ENVIRONMENTAL CONCEPT PLAN FOR COLUMBIA CRESCENT PHASE I AREA 3, PHASE I

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

PARCEL 527 ECP-16-042

HOWARD COUNTY MARYLAND

SITE ANALYSIS DATA CHART

1. GENERAL SITE DATA
   a. PRESENT ZONING: NT-DMUA
   b. APPLICABLE DPZ FILE REFERENCES: N/A
   c. PROPOSED USE:
      HOWARD CO. MULTI-USE NEW TOWNE DEVELOPMENT
   d. EXISTING USE: VACANT/OVERFLOW PARKING FOR EVENTS
   e. PROPOSED WATER: PUBLIC
   f. PROPOSED SEWER: PUBLIC
   g. ANY OTHER RELEVANT INFORMATION: N/A
   h. AREA OF STEEP SLOPES 15% AND GREATER: 0.68 AC.
   i. AREA OF HIGHLY ERODIBLE SOIL : 0.56 Ac.
   j. AREA OF ONSITE FLOODPLAIN AND ITS BUFFER: 0.00 AC.
   k. AREA OF ONSITE WETLANDS AND THEIR BUFFERS: 0.00 AC.
   l. AREA OF FORESTS: 4.96 AC.
   m. AREA OF ERODIBLE SOILS: 0.68 AC.±
   n. FDP-DC-CRESCENT-1A

2. AREA TABULATION
   a. TOTAL SITE AREA: 21.39 AC.±
   b. TOTAL LIMIT OF DISTURBED AREA: 22.68 AC.±
      GRADING UNIT I LOD = 2.82 AC.±
      GRADING UNIT II LOD = 19.86 AC.±
   c. ONSITE LIMIT OF DISTURBED AREA: 21.39 AC.±
   d. OFFSITE LIMIT OF DISTURBED AREA: 1.29 AC.±
   e. TOTAL IMPERVIOUS AREA: 18.43 AC.±
   f. BUILDING COVERAGE OF SITE: 548,105 SQ FT
   g. GREEN OPEN AREA: 2.96 AC.±

3. THERE ARE REGULATED STREAMS, WETLANDS 100 YEAR FLOODPLAINS, ASSOCIATED BUFFERS, OR STEEP SLOPES ON OR ADJACENT TO THE SITE. JUSTIFICATIONS ARE NECESSARY AS DESCRIBED IN THE HOWARD COUNTY CODE SECTION 16.116(c). DISTURBANCE TO THE FLOODPLAIN, STREAM, WETLANDS, OR ASSOCIATED BUFFERS IS NOT ANTICIPATED WITH THE PROPOSED CONSTRUCTION. IMPACTS TO STEEP SLOPES AT THE INTERSECTION OF ROAD 'F' AND THE NORTH-SOUTH CONNECTOR (ROAD 'D') IS AN ALLOWED ESSENTIAL DISTURBANCE TO TIE INTO THE GRADES AS PROPOSED ON THE ASSOCIATED PLANS.

4. THIS PLAN IS EXEMPT FROM FOREST CONSERVATION ACT REQUIREMENTS UNDER SUBSECTION 16.1202(B)(IV) SINCE IT IS PART OF A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY PLAN APPROVAL AND 50% OR MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992.

5. DURING CONSTRUCTION THIS PLAN SHALL MEET THE 2011 MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL.

6. APPROVAL OF THIS ECP BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT PROVIDE APPROVAL OF THE SHOWN SEDIMENT CONTROLS.

ENVIRONMENTAL DATA SOURCES

1. FLOODPLAIN INFORMATION SHOWN HEREON REFLECTS THE RESULT OF A STUDY PERFORMED BY BIOHABITATS DATED 06/18/2015.
2. WETLANDS AND ASSOCIATED ENVIRONMENTAL INFORMATION SHOWN HEREON REFLECT THE RESULT OF AN INVESTIGATION PERFORMED BY DMW DATED MARCH 2015.
3. SOIL SURVEY INFORMATION SHOWN HEREON REFLECTS HOWARD COUNTY SOILS INFORMATION DATED 11/26/2007.
4. DECLARATION OF RESTRICTIVE COVENANT AREAS : ARMY CORPS OF ENGINEERS PERMIT NUMBER 2014-61063, SPECIAL CONDITION #14 REQUIRES THAT ANY WETLAND MITIGATION AREAS BE PROTECTED IN PERPETUITY BY A DECLARATION OF RESTRICTIVE COVENANTS TO BE RECORDED BY JULY 1, 2016. THIS DOCUMENT PROHIBITS ANY DISTURBANCE WITHIN THIS AREA INCLUDED BUT NOT LIMITED TO NEW DEVELOPMENT, INSTALLATION OF UTILITIES, GRADING, REMOVAL OF VEGETATION, ETC. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND THE ARMY CORPS OF ENGINEERS HAVE PLACED THESE RESTRICTIVE COVENANTS ON THE AREA TO PROTECT WATER QUALITY, ENVIRONMENTAL RESOURCES AND THE MITIGATION AREA REQUIRED TO OFF-SET IMPACTS TO WETLANDS, STREAMS AND FLOODPLAINS PROPOSED BY THIS DEVELOPMENT.

ENVIRONMENTAL SITE DESIGN (ESD) CONCEPT & IMPLEMENTATION SUMMARY

THE ESD'S SHOWN ON THE ENVIRONMENTAL CONCEPT PLAN, AS REQUIRED IN CHAPTER 5 OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) STORMWATER DESIGN MANUAL AND VOLUME 1, CHAPTER 5 OF THE HOWARD COUNTY DESIGN MANUAL, HAVE BEEN DESIGNED TO THE (MEP) MAXIMUM EXTENT PRACTICAL. FOR THIS PROJECT, THE ESD STRATEGIES INCLUDED:

NATURAL RESOURCE PROTECTION

MAINTENANCE OF NATURAL FLOW PATTERNS

REDUCTION OF IMPERVIOUS AREA

INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO THE STORMWATER MANAGEMENT STRATEGY

PROPOSED STORMWATER MANAGEMENT REQUIREMENTS

IMPLEMENTATION OF ESD PLANNING AND PRACTICES TO THE MEP

DESIGH MANUAL AND WAIVER PETITIONS

QUANTITY STORMWATER MANAGEMENT

NATURAL RESOURCE PROTECTION

Natural resources are protected by minimizing the amount of tree removal and woods clearing to the extent practical. Surrounding forest conservation and stream buffer areas will be left undisturbed with the exception of minimal slope grading tie-ins. New planting areas are proposed onsite that will provide habitat and greenery for the area. Also, the treatment of impervious surface runoff by structural micro-scale practices on-site, protects surrounding downstream areas by filtering out pollutants that potentially may be harmful to aquatic life and vegetation. The Micro-Scale practice (M-6) tree pit micro-bioretention will also provide habitat and greenery enhancement for the area.

MAINTENANCE OF NATURAL FLOW PATTERNS

Natural drainage patterns are maintained to the extent practical. It is the intent to retain the existing drainage divides, for the most part, in order to maintain discharges to existing wetland and floodplain areas. Proposed micro-scale practices will be fitted within the drainage divides for removal of pollutants prior to being released into surrounding tributaries.

REDUCTION OF IMPERVIOUS AREA

Unfortunately, it is not feasible to make a reduction to the impervious surface areas due to the site layout area availability and parking requirements. The parking areas, buildings, and associated vehicular access drives have been efficiently laid out in a urban setting to minimize the overall impervious area. Non-structural practices are not feasible for implementation due to the limited or non-existence of natural areas present on-site.

INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER MANAGEMENT STRATEGY

Initially, the site's sediment and erosion control measures will consist of a perimeter super silt fence, a sediment trap and stabilized construction entrances. As construction progresses, it may be necessary to stage additional sediment control measures which may include utilizing proposed stormwater management ESD tree pit locations, as well as, Stormceptor locations as sediment control sump pit devices for the collection of sediment laden runoff. Conveyance of sediment laden runoff will be achieved by overland flow,pipe, and diversion practices. Perimeter super silt fence and inlet protection will be implemented to further retain occurring sediment within the limit of disturbance.

PROPOSED STORMWATER MANAGEMENT REQUIREMENTS

Redevelopment
Existing Impervious = 5.69 Ac.±
50% = 2.85 Ac.±
WQv = 1" x Area x Rv (where Rv = 0.95)/12
WQv = 1" x 2.845 Ac.± x 0.95/12 = 0.225 Ac./Ft. or **9,811.0 cf. Required**
Surface Area to Treat = 2.85 Ac.± Required & Provided

New Development -
Proposed New Development L.O.D. =16.99Ac±
Proposed Impervious = 12.74 Ac.±
ESDv = Pe x Area x Rv/12
ESDv = 2.2" x 16.99 Ac.± x 0.73/12 = 2.27 Ac./Ft. or **99,048.00 cf. Required**
Total ESDv = (9,811.0 cf) + (99,048.0 cf) = 108,859.0 cf

IMPLEMENTATION OF ESD PLANNING AND PRACTICES TO THE MEP

There are many factors that need to be analyzed in order to select proper ESD stormwater management devices for treatment of stormwater runoff for any given development. For this project, based on soil classifications and existing site characteristics, many, if not all of the ESD practices available could be utilized as a means of ESD stormwater management treatment to the MEP. As part of the Final Development Stage for Crescent a portion of the existing site was determined by Howard County to be acceptable for treatment as redevelopment. (See Exhibit 1 & 2 of this report). However, the proposed site layout has dictated what environmental site design measures can be implemented. Since the proposed site will be predominately impervious, there are limitations to what ESD practices can be used.

(A-2) Permeable pavement practice is being utilized in parallel parking spaces, parking lots, and private roadways for the treatment of runoff onsite roadways and parking areas where practical.

(M-6) Tree pit Micro-Bioretention ESD practice is being utilized for the treatment of all onsite roadways, pedestrian walkways and building rooftops. In addition, the redevelopment requirement will be met with the treatment of runoff from selected onsite parking garages, as well as, a building rooftop. Rinker Stormceptor devices will be used for redevelopment treatment runoff of 1".

Within some drainage areas, where (A-2) permeable pavers and/or (M-6) Micro-bioretention are impractical, the Filterra Stormwater Bioretention Filtration System Units will be utilized to manage the (WQv) water quality requirements.

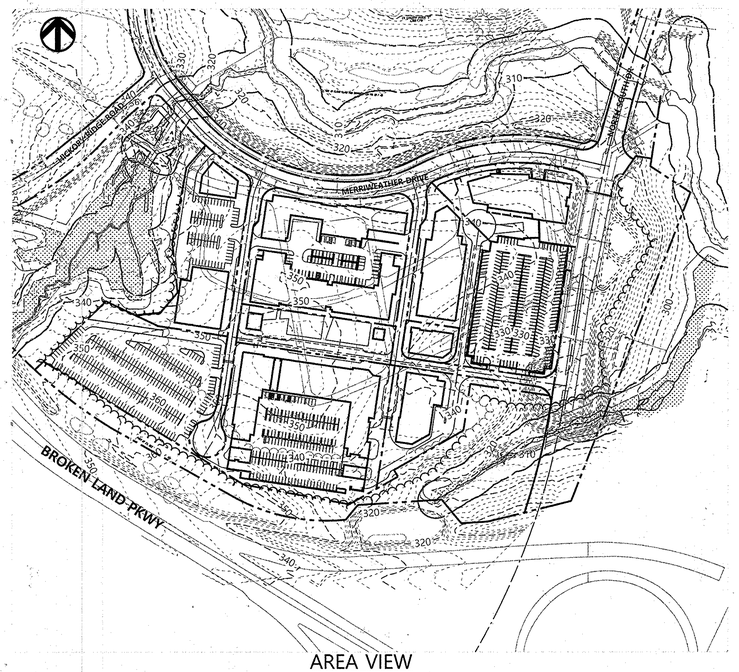
In addition , the redevelopment requirement will be met with the treatment of runoff from selected onsite parking garages that equal 50% of the existing inpervious area on site. Rinker Stormceptors will be used to treat these 1" of runoff from these selected impervious areas.

