

**SITE DATA**

LOCATION: JESSUP, MD.; TAX MAP 43, GRID 15, PARCEL 2, PARCEL J  
 6TH ELECTION DISTRICT  
 PRESENT ZONING: M-2  
 LOCATION: 7540 ASSATEAGUE DRIVE  
 SUBDIVISION: MD WHOLESALE FOOD CENTER  
 TOTAL PARCEL AREA: 58.3 AC.  
 PARCEL 'J' AREA: 58.89 AC.  
 DPZ REFERENCES: L16203/F30246, PLAT 19144, SDP-77-70, SDP-82-45, SDP-80-96, SDP-83-148, SDP-97-50, SDP-100-155, ECP-155-035, SDP-90-214, SDP-91-097, F-16-102 (PLAT 23163-23765)  
 SITE DATA FOR THIS PROJECT WITHIN PARCEL 'J'  
 AREA OF PLAN SUBMISSION: 10.10 AC.  
 USE OF STRUCTURE: 1 STORY WAREHOUSE  
 BUILDING FLOOR AREA: 180,228 SF  
 AREA OF WETLANDS AND BUFFERS: 0.00 AC.  
 AREA OF STRAINS AND BUFFERS ON SITE: 0.00 AC.  
 AREA OF 100 YEAR FLOODPLAIN ON SITE: 0.00 AC.  
 AREA OF FOREST ON SITE: 0.00 AC.  
 AREA OF STEEP SLOPES (2% OR GREATER) ON SITE: 0.00 AC.  
 AREA OF ERODIBLE SOILS ON SITE: 0.00 AC.  
 AREA LIMIT OF DISTURBED AREA WITHIN THIS SDP: 9.91 AC.  
 EX. IMPERVIOUS AREA WITHIN THIS SDP: 8.20 AC.  
 EX. GREEN AREA WITHIN THIS SDP: 7.27 AC.  
 PROP. IMPERVIOUS AREA WITHIN THIS SDP: 7.63 AC.  
 PROP. GREEN AREA WITHIN THIS SDP: 1.24 AC.  
 CUT: 30,461 CY FILL: 10,294 CY TO BE UTILIZED FOR EXPANSION OF EXISTING BUILDING  
 LOCATED ON PARCEL 'J' (ASSOCIATED SDP-91-097)

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. ALL WORK AND MATERIALS SHALL COMPLY WITH O.S.H.A. STANDARDS.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:  
 MISS UTILITY: 1-410-954-6281  
 HOWARD COUNTY BUREAU OF UTILITIES: 410-313-2366  
 AT&T CABLE LOCATION DIVISION: 1-800-393-3553  
 B.G.&C. CO. CONSTRUCTION SERVICES: 410-850-4620  
 B.G.&C. CO. UNDERGROUND DAMAGE CONTROL: 410-797-4620  
 STATE HIGHWAY ADMINISTRATION: 410-531-5533
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1888 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START WORK.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STRIPES AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED (QUICK PUNCH) SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHIC INFORMATION HEREON IS TAKEN FROM A FIELD-RUN TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED OCTOBER 10, 2014.
- THE PROPERTY LINES SHOWN HEREON ARE BASED ON RECORD PLAT #19143-19146, F-07-194, AND F-16-102.
- THE SUBJECT PROPERTY IS ZONED M-2 IN ACCORDANCE WITH THE 10/05/13 COMPREHENSIVE ZONING PLAN.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS 43EB AND 43HB WERE USED FOR THIS PROJECT.
- PUBLIC WATER AND SEWER AVAILABLE THROUGH CONTRACT NO. SDP-16-094-WHS.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- STORMWATER MANAGEMENT FOR THIS DEVELOPMENT PROJECT IS BEING PROVIDED BY ENVIRONMENTAL SITE DESIGN UTILIZING MICRO-BIORETENTION FACILITIES (M-6), PERMEABLE PAVEMENT (A-2), SAND FILTER (F-5), AND A POND PER SDP-80-056. SWM FACILITIES TO BE PRIVATELY OWNED AND MAINTAINED.
- THERE ARE NO ENVIRONMENTAL FEATURES INCLUDING FLOODPLAIN, WETLANDS, STREAMS, THEIR BUFFER, STEEP SLOPES, SPECIMEN TREES, FOREST OR FOREST CONSERVATION AREAS THAT EXISTS WITHIN THE DEVELOPED AREA.
- SIGNAGE SHALL BE PROVIDED ON THE BUILDING IDENTIFYING THE BUILDING ADDRESS, AND EACH SUITE SEPARATED BY LETTER.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- BUILDINGS TO HAVE INSIDE WATER METER SETTINGS.
- THE PROPOSED BUILDINGS WILL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- LANDSCAPING NOT PERMITTED WITHIN 7'-1/2' OF EACH SIDE OF THE FIRE DEPARTMENT CONNECTION. PROVIDE A CLEAR UNOBSTRUCTED ACCESS PATH TO THE FIRE DEPARTMENT CONNECTION. NFPA-1 13.1.4
- A KNOX BOX IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4'-5" IN HEIGHT AND NO MORE THAN 6' LATERALLY FROM THE DOOR. ITS LOCATION IS SHOWN ON THESE PLANS. THE BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSSED (INTEGRATED WITH THE FIRE ALARM SYSTEM).
- FIRE LANES SHOULD BE PROVIDED IN THIS SITE TO ALLOW EMERGENCY VEHICLE ACCESS. EITHER FIRE LANE SIGNAGE SHOULD BE INSTALLED, OR THE CURBS SHOULD BE PAINTED IN RED AND STENCILED TO IDENTIFY THE ROAD AS A FIRE LANE.
- THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.
- THERE ARE NO KNOWN HISTORIC STRUCTURES OR CEMETERIES ON SITE.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
- NO RARE, THREATENED OR ENDANGERED SPECIES OR THEIR HABITATS WERE OBSERVED ON THE PROPERTY.
- THERE ARE NO SPECIMEN OR CHAMPION TREES WITHIN THE LOT.
- SEDMENT AND EROSION CONTROL IS PROVIDED FOR THIS SITE.
- ROADS ADJACENT TO THE SITE ARE NOT CLASSIFIED AS SCENIC ROADS.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL NOTIFY THE PROJECT GEOTECHNICAL ENGINEER OF PROPOSED PAVING SECTIONS PRIOR TO CONSTRUCTION.
- THE GEOTECHNICAL ENGINEER TO CONFIRM PAVING SECTION PRIOR TO CONSTRUCTION. SEE SHEET 13 FOR SPECIFICATION.
- ALL PUBLIC CURB AND GUTTER TO BE HOWARD COUNTY STANDARD DETAIL R-3.01 UNLESS OTHERWISE NOTED.
- CONTRACTOR RESPONSIBLE TO CONSTRUCT ALL HANDICAP RAMPS AND HANDICAP ACCESS IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
- WHERE DRAINAGE FLOWS AWAY FROM CURB, CONTRACTOR TO REVERSE THE GUTTER PAN.
- ALL ELEVATIONS ARE TO FLOWLINE/BOTTOM OF CURB UNLESS OTHERWISE NOTED.
- ALL EXTERIOR LIGHTING TO COMPLY WITH THE REQUIREMENTS FOUND IN ZONING SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. (DETAIL ON SHEET 2)
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993) AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993). A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY FOR THE LANDSCAPING IN THE AMOUNT OF \$18,350.00 FOR THE REQUIRED 35 SHADE TREES, 3 EVERGREENS, AND 247 SHRUBS SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS SITE DEVELOPMENT PLAN.
- ALL STORM DRAIN PIPE BEDDING IS TO BE CLASS 'C'.
- TRASH AND RECYCLING COLLECTION TO BE PRIVATE.
- HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP) DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN. PERMIT PLANS FOR CERTAIN FACILITIES TO BE CONSTRUCTED WITHIN THE LIMITS DESCRIBED BY THIS SDP WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT. SUCH FACILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO, THOSE WHICH HAVE SWIMMING POOLS, OR THAT SELL PREPARED OR PACKAGED FOODS, OR THAT HAVE EQUIPMENT THAT EMITS RADIATION.
- REFERENCE WP-16-014; APPROVED AUGUST 20, 2015, TO WAIVE SECTION 16.120(1)(i)-(j) NET TRACT AREA; AND SECTION 16.120(2)(i)(ii)-(iii) APPLICABILITY EXEMPTIONS; DECLARATION OF INTENT. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:  
 1. A REVISED WAIVER EXHIBIT SHALL BE SUBMITTED WITHIN TWO WEEKS OF WAIVER APPROVAL (ON OR BEFORE SEPTEMBER 3, 2015) WHICH CLEARLY SHOWS THE NEWLY PROPOSED PARCEL LINES FOR 'J-1' AND 'J-2' AND CLEARLY DEPICTS AND LABELS THE ACRES OF THE PROPOSED LOTS FOR BOTH PROJECTS ON BOTH PARCELS 'J-1' AND 'J-2' (OR AN EXHIBIT SHOWING ALL LOTS AND CORRESPONDING ACRES ON EXISTING PARCEL 'J', IF APPLICABLE).  
 2. A FOREST CONSERVATION WORKSHEET SHALL BE SUBMITTED WITHIN TWO WEEKS OF WAIVER APPROVAL (ON OR BEFORE SEPTEMBER 3, 2015) FOR EACH PROJECT PROPOSING ADDITIONS AND IMPROVEMENTS ON PARCEL 'J-2' AND NEW BUILDING ON PROPOSED PARCEL 'J-1' (OR A SINGLE WORKSHEET MAY BE SUBMITTED FOR A SINGLE, JOINT PROJECT OCCURRING ON EXISTING PARCEL 'J').  
 3. THE SUBDIVISION PLAT CREATING PARCELS 'J-1' AND 'J-2' SHALL BE SUBMITTED ON OR BEFORE OCTOBER 4, 2015 AND MUST BE RECORDED PRIOR TO RECOGNITION OF ANY REQUIRED OFF-SITE FC EASEMENT PLATS (OR IF APPLICABLE, A PLAT OF REVISION SHALL BE SUBMITTED).  
 4. FOREST CONSERVATION OBLIGATIONS MUST BE MET VIA USE OF AN OFFSITE EASEMENT LOCATION OR THROUGH AN ESTABLISHED FOREST CONSERVATION BANK AND/OR ALONG WITH A PARTIAL FEE-IN-LIEU PAYMENT. ANY AND ALL EASEMENT PLATS MUST BE RECORDED PRIOR TO FINAL SIGNATURE OF ANY NEW SDP ASSOCIATED WITH PARCEL 'J' OR ANY REDLINE ASSOCIATED WITH EXISTING PARCEL 'J'. LIKEWISE, ANY REQUIRED REDLINE OF AN ESTABLISHED FOREST CONSERVATION BANK MUST BE COMPLETED PRIOR TO FINAL SIGNATURE OF ANY NEW SDP ASSOCIATED WITH PARCEL 'J' OR ANY REDLINE ASSOCIATED WITH PARCEL 'J'.  
 5. THE APPLICANT SHALL OBTAIN ALL APPLICABLE PERMITS (GRADING AND BUILDING) THROUGH THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS.
- THIS PROJECT IS NOT LOCATED ON A SCENIC ROAD.
- THE FOREST CONSERVATION REQUIREMENT FOR THIS SITE DEVELOPMENT PLAN (SDP-16-012) AND THE ASSOCIATED REDLINE TO SITE DEVELOPMENT PLAN (SDP-91-097) IS 0.63 AC. OF AFFORESTATION. THIS IS ACCOMPLISHED THROUGH THE PURCHASE 0.63 AC. OF FOREST PLANTING IN THE CATAL CREEK FOREST MITIGATION FOREST BANK (SDP-14-031).
- REFERENCE WP-16-031; APPROVED SEPTEMBER 9, 2015, TO WAIVE SECTION 16.155(1)(i)-(j) WHICH REQUIRES A SITE DEVELOPMENT PLAN FOR ANY NEW OR EXPANDED NONRESIDENTIAL DEVELOPMENT, INCLUDING COMMERCIAL, INDUSTRIAL, INSTITUTIONAL AND UTILITY DEVELOPMENT, PLUS PUBLIC BUILDINGS, SCHOOLS AND OTHER PUBLIC FACILITIES, BUT EXCLUDING ROAD, WATER, SEWER OR DRAINAGE IMPROVEMENTS AND DEVELOPMENT ASSOCIATED WITH A USE PERMIT APPROVED BY THE DEPARTMENT IN ACCORDANCE WITH SECTION 128 OF THE ZONING REGULATIONS. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:  
 A. A GRADING AND SEDIMENT CONTROL PLAN SHALL BE REVIEWED AND APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT (HSCD).  
 B. THE TEMPORARY STOCKPILE AREA SHALL BE AS SHOWN ON THE SUBMITTED WAIVER EXHIBIT (SHEET 13 OF SDP-90-097) AND SHALL ONLY BE PLACED ON EXISTING IMPERVIOUS SURFACES.  
 C. THE APPLICANT SHALL OBTAIN ALL APPLICABLE PERMITS (GRADING AND BUILDING) THROUGH THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS.  
 D. THE APPLICANT SHALL ADHERE TO ALL 4 OED CONDITIONS OUTLINED IN THE ATTACHED MEMO.

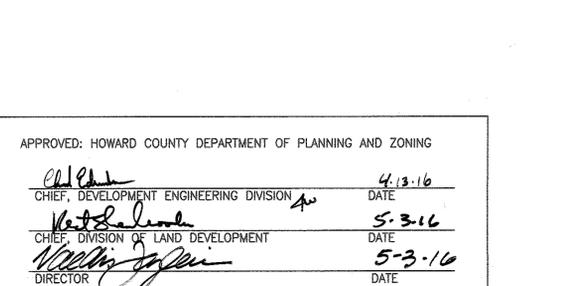
46. THIS PROJECT IS NOT LOCATED ON A SCENIC ROAD.
47. THE FOREST CONSERVATION REQUIREMENT FOR THIS SITE DEVELOPMENT PLAN (SDP-16-012) AND THE ASSOCIATED REDLINE TO SITE DEVELOPMENT PLAN (SDP-91-097) IS 0.63 AC. OF AFFORESTATION. THIS IS ACCOMPLISHED THROUGH THE PURCHASE 0.63 AC. OF FOREST PLANTING IN THE CATAL CREEK FOREST MITIGATION FOREST BANK (SDP-14-031).
48. REFERENCE WP-16-031; APPROVED SEPTEMBER 9, 2015, TO WAIVE SECTION 16.155(1)(i)-(j) WHICH REQUIRES A SITE DEVELOPMENT PLAN FOR ANY NEW OR EXPANDED NONRESIDENTIAL DEVELOPMENT, INCLUDING COMMERCIAL, INDUSTRIAL, INSTITUTIONAL AND UTILITY DEVELOPMENT, PLUS PUBLIC BUILDINGS, SCHOOLS AND OTHER PUBLIC FACILITIES, BUT EXCLUDING ROAD, WATER, SEWER OR DRAINAGE IMPROVEMENTS AND DEVELOPMENT ASSOCIATED WITH A USE PERMIT APPROVED BY THE DEPARTMENT IN ACCORDANCE WITH SECTION 128 OF THE ZONING REGULATIONS. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:  
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 C. THE APPLICANT SHALL OBTAIN ALL APPLICABLE PERMITS (GRADING AND BUILDING) THROUGH THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS.  
 D. THE APPLICANT SHALL ADHERE TO ALL 4 OED CONDITIONS OUTLINED IN THE ATTACHED MEMO.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

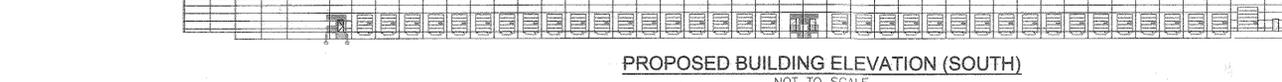
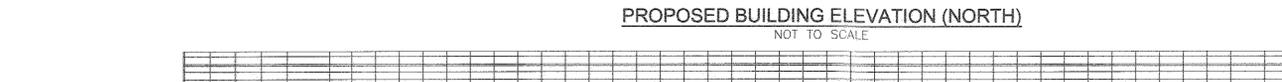
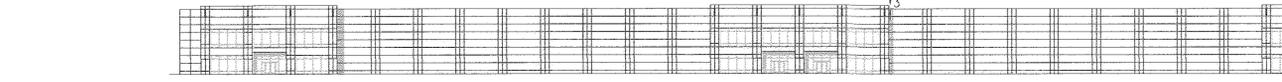
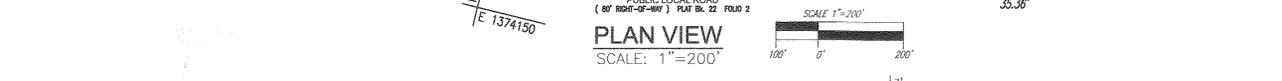
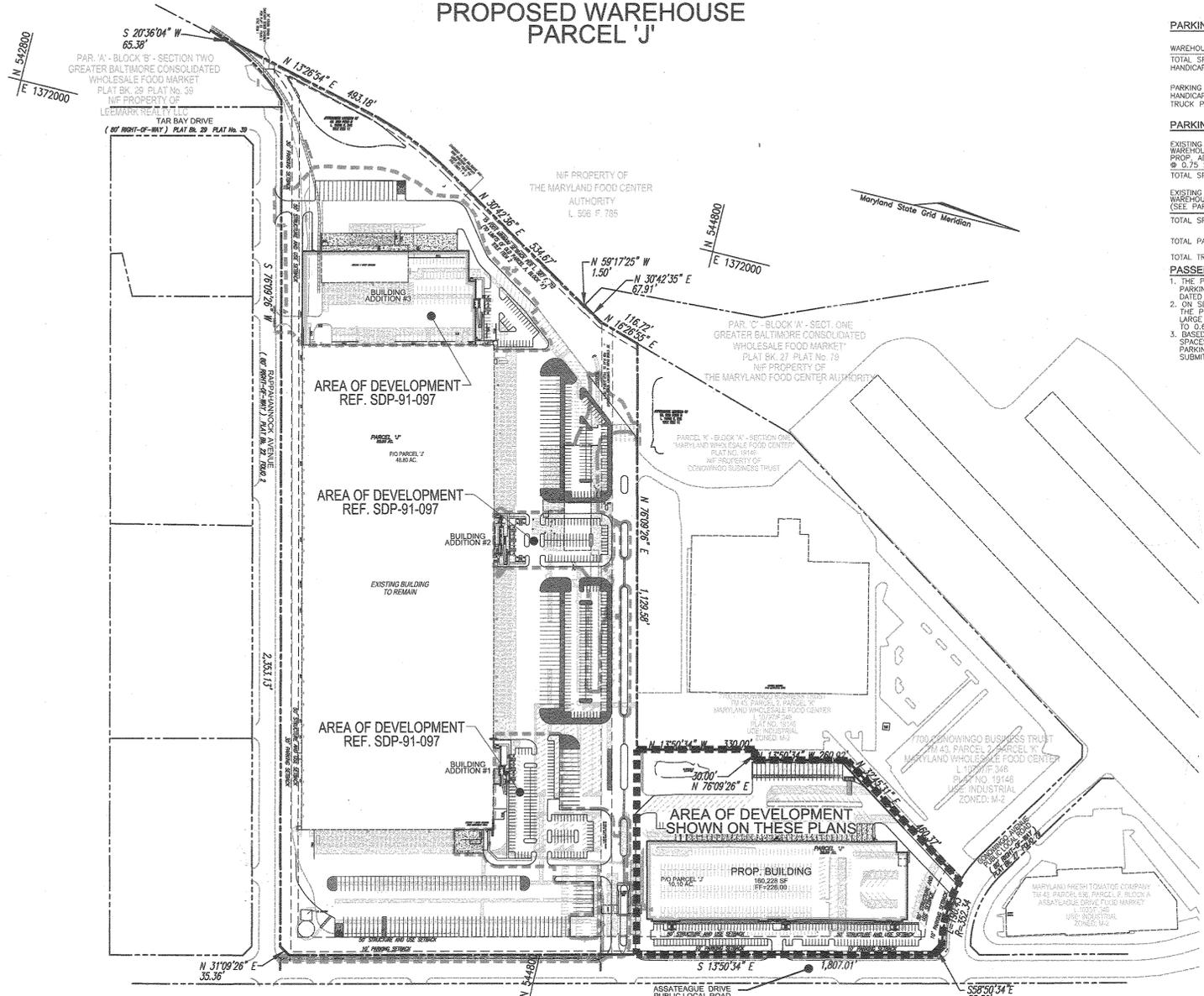
*Chad E. ...* 4.13.16  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Walter ...* 5-3-16  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Walter ...* 5-3-16  
 DIRECTOR DATE

