

TACO BELL

ENVIRONMENTAL CONCEPT PLAN

6281 WASHINGTON BOULEVARD

MAP 38, GRID 8, PARCEL 117

COUNCIL DISTRICT 1, ELECTION PRECINCT 1-01

ADC MAP 4937, GRID D7

COMMUNITY OF ELKRIDGE

HOWARD COUNTY, MARYLAND



GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- EXISTING TOPOGRAPHIC AND OUTBOUND INFORMATION IS BASED ON A SURVEY PROVIDED BY CONTROL POINT ASSOCIATES, INC. DATED FEBRUARY 14, 2019.
- THE LOT IS SERVICED BY PUBLIC WATER AND SEWER.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED UPON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY FOR THIS PROJECT IS NOT REQUIRED AS THE PROJECT DOES NOT FALL WITHIN A FLOODPLAIN AS REFERENCED FROM FEMA FIRM MAP 24027C0180D.
- NO WETLANDS ARE PRESENT ON THE SUBJECT PARCEL BASED ON HOWARD COUNTY WETLANDS MAPS WHICH TAKES ITS DATA FROM THE MARYLAND DEPARTMENT OF NATURAL RESOURCES.
- THE SUBJECT PARCEL IS ZONED B2 PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS ARE BASED ON NAVD8S.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- THE EXISTING TACO BELL TO BE REMOVED IS THE ONLY EXISTING ON-SITE STRUCTURE AND IS NOT CONSIDERED TO BE OF ANY HISTORICAL VALUE.
- THIS PROJECT HAS BEEN PRESENTED TO THE HOWARD COUNTY DESIGN ADVISORY PANEL ON JULY 10, 2019, AND THE PANEL'S RECOMMENDATIONS HAVE BEEN INCORPORATED INTO THE DESIGN.
- THERE ARE NO SPECIMEN TREES LOCATED WITHIN THE PROPOSED LIMIT OF DISTURBANCE WITH A DIAMETER OF 30 INCHES OR GREATER.
- I HAVE PERSONALLY INVESTIGATED THE ABOVE REFERENCED PROPERTY AND CERTIFY THE FOLLOWING FINDINGS TO BE ACCURATE:
 - THE SITE WAS PREVIOUSLY APPROVED UNDER SDP APPLICATION SDP-94-066.
 - THE PROPOSED LIMIT OF DISTURBANCE REMAINS UNFORESTED.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT AND ASSOCIATED SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PLAN FOR COMPLIANCE WITH HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR DURING THE SITE DEVELOPMENT PLAN OR RED-LINE REVISION REVIEW PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- AS OF AUGUST 6, 2019, NO HYDRIC SOILS ARE PRESENT PER HOWARD COUNTY GIS.

SITE ANALYSIS DATA SHEET:

WETLANDS BUFFER AREA: 0.000 ACRES
 FLOODPLAINS BUFFER AREA: 0.000 ACRES
 FORESTS: 0.090 ACRES (OUTSIDE OF L.O.D.)
 STEEP SLOPE AREA (15-25%): 0.076 ACRES (3,331 SF)
 STEEP SLOPE AREA (>25%): 0.033 ACRES (1,451 SF)
 ERODIBLE SOILS: 0.000 ACRES
 TOTAL PROJECT AREA: 1.165 ACRES
 TOTAL L.O.D. AREA: 0.989 ACRES
 PROPOSED SITE USE: FAST FOOD RESTAURANT
 GREEN OPEN AREA: 0.000 ACRES
 IMPERVIOUS AREA: 0.693 ACRES
 APPLICABLE DPZ FILE REFERENCES: SDP-94-066

DESIGN NARRATIVE

NATURAL RESOURCE PROTECTION AND ENHANCEMENT
 THE SUBJECT PROPERTY IS CURRENTLY PARTIALLY DEVELOPED. THERE EXISTS TODAY A STAND OF TREES COVERING 6,280 SF ALONG THE SOUTHWEST AND SOUTHEAST PROPERTY LINES WHICH WILL REMAIN UNDISTURBED. THIS TREE STAND DOES NOT MEET THE CRITERIA FOR "FOREST" AS DEFINED ON PAGE II-4 OF CHAPTER 2 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL. THUS, NO FOREST CONSERVATION REGULATIONS APPLY TO THE PROJECT. THE PROPOSED DEVELOPMENT WILL BE CONFINED MOSTLY TO THE LIMITS OF THE EXISTING DEVELOPMENT AND GRAVEL PARKING LOT. THE PROPOSED DEVELOPMENT INCLUDES ADDITIONAL WATER QUALITY MEASURES, WHICH WILL BENEFIT THE DOWNSTREAM FACILITIES. NO IMPACTS TO STREAMS, STREAM BUFFERS, WETLANDS, WETLAND BUFFERS, COUNTY REGULATED STEEP SLOPES OF 20,000 SF CONTIGUOUS OR GREATER, OR FLOODPLAINS ARE PROPOSED WITH THIS PLAN WITHIN THE LOD. THERE ARE NO COUNTY REGULATED STEEP SLOPES OF 20,000 SF CONTIGUOUS OR GREATER.

