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SITE ANALYSIS DATA

B. Total area of R/W dedication: O Ac. ±

G. Total area of wetlands buffer: O Ac. ±

I. Total area of floodplain buffers: O Ac. +

M. There are no erodible soils on this site.

K. Total area of slopes 15%-25%: 0.00 Ac± (0 SF)

L. Total area of slopes 25% and greater: 0.00 Ac± (0 SF)

First floor 4585 SF Second floor 5430 Sf

Assembly Area = 8,500 SF. Preschool Area = 5,125 SF

8,500 SF @ 10/1,000 = 85 spaces, 5,125 SF@ 3/1000 = 16 spaces

C. Total area of site: 3.73 Ac. ±

D. Limit of Disturbance: 3.66 Ac. ±

F. Total area of wetlands: O Ac. ±

J. Total area of forest: 0.00 Ac +

N. Existing use: Religious Facility

Q. Local community: Simpsonville

B. Existing parking spaces = 153

Front lot = 20 spaces

Rear lot = 131 spaces

C. Proposed parking spaces = 151 spaces

(Including 8 handicapped spaces)

R. Building height: 25'-8 12" 5. Proposed 2 story addition:

2. Parking spaces required:

P. Zoned: R-20

E. Lot coverage: 0.39 Ac. ± (10%)

H. Total area of floodplain: O Ac. +

A. Total project area: 3.99 Ac+ (On-site 3.73 Ac., Offsite SWM 0.26 Ac.)

O. Proposed use: A new 2 story multi-purpose addition (Religious and Preschool Facility)

A. 10 spaces per 1,000 SF in the Assembly Area, 3 spaces per 1000 SF in the Preschool Area

85+16=101 spaces

	LEGEND				
SYMBOL	DESCRIPTION				
402	EXISTING CONTOUR 2' INTERVAL				
400	EXISTING CONTOUR 10' INTERVAL				
	EXISTING SAN. SEWER LINE				
D	EXISTING STORM DRAIN LINE				
	EXISTING WATER LINE				
VGE	EXISTING UNDERGROUND ELECTRIC				
ANNERSON CHE SESSEES SESSEES	EXISTING OVERHEAD ELECTRIC				
	EXISTING GAS LINE				
X	EXISTING FENCE				
402	PROPOSED CONTOUR 2' INTERVAL				
400	PROPOSED CONTOUR 10' INTERVA				
+ 409.75	SPOT ELEVATION				
	PROPOSED CONCRETE WALK				
	PROPOSED MACADAM PAVING				
~~~~~	EXISTING TREELINE				
~~~~~	PROPOSED TREELINE				
L.O.D.	LIMIT OF DISTURBANCE				
18" RCCP	PROPOSED STORMDRAIN				
	DRAINAGE AREA LINE				
55F	SUPER SILT FENCE				
	AREA TO BE DEMOLISHED				
ТР	TREE PROTECTION				
	EXISTING MACADAM PAVING				
	EXISTING CONCRETE WALK				
1	laren anta a ammanant inter				

-- B.R.L. BUILDING RESTRICTION LINE

Project: Christ Memorial Church

A. Total tract area (on-site 3.73 ac. + off-site 0.26 ac.)

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

Date: August 24, 2016

. Area within 100 Year Floodplain

E. Afforestation Threshold

F. Conservation Threshold

EXISTING FOREST COVER:

BREAK EVEN POINT:

Area of existing impervious surface

ARA MDR IDA HDR MPD CIA

G. Existing forest cover (excluding floodplain)

K. Clearing permitted without mitigation

M. Total area of forest to be Retained in FCE

PROPOSED FOREST CLEARING

PLANTING REQUIREMENTS

R. Total reforestation required

S. Total afforestation required

H. Area of forest above afforestation threshold

I. Area of forest above conservation threshold

J. Forest retention above threshold with no mitigation

Total area of forest to be Cleared or Retained Outside FCE

N. Reforestation for clearing above Conservation Threshold

included in the gross area for forest conservation calculations.

* 0.26 acre of disturbance for the off-site SWM facility on adjacent Parcel 54 was

P. Reforestation for clearing below Conservation Threshold

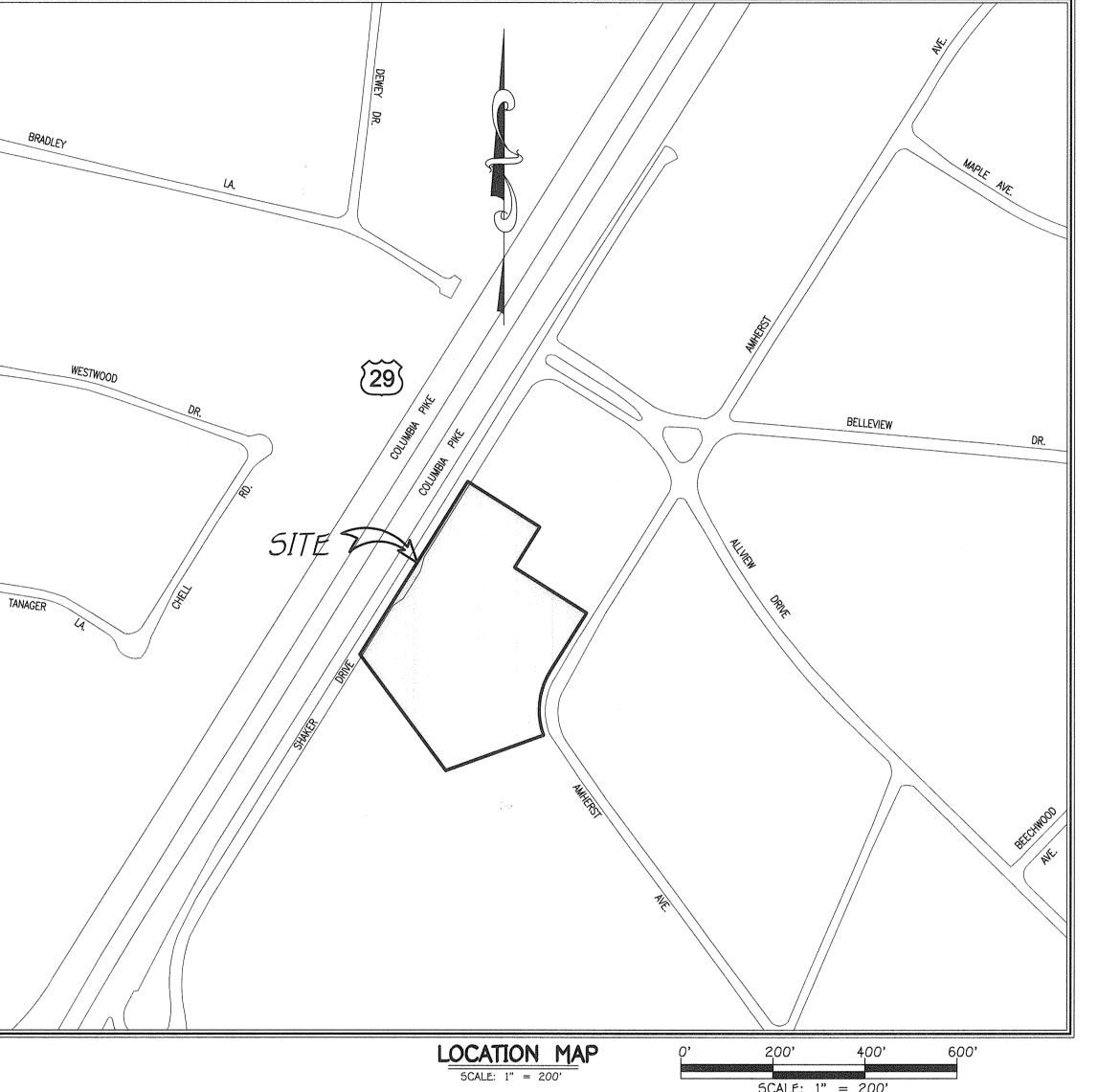
Credit for retention above conservation threshold

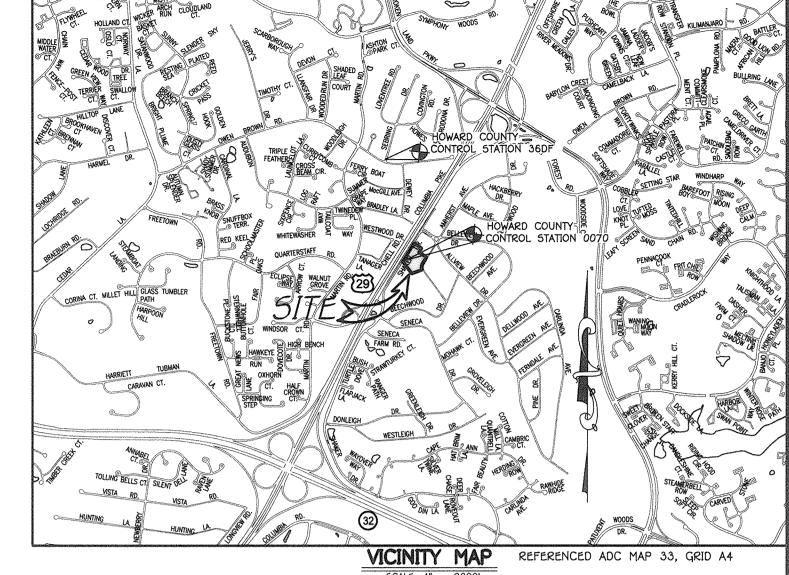
Total reforestation and afforestation required

NET TRACT AREA

SITE DEVELOPMENT PLAN CHRIST MEMORIAL PRESBYTERIAN CHURCH

TAX MAP No.: 36, GRID No: 13, PARCEL No.: 237 SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND





GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF

. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY DIGGING AND EXCAVATION WORK.

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 APPLICATION. 5. PROJECT BACKGROUND: SUBDIVISION NAME: CHRIST MEMORIAL PRESBYTERIAN CHURCH, ALLVIEW ESTATES, SECTION THREE, BLOCK 'A', LOT 22

ELECTION DISTRICT: SIXTH GROSS SITE AREA: 3.73 AC. ±

NUMBER OF BUILDABLE PARCELS: 1 AREA OF PUBLIC ROADWAY TO BE DEDICATED: O AC. ±

AREA OF FLOODPLAIN: 0 AC. # AREA OF 25% OR GREATER SLOPES: 0.0 AC. ± NET AREA OF TRACT: 3.73 AC.±

6. BOUNDARY OUTLINE BASED ON FIELD RUN SURVEY PERFORMED BY FISHER COLLINS AND CARTER, INC. DATED MAY 2016

10. SUBJECT PROPERTY ZONED R-20 IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING REGULATIONS.

13. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.

14. EXISTING WATER IS PUBLIC (CONTRACT NO. 806-W) AND SEWER IS PUBLIC (CONTRACT NO. 365-5).

19. SOILS INFORMATION TAKEN FROM HOWARD SCD WEBSITE PAGE 18 OF 29.

20. ANY DAMAGE TO COUNTY AND OR STATE OWNED RIGHT-OF-WAY TO BE CORRECTED AT THE CONTRACTOR'S EXPENSE. 21. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL

22. ALL DRIVEWAYS AND PARKING ARE PRIVATELY OWNED AND MAINTAINED.

23. GUTTER PAN OF CURBS SHALL BE PITCHED TO CONFORM TO THE ADJACENT DRAINAGE PATTERNS OF THE ADJOINING PAVING FOR VEHICULAR USE.

24. ALL PROPOSED RAMPS SHALL BE IN ACCORDANCE WITH CURRENT A.D.A. STANDARDS ACCESSIBILITY GUIDELINES. MAXIMUM SIDEWALK CROSS SLOPE SHALL BE TWO PERCENT. PROVIDE A (5'X5') FIVE FOOT BY FIVE FOOT LEVEL LANDING (MAX. SLOPE 2%) AT THE TOP AND BOTTOM OF ALL RAMPS AND BUILDING ENTRANCES AND EXITS. HANDRAILS

SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE WITH SECTION 505 OF THE A.D.A STANDARDS ACCESSIBILITY GUIDELINES.

25. ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIAL BETWEEN ITEMS

26. THE EXISTING UTILITIES SHOWN HEREON WERE DERIVED FROM AVAILABLE PUBLIC RECORDS. THE CONTRACTOR MUST DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS AND CONNECTION POINTS PRIOR TO CONSTRUCTION TO VERIFY THE EXACT LOCATION.

27. TRENCH BEDDING FOR STORM DRAINS STRUCTURES SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD G2.01 CLASS C BEDDING UNLESS OTHERWISE NOTED. 26. ALL OUTSIDE LIGHTING SHALL COMPLY WITH ZONING REGULATIONS SECTION 134.0 OF THE ZONING REGULATIONS WHICH REQUIRES LIGHTS TO BE INSTALLED TO DIRECT/REFLECT

LIGHT DOWNWARDS AND INWARDS ON THE SITE AND AWAY FROM ALL PUBLIC STREETS AND RESIDENTIAL AREAS. "LIGHT TRESPASS ONTO ADJOINING RESIDENTIAL PROPERTIES 29. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK

PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE THE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

30. A MARYLAND DEPARTMENT OF THE ENVIRONMENT NATIONAL POLLUTANT DISCHARGE NOI PERMIT WILL BE REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS ON THE JOB SITE OUTLINED IN WWW.EPA.GOV/NPDES/STORMWATER/LATLONG. 31. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAMS, THEIR REQUIRED BUFFERS, UNLESS THE ACTIVITIES ARE CONSIDERED NECESSARY OR WAIVERS ARE APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING. ACTIVITIES PROPOSED IN WETLANDS. STREAMS. THEIR

BUFFERS, AS PART OF THE APPROVED STREAM AND WETLAND RESTORATION AND HABITAT MANAGEMENT PLANS ARE CONSIDERED NECESSARY BY THE DEPARTMENT OF PLANNING AND ZONING. 32. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED

BETWEEN ANY STREETLIGHT AND ANY TREE. · 33. STORMWATER MANAGEMENT HAS BEEN PROVIDED WITH ESD TO THE MEP, SPECIFICALLY TWO (2) MICRO-BIORETENTION FACILITIES AND EXISTING PAVEMENT REMOVAL WILL ADDRESS THE STORMWATER MANAGEMENT FOR THIS SITE. ALL ON-SITE STORM DRAINAGE AND STORMWATER MANAGEMENT FACILITIES WILL BE

OWNED AND MAINTAINED BY CHRIST MEMORIAL PRESBYTERIAN CHURCH. 34. ALL PROPOSED ON-SITE STORM DRAINS UNDER THIS SITE DEVELOPMENT PLAN LABELED PRIVATE WILL BE MAINTAINED BY THE CHRIST MEMORIAL PRESBYTERIAN

35. LANDSCAPING HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.

FINANCIAL SURETY IN THE AMOUNT OF \$19,500.00 FOR 39 SHADE TREES, 20 EVERGREEN TREES AND 120 SHRUBS HAS BEEN POSTED WITH THE

36. THIS PLAN IS SUBJECT TO BOARD OF APPEALS CASE BA 16-022C&V:

VARIANCE #1 - PETITIONER IS REQUESTING A REDUCTION IN THE 20-FOOT USE SETBACK FROM A COLLECTOR STREET ROW IMPOSED BY 108.0.D.4.a.(2) TO 6.8 FEET FOR A DRIVE AISLE ON THE WEST SIDE OF THE PROPERTY. THE PROPOSED SITE DESIGN IS INTENDED TO REDISTRIBUTE TRAFFIC/PARKING FROM THE ENTRANCE ON AMHERST AVENUE TO SHAKER DRIVE.

VARIANCE #2 - PETITIONER IS REQUESTING A REDUCTION IN THE 20-FOOT USE SETBACK FROM A PUBLIC STREET ROW IMPOSED BY 108.0.D.4.b.(2) TO 2.5 FEET FOR PARKING IN THE EAST LOT. ALTHOUGH THIS PARKING SPACE AREA IS LEGALLY NONCOMPLYING TO THE ZONING REGULATIONS, AS THE 1961 ZONING REGULATIONS DID NOT REQUIRE PARKING USEBACKS, THE VARIANCE WOULD BRING THE PARKING INTO CONFORMANCE. THIS DISTANCE HAS BEEN INCREASED TO 5.0 FEET FOR LANDSCAPING CLEARANCE.