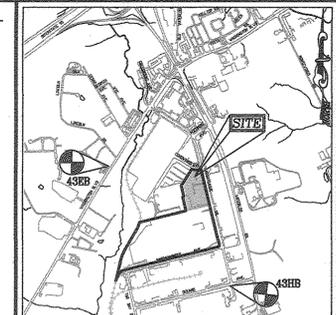


**SITE DEVELOPMENT PLAN**  
**MARYLAND FOOD CENTER AUTHORITY**  
**PROPOSED WAREHOUSE**  
**PARCEL 'J'**



**BENCHMARKS**

HOWARD COUNTY BENCHMARK 43EB  
 N 54596.5476 E 1371573.8400 ELEV.: 216.327'  
 HOWARD COUNTY BENCHMARK 43HB  
 N 453166.729 E 1374425.0243 ELEV.: 251.622'



**PARKING TABULATION (THIS PLAN - SPD-16-012)**

REQUIREMENT	REQUIRED PARKING	PROVIDED PARKING
WAREHOUSE 160,228 SF @ 0.75 SPACES/1,000 SF	121 SPACES	147 SPACES
TOTAL SPACES REQUIRED:	121 SPACES	147 SPACES
HANDICAP SPACE REQUIRED:	5 SPACES	6 SPACES
PARKING SPACE PROVIDED:	147 SPACES	147 SPACES
HANDICAP SPACE PROVIDED:	6 SPACES	6 SPACES
TRUCK PARKING SPACES PROVIDED:	21 SPACES	21 SPACES

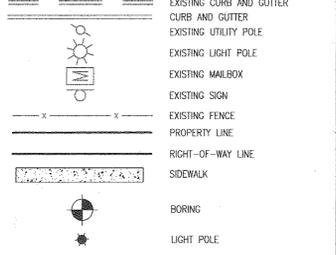
**PARKING TABULATION (REF. SDP-91-097)**

EXISTING BUILDING	EXISTING BUILDING	REQUIRED PARKING PER CODE	PROVIDED PARKING PER REDUCTION
EXISTING BUILDING (729,632 SF)	WAREHOUSE @ 0.75 SPACES PER 1000 SF	548 SPACES	516 SPACES
PROP. ADDITIONS (130,845 SF)	@ 0.75 SPACES PER 1000 SF	98 SPACES	516 SPACES
TOTAL SPACES REQUIRED:		646 SPACES	516 SPACES

**PASSENGER VEHICLE PARKING NOTES:**

- THE PARKING TABULATION FOR SDP-16-012 IS BASED ON PARKING NEEDS ANALYSIS PREPARED BY THE TRAFFIC GROUP, INC. DATED AUGUST 21, 2015.
- ON SEPTEMBER 11, 2015, THE PLANNING DIRECTOR APPROVED THE PROPOSED PARKING REDUCTION FOR SDP-91-097 TO THE LARGE WAREHOUSE BUILDING FROM 0.75 SPACES PER 1000 SF TO 0.60 SPACES PER 1000 SF.
- BASED ON FUTURE TENANT REQUIREMENTS, ADDITIONAL PARKING SPACES MAY BE REQUIRED. SHOW THE NEED FOR ADDITIONAL PARKING BE REQUIRED IN THE FUTURE. A REDLINE WILL BE SUBMITTED TO DEPOT AND LABEL THOSE ADDITIONAL SPACES.

**LEGEND**



**SHEET INDEX**

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GRADING, SEDIMENT AND EROSION CONTROL PLAN	6 OF 15
GRADING, SEDIMENT AND EROSION CONTROL PLAN	7 OF 15
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STORM DRAIN DRAINAGE AREA MAP	9 OF 15
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LANDSCAPE PLAN, NOTES AND DETAILS	14 OF 15
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**ADDRESS CHART**

BUILDING NO.	STREET ADDRESS
7540	ASSATEAGUE DRIVE

**PERMIT INFORMATION CHART**

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NUMBER
MD WHOLESALE FOOD CENTER	-	PARCEL 'J'

PLAT OR L/F	GRID NO. ZONING	TAX MAP NO.	ELECT. DIST.	CENSUS TR.
PLAT 23163-23165 L16203/F30246	15 M-2	43	6TH	606901

NO.	REVISION	DATE
2	REVISE LANDSCAPE PLANTS SCHEDULE FOR SUBSTITUTIONS	10-11-16
1	REVISE SNC, ADD FENCE AND GATES, UPDATE PUBLIC WATER LOCATION	06-20-16

**SITE DEVELOPMENT PLAN**

**COVER SHEET**

MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
 PROPOSED WAREHOUSE  
 7540 ASSATEAGUE DRIVE  
 ZONED: M-2  
 TAX MAP 43, GRID 15, PARCEL 2, PARCEL J  
 6TH ELECTION DISTRICT  
 L16203/F246 - PLAT 19144  
 HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET, SUITE 200, ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666 FAX: 410.461.1891

**PROFESSIONAL CERTIFICATE**

STATE OF MARYLAND  
 ROBERT H. VOGEL  
 PROFESSIONAL ENGINEER  
 No. 16193

DESIGN BY: RHV  
 DRAWN BY: DZ  
 CHECKED BY: RHV  
 DATE: MARCH 2016  
 SCALE: AS SHOWN  
 W.O. NO.: 13-42

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE MSA, TITLE 16, SUBTITLE 02, CHAPTER 01, ARTICLE 01, SECTION 01.01, WHICH EXPIRES ON 03/31/2017.

1 SHEET OF 15

N 544900  
E 1373750  
Maryland State Grid Meridian

**PAVING SECTION - ASPHALT:**

Light Duty Pavement - Assumed traffic volume of  $1 \times 10^6$  ESAL's to accommodate cars and limited heavy truck traffic.

Layer	Thickness (in)
Bituminous Surface	1.5
Bituminous Base	2.5
Graded Aggregate Base Course	6.0
Approved Subgrade (Minimum CBR = 5.0)	

Heavy Duty Pavement - Assumed traffic volume of  $1.5 \times 10^6$  ESAL's to accommodate 200 heavy trucks per day.

Layer	Thickness (in)
Bituminous Surface	2.0
Bituminous Base	4.0
Graded Aggregate Base Course	12.0
Approved Subgrade (Minimum CBR = 5.0)	

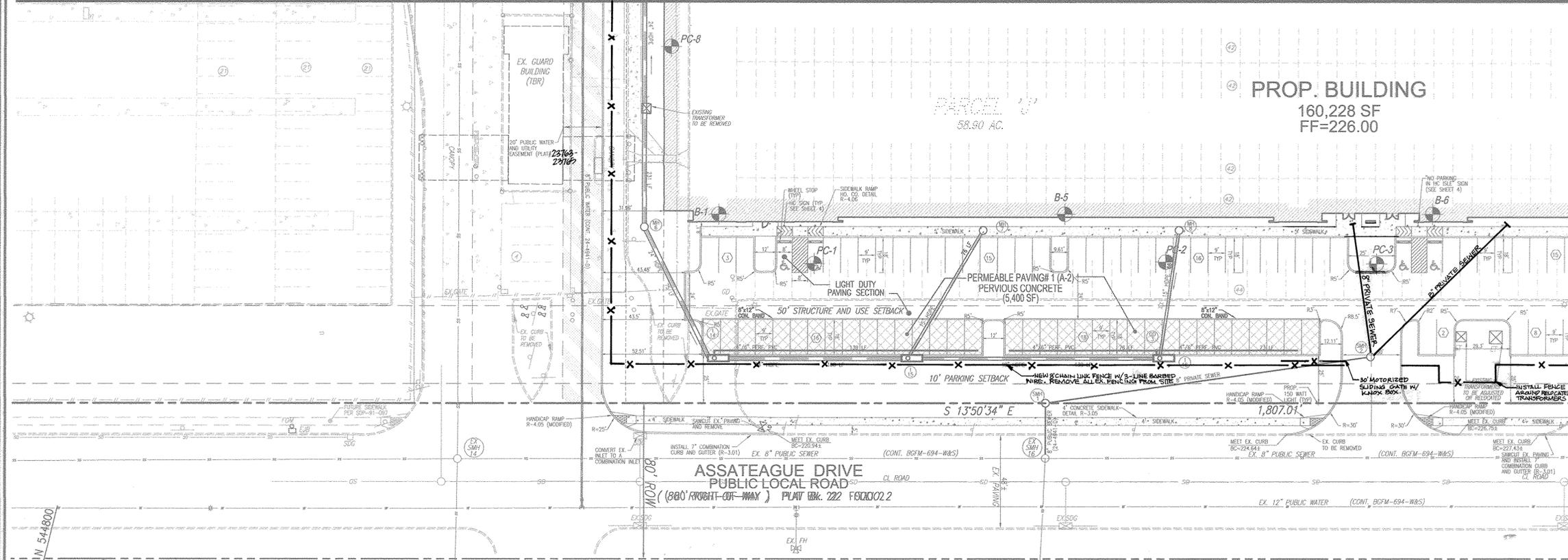
**PAVING SECTION - CONCRETE:**

Rigid Concrete Pavement - For areas of high traffic or severe turns (such as loading dock areas and dumpster aprons)

Layer	Thickness (in)
Portland Cement Concrete	8.0
Graded Aggregate Base Course	8.0

The recommended pavement sections are not intended to accommodate construction traffic. If the asphalt base course is placed prior to the substantial completion of the project, portions of the asphalt should be expected to be damaged and require replacement prior to the placement of the surface course. Pavement subgrade preparation and paving should be performed during the dryer portions of the year, typically between June and October. Additional CBR testing should be performed at the time of rough grading operations to confirm that the design CBR value will be present at the pavement subgrade. Should CBR values differ from those used in the design, some minor changes to the design pavement sections may be required.

**MATCHLINE SHEET 3**



**LAYOUT PLAN**

SCALE: 1"=30'

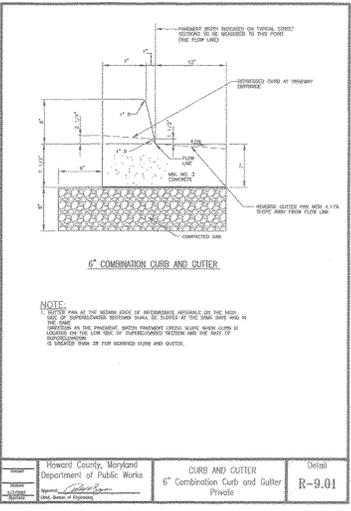
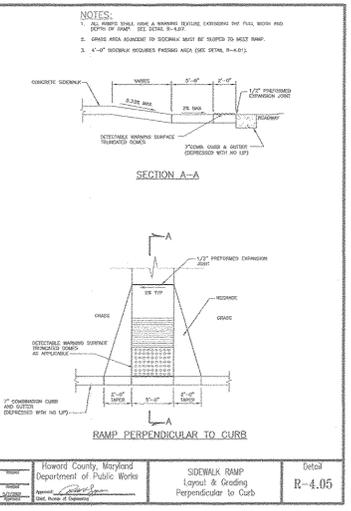
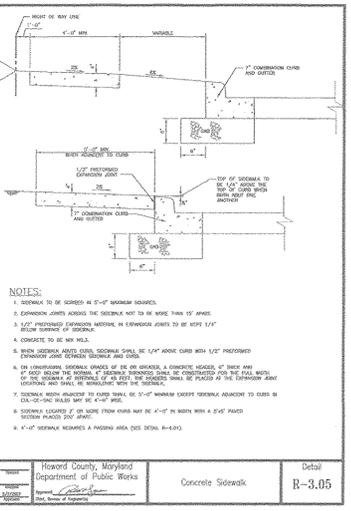
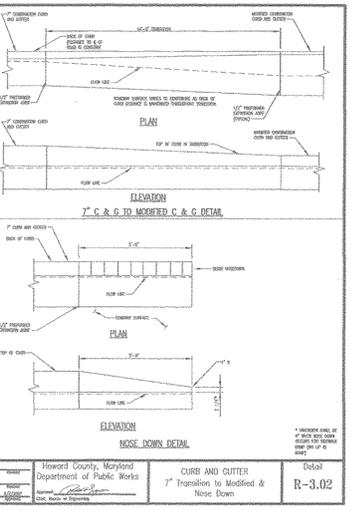
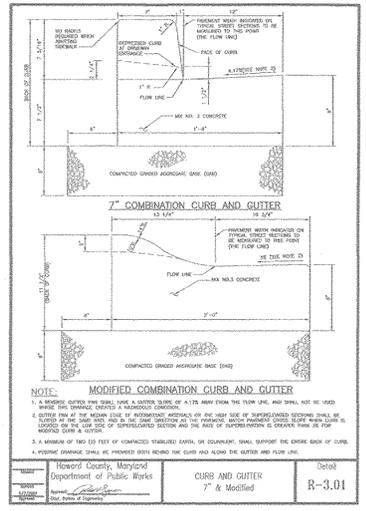
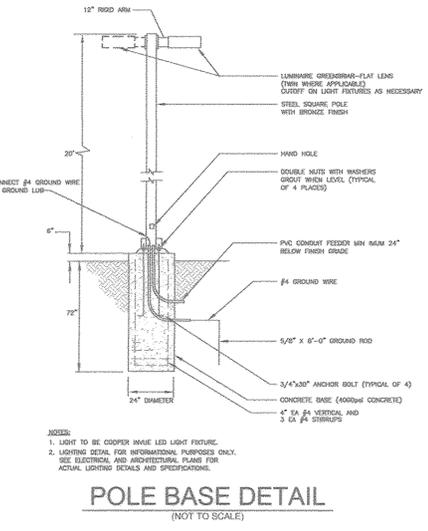
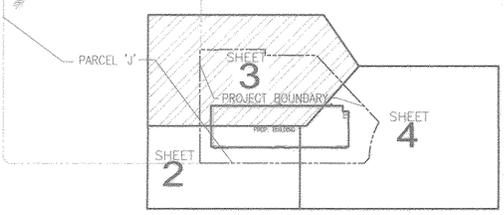


**LEGEND**

- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING STORM DRAIN LINE
- PERVIOUS PAVING
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SIDEWALK
- STORM DRAIN
- STORM DRAIN INLET
- BORING
- 20" PUBLIC WATER AND UTILITY EASEMENT (PLAT # 22163-22168)
- LIGHT POLE

MATCHLINE SHEET 4

**KEYPLAN**  
N.T.S.



Howard County, Maryland  
Department of Public Works  
CURB AND GUTTER  
7" Modified  
R-3.01

Howard County, Maryland  
Department of Public Works  
CURB AND GUTTER  
7" Transverse to Modified & Nose Down  
R-3.02

Howard County, Maryland  
Department of Public Works  
Concrete Sidewalk  
R-3.05

Howard County, Maryland  
Department of Public Works  
SIDEWALK RAMP  
Layout & Grading  
Perpendicular to Curb  
R-4.05

Howard County, Maryland  
Department of Public Works  
CURB AND GUTTER  
6" Combination Curb and Gutter  
Private  
R-9.01

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 4-13-16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE

*[Signature]* 5-3-16  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE

*[Signature]* 5-3-16  
DIRECTOR  
DATE

1	REVIS: SHG, ADD FENCE AND GATES, UPDATE PUBLIC WATER LOCATION	06-02-16
NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**SITE LAYOUT PLAN**

MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
PROPOSED WAREHOUSE  
7540 ASSATEAGUE DRIVE  
ZONED: M-2  
L16203P.246 - PLAT 19144

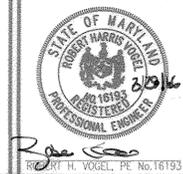
TAX MAP 43 BLOCK 15  
6TH ELECTION DISTRICT

PARCEL 2, PARCEL 'J'  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET  
ELLICOTT CITY, MD 21043