DESIGN MANUAL AND WAIVER PETITIONS

Methods and design strategies used in the development of the Columbia Crescent Area 3 project conform to the regulations and guidelines as specified in Volume I, Chapter 5 (stormwater management) of the Howard County Design Manual as well as being in accordance with the State of Maryland's Stormwater Management Act of 2007. A Design Manual and Waiver Petition for environmental and stormwater design will not be required.

QUANTITY STORMWATER MANAGEMENT

Since this site is not regarded as a "Hot Spot" or an "area where additional storm water management will be required", 10 and 100 year frequency storms will be safely discharged in surrounding tributaries and/or floodplains. However, with the potential of increased discharges into streams and floodplains that contain existing pipes and culverts, further analysis may be needed to provide extended detention onsite or make improvements to downstream infrastructure. TR55 & TR20 hydrologic/hydraulic programs will be utilized in determining discharge rates.



AREA VIEW
SCALE: 1"=200'

LEGEND

- PROPERTY LINE
- 490 / 488 EX. CONTOURS
- EX. CURB
- EX. BUILDING
- EX. TREELINE
- W W W W EX. 4" S.
- EX. 12" D. EX. SEWER
- EX. STORM DRAIN
- OHT EX. OVERHEAD TELEPHONE
- EX. EASEMENT
- EX. UTILITY POLE
- PROP. EASEMENT
- 490 / 488 PROP. CONTOURS
- PROP. WATER
- 8" S PROP. SEWER
- 12" SD. PROP. STORM DRAIN
- ERB 2014/2015 RESTORATION BOUNDARY
- PROP. BUILDING
- PROP. CURB
- SSF SSF SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- GbC (B) GbC (B) SOILS
- SCE STABILIZED CONSTRUCTION ENTRANCE
- PROP. 100 YEAR FLOODPLAIN
- PROP. TREE LINE
- STORMCEPTOR
- MICRO BIORETENTION
- PERVIOUS PAVING
- PROP. TREE
- ERB 2014/2015/2016 RESTORATION BOUNDARY

SHEET INDEX	
SHEET	DESCRIPTION
1	COVER SHEET
2	KEY SHEET
3	SITE PLAN
4	SITE PLAN
5	SITE PLAN
6	SITE PLAN
7	EXISTING & PROPOSED DRAINAGE AREAS
8	WATER QUALITY DRAINAGE AREA MAP

SEQUENCE OF CONSTRUCTION FOR (SEC)

GRADING UNIT II (19.86 ACRES)

1. OBTAIN A GRADING PERMIT FOR THE PROPOSED WORK. NOTIFY THE HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES (DILP) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. (2 DAYS)
2. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE (SCE) AND SUPER SILT FENCE (SSF) FOR PHASE I. (5 DAYS)
3. AN ONSITE STOCKPILE AREA, IF APPLICABLE, WILL BE LOCATED WITHIN THE LIMIT OF DISTURBANCE WITH THE COORDINATION AND DISCRETION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR AND THE GENERAL CONTRACTOR. ALSO REFER TO PLAN VIEW FOR POTENTIAL STOCKPILE FEATURES. (1 DAY)
4. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN MASS GRADING OPERATIONS. PROVIDE POSITIVE DRAINAGE TO ALL SEDIMENT CONTROL DEVICES. (35 DAYS)
5. BRING SITE AND BUILDING PADS TO SUBGRADE. (35 DAYS)
6. INSTALL ONSITE UTILITIES AND CURB & GUTTER. (60 TO 75 DAYS)
7. BEGIN CONSTRUCTION OF BUILDINGS AND ACCESS DRIVE PAVING. (220 DAYS)

GRADING UNIT I (2.82 ACRES)

8. ONCE PHASE I HAS BEEN STABILIZED* AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR BEGIN GRADING UNIT II SEDIMENT CONTROL INSTALLATION.
9. REPEAT STEPS 2 THRU 7. (APPROXIMATELY 370 DAYS)
10. INSTALL REMAINING INLETS & PIPES. INSTALL SWM-ESD MEASURES - STORMCEPTORS AND TREE PITS FOR GRADING UNITS I & II. (60 DAYS)
11. FINE GRADE, INSTALL LANDSCAPING AND STABILIZE WITH VEGETATIVE STABILIZATION. (15 DAYS)
12. UPON STABILIZATION OF THE SITE AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE THOSE AREAS DISTURBED BY THIS PRACTICE. (2 DAYS)

* (UPON STABILIZATION OF AT LEAST 2.36 ACRES WITH ESTABLISHED VEGETATION)

STANDARD SEDIMENT CONTROL NOTE

1. A PRE- CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE CLEARLY MARKED IN THE FIELD. A MINIMUM OF 48 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 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. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN MASS GRADING OPERATIONS. PROVIDE POSITIVE DRAINAGE TO ALL SEDIMENT CONTROL DEVICES. (5 DAYS)

SEDIMENT CONTROL PHASING NOTE

PHASING LIMITS FOR THE SITE IMPROVEMENTS SHOWN WILL BE ILLUSTRATED AND PROVIDED AT THE TIME OF SDP SUBMISSION AND PROCESSING

Total Target ESDv =	108,859 c.f. Required	
Actual Total Target ESDv on Site:		
Permeable Pavement Practices Target ESDv =	26,317 c.f. Provided	32,416 sf Pavement
Micro-Bioretention Practices Target ESDv =	73,104 c.f. Provided	130 Tree Pits & 3 Filterra
Stormceptor Practices (Redev.) Target ESDv =	9,811 c.f. Provided	4 -Stormceptors
Total Target ESDv =	109,233 c.f. Provided	

NOTES:

APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN DOES NOT IMPLY APPROVAL OF ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS THEREOF. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR DURING THE SUBDIVISION AND SITE DEVELOPMENT PLAN STAGES AND RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THE PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.

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. 26569 EXPIRATION DATE: 7-18-17

CONTRACT NUMBERS:
EX. WATER & EX. SEWER:
SYMPHONY DR : 172 - W & S 24-4868-D
MERRIWEATHER DR: 24-4928-D

6-16-16
Date

STATE OF MARYLAND — RICHARD DOUGLAS SNYDER — No. 26569 — PROFESSIONAL ENGINEER

Professional Engr. No. 26569

VICINITY MAP
SCALE: 1"=2000'
HOWARD COUNTY ADC
MAP NUMBER 15
GRID NO. G - 7

HOWARD COUNTY GEODETIC COORDINATES	
BENCH MARK ID: 36DB	BENCH MARK ID: 36DA
NORTHING : 170670.302	NORTHING : 170947.216
EASTING:-105.05	EASTING:-1140.84

DPZ FILE REFERENCES:

ECP 16-041
FDP-DC-CRESCENT-1A
F-15-106

ENVIRONMENTAL DATA SOURCES
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3. SOIL SURVEY INFORMATION SHOWN HEREON REFLECTS HOWARD COUNTY SOILS INFORMATION DATED 11/26/2007.

DATA SOURCES:

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APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9.1.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-22-16

Date	No.	Revision Description

COLUMBIA CRESCENT PHASE I
AREA 3, PHASE I
PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
COLUMBIA, MD 21044
410-964-4800

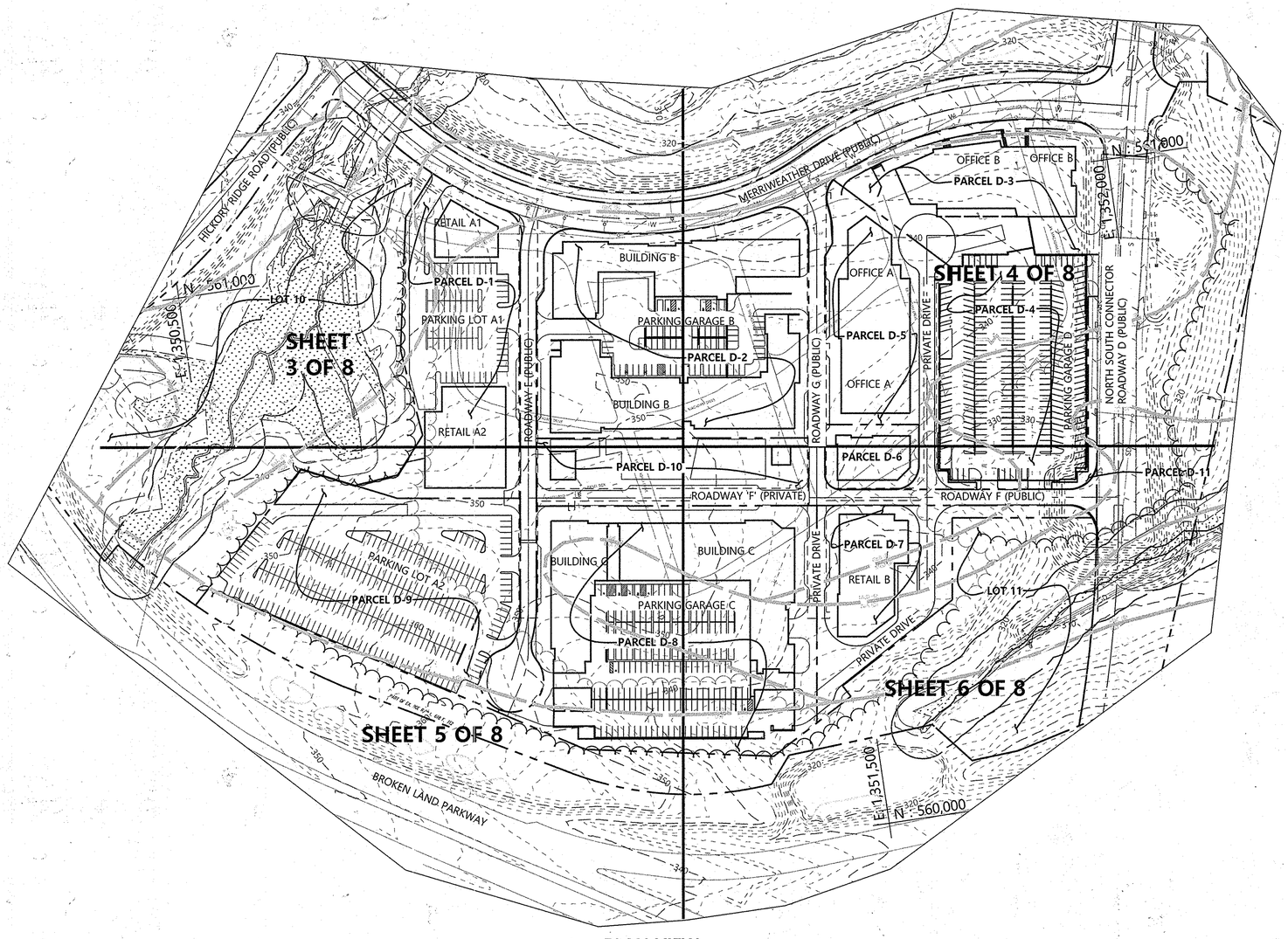
DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

