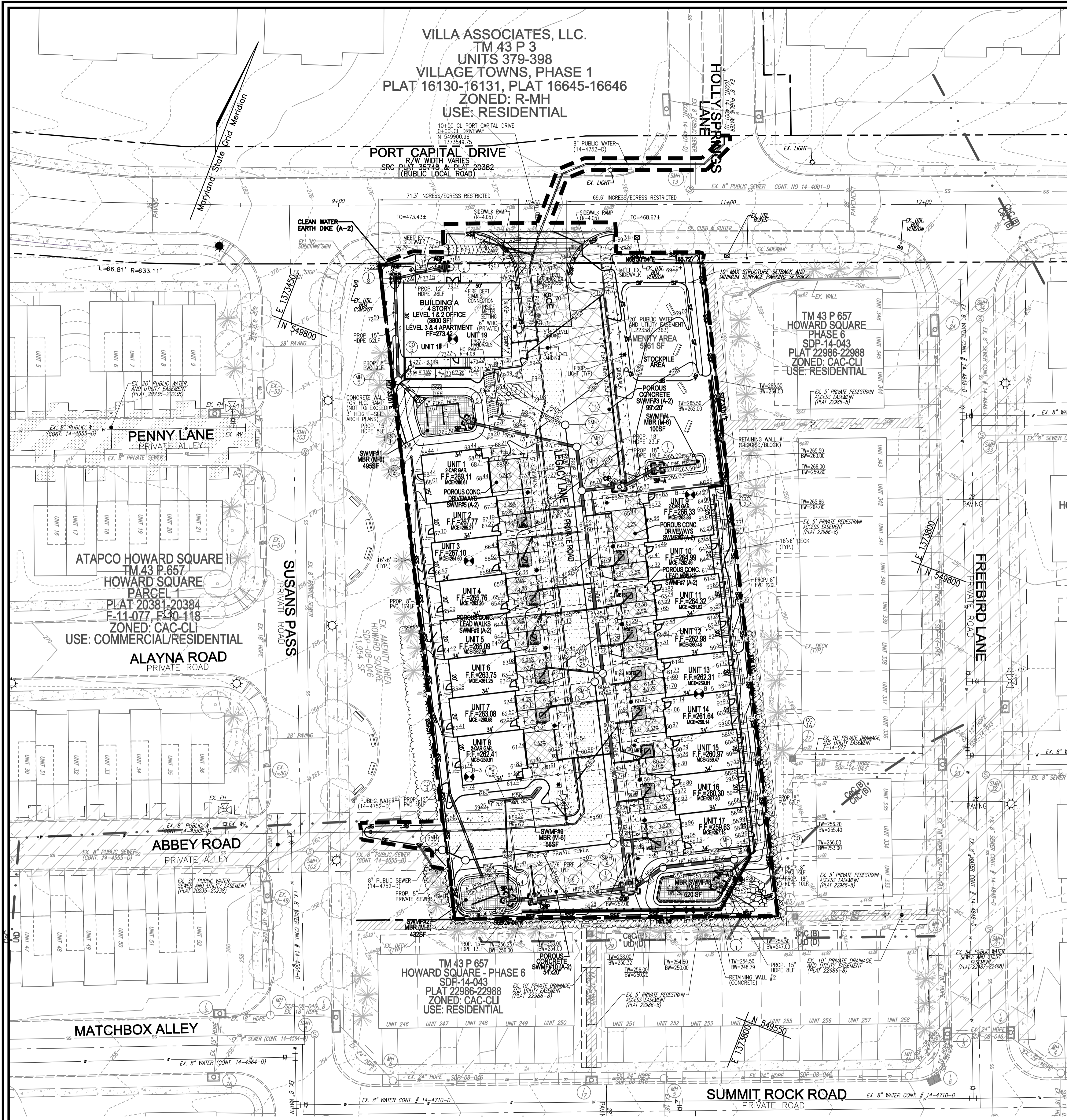
Howard County, Maryland
Department of Public Works
Precast Concrete Wheel Stop Details
NOT TO SCALE

Table with columns for NO., REVISION, and DATE, used for tracking changes to the site development plan.

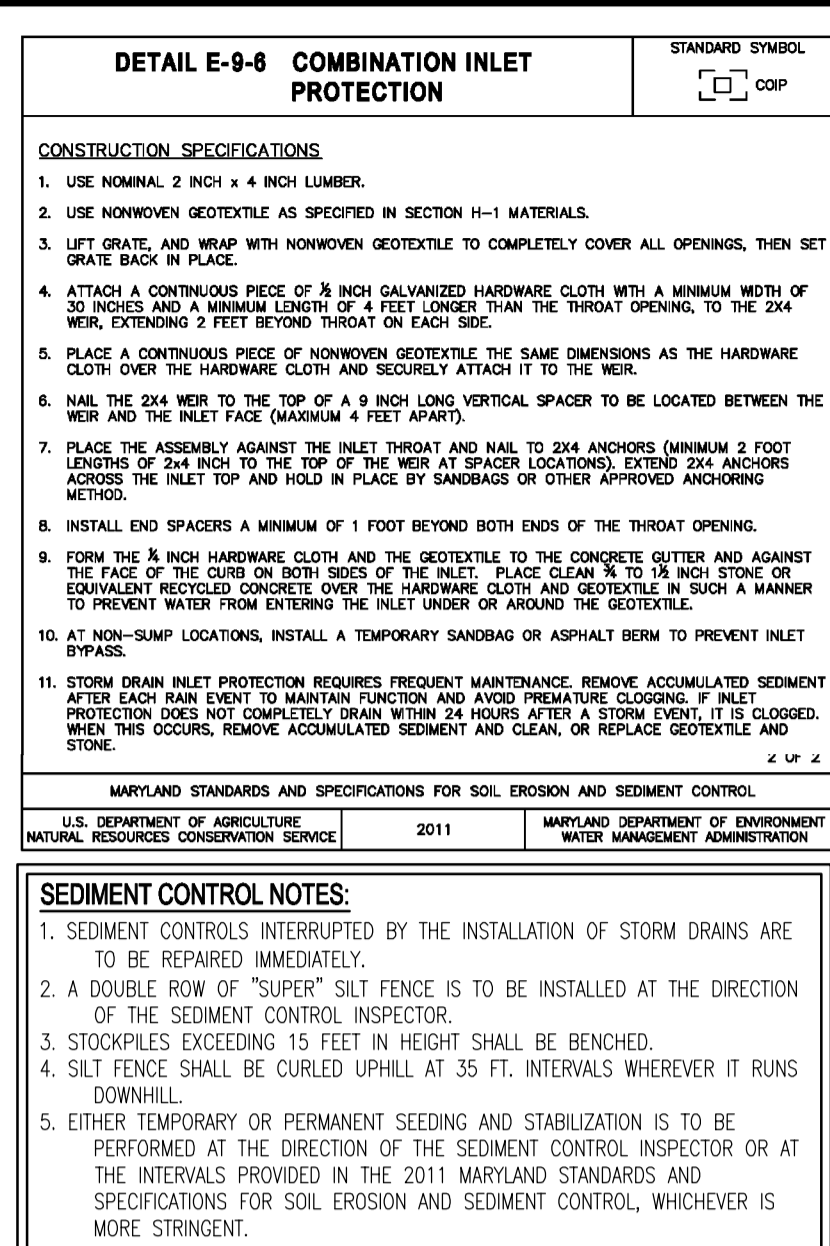
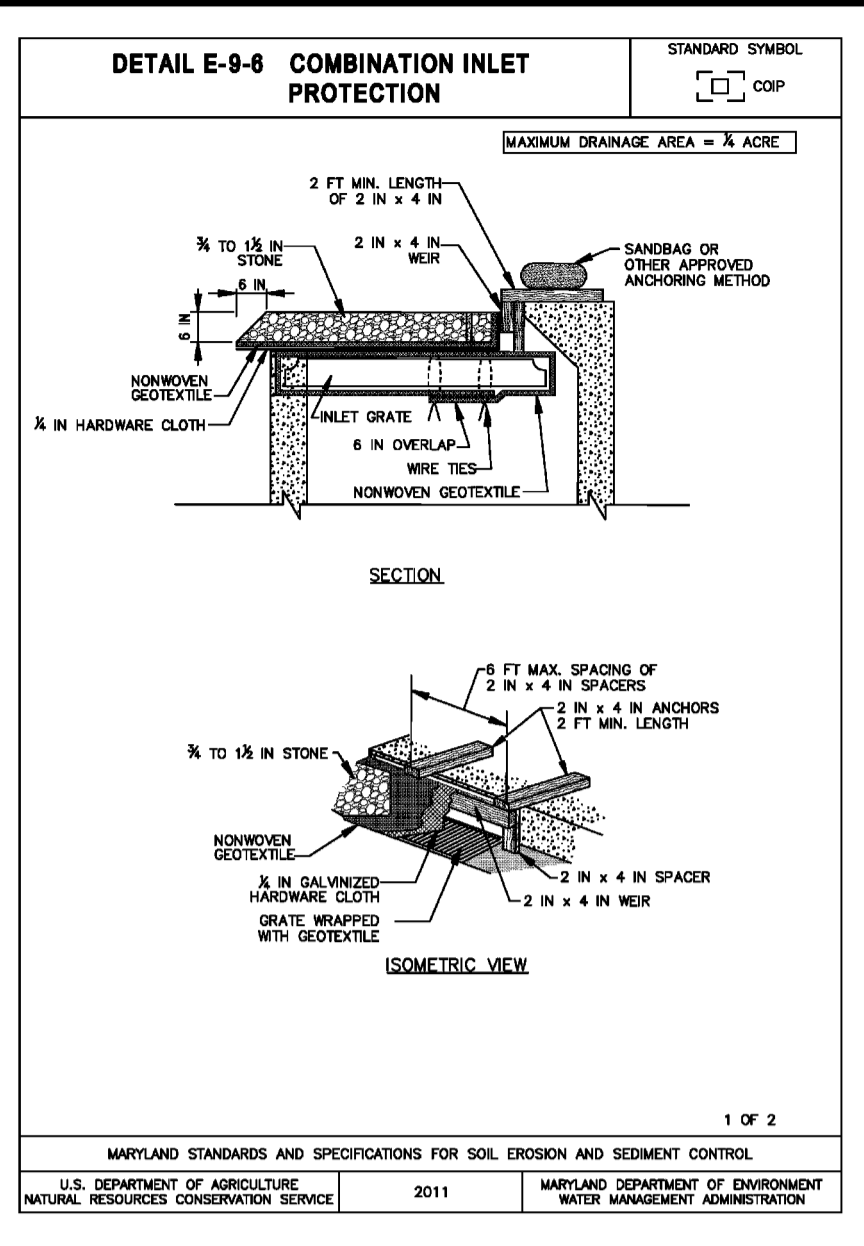
SITE DEVELOPMENT PLAN
LAYOUT SHEET
BUCH PROPERTY
TOWNHOUSES AND OFFICE BUILDING
TAX MAP 43 GRID 3 & 9
1ST ELECTION DISTRICT

ZONED CAC-CL
PARCEL 426
HOWARD COUNTY, MARYLAND
VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY: RHV
DRAWN BY: DZ
CHECKED BY: RHV
DATE: JULY 2024
SCALE: AS SHOWN
W.O. NO.: 08-59
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND SINCE 1919.
EXPIRATION DATE: 09-27-2024
2 SHEET OF 14

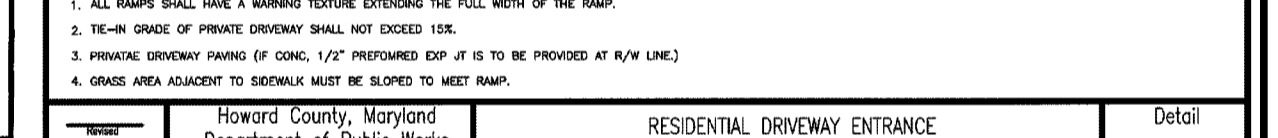
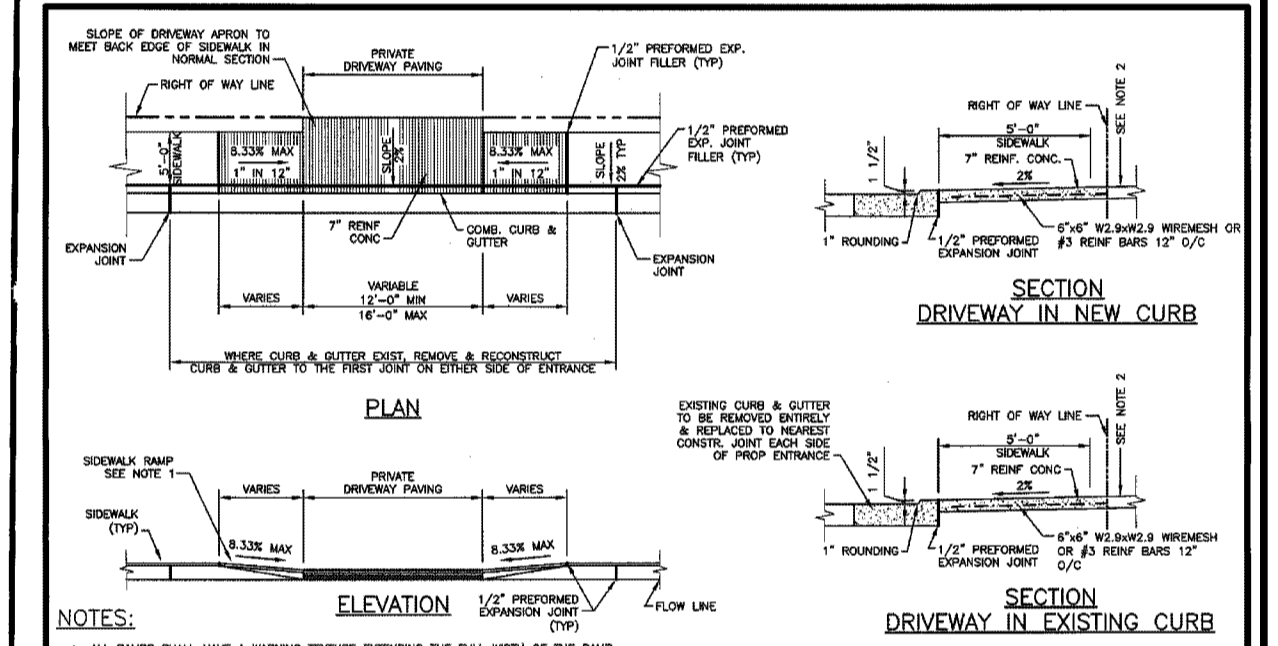
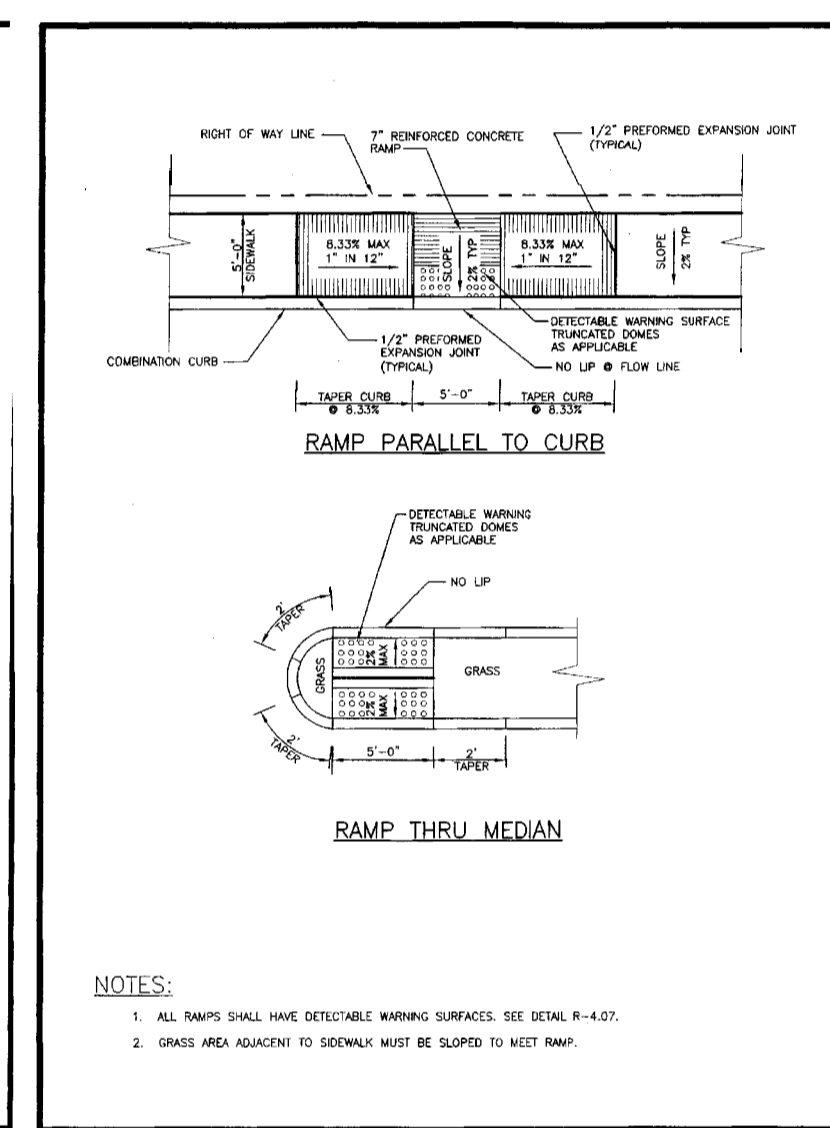
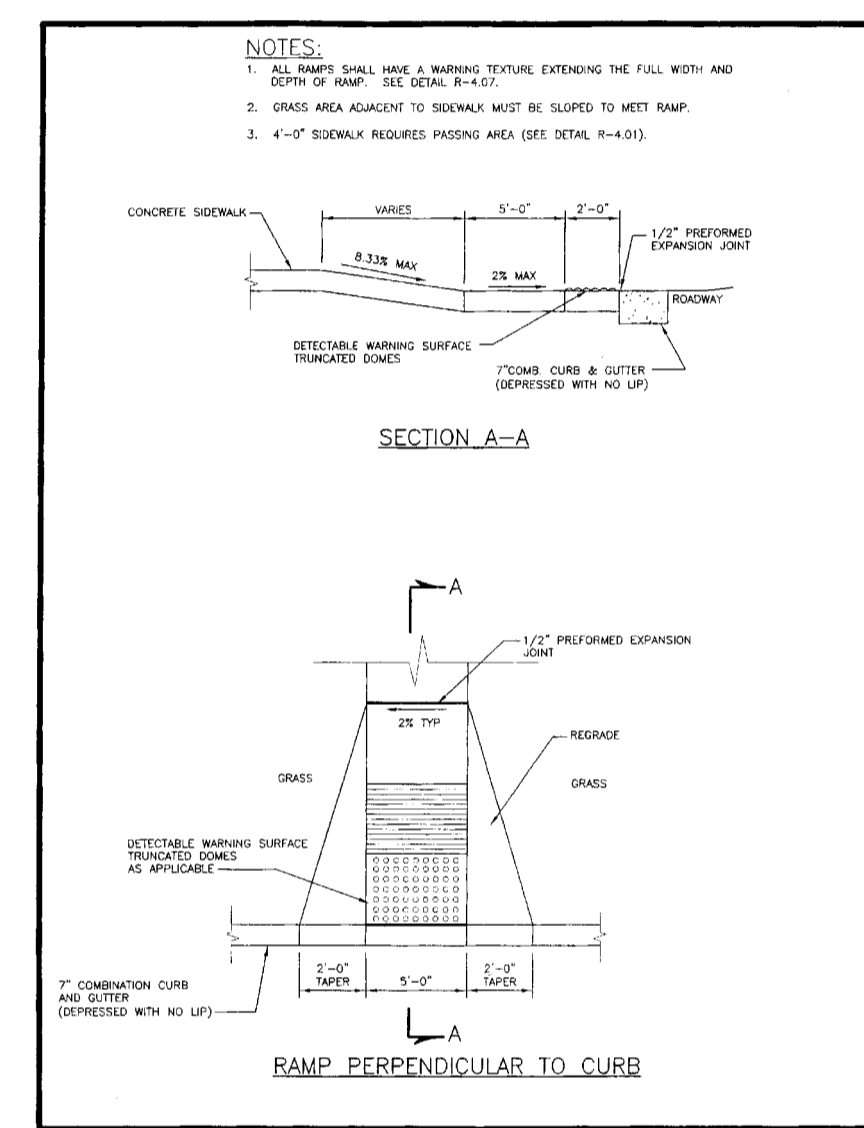


PLAN VIEW
SCALE: 1"=30'



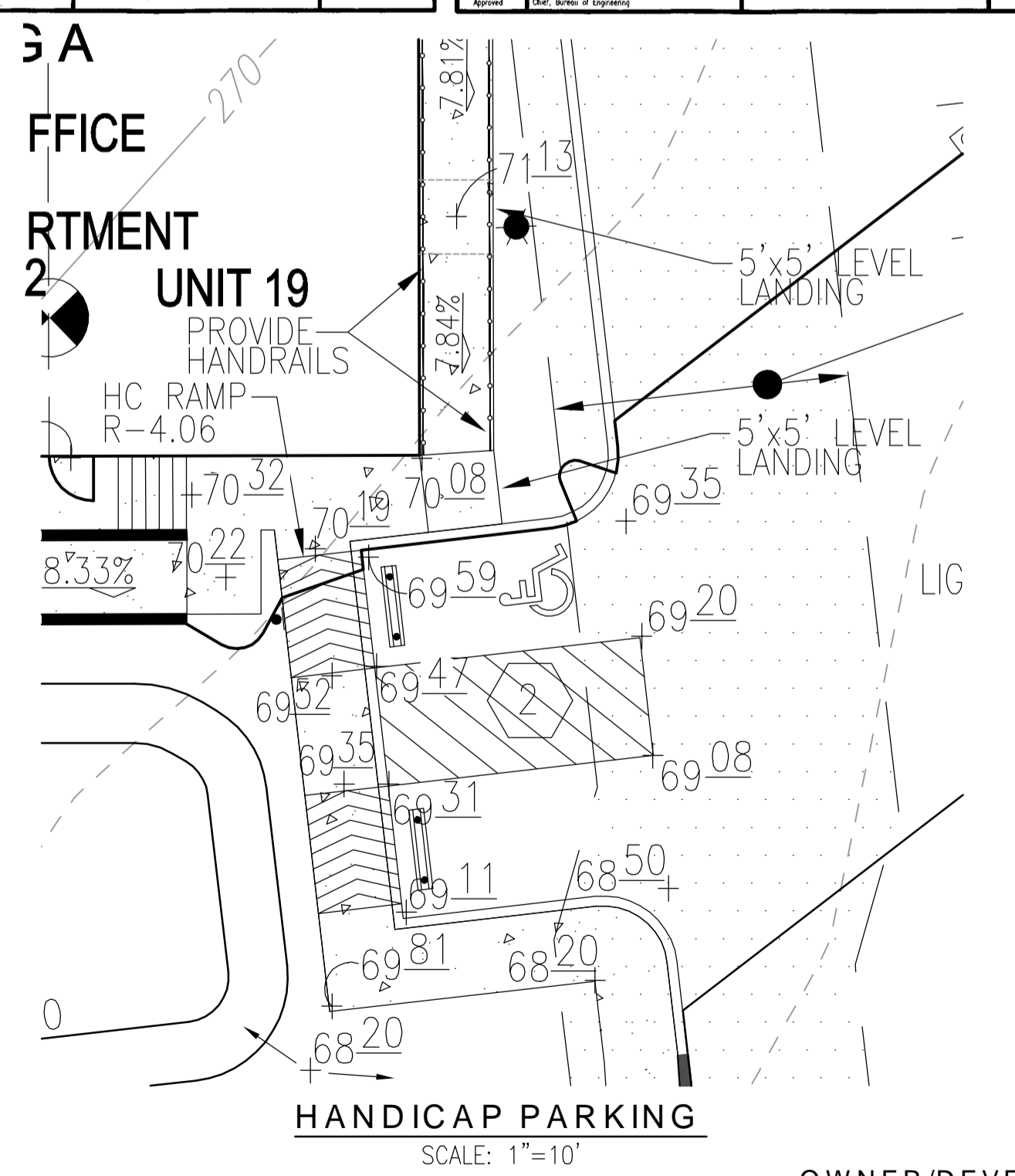
LEGEND:

[Symbol]	EXISTING CURB AND GUTTER
[Symbol]	PROPOSED CURB AND GUTTER
[Symbol]	PROPOSED MODIFIED CURB
[Symbol]	EXISTING UTILITY POLE
[Symbol]	EXISTING LIGHT POLE
[Symbol]	EXISTING MAILBOX
[Symbol]	EXISTING SIGN
[Symbol]	EXISTING SANITARY MANHOLE
[Symbol]	EXISTING SANITARY LINE
[Symbol]	EXISTING CLEANOUT
[Symbol]	EXISTING FIRE HYDRANT
[Symbol]	EXISTING WATER LINE
[Symbol]	PROPOSED STORM DRAIN
[Symbol]	PROPOSED STORM DRAIN INLET
[Symbol]	EXISTING TREELINE
[Symbol]	PROPOSED TREELINE
[Symbol]	EXISTING FENCE
[Symbol]	PROPERTY LINE
[Symbol]	RIGHT-OF-WAY LINE
[Symbol]	PROPOSED SIDEWALK
[Symbol]	PERMEABLE PAVEMENT
[Symbol]	SILT FENCE
[Symbol]	SUPER SILT FENCE
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	CURB INLET PROTECTION
[Symbol]	AT GRADE INLET PROTECTION
[Symbol]	STABILIZED CONSTRUCTION ENTRANCE
[Symbol]	M1B2
[Symbol]	M1D3
[Symbol]	SOILS BOUNDARY



SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
CcC	CHILLUM LOAM, 5 TO 10 PERCENT SLOPES	B
CnC	CHILLUM-RUSSETT LOAMS, 5 TO 10 PERCENT SLOPES	B
UD	URBAN LAND-URDERTHENS COMPLEX, 0 TO 15 PERCENT SLOPES	D



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *CHAD Edmondson* 9/24/2024

CHIEF, DIVISION OF LAND DEVELOPMENT: *Linda Eganberg* 9/25/2024

DIRECTOR: *Linda Eganberg* 9/25/2024

OWNER/DEVELOPER CERTIFICATION:

I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

Mike Buch 7/24/2024
OWNER/DEVELOPER SIGNATURE DATE

MIKE BUCH
PRINTED NAME & TITLE

DESIGN CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS THAT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert H. Vogel 7/29/2024
DESIGNER'S SIGNATURE DATE

ROBERT H. VOGEL
PRINTED NAME

MD REGISTRATION NO. 16193
R.L.S., OR R.L.A. (Circle one)

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

Alexander Bratchko 7/23/2024
DATE

HOWARD S.C.D. DATE

OWNER/DEVELOPER

RESIDUARY TRUST OF JAMES R. BUCH JR.
8133 WESTSIDE BLVD.
FULTON, MD 20759
240-375-6294

Howard County, Maryland Department of Public Works
SDEWIS RAMP Layout & Grading Perpendicular to Curb
Detail R-4.05

Howard County, Maryland Department of Public Works
SDEWIS RAMP Layout & Grading Parallel to Curb & Thru Median
Detail R-4.06

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN

GRADING, SEDIMENT AND EROSION CONTROL PLAN; SOILS MAP

BUCH PROPERTY
TOWNHOUSES AND OFFICE BUILDING
TAX MAP 43 GRID 3 & 9
1ST ELECTION DISTRICT

ZONED CAC-CL1
PARCEL 426
L. 11977 / F. 517
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY: RHV
DRAWN BY: DZ
CHECKED BY: RHV
DATE: JULY 2024
SCALE: AS SHOWN
W.O. NO.: 08-59

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. MY LICENSE NO. IS 16193. EXPIRATION DATE: 09-27-2024

Robert H. Vogel
ROBERT H. VOGEL, P.E. NO. 16193

3 OF 14

B-4 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATION STABILIZATION. PURPOSE: TO PREPARE THE SOILS TO SUSTAIN ADEQUATE VEGETATION STABILIZATION. CRITERIA: 1. SOIL PREPARATION: A. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE APPLICATION OF COMBINATION OF DISK, PLOW OR OTHER EQUIPMENT...

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATION COVER. PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION. CRITERIA: 1. SEEDING: A. SEEDING MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW... B. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE... C. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE...

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE: TO USE FAST-GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. CRITERIA: 1. SEEDING: A. SEEDING MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW... B. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE... C. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE...

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION. PURPOSE: TO ESTABLISH PERMANENT GRASS COVER ON DISTURBED SOILS. CRITERIA: 1. SEEDING: A. SEEDING MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW... B. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE... C. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE...

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT (1 DAY)
2. NOTIFY HOWARD COUNTY BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION (411-313-1880) AT LEAST 24 HRS BEFORE STARTING WORK (1 DAY)
3. DEVELOPER/CONTRACTOR SHALL CONDUCT PRELIMINARY CONSTRUCTION INSPECTION OF THE SEDIMENT CONTROL INSPECTOR FOR ANY LAND DISTURBANCE (1 DAY)
4. STAKE OUT LIMITS OF DISTURBANCE (2 DAYS)
5. INSTALL STABILIZATION STRUCTURES WITH MOUNTAIN BERM (2 DAY)
6. CLEAR AND GRUB FOR THE INSTALLATION OF ALL PERMETER CONTROLS (2 DAYS)
7. INSTALL PERMETER CONTROLS INCLUDING EARTH DAMS, SILT FENCE AND SUPER-SILT FENCE (3 DAYS)
8. WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINING AREAS

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION: AREA OF SOIL PROTECTION BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. PURPOSE: TO PROTECT A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION AND CHANGES TO DRAINAGE PATTERNS. CRITERIA: 1. LOCATION: A. THE STOCKPILE AREA MUST BE LOCATED IN AN AREA THAT RECEIVES INTENSIFIED MANAGEMENT... B. THE STOCKPILE AREA MUST BE LOCATED IN AN AREA THAT RECEIVES INTENSIFIED MANAGEMENT...

PERMANENT SEEDING SUMMARY

Table with columns: HARNESS ZONE, SEED MIXTURE (FROM TABLE B.1), FERTILIZER RATE (10-20-20), LINE RATE. Rows include Annual Ryegrass, Baitley, Oats, Wheat, Cereal Rye, Warm-Season Grasses, Fescue, and Pearl Millet.

Table B.1: Temporary Seeding for Site Stabilization

Table with columns: Plant Species, Seeding Rate, Seeding Depth, Recommended Seeding Dates by Plant Hardiness Zone. Rows include Annual Ryegrass, Baitley, Oats, Wheat, Cereal Rye, Warm-Season Grasses, Fescue, and Pearl Millet.

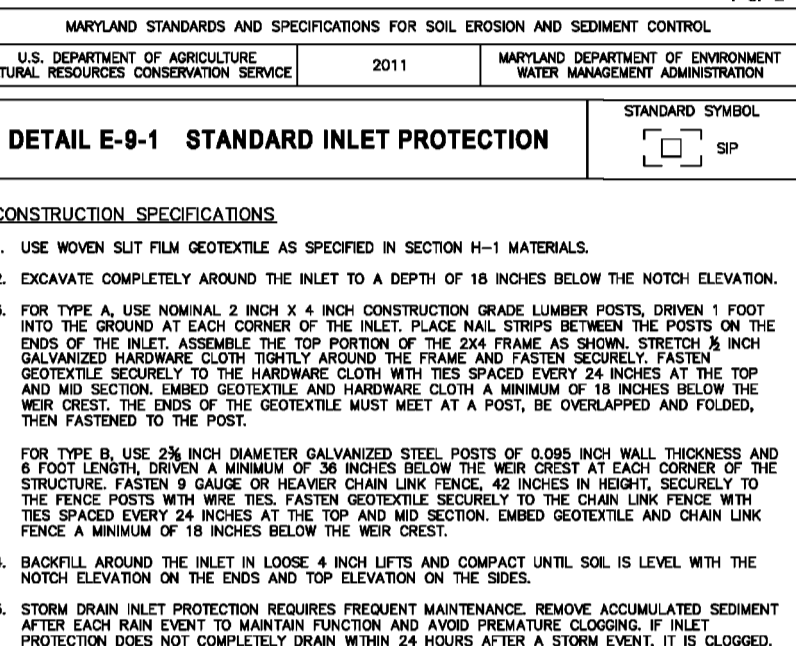
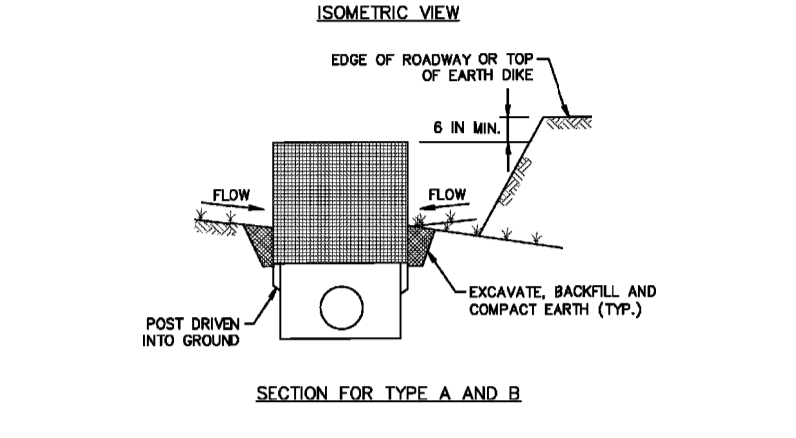
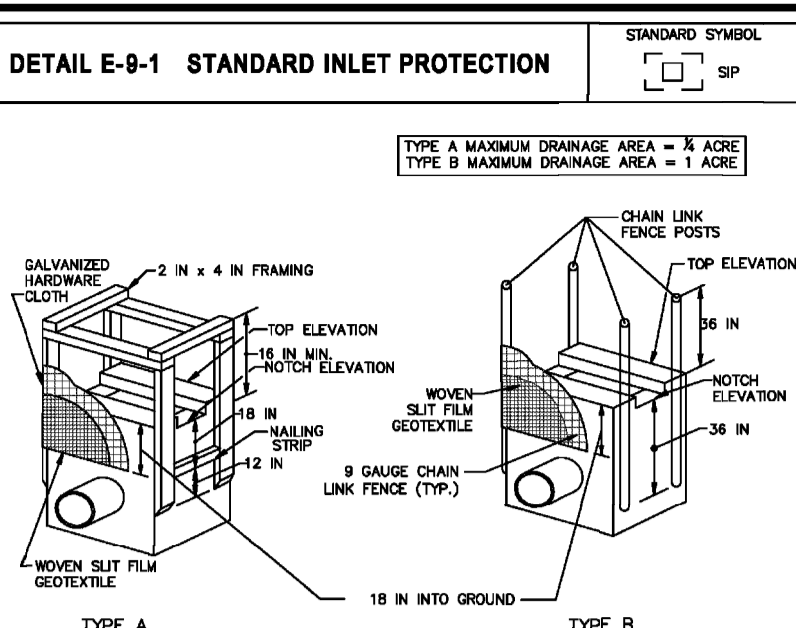
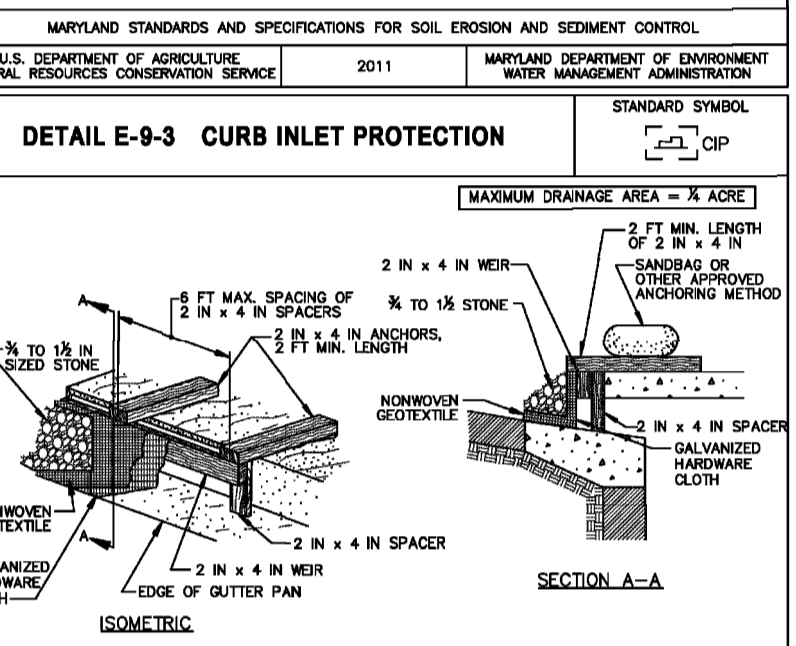
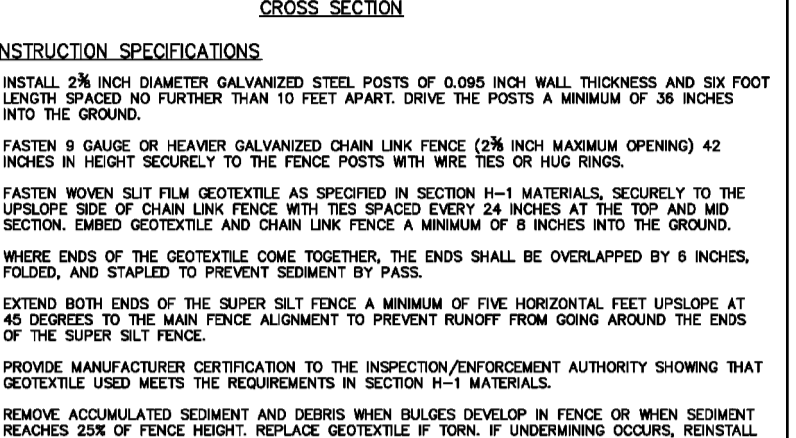
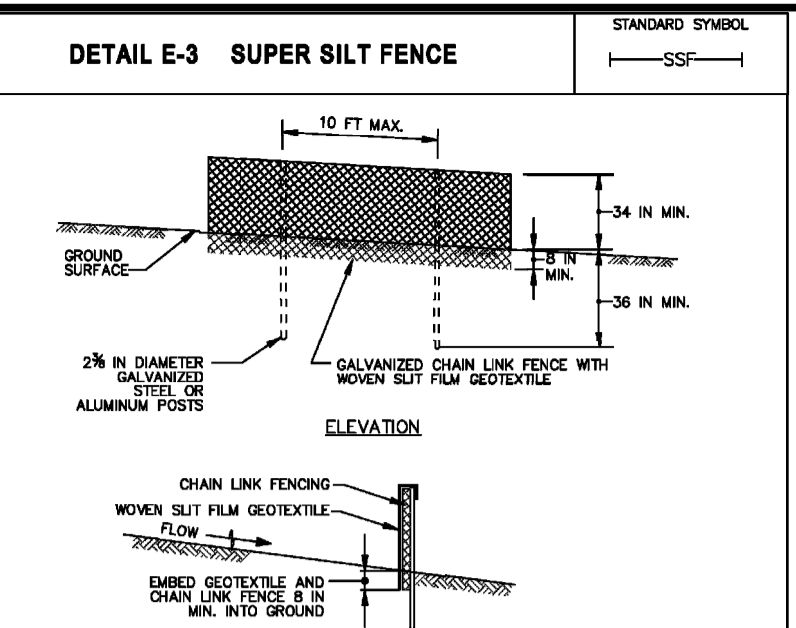
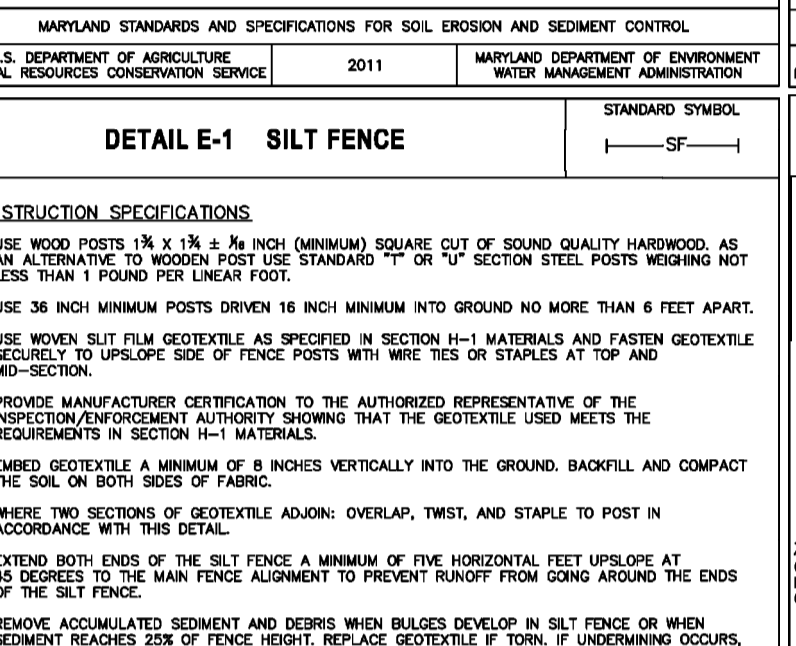
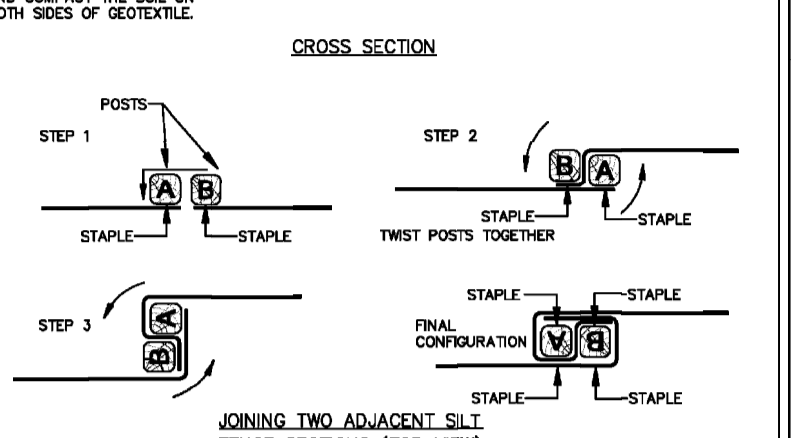
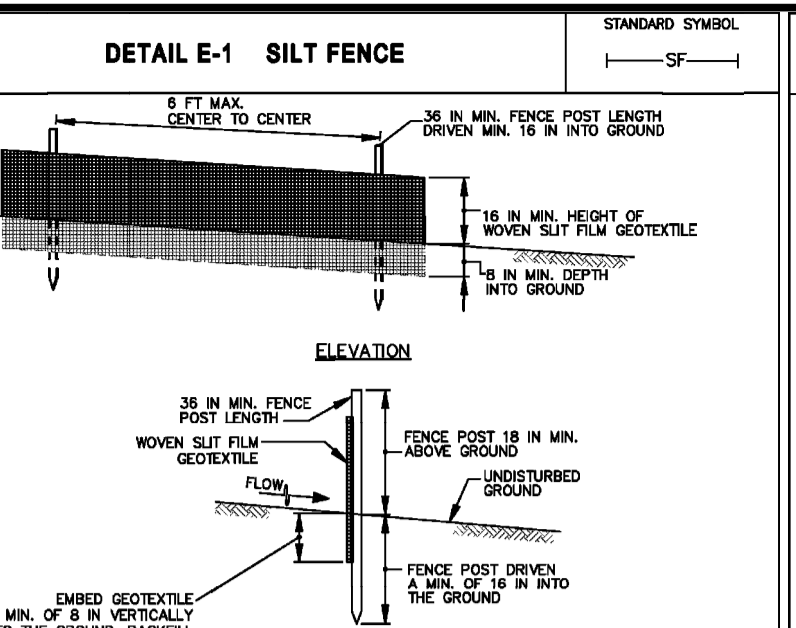
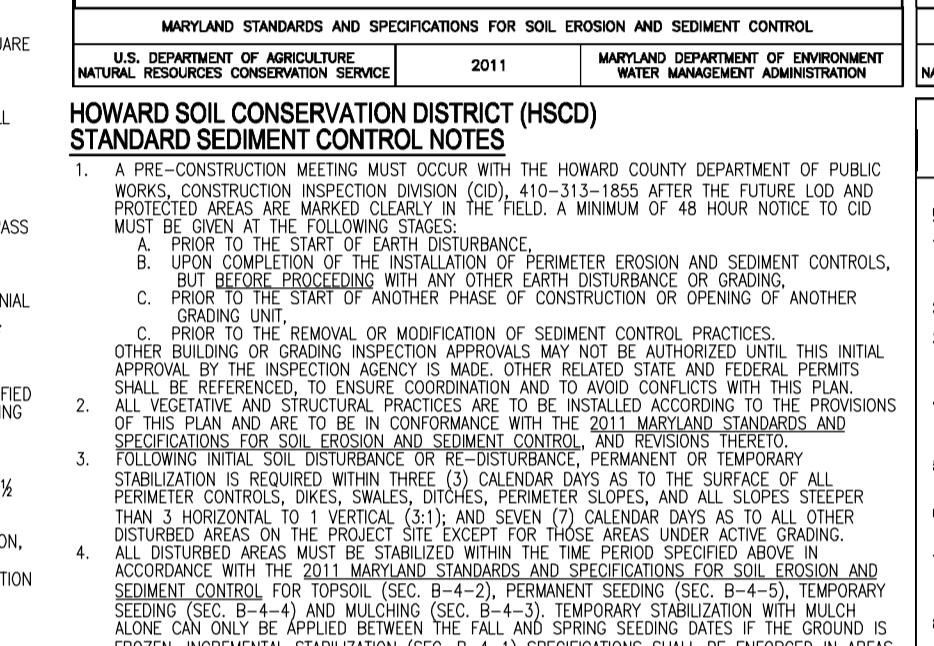
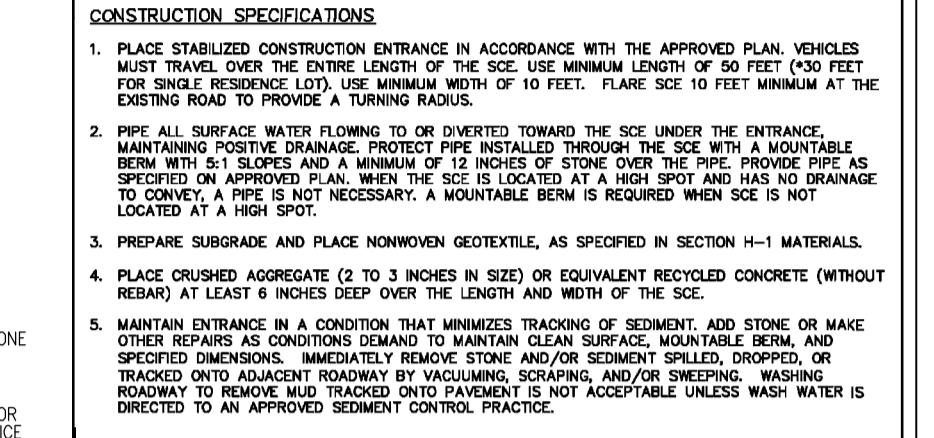
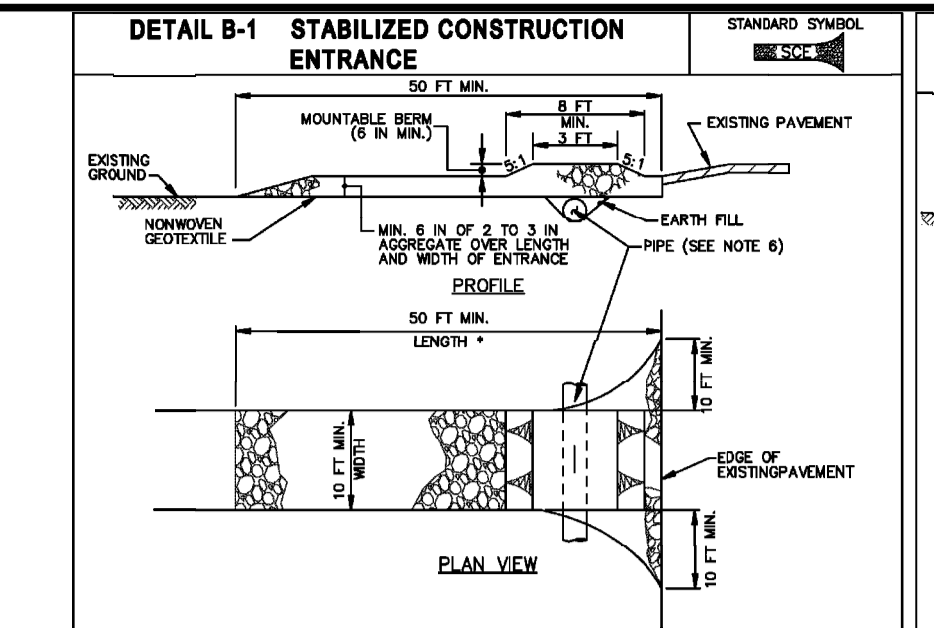
SEDIMENT CONTROL NOTES

- 1. SEDIMENT CONTROLS INTERFERED BY THE INSTALLATION OF STORM DRAINS ARE TO BE PREPARED IMMEDIATELY.
2. A DOUBLE ROW OF "SUPER" SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
3. STOCKPILES EXCEEDING 15 FEET IN HEIGHT SHALL BE BENCHED.
4. SILT FENCE SHALL BE CURLED UPHILL AT 35-FT INTERVALS WHEREVER IT RUNS DOWNHILL.
5. EITHER TEMPORARY OR PERMANENT SEEDING AND STABILIZATION IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR AT THE INTERVALS PROVIDED IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICH IS MORE STRINGENT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division
Date: 9/24/2024
Chief, Division of Land Development
Date: 9/25/2024
Director
Date: 9/25/2024

OWNER/DEVELOPER CERTIFICATION: I HEREBY CERTIFY THAT ANY CLEARING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL REQUIREMENTS SPECIFIED IN THE CONSTRUCTION PERMIT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT TRAINING CENTER FOR THE CONTROL OF EROSION AND SEDIMENTATION PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDC.

DESIGN CERTIFICATION: I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS. THE DESIGNER'S PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
DESIGNED BY: Alexander Krawtchuk
DATE: 4/29/2024
PRINTED NAME: ROBERT H. VOGEL
DATE: 4/29/2024
MO REGISTRATION NO. 16193
PRINTED NAME: ROBERT H. VOGEL
DATE: 4/29/2024

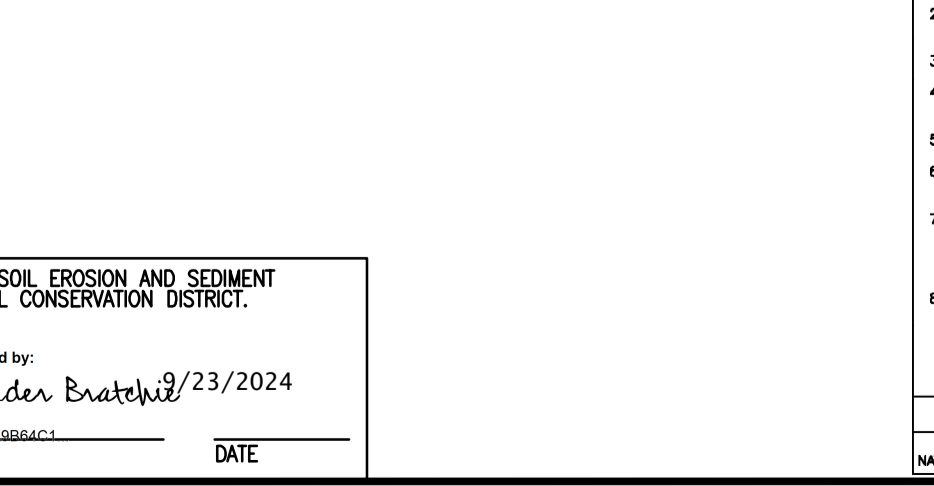


HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTICES

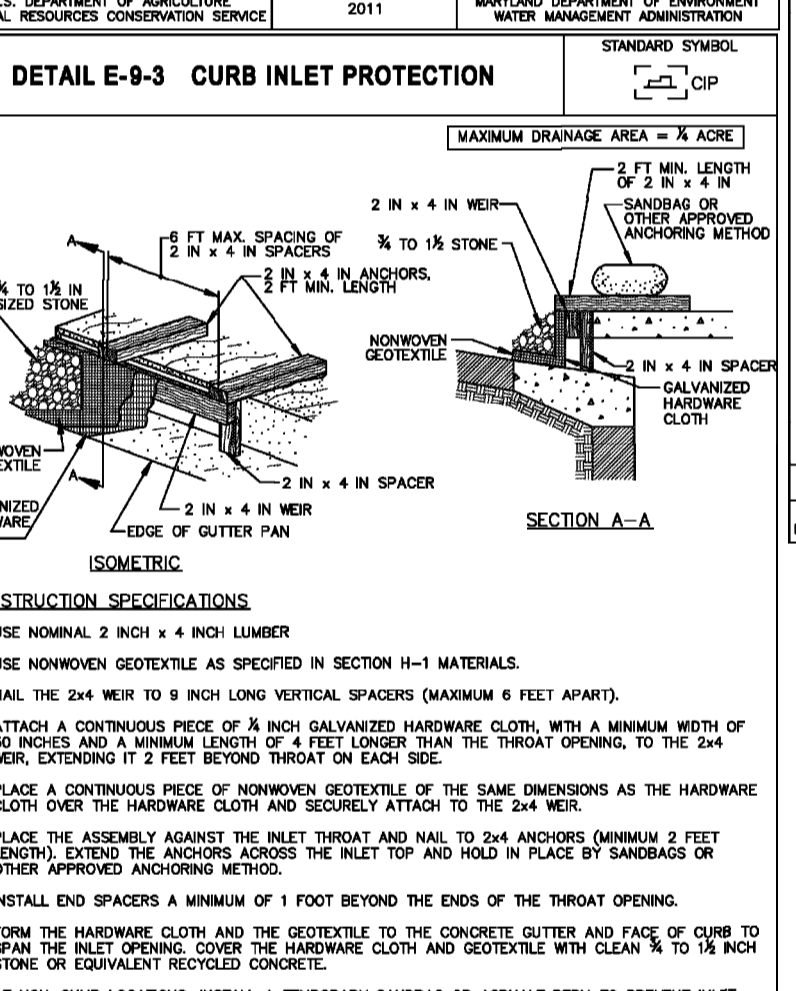
1. PRE-CONSTRUCTION MEETING MUST BE HELD WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 411-313-1880 AFTER THE FUTURE LUD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
A. BEFORE THE START OF ANY CONSTRUCTION OR OPENING OF ANOTHER ROADWAY.
B. BEFORE THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER ROADWAY.
C. BEFORE THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

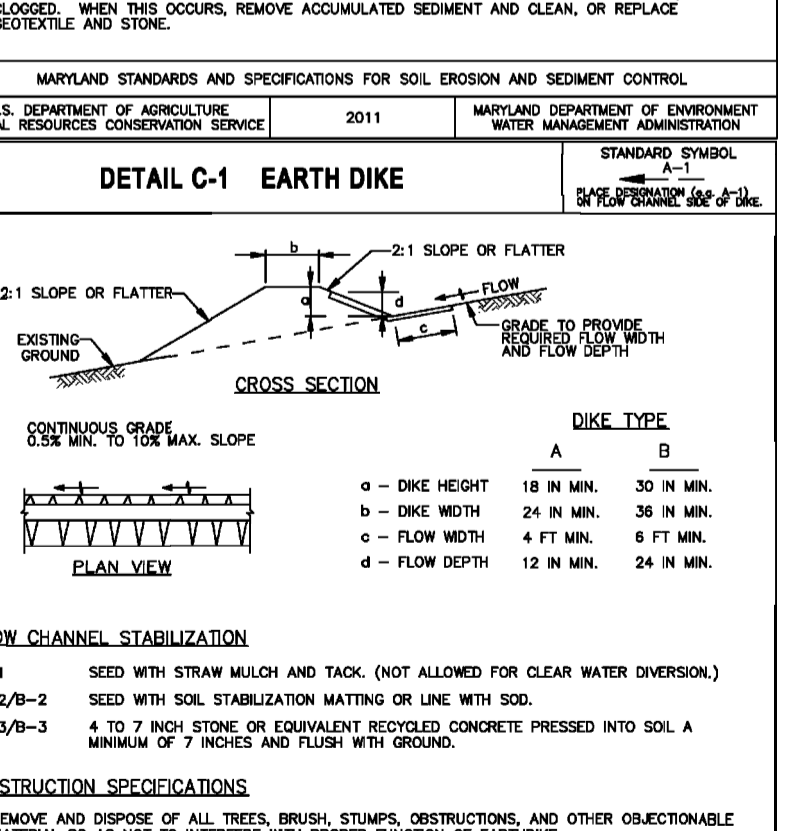
DEFINITION: THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES. PURPOSE: TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON- AND OFF-SITE DAMAGE INCLUDING HEALTH AND TOXIC HAZARDS. CRITERIA: 1. SEEDING: A. SEEDING MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW... B. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE... C. SEEDING MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED IN THE SEEDING SCHEDULE...



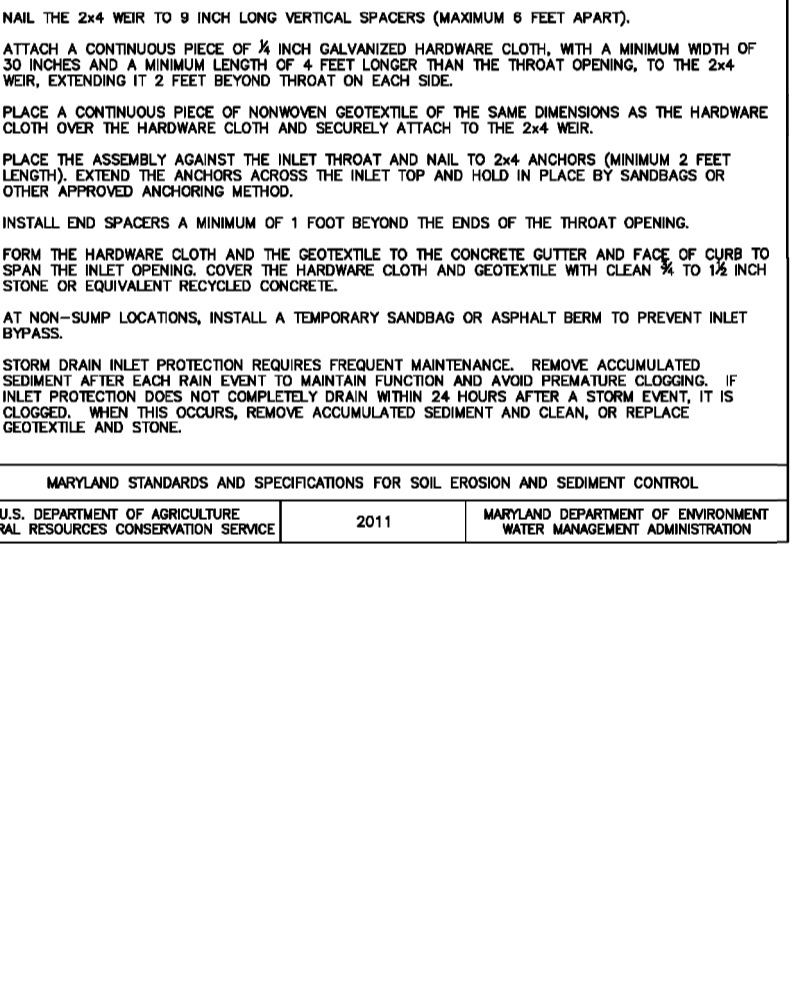
DETAIL E-9-3 CURB INLET PROTECTION



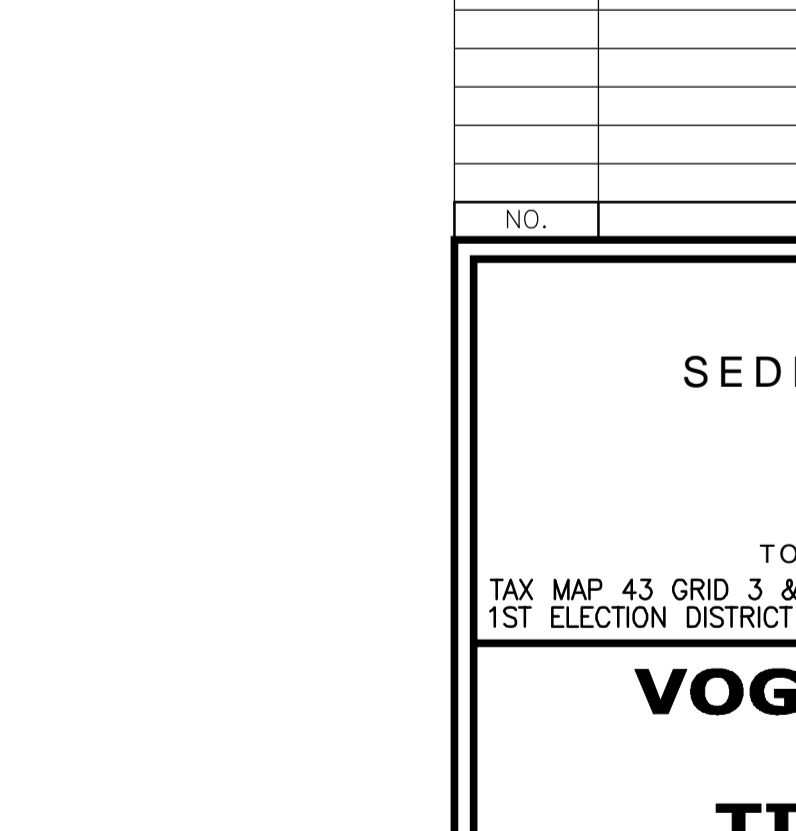
DETAIL C-1 EARTH DIKE



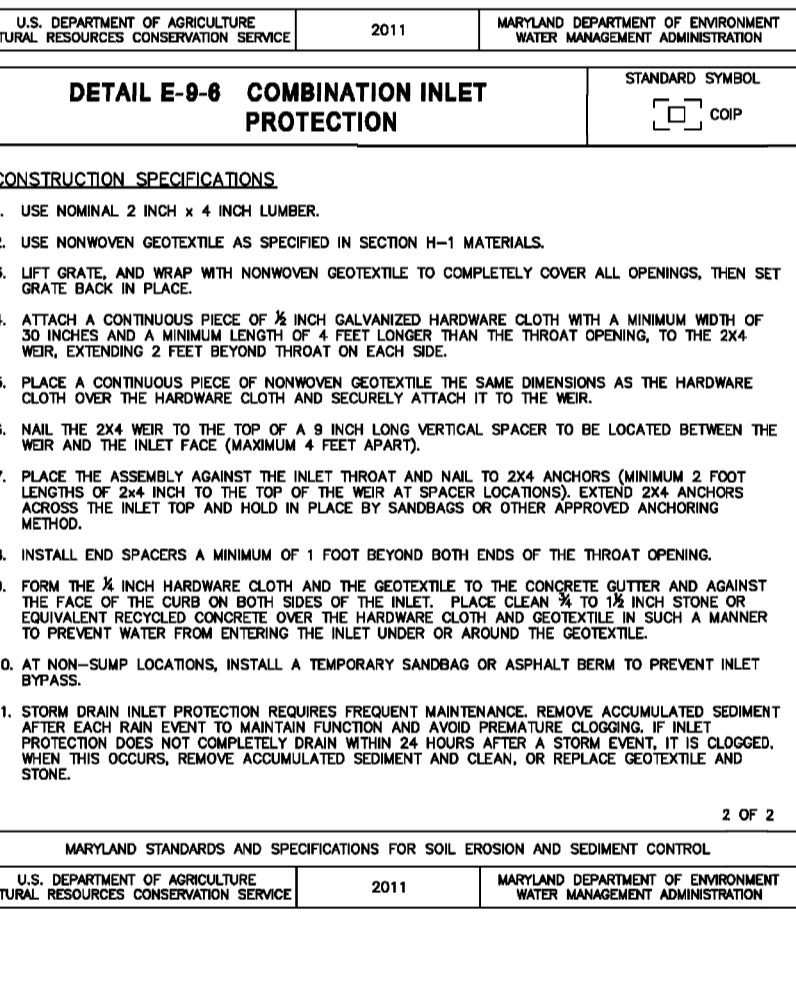
DETAIL E-8-3 COMBINATION INLET PROTECTION



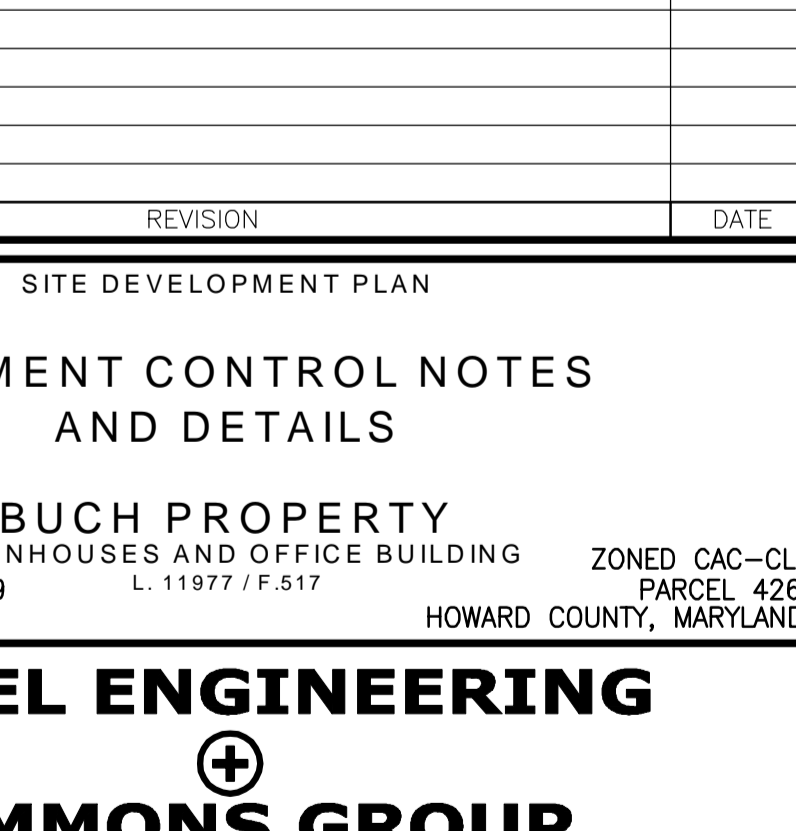
DETAIL E-8-3 COMBINATION INLET PROTECTION



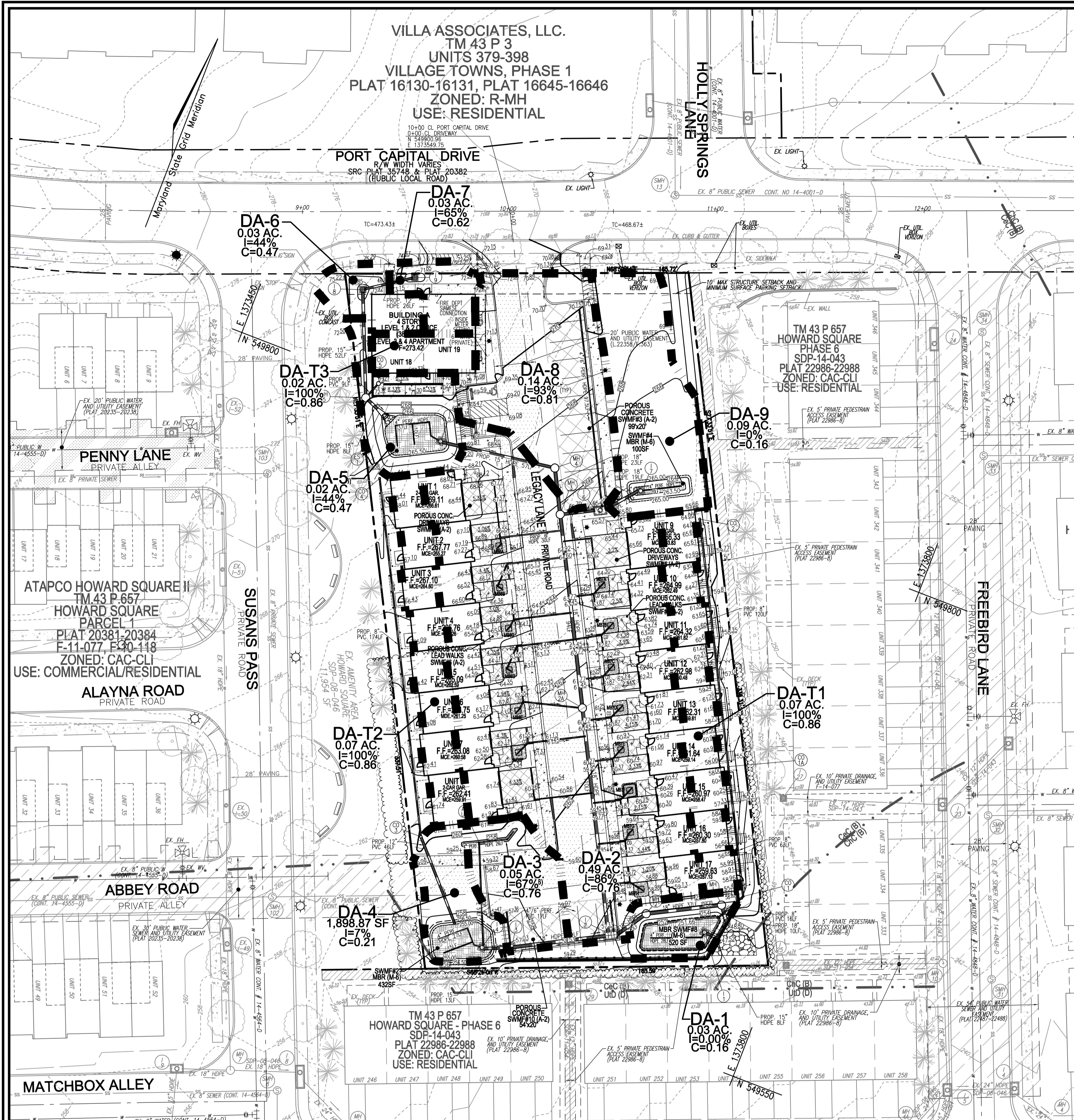
DETAIL E-8-1 STANDARD INLET PROTECTION



DETAIL E-8-1 STANDARD INLET PROTECTION



NO. REVISION DATE
SITE DEVELOPMENT PLAN
SEDIMENT CONTROL NOTES AND DETAILS
BUCH PROPERTY
TOWNHOUSES AND OFFICE BUILDING
8155 WESTSIDE BLVD, FULTON, MD 20759
HOWARD COUNTY, MARYLAND
TAX MAP 43 GRID 3 & 9
1ST ELECTION DISTRICT
ZONED CAC-CL1
PART 426
11.9777 F.517
HOWARD COUNTY, MARYLAND
VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



PLAN VIEW
 SCALE: 1"=30'
 15' 0' 30'

- LEGEND:**
- EXISTING CURB AND GUTTER
 - PROPOSED CURB AND GUTTER
 - PROPOSED MODIFIED CURB
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - PROPOSED STORM DRAIN
 - PROPOSED STORM DRAIN INLET
 - EXISTING TREELINE
 - PROPOSED TREELINE
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - PROPOSED SIDEWALK
 - PERMEABLE PAVEMENT
 - DRAINAGE AREA DIVIDE TO EXISTING STRUCTURES
 - DRAINAGE AREA DIVIDE TO PROPOSED STRUCTURES

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
STORM DRAIN DRAINAGE AREA MAP

BUCH PROPERTY
 TOWNHOUSES AND OFFICE BUILDING ZONED CAC-CL1
 TAX MAP 43 GRID 3 & 9 L. 11977 / F.517 PARCEL 426
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
 +
TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2024

DESIGN BY: RHV
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: JULY 2024
 SCALE: AS SHOWN
 W.O. NO.: 08-59

OWNER/DEVELOPER
 RESIDUARY TRUST OF JAMES R. BUCH JR.
 8155 WESTSIDE BLVD.
 FULTON, MD 20759
 240-375-6294

Robert H. Vogel
 PROFESSIONAL ENGINEER
 STATE OF MARYLAND
 LICENSE NO. 16193

5 OF 14

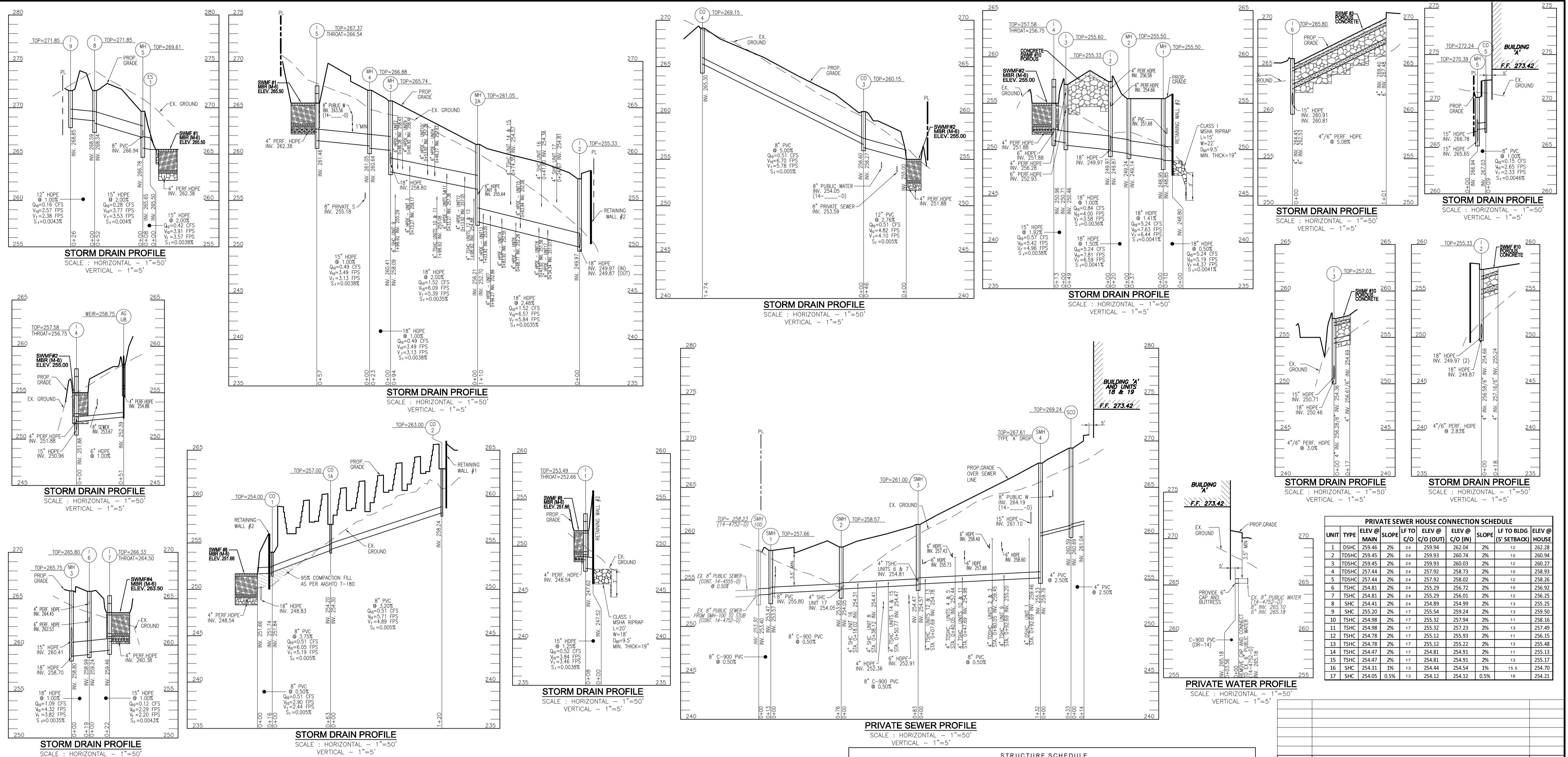
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Developed by: **CHAD EDWARDS** 9/24/2024
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

9/25/2024
 CHIEF, DIVISION OF LAND DEVELOPMENT

9/25/2024
 DIRECTOR **Linda Eisinger**

OWNER/DEVELOPER
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TOWNHOUSE DRIVEWAY CLEANOUT SCHEDULE						
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	COMMENTS
CO-U2	6" CLEANOUT	N 549752.3 E 1373601.8	266.68	259.14	259.59	HO. CO. STD. S-2.22
CO-U3	6" CLEANOUT	N 549741.7 E 1373609.6	265.66	259.31	259.57	HO. CO. STD. S-2.22
CO-U4	6" CLEANOUT	N 549717.8 E 1373622.1	264.63	258.82	257.91	HO. CO. STD. S-2.22
CO-U5	6" CLEANOUT	N 549706.3 E 1373628.1	263.66	258.31	257.66	HO. CO. STD. S-2.22
CO-U6	6" CLEANOUT	N 549682.3 E 1373640.6	262.62	257.81	257.21	HO. CO. STD. S-2.22
CO-U7	6" CLEANOUT	N 549664.6 E 1373649.8	261.66	257.31	256.71	HO. CO. STD. S-2.22
CO-U8	6" CLEANOUT	N 549640.2 E 1373662.5	260.47	256.81	256.22	HO. CO. STD. S-2.22
CO-U9	6" CLEANOUT	N 549767.8 E 1373643.0	265.11	258.62	259.63	HO. CO. STD. S-2.22
CO-U10	6" CLEANOUT	N 549742.9 E 1373653.7	263.90	258.11	258.08	HO. CO. STD. S-2.22
CO-U11	6" CLEANOUT	N 549725.9 E 1373664.3	262.97	257.61	258.13	HO. CO. STD. S-2.22
CO-U12	6" CLEANOUT	N 549707.5 E 1373672.2	261.89	257.11	257.17	HO. CO. STD. S-2.22
CO-U13	6" CLEANOUT	N 549690.4 E 1373682.8	260.97	256.61	256.70	HO. CO. STD. S-2.22
CO-U14	6" CLEANOUT	N 549672.0 E 1373692.8	260.40	256.11	256.15	HO. CO. STD. S-2.22
CO-U15	6" CLEANOUT	N 549655.0 E 1373701.3	259.92	255.61	255.71	HO. CO. STD. S-2.22
CO-U16	6" CLEANOUT	N 549637.2 E 1373710.6	259.41	255.11	255.21	HO. CO. STD. S-2.22
CO-U17	6" CLEANOUT	N 549619.5 E 1373719.8	258.75	254.61	254.72	HO. CO. STD. S-2.22

PIPE SCHEDULE			
SIZE	TYPE	LENGTH	
4"	C-900 PVC (WATER)	4 LF	
4"	PVC (SEWER)	47 LF	
8"	PVC (SEWER)	132 LF	
8"	C-900 PVC (SEWER)	172 LF	
4"	HDPE (SD)	14 LF	
6"	HDPE (SD)	350 LF	
12"	HDPE (SD)	26 LF	
15"	HDPE (SD)	160 LF	
18"	HDPE (SD)	362 LF	
8"	PVC (SD)	373 LF	
12"	PVC (SD)	46 LF	
4"	PERF. HDPE (SWM)	482 LF	
6"	SOLID HDPE (SWM)	80 LF	

TOWHOUSE MBR - ATRIUM DROP-IN GRATE SCHEDULE						
NO.	TYPE	LOCATION	WIER ELEV.	INV. IN	INV. OUT	COMMENTS
AG-U2	ATRIUM DROP-IN GRATE	N 549749.4 E 1373603.3	265.92	262.05	261.55	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U3	ATRIUM DROP-IN GRATE	N 549741.7 E 1373609.1	264.92	261.05	260.55	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U4	ATRIUM DROP-IN GRATE	N 549714.0 E 1373621.7	263.92	260.05	259.55	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U5	ATRIUM DROP-IN GRATE	N 549694.5 E 1373627.6	262.92	259.05	258.55	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U6	ATRIUM DROP-IN GRATE	N 549678.5 E 1373640.2	261.92	258.05	257.55	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U7	ATRIUM DROP-IN GRATE	N 549659.8 E 1373647.7	260.92	257.05	256.55	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U8	ATRIUM DROP-IN GRATE	N 549611.4 E 1373645.1	258.75	254.88	252.39	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U10	ATRIUM DROP-IN GRATE	N 549747.8 E 1373655.4	263.70	259.83	259.33	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U11	ATRIUM DROP-IN GRATE	N 549730.8 E 1373666.5	263.10	259.38	258.48	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U12	ATRIUM DROP-IN GRATE	N 549712.2 E 1373673.9	261.72	257.85	257.35	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U13	ATRIUM DROP-IN GRATE	N 549695.3 E 1373684.9	260.85	256.98	256.48	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U14	ATRIUM DROP-IN GRATE	N 549676.7 E 1373692.4	260.25	256.38	255.88	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U15	ATRIUM DROP-IN GRATE	N 549659.9 E 1373703.5	259.75	255.88	254.38	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U16	ATRIUM DROP-IN GRATE	N 549641.2 E 1373710.9	259.17	255.30	254.80	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)
AG-U17	ATRIUM DROP-IN GRATE	N 549618.5 E 1373724.9	258.23	254.36	253.86	6" RISER WITH GRATE ON TOP (SEE DETAIL ON SHEET 8)

STRUCTURE SCHEDULE							
NO.	TYPE	LOCATION	TOP ELEV.	THROAT ELEV.	INV. IN	INV. OUT	COMMENTS
I-1	TYPE "D" INLET	N 549609.9 E 1373762.1	253.49	252.66	248.54	274.62	HO. CO. STD SD-4.10
I-2	DOUBLE WR INLET	N 549592.5 E 1373720.6	257.33	-	249.87	-	HO. CO. STD SD-4.35
I-3	TYPE "S" COMBINATION INLET	N 549569.5 E 1373677.3	257.03	-	249.46	-	HO. CO. STD SD-4.32
I-4	TYPE "D" INLET	N 549564.6 E 1373664.5	256.54	256.75	249.96	-	HO. CO. STD SD-4.10
I-5	TYPE "D" INLET	N 549785.3 E 1373558.3	267.37	266.54	261.46	-	HO. CO. STD SD-4.10
I-6	TYPE "A-5" INLET	N 549797.6 E 1373656.9	266.33	264.50	259.46	-	HO. CO. STD SD-4.10
I-7	TYPE "D" INLET	N 549840.7 E 1373496.9	271.85	-	268.59	268.34	HO. CO. STD SD-4.14
I-8	YARD INLET	N 549854.6 E 1373518.4	271.85	-	268.85	268.85	HO. CO. STD SD-4.14
I-9	YARD INLET	N 549825.1 E 1373765.1	255.50	-	248.95	248.84	HO. CO. STD. G-5.12
MH-1	4'-0" STANDARD PRECAST MANHOLE	N 549608.2 E 1373732.6	255.50	-	249.24	249.14	HO. CO. STD. G-5.12
MH-2	4'-0" STANDARD PRECAST MANHOLE	N 549689.7 E 1373668.3	261.05	-	252.70	252.70	HO. CO. STD. G-5.12
MH-3	4'-0" STANDARD PRECAST MANHOLE	N 549773.1 E 1373624.8	265.74	-	258.41	258.09	HO. CO. STD. G-5.12
MH-4	4'-0" STANDARD PRECAST MANHOLE	N 549793.1 E 1373614.4	266.88	-	261.05	260.64	HO. CO. STD. G-5.12
MH-5	4'-0" STANDARD PRECAST MANHOLE	N 549792.0 E 1373517.1	269.61	-	264.94	264.94	HO. CO. STD. G-5.12
CO-1	CLEANOUT	N 549632.7 E 1373773.3	254.00	-	251.84	251.74	HO. CO. STD. S-2.22
CO-1A	CLEANOUT	N 549688.6 E 1373744.2	257.00	-	254.30	254.20	HO. CO. STD. S-2.22
CO-2	CLEANOUT	N 549795.1 E 1373688.5	263.00	-	258.24	258.24	HO. CO. STD. S-2.22
CO-3	CLEANOUT	N 549603.9 E 1373617.6	260.15	-	256.60	256.27	HO. CO. STD. S-2.22
CO-4	CLEANOUT	N 549758.1 E 1373537.3	269.15	-	265.30	265.30	HO. CO. STD. S-2.22
CO-5	CLEANOUT	N 549800.6 E 1373520.3	272.24	-	267.03	267.03	HO. CO. STD. S-2.22
ES-1	15" HDPE END SECTION	N 549789.1 E 1373524.1	-	-	265.54	-	

NOTE: 1. TOP ELEVATIONS ARE AT CENTER TOP OF HEADPIECE FOR TYPE "A-10", CENTER TOP OF MANHOLE FOR TYPE "D" INLET, AND TOP OF MANHOLE COVER FOR PRECAST MANHOLES.
 2. FOR TOP SLOPE SIZES SEE GRADING PLAN.
 3. SEE ARCHITECTURAL PLANS FOR DOWNSPOUT AND ROOF DRAIN DETAILS.
 4. ALL CUSTOM AND NON-STANDARD STRUCTURES TO BE DESIGNED BY A QUALIFIED STRUCTURAL ENGINEER.

SITE DEVELOPMENT PLAN

UTILITY PROFILES

BUCH PROPERTY
TOWNHOUSES AND OFFICE BUILDING
L. 11977 / F. 517

ZONED CAC-CU
PART OF SD 426
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY:	RHV	PROFESSIONAL CERTIFICATE
DRAWN BY:	DZ	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRATION DATE: 09-27-2024
CHECKED BY:	RHV	
DATE:	APRIL 2024	
SCALE:	AS SHOWN	
W.O. NO.:	08-59	

6 OF 14

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

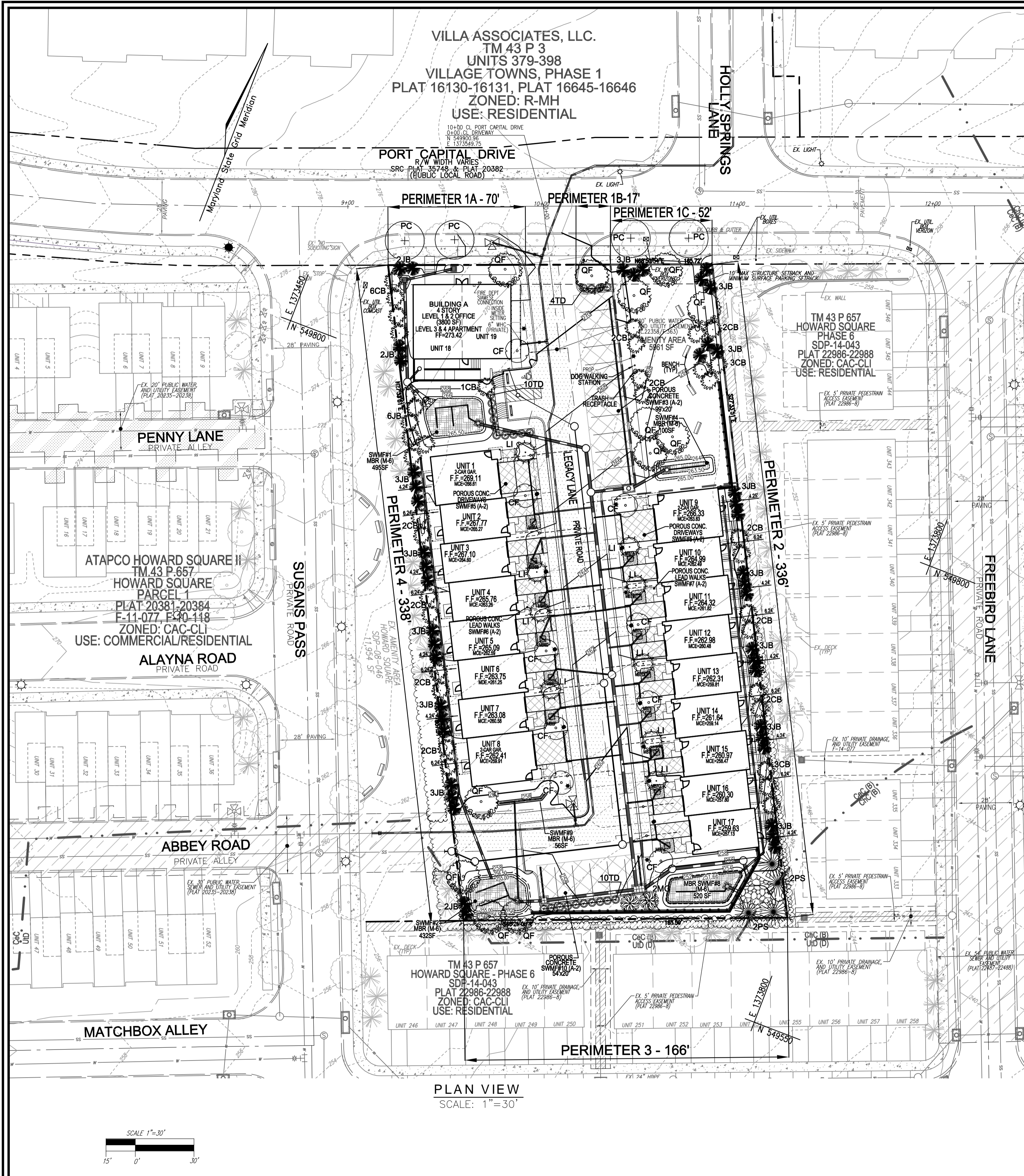
Developed by: CHAD Edmondson 9/24/2024

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 9/25/2024

Developed by: Linda Ewinberg 9/25/2024

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 9/25/2024

DIRECTOR DATE



LANDSCAPE SCHEDULE

KEY	QUAN	BOTANICAL NAME	SIZE	CAT
QF	12	QUERCUS ROBUR 'FASTIGIATA'	2 1/2"-3" CAL.	B & B
LI	9	LARIX PRINCEPIS 'INDICA'	1 1/2"-2" CAL.	B & B
CF	9	CORNUS FLORIDA 'WHITE FLOWERING DOGWOOD'	1 1/2"-2" CAL.	B & B
CB	36	CARPINUS BETULIFOLIA 'COLUMBINARIS'	1 1/2"-2" CAL.	B & B
PC	4	LIANTANUS X ACERIFOLIA 'COLUMBIA'	2 1/2"-3" CAL.	B & B
MG	2	MAGNOLIA GRANDIFLORA 'SOUTHERN MAGNOLIA'	6"-8" HT.	B & B
PS	4	PAUS STROBUS 'EASTERN WHITE PINE'	6"-8" HT.	B & B
JB	45	JUNIPERUS VIRGINIANA 'BLUE ARROW'	5"-6" HT.	B & B
TD	24	TAXUS MEDIA 'DENSIFORMIS'	2 1/2"-3" HT.	B & B

SCHEDULE B PARKING LOT LANDSCAPING

NUMBER OF PARKING SPACES	19
NUMBER OF TREES REQUIRED	1
NUMBER OF TREES PROVIDED	1
SHADE TREES	1
OTHER TREES (2:1 SUBSTITUTION)	0

STREET TREE CALCULATIONS

STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
PORT CAPITAL DRIVE	166/40	4	4

SCHEDULE A PERIMETER LANDSCAPE EDGE AND ROADWAYS

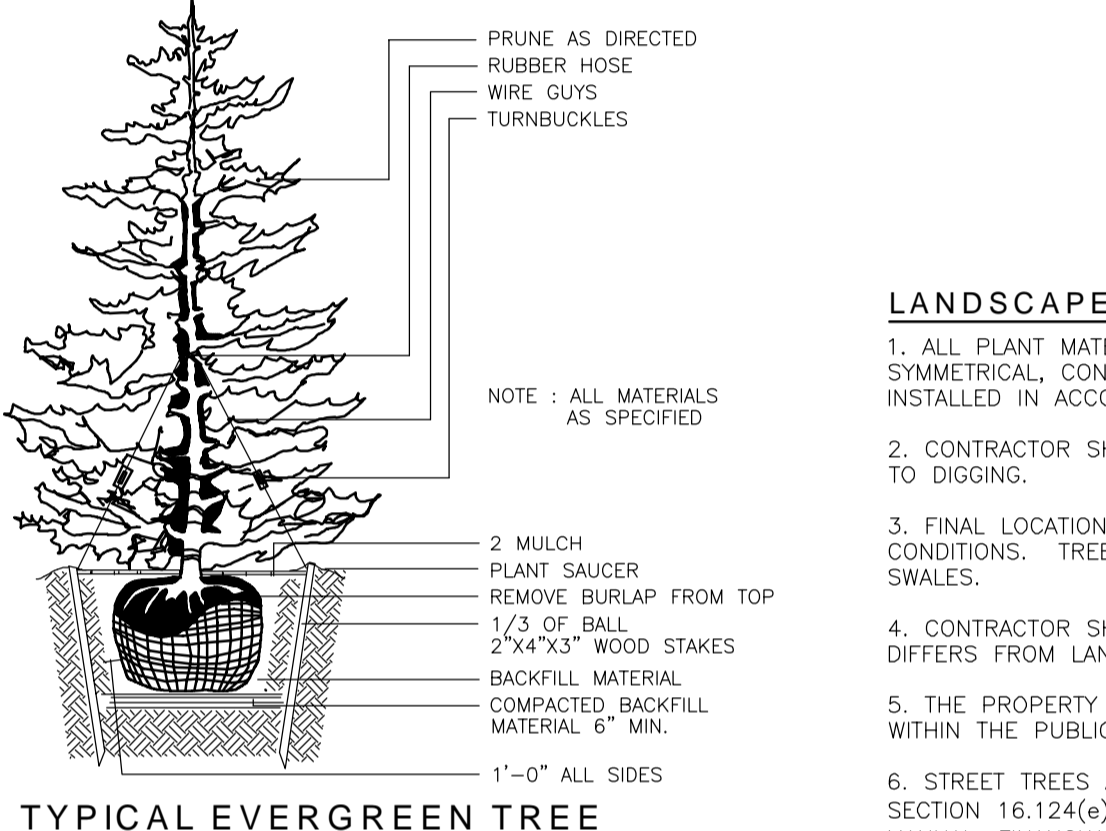
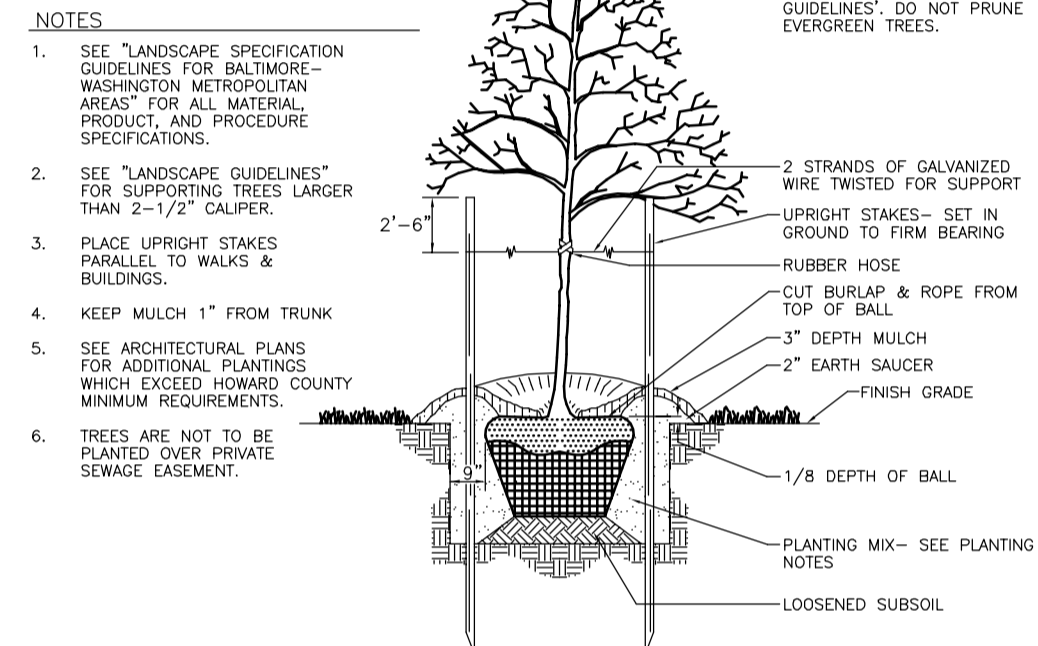
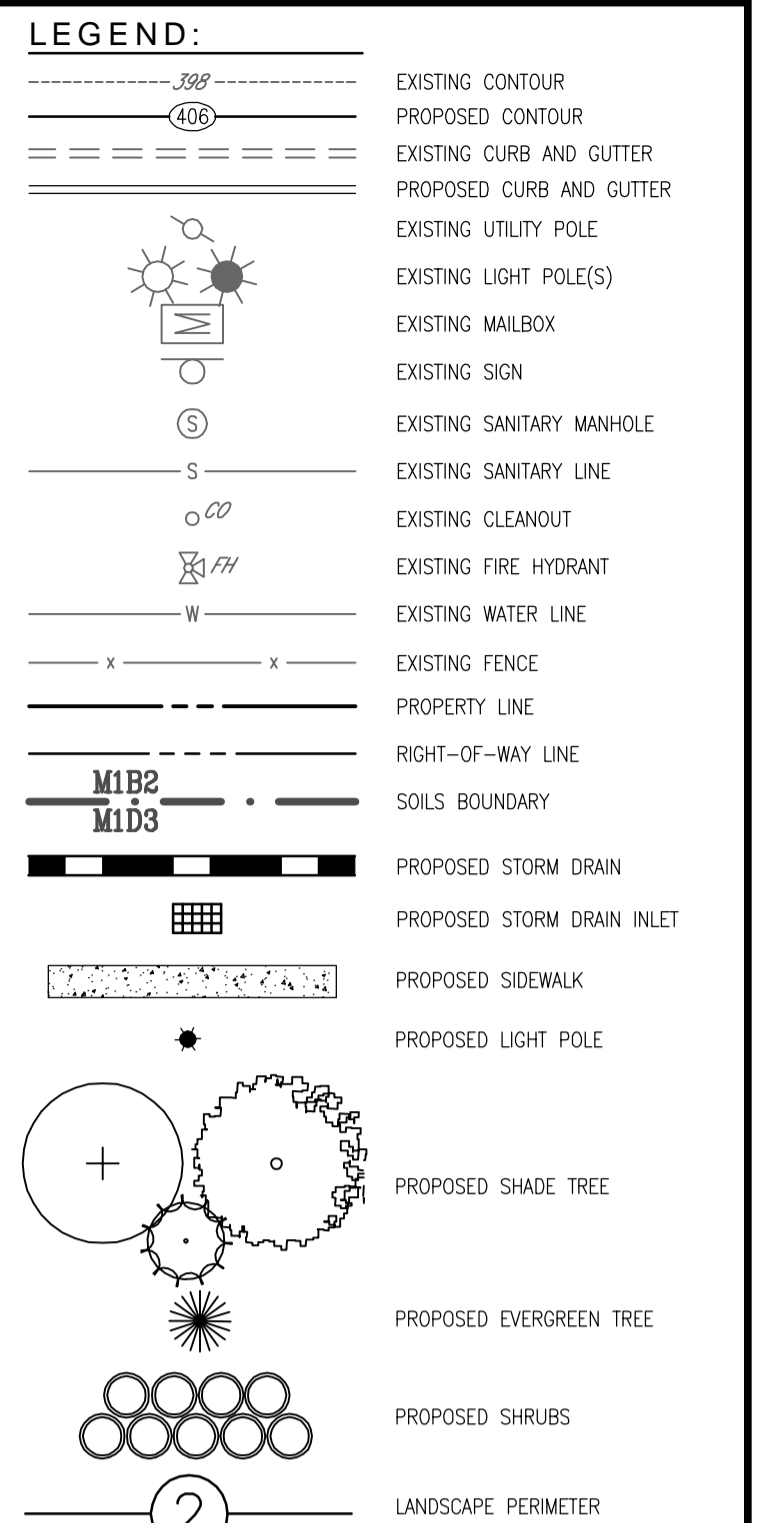
CATEGORY	ADJACENT TO PERIMETER AND ROADWAYS			
	1A	1B	1C	2
PERIMETER/FRONTAGE DESIGNATION	70'	17'	52'	336'
LANDSCAPE TYPE	70'	17'	52'	336'
FRONTAGE/PERIMETER	70'	17'	52'	336'
CREDIT FOR EXISTING VEGETATION (YES, NO, LEANING FEET DESCRIBE BELOW IF NEEDED)	No	No	No	No
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LEANING FEET DESCRIBE BELOW IF NEEDED)	No	No	No	No
NUMBER OF LIANTS REQUIRED	1:50	1:40	1:40	1:50
SHADE TREES	1:40	1:4	1:40	1:50
EVERGREEN TREES	1:40	1:4	1:40	1:50
OTHER TREES (2:1 SUB)	1:40	1:4	1:40	1:50
SHRUBS (10:1 SUB)	1:40	1:4	1:40	1:50
NUMBER OF LIANTS PROVIDED	2	1	3	2
SHADE TREES	1	1	1	2
EVERGREEN TREES	1	1	1	2
OTHER TREES (2:1 SUBSTITUTION)	1	1	1	2
SHRUBS (10:1 SUBSTITUTION)	1	1	1	2
DESCRIBE LIANT SUBSTITUTION CREDITS BELOW IF NEEDED				

SCHEDULE B - RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

CATEGORY	SINGLE FAMILY ATTACHED	APARTMENT	TOTAL
NUMBER OF DWELLING UNITS	17	2	19
NUMBER OF TREES REQUIRED	1:1 DU 17	1:3 DU 1	18
NUMBER OF LIANTS PROVIDED	17	1	18
SHADE TREES	17	1	18
EVERGREEN TREES (2:1 SUB)	17	1	18
OTHER TREES (2:1 SUB)	17	1	18
SHRUBS (10:1 SUB)	17	1	18

AMENITY AREA REQUIREMENTS

SITE AREA: 1.27 AC.
 AREA OF AMENITY SPACE REQUIRED: 10% OF GROSS AREA OF PARCEL (0.13 AC.)
 TOTAL AREA OF CREDITED AMENITY SPACE PROVIDED: 0.14 ACRES
 **FOR LIGHTING, BENCH, AND TRASH RECEPTACLE DETAILS, SEE SHEET 2.



FOREST CONSERVATION WORKSHEET

Net Tract Area

A. Total (Gross) Tract Area	A = 1.3
B. Area within 100-year Floodplain	B = 0.0
C. Other Deductions (Identify)	C = 0.0
D. Net Tract Area	D = 1.3

Land Use Category

Resid.	Resid.	Resid.	Inst./	Retail/Ed.	Mixed Use/
Rural LD	Rural MD	Suburban	Linear	Office	PUD
g	g	g	g	g	g

Existing Forest Cover

G. Existing Forest Cover within the Net Tract Area	G = 0.6
H. Area of Forest above Afforestation Threshold	H = 0.4
I. Area of Forest above Reforestation Threshold	I = 0.3

Break Even Point

J. Break Even Point	J = 0.4
K. Forest Clearing Permitted without Mitigation	K = 0.2

Proposed Forest Clearing

L. Total Area of Forest to be Cleared	L = 0.6
M. Total Area of Forest to be Retained	M = 0.6

Planting Requirements Inside Watershed

N. Reforestation for Clearing above the Reforestation Threshold	N = 0.2
P. Reforestation for Clearing below the Reforestation Threshold	P = 0.6
Q. Credit for Retention above the Reforestation Threshold	Q = 0.0
R. Total Reforestation Required	R = 0.8
S. Total Afforestation Required	S = 0.0
T. Total Reforestation and Afforestation Requirement	T = 0.8
U. 75% of Total Obligation (Retention + Planting)	U = 0.6
V. Planting Required On-site to meet 75% Obligation	V = 0.6

Planting Requirements Outside Watershed

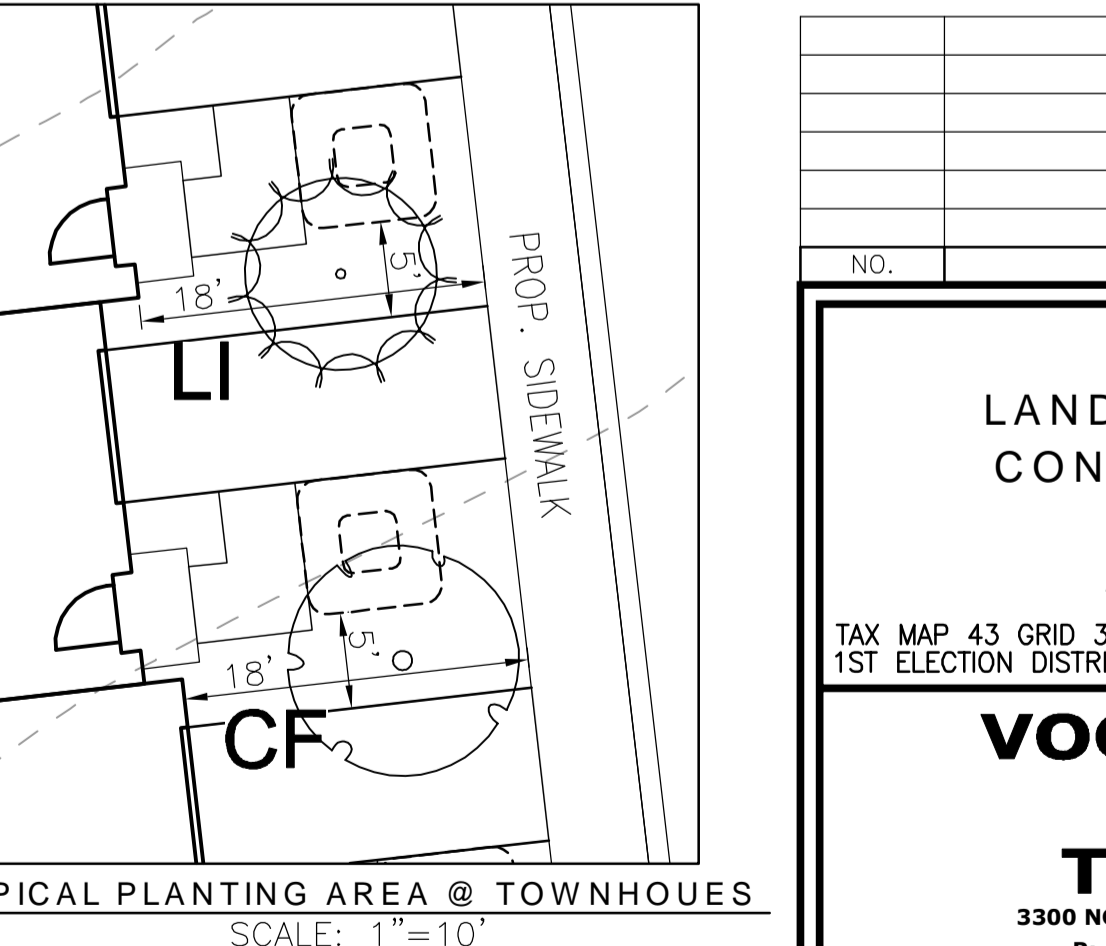
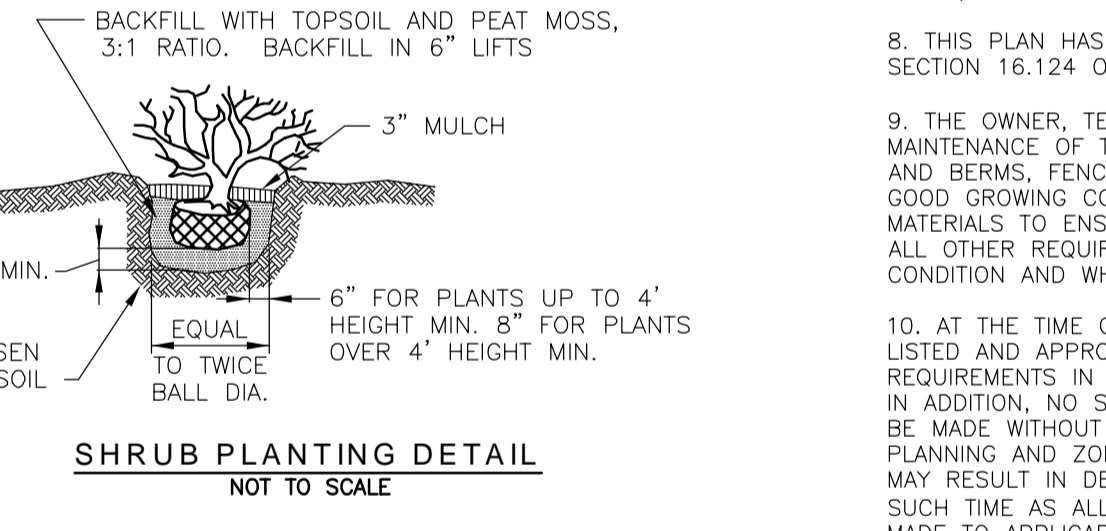
W. Total Planting within Development Site Watershed	W = 0.0
X. Total Afforestation Required	X = 0.0
Y. Remaining Planting within Watershed for Reforestation Credit	Y = 0.0
Z. Reforestation for Clearing above the Reforestation Threshold	Z = 0.4
AA. Reforestation for Clearing below the Reforestation Threshold	AA = 0.9
BB. Credit for Retention above the Reforestation Threshold	BB = 0.0
CC. Total Reforestation Required	CC = 1.3
DD. Total Afforestation and Reforestation Requirement	DD = 1.3

THE REQUIRED FOREST CONSERVATION SHALL MEET THE INTENT OF SECTION 16.117 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL. FOREST CONSERVATION REQUIREMENTS ARE BASED ON COUNCIL BILL CB62-2019.

THE REFORESTATION AND AFFORESTATION REQUIREMENT FOR THE PROJECT FOR PLANTING INSIDE THE WATERSHED IS 0.8 ACRES.

THE 75% ON-SITE REQUIREMENT (0.6 AC.) DOES NOT APPLY TO THIS PROJECT AS THIS PROJECT IS RESIDENTIAL AND HAS LESS THAN 1 ACRE TOTAL OBLIGATION.

THE FOREST CONSERVATION OBLIGATION OF 1.3 ACRES FOR THIS PLAN HAS BEEN MET BY THE PURCHASE OF RETENTION BANK CREDITS IN THE HEMLOCK PROPERTY FOREST BANK (SDP-04-13), WHICH IS OUTSIDE THE WATERSHED. RETENTION BANKS OUTSIDE OF THE WATERSHED MUST SATISFY THE FOREST CONSERVATION OBLIGATION AT A 2:1 CREDIT RATIO. THEREFORE, THE TOTAL CREDITS PURCHASED IS 2.6 ACRES (1.3 ACRES X 2).



- ### LANDSCAPE GENERAL NOTES
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMW PLANT SPECIFICATIONS.
 - CONTRACTOR SHALL CERTIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
 - FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
 - CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
 - THE PROPERTY OWNER WILL BE RESPONSIBLE FOR MAINTAINING STREET TREES WITHIN THE PUBLIC RIGHT-OF-WAY.
 - STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE STREET TREES IN THE AMOUNT OF \$1200 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE 4 REQUIRED STREET TREES.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN IN THE AMOUNT OF \$15,570 FOR THE REQUIRED 39 SHADE TREES, 25 EVERGREEN TREES, AND 4 SHRUBS.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - 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 MATERIALS 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 INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR WRITTEN 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 UNIT SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *CHAD Edmondson* 9/24/2024

CHIEF, DIVISION OF LAND DEVELOPMENT: *Linda Blumberg* 9/25/2024

DIRECTOR: *Linda Blumberg* 9/25/2024

DEVELOPER'S/BUILDER'S CERTIFICATE

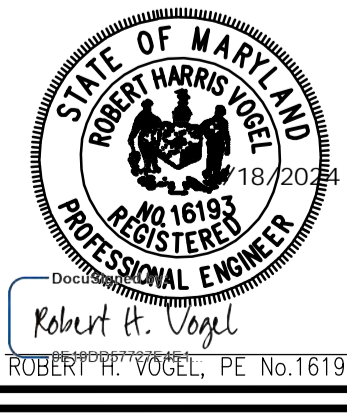
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE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

DocuSigned by: *Nike Erda* 9/18/2024

SIGNATURE OF DEVELOPER: _____ DATE: _____

OWNER/DEVELOPER

RESIDUARY TRUST OF JAMES R. BUCH JR. 8155 WESTSIDE BLVD. FULTON, MD 20759 240-375-6294



DESIGN BY: RHV

DRAWN BY: DZ

CHECKED BY: RHV

DATE: JULY 2024

SCALE: AS SHOWN

W.O. NO.: 08-59

9 OF 14

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRATION DATE: 09-27-2024

GENERAL NOTES

CONTRACTOR RESPONSIBILITIES: THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE, AND TO ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS, DURING ERECTING. THIS INCLUDES THE ADDITION OF ANY SHORING, SHEETING, TEMPORARY GUYS, BRACING OR TIEDOWNS THAT MIGHT BE NECESSARY. SUCH MATERIAL IS NOT SHOWN ON THE DRAWINGS. IF APPLIED, THEY SHALL BE REMOVED AS CONDITIONS PERMIT AND SHALL REMAIN THE CONTRACTOR'S PROPERTY. THE ENGINEER HAS NO EXPERTISE IN, AND TAKES NO RESPONSIBILITY FOR, CONSTRUCTION MEANS AND METHODS OR JOBSITE SAFETY DURING CONSTRUCTION. PROCESSING AND/OR APPROVED SUBMITTALS MADE BY THE CONTRACTOR WHICH MAY CONTAIN INFORMATION RELATED TO CONSTRUCTION METHODS OF SAFETY ISSUES, OR PARTICIPATION IN MEETINGS WHERE SUCH ISSUES MIGHT BE DISCUSSED, SHALL NOT BE CONSTRUED AS VOLUNTARY ASSUMPTION BY THE ENGINEER OF ANY RESPONSIBILITY OF EACH CONTRACTOR TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE ENGINEER IS NOT ENGAGED IN, AND DOES NOT SUPERVISE CONSTRUCTION.

CONTROLLED FILL AND BACKFILL: SAMPLES OF ALL MATERIALS THAT THE CONTRACTOR PROPOSES TO USE FOR COMPACTED FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. COMPACTED FILL SHALL CONSIST OF LOCAL MATERIAL FREE OF DELETERIOUS MATTER AND CLASSIFIED SP, SW, SM, SC, GP, GW, GM, OR GC PER ASTM D-2487. THE CONTROL OF THE MOISTURE FOR PLACING THE FILL WILL BE BASED ON THE RESULTS OF COMPACTION TESTS PER ASTM D-698. ALL COMPACTED FILL SHALL HAVE A DENSITY OF AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698. PRIOR TO PLACEMENT OF ANY FILLS, THE SITE SHALL BE STRIPPED OF ALL TOPSOIL, VEGETATION, ROCKS, AND ORGANIC MATERIALS AND THE EXPOSED SUBGRADE SHALL BE COMPACTED IN PLACE TO A CONFIRMED DENSITY OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY. FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8" IN THICKNESS AND SHALL BE MIXED, SPREAD AND PLACED IN SUCH A WAY AS TO PRODUCE A UNIFORM THICKNESS OF MATERIAL AFTER PLACING. EACH LAYER OF FILL SHALL BE COMPACTED WITH A MINIMUM OF 6 COMPLETE PASSES ON ALL PORTIONS OF THE SURFACE OF EACH LIFT OF FILL BY RUBBER-TIRED ROLLERS, SHEEPS-FOOT ROLLERS OR OTHER MECHANICAL EQUIPMENT APPROVED BY THE GEOTECHNICAL ENGINEER. COMPACTED FILL PLACED WITHIN 4 FEET OF STRUCTURES AND PIPES SHOULD BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED 4 INCHES THICKNESS AND COMPACTED WITH HAND TAMPERS OR LIGHT COMPACTION EQUIPMENT TO THE SAME STANDARD. HEAVY COMPACTION EQUIPMENT SHOULD NOT BE ALLOWED WITHIN 4 FEET OF STRUCTURES UNLESS A MINIMUM 2 FEET DEPTH OF FILL COVERS THE STRUCTURES. WHENEVER IN PLACE DENSITIES ARE FOUND BELOW ACCEPTABLE LIMITS, ADDITIONAL ROLLING TO PRODUCE THE SPECIFIED DENSITIES SHALL BE REQUIRED. THE CONTRACTOR SHALL TAKE ALL MEASURES REQUIRED TO PROVIDE FOR FREE DRAINAGE OF THE SITE AND TO PREVENT PONDING OF WATER. SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. PLACING OF FILL CONTAINING ORGANIC MATTER; PLACING OF FILL WITH MOISTURE CONTENT TOO HIGH OR TOO LOW FOR PROPER COMPACTION; PLACING OF FILL WHEN FREE WATER IS STANDING ON THE EXISTING FILL SURFACE; PLACING OF FILL IN A FROZEN CONDITION OR ON TOP OF FROZEN MATTER WILL NOT BE PERMITTED. THE SOILS ENGINEER SHALL SUPERVISE THE PLACING OF THE COMPACTED FILL AND ALL THE MATERIAL AND EQUIPMENT USED FOR THIS PURPOSE AND SHALL MAKE SUCH SOILS TESTS AS MAY BE REQUIRED FOR THE COMPLETION OF THE WORK PERFORMING AT LEAST 6 IN PLACE DENSITY TESTS DURING EACH EIGHT HOUR SHIFT.

FOUNDATIONS: BOTTOM OF ALL FOOTINGS SHALL BE A MINIMUM OF 2'-0" BELOW ORIGINAL GRADE OR PLACED IN APPROVED COMPACTED FILL. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW FINISHED GRADE. A SOIL BEARING CAPACITY OF 2000 PSF WAS USED IN THE FOUNDATION DESIGN, AND MUST BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER. IF SOIL OF THIS BEARING CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS INDICATED ON THE CONTRACT DRAWINGS, FOOTINGS SHALL BE LOWERED OR INCREASED IN SIZE AS DIRECTED BY THE STRUCTURAL ENGINEER. ELEVATIONS SHOWN ON PLAN ARE TO THE BOTTOM OF THE FOOTINGS.

IF WALL FOOTER IS DEEPER IN ELEVATION THAN NEIGHBORING UNIT AS SHOWN ON CIVIL DRAWINGS, THEN THE NEIGHBORING UNIT WILL BE WITHIN THE ZONE OF INFLUENCE OF THE WALL. IN THIS CASE, THE OWNER HAS TWO OPTIONS:

1. DROP THE FOUNDATION OF THE UNIT TO BELOW THE WALL FOOTER'S ELEVATION.
2. SUPPORT THE UNIT'S FOUNDATION ON PILES. THIS METHOD WILL REQUIRE THE ENTIRE ROW OF UNITS TO BE SUPPORTED IN A SIMILAR MANNER TO AVOID DIFFERING SETTLEMENT CONDITIONS.

REINFORCING STEEL: REINFORCING STEEL SHALL BE DEFORMED BARS IN ACCORDANCE WITH ASTM A-615, GRADE 60. BENDS ARE TO BE FABRICATED AS PER DETAILS. PLACE MAIN REINFORCING STEEL SO AS TO PROVIDE 3" MINIMUM COVER FOR FOUNDATIONS POURED ON EARTH, 2" MINIMUM COVER FOR BEAMS AND COLUMNS, 3/4" MINIMUM COVER FOR SLABS AND 1 1/2" FOR ALL REBAR IN EXPOSED CONCRETE (EXCEPT AS OTHERWISE DETAILED).

INSPECTION: ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND ALL LOCAL ORDINANCES. THE OWNER OR CONTRACTOR SHALL HIRE AN EXPERIENCED QUALIFIED INSPECTOR TO PERFORM ALL REQUIRED INSPECTION WORK. INSPECTION SHALL CONSIST OF VISUAL OBSERVATIONS OF MATERIALS, EQUIPMENT OR CONSTRUCTION WORK FOR THE PURPOSE OF ASCERTAINING THAT THE WORK IS IN SUBSTANTIAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE DESIGN INTENT. THE ENGINEER WILL NOT PERFORM THE REQUIRED INSPECTION AS PART OF THIS PRESENT CONTRACT WITH THE ARCHITECT/OWNER. UNDER THIS PRESENT CONTRACT, THE ENGINEER MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. HOWEVER, SUCH VISITS SHALL NOT BE RELIED UPON BY OTHERS AS ACCEPTANCE OF THE WORK, NOR SHOULD IT BE CONSTRUED TO RELIEVE THE CONTRACTOR IN ANY WAY FROM HIS OBLIGATIONS AND RESPONSIBILITIES UNDER THE CONSTRUCTION CONTRACT. HOWEVER, IF DESIRED, HILLIS-CARNES ENGINEERING ASSOCIATES MAY BE HIRED UNDER A SEPARATE CONTRACT TO PERFORM THIS INSPECTION WORK.

GENERAL NOTES

CONCRETE: ALL CONCRETE WORK SHALL CONFORM TO ALL THE PROVISIONS OF THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301) AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318). ALL STRUCTURAL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI UNLESS NOTED OTHERWISE. ADDITIONALLY, THE CONCRETE SHALL CONFORM TO ALL THE PROVISIONS OF "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING" (ACI 305) AND "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING" (ACI 306). ALL FORMWORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "FORMWORK FOR CONCRETE" SPECIAL PUBLICATION NO. 4 AND ACI'S "STANDARD RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" (ACI-347). ALL CONCRETE EXPOSED TO THE WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 6% +/- 1%. THE MAXIMUM WATER CEMENT RATIO W/C SHALL NOT EXCEED 0.56 FOR ALL CONCRETE EXCEPT CONCRETE EXPOSED TO WEATHER WHICH SHALL NOT EXCEED 0.45. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. THE MAXIMUM SLUMP OF ALL CONCRETE SHALL BE 4". ALL CONCRETE SHALL BE CURED WITH LIQUID SEALING COMPOUND CONFORMING TO ASTM C-309, TYPE I AND FEDERAL SPECIFICATION TT-C-00800 OR OTHER APPROVED METHOD WHICH IS COMPATIBLE WITH FLOORING ADHESIVES AND OTHER SURFACE TREATMENTS. ALL CONCRETE LEFT EXPOSED AT THE COMPLETION OF THE PROJECT SHALL BE TREATED WITH A CLEAR, PENETRATING ACRYLIC BASE POLYMER CAPABLE OF PREVENTING INFILTRATION OF WATER BORNE CHLORIDES SUCH AS "CONSPEC CURE & SEAL WB" BY DAYTON SUPERIOR CORPORATION OR APPROVED EQUAL. LOADS GREATER THAN THE DESIGN LIVE LOADS SHALL NOT BE PLACED ON THE STRUCTURE. A CONCRETE STRUCTURE MAY NOT SUPPORT ITS DESIGN LIVE LOAD FOR 28 DAYS. CONTRACTOR SHALL SUPPORT ADJACENT STRUCTURES, UTILITIES, AND EXCAVATIONS AS REQUIRED FOR COMPLETION OF WORK. ONE SET OF COMPRESSIVE TEST CYLINDERS FOR EACH 100 CUBIC YARDS POURED, BUT NOT LESS THAN ONE SET FOR EACH DAY'S POUR AND EACH CLASS OF CONCRETE, ALONG WITH SLUMP TESTS SHALL BE PERFORMED BY A TESTING LABORATORY APPROVED BY THE STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY FORMWORK INCLUDING STRIPPING PROCEDURES FOR CONCRETE FLAT SLABS, SHEETING, SHORING, UNDERPINNING, ETC. SEALED BY A REGISTERED PROFESSIONAL ENGINEER AS PART OF THE CONTRACTOR'S WORK.

DESIGN WITHOUT CONSTRUCTION REVIEW: IT IS AGREED THAT IF HILLIS-CARNES ENGINEERING ASSOCIATES' PROFESSIONAL SERVICES DO NOT EXTEND TO OR INCLUDE THE REVIEW OR SITE OBSERVATION OF THE CONTRACTOR'S WORK OR PERFORMANCE, THEN THE OWNER WILL DEFEND, INDEMNIFY AND HOLD HARMLESS HILLIS-CARNES ENGINEERING ASSOCIATES, FROM ANY CLAIM OR SUIT WHATSOEVER, INCLUDING BUT NOT LIMITED TO ALL PAYMENTS, EXPENSES OR COSTS INVOLVED, ARISING FROM OR ALLEGED TO HAVE ARISEN FROM THE CONTRACTOR'S PERFORMANCE OR THE FAILURE OF THE CONTRACTOR'S WORK TO CONFORM TO THE DESIGN INTENT AND THE CONTRACT DOCUMENTS. HILLIS-CARNES ENGINEERING ASSOCIATES, AGREES TO BE RESPONSIBLE FOR ITS OWN OR ITS EMPLOYEES' NEGLIGENT ACTS, ERRORS OR OMISSIONS.

OWNERSHIP OF DOCUMENTS: THE CONTRACTOR ACKNOWLEDGES THESE PLANS AND SPECIFICATIONS PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, AS INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE PLANS AND SPECIFICATIONS PREPARED UNDER THIS AGREEMENT SHALL REMAIN THE PROPERTY OF HILLIS-CARNES ENGINEERING ASSOCIATES UPON COMPLETION OF THE WORK. THE CONTRACTOR AGREES TO HOLD HARMLESS AND INDEMNIFY HILLIS-CARNES ENGINEERING ASSOCIATES, AGAINST ALL DAMAGES, CLAIMS, AND LOSSES, INCLUDING DEFENSE COSTS, ARISING OUT OF ANY REUSE OF THE PLANS AND SPECIFICATIONS WITHOUT THE WRITTEN AUTHORIZATION OF HILLIS-CARNES ENGINEERING ASSOCIATES

DESIGN DATA:
 f_c = 4000 PSI (WALL FOUNDATIONS)
 f_c = 4000 PSI (RETAINING WALL)
 f_y = 60000 PSI

DESIGN EARTH PRESSURES:
 ACTIVE EQUIVALENT FLUID PRESSURE = 45 PSF
 PASSIVE PRESSURE = 380 PSF
 FRICTION COEFFICIENT = 0.35
 PERCENT OF FRICTION USED FOR SLIDING = 100%
 PERCENT OF PASSIVE USED FOR SLIDING = 75%

MINIMUM FACTORS OF SAFETY:
 OVERTURNING = 2.0
 SLIDING = 1.5

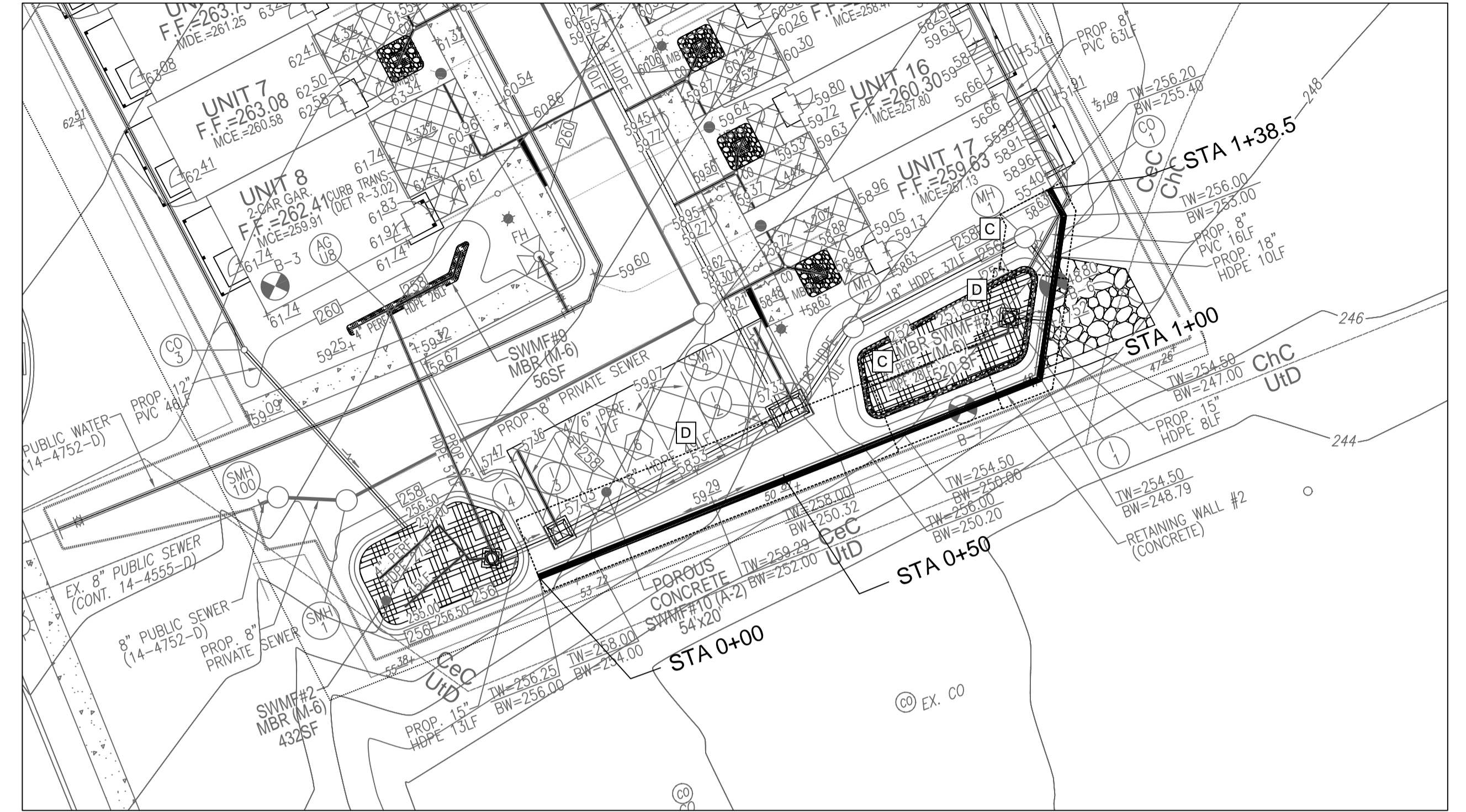
WIND LOAD:
 BASIC WIND SPEED 115 MPH
 BUILDING CATEGORY II
 WIND EXPOSURE B

PREVAILING CODES AND SPECIFICATIONS (LATEST VERSIONS ACCEPTED BY LOCAL JURISDICTION):

BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)
 "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING" (ACI 305)
 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING" (ACI 306).
 "FORMWORK FOR CONCRETE" SPECIAL PUBLICATION NO. 4
 "STANDARD RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" (ACI-347).

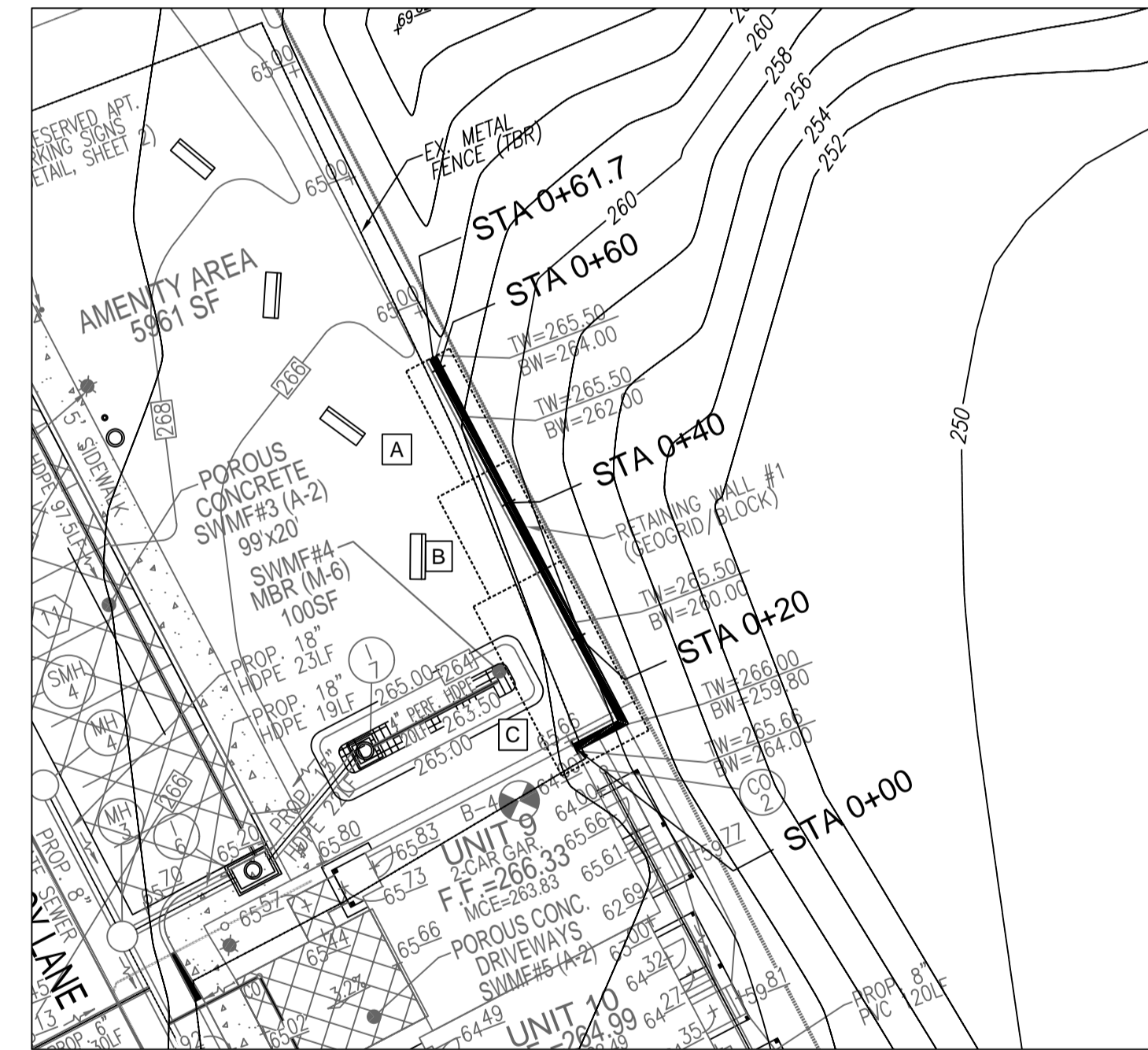
ABBREVIATIONS

BOF	BOTTOM OF FOOTING
CLR	CLEAR
DWG	DRAWING
E.F.	EACH FACE
E.W	EACH WAY
EXP	EXPANSION
HORZ	HORIZONTAL
REINF	REINFORCEMENT
TOF	TOP OF FOOTING
TYP	TYPICAL
VERT	VERTICAL
O/C	ON CENTER



2 RETAINING WALL # 2 - LOCATION MAP

Scale: 1" = 20'-0"



1 RETAINING WALL # 1 - LOCATION MAP

Scale: 1" = 20'-0"

NOTES:

1. SITE FEATURES, UTILITIES AND GENERAL WALL LOCATION ARE SHOWN FOR CONCEPTUAL PURPOSES ONLY. OTHER FEATURES EXISTING OR PROPOSED MAY NOT BE SHOWN. HCEA CANNOT VERIFY THE ACCURACY OR COMPLETENESS OF THE LOCATION OF THESE FEATURES.
2. ALL PLAN DIMENSIONS, ELEVATIONS AND GRADES SHALL BE FIELD VERIFIED BY CONTRACTOR AND ANY DISCREPANCIES REPORTED TO HCEA BEFORE CONTRACTOR PROCEEDS WITH WORK.
3. GEOTECHNICAL PARAMETERS WILL NEED TO BE FIELD-VERIFIED PRIOR TO THE START OF CONSTRUCTION. BORINGS SHOULD BE CONDUCTED AT TWICE THE HEIGHT OF THE WALL TO VERIFY. HCEA STRUCTURAL AND GEOTECHNICAL SHALL BE CONTACTED IF ANY PARAMETERS DIFFER THAN THOSE REFLECTED ON THESE PLANS OR ASSOCIATED CALCULATIONS
4. HCEA ASSUMES NEARBY SWM FACILITIES ARE TIED INTO A CLOSED SYSTEM AND INFILTRATION IS NOT PERMITTED.

NO.	REVISION	DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>CHAD EDWARDS</i>	9/24/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>LYNDA EISENBERG</i>	9/25/2024
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DIRECTOR	DATE

OWNER/DEVELOPER
 RESIDUARY TRUST OF JAMES R. BUCH JR.
 8155 WESTSIDE BLVD.
 FULTON, MD 20759
 240-375-6294

SITE DEVELOPMENT PLAN

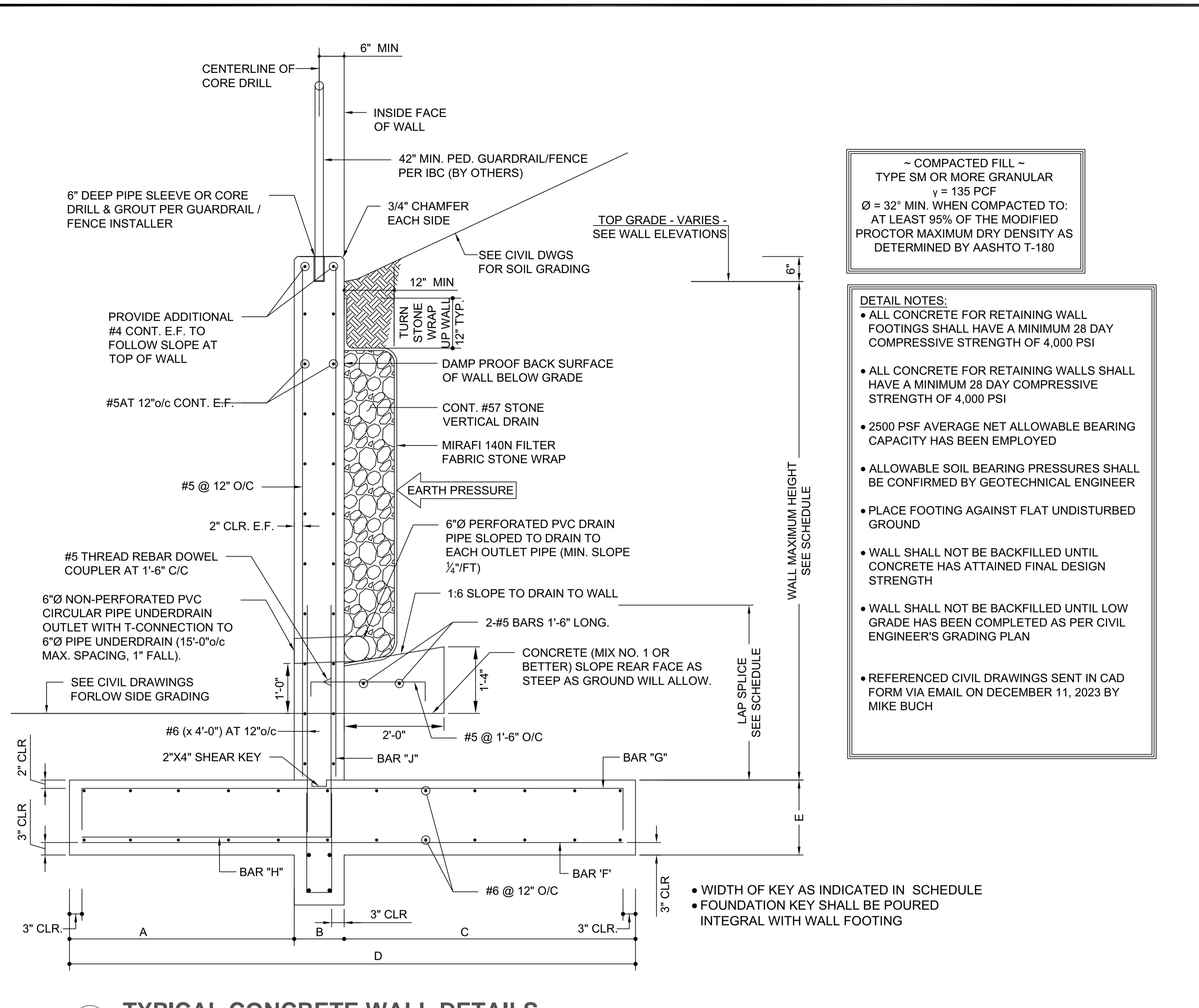
CONC. RETAINING WALL LOCATION MAPS & GENERAL NOTES

BUCH PROPERTY
 TOWNHOUSES AND OFFICE BUILDING ZONED CAC-CL1
 TAX MAP 43 GRID 3 PARCEL 426
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

HILLIS-CARNES ENGINEERING ASSOCIATES
 10975 Guilford Road, Suite A Annapolis Junction, Maryland
 Phone: (410) 880-4788 www.hceaa.com Fax: (410) 880-4098

DESIGN BY: _____ NALL DRAWN BY: _____ NALL CHECKED BY: _____ JRE DATE: _____ JUNE 2024 SCALE: _____ AS SHOWN HCEA JOB NO.: _____ 11306A	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. 53198, EXPIRATION DATE: 6/8/25.
--	---

10 SHEET **13**
OF

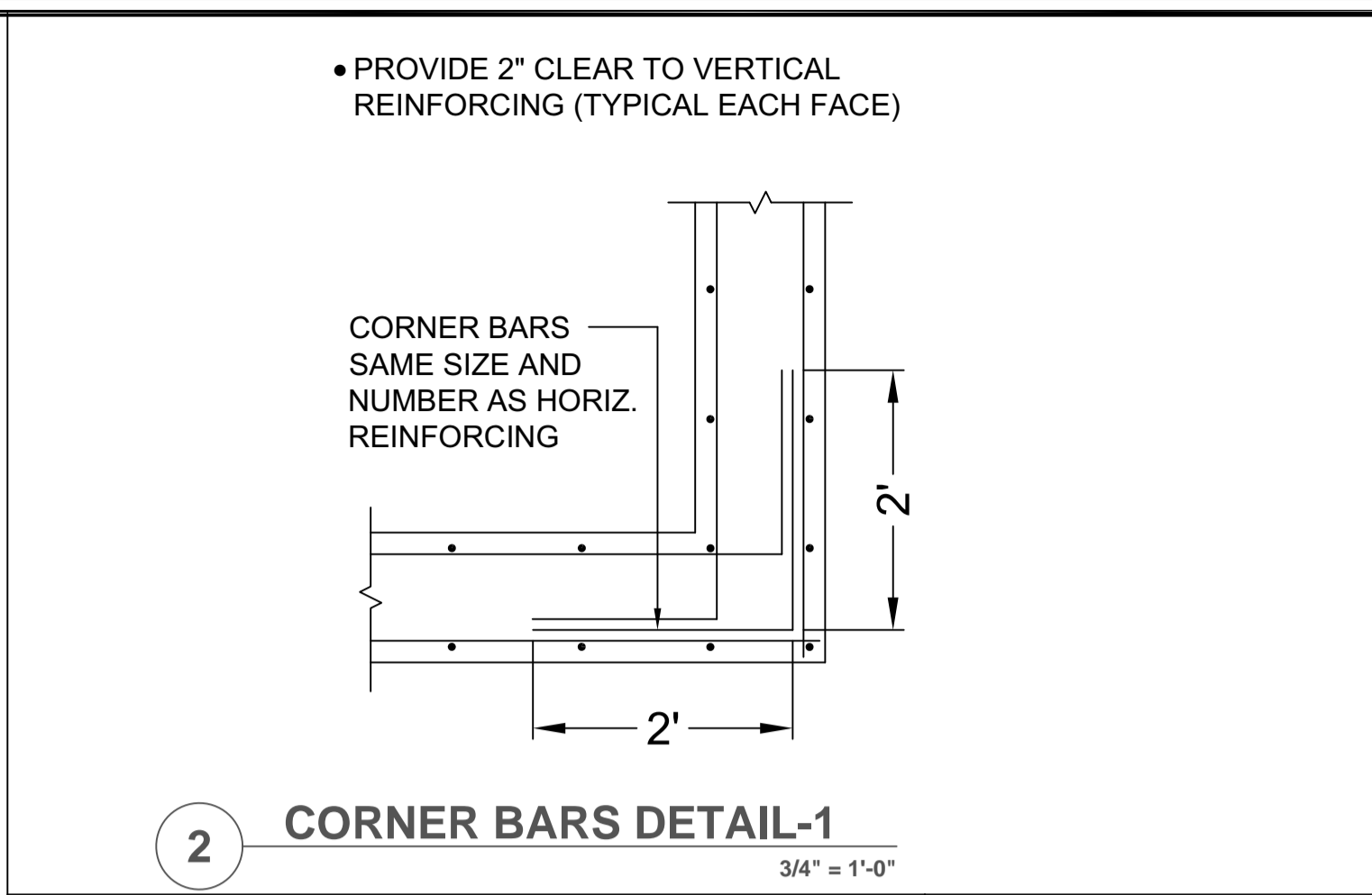


~ COMPACTED FILL ~
 TYPE SM OR MORE GRANULAR
 $\gamma = 135$ PCF
 $\phi = 32^\circ$ MIN. WHEN COMPACTED TO:
 AT LEAST 95% OF THE MODIFIED
 PROCTOR MAXIMUM DRY DENSITY AS
 DETERMINED BY AASHTO T-180