TEL: 410.461.7666  
FAX: 410.461.8961



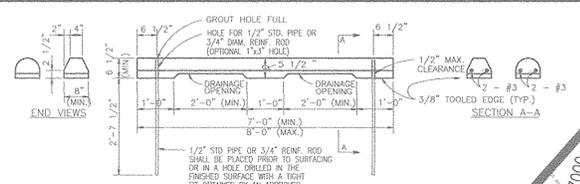
DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: MARCH 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-42

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. EXPIRES 03-27-2018

2 SHEET OF 15

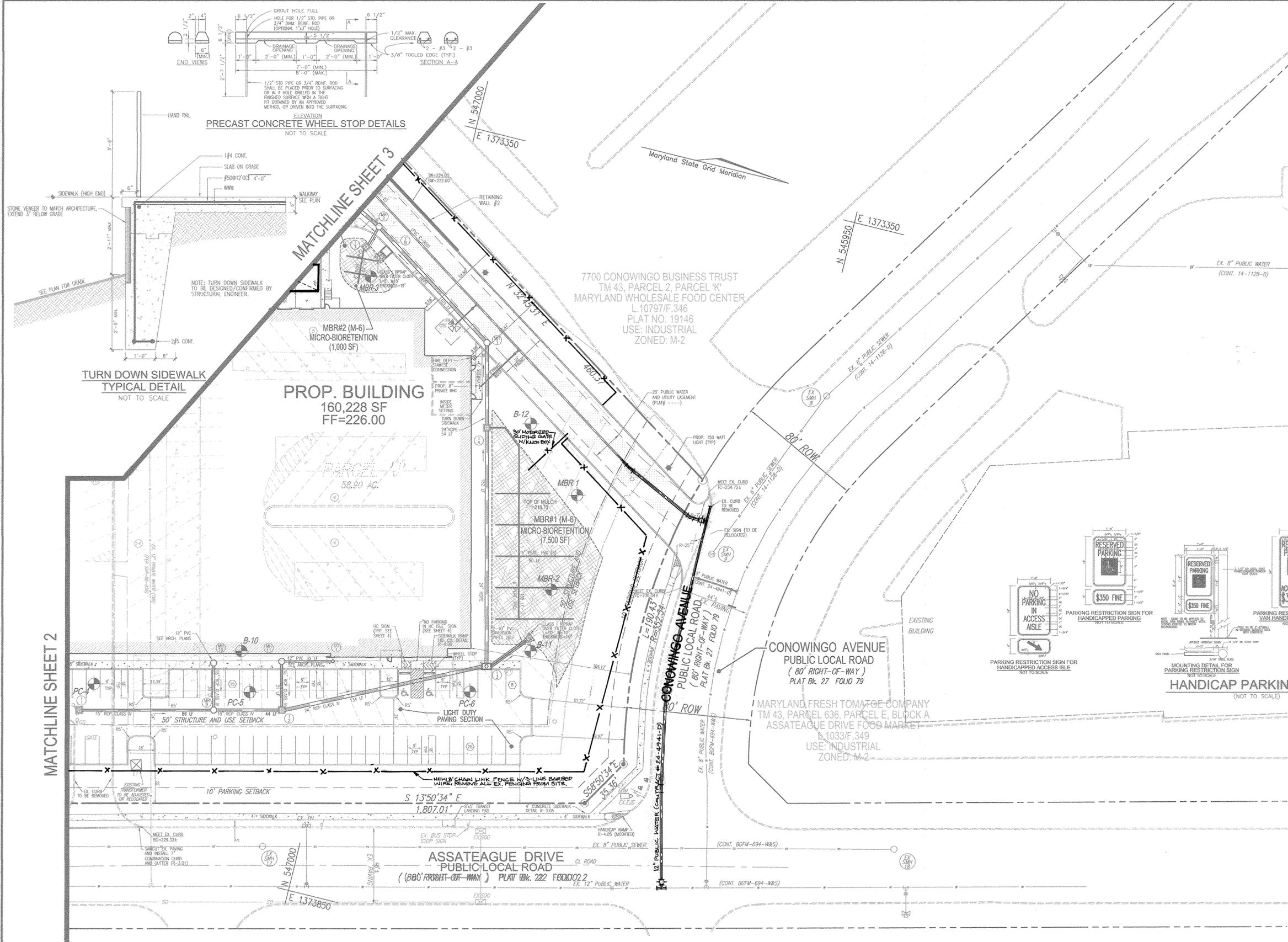
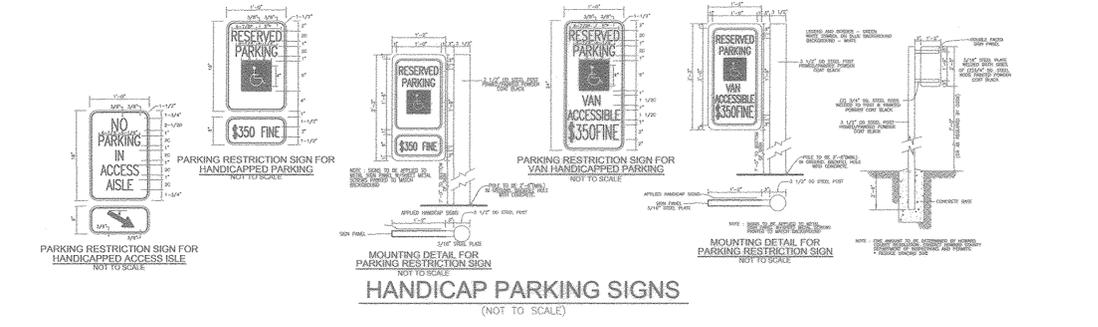
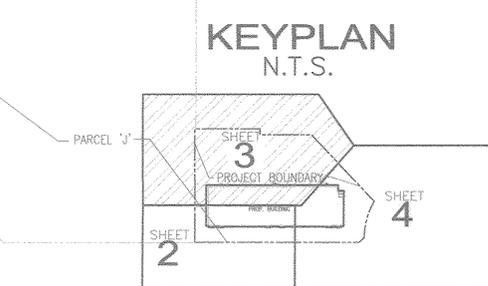
**OWNER/DEVELOPER**  
MCA ASSATEAGUE HOLDING LLC  
9801 ROBERT FULFON DR  
SUITE 200  
COLUMBIA, MD 21046  
410-290-1400





**LEGEND**

	EXISTING CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING STORMDRAIN LINE
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SIDEWALK
	STORM DRAIN
	STORM DRAIN INLET
	20' PUBLIC WATER AND UTILITY EASEMENT (PLATE)
	MICRO-BIORETENTION AREA
	LIGHT POLE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad P. ...* 4/13/16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Kate ...* 5-3-16  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*William ...* 5-3-16  
DIRECTOR DATE



NO.	REVISION	DATE
1	REVISE SHC, ADD FENCE AND GATE, UPDATE PUBLIC WATER LOCATION	06-20-16

**SITE DEVELOPMENT PLAN**  
**SITE LAYOUT PLAN**

**MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'**  
PROPOSED WAREHOUSE  
7540 ASSATEAGUE DRIVE  
ZONED: M-2  
PARCEL 2, PARCEL 'J'  
TM 43, BLOCK 15  
6TH ELECTION DISTRICT  
L.16203/F.246 - PLAT 19144  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET  
ELLICOTT CITY, MD 21043  
TEL: 410.461.7666  
FAX: 410.461.8961

**PROFESSIONAL CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17043, EXPIRATION DATE: 09-27-2016

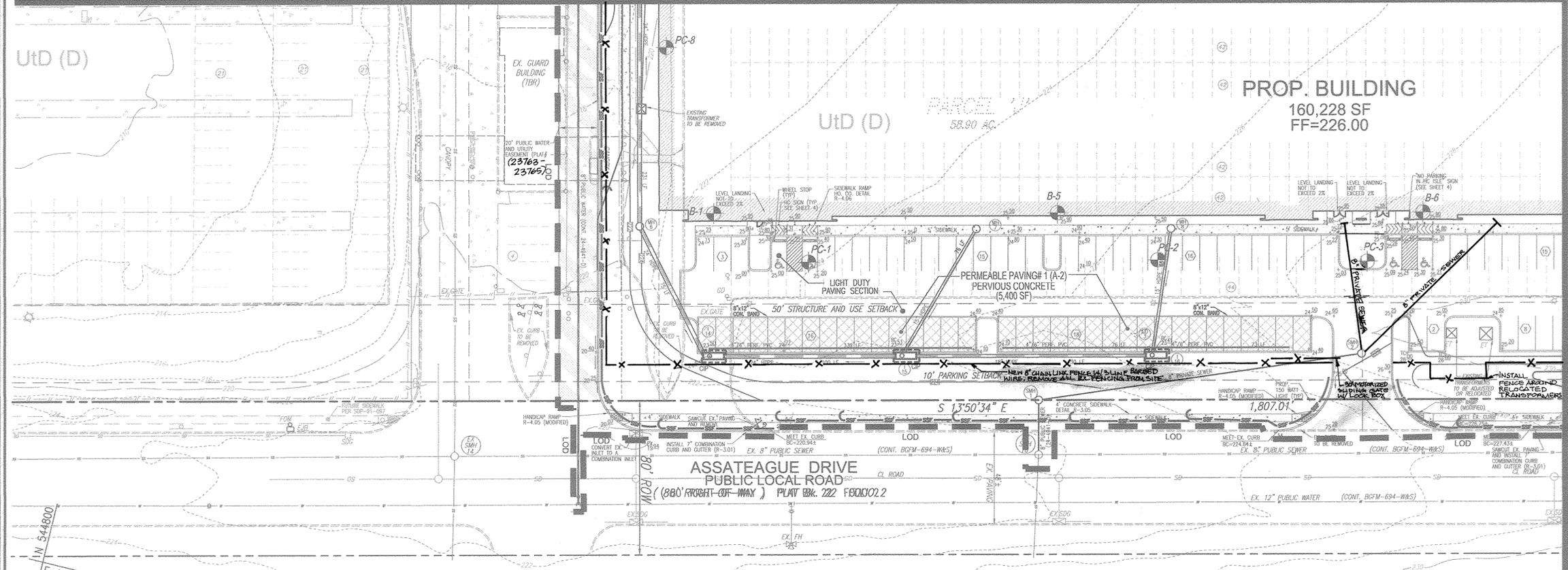
DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: MARCH, 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-42

4 SHEET OF 15

**OWNER/DEVELOPER**  
MCA ASSATEAGUE HOLDING LLC  
9601 ROBERT FULTON DR  
SUITE 200  
COLUMBIA, MD 21046  
410-290-1400

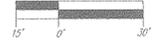
N 544800  
E 1373750  
Maryland State Grid Meridian

MATCHLINE SHEET 6



PLAN VIEW  
SCALE: 1"=30'

**NOTE:**  
1. ON-SITE CONC. CURB AND GUTTER TO BE 6" HO. CO. STANDARD DETAIL R-9.01  
CONC. CURB AND GUTTER WITHIN PUBLIC ROW TO BE 7" HO. CO. STANDARD DETAIL R-3.01  
2. PROVIDE LEVEL LANDING AT TENANT ENTRANCE DOORS AND AT RAMP LANDINGS.



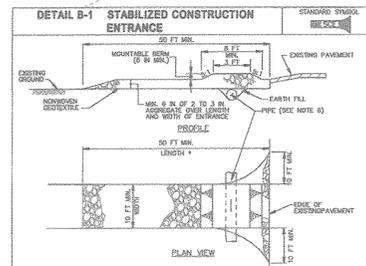
LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- 402.88 SPOT ELEVATION
- 402.88 EXISTING SPOT ELEVATION
- ==== EXISTING CURB AND GUTTER
- ==== CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- STORM DRAIN
- STORM DRAIN INLET
- PERVIOUS PAVING
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- SIDEWALK
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- CURB INLET PROTECTION
- AT GRADE INLET PROTECTION
- 20" PUBLIC WATER AND UTILITY EASEMENT (PLAT # ---)
- LIGHT POLE

MATCHLINE SHEET 7

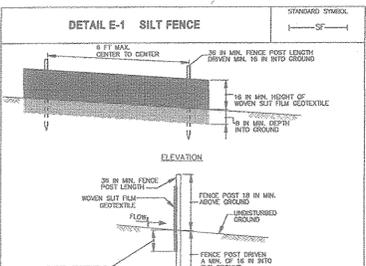
SOILS LEGEND		
MAP NUMBER 25		
SYMBOL	NAME / DESCRIPTION	GROUP
UD	URBAN LAND-UDURBENT'S COMPLEX, 0 TO 15 PERCENT SLOPES	D

NOTE: BASED ON HOWARD SOIL SURVEY



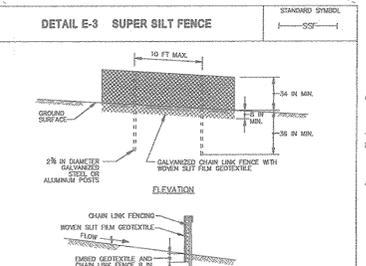
**CONSTRUCTION SPECIFICATIONS**

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SILE. THE MINIMUM LENGTH OF 50 FEET 100 FEET FOR SINGLE RESIDENCE (S), THE MINIMUM WIDTH OF 10 FEET. FLARE SIDE TO 10 FEET WIDEN AT THE ENTRANCE TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR AWAY FROM THE SITE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PREVENT PIPE INSTALLED THROUGH THE SITE WITH A MOUNTAINABLE CURB WITH 6" SLOPE AND A MINIMUM OF 2" COVER OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SITE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO EXIST, A PIPE IS NOT NECESSARY. A MOUNTAINABLE CURB IS REQUIRED WHEN THE SITE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE WORKMANLIKE GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE GEOTEXTILE (2 TO 3 INCHES IN SIZE) ON EQUIVALENT REINFORCED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SILE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, AND STONE OR SAND OTHER DEBRIS AS CONDITIONS BECOMING TO MAINTAIN CLEAN SURFACE. VOLATILE OILS, AND SPILLED OILS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY UNAUTHORIZED PERSONNEL, AND/OR OPERATING. WORKING TO REMOVE THE DEBRIS IMMEDIATELY. UNACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROPRIATE SEDIMENT CONTROL PRACTICE.



**CONSTRUCTION SPECIFICATIONS**

- INSTALL 2 1/2 INCH DIA. GALVANIZED STEEL POSTS OF 10 FT WALL THICKNESS AND 100 FT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 8 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (26 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOOD BOLTS.
- FASTEN WOVEN SILT FABRIC GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS SECURELY TO THE UPRIGHT SIDE OF CHAIN LINK FENCE WITH TIE STRAPS EVERY 16 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDING AND STAPLED TO PREVENT BLOWING BY WIND.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPES AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/DEPARTMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES TOP OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.



**CONSTRUCTION SPECIFICATIONS**

- INSTALL 2 1/2 INCH DIA. GALVANIZED STEEL POSTS OF 100 FT WALL THICKNESS AND 100 FT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 8 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (26 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOOD BOLTS.
- FASTEN WOVEN SILT FABRIC GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS SECURELY TO THE UPRIGHT SIDE OF CHAIN LINK FENCE WITH TIE STRAPS EVERY 16 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDING AND STAPLED TO PREVENT BLOWING BY WIND.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPES AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/DEPARTMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES TOP OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

**RES. STANDARDS AND SPECIFICATIONS**

**FOR BEST CONTROL**

**Definition**

Controlling the suspension of dust particles from construction activities.

**Purpose**

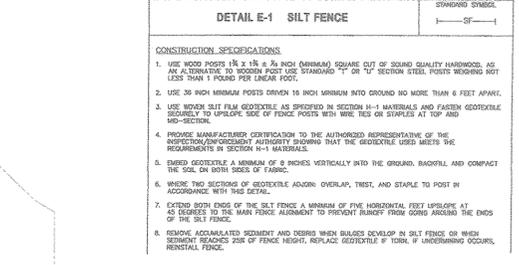
To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.

**Conditions Where Provisions Apply**

Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

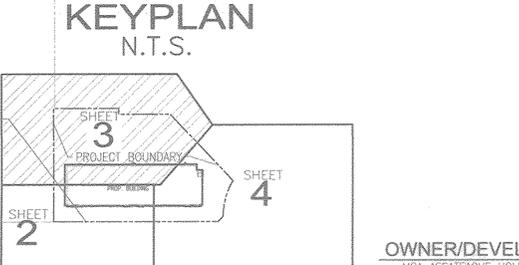
**Specifications**

- Matchline: See Section B-4.2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4.3 Seeding and Mulching, and Section B-4.4 Temporary Stabilization. Match must be anchored to prevent blowing.
- Weathered Cover: See Section B-4.4 Temporary Stabilization.
- Illness: This is rougher surface and bring clouds to the surface. Begin blowing on windward side of site. Chisel-edge plow spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
- Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.
- Barriers: Solid board fences, silt fences, snow fences, brush fences, straw bales, and similar material can be used to control air currents and soil blowing.
- Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.



**CONSTRUCTION SPECIFICATIONS**

- USE WOOD POSTS 1 1/2 x 1 1/2 x 3/4 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "1" OR "1 1/2" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND FOR EACH FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SILT FABRIC GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPLOPES SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/DEPARTMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN, OVERLAP, TIE, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPLOPES AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES TOP OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 4/13/16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 5-3-16  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 5-3-16  
DIRECTOR

BY THE DEVELOPER:

*[Signature]* 4/11/2016  
DATE

*[Signature]* 4/11/2016  
DATE

BY THE ENGINEER:

*[Signature]* 4/11/16  
DATE

*[Signature]* 4/11/16  
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/11/16  
HOWARD S.C.D.