SUBDIVISION NAME: COLUMBIA CRESCENT	SECTION/AREA: AREA 3		LOT/PARCEL #: PARCEL 527
PLAT OR L/F: N/A	BLOCK #:	ZONE: NT-DMUA	TAX ZONE/MAP: 36
		ELECT. DISTRICT: 5-15	CENSUS TRACT: 605602
WATER CODE: 550	SEWER CODE: LITTLE PATUXENT		

TITLE: COVER SHEET

Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0	
Drn. By SRB	Date 3/23/16	1 of 8	
Chk. By ERS	Approved MCB		

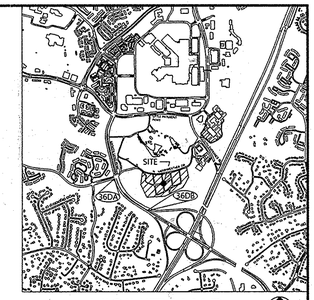
ECP-16-042



PLAN VIEW

100 0 100 200 300

SCALE: 1"=100'



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MAP NUMBER 15
GRID NO. G -7

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APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7-1-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-28-16

Date	No.	Revision Description

COLUMBIA CRESCENT PHASE I
AREA 3, PHASE I
PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
COLUMBIA, MD 21044
410-964-4800

CONTRACT NUMBERS:
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6-16-16
Date

STATE OF MARYLAND — GERALD DOUGLAS BROSCH — No. 26569 — PROFESSIONAL ENGINEER

Professional Engr. No. 26569

DMW — DAFT McCUNE WALKER INC

501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

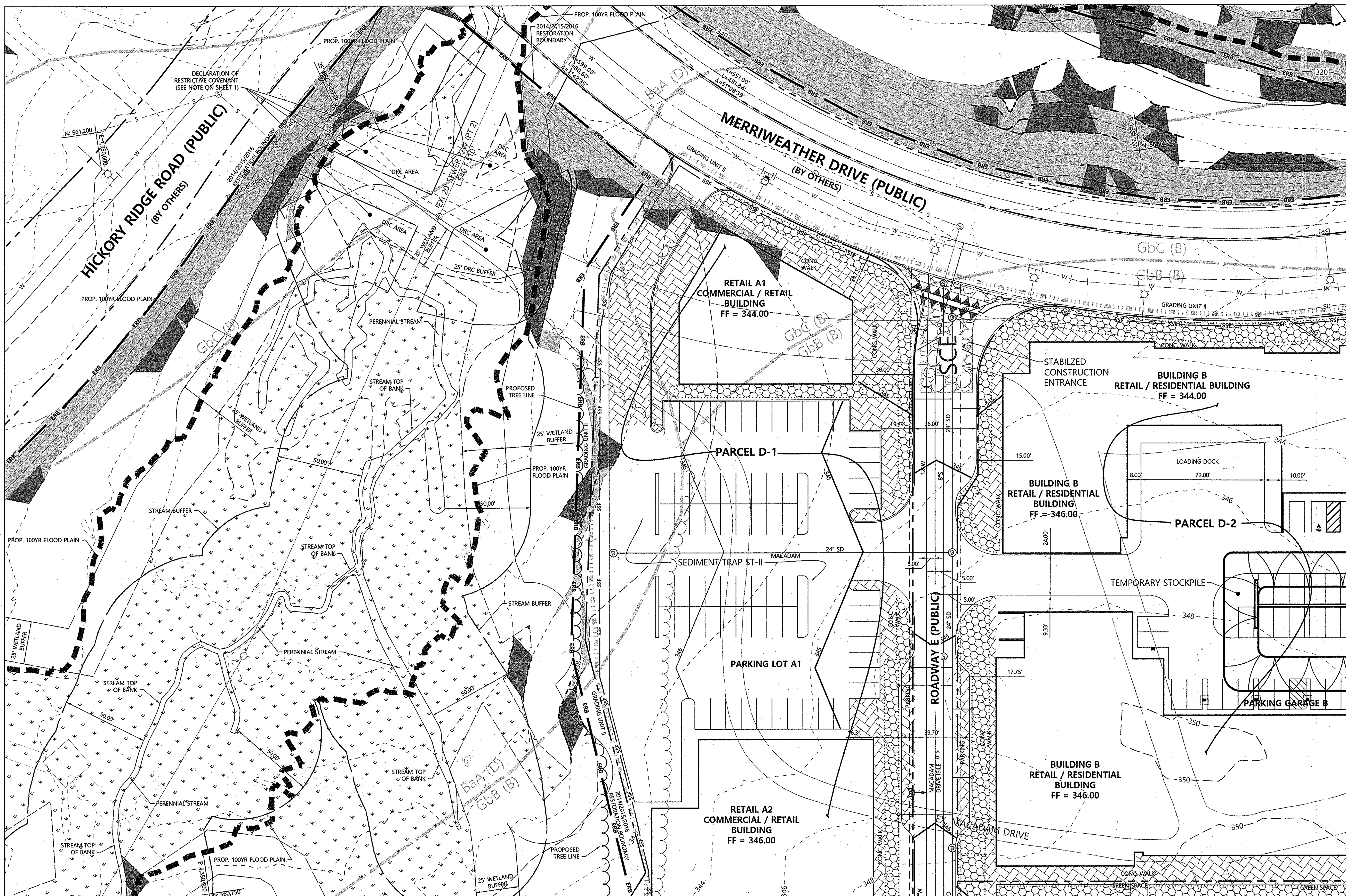
SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL #
COLUMBIA CRESCENT			AREA 3		PARCEL 527
PLAT# OR L/F	BLOCK #	ZONE	TAX ZONE/MAP	ELECT. DISTRICT	CENSUS TRACT
N/A		MXD-3 DMA	36	5-15	605602
WATER CODE			SEWER CODE		
550			LITTLE PATUXENT		

TITLE

KEY SHEET

Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0	
Drn. By SRB	Date 3/23/16		2 of 8
Chk. By ERS	Approved MCB		

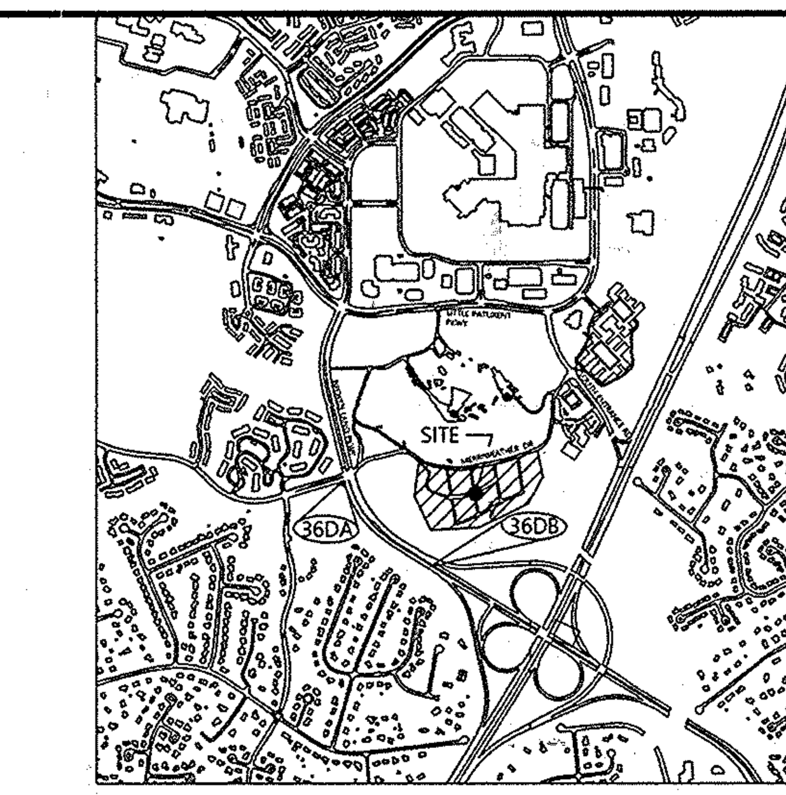
ECP-16-042



MATCH LINE SHEET 5 OF 8

PLAN VIEW

SCALE: 1"= 30'



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SCALE: 1"=2000'
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HYDROLOGIC SOIL GROUP - SUMMARY BY MAP UNIT - HOWARD COUNTY, MARYLAND

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC GROUP	K VALUE (Kw)
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPE	D	0.32
GbB	GLADSTONE LOAM 3 TO 8 PERCENT SLOPES	B	0.20
GbC	GLADSTONE LOAM 8 TO 15 PERCENT SLOPES	B	0.20
MaC	MANOR LOAM 8 TO 15 PERCENT SLOPES	B	0.24
McD	MANOR LOAM 15 TO 25 PERCENT SLOPES, VERY ROCKY	B	0.24
USDA NATURAL RESOURCES CONSERVATION SERVICE	WEB SOIL SURVEY 2.0 NATIONAL COOPERATIVE SOIL SURVEY		11/26/2007

HOWARD COUNTY SOIL MAP #18

STEEP SLOPES DATA

15% AND UP (HIGHLY ERODIBLE)

25% AND UP (STEEP SLOPES)

NOTE:
SEE COVERSHEET FOR TABLE OF PRELIMINARY STORMWATER REQUIREMENTS.

LEGEND

PROPERTY LINE
EX. CONTOURS
EX. CURB
EX. BUILDING
EX. TREELINE
EX. WATER
EX. SEWER
EX. STORM DRAIN
EX. OVERHEAD TELEPHONE
EX. EASEMENT
EX. UTILITY POLE
PROP. EASEMENT
PROP. CONTOURS
PROP. WATER
PROP. SEWER
PROP. STORM DRAIN
2014/2015 RESTORATION BOUNDARY
PROP. BUILDING
PROP. CURB
SUPER SILT FENCE
LIMIT OF DISTURBANCE
SOILS
STABILIZED CONSTRUCTION ENTRANCE
PROP. 100 YEAR FLOODPLAIN
PROP. TREE LINE
STORMCEPTOR
MICRO BIORETENTION
PERVIOUS PAVING
PROP. TREE
2014/2015/2016 RESTORATION BOUNDARY
FILTERRA SWM UNIT

CONTRACT NUMBERS:
EX. WATER & EX. SEWER:
SYMPHONY DR : 172 - W & S
24-4868-D
MERRIWEATHER DR: 24-4928-D

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. 26569 EXPIRATION DATE: 7-18-17

6-16-16
Date

STATE OF MARYLAND
GERALD DOUGLAS TURNBAUGH
NO. 26569
PROFESSIONAL ENGINEER

Professional Engr. No. 26569

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7-1-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-28-16

Date	No.	Revision Description

COLUMBIA CRESCENT PHASE I
AREA 3, PHASE I
PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
COLUMBIA, MD 21044
410-964-4800

DMW
DAFT McCUNE WALKER INC

501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #
COLUMBIA CRESCENT	AREA 3	PARCEL 527

