#### GENERAL NOTES (CONTINUED)

35. AN AMENDED DECLARATION OF COVENANTS AND RESTRICTIONS FOR THE MORRIS PLACE HOMEOWNERS ASSOCIATION, INC. WILL 36. THE LOTS CREATED BY THIS SUBDIVISION ARE SUBJECT TO A FEE OR AN ASSESSMENT TO COVER OR DEFRAY ALL OR PART OF THE DEVELOPERS COST OF THE INSTALLATION OF THE WATER AND SEWER FACILITIES, PURSUANT TO THE HOWARD COUNTY CODE SECTION 18.112. THIS FEE OR ASSESSMENT, WHICH RUNS WITH THE LAND, IS A CONTRACTUAL OBLIGATION BETWEEN THE DEVELOPER AND EACH OWNER OF THIS PROPERTY AND IS NOT IN ANY WAY A FEE OR ASSESSMENT OF HOWARD

37. H.O.A. COVENANTS AND RESTRICTIONS ARE RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN LIBER 16221 AT FOLIO 410. APPROVAL OF SITE DEVELOPMENT PLAN IS REQUIRED FOR THE DEVELOPMENT OF ALL RESIDENTIAL LOTS WITHIN THIS SUBDIVISION PRIOR TO ISSUANCE OF ANY GRADING OR BUILDING PERMITS FOR NEW HOUSE CONSTRUCTION IN ACCORDANCE WITH SECTION 16.155 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS

38. REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE FOR PRIVATE ROADS AND ALLEYS ARE PROVIDED BY THE MORRIS PLACE HOMEOWNERS ASSOCIATION, INC. FOR THE TOWNHOUSE LOTS FRONTING PRIVATE ROADS AND ALLEYS. 39. THE COMMERCIAL COMPONENT WILL BE FULFILLED BY THE PAYMENT OF A FEE-IN-LIEU. THE RESIDENTIAL UNITS ARE NOT

LEED CERTIFIED WHICH ALLOWS FOR A REDUCTION IN THE FEE. 40. PHASE VII IS SUBJECT TO FEE-IN-LIEU PAYMENT OF \$259,000.00 FOR REPLACING COMMERCIAL COMPONENT WITH RESIDENTIAL (TOWNHOUSE DEVELOPMENT). SECTION 127.5.E.3.d PROVIDES THAT COMMERCIAL SPACE MAY BE REDUCED FROM 70 SQUARE FEET PER UNIT TO ZERO UPON PAYMENT OF \$25.00 PER SQUARE FOOT OF REQUIRED COMMERCIAL SPACE. THE FEE-IN-LIEU AMOUNT OF \$259,0000.00 IS DERIVED AS FOLLOWS: a) TOTAL NUMBER OF TOWNHOUSES, PHASES I THRU VII = 175 UNITS b) TOTAL NUMBER OF M.I.H.U. PHASES I THRU VII = 27 UNITS

c) TOTAL NUMBER OF MARKET UNITS = 148 UNITS (175 UNITS - 27 UNITS = 148 UNITS) d) TOTAL COMMERCIAL AREA REQUIRED = 10,360 SQUARE FEET (148 UNITS X 70 SQUARE FEET/UNIT = 10,360 SQUARE FEET) e) FEE-IN-LIEU PAYMENT REQUIRED = \$259,000.00 (10,360 SQUARE FEET X \$25/5QUARE FOOT = \$259,000.00)

THE COMMERCIAL FEE WAS PAID ON 9/29/17 WITH 5P-17-013 41. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.8 OF THE HOWARD 42. PUBLIC WATER AND SEWERAGE ALLOCATION WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY IS

43. THE FOREST STAND DELINEATION AND WETLAND DELINEATION REPORT FOR THIS PROJECT WAS PREPARED BY MCCARTHY AND ASSOCIATES ON JUNE, 2009 AND WAS APPROVED WITH THE COMPREHENSIVE SKETCH PLAN, 5-10-002 BY THE PLANNING DIRECTOR ON JUNE 7, 2010. AN UPDATED LETTER OF FINDINGS DATED MAY 25, 2017 PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. VERIFIED THERE ARE NO WETLANDS OR FOREST RESOURCES ON-SITE. 44. PLAN SUBJECT TO WP-12-173 WHICH THE PLANNING DIRECTOR ON JUNE 25, 2012 APPROVED TO WAIVE SECTION 16.144(g) REQUIRING THE SUBMISSION OF A PRELIMINARY PLAN WITHIN FOUR (4) MONTHS OF SKETCH PLAN APPROVAL AND SECTION

