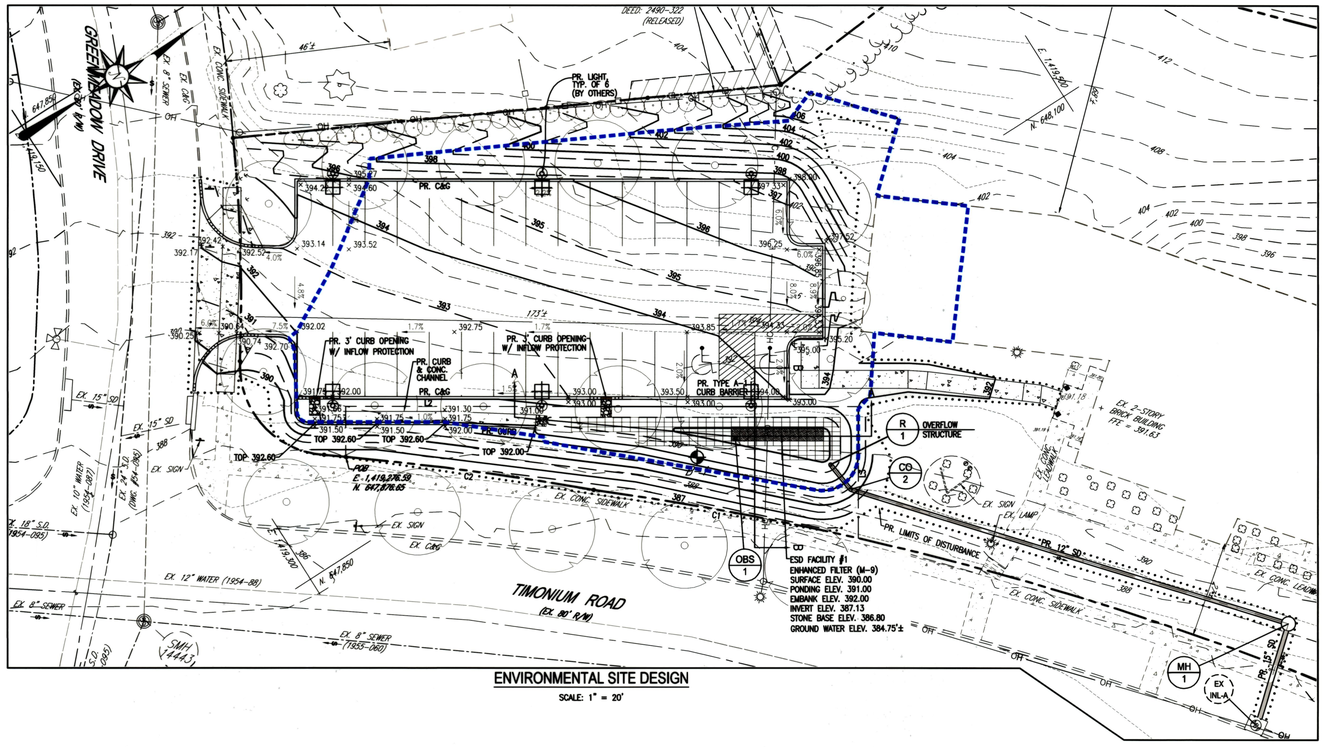
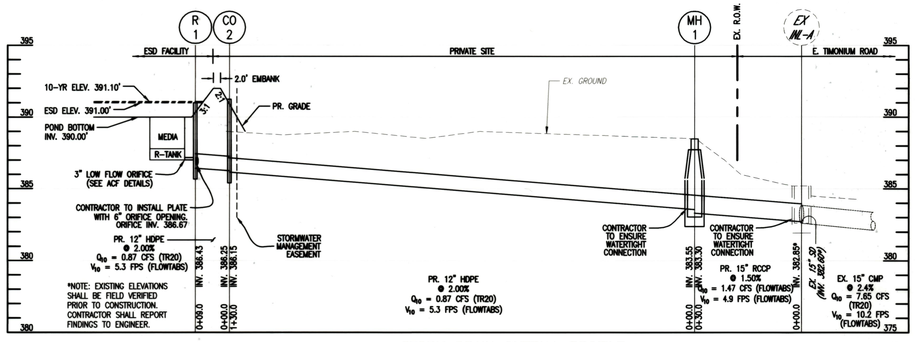