MAINTENANCE OF NATURAL FLOW PATTERNS
 THE EXISTING SITE IS CURRENTLY DEVELOPED AND THE MAJORITY OF THE EXISTING IMPROVEMENTS DISCHARGE TO AN UNDERGROUND STORMWATER FACILITY LOCATED NEAR THE NORTHEAST CORNER OF THE SUBJECT PROPERTY. THE DESIGN OF THE UNDERGROUND SYSTEM IS DOCUMENTED IN SDP-94-066. THE REMAINDER OF THE SITE FLOWS OVERLAND TOWARDS US ROUTE 1 TO THE NORTHWEST OR TOWARDS THE ADJACENT PROPERTY TO THE SOUTHWEST. THE OUTLET WOULD BE CONSTRUCTED IN A MANNER TO MINIMIZE OFF-SITE DRAINAGE IMPACTS. THE UNDERGROUND SYSTEM IS BEING REMOVED AND REPLACED WITH A MICRO-BIORETENTION BASIN DESIGNED IN ACCORDANCE WITH THE MARYLAND SWM BMP MANUAL. THE NEW MICRO-BIORETENTION PRACTICE WILL DISCHARGE VIA A NEW OUTLET CONTROL STRUCTURE TO AN EXISTING ON-SITE INLET (IDENTIFIED AS "I-1" ON SDP-94-066) WHICH PREVIOUSLY SERVED AS THE OUTLET CONTROL DEVICE FOR THE UNDERGROUND BASIN. THE EXISTING STRUCTURE WILL BE REMOVED AND REPLACED WITH A NEW MANHOLE AS OUTLET CONTROL IS NOW BEING PROVIDED BY A NEW STRUCTURE LOCATED WITHIN THE NEW MICRO-BIORETENTION BASIN.