PLAT# OR L/F	BLOCK #	ZONE	TAX ZONE/MAP	ELECT. DISTRICT	CENSUS TRACT
N/A		NT-DMUA	36	5-15	605602

WATER CODE	SEWER CODE
550	LITTLE PATUXENT

TITLE

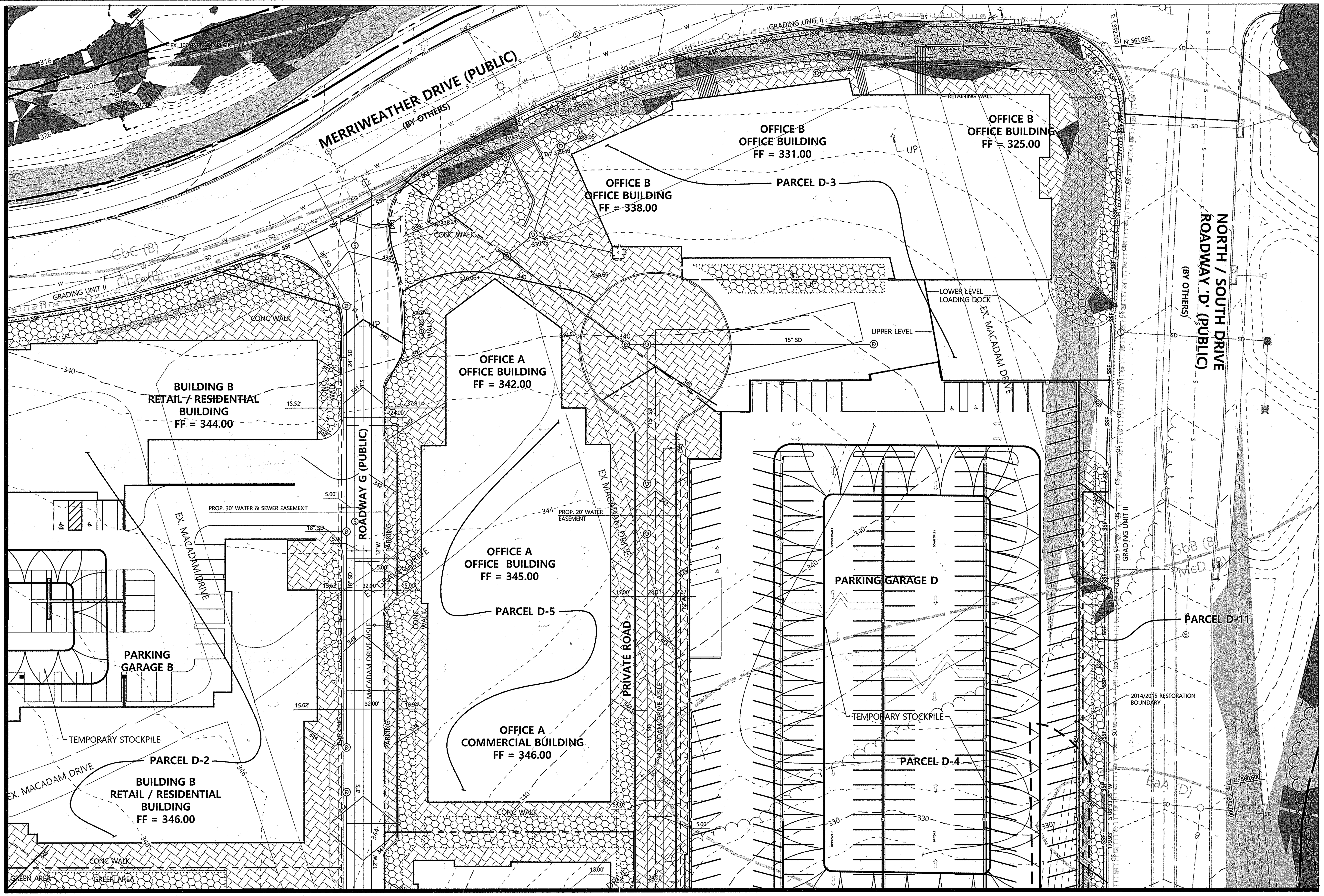
SITE PLAN

1 OF 4

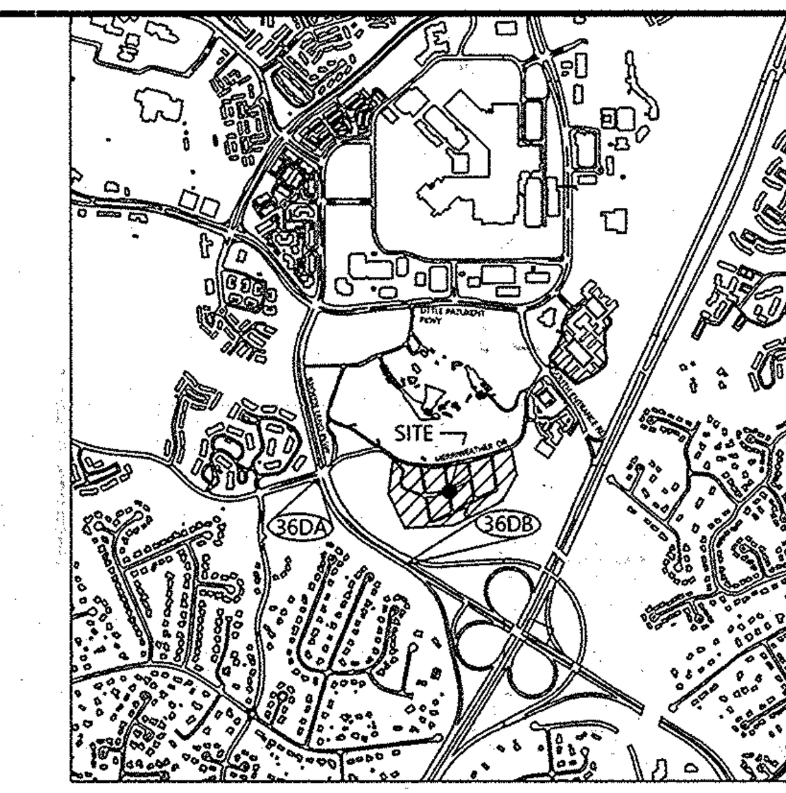
Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0
Drn. By SRB	Date 3/23/16	3 of 8
Chk. By ERS	Approved MCB	

ECP-16-042

MATCH LINE SHEET 3 OF 8



MATCH LINE SHEET 6 OF 8



VICINITY MAP

SCALE: 1"=2000'
HOWARD COUNTY ADC
MAP NUMBER 15
GRID NO. G - 7

ENVIRONMENTAL DATA SOURCES

1. FLOODPLAIN INFORMATION SHOWN HEREON REFLECTS THE RESULT OF A STUDY PERFORMED BY BIOHABITATS DATED 06/18/2015.
2. WETLANDS AND ASSOCIATED ENVIRONMENTAL INFORMATION SHOWN HEREON REFLECT THE RESULT OF AN INVESTIGATION PERFORMED BY DMW DATED MARCH 2015.
3. SOIL SURVEY INFORMATION SHOWN HEREON REFLECTS HOWARD COUNTY SOILS INFORMATION DATED 11/26/2007.

DATA SOURCES:

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APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

7.1.16
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

6.28.16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

Date	No.	Revision Description

COLUMBIA CRESCENT PHASE I
AREA 3, PHASE I
PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
COLUMBIA, MD 21044
410-964-4800

HYDROLOGIC SOIL GROUP - SUMMARY BY MAP UNIT - HOWARD COUNTY, MARYLAND			
MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC GROUP	K VALUE (Kw)
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPE	D	0.32
GbB	GLADSTONE LOAM 3 TO 8 PERCENT SLOPES	B	0.20
GbC	GLADSTONE LOAM 8 TO 15 PERCENT SLOPES	B	0.20
MaC	MANOR LOAM 8 TO 15 PERCENT SLOPES	B	0.24
McD	MANOR LOAM 15 TO 25 PERCENT SLOPES, VERY ROCKY	B	0.24
USDA NATURAL RESOURCES CONSERVATION SERVICE	WEB SOIL SURVEY 2.0 NATIONAL COOPERATIVE SOIL SURVEY		11/26/2007 HOWARD COUNTY SOIL MAP #18

PLAN VIEW

30 0 30 60 90
SCALE: 1"= 30'

STEEP SLOPES DATA

15% AND UP (HIGHLY ERODIBLE)

25% AND UP (STEEP SLOPES)

NOTE:
SEE COVERSHEET FOR TABLE OF PRELIMINARY STORMWATER REQUIREMENTS.

LEGEND

- PROPERTY LINE
- EX. CONTOURS
- EX. CURB
- EX. BUILDING
- EX. TREELINE
- EX. WATER
- EX. SEWER
- EX. STORM DRAIN
- EX. OVERHEAD TELEPHONE
- EX. EASEMENT
- EX. UTILITY POLE
- PROP. EASEMENT
- PROP. CONTOURS
- PROP. WATER
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- PROP. STORM DRAIN
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6-16-16
Date

Professional Engr. No. 26569

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DAFT McCUNE WALKER INC

501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

SUBDIVISION NAME	SECTION/AREA		LOT/PARCEL #
COLUMBIA CRESCENT	AREA 3		PARCEL 527
PLAT# OR L/F: N/A; BLOCK #: ; ZONE: NT-DMUA	TAX ZONE/MAP: 36	ELECT. DISTRICT: 5-15	CENSUS TRACT: 605602
WATER CODE: 550	SEWER CODE: LITTLE PATUXENT		