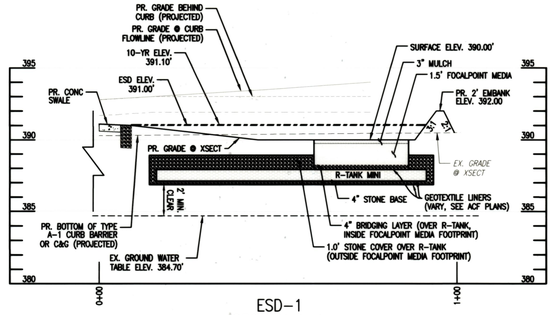
ENVIRONMENTAL SITE DESIGN

SCALE: 1" = 20'



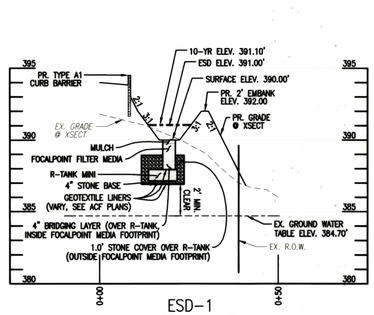
STORM DRAIN OUTFALL PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



ESD-1
SECTION A-A

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



ESD-1
SECTION B-B

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

ENVIRONMENTAL SITE DESIGN SUMMARY TABLE

PRACTICE	DIMENSIONS [1]	TRIBUTARY AREA	IMPERVIOUS AREA	PERVIOUS AREA	VOLUME [2] REQUIRED, ESDv, (CF)	STORAGE VOLUME [3] PROVIDED (CF)	RECHARGE [4] VOL. PROVIDED, Rev (CF)	TREATMENT VOLUME [5] CREDITED, ESDv (CF)	TARGET [6] Pe	EQUIVALENT [7] Pe PROVIDED	NOTES
ESD #1 (M-9)	AREA=100 SF DEPTH=1.50 FT PONDING=1.0 FT	14,475 SF 0.332 AC	9,650 SF 0.222 AC	4,825 SF 0.111 AC	1,411	PONDING = 455 MEDIA VOIDS = 30 RTANK+STONE = 999 TOTAL = 1,484	125	1,609	1.8"	2.05"	INDIVIDUAL ESDv REQUIREMENTS MET 1,609 CF > 1,411 CF
	TOTALS	14,475 SF 0.332 AC	9,650 SF 0.222 AC	4,825 SF 0.111 AC		1,484	125	1,609	1.8"		OVERALL SITE ESDv REQUIREMENTS MET 1,609 CF > 1,398 CF

NOTES
1. SHOW SURFACE AREA OR L x W, ESDv PONDING DEPTH, FILTER MEDIA THICKNESS OR OTHER RELEVANT DESIGN DATA.
2. DESIGN ESDv FOR THE PRACTICE'S DRAINAGE AREA.
3. STORAGE VOLUME PHYSICALLY PROVIDED IN THE PRACTICE ABOVE THE INVERT OF THE UNDERDRAIN/R-TANK.
4. RECHARGE VOLUME PROVIDED = STONE VOLUME UNDER UNDERDRAIN/R-TANK x 0.4 VOID RATIO
5. TREATMENT VOLUME = STORAGE VOLUME FOR MOST PRACTICES. TREATMENT VOLUME =(STORAGE VOLUME PROVIDED / 0.75) FOR MICROBIORETENTION, SUBMERGED GRAVEL WETLANDS, BIOSWALES, WET SWALES, SAND FILTERS, BIORETENTION, AND PROPRIETARY SWM SYSTEMS WITH MDE APPROVAL LETTERS INDICATING TEMPORARY STORAGE EQUAL TO 75% OF ESDV.
6. TARGET PE = PE FOR PRACTICE'S DRAINAGE AREA'S SOIL GROUP AND % IMPERVIOUS
7. PE PROVIDED = (TREATMENT VOLUME CREDITED x 12) / (RV x PRACTICE'S DRAINAGE AREA)