16.1106(d) REQUIRING RESIDENTIAL PROJECTS WITH 101 PLUS HOUSING UNITS NINE (9) MONTHS AFTER STARTING DATE 1) THE PRELIMINARY PLAN FOR PHASES I THRU III FOR 19 UNITS MUST BE SUBMITTED TO DPZ ON OR BEFORE

45. PLAN SUBJECT TO WP-14-060 WHICH THE PLANNING DIRECTOR ON JANUARY 17, 2014 APPROVED TO WAIVE SECTION

16.120(c)(4)-SINGLE FAMILY ATTACHED LOTS SHALL HAVE A MINIMUM 15 FEET OF FRONTAGE ON A PUBLIC ROAD. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS: 1) THE PETITIONER OR DESIGNEE SHALL BE RESPONSIBLE FOR MAINTENANCE OF SAFE VEHICULAR ACCESS TO ALL RESIDENTIAL UNITS. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO, MAINTENANCE OF THE PRIVATE ROAD PROVIDING ACCESS TO THE RESIDENTIAL UNITS, MAINTENANCE OF THE PRIVATE ROAD SYSTEM INCLUDING FOR SNOW REMOVAL AND PLOWING ON THE 2) UPON COMPLETION OF ANY PORTION OF THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PETITIONER OR DESIGNEE SHALL PROVIDE ROAD MAINTENANCE, PRIVATE TRASH REMOVAL SERVICES, SNOW REMOVAL TO THE DEVELOPMENT UNTIL THE ROADS ARE TRANSFERRED TO THE H.O.A. 3) ON ALL FUTURE SUBDIVISION PLANS AND SITE DEVELOPMENT PLANS, PROVIDE A BRIEF DESCRIPTION OF WAIVER PETITION, WP-14-060, AS A GENERAL NOTE TO INCLUDE REQUESTS, SECTIONS OF THE REGULATIONS, ACTION AND DATE. 4) ON ALL FUTURE SUBDIVISION PLANS, PROVIDE A BRIEF DESCRIPTION OF THE DESIGN MANUAL WAIVER. AS A GENERAL

NOTE TO INCLUDE REQUESTS, ACTION AND DATE. 5) COMPLIANCE WITH THE DEVELOPMENT ENGINEERING DIVISION COMMENTS DATED JANUARY 10, 2014. 6) SUBJECT TO PROVIDING THE REQUIRED VISITOR AND OVERFLOW PARKING SPACES FOR THE RESIDENTIAL UNITS ON

THE SITE DEVELOPMENT PLAN(S). 46. THIS PLAN IS SUBJECT TO A LETTER DATED MARCH 16, 2010 WHICH THE PLANNING DIRECTOR GRANTED APPROVAL TO ALLOW A REDUCTION IN THE REQUIRED COMMERCIAL SPACE TO 200 SQUARE FEET PER RESIDENTIAL UNIT, HOWEVER, IF THE ADJOINING LUSKINS PROPERTY (PARCEL 569), WHICH HAS FRONTAGE ON ROUTE 1 IS LATER INTEGRATED WITH THIS SUBDIVISION, 300 SQUARE FEET OF COMMERCIAL SPACE FOR EACH RESIDENTIAL UNIT MAY BE REQUIRED, OR WHAT REGULATIONS DICTATE AT THAT

47. CEMETERY LANE AND QUIDDITCH LANE ARE PUBLIC ROADS MAINTAINED BY HOWARD COUNTY, MARYLAND. ALL OTHER ROADS OR STREETS ARE PRIVATELY OWNED AND MAINTAINED BY THE MORRIS PLACE HOMEOWNERS ASSOCIATION, INC.

### SITE ANALYSIS DATA CHART

b. OVERFLOW PARKING = 5 SPACES

(ENTIRE MORRIS PLACE:  $17.25 \text{ AC.} \times 10\% = 1.72 \text{ AC.} \pm$ )