REDUCTION OF IMPERVIOUS AREAS

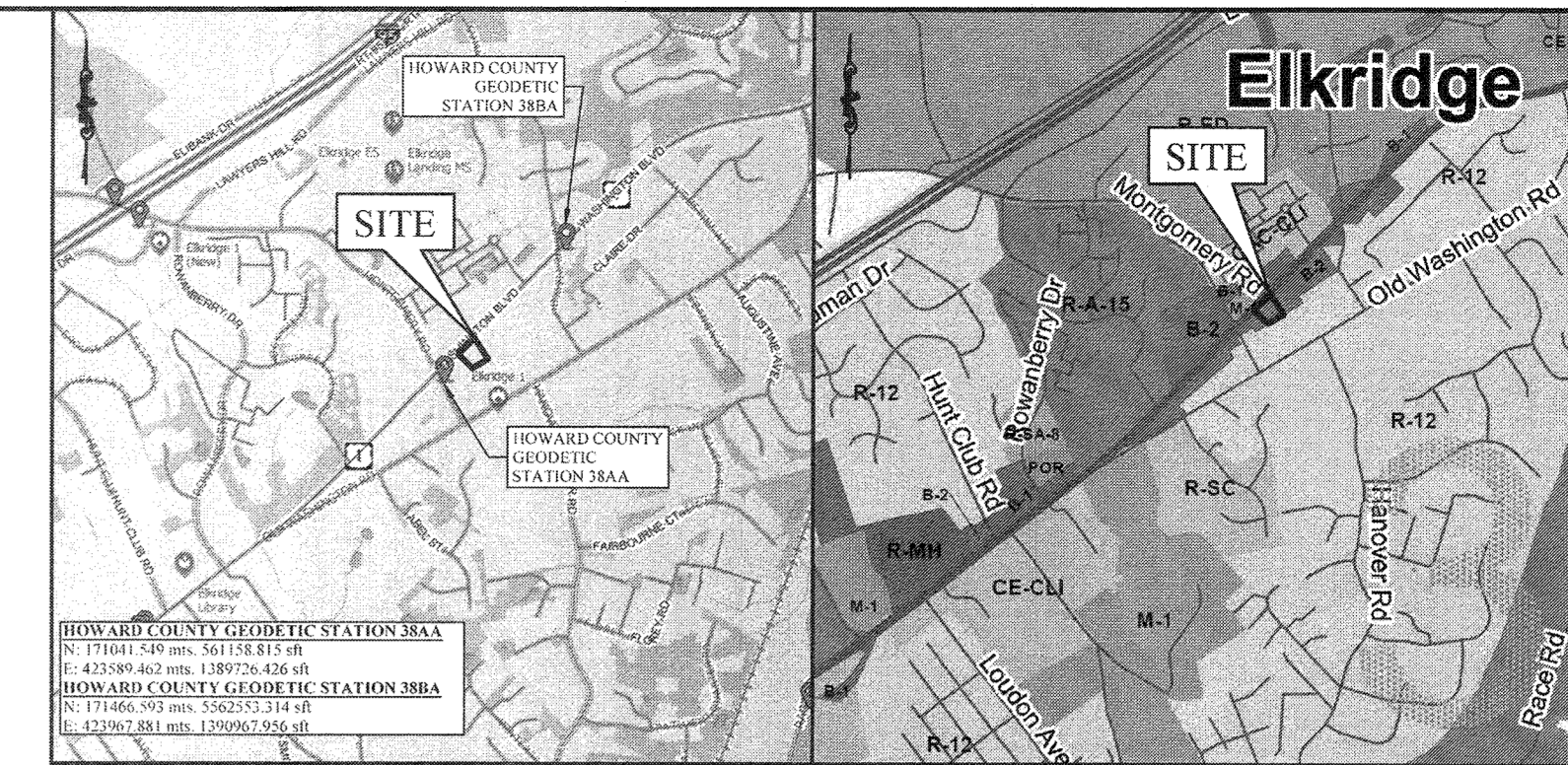
THE PROPOSED SITE IMPROVEMENTS WILL INCREASE THE SITE'S IMPERVIOUS FOOTPRINT BY APPROXIMATELY 9,839 SF PER CURRENT DESIGN ITERATION. DUE TO THE PROPERTY COMPRISING OF HYDRIC TYPE 'D' SOILS, IT WAS DETERMINED THAT INFILTRATION-DEPENDENT BMPs WOULD NOT BE SUITABLE TO THE PROPOSED DEVELOPMENT. CURRENT USGS SOILS MAPS IDENTIFY THE PARCEL AS UNDERLAIN BY URBAN LAND/DORCHTHEIS COMPLEX (LUD). HISTORIC HOWARD COUNTY SOILS MAP (1917) IDENTIFY THE PARCEL AS UNDERLAIN BY LEONARDTOWN LOAM (LO). REGARDING THIS SOIL GROUP PAGE 27 THE "SOIL SURVEY OF HOWARD COUNTY, MARYLAND" 1917 EDITION PREPARED BY THE US DEPARTMENT OF AGRICULTURE STATES: "UNDERDRAINAGE IS IN MOST PLACES RATHER POOR, AS THE COMPACT CONDITION OF THE LOWER SUBSOIL PREVENTS A READY DOWNWARD MOVEMENT OF WATER." AS SUCH THE PROPOSED MICROBIORETENTION BASIN IS PROPOSED WITH AN UNDERDRAIN. SEE SHEET #3 IN THIS PLAN SET FOR ADDITIONAL INFORMATION REGARDING THE STORMWATER MANAGEMENT STRATEGIES FOR THIS DEVELOPMENT.

INTEGRATION OF SEDIMENT CONTROL FEATURES

SEDIMENT CONTROL FOR THIS SITE WILL BE PROVIDED BY A STABILIZED CONSTRUCTION ENTRANCE, PERIMETER CONTROLS AT THE DOWNHILL SIDE OF THE PROJECT SITE, AND INLET PROTECTION DEVICES. STOCKPILE AREAS WILL BE PROVIDED ADJACENT TO THE PROPOSED BUILDING. SEDIMENT CONTROL DESIGN WILL INCLUDE A DETAILED SEQUENCE OF CONSTRUCTION TO MINIMIZE OFF-SITE IMPACTS AND TO REQUIRE THE INSTALLATION OF THE STORMWATER FEATURES IN SUCH A MANNER THAT THEY WILL FUNCTION FULLY UPON COMPLETION OF CONSTRUCTION.

IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES

THE ESD TECHNIQUE DESIGNATED AS "M-6 - MICRO-RETENTION" WILL BE IMPLEMENTED TO PROVIDE THE REQUIRED WATER QUALITY IN ITS ENTIRETY. THE BASIN WILL BE CONSTRUCTED IN ACCORDANCE WITH THE BMP MANUAL, AND WILL BE PROVIDED WITH AN UNDERDRAIN DUE TO RESTRICTIVE SOILS PRESENT AT THE SITE. THE USE OF THE UNDERDRAIN WILL BE RE-EVALUATED IF IN-SITU SOILS TESTING REVEALS THAT INFILTRATION RATES IN THE FOOTPRINT OF THE MICRO RETENTION BASIN ARE FAVORABLE.