STRUCTURE SCHEDULE

REF.	SIZE	TOP	INV. OUT	NORTHING	EASTING	REMARKS
R-1	12"	391.00	386.43	647,989.73	1,419,351.40	HARCO DRAIN BASIN PLATE W/ 6" OPEN
R-1 AS BUILT						
OBS-1	10"	390.50	387.13	647,971.21	1,419,330.96	SEE ACF SPECS
OBS-1 AS BUILT						
CO-1	12"	388.50	383.45	648,075.01	1,419,458.93	HARCO INLINE DRAIN W/ SOLID COVER
CO-1 AS BUILT						
CO-2	12"	391.25	386.15	6479,90.76	1,419,360.31	HARCO INLINE DRAIN W/ SOLID COVER
CO-2 AS BUILT						
EX. INL-A		385.2±	382.6±			PR. WATERTIGHT CONNECTION
EX. INL-A AS BUILT						

STORMWATER MANAGEMENT STORAGE REQUIREMENTS

REQUIREMENT	VOLUME REQUIRED (CF)	VOLUME PROVIDED (CF)	EX. DISCHARGE (CFS)	PR. DISCHARGE (CFS)	NOTES
ESD_V	1,398	1,609	N/A	N/A	ESD_V REQUIREMENT IS SATISFIED
R_{EV}	N/A	125	N/A	N/A	R_{EV} REQUIREMENT MET WITHIN ESD VOLUME BUT CALCULATED SEPARATELY
C_{PV}	N/A	N/A	N/A	N/A	C_{PV} REQUIREMENT MET WITHIN ESD VOLUME
Q_{10}	N/A	N/A	14.43	14.16	Q_{10} REQUIREMENT MET WITH SUITABLE OUTFALL
Q_{100}	N/A	N/A	N/A	N/A	N/A

CONTRACTOR'S AS-BUILT NOTE

AS-BUILT PLANS AND CERTIFICATION ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. BALTIMORE COUNTY WILL NOT PERFORM THE INSPECTION OR PREPARE THE AS-BUILT PLANS OR CERTIFICATION. THE STORMWATER MANAGEMENT PERMIT SECURITY WILL NOT BE RELEASED UNTIL THE AS-BUILT PLAN AND CERTIFICATION ARE APPROVED BY BALTIMORE COUNTY.

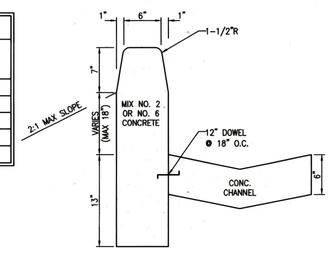
IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS AND CERTIFICATION, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT SPECIFIC STAGES DURING CONSTRUCTION AS REQUIRED BY THE AMENDED BALTIMORE COUNTY CODE, TITLE 4, STORMWATER MANAGEMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS.

AS BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

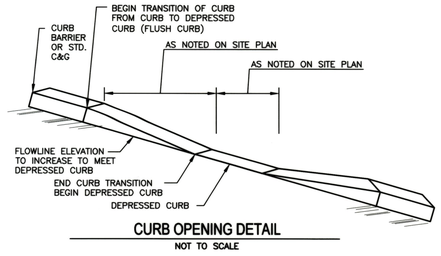
SIGNATURE _____ P.E. NO. _____

PRINTED NAME _____ DATE _____



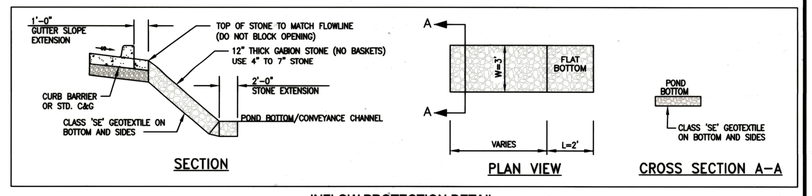
CONCRETE CURB & VALLEY GUTTER

NOT TO SCALE



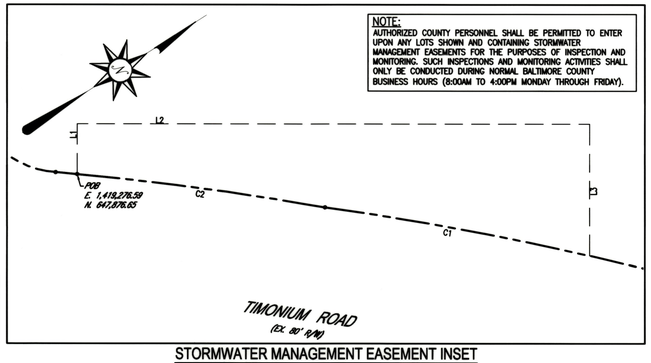
CURB OPENING DETAIL

NOT TO SCALE



INFLOW PROTECTION DETAIL

NOT TO SCALE



STORMWATER MANAGEMENT EASEMENT INSET

SCALE: 1" = 20'

LINE TABLE

CURVE	BEARING	DISTANCE
L1	N 57°24'45" W	14.07'
L2	N 32°35'17" E	143.37'
L3	S 57°24'43" E	36.68'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C-1	880.0'	75.22'	75.20'	S 42°52'16" W	4°53'52"	37.63'
C-2	880.0'	70.00'	69.98'	S 40°08'00" W	4°33'27'	35.02'

RW 21-_____

DEDICATION TABLE

TYPE OF CONVEYANCE	NO.	TOTAL AREA
STORMWATER MANAGEMENT	1	3,450 SF 0.08 AC.

OWNER / DEVELOPER

THE AGAPE CHRISTIAN CHURCH INC.
100 E. TIMONIUM ROAD
TIMONIUM, MARYLAND 21093
CONTACT: CHIMA UGAH
PHONE: (410) 252-4255
EMAIL: CHIMAUGAH@GMAIL.COM

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 NUMBER 46853, EXPIRATION DATE: 06-11-2023.

10-6-2021

LEGEND

EXISTING
- EXISTING BOUNDARY
- EXISTING ADJOINER
- EXISTING CONCRETE
- EXISTING CURB
- EXISTING WATERLINE
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- EXISTING GAS LINE
- OH — EXISTING OVERHEAD WIRES
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ADJOINING BUILDING
- EXISTING BUILDING
- 100 — EXISTING 10' CONTOUR
- 96 — EXISTING 2' CONTOUR
- EXISTING ROAD EDGE
- EXISTING WATERLINE (SHUTOFF)
- EXISTING POWER POLE
- EXISTING STORM DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING WATER VALVE (PLAN)
- EXISTING GAS VALVE
- EXISTING WATER METER
- EXISTING INLET
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE (SHUTOFF)
- EXISTING LIGHT POLE
- EXISTING STREET TREE
- EXISTING HANDROX

PROPOSED
- PR. LIMIT OF DISTURBANCE
- PR. CURB & GUTTER
- TRANSITIONAL/DEPRESSED CURB & GUTTER
- PR. CONCRETE
- PR. RIPRAP OR STONE BACKFILL
- PR. SD — PR. STORM DRAIN
- PR. SWM FILTER AREA
- PR. R-TANK (UNDERGROUND)
- PR. EASEMENT
- 387 — PR. 1' CONTOUR
- 388 — PR. 2' CONTOUR
- 390 — PR. 10' CONTOUR
- PR. TREE OR BUSH
- PR. LIGHT FIXTURE

DESIGN AND DRAWINGS ARE BASED ON MARYLAND COORDINATE SYSTEM (MCS).
HORIZONTAL - NAD 83/(2011),
VERTICAL - NAVD 88.

KEYSHEET: SNE
POSITION SHEET: 54 NW 2
COUNCILMANIC DISTRICT: 3
ELECTION DISTRICT: 8

APPROVED:_____Chief
STORMWATER MANAGEMENT DIVISION
BALTO. CO. DEPT. OF
ENVIRONMENTAL PROTECTION
AND SUSTAINABILITY

Richardson Engineering, LLC

7 Deneison Street
Timonium, Maryland 21093
Phone: 410-560-1502 Fax: 443-901-1208
MARK@RICHARDSONENGINEERING.NET

FINAL STORMWATER MANAGEMENT ENVIRONMENTAL SITE DESIGN PLAN & PROFILE

100 E TIMONIUM ROAD

TIMONIUM, MARYLAND 21093

BALTIMORE COUNTY MARYLAND
8TH ELECTION DISTRICT 3RD COUNCILMANIC DISTRICT

REVISIONS

DRAWN BY:	CHECKED BY:	SCALE:
MAV	PCR	AS SHOWN
DATE: 10-6-2021	JOB NO.: 19213	SHEET NO.: 6 OF 9