TOTAL CREDITED AMENITY AREA PROVIDED: 2.167 Ac. ±

TOTAL AMENITY AREA REQUIRED = 1.72 AC. ±

GROSS AREA OF TRACT = 1.547 AC. ± (OVERALL MORRIS PLACE PROJECT PHASES I THRU VII = 17.25 Ac.) LIMIT OF DISTURBED AREA = 1.48 AC. ± PRESENT ZONING DESIGNATION = CAC-CLI PROPOSED USE: SINGLE FAMILY TOWNHOUSES TOTAL NUMBER OF UNITS = 9 UNITS GREEN OPEN SPACE AREA (O.S. LOT 204) = 0.658 Ac. ± BUILDING COVERAGE OF SITE = 0.183 Ac. ± PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS = ECP-13-035, SDP-91-50, 5-10-02,P-13-001, WP-12-173, WP-14-060, F-14-020, F-15-047, F-16-017, 5DP-15-017, 5DP-15-029, 5DP-16-001, F-17-002, F-17-025, CONTR. #14-5020-D, 5P-17-013. AREA OF FLOODPLAIN = 0.00 AC. ± AREA OF STEEP SLOPES (GREATER THAN 25%) = 0.00 AC. \$\pm\$ C. NET AREA OF TRACT = 1.547 AC.  $\pm$ (GROSS AREA - FLOODPLAIN - STEEP SLOPES)  $(1.547 \text{ AC.} - 0.00 \text{ AC.} - 0.00 \text{ AC.} = 1.547 \text{ AC.} \pm)$ TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC. ± TOTAL FOREST AREA = 0.00 AC. ± TOTAL GREEN OPEN SPACE AREA (O.S. LOT 204) = 0.658 AC. ± TOTAL IMPERVIOUS AREA = 0.36 AC. ± AREA OF ERODIBLE SOIL = 0.00 AC. ± Q. TOTAL NUMBER OF PARKING REQUIRED = 23 SPACES a. TOWNHOUSE PARKING REQUIRED = 18 SPACES (9 UNITS X 2 SPACES/UNIT = 18 SPACES) b. OVERFLOW PARKING REQUIRED = 5 SPACES (0.5 SPACES/UNIT X 9 UNITS = 4.5 = 5 UNITS)R. TOTAL NUMBER OF PARKING PROVIDED = 23 SPACES a. SINGLE FAMILY TOWNHOUSE PARKING = 18 SPACES (2 SPACES PER DRIVEWAY)

(ENTIRE MORRIS PLACE	=).		
		LEGEND	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING STORM DRAIN LINE	216	PROPOSED CONTOUR ELEVATION
X X	EXISTING FENCE	# No.   No.	EXISTING CONTOUR 2' INTERVAL
	BOUNDARY/RIGHT OF WAY LINE		PROPOSED CONTOUR 2' INTERVAL
8.R.L	BUILDING RESTRICTION LINE	×362.2	SPOT ELEVATION
	PROPOSED STORM DRAIN PIPE	CWO8>	WALKOUT BASEMENT
	PROPOSED CONCRETE	ECM	EROSION CONTROL MATTING
	PROPOSED PAVING		EXISTING WATER AND SEWER EASEMENT
	PROPOSED L.O.D.		EXISTING PRIVATE STORM DRAIN EASEMENT
55F55F	SUPER SILT FENCE	Orași de la companie	EXISTING AMENITY AREA
5°	SILT FENCE	outrain on the control of the contro	

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 'ENNIAL 5QUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE

# SUPPLIBITION TAL PLAN MORRIS PLACE - PHASE VIII

## LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 & 204

(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A', AS SHOWN ON PLATS ENTITLED "REVISION PLAT, MORRIS PLACE, PHASES I-IV, NON-BUILDABLE BULK PARCEL 'A" RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND AS PLAT NOS. 23914 AND 23915)

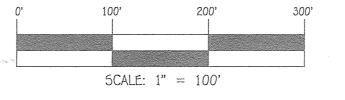
ZONING: CAC-CLI (CORRIDOR ACTIVITY CENTER) DISTRICT TAX MAP No. 43 GRID No. 4 PARCEL No. 599 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND





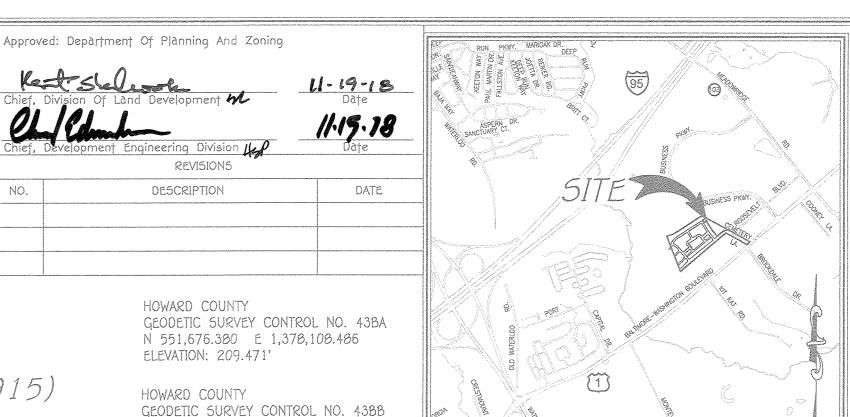
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS

OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.