VICINITY MAP
 SCALE: 1" = 2,000'
 ADC MAP 4937 GRID D-7

HOWARD COUNTY ZONING MAP
 NOT TO SCALE

PROPOSED LEGEND

	FULL-DEPTH ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	MANHOLE
	INLET
	CURB
	DEPRESSED CURB
	PROPERTY LINE
	STORMWATER LINE
	SANITARY LINE
	WATER LINE
	ELECTRIC LINE
	GAS LINE
	ADA RAMP
	FLOW ARROW
	PROPOSED CONTOUR
	PROPOSED SPOT GRADE (APPROXIMATE)
	H.P.
	EXISTING SLOPE 15-25%
	EXISTING SLOPE > 25%

SESC LEGEND

	SILT FENCE		SUPER SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE		CONCRETE WASHOUT STRUCTURE
	LIMIT OF DISTURBANCE		AT-GRADE INLET PROTECTION
	TEMPORARY TREE PROTECTION		AGIP
	TTP		

EXISTING SYMBOLS LEGEND

	EXISTING CONTOUR		PAINTED ARROWS
	EXISTING SPOT ELEVATION		SIGN
	EXIST TOP OF CURB ELEVATION		BOLLARD
	EXIST GUTTER ELEVATION		MONITORING WELL
	EXIST TOP OF WALL ELEVATION		AREA LIGHT
	EXIST BOTTOM OF WALL ELEVATION		CATCH BASIN OR INLET
	EXIST FINISHED FLOOR ELEVATION		DECIDUOUS TREE & TRUNK SIZE
	OVERHEAD WIRES		CONIFEROUS TREE & TRUNK SIZE
	APPROX LOC. UNDERGROUND GAS LINE		PARKING SPACE COUNT
	APPROX LOC. UNDERGROUND ELEC. LINE		CHAIN LINK FENCE
	APPROX LOC. UNDERGROUND CABLE LINE		DEPRESSED CURB
	DEPRESSED CURB		EDGE OF CONC.
	HYDRANT		EDGE OF PAVEMENT
	WATER VALVE		GUTTER LINE
	WATER METER		LANDSCAPED AREA TYPICAL
	GAS VALVE		DETECTABLE WARNING PAD
	GAS METER		SOLID WHITE LINE
	ELECTRIC METER		HEIGHT
	DRAINAGE/STORM MANHOLE		BUILDING
	SANITARY/SEWER MANHOLE		BUILDING FOOTPRINT AREA
	CLEAN OUT		TERRACOTTA PIPE
	UTILITY POLE		



SCALE 1" = 20' FEET

INDEX OF SHEETS

1	OF	3	COVER SHEET & INDEX OF SHEETS
2	OF	3	EXISTING CONDITIONS & DEMOLITION PLAN
3	OF	3	ENVIRONMENTAL CONCEPT PLAN

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
PARCEL 117	6281 WASHINGTON BOULEVARD

PERMIT INFORMATION CHART

SUBDIVISION NAME: AKS INC. PROPERTY	SECTION/AREA: _____	LOT/PARCEL NO.: PARCEL 117
PLAT# OR L.P.:	GRID #: D7	ZONING: B2
TAX MAP NO.: 47	ELECT DISTRICT: 1	CENSUS TRACT: 601201
WATER CODE: D-09	SEWER CODE: 2022427	

REVISIONS

NO.	DESCRIPTION	DATE
1	1ST APPROVAL COMPLIANCE	08/12/19

DESIGNED BY: BWC	JOB NO: 1061-135
DRAWN BY: BWC	DATE: 06/18/2019
CHECKED BY: BWC	SCALE: 1" = 20'

ENVIRONMENTAL CONCEPT PLAN

6281 WASHINGTON BOULEVARD
 MAP 38, GRID 8, PARCEL 117
 COUNCIL DISTRICT 1
 ELECTION PRECINCT 1-01
 COMMUNITY OF ELKRIDGE
 HOWARD COUNTY, MARYLAND

TACO BELL

SHEET TITLE: COVER SHEET AND INDEX OF SHEETS

SHEET NUMBER: 1 of 3

FOR APPROVAL PURPOSES ONLY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cheryl Anderson
 CHIEF OF DEVELOPMENT ENGINEERING DIVISION
 DATE: 9/20/19

Kent Steinhilber
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8/27/19

THE PETTIT GROUP, LLC
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THE CONTRACTOR MUST VERIFY ALL DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK, AND NOTIFY THE OWNER OF ANY DISCREPANCIES. THE CONTRACTOR SHALL UNDERSTAND THAT THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE ONLY APPROXIMATE. IT IS IMPORTANT TO NOTE THAT NOT ALL UTILITIES MAY BE SHOWN ON THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UTILITIES AERIAL AND BURIED PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE UNDERGROUND UTILITY MARK-OUT SERVICE (1-800-722-6809) PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO REPAIR (AT HIS EXPENSE) ALL DAMAGED UTILITIES RESULTING FROM HIS WORK.