TITLE

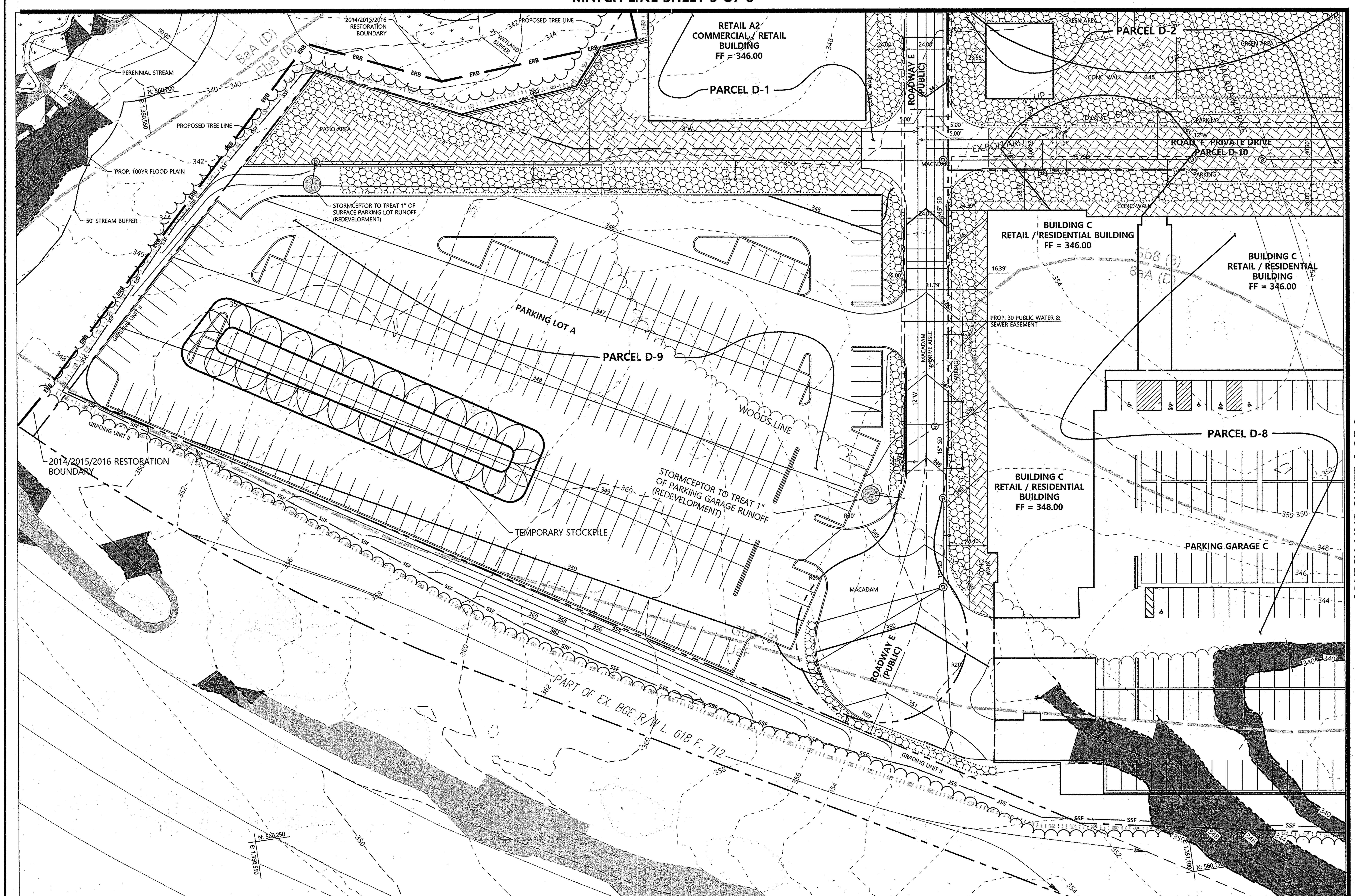
SITE PLAN

2 OF 4

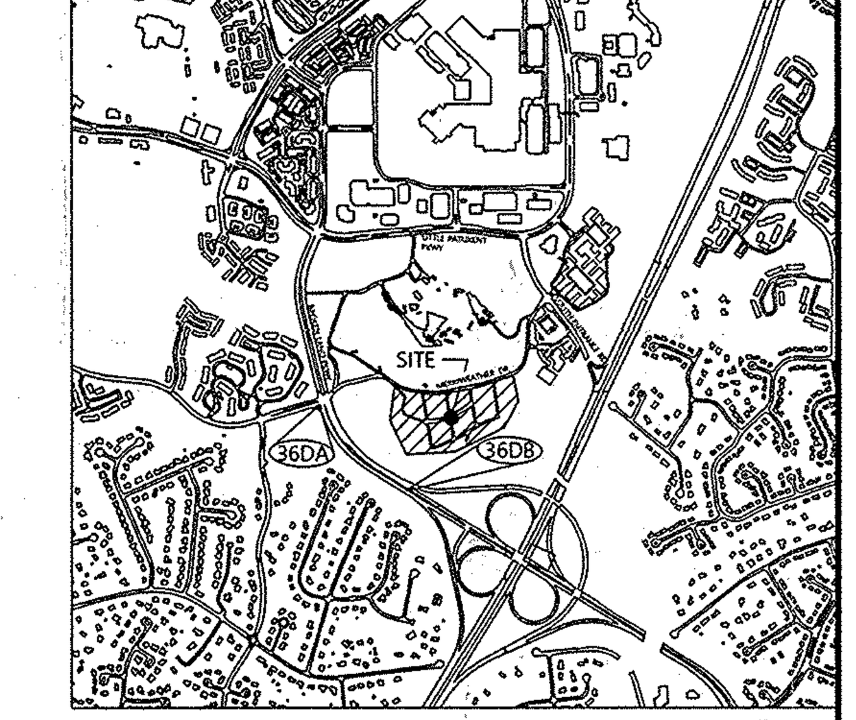
Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0
Drn. By SRB	Date 3/23/16	4 of 8
Chk. By ERS	Approved MCB	

ECP-16-042

MATCH LINE SHEET 3 OF 8



MATCH LINE SHEET 6 OF 8



VICINITY MAP

SCALE: 1"=2000'
HOWARD COUNTY ADC
MAP NUMBER 15
GRID NO. G - 7

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APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7-1-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-28-16

Date	No.	Revision Description

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MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC GROUP	K VALUE (Kw)
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GbC	GLADSTONE LOAM 8 TO 15 PERCENT SLOPES	B	0.20
MaC	MANOR LOAM 8 TO 15 PERCENT SLOPES	B	0.24
McD	MANOR LOAM 15 TO 25 PERCENT SLOPES, VERY ROCKY	B	0.24

USDA NATURAL RESOURCES CONSERVATION SERVICE — WEB SOIL SURVEY 2.0 — NATIONAL COOPERATIVE SOIL SURVEY — 11/26/2007 — HOWARD COUNTY SOIL MAP #18

PLAN VIEW

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SCALE: 1"= 30'

STEEP SLOPES DATA
- 15% AND UP (HIGHLY ERODIBLE)
- 25% AND UP (STEEP SLOPES)

NOTE:
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LEGEND

- PROPERTY LINE
- EX. CONTOURS
- EX. CURB
- EX. BUILDING
- EX. TREELINE
- EX. WATER
- EX. SEWER
- EX. STORM DRAIN
- EX. OVERHEAD TELEPHONE
- EX. EASEMENT
- EX. UTILITY POLE
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STATE OF MARYLAND — PROFESSIONAL ENGINEER

Professional Engr. No. 26569

COLUMBIA CRESCENT PHASE I
AREA 3, PHASE I
PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
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COLUMBIA CRESCENT	AREA 3	PARCEL 527

PLAT# OR L/F	BLOCK #	ZONE	TAX ZONE/MAP	ELECT. DISTRICT	CENSUS TRACT
N/A		NT-DMUA	36	5-15	605602

WATER CODE	SEWER CODE
550	LITTLE PATUXENT

TITLE

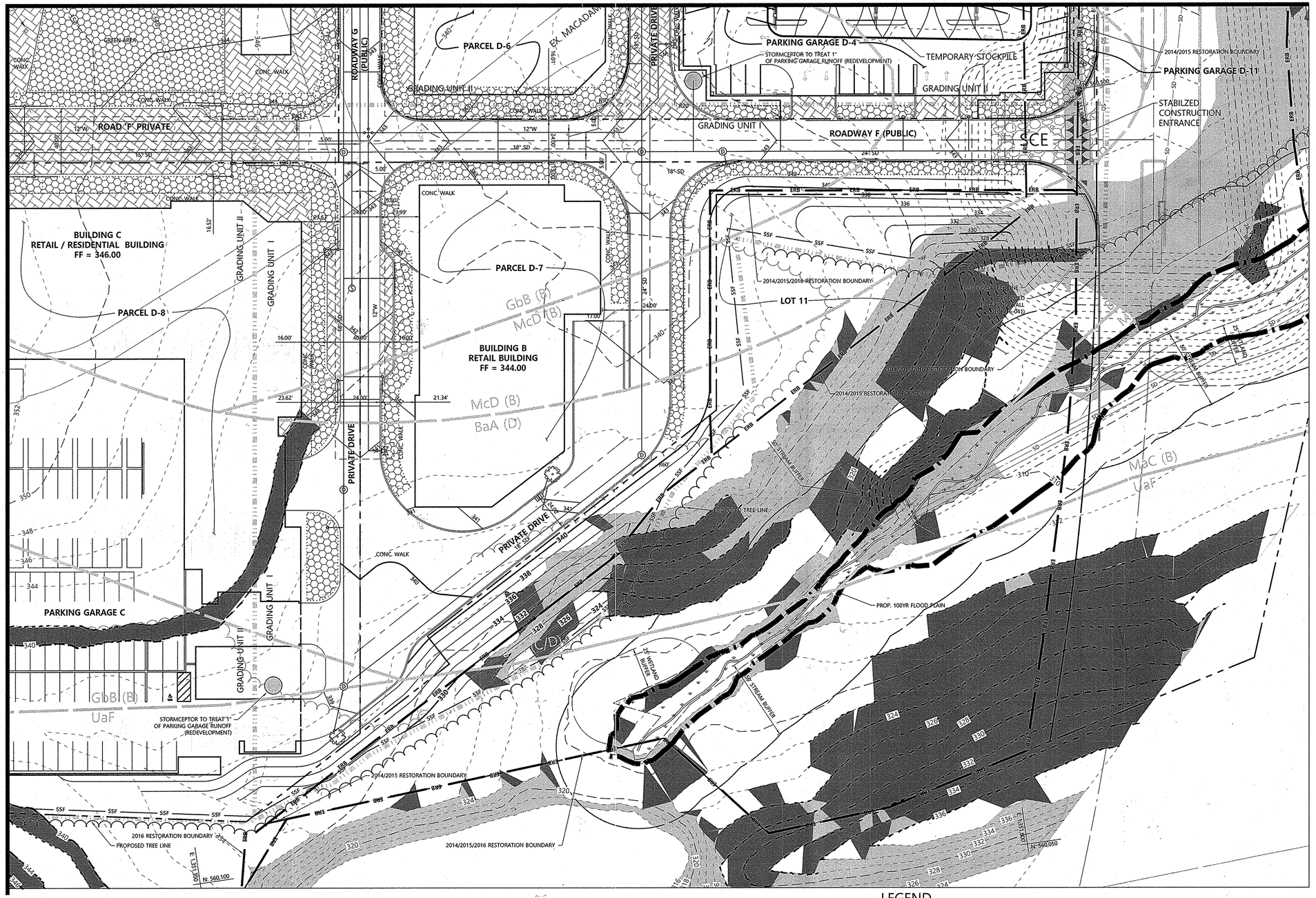
SITE PLAN
3 OF 4

Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0
Drn. By SRB	Date 3/23/16	5 of 8
Chk. By ERS	Approved MCB	

ECP-16-042

MATCH LINE SHEET 4 OF 8

MATCH LINE SHEET 5 OF 8



VICINITY MAP
SCALE: 1"=2000'
HOWARD COUNTY ADC
MAP NUMBER 15
GRID NO. G - 7

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USDA NATURAL RESOURCES CONSERVATION SERVICE — WEB SOIL SURVEY 2.0 — NATIONAL COOPERATIVE SOIL SURVEY — 11/26/2007
HOWARD COUNTY SOIL MAP #18

PLAN VIEW
SCALE: 1"= 30'
30 0 30 60 90

STEEP SLOPES DATA
15% AND UP (HIGHLY ERODIBLE)
25% AND UP (STEEP SLOPES)

NOTE:
SEE COVERSHEET FOR TABLE OF PRELIMINARY STORMWATER REQUIREMENTS.

LEGEND

PROPERTY LINE
EX. CONTOURS
EX. CURB
EX. BUILDING
EX. TREELINE
EX. WATER
EX. SEWER
EX. STORM DRAIN
EX. OVERHEAD TELEPHONE
EX. EASEMENT
EX. UTILITY POLE
PROP. EASEMENT
PROP. CONTOURS
PROP. WATER
PROP. BUILDING
PROP. CURB
SUPER SILT FENCE
LIMIT OF DISTURBANCE
SOILS
STABILIZED CONSTRUCTION ENTRANCE
PROP. 100 YEAR FLOODPLAIN
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PERVIOUS PAVING
PROP. TREE
2014/2015/2016 RESTORATION BOUNDARY
FILTERRA SWM UNIT
PROP. SEWER
PROP. STORM DRAIN
2014/2015 RESTORATION BOUNDARY

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CONTRACT NUMBERS:
EX. WATER & EX. SEWER:
SYMPHONY DR : 172 - W & S 24-4868-D
MERRIWEATHER DR: 24-4928-D.