OWNER/DEVELOPER BEAZER HOMES, LLC 8965 GUILFORD ROAD-SUITE 290 COLUMBIA, MD. 21046 ATTN: MR. ROD HART

(410) 720-5071



REFER TO HOWARD CO. ADC MAP 34-F6 VICINITY MAP

GENERAL NOTES

3. AREA TABULATION:

ELEVATION: 209.012'

N 550,534.184 E 1,376,905.389

THE SUBJECT PROPERTY IS ZONED CAC-CLI PER 10/6/13 COMPREHENSIVE ZONING PLAN THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE 10/06/2013 COMPREHENSIVE ZONING PLAN. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.

a. GROSS AREA OF TRACT = 1.547 AC.± (OVERALL MORRIS PLACE PROJECT PHASES I THRU VII = 17.25 AC.) b. AREA OF FLOODPLAIN = 0.00 AC. ±

c. AREA OF 25% OR GREATER SLOPES (credited) = 0.00 AC. Non-credited steep slopes per Section 16.116(b)(1)(i) = 0.00 SqFt.

d. NET AREA OF TRACT = 1.547 AC.+ e. AREA OF PROPOSED BUILDABLE LOTS AND OPEN SPACE LOTS THIS SUBMITTAL (APFO PHASE VII) = 1.547 AC.± FEE SIMPLE LOTS 194 THRU 202 = 0.338 AC. + (PHASE VII) OPEN SPACE LOTS 203 AND 204 = 1.209 AC. ±

4. TOTAL NUMBER OF LOTS PROPOSED = 9 (PHASE VII TOTAL NUMBER OF LOTS PROPOSED FOR ENTIRE MORRIS PLACE PROJECT: NUMBER OF BUILDABLE LOTS = 175 (175 RESIDENTIAL UNITS)

TOTAL NUMBER OF UNITS ALLOWED: (17.25 AC. X 25 UNITS/AC) = 431 UNITS TOTAL NUMBER OF UNITS PROVIDED: 175 UNITS PHASES I-IV (53 UNITS) + PHASE VI (34 UNITS) + PHASE VI (79 UNITS) + PHASE VI (9 UNITS) = 175 UNITS 5. MODERATE INCOME HOUSING UNITS (M.I.H.U) FOR THE ENTIRE MORRIS PLACE SUBDIVISION (PHASES I THRU VII) TABULATION: a. TOTAL PROJECT M.I.H.U. REQUIREMENT (PHASES I THRU VII) = 26.25 = 27 M.I.H.U.

(175 UNITS X 15% = 26.25 M.I.H.U.)b. M.I.H.U. FOR PHASES I THRU VI PROVIDED = 25 M.I.H.U. c. M.I.H.U. REQUIRED FOR PHASE VII = 2 M.I.H.U.

f ARFA OF PROPOSED PUBLIC ROAD = 0.00 AC.

(27 M.I.H.U. - 25 M.I.H.U. = 2 M.I.H.U.) 6. A MODERATE INCOME HOUSING UNIT (M.I.H.U.) AGREEMENT AND M.I.H.U. COVENANTS HAVE BEEN RECORDED FOR PHASES I THRU VI. A SEPARATE M.I.H.U. AGREEMENT AND M.I.H.U. COVENANT WILL BE RECORDED FOR PHASE VII. 7. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.

a. PUBLIC SEWER FRONTAGE IS PROVIDED BY CONTRACT NO. 14-5020-D. b. PUBLIC WATER SERVICE IS PROVIDED BY CONTRACT NO. 14-5020-D.

9. SOILS INFORMATION TAKEN FROM NRCS WEB SOIL SURVEY. 10. BOUNDARY INFORMATION IS BASED ON FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED

PHASE WILL PROVIDED BUILT UNDER THE SDP. THE DEVELOPER'S AGREEMENT WILL BE EXECUTED WITH THE SDP.

