

SHEET INDEX	
NO.	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN (GEOMETRY SHEET)
3	SITE DEVELOPMENT PLAN (GRADING) AND SEEDING CHART
4	SITE DEVELOPMENT PLAN (UTILITIES)
5	STORM DRAIN DRAINAGE AREA MAP
6	SEDIMENT AND EROSION CONTROL PLAN
7	SEDIMENT AND EROSION NOTES AND DETAILS
8	STORMWATER MANAGEMENT FACILITY (SAND FILTER)
9	UNDERGROUND SWMF NOTES AND DETAILS
10	LANDSCAPE PLAN
11	STORM DRAIN PROFILES AND DETAILS
12	STORM DRAIN PROFILES AND DETAILS
13	STORM DRAIN PROFILES AND DETAILS ESD/WQV AND SIGNAGE
14	ENTRANCE, TRAFFIC CONTROL, STRIPING & SIGNAGE PLAN

# EUCLID CORNERS - PARCEL 'A'

## LOTS 1276 - 1278 & OPEN SPACE LOT 1279

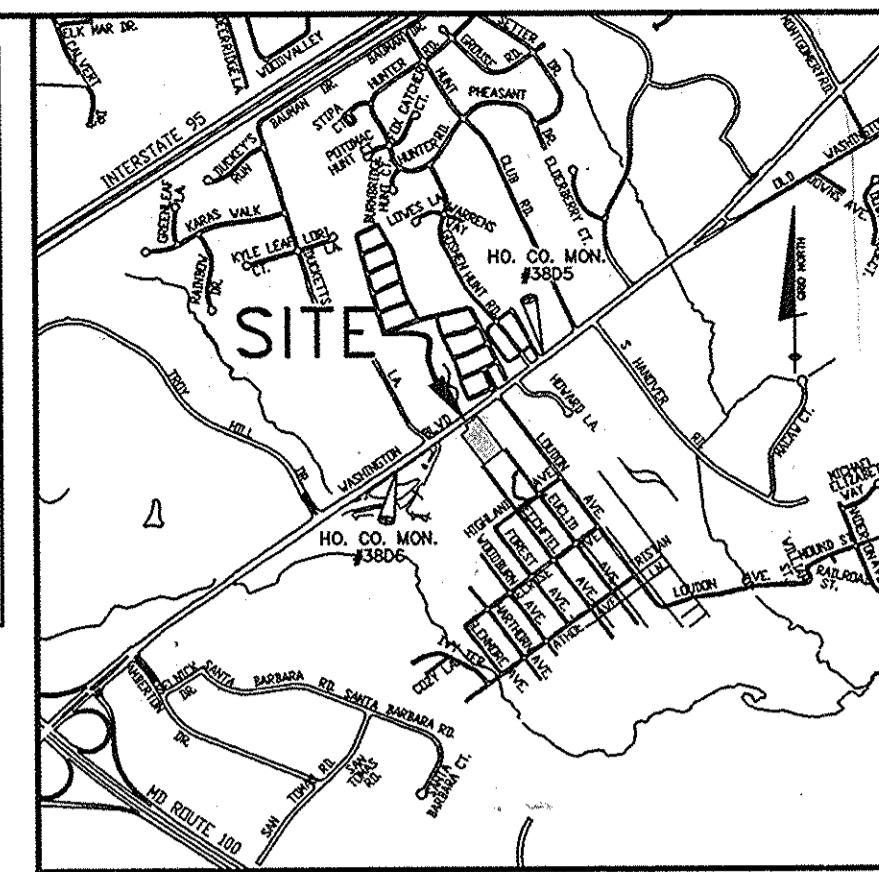
### RETAIL/OFFICE BUILDING, AND RESIDENTIAL LOTS

#### PART OF PARCEL: 873, 1st ELECTION DISTRICT

#### HOWARD COUNTY, MARYLAND

## SITE DEVELOPMENT PLAN

BENCH MARKS	
HO. CO. #3805 (NAD '83) ELEV. 193.71	
STAMPED DISC ON CONCRETE MONUMENT BEING 38.8' SOUTHWEST OF A FIRE HYDRANT, 5.6' NORTH OF THE EXISTING CONCRETE CURB ALONG NORTH SIDE OF WASHINGTON BLVD (RT.1)	
N 558,378.581	E 1,386,524.195
HO. CO. #3806 (NAD '83) ELEV. 175.23	
STAMPED DISC ON CONCRETE MONUMENT BEING 44' SOUTHWEST OF A LIGHT POLE & 148' NORTH OF THE GATE AT ATLANTIC SUPPLY CO.	
N 557,155.459	E 1,384,992.262

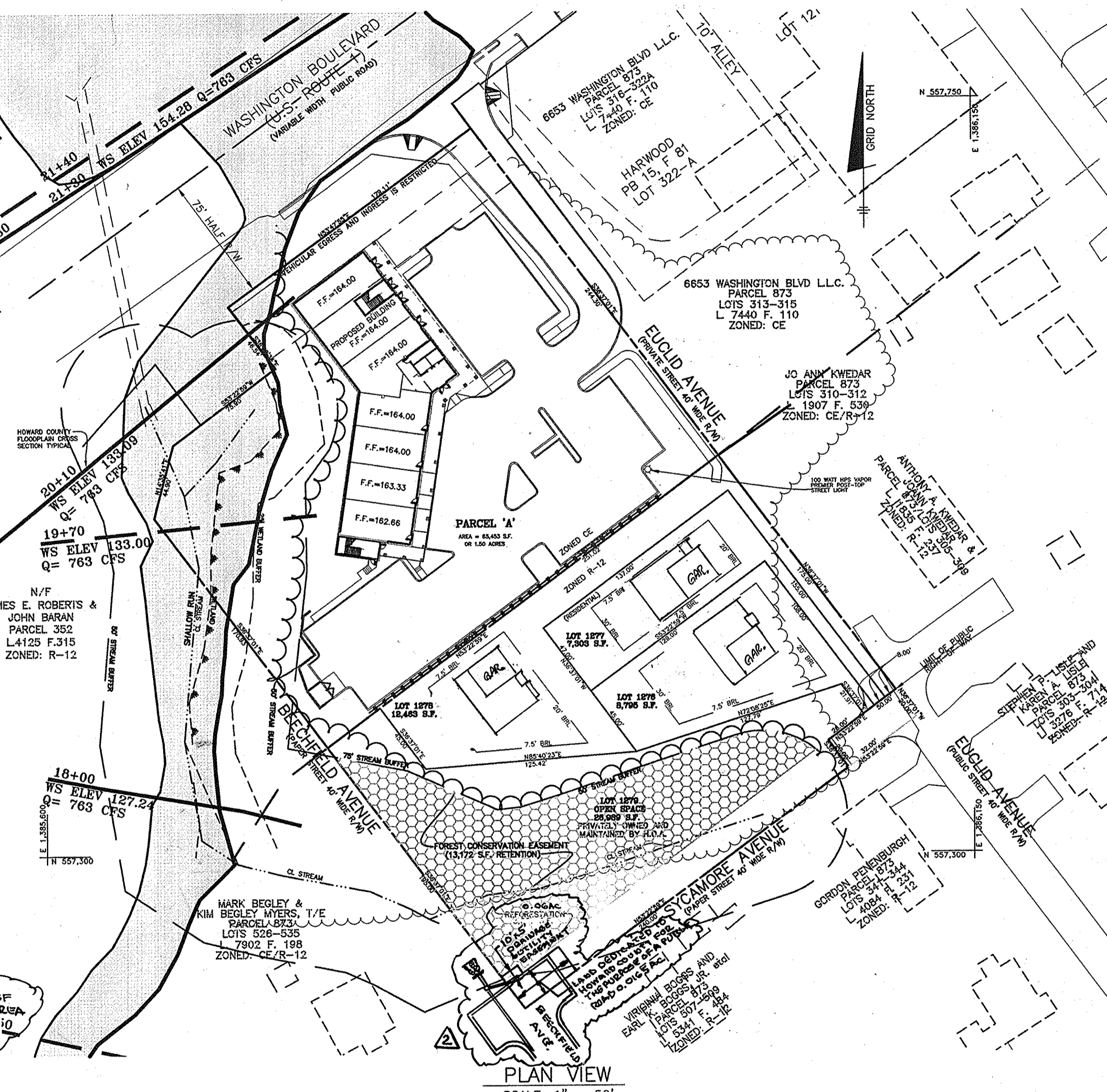


VICINITY MAP  
SCALE: 1"=2000'

### GENERAL NOTES

- THE SUBJECT PROPERTIES ARE ZONED CE/R-12 PER THE 2/02/2004 COMPREHENSIVE ZONING PLAN.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST (FIVE) 5 WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK AND RECEIVE CONFORMANCE THAT ALL UTILITIES HAVE BEEN MARKED BEFORE PROCEEDING WITH SITE WORK.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- THE CONTOURS SHOWN HEREON HAVE BEEN TAKEN FROM FIELD RUN TOPOGRAPHIC SURVEYS AT 2' INTERVAL. THE TOPOGRAPHY WAS PREPARED BY BENCHMARK ENGINEERING, INC. DATED SEPTEMBER 2001.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 3805 AND 3806 WERE USED FOR THIS PROJECT.
- BOUNDARY SURVEY FOR THIS PROJECT WAS PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT APRIL, 2003.
- WATER AND SEWER FOR THIS SUBDIVISION IS PUBLIC. SEWER & WATER CONTRACT NOS. ARE # 23-5 AND # 44-0906.
- THE WETLANDS DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JANUARY 05, 2001.
- FOREST CONSERVATION OBLIGATION FOR THIS PROJECT WAS ADDRESSED UNDER F-06-46.
- A TRAFFIC STUDY HAS BEEN PREPARED BY TRAFFIC CONCEPTS, DATED FEBRUARY 2005.
- GEOTECHNICAL REPORT HAS BEEN PREPARED BY MARSHALL ENGINEERING, INC. DATED DECEMBER, 2004.
- EXISTING UTILITIES WERE LOCATED BY RECORD DRAWINGS AND FIELD LOCATIONS BY BENCHMARK ENGINEERING INC., DATED SEPTEMBER, 2001.
- UNLESS NOTED AS "PRIVATE" ALL EASEMENTS ARE PUBLIC.
- CONTRACTOR SHALL ADJUST ALL UTILITIES, RIM ELEVATIONS AND INVERT ELEVATIONS AS NEEDED TO MATCH THIS PLAN.
- ALL EXTERIOR LIGHTING SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993), ZONING SECTION 134 AND AS SHOWN ON THESE PLANS.
- ALL HANDICAP RAMP SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STD. DETAIL R 4.01 AND ALL CURRENT ADA REQUIREMENTS.
- LANDSCAPING SURETY IN THE AMOUNT OF \$13,980.00 HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
- THE FLOOD PLAIN LIMITS SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING FLOODPLAIN INFORMATION TAKEN FROM THE HOWARD COUNTY DEEP RUN FLOOD PLAN STUDY FOR THE AREA OF THIS SHALLOW RUN, TRIBUTARY D-S. GENERAL COUNTY PROJECT GC 0119 WITH REVISION DATED 1/97.
- NO CLEARING GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- PROPOSED BUILDING WILL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:  
WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE);  
SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING  
GEOMETRY - (1-1/2" MIN.)  
MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;  
STRUCTURES - (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (425 LOADING);  
DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;  
MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- THE ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION WERE RECORDED ON 11-11-06 AS NO. 11583720 AMONG THE STATE OF MARYLAND DEPARTMENT OF ASSESSMENT AND TAXATION RECORDS.
- THE FOREST CONSERVATION OBLIGATION FOR THE PROPERTIES SHOWN ON THIS PLAN HAS BEEN PROVIDED BY F-06-046, BY CREATING A 0.40 AC. ON-SITE FOREST CONSERVATION EASEMENT CONTAINING 0.30 AC. OF RETENTION AND 0.10 AC. OF RESTORATION AND A PAYMENT OF \$9583.20 TO THE HOWARD COUNTY CONSERVATION FUND FOR THE REMAINING OBLIGATION OF 0.44 AC. (19,156.4 S.F. OF RESTORATION. SEE F-06-046 FOR THE FOREST CONSERVATION PLAN.)
- PREVIOUS DEPARTMENT OF PLANNING AND ZONING REFERENCE NUMBERS INCLUDE:  
F-06-046
- THE 2007 SWM ACT PRACTICES ARE BEING USED FOR THIS SUBDIVISION.  
LOT 1276 - NON-F ROOFTOP DISCONNECTION AND INFILTRATION BERM.  
LOT 1277 - ROOFTOP DISCONNECTION ONLY.  
LOT 1278 - NON-F ROOFTOP DISCONNECTION AND INFILTRATION BERM.
- ALL ESD PRACTICES ARE PRIVATELY OWNED AND MAINTAINED.
- DISTURBANCE WITHIN THE STREAM BUFFER HAS BEEN ACCEPTED AS NECESSARY DISTURBANCE IN ACCORDANCE WITH SECTION 16.116(C)(1) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SINCE IT IS NECESSARY FOR CONSTRUCTION OF A PUBLIC ROAD.

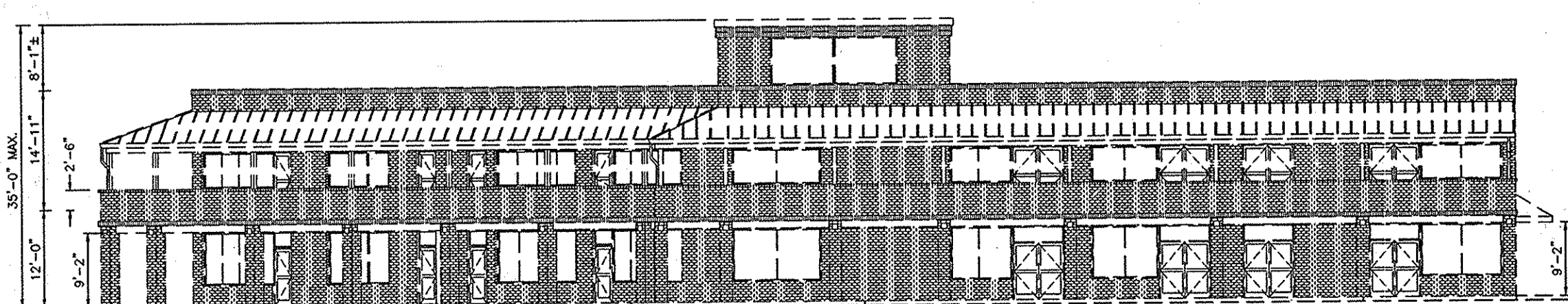
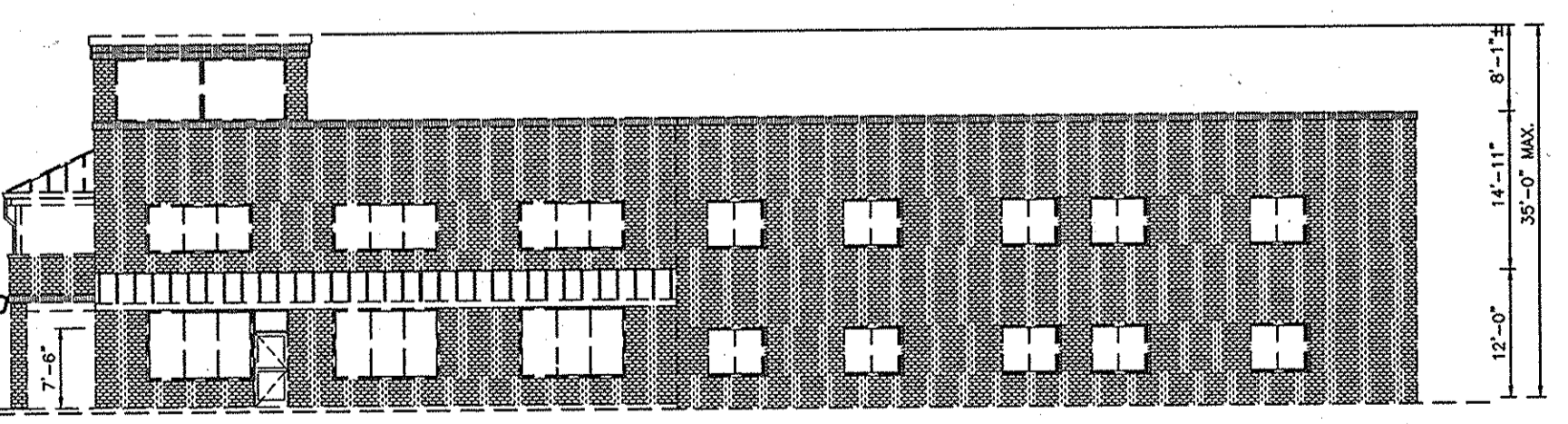
32. WAIVER PETITION (WP-14-135) WAS APPROVED BY THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING ON JUNE 17, 2014. IT WAS A REQUEST TO WAIVE SECTIONS 10-150(C)(1) & (2) TO EXTEND THE DEADLINES TO APPLY FOR BUILDING PERMITS. THE WAIVER WAS CONDITIONALLY APPROVED. THE CONDITIONS ARE:  
a) COMPLIANCE WITH DEB COMMENTS CONCERNING SWM & STATE HIGHWAY PLANS.  
b) THE COMMERCIAL AND AT LEAST ONE RESIDENTIAL PERMIT SHALL BE APPLIED FOR ON OR BEFORE JUNE 17, 2015.  
c) ALL RESIDENTIAL BUILDING PERMITS MUST BE APPLIED FOR ON OR BEFORE APRIL 15, 2016.  
d) ANOTE SUMMARIZING THE WAIVER SHALL BE ADDED TO THE SDP.  
e) THE DEPARTMENT WILL NOT ALLOW FURTHER EXTENSION REQUESTS.



BASED ON REVISION 2 0.0023 AC/405.8 SF OF FOREST CONSERVATION EASEMENT AREA WILL BE ABANDONED, A FEE-IN-LIEU IN THE AMOUNT OF \$507.25 WILL BE PAID TO THE HOWARD COUNTY FOREST CONSERVATION FUND.



"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 15212, EXPIRATION DATE: 12/24/2012. THIS SEAL APPLIES ONLY TO REVISION 1 ON THIS SHEET."



### SITE ANALYSIS DATA CHART PARCEL 'A'

A.) TOTAL COMMERCIAL PROJECT AREA:	1.50 AC.±
B.) AREA OF PARCEL 'A':	1.50 AC.±
C.) AREA OF DEDICATED RIGHT-OF-WAY:	0.00 AC.±
D.) LIMIT OF DISTURBANCE AREA:	1.61 AC.±
E.) PRESENT ZONING:	CE
F.) PROPOSED USES FOR SITE AND STRUCTURES:	CE
G.) SQUARE FOOT AREA FOR COMMERCIAL USE IN ACCORDANCE WITH ZONING SECTION 127.2.C.1.d ONLY A MAXIMUM OF 15% OF THE BUILDING FLOOR AREA CAN BE DEVOTED TO USES OTHER THAN OFFICE USE:	2,650 S.F. COMMERCIAL 15,020 S.F. OFFICE 17,670 S.F. TOTAL 1ST FLOOR 8,835 S.F. 2ND FLOOR 8,835 S.F. TOTAL 17,670 S.F.
H.) MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE:	N/A
I.) NUMBER OF PARKING SPACES REQUIRED ON SITE: PARKING IS REQUIRED BASED ON SPECIFIC USES:	64
J.) NUMBER OF PARKING SPACES PROVIDED BY HOWARD COUNTY ZONING REGULATIONS (PER SECTION 133.D) GENERAL OFFICE: 3.3 SPACES PER 1,000 S.F. RETAIL: 5.0 SPACES PER 1,000 S.F. OFFICE SPACE: 15,020 S.F. REQUIRING 50 SPACES RETAIL SPACE: 2,650 S.F. REQUIRING 14 SPACES	64
K.) TOTAL NUMBER OF SPACES PROVIDED: (INCLUDING 3 HANDICAPPED PARKING SPACES)	64
L.) BUILDING COVERAGE FOR COMMERCIAL PORTION OF SITE:	14% (8,835 S.F.)

"NO CHANGE IN USE(S) OR THE SQUARE FOOT AREA(S) OF USE(S) IN THE COMMERCIAL BUILDING IS PERMITTED WITHOUT COMPLIANCE WITH THE PARKING REQUIREMENTS OF ZONING SECTION 133 AND THE APPROVAL OF THE DPZ."

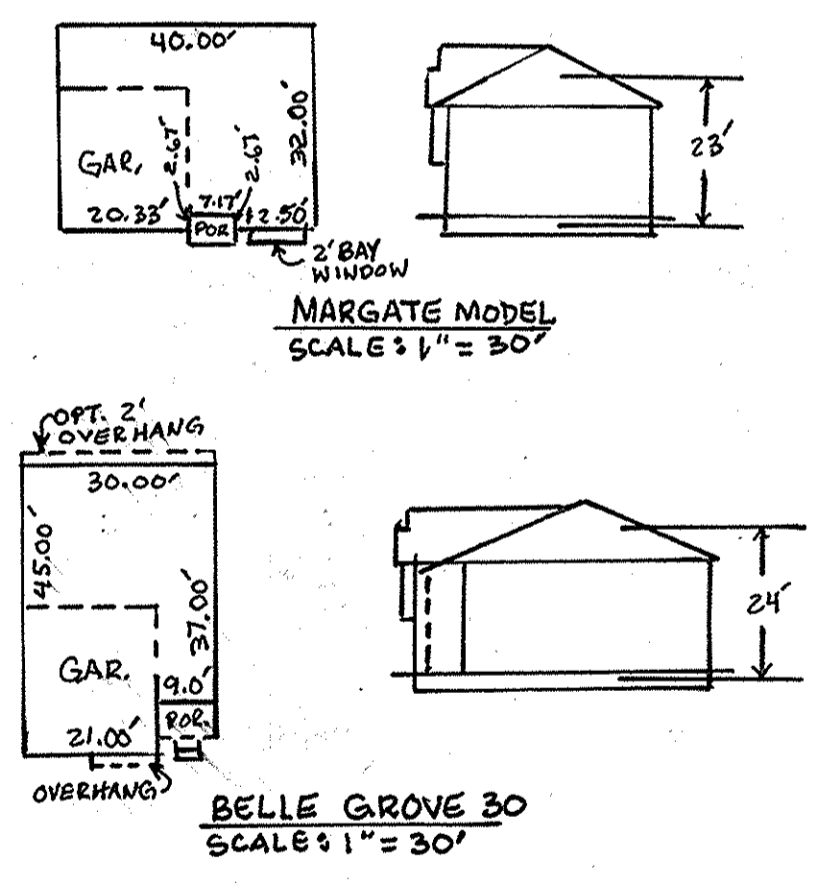
### SITE ANALYSIS DATA CHART LOTS 1274 THRU 1277

A.) TOTAL RESIDENTIAL PROJECT AREA:	1.30 AC.±
B.) AREA OF PLAN SUBMISSION:	1.30 AC.±
C.) AREA OF LOTS 1274, 1275, & 1276:	0.61 AC.±
D.) AREA OF OPEN SPACE LOT 1277:	0.60 AC.±
E.) AREA OF DEDICATED RIGHT-OF-WAY:	0.09 AC.±
F.) LIMIT OF DISTURBED AREA:	0.83 AC.±
G.) PRESENT ZONING:	R-12
H.) PROPOSED USES FOR SITE AND STRUCTURES:	R-12 SINGLE FAMILY DETACHED RESIDENTIAL
I.) TOTAL NUMBER OF UNITS:	3
J.) NUMBER OF PARKING SPACES REQUIRED:	2 PER DWELLING UNIT
K.) NUMBER OF PARKING SPACES PROVIDED:	2 PER DWELLING UNIT
L.) OPEN SPACE ON SITE:	0.63 AC.
M.) AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS ACRES REQUIRED:	0.00 AC.
ACRES PROVIDED:	0.00 AC.

LOT/PARCEL#	STREET ADDRESS
PARCEL 'A'	6661 WASHINGTON BLVD.
LOT 1276	6226 EUCLID AVENUE
LOT 1277	6222 EUCLID AVENUE
LOT 1278	6218 EUCLID AVENUE

LOT/PARCEL	USE	AREA
PARCEL 'A'	COMMERCIAL/OFFICE	1.52 AC.
LOTS 1274-1277	SINGLE FAMILY RESIDENTIAL	1.30 AC.
TOTAL	SITE DEVELOPMENT PLAN	2.82 AC.

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL#			
EUCLID CORNERS	N/A	PARCEL 'A' LOTS 1274-1276 & OPEN SPACE LOT 1277			
PLAT No.	GRID No.	ZONE	TAX MAP	ELEC. DIST.	CENSUS
19262	13	CE/R-12	38	1st	6012.00
19263					
WATER CODE		A02	SEWER CODE-- 2152209		



### LEGEND

SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	---
EXISTING CONTOURS	---
PROPOSED CONTOURS	---
EXISTING WOODS LINE	---
PROPOSED WOODS LINE	---
EXISTING STRUCTURE	---
LIMIT OF DISTURBANCE	---
SILT FENCE	SF
SUPER SILT FENCE	SSF
FOREST CONSERVATION EASEMENT	---

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hamble*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 7/24/07

*Donald M. Moran*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 7/16/07

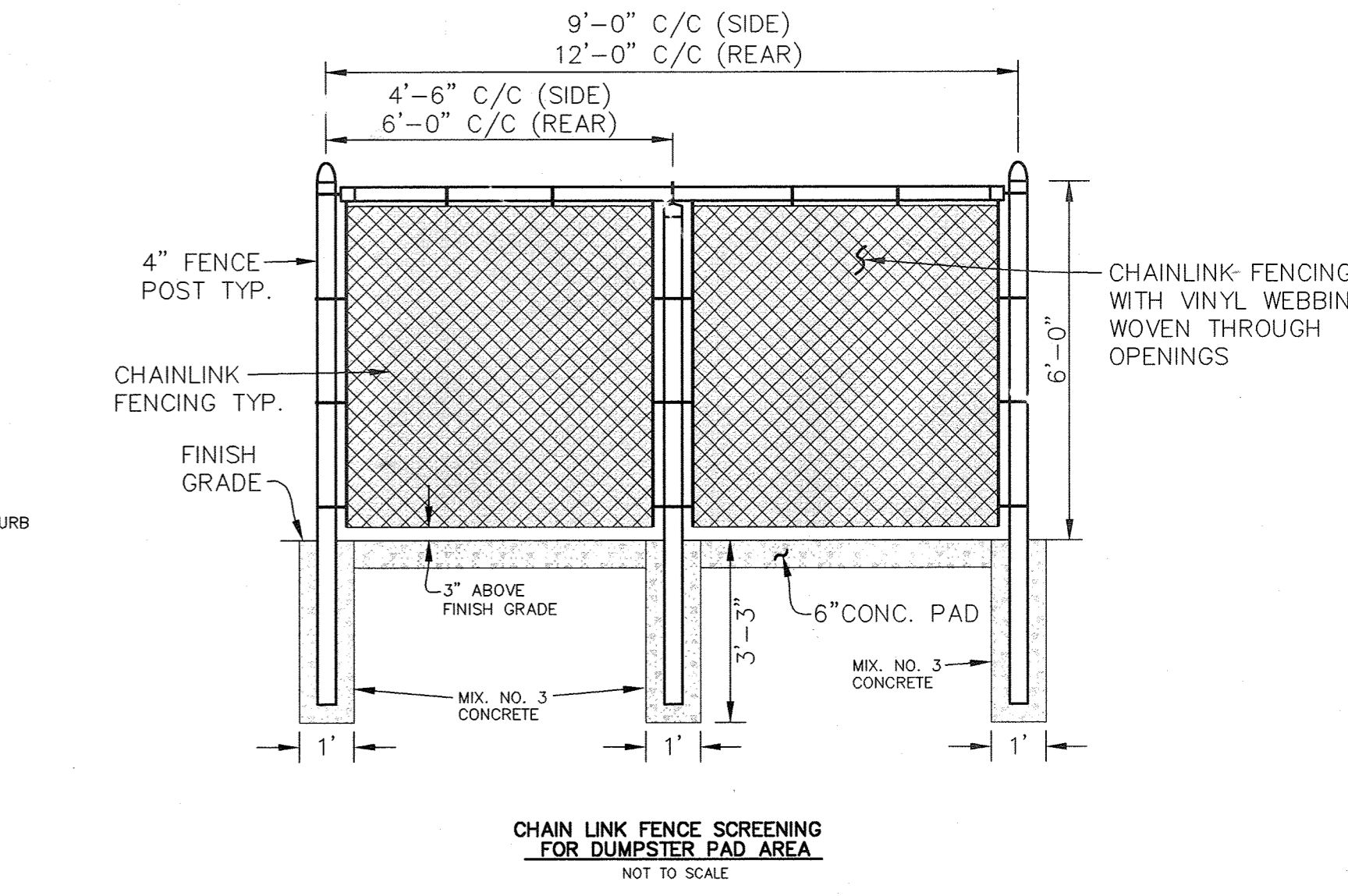
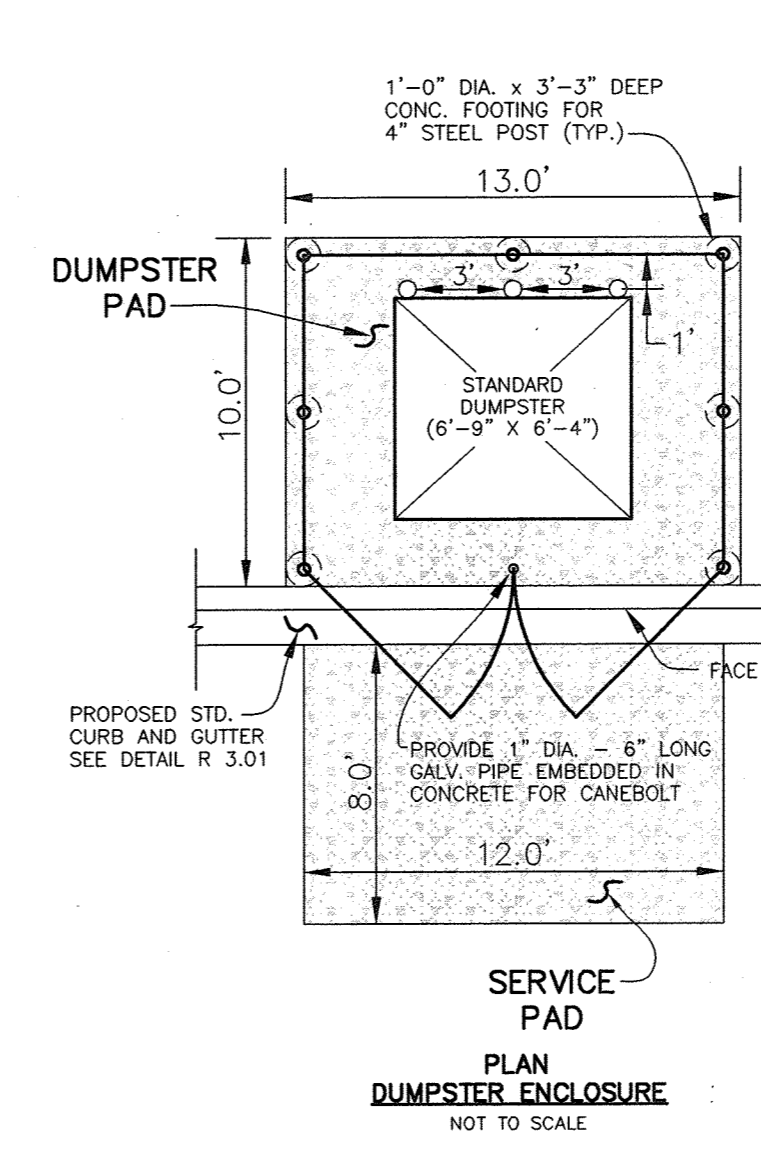
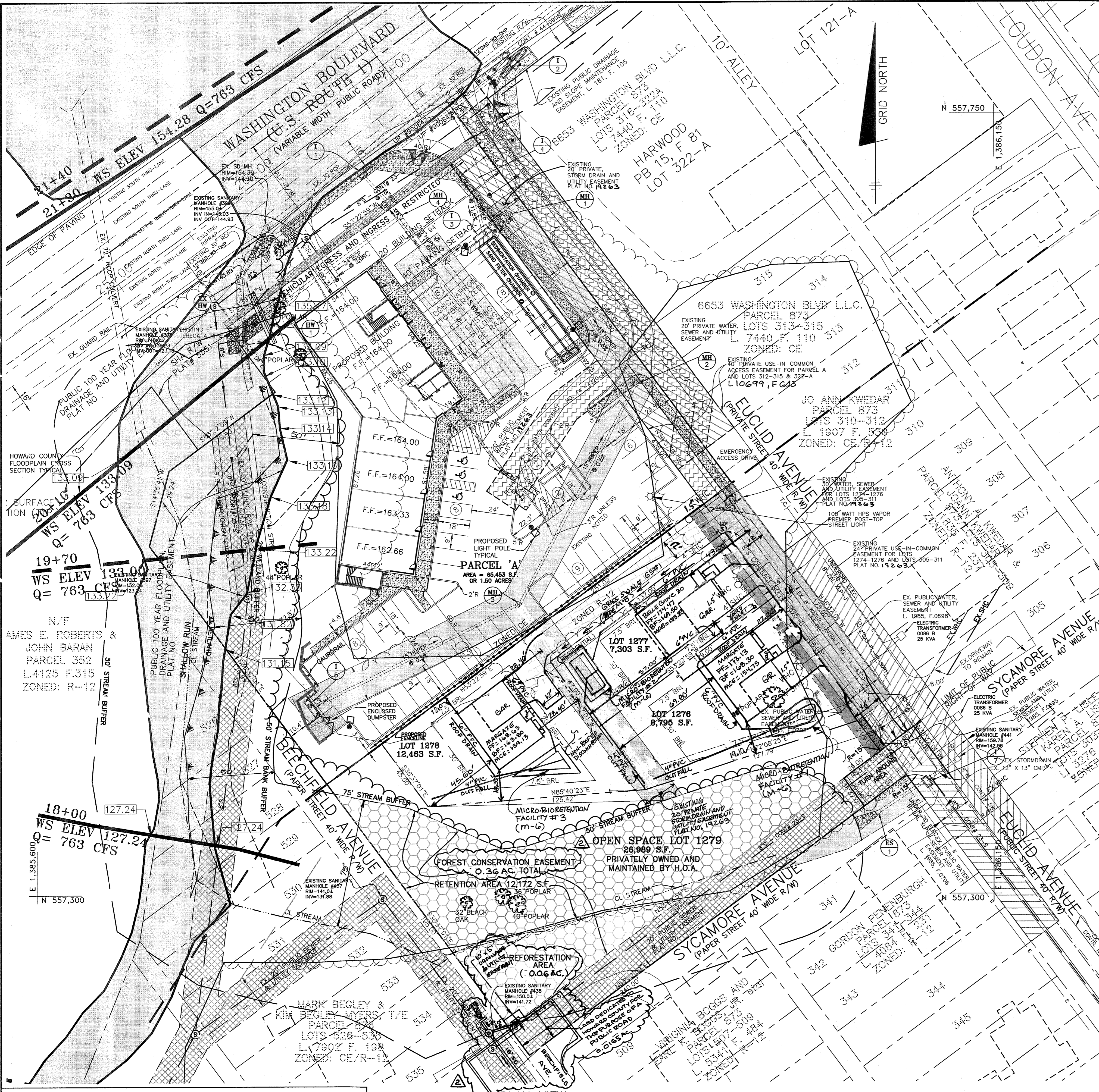
*Frank M. Lyle*  
 DIRECTOR  
 DATE: 7/27/07