6-16-16
Date

STATE OF MARYLAND — RONALD GLENN DOUGLAS — No. 26569 — PROFESSIONAL ENGINEER

Professional Engr. No. 26569

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7.1.16.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6.29.16

Date	No.	Revision Description

COLUMBIA CRESCENT PHASE I
AREA 3, PHASE I
PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
COLUMBIA, MD 21044
410-964-4800

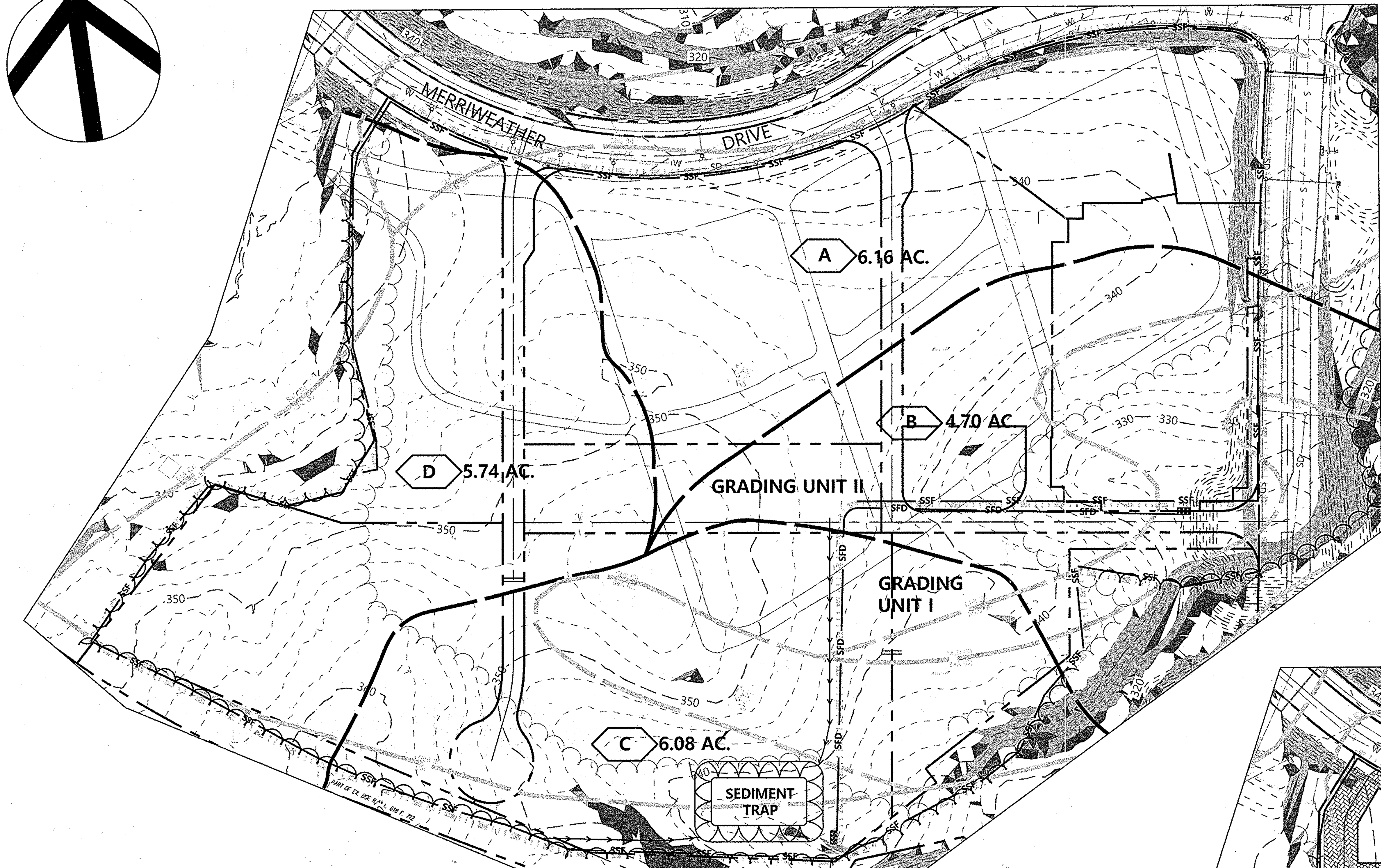
DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL #
COLUMBIA CRESCENT		AREA 3		PARCEL 527
PLAT# OR L/F	BLOCK #	ZONE MD / DMIA	TAX ZONE/MAP	ELECT. DISTRICT	CENSUS TRACT
N/A		36	5-15	605602
WATER CODE		SEWER CODE		
550		LITTLE PATUXENT		

TITLE
SITE PLAN
4 OF 4

Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0	
Drn. By SRB	Date 3/23/16		6 of 8
Chk. By ERS	Approved MCB		

ECP-16-042



SEDIMENT & EROSION CONTROL - EXISTING CONDITIONS - DA MAP

SCALE : 1" = 100'

NOTE: GRADING UNIT I TO BE STABILIZED PRIOR TO THE START OF GRADING UNIT II

EXISTING

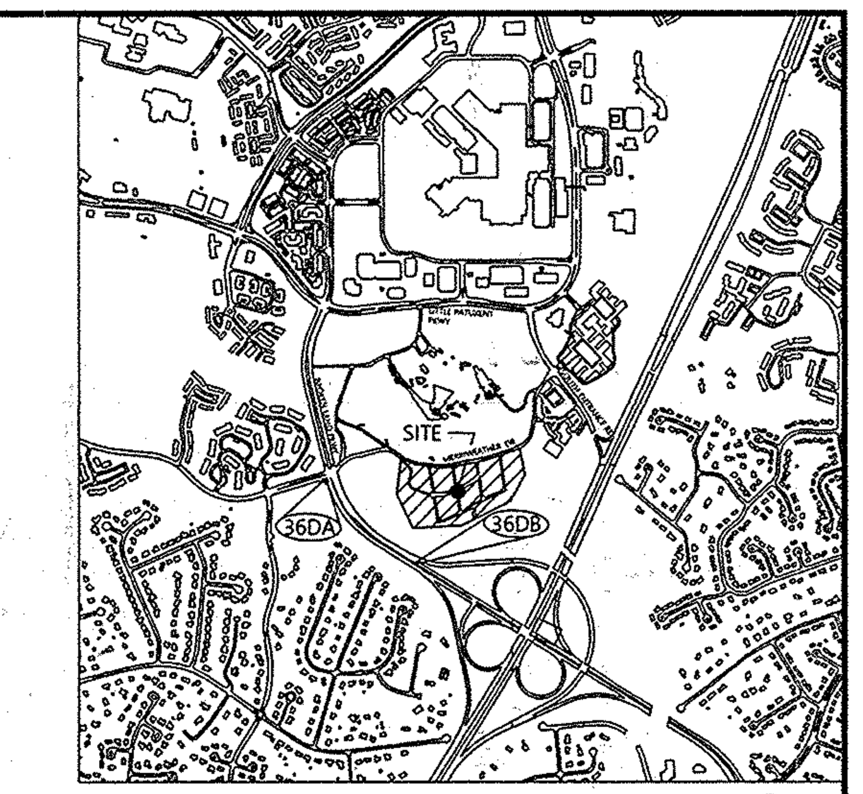
Area	DA	Zoning
6.16 AC./268,330± S.F	A	ZONING = NT
4.70 AC./204,732± S.F	B	ZONING = NT
6.08 AC./264,844± S.F	C	ZONING = NT
5.74 AC./250,034± S.F	D	ZONING = NT

LEGEND

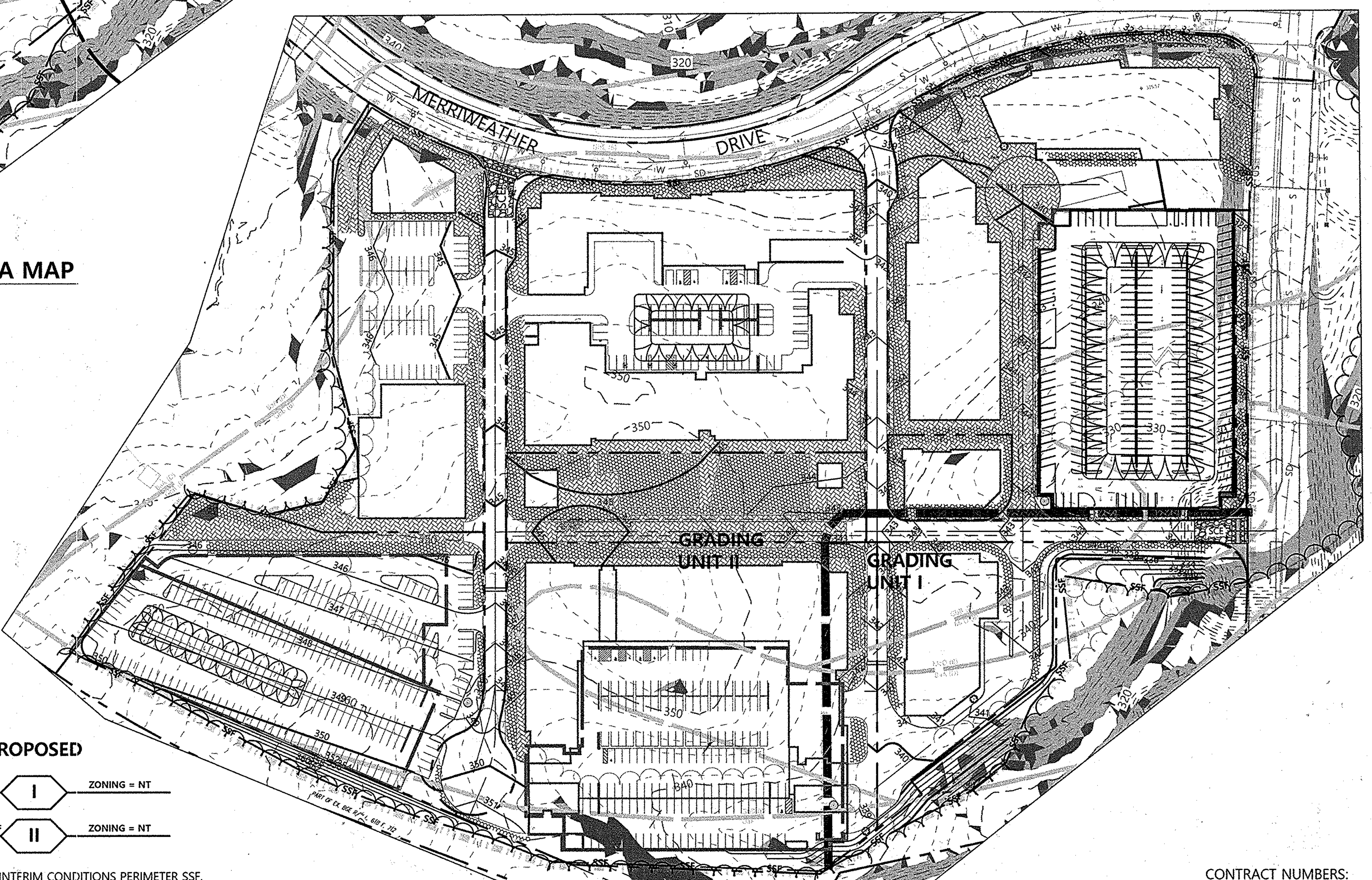
PROPERTY BOUNTRY
EX. CONTOURS
EX. CURB & GUTTER
EX. STORMDRAIN
EX. SEWER
EX. WATER
PROPOSED CONTOURS
PROPOSED ODD CONTOURS
PROPOSED CURB & GUTTER
EX. EASEMENT
PROPOSED BUILDING
STABILIZED CONSTRUCTION ENTRANCE w/ MOUNTABLE BERM
ROCK OUTLET PROTECTION III
PROPOSED SIDEWALK
EX. TREELINE
LIMIT OF DISTURBANCE
PROPOSED SD PIPE
PROPOSED MANHOLE
PROPOSED STORMCEPTOR
PROPOSED INLET
PROPOSED TREE PIT
DRAINAGE DIVIDES
STANDARD INLET PROTECTION
SUPER SILT FENCE
SILT DIVERSION FENCE
EARTH DIKE