11. TOPOGRAPHIC CONTOURS ARE BASED ON AERIAL CONTOUR MAPPING BY HARFORD AERIAL PHOTOGRAPHED ON SEPTEMBER 18, 2007 AND SUPPLEMENTED WITH A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. DATED APRIL 24,

PHASE WILL PROVIDED BY A F-6 BIO-RETENTION FACILITY. THE PROPOSED STORMWATER MANAGEMENT FACILITY (F-6) 7 WILL BE

12. STORMWATER MANAGEMENT FOR THIS REDEVELOPMENT PROJECT HAS BEEN PROVIDED, IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND DEPARTMENT OF ENVIRONMENT STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. UNDER F-14-020. 5DP-15-017 AND 5DP-16-001. THE REMAINDER OF THE STORMWATER MANAGEMENT TREATMENT OBLIGATION REQUIRED FOR THIS

13. THE TRAFFIC STUDY AND THE APFO (ADEQUATE PUBLIC FACILITIES ORDINANCE) ROAD FACILITIES TEST FOR THIS SUBDIVISION WAS APPROVED WITH THE COMPREHENSIVE SKETCH PLAN, 5-10-002, BY THE PLANNING DIRECTOR ON JUNE 7, 2010. AN UPDATED APFO TRAFFIC EVALUATION LETTER DATED JUNE 7, 2017 WAS PREPARED BY THE TRAFFIC GROUP.

14. NO FOREST RESOURCES EXIST ON THIS SITE PER A LETTER OF FINDINGS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. 15. FOREST OBLIGATION FOR THE ENTIRE MORRIS PLACE SUBDIVISION (PHASES I THRU VII) WAS PROVIDED WITH F-14-020.

16. THERE ARE NO WETLANDS, STREAM, 100-YEAR FLOODPLAIN OR STEEP SLOPES WITH A CONTIGUOUS AREA GREATER THAN 20,000 SQUARE FEET LOCATED ON THIS PROPERTY. THERE ARE NO WETLANDS ON SITE THAT WILL BE DISTURBED OR THAT

WILL REQUIRE 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND. 17. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS:

HOWARD COUNTY MONUMENT NO. 438A N 551,676.380 FT E 1,378,108.486 FT ELEV. 209.471 HOWARD COUNTY MONUMENT NO. 4388 N 550,534.184 FT

E 1,376,905.389 FT ELEV. 209.012 10. GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL NOT BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100-YEAR FLOODPLAIN. 19. NO CEMETERIES ARE LOCATED ON THIS SITE BASED ON A VISUAL VISIT AND BASED ON AN EXAMINATION OF THE HOWARD COUNTY CEMETERY INVENTORY MAP. NO HISTORIC STRUCTURES EXIST ON-SITE.

20. SITE IS NOT ADJACENT TO A SCENIC ROAD. 21. THERE ARE NO CREDITED STEEP SLOPES OF 25% OR GREATER ON-SITE. THERE ARE NO NON-CREDITED STEEP SLOPES PER SECTION 16.116(b)(1)(i) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

22. ALL LOT/PARCEL AREAS ARE MORE OR LESS. 23. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID. 24. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO

ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: A) WIDTH - 12 FEET (16 FEET) SERVING MORE THAN ONE RESIDENCE):

B) SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING. C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;

D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING): E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH

F) STRUCTURE CLEARANCES - MINIMUM 12 FEET: G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE. 25. ARTICLES OF INCORPORATION FOR THE MORRIS PLACE HOMEOWNERS ASSOCIATION, INC. WAS FILED WITH THE MARYLAND

STATE DEPARTMENT OF ASSESSMENT AND TAXATION ON SEPTEMBER 23, 2014. RECEIPT NO. D16094062. 26. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.

27. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON MAY 31, 2017. 28. THE SWM FACILITY LOCATED ON OPEN SPACE LOT 204 WILL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S 29. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. LANDSCAPING OBLIGATIONS FOR THIS SITE DEVELOPMENT (APFO PHASE VII) HAS BEEN PROVIDED

BY A FINANCIAL SURETY IN THE AMOUNT OF \$12,600.00 BASED ON 42 SHADE TREES WHICH WILL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT FOR THE SITE DEVELOPMENT PLAN. 30. THE CONSTRUCTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINNER/CONSTRUCTION INSPECTION

DIVISION AT (410)313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. 31. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION

32. TRAFFIC CONTROL DEVICES: a) THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.

b) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF THE TRAFFIC CONTROL DEVICES.

c) ALL TRAFFIC CONTROL DEVICES AND LOCATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MdMUTCD). d) ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORMED ("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 GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF FACH POST 33. PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: ECP-13-035, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-060, F-14-020, F-15-047, F-16-017, SDP-15-017, SDP-15-029, SDP-16-001, F-17-002, F-17-025, CONTR. #14-5020-D AND SP-17-013.