APPROVAL GRANTED BY THE HEARING EXAMINER ON 2/23/17.





FOREST CONSERVATION WORKSHEET

(percentage) 2

Break-Even Point

3.99

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2018."

2/20/18	KEVIDED OTTE ANALYGIO DATA	
4-5-18	REVISED SITE DATA	
DATE	DESCRIPTION	
APPROVE	REVISION BLOCK D: DEPARTMENT OF PLANNING AND ZONING	
Vall	DE DEPARTMENT OF PLANNING AND ZONING	9-6-17
1/all		9-6-17 Date
Nall Director	DE DEPARTMENT OF PLANNING AND ZONING	

PREPARED FOR CHRIST MEMORIAL PRESBYTERIAN CHURCH 6410 AMHERST AVENUE COLUMBIA, MARYLAND 21046 ATTENTION: REV. SCOTT W. HOFFMAN 410-997-8011

		A	ADDRESS	CHART				
-	LOT/PARCEL# STREET ADDRESS							
	L. 22/P. 237 6410 AMHERST AVENUE							
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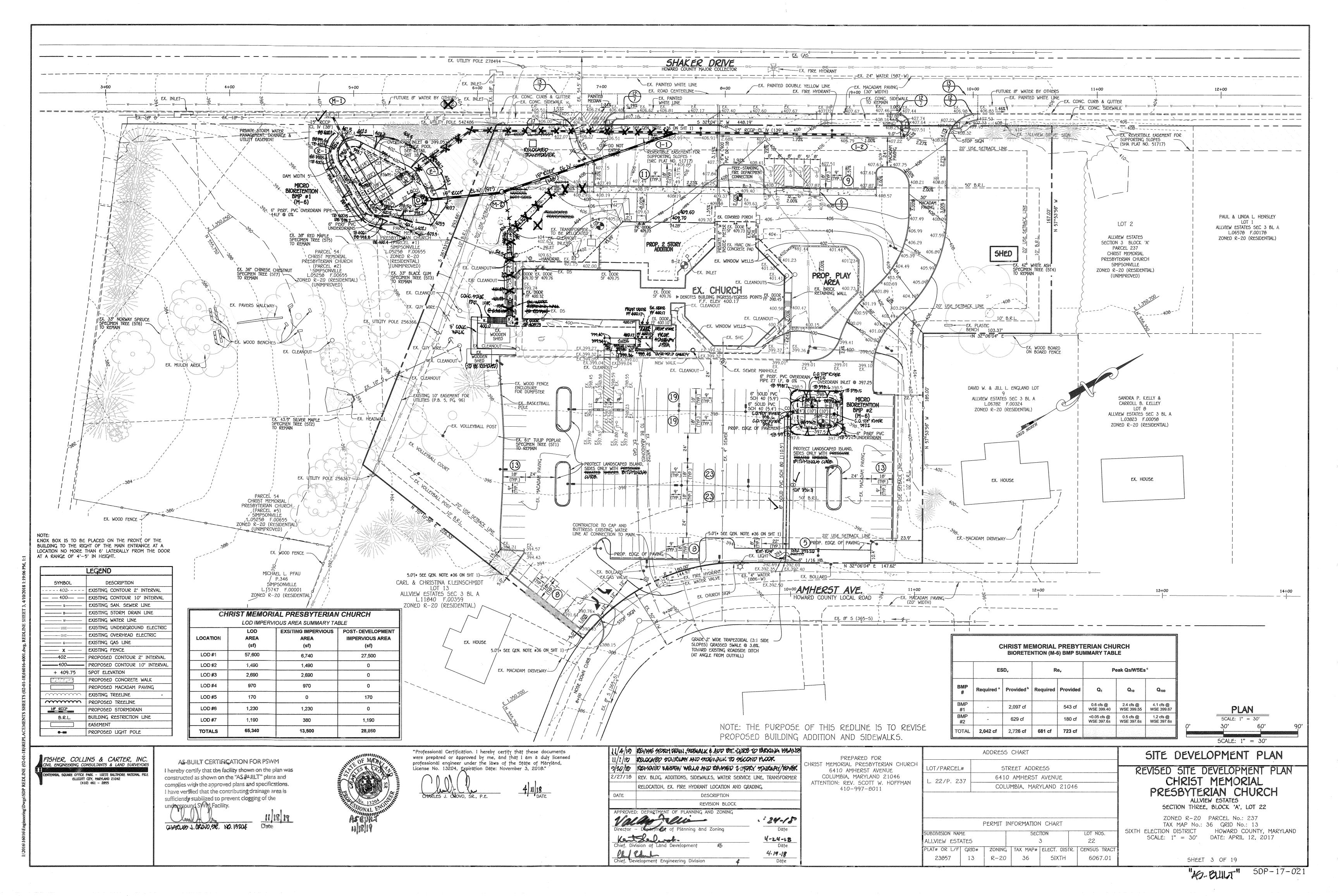
CHRIST MEMORIAL PRESBYTERIAN CHURCH ALLVIEW ESTATES SECTION THREE, BLOCK 'A', LOT 22

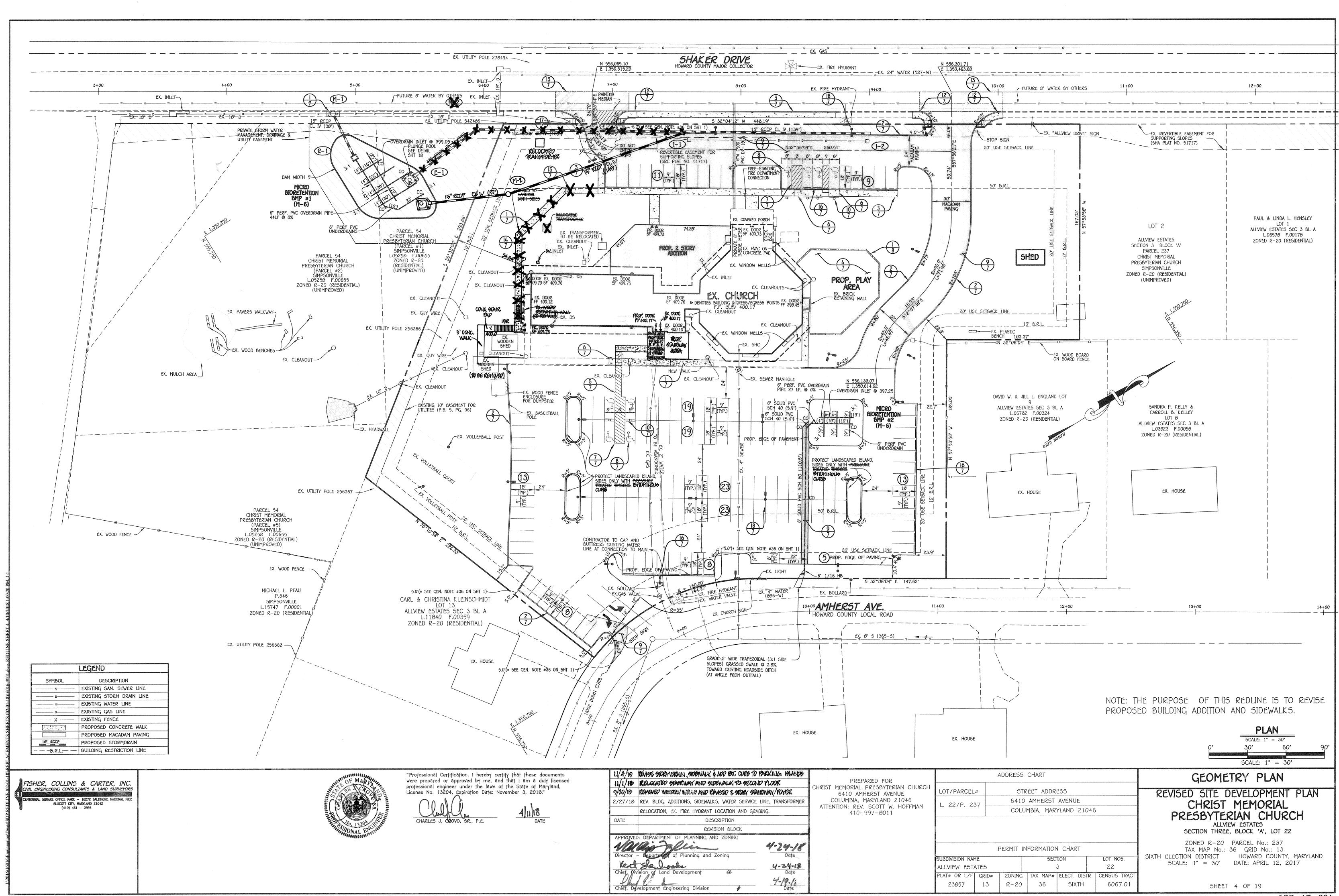
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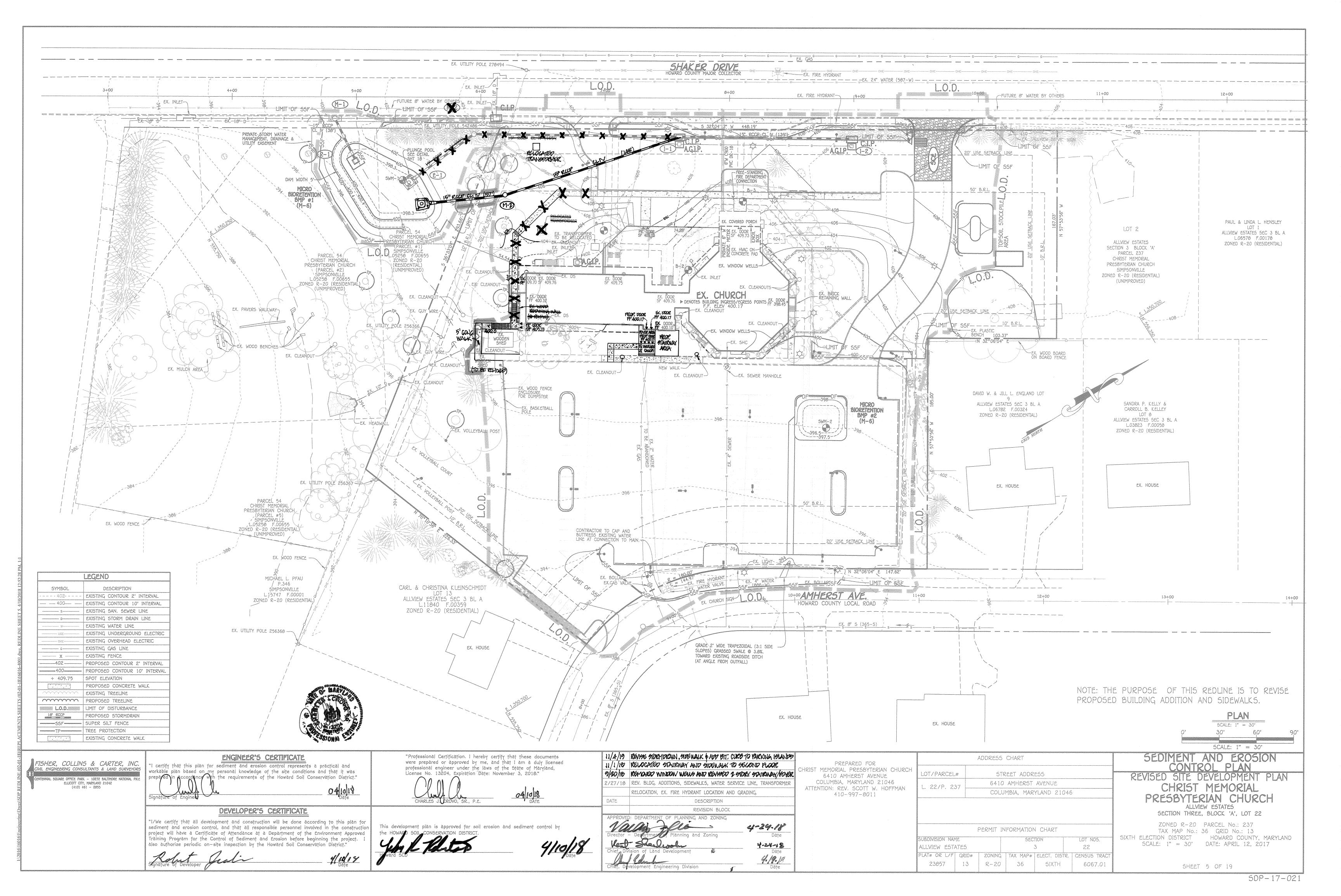
ZONED R-20 PARCEL No.: 237 TAX MAP No.: 36 GRID No.: 13 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 12, 2017

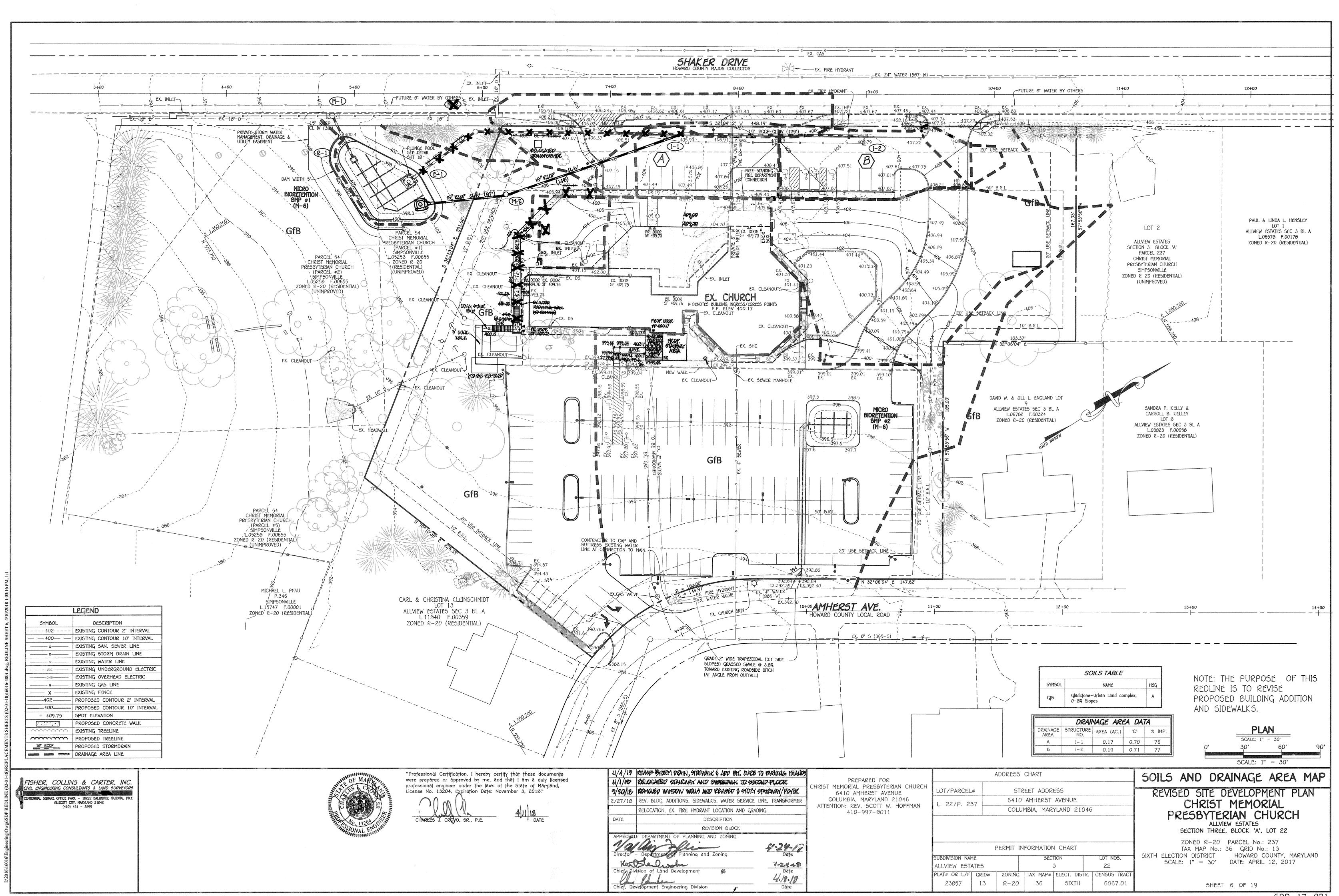
SHEET 1 OF 19

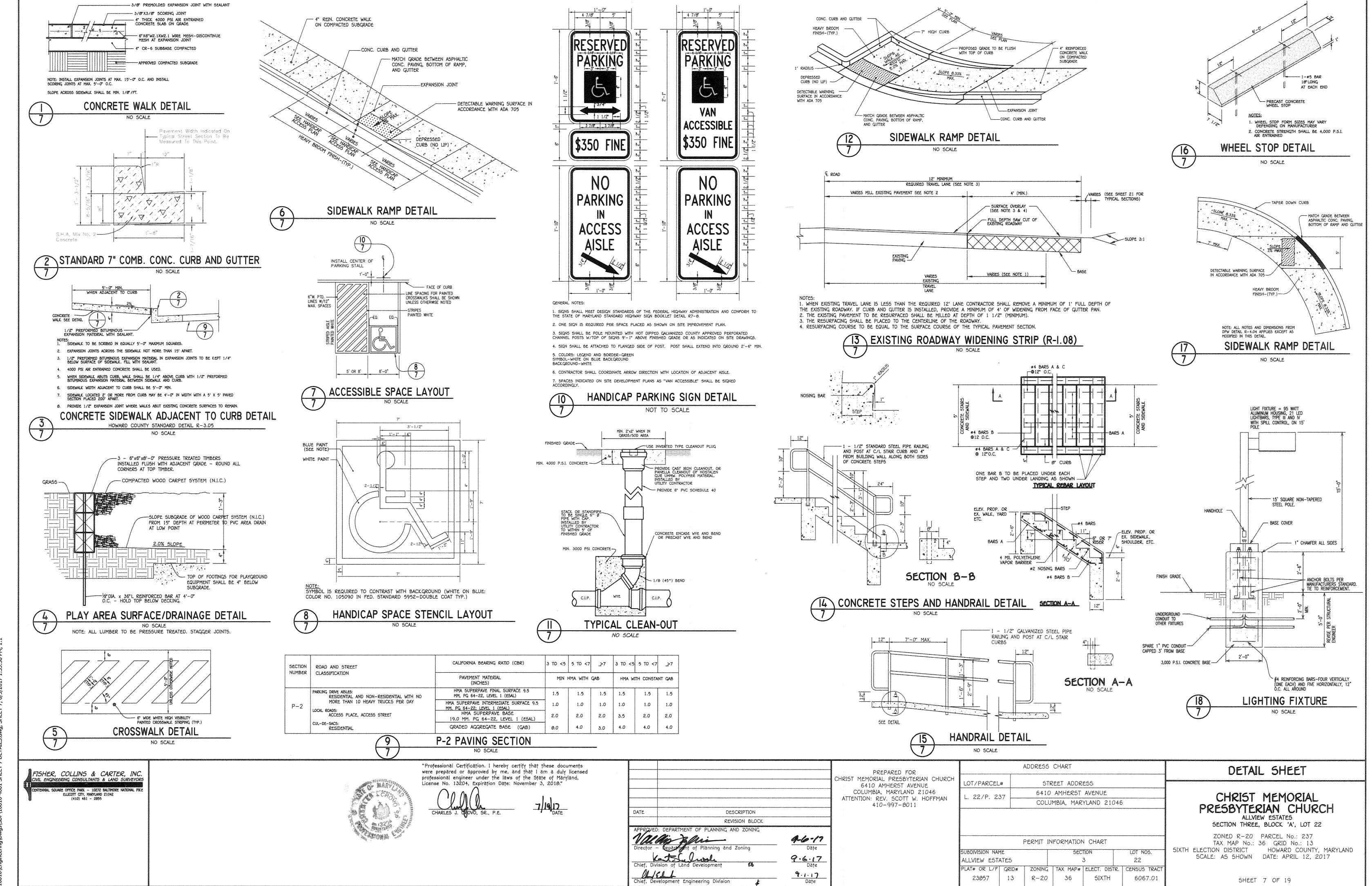
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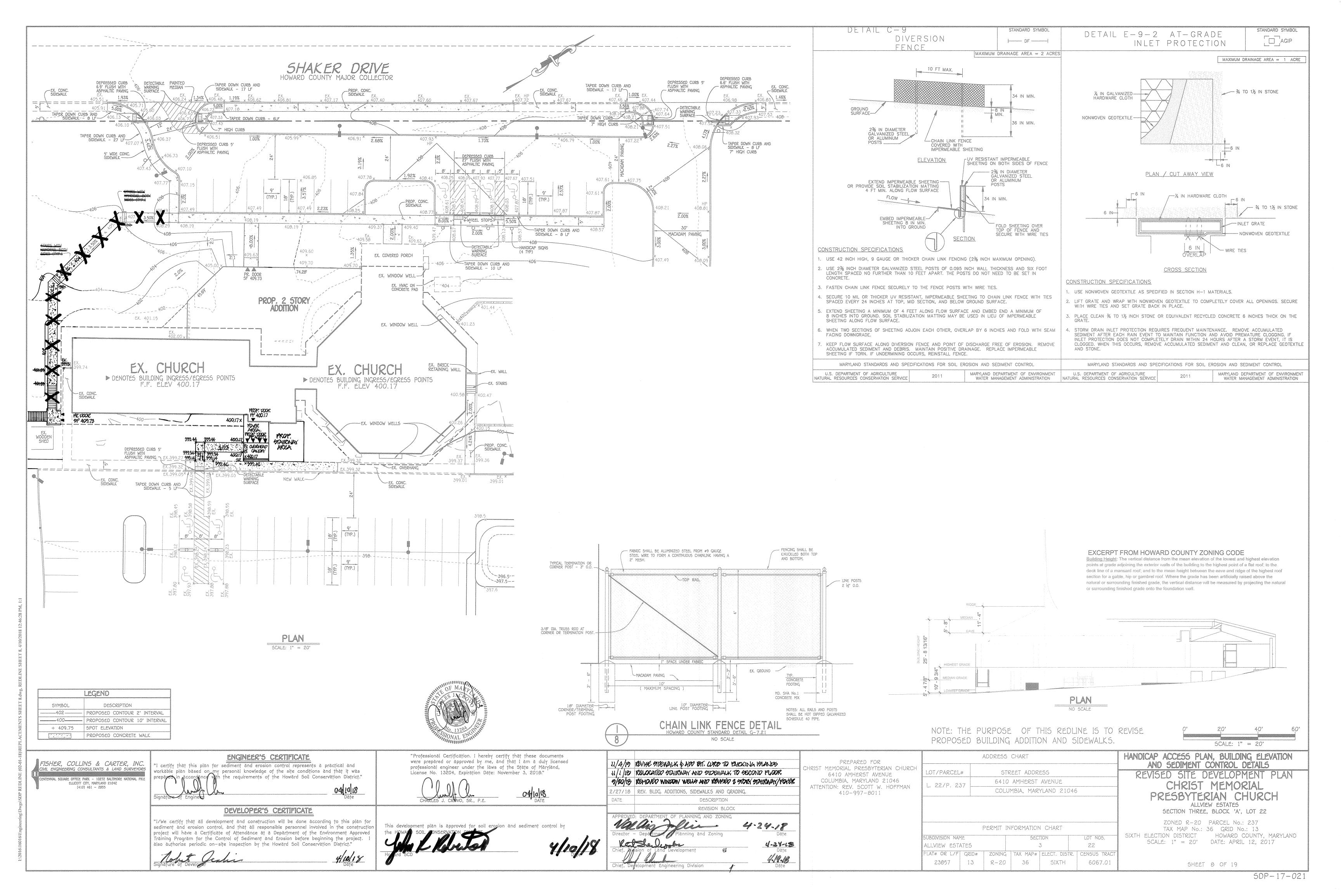






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50P-17-021



2. TURFGRASS MIXTURES

8. 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.

A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

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

1. 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

RAPIO ESTABLISHMENT 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 TOTAL MIXTURE BY WEIGHT. 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 (TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE

IV KENTUCKY BLUECRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUECRASS 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 CEPTIFIED MATERIAL CEPTIFIED MATERIAL IS THE SEST CHAPANTER OF CULTIVAR PURITY. THE CEPTIFICATION 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: 58, 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

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 MOWING OF GRASSES WILL POSE

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 SITES.

PERMANENT SEEDING SUMMARY

		NE (FROM FIGURE (FROM TABLE B.3		-	 - -	FERTILIZER	2 RATE (10-	LIME RATE	
NO.	5PECIES	APPLICATION RATE (LB/AC)	-	EEDING DATES	 SEEDING DEPTHS	N	P2 05	K ₂ 0	
8	TALL FESCUE	100		1-MAY 1-OCT.	1/4-1/2 IN.	45 LBS. PER ACRE (1.0 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	2 TON5/AC (90 LB/ 1000 SF)
			<u></u>						

TEMPORARY SEEDING NOTES (8-4-4)

OAT5

112

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE

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 8.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.I 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

much alone	AS PRESCRIBED IN S	TEMPORARY SEE		iam until the neat of	eeving Jeasun.
	CONE (FROM FIGURE RE (FROM TABLE B.)		and and the second seco	FERTILIZER RATE (10-20-20)	LIME RATE
5PtClt5	APPLICATION RATE (LB/AC)	DATES	SEEDING DEPTHS		
		7 /4 5 / 6		[-17.1

436 LB/AC

1000 SF)

2 TONS/AC

1000 SF)

STANDARD STABILIZATION NOTE FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

8/15 - 10/15

SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED

AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES,

STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING (8-4-3)

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

APPLICATION

1. SPECIFICATIONS A. 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

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

B. 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. C. 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 KEEP INOCULANT AS COOK AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN D, SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL 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. 1. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.I. PERMANENT SEEDING TABLE B.3. OR SITE-SPECIFIC SEEDING SUMMARIES. 2. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER, APPLY HALF THE SEEDING RATE IN DIPPOTION ROLL THE SEPDED AREA WITH WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT. B. 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

2.APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN DIRECTION. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). I. 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 O (PHOSPHORUS), 200 POUNDS PER ACRE: K O (POTASSIUM), 200 POUNDS PER ACRE

2. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING. 3. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

4. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

1. MULCH MATERIALS (IN ORDER OF PREFERENCE) 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 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. 1. 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. 2. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

3. 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. 4. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL 5. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMPTERS. 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.

A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A 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. C. 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 MUICH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MUICH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON HE SIZE OF THE AREA AND EROSION HAZARD: 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. 2. 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. 3. 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

4. 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 FEET LONG.

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA (8-4-8)

DEFINITION

THE MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL

PURPOSE TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR

EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERN

CONDITIONS WHERE PRACTICE APPLIES STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

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 8-3 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 SHEETING.

MAINTENANCE

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.

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). 410-313-1055 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 DISTURBANCE,

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. 8-4-4) AND MULCHING (SEC. 8-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SERDING DATES IF THE GROUND IS EROZEN, INCREMENTAL STABILIZATION (SEC. 8-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL STOCKPILES (SEC. 8-4-8) 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 CID.

5ITE ANALYSIS: 3.73 ACRES TOTAL AREA OF SITE: AREA DISTURBED: 3.7 ACRES AREA TO BE ROOFED OR PAVED: 2.3 ACRES AREA TO BE VEGETATIVELY STABILIZED: 1.4 ACRES 450 CU, YDS. TOTAL FILL 0 CU. YD5.

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

6. 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

EVIDENCE OF SEDIMENT DISCHARGES IDENTIFICATION OF PLAN DEFICIENCIES

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

 MONITORING/SAMPLING MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED

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 SHORTER. 10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR

TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF 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 SEDIMENT BASIN OR OTHER

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):

• USE I AND IP MARCH 1 - JUNE 15 • USE III AND IIIP OCTOBER 1 - APRIL 30 USE IV MARCH 1 - MAY 31

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.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. (1 DAY)

2. NOTIFY MISS UTILITY (1-000-257-7777) 40 HOURS BEFORE STARTING WORK. NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410-313-1055) 24 HOURS BEFORE STARTING WORK, AND NOTIFY THE BALTIMORE GAS ELECTRIC CO. (410-291-5739) FIVE (5) WORKING DAYS PRIOR TO STARTING WORK. (3 DAYS)

3. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER CONTROLS. (3 DAYS)

4. INSTALL ALL PERIMETER CONTROLS: STABILIZED CONSTRUCTION ENTRANCE (SCE) WITH WASH RACK AT ENTRANCE, SUPER SILT FENCE (SSF), TREE PROTECTION FENCE (TP) AND AT GRADE INLET PROTECTION (AGIP). (1 WEEK)

5. WITH PERMISSION OF THE SEC INSPECTOR, BEGIN SITE EARTHWORK INCLUDING BMP #1 (GRADING ONLY). (3 WEEKS)

6. BEGIN BUILDING CONSTRUCTION. (10 MONTHS)

7. INSTALL STORM DRAINS, CURB & GUTTER AND CURB INLET PROTECTION (CIP). (2 WEEKS)

6. CONSTRUCT WATER, SEWER AND OTHER UTILITIES. (2 WEEKS)

9. PAVE PARKING LOT. (1 WEEK)

10. FINE GRADE; INSTALL SIDEWALKS, LIGHTING, AND LANDSCAPING INCLUDING ROUGH GRADING BIORETENTION FACILITIES BMPS #1 AND #2 AND OUTFALL PIPES. DO NOT INSTALL PERFORATED UNDERDRAIN AND PLANTING SOIL AT THIS TIME. (2 WEEKS)

11. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE STANDARD STABILIZATION NOTES 'A' AND 'B' SHOWN ON THIS SHEET. (2

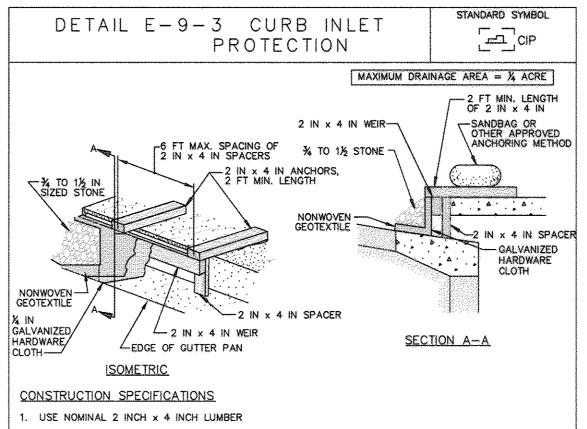
12. THOROUGHLY CLEAN (FLUSH) THE STORM DRAIN SYSTEM - NO SEDIMENT SHALL REMAIN IN THE PIPES DRAINING TO BMP #1. (1/2 13. WITH APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR, CONVERT BMP #1 INTO THE PERMANENT SWM FACILITY. THIS WORK

INCLUDES, REMOVING SEDIMENT, RE-GRADING TO DESIGN ELEVATIONS, INSTALL AND CONNECT UNDERDRAINS TO STRUCTURE R-1 AND STABILIZE BMP #1 WITH PERMANENT SEEDING. INSTALL BMP #1 LANDSCAPING. (2 WEEKS) 14. INSTALL BMP #2 OUTFALL PIPE AND REPAVE THE PARKING AREA WHERE THE OUTFALL PIPE WAS INSTALLED.