STEEP SLOPES DATA

15% AND UP (HIGHLY ERODIBLE)
20% AND UP (STEEP SLOPES)



VICINITY MAP
SCALE: 1"=2000'
HOWARD COUNTY ADC
MAP NUMBER 15
GRID NO. G - 7



SEDIMENT & EROSION CONTROL - PROPOSED CONDITIONS - DA MAP

SCALE: 1" = 100'

100 0 100 200 300

SCALE: 1"=100'

PROPOSED

Area	DA	Zoning
2.82 AC./122,839± S.F	I	ZONING = NT
19.86 AC./865,101.60± S.F	II	ZONING = NT

NOTE: DURING THE INTERIM CONDITIONS PERIMETER SSF, SEDIMENT TRAP, INLET BLOCKING, AND DEWATERING PRACTICES SHALL BE UTILIZED.

DURING PROPOSED/ ULTIMATE CONDITIONS PERIMETER SSF, INLET PROTECTION AND DEWATERING PRACTICES SHALL BE UTILIZED UNTIL FINAL STABILIZATION IS ACHIEVED

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APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7-1-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-28-16

Date	No.	Revision Description

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PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
COLUMBIA, MD 21044
410-964-4800

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Professional Engr. No. 26569

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PLAT# OR L/F	BLOCK #	ZONE	TAX ZONE/MAP	ELECT. DISTRICT	CENSUS TRACT
N/A		NT-DMUA	36	5-15	605602

WATER CODE	SEWER CODE
550	LITTLE PATUXENT

TITLE

EXISTING & PROPOSED DRAINAGE AREAS

Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0
Drn. By SRB	Date 3/23/16	7 of 8
Chk. By ERS	Approved MCB	

ECP-16-042

EXISTING

6.16 AC./268,330± S.F	A	ZONING = NT
4.70 AC./204,732± S.F	B	ZONING = NT
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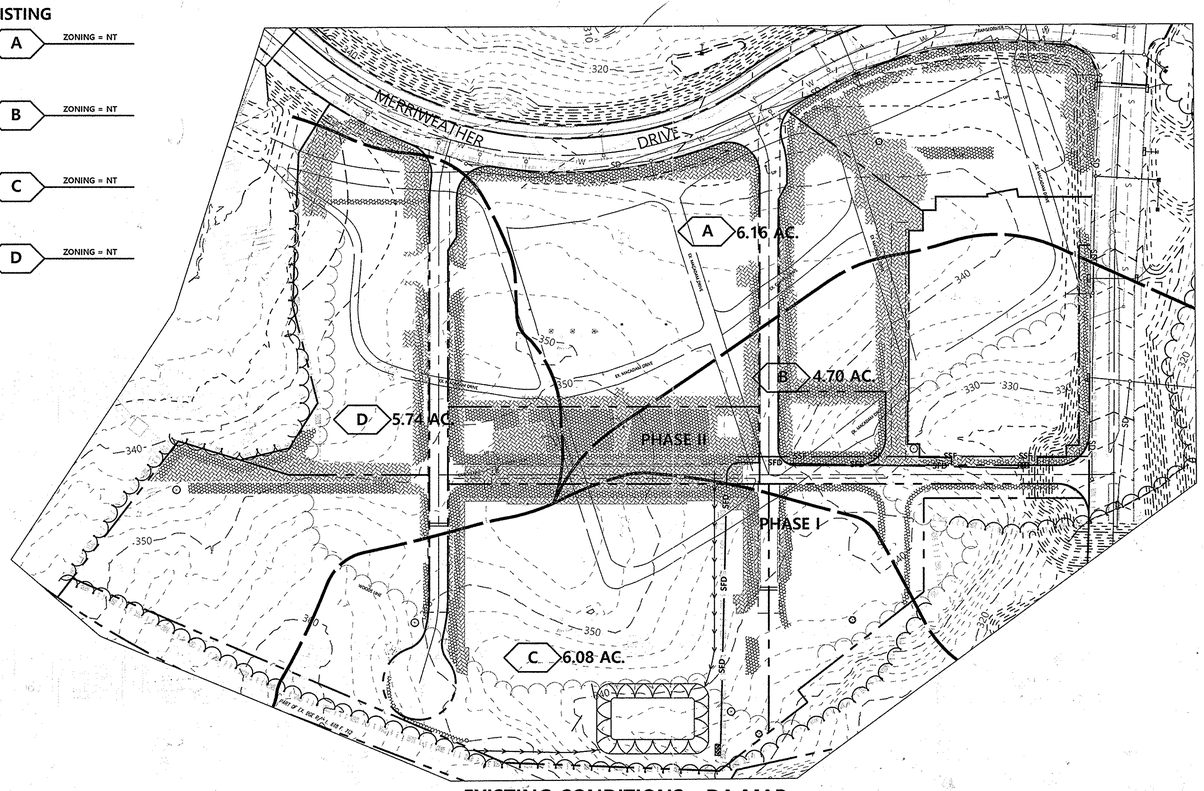
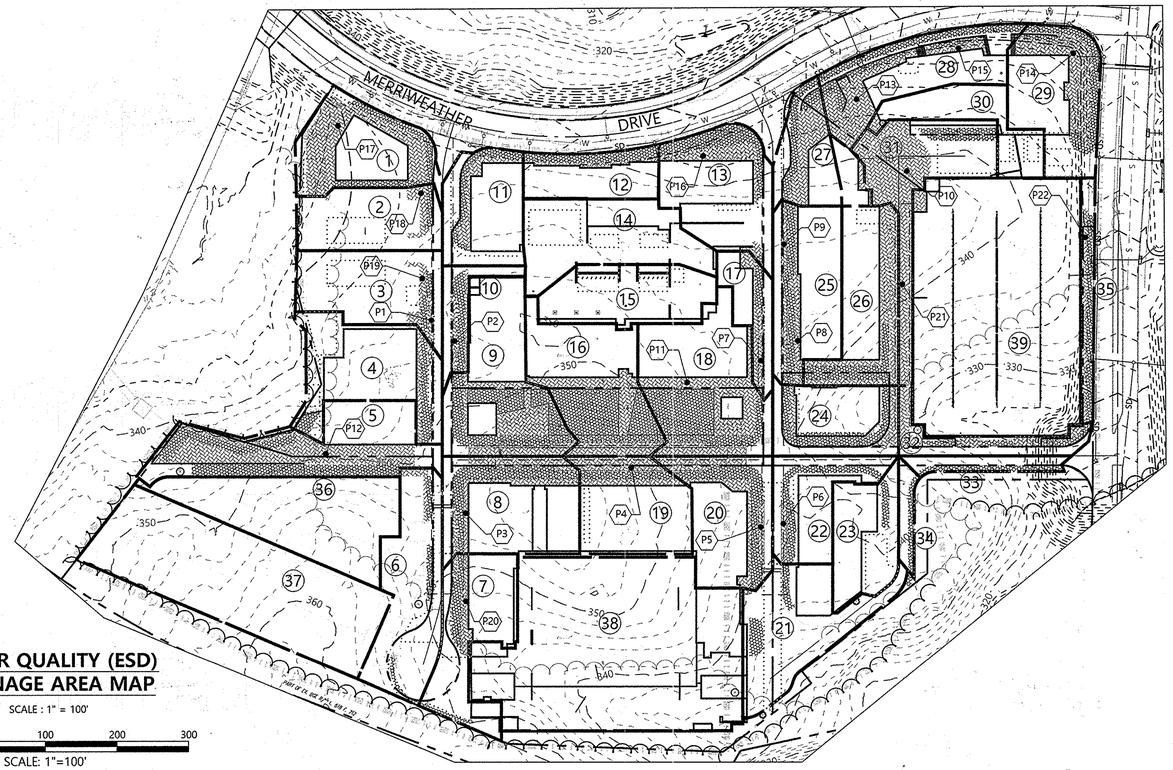


EXISTING CONDITIONS - DA MAP

SCALE : 1" = 100'



WATER QUALITY (ESD) DRAINAGE AREA MAP

SCALE : 1" = 100'

100 0 100 200 300

SCALE: 1"=100'