34. OPEN SPACE LOTS 203 & 204 WILL BE OWNED BY THE MORRIS PLACE HOMEOWNERS ASSOCIATION, INC. FOR THE RESIDENTS OF THIS SUBDIVISION AND RECORDING REFERENCES OF THE ARTICLES OF INCORPORATION AND RESTRICTIONS ARE IDENTIFIED IN GENERAL NOTE NO. 27.

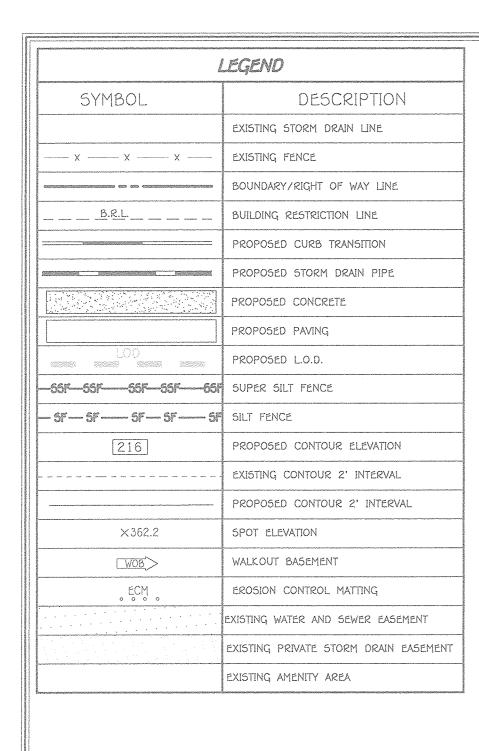
MORRIS PLACE - PHASE VII LOTS 194 THRU 202 AND

OPEN SPACE LOTS 203 AND 204 (Being A Resubdivision Of Non-Buildable Bulk Parcel 'A') PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: ECP-13-035, 5DP-91-050, 5-10-002, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, 5DP-15-017, 5DP-15-029 & 5DP-16-001

ZONED: CAC & CLI TAX MAP NO.: 43 GRID NO.: 4 PARCEL NO.: 599 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: NOVEMBER 2, 2018 SHEET 1 OF 3

F-19-013





SOILS LEGEND 50IL NAME Awb Alloway silt loam, 2 to 5 percent slopes DhB Downer-Hammonton sandy loams, 2 to 5 percent slopes Fa Fallsington sandy loam, 0 to 2 percent slopes GFC Gladstone-Urban land complex, 8 to 15 percent slopes Russett and Beltsville soils, 2 to 5 percent slopes B N/A Sassafras loam, 2 to 5 percent slopes D N/A Urban land—Fallsington complex, 0 to 2 percent slopes UtD Urban land-Udorthents complex, 0 to 15 percent slopes D N/A

FISHER, COLLINS & CARTER, INC. CENTERIAL SECRÉPOFIX EFFARMOCI UBERS SPALTIMORE NATIONAL PIKE

† Generally only 4400 161 100 200 200 100 delain areas



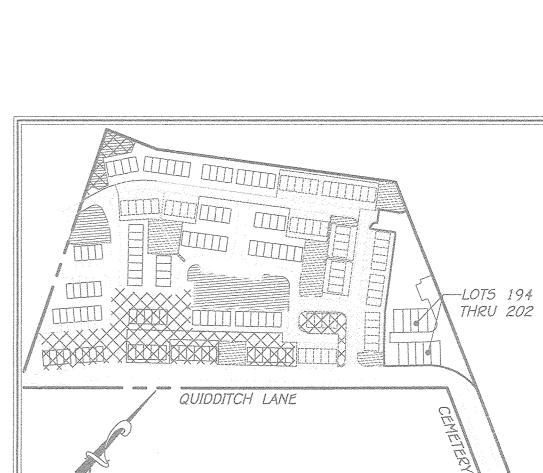
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.

Frank John Manalansan II

5) SCHEMATIC SEDIMENT CONTROL IS SHOWN FOR INFORMATIONAL PURPOSES ONLY.