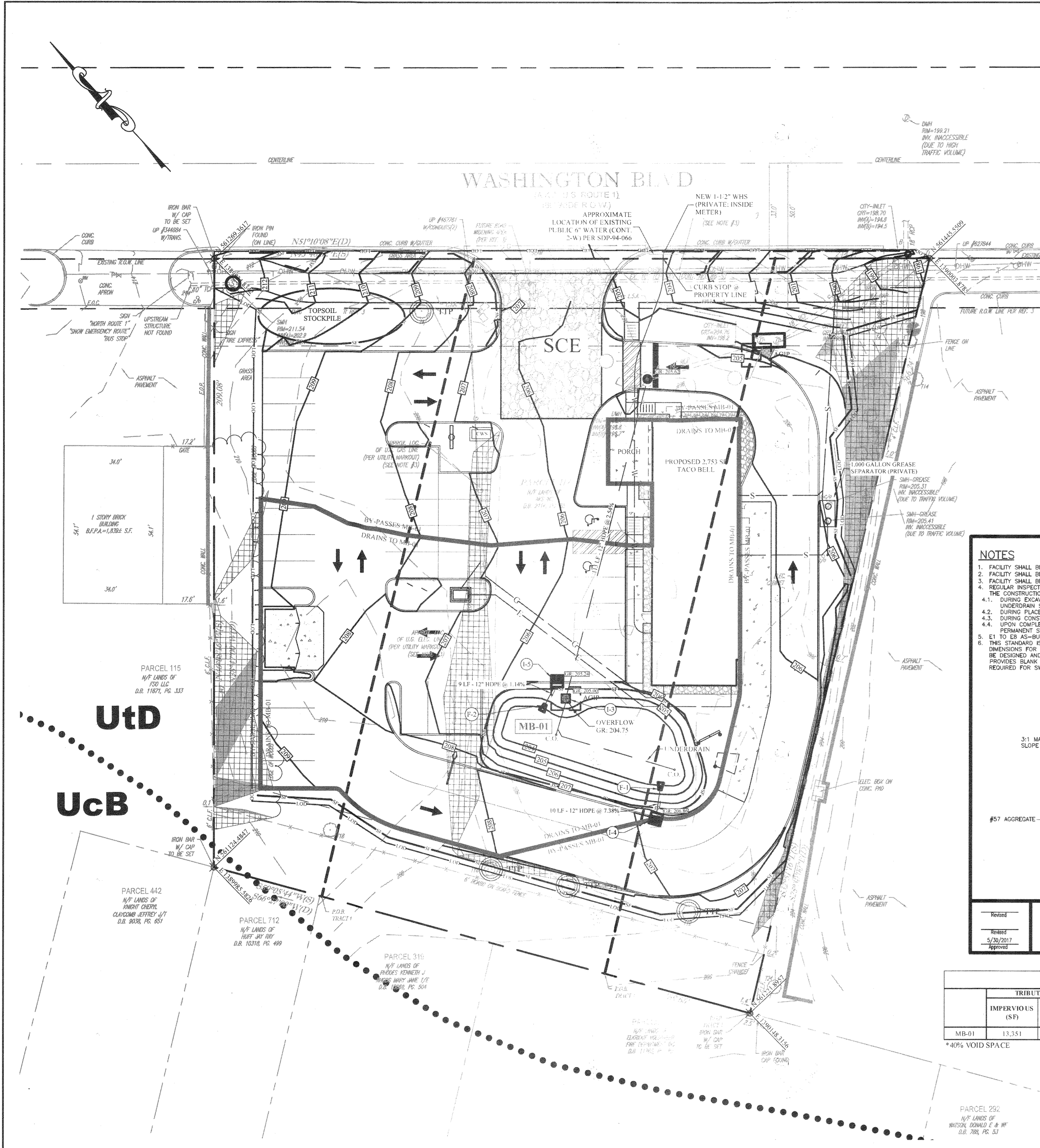
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NUMBER 54411.

Brian W. Cleary
 BRIAN W. CLEARY
 Professional Engineer
 State of New Jersey • License # GE 51748
 State of Pennsylvania • License # PE081074
 State of Maryland • License # 54411
 State of North Carolina • License # 048763

OWNER:
 AKS, INC. C/O R. GLOTH
 5012 CEDAR AVENUE
 HALETHORPE, MD 21227-4926
 (410) 292-5424

DEVELOPER:
 BLT CAPITAL, LLC
 14 BALLGOMINGO ROAD
 CONSHOHOCKEN, PA 19428
 (610) 520-1000

10/04/2019 10:41:13 AM Elkridge - Taco Bell - ECP - 117 - Sheet 11 - Cover - 11/19/19 10:41:13 AM Michael J. Landi