15. FOLLOWING SUCCESSFUL STABILIZATION (I.E., FULLY-ESTABLISHED VEGETATION OR PAVING) OF ALL DISTURBED AREAS, OBTAIN PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR TO REMOVE ALL REMAINING SEDIMENT & EROSION CONTROL

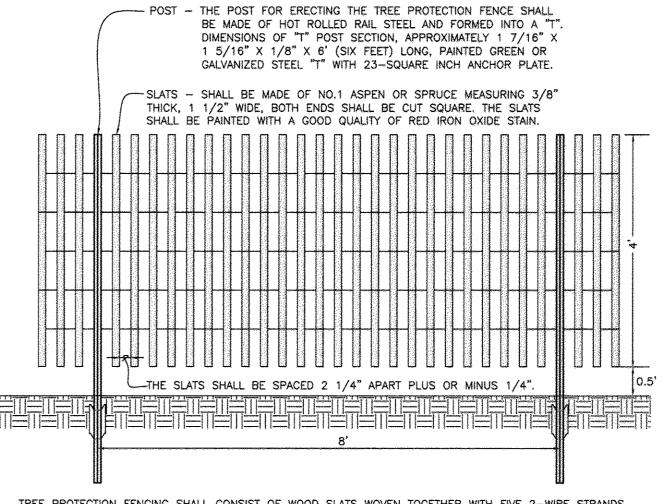
DEVICES AND THEN STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS WITH PERMANENT SEEDING. (1 WEEK)

SEQUENCE NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON AFTER EACH RAINFALL EVENT AND ON A DAILY BASIS. REMOVE SEDIMENT FROM THE SEDIMENT CONTROL DEVICES AS NOTED IN THE CONSTRUCTION SPECIFICATIONS ON THIS SHEET.



- 2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART). . ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF
- 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR EXTENDING IT 2 FEET REYOND THROAT ON EACH SIDE
- . PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR. HE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET
- LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 1/4 TO 11/2 INCH
- 3. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET
- O STORM DRAIN INLET PROTECTION REQUIRES EREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



TREE PROTECTION FENCING SHALL CONSIST OF WOOD SLATS WOVEN TOGETHER WITH FIVE 2-WIRE STRANDS OF 13 STEEL WIRE GAUGE GALVANIZED WIRE. NOT LESS THAN (2) THREE HUNDRED AND SIXTY (360) DEGREE TWISTS OF THE WIRE IN THE WEAVE BETWEEN THE SLATS.

TREE PROTECTION FENCE DETAIL DUST CONTROL

AND IMPROVE TRAFFIC SAFETY.

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS. <u>PURPOSE</u>
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS

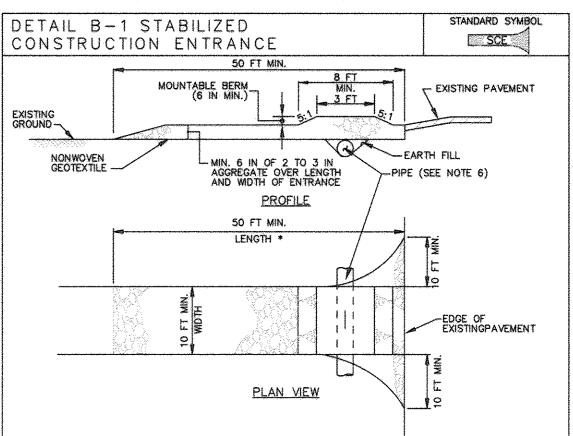
CONDITIONS WHERE PRACTICE APPLIES THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT

I. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY, MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT

2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER. 3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF THE SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT. 4. IRRIGATION – THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST.

REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW. 5. BARRIERS - SOLID BOARD FENCES SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALF, DIKES AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING, BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING. 6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

1. PERMENENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE. 2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING. 3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.



CONSTRUCTION SPECIFICATIONS

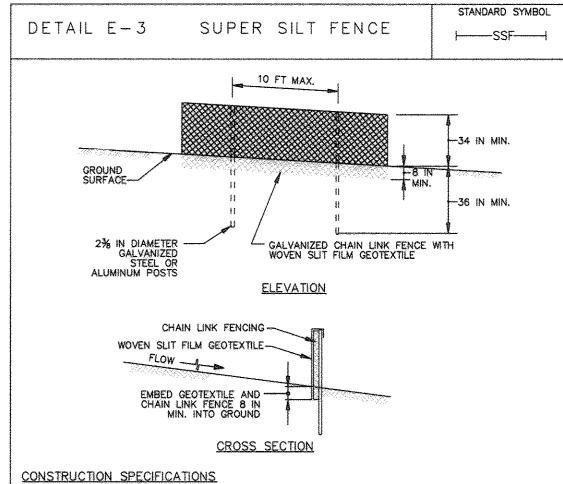
PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOTY USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE

MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT

PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE. AS SPECIFIED IN SECTION H-1 MATERIALS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS IMMEDIATELY REMOVE STONE AND YOR SEDIMENT SPILLED DROPPED OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



LOT NOS.

CENSUS TRAC

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22

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES,

FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

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

ENGINEER'S CERTIFICATE

certify that this plan for sediment and erosion control represents a practical and workable plan baged on my personal knowledge of the site conditions and that it was repared in accordance with the requirements of the Howard Soil Conservation District."

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.

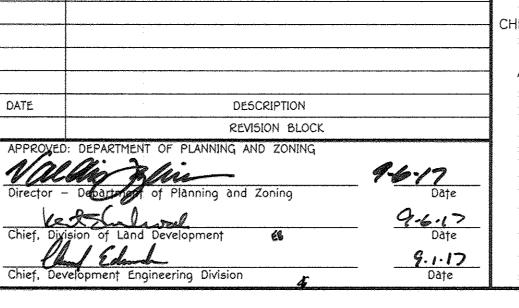
also authorize periodic on-site inspection by the Howard Soil Conservation District."

were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 13204, Expiration Date: November 3, 2018."

CHARLES J. CROVO, SR., P.E. This development plan is approved for soil erosion and sediment control by

"Professional Certification. I hereby certify that these documents

DATE



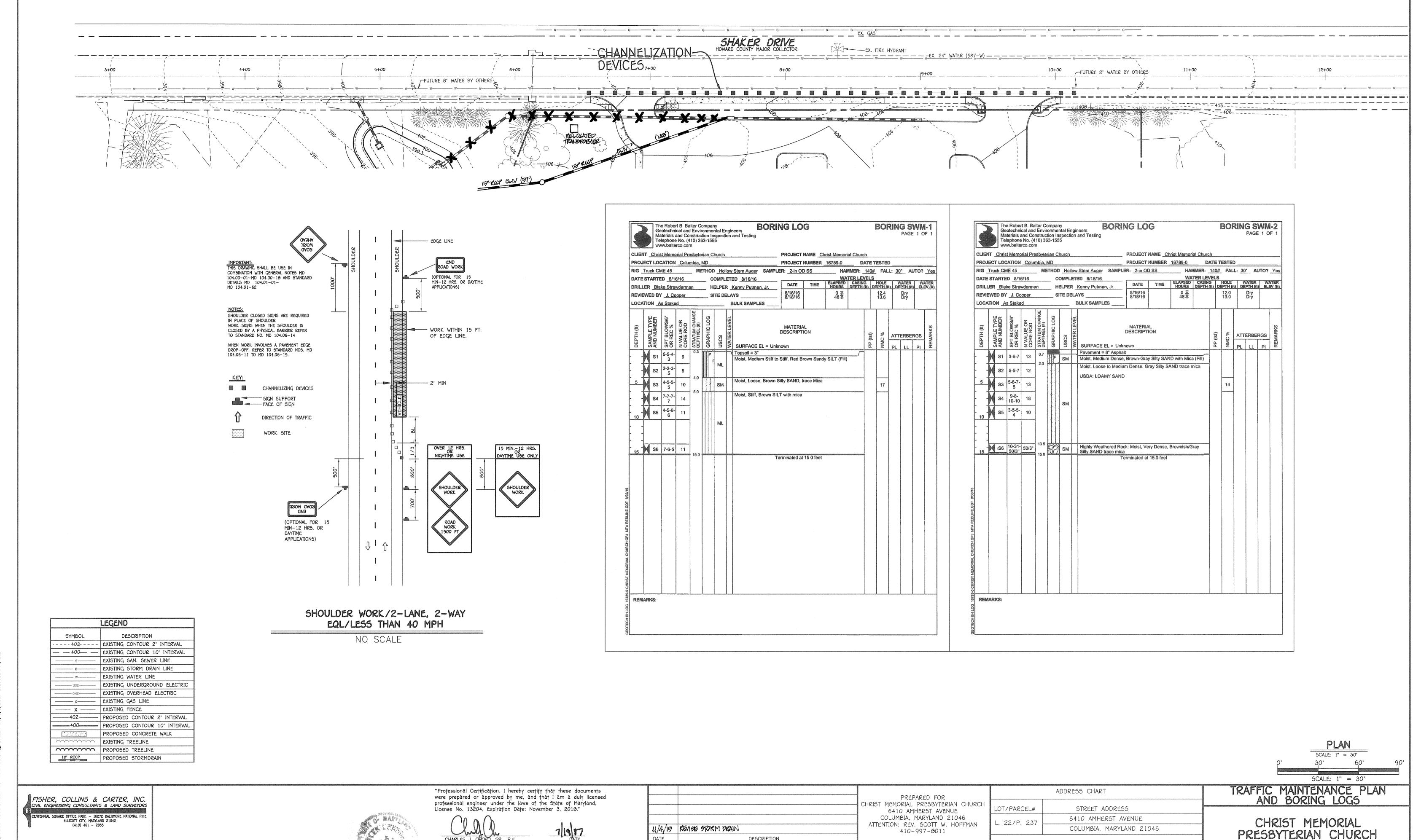
ADDRESS CHART PREPARED FOR CHRIST MEMORIAL PRESBYTERIAN CHURCH _OT/PARCEL# STREET ADDRESS 6410 AMHERST AVENUE COLUMBIA, MARYLAND 21046 6410 AMHERST AVENUE . 22/P. 237 ATTENTION: REV. SCOTT W. HOFFMAN COLUMBIA, MARYLAND 21046 410-997-8011 PERMIT INFORMATION CHART UBDIVISION NAME ALLVIEW ESTATES PLAT# OR L/F GRID# ZONING TAX MAP# ELECT. DISTR. 23857 13 R-20 36 SIXTH

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS CHRIST MEMORIAL PRESBYTERIAN CHURCH ALLVIEW ESTATES SECTION THREE, BLOCK 'A', LOT 22 ZONED R-20 PARCEL No.: 237 TAX MAP No.: 36 GRID No.: 13 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: APRIL 12, 2017

SHEET 9 OF 19

50P - 17 - 02



DESCRIPTION

Chief, Development Engineering Division

REVISION BLOCK

9-6-17

94.17 Date

9.1.17 Date

5DP-17-021

ALLVIEW ESTATES

SECTION THREE, BLOCK 'A', LOT 22

ZONED R-20 PARCEL No.: 237

TAX MAP No.: 36 GRID No.: 13 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

5CALE: 1" = 30' DATE: APRIL 12, 2017

SHEET 10 OF 19

PERMIT INFORMATION CHART

PLAT# OR L/F GRID# | ZONING | TAX MAP# ELECT. DISTR. | CENSUS TRACT

R-20 36

LOT NOS.

6067.01

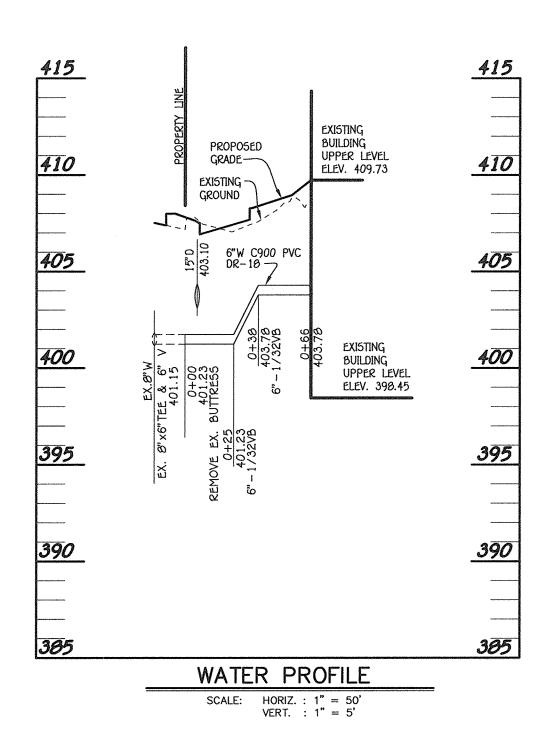
22

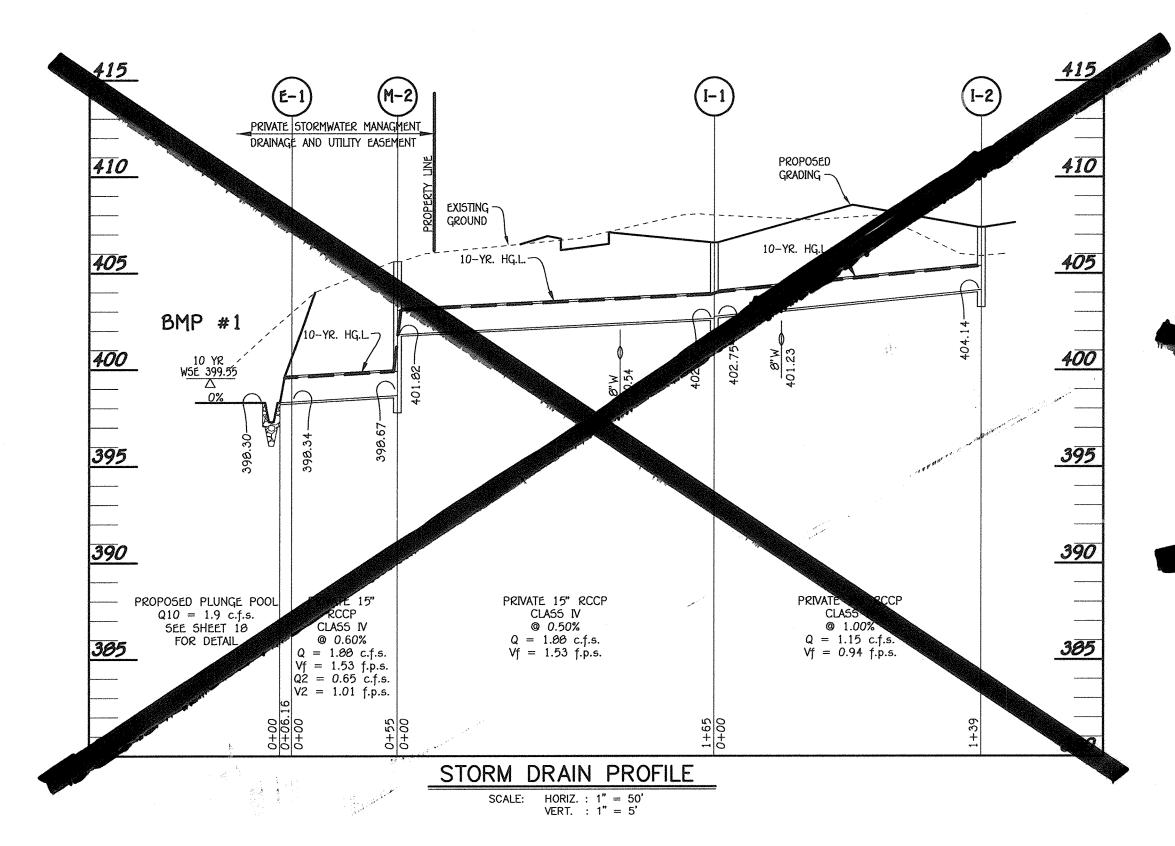
SIXTH

UBDIVISION NAME

ALLVIEW ESTATES

23857 13





PIPE SCHEDULE (PRIVATE)						
SIZE	CLA55	LENGTH				
6"	PERF PVC	266 L.F.				
6**	SOLID PVC SCH 40	11 LF.				
6"	SOLID PVC SCH 80	111 L.F.				
15"	RCCP, CLASS IV	397 LF.				

	Pinfish		ST	RUCTURE	SCHEDULE	•			
T	OWNERSHIP AND MAINTENANCE	TOP ELEVATION		INV.OUT	COORDI	Nvaca		TYPE	REMARK5
I- 1	PRIVATE	406.59	402.75 (15")		JOI 11.80	E 1350382.59	2.50'	A-5 INLET	D-4.01
I-2	PRIVATE	407.39	-	(15)		E_1350457.32	2.50'	A-5 INLET	D-4.01
M-1	PRIVATE	400.80	394.52	394.36 (18")	N 555884.96		4'	STD. MANHOLE	G - 5.12
M-2	PRIVATE	405.60	101382 (15")	398.67 (15")	N 555973.31	E 1350292.48		MANHOLE	G - 5.12
R-1	PRIVAT	1	395,30 (6")	395.20 (15")	N 555881.17	E 1350260.48	3'	No.	SEE SHEET 15
E	and the second	399.61	398.34 (15")		N 555918.92	E 1350296.84	15"	CONC. END SECTION	

* - DENOTES GRATE ELEVATION

NOTE: THE PURPOSE OF THIS REDLINE IS TO REVISE PROPOSED BUILDING ADDITION AND SIDEWALKS.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2055



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2018."

CHARLES J. CROVO, SR., P.E.

16/18

11/4/19	ADD REVISED STORM DRAIN PROFILE & SOMEDILE
2/27/18	REV. WATER PROFILE.
DATE	DESCRIPTION
	REVISION BLOCK
Director	DEPARTMENT OF PLANNING AND ZONING - Department Planning and Zoning Date

PREPARED FOR
CHRIST MEMORIAL PRESBYTERIAN CHURCH
6410 AMHERST AVENUE
COLUMBIA, MARYLAND 21046
ATTENTION: REV. SCOTT W. HOFFMAN
410-997-8011

SUBDIVISION NAME

23857

ALLVIEW ESTATES

13

	ADDRESS CHART	
LOT/PARCEL#	STREET ADDRESS	
L. 22/P. 237	6410 AMHERST AVENUE	
L. 22/1. 20/	COLUMBIA, MARYLAND 21046	

PLAT# OR L/F GRID# ZONING TAX MAP# ELECT. DISTR. CENSUS TRACT

36

R-20

PERMIT INFORMATION CHART

TAX MAR

SIXTH

LOT NOS.

6067.01

22

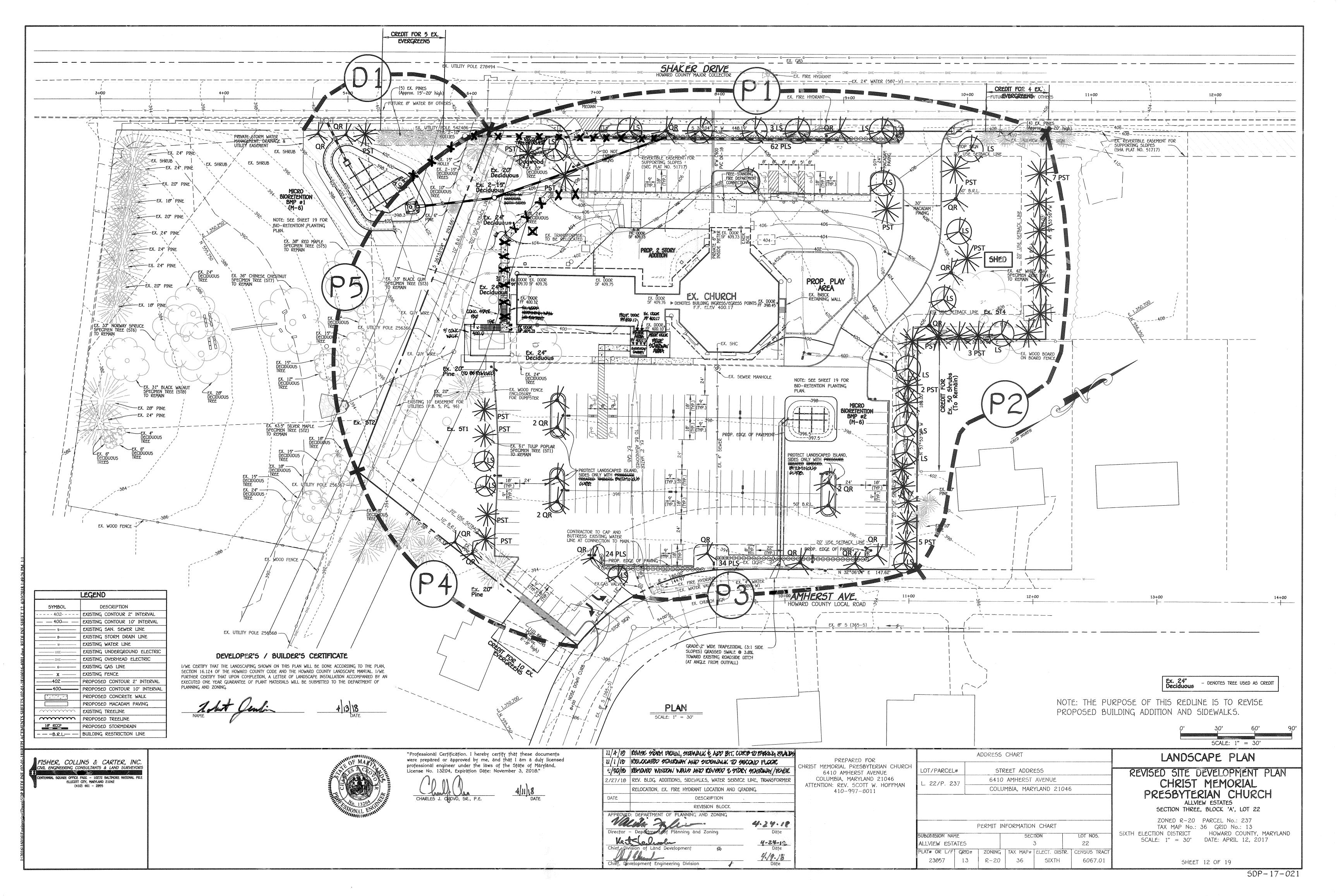
CHRIST MEMORIAL
PRESBYTERIAN CHURCH
ALLVIEW ESTATES
SECTION THREE, BLOCK 'A', LOT 22

ZONED R-20 PARCEL No.: 237
TAX MAP No.: 36 GRID No.: 13
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: APRIL 12, 2017

STORM DRAIN PROFILE AND STRUCTURE SCHEDULE REVISED SITE DEVELOPMENT PLAN

SHEET 11 OF 19



	SCHEDULE A	PERIMETER LANDSCAPE	EDGE (P-#)		
PERIMETER	P1	P2	P3	P4	P5
CATEGORY	Buffer — Parking Adj. †o Roadway	Buffer — Non. Res. to Residential	Buffer - Parking Adj. to Roadway	Buffer - Non. Res. to Residential	Buffer - Non. Res. to Non. Res.
LANDSCAPE TYPE	£	С	E	С	A
LINEAR FEET OF PERIMETER	448'	455.4'	232.6'	226.3'	293.7'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 4 Ex. Evergreens	YES 50 Shrubs & Ex. 42" Tree	NO	YES 11 Ex. Evergreens	YES 9 Shade Trees 1 Evergreen Tree
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE IF NEEDED)	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED SHADE TREES ORNAMENTAL TREES EVERGREEN TREES SHRUBS	11 - - 112	11 - 23	6 - - 59	6 - 11	5 - - -
NUMBER OF PLANTS PROVIDED SHADE TREES ORNAMENTAL TREES AS 2:1 CREDIT EVERGREEN TREES SHRUBS (10:1 SUBSTITUTION)	9 * - 5 62	10 ** 10 ***	6 - - 58	4 # - 4 # #	o ### - - -

* CREDIT IS TAKEN FOR EXISTING EVERGREENS (4) ** CREDIT IS TAKEN FOR EXISTING 42" WHITE ASH (ST4)

*** CREDIT IS TAKEN FOR EXISTING SHRUBS (50)

CREDIT IS TAKEN FOR 4 EXISTING EVERGREENS ## CREDIT IS TAKEN FOR 7 EXISTING EVERGREENS ### CREDIT IS TAKEN FOR EXISTING TREES

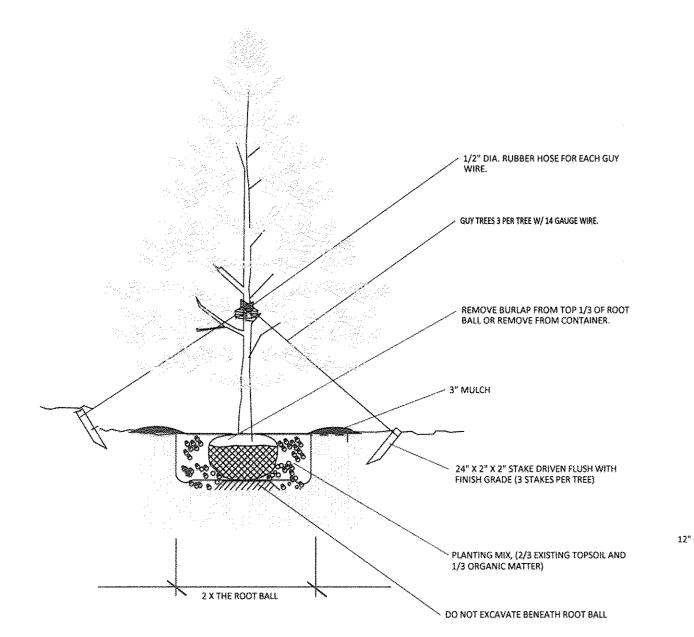
SCHEDULE B PARKING LOT INTERNAL LANDS	CAPING
NUMBER OF PARKING SPACES	151
NUMBER OF TREES REQUIRED (1/20 5P)	8
NUMBER OF TREES PROVIDED	
SHADE TREES	8
OTHER TREES (2:1 SUBSTITUTION)	

SCHEDULE D (D-1) STORMWATER MANAGEMENT AREA LANDSCAPING				
LINEAR FEET OF PERIMETER	151'			
LANDSCAPE TYPE	В			
CREDIT FOR EXISTING VEGETATION	and the state of t			
(NO, YES AND LINEAR FEET)	YES - 5 Evergreens			
NUMBER OF TREES REQUIRED	and the second			
SHADE TREES	3			
EVERGREEN TREES	4			
NUMBER OF TREES PROVIDED				
SHADE TREES	2 *			
EVERGREEN TREES	1 **			
SHRUBS (10:1 SUBSTITUTION)				

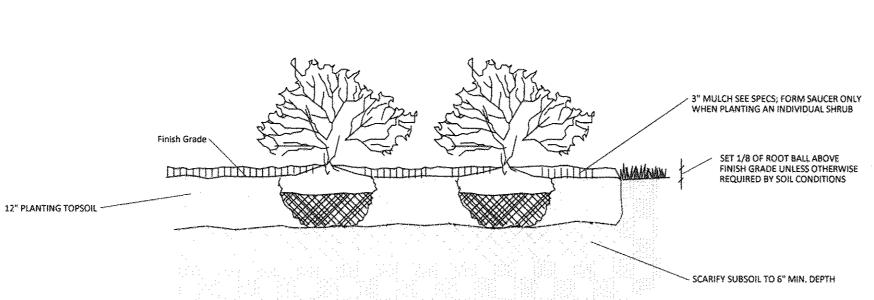
* CREDIT IS TAKEN FOR 2 EXISTING EVERGREENS (2:1) ** CREDIT IS TAKEN FOR 3 EXISTING EVERGREENS

QTY.	KEY	BOTANICAL NAME COMMON NAME	SIZE	CONT.	REMARKS	
TREES - D	ECIDUOUS	SHADE	· · · · · · · · · · · · · · · · · · ·			
19	LS	Liquidambar styraciflua American Sweetgum	2-1/2" - 3" cal.	B & B	Only Seedless Cultivar	
20	QR	Quercus Rubra Northern Red Oak	2-1/2" - 3" cal.	B & B	Only Seedless Cultivars	
TREES - E'	VERGREEN					
28	PST	Pinus strobus Eastern White Pine	10'-12'Ht.	B & B	unsheared	
SHRUBS	•			**************************************	A Townson or a second s	
120	PLS ⊙	Prunus laurocerasus 'Schipkaensis' Cherrylaurel	30"-36" Ht.	Cont.	36" o.c.	

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING TREES (39 SHADE TREES, 28 EVERGREEN TREES, & 120 SHRUBS) SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT WITH THIS SOP IN THE AMOUNT OF \$19,500.00



EVERGREEN TREE - TYPICAL PLANTING DETAIL



SHRUB AND HEDGEROW - TYPICAL PLANTING DETAIL

"Professional Certification. I hereby certify that these documents

professional engineer under the laws of the State of Maryland,

were prepared or approved by me, and that I am a duly licensed

PLANTING NOTES:

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF HOWARD COUNTY CODE AND LANDSCAPE MANUAL AND IS TO BE USED FOR PLANTING ONLY. LANDSCAPING SHALL BE PROVIDED AS SHOWN ON THIS PLAN SHEET, A SURETY IS REQUIRED FOR THIS PROJECT AND SHOWN UNDER THE PLANT LIST ON THIS SHEET

2. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK. ALL GENERAL NOTES FROM UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SHEET 1, SHALL APPLY.

3. FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK, EVEN WHERE PLANT LOCATIONS ARE DIMENSIONED. CONTACT CONSTRUCTION MANAGER IF ANY RELOCATION ARE REQUIRED.

4. PLANT QUANTITIES SHOWN ON PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PERCEDENCE.

5. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY. BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE A.A.N. SPECIFICATIONS, AND BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

6. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED OR MULCHED SHALL BE SEEDED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

7. ALL EXPOSED EARTH WITHIN THE LIMITS OF THE PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER PLANTING DETAILS.

B. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF SOIL OR DRAINAGE CONDITIONS ARE ENCOUNTERED WHICH MAY BE DETRIMENTAL TO THE GROWTH OF PLANTS.

9. NO SUBSTITUTION SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR HIS REPRESENTATIVE. ALL PLANT SUBSTITUTIONS MUST BE REVIEWED BY DPZ PRIOR TO THE SUBSTITUTION BEING MADE.

10. REFER TO OTHER SITE DWGS. FOR ADDITIONAL SEEDING REQUIREMENTS.

11. NO TREES ARE TO BE PLANTED WITHIN A PUBLIC WATER AND SEWER EASEMENT.

12. ANY SHRUBBERY REMOVED OR DAMAGED WITHIN A PUBLIC WATER AND SEWER EASEMENT DURING NORMAL MAINTENANCE POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE). ACTIVITIES BY DPW IS NOT THE RESPONSIBILITY OF AND SHALL NOT BE REPLACED BY DPW.

13. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS, ALL PLANT MATERIAL SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE COMPLIANCE WITH APPICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

14. AT THE TIME INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND

15. SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH LANDSCAPE CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST MEET SIZE AND INSTALLATION REQUIREMENTS AS SPECIFIED IN THE LANDSCAPE MANUAL.

PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

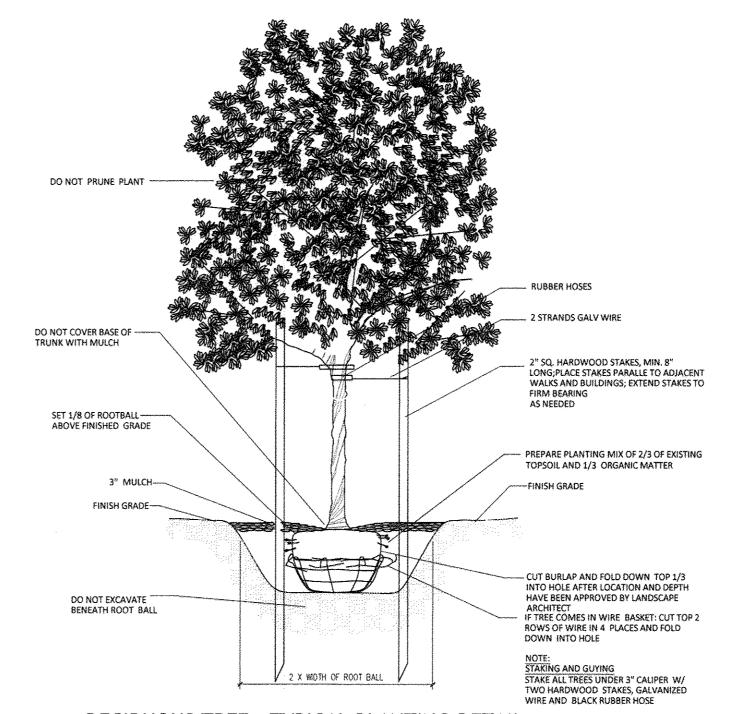
BID SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

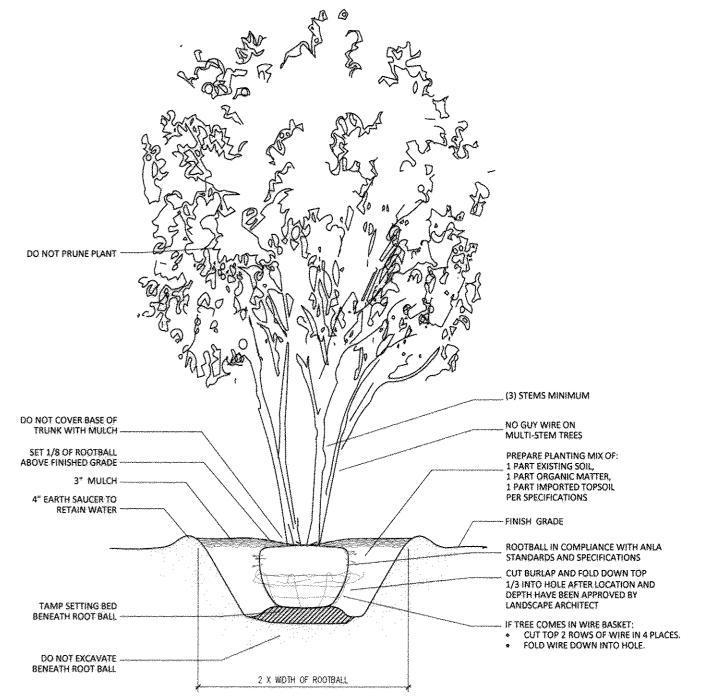
PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.



DECIDUOUS TREE - TYPICAL PLANTING DETAIL



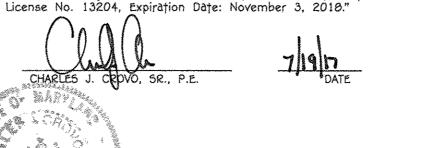
MULTISTEM TREE - TYPICAL PLANTING DETAIL



DEVELOPER'S / BUILDER'S CERTIFICATE

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





DATE DESCRIPTION REVISION BLOCK

PREPARED FOR
CHRIST MEMORIAL PRESBYTERIAN CHURCH
6410 AMHERST AVENUE
COLUMBIA, MARYLAND 21046
ATTENTION: REV. SCOTT W. HOFFMAN
410-997-8011

ADDRESS CHART LOT/PARCEL# STREET ADDRESS 6410 AMHERST AVENUE . 22/P. 237 COLUMBIA, MARYLAND 21046 PERMIT INFORMATION CHART SUBDIVISION NAME ALLVIEW ESTATES 22

ZONING TAX MAP# ELECT. DISTR.

R-20

CENSUS TRAC

6067.01

PLAT# OR L/F GRID#

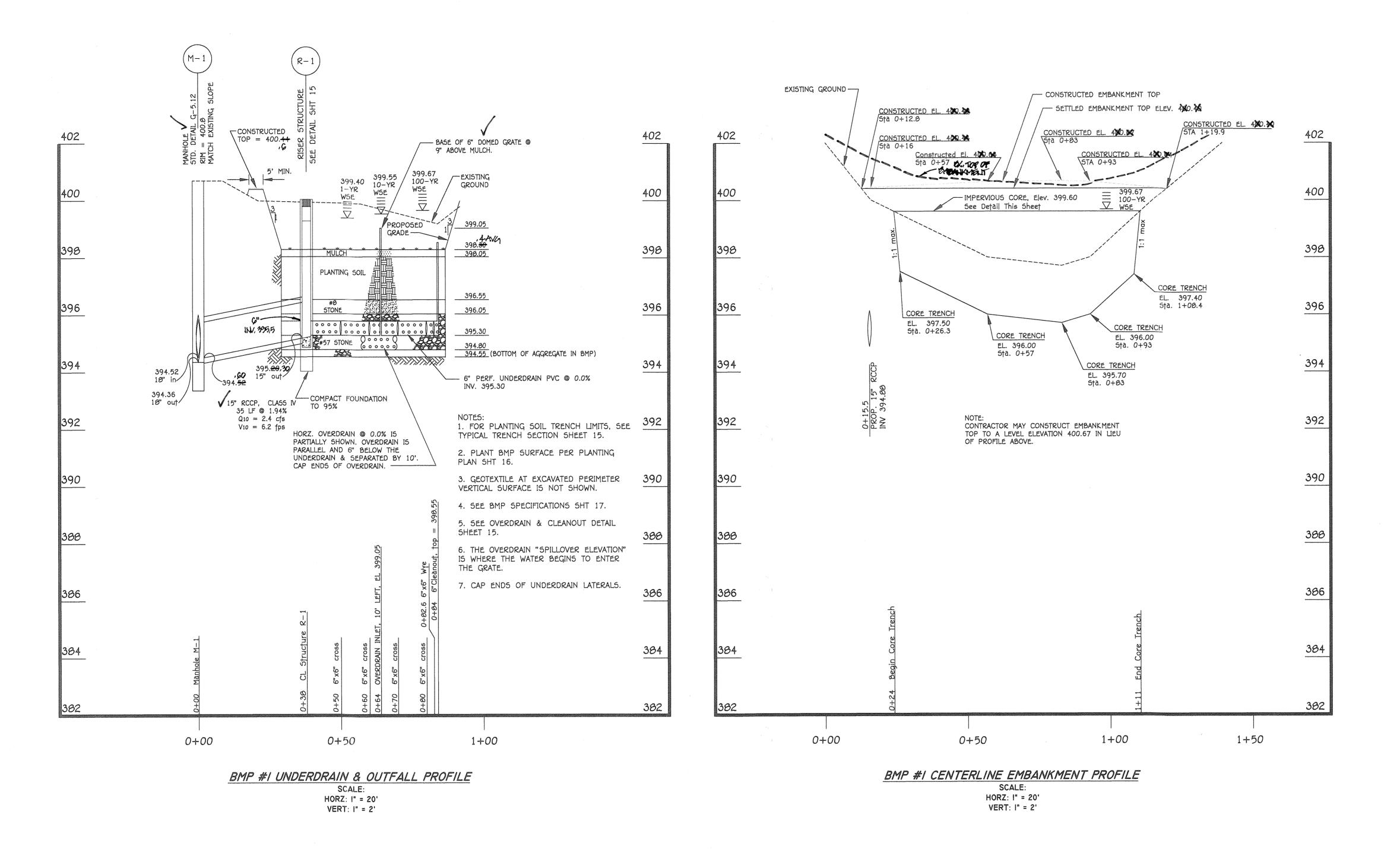
CHRIST MEMORIAL PRESBYTERIAN CHURCH

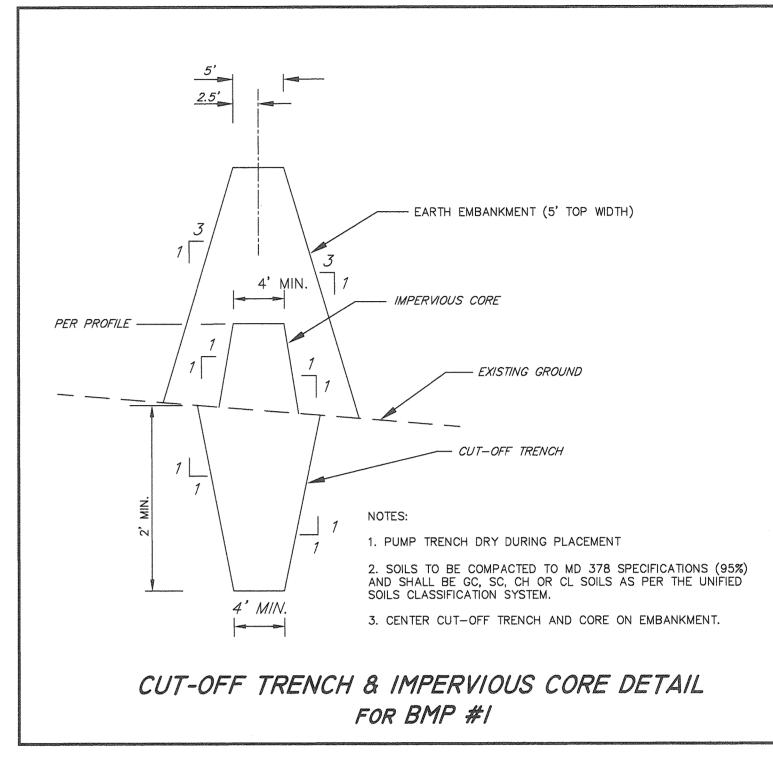
LANDSCAPE NOTES, DETAILS AND SCHEDULE

ALLVIEW ESTATES SECTION THREE, BLOCK 'A', LOT 22

ZONED R-20 PARCEL No.: 237 TAX MAP No.: 36 GRID No.: 13 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 12, 2017

SHEET 13 OF 19





FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS NNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

AS-BUILT CERTIFICATION FOR PSWM I hereby certify that the facility shown on the plan Was constructed as shown on the "AS BUILT" plans and complies with the approved plans and specifications; I have verified that the contributing drainage area is sufficiently stabilized to prevent clogging of the

CHARUED J. CROVO, OR. NO. 13204



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2018."

DESCRIPTION REVISION BLOCK APPROVED: DEPARTMENT OF PLANNING AND ZONING 9-60-17 9-6.17 4.1.17 , Development Engineering Division

PREPARED FOR CHRIST MEMORIAL PRESBYTERIAN CHURCH 6410 AMHERST AVENUE COLUMBIA, MARYLAND 21046 ATTENTION: REV. SCOTT W. HOFFMAN 410-997-8011

LOT/PARCEL# STREET ADDRESS 6410 AMHERST AVENUE L. 22/P. 237 COLUMBIA, MARYLAND 21046 PERMIT INFORMATION CHART SUBDIVISION NAME SECTION 22 ALLVIEW ESTATES PLAT# OR L/F GRID# ZONING TAX MAP# ELECT. DISTR. CENSUS TRACT 13 R-20 36 SIXTH