OWNER/DEVELOPER

BEAZER HOMES, LLC 8965 GUILFORD ROAD-SUITE 290 COLUMBIA, MD. 21046 ATTN: MR. ROD HART (410) 720-5071



Approved: Department Of Planning And Zoning

DESCRIPTION

DATE

		APFO PHA	ASING CHA	RT		
HATCH	PHASE		ROUTE ONE UNITS	MIHU	TOTAL	DPZ FILE NOs.
	I-IV	2014	44	9	53	F-14-028
	V	2015	28	6	34	F-15-047
	Λī	2016	69	10	79	F-16-017
Jan 19 19 19 19 19 19 19 19 19 19 19 19 19	VII	2018	7	2	9	F-19-013
	TOTAL		148	27	175	

SITE PHASING MAP

NO 5CALE

		dankerten von en haben de men erkerne in de met de	
	ENTTY AREA		
Amenity Area No.		Non-Credited Amenity Area	Total Area
2	0.299 Ac.	0.000 Ac.	0.299 Ac.
4	0.000 Ac.	0.233 Ac.	0.233 Ac.
5	0.000 Ac.	0.117 Ac.	0.117 Ac.
6+7	0.441 Ac. (0.217 Ac.+ 0.224 Ac.)	0.000 Ac.	0.441 Ac.
8	0.646 Ac.	0.000 Ac.	0.646 Ac.
1+3+9	0.781 Ac. (0.069 Ac. + 0.137 Ac. + 0.575 Ac.)	0.000 Ac.	0.781 Ac.
Totāls	2.167 Ac.	0.350 Ac.	2.517 Ac.

### SUPPLEMENTAL PLAN

MORRIS PLACE - PHASE VII LOTS 194 THRU 202 AND

OPEN SPACE LOTS 203 AND 204 (Being A Resubdivision Of Non-Buildable Bulk Parcel 'A') PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: ECP-13-035, 5DP-91-050, 5-10-002, P-13-001, WP-12-173, WP-14-068, F-14-028. F-15-047, F-16-017, 5DP-15-017, 5DP-15-029 & 5DP-16-001

ZONED: CAC & CLI TAX MAP NO.: 43 GRID NO.: 4 PARCEL NO.: 599 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: NOVEMBER 2, 2018

SHEET 2 OF 3

F-19-013

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for WC), and Re v. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

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

Design Constraints:

> Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging. > Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance). > Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design. > Test soil conditions to determine if soil amendments are necessary. > Plants shall be located so that access is possible for structure maintenance. > Stabilize heavy flow areas with erosion control mats or sod. > Temporarily divert flows from seeded areas until vegetation is established. > See Table A.5 for additional design considerations.

Bio-retention

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

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

Table A.3 Planting Soil Characteris	stics
Parameter	Vālue
pH rānge	5.2 †o 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P205)	75 lbs. per acre, minimum
Potassium (potash -1(K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	0 to 5%
Silt	30 to 55%
Sand	35 to 60%

Mulch Layer

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

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

Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation

supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge is the highest elevation and generally supports plants adapted to dryer conditions. For

appropriate plant materials for bioretention facilities, Refer To MAA Approved Species List. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.

### Operation And Maintenance Schedule For Commercial Association Owned & Maintained Bio-Retention Areas (F-6)

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

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

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

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

5. The owner shall maintain all observation wells, clean-outs and perforated underdrains. 6. Filter material must be replaced when water remains on the surface of the filter bed for more than 24 hours following a 1 or 2 year storm event or more than 40 hours following a 10 year storm B.4.C Specifications for Micro-Bioretention. Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table 8.4.1. 2. Filtering Media or Planting Soil

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

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

Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)

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

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

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

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

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

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

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base. When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

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

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

5. Plant Installation

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

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8 th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting

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

Underdrains should meet the following criteria:

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

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

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

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

A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.

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

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

7. Miscellaneous

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



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY MI AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.

PIPE SIZE: 6" HOLE SIZE: 3/8" CENTER TO CENTER: 3" ROWS OF HOLES: 2 @ 90° 2 @ 160° (+/-3°) **5CH40 PVC PERFORATED** UNDERDRAIN PIPE DETAIL

-1/8 (45°) BEND

<u>TYPICAL CLEAN-OUT DETAIL</u>

AMENIT

X216.98 216.98 X

SCALE: 1" = 20' DRAINAGE AREA: 42,396 SQFT. FILTER AREA: 894 SQFt.

ELEVATION 213.82 PERIMETER 116'

WEIR ELEVATION 214

· 1465 SQ.FT.

×216.98

AREA

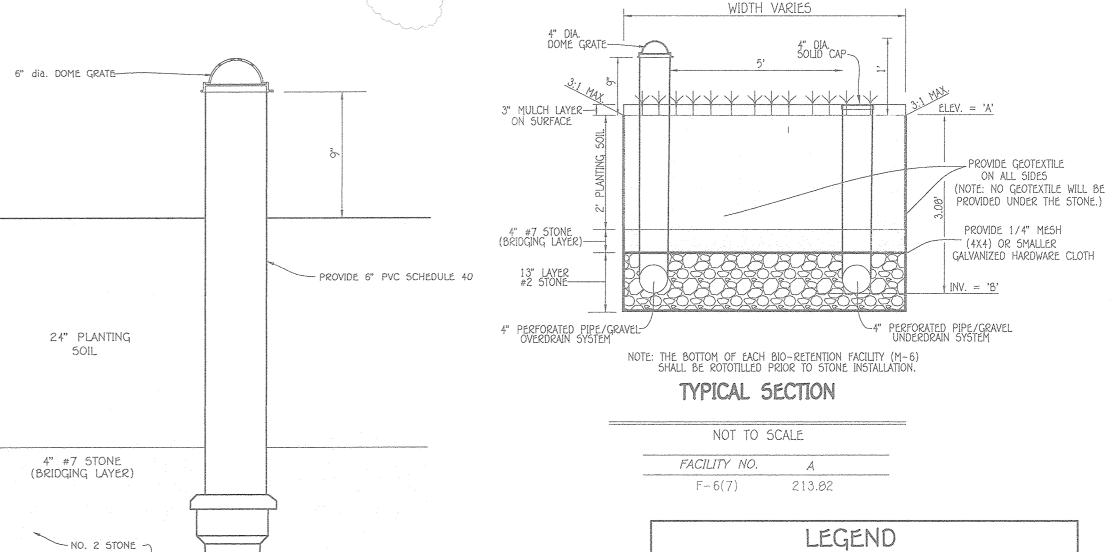
FOR HORIZONTAL DRAIN PIPE NO SCALE

ANY OF THE SHRUBS LISTED MAY BE USED WITCH HAZEL BUTTONBRUSH BUCKEYE BOTTLEBRUSH BUCKEYE

ANY OF THE GRASS LISTED MAY BE USED SWITCHGRASS L HEAVY METAL SWITCHGRASS

**REVISIONS** DATE DESCRIPTION

Approved: Department Of Planning And Zoning



0111002	5255,011 11011
	EXISTING STORM DRAIN LINE
x x x	EXISTING FENCE
	BOUNDARY/RIGHT OF WAY LINE
<u>B.R.L</u>	BUILDING RESTRICTION LINE
	PROPOSED CURB TRANSITION
	PROPOSED STORM DRAIN PIPE
	PROPOSED CONCRETE
	PROPOSED PAVING
	PROPOSED L.O.D.
-667667667667	SUPER SILT FENCE
o 67 censor 67 communication 67 censor 67 sommerces 67	SILT FENCE
216	PROPOSED CONTOUR ELEVATION
	EXISTING CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
×362.2	SPOT ELEVATION
WOB>	WALKOUT BASEMENT
. ECM	EROSION CONTROL MATTING

EXISTING WATER AND SEWER EASEMENT

EXISTING AMENITY AREA

EXISTING PRIVATE STORM DRAIN EASEMENT

**DESCRIPTION** 

5YMBOL

PLANT MATE	RIAL- BIO-R	ETENTION F-6 (7)
QUANTITY	NAME	MAXIMUM SPACING (FT.)
85 (255 sq.ff.)	GRASSES	36" o.c.
43	SHRU85	36"-40" o.c.

STORMWATER MANAGEMENT NOTES AND DETAILS

MORRIS PLACE - PHASE VII LOTS 194 THRU 202 AND

OPEN SPACE LOTS 203 AND 204 (Being A Resubdivision Of Non-Buildable Bulk Parcel 'A') PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: ECP-13-035, 5DP-91-050, 5-10-002, P-13-001, WP-12-173, WP-14-068, F-14-028. F-15-047, F-16-017, 5DP-15-017, 5DP-15-029 & 5DP-16-001

ZONED: CAC & CLI TAX MAP NO.: 43 GRID NO.: 4 PARCEL NO.: 599 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: NOVEMBER 2, 2018

SHEET 3 OF 3

5CALE: 1" = 30"

OWNER/DEVELOPER BEAZER HOMES, LLC 8965 GUILFORD ROAD-SUITE 290 COLUMBIA, MD. 21046 ATTN: MR. ROD HART (410) 720-5071

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS NNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE FILICOTT CTTY MARYLAND 21042