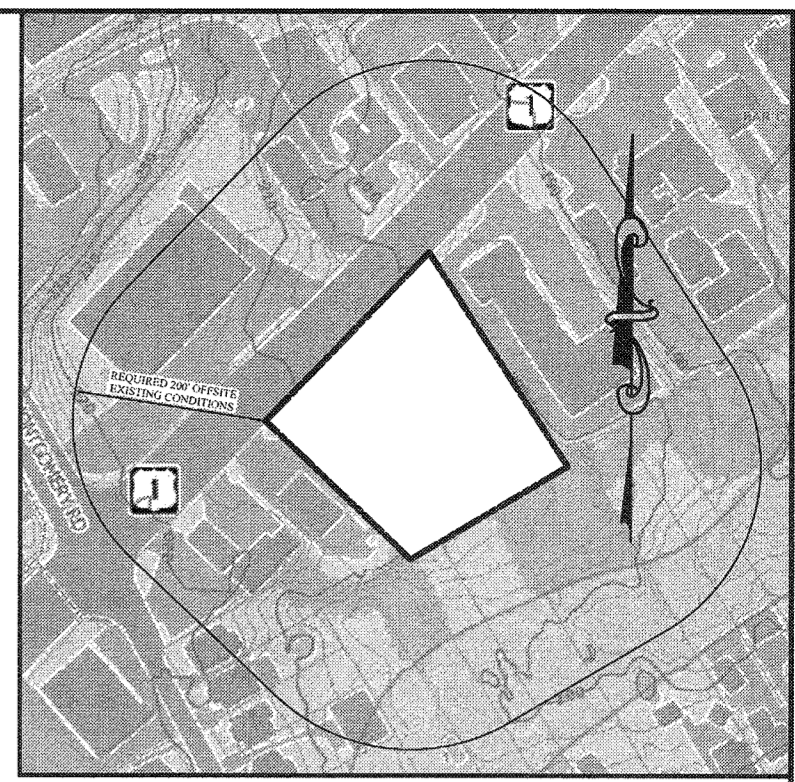


PROPOSED LEGEND	
[Symbol]	FULL-DEPTH ASPHALT PAVEMENT
[Symbol]	CONCRETE PAVEMENT
[Symbol]	MANHOLE
[Symbol]	INLET
[Symbol]	CURB
[Symbol]	DEPRESSED CURB
[Symbol]	PROPERTY LINE
[Symbol]	STORMWATER LINE
[Symbol]	SANITARY LINE
[Symbol]	WATER LINE
[Symbol]	ELECTRIC LINE
[Symbol]	GAS LINE
[Symbol]	ADA RAMP
[Symbol]	FLOW ARROW
[Symbol]	PROPOSED CONTOUR
[Symbol]	PROPOSED SPOT GRADE (APPROXIMATE)
[Symbol]	H.P.
[Symbol]	EXISTING SLOPE = 15-25%
[Symbol]	EXISTING SLOPE = 25%

SESC LEGEND	
[Symbol]	SILT FENCE
[Symbol]	SUPER SILT FENCE
[Symbol]	STABILIZED CONSTRUCTION ENTRANCE
[Symbol]	CONCRETE WASHOUT STRUCTURE
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	AT-GRADE INLET PROTECTION
[Symbol]	TEMPORARY TREE PROTECTION

SITE SOILS			
NAME	SYMBOL	DESCRIPTION	'K' FACTOR*
URBAN LAND-UDOR THENTS COMPLEX	UdD	0 TO 15 PERCENT SLOPES	N/A
URBAN LAND-CHILLUM BELLSVILLE COMPLEX	UcB	0 TO 5 PERCENT SLOPES	0.43

LDA/LOD: 43,069 SF (0.989 ACRES)



NOTES

- FACILITY SHALL BE A MINIMUM OF 10 FT FROM ANY BUILDING.
- FACILITY SHALL BE INSTALLED IN EXCAVATED VIRGIN SOIL (NOT FILL).
- FACILITY SHALL BE MINIMUM 4" ABOVE THE SEASONAL HIGH WATER TABLE.
- REGULAR INSPECTIONS SHALL BE REQUIRED DURING FOLLOWING STAGES OF THE CONSTRUCTION:
 - 4.1. DURING EXCAVATION TO SUBGRADE AND PLACEMENT AND BACKFILL OF UNDERDRAIN SYSTEMS.
 - 4.2. DURING PLACEMENT OF PLANTING MEDIA.
 - 4.3. DURING CONSTRUCTION OF APPURTENANCE CONVEYANCE.
 - 4.4. UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.
- E1 TO E8 AS-BUILT SPOT ELEVATION LOCATIONS.
- THIS STANDARD IS A REFERENCE TO SHOW THE ELEMENTS AND MINIMUM DIMENSIONS FOR A MICRO-BIORETENTION FACILITY. EACH FACILITY SHALL BE DESIGNED AND APPROVED ON A SITE SPECIFIC BASIS. THIS SHEET PROVIDES BLANK SPACES TO INFORM WHERE AS-BUILT INFORMATION IS REQUIRED FOR SWM CLOSURE.