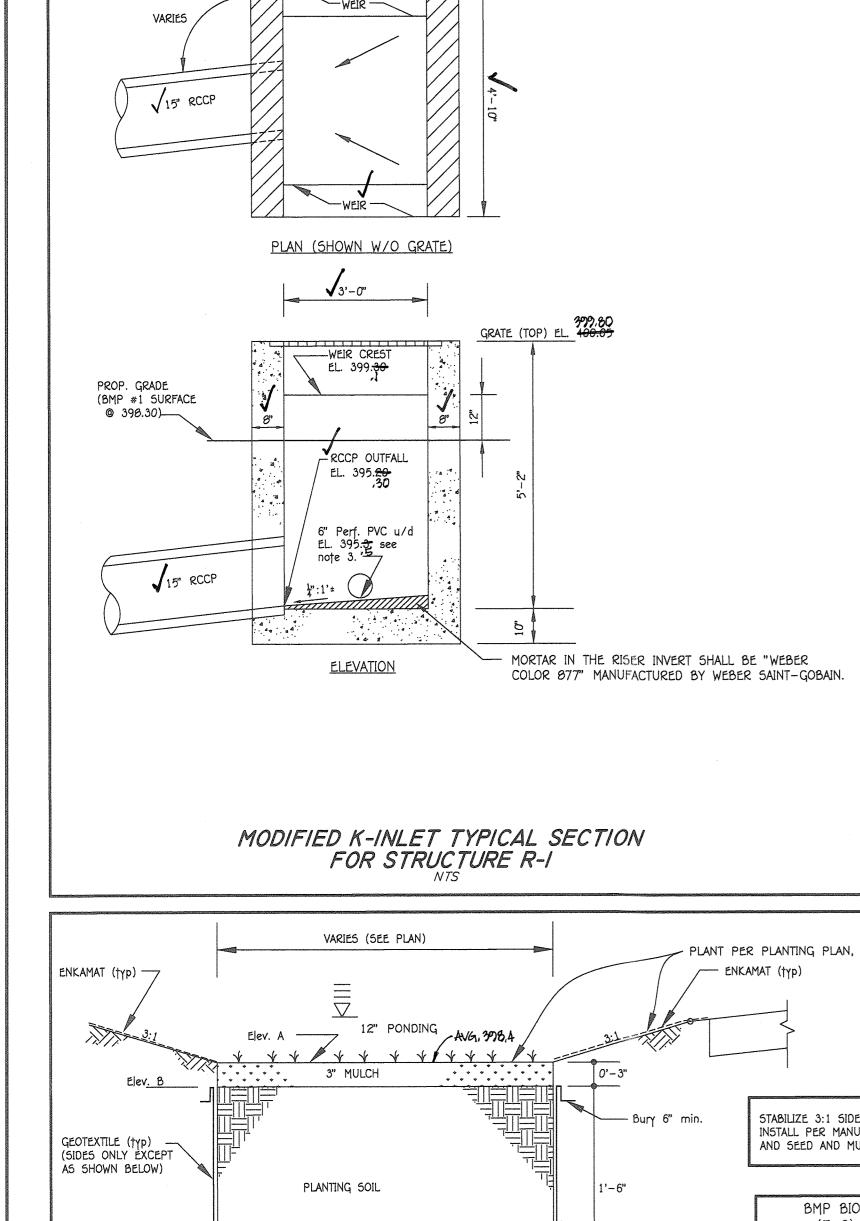
ADDRESS CHART

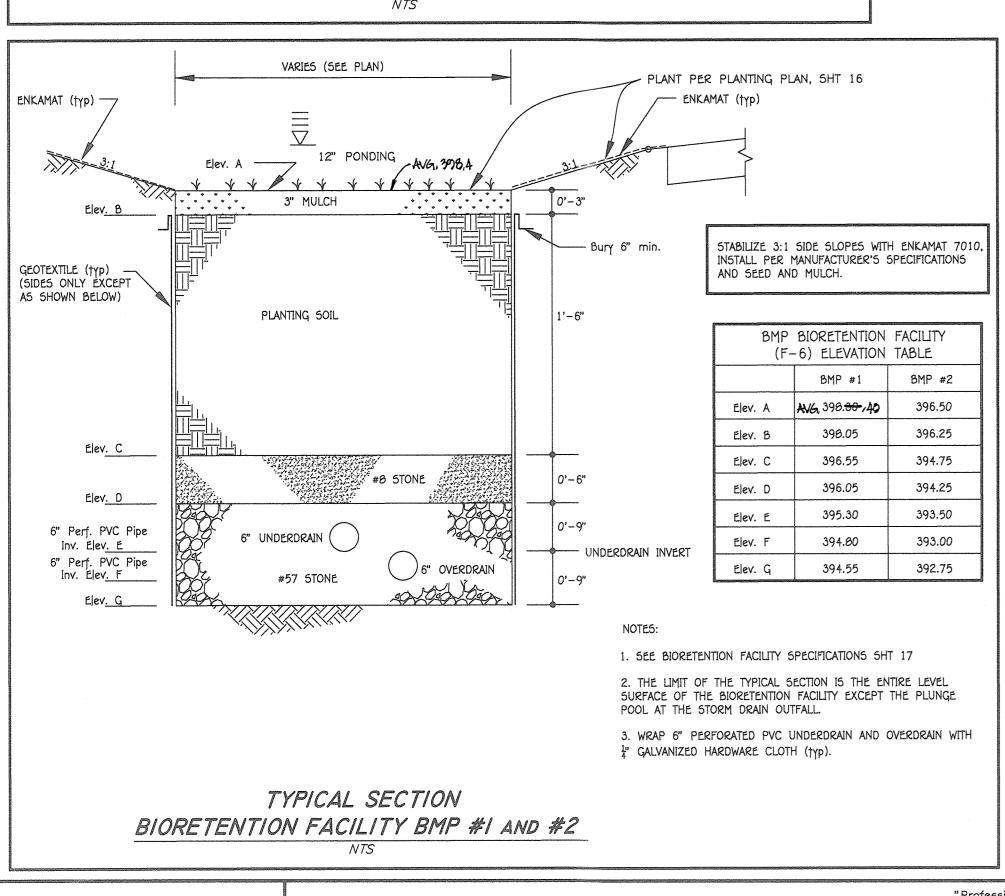
5CALE: 1" = 20' BMP #1 PROFILES

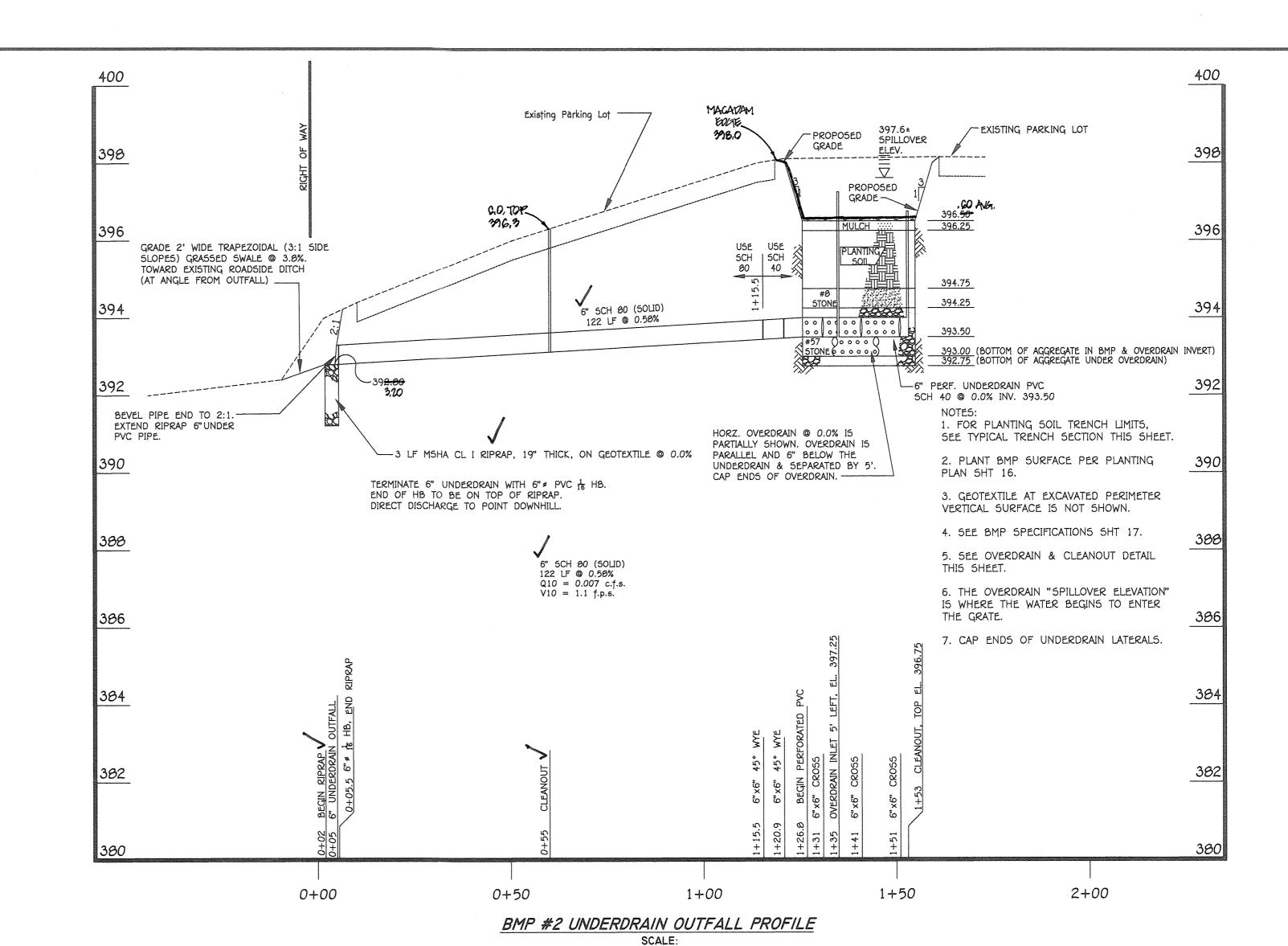
CHRIST MEMORIAL PRESBYTERIAN CHURCH ALLVIEW ESTATES SECTION THREE, BLOCK 'A', LOT 22

ZONED R-20 PARCEL No.: 237 TAX MAP No.: 36 GRID No.: 13 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 12, 2017

SHEET 14 OF 19







HORZ: I" = 20'

PREPARED FOR

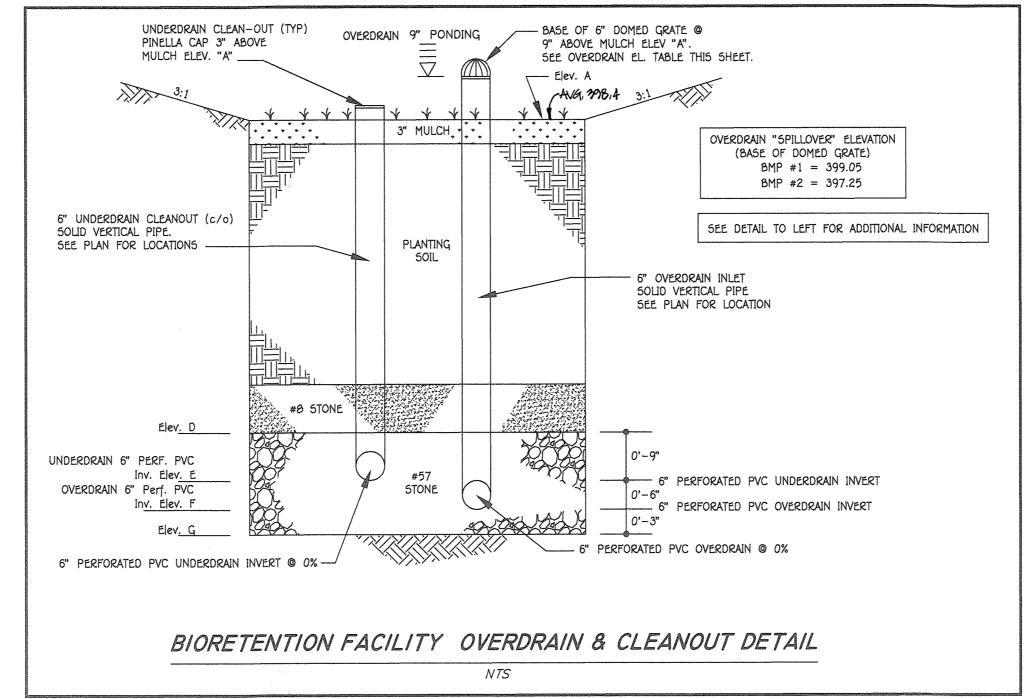
CHRIST MEMORIAL PRESBYTERIAN CHURCH

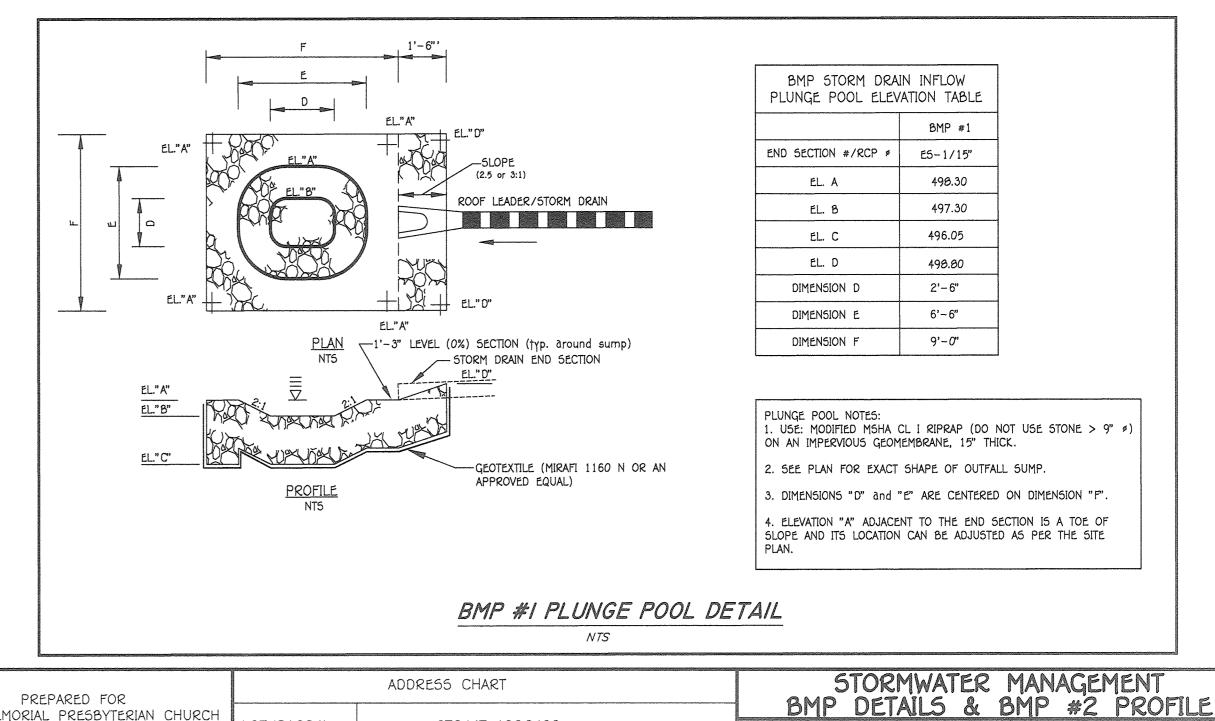
6410 AMHERST AVENUE

COLUMBIA, MARYLAND 21046

ATTENTION: REV. SCOTT W. HOFFMAN

410-997-8011

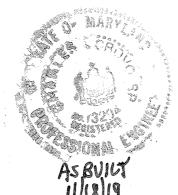




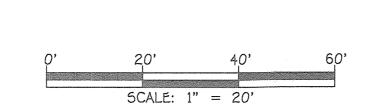


AS-BUILT CERTIFICATION FOR PSWM I hereby certify that the facility shown on the plan was constructed as shown on the "AS BUILT" plans and complies with the approved plans and specifications. I have verified that the contributing drainage area is sufficiently stabilized to prevent clogging of the ur de eround MM Facility.

CHARLES J. CROVO, SR. NO. 13904



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2018."



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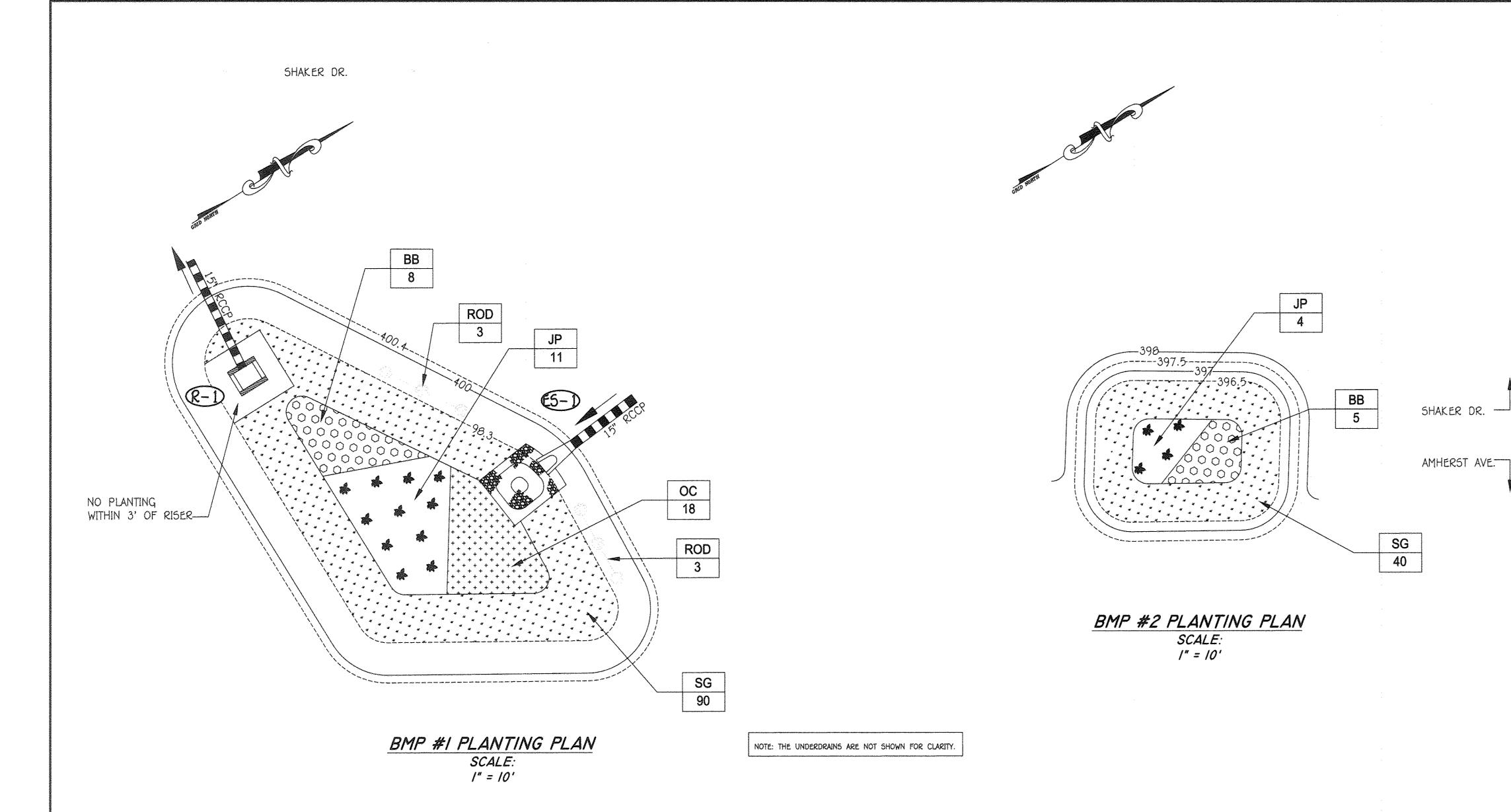
ALLVIEW ESTATES

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CHRIST MEMORIAL PRESBYTERIAN CHURCH ALLVIEW ESTATES SECTION THREE, BLOCK 'A', LOT 22

ZONED R-20 PARCEL No.: 237 TAX MAP No.: 36 GRID No.: 13 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 12, 2017

5HEET 15 OF 19



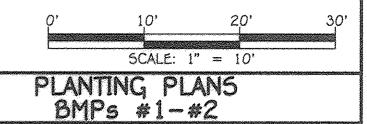
BIORETENTION FACILITY (BMP) PLANTING SCHEDULE PLANT NAME SIZE QUANTITY QUANTITY NOTES SWITCH GRASS (Panicum virgatum) @ 3' c/c min. **3 3 3** RED OSIER DOGWOOD (Cornus sericea) 00000 BEEBALM (Monarda didyma) JOE PYE WEED (Eupatorium maculatum 'Gateway') @ 5' c/c min. ORANGE CONEFLOWER (Rudbeckie fulgide "Goldsturm") @ 3' c/c min.

PLANTING SPECIFICATIONS:
1. PLANT INSTALLATION SHALL BE PER MDE SPECIFICATIONS IN THE 2000 STORMWATER DESIGN MANUAL.

ADDITIONAL SPECIFICATIONS:

1. PLANT BMP LEVEL SURFACE AS SHOWN IN THE ABOVE TABLE WITH AN EVEN DISTRIBUTION DENSITY. STABILIZE BMP SIDE SLOPES WITH PERMANENT GRASS SEED PER NRCS SPECIFICATIONS. SIDE SLOPE PERMANENT GRASS AREAS SHALL HAVE 3" OF CLEAN TOPSOIL ON TILLED 5UB-50IL AND EXCELSIOR MATTING, WATER AS NECESSARY UNTIL ESTABLISHED VEGETATION.