NO.	DATE	REVISION
3	12-16-14	REVISE HOUSE FOOTPRINT TO SHOW BELLE GROVE, MARGATE AND SHOW HOUSES ON LOTS
2	8-6-12	ADD CAPITAL PROJ. D-114-03 (BROOKFIELD AVE. IMPROVEMENTS) BY NOLAN ASSOC.
1	10-13-10	ADD ESD/WQV INFORMATION FOR LOTS 1276 - 1278

By BEI

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS • LAND SURVEYORS • PLANNERS  
 8480 BALTIMORE NATIONAL PIKE • SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-485-6105 FAX: 410-485-6844

OWNER:	BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070
PROJECT:	EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279
LOCATION:	TAX MAP: 38, GRID: 13 PART OF PARCEL 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	COVER SHEET
DATE:	AUGUST, 2005
DESIGN:	RPS
DRAFT:	RPS
CHECK:	DAM
SCALE:	AS SHOWN
PROJECT NO.:	1465
SHEET:	1 OF 14



**SPECIAL NOTE:**

A KNOX BOX (FIRE DEPARTMENT ACCESS 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 FOR THE DOOR. THE BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTEGRATED WITH THE FIRE ALARM SYSTEM), NFPA-1.10.12.1.

**NOTE: BASED ON HO. CO. STD. R 11.02 DUMPSTER ENCLOSURE DETAILS**

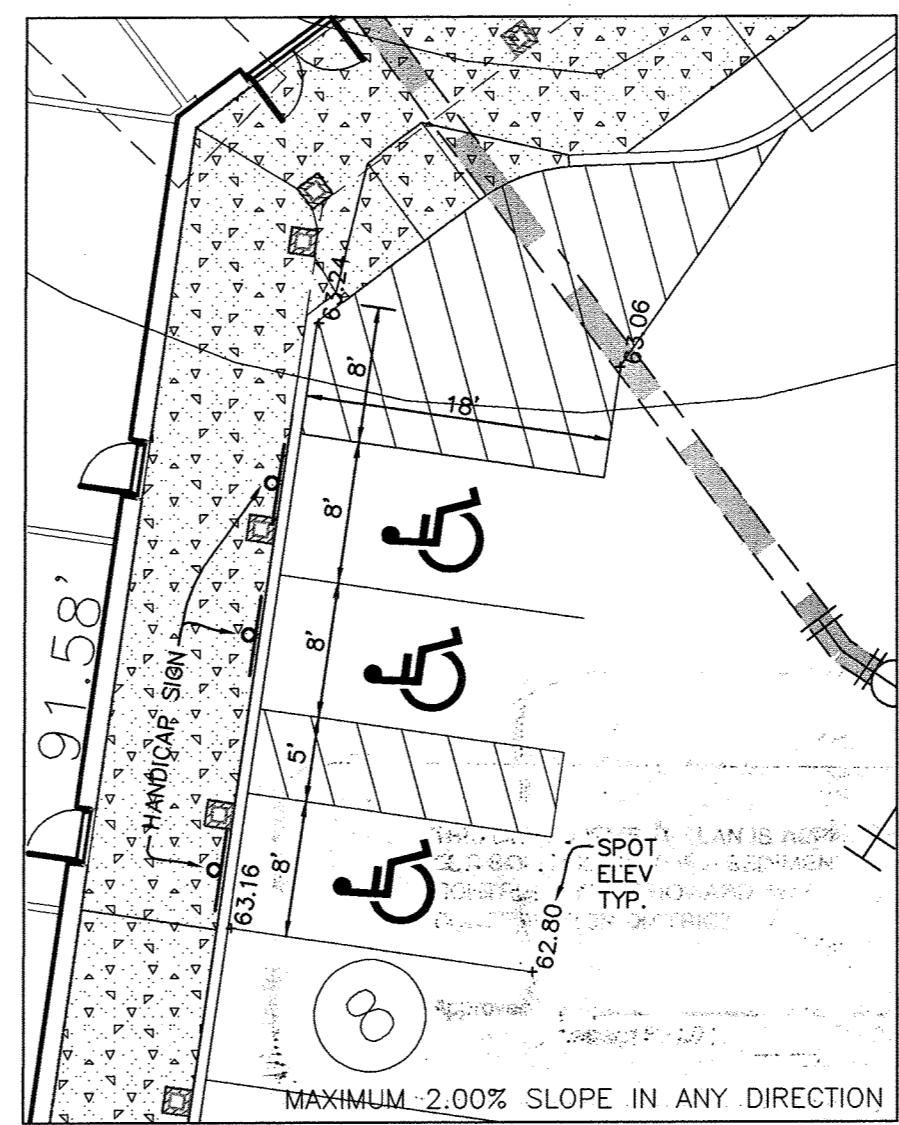
**STREET LIGHT SCHEDULE**

SYMBOL	DESCRIPTION	LOCATION
□	400-WATT HPS MOUNTED ON 4" SQUARE POLE, 10' IN LENGTH ON A 2" HIGH CONCRETE CYLINDER	PARKING LOT LANDSCAPED ISLANDS

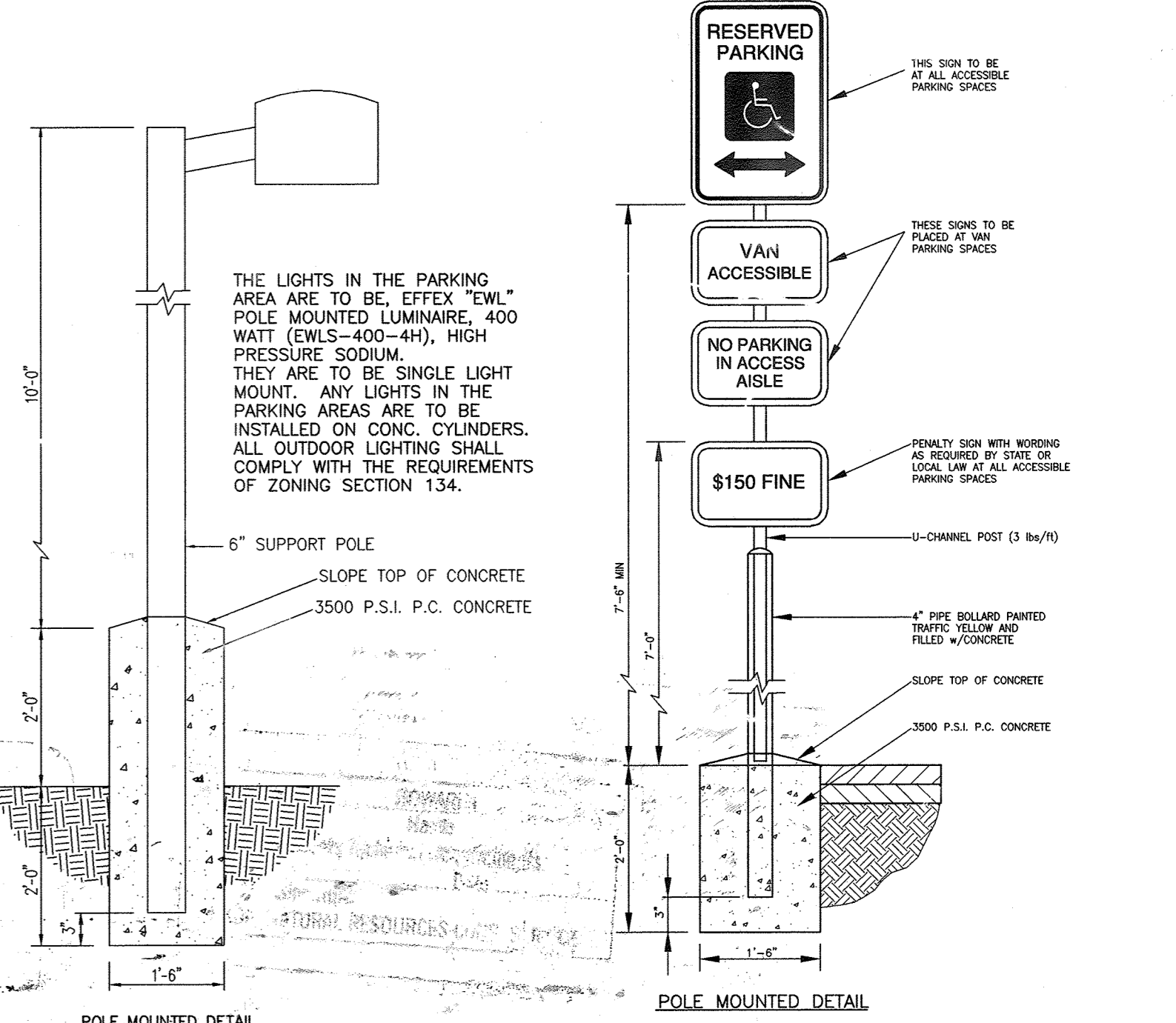
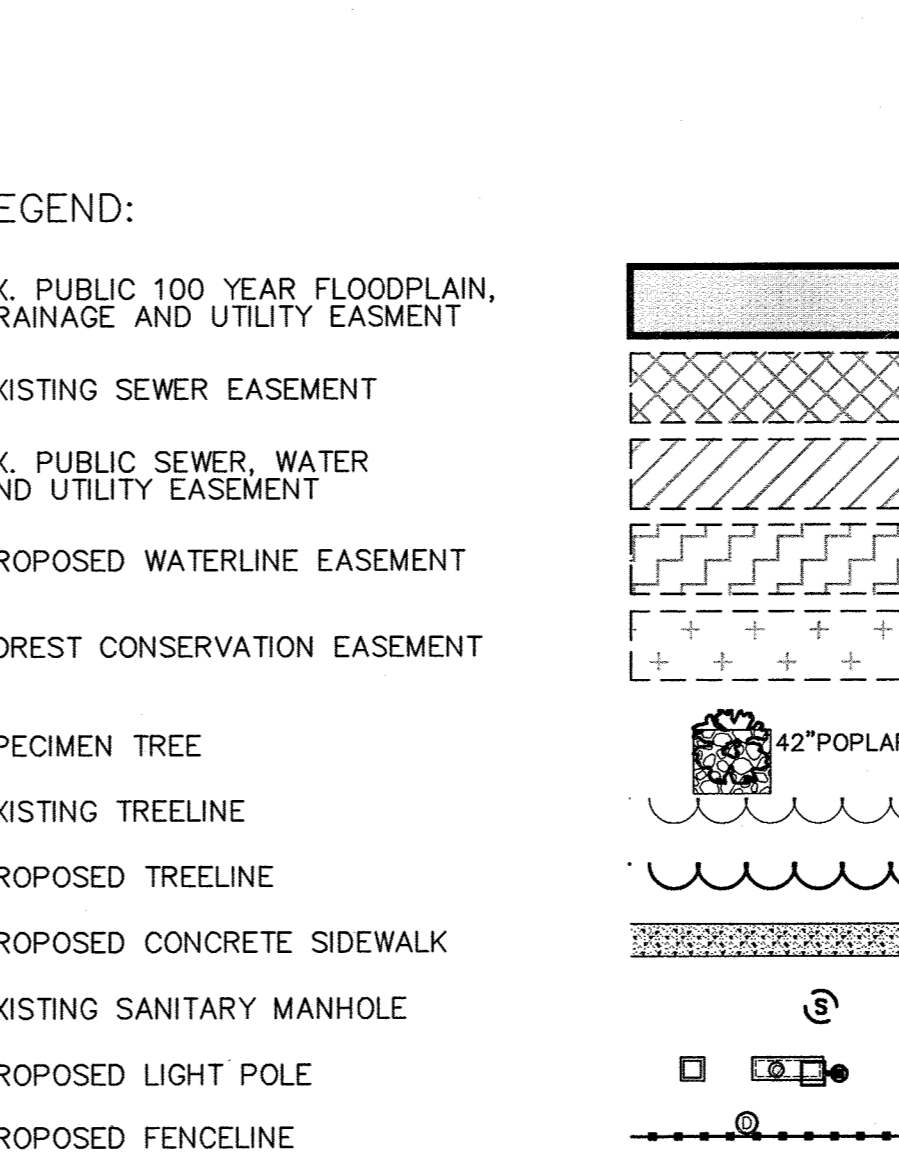
**FLOODPLAIN EASEMENT LINE TABLE**

LINE	BEARING	LENGTH
F1	N 13°56'52" E	47.57'
F2	N 00°29'05" E	12.14'
F3	N 25°40'12" W	7.93'
F4	N 04°28'58" W	12.62'
F5	N 13°11'48" W	18.38'
F6	N 24°00'08" E	23.13'
F7	N 16°31'27" E	26.71'
F8	N 11°22'03" E	31.05'
F9	N 37°44'17" E	15.09'
F10	N 09°18'51" E	19.61'

**STANDARD PARKING DETAIL NOT TO SCALE**



**HANDICAP PARKING DETAIL NOT TO SCALE**



**PARKING LOT LIGHTING DETAIL NOT TO SCALE**

NO.	DATE	REVISION
1	10-12-10	Adjust Sign to 15" for Residential Use
2	12-10-14	SHOW MARGINS HSE TYPE ON LOTS 1276 & 1278 BELLE GROVE ON LOT 1277 REVISE SIGN
3	8-6-12	ADD CAPITAL PROJ. D-1124-03 (BEECHFIELD AVE IMPROVEMENTS) BY NOLAN ASSOC.
4	10-13-10	ADD ESD/WQV INFORMATION FOR LOTS 1276-1278

**LEGEND:**

- EX. PUBLIC 100 YEAR FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
- EXISTING SEWER EASEMENT
- EX. PUBLIC SEWER, WATER AND UTILITY EASEMENT
- PROPOSED WATERLINE EASEMENT
- FOREST CONSERVATION EASEMENT
- SPECIMEN TREE
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED CONCRETE SIDEWALK
- EXISTING SANITARY MANHOLE
- PROPOSED LIGHT POLE
- PROPOSED FENCELINE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chief, Development Engineering Division* 7/4/07 DATE

*Chief, Division of Land Development* 7/24/07 DATE

*Director* 7/23/07 DATE

YARD INLET ON LOT 1277 IS TO BE AT LEAST 8" GRATE NYOPLAST OR EQUIVALENT WITH 6" CONNECTION. SEE PROFILE SHEET 4. RIM IS TO BE SET @ 167.0. INLET @ 165.7, 108 LF @ 6" PVC (SHC 40) TO MBR #2.

SEAL & SIGNATURE FOR REV. ONLY

*Mark Begley*

NOTE: FOR PROPOSED STORM DRAIN IMPROVEMENTS PROFILE REFER TO CAPITAL PROJECT D-1124-03.

NO.	DATE	REVISION
5	2-15-18	REVISE MBRs #1 & #2

**BENCHMARK ENGINEERING, INC.**

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-485-6105 FAX: 410-485-6844

OWNER: BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070

PROJECT: EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279

LOCATION: TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

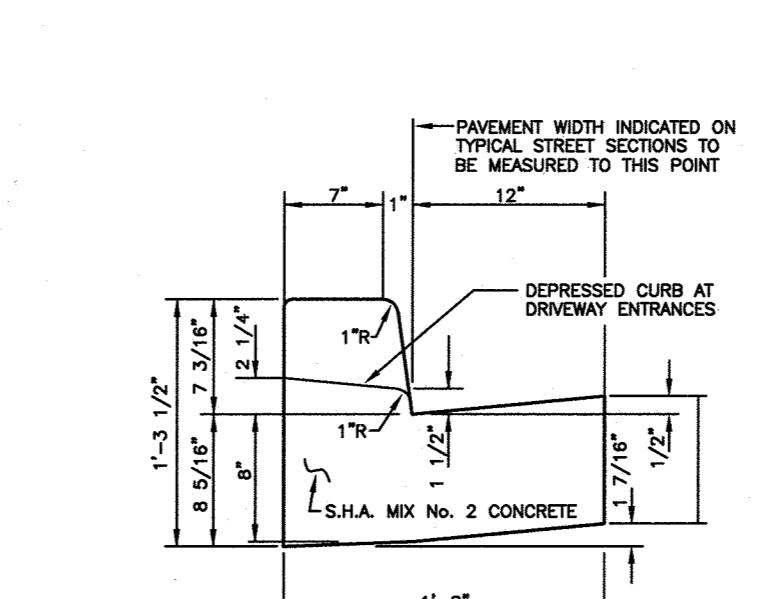
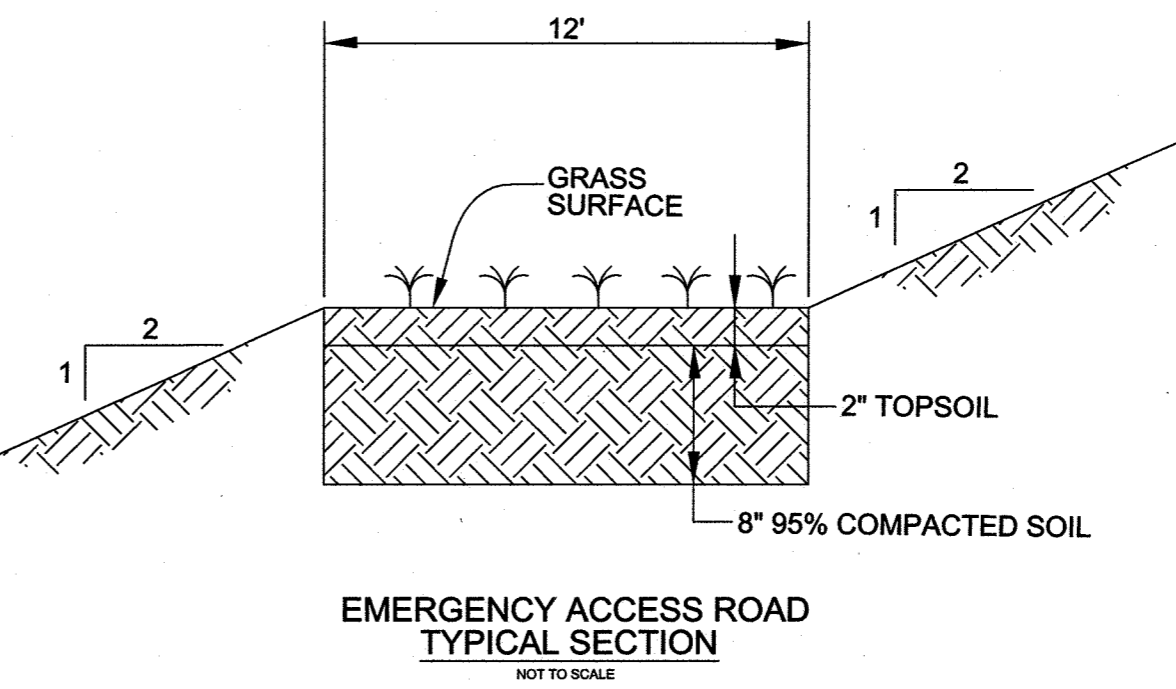
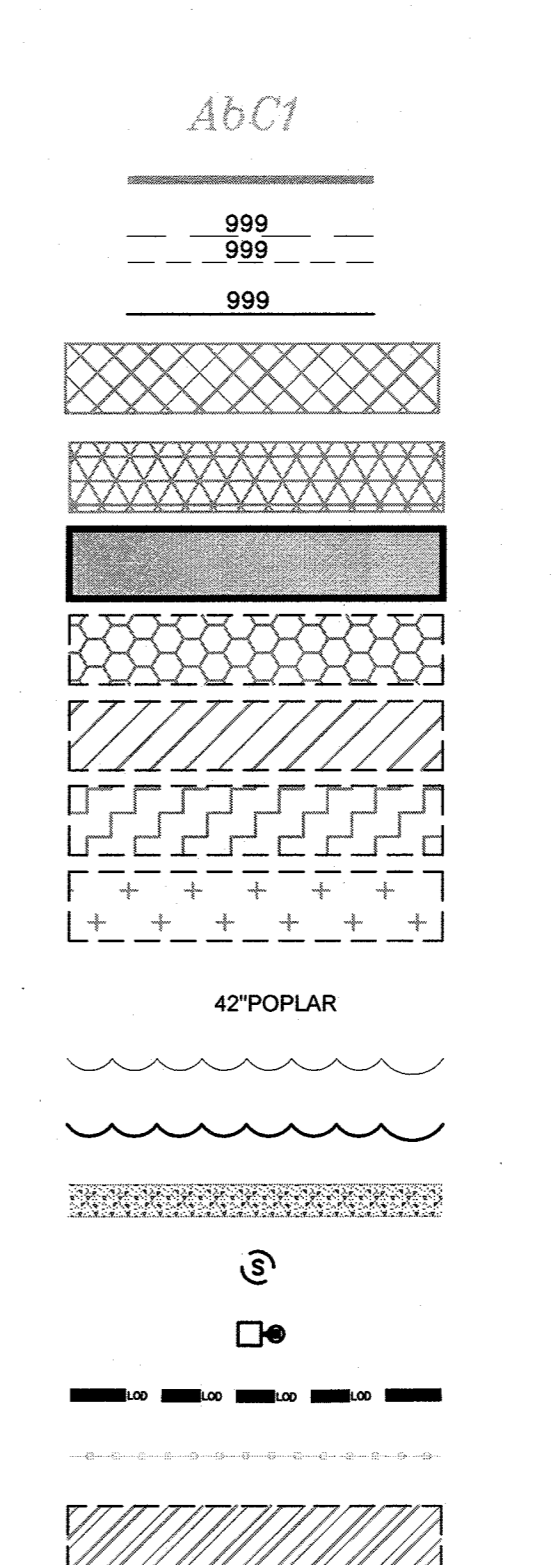
TITLE: SITE PLAN (GEOMETRY)

DATE: AUGUST, 2005 PROJECT NO. 1465  
JUNE, 2007

DESIGN: DRAFT: RPS CHECK: DAM SCALE: 1"=30' SHEET 2 OF 14



- LEGEND:
- SOILS CLASSIFICATION
  - SOILS DELINATION
  - EXISTING CONTOURS
  - PROPOSED CONTOURS
  - STEEP SLOPES 10% TO 24.99%
  - STEEP SLOPES 25%+
  - EX. PUBLIC 100 YEAR FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
  - EXISTING SEWER EASEMENT
  - EX. PUBLIC SEWER, WATER AND UTILITY EASEMENT
  - PROPOSED WATERLINE EASEMENT
  - FOREST CONSERVATION EASEMENT
  - SPECIMEN TREE
  - EXISTING TREELINE
  - PROPOSED TREELINE
  - PROPOSED CONCRETE SIDEWALK
  - EXISTING SANITARY MANHOLE
  - PROPOSED LIGHT POLE
  - LIMIT OF DISTURBANCE
  - PROPOSED FENCELINE
  - ROOF DIS-CONNECT



STANDARD 7" COMBINATION CURB AND GUTTER (R-3.01) N.T.S.

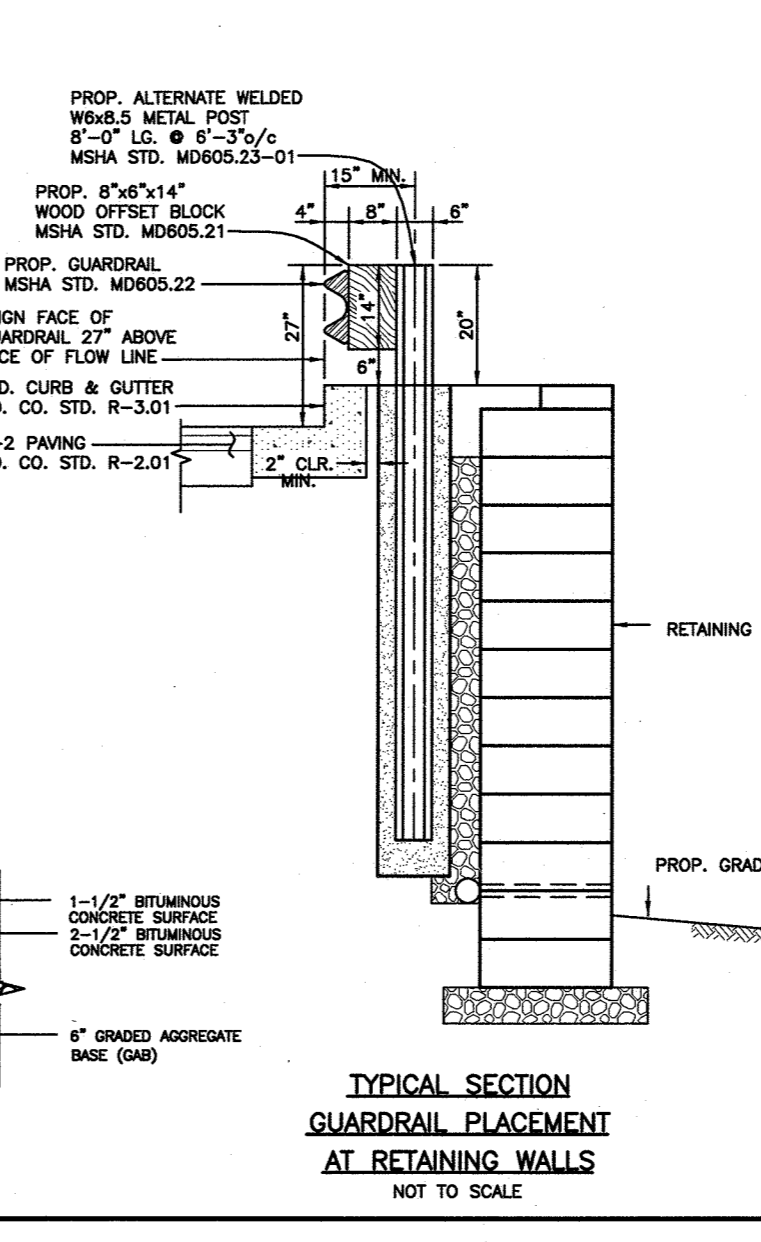


Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate*		Recommended Seeding Dates by Plant Hardiness Zone**			
	lb/ac	lb/1000 sq ft	5a and 6a	6b	7a and 7b	8a and 8b
Annual Ryegrass (Colum triflorum)	40	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 15 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	Feb 15 to Apr 30; Aug 15 to Nov 30
Berkey (Lolium vulgare)	96	2.2	Mar 15 to May 31; Aug 1 to Sep 30	Mar 15 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	Feb 15 to Apr 30; Aug 15 to Nov 30
Orchardgrass (Dactylis glomerata)	72	1.7	Mar 15 to May 31; Aug 1 to Sep 30	Mar 15 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (Triticum aestivum)	120	2.8	Mar 15 to May 31; Aug 1 to Sep 30	Mar 15 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	Feb 15 to Apr 30; Aug 15 to Nov 30
Coronel Ryegrass (Corynephorus canadensis)	132	3.2	Mar 15 to May 31; Aug 1 to Oct 31	Mar 15 to May 15; Aug 1 to Oct 31	Feb 15 to Apr 30; Aug 15 to Nov 30	Feb 15 to Apr 30; Aug 15 to Nov 30
Fescue (Festuca ovina)	30	0.7	Jan 1 to Jul 31	May 1 to Jul 31	May 1 to Aug 14	May 1 to Aug 14
Pearl Millet (Pennisetum glaucum)	20	0.5	Jan 1 to Jul 31	May 1 to Jul 31	May 1 to Aug 14	May 1 to Aug 14

NOTES:  
 1) Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Annual planting rates shall be adjusted to reflect ground conditions and soil fertility. Adjustments are usually not needed for the cool-season grasses.  
 2) Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seedings, use 1/3 of the seeding rate listed above for the nurse crop, and use the remaining 2/3 for the permanent seeding. Cool-season grasses generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for cool-season grasses. Cool-season grasses should be planted in late fall or early spring. 3) Do not seed on a steep slope, use 1/3 of the rate listed above.  
 4) One acre is approximately 43,560 sq ft.  
 5) The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

Table B.2: Recommended Planting Dates for Permanent Cover in Maryland

Type of Plant Material	Plant Hardiness Zones		
	5a and 6a	6b	7a and 7b
Seeds - Cool-Season Grasses (includes mixes with forb and legume)	Mar 15 to May 31 Aug 1 to Oct 31	Mar 15 to May 15 Aug 1 to Oct 15	Feb 15 to Apr 30 Aug 15 to Oct 31
Seeds - Warm-Season/Cool-Season Grass Mixes (includes mixes with forb and legume)	Mar 15 to May 31 + Jun 1 to Aug 31	Mar 15 to May 15 + May 15 to Sep 14	Feb 15 to Apr 30 + May 15 to Sep 30
Soil - Cool-Season	Mar 15 to May 31 Jun 1 to Aug 31	Mar 15 to May 15 May 15 to Sep 14	Feb 15 to Apr 30 May 15 to Sep 30
Unrooted Woody Materials: Branch-Root Plants; Palms, Palmettos, Ferns, and Tubers	Mar 15 to May 31 Jun 1 to Aug 31	Mar 15 to May 15 May 15 to Sep 14	Feb 15 to Apr 30 May 15 to Sep 30
Structural Stock: Ball-and-Socket Joints	Mar 15 to May 31 Jun 1 to Aug 31	Mar 15 to May 15 May 15 to Sep 14	Feb 15 to Apr 30 May 15 to Sep 30

Table B.3 Notes:  
 1) The planting dates listed are averages for each zone. These dates may require adjustment to reflect local conditions, especially near the boundaries of the zones. When planting trees and shrubs, use the planting dates, or when conditions are expected to be less than optimal, select an appropriate season from Table 1 and plant with the permanent seeding mix. (See Table B.3, Note 1, for more information.)  
 2) When planting during the growing season, most of the materials must be purchased and kept in a moist condition until planting. Nurseries are the best source for materials. Materials should be kept in a moist condition until planting. Nurseries are the best source for materials.  
 3) Additional planting dates for the lower Coastal Plain, dependent on annual rainfall and temperature trends. Recommended adding a nurse crop, as noted above, if planting during the period.  
 4) Warm-season grasses used as a soil temperature of at least 50 degrees F in order to germinate. If soil temperatures are cooler than 50 degrees, or when soil is not adequate, the seeds will require dormancy and stratification. In general, planting during the winter period of Maryland will result in the most vigorous and weed control prior to planting. When selecting a planting date, consider the need for weed control vs. the likelihood of having sufficient moisture for their planting, especially on drought sites.  
 5) Additional planting dates during which supplemental watering may be needed to ensure plant establishment.  
 6) Preplant treatment and shading of wet soils may result in root rotting of materials planted in the fall. If plants have not sufficiently rooted in the fall, they should be planted in the spring. But usually needs to be planted in the spring. Large containerized and ball-and-socket stock may be planted into the winter months as long as the ground is not frozen and soil moisture is adequate.

ENGINEER'S CERTIFICATE  
 I, John M. Cuff, certify that this plan for sediment and erosion 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 DEPARTMENT OF PLANNING AND ZONING.

DEVELOPER'S CERTIFICATE  
 I, John R. Peltzman, 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 DEPARTMENT OF PLANNING AND ZONING.

NO.	DATE	REVISION
8	2/14/18	REVISE GRADING & SWM LOTS 1276+1277 PER AS-BUILT
7	10/3/17	REVISE GRADING ON LOT 1278 PER AS-BUILT
6	7/6/17	REVISE LOT 1279 FOR AS-BUILT ELEV
5	7/7/17	REVISE GRADING OF LOTS 1276+1278 PER AS-BUILT

PLEASE NOTE THAT THIS REVISION IS SUPERSIDING THE PREVIOUS SHEET DATED JUNE, 2007

NO.	DATE	REVISION
4	10-12-16	REV. LMC TO 1.5"
3	11-18-14	REPLACEMENT SHEET TO REVISE SEC. CHARTS AND DETAILS, R.M. TO M.G.
2	8-6-12	ADD CAPITAL PROJ. D-1124-03 (BEECHFIELD AVE. IMPROVEMENTS) BY NOLAN ASSOC
1	10-13-10	ADD ESD/WQV INFORMATION FOR LOTS 1276-1278

**BENCHMARK ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
 (P) 410-465-6105 (F) 410-465-6644  
 WWW.BEI-ENGINEERING.COM

OWNER:	BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070
PROJECT:	REVISED EUCLID CORNERS PARCEL 'A', LOTS 1276 - 1278 OPEN SPACE LOT 1279
LOCATION:	TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	SITE DEVELOPMENT PLAN (GRADING) AND SEEDING CHARTS
DATE:	JUNE, 2007 NOVEMBER, 2014
PROJECT NO.:	1465
DESIGN:	DRAFT: RPS CHECK: DAM
SCALE:	1"=30'
SHEET NO.:	3 OF 14

SOILS LEGEND

MAP SYMBOL	SOIL GROUP	SOIL TYPE
luB	C	LUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
Md	C	MADE LAND
ScD	C	SAND AND CLAYEY LAND, MODERATELY STEEP
ScE	C	SAND AND CLAYEY LAND, MODERATELY SLOPING
Hg	D	HARBORO SILT LOAM

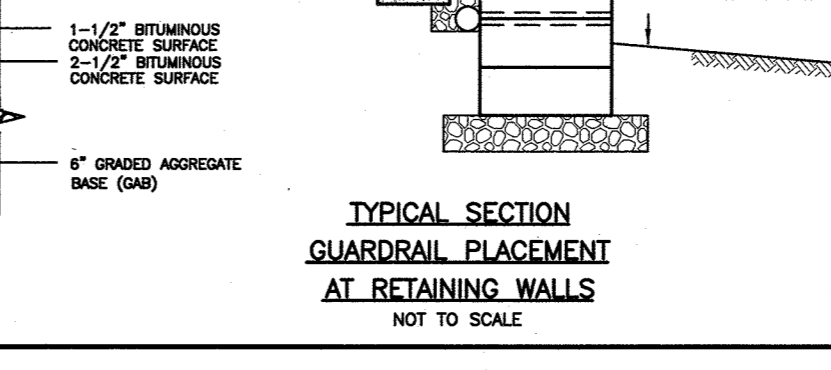
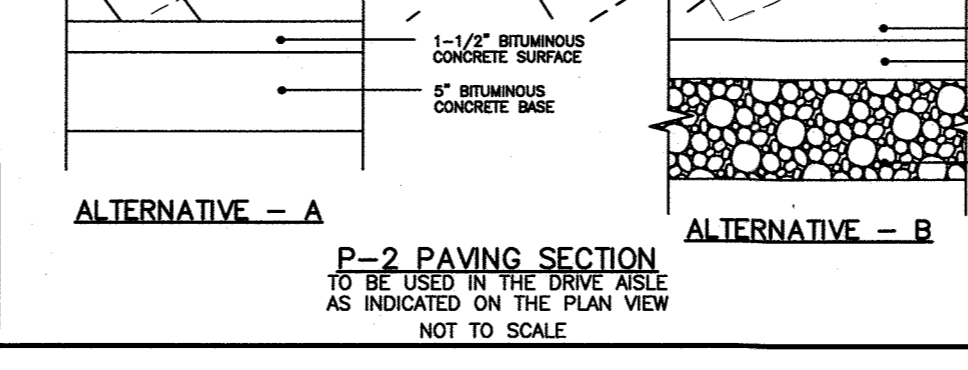
\* INDICATES HYDRIC SOILS  
 TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 7

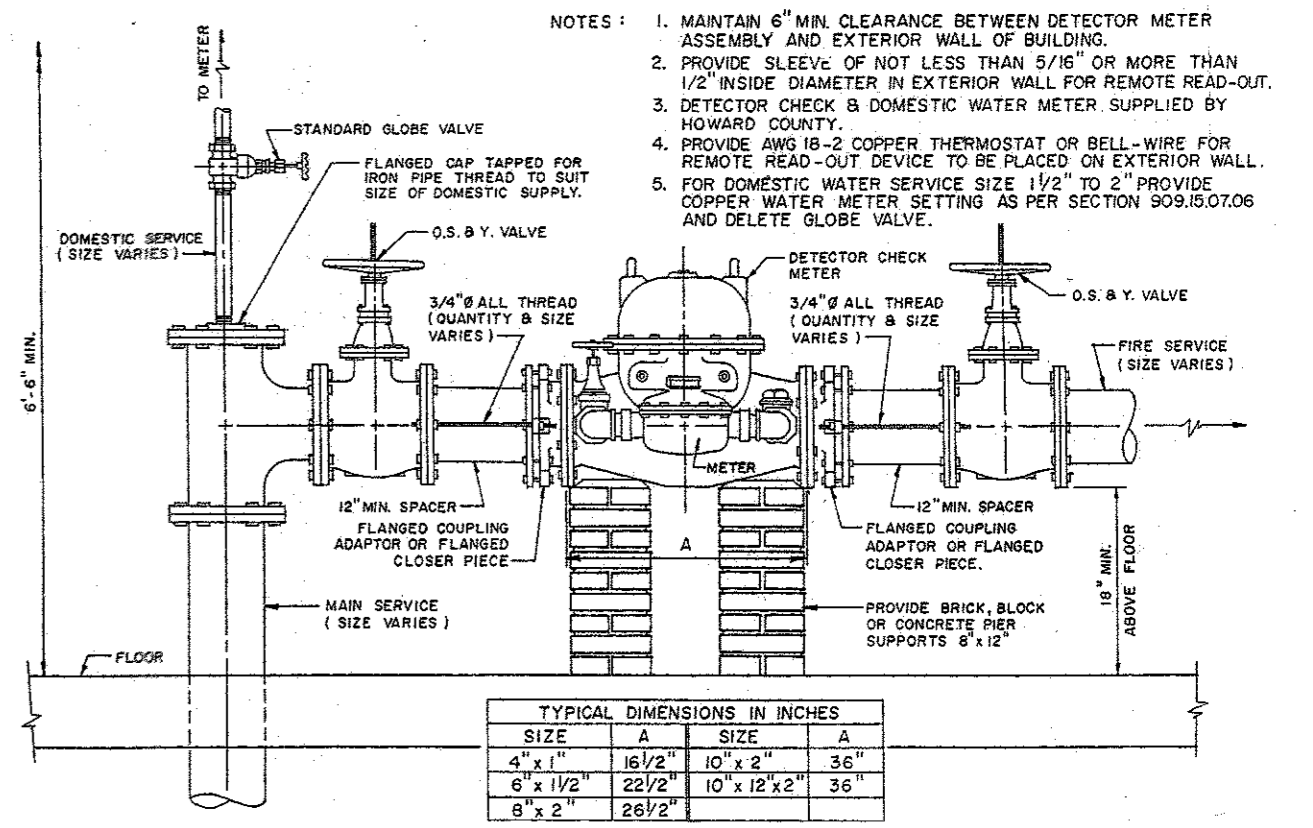
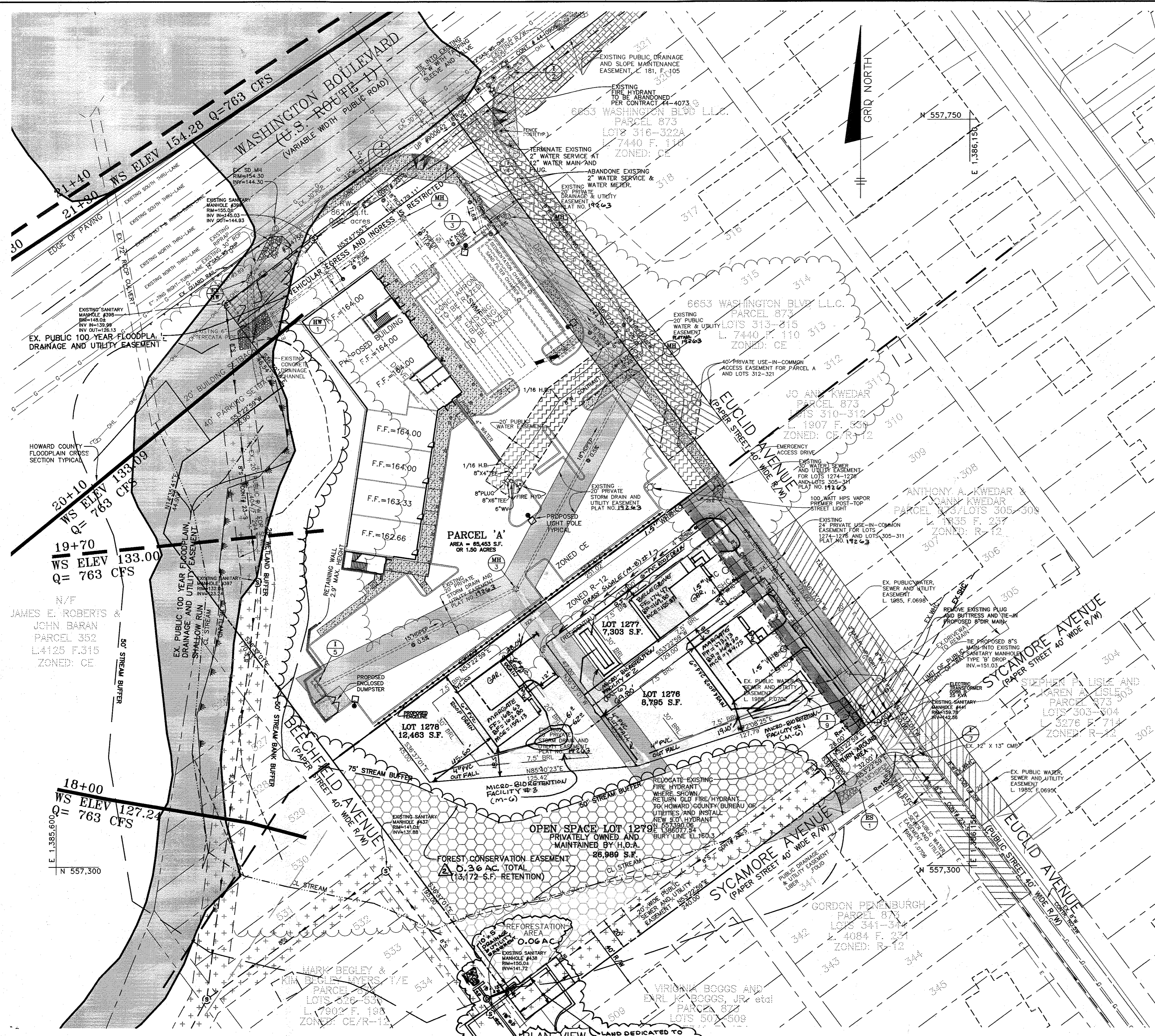
NOTE: FOR PROPOSED STORM DRAIN IMPROVEMENTS PROFILE REFER TO CAPITAL PROJECT D-1124-03.  
 \* FOR SINGLE RESIDENTIAL LOTS ESD/WQV INFO: SEE SHEET 3

NOTE: BEECHFIELD AVENUE IMPROVEMENTS ARE SHOWN PER CAPITAL PROJECT D-1124-03.

STREET LIGHT SCHEDULE

SYMBOL	LOCATION	DESCRIPTION
☉	PRIVATE DRIVEWAY	100 WATT HPS VAPOR PREMIER POST, 10'





INSTALLATION OF 4" INSIDE FIRE SUPPLY WITH 2" METERED WATER SERVICE DETAIL (W-3.44)

LEGEND

- EXISTING GAS LINE
- EXISTING UNDERGROUND ELEC
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING SANITARY MANHOLE
- EXISTING OVERHEAD LINE
- PROPOSED WATER LINE
- PROPOSED SANITARY LINE
- PROPOSED STORM DRAIN
- PROPOSED SANITARY MANHOLE
- EX. PUBLIC 100 YEAR FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
- EXISTING SANITARY EASEMENT
- PRIVATE STORM DRAIN EASEMENT
- EXISTING PUBLIC WATER, SEWER AND UTILITY EASEMENT
- PROPOSED PUBLIC SANITARY EASEMENT
- PROPOSED PUBLIC WATER EASEMENT
- PROPOSED FENCELINE

5	10-3-17	REVISE MBR#3 SHAPE & SIZE
4	10-12-16	RESIDENTIAL W/HCS TO 1.5"
3	12-15-14	REVISE HOUSE FOOTPRINTS, DEMOVING AND SWM ON LOTS 1276-1278
2	8-6-12	ADD CAPITAL PROJ. D-1124-03 (BEECHFIELD AVE. IMPROVEMENTS) BY NOLAN ASSOC.
1	10-13-10	ADD ESD/INQ. INFORMATION FOR LOTS 1276-1278
NO	DATE	REVISION

**BENCHMARK**  
ENGINEERS • LAND SURVEYORS • PLANNERS

**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644

OWNER:	BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070	PROJECT:	EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279
LOCATION:	TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE:	SITE DEVELOPMENT PLAN (UTILITIES)
DATE:	AUGUST, 2005 JUNE, 2007	PROJECT NO.:	1465
DESIGN:	DRAFT: RPS CHECK: DAM	SCALE:	1"=30' SHEET 4 OF 14

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Alvin Deane* 7/11/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Condy Hanna* 7/24/07  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Mark D. Leyle* 7/27/07  
DIRECTOR

PLAN VIEW  
SCALE: 1" = 30'

NOTE: FOR PROPOSED STORM DRAIN IMPROVEMENTS PROFILE REFER TO CAPITAL PROJECT D-1124-03

LAND DEDICATED TO HOWARD COUNTY FOR THE PURPOSE OF A PUBLIC BONG 0.0165 AC.

SEAL & SIGNATURE FOR REV. ONLY



PLAN VIEW  
SCALE: 1" = 50'

NOTE: FOR STORM DRAIN IMPROVEMENTS PROFILE REFER TO CAPITAL PROJECT D-1124-03

**LEGEND**

- SOILS CLASSIFICATION *ScD*
- SOILS DELINEATION
- EXISTING CONTOURS
- PROPOSED CONTOURS
- STEEP SLOPES 15% TO 24.99%
- STEEP SLOPES 25% +
- 100 YEAR FLOODPLAIN DRAINAGE AND UTILITY EASEMENT
- DRAINAGE AREA LIMITS
- TC PATH
- DRAINAGE AREA DESIGNATION
- PROPOSED FENCELINE

**STORM DRAIN RUNOFF**

INLET	DA (Ac.)	C	%IMP	ZONE
I-1	0.38	.82	95	CE
I-2	1.42	.71	76	CE
I-3	0.28	.72	85	CE
I-4	0.13	.86	100	CE
I-5	0.88	.66	89	CE
I-7	0.46	.00	57	R-12
Ex. Inlet	2.21	.33	38	R-12

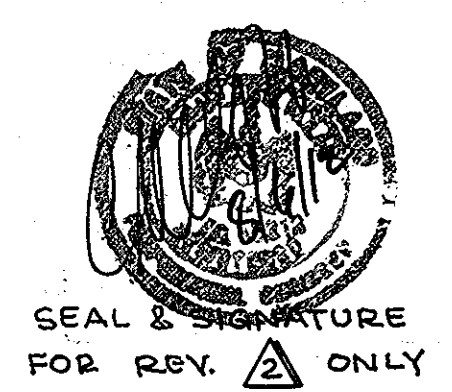
- TIME OF CONCENTRATION DRAINAGE AREA I-1:**  
A1 TO A2 = LAWN, SHEET FLOW, 49', SLOPE 14.0%  
A2 TO A3 = PAVED, CONCENTRATED FLOW, 63', SLOPE 1.0%
- TIME OF CONCENTRATION DRAINAGE AREA I-2:**  
B1 TO B2 = LAWN, SHEET FLOW, 100', SLOPE 5.5%  
B2 TO B3 = UNPAVED, CONCENTRATED FLOW, 52', SLOPE 9.6%  
B3 TO B4 = PAVED, CONCENTRATED FLOW, 172', SLOPE 6.3%
- TIME OF CONCENTRATION DRAINAGE AREA I-3:**  
C1 TO C2 = ROOF, SHEET FLOW, 58', SLOPE 0.5%  
C2 TO C3 = PAVED CONCENTRATED FLOW, 97', SLOPE 5.0%
- TIME OF CONCENTRATION DRAINAGE AREA I-4:**  
D1 TO D2 = PAVED, SHEET FLOW, 24', SLOPE 3.0%  
D2 TO D3 = PAVED, CONCENTRATED FLOW, 110', SLOPE 8.0%
- TIME OF CONCENTRATION DRAINAGE AREA I-5:**  
F1 TO F2 = LAWN, SHEET FLOW, 100', SLOPE 2.6%  
F2 TO F3 = UNPAVED, CONCENTRATED FLOW, 103', SLOPE 5.7%  
F3 TO F4 = UNPAVED CONCENTRATED FLOW, 26', SLOPE 15.0%  
F4 TO F5 = PAVED CONCENTRATED FLOW, 241', SLOPE 3.6%
- TIME OF CONCENTRATION DRAINAGE AREA I-7:**  
J1 TO J2 = LAWN, SHEET FLOW, 60', SLOPE 2.0%  
J2 TO J3 = PAVED CONCENTRATED FLOW, 298', SLOPE 6.7%
- TIME OF CONCENTRATION DRAINAGE AREA EX. INLET:**  
K1 TO K2 = LAWN, SHEET FLOW, 100', SLOPE 8.0%  
K2 TO K3 = UNPAVED, CONCENTRATED FLOW, 144', SLOPE 6.4%

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 7/11/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 7/24/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 7/23/07  
DIRECTOR DATE



**SOILS LEGEND**

MAP SYMBOL	SOIL GROUP	SOIL TYPE
* IuB	C	IUUA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
Md	C	MADE LAND
ScD	C	SAND AND CLAYEY LAND, MODERATELY STEEP
ScE	C	SAND AND CLAYEY LAND, MODERATELY SLOPING
Ha	D	HATBORO SILT LOAM

\* INDICATES HYDRIC SOILS  
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 7

8-6-12	ADD CAPITAL PROJ. D-1124-02 (GEECHFIELD AVE. IMPROVEMENTS) BY NOLAN ASSOC.
10-13-10	ADD ESD/WATER INFORMATION FOR LOTS 1276-1278
NO.   DATE	REVISION

**BENCHMARK**  
ENGINEERS LAND SURVEYORS PLANNERS  
**ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644

OWNER: BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070	PROJECT: EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279
LOCATION: TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: STORM DRAIN, DRAINAGE AREA MAP
DESIGN:   DRAFT: RPS   CHECK: DAM	DATE: AUGUST, 2005 JUNE, 2007   PROJECT NO. 1465
SCALE: AS SHOWN	SHEET 5 OF 14



LEGEND

- SOILS CLASSIFICATION ScE
- SOILS DELINEATION 999
- EXISTING CONTOURS 999
- PROPOSED CONTOURS 999
- STEEP SLOPES 15% TO 24.99%
- STEEP SLOPES 25% +
- EX. PUBLIC 100 YEAR FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
- CURB INLET PROTECTION
- STD. INLET PROTECTION
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- EROSION CONTROL MATTING
- SPECIMEN TREE 42" POPLAR
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED FENCELINE



BY THE DEVELOPER:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY 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 SOIL CONSERVATION DISTRICT.

*Rob Jones*  
 DEVELOPER - BELLE GROVE, CORP.  
 ROB JONES, OWNER 5-31-07  
 DATE

BY THE ENGINEER:  
 I/WE 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 SOIL CONSERVATION DISTRICT.

*Donald A. Mason*  
 ENGINEER - DONALD A. MASON, P.E. # 21443 5/29/07  
 DATE

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

*Jim Mays*  
 NATURAL RESOURCES CONSERVATION SECTION 4/29/07  
 DATE

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*John L. Blanton*  
 HOWARD SOIL CONSERVATION DISTRICT 6/29/07  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Deussen*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/4/07  
 DATE

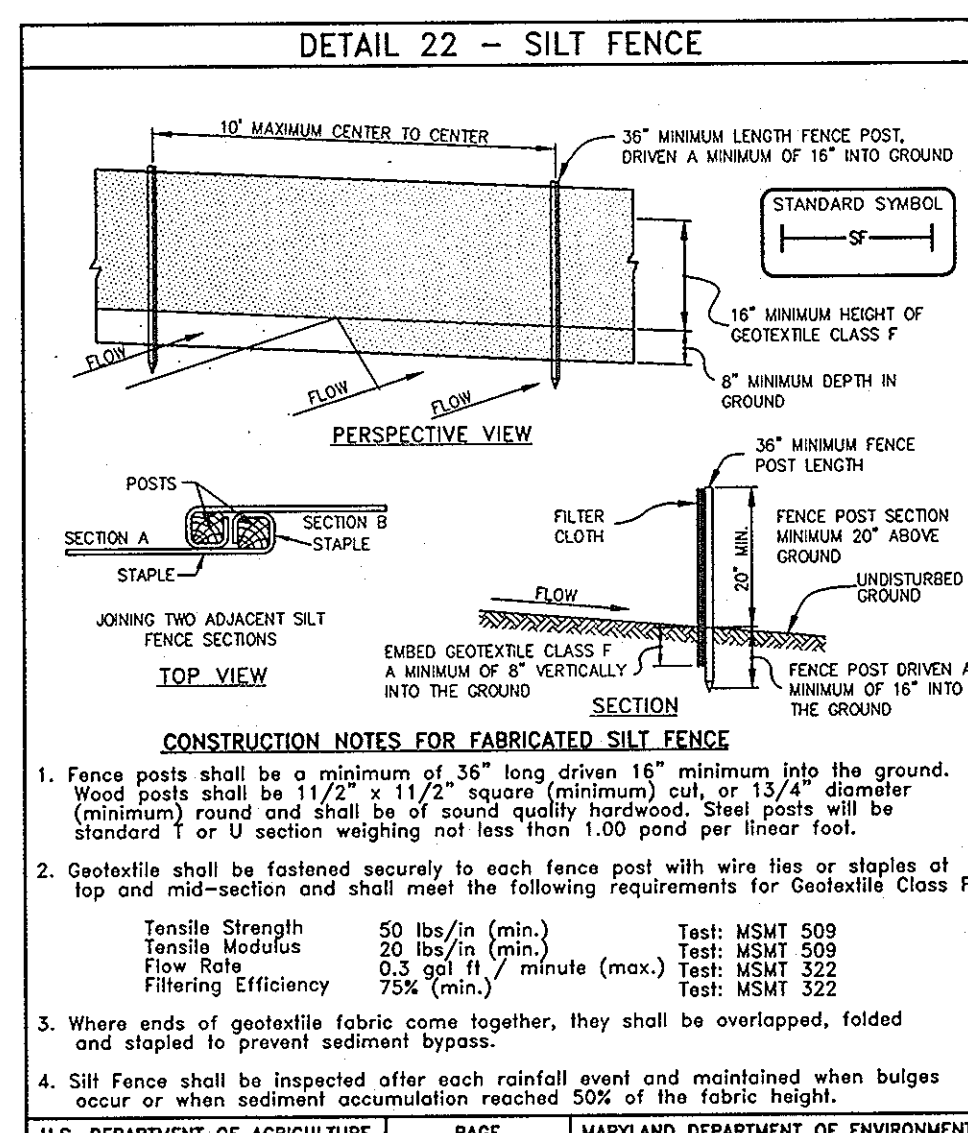
*Cindy Hanna*  
 CHIEF, DIVISION OF LAND DEVELOPMENT 7/24/07  
 DATE

*Derek A. Cagle*  
 DIRECTOR 7/27/07  
 DATE

8-6-12	ADD CAPITAL PROJ. D-1124-03 (BEECHFIELD AVE IMPROVEMENTS) BY MOLAN ASSOC.
10-13-10	ADD ESD/HQV INFORMATION FOR LOTS 1276-1278
NO. / DATE	REVISION

**BENCHMARK**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE & SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6844

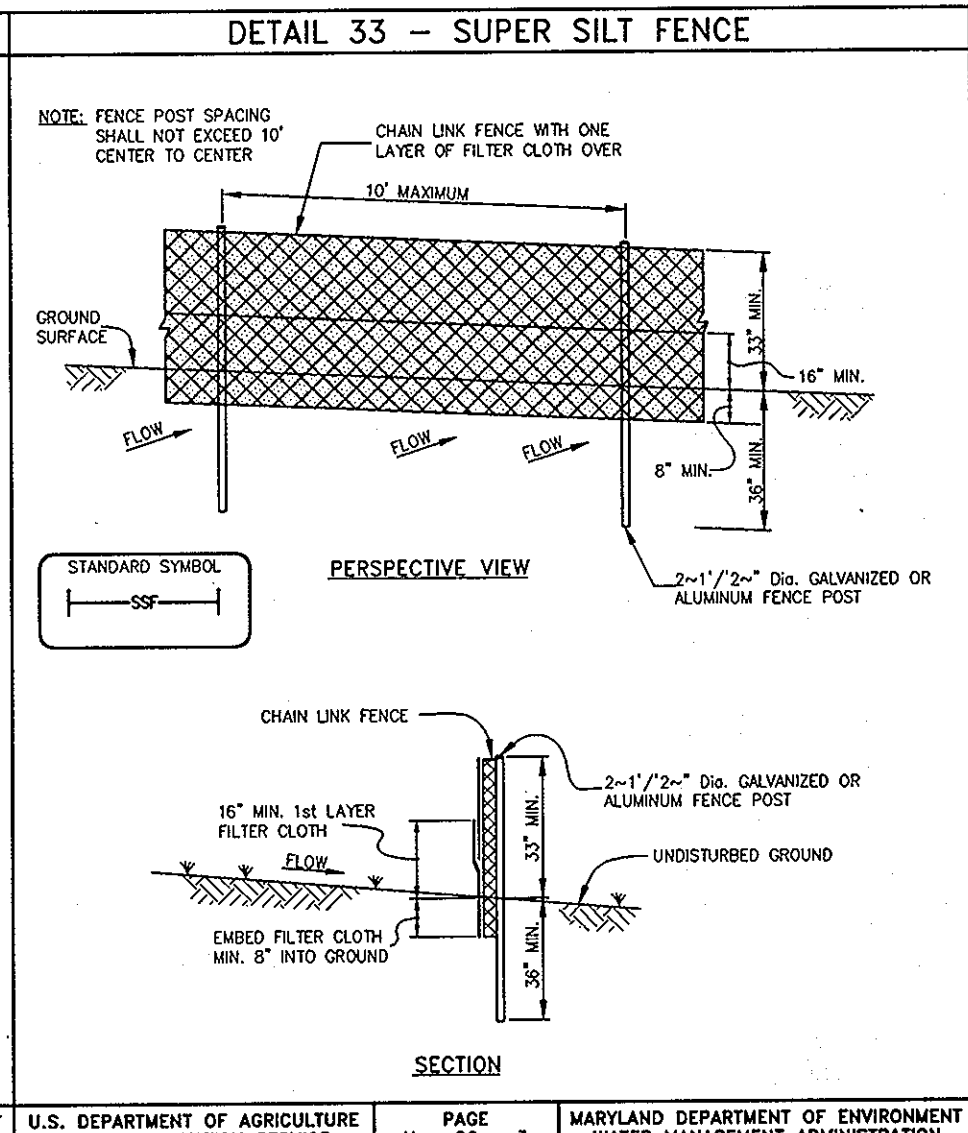
OWNER: BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070	PROJECT: EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279
TITLE: SEDIMENT AND EROSION CONTROL PLAN	LOCATION: TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: AUGUST, 2005 JUNE, 2007	PROJECT NO. 1465
DESIGN: RPS DRAFT: RPS CHECK: DAM	SCALE: 1"=30' SHEET 6 OF 14



**SILT FENCE DESIGN CRITERIA**

Slope	Steepest	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1		unlimited	unlimited
50:1 to 10:1		125 feet	1,000 feet
10:1 to 5:1		100 feet	750 feet
5:1 to 3:1		60 feet	500 feet
3:1 to 2:1		40 feet	250 feet
2:1 and steeper		20 feet	125 feet

Note: In areas of less than 2X slope and sandy soils (USDA general classification system, soil class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



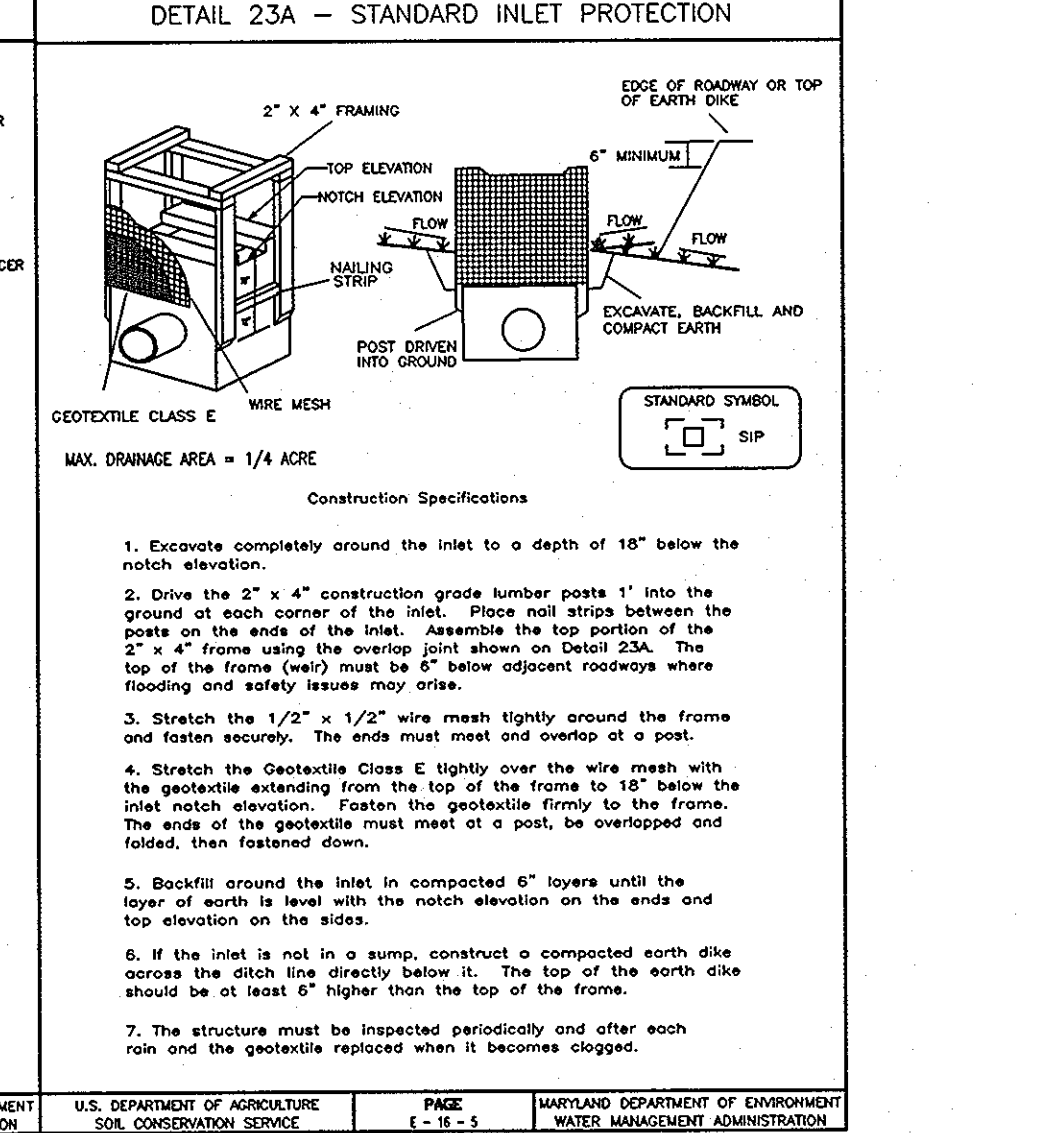
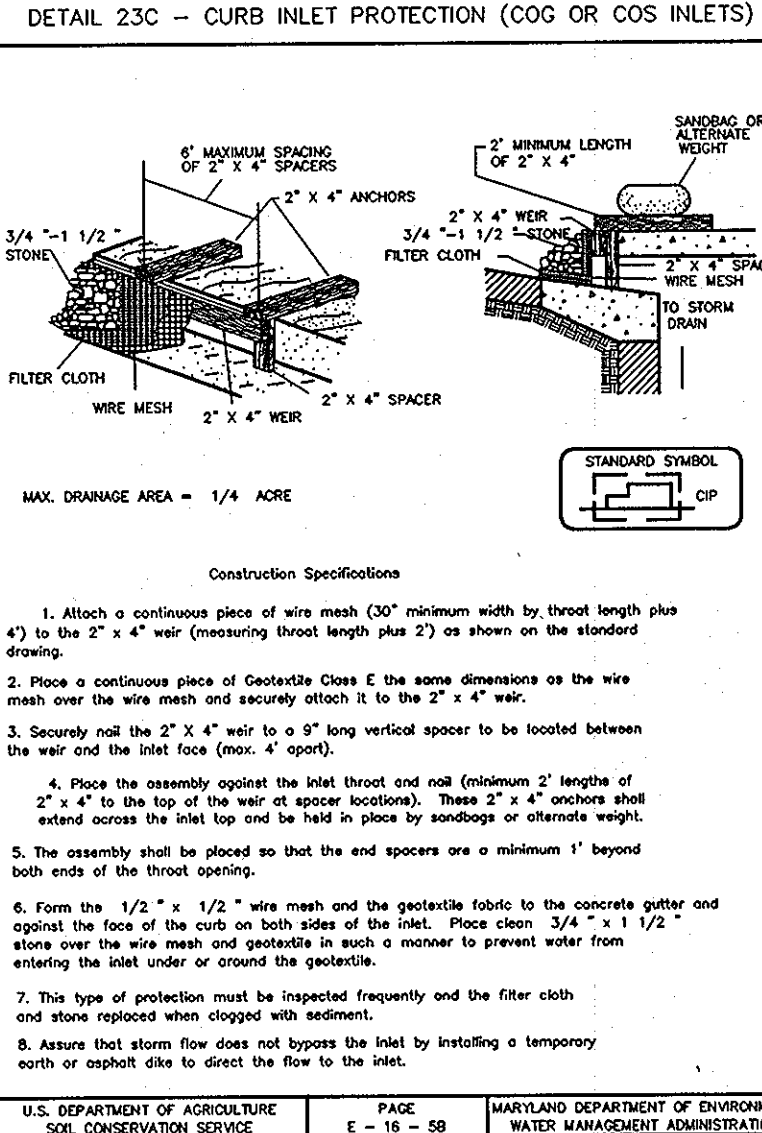
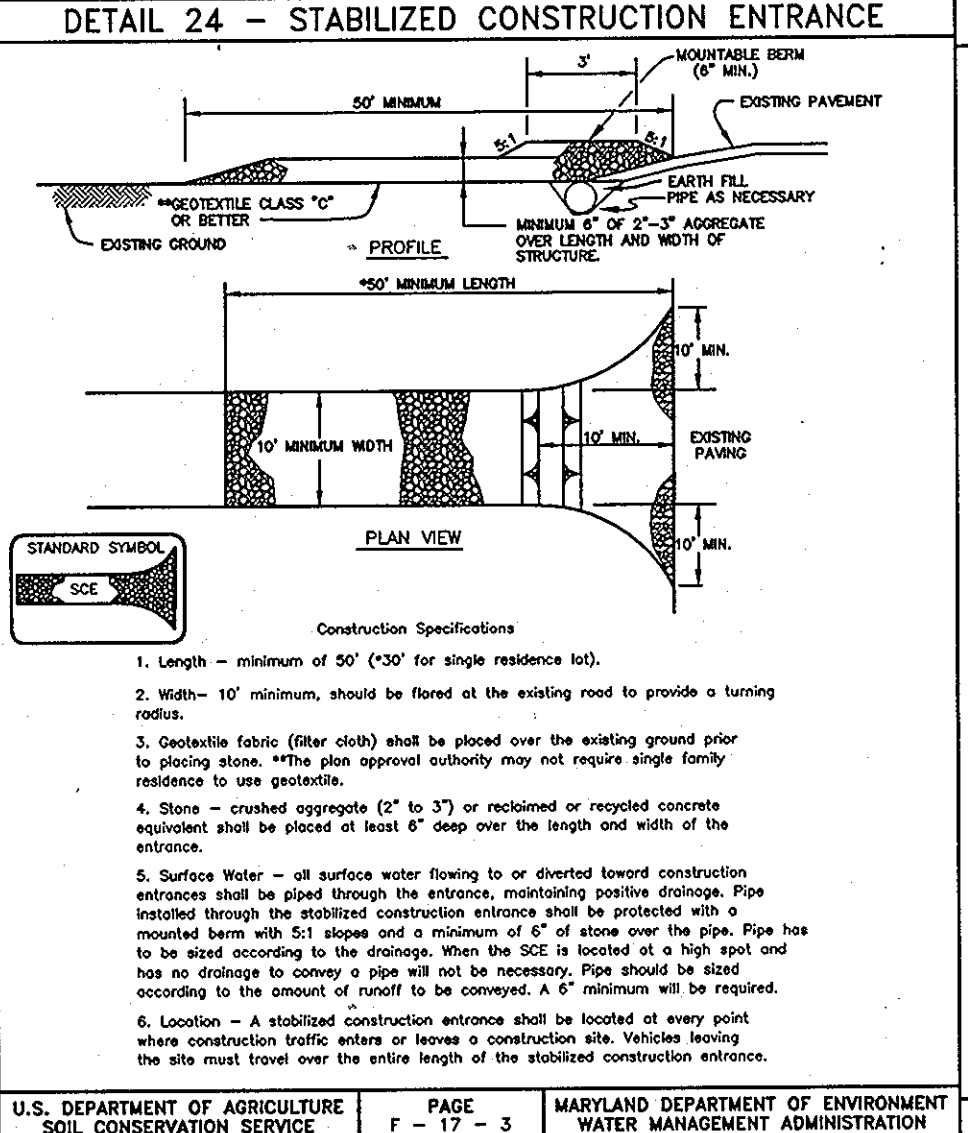
**CONSTRUCTION SPECIFICATIONS**

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Design for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" of the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt bulldozers removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:
 

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.5 gal/H/minute (max.)	Test: MSMT 322
Filtration Efficiency	75% (min.)	Test: MSMT 322

**SUPER SILT FENCE DESIGN CRITERIA**

Slope	Steepest	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%		Unlimited	Unlimited
10 - 20%		10:1 - 5:1	200 feet
20 - 33%		5:1 - 3:1	100 feet
33 - 50%		3:1 - 2:1	100 feet
50% +		2:1 +	50 feet



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3B MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-11-5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOI (SEC. 54), TEMPORARY SEEDING (SEC. 52) AND MULCHING (SEC. 50) OTHER TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	1.47	ACRES
TOTAL AREA DISTURBED	0.91/0.95	ACRES
AREA TO BE ROOFED OR PAVED	0.26/0.49	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.6/1.01	ACRES
TOTAL CUT	27.87/32.77	CU. YDS.
TOTAL FILL	2.03	CU. YDS.
OFFSITE HAUL	14.85/10.00	CU. YDS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY AN OFF-SITE FILL AREA WITH AN APPROVED SEDIMENT & EROSION CONTROL PLAN.

**21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

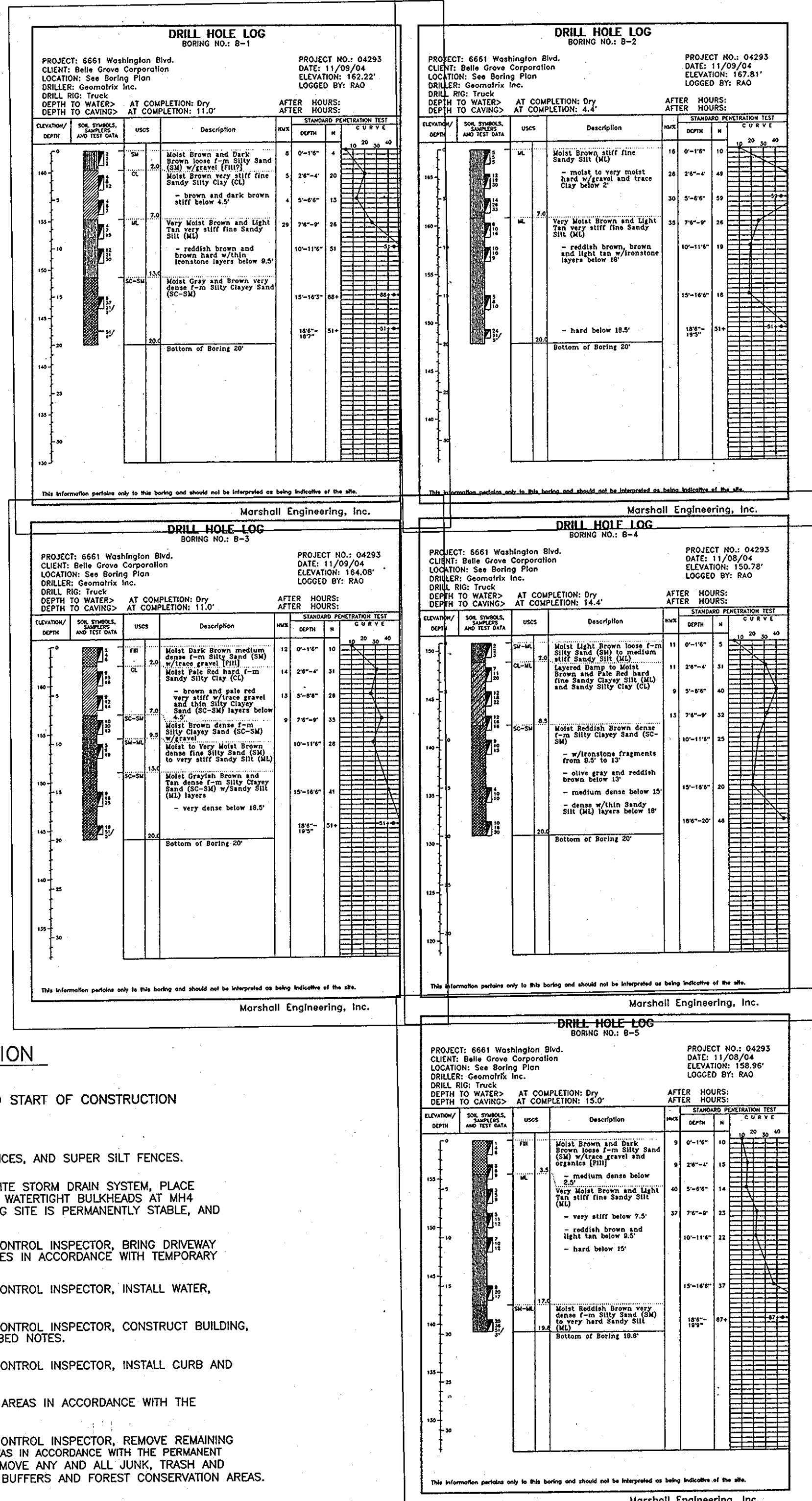
- Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- Purpose**  
To provide a suitable medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, material toxic to plants, and/or unacceptable soil gradation.
- Conditions Where Practice Applies**
- This practice is limited to areas having 2:1 or flatter slopes where:
    - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
    - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
    - The original soil to be vegetated contains material toxic to plant growth.
    - The soil is so acidic that treatment with limestone is not feasible. If, for the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.
  - Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
  - Topsoil Specifications - Soil to be used as topsoil must meet the following:
    - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, silt, silt, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
    - Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
  - For sites having disturbed areas under 5 acres:
    - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
    - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
      - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
      - Organic content of topsoil shall be not less than 1.5 percent by weight.
      - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
      - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
  - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate authority, may be used in lieu of natural topsoil.
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
  - Topsoil Application
    - When topsoiling, maintain needed erosion and sediment control practices such as diversion, Grade Stabilization Structures, Earth Dikes, Silt Fence and Sediment Traps and Basins.
    - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
    - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
    - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. G-21-2
    - Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
      - Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall conform to the following requirements:
        - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 28.04.06.
        - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
        - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
      - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

**SEQUENCE OF CONSTRUCTION RESIDENTIAL DEVELOPMENT**

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION
- DAY-1 OBTAIN GRADING PERMIT
- DAY 2-8 CLEAR & GRUB RESIDENTIAL AREA (LOTS 1276-1278); INSTALL SEDIMENT CONTROLS AS SHOWN ON THIS SDP
- DAY 9-20 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN GRADING OF SITE (UPON COMPLETION IMMEDIATELY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH TEMPORARY SEED BED NOTES.
- \*DAY 21-100 EXCAVATE FOR FOUNDATION, CONSTRUCT HOUSE, BACK FILL, CONSTRUCT DRIVEWAY ESP; FINAL GRADE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEED BED NOTES.
- DAY 101-105 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS.
- NOTE: 1) SEDIMENT CONTROL LOCATION AND IMPLEMENTATION SHOWN ON THESE PLANS IS SUBJECT TO REVISION IN THE FIELD AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR.
- \* - INDICATES SINGLE HOUSE CONSTRUCTION

**SEQUENCE OF CONSTRUCTION RETAIL DEVELOPMENT**

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION
- DAY 1 OBTAIN GRADING PERMIT.
- DAY 2-7 INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCES, AND SUPER SILT FENCES.
- DAY 8-10 INSTALL SAND FILTER AND UNDERGROUND SWMF AND SITE STORM DRAIN SYSTEM, PLACE INLET PROTECTION AROUND INSTALLED INLETS. PROVIDE WATERHILT BULKHEADS AT EACH FROM RECEIVING/SENDING FLOW TO HWY UNTIL EXISTING SITE IS PERMANENTLY STABLE, AND PERMITS GRANTED FROM INHWI.
- DAY 40-48 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING DRIVEWAY AND PARKING AREA TO SUBGRADE AND STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES.
- DAY 48-55 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, INSTALL WATER, SEWER AND UTILITY LINES.
- DAY 55-145 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CONSTRUCT BUILDING, AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES.
- DAY 145-160 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, INSTALL CURB AND GUTTER, PAVING, AND CONCRETE SIDEWALK.
- DAY 161-165 COMPLETE GRADING OF SITE AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES.
- DAY 166-170 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZED DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES. REMOVE BULKHEADS AT HWY AND REMOVE ANY ALL JUNK, TRASH AND DEBRIS FROM THE STREAMS, WETLANDS, FLOODPLAINS, BUFFERS AND FOREST CONSERVATION AREAS.



BY THE DEVELOPER:

Rob Jones  
DEVELOPER - BELLE GROVE CORP.  
DATE: 5-31-07

BY THE ENGINEER:

Donald Mason  
ENGINEER - DONALD A. MASON, P.E. # 21443  
DATE: 5/29/07

Jim Mager  
NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 6/29/07

John K. Roberts  
HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
DATE: 6/29/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division  
Date: 7/6/07

Chief, Division of Land Development  
Date: 7/6/07

Director  
Date: 7/21/07

10-13-10 ADD ESD/HQ INFORMATION TO LOTS 1276-1278  
NO DATE REVISION

**BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS**  
8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-485-6105 FAX: 410-485-6644

OWNER: BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070

PROJECT: EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279

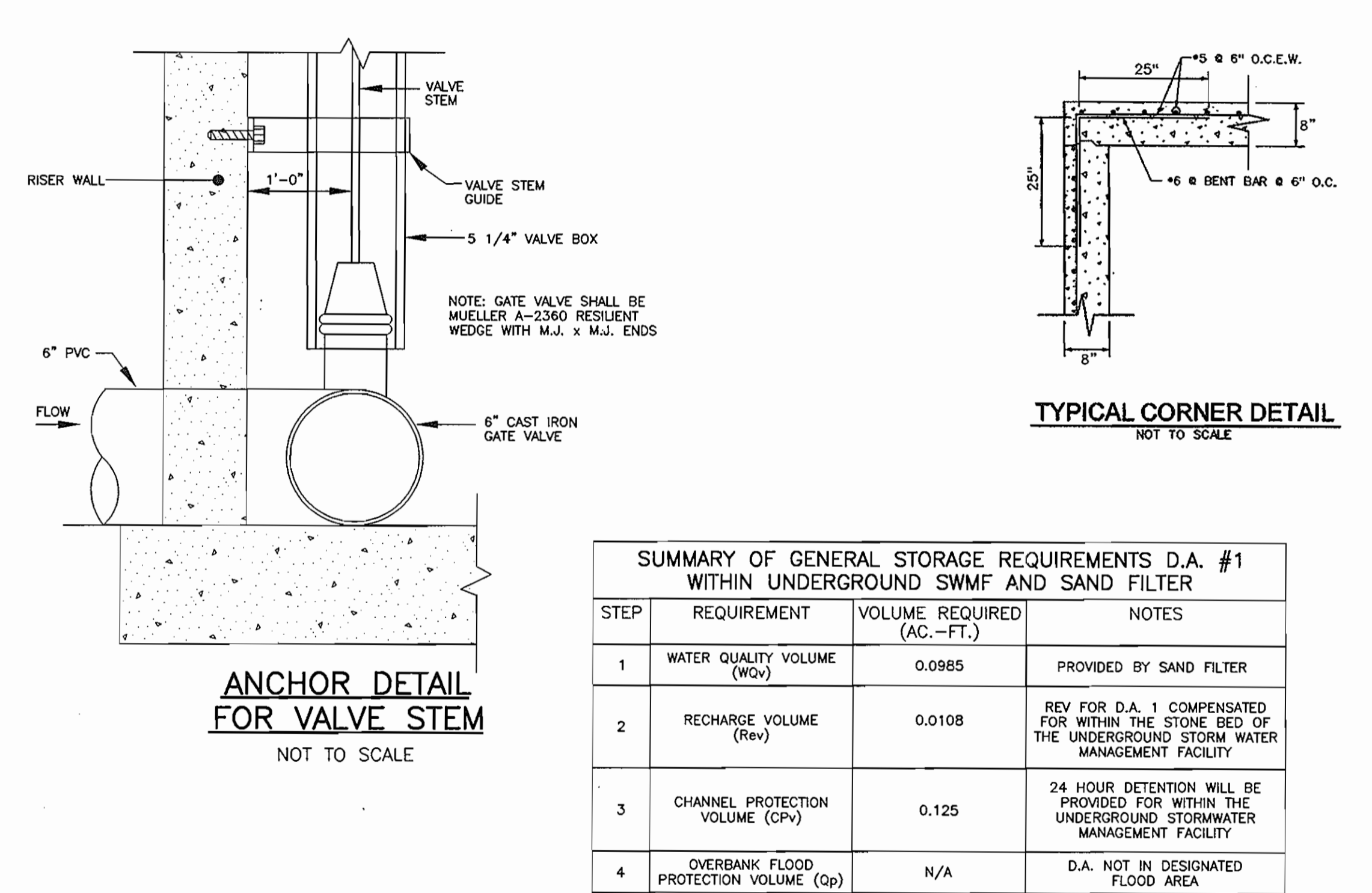
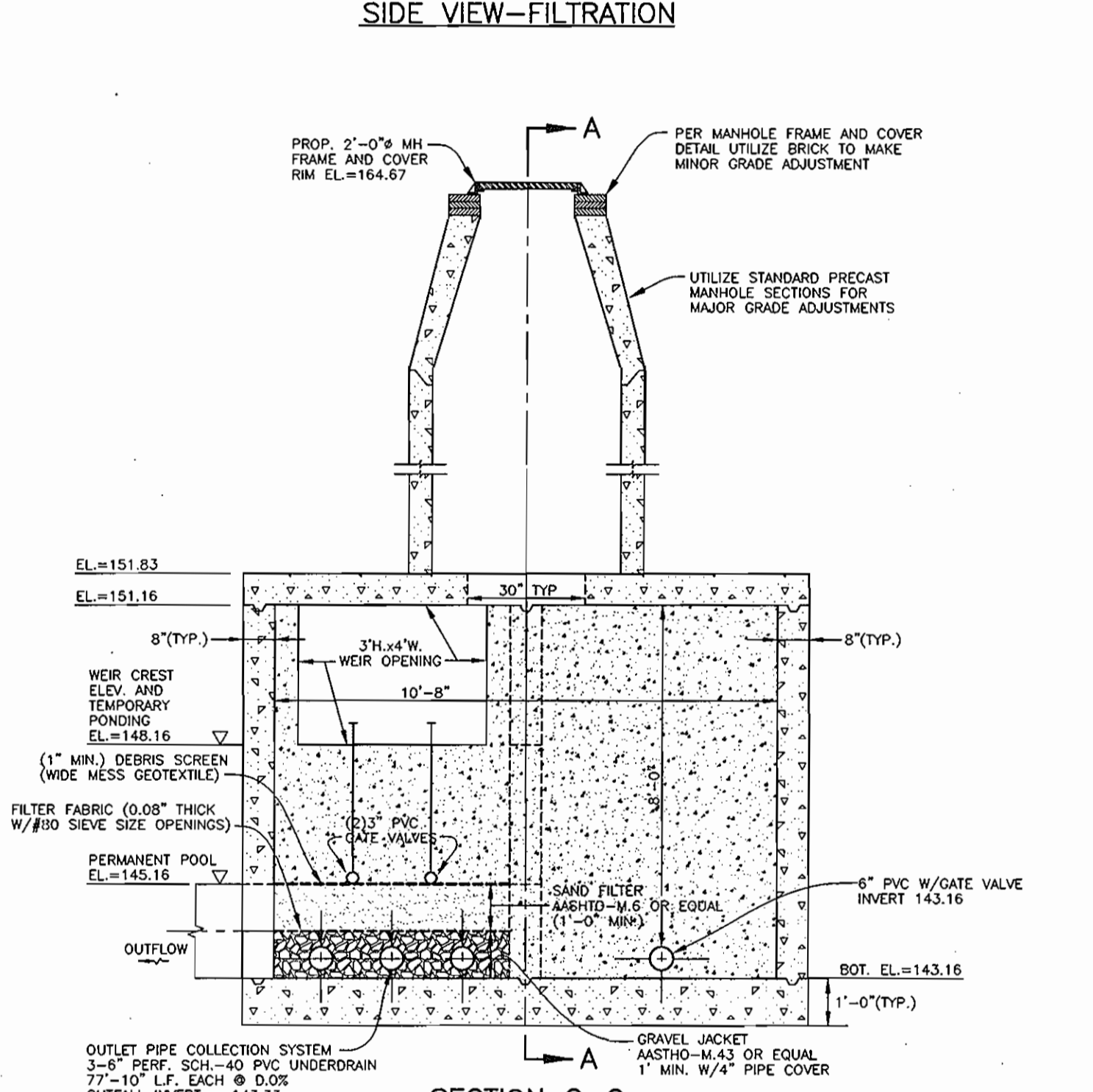
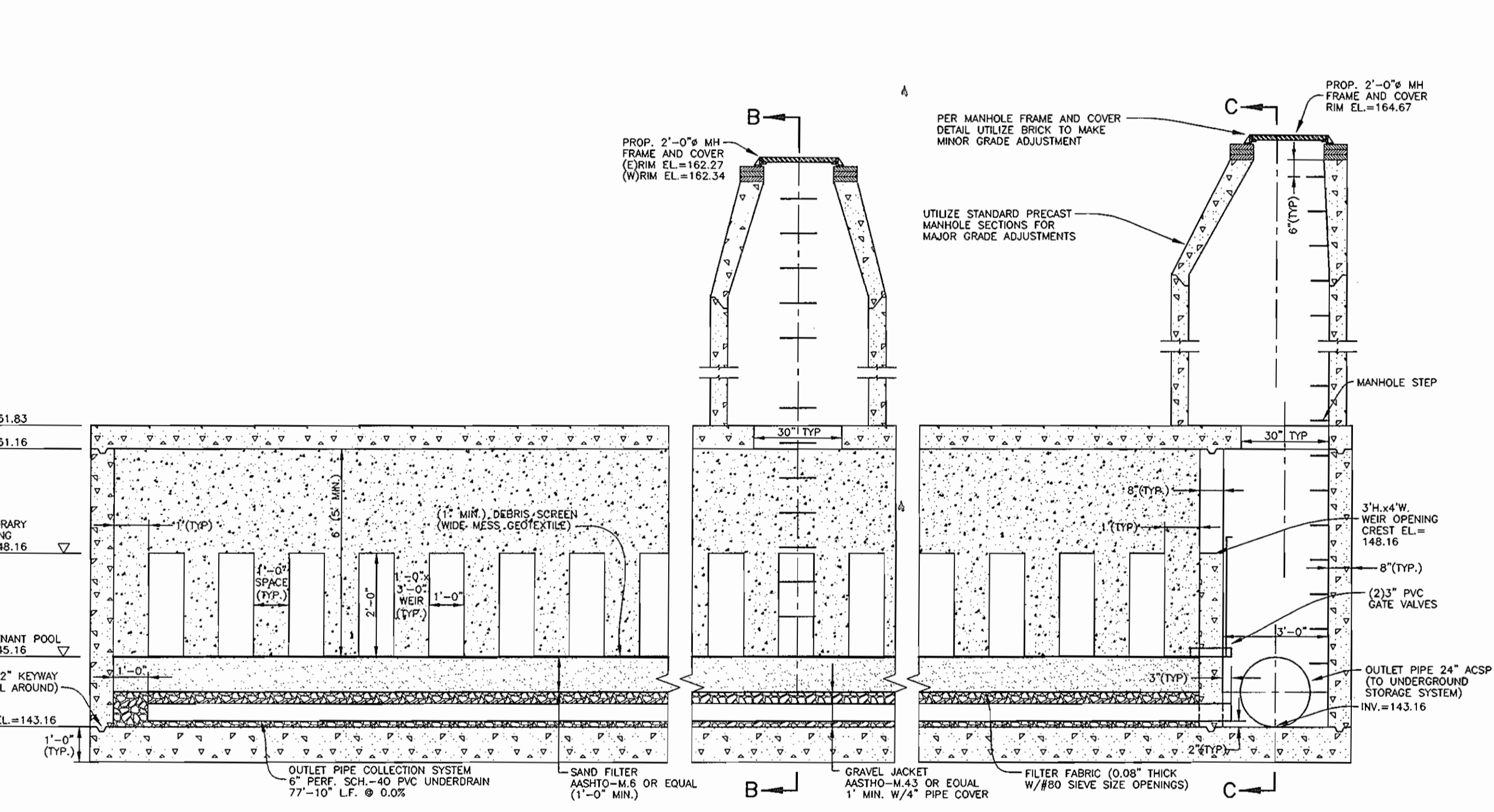
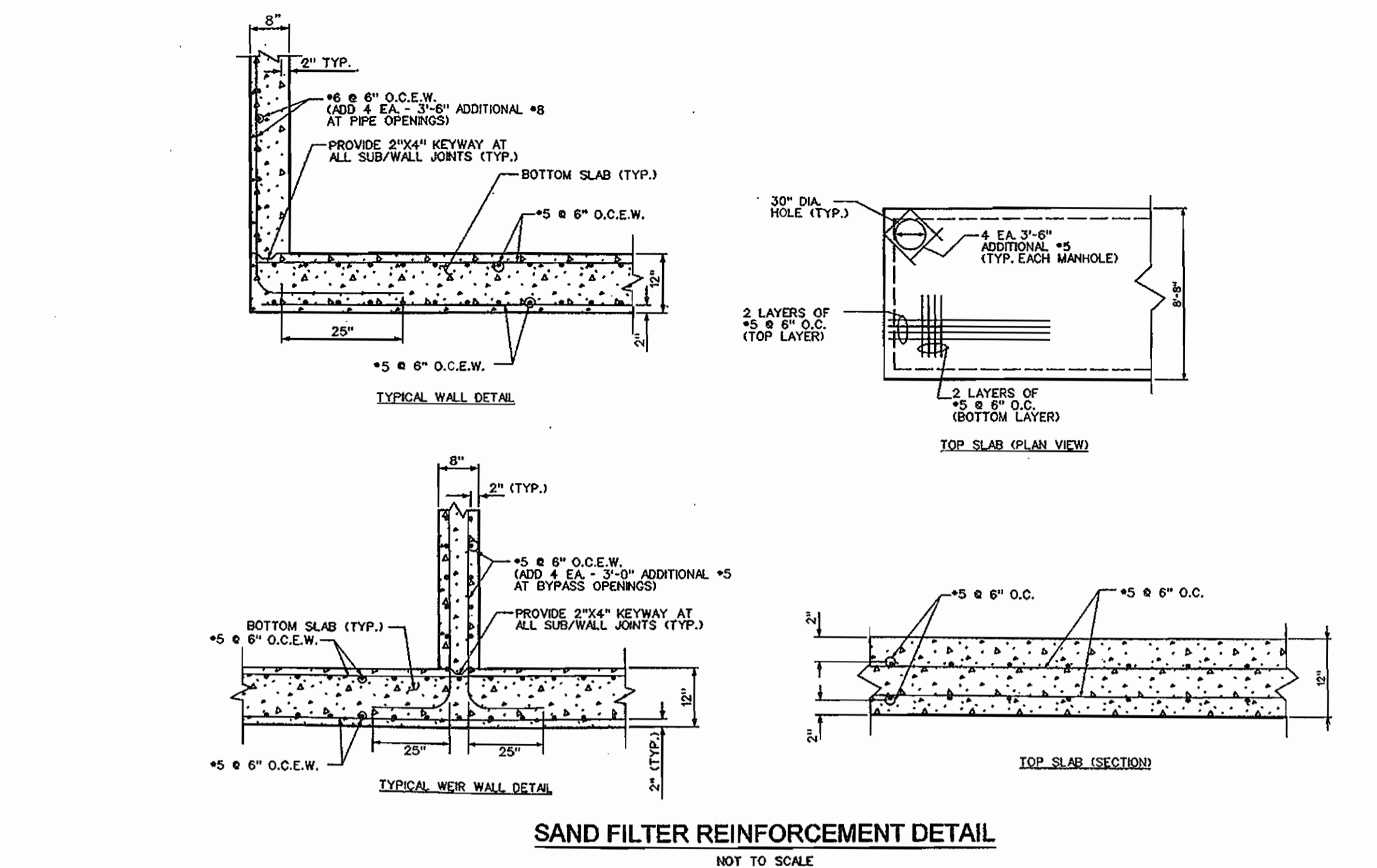
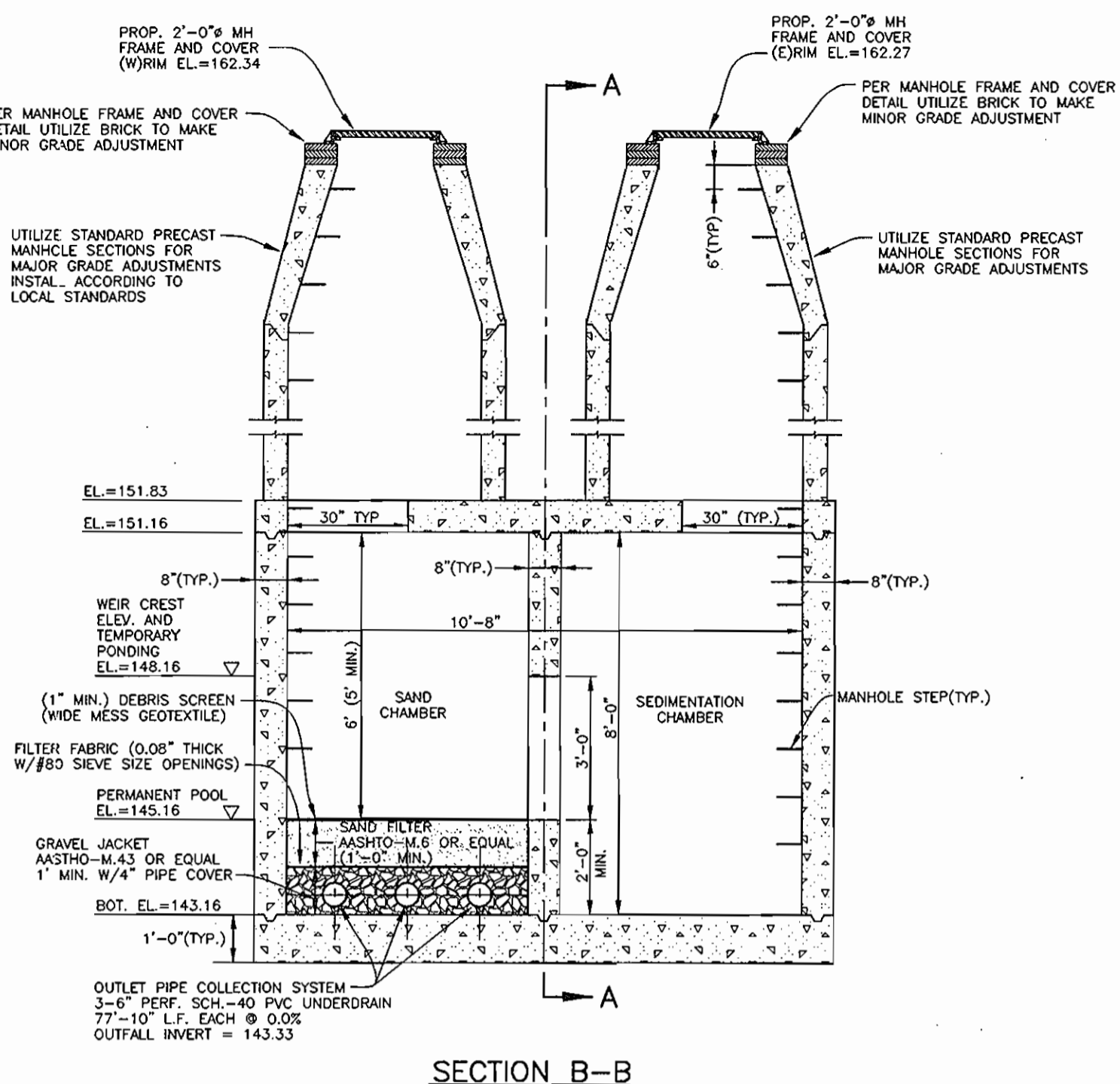
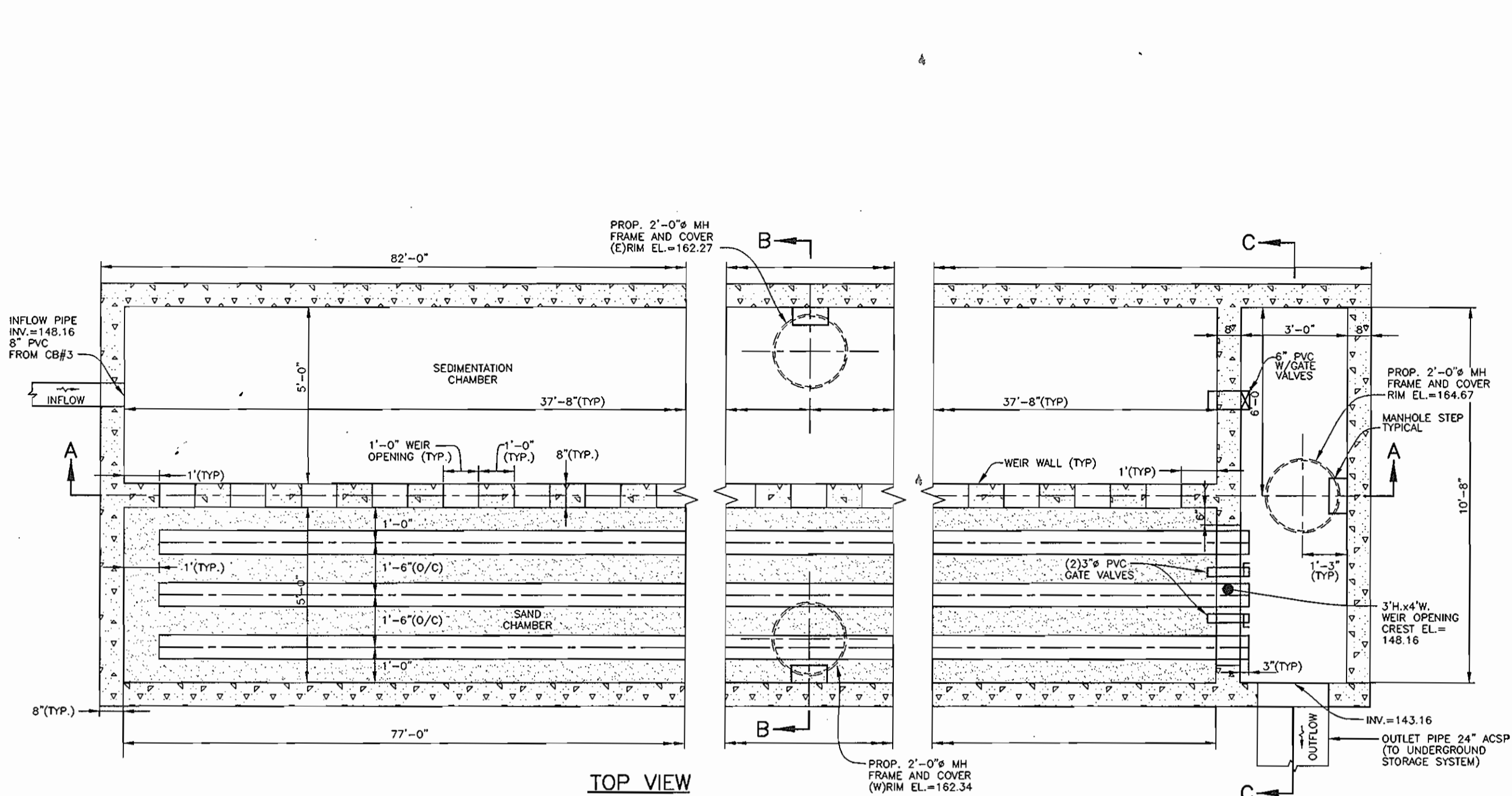
LOCATION: TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT AND EROSION CONTROL NOTES AND DETAIL

DATE: AUGUST, 2005 PROJECT NO. 1465  
JUNE, 2007

DESIGN: RPS DRAFT: RPS CHECK: DAM SCALE: 1"=30' SHEET 7 OF 14

SDP-06-22



STEP	REQUIREMENT	VOLUME REQUIRED (AC.-FT.)	NOTES
1	WATER QUALITY VOLUME (WqV)	0.0985	PROVIDED BY SAND FILTER
2	RECHARGE VOLUME (Rev)	0.0108	REV FOR D.A. 1 COMPENSATED FOR WITHIN THE STONE BED OF THE UNDERGROUND STORM WATER MANAGEMENT FACILITY
3	CHANNEL PROTECTION VOLUME (CPv)	0.125	24 HOUR DETENTION WILL BE PROVIDED FOR WITHIN THE UNDERGROUND STORMWATER MANAGEMENT FACILITY
4	OVERBANK FLOOD PROTECTION VOLUME (Qp)	N/A	D.A. NOT IN DESIGNATED FLOOD AREA
5	EXTREME FLOOD VOLUME (Qf)	N/A	D.A. NOT IN DESIGNATED FLOOD AREA

**SPECIAL STRUCTURE NOTE:**  
 SAND FILTER REQUIRES SHOP DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND.

NOTE: ENTIRE STRUCTURE TO BE MSHA MIX NO. 3 CONCRETE.  
**SANDFILTER**  
 SCALE: 1"=3'

**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS SAND FILTER WQV#1**

1. THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED AND/OR REPAIRED WHEN DRAWDOWN TIMES WITHIN THE CHAMBER EXCEEDS 36 HOURS.
2. DEBRIS & LITTER SHALL BE REMOVED AS NECESSARY TO INSURE PROPER OPERATION OF THE SYSTEM.
3. SEDIMENT SHALL BE CLEANED-OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF 6 INCHES.
4. WHEN WATER PONDS 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 & LIQUIDS MUST BE FOLLOWED BY THE OWNER.
5. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
6. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
7. 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.

MATERIAL	SPECIFICATION	SIZE	NOTES:
NON-REBAR STEEL	ASTM A-36	N/A	STRUCTURAL STEEL TO BE HOT-DIPPED GALVANIZED ASTM A-123
GRAVEL	ASTM D-448 ASTM D-448 ORNAMENTAL STONE WASHED COBBLES #	N/A NO. 8 NO. 6 2" TO 5"	
GEOTEXTILE (CLASS C)	APPARENT OPENING SIZE: (ASTM D-4751) TENSILE STRENGTH: (ASTM D-4632) PUNCTURE RESISTANCE: (ASTM D-4833)	0.8" TYP. EQUIVALENT OPENING SIZE OF #80 SIEVE	MUST MAINTAIN 125 GPM / SQ. FT. FLOW RATE. NOTE: A PEAT GRAVEL LAYER MAY BE SUBSTITUTED FOR GEOTEXTILES MEANT TO "TEMPERATE" SAND FILTER LAYERS
UNDERDRAIN GRAVEL	ASTHO M-43	0.375" TO 0.750"	
UNDERDRAIN PIPING	FRP: TYP. #288 OR ASTHO M-278	6" 8000 SCH. 40 PVC OR SDR 35	3/8" PERF. 6" O.C. 4 HOLES PER ROW. MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES
POURED-IN-PLACE CONG. (IF REQUIRED)	MSHA MIX NO. 3, 7-DAY, NORMAL WEIGHT, AIR ENTRAINED; REINFORCING TO MEET ASTM 415-40	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONG. REQUIRED: 28 DAY STRENGTH TEST AND SLUMP TEST. ALL CONG. DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. SAND SUBSTITUTIONS SUCH AS CRACKLE AND GRANITONITE#10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR DOLOMITE SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.
SAND (2.0" DEEP)	ASTHO M-6 OR ASTM C-33	0.02" TO 0.04"	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature]  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature]  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature]  
 DIRECTOR

DATE: 7/16/07  
 DATE: 7/24/07  
 DATE: 7/27/07

NO. DATE REVISION

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS • LAND SURVEYORS • PLANNERS  
 8480 BALTIMORE NATIONAL PIKE # SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6644

OWNER: BELLE GROVE CORP.  
 4024 BELLE GROVE ROAD  
 BALTIMORE, MD 21225-2657  
 410-789-7070

PROJECT: EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279

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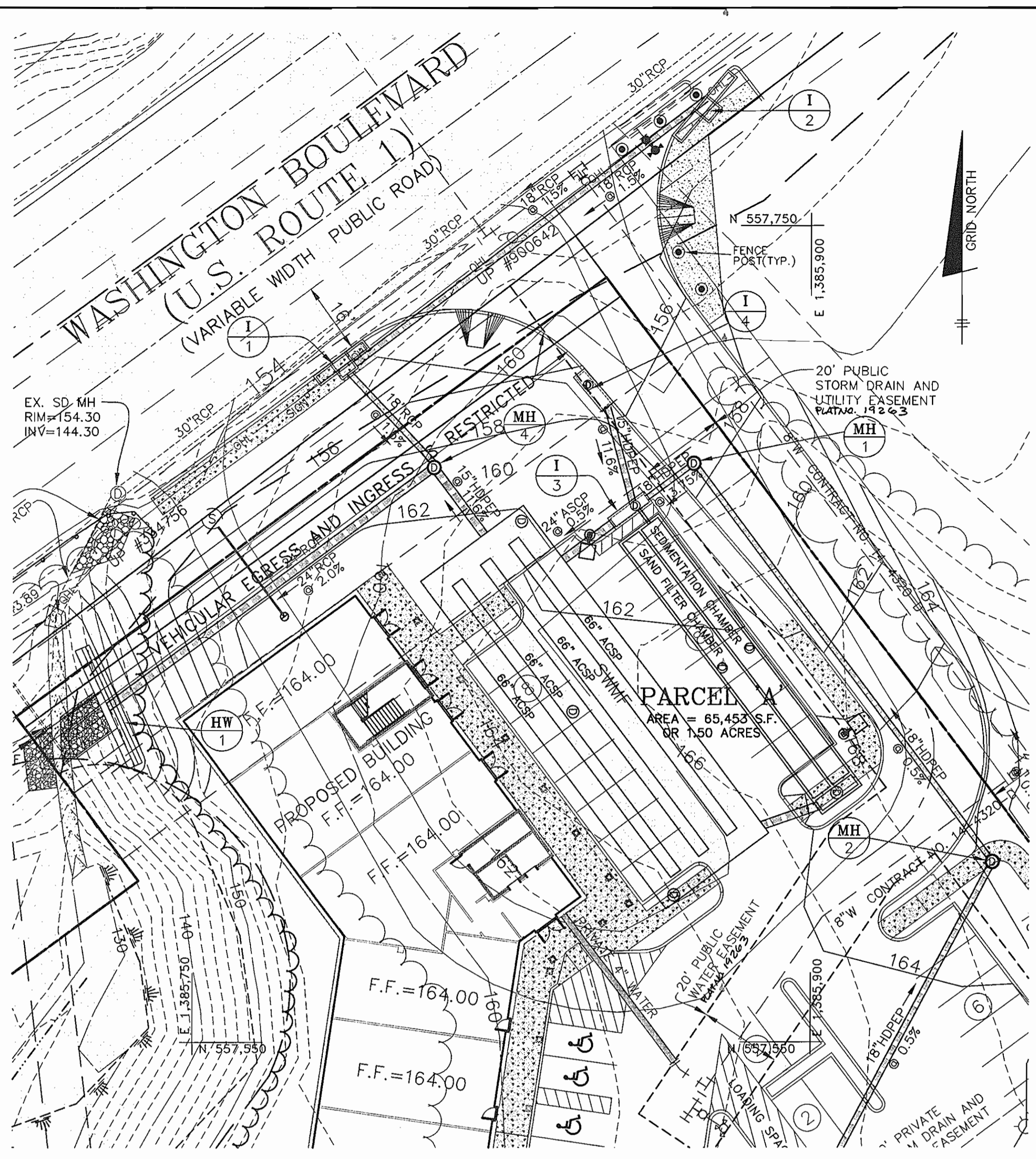
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DATE: AUGUST, 2005  
 JUNE, 2007

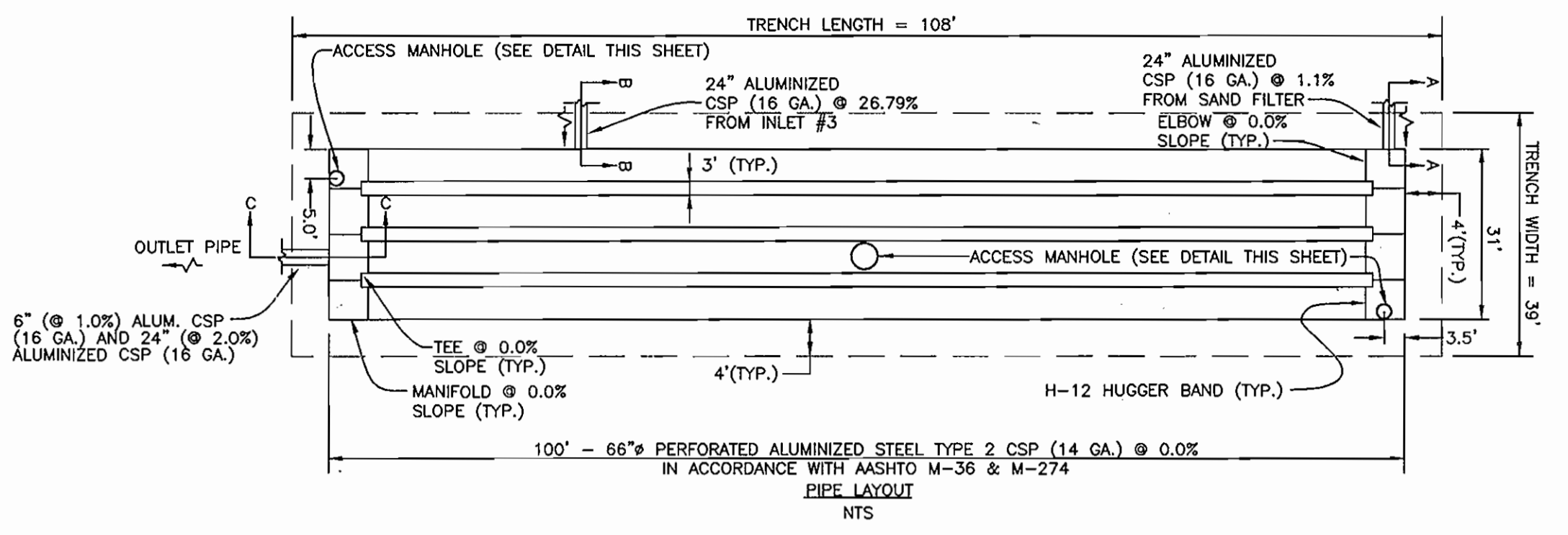
PROJECT NO. 1465

DESIGN: RPS DRAFT: RPS CHECK: DAM SCALE: AS SHOWN SHEET 8 OF 14

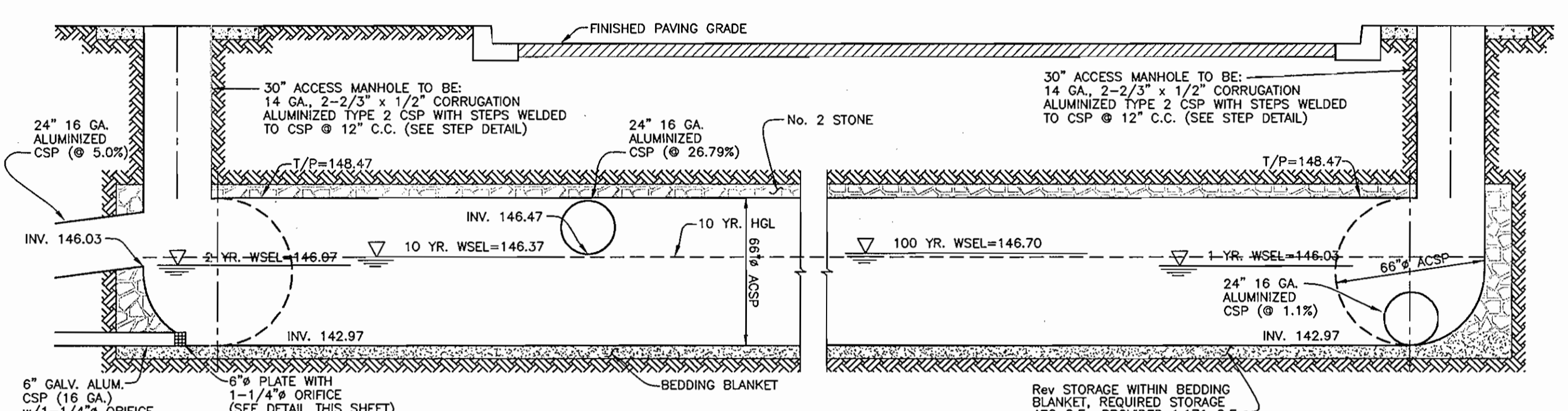




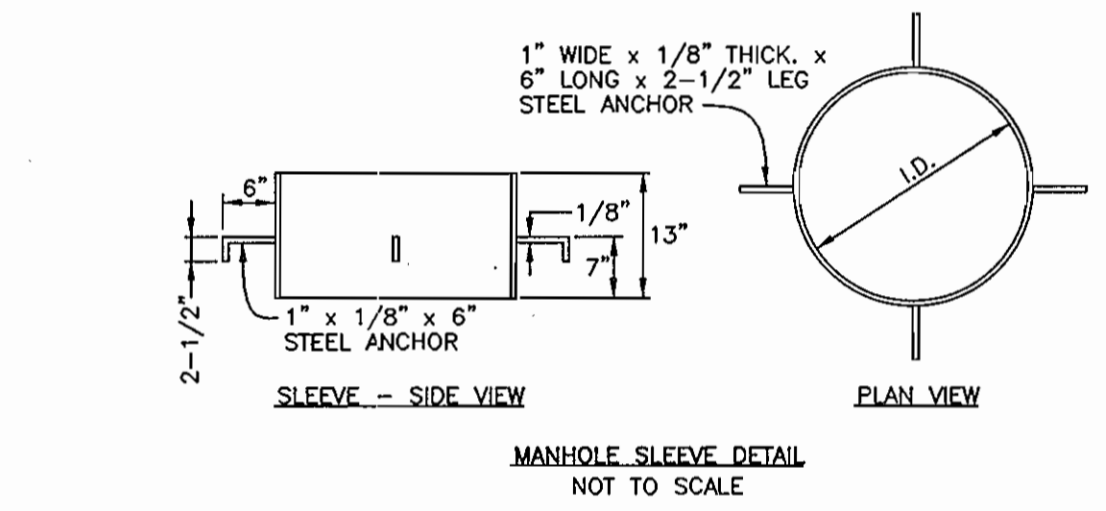
PLAN  
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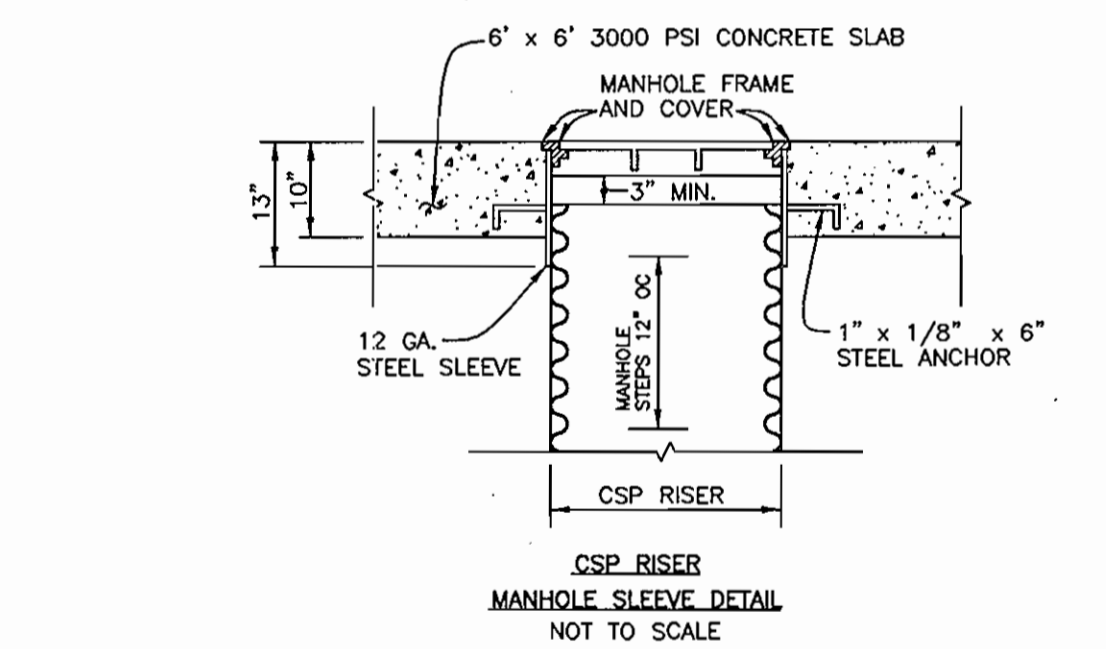
NOTE:  
ALL ADJOINING PIPES AND ELBOWS TO BE COUPLED USING THE H-12 HUGGER BAND, BY CONTECH CONSTRUCTION PRODUCTS, INC., OR EQUIVALENT



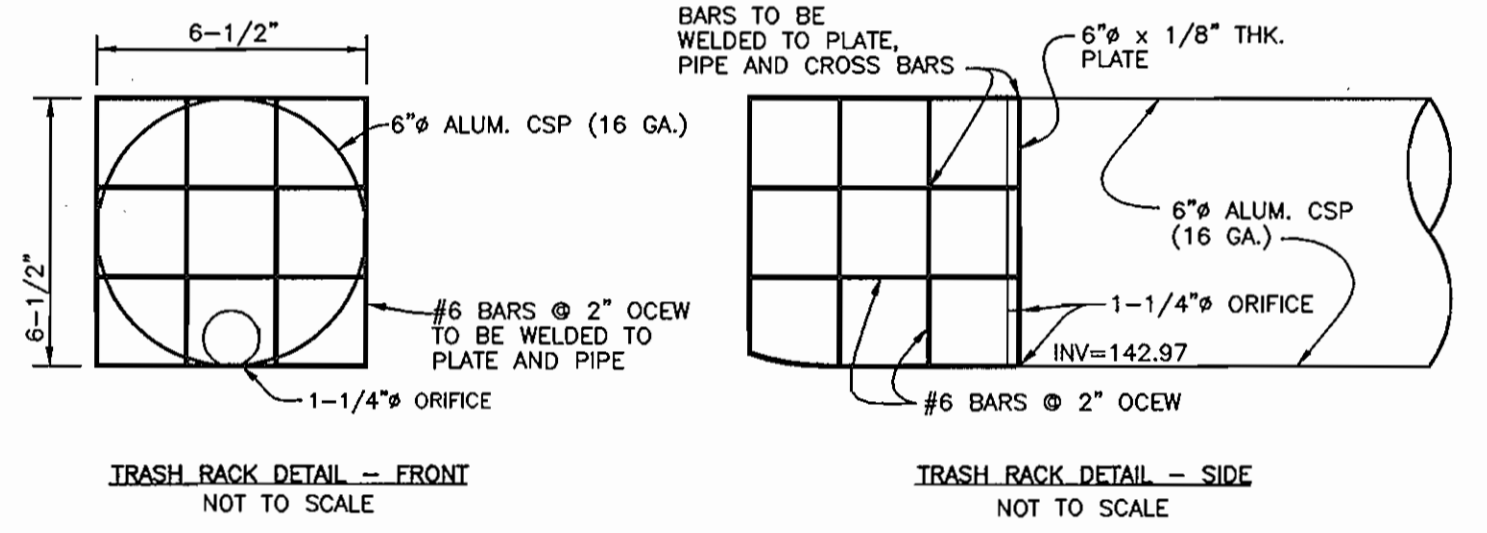
PROFILE OF UNDERGROUND SWMF  
NOT TO SCALE



MANHOLE SLEEVE DETAIL  
NOT TO SCALE

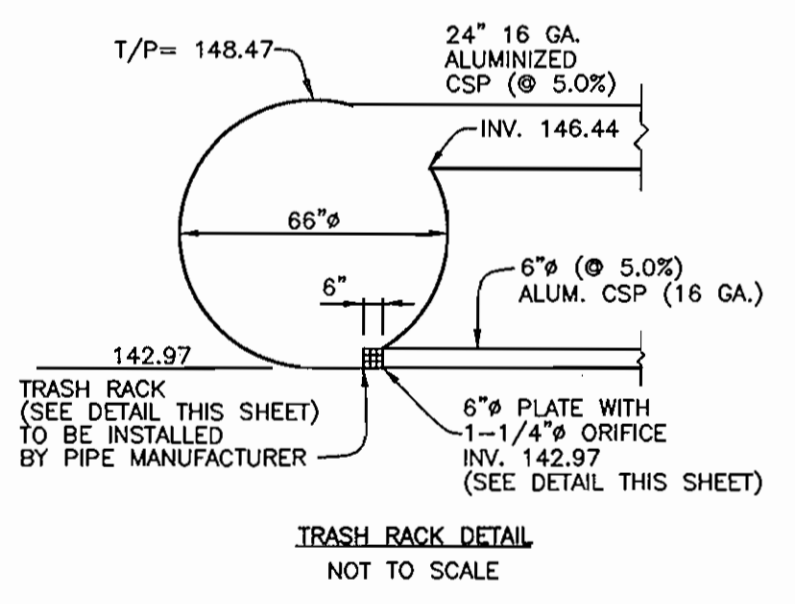


CSP RISER  
MANHOLE SLEEVE DETAIL  
NOT TO SCALE

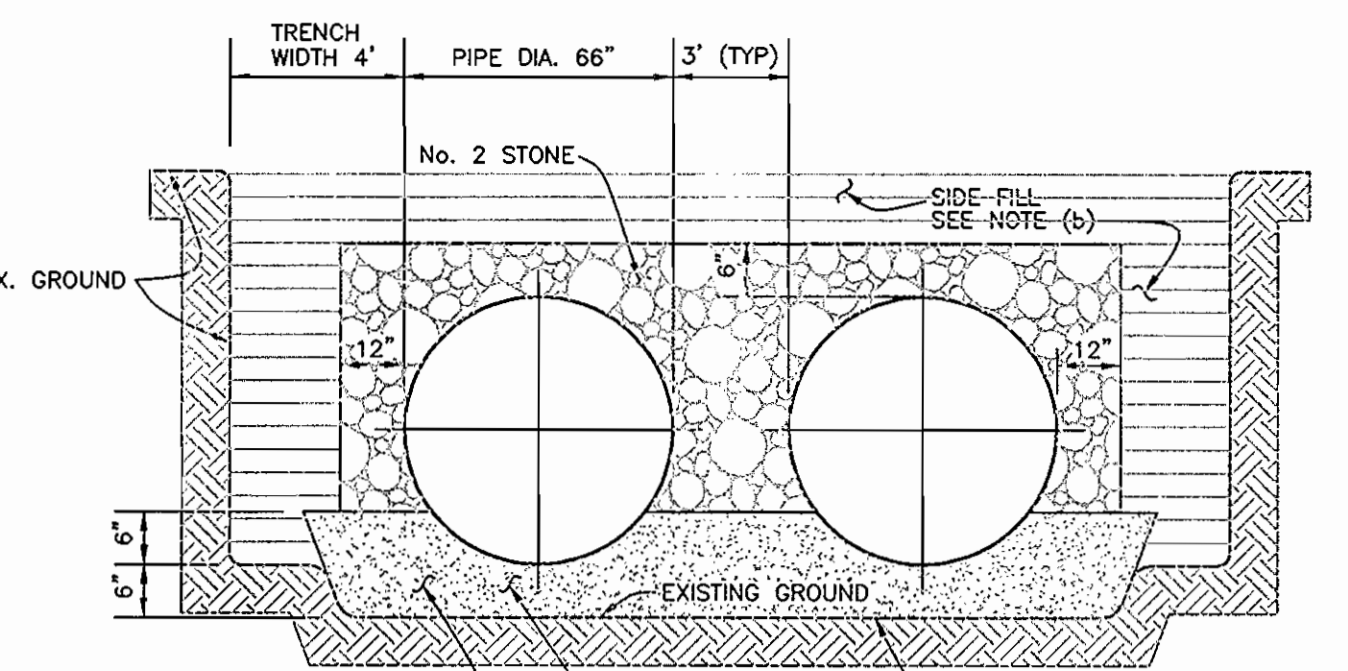


TRASH RACK DETAIL - FRONT  
NOT TO SCALE

TRASH RACK DETAIL - SIDE  
NOT TO SCALE



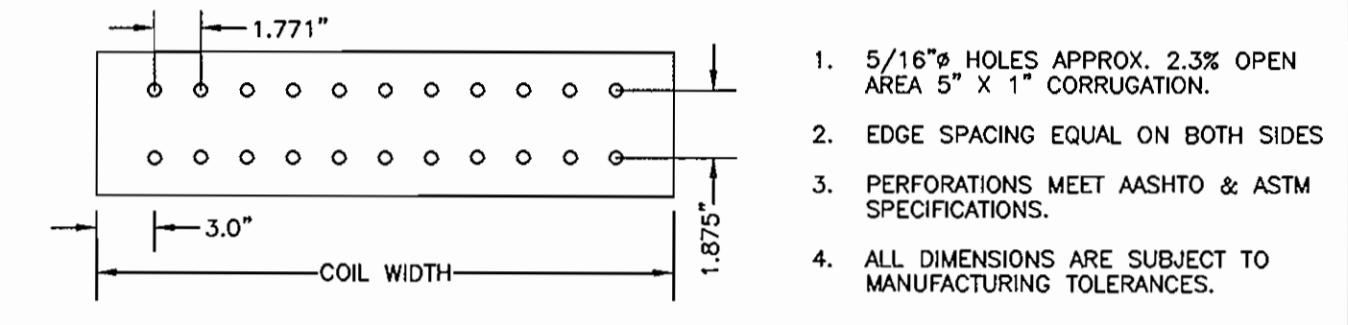
TRASH RACK DETAIL  
NOT TO SCALE



Rev. STORAGE WITHIN BEDDING BLANKET, REQUIRED STORAGE 470 C.F., PROVIDED 1,171 C.F.

NOTE:  
(a) BEDDING BLANKET OF LOOSE GRANULAR FILL (#57 STONE) ROUGHLY SHAPED TO FIT BOTTOM OF PIPE, MINIMUM THICKNESS BEFORE PLACING PIPE SHALL BE SIX INCHES.  
(b) SIDE FILL TO BE COMPACTED IN 6 TO 8 INCHES OF COMPACTED LAYERS, COMPACTION SHALL NOT BE LESS THAN 90% STANDARD PROCTOR DENSITY (AASHTO 199).

BEDDING AND BACKFILL DETAIL  
N.T.S.



CORRUGATED ALUMINUM PIPE PERFORATION HOLE LAYOUT  
NOT TO SCALE

OPERATION AND MAINTENANCE SCHEDULE FOR UNDERGROUND SWM FACILITIES

1. THE UNDERGROUND STORM WATER MANAGEMENT FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN ITS OPERATION AND FUNCTION.
2. THE UNDERGROUND STORM WATER MANAGEMENT FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
3. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE OUTFLOW IS OBSERVED, THE FACILITY SHALL BE CLEANED.
4. THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER AT SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES NOTIFYING THEM OF THE SPILL AND CLEAN-UP OPERATION.
5. THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND STORM WATER MANAGEMENT FACILITY BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
6. THE INLET AND OUTLET 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.

CONSTRUCTION SPECIFICATIONS

- A. BEDDING
  1. THE BED SHALL BE PLACED TO UNIFORM GRADE AND LINE TO ENSURE GOOD VERTICAL ALIGNMENT AND TO AVOID EXCESSIVE STRESSES AT PIPE JOINTS. THE BEDDING SHALL BE FREE OF ROCK FORMATIONS, PROTRUDING STONES, FROZEN LUMPS, ROOTS, AND FOREIGN MATERIAL. THE BEDDING FOUNDATION MUST BE A STABLE, WELL GRADED GRANULAR MATERIAL. ANY MATERIAL THAT HAS INADEQUATE BEARING CAPACITY MUST BE REMOVED AND REPLACED WITH A COMPACTED SELECT FILL APPROVED BY THE GEOTECHNICAL ENGINEER.
- B. BACKFILL
  1. THE FILL MATERIAL SHALL BE FREE OF ROCKS, FROZEN LUMPS, AND FOREIGN MATTER THAT COULD CAUSE HARD SPOTS IN BACKFILL OR THAT COULD DEFORM AND CREATE VOIDS.
  2. BACKFILL MATERIAL SHALL BE A WELL GRADED GRANULAR MATERIAL.
  3. HIGHLY PLASTIC SILTS, HIGHLY ORGANIC SILTS, ORGANIC CLAYS AND PEATS SHALL NOT BE USED AS BACKFILL MATERIAL.
  4. BACKFILL SHALL BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN SIX-INCH TO EIGHT-INCH LAYERS TO ONE FOOT ABOVE THE TOP OF THE PIPE. EACH LAYER IS TO BE COMPACTED TO THE SPECIFIED DENSITY (MINIMUM 90%) BEFORE PLACING THE NEXT LAYER. REFERENCE ASTM A798.
- C. PIPE
  1. THE PIPE FABRICATOR SHALL PROVIDE SPECIFICATIONS OF ALL MATERIALS (BASED ON HS25 LOADING).
  2. SHOP DRAWINGS ARE TO BE PROVIDED BY FABRICATOR. APPROVAL BY ENGINEER IS REQUIRED PRIOR TO CONSTRUCTION.
  3. CONTRACTOR IS REQUIRED TO COORDINATE APPROVAL OF SHOP DRAWINGS AND SPECIFICATIONS AND SHALL BE OBLIGATED FOR ANY COST THEREOF.
- D. GENERAL
  1. DEBRIS IS TO BE KEPT OUT OF THE FACILITY DURING AND AFTER CONSTRUCTION.

STORM FREQUENCY (YRS.)	EX. RUNOFF (cfs)	DEVELOPED RUNOFF AND DISCHARGE (cfs)	WSEL (FT.)	STORAGE (AC.-FT.)
1	1.10	0.08	146.03	0.1810
2	1.84	0.90	146.07	0.1836
10	4.67	7.57	146.37	0.2030
100	8.22	10.37	146.50	0.2114

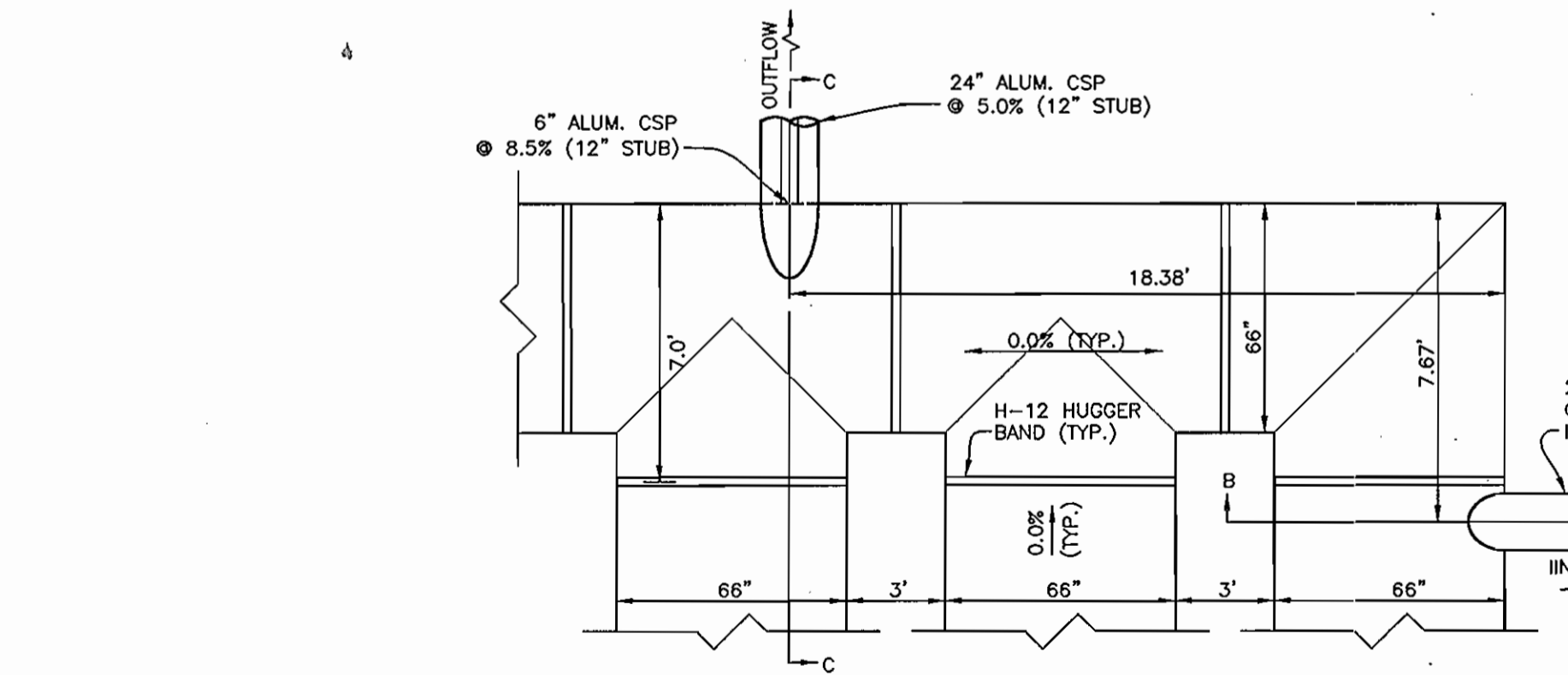
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4	OVERBANK FLOOD PROTECTION VOLUME (Op)	N/A	D.A. NOT IN DESIGNATED FLOOD AREA
5	EXTREME FLOOD VOLUME (Ov)	N/A	D.A. NOT IN DESIGNATED FLOOD AREA

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

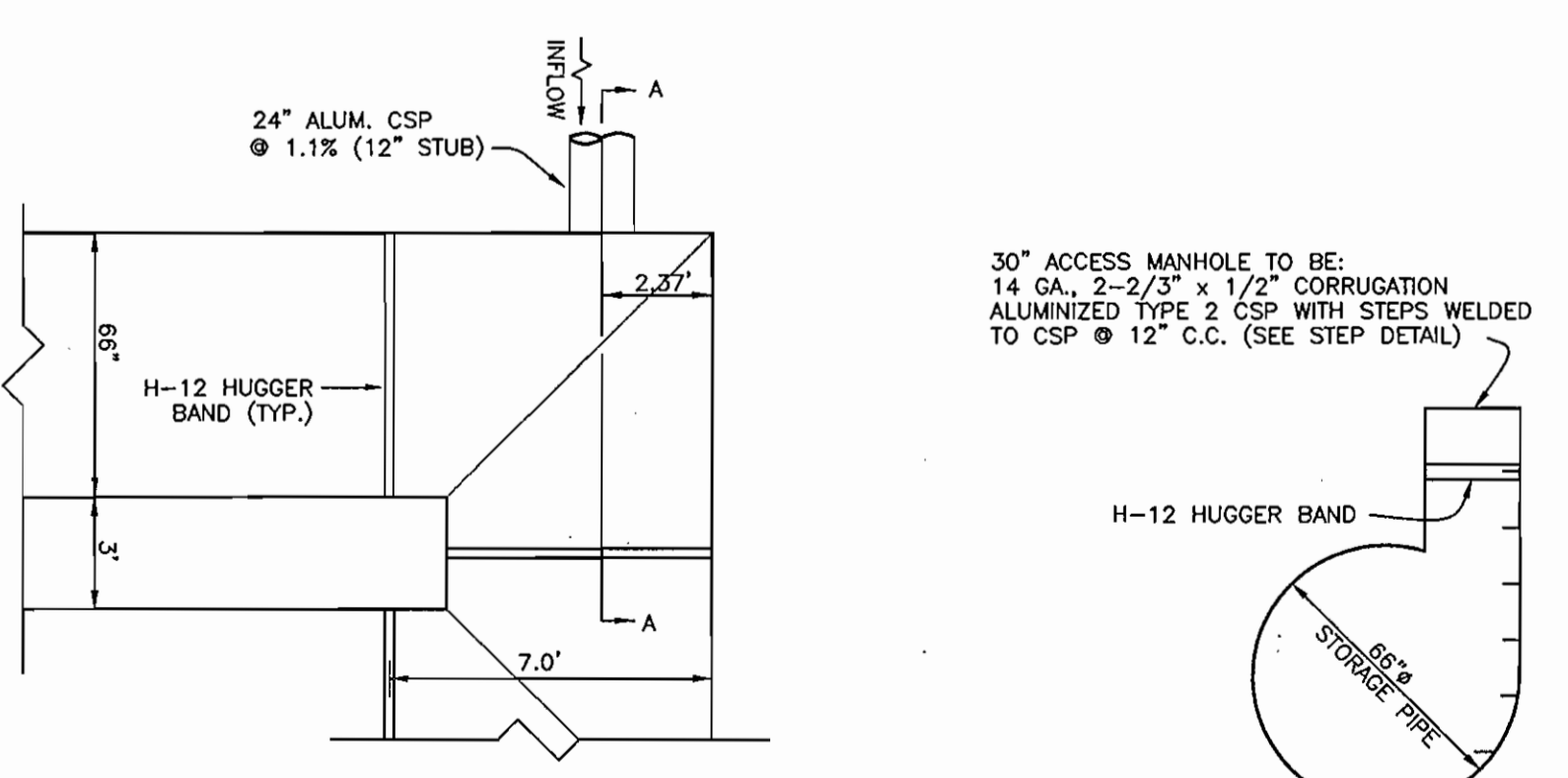
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 7/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 7/23/07

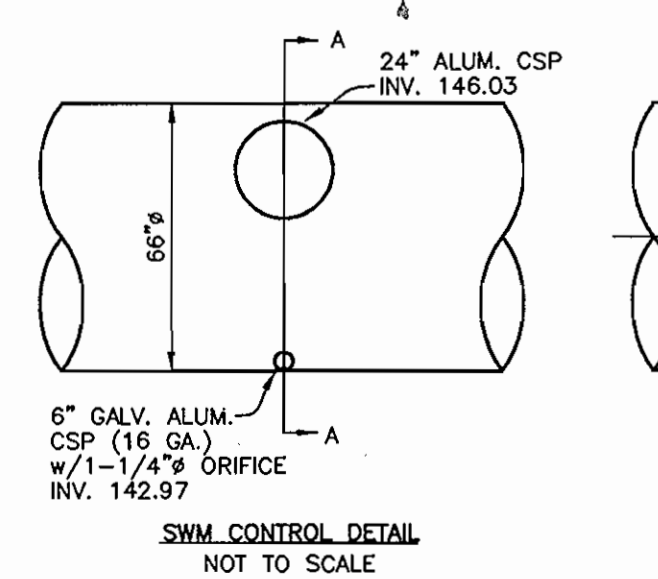
DIRECTOR



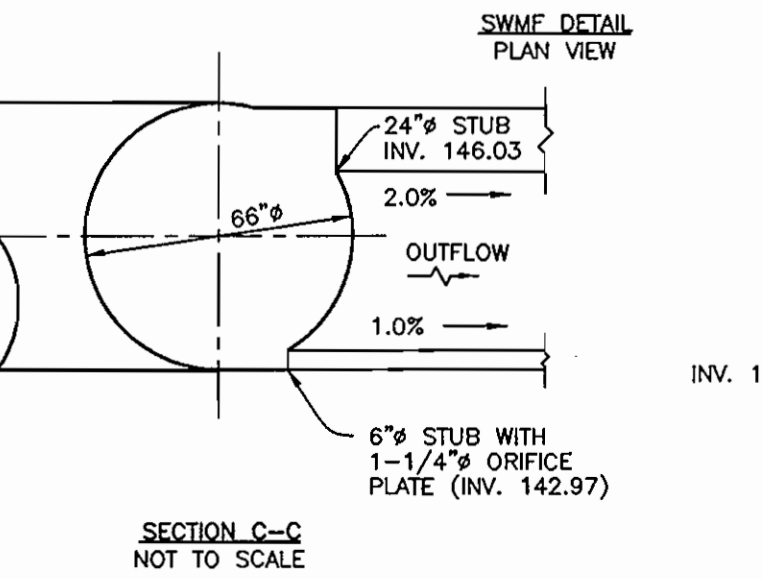
SWMF DETAIL  
PLAN VIEW



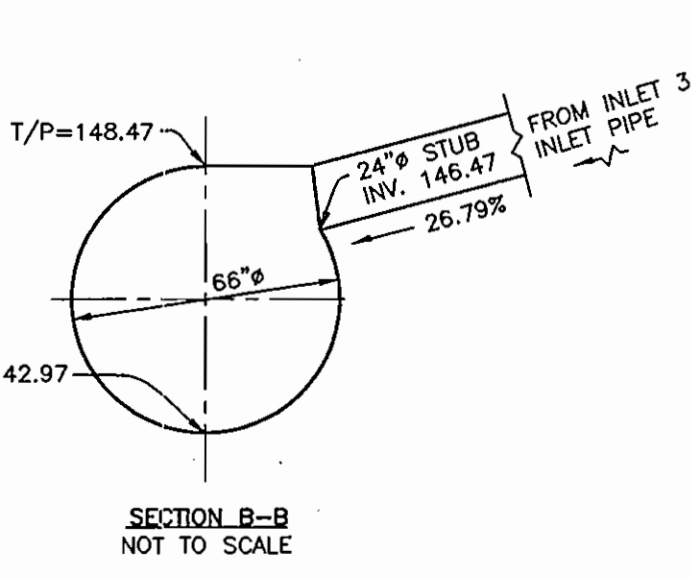
SWMF DETAIL  
PLAN VIEW



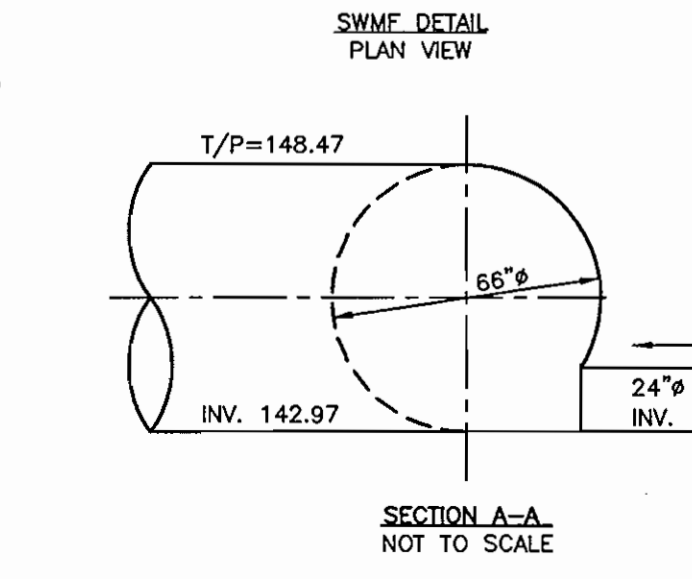
SWM CONTROL DETAIL  
NOT TO SCALE



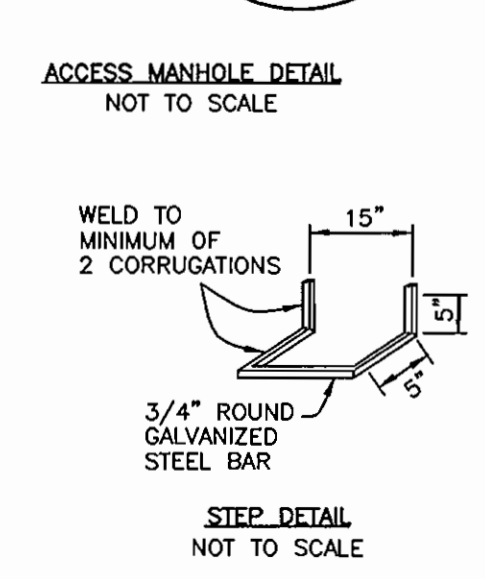
SECTION C-C  
NOT TO SCALE



SECTION B-B  
NOT TO SCALE

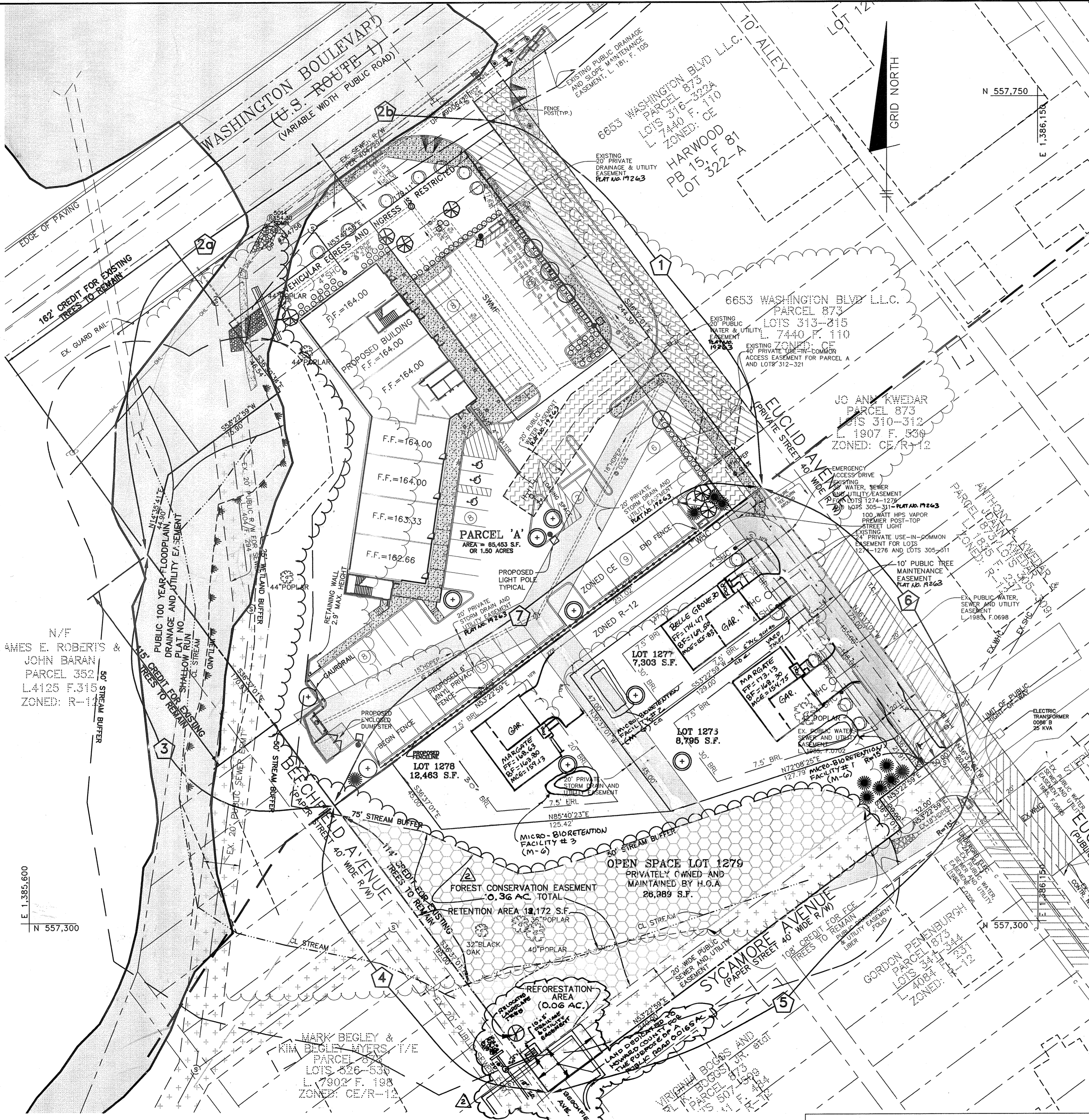


SECTION A-A  
NOT TO SCALE



STEP DETAIL  
NOT TO SCALE

NO	DATE	REVISION
<b>BENCHMARK</b> ENGINEERS • LAND SURVEYORS • PLANNERS <b>ENGINEERING, INC.</b> 8480 BALTIMORE NATIONAL PIKE • SUITE 418 ELLICOTT CITY, MARYLAND 21043 phone: 410-465-6105 • fax: 410-465-6644 email: Benchmark@cois.com		
OWNER/DEVELOPER:	PROJECT:	
BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2857 410-789-7070	EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279	
DESIGN: RPS	DRAFT: RPS	CHECK: DAM
DATE: AUGUST 2005 JUNE 2007	PROJECT NO. 1465	SHEET 9 OF 14

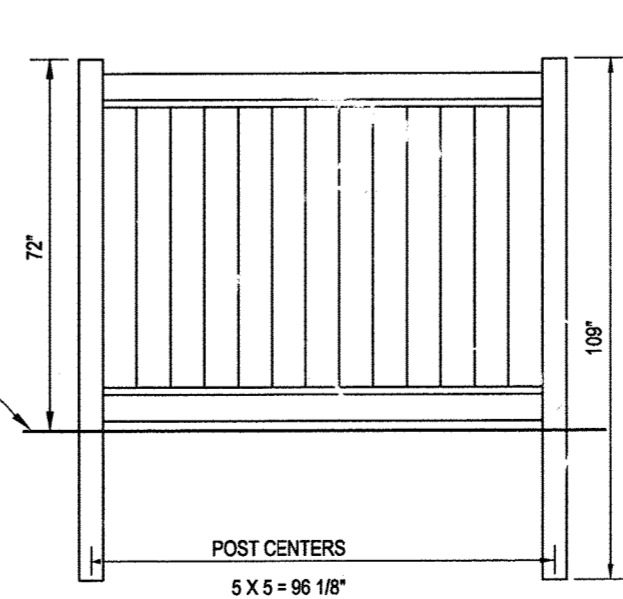
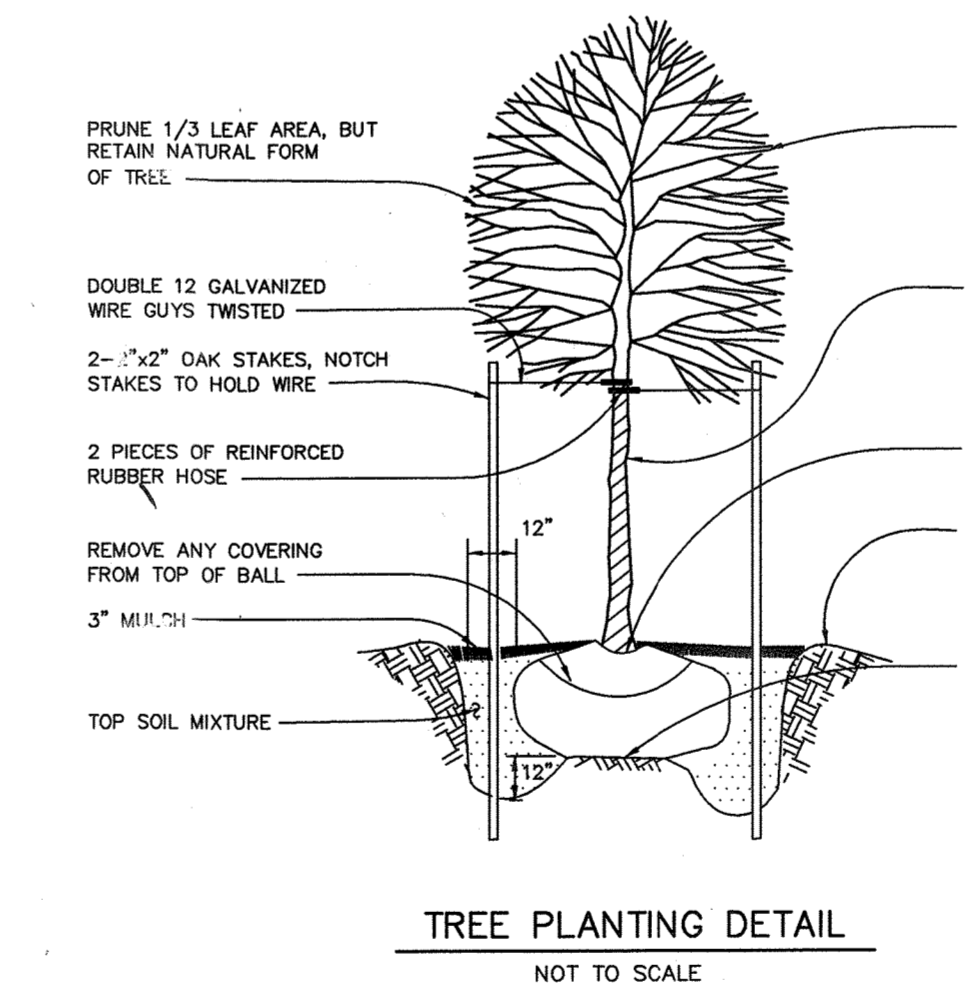
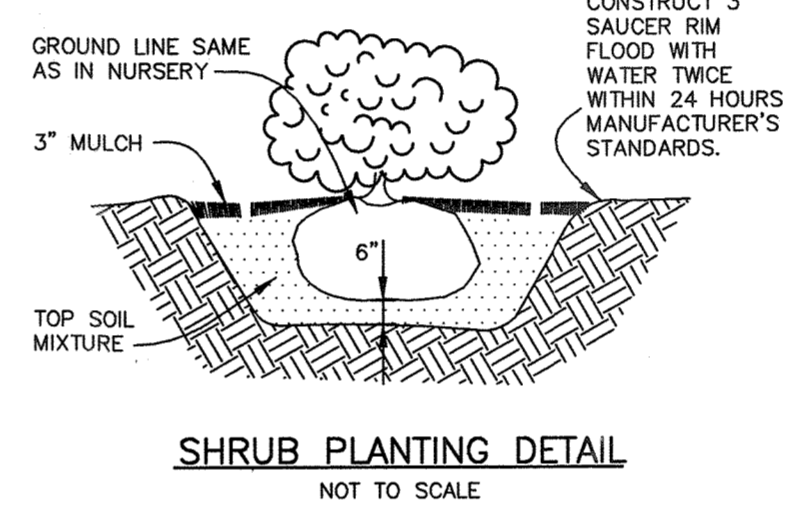


**LANDSCAPING NOTES**

- PERIMETER LANDSCAPING SHALL BE PROVIDED BY THE EXISTING VEGETATION TO REMAIN AND BY THE PLANTINGS AS SHOWN ON THESE PLANS.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INTERNAL STREET PARKING PLANTINGS, THE PRESERVATION OF THE PERIMETER VEGETATION AND FOR THE PERIMETER PLANTINGS AS SHOWN ON THESE PLANS. BOUNDING FOR PLANTINGS IS THE OBLIGATION OF THE DEVELOPER AS PART OF THE DEVELOPER'S AGREEMENT.
- TREES MUST BE A MINIMUM OF FOUR (4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE (5) FEET FROM ANY STORM DRAIN.
- A MINIMUM DISTANCE OF TWENTY (20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND FROM ANY STREET LIGHTS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SEC.-16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- LANDSCAPE SURETY IN THE AMOUNT OF \$13,980.00, WHICH INCLUDES \$300.00 FOR THE 30' OF DUMPSTER FENCING, HAS BEEN POSTED AS A PART OF THE DEVELOPER'S AGREEMENT.

**LEGEND**

- SPECIMEN TREE: 42" POPLAR
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED STORM DRAIN
- PROPOSED WATER LINE
- PROPOSED SD MANHOLE
- EXISTING FLOODPLAIN
- PROPOSED FENCELINE



**SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING**

NUMBER OF PARKING SPACES (OUTSIDE BUILDING)	70
NUMBER OF TREES/LS-ISLES REQUIRED:	4
NUMBER OF TREES PROVIDED:	4
SHADE TREES	4
OTHER TREES (2:1 SUBSTITUTION)	-
SHRUBS (10:1 SUBSTITUTION)	-

**DUMPSTER/LOADING/SERVICE AREA LANDSCAPING**

CATEGORY	ADJACENT TO ROADWAY	NO
	ADJACENT TO RESIDENTIAL	NO
	ADJACENT TO NON-RESIDENTIAL	YES
LANDSCAPE / BUFFER TYPE		C
LOCATION OF DUMPSTER/LOADING/SERVICE AREA:	DUMPSTER	
CREDIT FOR WALL OR FENCE:	NO OR YES (w/LINEAR FEET)	YES 30'
(DESCRIBE BELOW IF NEEDED)		
NUMBER OF PLANTS REQUIRED:	SHADE TREES	1
	EVERGREEN TREES	2
	OTHER TREES (2:1 SUBSTITUTION)	-
	SHRUBS (10:1 SUBSTITUTION)	-
NUMBER OF PLANTS PROVIDED:	EVERGREEN TREES	-
	OTHER TREES (2:1 SUBSTITUTION)	-
	SHRUBS (10:1 SUBSTITUTION)	-
	CREDITS BELOW IF NEEDED	*30'

**PERIMETER PLANTING LIST**

SYMBOL	QUANTITY	NAME	REMARKS
(+)	5	"PLANTANUS ACERFOLIA "BLOODGOOD LONDON PLANE"	2.5"-3.0" MIN. CAL. B & B FULL HEAD
(*)	7	ACER CAMPESTRE "HEDGE MAPLE"	2.5"-3.0" MIN. CAL. B & B FULL HEAD
(*)	10	CUPRESSOCYPRIS LEYLANDI "LEYLAND CYPRESS"	5'-6" MIN. HT. UNSHEARED
(*)	75	TAXUS MEDIA "DENSIFORMIS" "DENSIFORMIS YEW"	2-1/2' - 3' HT. UNSHEARED
(*)	21	EUONYMUS KIATSCHOVICUS MANHATTAN MANHATTAN EUONYMUS	2-1/2' - 3' HT.

**INTERNAL PARKING PLANTING LIST**

SYMBOL	QUANTITY	NAME	REMARKS
(+)	4	ACER RUBRUM "RED SUNSET" "RED SUNSET RED MAPLE"	2.5"-3.0" MIN. CAL. B & B FULL HEAD

**STREET TREE PLANTING LIST**

SYMBOL	QUANTITY	NAME	REMARKS
(*)	12	ACER GRiseum "PAPERBARK MAPLE"	2.5"-3.0" MIN. CAL. B & B FULL HEAD

**RESIDENTIAL INTERNAL PLANTING LIST**

SYMBOL	QUANTITY	NAME	REMARKS
(+)	3	ACER RUBRUM "RED SUNSET RED MAPLE"	2.5"-3.0" MIN. CAL. B & B FULL HEAD

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAY		ADJACENT TO PERIMETER PROPERTIES		ADJACENT TO PERIMETER PROPERTIES		ADJACENT TO PERIMETER PROPERTIES		ADJACENT TO PERIMETER PROPERTIES		ADJACENT TO PERIMETER PROPERTIES			
	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES		
PERIMETER NO. / LANDSCAPE TYPE	1	E	2	B	3	E	4	A	5	A	6	A	7	C
LINEAR FEET OF (FRONTAGE/PERIMETER)	219'	257'	84'	171'	195'	290'	195'	290'						
CREDIT FOR EXISTING VEGETATION: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES	NO	YES	YES	114'	YES	108'	NO	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	*216'			
NUMBER OF PLANTS REQUIRED:														
SHADE TREES	5	2	2	1	1	3	3	2						
EVERGREEN TREES	-	-	-	-	-	-	-	-	4					
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-					
SHRUBS	55	-	21	-	-	-	-	-	-					
NUMBER OF PLANTS PROVIDED:														
SHADE TREES	5	2	2	1	1	-	3	2						
EVERGREEN TREES	-	-	-	-	-	6	-	-	4					
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-					
SHRUBS (10:1 SUBSTITUTION)	55	20	21	-	-	-	-	-	-					
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)														

**STREET TREE CALCULATIONS**

STREET TREES REQUIRED FOR 288 LF OF ROUTE 1, AND 334' OF EUCLID AVENUE RIGHT-OF-WAY WITH 162 LF OF CREDIT FOR PRESERVING EXISTING VEGETATION.  
(288 + 334 - 162) / 40 = 12 TREES REQUIRED

12 TREES PROVIDED

NO.	DATE	REVISION
5	2-14-18	REVISE MBRs #1 & #2
4	10-3-17	REVISE MBR #3
3	12-16-14	REVISE HOUSE FOOT PRINTS, DRIVEWAYS AND SWM ON LOTS 1276-1278
2	8-6-12	ADD CAPITAL PROJ. D-1124-03 (B&G) FIELD AND IMPROVEMENTS BY NOLAN ASSOC.
1	10-13-10	ADD ESD / HQ INFORMATION FOR LOTS 1276-1278

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-485-6105 FAX: 410-485-6644

OWNER:	BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070
PROJECT:	EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279
LOCATION:	TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	LANDSCAPE PLAN
DATE:	AUGUST, 2005 JUNE, 2007
PROJECT NO.:	1465
DESIGN: RPS	DRAFT: RPS
CHECK: DAM	SCALE: 1"=30'
SHEET	10 OF 14

**NOTES: CONTAINER PLANTINGS SHOULD BE UTILIZED ALONG THE SIDEWALK AREA OF THE BUILDING.**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Harrison*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Cindy Hamon*  
CHIEF, DIVISION OF LAND DEVELOPMENT

*David D. Lytle*  
DIRECTOR

DATE: 7/14/05

DATE: 7/24/07

DATE: 2/27/17

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

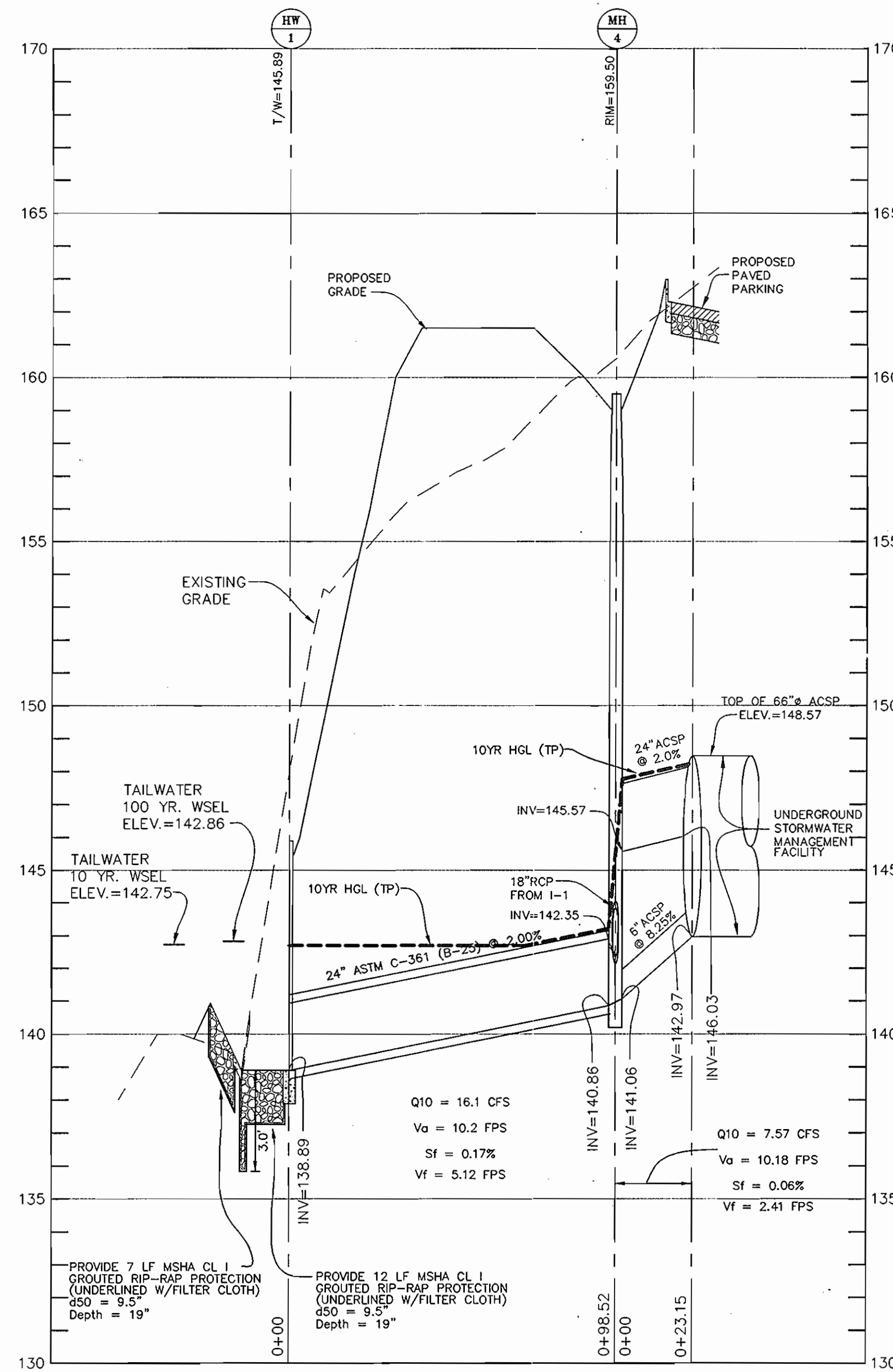
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE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

*R.B. J.*  
DEVELOPER: BELLE GROVE CORPORATION

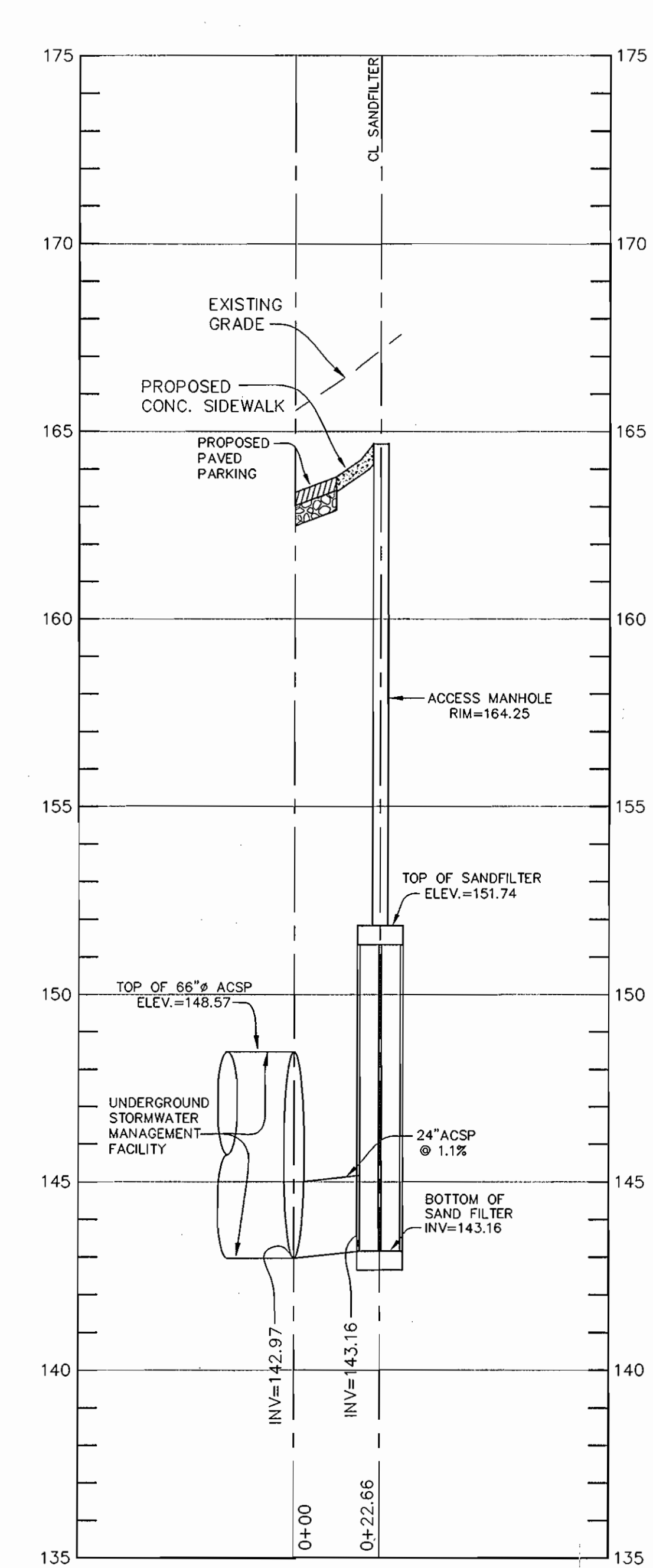
DATE: 5-31-07

SEAL & SIGNATURE FOR REV. 2 ONLY

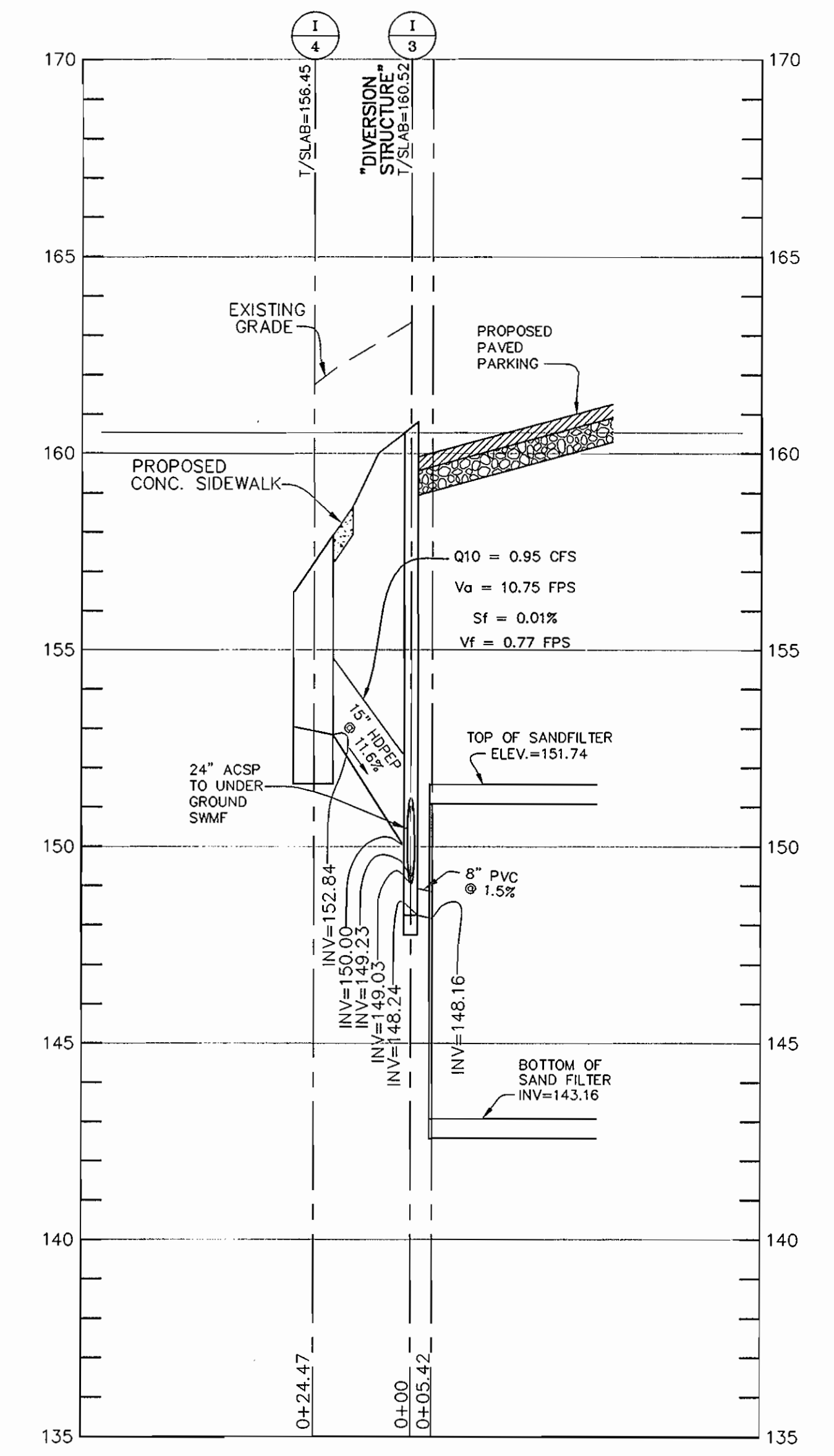
*[Signature]*



HW1 TO SWMF  
SCALE: VERT. = 1"=3', HORZ. = 1"=30'



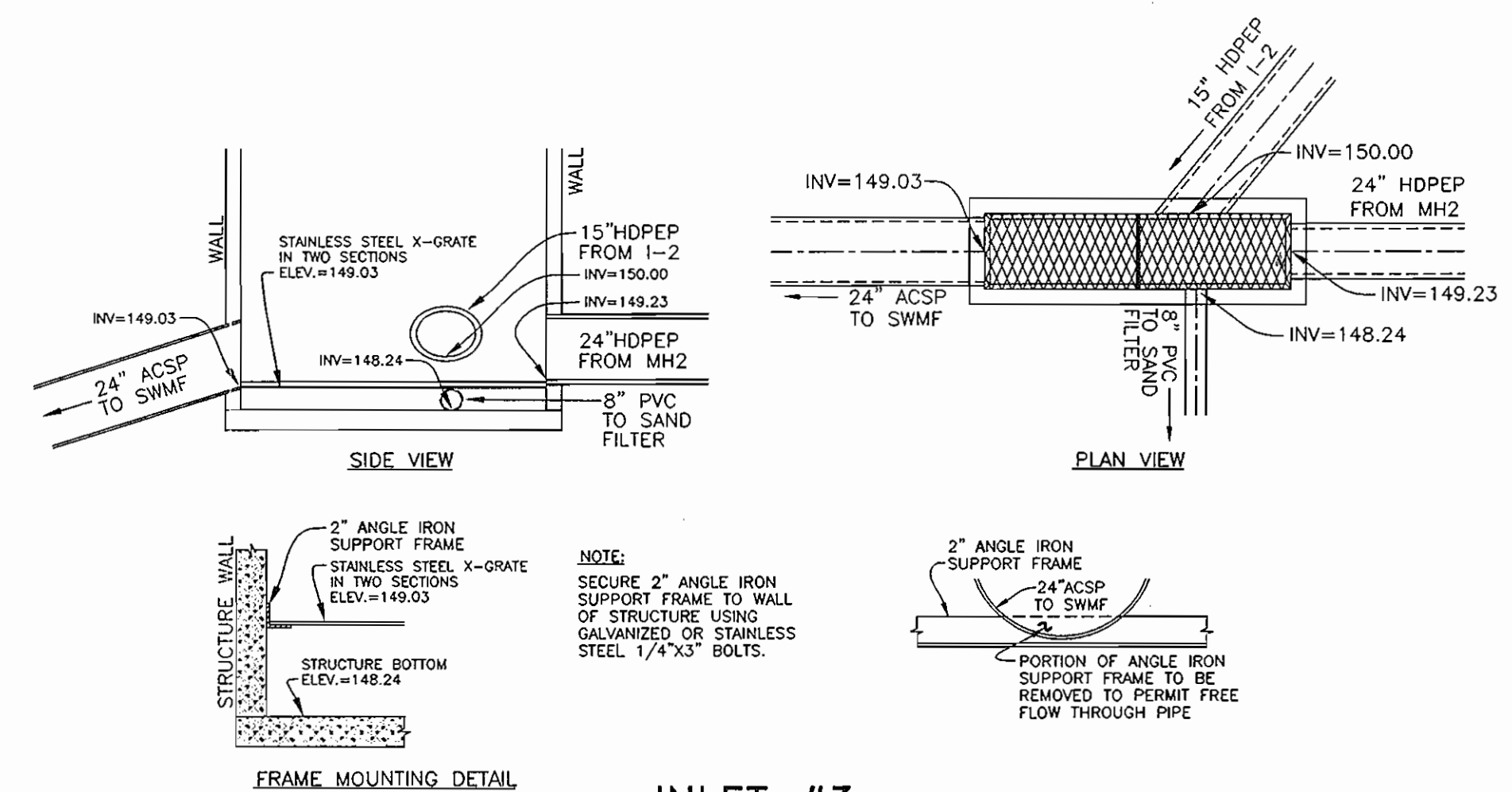
SWMF TO SAND FILTER  
SCALE: VERT. = 1"=3', HORZ. = 1"=30'



SAND FILTER TO INLET 4  
SCALE: VERT. = 1"=3', HORZ. = 1"=30'

Style Designation	Width in Inches	Length in Inches	Lbs/Sq Ft	Approx. size of opening in inches
3.0	48, 60, 72	96, 120, 144	3.000	15/16 x 3-7/16
3.14	48, 72	120	3.140	1-5/8 x 4-7/8
4.0	48, 60, 72	96, 120	4.000	15/16 x 3-7/16
4.27	48, 60, 72	96, 120	4.270	1 x 2-7/8
6.25	48, 60, 72	96, 120	6.250	13/16 x 3-3/8

X-GRATE DETAIL



INLET #3  
HO.CO. STD. SD 4.02  
NOT TO SCALE

DIVERSION STRUCTURE DETAILS

NO.	DATE	REVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Mr. Deussen*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 7/11/07

*Chris Hamer*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 7/24/07

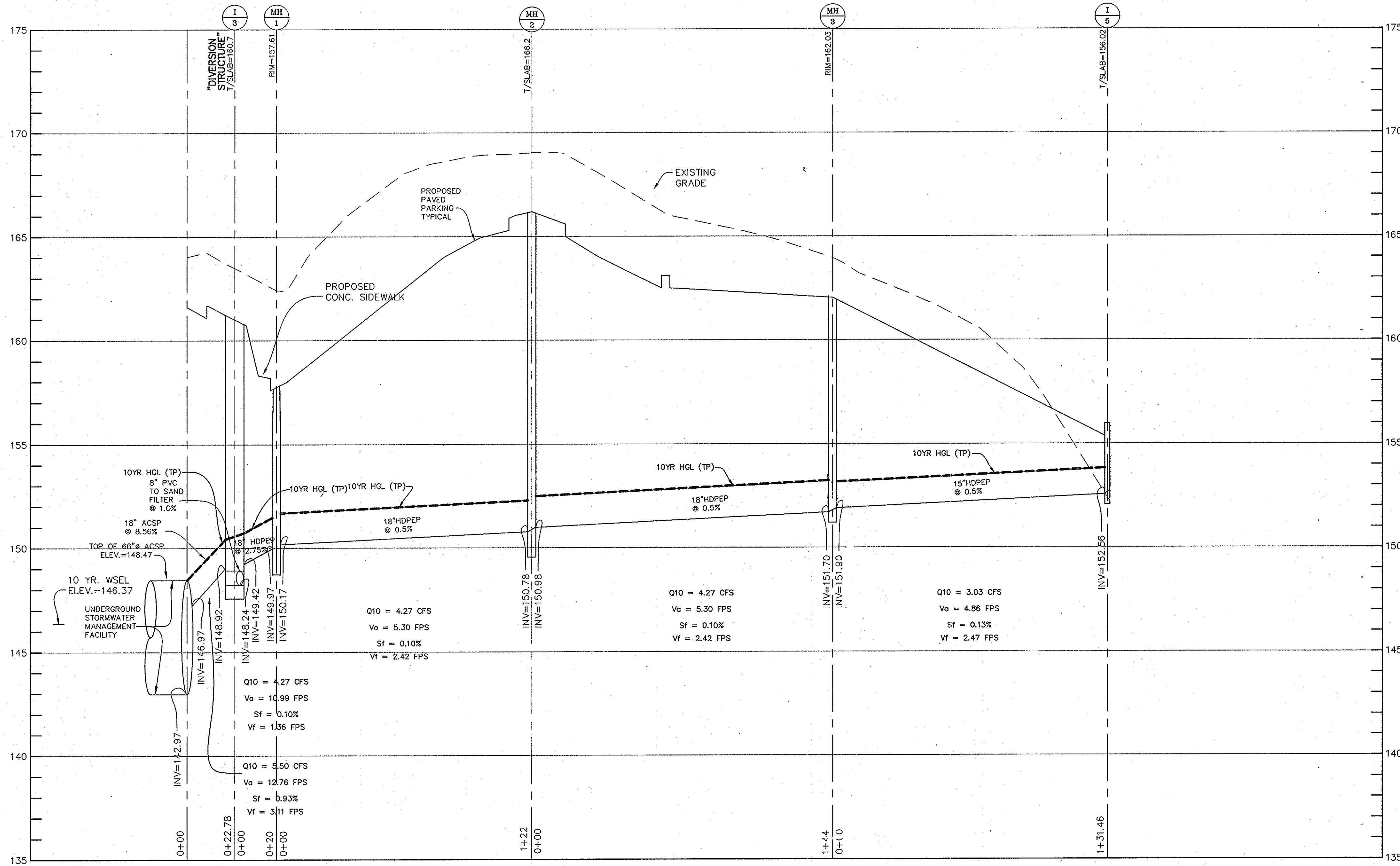
*Frank A. Leagle*  
DIRECTOR  
DATE: 7/27/07

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
06/29/07

OWNER:	PROJECT:
BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070	EUCLID CORNERS PARCEL 'A', LOTS 1276-1278 & OPEN SPACE LOT 1279
LOCATION:	TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	STORM DRAIN PROFILES AND DETAILS
DATE:	AUGUST, 2005 JUNE, 2007
DESIGN: RPS	DRAFT: RPS
CHECK: DAM	SCALE: AS SHOWN
PROJECT NO. 1465	SHEET 11 OF 14



**SWMF TO INLET 5**  
SCALE: VERT. = 1"=3' , HORZ. = 1"=30'

STRUCTURE SCHEDULE						
STORM INLETS						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
I-1	COS-15	N 557717.7801, E 1385785.1075	143.26	143.06	154.71	SHA, MD 374.61
I-2	COG-20	N 557780.0468, E 1385872.8599	-	148.36	155.44	SHA, MD 374.61
I-3	A-10	N 557678.8461 E 1385857.1304	149.42	150.00/149.23	160.52	SD-4.02
I-4	A-10	CL STA. 0+44.50 O/S 12.50' RIGHT (ENTRANCE DRIVE)	-	152.84	156.45	SD-4.02
I-5	A-10	N 557408.8232 E 1385759.4016	-	152.56	156.02	SD-4.02

STORM MANHOLES						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
M-1	4'-0" MANHOLE	CL STA. 0+73.86 O/S 10.00' LEFT (ENTRANCE DRIVE)	150.17	149.97	157.61	G - 5.12
M-2	4'-0" MANHOLE	N 557594.1542 E 1385944.2486	150.98	150.78	166.2	G - 5.12
M-3	4'-0" MANHOLE	N 557467.1144 E 1385876.6875	151.90	151.70	162.03	G - 5.12
M-4	4'-0" MANHOLE	N 557690.8026 E 1385808.5712	142.74/141.06	140.86	159.50	G - 5.12

HEADWALLS						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
HW1	TYPE 'C' HEADWALL	N 557632.1175 E 1385729.4634	-	138.89	145.89	MD 354.01 (NOTE 8)

- | END SECTIONS  |      |          |         |          |           |              |
|---|------|----------|---------|----------|-----------|--------------|
| NO.   | TYPE | LOCATION | INV. IN | INV. OUT | TOP ELEV. | HO. CO. STD. |
| 1) STRUCTURE ELEVATION AND LOCATION FOR MANHOLES IS AT THE TOP AND CENTER OF RIM.<br>2) STRUCTURE ELEVATION AND LOCATION FOR CURB INLETS IS AT THE TOP OF CURB AT MIDPOINT OF THE INLET AT THE FACE.<br>3) STRUCTURE ELEVATION AND LOCATION FOR TYPE 'D' AND 'WR' INLETS IS AT THE TOP OF SLAB/GRADE AT CENTER OF THE INLET.<br>4) PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.<br>5) ALL STORM DRAINS SHALL BE REINFORCED CONCRETE PIPE (CLASS IV) UNLESS OTHERWISE NOTED.<br>6) STRUCTURE ELEVATION AND LOCATION FOR HEADWALL IS AT THE TOP CENTER AT DOWN STREAM FACE OF WALL.<br>7) STRUCTURE ELEVATION AND LOCATION FOR END SECTION IS AT THE INVERT WHERE PIPE JOINS END SECTION.<br>8) HEADWALL TO BE CONSTRUCTED UTILIZING THE 72" PIPE SIZE DIMENSIONS. |      |          |         |          |           |              |

PIPE SCHEDULE		
TYPE & CLASS	SIZE	LENGTH
RCP CLASS IV	24"	35'
RCP CLASS IV	15"	95'
ACSP	24"	46'
ACSP	18"	23'
ACSP	6"	23'
HDPEP	18"	286'
HDPEP	15"	165'
RCP ASTM C-361	24"	99'

ACSP = ALUMINIZED CORRUGATED STEEL PIPE  
 HDPEP = SMOOTH BORE HIGH DENSITY POLYVINYL CHLORIDE PIPE  
 PVC = POLYVINYL CHLORIDE PIPE

NO.	DATE	REVISION
1	10-13-10	ADD ESD/WQ INFORMATION FOR LOTS 1276-1278

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/11/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 7/24/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 7/23/07  
 DIRECTOR

**BENCHMARK ENGINEERING, INC.**

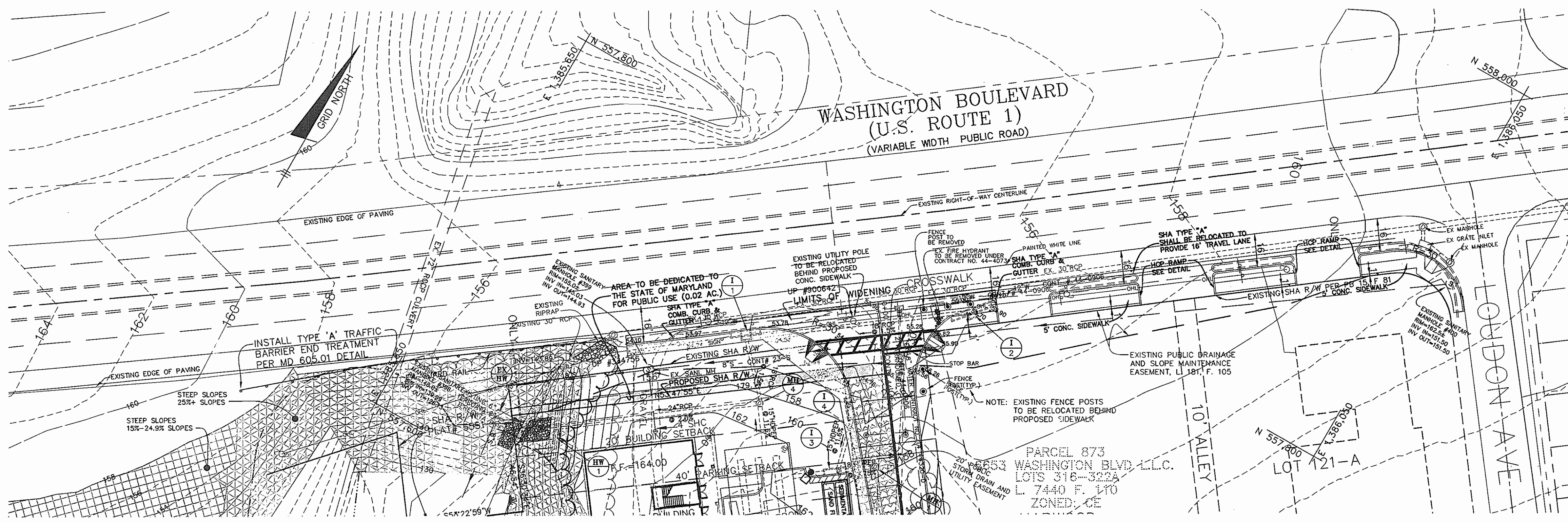
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6844

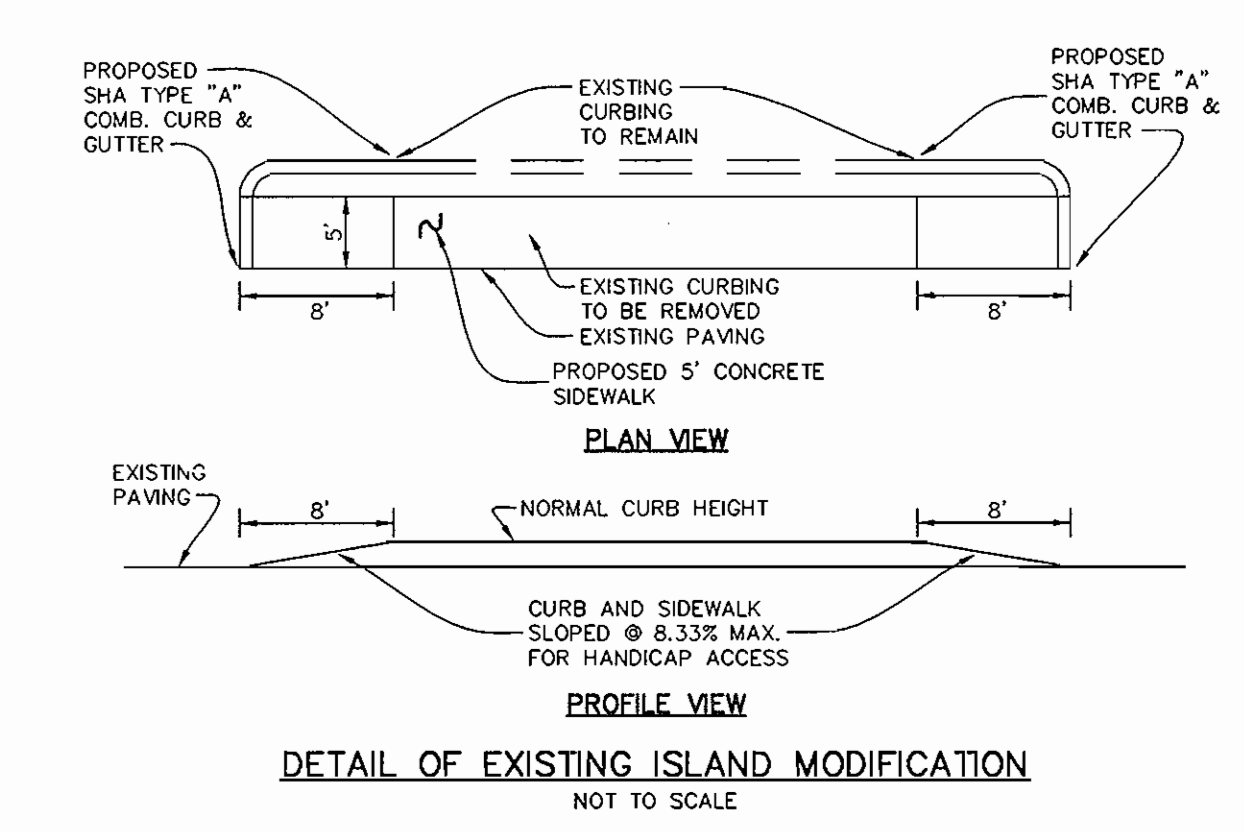
STATE OF MARYLAND PROFESSIONAL ENGINEER 5/6/07

OWNER:	BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070
PROJECT:	EUCLID CORNERS PARCEL 'A', LOTS 1274-1276 & OPEN SPACE LOT 1277
LOCATION:	TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	STORM DRAIN PROFILES AND DETAILS
DATE:	AUGUST, 2005 JUNE, 2007
PROJECT NO.	1465
DESIGN:	RPS
DRAFT:	RPS
CHECK:	DAM
SCALE:	AS SHOWN
SHEET	12 OF 14

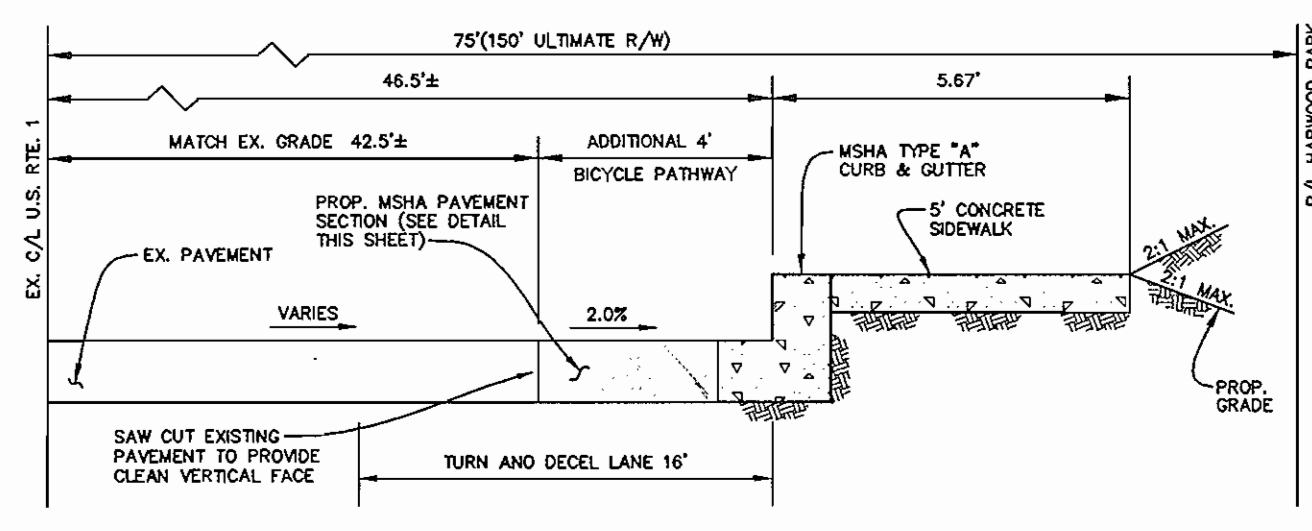




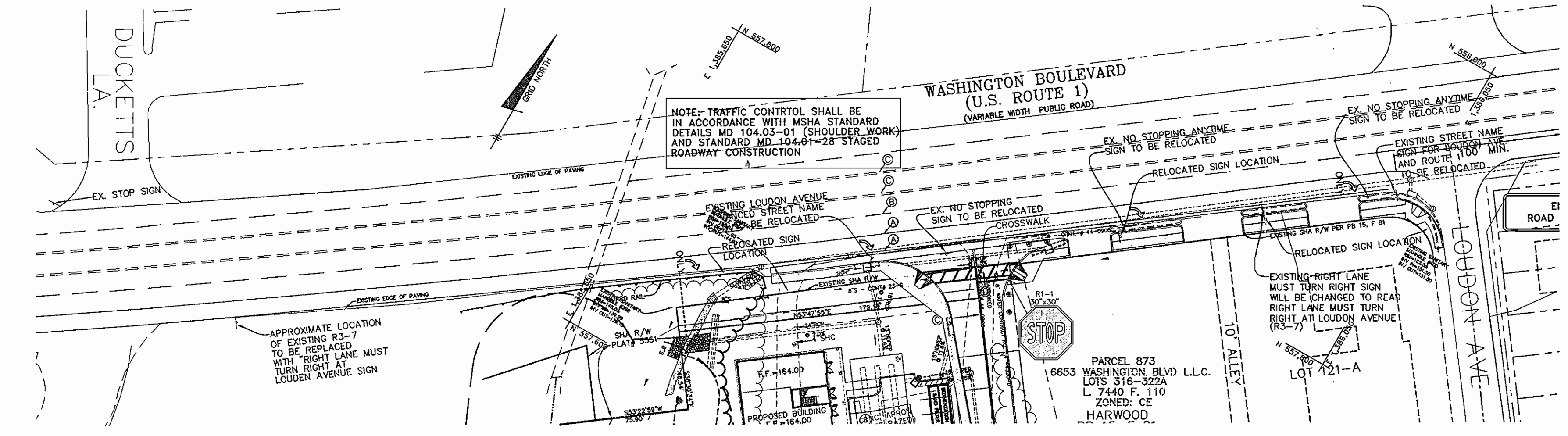
**PLAN VIEW**  
SCALE: 1" = 30'



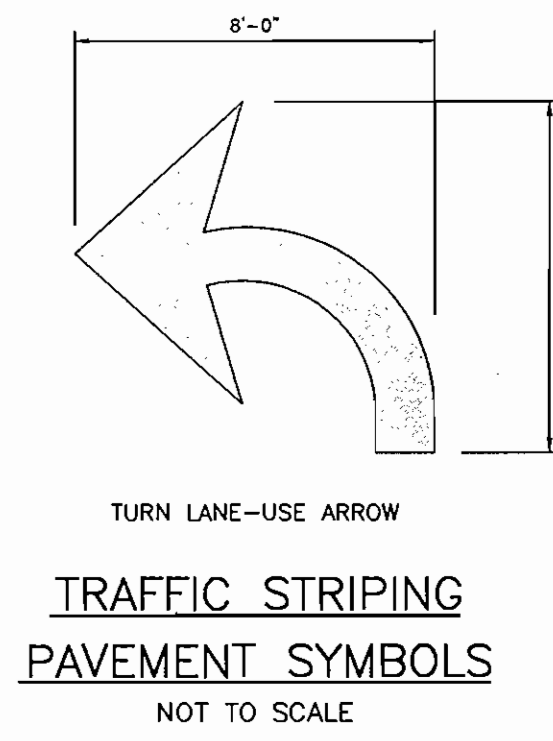
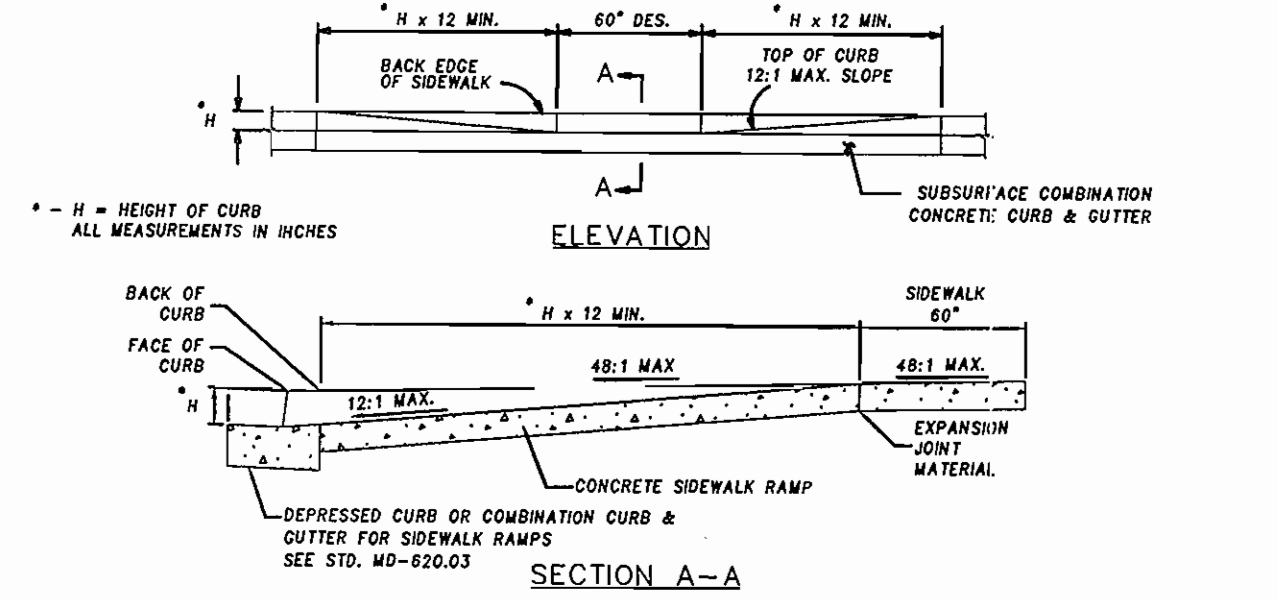
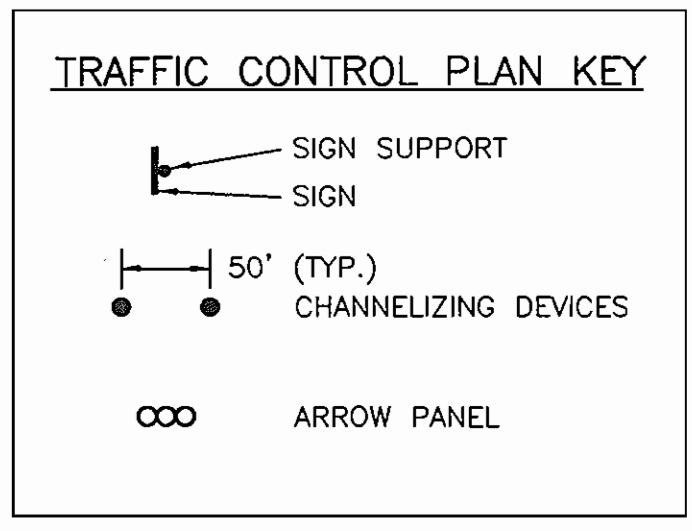
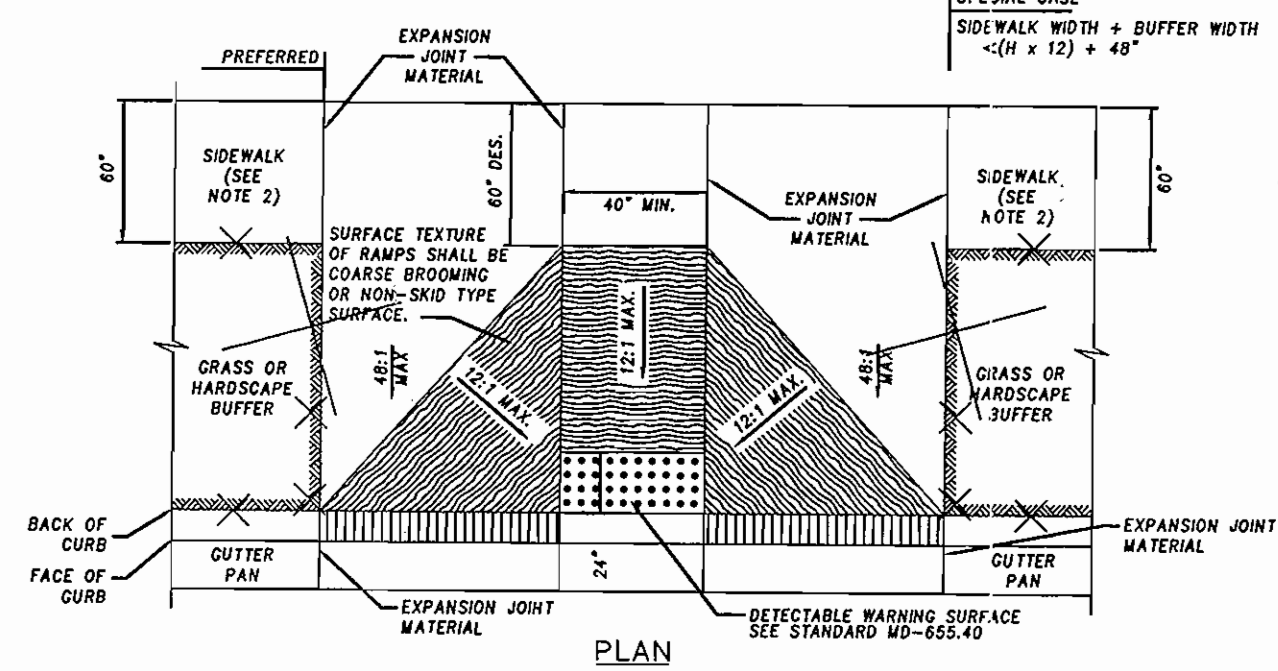
**DETAIL OF EXISTING ISLAND MODIFICATION**  
NOT TO SCALE



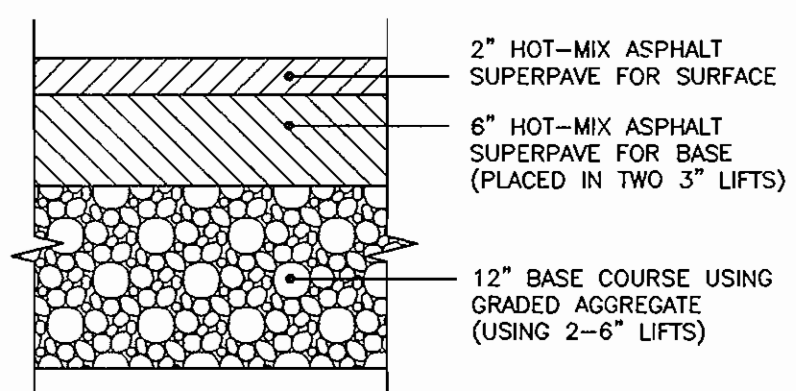
**TYPICAL ROAD WIDENING SECTION FOR U.S. ROUTE 1**  
NOT TO SCALE



**TRAFFIC STRIPING & SIGNAGE PLAN**  
SCALE: 1" = 50'



**TRAFFIC STRIPING PAVEMENT SYMBOLS**  
NOT TO SCALE



**MSHA "D" PAVING SECTION**  
NOT TO SCALE

**PAVEMENT MARKING LEGEND**

- Ⓐ = PAVEMENT LINES - 5" WHITE SOLID
- Ⓑ = PAVEMENT LINES - 5" WHITE DASH
- Ⓒ = PAVEMENT LINES - 5" DOUBLE YELLOW SOLID
- Ⓓ = PAVEMENT LINES - 12" WHITE SOLID "STOP BAR"
- Ⓔ = 1 X 4" SOLID WHITE LINE
- Ⓕ = 1 X 4" WHITE DASH LINE
- Ⓖ = 1 X 4" SOLID YELLOW LINE
- Ⓗ = 1 X 24"x12" SOLID WHITE "STOP BAR" (TO BE REPLACED 4' BEHIND THE CROSSWALK)

**TYPICAL SPACING LONGITUDINAL PAVEMENT LINES**



**TYPICAL SPACING LONGITUDINAL PAVEMENT LINES**  
NOT TO SCALE

- NOTES**
- TO BE USED ON WIDE SIDEWALKS OR SIDEWALKS WITH SIGNIFICANT SEPARATION FROM THE ROADWAY WHERE THE GEOMETRY SPECIFIED IN THE DETAILS ABOVE CAN BE SATISFIED. MAY BE MODIFIED TO SUIT A PARTICULAR LOCATION.
  - WHERE 60" SIDEWALK CAN NOT BE PROVIDED, A DESIGN WAIVER MUST BE REQUESTED.
  - NO TRANSVERSABLE SLOPE ON THE RAMP OF SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
  - EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STD. MD-835.01.
  - SIDEWALK RAMP SHALL BE INCLUDED IN PRICE BID FOR CONCRETE SIDEWALK. DEPRESSION CURB AND CURB TRANSITION SHALL BE INCLUDED IN PRICE BID FOR CURB & GUTTER ADJACENT TO SIDEWALK RAMP. DETECTABLE WARNING SURFACE SHALL BE PAID FOR IN ACCORDANCE WITH SECTION 611 OF THE SPECIFICATIONS.
  - SIDEWALK RAMP SHALL BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 7/11/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 7/24/07  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 7/22/07  
DIRECTOR

- PAVEMENT MARKING NOTES**
- ALL PAVEMENT MARKINGS TO BE 5" WIDE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS. A SINGLE HEAT APPLIED REFLECTIVE THERMOPLASTIC "LEFT-TURN" ARROW SHALL BE APPLIED IN EACH OF THE PROP. LEFT-TURN LANES.
  - ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2003 EDITION).
  - EX. PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH THE PROP. PAVEMENT MARKINGS FOR THIS CONTRACT WILL BE REMOVED BY THE CONTRACTOR.

<b>BENCHMARK</b> <b>ENGINEERING, INC.</b> 8480 BALTIMORE NATIONAL PIKE A SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644		
OWNER: BELLE GROVE CORP. 4024 BELLE GROVE ROAD BALTIMORE, MD 21225-2657 410-789-7070	PROJECT: <b>EUCLID CORNERS PARCEL 'A',          LOTS 1276-1278 and O/S LOT 1279</b> LOCATION: TAX MAP: 38, GRID: 13 PART OF PARCEL: 873 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: <b>ENTRANCE, TRAFFIC CONTROL, STRIPING          AND SIGNAGE PLAN</b> DATE: NOVEMBER 2005 JUNE 2007 PROJECT NO. 1465 SCALE: AS SHOWN SHEET 14 OF 14	