ESD TYPES: (M-6) MICRO-BIORETENTION - TREE PITS		
NEW IMPERVIOUS AREA - PROVIDED ESDv		
(M-6)-TP1	Drainage Area 1	6 No. of Tree Pits
	ESDv =	2,757 c.f. Treated
	Af =	15,620 s.f. Treated
(M-6)-TP2	Drainage Area 2	3 No. of Tree Pits
	ESDv =	1,781 c.f. Treated
	Af =	12,751 s.f. Treated
(M-6)-TP3	Drainage Area 3	4 No. of Tree Pits
	ESDv =	2,078 c.f. Treated
	Af =	15,135 s.f. Treated
(M-6)-TP4	Drainage Area 4	4 No. of Tree Pits
	ESDv =	2,470 c.f. Treated
	Af =	19,936 s.f. Treated
(M-6)-TP5	Drainage Area 5	8 No. of Tree Pits
	ESDv =	4,453 c.f. Treated
	Af =	25,798 s.f. Treated
(M-6)-TP6	Drainage Area 6	4 No. of Tree Pits
	ESDv =	2,375 c.f. Treated
	Af =	18,793 s.f. Treated
(M-6)-TP7	Drainage Area 7	4 No. of Tree Pits
	ESDv =	2,375 c.f. Treated
	Af =	16,125 s.f. Treated
(M-6)-TP8	Drainage Area 8	6 No. of Tree Pits
	ESDv =	3,094 c.f. Treated
	Af =	21,709 s.f. Treated
(M-6)-TP9	Drainage Area 9	8 No. of Tree Pits
	ESDv =	3,797 c.f. Treated
	Af =	21,245 s.f. Treated
(M-6)-TP10	Drainage Area 10	3 No. of Tree Pits
	ESDv =	901 c.f. Treated
	Af =	5,067 s.f. Treated
(M-6)-TP11	Drainage Area 11	4 No. of Tree Pits
	ESDv =	2,250 c.f. Treated
	Af =	14,386 s.f. Treated
(M-6)-TP12	Drainage Area 12	4 No. of Tree Pits
	ESDv =	1,859 c.f. Treated
	Af =	10,780 s.f. Treated
(M-6)-TP13	Drainage Area 13	5 No. of Tree Pits
	ESDv =	2,531 c.f. Treated
	Af =	21,615 s.f. Treated
(M-6)-TP14	Drainage Area 14	1 Filterra Unit
		4 No. of Tree Pits
	ESDv =	1,875 c.f. Treated
	Af =	17,312 s.f. Treated
(M-6)-TP15	Drainage Area 15	1 Filterra Unit
		2 No. of Tree Pits
	ESDv =	1,111 c.f. Treated
	Af =	13,706 s.f. Treated
(M-6)-TP16	Drainage Area 16	5 No. of Tree Pits
	ESDv =	3,164 c.f. Treated
	Af =	17,599 s.f. Treated
(M-6)-TP17	Drainage Area 17	2 No. of Tree Pits
	ESDv =	844 c.f. Treated
	Af =	7,236 s.f. Treated
(M-6)-TP18	Drainage Area 18	8 No. of Tree Pits
	ESDv =	3,633 c.f. Treated
	Af =	20,486 s.f. Treated
(M-6)-TP19	Drainage Area 19	4 No. of Tree Pits
	ESDv =	2,098 c.f. Treated
	Af =	17,539 s.f. Treated
(M-6)-TP20	Drainage Area 20	5 No. of Tree Pits
	ESDv =	2,813 c.f. Treated
	Af =	16,655 s.f. Treated
(M-6)-TP21	Drainage Area 21	1 Filterra Unit
		2 No. of Tree Pits
	ESDv =	1,473 c.f. Treated
	Af =	18,114 s.f. Treated
(M-6)-TP22	Drainage Area 22	5 No. of Tree Pits
	ESDv =	2,047 c.f. Treated
	Af =	11,595 s.f. Treated
(M-6)-TP23	Drainage Area 23	1 Filterra Unit
		2 No. of Tree Pits
	ESDv =	943 c.f. Treated
	Af =	11,562 s.f. Treated
(M-6)-TP24	Drainage Area 24	5 No. of Tree Pits
	ESDv =	2,500 c.f. Treated
	Af =	15,173 s.f. Treated
(M-6)-TP25	Drainage Area 25	5 No. of Tree Pits
	ESDv =	2,997 c.f. Treated
	Af =	18,034 s.f. Treated
(M-6)-TP26	Drainage Area 26	7 No. of Tree Pits
	ESDv =	3,054 c.f. Treated
	Af =	17,311 s.f. Treated
(M-6)-TP27	Drainage Area 27	4 No. of Tree Pits
	ESDv =	1,693 c.f. Treated
	Af =	9,561 s.f. Treated
(M-6)-TP28	Drainage Area 28	8 No. of Tree Pits
	ESDv =	3,477 c.f. Treated
	Af =	19,880 s.f. Treated
(M-6)-TP29	Drainage Area 29	5 No. of Tree Pits
	ESDv =	2,531 c.f. Treated
	Af =	20,406 s.f. Treated
(M-6)-TP30	Drainage Area 30	1 Filterra Unit
		0 No. of Tree Pits
	ESDv =	1,009 c.f. Treated
	Af =	12,747 s.f. Treated
(M-6)-TP31	Drainage Area 31	2 No. of Tree Pits
	ESDv =	1,500 c.f. Treated
	Af =	17,613 s.f. Treated
(M-6)-TP32	Drainage Area 32	3 No. of Tree Pits
	ESDv =	1,271 c.f. Treated
	Af =	7,143 s.f. Treated
(M-6)-TP33	Drainage Area 33	2 No. of Tree Pits
	ESDv =	706 c.f. Treated
	Af =	4,006 s.f. Treated
(M-6)-TP34	Drainage Area 34	1 No. of Tree Pits
	ESDv =	494 c.f. Treated
	Af =	2,816 s.f. Treated
(M-6)-TP35	Drainage Area 35	2 No. of Tree Pits
	ESDv =	970 c.f. Treated
	Af =	6,372 s.f. Treated

LEGEND

- PROPERTY BOUNTRY
- EX. CONTOURS
- EX. CURB & GUTTER
- EX. ROADS
- EX. STORMDRAIN
- EX. SEWER
- EX. WATER
- PROPOSED CONTOURS
- PROPOSED ODD CONTOURS
- PROPOSED CURB & GUTTER
- EX. EASEMENT
- PROPOSED BUILDING
- PROPOSED SIDEWALK
- EX. TREELINE
- LIMIT OF DISTURBANCE
- PROPOSED SD PIPE
- PROPOSED MANHOLE
- PROPOSED STORMCEPTOR
- PROPOSED INLET
- PROPOSED TREE PIT
- DRAINAGE DIVIDES
- STANDARD INLET PROTECTION
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE w/ MOUNTABLE BERM
- ROCK OUTLET PROTECTION III

VICINITY MAP

SCALE: 1"=2000'
HOWARD COUNTY ADC
MAP NUMBER 15
GRID NO: G - 7

ESD TYPES: (M-6) MICRO-BIORETENTION - STORMCEPTORS		
EXISTING IMPERVIOUS AREA - PROVIDED ESDv		
Stormceptor #1	Drainage Area 36	
	ESDv =	1,229 c.f. Treated
	Af =	15,529 s.f. Treated
Stormceptor #2	Drainage Area 37	
	ESDv =	2,079 c.f. Treated
	Af =	26,258 s.f. Treated
Stormceptor #3	Drainage Area 38	
	ESDv =	3,176 c.f. Treated
	Af =	40,117 s.f. Treated
Stormceptor #4	Drainage Area 39	
	ESDv =	3,327 c.f. Treated
	Af =	42,031 s.f. Treated

ESD TYPES: (M-1) PERMEABLE PAVEMENTS		
NEW IMPERVIOUS AREA - PROVIDED ESDv		
(A-2)-P1	Drainage Area P1	
	Af =	769 s.f. of Permeable Pvmt
	ESDv =	440 c.f. Treated
(A-2)-P2	Drainage Area P2	
	Af =	771 s.f. of Permeable Pvmt
	ESDv =	428 c.f. Treated
(A-2)-P3	Drainage Area P3	
	Af =	771 s.f. of Permeable Pvmt
	ESDv =	771 c.f. Treated
(A-2)-P4	Drainage Area P4	
	Af =	12,642 s.f. of Permeable Pvmt
	ESDv =	2,604 c.f. Treated
(A-2)-P5	Drainage Area P5	
	Af =	596 s.f. of Permeable Pvmt
	ESDv =	303 c.f. Treated
(A-2)-P6	Drainage Area P6	
	Af =	595 s.f. of Permeable Pvmt
	ESDv =	309 c.f. Treated
(A-2)-P7	Drainage Area P7	
	Af =	686 s.f. of Permeable Pvmt
	ESDv =	312 c.f. Treated
(A-2)-P8	Drainage Area P8	
	Af =	947 s.f. of Permeable Pvmt
	ESDv =	470 c.f. Treated
(A-2)-P9	Drainage Area P9	
	Af =	771 s.f. of Permeable Pvmt
	ESDv =	386 c.f. Treated
(A-2)-P10	Drainage Area P10	
	Af =	13,887 s.f. of Permeable Pvmt
	ESDv =	2,861 c.f. Treated
(A-2)-P11	Drainage Area	
	Af=	17,518 s.f. of Permeable Pvmt
	ESDv=	3,609 c.f. Treated
(A-2)-P12	Drainage Area	
	Af=	10,609 s.f. of Permeable Pvmt
	ESDv=	2,185 c.f. Treated
(A-2)-P13	Drainage Area	
	Af=	19,095 s.f. of Permeable Pvmt
	ESDv=	3,934 c.f. Treated
(A-2)-P14	Drainage Area	
	Af=	6,154 s.f. of Permeable Pvmt
	ESDv=	1,268 c.f. Treated
(A-2)-P15	Drainage Area	
	Af=	826 s.f. of Permeable Pvmt
	ESDv=	170 c.f. Treated
(A-2)-P16	Drainage Area	
	Af=	5,278 s.f. of Permeable Pvmt
	ESDv=	1,087 c.f. Treated
(A-2)-P17	Drainage Area	
	Af=	8,615 s.f. of Permeable Pvmt
	ESDv=	1,775 c.f. Treated
(A-2)-P18	Drainage Area	
	Af=	1,145 s.f. of Permeable Pvmt
	ESDv=	236 c.f. Treated
(A-2)-P19	Drainage Area	
	Af=	2,214 s.f. of Permeable Pvmt
	ESDv=	456 c.f. Treated
(A-2)-P20	Drainage Area	
	Af=	6,895 s.f. of Permeable Pvmt
	ESDv=	1,420 c.f. Treated
(A-2)-P21	Drainage Area	
	Af=	3,056 s.f. of Permeable Pvmt
	ESDv=	629 c.f. Treated
(A-2)-P22	Drainage Area	
	Af=	3,223 s.f. of Permeable Pvmt
	ESDv=	664 c.f. Treated

ENVIRONMENTAL DATA SOURCES

1. FLOODPLAIN INFORMATION SHOWN HEREON REFLECTS THE RESULT OF A STUDY PERFORMED BY BIOHABITATS DATED 06/18/2015.
2. WETLANDS AND ASSOCIATED ENVIRONMENTAL INFORMATION SHOWN HEREON REFLECT THE RESULT OF AN INVESTIGATION PERFORMED BY DMW DATED MARCH 2015.
3. SOIL SURVEY INFORMATION SHOWN HEREON REFLECTS HOWARD COUNTY SOILS INFORMATION DATED 11/26/2007.

DATA SOURCES:

1. EXISTING TOPOGRAPHIC INFORMATION SHOWN HEREON REFLECTS THE RESULT OF A TOPOGRAPHIC SURVEY PERFORMED BY DMW INC. ON 8/27/15 & 12/3/15, AREIAL TOPOGRAPHY FLOWN BY MCKENZIE SNYDER, INC. MARCH, 2007 AND FIELD SURVEY BY GLW ON AUGUST, 2011, AND PROPOSED GRADES AS SHOWN ON ECP 15-083 AND ECP 16-041 PREPARED BY GLW

CONTRACT NUMBERS:
EX. WATER & EX. SEWER:
SYMPHONY DR : 172 - W & S
24-4868-D
MERRIWEATHER DR: 24-4928-D

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. 26569 EXPIRATION DATE: 7-18-17

6-16-16
Date

STATE OF MARYLAND · DOUGLAS L. TURNBAUGH · No. 26569 · PROFESSIONAL ENGINEER

Professional Engr. No. 26569

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7.1.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-28-16

Date	No.	Revision Description

COLUMBIA CRESCENT PHASE I
AREA 3, PHASE I
PARCEL D

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
COLUMBIA REGIONAL OFFICE
10480 LITTLE PATUXENT PARKWAY SUITE 400
COLUMBIA, MD 21044
410-964-4800

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL #
COLUMBIA CRESCENT		AREA 3		PARCEL 527
PLAT# OR L/F	BLOCK #	ZONE	TAX ZONE/MAP	ELECT. DISTRICT	CENSUS TRACT
N/A		NT-MXD-3	36	5-15	605602
WATER CODE		SEWER CODE		
550		LITTLE PATUXENT		

TITLE: WATER QUALITY (ESD) DRAINAGE AREA MAP

Des. By GDT	SCALE AS SHOWN	Proj. No. 04038.B0	8 of 8
Drn. By SRB	Date 3/23/16		
Chk. By ERS	Approved MCB		

ECP-16-042