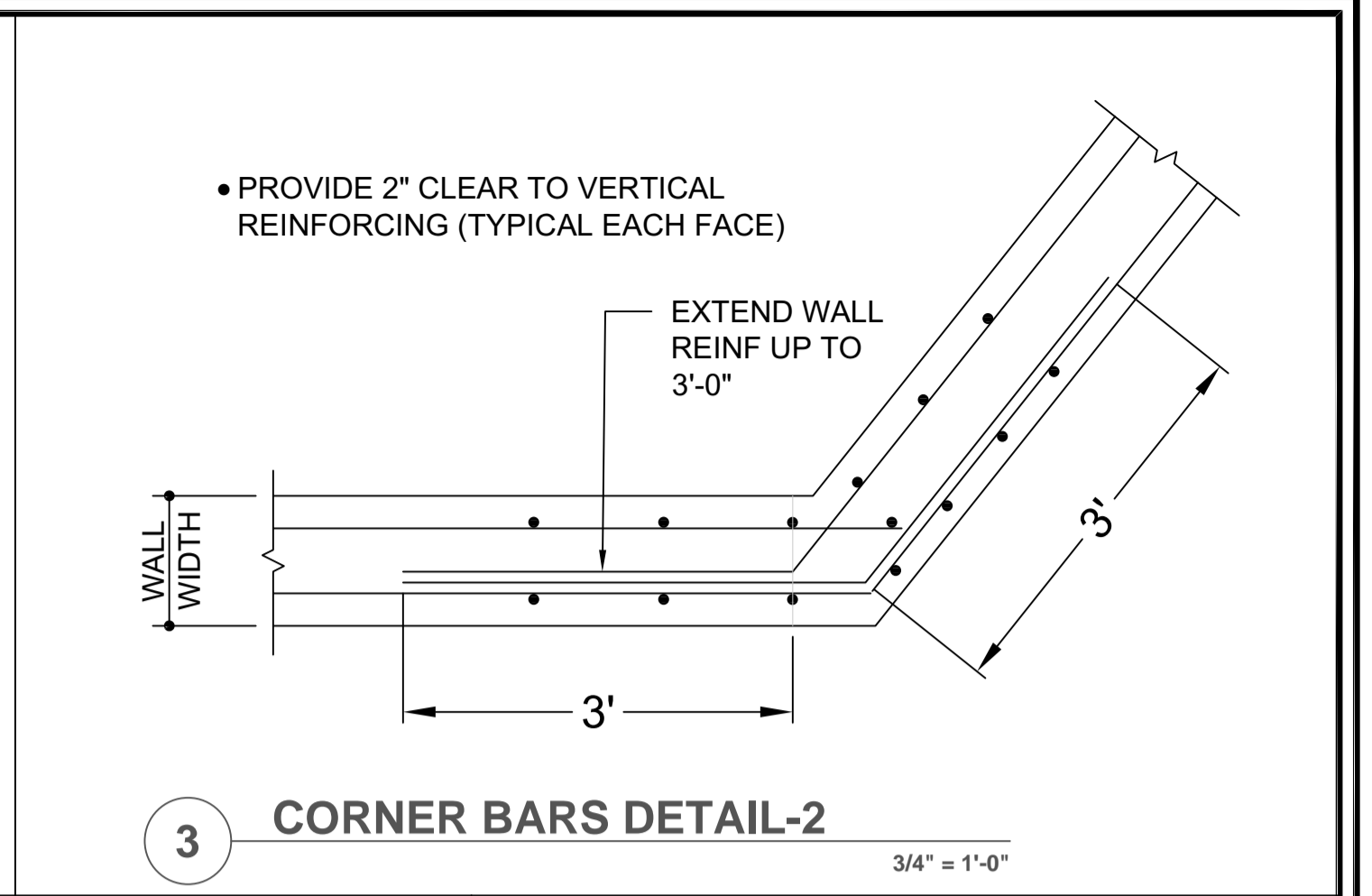
DETAIL NOTES:

- ALL CONCRETE FOR RETAINING WALL FOOTINGS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI
- ALL CONCRETE FOR RETAINING WALLS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI
- 2500 PSF AVERAGE NET ALLOWABLE BEARING CAPACITY HAS BEEN EMPLOYED
- ALLOWABLE SOIL BEARING PRESSURES SHALL BE CONFIRMED BY GEOTECHNICAL ENGINEER
- PLACE FOOTING AGAINST FLAT UNDISTURBED GROUND
- WALL SHALL NOT BE BACKFILLED UNTIL CONCRETE HAS ATTAINED FINAL DESIGN STRENGTH
- WALL SHALL NOT BE BACKFILLED UNTIL LOW GRADE HAS BEEN COMPLETED AS PER CIVIL ENGINEER'S GRADING PLAN
- REFERENCED CIVIL DRAWINGS SENT IN CAD FORM VIA EMAIL ON DECEMBER 11, 2023 BY MIKE BUCH

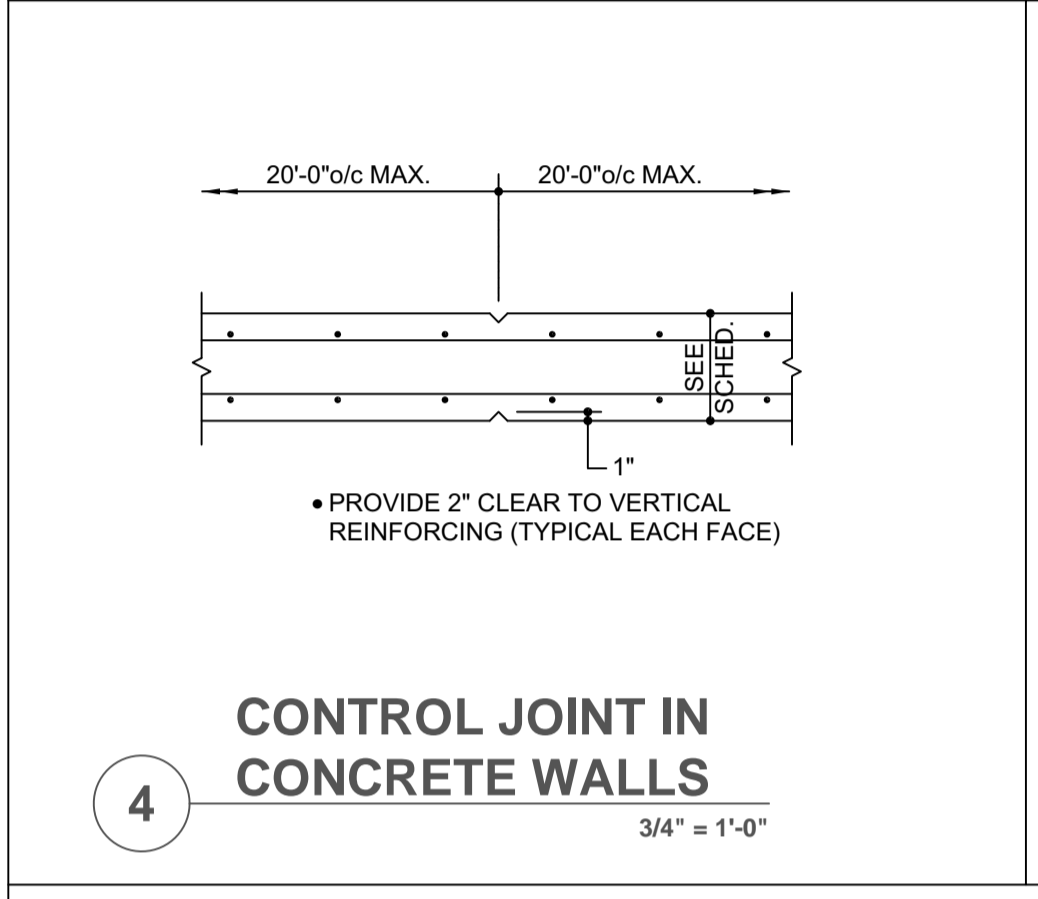
1 TYPICAL CONCRETE WALL DETAILS
 1/2" = 1'-0"



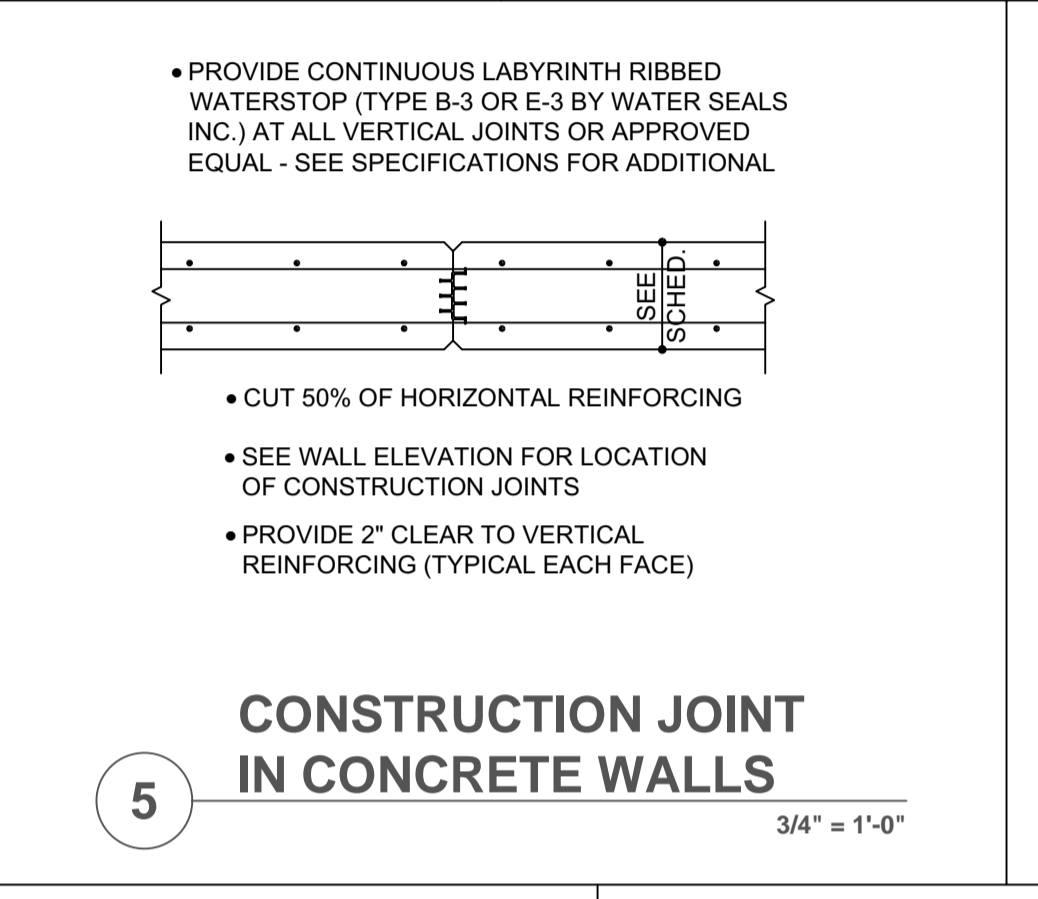
2 CORNER BARS DETAIL-1
 3/4" = 1'-0"



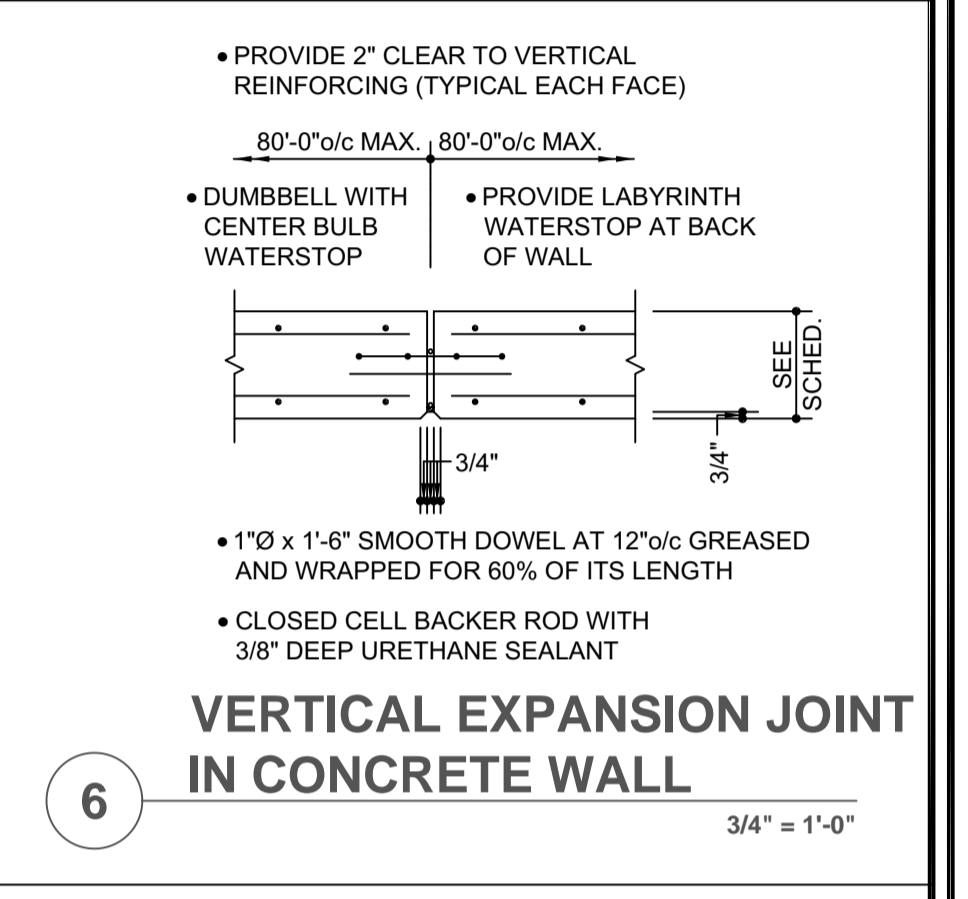
3 CORNER BARS DETAIL-2
 3/4" = 1'-0"



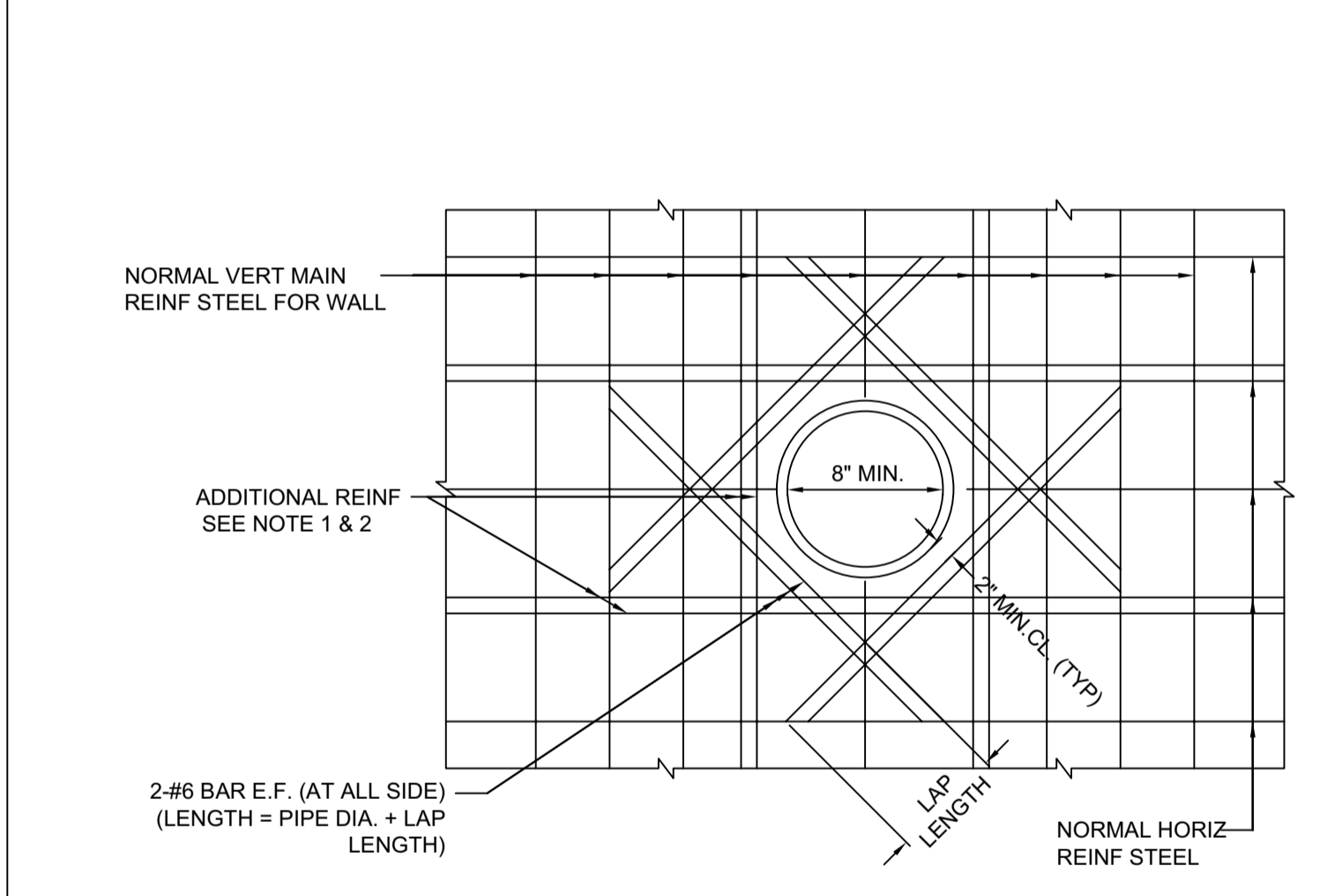
4 CONTROL JOINT IN CONCRETE WALLS
 3/4" = 1'-0"



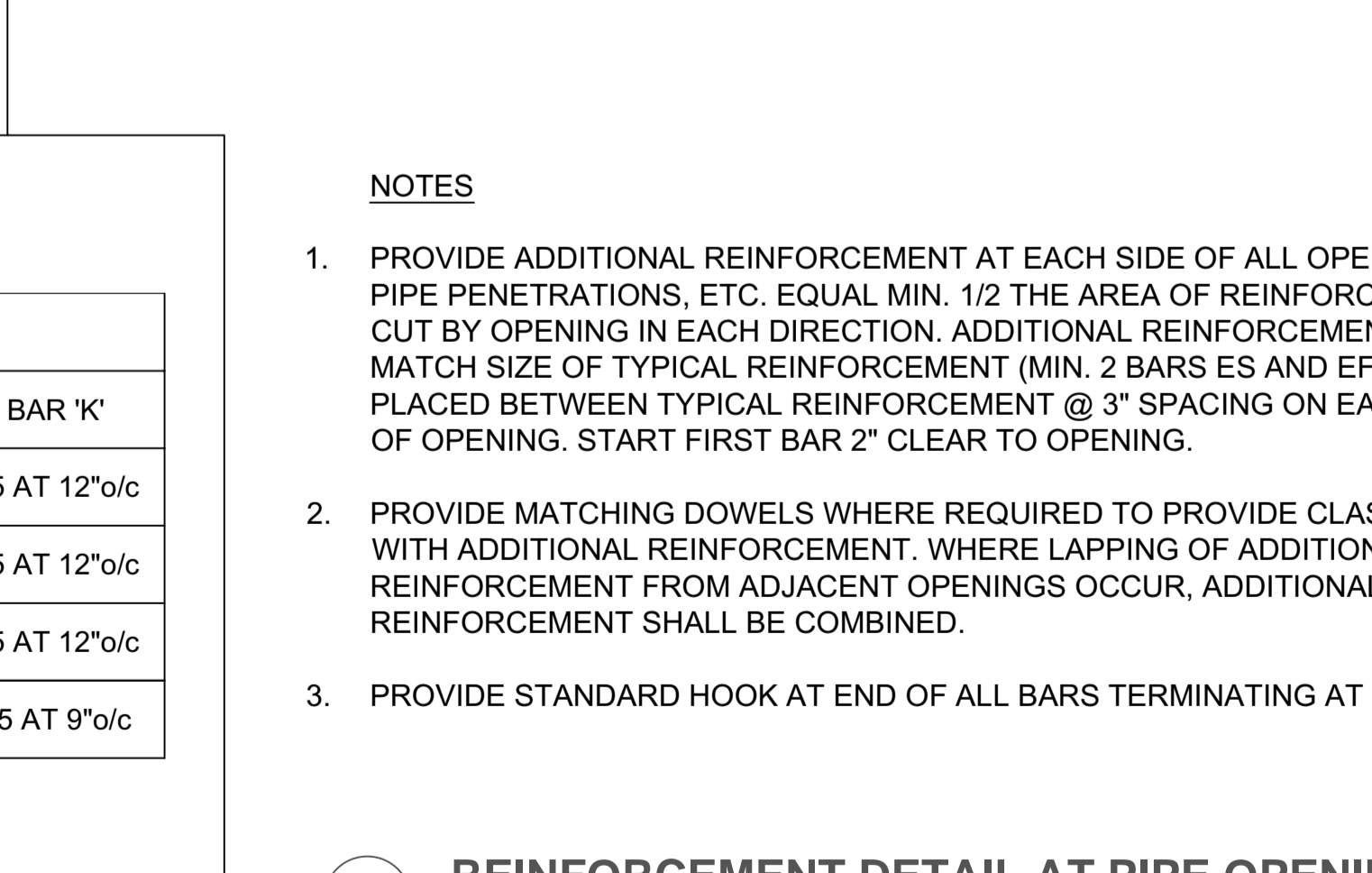
5 CONSTRUCTION JOINT IN CONCRETE WALLS
 3/4" = 1'-0"



6 VERTICAL EXPANSION JOINT IN CONCRETE WALL
 3/4" = 1'-0"



7 TYPICAL STEPPED FOOTING
 1/2" = 1'-0"



8 REINFORCEMENT DETAIL AT PIPE OPENING
 N.T.S.

CONCRETE WALL SCHEDULE

WALL TYPE	MAXIMUM WALL HEIGHT	WALL STEM & FOOTING DIMENSION					FOOTING REINFORCING		STEM REINFORCING			KEY DEPTH & REINFORCING		
		TOE 'A'	STEM 'B'	HEEL 'C'	WIDTH 'D'	THICK 'E'	BAR 'F'	BAR 'G'	BAR 'H'	LAP SPLICE	BAR 'J'	KEY WIDTH	KEY DEPTH	BAR 'K'
A	7'-0"	2'-0"	1'-0"	3'-6"	6'-6"	1'-6"	#6 AT 12"o/c	#6 AT 12"o/c	#7 AT 12"o/c	3'-6"	#5 AT 12"o/c	1'-0"	1'-6"	#5 AT 12"o/c
B	9'-0"	2'-0"	1'-0"	7'-6"	10'-6"	1'-6"	#6 AT 12"o/c	#6 AT 12"o/c	#7 AT 12"o/c	3'-6"	#5 AT 12"o/c	1'-0"	1'-6"	#5 AT 12"o/c
C	10'-0"	2'-0"	1'-0"	10'-0"	13'-0"	1'-6"	#6 AT 9"o/c	#6 AT 9"o/c	#7 AT 9"o/c	3'-6"	#5 AT 9"o/c	1'-0"	1'-6"	#5 AT 12"o/c
D	11'-0"	2'-6"	1'-0"	11'-0"	14'-6"	1'-6"	#7 AT 9"o/c	#7 AT 9"o/c	#8 AT 9"o/c	4'-0"	#6 AT 9"o/c	1'-0"	1'-6"	#5 AT 9"o/c

- NOTES**
- PROVIDE ADDITIONAL REINFORCEMENT AT EACH SIDE OF ALL OPENINGS, PIPE PENETRATIONS, ETC. EQUAL MIN. 1/2 THE AREA OF REINFORCEMENT CUT BY OPENING IN EACH DIRECTION. ADDITIONAL REINFORCEMENT TO MATCH SIZE OF TYPICAL REINFORCEMENT (MIN. 2 BARS ES AND EF) AND PLACED BETWEEN TYPICAL REINFORCEMENT @ 3" SPACING ON EACH SIDE OF OPENING. START FIRST BAR 2" CLEAR TO OPENING.
 - PROVIDE MATCHING DOWELS WHERE REQUIRED TO PROVIDE CLASS "B" LAP WITH ADDITIONAL REINFORCEMENT. WHERE LAPPING OF ADDITIONAL REINFORCEMENT FROM ADJACENT OPENINGS OCCUR, ADDITIONAL REINFORCEMENT SHALL BE COMBINED.
 - PROVIDE STANDARD HOOK AT END OF ALL BARS TERMINATING AT OPENING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

DATE: 9/24/2024
 DATE: 9/25/2024
 DATE: 9/25/2024
 DATE: _____

OWNER/DEVELOPER
 RESIDUARY TRUST OF JAMES R. BUCH JR.
 8155 WESTSIDE BLVD.
 FULTON, MD 20759
 240-375-6294

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN

SECTIONS & DETAILS

CONCRETE RETAINING WALL #1 & 2

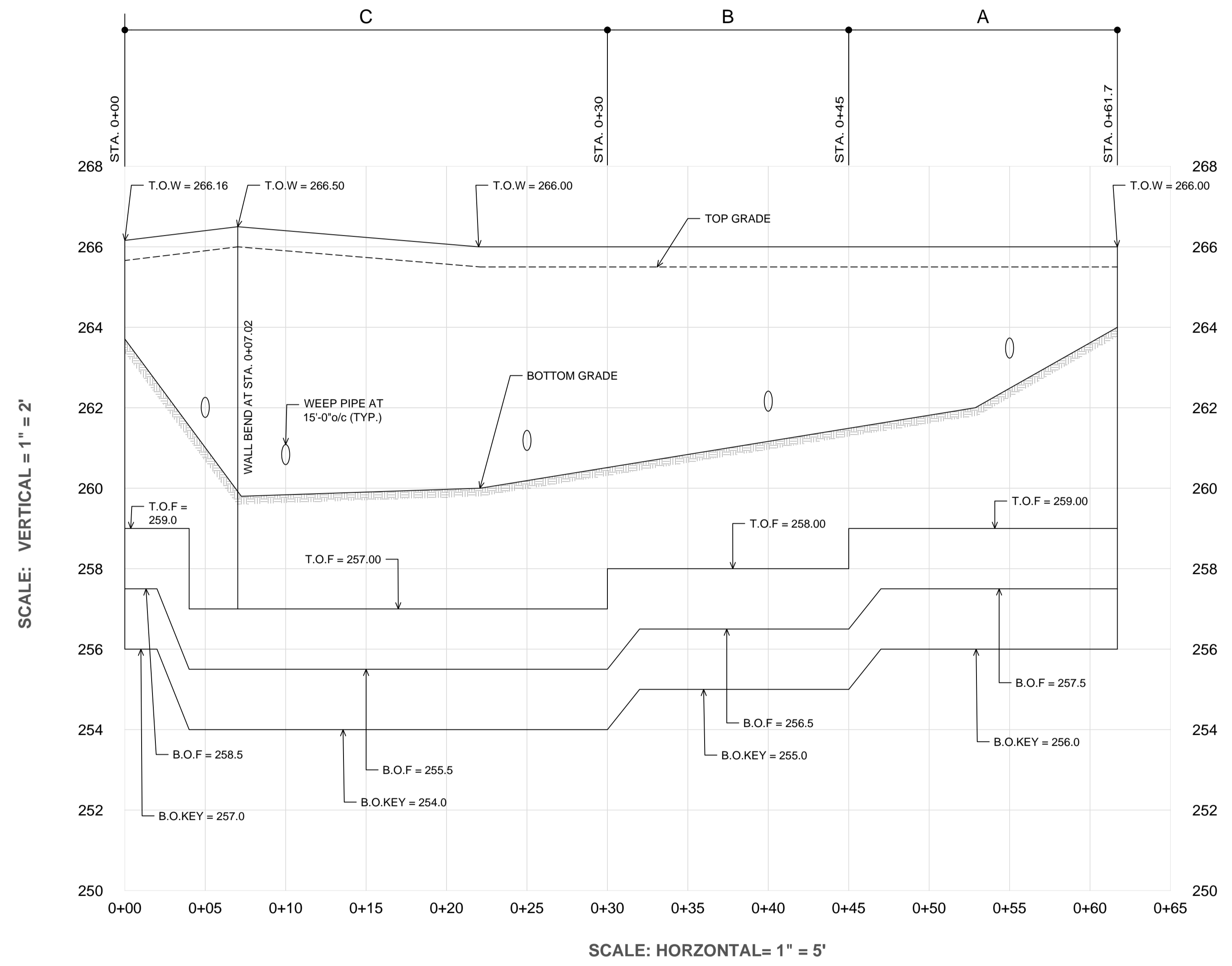
BUCH PROPERTY
 TOWNHOUSES AND OFFICE BUILDING
 L 11977 / F.517
 ZONED CAC-CL1
 PARCEL 426
 HOWARD COUNTY, MARYLAND

HILLIS-CARNES
 ENGINEERING ASSOCIATES
 10975 Guilford Road, Suite A Annapolis Junction, Maryland
 Phone: (410) 880-4788 www.hcaea.com Fax: (410) 880-4098

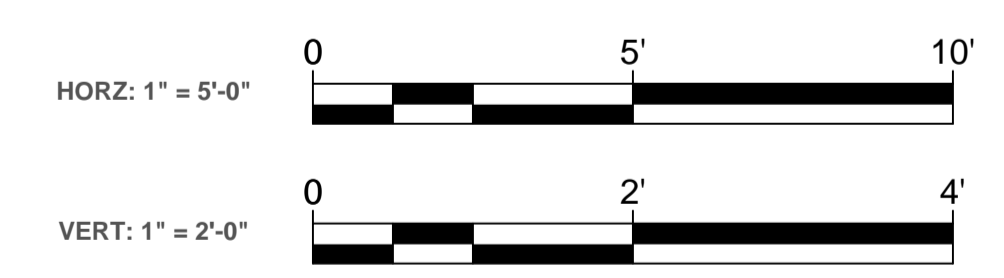
DESIGN BY: NALL
 DRAWN BY: NALL
 CHECKED BY: JRE
 DATE: JUNE 2024
 SCALE: AS SHOWN
 HCEA JOB NO.: 11306A

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. 53198. EXPIRATION DATE: 6/8/25.

11 SHEET OF 13



1 RETAINING WALL # 1- ELEVATION



NOTES

- FOR FOUNDATION AND WALL REINF SEE SECTION "1" ON DETAIL SHEET.
- FOR PIPE INVERT REFERENCED CIVIL DRAWINGS SENT IN CAD FORM VIA EMAIL ON JDECEMBER 11, 2023 BY MIKE BUCH.
- FOR CORNER WALL REINF, SEE DETAIL "2 & 3" ON DETAIL SHEET.
- FOR CONSTRUCTION JOINT, SEE DETAIL "5" ON DETAIL SHEET.
- FOR TYPICAL STEPPED FOOTING DETAIL, SEE DETAIL "7" ON DETAIL SHEET.
- FOR REINF. AROUND PIPE OPENING, SEE DETAIL "8" ON DETAIL SHEET.

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

9/24/2024
 9/25/2024
 9/25/2024

OWNER/DEVELOPER
 RESIDUARY TRUST OF
 JAMES R. BUCH JR.
 8155 WESTSIDE BLVD.
 FULTON, MD 20759
 240-375-6294

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
ELEVATION
CONCRETE RETAINING WALL #1
 BUCH PROPERTY
 TOWNHOUSES AND OFFICE BUILDING
 TAX MAP 43 GRID 3
 1ST ELECTION DISTRICT

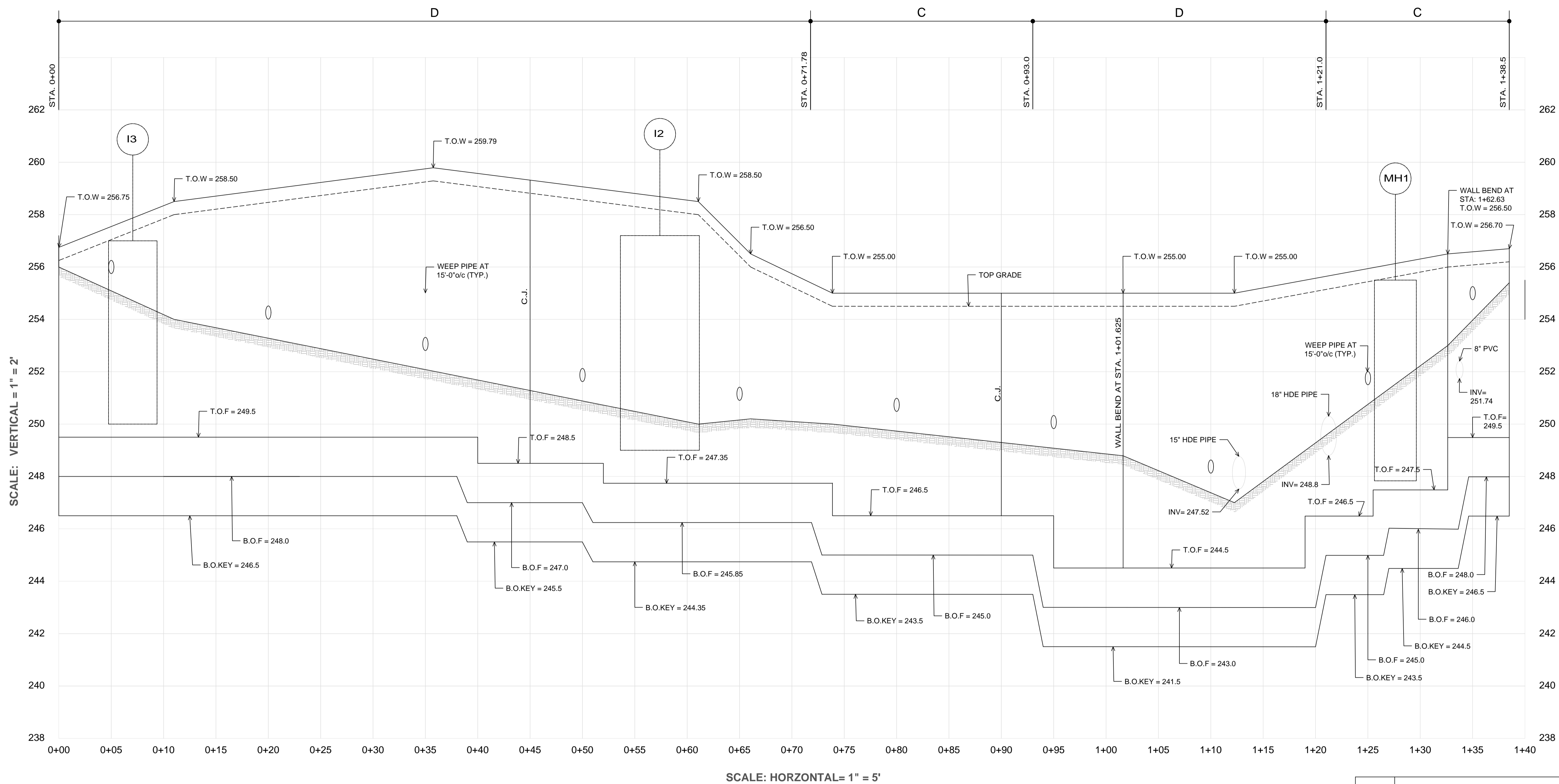
ZONED CAC-CL1
 PARCEL 426
 L 11977 / F.517
 HOWARD COUNTY, MARYLAND

HILLIS-CARNES
ENGINEERING ASSOCIATES
 10975 Guilford Road, Suite A Annapolis Junction, Maryland
 Phone: (410) 880-4788 www.hcea.com Fax: (410) 880-4098

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. 53198, EXPIRATION DATE: 6/8/25.

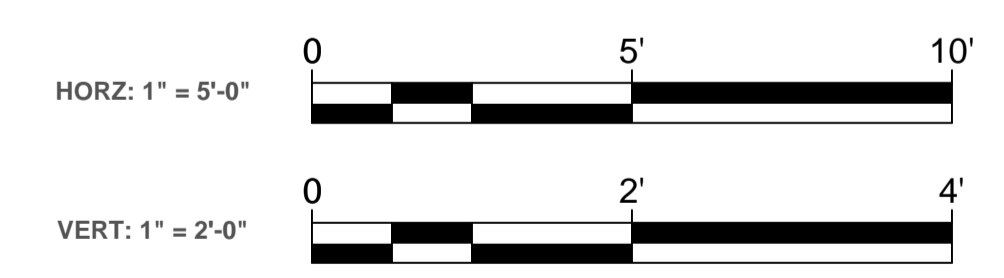
DESIGN BY: NALL
 DRAWN BY: NALL
 CHECKED BY: JRE
 DATE: JUNE 2024
 SCALE: AS SHOWN
 HCEA JOB NO.: 11306A

12 SHEET OF 13



1 RETAINING WALL #2 ELEVATION

- NOTES**
- FOR FOUNDATION AND WALL REINF SEE SECTION "1" ON DETAIL SHEET.
 - FOR PIPE INVERT REFERENCED CIVIL DRAWINGS SENT IN CAD FORM VIA EMAIL ON JDECEMBER 11, 2023 BY MIKE BUCH.
 - PLACE #57 STONE IN BETWEEN THE PIPE AND TOP OF FOOTING.
 - FOR CORNER WALL REINF, SEE DETAIL "2 & 3" ON DETAIL SHEET.
 - FOR CONSTRUCTION JOINT, SEE DETAIL "5" ON DETAIL SHEET.
 - FOR TYPICAL STEPPED FOOTING DETAIL, SEE DETAIL "7" ON DETAIL SHEET.
 - FOR REINF. AROUND PIPE OPENING, SEE DETAIL "8" ON DETAIL SHEET.



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

9/24/2024
 9/25/2024
 9/25/2024

OWNER/DEVELOPER
 RESIDUARY TRUST OF JAMES R. BUCH JR.
 8155 WESTSIDE BLVD.
 FULTON, MD 20759
 240-375-6234

NO.	REVISION	DATE

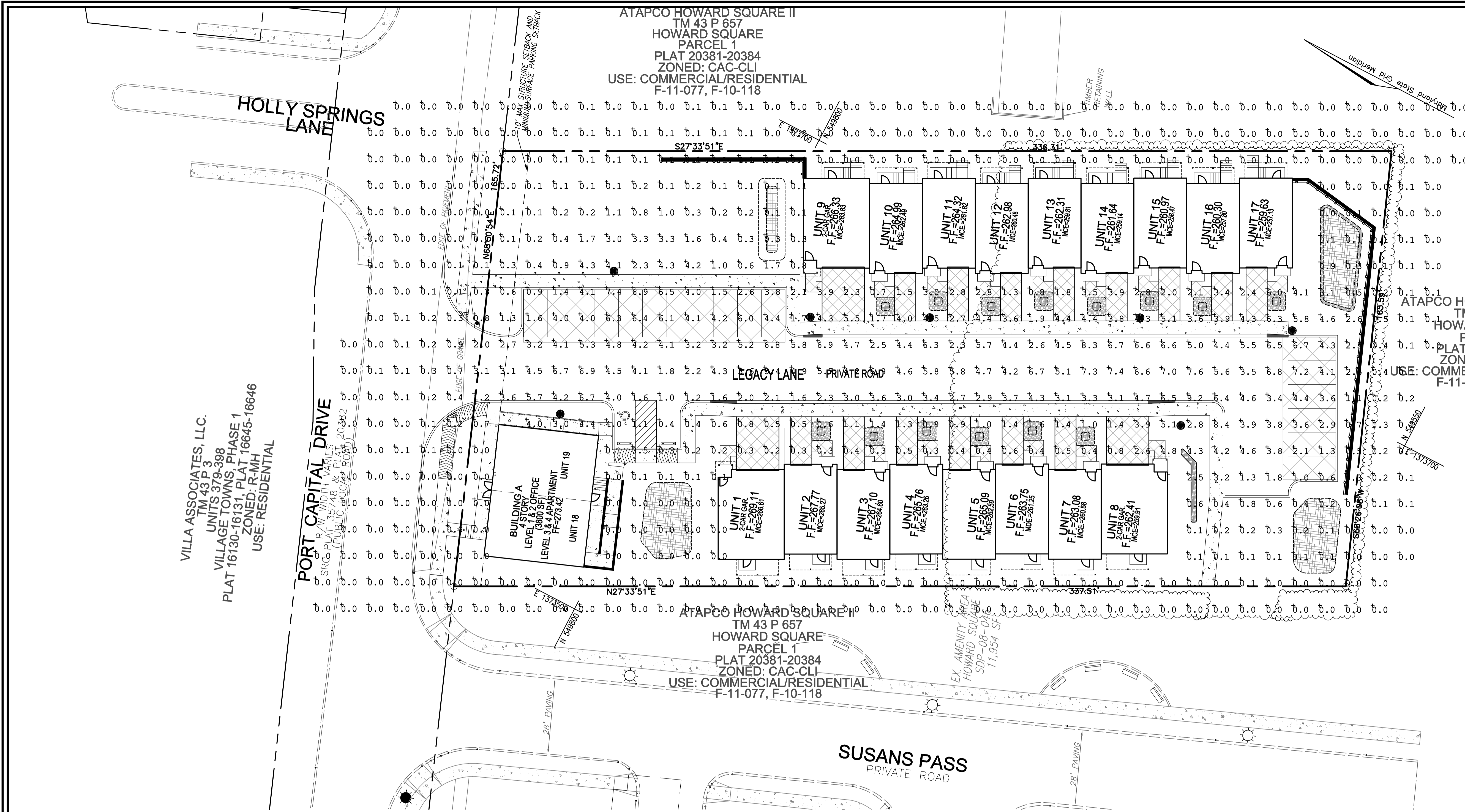
SITE DEVELOPMENT PLAN
ELEVATION
CONCRETE RETAINING WALL #2
 BUCH PROPERTY
 TOWNHOUSES AND OFFICE BUILDING
 TAX MAP 43 GRID 3
 1ST ELECTION DISTRICT

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13 SHEET OF 13



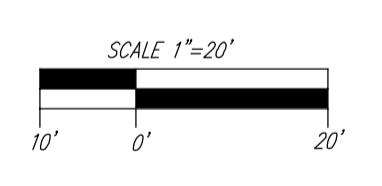
ATAPCO HOWARD SQUARE II
TM 43 P 657
HOWARD SQUARE
PARCEL 1
PLAT 20381-20384
ZONED: CAC-CLI
USE: COMMERCIAL/RESIDENTIAL
F-11-077, F-10-118

VILLA ASSOCIATES, LLC.
TM 43 P 3
UNITS 379-398
VILLAGE TOWNS, PHASE 1
PLAT 16130-16131, PLAT 16645-16646
ZONED: R-MH
USE: RESIDENTIAL

ATAPCO HOWARD SQUARE II
TM 43 P 657
HOWARD SQUARE
PARCEL 1
PLAT 20381-20384
ZONED: CAC-CLI
USE: COMMERCIAL/RESIDENTIAL
F-11-077, F-10-118

ATAPCO HOWARD SQUARE II
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HOWARD SQUARE
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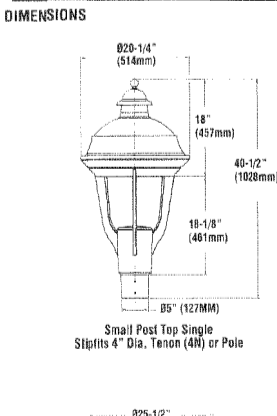
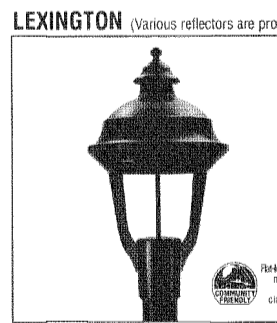
PLAN VIEW
SCALE: 1"=20'



LUMINAIRE SCHEDULE table with columns for SYMBOL, QTY, LABEL, ARRANGEMENT, DESCRIPTION, LLF, LUMENS/LAMP, ARR. LUM. LUMENS, and ARR. WATTS.

MAINTAINED FOOTCANDLE LEVELS table with columns for LABEL, CALCPTS, ILLUMINANCE, UNITS, AVG, MAX, MIN, AVG/MIN, and MAX/MIN.

TOTAL PROJECT WATTS
TOTAL WATTS = 2576



HOUSING: Housing fixture is available in metal or medium size...
HOUSING TOP CAP: Removable open aluminum cap...
LAMPHOLDER: Attached to the lamp glass...
LAMP SOURCES: Fluorescent, LED, etc.

STEEL ROUND POLES
DIMENSIONS: 60" H, 4" DIA, etc.

POLE SHAFT: Pole shaft is electrically protected...
HAND-HELD: Standard hand location is 17" above pole base...
ANCHOR BOLTS: Poles are furnished with anchor bolts...
GROUNDING: Grounding is standard...
SUPPLY RESISTANCE: Weatherproof device...
GROUND FAULT CIRCUIT INTERRUPTER: Ground fault circuit interrupter is optional...
FINISHES: Each pole is finished with...
DETERMINING THE LUMINAIRE/POLE COMBINATION FOR YOUR APPLICATION: Select luminaire from luminaire ordering information...

FILE SELECTION CHART table with columns for Pole Height, Luminaire Type, Luminaire Model, Luminaire Power, Pole Type, Pole Material, and Pole Finish.

PHOTOMETRICS table with columns for Luminaire, Pole Height, Pole Type, Pole Material, Pole Finish, and Luminaire Power.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division: Chad Edmondson
Chief, Division of Land Development: Lynda Eganberg
Director: [Signature]

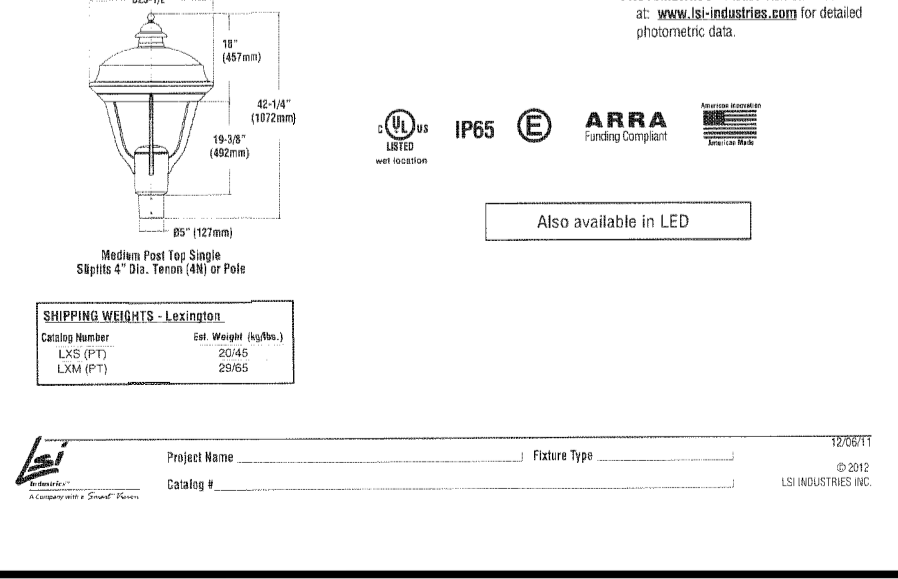


Table with columns for Pole Height, Luminaire Type, Luminaire Model, Luminaire Power, Pole Type, Pole Material, and Pole Finish.

OWNER/DEVELOPER
RESIDUARY TRUST OF JAMES R. BUCH JR.
8155 WESTSIDE BLVD.
FULTON, MD 20759
240-375-6294

Revision table with columns for NO., REVISION, and DATE.

SITE DEVELOPMENT PLAN
PHOTOMETRICS PLAN
BUCH PROPERTY
TOWNHOUSES AND OFFICE BUILDING
ZONED CAC-CLI
TAX MAP 43 GRID 3 & 9
1ST ELECTION DISTRICT
L. 11977 / F.517
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com
DESIGN BY: RHV
DRAWN BY: DZ
CHECKED BY: RHV
DATE: APRIL 2024
SCALE: AS SHOWN
W.O. NO.: LO-112036-08-59
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2024