AS-BUILT FACILITY DIMENSIONS

WIDTH (A) FT
LENGTH (B) FT
DEPTH (C) FT

AS-BUILT FACILITY ELEVATIONS

E1 FT CORNER
E2 FT CORNER
E3 FT CORNER
E4 FT CORNER
E5 FT CENTER
E6 FT LOW SIDE AT TOP OF THE SLOPE
E7 FT OUTFALL
E8 FT TOP OF INLET

PLAN

SECTION A-A

Howard County, Maryland
Department of Public Works

Approved: *Dorcas R. Smith*
Chief, Bureau of Engineering

MICRO-BIORETENTION FACILITY
Private For Reference

Detail
D-9.03

EDA-01 GROUND COVER SUMMARY (SQ. FEET)		DA-01 GROUND COVER SUMMARY (SQ. FEET)	
BLDG	1,944	BLDG	2,753
MISC. IMP	18,414	WALKS	2,537
		PARKING	11,622
		DRIVES	11,851
		MISC. IMP	1,434
EX. IMPERVIOUS SUBTOTAL	20,358	PROP. IMPERVIOUS SUBTOTAL	30,197
EX. PVIOUS SUBTOTAL*	30,400	PROP. PVIOUS SUBTOTAL	20,561
TOTAL	50,758	TOTAL	50,758

STORMWATER MANAGEMENT NARRATIVE:
SUMMARY OF IMPROVEMENTS: THE APPLICANT IS PROPOSING THE DEMOLITION OF THE EXISTING 2,194 SF TACO BELL RESTAURANT AND CONSTRUCT A NEW 2,753 SF TACO BELL. INCLUDED IN THE PROJECT IS THE RE-CONSTRUCTION OF THE PARKING LOT, LIGHTING & LANDSCAPE IMPROVEMENTS, AND A 10-FT WIDE MULTI-MODAL PATH AS REQUIRED BY HOWARD COUNTY'S DESIGN ADVISORY PANEL. THE IMPROVEMENTS WILL RESULT IN A NET INCREASE OF IMPERVIOUS COVERAGE OF 9,839 SF (NEW DEVELOPMENT).

DEVELOPMENT HISTORY: THE PARCEL IN QUESTION WAS ORIGINALLY DEVELOPED UNDER SDP-94-066 "TACO BELL RESTAURANT". STORMWATER MANAGEMENT IS CURRENTLY PROVIDED BY AN UNDERGROUND STORMWATER MANAGEMENT FACILITY.

SWM REQUIREMENT CALCULATION CRITERIA: SITES WITH AN EXISTING IMPERVIOUS COVERAGE OF 40% OR MORE MEET THE REDEVELOPMENT CRITERIA AS DEFINED BY THE MDE STORMWATER MANAGEMENT MANUAL. FOR REDEVELOPMENT PROJECTS, THE MANUAL REQUIRES THAT 50% OF THE EXISTING IMPERVIOUS COVERAGE WITHIN THE LIMIT OF DISTURBANCE BE EITHER CONVERTED TO PVIOUS SURFACE OR TREATED WITH ESD PRACTICES TO THE MEP. ALL NEW IMPERVIOUS COVER MUST BE TREATED AS A NEW DEVELOPMENT. BELOW ARE THE CALCULATIONS WHICH DEMONSTRATE THAT THE ESD REQUIREMENTS FOR REDEVELOPMENT AND NEW DEVELOPMENT WILL BE MET.

ESD CALCULATION				
PRE-CONSTRUCTION IMPERVIOUS AREA (SF)	20,358 SF			
POST-CONSTRUCTION IMPERVIOUS AREA (SF)	30,197 SF			
INCREASE IN IMPERVIOUS AREA (SF)	9,839 SF			
	IMPERVIOUS AREA (SF)	TREATMENT AREA (SF)	RAINFALL (IN.)	VOLUME (CF)
REDEVELOPMENT	20,358	50%	1.0	848
NEW DEVELOPMENT	9,839	100%	1.8	1,476
TOTAL ESD, REQUIRED TO BE TREATED (CF):				2,324

GRADING OF THE SITE HAS BEEN DESIGNED TO ROUTE A DRAINAGE AREA OF 17,600 SF, WHICH IS LESS THAN THE MAXIMUM TREATMENT AREA OF 20,000 SF. TO THE PROPOSED MICRO-BIORETENTION SYSTEM, SLOPES OF THE CONTRIBUTING DRAINAGE AREA ARE GRADUAL (< 5%). THE REMAINING SURFACE AREA OF THE SITE (33,158 SF) WILL DRAIN TO THE EXISTING STORM SEWER SYSTEM LOCATED IN THE WASHINGTON BOULEVARD RIGHT-OF-WAY.