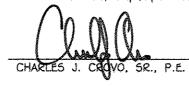
- 2. THE CONTRACTOR SHALL PROVIDE AN UNCONDITIONAL ONE (1) YEAR GUARANTEE FROM THE DATE OF ACCEPTANCE FOR ALL PLANT MATERIALS.
- 3. PLANT MATERIAL SHALL CONFORM TO THE U.S. STANDARD FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- 4. PLANTING PERENNIALS & GRASSES: ROOT SYSTEMS SHALL BE SPLIT OR CRUMBLED. POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH EXISTING GRADE. TREAT THE MULCHED AND PLANTED AREA WITH A PRE-EMERGENT HERBICIDE.
- 5. ALL PLANTS MUST BE ADEQUATELY AND REGULARLY WATERED PRIOR TO ACCEPTANCE.
- 6, DO NOT PLANT VEGETATION WITHIN 3 # OF THE RISER.
- 7. PLANT SHRUBS 6" ABOVE THE BMP INVERT (i.e., TOP OF MULCH LAYER).



FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS nnial square office park – 10272 baltimore national pike ELLICOTT CITY, MARYLAND 21042 (+10) 461 - 2855



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2018."





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PREPARED FOR CHRIST MEMORIAL PRESBYTERIAN CHURCH 6410 AMHERST AVENUE COLUMBIA, MARYLAND 21046 ATTENTION: REV. SCOTT W. HOFFMAN 410-997-8011

LOT/PARCEL# STREET ADDRESS 6410 AMHERST AVENUE _ 22/P. 237 COLUMBIA, MARYLAND 21046 PERMIT INFORMATION CHART

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SUBDIVISION NAME LOT NOS. ALLVIEW ESTATES 22 PLAT# OR L/F GRID# ZONING TAX MAP# ELECT. DISTR. CENSUS TRACT

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CHRIST MEMORIAL PRESBYTERIAN CHURCH ALLVIEW ESTATES SECTION THREE, BLOCK 'A', LOT 22

ZONED R-20 PARCEL No.: 237 TAX MAP No.: 36 GRID No.: 13 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 12, 2017

SHEET 16 OF 19

BMP BIORETENTION FACILITY NOTES AND SPECIFICATIONS

REFER TO THE LATEST MARYLAND SWM DESIGN MANUAL FOR BIORETENTION SPECIFICATIONS FOR INFORMATION NOT LISTED HEREIN AND FOR ADDITIONAL INFORMATION.

2. THE BIORETENTION FACILITY MATERIALS ARE AS FOLLOWS:

GEOTEXTILE: SHALL BE MIRAFI 140N.

- PLANTING SOIL: PER SPECIFICATIONS OUTLINED IN MDE'S 2000 SWM MANUAL, APPENDIX B.4, THE PLANTING SOIL SHALL MEET THE FOLLOWING: LOAMY SAND @ 60-65% AND COMPOST 35-40%, OR, 30% SANDY LOAM, 30% COARSE SAND, & 40% COMPOST. SEE MDE APPENDICES A.2.3, B.4.7 AND TABLE A.3 FOR ADDITIONAL INFORMATION). IN ADDITION, THE PLANTING SOIL SHALL BE MIXED/DESIGNED SO THAT ITS COEFFICIENT OF PERMEABILITY (k) IS AT LEAST 1.10 ft/day. DO NOT COMPACT PLANTING SOIL. - PVC UNDERDRAIN PIPE: SCHEDULE 40. PERFORATED PIPE SHALL HAVE NO SLOPE (0.0%).

PERFORATIONS SHALL BE 0.5", w/ 4 PERFORATIONS AROUND 6" PIPE CIRCUMFERENCE. SPACED AT 6". ADJACENT PERFORATIONS SHALL BE STAGGERED 45". THE TOTAL

AREA OF PERFORATIONS PER LINEAR FOOT OF PIPE SHALL BE 1.57 sq. inches. - STONE AGGREGATE: MSHA SPECIFICATIONS AS SHOWN ON TYPICAL SECTION; AGGREGATE MUST BE CLEAN AND WASHED (i.e., FREE OF FINES, DIRT & DEBRIS).

- MULCH: SHREDDED, WELL-AGED (6-12 MONTHS) HARDWOOD MULCH; NO WOOD CHIPS OR PINE MULCH.

3. THE CONTRACTOR SHALL UNDER NO CIRCUMSTANCES ALLOW SURFACE DRAINAGE INTO THE MICRO-BIORETENTION BMPS UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED (i.e., PAVED, OR HAVE WELL-ESTABLISHED VEGETATION.

4. BOARDS SHALL NOT BE LEFT IN PLACE DURING THE CONSTRUCTION OF THE BIORETENTION BMP.

5. GEOTEXTILE (FILTER FABRIC) SHALL BE PLACED AGAINST EXCAVATED VERTICAL SURFACES. SCARIFY EARTH PRIOR TO GEOTEXTILE PLACEMENT. INSTALL GEOTEXTILE PER MANUFACTURER'S SPECIFICATIONS/RECOMMENDATIONS AND USE A 2 FT MINIMUM OVERLAP AND NOTCH ENDS WITH A 6" MINIMUM BURY OR EQUIVALENT ANCHORING METHOD.

S. THE CONTRACTOR SHALL PROVIDE, TO THE OWNER, INDEPENDENT CERTIFICATION THAT THE PLANTING SOIL AND OTHER BIORETENTION MATERIALS MEET THE MDE SPECIFICATIONS.

THE BIORETENTION FACILITIES SHALL BE VEGETATED (TOP LEVEL SURFACE ONLY) IN ACCORDANCE WITH THE PLANTING PLAN AND THE BMP M-6 SPECIFICATIONS IN MDE'S CURRENT STORMWATER MANAGEMENT DESIGN MANUAL.

3. FOR UNDERDRAINS, USE PERFORATED PVC PIPE INSIDE THE BIORETENTION FACILITIES AND WRAP PERFORATED PIPE WITH 1/2" HARDWARE CLOTH TO PREVENT AGGREGATE FROM ENTERING THE PERFORATIONS.

. INSTALL CLEANOUTS (SOLID PVC PIPE) AS SHOWN. THE CLEANOUT TOP SHALL EXTEND 3" ABOVE TOP OF MULCH.

O. THE LIMIT OF THE TYPICAL SECTION (i.e., PLANTING SOIL, AGGREGATE, ETC.) IS THE ENTIRE LEVEL SURFACE OF THE BIORETENTION FACILITY EXCLUDING RIPRAP AREAS, FOREBAYS, AND GABION WEIR. IF PROPOSED.

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION BMPs #1 & #2

THE BIORETENTION FACILITIES SHALL BE INSPECTED AT LEAST TWICE PER YEAR (ONCE EACH IN THE SPRING AND FALL) AND AFTER HEAVY STORMS. THE OWNER IS RESPONSIBLE FOR MAINTAINING A DETAILED LOG OF THE MAINTENANCE INSPECTION FINDINGS AND A HISTORY OF THE COMPLETED WORK. THE LOG SHALL BE MADE AVAILABLE TO HOWARD COUNTY DPZ AND/OR THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UPON REQUEST.

MICRO-BIORETENTION FACILITY COMPONENTS TO BE INSPECTED AND MAINTAINED INCLUDE THE ITEMS AS FOLLOWS:

1. PLANT MATERIAL: PLANTS SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION. REMOVE AND REPLACE DEAD OR DYING VEGETATION CONSIDERED BEYOND TREATMENT (SEE NOTE BELOW). MAINTENANCE ALSO INCLUDES PRUNING, AND REPLACEMENT OF DEFICIENT STAKES AND WIRE.

2. MULCH LAYER: SHALL BE REPLACED ONCE EVERY SPRING DUE TO THE HEAVY METALS GENERATED FROM THE PARKING LOT. THE OWNER SHALL PROPERLY DISPOSE OF

THE OLD MULCH SO AS NOT TO CAUSE STORMWATER CONTAMINATION ELSEWHERE. WASHED OUT AREAS SHALL BE REPAIRED AS NECESSARY. 3. SOIL LAYER: SHOULD STORMWATER POND FOR MORE THAN 48 HOURS, THE TOP 6 INCHES (MINIMUM) OF THE SOIL LAYER SHALL BE REPLACED. THE OLD SOILS SHALL BE PROPERLY DISPOSED.

4. SPILLWAY OUTFALL, INTERIOR SLOPES: ERODED AREAS SHALL BE REPAIRED (FILLED IN AND SEEDED) AS NEEDED. BARE AREAS SHALL BE TREATED AND RE-SEEDED.

5. INLET: REPAIR CRACKS, DAMAGED CONCRETE, ETC. AS NECESSARY. 6. REMOVE AND PROPERLY DISPOSE ACCUMULATED SEDIMENT GREATER THAN ONE (1) INCH.

1. IF SPECIFIC PLANTS ARE NOT SURVIVING; THE PLANT TYPE SHOULD CHANGED TO BETTER SUITED SPECIES.

2. PLANT WATERING MAY BE NEEDED DURING PROLONGED DRY PERIODS.

GENERAL STORMWATER MANAGEMENT NOTES

. STORMWATER MANAGEMENT HAS BEEN PROVIDED WITH TWO (2) BIORETENTION FACILITIES. PLEASE REFER TO THE SWM REPORT PREPARED BY FISHER, COLLINS. & CARTER. INC. DATED SEPTEMBER 16, 2016.

2. ALL CONSTRUCTION SHALL MEET THE LATEST EDITION OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS, SMALL EARTHEN DAM SPECIFICATION MD-376. AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S CURRENT STORMWATER DESIGN MANUAL, OR AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONSULT THE CONSTRUCTION MANAGER SHOULD THERE BE ANY DISCREPANCIES. SEE MICRO-BIORETENTION FACILITY SPECIFICATIONS ON THIS SHEET.

3. THE UTILITY LOCATIONS ARE APPROXIMATE, CONTRACTOR SHALL TEST PIT ALL KNOWN EXISTING UTILITIES TO VERIFY, SIZE, SHAPE, LOCATION, AND TYPE PRIOR TO PERFORMING CONSTRUCTION. ANY UTILITY DAMAGED DUE TO CONSTRUCTION MUST BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.

4. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE CONSTRUCTION MANAGER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. IF THE CONTRACTOR MAKES FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE CONSTRUCTION MANAGER. THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.

5. CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-257-7777 AND THE HOWARD COUNTY DEPARTMENT OF INSPECTION LICENSES & PERMITS THREE (3) WORKING DAYS BEFORE BEGINNING CONSTRUCTION.

6. FISHER, COLLINS & CARTER, INC. IS NOT RESPONSIBLE FOR THE CONTRACTOR'S UTILIZATION OF MEN, MATERIALS, EQUIPMENT, OR SAFETY MEASURES IN THE PERFORMANCE OF ANY WORK FOR THIS PROJECT. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PERFORMING THE WORK CORRECTLY AND IN CONFORMANCE WITH CODE/5PECIFICATION REQUIREMENTS.

7. THE BMP'S MAY BE GRADED, HOWEVER, THE PLANTING SOIL IN THE BMP'S SHALL NOT BE INSTALLED UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED (i.e., THICK GRASS COVER, OR PAVED)

8. THE STORMWATER MANAGEMENT BIORETENTION BMPs FOR THIS PROJECT WILL BE PRIVATELY OWNED AND MAINTAINED.

9. THE CONTRACTOR SHALL TEST PIT THE EXISTING STORM DRAIN AT THE PROPOSED CONNECTION AT M-1 MANHOLE FROM BMP #1 TO VERIFY PIPE INVERTS ARE AS SHOWN, OR LOWER, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF STORM DRAIN INVERT VALUES ARE ABOVE THOSE SHOWN ON THE PROFILE.

STORMWATER DISCHARGE NARRATIVE

CHRIST MEMORIAL PRESBYTERIAN CHURCH HAS THREE (3) GENERAL STUDY AREAS (I.E., LOCATIONS/DIRECTION) WHERE STORMWATER LEAVES THE SITE, THESE LOCATIONS ARE LISTED BELOW ALONG WITH A DISCUSSION THAT QUALIFIES THE PEAK STROMWATER DISCHARGES FROM EACH LOCATION. THIS NARRATIVE WAS REQUIRED BY HOWARD COUNTY TO INFORM DOWNSTREAM PROPERTY OWNERS OF THE EFFECTS OF THE PROPOSED DEVELOPMENT RELATING TO STORMWATER.

STUDY AREA #1 - SHAKER DRIVE (WEST SIDE) THE REAR OF THE CHURCH DISCHARGES INTO AN EXISTING 18" RCP DRAINING SOUTH ALONG SHAKER DRIVE. THE 10-YEAR PEAK FLOW FROM THE CHURCH INCREASES NO MORE THAN 2.1 CFS. IT IS SAFELY CONVEYED AWAY FROM THE CHURCH IN AN ENCLOSED STORM DRAIN SYSTEM WITH ADEQUATE CAPACITY. HOWARD COUNTY DOES NOT REQUIRE MITIGATION OF THE 10-YEAR STORM, HOWEVER, THIS PIPE DRAINS THE SEVERAL SMALL INLETS

STUDY AREA #2 - AMHERST AVENUE (EAST SIDE)

THE MAIN CHURCH PARKING LOT "SHEET" FLOWS TO AMHERST AVENUE, THE PEAK STORM DISCHARGES ARE REDUCED BECAUSE 1) THE DRAINAGE AREA DECREASES DUE TO A SMALL DIVERSION TO SHAKER DRIVE AND 2). THE NET IMPERVIOUS AREA DECREASES BY 1,098 SF CORRESPONDING TO A 13.7% REDUCTION OF IMPERVIOUS AREA (NOTE: IMPERVIOUS AREA (E.G., PAVING) IS DIRECTLY PROPORTIONAL TO STORMWATER DISCHARGES). THEREFORE, RESIDENTS OF AMHERST AVENUE ARE EXPECTED TO RECEIVE LESS PEAK STORMWATER FLOWS FOR THE 1, 10, AND 100 YEAR STORMS.

<u> STUDY AREA #3 - 10" STORM DRAIN DISCHARGING ON ADJACENT CHURCH-OWNED PROPERTY (SOUTH SIDE)</u> THIS PIPE DRAINS THE SEVERAL SMALL INLETS LOCATED ADJACENT TO THE REAR, SOUTH SIDE OF THE CHURCH AND SEVERAL WILL BE COVERED BY THE NEW ADDITION. THE PROPOSED BUILDING EXPANSION COVERS 0.1 ACRE AND THIS AREA WILL BE DIVERTED TO THE 18" RCP IN SHAKER DRIVE (STUDY AREA #1). THEREFORE, THE PEAK STORM FLOW FROM THIS AREA WILL BE SLIGHTLY REDUCED IN THE PROPOSED CONDITION.

Pond MD-378: N.R.C.S. - JANUARY 2000 CONSTRUCTION SPECIFIC ATIONS FOR SMALL EARTHEN DAMS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment. Åreas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius ground the inlet structure shall be cleared All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated

Material — The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment. Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream partions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment. Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be

The minimum required density shall not be less than 95% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be

determined by AASHTO Method T-99 (Standard Proctor). Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core —The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a

concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe. Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day un-confined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm—cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

All pipes shall be circular in cross section. Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials — Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361. 2. Bedding — Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its out—side diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser. 4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings. Plastic Pipe - The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S. Joints and connections to anti-seep collars shall be completely watertight.

Bedding —The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill". 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprop Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311,

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C. Care of Water During Construction

All work on permanent structures shall be carried out in areas free from water. The Con—tractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, in-stall, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained be-low the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

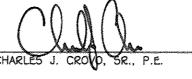
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the ac-companying drawings.

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.





"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 13204, Expiration Date: November 3, 2018."





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PREPARED FOR CHRIST MEMORIAL PRESBYTERIAN CHURCH 6410 AMHERST AVENUE COLUMBIA, MARYLAND 21046 ATTENTION: REV. SCOTT W. HOFFMAN 410-997-8011

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| R-20 | 36 |

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STORMWATER MANAGEMENT SPECIFICATIONS & NOTES

CHRIST MEMORIAL PRESBYTERIAN CHURCH ALLVIEW ESTATES

ZONED R-20 PARCEL No.: 237 TAX MAP No.: 36 GRID No.: 13 XTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 12, 2017

SECTION THREE, BLOCK 'A', LOT 22

SHEET 17 OF 19