1 REVISE SHC ADD FENCE AND GATES, UPDATE PUBLIC WATER LOCATION 06-20-16

NO. REVISION DATE

**SITE DEVELOPMENT PLAN**  
**GRADING, SEDIMENT AND EROSION CONTROL PLAN; SOILS MAP**

MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
PROPOSED WAREHOUSE  
7540 ASSATEAGUE DRIVE  
ZONED M-2  
L.162037F.246 - PLAT 19144

TAX MAP 43 BLOCK 15  
8TH ELECTION DISTRICT

PARCEL 2, PARCEL J  
HOWARD COUNTY, MARYLAND

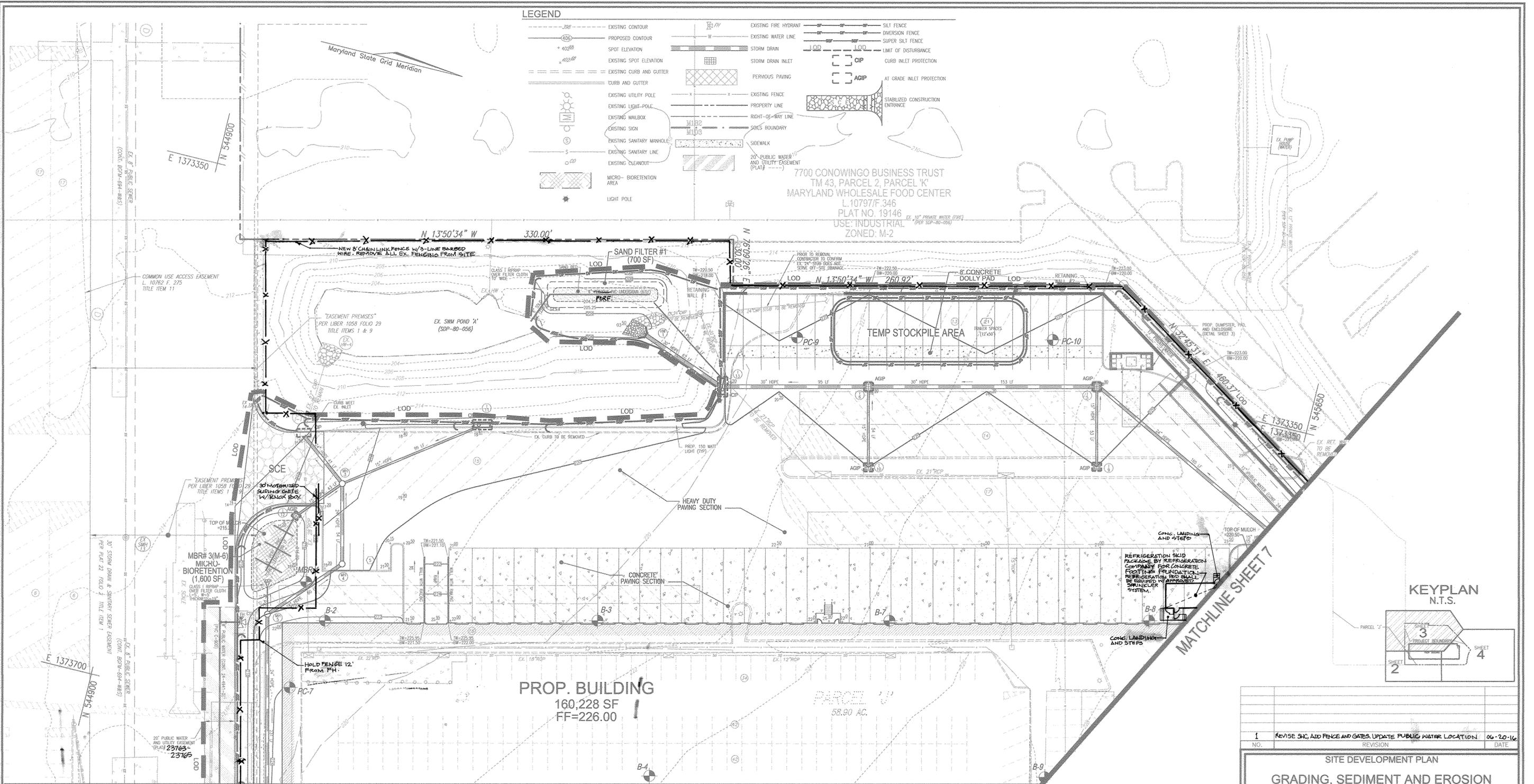
**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET  
ELLICOTT CITY, MD 21043  
TEL: 410.461.7666  
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: MARCH 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-42

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. 16193 EXPIRATION DATE: 09-27-2018

5 OF 15



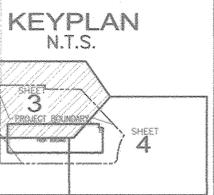
**LEGEND**

	EXISTING CONTOUR		EXISTING FIRE HYDRANT		SILT FENCE
	PROPOSED CONTOUR		EXISTING WATER LINE		DIVERSION FENCE
	SPOT ELEVATION		STORM DRAIN		SUPER SILT FENCE
	EXISTING SPOT ELEVATION		STORM DRAIN INLET		LIMIT OF DISTURBANCE
	EXISTING CURB AND GUTTER		PERVIOUS PAVING		CURB INLET PROTECTION
	CURB AND GUTTER		EXISTING FENCE		AT GRADE INLET PROTECTION
	EXISTING UTILITY POLE		PROPERTY LINE		STABILIZED CONSTRUCTION ENTRANCE
	EXISTING LIGHT-POLE		RIGHT-OF-WAY LINE		
	EXISTING MAILBOX		SOILS BOUNDARY		
	EXISTING SIGN		SIDEWALK		
	EXISTING SANITARY MANHOLE		20" PUBLIC WATER AND UTILITY EASEMENT (PLAT #)		
	EXISTING SANITARY LINE				
	EXISTING CLEANOUT				
	MICRO-BIORETENTION AREA				
	LIGHT POLE				

7700 CONOWINGO BUSINESS TRUST  
 TM 43, PARCEL 2, PARCEL 'K'  
 MARYLAND WHOLESALE FOOD CENTER  
 L.10797/F.346  
 PLAT NO. 19146  
 USE: INDUSTRIAL  
 ZONED: M-2

**PROP. BUILDING**  
 160,228 SF  
 FF=226.00

**PLAN VIEW**  
 SCALE: 1"=30'



**NOTE:**  
 1. ON-SITE CONC. CURB AND GUTTER TO BE 6" HO., CO. STANDARD DETAIL R-9.01  
 CONC. CURB AND GUTTER WITHIN PUBLIC ROW TO BE 7" HO. CO. STANDARD DETAIL R-3.01  
 2. PROVIDE LEVEL LANDING AT TENANT ENTRANCE DOORS AND AT RAMP LANDINGS.

NO.	REVISION	DATE
1	REVISE SUC. ADD FENCE AND GATES UPDATE PUBLIC WATER LOCATION	06-20-16

**SITE DEVELOPMENT PLAN**  
**GRADING, SEDIMENT AND EROSION CONTROL PLAN**  
 MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
 PROPOSED WAREHOUSE  
 7540 ASSATEAGUE DRIVE  
 ZONED: M-2  
 L.16203/F.246 - PLAT 19144  
 PARCEL 2, PARCEL J  
 HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET  
 ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666  
 FAX: 410.461.8961

	DESIGN BY: RHV	<b>PROFESSIONAL CERTIFICATE</b> 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. 16193, EXPIRATION DATE: 09-27-2018.
	DRAWN BY: DZ	
	CHECKED BY: RHV	
	DATE: MARCH 2016	
	SCALE: AS SHOWN	
W.O. NO.: 13-42	6 SHEET OF 15	

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

*Chad E. ...*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 4-13-16

*Kevin ...*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 5-3-16

*Nancy ...*  
 DIRECTOR  
 DATE: 5-3-16

**BY THE DEVELOPER:**

*R. ...*  
 SIGNATURE OF DEVELOPER  
 DATE: 4/11/2016

**BY THE ENGINEER:**

*John ...*  
 SIGNATURE OF ENGINEER  
 DATE: 4/7/16

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

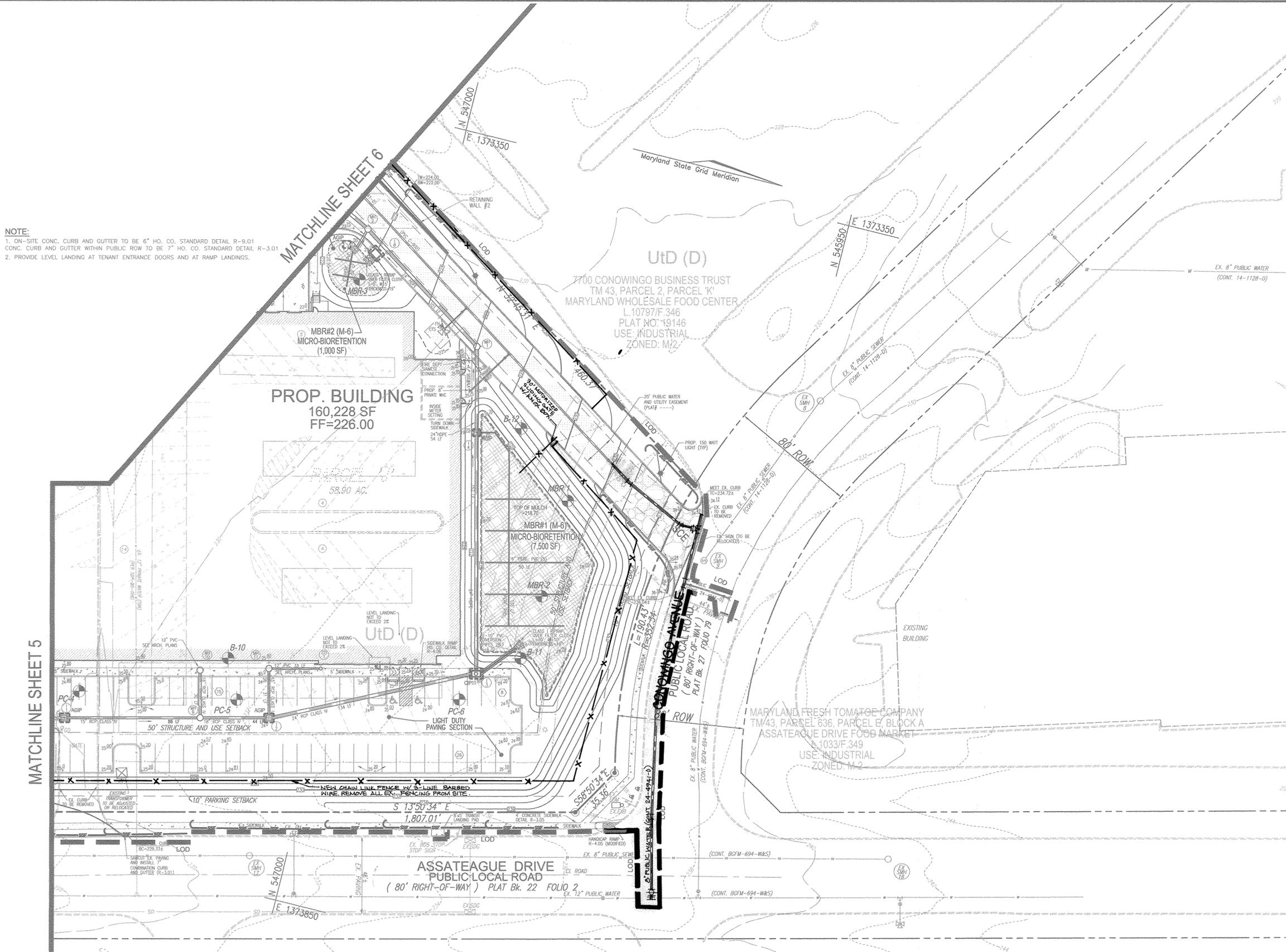
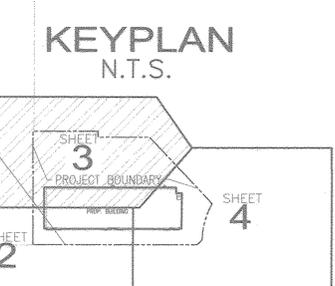
*John ...*  
 HOWARD S.C.D.  
 DATE: 4/7/16

**OWNER/DEVELOPER**  
 MCA ASSATEAGUE HOLDING LLC  
 9601 ROBERT FULTON DR  
 SUITE 200  
 COLUMBIA, MD 21046  
 410-290-1400

**NOTE:**  
 1. ON-SITE CONC. CURB AND GUTTER TO BE 6" HO. CO. STANDARD DETAIL R-9.01  
 CONC. CURB AND GUTTER WITHIN PUBLIC ROW TO BE 7" HO. CO. STANDARD DETAIL R-3.01  
 2. PROVIDE LEVEL LANDING AT TENANT ENTRANCE DOORS AND AT RAMP LANDINGS.

**LEGEND**

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- STORM DRAIN
- STORM DRAIN INLET
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- SIDEWALK
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- CIP
- AGIP
- 20' PUBLIC WATER AND UTILITY EASEMENT (PLAT ---)
- MICRO-BIOTENTION AREA
- LIGHT POLE



NO.	REVISION	DATE
1	REVISE SHC, ADD FENCE AND GATES, UPDATE PUBLIC WATER LOCATION	06-20-16

**SITE DEVELOPMENT PLAN**  
**GRADING, SEDIMENT AND EROSION CONTROL PLAN**  
 MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
 PROPOSED WAREHOUSE  
 7540 ASSATEAGUE DRIVE  
 ZONED: M-2  
 L.16205F.246 - PLAT 19144  
 PARCEL 2, PARCEL J  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET  
 ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666  
 FAX: 410.461.8961

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Clark* 4/13/16  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

*Kate DeLoe* 5-3-16  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

*William J. Jellin* 5-3-16  
 DIRECTOR  
 DATE

BY THE DEVELOPER:

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY DISTRICT.

*R. J. [Signature]* 4/11/2016  
 SIGNATURE OF DEVELOPER  
 DATE

BY THE ENGINEER:

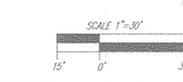
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

*[Signature]* 3/29/16  
 SIGNATURE OF ENGINEER  
 DATE

**PLAN VIEW**  
 SCALE: 1" = 30'

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

*[Signature]* 4/17/16  
 HOWARD S.C.D.  
 DATE



**PROFESSIONAL CERTIFICATE**

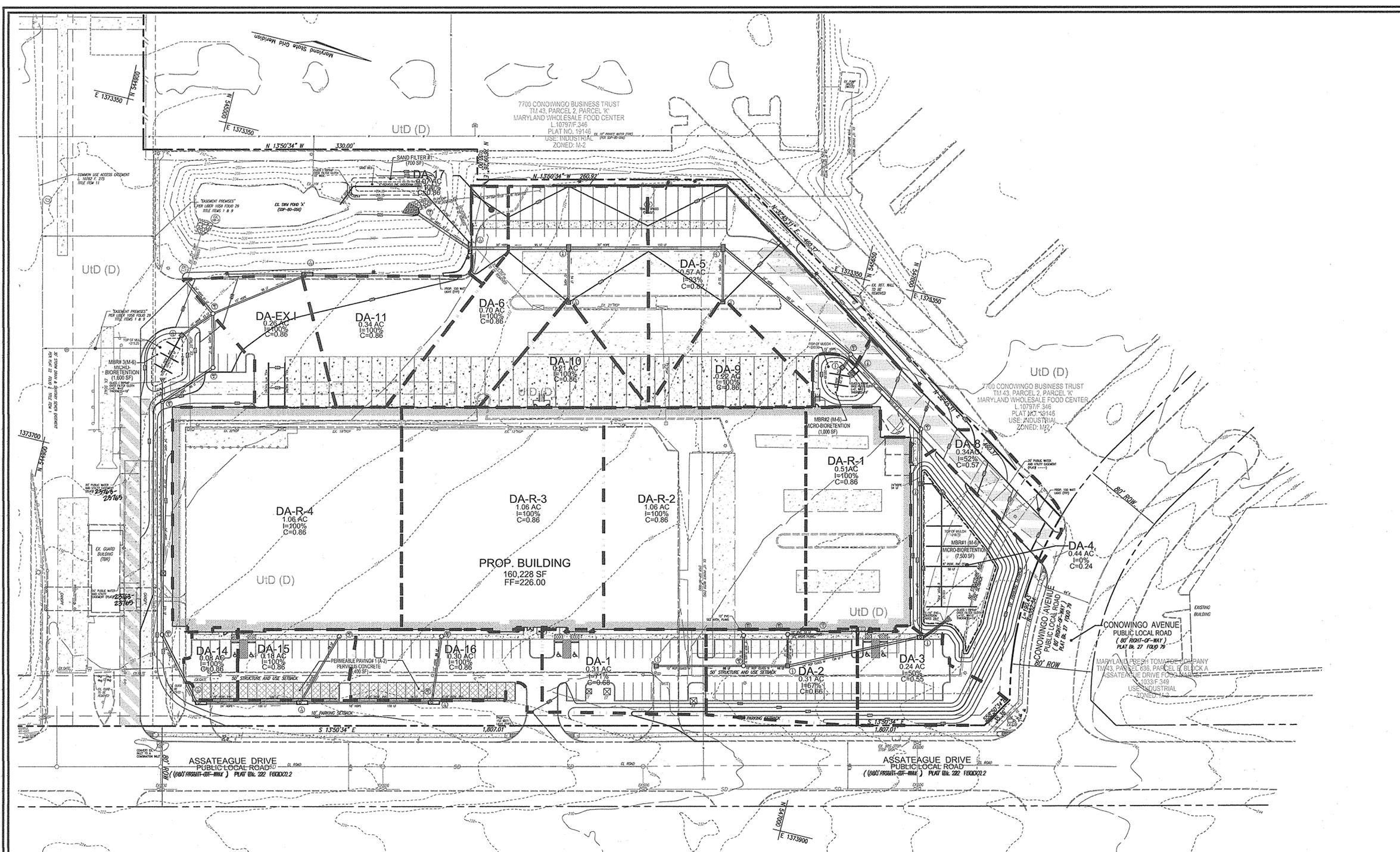
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A SEVERELY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16193. EXPIRATION DATE: 08-27-2016

DESIGN BY: RHW  
 DRAWN BY: DZ  
 CHECKED BY: RHW  
 DATE: MARCH 2016  
 SCALE: AS SHOWN  
 W.O. NO.: 13-42

7 SHEET OF 15

**OWNER/DEVELOPER**  
 MCA ASSATEAGUE HOLDING LLC  
 9601 ROBERT FULTON DR  
 SUITE 200  
 COLUMBIA, MD 21046  
 410-290-1400





**LEGEND**

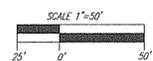
	EXISTING CONTOUR
	PROPOSED CONTOUR
	SPOT ELEVATION
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
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	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	STORM DRAIN
	STORM DRAIN INLET
	PERVIOUS PAVING
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	SIDEWALK
	DRAINAGE DIVIDE
	LIGHT POLE