REV CALCULATIONS:
FOR MICRO-BIORETENTION PRACTICES, REV REQUIREMENTS ARE MET WHEN THE TARGET RAINFALL, P_r FROM EQUATION 5.2 MEETS OR EXCEEDS THE SOIL SPECIFIC RECHARGE FACTOR LISTED IN SECTION 2.2. DUE TO THE PRESENCE OF HSG TO SOILS, THE SOIL SPECIFIC RECHARGE FACTOR IS = 0.07. PER EQUATION 5.2 FOR MICRO-BIORETENTION PRACTICES, TARGET RAINFALL, P_r = 0.079. THEREFORE, REV REQUIREMENTS HAVE BEEN MET FOR THIS SITE.

SWM DESIGN NARRATIVE: THE PROPOSED MICRO-BIORETENTION PRACTICE IS REQUIRED TO STORE THE ESD STORAGE VOLUME OF 2,324 CF. ALL RUNOFF FROM THE SUBJECT PROPERTY WILL DISCHARGE TO THE PROPOSED MICRO-BIORETENTION FACILITY. THE STORAGE WITHIN THE MICRO-BIORETENTION BASIN IS BROKEN DOWN INTO TWO COMPONENTS, THE STORAGE BETWEEN THE DISCHARGE GRATE ELEVATION AND THE TOP OF THE MULCH BED, AND THE STORAGE IN THE STONE BED BELOW THE UNDERDRAIN. THE STONE STORAGE BED BELOW THE UNDERDRAIN IS REQUIRED TO STORE A MINIMUM OF 25% (581 CF) OF THE ESDV. THE STONE STORAGE BED HAS BEEN DESIGNED TO STORE 1,004 CF BELOW THE INVERT OF THE UNDERDRAIN. THE STORAGE BETWEEN THE MULCH LAYER AND THE GRATE ELEVATION OF INLET I-3 HAS BEEN DESIGNED TO STORE 1,555 CF. TOTAL STORAGE FOR THE PROPOSED MICRO-BIORETENTION FACILITY IS 2,324 CF. THEREFORE, THE ESD REQUIREMENTS HAVE BEEN MET. DISCHARGE FROM THE MICRO-BIORETENTION SYSTEMS WILL FLOW TOWARDS THE EXISTING STORM SEWER SYSTEM LOCATED WITHIN THE WASHINGTON BOULEVARD RIGHT-OF-WAY.

MICRO BIORETENTION FACILITY SUMMARY										
TRIBUTARY AREA	TEMP. STORAGE ABOVE FILTER			STORAGE BELOW UNDERDRAIN						
	IMPERVIOUS (SF)	GRASS (SF)	TOTAL (SF)	BASEIN BOTTOM ELEV. (FT)	MAX. WATER ELEV. (FT)	MAX. BASIN STORAGE (CF)	BASEIN BOTTOM SURFACE AREA (SF)	UNDERDRAIN INVERT (FT)	STONE BOTTOM ELEVATION (FT)	STONE STORAGE (CF)*
MB-01	13,351	4,249	17,600	204.00	204.75	946	1,116	200.08	196.91	1,415

COMPLIANCE CHECK	
REQUIRED ESD (CF)	2,324
TOTAL VOLUME PROVIDED (CF)	2,361
REQUIREMENT MET:	YES
RAINFALL PERMITTED TO BE TREATED BY BMP (IN.) *	2.6
RAINFALL TREATED BY BMP (IN.)	1.6
REQUIREMENT MET:	YES
MAX. DEPTH OF TEMPORARY STORAGE ABOVE FILTER (IN.)	12.0
DEPTH OF STORAGE BELOW UNDERDRAIN (IN.)	12.0
OUTLET CONTROL GRATE (IN.)	9.0
REQUIREMENT MET:	YES



SCALE 1" = 20' FEET

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 9-20-19
CHIEF, DEVELOPMENT ENGINEERING DIVISION JP

[Signature] 8-27-19
CHIEF, DIVISION OF LAND DEVELOPMENT

THE PETTIT GROUP, LLC
Engineering • Architecture • Planning

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Certificate of Authorization No. 24GA28131400

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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 54411.

Brian W. Cleary
Professional Engineer
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State of Pennsylvania • License # PE081074
State of Maryland • License # 54411
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REVISIONS		DESIGNED BY:	JOB NO.:
NO.	DESCRIPTION	DATE	1061-135
1	100% APPROVAL COMPIANCE	08/12/19	

ENVIRONMENTAL CONCEPT PLAN

6281 WASHINGTON BOULEVARD
MAP 38, GRID K, PARCEL 117
COUNCIL DISTRICT 1
ELECTION PRECINCT 1-01
COMMUNITY OF ELKRIE
HOWARD COUNTY, MARYLAND

TACO BELL

SHEET TITLE: ENVIRONMENTAL CONCEPT PLAN
SHEET NUMBER: 3 of 3

FOR APPROVAL PURPOSES ONLY

FROM: William Corp. 13.00.00; THE PETTIT GROUP, LLC; 12/20/19 3:00 PM; Michael P. L...
 DATE: 5/20/2017
 APPROVED: