Site Development Plan Mission Place

(Children's Lighthouse Daycare) Parcel 'B'

Mission Place, Parcel 'B' (Plat Nos. 19854-19858) Tax Map No. 43 Grid No. 14 Parcel No. 214 Zoning: CAC-CLI

PRIVATE LIGHT CHART							
LIGHT NO.	NORTHING	EASTING	TYPE				
Light #1	544,915.51	1,370,552.62					
Light #2	544,849.67	1,370,563.29					
Light #3	544,830.12	1,370,627.75	COMPANY: AMERLUX LIGHTING WATTAGE: 58W				
Light #4	544,763.26	1,370,621.13	VOLTAGE: 120 V POLE HEIGHT: 16 FT. DOWNLIGHT PENDANT—SMALL				
Light #5	544,703.26	1,370,721.29	18" LED LUMINAIRE				
Light #6	544,788.08	1,370,687.50					
Light #7	544,832.22	1,370,655.10					
Light #8	544,913.33	1,370,682.70					
Light #9	544,929.45	1,370,777.22					

STREET SIGN CHART						
STREET NAME	LOCATION	POSTED SIGN	SIGN CODE			
PARKING LOT	N 544,916.14 E 1,370,531.76	STOP	R1-1			

		STORMWATE	R MANAGEMENT	PRACTIC	CE5			
AREA ID	PERMEABLE PAVING A-2 (Y/N)	DISCONNECTION OF ROOFTOP RUNOFF N-1 (Y/N)	DISCONNECTION OF NON-ROOFTOP RUNOFF N-2 (Y/N)	FILTERRA INLETS (Y/N)	MICRO BIO-RETENTION M-6 (Y/N-Number)		SUBMERGED GRAVEL WETLAND M-2	RAINWATER HARVESTING M-1
BUILDING	NO	NO	NO	NO	YE5 - 1	NO	NO	NO
PARKING LOT	NO	NO	NO	NO	YES - 4	NO	NO	NO
							'	

AMENITY AREA TABULATION FOR MISSION PLACE					
PROPOSED AMENITY AREAS	AREA 5Q.FT.	AMENITY USE			
AMENITY AREA #1 (5DP-07-104)	18,800	TOT LOT, PLAYGROUND, PICNIC AREA			
AMENITY AREA #2 (5DP-07-104)	11,240	BARBEQUE, PICNIC AREA			
AMENITY AREA #3 (5DP-07-104)	18,490	BARBEQUE, PLAY AREA, PICNIC AREA			
AMENITY AREA #4 (5DP-07-104)	15,880	POOL, PLAY AREA, PICNIC AREA			
AMENITY AREA #5A (5DP-20-025)	3,180	SITTING AREA			
AMENITY AREA #5B (5DP-20-025)	3,592	SITTING AREA			
AMENITY AREA #6 (5DP-07-104)	2,160	PUBLIC GATHERING			
TOTAL AMENITY PROVIDED	73,342	REQUIRED = 72,160 SQ.FT.			

SEE SHEET 7 FOR LOCATIONS

SITE ANALYSIS DATA CHART

- B. LIMIT OF DISTURBED AREA = 73,616 SqFt. or 1.69 Ac+. PRESENT ZONING DESIGNATION = CAC-CLI (PER 10/06/13 COMPREHENSIVE ZONING PLAN) PROPOSED USE: DAYCARE CENTER
- OPEN SPACE ON SITE: N/A RECREATIONAL AREA PROVIDED: N/A BUILDING COVERAGE OF SITE: 12,518 SQ.FT. OR 0.287 Ac. ± PREVIOUS HOWARD COUNTY FILES: F-07-156 TOTAL AREA OF EX. FLOODPLAIN LOCATED ON SITE: 0.00 AC
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 Ac. (TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA) TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 Ac±
- M. TOTAL AREA OF EX. FOREST (RETENTION) = 0.00 Ac. ± N. TOTAL GREEN OPEN AREA = 0.00 Ac. + O. TOTAL IMPERVIOUS AREA = 0.79 Ac. ± P. AREA OF ERODIBLE SOILS = 0.00 Ac. ±

PARKING SPACE TABULATION					
COMMERCIAL	PARKING REQUIRED	PARKING PROVIDED			
DAYCARE: 12,510 SQ.FT. © 3 SP. PER 1000	30 SP.	41 SP.			

6th Election District Howard County, Maryland

VICINITY MAP

5CALE: 1" = 2000"

- 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 THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT 410-313-1000 AT LEAST (5) WORKING DAYS PRIOR TO
- 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 40 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE
- 4. THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 10-06-13 ZONING REGULATIONS PER COUNCIL BILL NO. 32-2013. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT
- 5. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS Nos. BM#1 HOWARD COUNTY CONTROL STATION #43EB - HORIZONTAL - NAD '03) BM#2 HOWARD COUNTY CONTROL STATION #43G6 - HORIZONTAL - (NAD '03) N 545.963.613
 - £ 1.370.550.920

ELEVATION = 219.402 - VERTICAL - (NAVD '00)

- ELEVATION = 216.312 VERTICAL (NAVD '00)
- 6. PARCEL 'B' ZONED CAC-CLI PER 10/06/13 COMPREHENSIVE ZONING PLAN. 7. BACKGROUND INFORMATION:
- a. SUBDIVISION NAME: MISSION PLACE b. TAX MAP No.: 43

E 1,371,573.894

- c. PARCEL No.: 214
- f. PROPOSED USE: CHILD DAYCARE CENTER g. GROSS AREA OF THIS SUBMISSION = 1.960 ACRES (PARCEL 'B')
- h. NUMBER OF PARCELS: 1 NUMBER OF OPEN SPACE LOTS = 0

p. AREA OF 25% OR GREATER SLOPES = 0.00 AC.+

- . GROSS BUILDING FLOOR AREA: 12.518 SQ.FT. . AREA OF PARCELS: 1.960 ACRES
- . AMENITY AREA REQUIRED and PROVIDED = 5DP 07-101 PROVIDED FOR A TOTAL OF 66,570 5Q.FT. THE TOTAL AMENITY AREA REQUIRED FOR "MISSION PLACE" IS 72,160 5Q.FT. THE REMAINING AMENITY REQUIRED FOR PARCEL 'B' 15 5,590 5Q.FT. PROVIDED FOR PARCEL 'B' 15 6,420 5Q.FT. THE TOTAL PROVIDED AMENITY AREA IS 73,070 5Q.FT.
- m. AREA OF PUBLIC ROADWAY TO BE DEDICATED: 0.00 ACRES
- n. PREVIOUS FILE NUMBERS: SP-06-010, SDP-07-101, SDP-07-113, F-07-156, ECP-19-072, SDP-07-104 o. AREA OF EXISTING FLOODPLAIN = 0.00 AC. ±
- 8. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-180.
- 9. A NOISE STUDY IS NOT APPLICABLE, HOWEVER, THE EXISTING 65 DB& LINE WAS TAKEN OFF OF THE MISSION PLACE SDP. OUR PLANS SHOW A PRIVACY FENCE TO PROVIDE A MEANS OF PROVIDING SOME SORT OF NOISE REDUCTION. A DETAIL OF THE FENCE IS SHOWN ON SHEET 3. 10. A TRAFFIC STUDY WAS PREPARED BY MARS GROUP DATED SEPTEMBER 2019.
- 11. EXISTING UTILITIES ARE BASED ON HOWARD COUNTY APPROVED PLANS F-07-156, CONTR. No. 24-4380-D, CONTR. No. 20-4068-D AND FIELD RUN SURVEY BY FISHER, COLLINS & CARTER, INC. ON OR ABOUT JULY, 2015. EXISTING WATER IS PUBLIC (CONTRACT No. 24-4402-D) EXISTING SEWER IS PUBLIC (CONTRACT No. 20-4402-D)
- 12. SOILS INFORMATION TAKEN FROM SOIL MAP NO. 30, SOIL SURVEY, HOWARD COUNTY, MARYLAND, JULY, 1960 ISSUE. THE SOILS INVESTIGATION REPORT WAS PREPARED BY HILLIS CARNES ON OR ABOUT 12/12/19. 13. BOUNDARY OUTLINE BASED ON FIELD RUN SURVEY PERFORMED BY FISHER COLLINS AND CARTER, INC. ON OR ABOUT AUGUST 2019
- 14. TOPOGRAPHIC CONTOURS BASED ON FIELD RUN TOPOGRAPHY PREPARED BY FISHER, COLLINS AND CARTER, INC. ON OR ABOUT AUGUST, 2019.
- 15. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH THE 2007 MDE, CHAPTER 5 REGULATIONS AND THE LATEST HOWARD COUNTY DESIGN MANUAL, VOL. I, CHAPTER 5 ADOPTED ON OR AROUND MAY 4, 2010. RECHARGE VOLUME WILL BE PROVIDED THROUGH THE USE OF A STONE RESERVOIR. WATER QUALITY AND CHANNEL PROTECTION VOLUME WILL BE PROVIDED BY MICRO BIO-RETENTION FACILITIES, OVERBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUMES ARE NOT REQUIRED FOR THIS SITE, ALL STONE RESERVOIR & MICRO BIO-RETENTION STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A. OR A COMMERCIAL ASSOCIATION. THE STREET TREES, PERFORATED UNDERDRAINS, PLANTINGS AND SWALES WILL
- BE PRIVATELY OWNED AND MAINTAINED BY THE COMMERCIAL ASSOCIATION, HOWARD COUNTY WILL ONLY MAINTAIN ANY INLET STRUCTURES WITHIN THE MICRO BIO-RETENTION FACILITIES ADJACENT TO

PRESERVATION COMMISSION ON THEIR MAY 3, 2007 MEETING IN ACCORDANCE WITH SDP-07-113.

- THE RIGHT-OF-WAY. 16. THERE ARE NO SPECIMEN TREES OR FOREST/FOREST CONSERVATION EASEMENTS ON PARCEL 'B'. 17. THIS SITE IS LISTED IN THE HOWARD COUNTY HISTORIC SITES INVENTORY AS HO-827. A LOG CABIN STURCTURE ONCE EXISTED ON THE PROPERTY. IT WAS APPROVED FOR REMOVAL BY THE HISTORIC
- 19. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY STREET TREE
- 20. TRAFFIC CONTROL DEVICES: a) THE R1-1 (STOP) SIGNS AND THE STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
- b) THE TRAFFIC CONTROL DEVICE LOCATIONS (SIGNS & PAVING MARKINGS) SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY THE HOWARD COUNTY TRAFFIC DIVISION
- (410-313-5752) PRIOR TO THE INSTALLATION OF ANY OF THESE 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" (MdMUTCD). 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 INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- 21. THERE ARE NO AREAS OF STEEP SLOPES LOCATED ON THIS PROPERTY AS DEFINED BY THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT
- 22. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, FINANCIAL SURETY FOR THE "REQUIRED" LANDSCAPING TREES (17 SHADE, 20 EVERGREEN & 62 SHRUBS) SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$9.960.00.
- 23. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED. 24. TRASH PICK-UP WILL BE CONDUCTED IN OFF HOURS AT NIGHT OR EARLY IN THE MORNING. A DUMPSTER ENCLOSURE HAS BEEN PROVIDED ON THE PLAN (SEE DETAILS, SHEET 15). 25. A FIRE DEPARTMENT CONNECTION FOR FIRE PROTECTION SYSTEMS SHALL BE LOCATED: (A) ON THE SIDE OF THE STRUCTURE DISPLAYING THE ADDRESS CLEARLY VISIBLE TO THE RESPONDING UNITS;
- (B) WITHIN 100 FT. OF A FIRE HYDRANT: (II) THE APPROPRIATE SIGN SHALL BE MOUNTED ON THE BUILDING'S WALL BETWEEN 8 AND 12 FEET ABOVE THE FIRE DEPARTMENT CONNECTION: (III) A EE-STANDING FIRE DEPARTMENT CONNECTION SHALL HAVE THE SIGN MOUNTED ON A POLE DIRECTLY BEHIND THE CONNECTION, APPROXIMATELY 6 FEET HIGH; (IV) SIGNS SHALL HAVE A WHITE REFLECTIVE BACKGROUND WITH A RED REFLECTIVE BORDER, RED REFLECTIVE LETTERS AND A RED REFLECTIVE ARROW. THE BORDER SHALL HAVE A 3/8" STROKE. THE LETTERS SHALL BE 6" HIGH WITH A 1" STROKE. THE ARROW SHALL HAVE A STROKE NOT LESS THAN 2". THE OVERALL SIGN MEASUREMENTS SHALL BE 12" BY 18"; (V) ANY OBSTRUCTION OR CONDITION THAT DETERS OR HINDERS ACCESS TO A FDC IS PROHIBITED. A MINIMUM CLEAR SPACE OF 15 FEET (7.5 FEET ON ALL SIDES) SHALL BE MAINTAINED.
- 26. KNOX BOXES SHALL BE LOCATED WITHIN 6' TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4'-5' IN HEIGHT. THE CONTRACTOR SHOULD CONTACT THE OFFICE OF THE FIRE MARSHAL PRIOR TO PURCHASING AND INSTALLING KNOX BOXES TO DETERMINE THE NUMBER AS WELL AS THE LOCATION(5) WHERE THEY ARE TO BE MOUNTED.
- 27. THIS PROJECT IS NOT LOCATED ADJACENT TO ANY SCENIC ROADWAYS. 28. THERE ARE NO WETLANDS AND/OR WETLAND BUFFERS LOCATED ON PARCEL 'B'.
- 29. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN. FOREST CONSERVATION OBLIGATIONS WERE PREVIOUSLY ADDRESSED FOR PARCELS 'A', 'B' & 'C' OF "MISSION PLACE" WITH THE FINAL PLAN, F-07-156. 30. THE FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT WAS PREVIOUSLY ADDRESSED ON THE "MISSION PLACE SDP-07-113" AS SHOWN ON SHEET 1, GENERAL NOTE #36. 31. A COMMUNITY MEETING WAS HELD ON MAY 28, 2019 AT 6:00 P.M. THE MEETING WAS HELD AT THE ELKRIDGE BRANCH LIBRARY - BELMONT MEETING ROOM.
- A SECOND COMMUNITY MEETING WAS HELD ON JULY 12, 2019 AT 6:00 P.M. THE MEETING WAS HELD AT THE ELKRIDGE BRANCH LIBRARY BELMONT MEETING ROOM. THERE WERE NO MEMBERS OF THE COMMUNITY THAT ATTENDED THIS MEETING.
- 32. HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP) DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN. PERMIT PLANS FOR CERTAIN FACILITIES TO BE CONSTRUCTED WITHIN THE LIMITS DESCRIBED BY THIS 5DP WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT. SUCH FACILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO, THOSE WHICH HAVE SWIMMING POOLS, OR THAT SELL PREPARED OR PACKAGED FOODS, OR THAT MAY EQUIPMENT THAT EMITS RADIATION. 33. THE ROUTE 1 MANUAL DESCRIBES DESIGN REQUIREMENTS AND RECOMMENDATIONS FOR PROPERTIES IN THE ROUTE 1 CORRIDOR, BECAUSE THIS PROPERTY IS LOCATED IN THE ROUTE 1 CORRIDOR
- THE DESIGN OF COMPREHENSIVE AND COMMUNITY PLANNING (DCCP) REVIEWED THIS PLAN FOR COMPLIANCE WITH THE ROUTE 1 MANUAL. 34. THIS PROJECT WAS PRESENTED BEFORE THE DESIGN ADVISORY PANEL ON JUNE 12, 2019 IN ACCORDANCE WITH SECTION 16.156(b) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

REF#	D.A.P. RECOMMENDATION	RESPONSE BY APPLICANT
1	THE APPLICANT RESTUDY THE PARKING LOT LAYOUT, DUMPSTER LOCATION, SIDEWALKS AND BIO-RETENTION AREAS IN THE NORTHWEST QUADRANT OF THE SITE AND POTENTIALLY CONSIDER ANOTHER SITE LAYOUT.	THE CURRENT DUMPSTER PAD WORKS WELL WITH THE DUMP TRUCK TURNING MOVEMENTS. THE NEW PARKING LOT LAYOUT REMOVED THE ISLAND AS WELL.
2	THE APPLICANT CONSIDER DIVIDING THE RETAINING WALL INTO TWO OR THREE TIERS AND CREATING A PLANTING AREA AT THE HORIZONTAL BREAK(s) TO SOFTEN THE APPEARANCE OF THE BUILDING FROM ROUTE 1.	THE ARCHITECT HAS GONE WITH A TWO STORY STRUCTURE USING A BASEMENT AREA FOR STORAGE. IN ADDITION, THEY HAVE GONE WITH A TWO TEIR RETAINING WALL DESIGN THAT TIES INTO THE BUILDING ITSELF TO SOFTEN THE APPEARANCE ALONG ROUTE 1.
3	THE APPLICANT EXPLORE RELOCATING THE BIO-RETENTION AREA TO THE EASTERN QUADRANT, THEREBY FREEING UP PART OF THE SITE FOR OTHER USES.	THE LATEST SITE PLAN SHOWS UPDATED ESD DESIGNS
4	THE APPLICANT REVIEW THE BUILDING ELEVATION FACING ROUTE 1 TO CREATE A BETTER STREET PRESENCE. THIS INCLUDES PROVIDING DIRECT ACCESS FROM THE BUILDING TO THE PLAYGROUND.	THE ARCHITECT HAS GONE WITH A TWO STORY STRUCTURE USING A BASEMENT AREA FOR STORAGE. IN ADDITION, THEY HAVE GONE WITH A TWO TEIR RETAINING WALL DESIGN THAT TIES INTO THE BUILDING ITSELF TO SOFTEN THE APPEARANCE ALONG ROUTE 1. THERE IS ALSO A NEW DOORWAY CLOSER TO THE PLAY AREA THAT HAS BEEN ADDED.
5	THE APPLICANT ADD SCREENING AT THE WEST END OF THE PLAYGROUND, INCLUDING EVERGREEN TREES AND A MORE EVEN DISTRIBUTION OF SHADE TREES THROUGHOUT THE PLAY AREA.	WE HAVE COORDINATED WITH THE ARCHITECT ON ADDITIONAL LANDSCAPING IN AND AROUND THE PLAY AREA. THE PETITIONER DOES WANT TO KEEP A SOMEWHAT CLEAR VIEW FROM INSIDE THE BUILDING

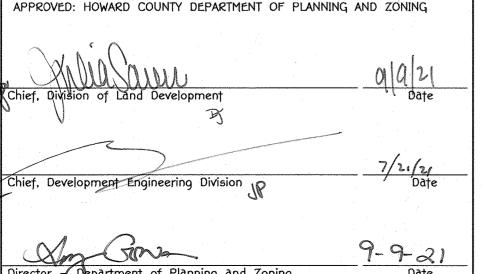
BENCHMARK INFORMATION BM#1 HOWARD COUNTY CONTROL STATION #43EB - HORIZONTAL - NAD '83) N 545,963,613 E 1,371,573.894 BM#2 HOWARD

ELEVAT

TION = 216.312 - VERTICAL - (NAVD '88)	•
COUNTY CONTROL STATION #43G6 - HORIZONTAL - (NAD '83)	
70,550.920 TION = 219.402 - VERTICAL - (NAVD '88)	

STREET	ADDRESS	CHART
Parcel No.	STREET ADDI	RE55
Parcel 'B'	8150 Mission	Road

FISHER, COLLINS & CARTER, INC. ELLICOTT CITY, MARYLAND 21042





Approved For Public Water And Public Sewer Systems Howard County Health Department.

OWNER AND DEVELOPER MILK & COOKIES, L.L.C. 4992 WILD OLIVE COURT ELLICOTT CITY, MARYLAND 21042 ATTN: MR. AASHISH PARIKH TEL. 443-677-5091

REFER TO HOWARD CO. ADC MAP 34-C8

REVISION DATE Subdivision Mission Place (Children's Lighthouse Daycare) Parcel 'B' Census Tr CAC-CLI

Mission Place

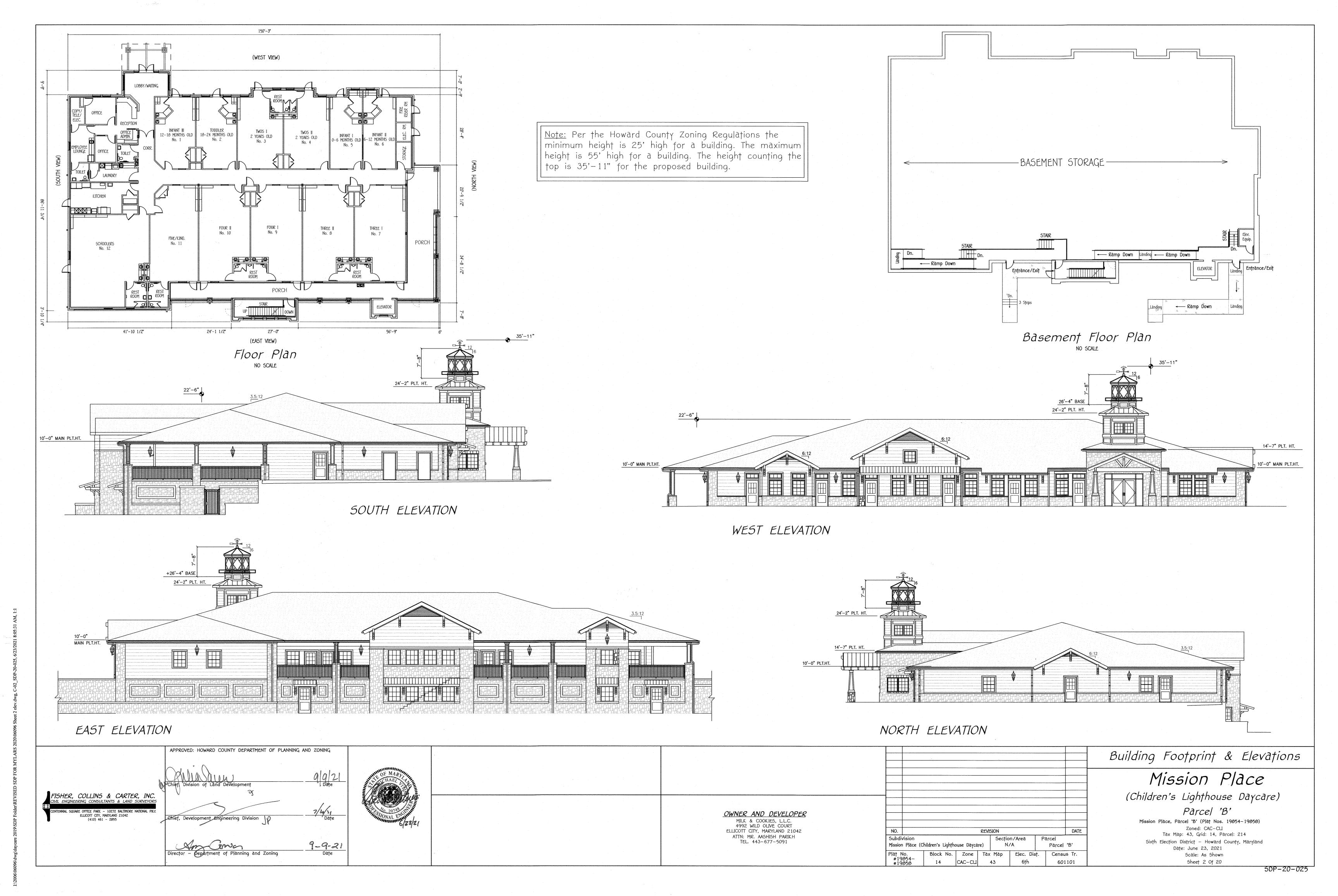
Title Sheet

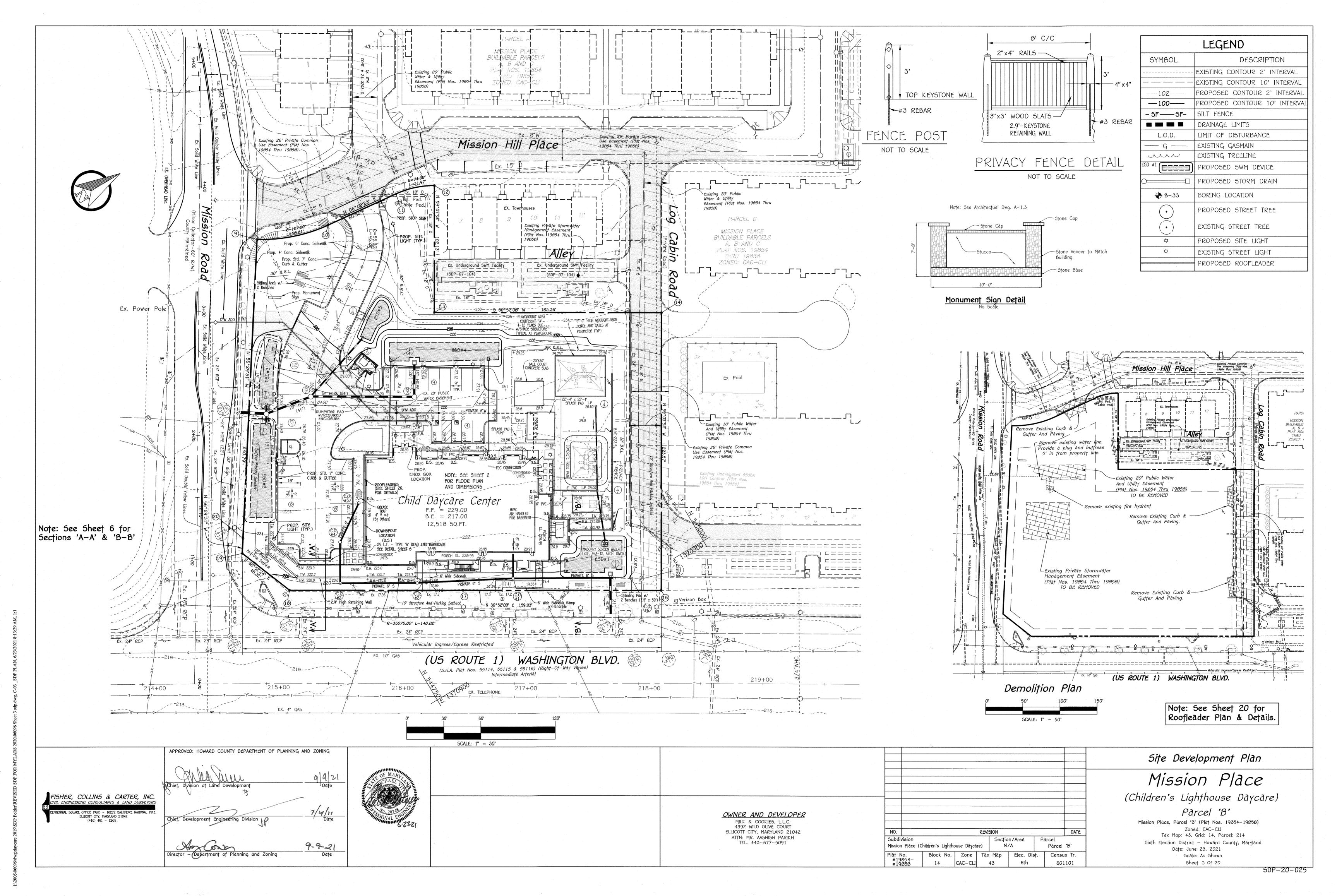
(Children's Lighthouse Daycare) Parcel 'B'

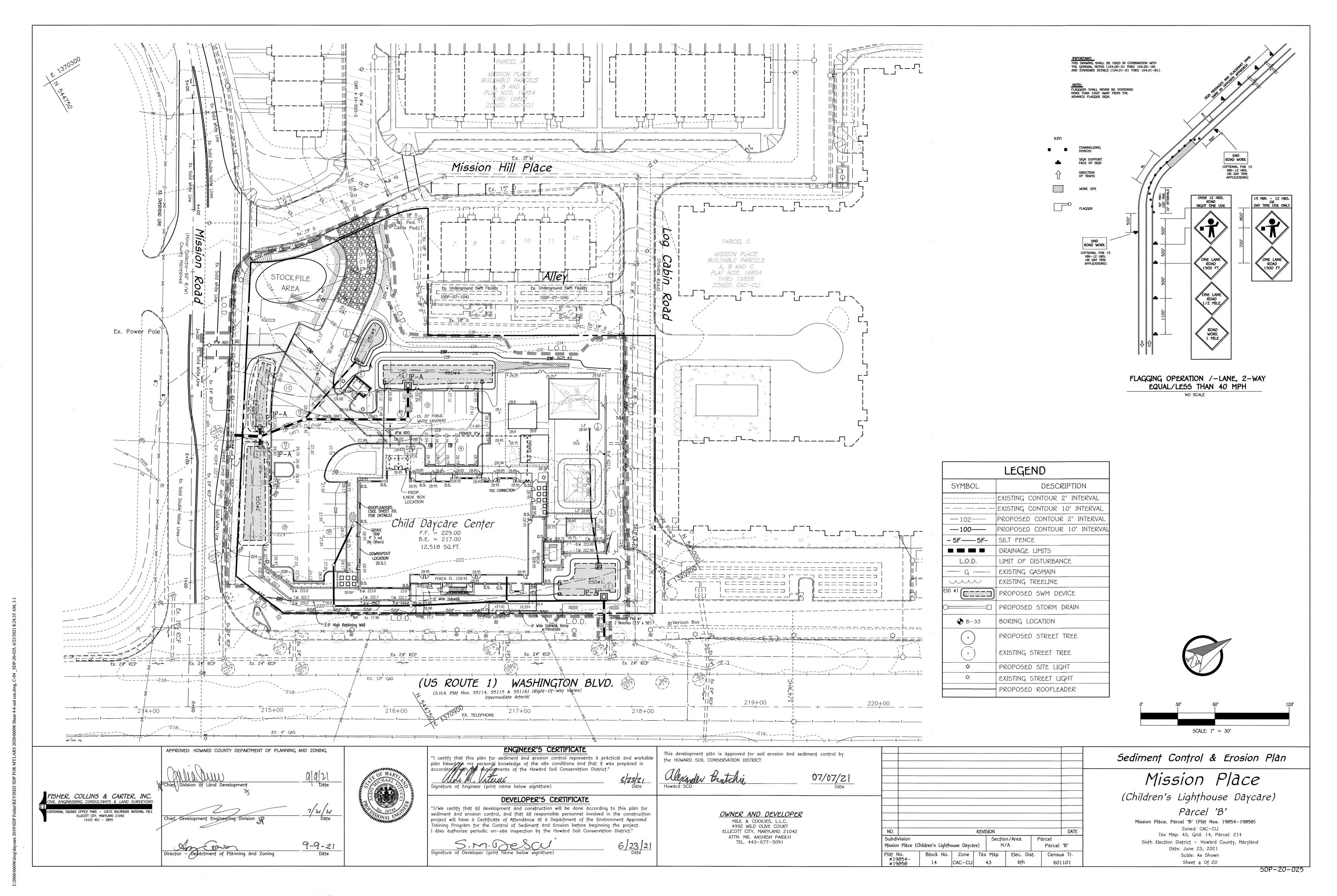
Mission Place, Parcel 'B' (Plat Nos. 19854—19858) Zoned: CAC-CLI Tax Map: 43, Grid: 14, Parcel: 214 Sixth Election District - Howard County, Maryland Dațe: June 23, 2021 Scale: As Shown

Sheet 1 Of 20

50P-20-025







contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable mean permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

i. Soil pH between 6.0 and 7.0. i. Soluble salts less than 500 parts per million (ppm).

iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable. v. Soil contains 1.5 percent minimum organic matter by weight.

v. Soil contains sufficient pore space to permit adequate root penetration b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to

3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish

continuing supplies of moisture and plant nutrient

c. The original soil to be vegetated contains material toxic to plant growth. d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, sit loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1

b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application

a. Erosion and sediment control practices must be maintained when applying topsoil.

b. Uniformly distribute topsoil in a 5 to 9 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets

c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical

2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.

3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.

5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

TEMPORARY SEEDING NOTES (B-4-4)

To stabilize disturbed soils with vegetation for up to 6 months.

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. It this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the

testing agency. Soil tests are not required for Temporary Seeding. 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw

mulch alone as prescribed in Section 8-4-3.A.1.b and maintain until the next seeding

			Temporary Seedin	g Summary		
H	lardiness Zor beed Mixture	ne (from Figure B. (from Table B.1):	Fertilizer Rate (10-20-20)	Lime Rate		
-	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
	BARLEY	96	3/1 - 5/15, 8/15 - 10/15	1"	436 lb/ac	2 tons/de
	OAT5	72	3/1 - 5/15, 8/15 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
	RYE	112	3/1 - 5/15, 8/15 - 10/15	1"		

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be

b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 — Critical Area Planting.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary

2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid stablishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future moving of grasses will pose no

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse

Permanent Seeding Summary

Hardiness Zone (from Figure B.3):6b Seed Mixture (from Table B.3):8				Fertilizer Rate (10-20-20)			Lime Rațe	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 1-Oct. 15	1/4-1/2 in.	per acre	90 lb/ac (2 lb/	90 lb/ac (2 lb/	2 tons/ac (90 lb/
					(1.0 lb/ 1000 sf)	1000 sf)	1000 sf)	1000 sf)
. :				-				

STANDARD STABILIZATION NOTE

OLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3

b.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

<u>Definition</u>

(8-4-8)

The mound or pile of soil protected by appropriately designed erosion and sediment control measures.

To provide a designated location for the temporary storage of soil that controls the potential for erosion, edimentation, and changes to drainage patterns.

Conditions Where Practice Applies

HORIZONTAL TO 1 VERTICAL (3:1); AND

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

<u>Criteria</u>

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan

The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper tha 2:1. Benching must be provided in accordance with Section B-3 Land Grading.

Runoff from the stockpile area must drain to a suitable sediment control practice Access the stockpile area from the upgrade side. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an

earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.

Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to

facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

STANDARDS AND SPECIFICATIONS

SEEDING AND MULCHING

(B-4-3)

The application of seed and mulch to establish vegetative cover

Definition

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Specifications

All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate. Mulch alone may be applied between the fall and spring seeding dates only if the ground is

frozen. The appropriate seeding mixture must be applied when the ground thaws. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keetp noculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weedcontrol until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1. Permanent Seeding Table B.3. or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil

Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

each direction. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P 0 (phosphorus), 200 pounds per acre; K 0 (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseedina). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding. iii. Mix seed and fertilizer on site and seed immediately and without interruption

B. Mulching

Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas

iv. When hydroseeding do not incorporate seed into the soil.

where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.

WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate colot to facilitate visual inspection of the uniformly spread slurry. WCFM, including dye, must contain no germination or growth inhibiting factors.

WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil

without inhibiting the growth of the grass seedlings. WCFM material must not contain elements or compounds at concentration levels that will by phyto-toxic. WCFM must conform to the following physical requirements: fiber length of approximately 10

When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a

millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum. Apply mulch to all seeded areas immediately after seeding.

uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds

of wood cellulose fiber per 100 gallons of water. a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon

the size of the area and erosion hazard: i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on

sloping land, this practice should follow the contour. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.

Lightweight plastic netting may be stapled over the mulch according to manufacturer

recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

Establishment of vegetative cover on cut and fill slopes.

To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

A. Incremental Stabilization - Cut Slopes 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses. 2. Construction sequence example (Refer to Figure B.1)

a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation b. Perform Phase 1 excavation, prepare seedbed, and stabilize.

c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

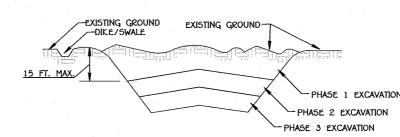


Figure B.1: Incremental Stabilization - Cut

B. Incremental Stabilization - Fill Slopes 1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and

apply seed and mulch on all slopes as the work progresses. operation ceases as prescribed in the plans. 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept

surface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around

the fill. Construct silt fence on low side of fill unless other methods shown on the plans address b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. c. Place Phase 1 fill, prepare seedbed, and stabilize.

d. Place Phase 2 fill, prepare seedbed, and stabilize e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

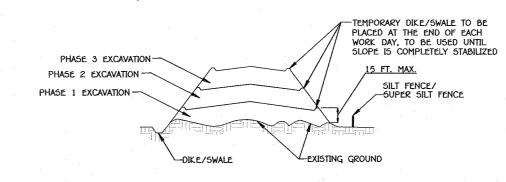


Figure B.2: Incremental Stabilization - Fill

SEQUENCE OF CONTSRUCTION

1. OBTAIN GRADING PERMITS. (2 WEEKS)

2. NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE ANY WORK AT 1-800-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION AT 410-313-1870 AT LEAST 24-HOURS BEFORE STARTING ANY WORK. (1 WEEK)

3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE, PERIMETER SUPER SILT FENCE AS SHOWN ON THE PLANS (1 WEEK)

4. CONSTRUCT THE RETAINING WALL AT THE REAR OF THE SITE. PLACE THE BLOCK WALL BY STEPPING THE BLOCK AS SHOWN ON THE PLANS. (1 MONTH) 5. GRADE SITE TO THE GRADING CONTOURS FOR THE PARKING LOT AND BUILDING PAD. (1 WEEK)
OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING.

6. INSTALL THE PROPOSED STORM DRAIN SYSTEMS INCLUDING CONNECTIONS FOR EACH OF THE SWM-ESD FACILITIES. INSTALL PUBLIC WATER MAINS AND PUBLIC/PRIVATE SEWER MAINS AS SHOWN ON THE PLANS. AS FOR THE SWM BIO-RETENTION CELLS, THE CONSTRUCTION OF THE FILTER MEDIA, STONE LAYERS, UNDERDRAIN AND PLANTINGS FOR EACH BIO-RETENTION CELL
SHALL BE DELAYED UNTIL THE CONTRIBUTING DRAINAGE AREA FOR EACH FACILITY IS
PERMANENTLY STABILIZED. INSTALL INLET PROTECTION TO THOSE INLETS AS INTENDED TO

PROTECT EACH SWM FACILITY. (1 WEEK) 7. INSTALL THE PROPOSED SEWER AND WATER MAINS IN CONJUNCTION WITH THE ABOVE STORM

8. UPON PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, INSTALL CONCRETE

BEGIN CONSTRUCTION OF THE DAYCARE BUILDING. (4 MONTHS) ONCE THE CONTRIBUTING DRAINAGE AREA TO THE PERIMETER DEVICES IS CONSTRUCTED AND STABILIZED THE SUPER SILT FENCE CAN BE REMOVED.

10. STABILIZE ALL REMAINING DISTURBED AREAS ONSITE WITH PERMANENT SEEDING OR OPTIONAL SODDING. THE FINAL CONSTRUCTION OF THE BIO-RETENTION FACILITIES CAN BE COMPLETED WITH THE FILTER MEDIA AND PLANTINGS. (1 WEEK)

11. STANDARD NOTE: THE CONTRACTOR SHALL COORDINATE WITH THE INSPECTOR IN REGARDS TO THE REQUIREMENT THAT NO MORE THAN 20-ACRES OF "OPEN" GROUND SHALL BE DISTURBED AT ANY GIVEN TIME, IF REQUIRED. THIS PARCEL AND ASSOCIATED L.O.D. IS LESS THAN 20-ACRES IN SIZE.

12. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 40 hour notice to CID must be given at the following stages: a. Prior to the start of earth

b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading c. Prior to the start of another phase of construction or opening of another grading unit, d. Prior to the removal or modification of sediment control practices.

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto. 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and

all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading. 4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15 of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All

concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6). 5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CII

6. Site Analysis: Total Area of Site: ____1.96____ Acres Area Disturbed: ____1.69____ Acres Area to be roofed or paved: _____0.79____ Acres Area to be vegetatively stabilized: 0.90 Acres 3,000 Cu. Yds. _3,000 ___ Cu. Yds Total Fill:

waste/borrow area location: _____ ONSITE 7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired

3. Additional sediment control must be provided, if deemed necessary by the CID. The site and a11 controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the

contractor, made available upon request, is part of every inspection and should include: Inspection date

• Inspection type (routine, pre-storm event, during rain event) · Name and title of inspector • Weather information (current conditions as well as time and amount of last recorded precipitation)

• Brief description of project's status (e.g., percent complete) and/or current activities Identification of plan deficiencie

· Maintenance and/or corrective action performed

• Identification of sediment controls that require maintenance Identification of missing or improperly installed sediment controls
 Compliance status regarding the sequence of construction and stabilization requirements Photographs

• Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE) 9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorte 10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by

HSCD-approved field changes. 11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30

acres cumulatively may be disturbed at a given time. 12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a

the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of

sediment basin or other approved washout structure 13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

15. Stream channels must not be disturbed during the following restricted time periods • Use I and IP March 1 - June 15 • Use III and IIIP October 1 - April 30

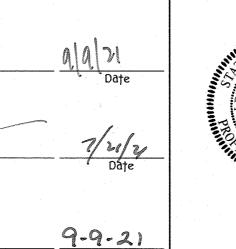
• Use IV March 1 - May 31

intervals, with lower ends curled uphill by 2' in elevation.

16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS FILICOTT CITY, MARYLAND 21042 Chief Development Engineering Division 🕡 (410) 461 - 2055



ENGINEER'S CERTIFICATE certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District." alle Mitteren

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."

OWNER AND DEVELOPER MILK & COOKIES, L.L.C. 4992 WILD OLIVE COURT ELLICOTT CITY, MARYLAND 21042 ATTN: MR. AASHISH PARIKH

REVISION DATE Subdivision Section/Area Mission Place (Children's Lighthouse Daycare) Parcel 'B' Zone Tax Map Elec. Dist. Census Tr. #19854-#19858 CAC-CLI 601101

Notes & Details

Sediment And Erosion Control

Mission Place

(Children's Lighthouse Daycare)

Parcel 'B' Mission Place, Parcel 'B' (Plat Nos. 19854-19858)

Zoned: CAC-CLI Tax Map: 43, Grid: 14, Parcel: 214 Sixth Election District - Howard County, Maryland Date: June 23, 2021 Scale: As Shown

Sheet 5 Of 20

5DP-20-025

sheeting.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature of Developer (print name below signature)

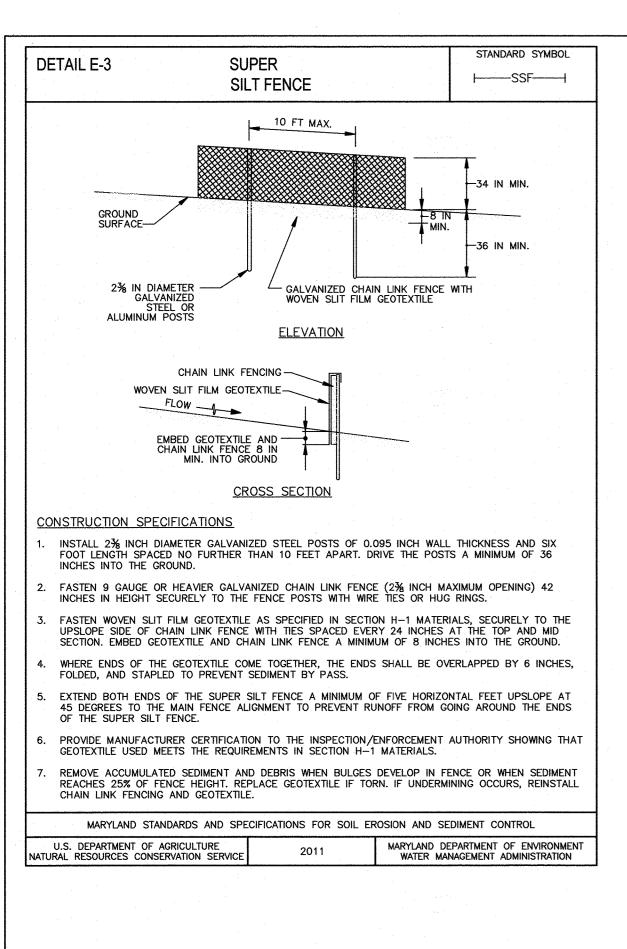
Signature of Engineer (print name below signature)

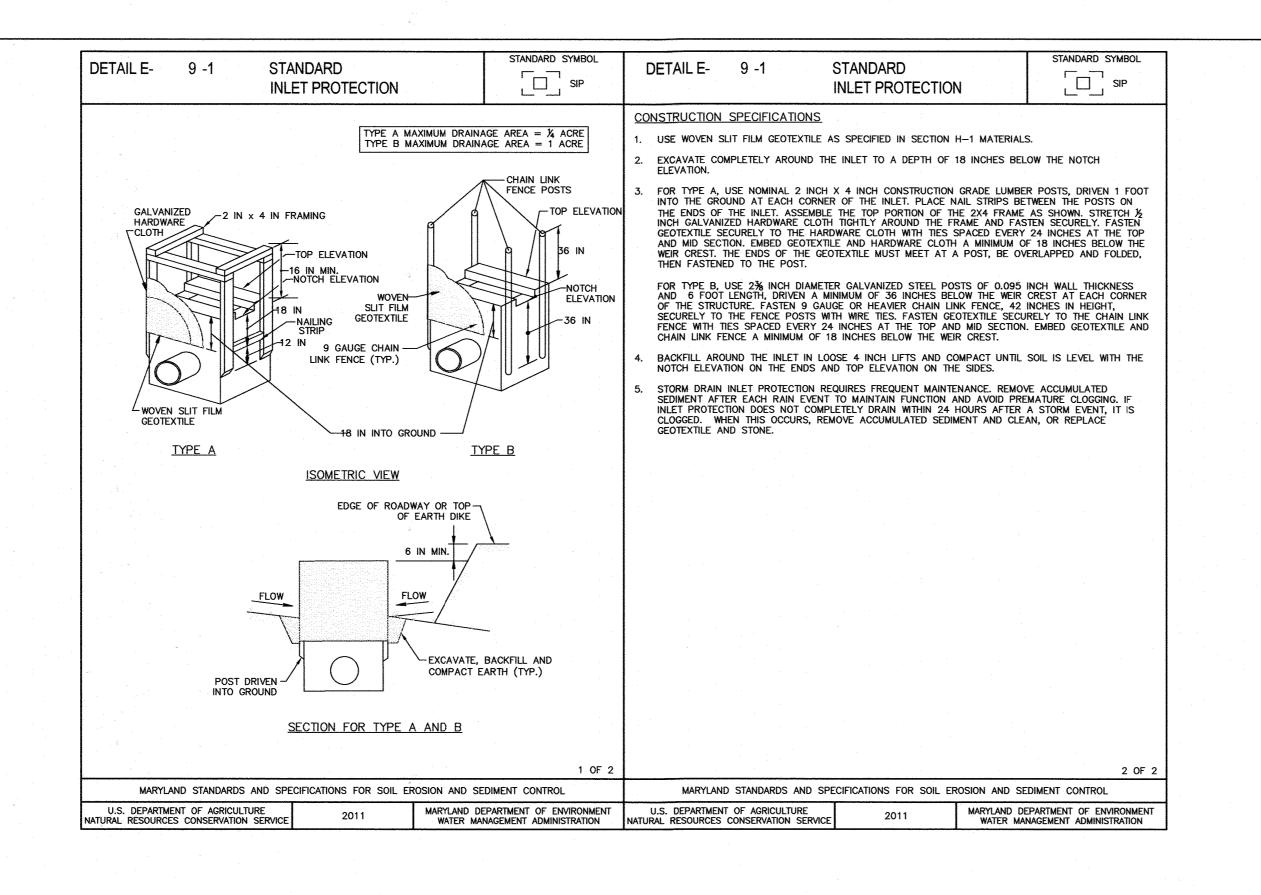
DEVELOPER'S CERTIFICATE I/We certify that all development and construction will be done according to this plan for

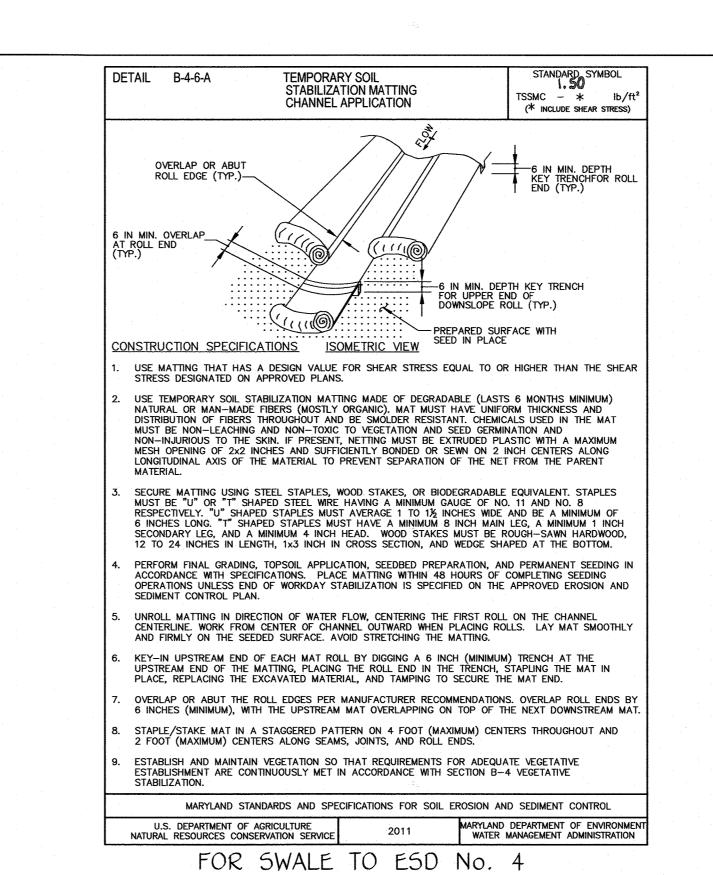
TEL. 443-677-5091

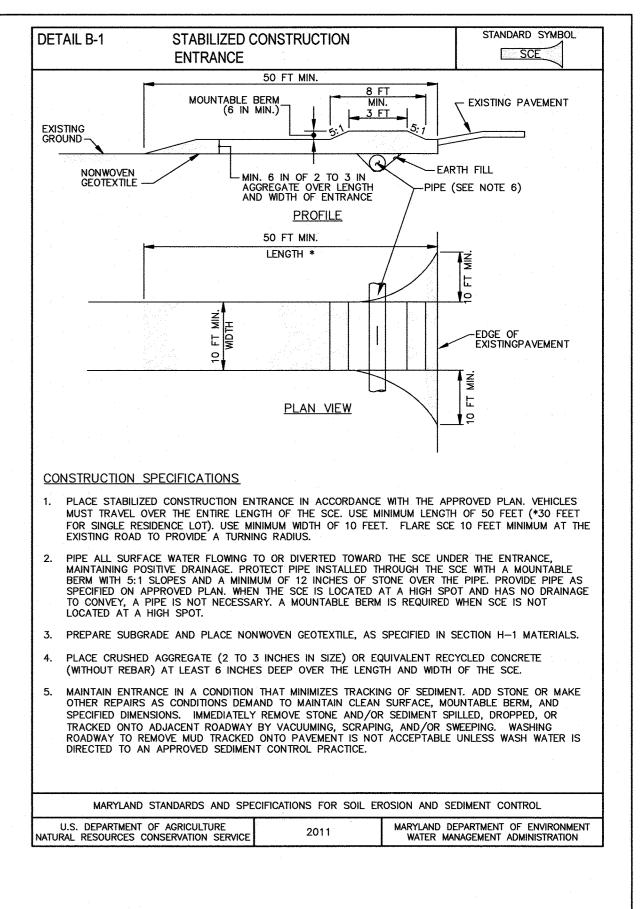
This development plan is approved for soil erosion and sediment control by

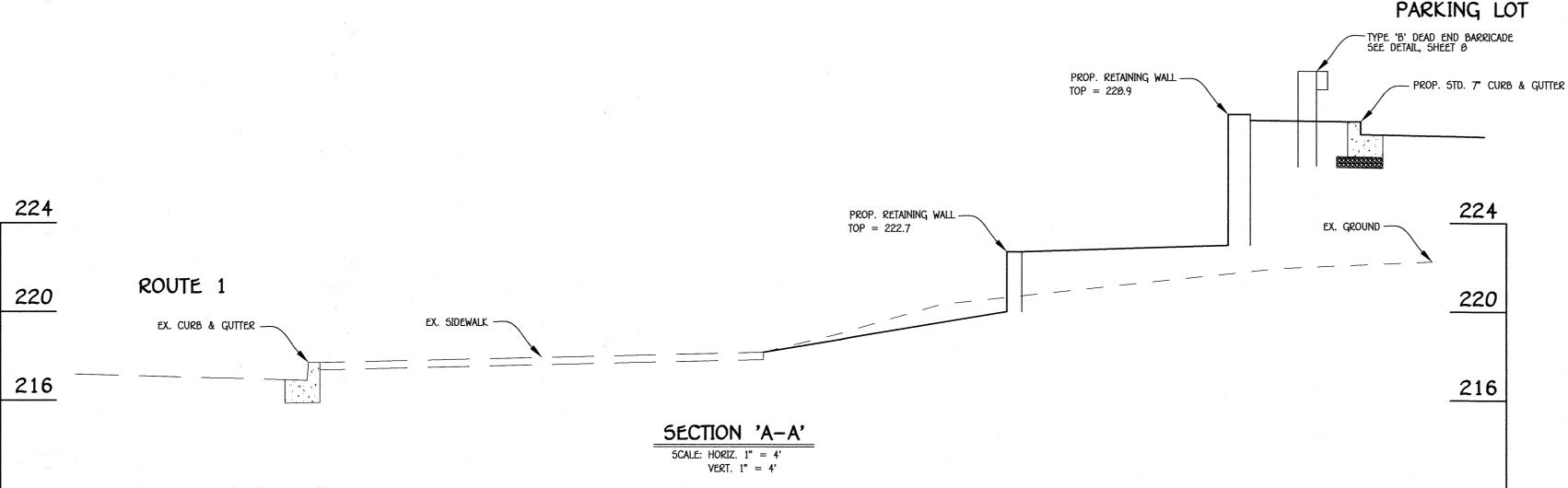
the HOWARD SOIL CONSERVATION DISTRICT.

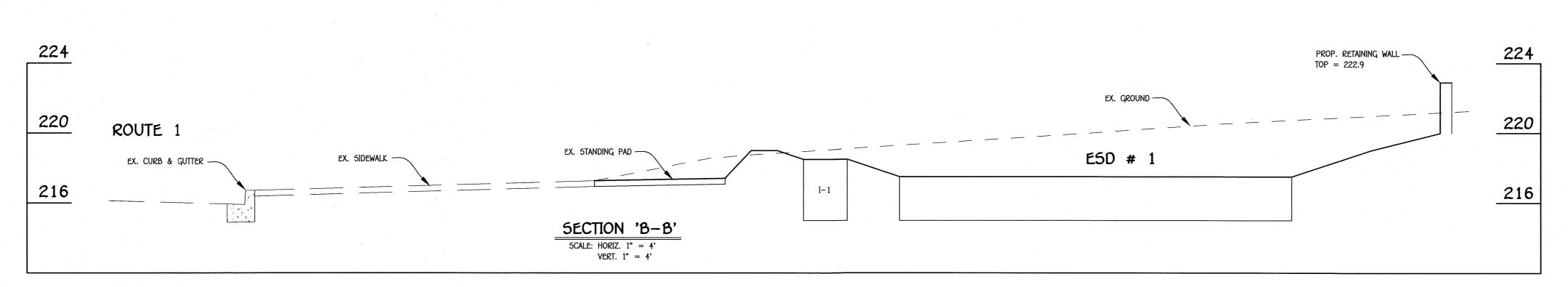


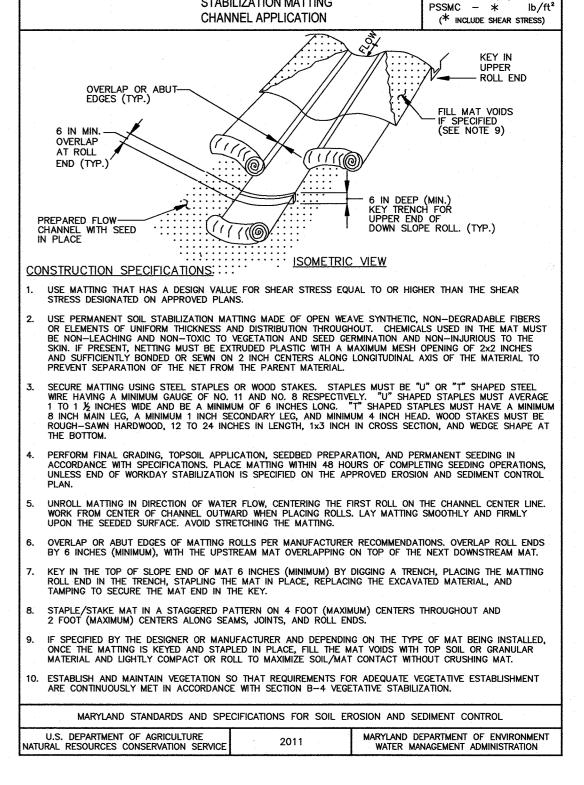










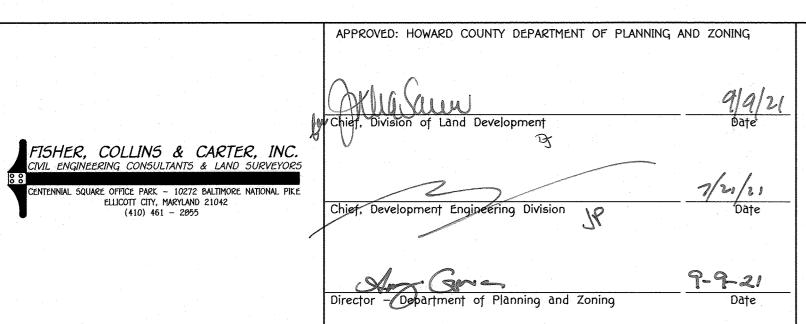


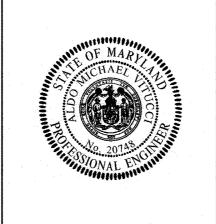
FOR SWALE TO ESD No. 4

PERMANENT SOIL

STABILIZATION MATTING

DETAIL B-4-6-C





ENGINEER'S CERTIFICATE certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the fequirements of the Howard Soil Conservation District." 1 lde M. Vituri ignature of Engineer (print name below signature)

DEVELOPER'S CERTIFICATE 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. also authorize periodic on-site inspection by the Howard Soil Conservation District."

the HOWARD SOIL CONSERVATION DISTRICT. 15/1701/70 OWNER AND DEVELOPER MILK & COOKIES, L.L.C. 4992 WILD OLIVE COURT ELLICOTT CITY, MARYLAND 21042 REVISION ATTN: MR. AASHISH PARIKH

This development plan is approved for soil erosion and sediment control by

TEL. 443-677-5091

DATE Subdivision Section/Area Parcel Mission Place (Children's Lighthouse Daycare) Parcel 'B' Block No. | Zone | Tax Map Census Tr.

601101

14

CAC-CLI

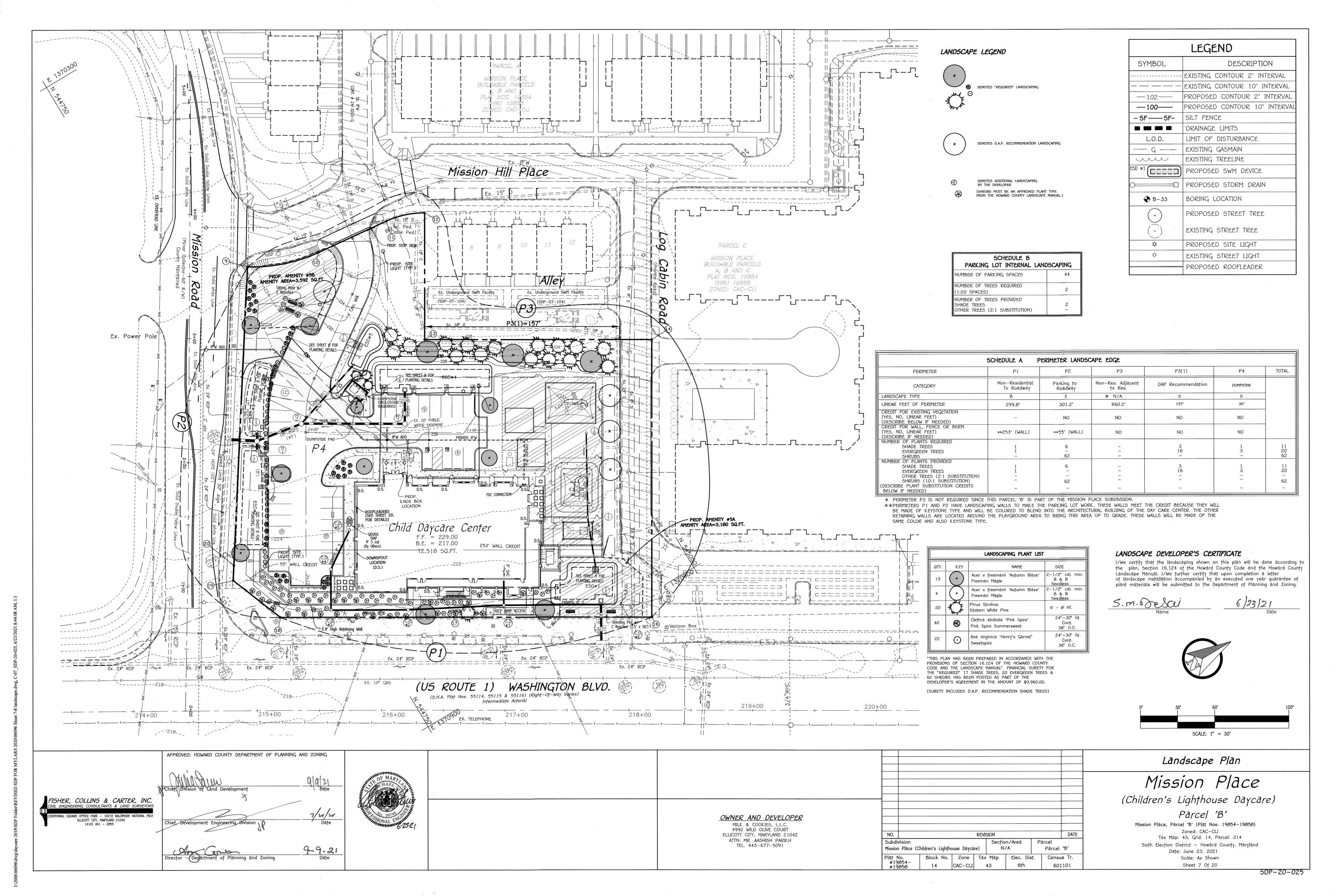
Sediment And Erosion Control Notes, Details & Site Sections

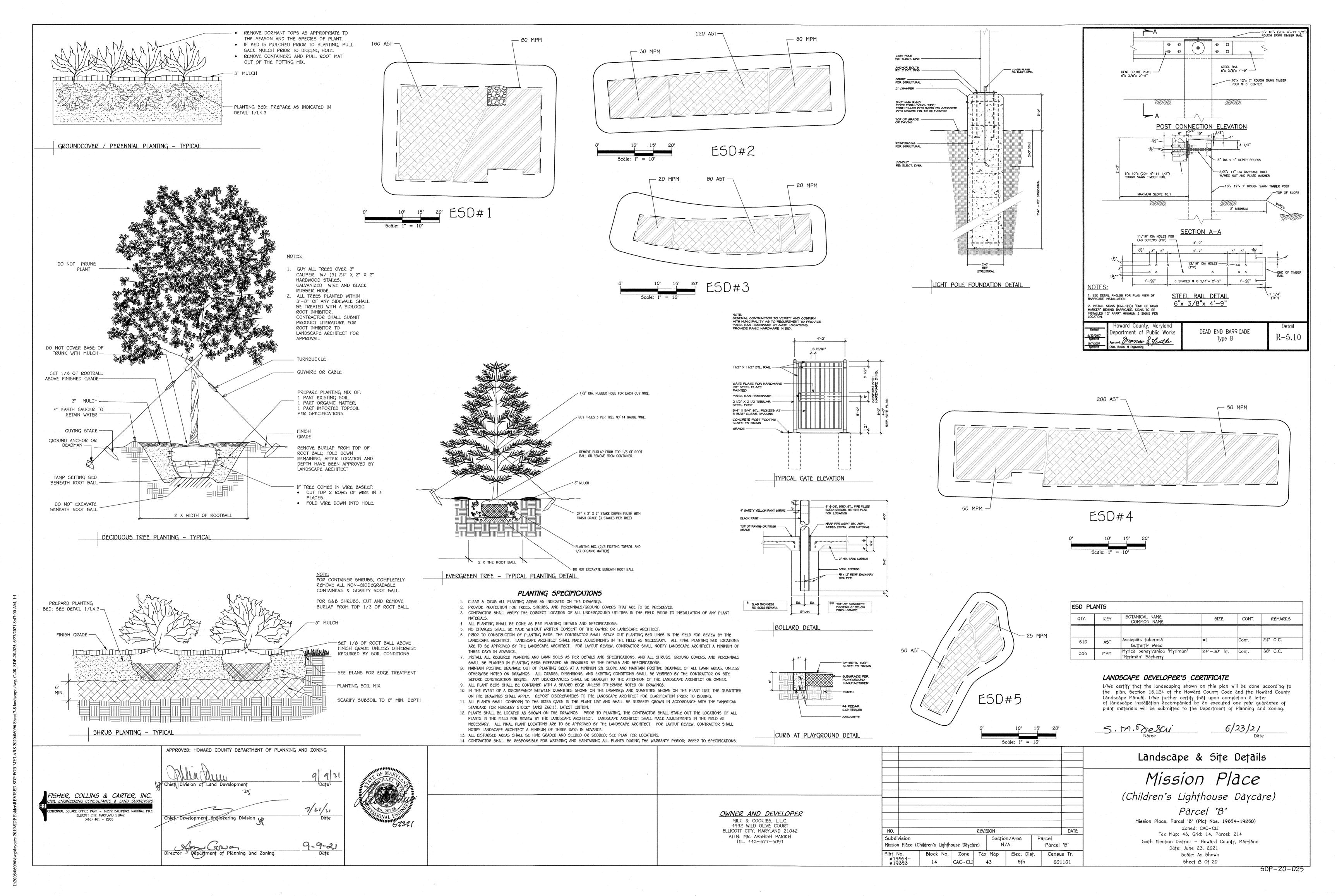
Mission Place

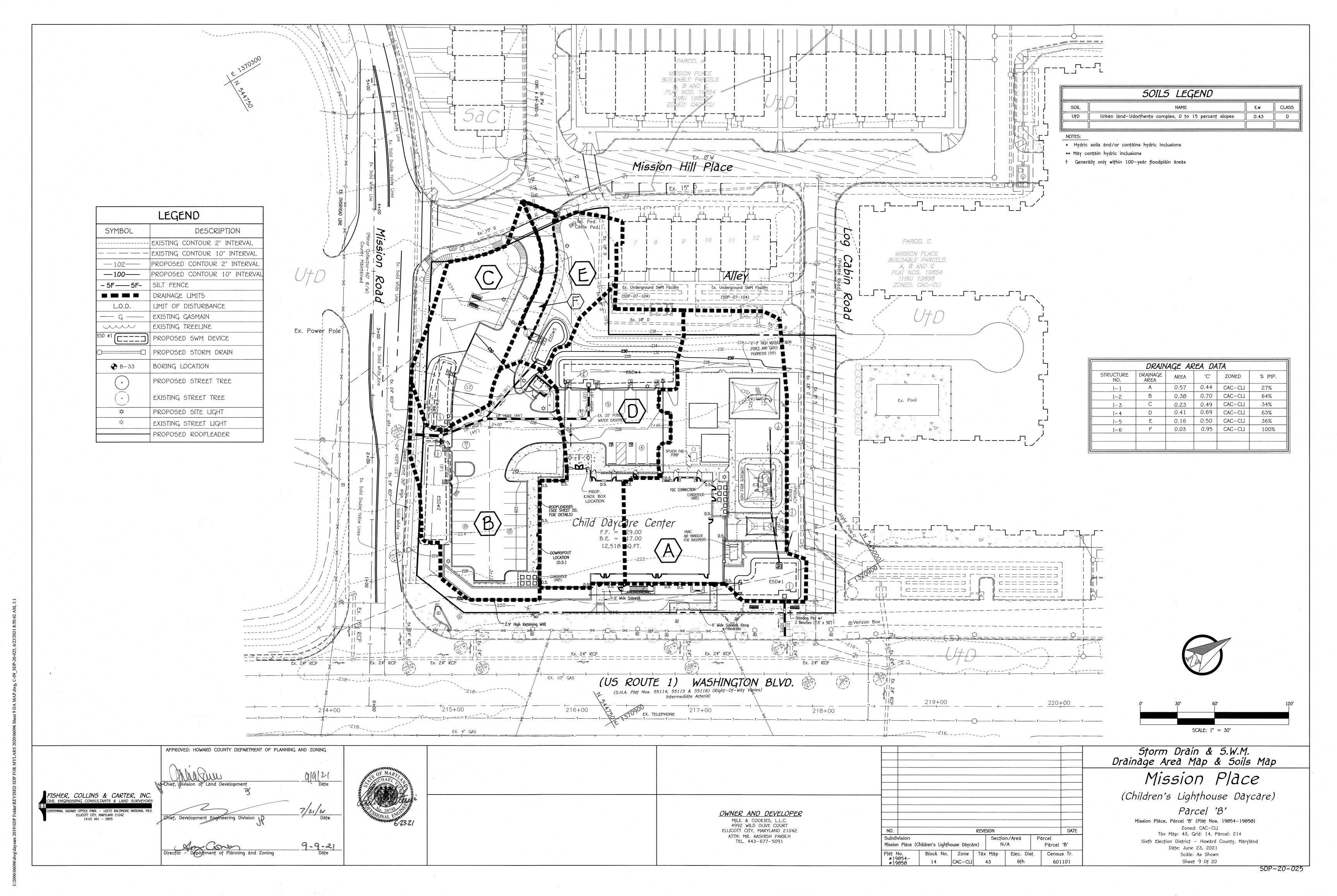
(Children's Lighthouse Daycare)

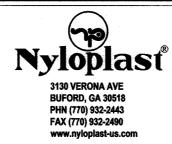
Parcel 'B' Mission Place, Parcel 'B' (Plat Nos. 19854-19858) Zoned: CAC-CLI Tax Map: 43, Grid: 14, Parcel: 214

Sixth Election District - Howard County, Maryland Date: June 23, 2021 Scale: As Shown Sheet 6 Of 20

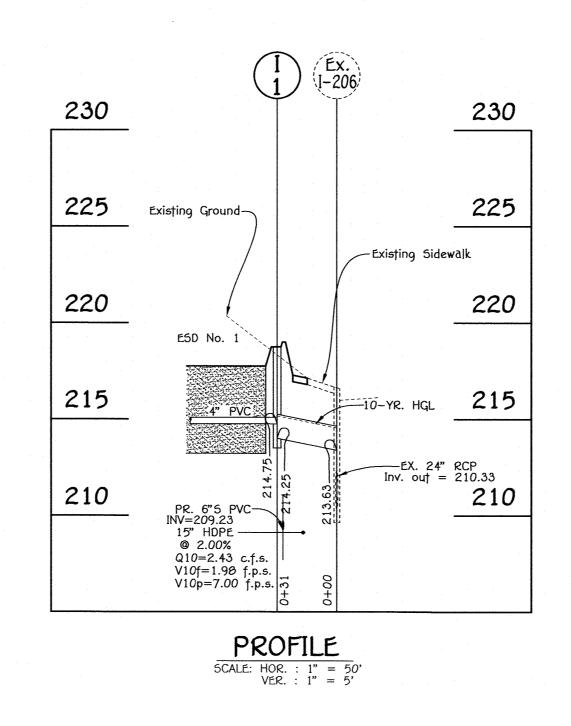


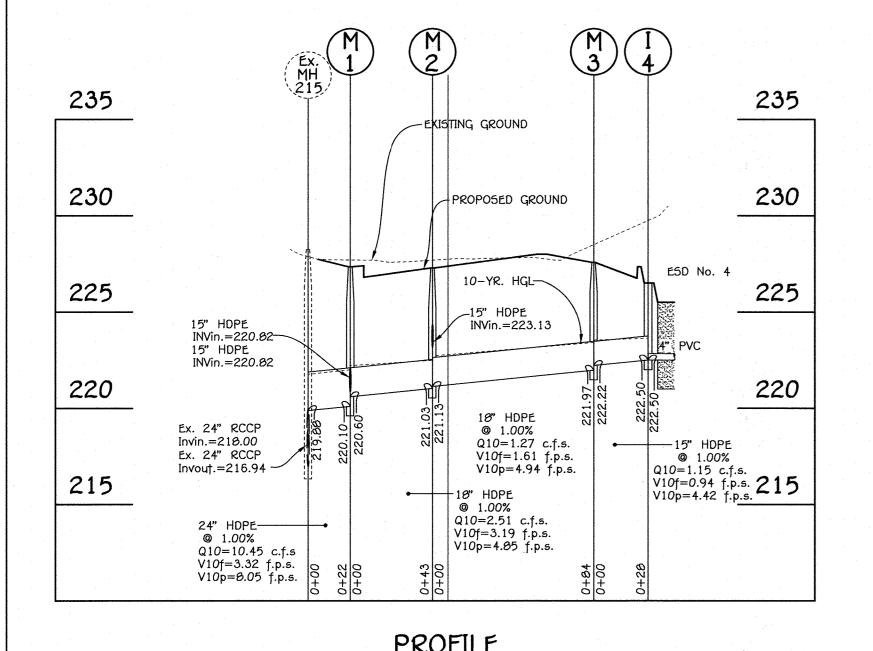


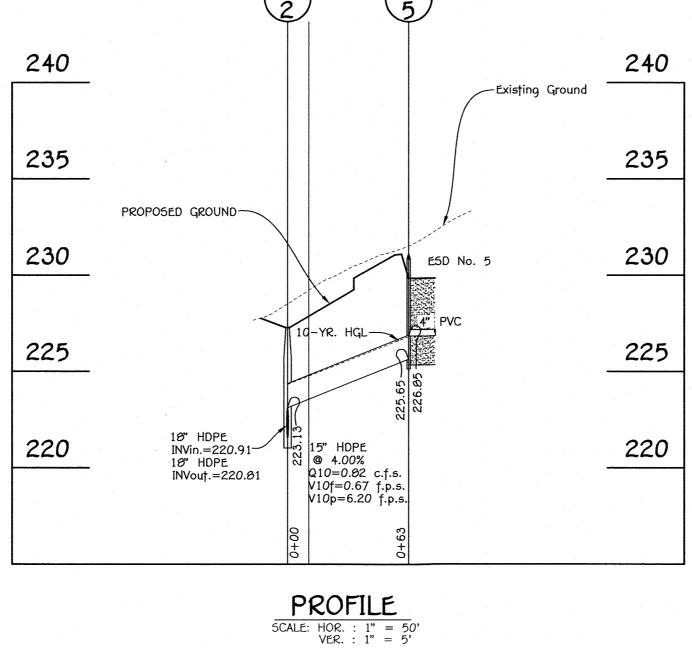


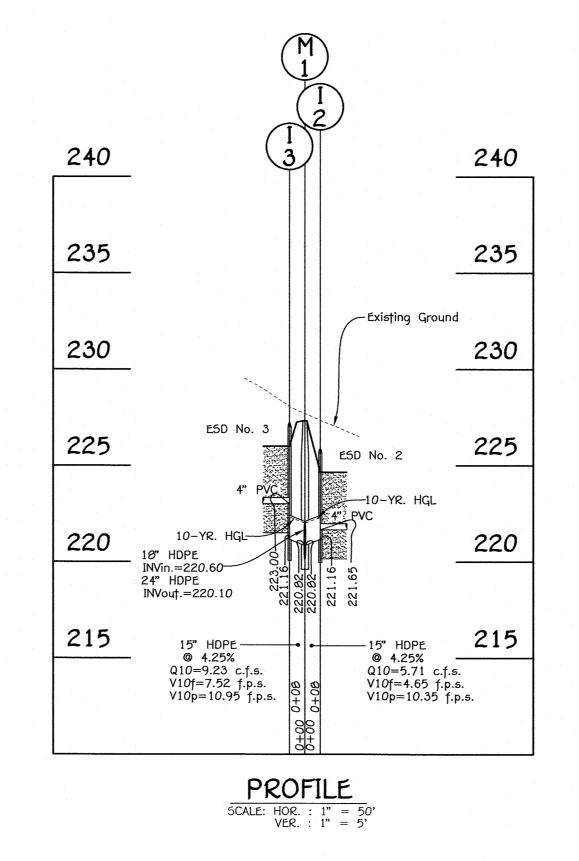


PIPE SCHEDULE							
SIZE	CLA55	LENGTH					
4"	PVC, 5CH. 40 (PERFORATED)	538 L.F.					
8"	HDPE	65 L.F.					
10"	HDPE	39 L.F.					
15"	HDPE	156 L.F.					
18"	HDPE	127 L.F.					
24"	HDPE	22 L.F.					









0' 50' 100' 15

Scale: 1" = 50'

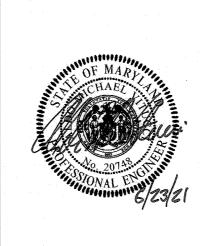
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
ELLICOTT CITY, MARYLAND 21042
(410) 461 = 2855

Centennal Square office Park - 10272 Baltimore National Pike
ELLICOTT CITY, MARYLAND 21042
(410) 461 = 2855

Director - Department of Planning and Zoning

Date



OWNER AND DEVELOPER

MILK & COOKIES, L.L.C.
4992 WILD OLIVE COURT
ELLICOTT CITY, MARYLAND 21042
ATTN: MR. AASHISH PARIKH
TEL. 443-677-5091

NO.

REVISION

DATE

Subdivision

Mission Place (Children's Lighthouse Daycare)

Plat No.
#19854—
#19858

14 CAC-CLI 43 6th 601101

Storm Drain Profiles

Mission Place

(Children's Lighthouse Daycare)

Parcel 'B'

Mission Place, Parcel 'B' (Plat Nos. 19854-19858)

Zoned: CAC-CLI

Tax Map: 43, Grid: 14, Parcel: 214

Sixth Election District - Howard County, Maryland

Tax Map: 43, Grid: 14, Parcel: 214

Election District — Howard County, Maryland

Date: June 23, 2021

Scale: As Shown

Sheet 10 Of 20

5DP-20-025

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorous and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide desthetic value and wildlife habitat making these facilities more desirable to the public.

Design Constraints:

> Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging. > Determine areas that will be saturated with water and water table depth so that

appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance). > Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design.

> Test soil conditions to determine if soil amendments are necessary. > Plants shall be located so that access is possible for structure maintenance. > Stabilize heavy flow areas with erosion control mats or sod.

> Temporarily divert flows from seeded areas until vegetation is established. > See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume [Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993]. Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other noxious weeds as specified under COMAR 15.08.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

Table A.3 Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P205)	75 lbs. per acre, minimum
Potassium (potash —1(K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	0 to 5%
Silt	30 to 55%
Sand	35 to 60%

Mulch Layer

The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months). uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Planting Guidance

(410) 461 - 2855

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge

is the highest elevation and generally supports plants adapted to dryer conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.

B.4.C Specifications for Micro-Bioretention. Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification) Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).

Clay Content - Media shall have a clay content of less than 5%.

pH Range -Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

Recommended plant material for micro-bioretention practices can be found in Appendix A,

5. Plant Installation

4. Plant Material

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

The plant root ball should be planted so 1/8 th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation. Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing

Rootstock of the plant material shall be kept moist during transport and on-site storage.

season only. Stakes are to be equally spaced on the outside of the tree ball Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting

The topsoil specifications provide enough organic material to adequately supply nutrient: from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. Underdrains

Underdrains should meet the following criteria:

Pipe- Should be 47to 67diameter, slotted or perforated rigid plastic pipe (ASTMF 758, Type P5 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).

Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6 center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.

Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.

The main collector pipe shall be at a minimum 0.5% slope.

A rigid, non-perforated observation well must be provided (one per every 1,000 square

feet) to provide a clean-out port and monitor performance of the filter.

A 4" layer of pea gravel (1/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

These practices may not be constructed until all contributing drainage area has been

Operation And Maintenance Schedule For Homeowners Association Owned & Maintained Bio-Retention Areas (M-6)

1. The owner shall maintain the plant material, mulch layer and soil layer annually, maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual volume II, table A.4.1 and 2.

2. The owner shall perform a plant in the spring and in the fall each year. during the inspection, the owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material. Treat diseased trees and shrubs and replace all deficient stakes and wires.

3. The owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years, The previous mulch layer shall be removed before the new layer is applied.

4. The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy

5. The owner shall maintain all observation wells, clean—outs and perforated underdrains.

6. Filter material must be replaced when water remains on the surface of the filter bed for more than 24 hours following a 1 or 2 year storm event or more than 48 hours following a 10 year storm event.

UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 750, TYPE PS 20 OR AASHTO-M- 270) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (e.g., PVC OR HDPE).

PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (No. 4 OR 4 x 4) GALVANIZED

GRAVEL LAYER SHALL BE (No. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

HARDWARE CLOTH.

4" PVC, SCHEDULE 40 PERFORATE

4" PVC, SCHEDULE 40

(SOLID DOWN TO STONE LAYER)

- 4" UNDERDRAIN TO OUTFALL OR INLET

OVERFLOW DISTRIBUTION PIPE

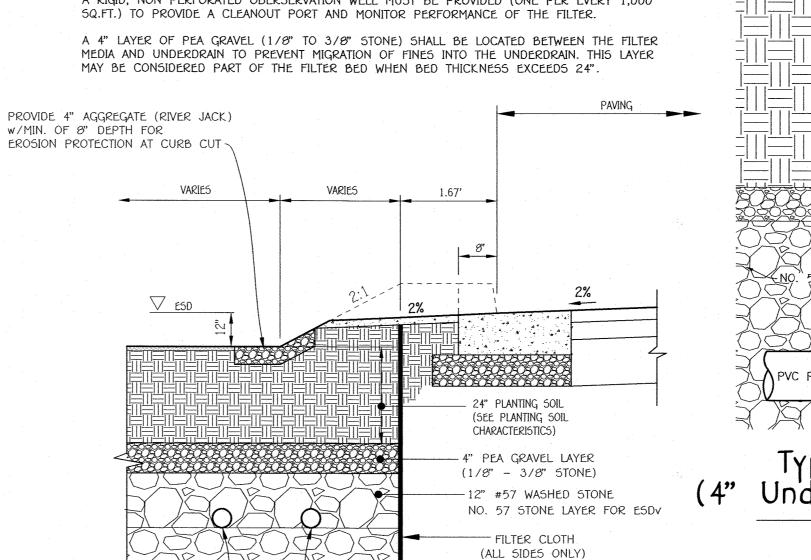
4" PVC 5CH. 40, OBSERVATION

ADAPTER & PLUG

(FLUSH WITH MULCH)

WELL w/CLEANOUT

A RIGID, NON PERFORATED OBERSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1.000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.



-18" (UNLESS OTHERWISE NOTED)

RESERVOIR FOR Rev & ESD

Typical Bio-retention (M-6) Adjacent To Roadway @ Curb Cut

PROVIDE 3/8" DIA. HOLES,

1/2" GAL. STEEL BOLT

18"x18"x1/2"

STEEL FOOT PLATE-

4" PVC COUPLING

NOTE: ANCHOR MAY BE SUBSTITUTED WITH

(MUST BY APPROVED BY INSPECTOR)

NO SCALE

ANOTHER METHOD.

4 ROW5 @ 3" O.C.

OF CLEAN/ WASHED STONE (NO. 57)

WRAPPED IN 4"x4" GALV. HARDWARE CLOTH.

(SEE PERF. DETAIL THIS SHEET)

4" PVC. SCHEDULE 40 PERFORATED UNDERDRAIN

4"x4"x1/2"

STEEL PLATE

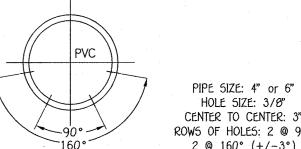
Typical Clean—Out Detail (4" Underdrain to Outfall Or Inlet) NO SCALE

PVC PIPE

USE 4" PVC CLEANOUT ADAPTER & PLUG

(FLUSH WITH MULCH) -

MULCH LAYER /

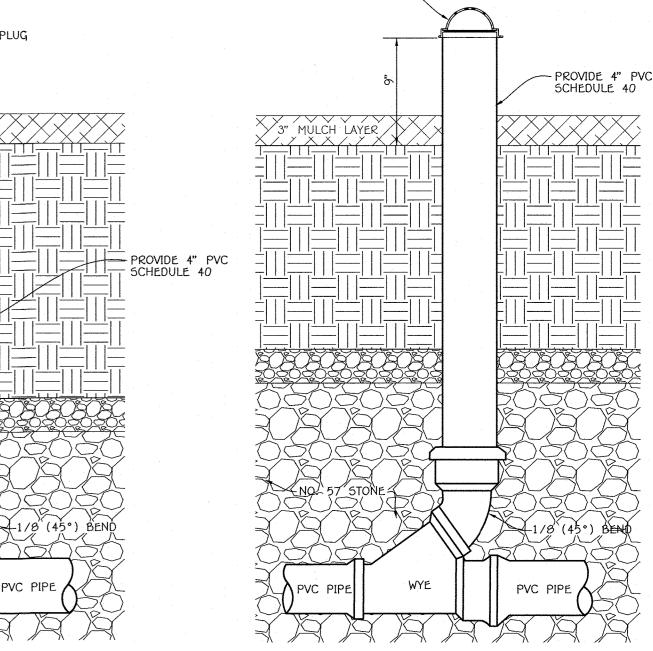


HOLE SIZE: 3/8" CENTER TO CENTER: 3" ROWS OF HOLES: 2 @ 90° 2 @ 160° (+/-3°)

5ch 40 Pvc Perforated Underdrain Pipe Detail For Horizontal Drain Pipe

4" dia. DOME GRATE-

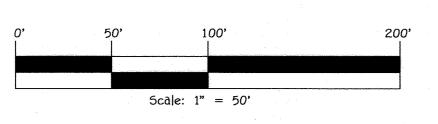
NO SCALE



Typical Clean-Out Detail Distribution Pipe)

- USE 4" PVC CLEANOUT ADAPTER & PLUG (FLUSH WITH MULCH) 4" CLEANOUT AND/OR OBSERVATION WELL 12" ESD ELEV.= 4" ROUND PLASTIC ELEVATION V ATRIUM GRATE -(TYP.) PROPOSED GROUND SEE PLANS, PROVIDE 50D 3" MULCH-SHEET 12 ABOVE MULCH PROVIDE FILTER FABRIC 24" PLANTING SOIL-(SIDES ONLY) -4" OVERFLOW DISTRIBUTION PIPE 4" #7 STONE (BRIDGING LAYER) --4" PERF. UNDERDRAIN PIPE THROUGH 8" #2 WASHED STONE STONE RESERVOIR (NO OUTFALL) 18" - #2 WASHED STONE-FOR Rev 4" PERF. UNDERDRAIN PIPE THROUGH STONE RESERVOIR (TO OUTFALL OR INLET) Bio-Retention (M-6) Section

With 4" Overflow Distribution Pipe



9-9-21

Section @ Cleanout/Observation Well Location

ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE

QUALITY: MATERIAL SHALL CONFORM TO ASTM

A536 GRADE 70-50-05

PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

LOCKING DEVICE AVAILABLE UPON REQUEST

SEE DRAWING NO.

7001-110-230

Nyloplast

3130 VERONA AVE

BUFORD, GA 30518

www.nyloplast-us.com

15" Dome Grate Assembly

12" ESD ELEV.=

ELEVATION

SEE ANCHOR DETAIL, THIS SHEET

LIMIT OF

PHN (770) 932-2443

FAX (770) 932-2490

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING FISHER, COLLINS & CARTER, INC. 7/4/4



OWNER AND DEVELOPER MILK & COOKIES, L.L.C. 4992 WILD OLIVE COURT ELLICOTT CITY, MARYLAND 21042 ATTN: MR. AASHISH PARIKH TEL. 443-677-5091

DATE Subdivision Section/Area Parcel Mission Place (Children's Lighthouse Daycare) Parcel 'B' Block No. | Zone | Tax Map | Elec. Dist. Census Tr. #19854-#19858 601101 CAC-CLI

(Bio-Retention) Mission Place

Stormwater Management Notes And Details

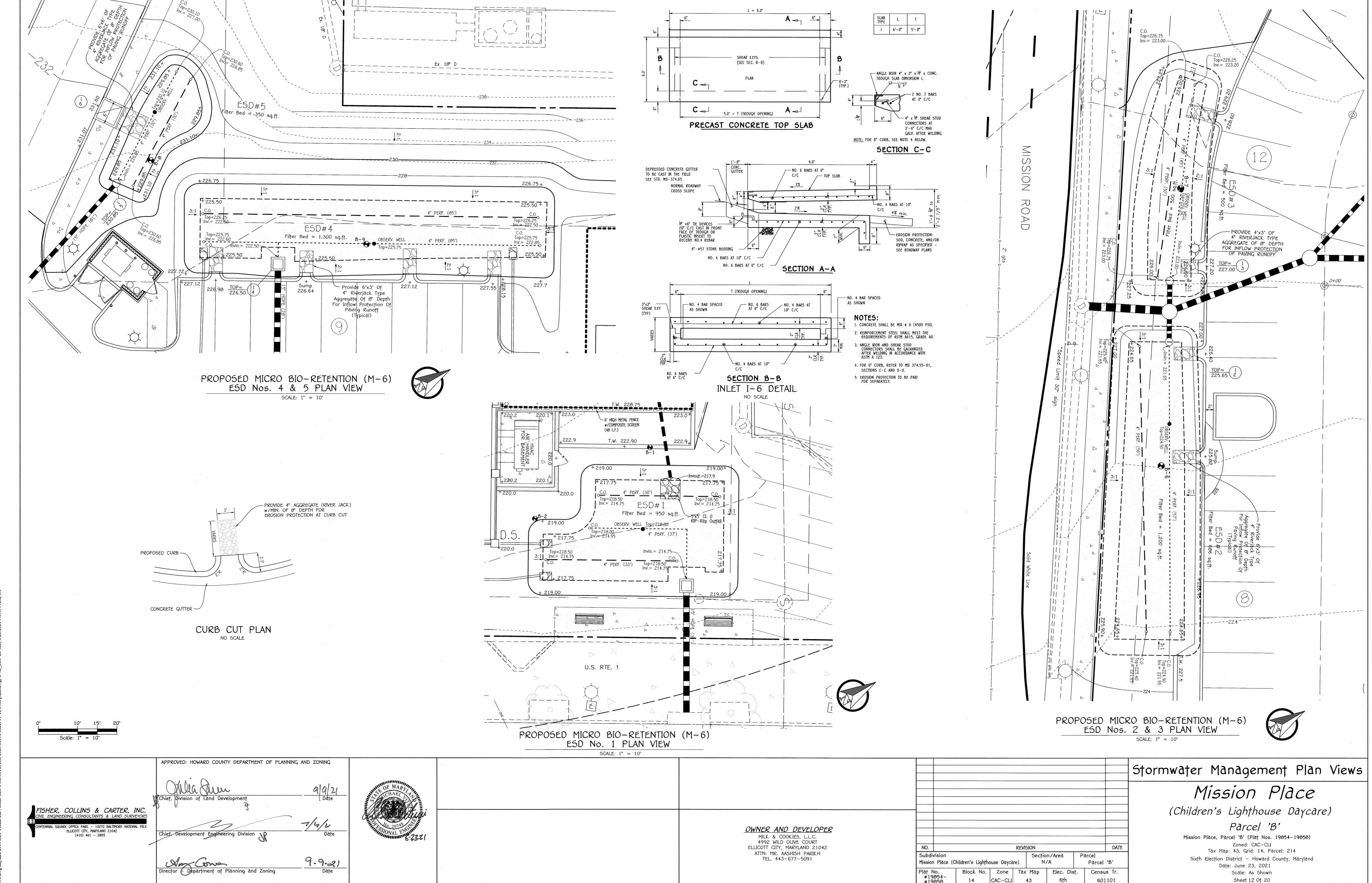
(Children's Lighthouse Daycare)

Parcel 'B'

Mission Place, Parcel 'B' (Plat Nos. 19854-19858) Zoned: CAC-CLI Tax Map: 43, Grid: 14, Parcel: 214 Sixth Election District - Howard County, Maryland Date: June 23, 2021 Scale: As Shown

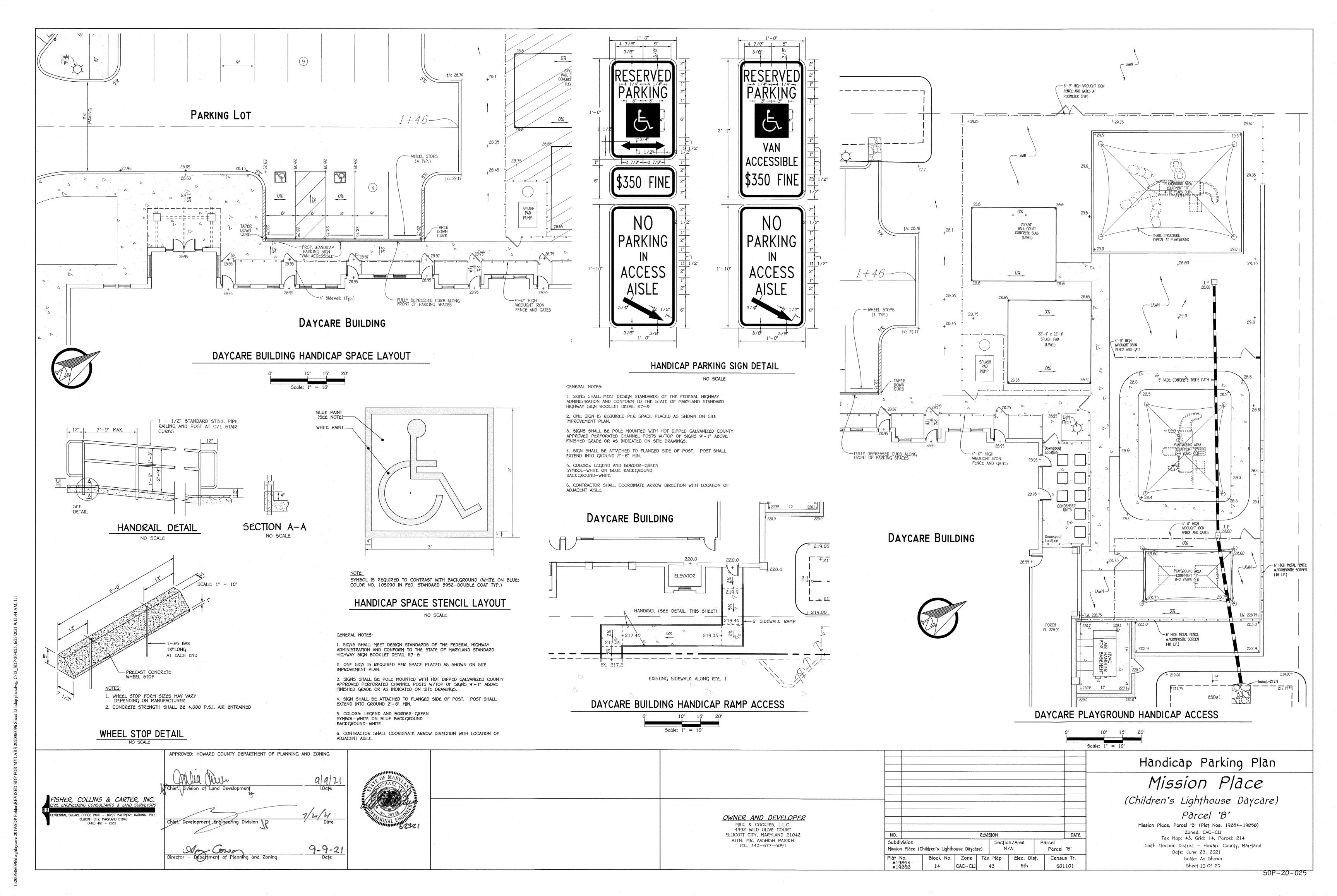
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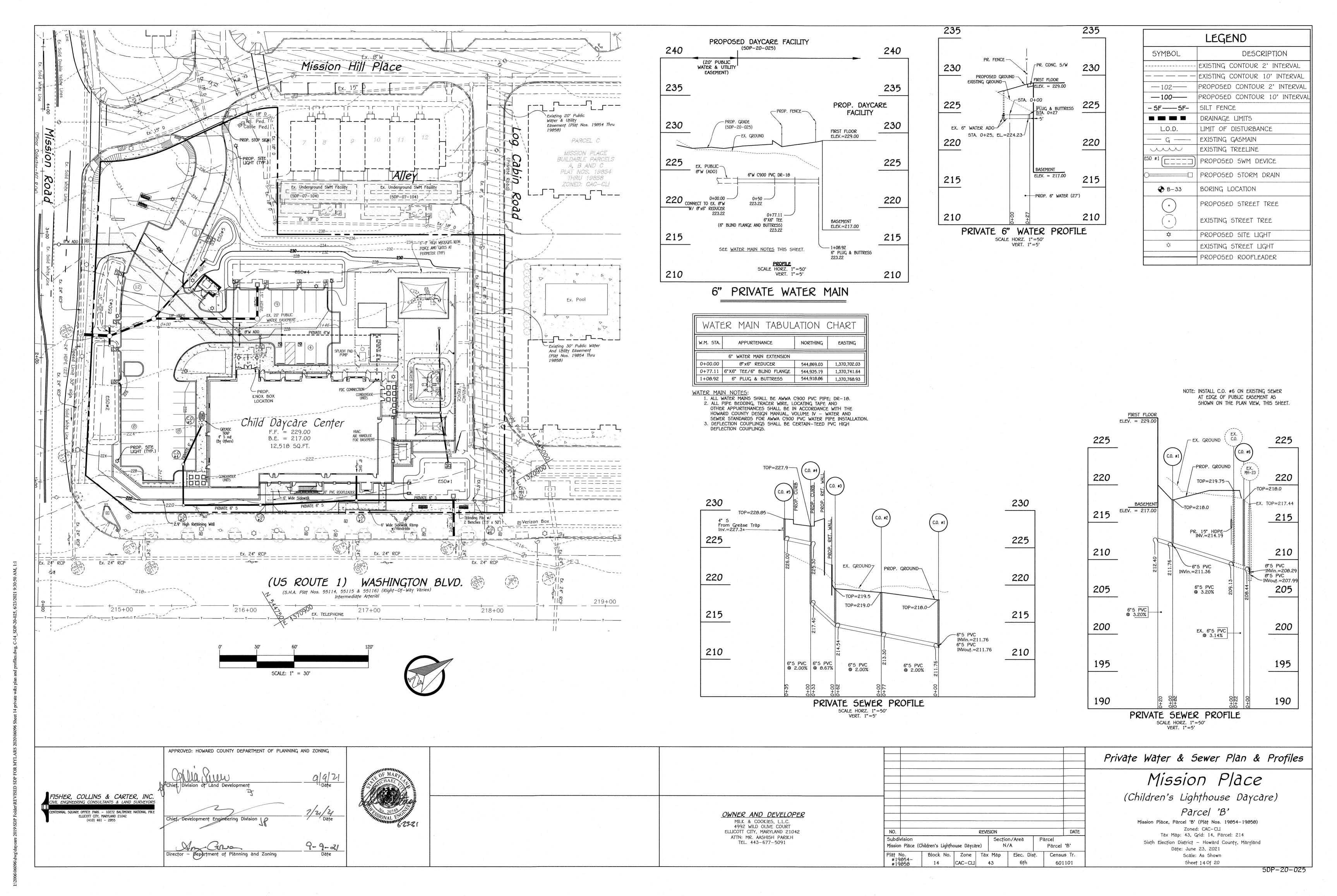
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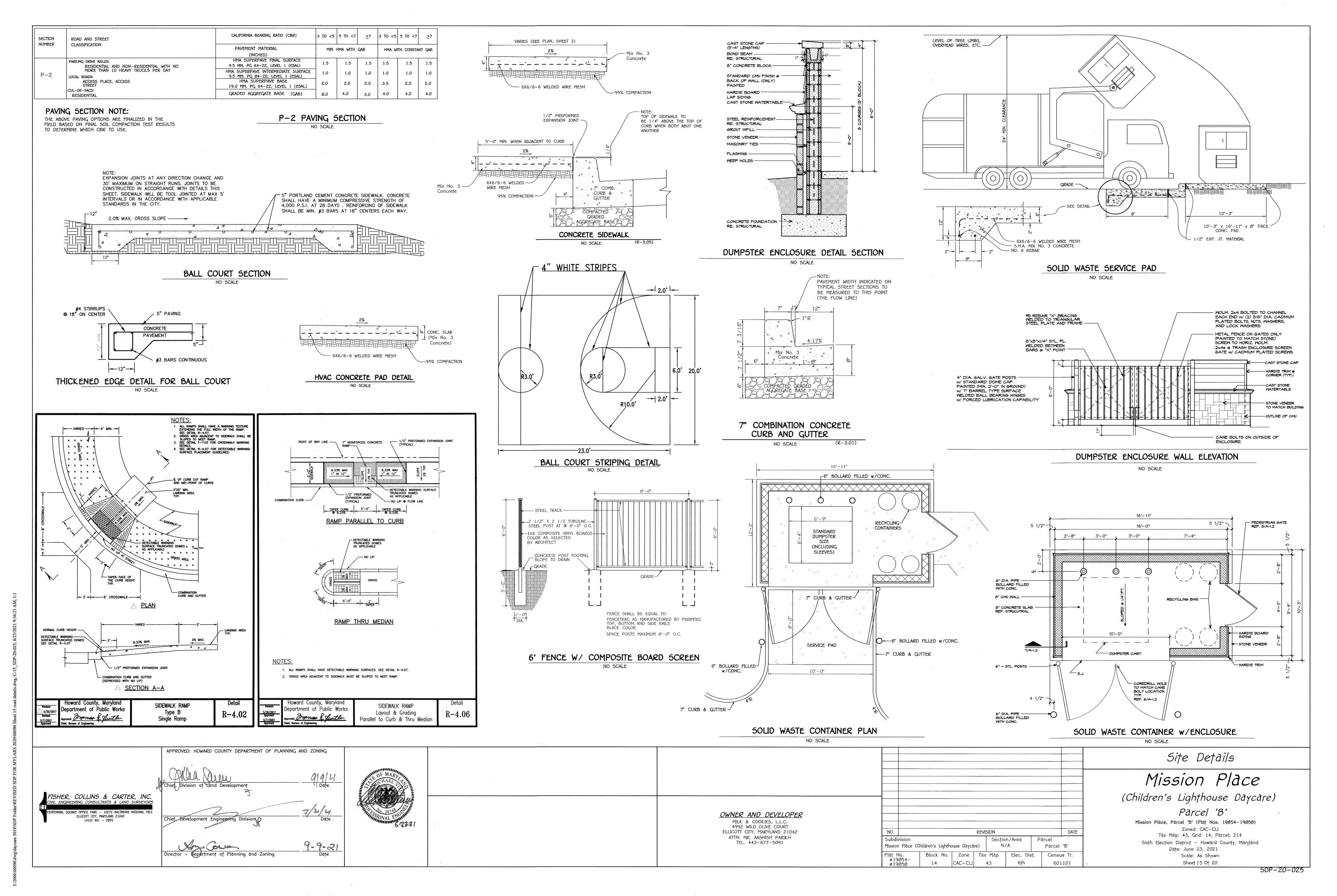


I:\2006\06096\dwg\daycare 2019\SDP Folder\REVISED SDP FOR MYLARS 2020\06096

50P-20-025







Existing 26' Private Common Mission Hill Place Use Easement (Plat Nos. 19854 Thru 19858) 19854 Thry 19858)-Existing 20' Public Water & Utility Easement (Plat Nos. 19854 Thr PARTIE C PROP. STOP SIGN Management Easement AFRICA FLACE BULDABLE PAROEL 19858) A B AND C FERT NOS. 19854 THRU 19858 ZOMED: QAQ+QU Curb & Gutter - 236- PHAYERDUNIT ARE --- 234 -- 6-07 HIGH WROUGHT IRON FENCE AND GATES AT PERIMETER (TYP) TYPICAL AT PLAYGROUND 230 ---228-----228-/--x---x---x---x---x 8, B.R.L 29,75 + 29,50 + HEND WALL #4 CONCRETE SLA Ex. Pool PRIVATE 6"W S CO.D -Existing 30' Public Water And Utility Easement (Plat Nos. 19854 Thru -Existing 26' Private Common Use Easement (Plat Nos. PVC 28.95 28.95 10.5. 19854 Thru 19858) 28.95 D.S. 28.95 D.S. FOC CONNECTION-Existing Unmittigated 65d8A KNOX BOX NOTE: SEE SHEET 2 CURB & GUTTER LOCATION FOR FLOOR PLAN AND DIMEMSIONS FOR DETAILS) Daycare Center F.F. = 229.00B.E. = 217.00FOR BASEME STA. 0+00 -12,518 5Q.FT **WALL #1** -DOWNSPOUT BEGIN WALL #4F STA. 0+44 LOCATION -------STA. 0+00 (BUTT TO WALL #4) **LEND WALL #1** STA, 1+00 STA. 0+00 (BUTT TO WALL #1) PORCH EL. 228.95 N.88 STA. 1+46 STA. 0+00 STA. 1+00 75.00' L=140.02' _____ **WALL #2** 2 Ex. 24" RCP Vehicular Ingress/Egress Restricted (S.H.A. Plat Nos. 55114, 55115 & 55116) (Right-Of-Way Varies, Intermediate Arterial 219+0215+00216+00 218+00 EX. TELEPHONE -----21 WALL LOCATION PLAN 1" = 30' APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING **OWNER AND DEVELOPER** 7/2/2 **MISSION ROAD INVESTORS, LLC** CHIEF, DEVELOPMENT ENGINEERING DIVISION \ DATE C/O THE DOLBEN CO. INC. **ENGINEERING ASSOCIATES** 150 PRESIDENTIAL WAY, SUITE 220 10975 Guilford Road, Suite A Annapolis Junction, Maryland WOBURN, MAINE 01801-1121 (410) 880-4788 WWW.HCEA.COM Fax: (410) 880-4098 7-9-21 **PROPERTY ADDRESS** 19722-A 8150 MISSION ROAD DIRECTOR - DEPARTMENT OF PLANNING AND ZONING

HM

RWS

SPECIFICATIONS MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

1.01 DESCRIPTION

PART 2: PRODUCTS

- A. WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTION OF A MODULAR RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN, AND DIMENSIONS SHOWN ON THE PLANS
- B. WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT DRAINAGE FILL AND BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.
- C. WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION, AND LENGTHS DESIGNATED ON THE CONSTRUCTION

1.02 DELIVERY, STORAGE AND HANDLING

- A. CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAS BEEN RECEIVED.
- B. CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOB SITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.

2.01 MODULAR CONCRETE RETAINING WALL UNITS

A. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS:

FACE COLOR - COLOR MAY BE SPECIFIED BY THE OWNER

FACE FINISH - SCULPTURED ROCK FACE IN ANGULAR TRI-PLANER OR FLAT CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.

BOND CONFIGURATION - RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT VERTICALLY ADJACENT UNITS, IN BOTH STRAIGHT AND CURVED ALIGNMENTS.

EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET UNDER DIFFUSED LIGHTING.

3. MODULAR CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS

C. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH APPROPRIATE REFERENCES:

COMPRESSIVE STRENGTH = 3000 PSI MINIMUM; ABSORPTION = 8% MAXIMUM (6% IN NORTHERN STATES) FOR STANDARD WEIGHT AGGREGATES; DIMENSIONAL TOLERANCES = ±1/8" FROM NOMINAL UNIT

DIMENSIONS NOT INCLUDING ROUGH SPLIT FACE, ±1/16"

UNIT HEIGHT - TOP AND BOTTOM PLANES; UNIT SIZE - 8" (H) X 18" (W) X 12" (D) MINIMUM;

UNIT WEIGHT - 75 LBS/UNIT MINIMUM FOR STANDARD WEIGHT AGGREGATES;

INTER-UNIT SHEAR STRENGTH - 1000 PLF MINIMUM AT 2 PSI NORMAL PRESSURE; AT 2 PSI NORMAL FORCE. GEOGRID/UNIT PEAK CONNECTION STRENGTH - 1000 PLF

D. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING CONSTRUCTABILITY REQUIREMENTS: (IF

APPLICABLE)

VERTICAL SETBACK = 1/8"± PER COURSE (NEAR VERTICAL)

OR 1"+ PER COURSE PER THE DESIGN; ALIGNMENT AND

GRID POSITIONING MECHANISM - FIBERGLASS PINS, TWO

PER UNIT MINIMUM;

MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE - 1/2 INCH.

2.02 SHEAR CONNECTORS (IF APPLICABLE)

A. SHEAR CONNECTORS SHALL BE 1/2 INCH DIAMETER
THERMOSET ISOPTHALIC POLYESTER RESIN-PROTRUDED
FIBERGLASS REINFORCEMENT RODS OR EQUIVALENT TO
PROVIDE CONNECTION BETWEEN VERTICALLY AND
HORIZONTALLY ADJACENT UNITS. STRENGTH OF SHEAR
CONNECTORS BETWEEN VERTICAL ADJACENT UNITS
SHALL BE APPLICABLE OVER A DESIGN TEMPERATURE OF
10 DEGREES F TO + 100 DEGREES F. B. SHEAR
CONNECTORS SHALL BE CAPABLE OF HOLDING THE
GEOGRID IN THE PROPER DESIGN POSITION DURING GRID
PRE-TENSIONING AND BACKFILLING

2.03 BASE LEVELING PAD MATERIAL

 MATERIAL SHALL CONSIST OF A COMPACTED #57 CRUSHED STONE BASE AS SHOWN ON THE CONSTRUCTION DRAWINGS.

2.04 UNIT DRAINAGE FILL

- A. UNIT DRAINAGE FILL SHALL CONSIST OF #57CRUSHED STONE
- 2.05 REINFORCED BACKFILL

A. REINFORCED BACKFILL SHALL BE TYPE SM, FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422 AND MEET OTHER PROPERTIES SHOWN ON THE PLAN:

	SIEVE SIZE	PERCENT PASSING					
	2 INCH	100-75					
	3/4 INCH	100-75					
	NO. 40	0-60					
	NO. 200	0-35					
PLA	STICITY INDEX (PI) <	10 AND LIQUID LIMIT <35 PER ASTM					

B. MATERIAL CAN BE SITE EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET. UNSUITABLE SOILS FOR BACKFILL (HIGH PLASTIC CLAYS OR ORGANIC SOILS)

SHALL NOT BE USED IN THE REINFORCED SOIL MASS.

2.06 GEOGRID SOIL REINFORCEMENT

A. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEOGRIDS MANUFACTURED SPECIFICALLY FOR SOIL

REINFORCEMENT APPLICATIONS AND SHALL BE MANUFACTURED FROM HIGH TENACITY POLYESTER YARN.

2.07 DRAINAGE PIPE

A. THE DRAINAGE PIPE SHALL BE PERFORATED CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH ASTM

PART 3 EXECUTION

3.01 EXCAVATION

A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE EXCAVATION PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS.

3.02 BASE LEVELING PAD

- A. LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS, TO A MINIMUM THICKNESS OF 6 INCHES AND EXTEND LATERALLY A MINIMUM OF 6" IN FRONT AND BEHIND THE MODULAR WALL UNIT.
- B. LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE LIMITS

3.03 MODULAR UNIT INSTALLATION

- A. FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE. ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND INSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.
- B. PLACE THE FRONT OF UNITS SIDE-BY-SIDE. DO NOT LEAVE GAPS BETWEEN ADJACENT UNITS. LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- C. INSTALL SHEAR/CONNECTING DEVICES PER MANUFACTURER'S RECOMMENDATIONS.
- D. PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT BACKFILL SOIL BEHIND DRAINAGE FILL. FOLLOW WALL ERECTION AND DRAINAGE FILL CLOSELY WITH STRUCTURE BACKFILL.
- E. MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO UNIT DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED THREE COURSES.
- 3.04 STRUCTURAL GEOGRID INSTALLATION
 A. GEOGRID SHALL BE ORIENTED WITH THE HIGHEST
- STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT.

CONTINUOUS FILTER

- B. GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS, AND ELEVATIONS SHOWN ON THE CONSTRUCTION DESIGN DRAWINGS OR AS DIRECTED BY THE ENGINEER.
- C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE MODULAR WALL UNITS. PLACE THE NEXT COURSE OF MODULAR CONCRETE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT, AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.

D. GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPLICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS BETWEEN ADJACENT

PIECES OF GEOGRID ARE NOT PERMITTED.

3.05 REINFORCED BACKFILL PLACEMENT

MODULAR CONCRETE UNIT.

- A. REINFORCED BACKFILL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID AND INSTALLATION DAMAGE
- B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES WHERE HAND COMPACTION IS USED, OR 8 10 INCHES WHERE HEAVY COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY AS REQUIRED.
- DENSITY AS REQUIRED.

 C. REINFORCED BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND
- SHALL BE + 3% TO 3% OF OPTIMUM.

 D. ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET FROM THE TAIL OF THE
- E. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.
- F. RUBBER TIRED EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE
- G. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION

3.06 CAP INSTALLATION

A. CAP UNITS SHALL BE GLUED TO UNDERLYING UNITS WITH AN ALL-WEATHER ADHESIVE RECOMMENDED BY THE MANUFACTURER.

3.07 FIELD QUALITY CONTROL

- A. THE OWNER SHALL ENGAGE INSPECTION AND TESTING SERVICES, INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION.
- B. AS A MINIMUM, QUALITY ASSURANCE TESTING SHOULD INCLUDE FOUNDATION SOIL INSPECTION, SOIL AND BACKFILL TESTING, VERIFICATION OF DESIGN PARAMETERS, AND OBSERVATION OF CONSTRUCTION FOR GENERAL COMPLIANCE WITH DESIGN DRAWINGS AND SPECIFICATIONS.

HOWARD COUNTY NOTES:

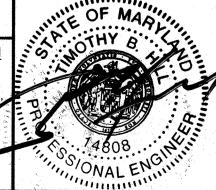
- 1. NO TREES SHALL BE PLANTED WITHIN 10 FEET OF THE TOP OF THE RETAINING WALL.
- RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN
- ONE SOIL BORING SHALL BE REQUIRED EVERY ONE HUNDRED FEET ALONG THE ENTIRE LENGTH OF THE WALL COPIES OF ALL BORING REPORTS SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION.
- 4. THE REQUIRED BEARING PRESSURE BENEATH THE WALL SYSTEM SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION MUST BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO START OF CONSTRUCTION. THE REQUIRED BEARING TEST SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399.
- 5. THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH 8" LIFT MUST BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.
- 6. WALLS SHALL NOT BE CONSTRUCTED ON UNCERTIFIED FILL MATERIALS.
- WALLS SHALL NOT BE CONSTRUCTED WITHIN A HOWARD COUNTY RIGHT-OF-WAY OR EASEMENT.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY ME,
AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE

LICENSE NO. <u>14808</u>, EXPIRATION DATE: <u>02/27/22</u>

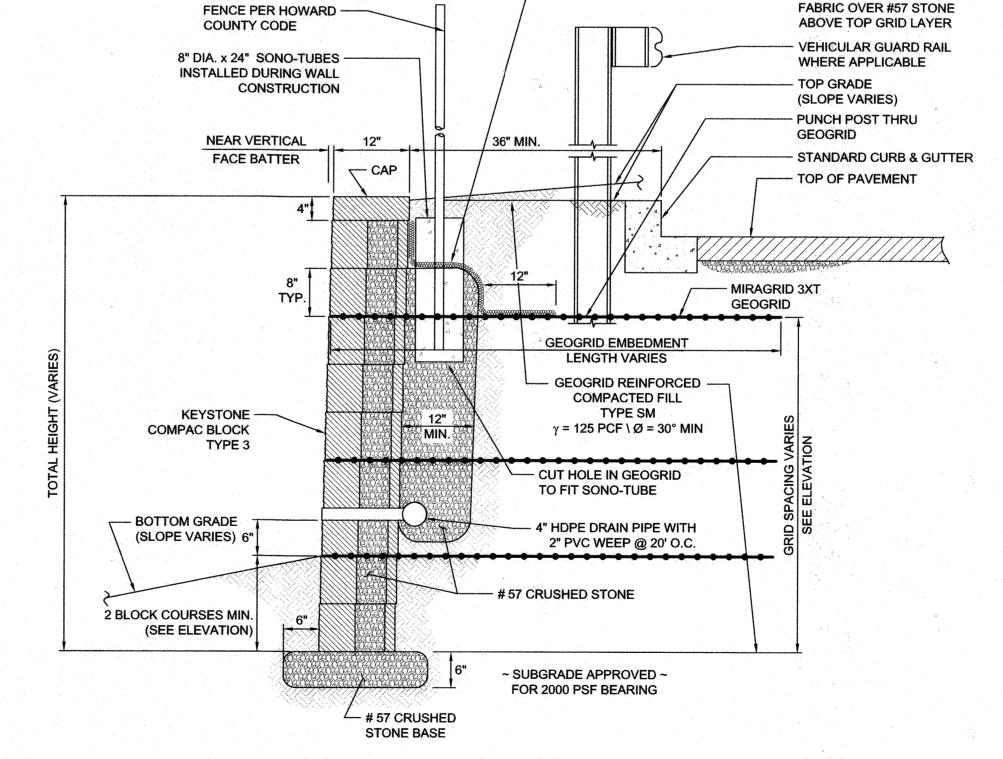
LAWS OF THE STATE OF MARY



CHILDREN'S LIGHTHOUSE DAYCARE

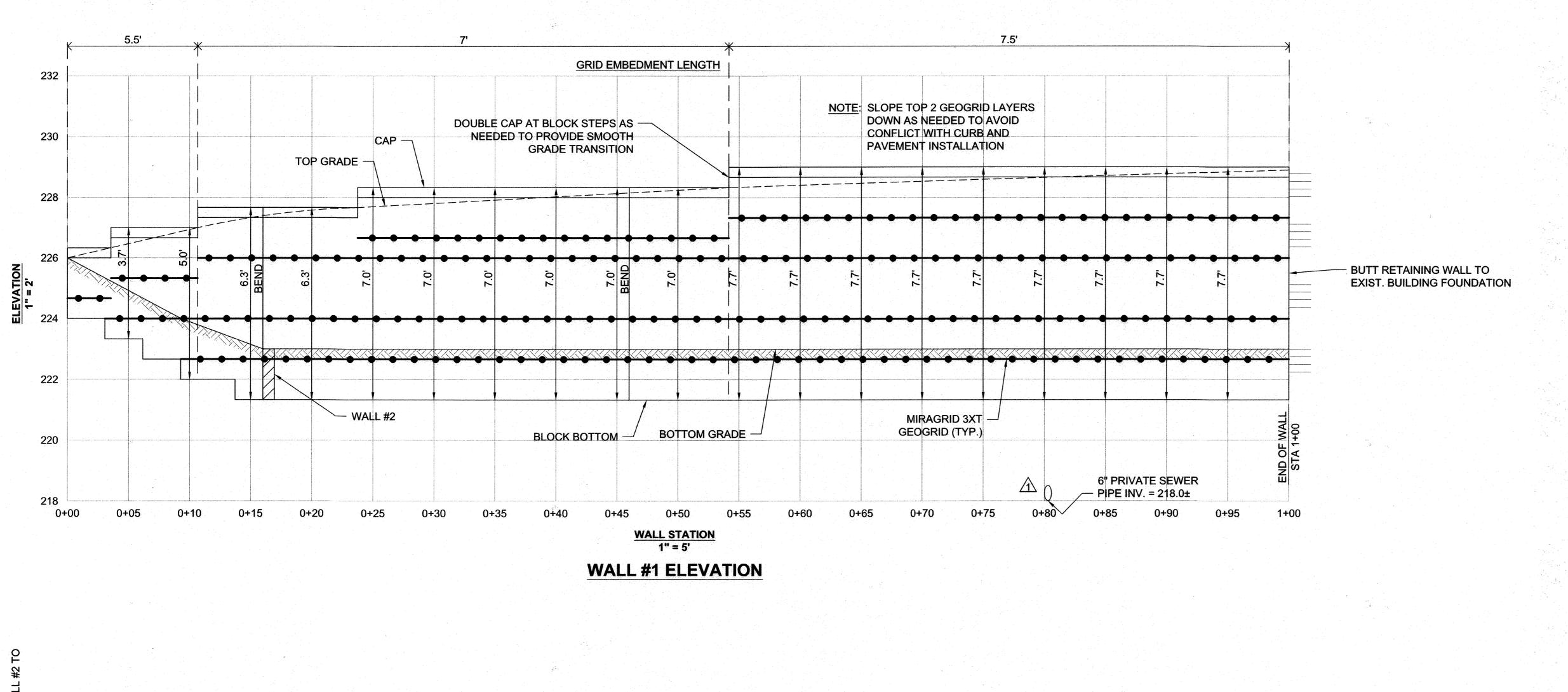
PARCEL 'B' ZONED: CAC-CU

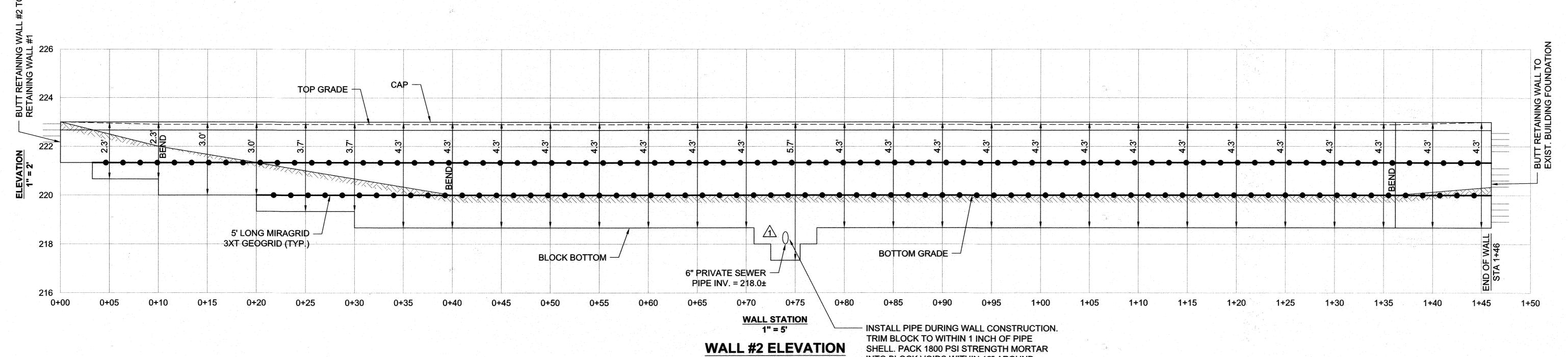
ZONED: CAC-CU
TAX MAP: 43, GRID: 14, PARCEL: 214
SIXTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
DATE: DECEMBER 2, 2019
SCALE: AS SHOWN
SHEET 16 OF 20



TYPICAL WALL SECTION N.T.S.

REV. NO.	DESCRIPTION	DATE		
A	NEW WALL PLAN	11/18/20		





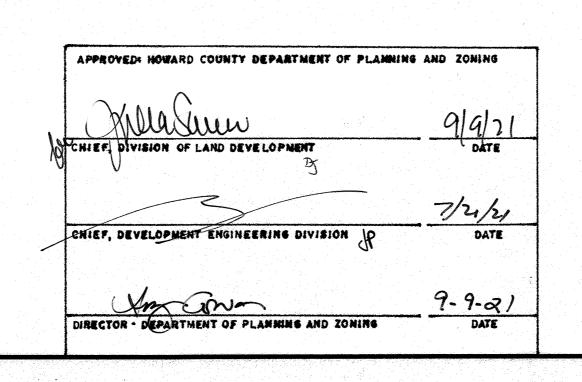
INTO BLOCK VOIDS WITHIN 12" AROUND PERIMETER OF PIPE FOR FULL BLOCK DEPTH.

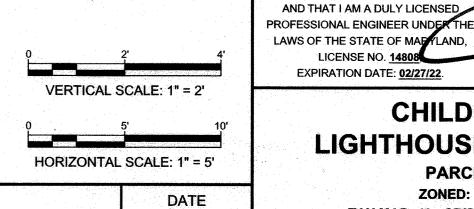
REV. NO.



OWNER AND DEVELOPER

MISSION ROAD INVESTORS, LLC C/O THE DOLBEN CO. INC. 150 PRESIDENTIAL WAY, SUITE 220 **WOBURN, MAINE 01801-1121** PROPERTY ADDRESS 8150 MISSION ROAD





11/18/20

DESCRIPTION

6" PRIVATE SEWER PIPE CROSSING ADDED

CHILDREN'S LIGHTHOUSE DAYCARE

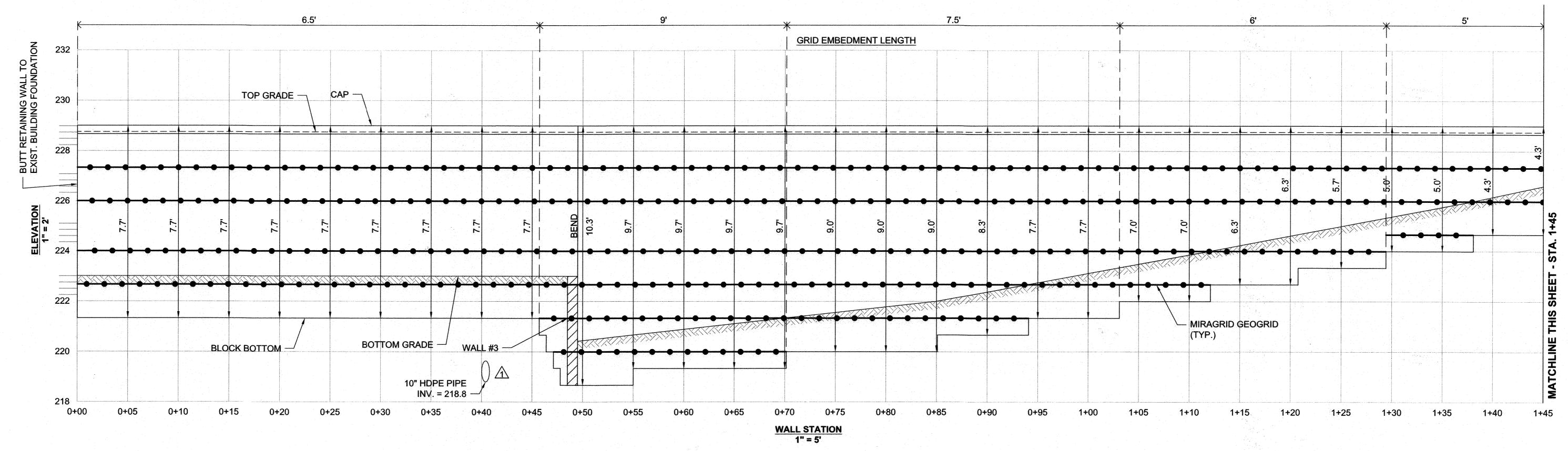
PROFESSIONAL CERTIFICATION

LICENSE NO. 14808

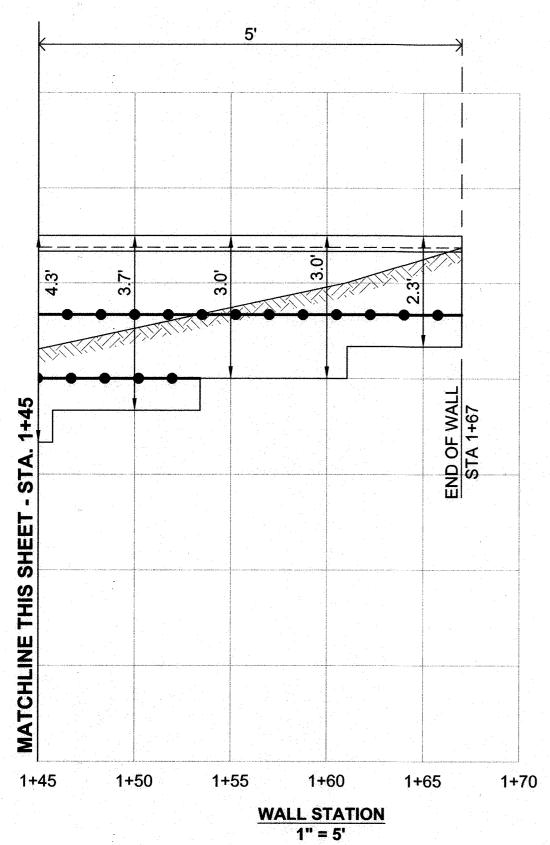
PARCEL 'B' ZONED: CAC-CU TAX MAP: 43, GRID: 14, PARCEL: 214 SIXTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND DATE: DECEMBER 2, 2019 SCALE: AS SHOWN

SHEET 17 OF 20

SDP - 20 - 025



WALL #4 ELEVATION



5' LONG MIRAGRID 3XT -CAP -TOP GRADE GEOGRID (TYP.) 218 BOTTOM GRADE BLOCK BOTTOM -10" HDPE PIPE -INV. = 218.3 0+25 - INSTALL PIPE DURING WALL CONSTRUCTION. TRIM BLOCK TO WITHIN 1 INCH OF PIPE 1" = 5' SHELL. PACK 1800 PSI STRENGTH MORTAR **WALL #3 ELEVATION** INTO BLOCK VOIDS WITHIN 12" AROUND PERIMETER OF PIPE FOR FULL BLOCK DEPTH

9 9 21 DATE

7/20/21

9-9-21

VERTICAL SCALE: 1" = 2' HORIZONTAL SCALE: 1" = 5'

WALL #4 ELEVATION

APPROVED. HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING DEPARTMENT OF PLANNING AND ZONING

PROFESSIONAL CERTIFICATION WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER T LICENSE NO. 14808,

EXPIRATION DATE: 02/27/22. CHILDREN'S

LIGHTHOUSE DAYCARE PARCEL 'B' **ZONED: CAC-CU** TAX MAP: 43, GRID: 14, PARCEL: 214 SIXTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND DATE: DECEMBER 2, 2019 SCALE: AS SHOWN SHEET IS OF 20

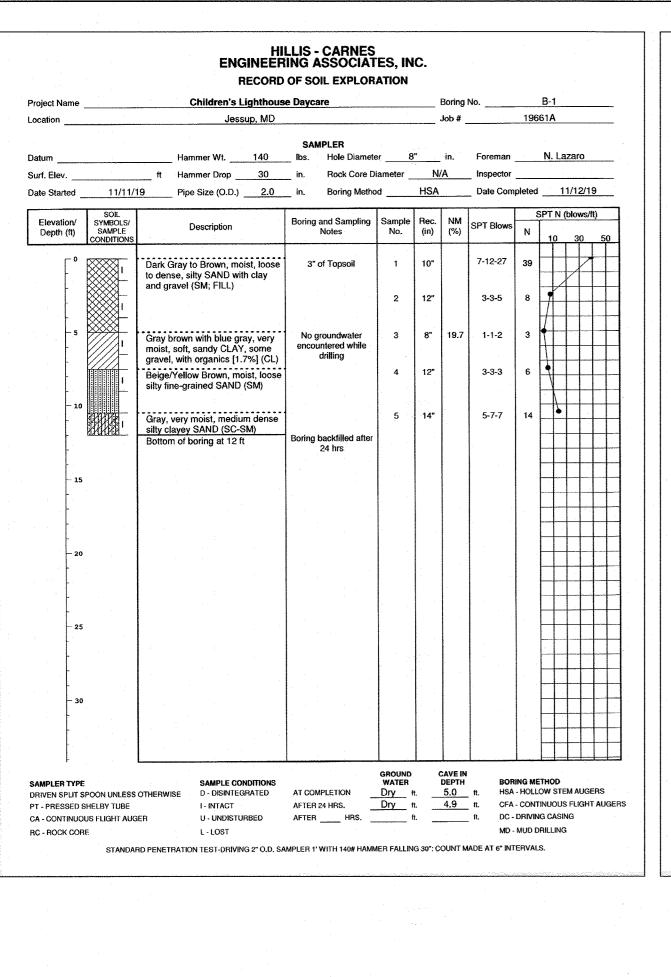
HILLIS-CARNES **ENGINEERING ASSOCIATES** (410) 880-4788 WWW.HCEA.COM Fax: (410) 880-4098 19722-A

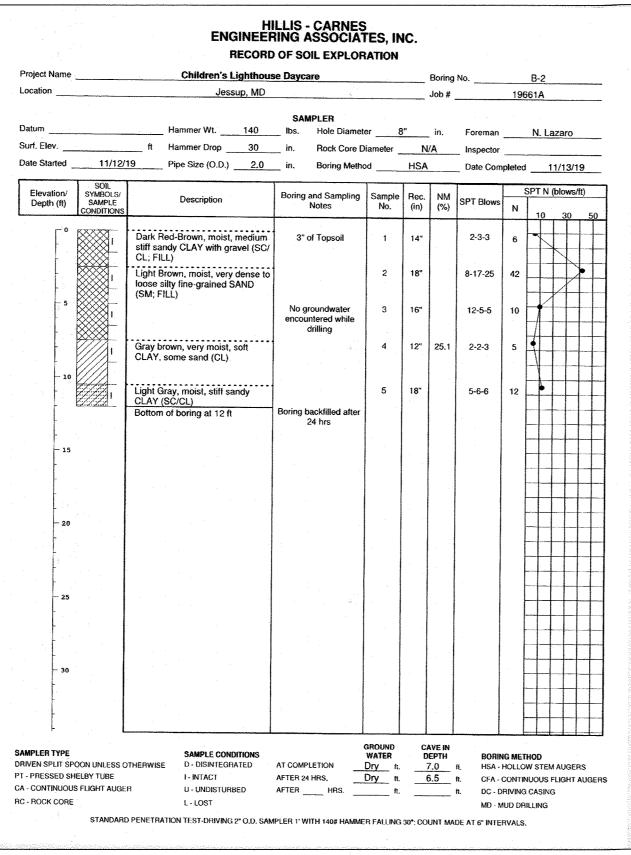
RWS

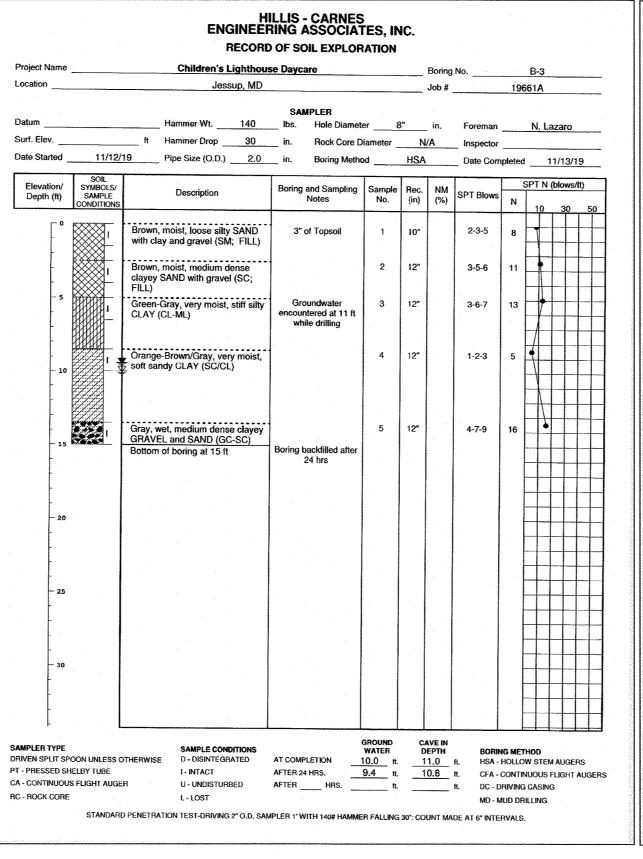
OWNER AND DEVELOPER

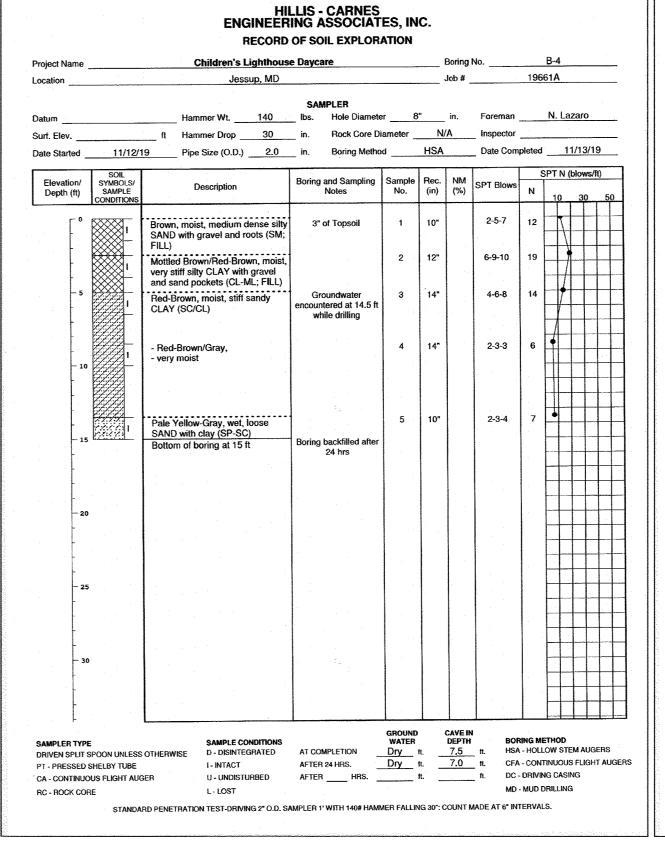
MISSION ROAD INVESTORS, LLC C/O THE DOLBEN CO. INC. 150 PRESIDENTIAL WAY, SUITE 220 **WOBURN, MAINE 01801-1121 PROPERTY ADDRESS** 8150 MISSION ROAD

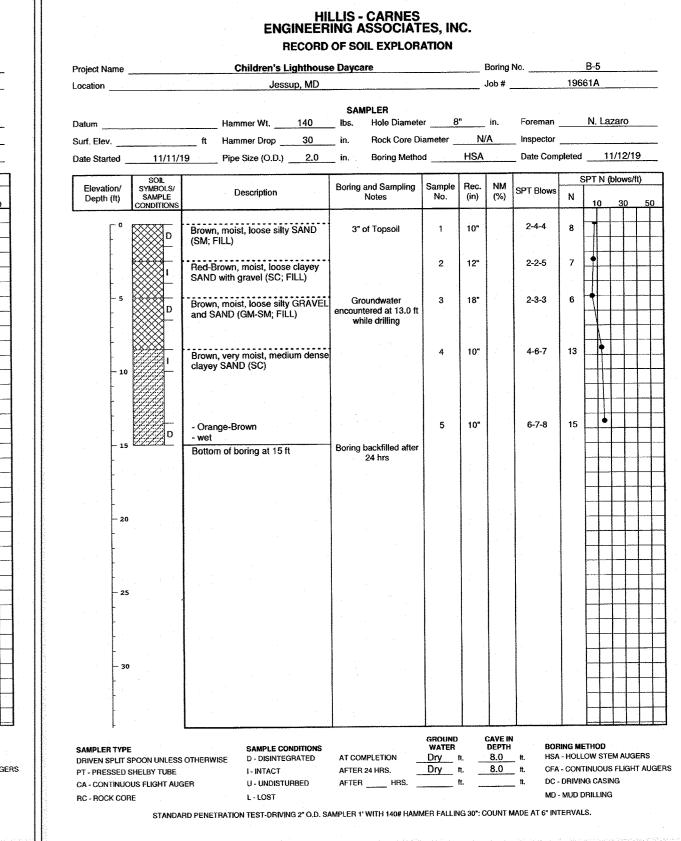
DESCRIPTION REV. NO. DATE **WALL #3 ELEVATION REVISED** 11/18/20 10" HDPE PIPE CROSSING ADDED

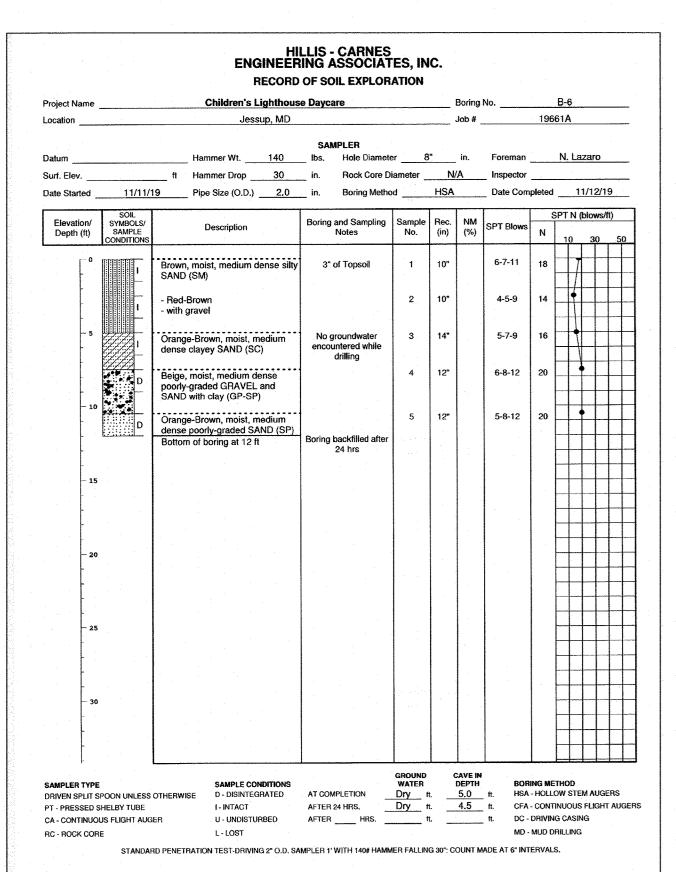


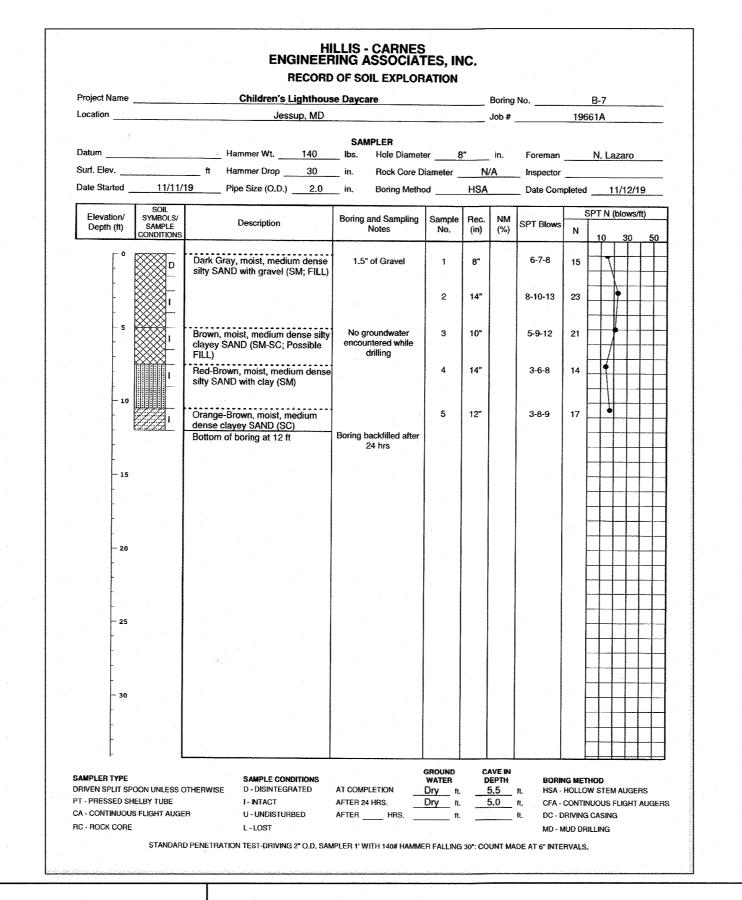


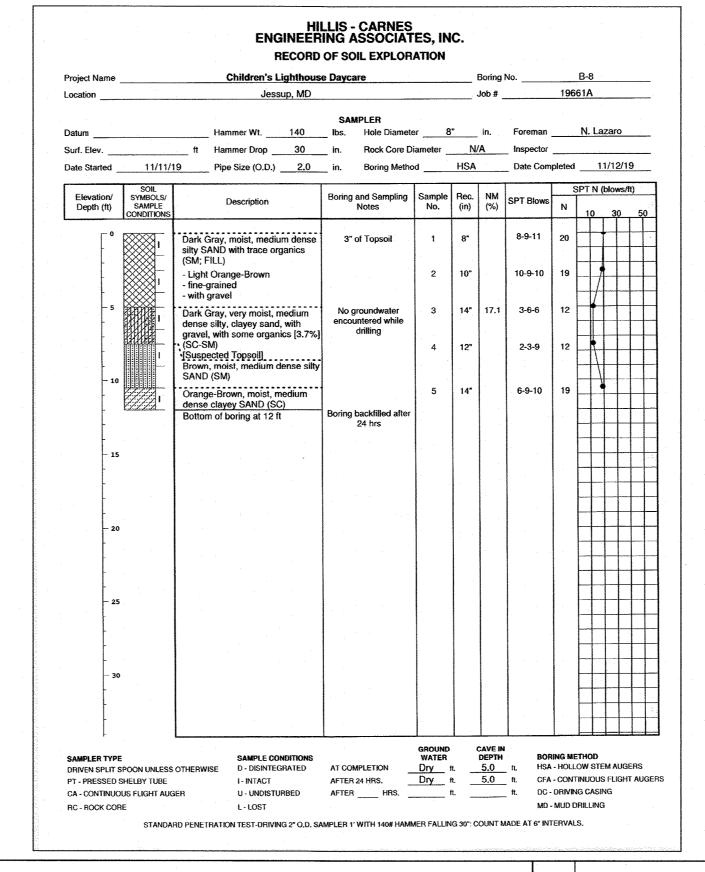


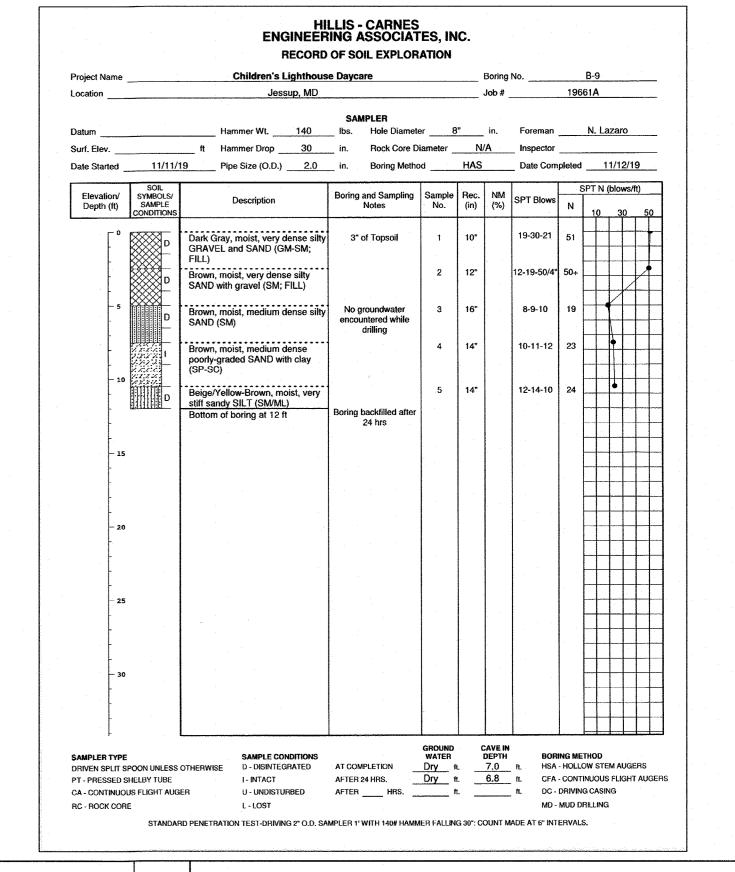




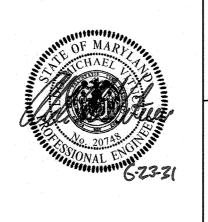








	APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING					
W	Chief, Division of Land Development	9/9/21 Date				
FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 8 8 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE	Mark Sulanda	8.23.2				
ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855	Chief, Development Engineering Division	Dațe				
	Director - Department of Planning and Zoning	9-9-21 Date				



OWNER AND DEVELOPER MILK & COOKIES, L.L.C. 4992 WILD OLIVE COURT ELLICOTT CITY MARYLAND 21042		1	1						1	ł
OWNER AND DEVELOPER MILK & COOKIES, L.L.C. 4992 WILD OLIVE COURT				-						
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MILK & COOKIES, L.L.C. 4992 WILD OLIVE COURT	OLINES AND DEVELOPES									
4992 WILD OLIVE COURT										
FLUCOTT CITY MARYIAND 21042 NO PEVISION DEVISION DATE	4992 WILD OLIVE COURT					· .				
	ELLICOTT CITY, MARYLAND 21042	NO. REVISION					N .		DATE	[E
ATTN: MR. AASHISH PARIKH TEL. 443-677-5091 Subdivision Section/Area Parcel										
Mission Place (Children's Lighthouse Daycare) N/A Parcel 'B'		Mission Place (Children's Lighthouse Daycare) N/A Parcel						'B'	·	
Plat No. Block No. Zone Tax Map Elec. Dist. Census Tr.		Plat 1	No.	Block No.	Zone	Tax Map	Elec. Dis	t. Censi	ıs Tr.	·
#19854— #19858 14 CAC-CLI 43 6th 601101		#19	1858	14	CAC-CLI	43	6†h	60	1101	

Mission Place

Soil Boring Logs

(Children's Lighthouse Daycare) Parcel 'B'

Mission Place, Parcel 'B' (Plat Nos. 19854-19858) Zoned: CAC-CLI Tax Map: 43, Grid: 14, Parcel: 214 Sixth Election District - Howard County, Maryland Date: June 23, 2021 Scale: As Shown

Sheet 19 Of 20

50P-20-025