**SOILS LEGEND**  
MAP NUMBER 25

SYMBOL	NAME / DESCRIPTION	GROUP
URD	URBAN LAND-UDORTHERTS COMPLEX, 0 TO 15 PERCENT SLOPES	D

NOTE: BASED ON HOWARD SOIL SURVEY

STORMDRAIN DRAINAGE AREA MAP  
SCALE: 1"=50'



NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN DRAINAGE AREA MAP**  
MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
PROPOSED WAREHOUSE  
7540 ASSATEAGUE DRIVE  
ZONED: M-2  
TAX MAP 43, BLOCK 15, 6TH ELECTION DISTRICT  
L.16203/F.246 - PLAT 19144  
PARCEL 2, PARCEL 'J'  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
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ELLICOTT CITY, MD 21043  
TEL: 410.461.7666  
FAX: 410.461.8961

**PROFESSIONAL CERTIFICATE**

DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: MARCH 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-42

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9 SHEET OF 15

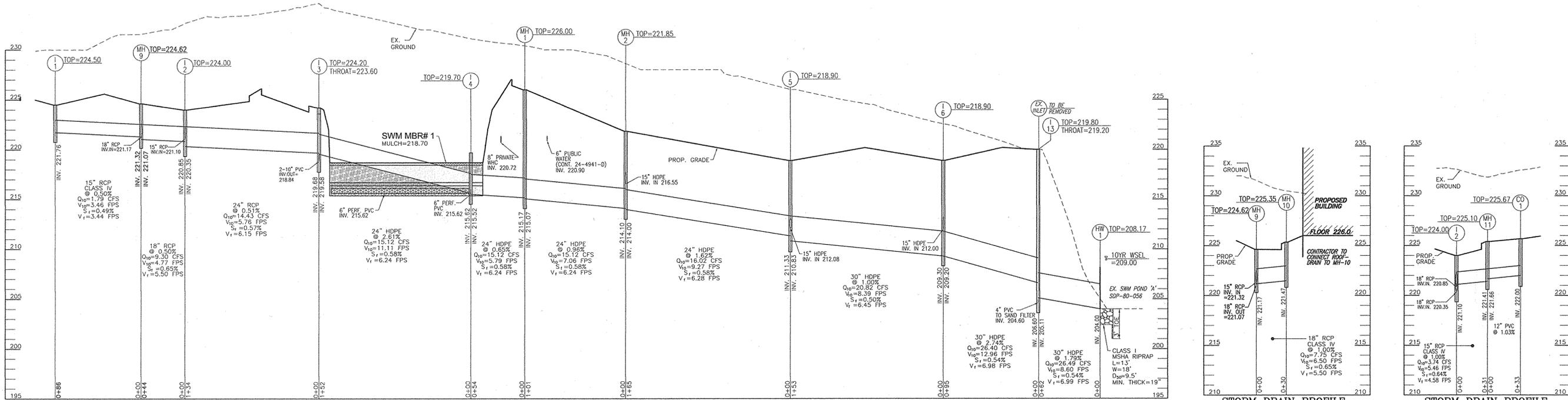
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Clark* 4/13/16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

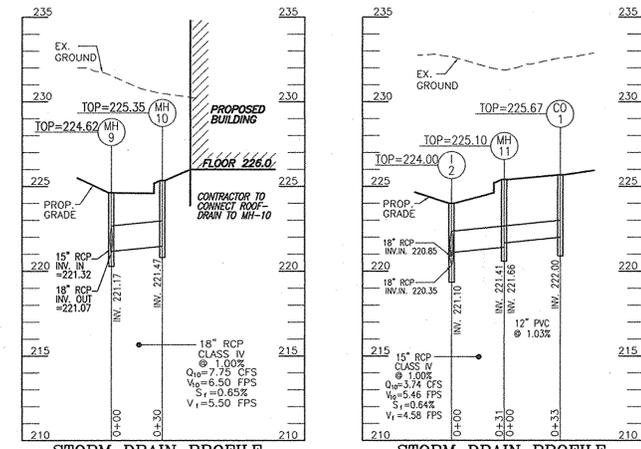
*Kristen Dwyer* 5-3-16  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Natalie J. Davis* 5-3-16  
DIRECTOR DATE

**OWNER/DEVELOPER**  
MCA ASSATEAGUE HOLDING LLC  
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SUITE 200  
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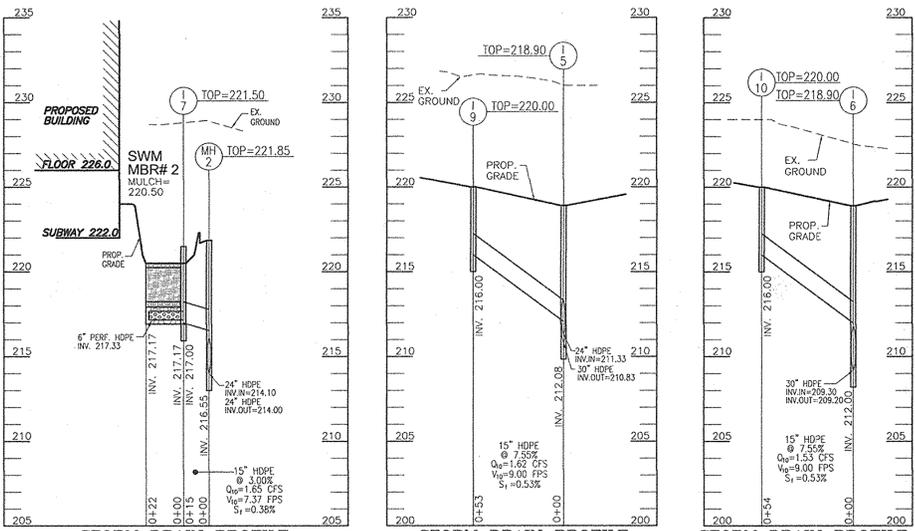


**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'

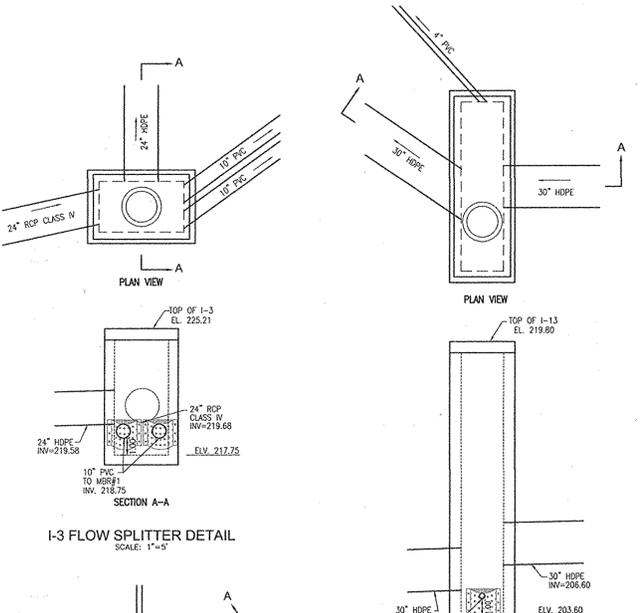
**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**STORM DRAIN PROFILE**  
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VERTICAL - 1"=5'

**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**I-3 FLOW SPLITTER DETAIL**  
SCALE: 1"=5'

**I-13 FLOW SPLITTER DETAIL**  
SCALE: 1"=5'

**MH-5 FLOW SPLITTER DETAIL**  
SCALE: 1"=5'

STRUCTURE SCHEDULE									
NO.	TYPE	LOCATION	THROAT	TOP EL.	INV. IN	INV. OUT	COMMENTS		
EX-1-17		N. 54499.6 E. 1373510.9	275.52	276.72	206.85	204.90			
I-1	TYPE 'S' INLET	N. 54554.8 E. 1373770.8	224.50	221.78	HO. CO. STD D-4-22				
I-2	TYPE 'S' INLET	N. 54566.8 E. 1373739.5	224.00	220.35	HO. CO. STD D-4-22				
I-3	TYPE 'A-5' INLET	N. 54578.9 E. 1373681.0	223.60	224.10	219.68	219.38	HO. CO. STD D-4-01		
I-4	TYPE 'S' INLET	N. 54579.2 E. 1373533.3	219.70	215.52	HO. CO. STD D-4-22				
I-5	TYPE 'DOUBLE S' INLET	N. 54550.7 E. 1373533.4	218.90	210.83	HO. CO. STD D-4-23				
I-6	TYPE 'DOUBLE S' INLET	N. 54538.5 E. 1373389.9	218.90	209.20	HO. CO. STD D-4-23				
I-7	TYPE 'S' INLET	N. 54564.3 E. 1373438.1	221.50	217.17	217.00	HO. CO. STD D-4-03			
I-8	SHA PASS THROUGH COG	N. 54566.3 E. 1373438.1	220.60		SHA MD. 374.68				
I-9	TYPE 'S' INLET	N. 54519.4 E. 1373405.0	220.00	216.00	HO. CO. STD D-4-22				
I-10	TYPE 'S' INLET	N. 54537.3 E. 1373441.9	220.00	216.00	HO. CO. STD D-4-22				
I-11	TYPE 'A-10' INLET	N. 54511.7 E. 1373476.7	218.61	215.30	HO. CO. STD D-4-03				
I-12	TYPE 'S' INLET	N. 54504.5 E. 1373570.5	216.20	211.87	HO. CO. STD D-4-22				
I-13	TYPE 'A-10' INLET	N. 54528.1 E. 1373415.1	219.20	219.80	206.60	204.41	HO. CO. STD D-4-03		
I-14	TYPE 'A-10' INLET	N. 54511.5 E. 1373914.3	223.50	224.00	217.76	HO. CO. STD D-4-03			
I-15	TYPE 'A-10' INLET	N. 54528.6 E. 1373890.4	223.53	224.03	218.46	HO. CO. STD D-4-03			
I-16	TYPE 'A-10' INLET	N. 54534.8 E. 1373859.2	223.31	223.81	220.07	HO. CO. STD D-4-03			
CO-1	CLEAN OUT	N. 54569.2 E. 1373701.5	225.67	222.00	HO. CO. STD S-2-22				
CO-3	CLEAN OUT	N. 54533.2 E. 1373855.6	223.42	222.80	HO. CO. STD S-2-22				
MH-1	4'-0" STANDARD PRECAST MANHOLE	N. 54573.5 E. 1373465.4	226.00	215.17	215.07	HO. CO. STD G-5-12			
MH-2	4'-0" STANDARD PRECAST MANHOLE	N. 54564.6 E. 1373425.5	221.85	214.00	HO. CO. STD G-5-12				
MH-3	5'-0" STANDARD PRECAST MANHOLE	N. 54503.5 E. 1373536.8	217.80	209.25	HO. CO. STD G-5-13				
MH-4	4'-0" STANDARD PRECAST MANHOLE	N. 54504.4 E. 1373588.7	219.65	214.52	HO. CO. STD G-5-12				
MH-5	4'-0" STANDARD PRECAST MANHOLE	N. 54504.8 E. 1373633.2	220.00	215.82	HO. CO. STD G-5-12				
MH-6	4'-0" STANDARD PRECAST MANHOLE	N. 54506.1 E. 1373897.3	224.00	217.21	HO. CO. STD G-5-12				
MH-7	4'-0" STANDARD PRECAST MANHOLE	N. 54523.4 E. 1373817.2	225.20	220.35	HO. CO. STD G-5-12				
MH-8	4'-0" STANDARD PRECAST MANHOLE	N. 54538.6 E. 1373792.9	225.05	221.18	HO. CO. STD G-5-12				
MH-9	SHALLOW STANDARD PRECAST MANHOLE	N. 54562.7 E. 1373750.0	224.62	221.19	HO. CO. STD G-9-05				
MH-10	SHALLOW STANDARD PRECAST MANHOLE	N. 54518.5 E. 1373720.9	225.35	221.47	HO. CO. STD G-9-05				
MH-11	SHALLOW STANDARD PRECAST MANHOLE	N. 54560.7 E. 1373709.3	225.10	221.68	HO. CO. STD G-9-05				
HW-1	TYPE 'A' HEADWALL (CO)	N. 54526.2 E. 1373392.3	208.50	204.00	HO. CO. STD G-5-11				
SMH-1	4'-0" STANDARD PRECAST MANHOLE	N. 54528.9 E. 1373895.5	223.45	214.48	HO. CO. STD G-5-12				
SMH-2	4'-0" STANDARD PRECAST MANHOLE	N. 54540.3 E. 1373832.3	225.83	215.49	HO. CO. STD G-5-12				

NOTE: 1. TOP ELEVATIONS ARE AT TOP OF CURB FOR ALL TYPE 'A' INLETS.  
INLETS AT CENTER TOP OF GRATE FOR DOUBLE TYPE 'S' INLETS AND TOP OF MANHOLE COVER FOR PRECAST MANHOLES.  
2. FOR TOP SLAB SLOPES SEE GRADING PLAN.  
3. DOUBLE TYPE 'S' INLETS TO HAVE CURVED VANE GRATES W/ FRAME (MD-379-05-01)

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
4"	PERF. PVC	288 LF
4"	SOLID PVC	68 LF
6"	PERF. PVC	906 LF
10"	PVC	89 LF
12"	PVC	33 LF
15"	HDPE	428 LF
18"	HDPE	109 LF
24"	HDPE	1033 LF
30"	HDPE	310 LF
15"	RCP CLASS IV	96 LF
18"	RCP CLASS IV	95 LF
24"	RCP CLASS IV	134 LF
8"	PVC SEWER	239 LF
8"	PRIVATE WATER	24.94 LF
12"	PRIVATE WATER	63.56 LF

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED FLOW SPLITTER STRUCTURE**

1. THE FLOW SPLITTER STRUCTURE IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN TO MAINTAIN ITS OPERATION AND FUNCTION.
2. THE FLOW SPLITTER STRUCTURE INSPECTED YEARLY AT A MINIMUM AND ESPECIALLY AFTER SEVERE STORM EVENTS.
3. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE FLOW SPLITTER OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED.
4. THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE FLOW SPLITTER STRUCTURE BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
5. THE INLET AND OUTFALL PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division: *[Signature]* 4/13/16  
 Chief, Division of Land Development: *[Signature]* 5-3-16  
 Director: *[Signature]* 5-8-16

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN PROFILES**  
 MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
 PROPOSED WAREHOUSE  
 7540 ASSATEAGUE DRIVE  
 ZONED: M-2  
 L.16203/F.246 - PLAT 19144  
 PARCEL 2, PARCEL J  
 HOWARD COUNTY, MARYLAND

TAX MAP 43 BLOCK 15  
 6TH ELECTION DISTRICT

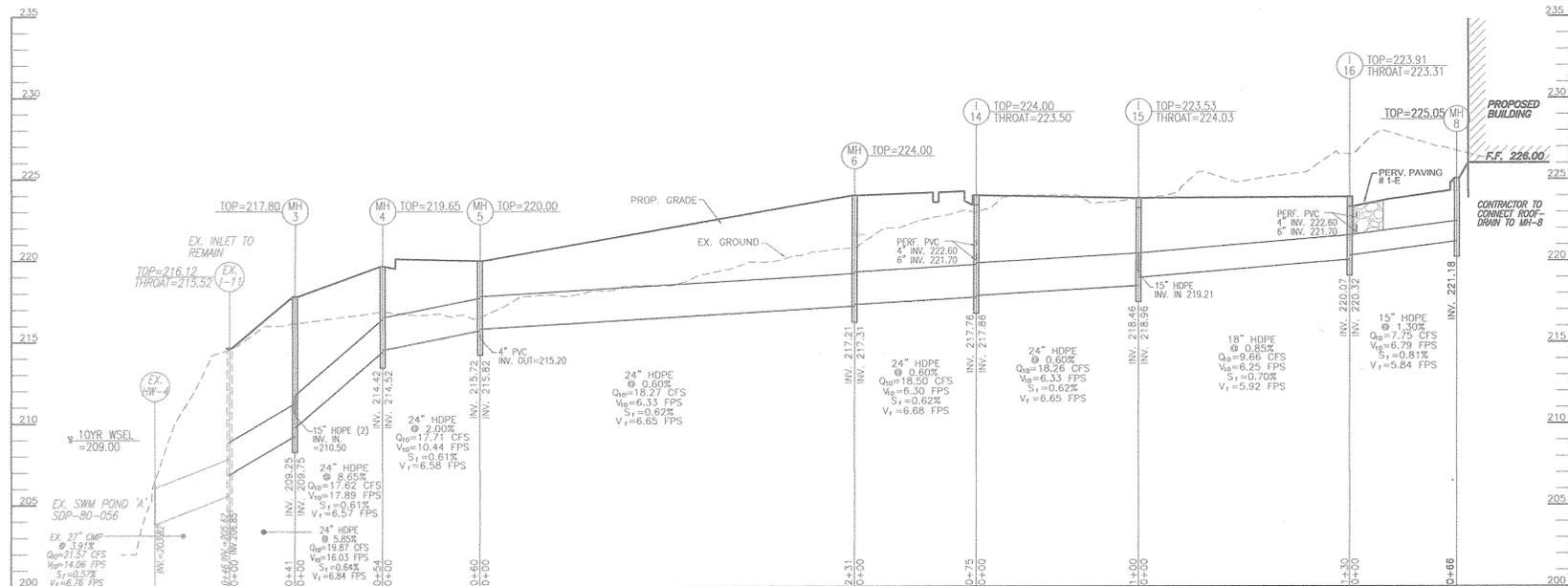
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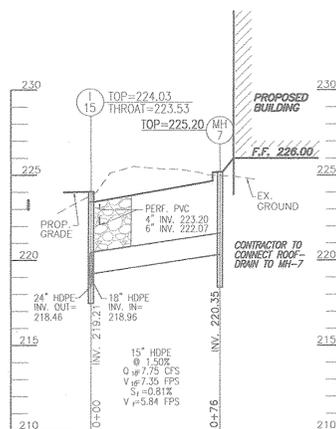
DESIGN BY: RHV  
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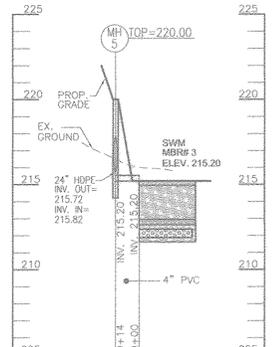
10 SHEET OF 15



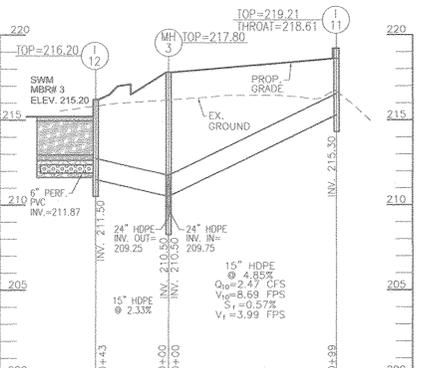
**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



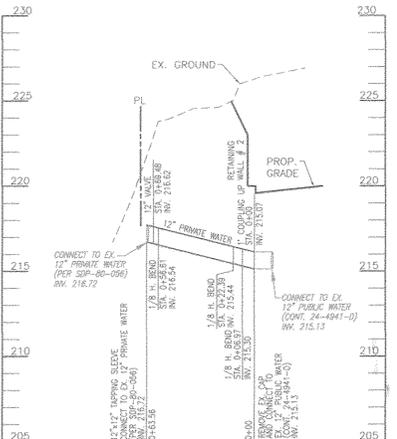
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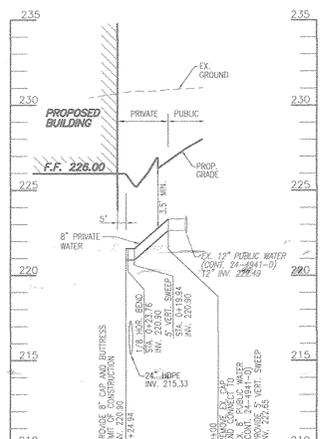
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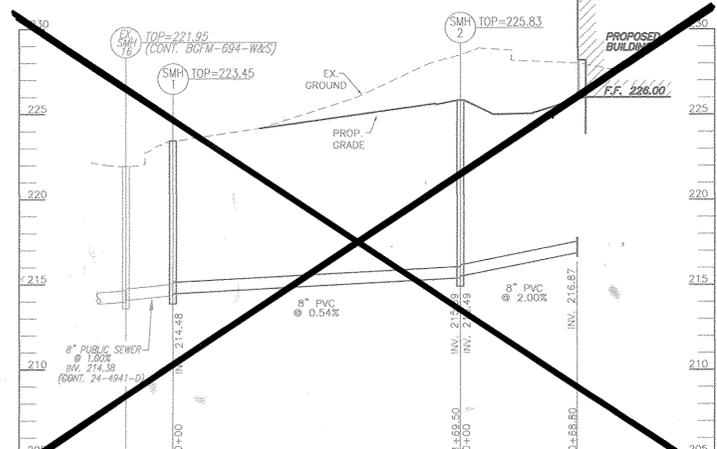
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VERTICAL - 1"=5'



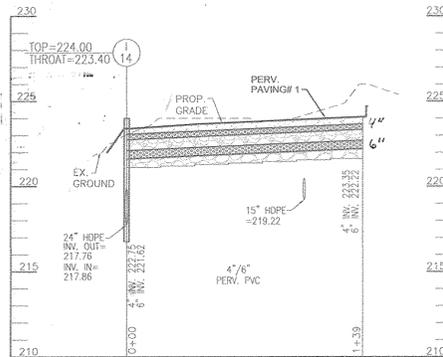
**PRIVATE 12" WATER PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



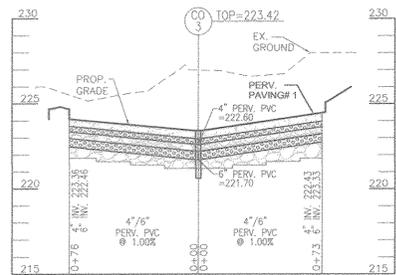
**PRIVATE 8" WATER PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



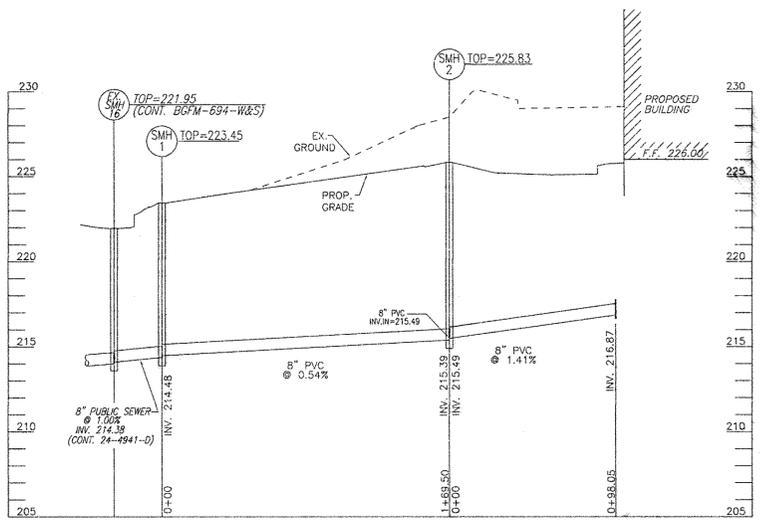
~~**PRIVATE 8" SEWER PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'~~



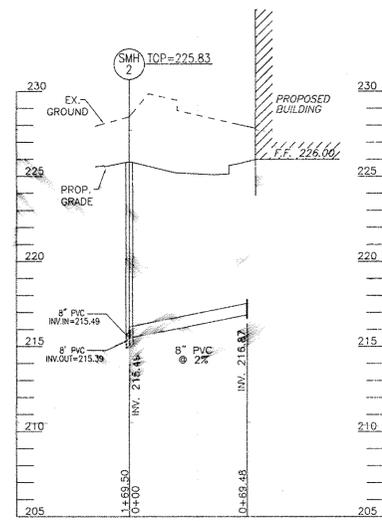
**UNDERDRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**UNDERDRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**PRIVATE 8" SEWER PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**PRIVATE 8" SEWER PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Chad Clark* 4/13/16  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kat Salval* 5-3-16  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Valerie Jones* 5-3-16  
 DIRECTOR

NO.	REVISION	DATE
1	REVISE SHC, ADD PERCE AND GATES, UPDATE PUBLIC WATER LOCATION	06-20-16

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN AND PRIVATE UTILITY PROFILES**  
 MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
 PROPOSED WAREHOUSE  
 7540 ASSATEAGUE DRIVE  
 ZONED: M-2  
 PARCEL 2, PARCEL J  
 6TH ELECTION DISTRICT L.16203P-246 - PLAT 19144 HOWARD COUNTY, MARYLAND

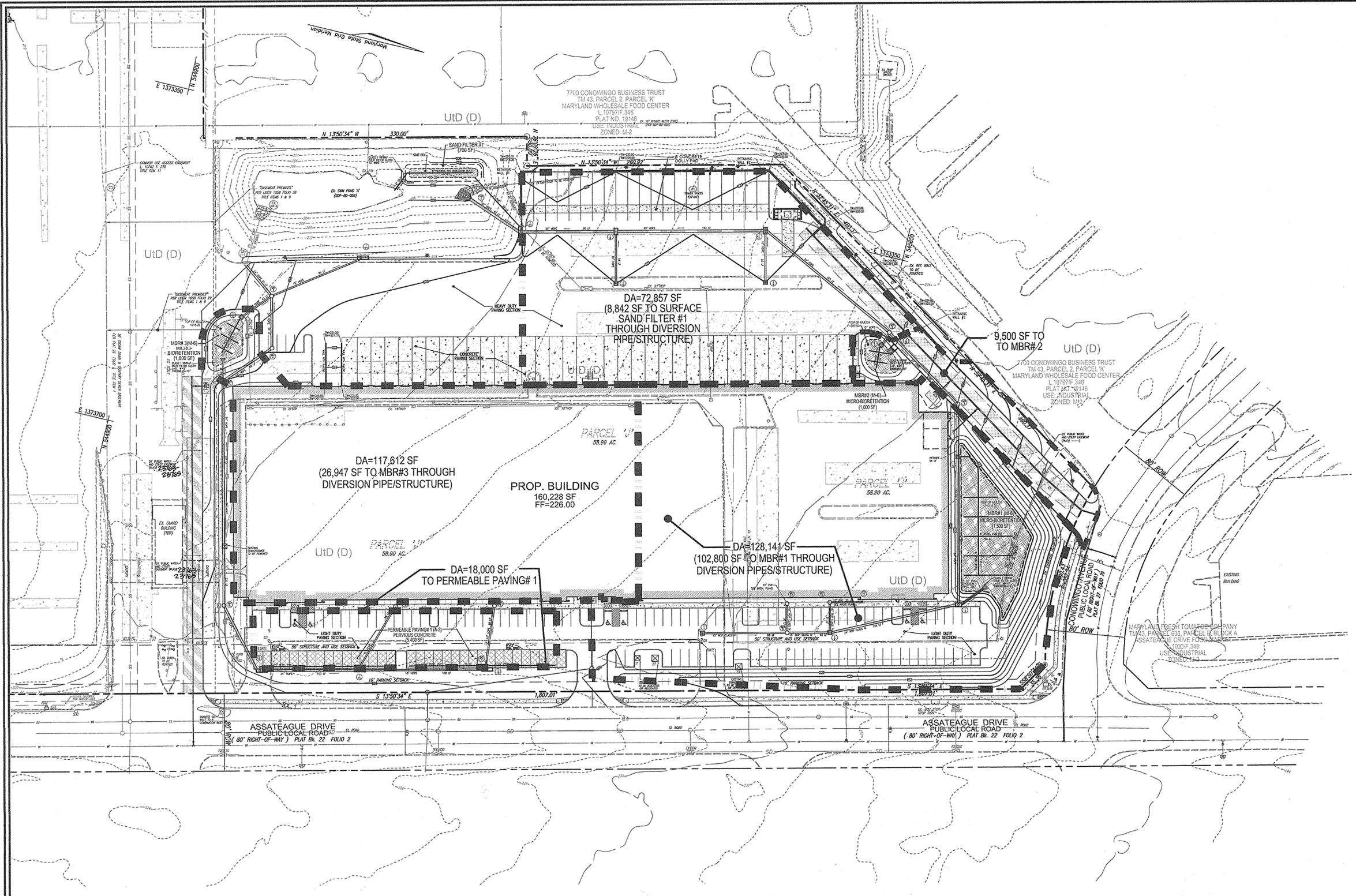
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11 SHEET OF 15  
 SDP-16-012



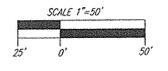
**LEGEND**

	EXISTING CONTOUR
	PROPOSED CONTOUR
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	EXISTING SPOT ELEVATION
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	EXISTING WATER LINE
	STORM DRAIN
	STORM DRAIN INLET
	PERVIOUS PAVING
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	SIDEWALK
	SWM DRAINAGE DIVIDE
	LIGHT POLE

**SOILS LEGEND**  
MAP NUMBER 25

SYMBOL	NAME / DESCRIPTION	GROUP
UtD	URBAN LAND-UDORMENTS COMPLEX, 0 TO 15 PERCENT SLOPES	D

NOTE: BASED ON HOWARD SOIL SURVEY



SWM DRAINAGE AREA MAP - IHOP (DEVELOPMENT AREA #1)  
SCALE: 1"=50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 4-13-16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5-3-16  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5-3-16  
DIRECTOR DATE

**OWNER/DEVELOPER**  
MCA ASSATEAGUE HOLDING LLC  
9601 ROBERT FULTON DR  
SUITE 200  
COLUMBIA, MD 21046  
410-290-1400

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**SWM DRAINAGE AREA MAP**

MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
PROPOSED WAREHOUSE  
7540 ASSATEAGUE DRIVE  
L16203F 246 - PLAT 19144 HOWARD COUNTY, MARYLAND

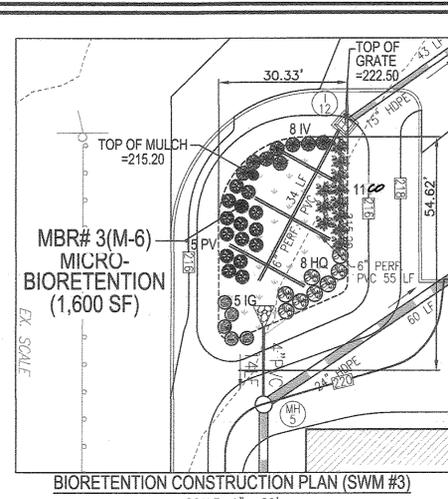
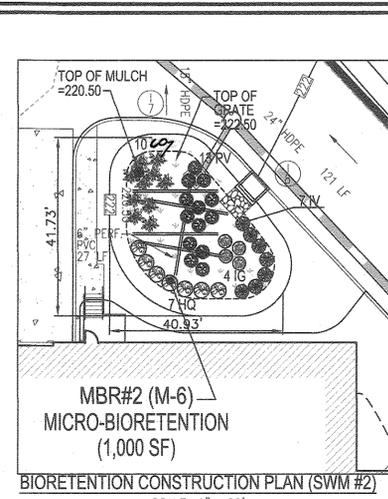
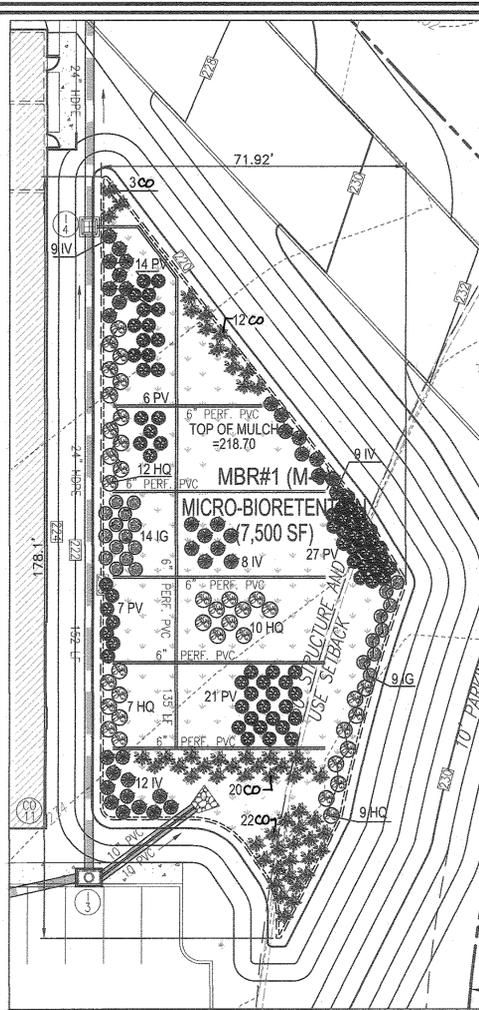
TAX MAP 43 BLOCK 15 ZONED: M-2 PARCEL 2, PARCEL J  
6TH ELECTION DISTRICT

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET TEL: 410.461.7666  
ELLICOTT CITY, MD 21043 FAX: 410.461.8961

**PROFESSIONAL CERTIFICATE**  
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. 16193 EXPIRATION DATE: 09-27-2016

DESIGN BY: RHY  
DRAWN BY: DZ  
CHECKED BY: RHY  
DATE: MARCH 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-42

12 SHEET OF 15



**Forest Conservation Worksheet 2.2**

PROJECT: MARYLAND WHOLESALE FOOD CENTER - PARCEL J (SDP-16-012 & SDP-91-097)

Net Tract Area	Total Tract Area (Combined LOD for both SDPs)	A = 22.43
B. Deductions (Existing Impervious Area)		B = 18.22
C. Net Tract Area (Existing Grass Area)		C = 4.21

Land Use Category	Input the number "1" under the appropriate land use zoning, and limit to only one entry	A = 0.63				
ARA	MDR	IDA	HDR	MPD	CIA	E = 0.63
D. Afforestation Threshold (Net Tract Area x 15%)		F = 0.00				
E. Conservation Threshold (Net Tract Area x 15%)		G = 0.00				
Existing Forest Cover		H = 0.00				
F. Existing Forest Cover within the Net Tract Area		I = 0.00				
G. Area of Forest Above Conservation Threshold		J = 0.00				
Break Even Point		K = 0.00				
H. Break Even Point		L = 0.00				
I. Forest Clearing Permitted Without Mitigation		M = 0.00				
J. Proposed Forest Clearing		N = 0.00				
K. Total Area of Forest to be Retained		O = 0.00				
L. Reforestation for Clearing Above the Conservation Threshold		P = 0.00				
M. Reforestation for Clearing Below the Conservation Threshold		Q = 0.63				
N. Credit for Retention above the Conservation Threshold		R = 0.63				
O. Total Reforestation Required						
P. Total Afforestation Required						
Q. Total Planting Requirement						
R. Total Planting Requirement						

THE FOREST CONSERVATION REQUIREMENT FOR THIS SITE DEVELOPMENT PLAN (SDP-16-012) AND THE ASSOCIATED REDLINE TO SITE DEVELOPMENT PLAN (SDP-91-097) IS 0.63 AC. OF AFFORESTATION. THIS IS ACCOMPLISHED THROUGH THE PURCHASE 0.63 AC. OF FOREST PLANTING IN THE CATALPARK FOREST MITIGATION FOREST BANK (SDP-14-031).

**BIORETENTION PLANTING REQUIREMENTS**

MBR #	LF	AREA	STEMS REQUIRED (0.0229)	STEMS PROVIDED	IG	IV	HQ	CO	PV	BA	AG	TOTAL
1	418	7491	172	172	23	38	38	57	75	262	262	524
2	137	1252	29	47	4	7	7	10	13	43	43	86
3	148	1404	33	47	5	8	8	11	15	49	49	98
<b>TOTALS</b>	<b>0</b>	<b>7491</b>	<b>234</b>	<b>0</b>	<b>32</b>	<b>53</b>	<b>53</b>	<b>78</b>	<b>103</b>	<b>354</b>	<b>354</b>	<b>708</b>

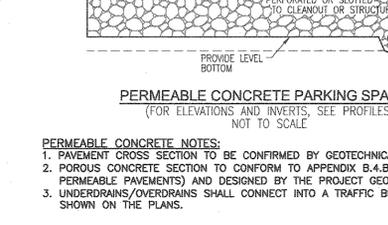
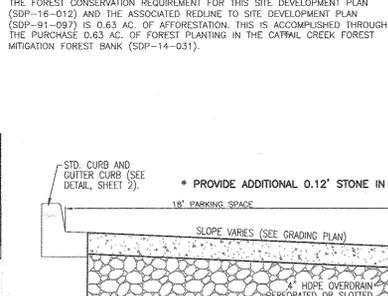
BIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0229 STEMS PER SQUARE FOOT).

**BIORETENTION PLANTING SCHEDULE (SHRUB/ORNAMENTAL GRASSES)**

LEGEND/KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
IG	32	ILEX GLABRA "SHAMROCK" INKBERRY HOLLY	1 GALLON	18" O.C.
IV	53	ITEA VIRGINICA "HENRY'S GARNETT" VIRGINIA SWEETSPICE	1 GALLON	18" O.C.
HQ	53	HYDRANGEA QUERCIFOLIA OAKLEAF HYDRANGEA	1 GALLON	30" O.C.
CO	78	CERIALANTHUS OCCIDENTALIS BUTTON BUSH	1 GAL.	30" O.C.
PV	103	PANICUM VIRGATUM SWITCHGRASS	1 GAL.	36" O.C.

**PERENNIALS/GROUNDCOVER PLANTING SCHEDULE**

LEGEND	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
	354	BAPTISIA AUSTRALIS FALSE INDIGO	4" POT	12"-15" O.C. FOR SIDES AND BOTTOM OF MBR. MIX ALL VARIETIES IN A NATURALIZED RANDOM PATTERN THROUGHOUT. PLANT IN GROUPS OF NO LESS THAN 9 PLANTS PER CLUMP.
	354	AGORUS OZON GOLDEN VARIEGATED SWEET FLAG TO PLUGS	1 QT.	



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

4/13/16  
DATE

4/13/16  
DATE

5-3-16  
DATE

5-3-16  
DATE

**Appendix B.3. Construction Specifications for Sand Filters, Bioretention and Open Channels**

**B.3.A. Sand Filter Specifications**

1. **Material Specifications for Sand Filters**

The allowable materials for sand filter construction are detailed in Table B.3.1.

2. **Sand Filter Testing Specifications**

Underground sand filters, facilities within sensitive groundwater aquifers, and filters designed to serve urban hot spots are to be tested for water tightness prior to placement of filter media. Entrances and exits should be plugged and the system completely filled with water to demonstrate water tightness. Water tightness means no leakage for a period of 8 hours.

3. **Sand Filter Construction Specifications**

Provide sufficient maintenance access (i.e., 12-foot-wide road with legally recorded easement). Vegetated access slopes are to be a maximum of 10%; gravel slopes to 15%; paved slopes to 25%.

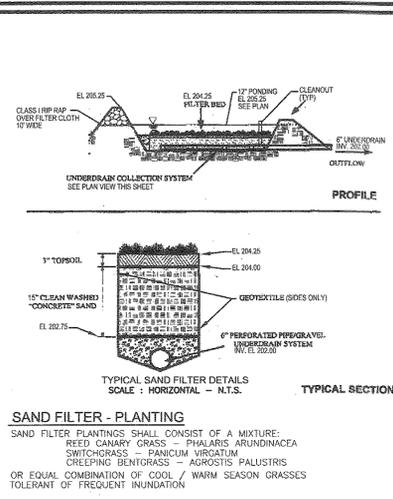
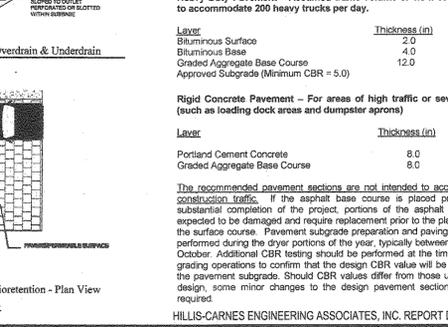
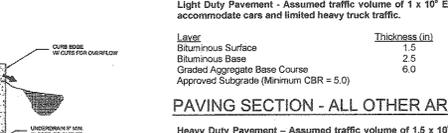
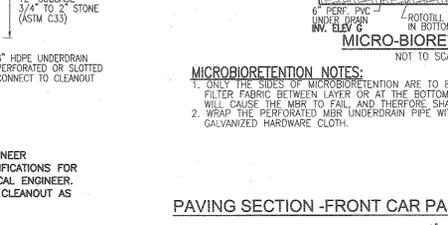
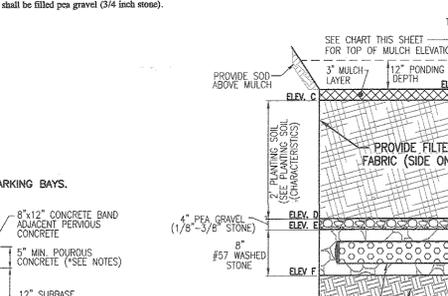
Absolutely no runoff is to enter the filter until all contributing drainage areas have been stabilized.

Surface of filter bed is to be level.

All underground sand filters should be clearly delineated with signs so that they may be located when maintenance is due.

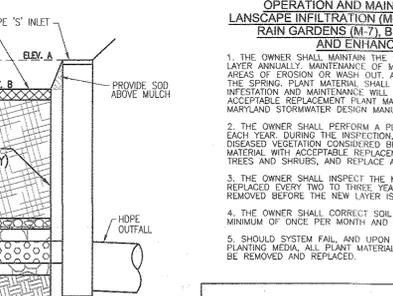
Surface sand filters may be planted with appropriate grasses; see Appendix A.

\*Pocket sand filters (and residential bioretention facilities creating areas larger than an acre) shall be sized with a stone "windows" that covers approximately 10% of the filter area. This "windows" shall be filled per gravel (3/4 inch stone).



**Table B.3.1 Material Specifications for Sand Filters**

Material	Specifications/Test Method	Size	Notes
concrete	class AASHTO M-6 or ASTM C-33 concrete	0.002 to 0.04"	Steel reinforcements such as D-bars and Chromox #10 are not acceptable. No calcium sulfonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
soil	ash content < 15% pH range 5.5 to 6.5 bulk density 0.15 to 0.15 g/cc	n/a	The material must be non-saline, non-toxic, non-compactable, uniform, and clean.
leaf compost	AASHTO M-41	0.125" to 0.75"	
underdrain grate	ASTM D-4833 (granular strength - 125 lb.) ASTM D-4832 (tensile strength - 30 lb.)	0.60" thick equivalent opening size of 48 mesh	Must maintain 125 lbs per sq. ft. flow rate. Note: a 4" per grate layer may be substituted for geotextiles meant to "separate" filter layers.
impermeable liner (if required)	ASTM D-4833 (thickness) ASTM D-412 tensile strength (1,100 lb., elongation 200%) ASTM D-424 (Tear resistance - 150 lb./in.) ASTM D-471 (water absorption: < 1% to 2% max)	30 mil thickness	Liner to be ultraviolet resistant. A geotextile fabric should be used to protect the liner from puncture.
underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	3/8" perft. @ 6" on center, 4 holes per row; minimum of 3" of gravel cover pipes; not necessary underdrain pipes
concrete (cast-in-place)	MSHA Standards and Specs. Section 902, Min. No. 3, F <sub>c</sub> = 3500 psi, normal weight, air-entrained, reinforcing to meet ASTM A-615-60	n/a	in-situ testing of poured in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved slabs or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland.
concrete (pre-cast)	per pre-cast manufacturer	n/a	SEE ABOVE NOTE
non-erlar steel	ASTM A-36	n/a	structural steel to be hot dipped galvanized ASTM A-123



**MICRO-BIORETENTION DATA CHART**

MBR Facility	Ponding Depth (ft)	Ponding Elevation (ELEV. A)	Top of Mulch (ELEV. B)	Bottom of Mulch (ELEV. C)	Depth of Plant Media (ft)	Bottom of Plant Mix (ELEV. D)	Bottom of Pea Gravel (ELEV. E)	Depth of Stone (ft)	Invert of Underdrain (INV. ELEV. G)	Bottom of ELEV. F
#1	1.00	219.70	218.70	218.45	1.75	216.70	216.37	1.00	215.62	215.37
#2	1.00	221.50	220.50	220.25	2.00	218.25	217.92	1.00	217.17	216.92
#3	1.00	216.20	215.20	214.95	2.00	212.95	212.62	1.00	211.87	211.62

**Appendix B.4. Construction Specifications for Environmental Site Design Practices**

**Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration**

Material	Specifications	Notes
Plantings	see Appendix A, Table A.4	plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand (60-65% & compost (35-40%) or sandy loam (30%) compost sand (50%) & compost (40%)	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974).	
Mulch	shredded hardwood	aged 6 months, minimum; no pine or wood chips
Pea gravel/diaphragm	pea gravel: ASTM D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"
Geotextile	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration basins)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35
Poured in place concrete (if required)	MSHA Min. No. 3, F <sub>c</sub> = 3500 psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM A-615-60	in-situ testing of poured in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved slabs or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 190.3(R)-vertical loading (H: 10 or H:20); allowable horizontal loading (based on soil pressure); and analysis of potential carbonation. Sand substitutions such as Diabase and Gneisses (AASHTO #10) are not acceptable. No calcium sulfonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Sand	AASHTO M-6 or ASTM C-33	0.002 to 0.04"

**B.4.B SPECIFICATIONS FOR PERMEABLE PAVEMENTS & REINFORCED TURF**

THESE SPECIFICATIONS INCLUDE INFORMATION ON ACCEPTABLE MATERIALS FOR TYPICAL APPLICATIONS AND ARE NOT EXCLUSIVE OR LIMITING. THE DESIGNER IS RESPONSIBLE FOR DEVELOPING SPECIFICATIONS FOR INDIVIDUAL PROJECTS AND SPECIFIC CONDITIONS.

**1. PERVIOUS CONCRETE SPECIFICATIONS**

DESIGN THICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED. APPLICATIONS MAY BE DESIGNED USING EITHER STANDARD PAVEMENT PROCEDURES (E.G. AASHTO, ACI 309.3R, ACI 330.9R) OR USING STRUCTURAL VALUES DERIVED FROM FLEXIBLE PAVEMENT DESIGN PROCEDURES.

MIX & INSTALLATION - TRADITIONAL PORTLAND CEMENTS (ASTM C 150, C 1157) MAY BE USED IN PERVIOUS CONCRETE APPLICATIONS. PHOSPHORUS ADMIXTURES MAY ALSO BE USED. MATERIALS SHOULD BE TESTED (E.G., TRIAL BATCH) PRIOR TO CONSTRUCTION SO THAT CRITICAL PROPERTIES (E.G., SETTLING TIME, RATE OF STRENGTH DEVELOPMENT, POROSITY, PERMEABILITY) CAN BE DETERMINED.

AGGREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE AGGREGATE CONTENT. COMMONLY USED GRADATIONS INCLUDE ASTM C 33 NO. 67 (3/4 IN. TO NO. 4), NO. 8 (3/8 IN. TO NO. 16) AND NO. 9 (1/2 IN. TO NO.50) SIZES. SINGLE-SIZED AGGREGATE (UP TO 1 INCH) MAY ALSO BE USED.

WATER CONTENT - WATER-TO-CEMENT RATIOS BETWEEN 0.27 AND 0.30 ARE USED ROUTINELY WITH PROPER INCLUSION OF CHEMICAL ADMIXTURES. WATER QUALITY SHOULD MEET AQA. AS A GENERAL RULE, POTABLE WATER SHOULD BE USED. ALTHOUGH RECYCLED CONCRETE PRODUCTION WATER MEETING ASTM C 94 OR AASHTO M 157 MAY ALSO BE USED.

ADMIXTURES - CHEMICAL ADMIXTURES (E.G., RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN PERVIOUS CONCRETE. USE OF ADMIXTURES SHOULD MEET ASTM C 494 (CHEMICAL ADMIXTURES) AND ASTM C 260 (AIR ENTRAINING ADMIXTURES) AND CLOSELY FOLLOW MANUFACTURER'S RECOMMENDATIONS. BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

**2. PERMEABLE INTERLOCKING CONCRETE PAVEMENTS (PICP)**

PAVER BLOCKS - BLOCKS SHOULD BE EITHER 3/4 IN. OR 4 IN. THICK, AND MEET ASTM C 936 OR CSA A231.2 REQUIREMENTS. APPLICATIONS SHOULD HAVE 20% OR MORE (40% PREFERRED) OF THE SURFACE AREA OPEN. INSTALLATION SHOULD FOLLOW MANUFACTURER'S INSTRUCTIONS, EXCEPT THAT INFILL AND BASE COURSE MATERIALS AND DIMENSIONS SPECIFIED IN THIS APPENDIX SHALL BE FOLLOWED.

INFILL MATERIALS AND LEVELING COURSE - OPENINGS SHALL BE FILLED WITH ASTM C-33 GRADED SAND OR SANDY LOAM. PICP BLOCKS SHALL BE PLACED ON A ONE-INCH THICK LEVELING COURSE OF ASTM C-33 SAND.

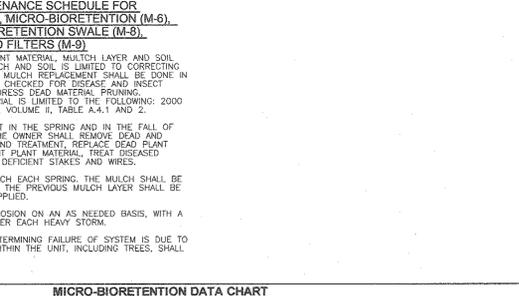
BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

**3. REINFORCED TURF**

REINFORCED GRASS PAVEMENT (RGP) - WHETHER USED WITH GRASS OR GRVEL, THE RGP THICKNESS SHALL BE AT LEAST 1-3/4" THICK WITH A LOAD CAPACITY CAPABLE OF SUPPORTING THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-1, F-2, AND F-3)**

- THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
- THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
- PLANTS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- REMOVING SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY.
- WHEN WATER POUNDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
- A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



**Appendix B.4. Construction Specifications for Environmental Site Design Practices**

**Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration**

Material	Specifications	Notes
Plantings	see Appendix A, Table A.4	plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand (60-65% & compost (35-40%) or sandy loam (30%) compost sand (50%) & compost (40%)	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974).	
Mulch	shredded hardwood	aged 6 months, minimum; no pine or wood chips
Pea gravel/diaphragm	pea gravel: ASTM D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"
Geotextile	n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration basins)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35
Poured in place concrete (if required)	MSHA Min. No. 3, F <sub>c</sub> = 3500 psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM A-615-60	in-situ testing of poured in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved slabs or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 190.3(R)-vertical loading (H: 10 or H:20); allowable horizontal loading (based on soil pressure); and analysis of potential carbonation. Sand substitutions such as Diabase and Gneisses (AASHTO #10) are not acceptable. No calcium sulfonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Sand	AASHTO M-6 or ASTM C-33	0.002 to 0.04"

**APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS**

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

**1. MATERIAL SPECIFICATIONS**

DESIGN THICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED. APPLICATIONS MAY BE DESIGNED USING EITHER STANDARD PAVEMENT PROCEDURES (E.G. AASHTO, ACI 309.3R, ACI 330.9R) OR USING STRUCTURAL VALUES DERIVED FROM FLEXIBLE PAVEMENT DESIGN PROCEDURES.

MIX & INSTALLATION - TRADITIONAL PORTLAND CEMENTS (ASTM C 150, C 1157) MAY BE USED IN PERVIOUS CONCRETE APPLICATIONS. PHOSPHORUS ADMIXTURES MAY ALSO BE USED. MATERIALS SHOULD BE TESTED (E.G., TRIAL BATCH) PRIOR TO CONSTRUCTION SO THAT CRITICAL PROPERTIES (E.G., SETTLING TIME, RATE OF STRENGTH DEVELOPMENT, POROSITY, PERMEABILITY) CAN BE DETERMINED.

AGGREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE AGGREGATE CONTENT. COMMONLY USED GRADATIONS INCLUDE ASTM C 33 NO. 67 (3/4 IN. TO NO. 4), NO. 8 (3/8 IN. TO NO. 16) AND NO. 9 (1/2 IN. TO NO.50) SIZES. SINGLE-SIZED AGGREGATE (UP TO 1 INCH) MAY ALSO BE USED.

WATER CONTENT - WATER-TO-CEMENT RATIOS BETWEEN 0.27 AND 0.30 ARE USED ROUTINELY WITH PROPER INCLUSION OF CHEMICAL ADMIXTURES. WATER QUALITY SHOULD MEET AQA. AS A GENERAL RULE, POTABLE WATER SHOULD BE USED. ALTHOUGH RECYCLED CONCRETE PRODUCTION WATER MEETING ASTM C 94 OR AASHTO M 157 MAY ALSO BE USED.

ADMIXTURES - CHEMICAL ADMIXTURES (E.G., RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN PERVIOUS CONCRETE. USE OF ADMIXTURES SHOULD MEET ASTM C 494 (CHEMICAL ADMIXTURES) AND ASTM C 260 (AIR ENTRAINING ADMIXTURES) AND CLOSELY FOLLOW MANUFACTURER'S RECOMMENDATIONS. BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

**2. PERMEABLE INTERLOCKING CONCRETE PAVEMENTS (PICP)**

PAVER BLOCKS - BLOCKS SHOULD BE EITHER 3/4 IN. OR 4 IN. THICK, AND MEET ASTM C 936 OR CSA A231.2 REQUIREMENTS. APPLICATIONS SHOULD HAVE 20% OR MORE (40% PREFERRED) OF THE SURFACE AREA OPEN. INSTALLATION SHOULD FOLLOW MANUFACTURER'S INSTRUCTIONS, EXCEPT THAT INFILL AND BASE COURSE MATERIALS AND DIMENSIONS SPECIFIED IN THIS APPENDIX SHALL BE FOLLOWED.

INFILL MATERIALS AND LEVELING COURSE - OPENINGS SHALL BE FILLED WITH ASTM C-33 GRADED SAND OR SANDY LOAM. PICP BLOCKS SHALL BE PLACED ON A ONE-INCH THICK LEVELING COURSE OF ASTM C-33 SAND.

BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

**3. REINFORCED TURF**

REINFORCED GRASS PAVEMENT (RGP) - WHETHER USED WITH GRASS OR GRVEL, THE RGP THICKNESS SHALL BE AT LEAST 1-3/4" THICK WITH A LOAD CAPACITY CAPABLE OF SUPPORTING THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-1, F-2, AND F-3)**

- THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
- THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
- PLANTS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- REMOVING SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY.
- WHEN WATER POUNDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
- A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP
UHD	URBAN LAND-UDORTHENTS COMPLEX, 0 TO 15 PERCENT SLOPES	D

NOTE: BASED ON HOWARD SOIL SURVEY

**SITE DEVELOPMENT PLAN**

**STORMWATER MANAGEMENT NOTES AND DETAILS**

MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'  
PROPOSED WAREHOUSE  
7540 ASSATEQUE DRIVE  
ZONED M-2  
L 16203/F 246 - PLAT 19144

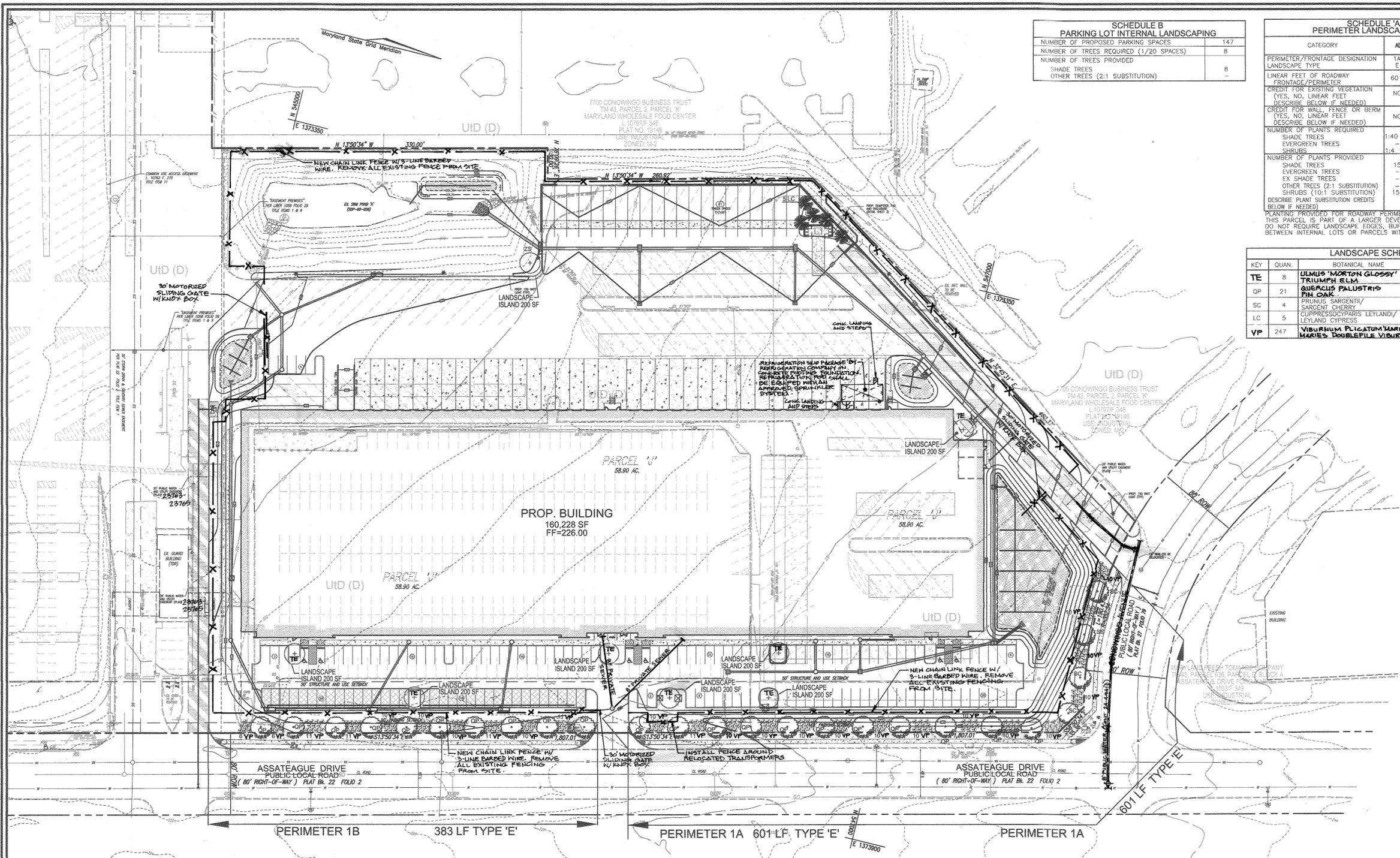
TAX MAP 43 BLOCK 15  
611 ELECTION DISTRICT

PARCEL 2, PARCEL J  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET, MD 21043 TEL: 410-461-7666  
ELLIOTT CITY, MD FAX: 410-461-8181

DESIGN BY: RHV  
DRAWN BY: DZ  
CHECKED BY: RHV  
DATE: MARCH 2016  
SCALE: AS SHOWN  
W.O. NO.: 13-42

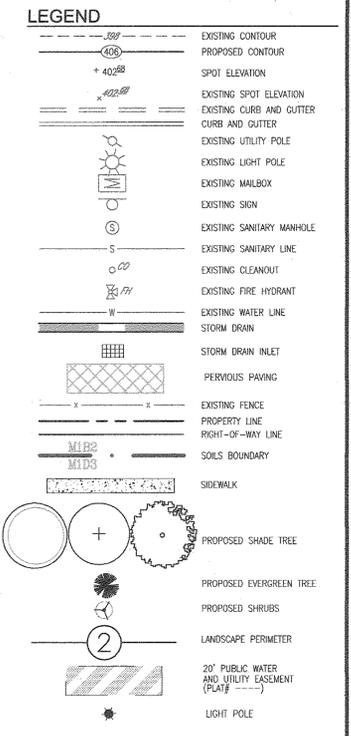
PROFESSIONAL CERTIFICATE  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSION



SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PROPOSED PARKING SPACES	147
NUMBER OF TREES REQUIRED (1/20 SPACES)	8
NUMBER OF TREES PROVIDED	8
SHADE TREES	8
OTHER TREES (2:1 SUBSTITUTION)	-

SCHEDULE 'A' PERIMETER LANDSCAPE EDGE				
CATEGORY	ADJACENT TO ROADWAYS			TOTALS
	1A	1B	DUMPSTER C	
PERIMETER/FRONTAGE DESIGNATION	E	E		
LANDSCAPE TYPE				
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	601'	383'	60'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	1:40	1:40	1:40	27
SHADE TREES	15	10	5	25
EVERGREEN TREES	-	-	-	3
SHRUBS	1:4	1:4	1:4	247
NUMBER OF PLANTS PROVIDED	15	10	5	25
SHADE TREES	-	-	-	3
EVERGREEN TREES	-	-	-	3
EX SHADE TREES	-	-	-	5
OTHER TREES (2:1 SUBSTITUTION)	151	96	-	247
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED				

LANDSCAPE SCHEDULE				
KEY	QUAN.	BOTANICAL NAME	SIZE	CAT
TE	8	ULMUS 'MORTON GLOSSY'	2 1/2"-3" CAL.	B & B
		TRIUMPH ELMA		
QP	21	QUERCUS PALUSTRIS	2 1/2"-3" CAL.	B & B
		PIN OAK		
SC	4	PRUNUS SARGENTII/	2 1/2"-3" CAL.	B & B
		SARGENT CHERRY		
LC	5	CUPRESSOCYPARIS LEYLANDI/	5'-6" HT.	B & B
		LEYLAND CYPRESS		
VP	247	VIBURNUM PLICATUM 'MARISSA'	2 1/2"-3" HT.	B & B
		MARIE'S DOUBLEFILE VIBURNUM		



- GENERAL NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. THE REQUIRED PARKING AND PERIMETER LANDSCAPING WILL BE BONDED PER THIS SUBMISSION.
  - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$18,360.00 FOR THE REQUIRED 35 SHADE TREES, 3 EVERGREEN TREES, AND 247 SHRUBS.

- LANDSCAPE SCHEDULE NOTE:**
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAM SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.
  - CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
  - FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL DRAINAGE SWALES. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
  - CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING, IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
  - THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.
  - AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

NO.	REVISION	DATE
2	REVISE LANDSCAPE PLANTS SCHEDULE FOR SUBSTITUTIONS	10-11-16
1	REVISE SMC, ADD FENCE AND GATES, UPDATE PUBLIC WATER LOCATION	06-20-16

**SITE DEVELOPMENT PLAN  
LANDSCAPE PLAN**

**MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'**  
PROPOSED WAREHOUSE  
7540 ASSATEAGUE DRIVE  
ZONED: M-2  
L16203/F.246 - PLAT 19144  
PARCEL 2, PARCEL 'J'  
TAX MAP 43, BLOCK 15  
5TH ELECTION DISTRICT

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ELLSWORTH CITY, MD 21043  
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PROFESSIONAL CERTIFICATE  
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 #18183  
EXPIRES ON 09-27-2019

14 SHEET OF 15

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad E. ...* 4-13-16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

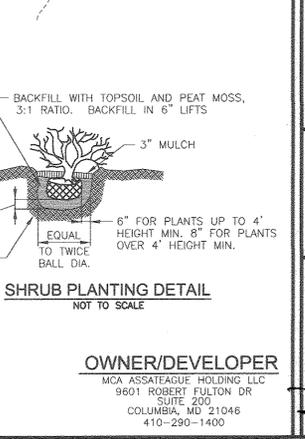
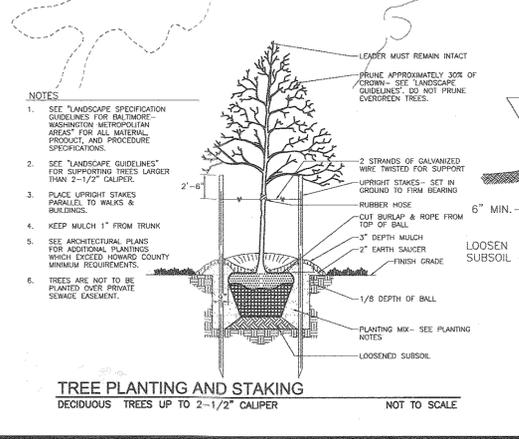
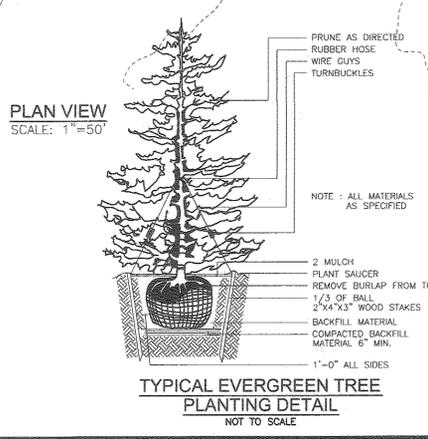
*Walter ...* 5-3-16  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

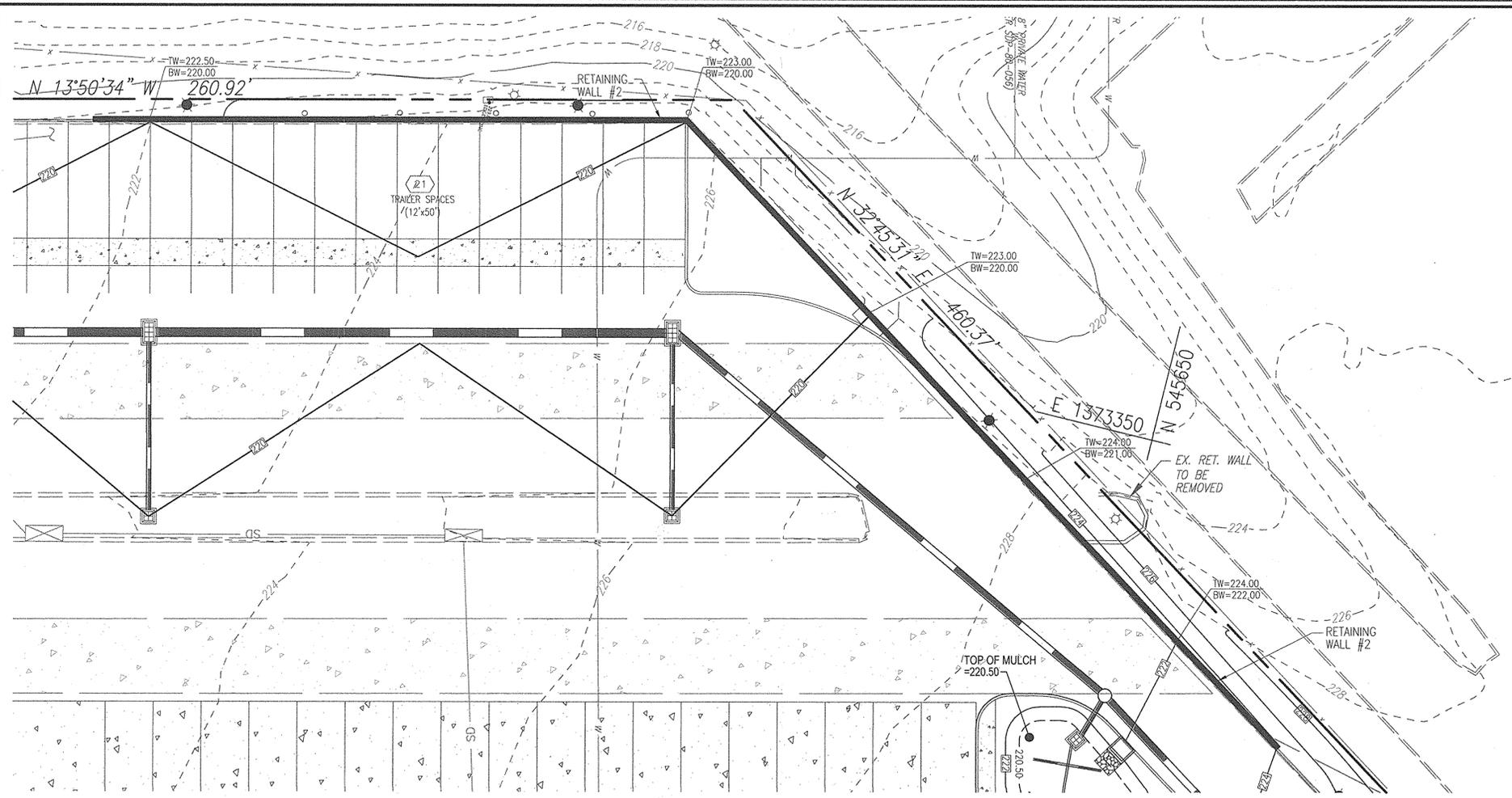
*William ...* 5-3-16  
DIRECTOR DATE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

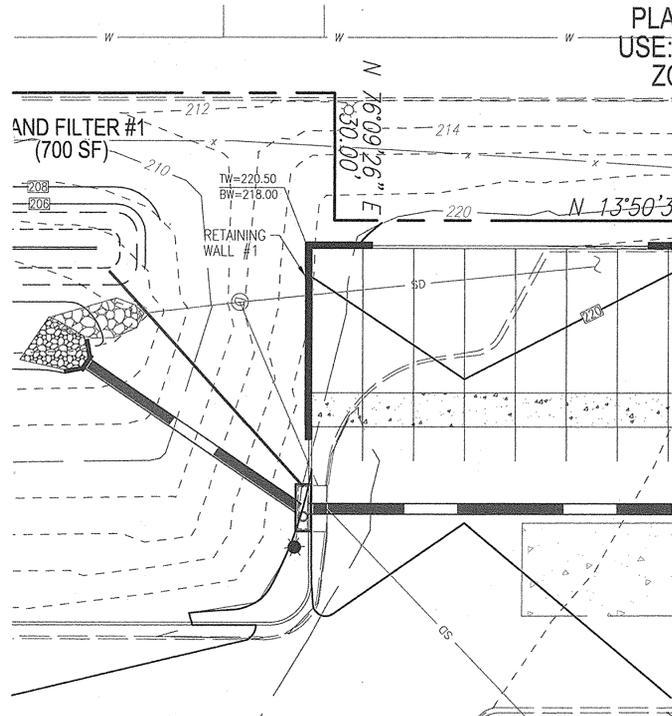
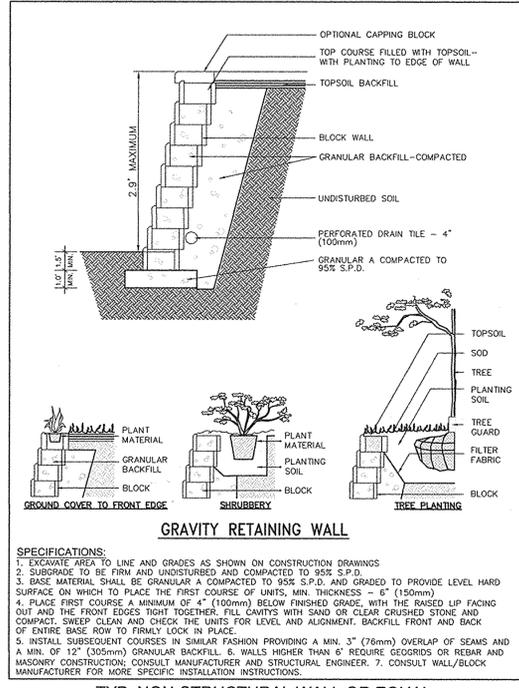
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*R. ...* 4/11/2016  
SIGNATURE OF DEVELOPER DATE





RETAINING WALL #2  
SCALE: 1"=20'



RETAINING WALL #1  
SCALE: 1"=20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Clark* 4.13.16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Walter Decker* 5.3.16  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Walter Decker* 5-3-16  
DIRECTOR DATE

OWNER/DEVELOPER  
MCA ASSATEAGUE HOLDING LLC  
9601 ROBERT FULTON DR  
SUITE 200  
COLUMBIA, MD 21046  
410-290-1400

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**RETAINING WALL PLAN**

**MARYLAND FOOD CENTER AUTHORITY - P/O PARCEL 'J'**  
PROPOSED WAREHOUSE  
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ZONED: M-2  
L.16203/F.248 - PLAT 19144 PARCEL 2, PARCEL J  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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15 SHEET OF 15