

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSA STANDARDS AND SPECIFICATIONS IF APPLICABLE OR AS SPECIFIED.
2. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE BASED SOLELY ON AVAILABLE RECORDS. CONTRACTOR SHALL VERIFY THE LOCATION OF ANY UTILITIES WHICH MAY BE IMPACTED BY THE WORK. MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO LOCATIONS OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TO VERIFY THEIR LOCATION AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF LOCATION OF UTILITIES IS OTHER THAN SHOWN.
4. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT +800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE, AND SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. ANY DAMAGE CAUSED BY THE CONTRACTOR TO EXISTING PUBLIC RIGHT-OF-WAY, EXISTING PAVING, EXISTING CURB & GUTTER, EXISTING UTILITIES, ETC. SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. EXISTING ON-SITE PUBLIC WATER PROVIDED BY CONTRACT NUMBER 44-10440.
6. THE SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING ANALYSIS FOR THIS PROJECT WAS MADE BY REULING ASSOCIATES, INC. ON NOVEMBER 17, 2006.
7. ALL FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED AND VERIFIED IN ACCORDANCE WITH MDOT T-180, OR AS SPECIFIED BY GEOTECHNICAL ENGINEER.
8. OPERATING EXISTING VALVES, SWITCHES, SERVICES OR START UP OF NEW SERVICES SHALL BE COORDINATED WITH THE OWNERS REPRESENTATIVE. THE BUILDINGS WILL BE PROVIDED WITH A SPRINKLER SYSTEM.
9. UNLESS OTHERWISE NOTED, DIMENSIONS FROM CURB ARE MEASURED FROM FACE.
10. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS.
11. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL WATER, SEWER, AND DRAIN HOUSE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
12. THE CONTRACTOR SHALL MAINTAIN 2.0 FEET MINIMUM PROTECTIVE COVER OVER ALL UTILITIES DURING CONSTRUCTION.
13. THERE ARE NO KNOWN CEMETERIES OR BURIAL GROUNDS ON THIS SITE. HOWEVER, UPON DISCOVERY OF ANY EVIDENCE OF BURIAL OR GRAVES, THE DEVELOPER WILL BE SUBJECT TO SECTION 16.1305 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
14. ALL SLOPES 2:1 MIN.
15. PAVING MARKINGS TO BE "TRAFFIC WHITE"
16. CONTRACTOR SHALL MAINTAIN A MINIMUM 2 FOOT BENCH BEHIND CURB AND GUTTER IN FILL AREAS.
17. ALL FIRE LINE PIPING SHALL MEET THE REQUIREMENTS OF THE NFPA PIPE SHALL BE UL LISTED, FM APPROVED AND MEET THE ANWA STANDARDS FOR FIRE PROTECTION. SEE FITTINGS SHALL HAVE PRESSURE CLASS RATINGS COMPATIBLE WITH THE PIPE USED.
18. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 3.5 FEET OF COVER OVER THE PRIVATE WATER MAIN SHOWN HEREON UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL PROVIDE ALL GRIPS OR VERTICAL BENDS NECESSARY TO MAINTAIN CLEARANCES WITH OTHER UTILITIES.
19. THE CONTRACTOR SHALL INSPECT THE SITE TO DETERMINE IF ANY TREES, PAVING OR STRUCTURES ARE TO BE REMOVED, PRIOR TO PLACING A BID ON THOSE ITEMS. THE CONTRACTOR SHALL CLEAR THE CONSTRUCTION AREA OF ALL EXISTING TREES, PAVING, STRUCTURES, ETC., UNLESS NOTED ON PLAN.
20. THE SUBJECT PROPERTY IS ZONED NT PER 2-2-04 COMPREHENSIVE ZONING PLAN. SEE FDP 184-A-IV, NEW TOWN (NT), EMPLOYMENT CENTER - INDUSTRIAL LAND USE.
21. NO CLEANSING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.
22. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE NEW TOWN ALTERNATIVE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
23. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$12,870.00.
24. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
25. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY DUVAL & ASSOCIATES, P.A., DATED MAY 11, 2006. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON A PLAT PREPARED BY CENTURRING ENGINEERING, INC. (5077).
26. THE COURSES AND COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NO. 42R1 WAS USED FOR THIS PROJECT.
27. ALL EXTERIOR LIGHTING SHALL COMPLY WITH SECTION 134 OF THE ZONING REGULATIONS.
28. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY STREET TRAFFIC STUDIES, LTD. ON OCTOBER 17, 2006, AND WAS APPROVED ON JUNE 15, 2007.
29. NOISE STUDY IS NOT REQUIRED FOR THIS INDUSTRIAL ZONED PROPERTY.
30. CONTRACTOR TO PLACE A WITNESS POST AT THE TERMINUS OF ALL UTILITY STUDIES.
31. CONTRACTOR TO VERIFY THE SIZE, LOCATION AND ELEVATION OF ALL WATER, SEWER AND STORM DRAIN CONNECTIONS AT THE BUILDING WITH THE MECHANICAL CONTRACTOR BEFORE BEGINNING CONSTRUCTION OF SERVICE CONNECTIONS TO SERVE THE BUILDING.
32. CONCRETE WHEEL STOPS SHALL BE INSTALLED WHERE SHOWN ON THE PLAN AND SHALL BE PRECAST, STANDARD CONCRETE, ANCHORED TO THE PAVEMENT WITH 2 STEEL RODS PER EACH WHEEL STOP DRIVEN A MINIMUM OF 8" IN BITUMINOUS CONCRETE PAVEMENT OR TWO DOWELS PER EACH WHEEL STOP GROUTED A MINIMUM OF 4" INTO CEMENT PAVEMENT.
33. STORMWATER MANAGEMENT REQUIREMENTS FOR THIS PROJECT WILL BE MET VIA A PRIVATE UNDERGROUND RETENTION (STONE STORAGE) FACILITY FOR QUANTITY AND A PRIVATE F-2 UNDERGROUND SAND FILTER FOR QUALITY. QUANTITY AND QUALITY MANAGEMENT ARE PROVIDED FOR THE ENTIRE SITE. THE BMP'S WILL BE OWNED AND MAINTAINED BY THE OWNER, SUCCESSOR OR ASSIGNEE.
34. HANDICAP PARKING DETAILS SHALL BE IN ACCORDANCE WITH "M" BUILDING CODE FOR THE HANDICAPPED" SECTION 5.01-7.05.
35. ANY DAMAGE TO COUNTY OWNED RIGHT-OF-WAY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
36. ALL SIDEWALKS SHALL BE CROSS SLOPED AT 1/4 INCH PER FOOT.
37. ALL MATERIALS AND CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV.
38. ALL ON SITE DRIVEWAYS AND PARKING AREAS TO BE PRIVATELY MAINTAINED.
39. ALL PROPOSED HC RAMPS SHALL BE IN ACCORDANCE WITH CURRENT ADA STANDARDS.
40. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
41. ELECTRIC, GAS, CABLE, TELEPHONE AND LIGHTING LINES DESIGNED BY OTHERS.
42. IN ACCORDANCE WITH SUBDIVISION SECTION 16.1202(b)(1)(iv), THIS PROPERTY IS EXEMPT FROM COMPLIANCE WITH THE REQUIREMENTS OF THE FOREST CONSERVATION ACT PLAN BECAUSE PARCEL C IS A PART OF A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY DEVELOPMENT PLAN APPROVAL AND 50% OR MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992.
43. THIS SDP IS SUBJECT TO FDP 184-A-IV, THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE AMENDED ZONING REGULATIONS ON THE 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.
44. ALL SIGNAGE MUST COMPLY WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, MILLENIUM EDITION AND ALL APPLICABLE HANDICAP REGULATIONS.
45. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED SQUARE TUBE POST 1 1/4 GAUGE INSERTED INTO A 2 1/2" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
46. THERE IS NO FLOODPLAIN ON THIS SITE.
47. THERE ARE NO WETLANDS ON THIS SITE.
48. 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 FROM THE DOOR. THE BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTEGRATED WITH THE FIRE ALARM SYSTEM). NFPA-10.12.1
49. THERE SHALL BE NO LANDSCAPING WITHIN 7.5' OF EACH SIDE OF THE FIRE DEPARTMENT SIEMSE CONNECTION. A CLEAR UNOBSTRUCTED ACCESS PATH TO THE FIRE DEPARTMENT SIEMSE CONNECTION SHALL BE PROVIDED. NFPA-13.14
50. AN ALTERNATIVE COMPLIANCE REQUEST TO DESIGN MANUAL, VOLUME I, SECTION 5.2.5.F, WHICH REQUIRES THAT RCN COMPUTATIONS FOR COMMERCIAL DISTRICTS BE BASED ON ZONING (85% IMPERVIOUS COVER), TO ALLOW THE USE OF SPECIFIC IMPERVIOUS COVER WHICH IN THIS CASE IS 70% WAS APPROVED ON AUGUST 1, 2007.

NOTE: WAIVER PETITION (WP-19-051) WAS APPROVED ON OCTOBER 1, 2014. ON OCTOBER 1, 2014, THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE SUBDIVISION SECTION 16.156(c)(1)(i) AND GRANTED A ONE (1) YEAR EXTENSION FROM THE PREVIOUS DEADLINE DATE OF OCTOBER 30, 2014 UNTIL OCTOBER 30, 2015 TO APPLY FOR A BUILDING PERMIT TO INITIATE CONSTRUCTION ON THE SITE.

THE APPROVAL OF THIS WAIVER PETITION IS SUBJECT TO COMPLIANCE WITH THE FOLLOWING CONDITIONS OF APPROVAL:

1. THE PETITION/DEVELOPER OR BUILDER SHALL APPLY FOR A BUILDING PERMIT TO INITIATE CONSTRUCTION ON THE SITE BY THE EXTENDED DEADLINE DATE OF OCTOBER 30, 2015, OR THE APPROVAL OF SDP-07-070 SHALL EXPIRE IN ACCORDANCE WITH SUBDIVISION SECTION 16.156(c)(2). THIS WAIVER PETITION APPROVAL WILL REMAIN VALID UNTIL OCTOBER 30, 2015.
2. NEW STORMWATER MANAGEMENT (SWM) REGULATIONS ARE NOW IN EFFECT. IN ORDER TO MAINTAIN THE GRANDFATHERING OF THE PREVIOUSLY APPROVED SWM, THE DEVELOPER SHALL COMPLETE ALL CONSTRUCTION FOR THIS PROJECT BY MAY 1, 2017.

JUSTIFICATION FOR THE APPROVAL RECOMMENDATION FOR THIS WAIVER PETITION: UNDO HARSHIPS AND PRACTICAL DIFFICULTIES WOULD RESULT FROM STRICT COMPLIANCE WITH THE REGULATIONS DUE TO THE CURRENT ECONOMIC DOWNTURN AND THE CURRENT POOR COMMERCIAL MARKET.

SITE DEVELOPMENT PLAN

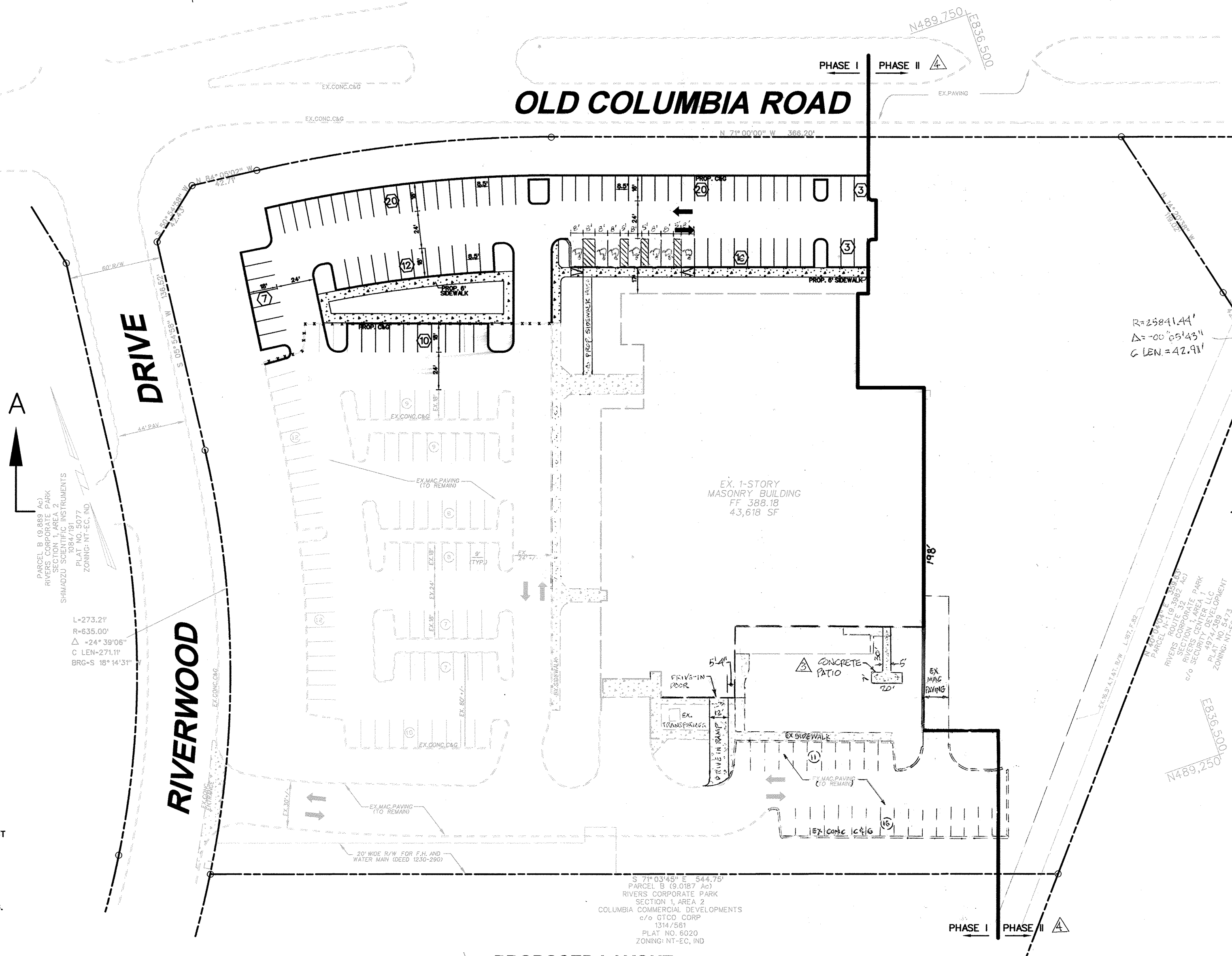
for

RIVERS CORPORATE PARK

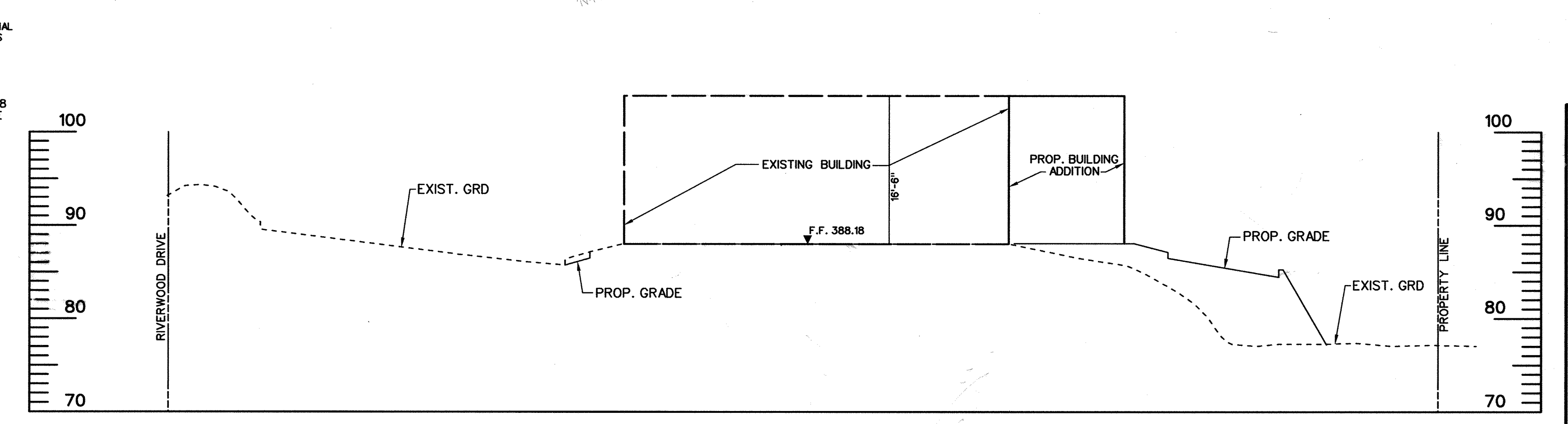
SECTION 1, AREA 1

PARCEL C

HOWARD COUNTY, MARYLAND



PROPOSED LAYOUT
SCALE: 1" = 50'



AS-BUILT CERTIFICATION FOR PSWM
THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.

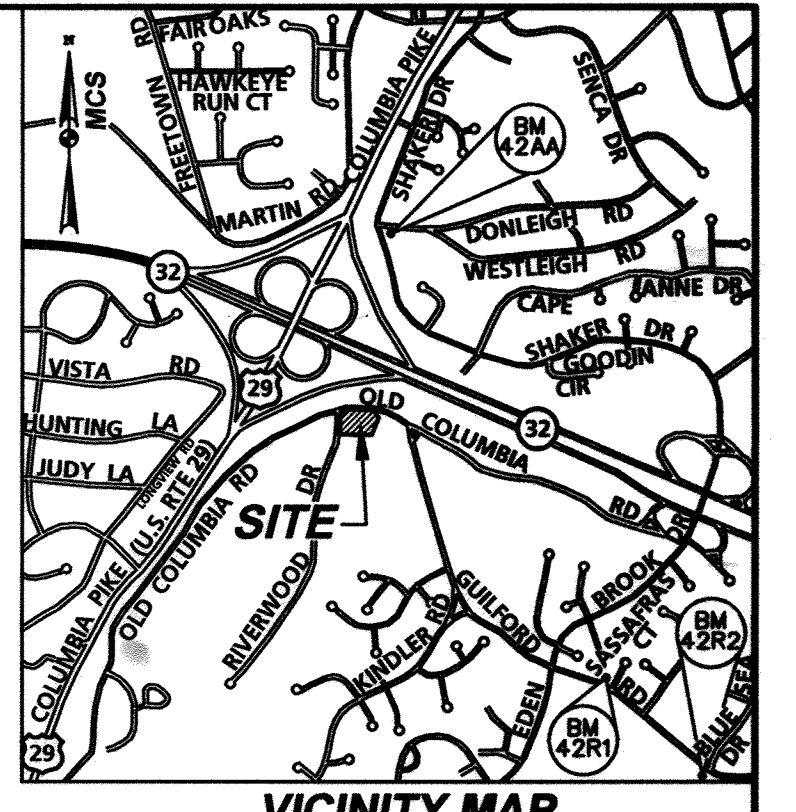
WONA-ROSTER ZARSKA 21245 SEPTEMBER 3, 2015
NAME P.E. LICENSE NO. DATE OF AS-BUILT

PROFESSIONAL CERTIFICATION
HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

NOTE: WAIVER PETITION (WP-10-124) WAS APPROVED ON APRIL 9, 2010. THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE SECTION 16.156(c)(1)(i) AND GRANT A 1 YEAR EXTENSION OF THE DEADLINE DATE OF OCTOBER 30, 2010 TO APPLY FOR A BUILDING PERMIT TO INITIATE CONSTRUCTION ON THE SITE.

- APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

1. THE DEVELOPER SHALL APPLY TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS FOR BUILDING PERMITS TO INITIATE CONSTRUCTION ON THE SITE WITHIN 1 YEAR FROM THE DATE OF THIS APPROVAL OR BEFORE NOVEMBER 2, 2011.
2. RED-LINE THE SITE DEVELOPMENT PLAN BY ADDING ANOTE STATING THAT THIS WAIVER PETITION WILL BE VALID FOR ONE ADDITIONAL YEAR FROM THE STATE'S TOLLING PERIOD OF JUNE 30, 2010 TO APPLY FOR THE INITIAL BUILDING PERMIT. INCLUDE WAIVER PETITION NUMBER AND EXPLANATION OF WAIVERS GRANTED IN THE NOTE.



BENCHMARK

42R1:	3/4" IRON ROD
CORNER OF GUILFORD RD. & SASSAFRAS CT.	
N: 166,878.9226	
E: 411,837.9244	
42R2:	3/4" IRON ROD
HAMMOND HIGH SCHOOL, E. GUILFORD RD. (BLUE SEA DR.)	
N: 166,709.7181	
E: 412,126.5832	
42AA:	D-109 ALSO 0069
AREA NE OF RT-29 & RT-32 CROSSING	
N: 165,115.6084	
E: 411,234.2808	

NOTE: WAIVER PETITION (WP-13-092) WAS APPROVED ON NOVEMBER 9, 2012. THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE SECTION 16.156(c)(1)(i) AND GRANT A 1 YEAR EXTENSION TO APPLY FOR BUILDING PERMITS FOR THE PURPOSE OF CONSTRUCTING A 20,850 SQUARE FOOT BUILDING ADDITION.

- APPROVAL IS SUBJECT TO THE FOLLOWING TWO (2) CONDITIONS:

1. WITHIN 1 YEAR FROM THE DATE OF THIS APPROVAL (ON OR BEFORE NOVEMBER 2, 2013), THE DEVELOPER/OWNER SHALL APPLY TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS FOR BUILDING PERMITS FOR ALL CONSTRUCTION AUTHORIZED BY THE APPROVED SITE DEVELOPMENT PLAN.
2. COMPLIANCE WITH COMMENTS FROM THE DEVELOPMENT ENGINEERING DIVISION.

NOTE: WAIVER PETITION (WP-14-043) WAS APPROVED ON OCTOBER 30, 2013. THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE SECTION 16.156(c)(1)(i) AND GRANT A 1 YEAR EXTENSION TO APPLY FOR BUILDING PERMITS FOR THE PURPOSE OF CONSTRUCTING A 29,850 SQUARE FOOT BUILDING ADDITION.

- THE DIVISION OF LAND DEVELOPMENT RECOMMENDS APPROVAL SUBJECT TO THE FOLLOWING TWO (2) CONDITIONS:

1. WITHIN 1 YEAR FROM THE DATE OF THIS APPROVAL (ON OR BEFORE OCTOBER 30, 2014) THE THE DEVELOPER/OWNER SHALL APPLY TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS FOR BUILDING PERMITS FOR ALL CONSTRUCTION AUTHORIZED BY THE APPROVED SITE DEVELOPMENT PLAN.
2. COMPLIANCE WITH COMMENTS FROM THE DEVELOPMENT ENGINEERING DIVISION.

NOTE: WAIVER PETITION WP-16-048 WAS APPROVED ON OCTOBER 30, 2015. THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE SECTION 16.156(c)(1)(i) AND GRANT AN EXTENSION TO APPLY FOR BUILDING PERMITS TO INITIATE CONSTRUCTION ON THE SITE.

- THE DIVISION OF LAND DEVELOPMENT RECOMMENDS APPROVAL SUBJECT TO THE FOLLOWING CONDITIONS:

1. WITHIN 90 DAYS FROM THE PRESENT OCTOBER 30, 2015 DEADLINE DATE, (ON OR BEFORE JANUARY 28, 2016) THE DEVELOPER/OWNER SHALL APPLY TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS FOR BUILDING PERMITS FOR ALL CONSTRUCTION AUTHORIZED BY THE APPROVED SITE DEVELOPMENT PLAN (SDP-07-070).
2. SHOULD THE EXTENSION GO BEYOND THE DEVELOPER'S OBLIGATION DATE OF MARCH 27, 2016, THEN THE APPLICANT WOULD NEED TO EXTEND THE DATE OF THE DEVELOPER'S AGREEMENT AS WELL. THIS WOULD BE HANDLED BY THE REAL ESTATES SERVICES DIVISION IN THE DEPARTMENT OF PUBLIC WORKS.

REASONS FOR REVISION #1

1. TO SHOW LIMITS OF PHASE I AND PHASE II OF CONSTRUCTION
 2. TO SHOW PROPOSED IMPROVEMENTS FOR PHASE OF CONSTRUCTION
 3. TO ADDRESS SWM REQUIREMENTS FOR THE NEW IMPERVIOUS AREA WITHIN PHASE I OF CONSTRUCTION
- APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. WITHIN 90 DAYS FROM THE PRESENT OCTOBER 30, 2015 DEADLINE DATE, (ON OR BEFORE JANUARY 28, 2016) THE DEVELOPER/OWNER SHALL APPLY TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS FOR BUILDING PERMITS FOR ALL CONSTRUCTION AUTHORIZED BY THE APPROVED SITE DEVELOPMENT PLAN (SDP-07-070).
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SITE DATA (OVERALL SITE)

1. CURRENT PLAT REFERENCE: 5077
 2. CURRENT DEED REFERENCES: 10007/687
 3. TAX ACCOUNT NUMBER: 167312
 4. PRESENT ZONING: NEW TOWN (NT), FDP 184-A-IV, EMPLOYMENT CENTER - INDUSTRIAL LAND USE
 5. APPLICABLE DPZ FILE REFERENCES: F 82-28, SDP 82-79c
 6. EXISTING USE: OFFICE BUILDING (43,618 SF)
 7. PROPOSED USE: OFFICE BUILDING / CHURCH (43,618 SF)
8. EXISTING WATER: PUBLIC
9. EXISTING SEWER: PUBLIC
- II. AREA TABULATION:
1. PARCEL C: 6.6328 ACRES OR 288,924.76 SF
 2. TOTAL DISTURBED AREA: 120,250 SF OR 2.76 ACRES
 3. TOTAL IMPERVIOUS (EX. & PROP.) AREA: 141,066 SF OR 3.24 ACRES - 49.6%
 4. BUILDING EXISTING COVERAGE TO SITE: 1.00 ACRES OR 15%
- III. OPEN SPACE DATA: NONE REQUIRED
- IV. PARKING SPACE DATA:
(SEE PARKING SPACE DATA FOR PHASE I CONSTRUCTION)

SHEET INDEX	
NO.	SHEET TITLE
C-1	COVER SHEET
C-2	SITE PLAN
C-3	GRADING & UTILITY PLAN
C-4	SITE DETAILS
C-5	STORM DRAIN DRAINAGE AREA MAP
C-6	STORM DRAIN PROFILES
C-7	EROSION AND SEDIMENT CONTROL PLAN
C-8	EROSION AND SEDIMENT CONTROL DETAILS
C-9	EROSION AND SEDIMENT CONTROL NOTES
C-10	STORMWATER MANAGEMENT DRAINAGE AREA MAP
C-11	STORMWATER MANAGEMENT PLAN AND PROFILES
C-12	STORMWATER MANAGEMENT DETAILS I
C-13	STORMWATER MANAGEMENT DETAILS II (F-2 UNDERGROUND SAND FILTER)
C-14	STORMWATER MANAGEMENT SPECIFICATIONS II (F-2 UNDERGROUND SAND FILTER)
C-15	STORMWATER MANAGEMENT DETAILS & SPECIFICATIONS (MD-37B)
C-16	LANDSCAPE PLAN
C-16A	LANDSCAPE NOTES & DETAILS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: 10/27/11
Date: 10/27/11

Chief, Land Development Division: 10/31/11
Date: 10/31/11

ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.
RIVERS CORPORATE PARK	1 / 1	C
PLAT NO. OR L/F	GRID NO.	ZONING
5077	1	NT
TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
42	6TH	6069-02
WATER CODE	SEWER CODE	
E16	5290000	

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers

222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

Professional Engineer Seal: WONA-ROSTER ZARSKA, License No. 21245, State of Maryland, expires 6/9/2016.

DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	APPROX. A CONC. PATH TO REDUCED PAVING ADDITION AND REVISED THE LANDSCAPE PLAN ON PHASE I OF THE LANDSCAPE PLAN	BLDG
02/01/16	4	CONSTRUCTION OF PHASE II	BLDG
09/24/16	5	REVISED PARKING CALCULATIONS	BLDG

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

COVER SHEET
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE

SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)

HOWARD COUNTY, MD
SCALE: 1" = 50'

SHEET 1 OF 16
DATE: OCTOBER, 2011

SDP-07-070

LEGEND

RIGHT-OF-WAY LINE	---
PROPERTY LINE	---
EX. CONCRETE CURB & GUTTER	EX.C&G
EX. STORM DRAIN, MANHOLE & INLET	EX.15"D
EX. SANITARY SEWER, MANHOLE & CLEANOUT	EX.8"S
EX. WATER MAIN, VALVE & FIRE HYDRANT	EX.12"W
EX. LIGHT POLE (TO REMAIN)	*
EX. LIGHT POLE (TO BE REMOVED)	✕
EX. TREE LINE	~
EX. TREE	○
EX. INDEX CONTOURS	---370---
EX. INTERMEDIATE CONTOURS	---374---
EX. CONCRETE CURB & GUTTER TO BE REMOVED	*****
PROP. CONCRETE CURB & GUTTER	PROP.C&G
PROP. STORM DRAIN, MANHOLE & INLET	PROP.15"D
PROP. INDEX CONTOURS	---380---
PROP. INTERMEDIATE CONTOURS	---388---
PROP. PARKING CURB	(1)
PROP. ON-SITE 30' HIGH LIGHT POLE (PRIVATE)	□+□
LIMIT OF PERVIOUS PAVEMENT (SEE SHT 15 FOR DETAILS)	▨

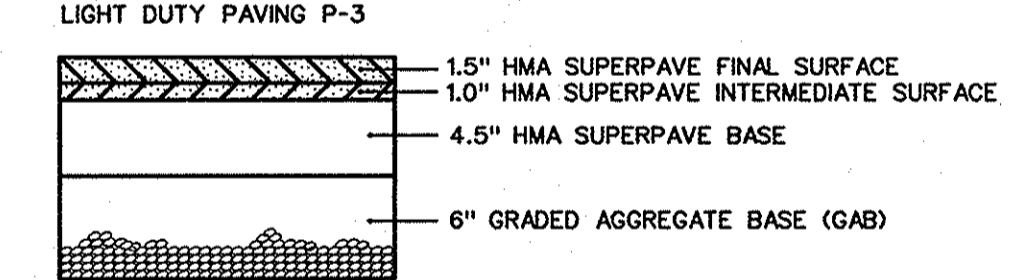
SITE CONSTRUCTION NOTES

1. SAW CUT, REMOVE EX. CONC. C&G AND EX. SIDEWALK. GRADE, INSTALL NEW PAVING AND CONC. C&G. MATCH EX. PAVING FOR GRADE AND SEAL JOINTS. INSTALL NEW SIDEWALK, MATCH EX. SIDEWALK FOR GRADE.
2. MATCH EX. CONC. C&G/EX. SIDEWALK FOR GRADE AND LINE.
3. SAW CUT, REMOVE EX. PAVING, INSTALL NEW PAVING. MATCH EX. PAVING FOR GRADE AND SEAL JOINTS.
4. FULLY DEPRESSED CURB

PAVEMENT SECTION LEGEND

LIGHT DUTY PAVING	▨
CONCRETE SIDEWALK (SEE DETAIL SHEET 4 OF 16)	▨

PAVEMENT SECTION DETAILS



REASONS FOR REVISION #1

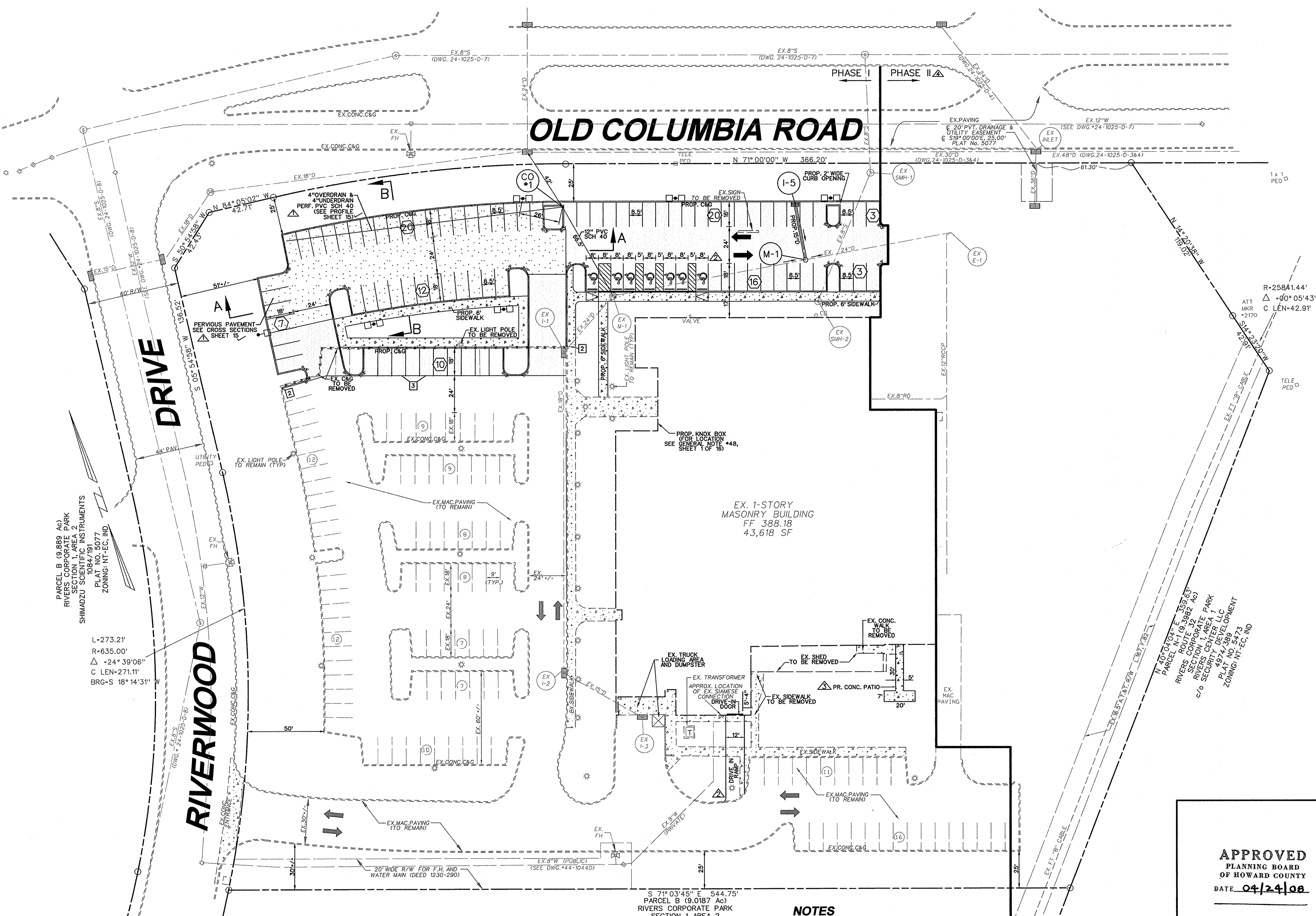
1. TO SHOW LIMITS OF PHASE I AND PHASE II OF CONSTRUCTION
2. TO SHOW PROPOSED IMPROVEMENTS FOR PHASE I OF CONSTRUCTION
3. TO ADDRESS SWM REQUIREMENTS FOR THE NEW IMPERVIOUS AREA WITHIN PHASE I OF CONSTRUCTION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i> Chief, Development Engineering Division	Date: 5-16-16
<i>[Signature]</i> Chief, Land Development Division	Date: 5-18-16
<i>[Signature]</i> Director	Date: 5-18-16

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART				
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.		
RIVERS CORPORATE PARK	1 / 1	C		
PLAT NO. OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.
5077	1	NT	42	6TH
SEWER CODE	SEWER CODE			
E16	5290000			

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 04/24/08



NOTES

1. SEE SHEET 4 OF 16 FOR HANDICAP ACCESSIBLE ROUTES FOR EX. BUILDING.
2. SEE SHEET 4 OF 16 FOR LIGHTING DETAIL.

CONSTRUCTION CHECK MARK NOTE:
ALL ELEMENTS OF THE STORM WATER MANAGEMENT PRACTICE HAVE BEEN CONSTRUCTED AS PER APPROVED STORM WATER MANAGEMENT PLANS, UNLESS NOTED OTHERWISE WITH ACTUAL AS-BUILT DATA. ITEMS MARKED WITH A CHECK MARK (✓) INDICATE THAT THEY WERE BUILT PER APPROVED STORM WATER MANAGEMENT PLANS.

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

AS-BUILT CERTIFICATION FOR PSWM
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THE PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT GLOGGING OF THE UNDERGROUND SWM FACILITY.

IWONA-ROSTEK ZARSKA 21245 JUNE 9, 2016
NAME P.E. LICENSE NO. EXPIRATION DATE
[Signature] SEPTEMBER 2, 2015
SIGNATURE DATE OF AS-BUILT

S 71° 03' 45" E 544.75'
PARCEL B (9.0187 AC)
RIVERS CORPORATE PARK
SECTION 1, AREA 2
COLUMBIA COMMERCIAL DEVELOPMENTS
c/o GTCO CORP
1314/561
PLAT NO. 6020
ZONING: NT-EC, IND

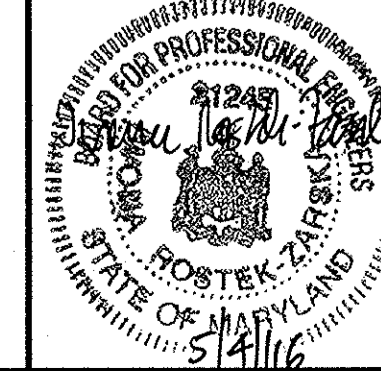
OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

HOWARD COUNTY, MD
SCALE: 1" = 30'

REVISED SITE PLAN
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

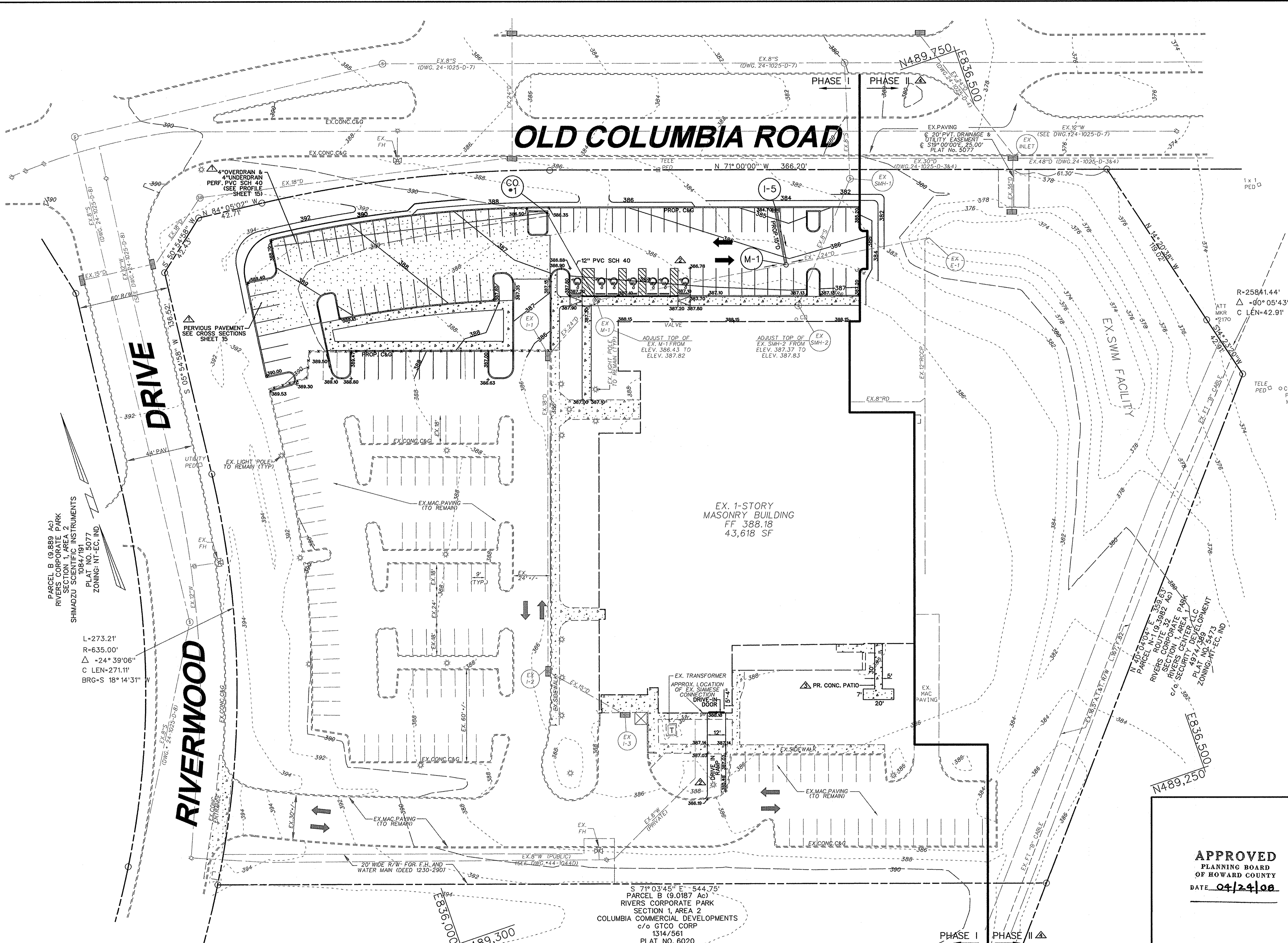


LEGEND

RIGHT-OF-WAY LINE	—————
PROPERTY LINE	—————
EX. CONCRETE CURB & GUTTER	— EX.C&G —
EX. STORM DRAIN, MANHOLE & INLET	— EX.15"D —
EX. SANITARY SEWER, MANHOLE & CLEANOUT	— EX.8"S —
EX. WATER MAIN, VALVE & FIRE HYDRANT	— EX.12" W —
EX. LIGHT POLE (TO REMAIN)	*
EX. TREE LINE	~~~~~
EX. TREE	○
EX. INDEX COUNTOURS	— 370 —
EX. INTERMEDIATE COUNTOURS	— 374 —
EX. CONCRETE CURB & GUTTER TO BE REMOVED	*****
PROP. CONCRETE CURB & GUTTER	— PROP.C&G —
PROP. STORM DRAIN, MANHOLE & INLET	— PROP.15"D —
PROP. INDEX COUNTOURS	— 380 —
PROP. INTERMEDIATE COUNTOURS	— 388 —
PROP. ONSITE 30' HIGH LIGHT POLE (PRIVATE)	□+□

NOTE: ALL STORMWATER MANAGEMENT FACILITIES ARE PRIVATE AND SHALL BE MAINTAINED BY THE OWNER. HAZARD CLASSIFICATION IS "A".

LIMIT OF PERVIOUS PAVEMENT (SEE SHT 15 FOR DETAILS)



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 04/24/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
Chief, Development Engineering Division	5-11-16
Chief, Land Development Division	5-18-16
Director	5-18-16

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.			
RIVERS CORPORATE PARK	1 / 1	C			
PLAT NO. OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
5077	1	NT	42	6TH	6069-02
WATER CODE	SEWER CODE				
E18	5290000				

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

AS-BUILT CERTIFICATION FOR PSWM
NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.

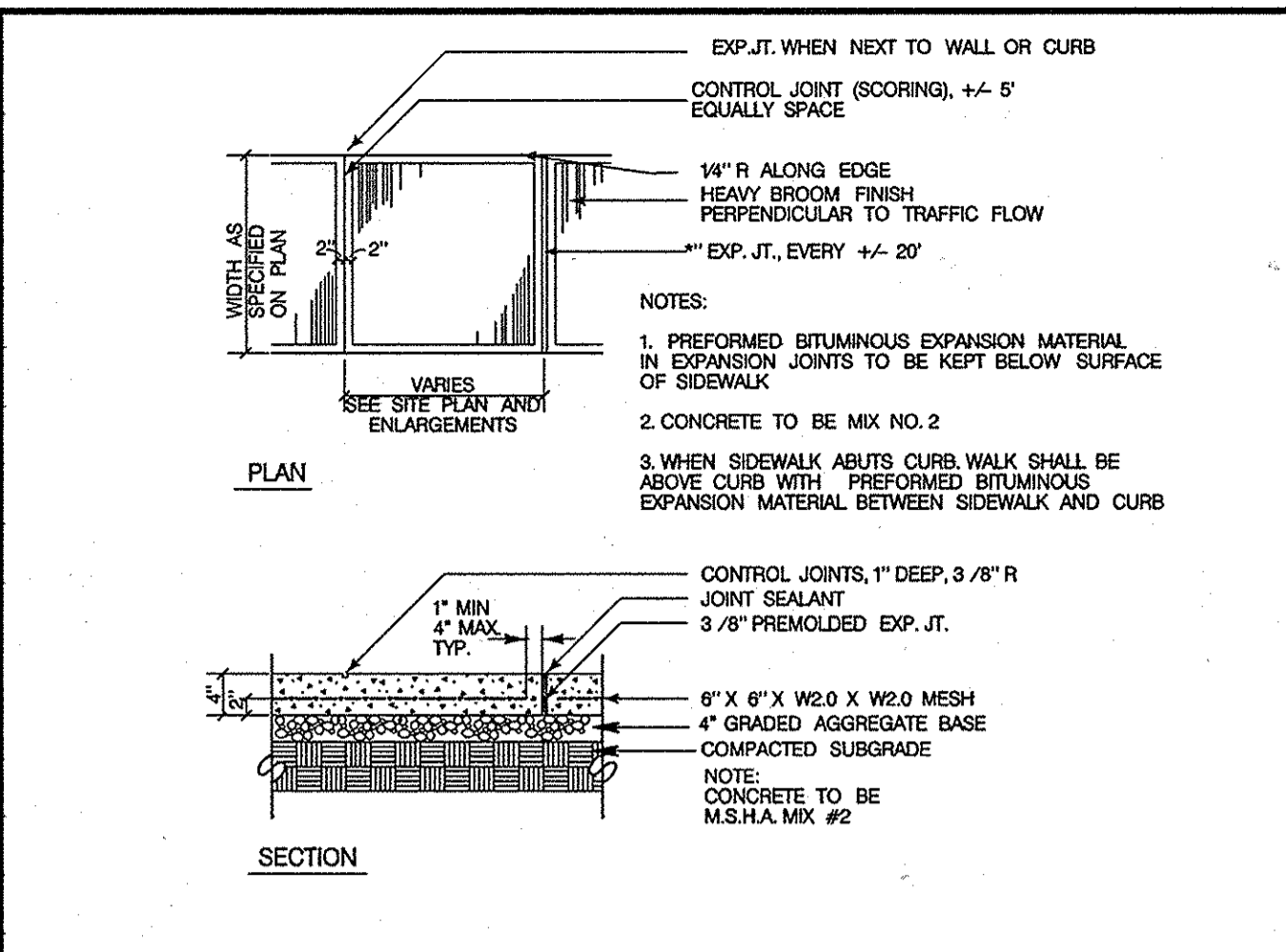
HWONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
NAME P.E. LICENSE NO. DATE OF AS-BUILT

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

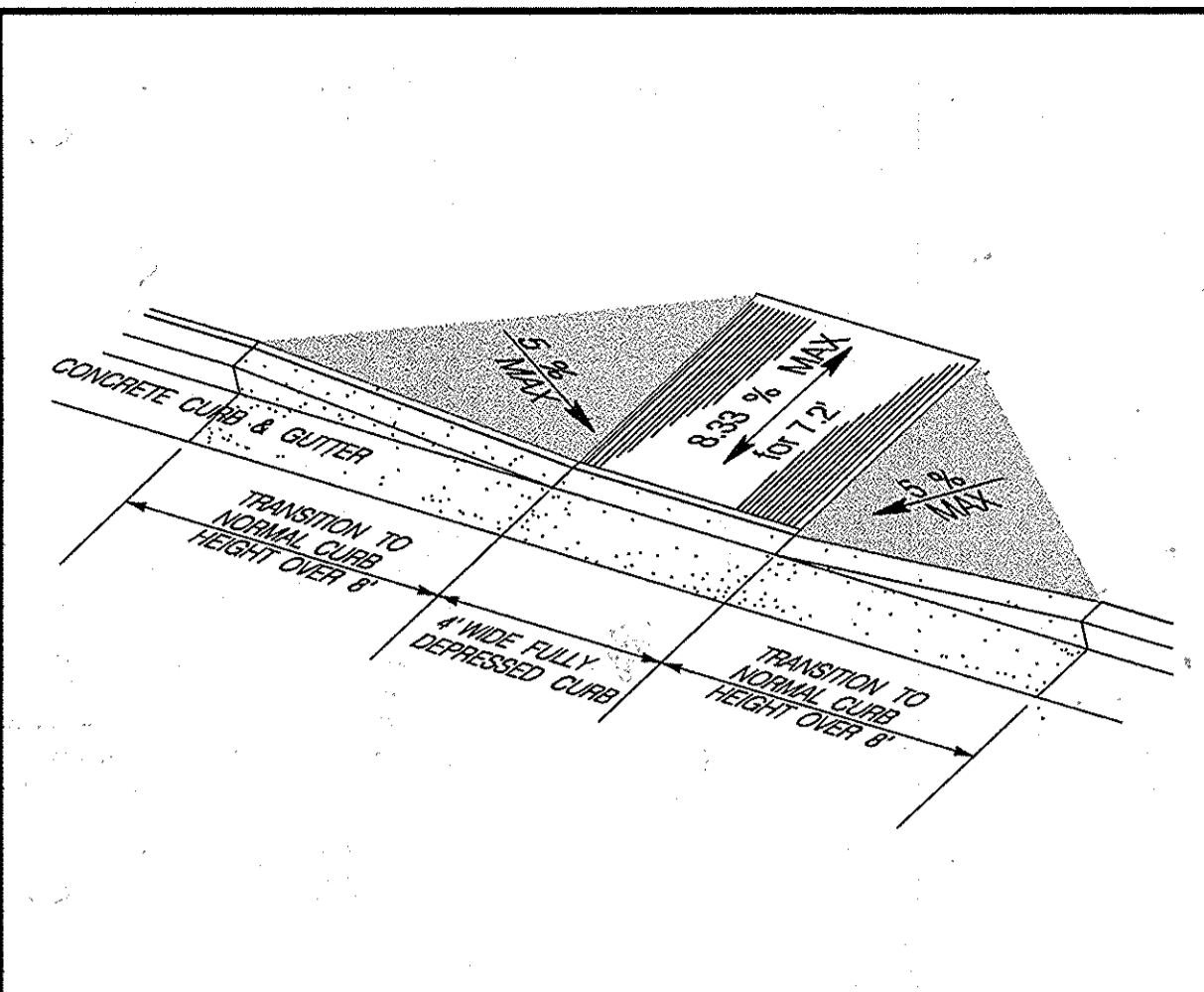
DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

HOWARD COUNTY, MD
SCALE: 1" = 30'
Revised GRADING AND UTILITY PLAN
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)
SHEET 3 OF 16
DATE: MAY, 2016
SDP-07-070

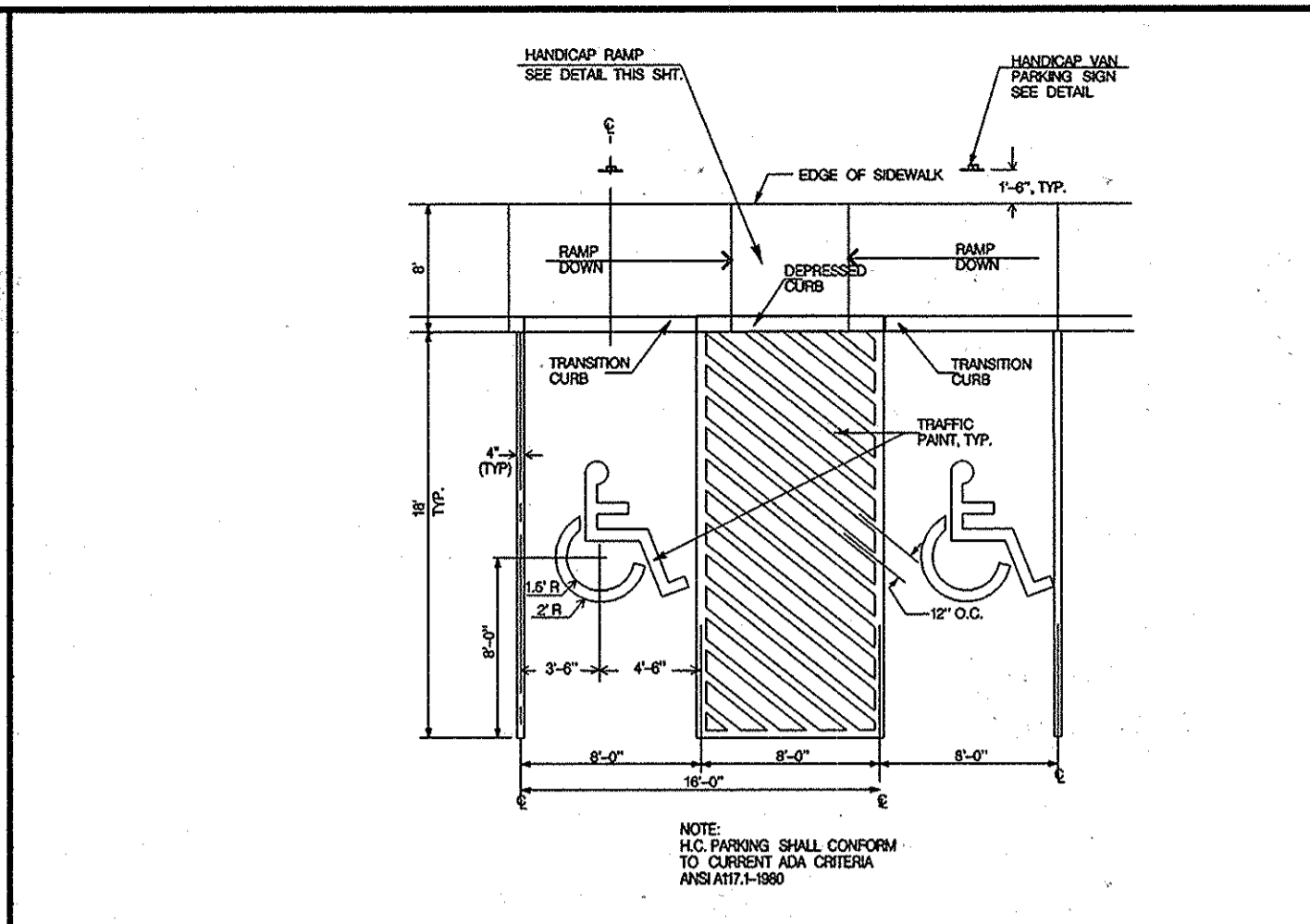
BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



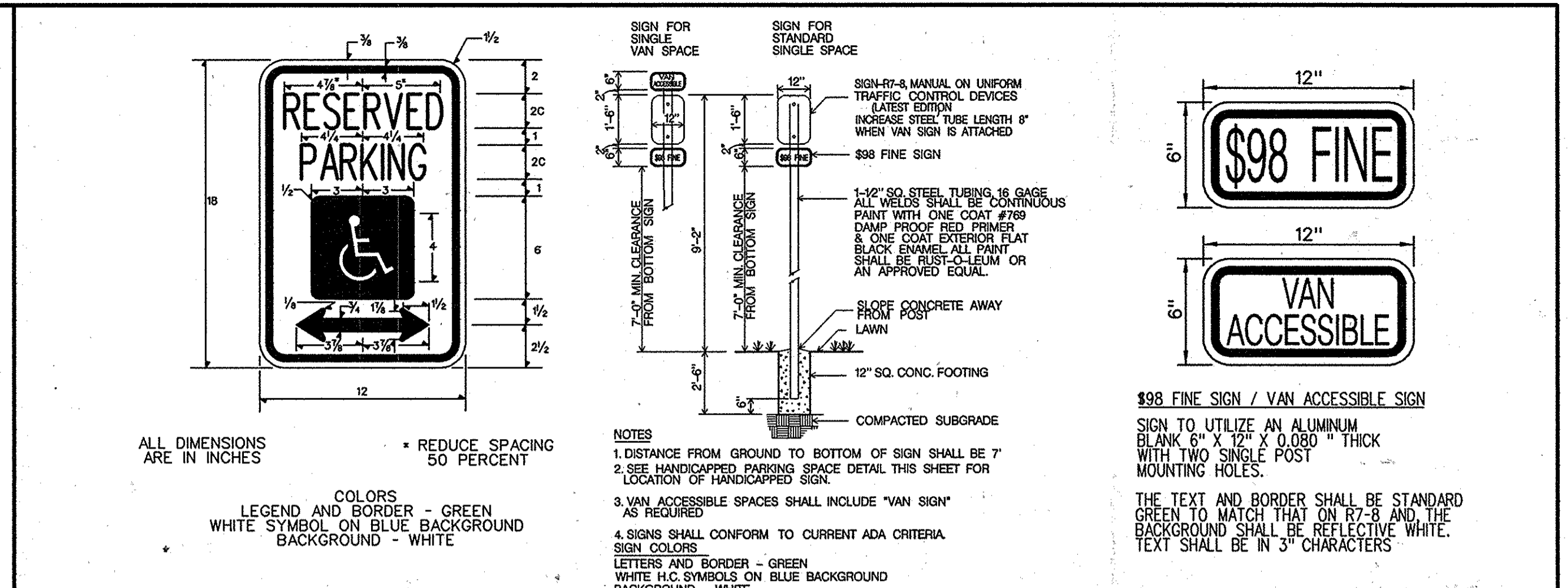
Detail Concrete Walk



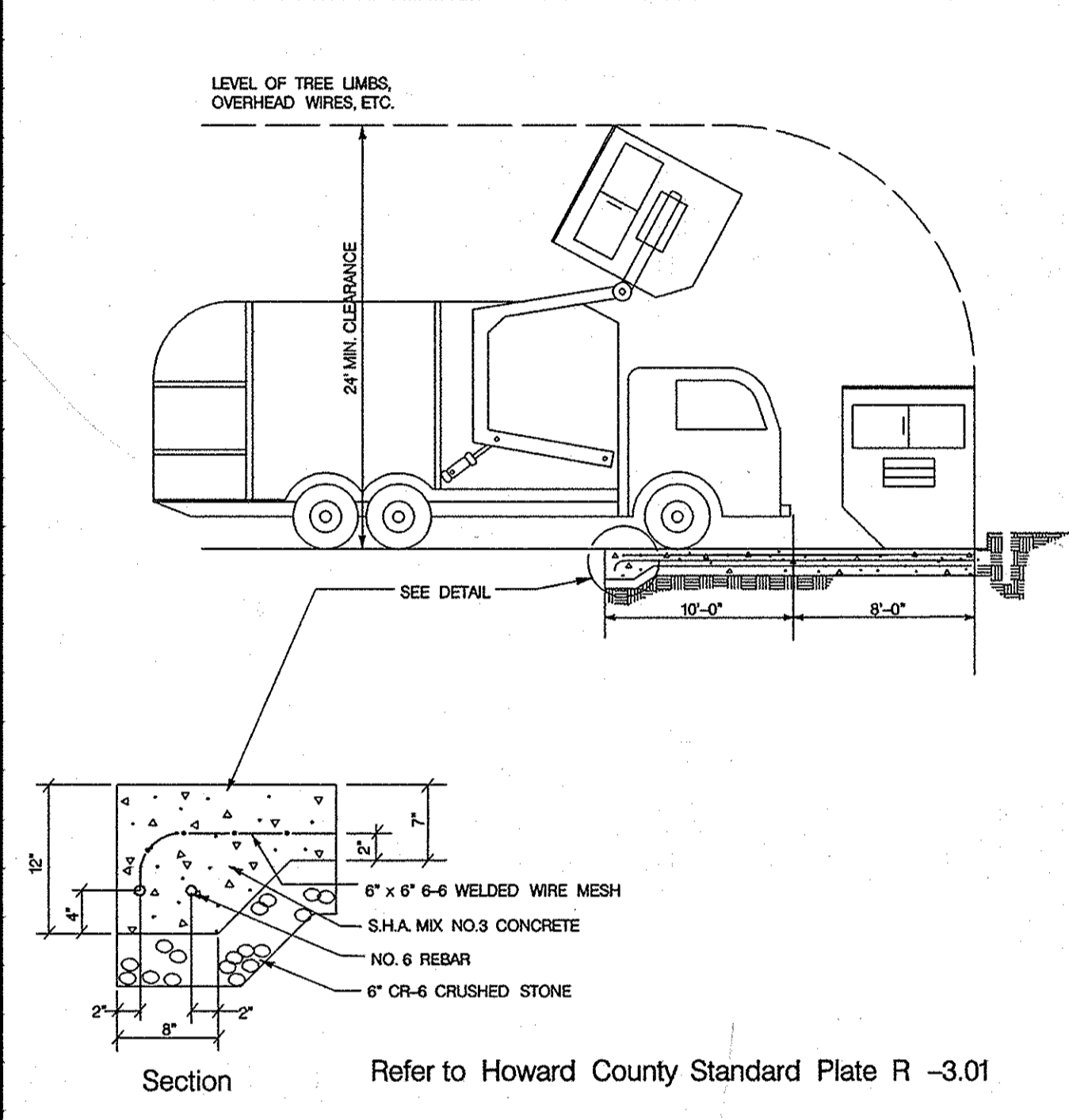
Type 'A' Sidewalk Ramp



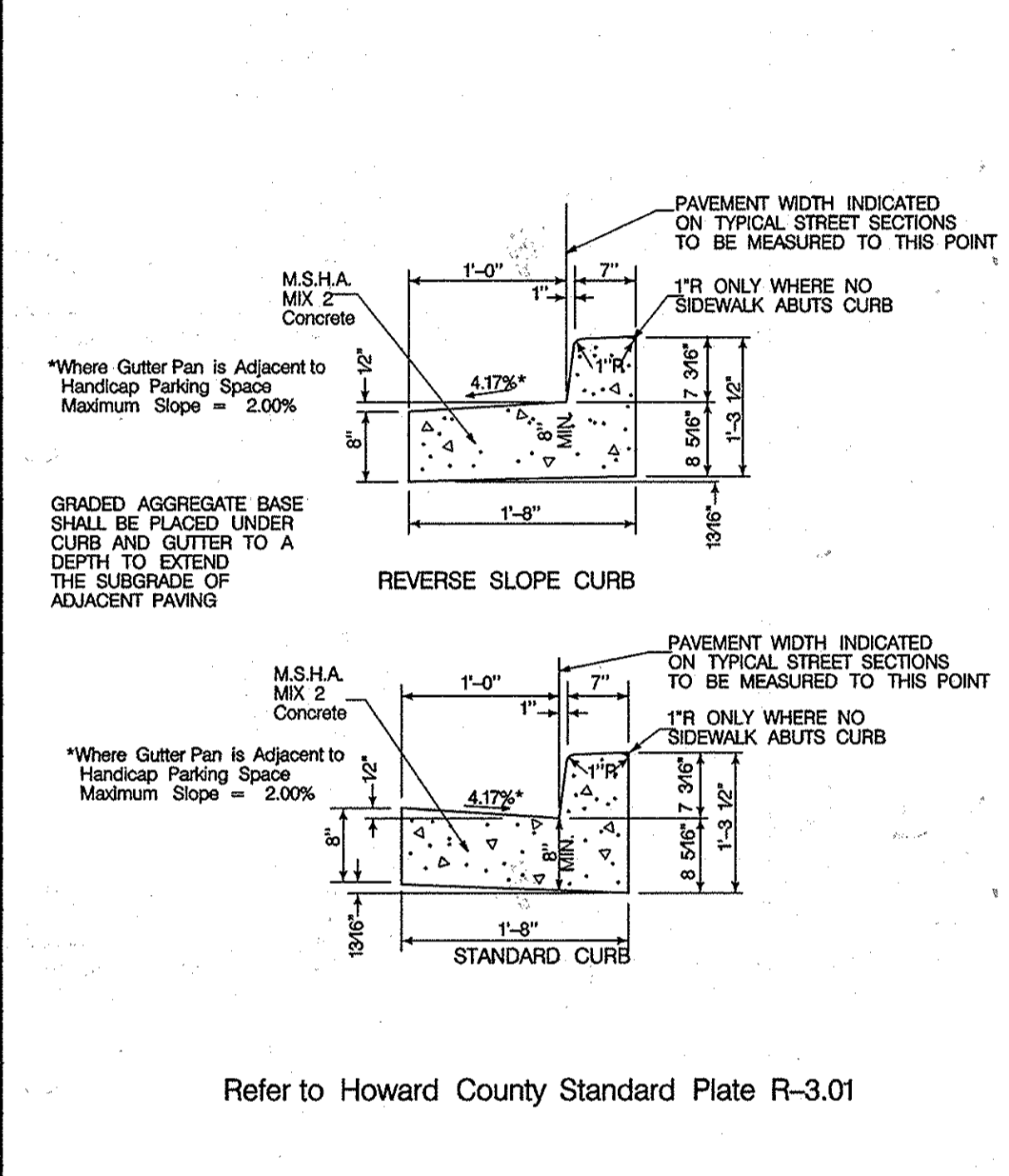
Van Accessible Handicap Parking Space



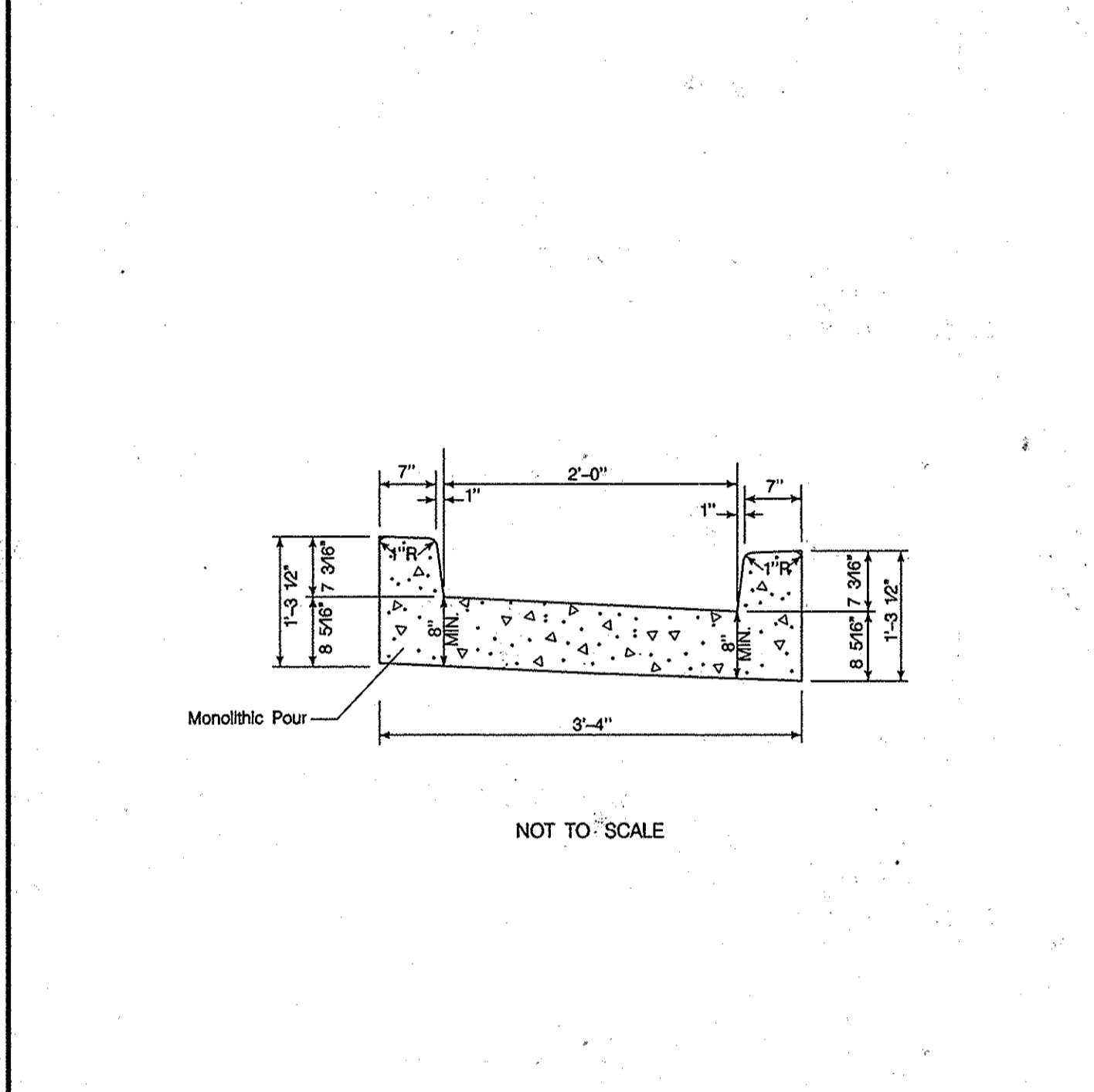
Detail Handicap Parking Signs



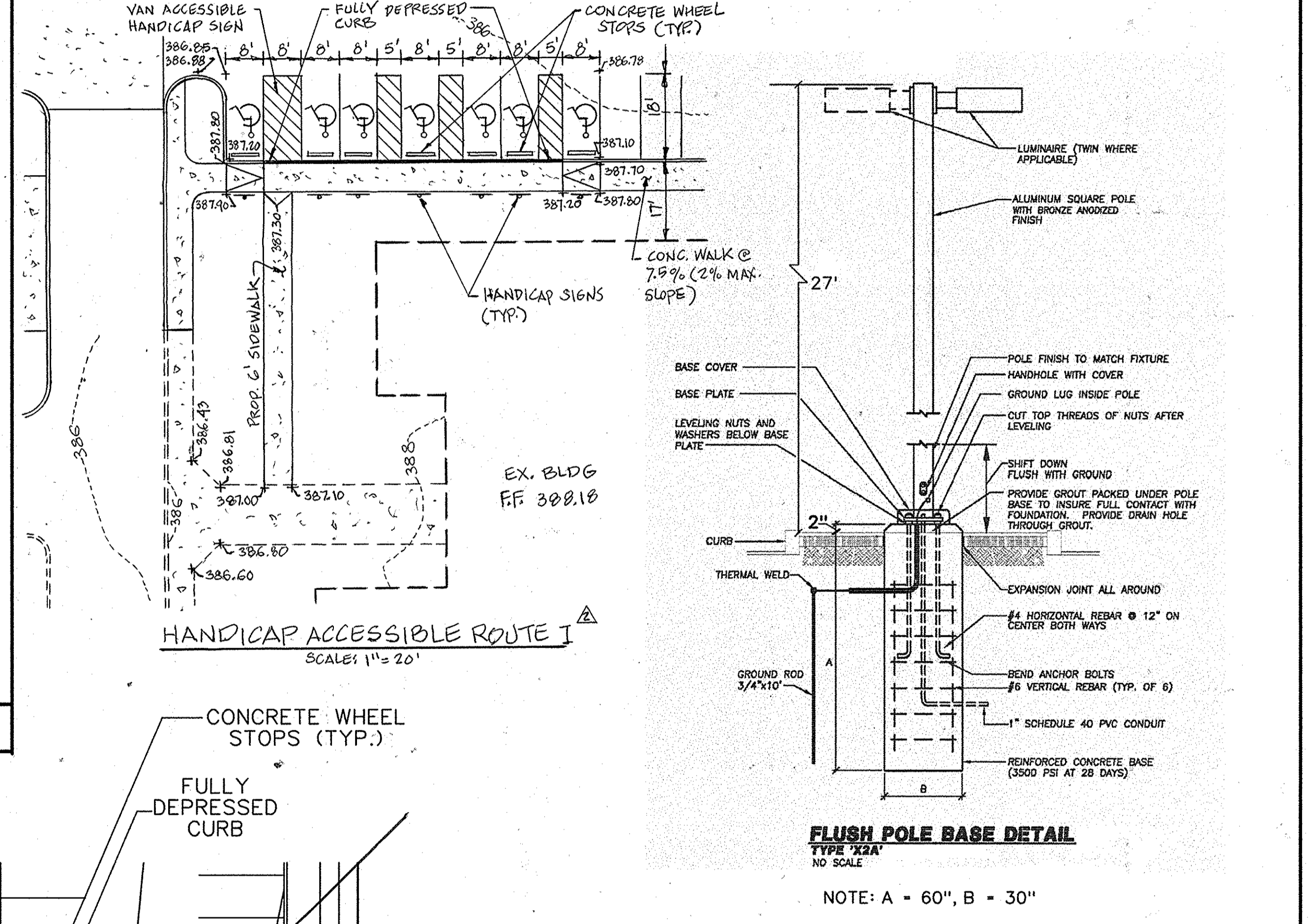
Detail Solid Waste Service Pad



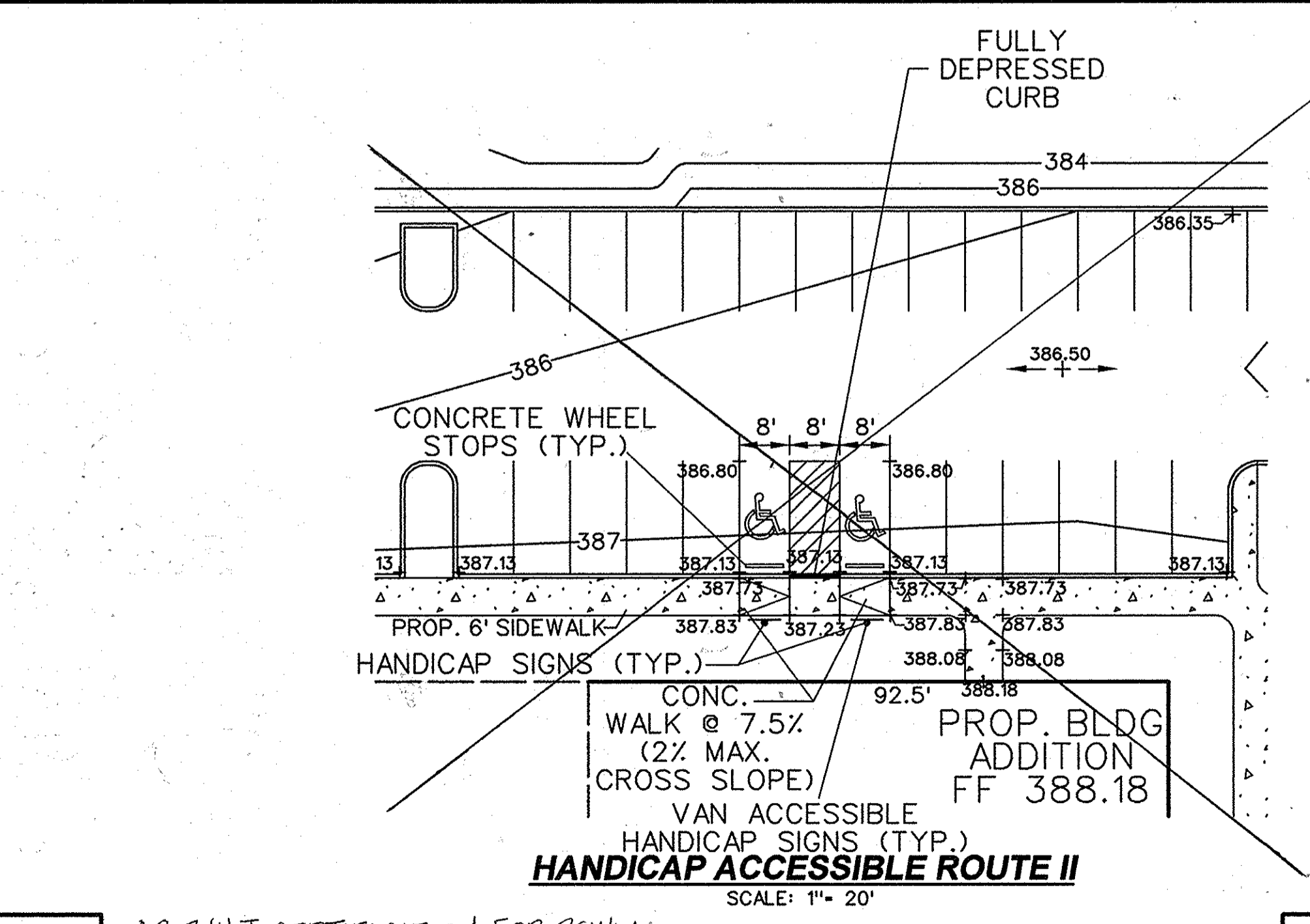
Detail Concrete Curb and Gutter



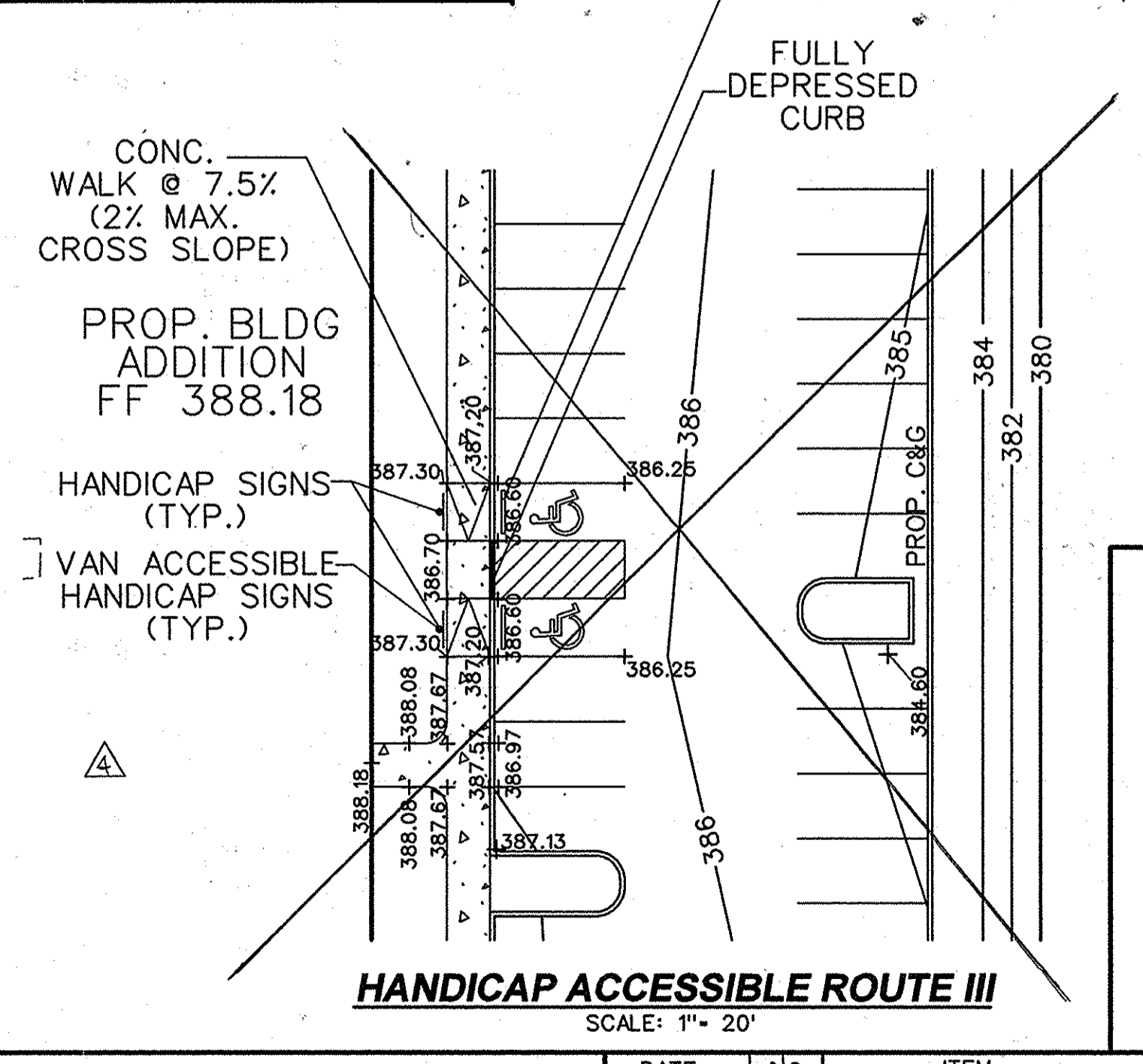
2' Wide Curb Opening Detail



Handicap Accessible Route I



Handicap Accessible Route II

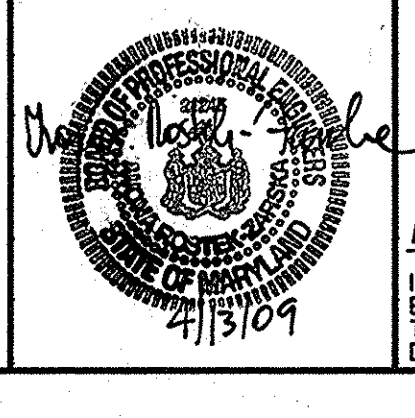


Handicap Accessible Route III

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE **04/24/08**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING					
Chief, Development Engineering Division					4/22/08
Chief, Land Development Division					4/23/08
Director, DEP.					4/23/08
ADDRESS CHART					
LOT / PARCEL NO.		STREET ADDRESS			
PARCEL C		7101 RIVERWOOD DRIVE			
PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION / AREA		LOT / PARCEL NO.	
RIVERS CORPORATE PARK		1 / 1		C	
PLAT NO.	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
5077	1	NT	42	6TH	6069-02
WATER CODE			SEWER CODE		
E18			5290000		

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



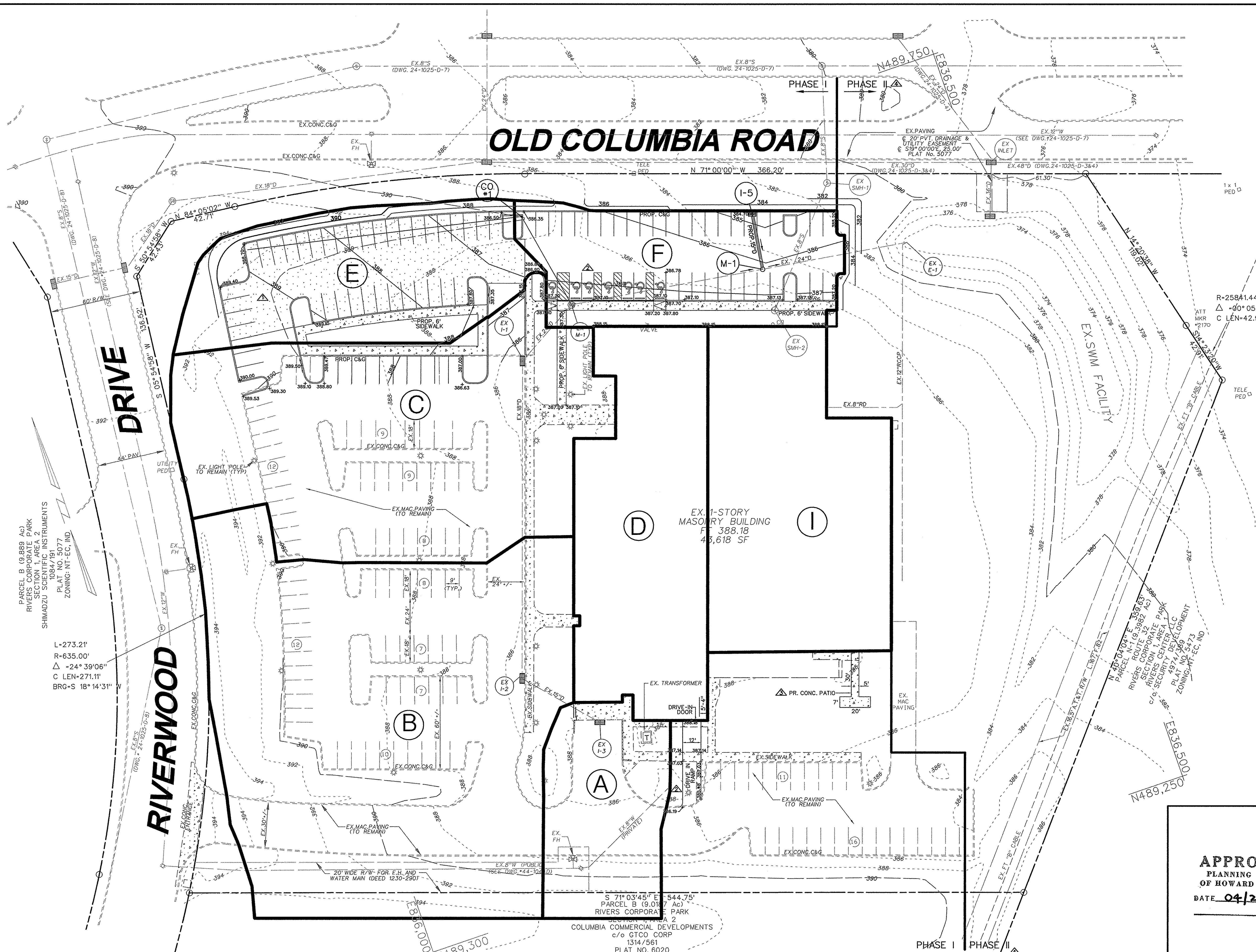
AS-BUILT CERTIFICATION FOR PSWM
THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.
IWONA-ROSTEK ZARSKA 21245 SEPTEMBER 9, 2015
NAME RE. LICENSE NO. DATE OF AS-BUILT
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	No.	ITEM	BY
08/26/11	Δ	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	Δ	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
02/01/16	Δ	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

SITE DETAILS					
RIVERS CORPORATE PARK					
SECTION 1, AREA 1					
PARCEL C					
7101 RIVERWOOD DRIVE					
HOWARD COUNTY, MARYLAND			SDP-07-070		
SCALE: 1" = 30'			SHEET 4 OF 16		
			DATE: NOVEMBER 15, 2007		

SDP-07-070



STORM DRAIN INLET SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP ELEV*	REMARKS
I-5	DOUBLE WR INLET	----	379.46	384.70	SEE HOWARD CO.STD. DETAIL PLATE D-4.35

*TOP ELEVATION - TOP OF GRADE ELEVATION

PIPE SCHEDULE

STORM DRAIN PIPE SCHEDULE			STORM WATER MGMT PIPE SCHEDULE		
SIZE	MATERIAL & TYPE	LENGTH (FEET)	SIZE	MATERIAL & TYPE	LENGTH (FEET)
12"	PVC, SCH. 40	319	3"	PVC, SCH. 40	11
15"	RCCP CL.IV	233	4"	PVC, SCH. 40	11
18"	RCCP CL.IV	70	3"	PERF. PVC, SCH. 40	169
24"	RCCP CL.IV	22	4"	PERF. PVC, SCH. 40	169

DRAINAGE AREA

NO.	ACRES (AC)	COEFF. "C"
A	0.25	0.64
B	1.23	0.64
C	0.86	0.73
D	0.47	0.95
E	0.40	0.79
F	0.35	0.80
I	1.01	0.95

PARCEL B (6.889 AC)
RIVERS CORPORATE PARK
SECTION 1, AREA 1
SHIMADZU SCIENTIFIC INSTRUMENTS
PLAT NO. 5077
ZONING: NT-EC, IND

L-273.21'
R-635.00'
Δ -24° 39' 06"
C LEN-271.11'
BRG-S 18° 14' 31" W

S 71° 03' 45" E 544.75'
PARCEL B (9.017 AC)
RIVERS CORPORATE PARK
SECTION 1, AREA 1
COLUMBIA COMMERCIAL DEVELOPMENTS
c/o GTCO CORP
1314/561
PLAT NO. 6020
ZONING: NT-EC, IND

PARCEL A (9.3982 AC)
RIVERS CORPORATE PARK
SECTION 1, AREA 1
SECURITY DEVELOPMENT
PLAT NO. 5473
ZONING: NT-EC, IND

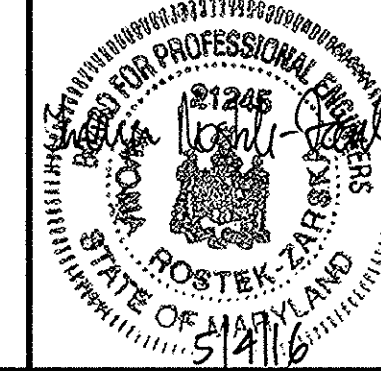
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: *[Signature]* Date: 5-16-16
 Chief, Land Development Division: *[Signature]* Date: 5-18-16
 Director: *[Signature]* Date: 5-18-16

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 04/24/08

PERMIT INFORMATION CHART					
SUBDIVISION NAME	RIVERS CORPORATE PARK	SECTION / AREA	1 / 1	LOT / PARCEL NO.	C
PLAT NO. OR L/F	5077	GRID NO.	1	TAX MAP NO.	42
ZONING	NT	ELEC. DIST.	6TH	CENSUS TRACT	6069-02
WATER CODE	E16	SEWER CODE	5290000		

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

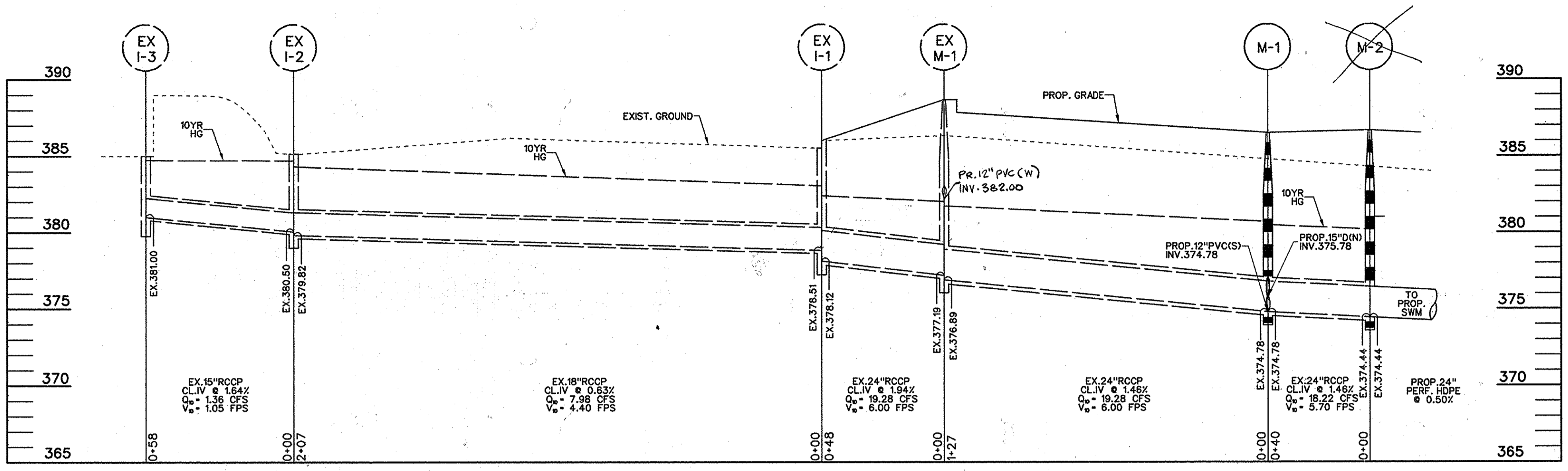


PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.
AS-BUILT CERTIFICATION FOR PSWM
NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.
IWONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
NAME P.E. LICENSE NO. DATE OF AS-BUILT

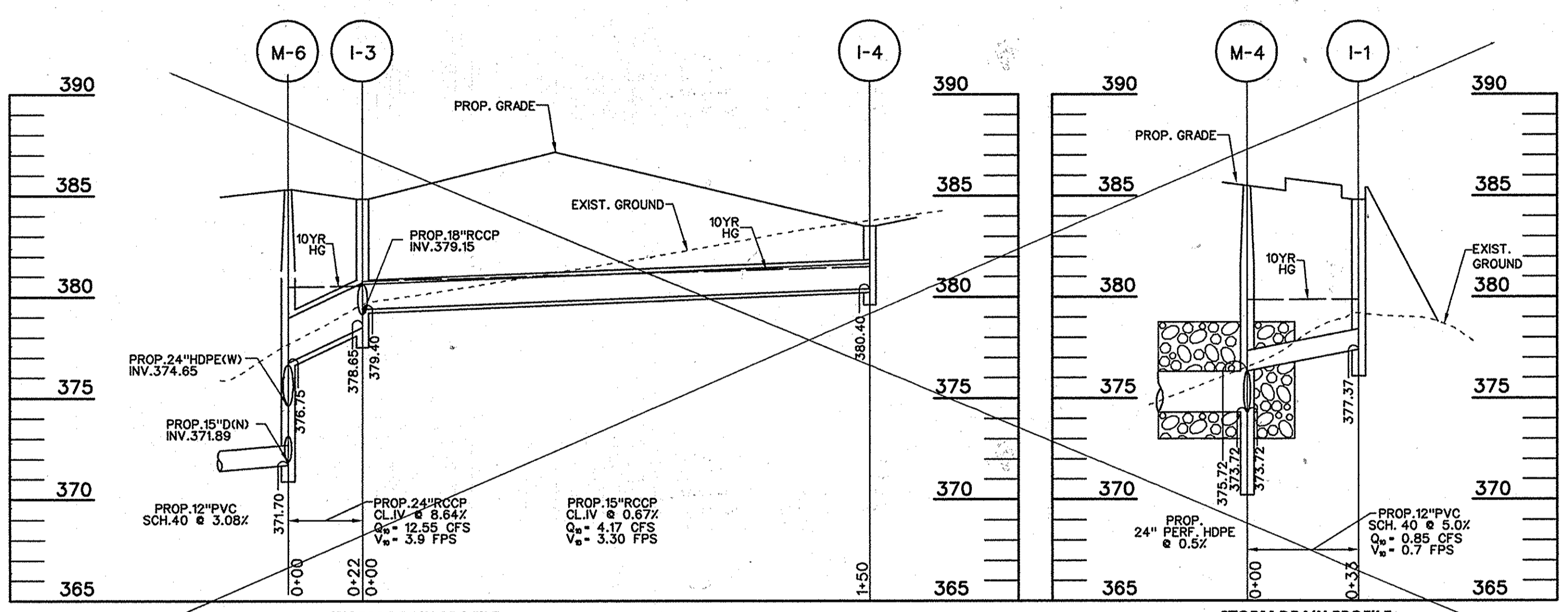
OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

Revised STORM DRAIN DRAINAGE AREA MAP
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)
HOWARD COUNTY, MD
SCALE: 1" = 30'
SHEET 5 OF 16
DATE: MAR, 2016
SDP-07-070

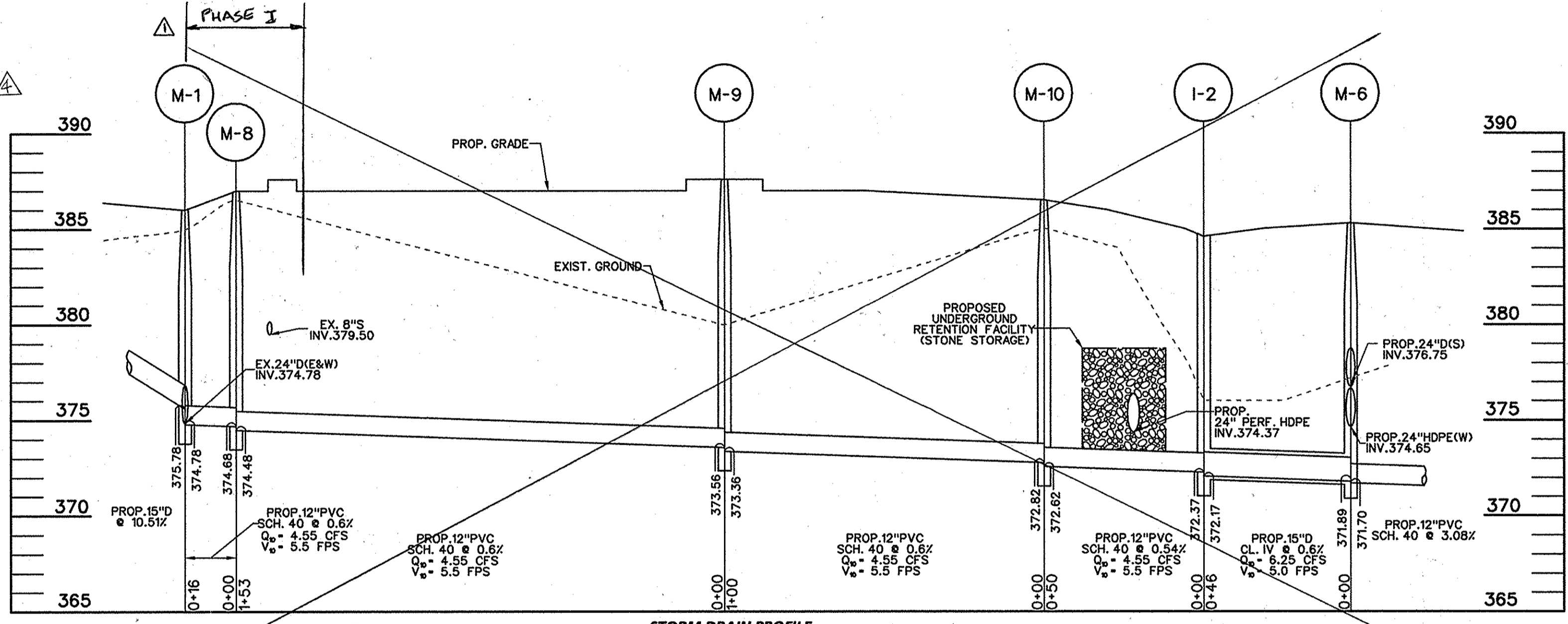


STORM DRAIN PROFILE
SCALE: H: 1" = 30'
V: 1" = 5'

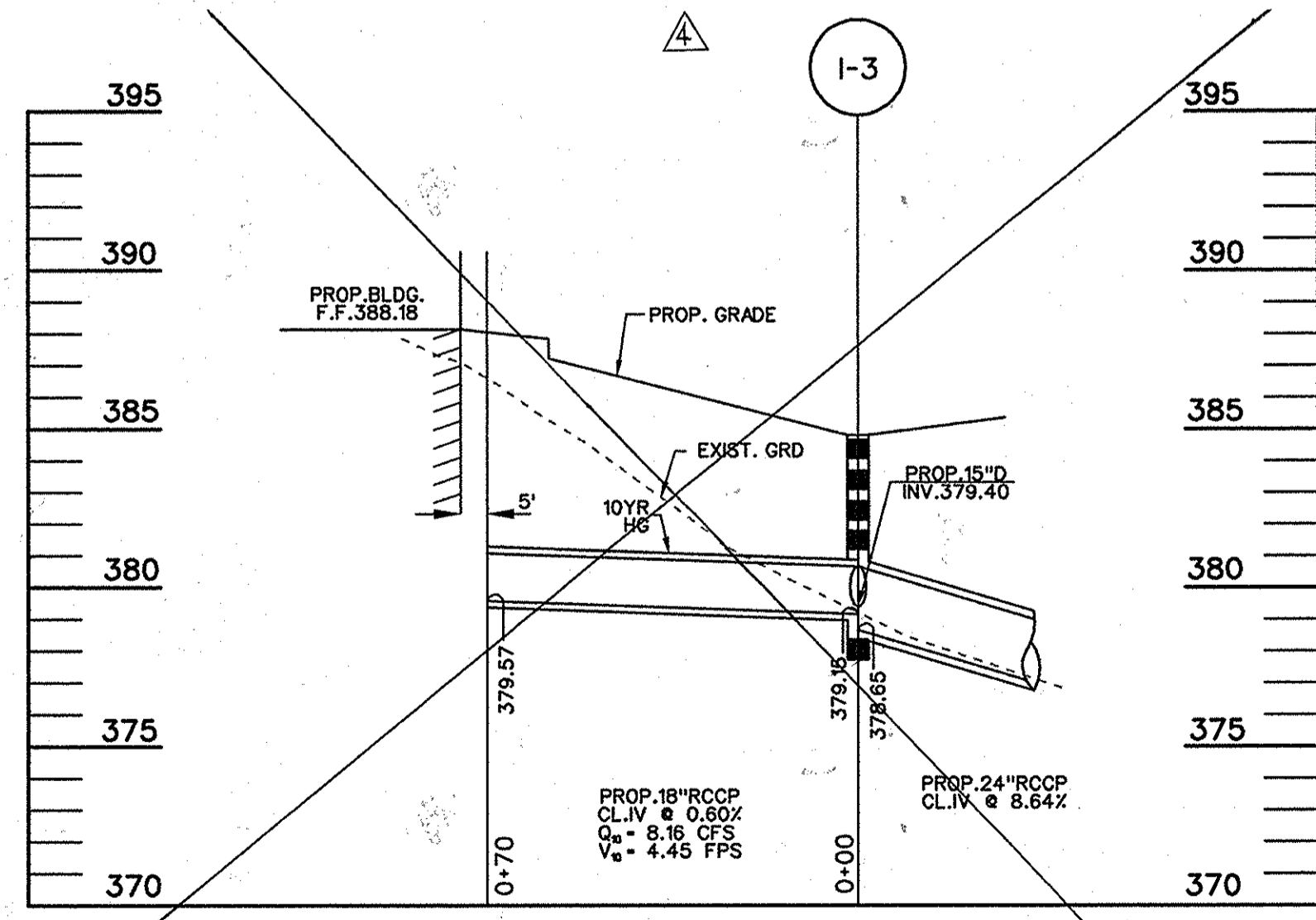


STORM DRAIN PROFILE
SCALE: H: 1" = 30'
V: 1" = 5'

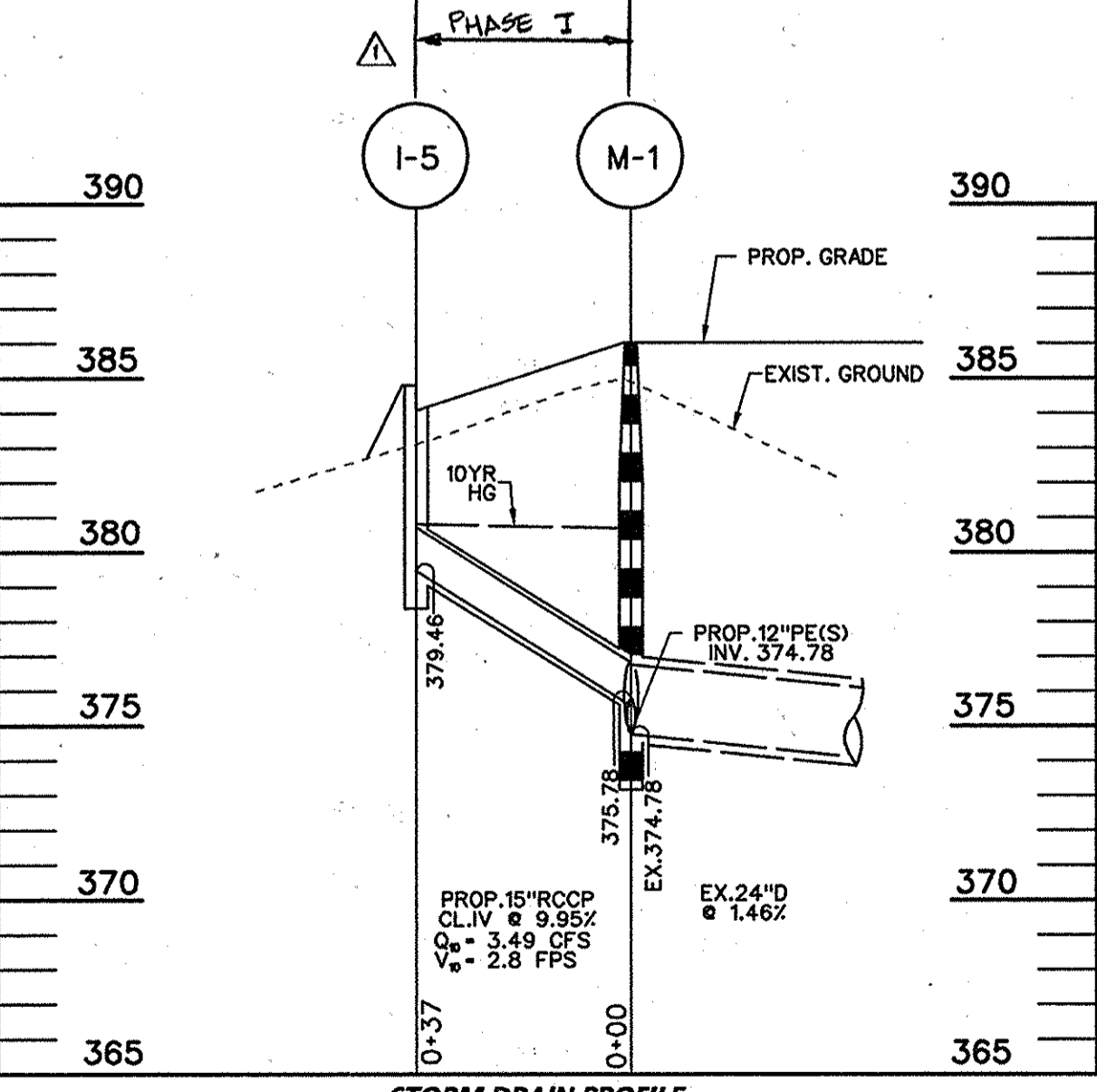
STORM DRAIN PROFILE
SCALE: H: 1" = 30'
V: 1" = 5'



STORM DRAIN PROFILE
SCALE: H: 1" = 30'
V: 1" = 5'



STORM DRAIN PROFILE
SCALE: H: 1" = 30'
V: 1" = 5'



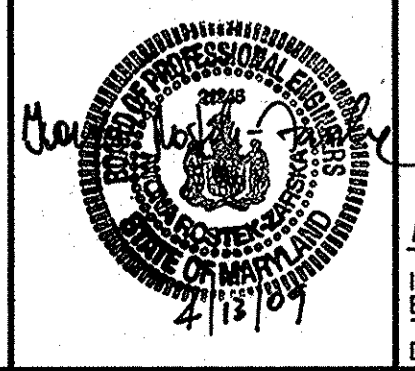
STORM DRAIN PROFILE
SCALE: H: 1" = 30'
V: 1" = 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: *[Signature]* Date: 4/22/09
 Chief, Land Development Division: *[Signature]* Date: 4/23/09
 Director, DEP.: *[Signature]* Date: 4/22/09

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE: 04/24/08

ADDRESS CHART					
LOT / PARCEL NO.	STREET ADDRESS				
PARCEL C	7101 RIVERWOOD DRIVE				
PERMIT INFORMATION CHART					
SUBDIVISION NAME RIVERS CORPORATE PARK		SECTION / AREA 1 / 1	LOT / PARCEL NO. C		
PLAT NO. 5077	GRID NO. 1	ZONING NT	TAX MAP NO. 42	ELEC. DIST. 6TH	CENSUS TRACT 6069-02
WATER CODE E18			SEWER CODE 5290000		

BLDG
 Baltimore Land Design Group Inc.
 Consulting Engineers
 222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
 PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



AS-BUILT CERTIFICATION FOR PSWM
 THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.
 IWONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
 NAME RE. LICENSE NO. DATE OF AS-BUILT
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OWNER / DEVELOPER
 MERRITT RW1 LLC
 A MARYLAND LLC
 2066 LORD BALTIMORE DRIVE
 BALTIMORE, MD 21244
 (410) 298-2600

DATE	No.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
02/01/16	2	ELIMINATION OF PHASE II CONSTRUCTIONS	BLDG

STORM DRAIN PROFILES
RIVERS CORPORATE PARK
 SECTION 1, AREA 1
 PARCEL C
 7101 RIVERWOOD DRIVE
 HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30'
 SDP-07-070
 SHEET 6 OF 16
 DATE: NOVEMBER 15, 2007
 SDP-07-070

SEDIMENT CONTROL STANDARD GENERAL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - FOURTEEN 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 MANUAL," STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS, SODS, TEMPORARY SEEDING AND MULCHING (SECTION G). TEMPORARY STABILIZATION WITH MULCH 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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:**

PHASE 1 CONSTRUCTION	
TOTAL AREA OR SITE	6.632 ACRES +/-
AREA DISTURBED	2.76 ACRES +/-
AREA TO BE ROOFED OR PAVED	4.30 ACRES +/-
AREA TO BE VEGETATIVELY STABILIZED	2.10 ACRES +/-
TOTAL CUT	5,500+ CUBIC YARDS +/-
TOTAL FILL	10,800+ CUBIC YARDS +/-
OFF-SITE BORROW	5,300+ CUBIC YARDS +/-
	N/A
- 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 DPW 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 IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE DAY, WHICHEVER IS SHORTER.
- STOCKPILING WILL NOT BE PERMITTED ON SITE.
- EARTH QUANTITY VOLUMES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR IS ADVISED TO PERFORM HIS OWN ANALYSIS PRIOR TO PLACING A BID ON THIS ITEM.

LEGEND

RIGHT-OF-WAY LINE	---
PROPERTY LINE	---
EX. CONCRETE CURB & GUTTER	EX. C&G
EX. STORM DRAIN, MANHOLE & INLET	EX. 18" D
EX. SANITARY SEWER, MANHOLE & CLEANOUT	EX. 8" S
EX. WATER MAIN, VALVE & FIRE HYDRANT	EX. 12" W
EX. ELECTRIC LINE & TRANSFORMER	EX. E
EX. GAS LINE & VALVE	EX. G
EX. LIGHT POLE	EX. L
EX. TELEPHONE LINE	EX. T
EX. TREE	EX. TR
EX. INDEX CONTOURS	-380
EX. INTERMEDIATE CONTOURS	-382
EX. CONCRETE CURB & GUTTER TO BE REMOVED	---X---
PROP. CONCRETE CURB & GUTTER	PROP. C&G
PROP. STORM DRAIN, MANHOLE & INLET	PROP. 15" D
PROP. SANITARY SEWER, MANHOLE & CLEANOUT	PROP. 8" S
PROP. WATER MAIN, VALVE & FIRE HYDRANT	PROP. 8" W
PROP. INDEX CONTOURS	-380
PROP. INTERMEDIATE CONTOURS	-382

SEQUENCE OF OPERATIONS (PHASE I)

- OBTAIN GRADING PERMIT. (1 DAY)
- NOTIFY HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES 48 HOURS PRIOR TO BEGINNING WORK. (1 DAY)
- INSTALL SILT FENCE, SUPER SILT FENCE AND STABILIZED CONSTRUCTION ENTRANCE #1 ONLY. (1 DAY)
- PROVIDE INLET PROTECTION FOR EXISTING INLETS #2 AND #1 ONLY. (1 DAY)
- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR BEGIN GRADING OPERATIONS. (2 DAYS)
- BEGIN INSTALLATION OF PROPOSED UTILITIES WITHIN PHASE I LIMIT OF DISTURBANCE EXCEPT FOR M-2. PLUG 12" OPENING WITHIN M-1. INSTALL 50 LF OF 12" PVC FROM M-8 TOWARDS EXISTING POND AND CAP END OF PIPE. MAINTAIN POSITIVE DRAINAGE TO SEDIMENT CONTROL MEASURES AND DEVICES AT ALL TIMES. (2 DAYS)
- INSTALL PERVIOUS CONCRETE PAVING AS PER SHEET 15. CONTINUE WITH GRADING OPERATIONS. (1 DAY)
- FINE GRADE ALL AREAS. INSTALL CONCRETE CURB AND GUTTER AND STONE SUBBASE. (2 DAYS)
- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES AND DEVICES AND PROCEED WITH PAVING AND LANDSCAPING OPERATIONS. (2 DAYS)

SEDIMENT CONTROL LEGEND

LIMIT OF DISTURBANCE	-----
SILT FENCE	SF
SUPER SILT FENCE	SSF
STABILIZED CONSTRUCTION ENTRANCE	[Symbol]
MOUNTAIN BERM TYPE A	[Symbol]
STANDARD INLET PROTECTION	SIP
AT GRADE INLET PROTECTION	AGIP
CURB INLET PROTECTION	CIP
REMOVABLE PUMP STATION	RPS

SEQUENCE OF OPERATIONS (PHASE I)

1. OBTAIN GRADING PERMIT. (1 DAY)

2. NOTIFY HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES 48 HOURS PRIOR TO BEGINNING WORK. (1 DAY)

3. INSTALL SILT FENCE, SUPER SILT FENCE AND STABILIZED CONSTRUCTION ENTRANCE #1 ONLY. (1 DAY)

4. PROVIDE INLET PROTECTION FOR EXISTING INLETS #2 AND #1 ONLY. (1 DAY)

5. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR BEGIN GRADING OPERATIONS. (2 DAYS)

6. BEGIN INSTALLATION OF PROPOSED UTILITIES WITHIN PHASE I LIMIT OF DISTURBANCE EXCEPT FOR M-2. PLUG 12" OPENING WITHIN M-1. INSTALL 50 LF OF 12" PVC FROM M-8 TOWARDS EXISTING POND AND CAP END OF PIPE. MAINTAIN POSITIVE DRAINAGE TO SEDIMENT CONTROL MEASURES AND DEVICES AT ALL TIMES. (2 DAYS)

7. INSTALL PERVIOUS CONCRETE PAVING AS PER SHEET 15. CONTINUE WITH GRADING OPERATIONS. (1 DAY)

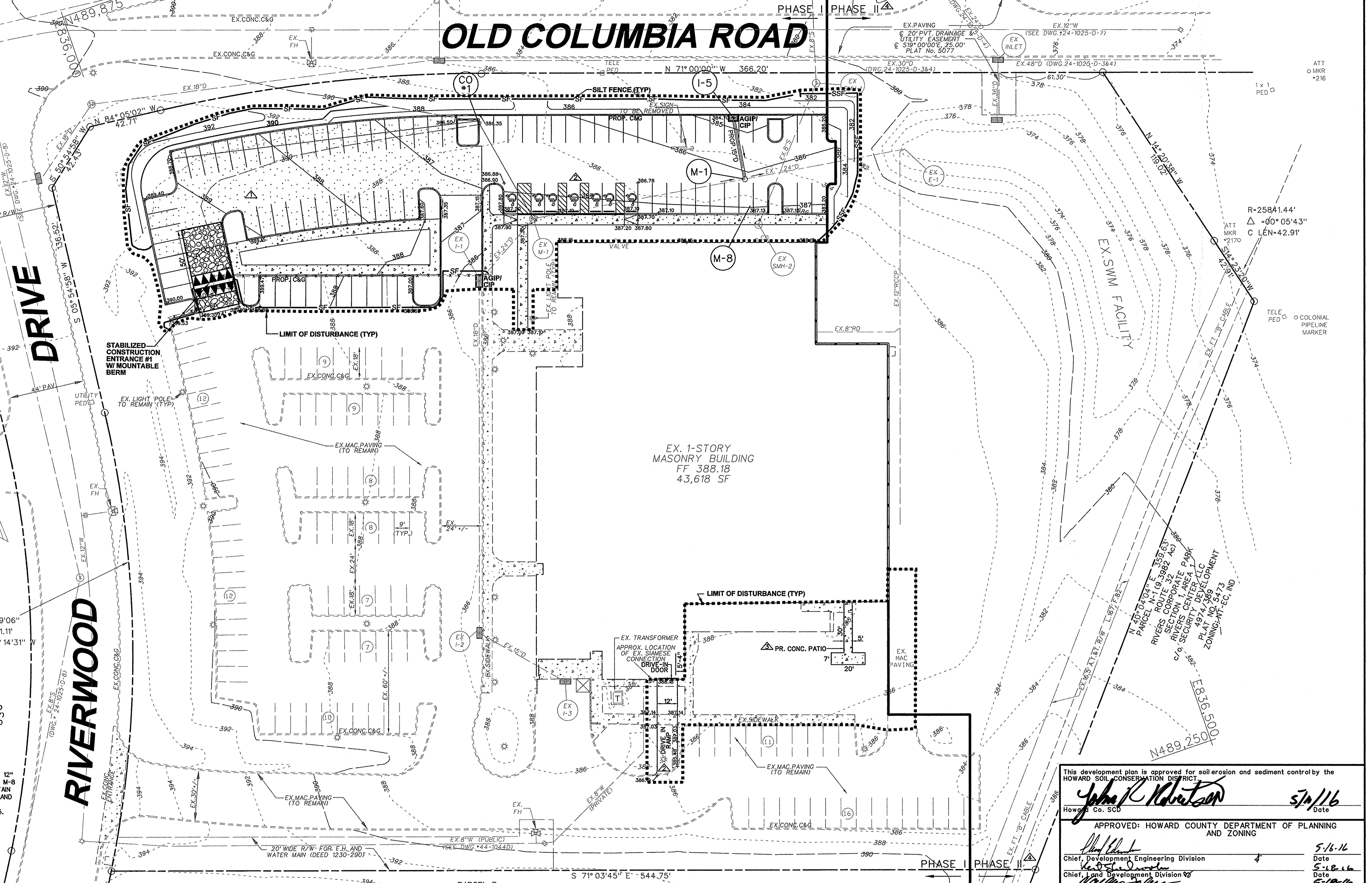
8. FINE GRADE ALL AREAS. INSTALL CONCRETE CURB AND GUTTER AND STONE SUBBASE. (2 DAYS)

9. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES AND DEVICES AND PROCEED WITH PAVING AND LANDSCAPING OPERATIONS. (2 DAYS)

DISTURBANCE NOTES

FOR ANY DISTURBANCE OUTSIDE OF THE PERIMETER SEDIMENT CONTROLS, THE CONTRACTOR SHALL DISTURB ONLY THE AMOUNT OF AREA THAT CAN BE STABILIZED AT THE END OF (1) WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:

- FOR SIDEWALK AREAS AND AREAS TO BE PAVED THE APPLICATION OF STONE.
- FOR ALL OTHER AREAS THE APPLICATION OF PERMANENT SEED AND MULCH.
- SILT FENCE SHALL BE PROVIDED DOWNSLOPE OF AREAS THAT CANNOT BE STABILIZED AT THE END OF THE DAY.



PARCEL B RIVERS CORPORATE PARK SECTION 2, AREA 1 COLUMBIA COMMERCIAL DEVELOPMENTS 1314/561 PLAT NO. 8020 ZONING: N1

ENGINEER'S CERTIFICATE

"I 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 Soil Conservation District."

Iwona Rostek-Zarska May 3, 2016
Date

DEVELOPER'S CERTIFICATE

"We 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 Soil Conservation District."

Daniel F. Pollace May 3, 2016
Date

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE: 04/24/08

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE: 04/24/08

This development plan is approved for soil erosion and sediment control by the HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John K. Robertson 5/10/16
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John K. Robertson 5/10/16
Date

Chief, Development Engineering Division

John K. Robertson 5/10/16
Date

Chief, Land Development Division

John K. Robertson 5/10/16
Date

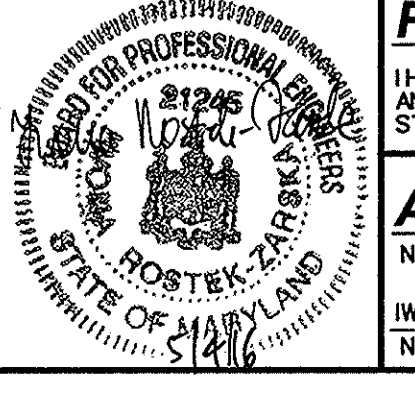
Director

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART					
SUBDIVISION NAME	RIVERS CORPORATE PARK	SECTION / AREA	1 / 1	LOT / PARCEL NO.	C
PLAT NO. OR L/F	5077	GRID NO.	42	TAX MAP NO.	6TH
WATER CODE	E16	ZONING	NT	ELEC. DIST.	6069-02
		SEWER CODE	5290000		

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers

222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21090
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGC.COM



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

AS-BUILT CERTIFICATION FOR PSWM

NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.

IWONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
NAME P.E. LICENSE NO. DATE OF AS-BUILT

OWNER / DEVELOPER

MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

EROSION & SEDIMENT CONTROL PLAN

RIVERS CORPORATE PARK

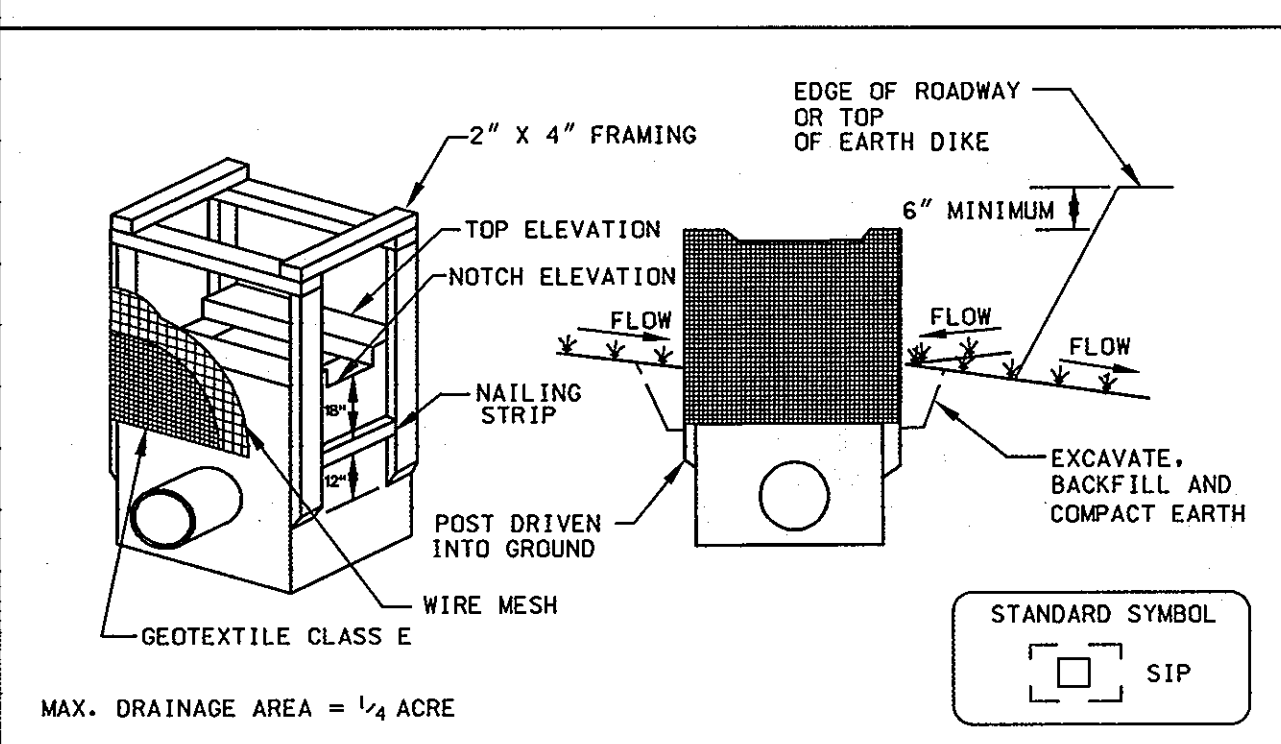
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE

SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)

HOWARD COUNTY, MD
SCALE: 1" = 30'

SHEET 7 OF 16
DATE: MAY, 2016
SDP-07-070

DETAIL 23A - STANDARD INLET PROTECTION



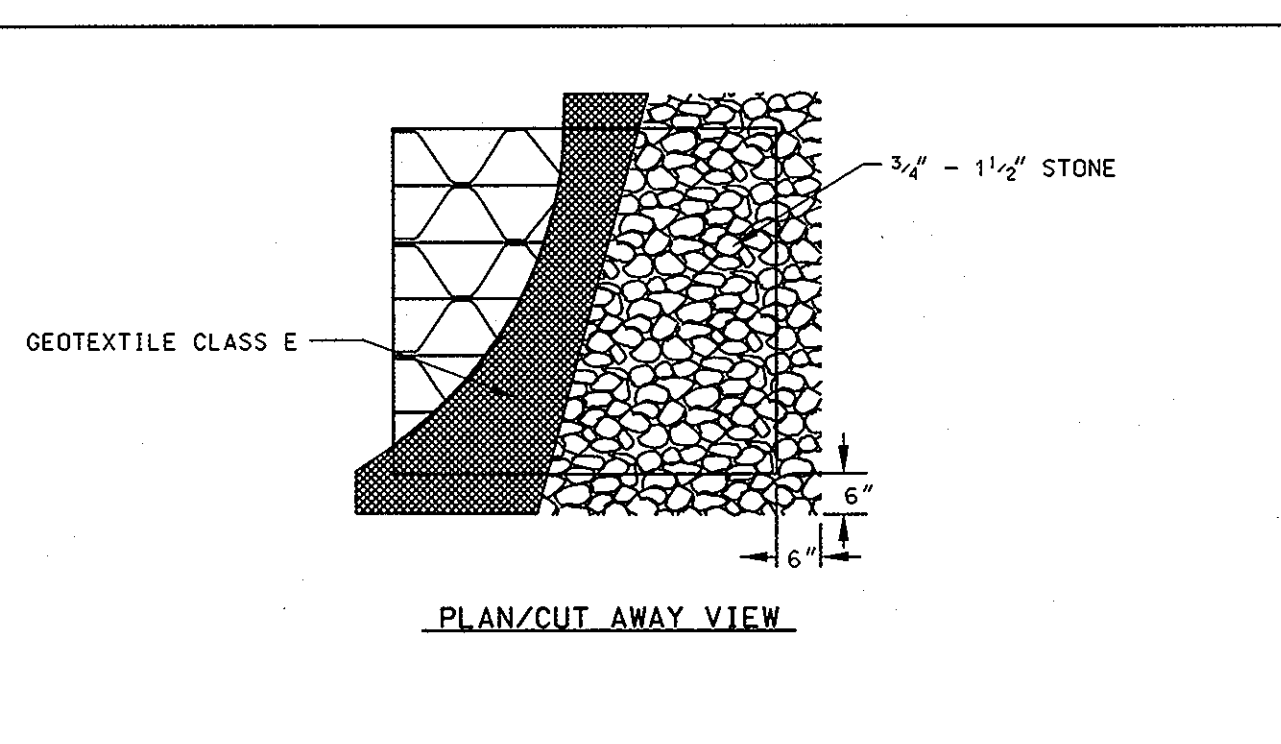
MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Excavate completely around the inlet to a depth of 18" below the notch elevation.
- Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
- Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
- Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
- If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
- The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 23B - AT GRADE INLET PROTECTION



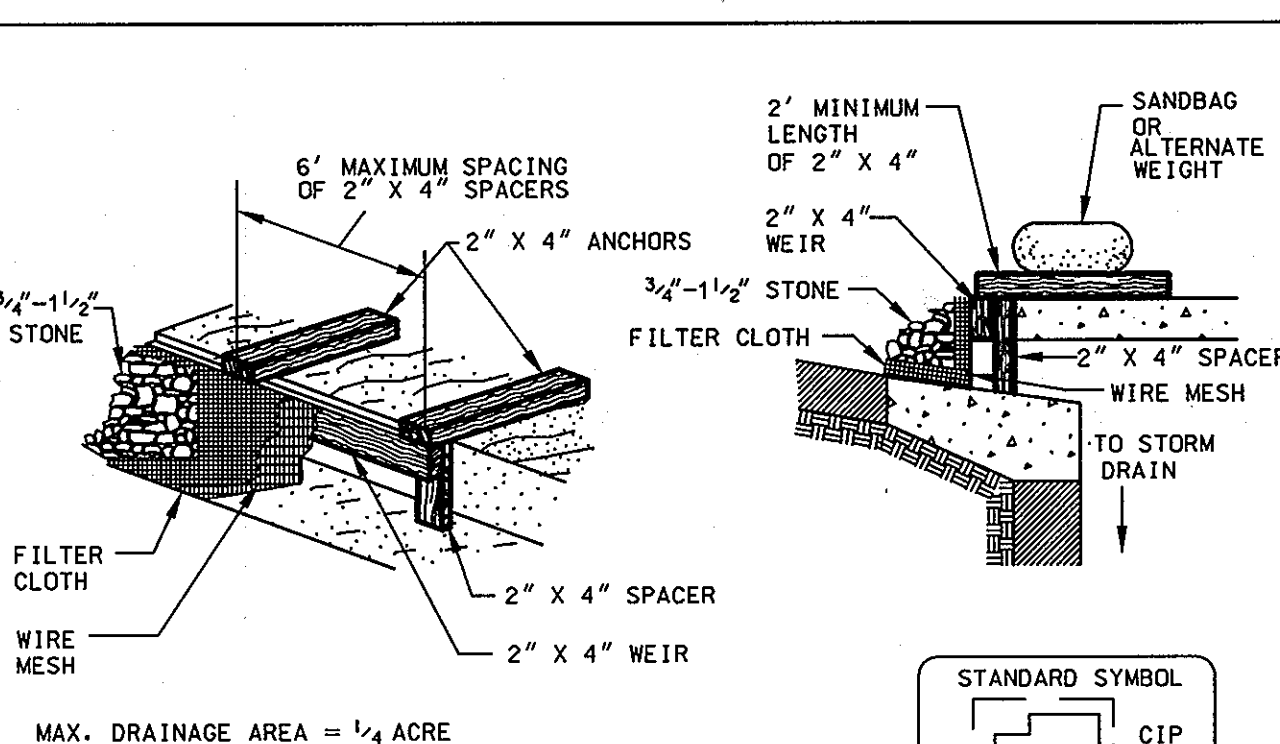
MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
- Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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CURB INLET PROTECTION (COG OR COS INLETS)



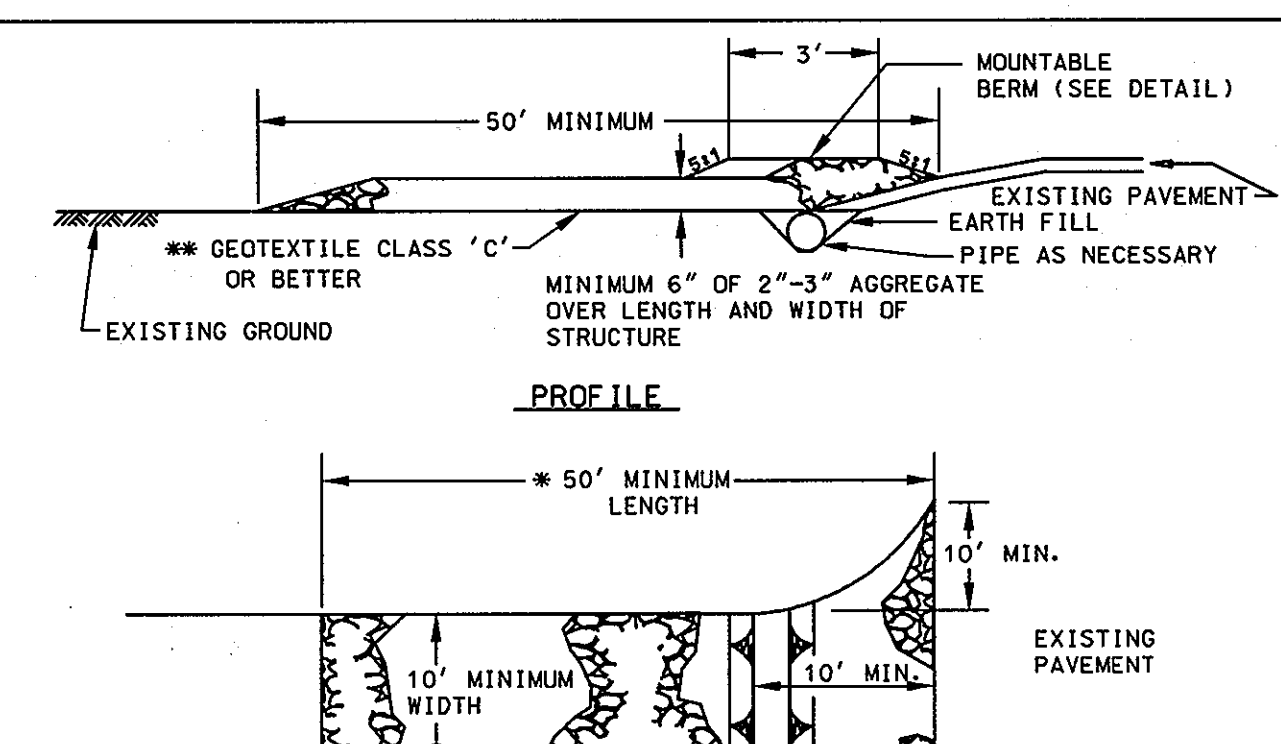
MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
- Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
- Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
- Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

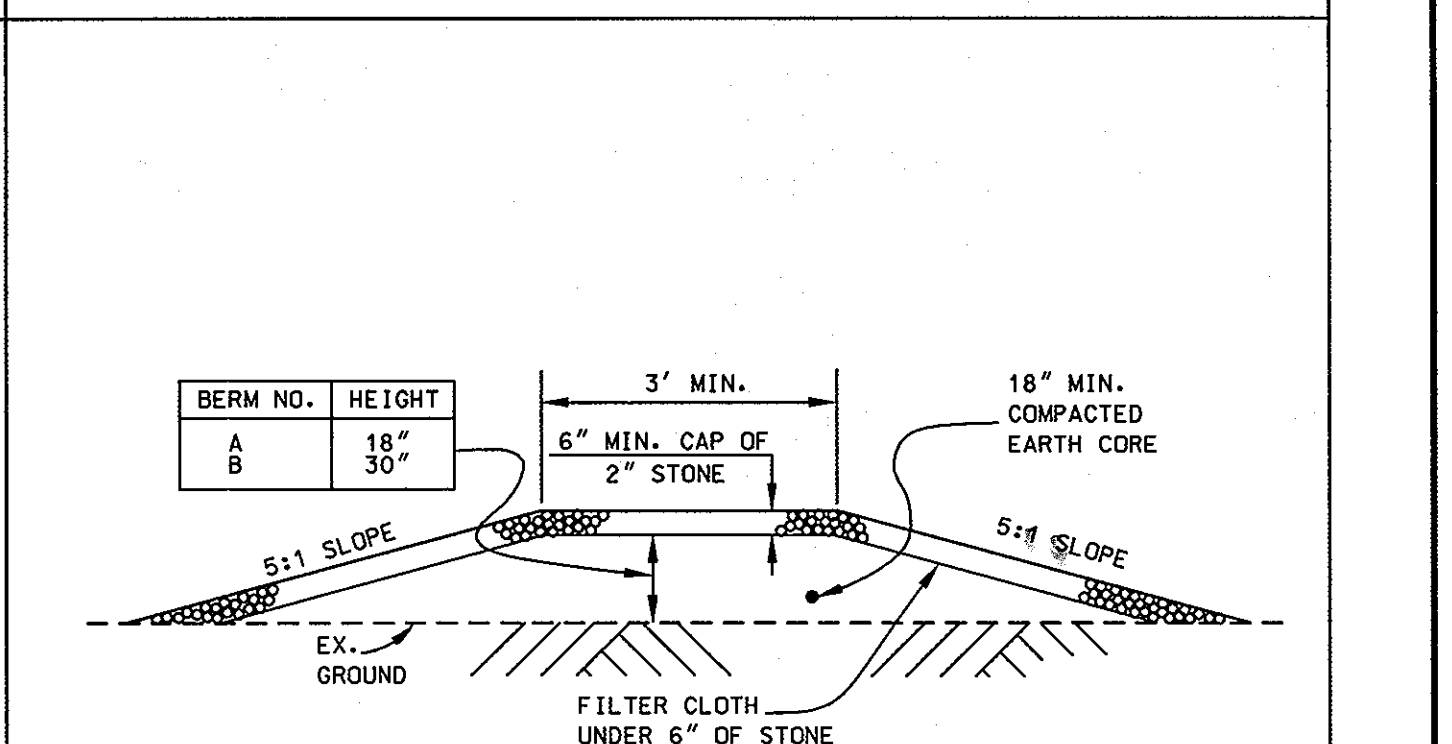


Construction Specification

- Length - minimum of 50' (#30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the pipe is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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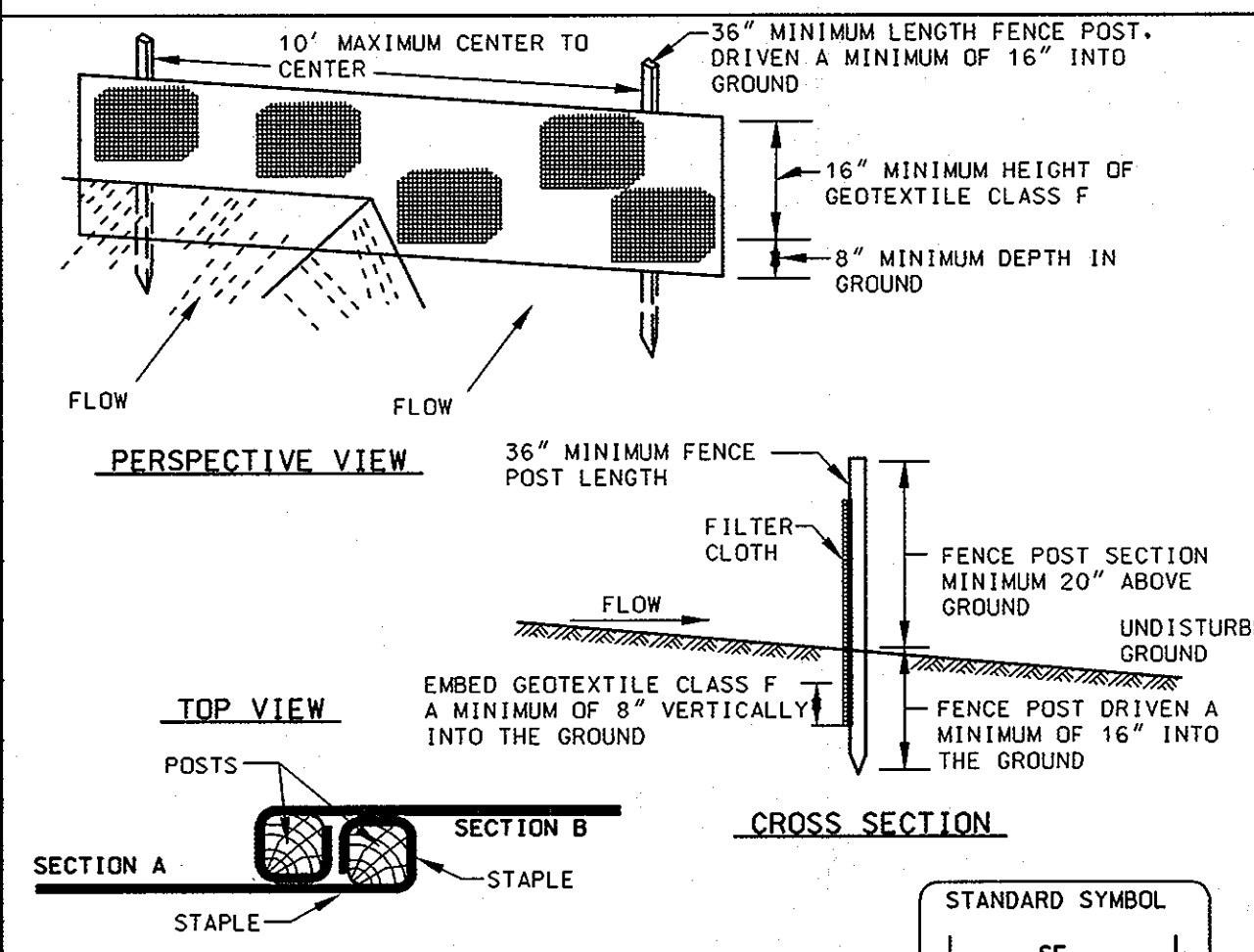
DETAIL - MOUNTABLE BERM



FILTER CLOTH SHALL BE GEOTEXTILE CLASS 'C', OR BETTER

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 22 - SILT FENCE



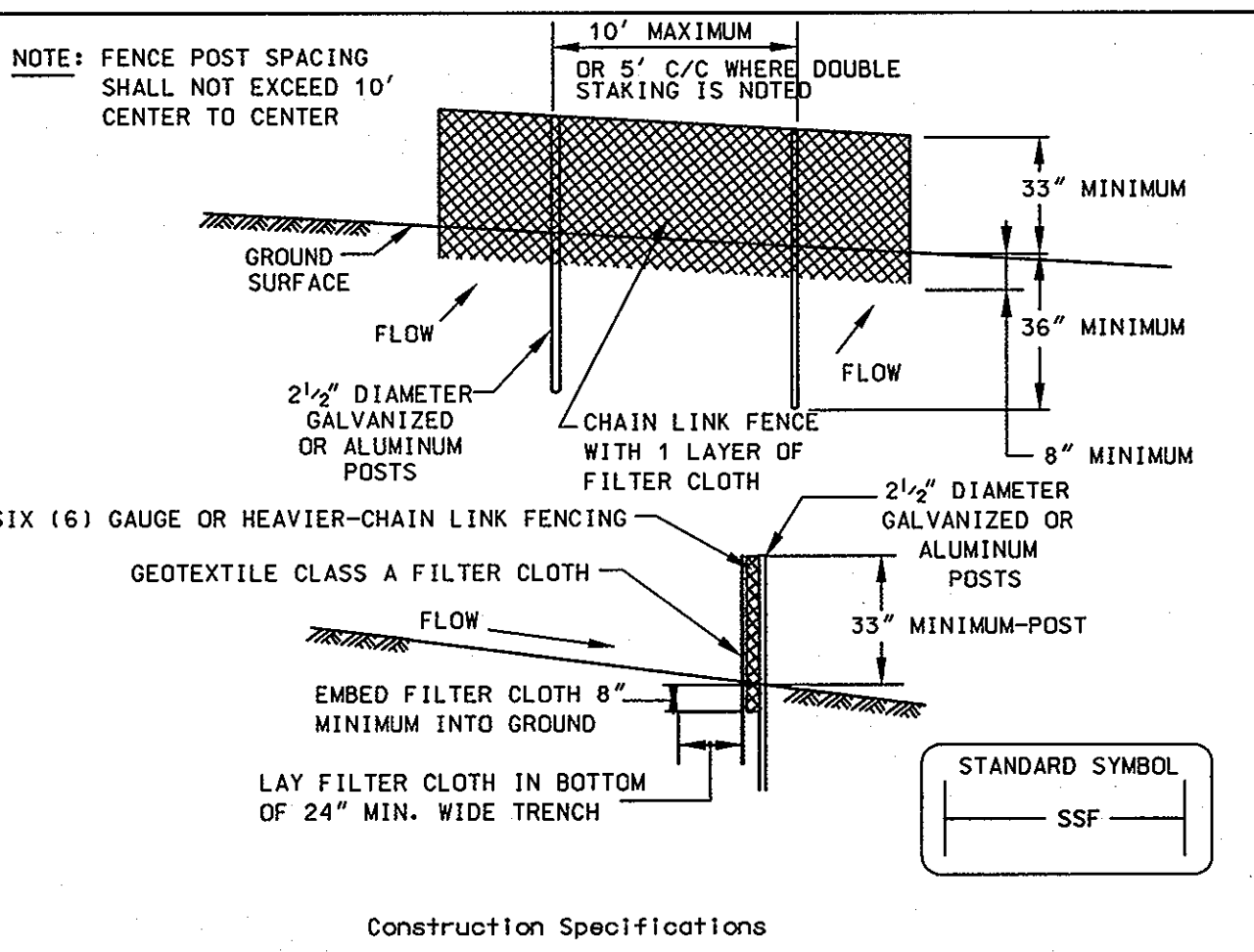
Construction Specifications

- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
- Geotextile 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	0.3 gal +/-/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 16 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 33 - SUPER SILT FENCE

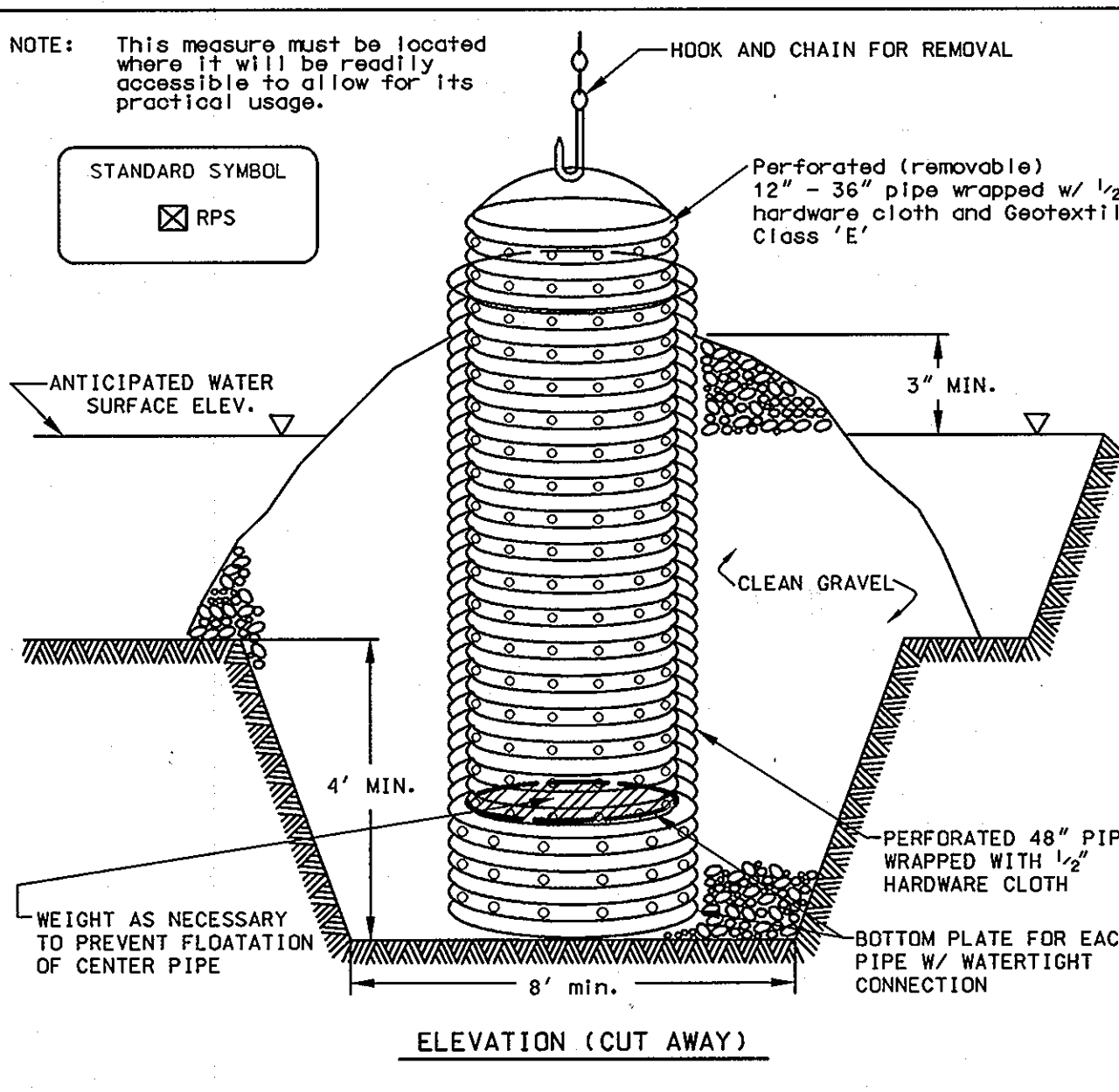


Construction Specifications

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The SHA specifications for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.
- The posts do not need to be set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fence shall be six (6) gauge or heavier.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of the fence height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	MODIFIED	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

- The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
- After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
- The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" x 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class E.
- The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	MODIFIED	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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Reviewed for Howard SCD and meet Technical Requirements

USDA - Natural Resources Conservation Service Date
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
John K. Robertson 4/26/09
Howard Co. SCD Date

ENGINEER'S CERTIFICATE
"I 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 Soil Conservation District."
Mona Noske-Jumbe 4/13/09
Iwona Rostek-Zarska, P.E. 21245 Date

DEVELOPER'S CERTIFICATE
"I/We 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 Soil Conservation District."
D. F. Pallace 4/13/09
Signature of Developer (Daniel F. Pallace) Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Paul Dammann 4/22/09
Chief, Development Engineering Division Date
Paul Dammann 4/22/09
Chief, Land Development Division Date
Frank J. Smith 4/22/09
Director, DEP. Date

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 04/24/08

PERMIT INFORMATION CHART					
SUBDIVISION NAME RIVERS CORPORATE PARK	SECTION / AREA 1 / 1	LOT / PARCEL NO. C	TAX MAP NO. 42	ELEC. DIST. 6TH	CENSUS TRACT 6069-02
PLAT NO. 5077	GRID NO. 1	ZONING NT	SEWER CODE E16	SEWER CODE 5290000	

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2010.

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	ITEM	BY

EROSION & SEDIMENT CONTROL DETAILS
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
HOWARD COUNTY, MARYLAND
SCALE: 1" = 30'
SDP-07-070
SHEET 8 OF 16
DATE: NOVEMBER 15, 2007
SDP-07-070

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - B. 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.
 - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSES 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.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. ESPECIALLY, 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 EXPERIMENTAL STATION.

- II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - 1. 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 APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIAL LARGER THAN 1/2" IN DIAMETER.
 - 2. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS S BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

III. 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.

IV. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

- 1. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

- I. ON SITE MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - A. 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.
 - B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - C. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 800 PARTS PER MILLION SHALL NOT BE USED.
 - D. 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 PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

- I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ABOUT 4" - 8" HIGHER IN ELEVATION.
- III. 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 SOIL 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.
- IV. 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.

VI. 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:

- I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATED 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 26.04.06.
 - B. 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.
 - C. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
- II. 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.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

PERMANENT / TEMPORARY SEEDING NOTES

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENEED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1. PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA-FORM FERTILIZER (9 LBS./1000 SQ. FT.)
- 2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (14 LBS./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31 SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.6 LBS./1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1/2 TO 2 TONS PER ACRE (70 - 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATIONS USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENEED.

SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.)

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 15 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (14 LBS./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.7 LBS./1000 SQ. FT.) FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING - APPLY 1/2 TO 2 TONS PER ACRE (70 - 90 LBS./1000 SQ. FT.) OF UNROTTED WEEP FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

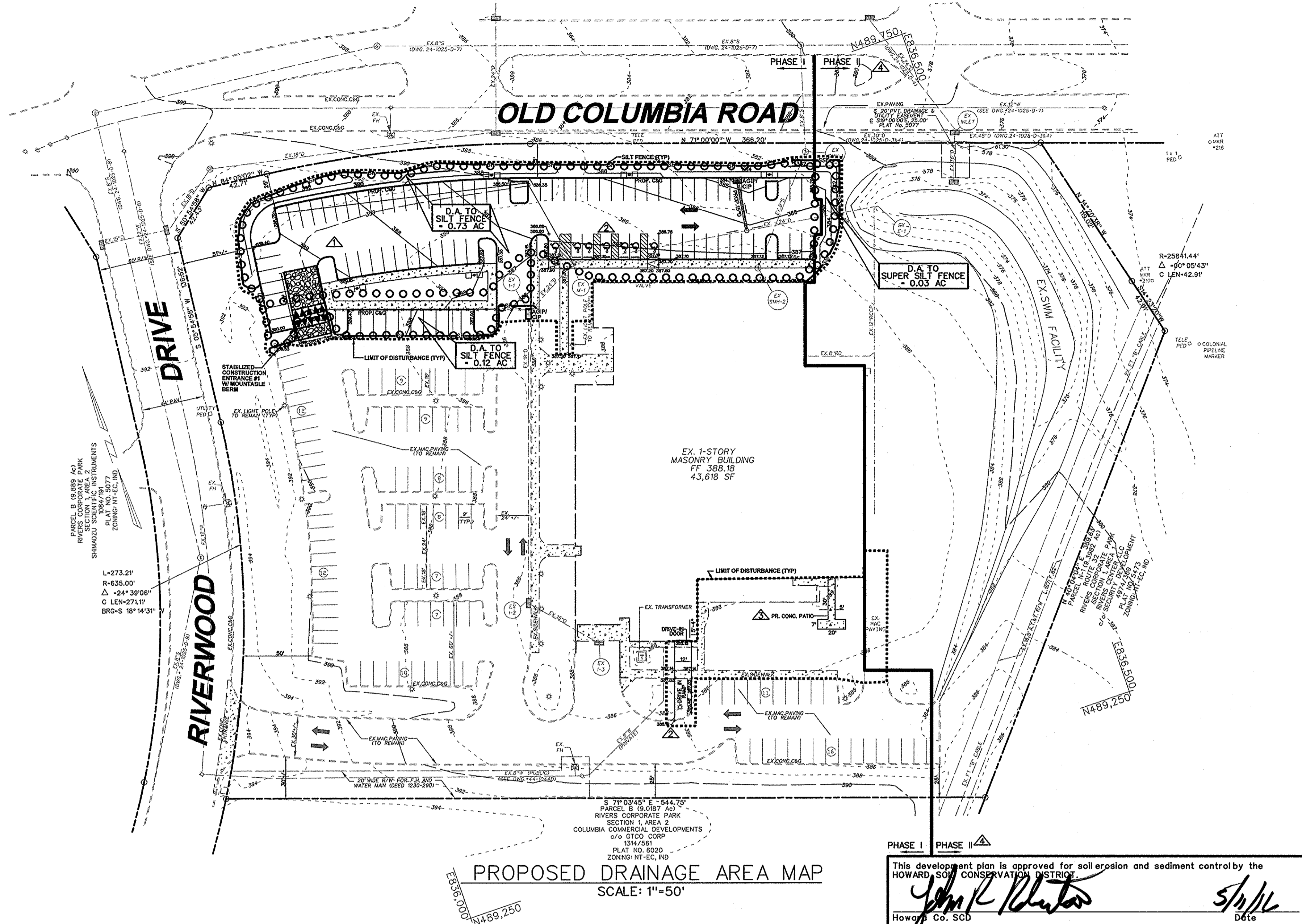
DUST CONTROL SPECIFICATIONS

TEMPORARY METHODS:

1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THE RUNOFF BEGINS TO FLOW.
5. BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE - APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS:

1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.



PROPOSED DRAINAGE AREA MAP
SCALE: 1"=50'

PHASE I PHASE II
This development plan is approved for soil erosion and sediment control by the HOWARD COUNTY CONSERVATION DISTRICT.
John R. Rostek 5/14/16
Howard Co. SCD Date

ENGINEER'S CERTIFICATE
"I 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 Soil Conservation District."
Iwona Rostek-Zarska 5/14/16
Iwona Rostek-Zarska, P.E. 21245 Date

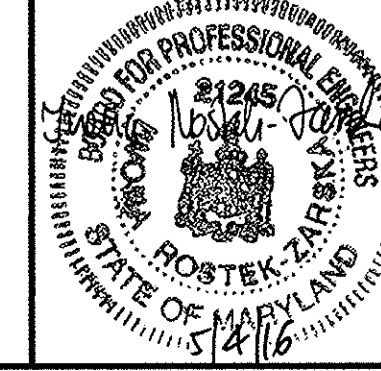
DEVELOPER'S CERTIFICATE
"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."
D.F. Pallace May 3, 2016
Signature of Developer (Daniel F. Pallace) Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
John R. Rostek 5-14-16
Chief, Development Engineering Division Date
John R. Rostek 5-18-16
Chief, Planning and Development Division Date
John R. Rostek 5-18-16
Director Date

ADDRESS CHART					
LOT / PARCEL NO.	STREET ADDRESS				
PARCEL C	7101 RIVERWOOD DRIVE				
PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.			
RIVERS CORPORATE PARK	1 / 1	C			
PLAT NO. OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
5077	1	NT	42	6TH	8069-02
WATER CODE	SEWER CODE				
E16	5290000				

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 04/24/08

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGC.COM



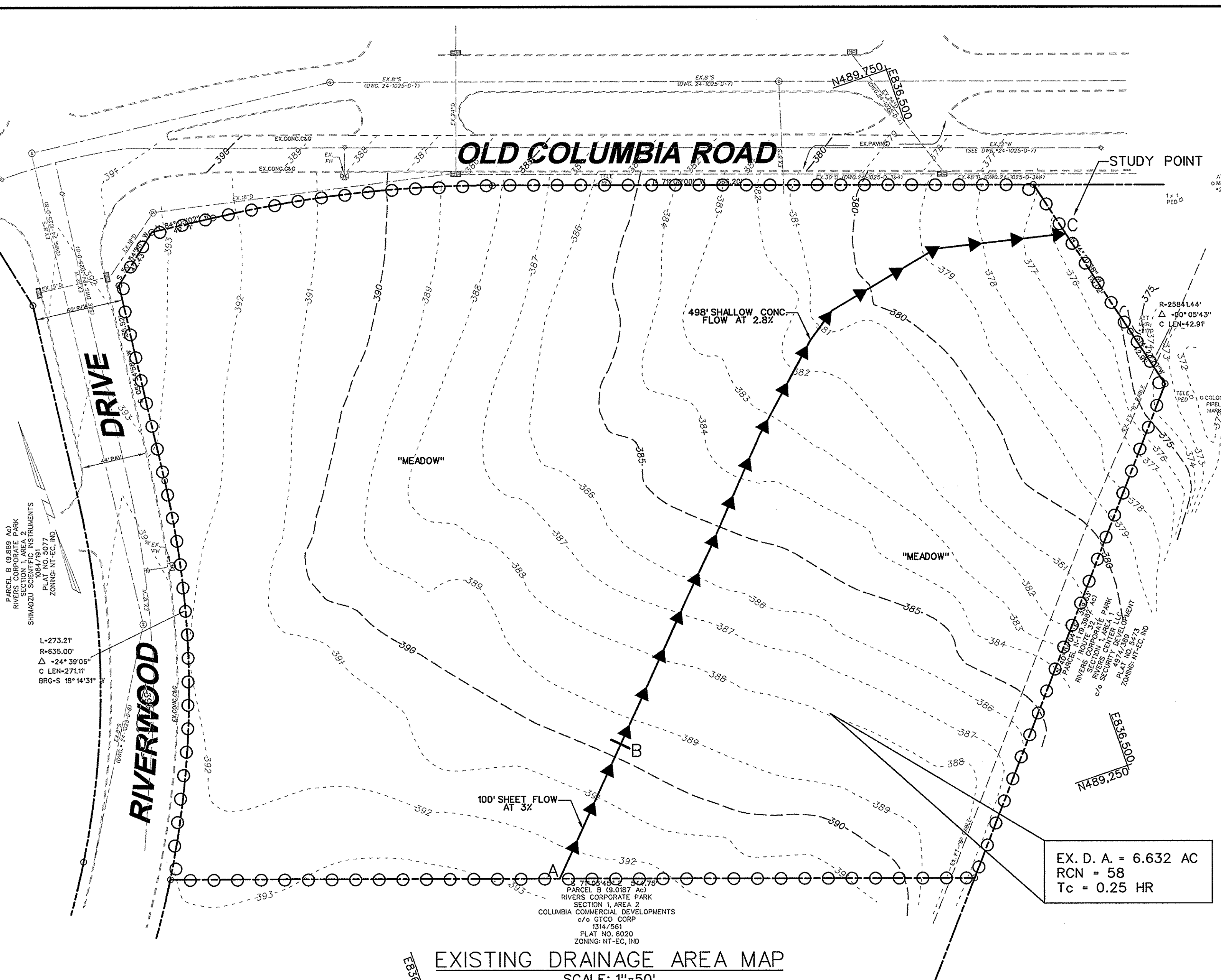
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.
AS-BUILT CERTIFICATION FOR PSWM
NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.
IWONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
NAME P.E. LICENSE NO. DATE OF AS-BUILT

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

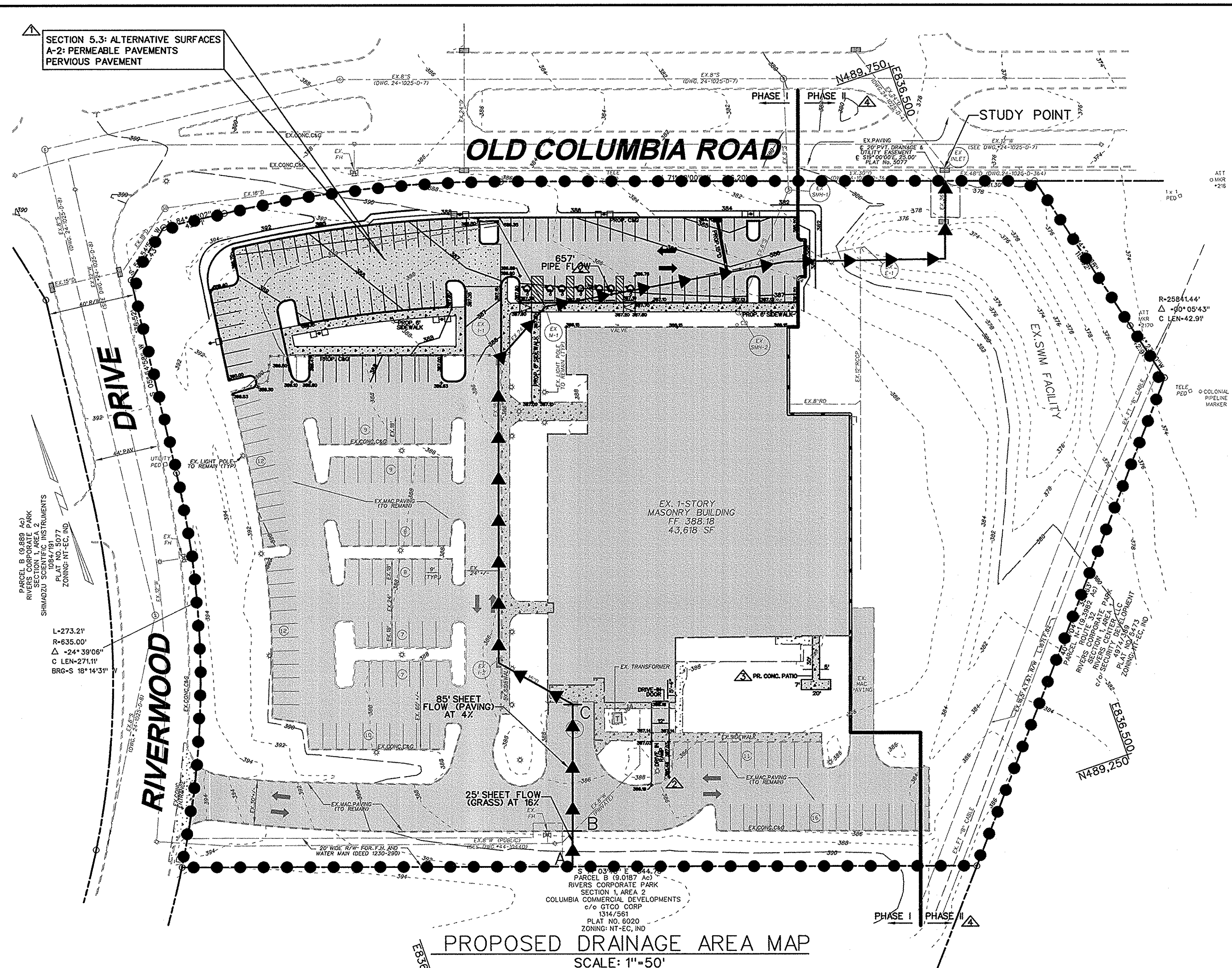
DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

EROSION AND SEDIMENT CONTROL NOTES
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)
HOWARD COUNTY, MD
SCALE: 1"=50'
SHEET 9 OF 16
DATE: MAY, 2016
SDP-07-070



EXISTING DRAINAGE AREA MAP
SCALE: 1"=50'



PROPOSED DRAINAGE AREA MAP
SCALE: 1"=50'

SOILS
THE ENTIRE SITE IS CLASSIFIED AS URBAN LAND-
GLENELG/GLADSTONE/LEGORE ('B' SOIL GROUP).
SOIL LINES CANNOT BE SHOWN AS IT ENCOMPASSES
AN AREA MUCH GREATER THAN THE PROPOSED SITE.

PERVIOUS PAVEMENT DESIGN SUMMARY

PARKING ADDITION, A	= 31,220 SF
Pe	= 2.2 IN
AREA OF PERVIOUS PAVEMENT	= 10,471 SF
ESDv REQUIRED:	
STEP 1:	
FROM MDE TABLE:	
12" DEPTH, EQUIVALENT Pe	= 2.5 IN
EFFECTIVE DEPTH FOR ESDv	= 0.196 FT
ESDv TREATED	= 2,052 CF
FREEBOARD	= 4.33 IN
STEP 2:	
AREA OF RUN-ON	= 20,749 SF (<3x)
Pe	= 2.2 IN
Rv	= 0.95
AREA OF STONE	= 10,471 SF
VOID %	= 30 %
ESDv REQUIRED	= 3,914 CF
TOTAL VOLUME INCLUDING VOIDS	= 12,046 CF
DEPTH OF STONE REQUIRED	= 1.15 FT
DEPTH OF STONE PROVIDED	= 1.25 FT

△ THE TOTAL LIMIT OF DISTURBANCE FOR THE ADDITION OF THE CONCRETE PATIO IS 290 SF AND THEREFORE, IT IS EXEMPT FROM STORM WATER MANAGEMENT.

NOTE
THE APPROVED STORM WATER MANAGEMENT COMPUTATIONS HAVE NOT BEEN REVISED TO ACCOUNT FOR THE PRESENCE OF PERVIOUS PAVEMENT IN PHASE I.
THE DESIGN FOR PERVIOUS PAVEMENT IS INCLUDED IN THE "SUPPLEMENT TO APPROVED STORM WATER MANAGEMENT COMPUTATIONS".

DRAINAGE AREA MAP LEGEND

PROPERTY LINE	---
EXISTING CONTOURS	---384---
	---380---
PROPOSED CONTOURS	---378---
	---380---
EXISTING DRAINAGE AREA BOUNDARY	○○○○○○○○○○○○○○○○
PROPOSED DRAINAGE AREA BOUNDARY	●●●●●●●●●●●●●●
EX. & PROP. IMPERVIOUS AREA	■
LIMIT OF PERVIOUS PAVEMENT	▨

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 04/24/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING					
Chief, Development Engineering Division					Date
Chief, Land Development Division					Date
Director					Date
ADDRESS CHART					
LOT / PARCEL NO.	STREET ADDRESS				
PARCEL C	7101 RIVERWOOD DRIVE				
PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.			
RIVERS CORPORATE PARK	1 / 1	C			
PLAT NO. OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
5077	1	NT	42	6TH	8069-02
WATER CODE	SEWER CODE				
E16	5290000				

CONSTRUCTION CHECK MARK NOTE:
ALL ELEMENTS OF THE STORM WATER MANAGEMENT PRACTICE HAVE BEEN CONSTRUCTED AS PER APPROVED STORM WATER MANAGEMENT PLANS, UNLESS NOTED OTHERWISE WITH ACTUAL AS-BUILT DATA. ITEMS MARKED WITH A CHECK MARK (✓) INDICATE THAT THEY WERE BUILT PER APPROVED STORM WATER MANAGEMENT PLANS.

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

AS-BUILT CERTIFICATION
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.

IWONA-ROSTEK ZARSKA 21245 JUNE 9, 2016
NAME P.E. LICENSE NO. EXPIRATION DATE

SEPTEMBER 2, 2015
SIGNATURE DATE OF AS-BUILT

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

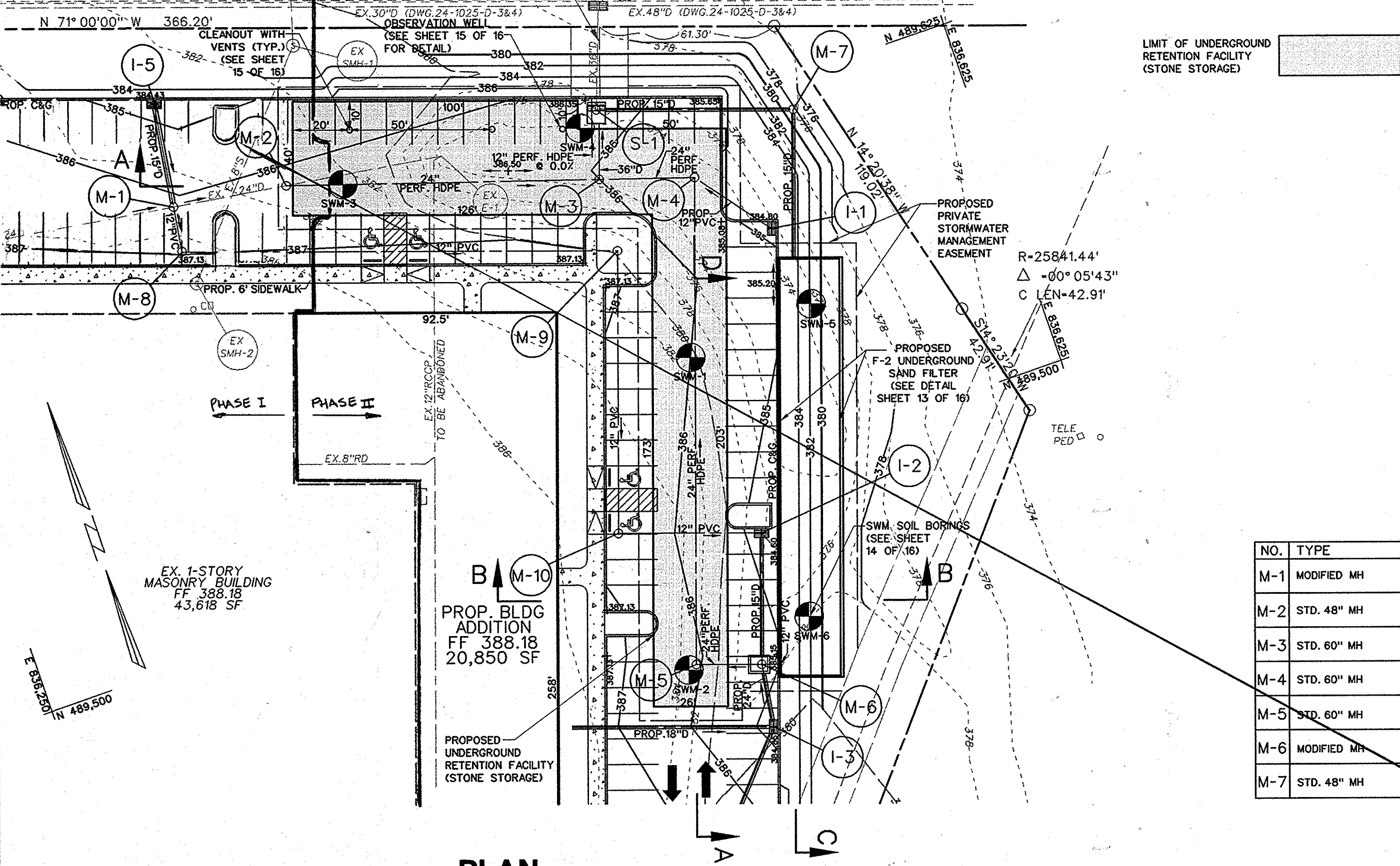
OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	NO.	ITEM	BY
08/25/11	△	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	△	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	△	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	△	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

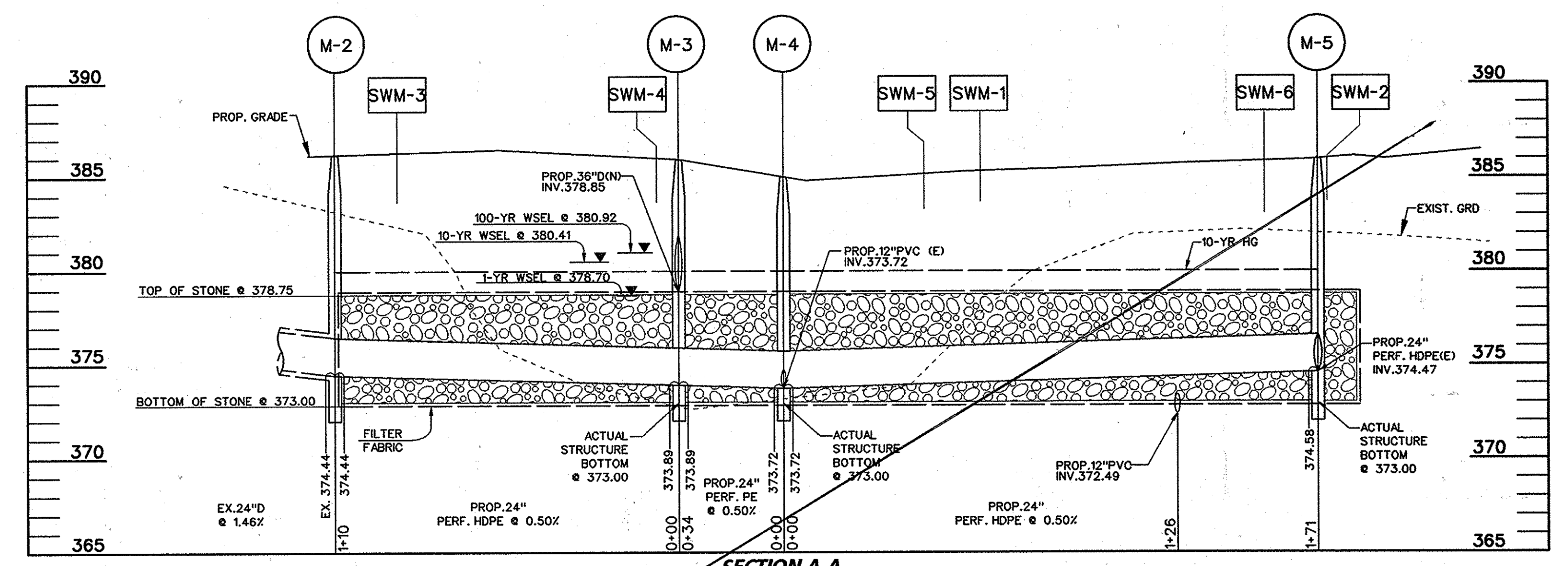
Revised SOIL MAP & STORMWATER MANAGEMENT DRAINAGE AREA MAP
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)
HOWARD COUNTY, MD
SCALE: 1"=50'

SHEET 10 OF 16
DATE: MAY, 2016
SDP-07-070

OLD COLUMBIA ROAD



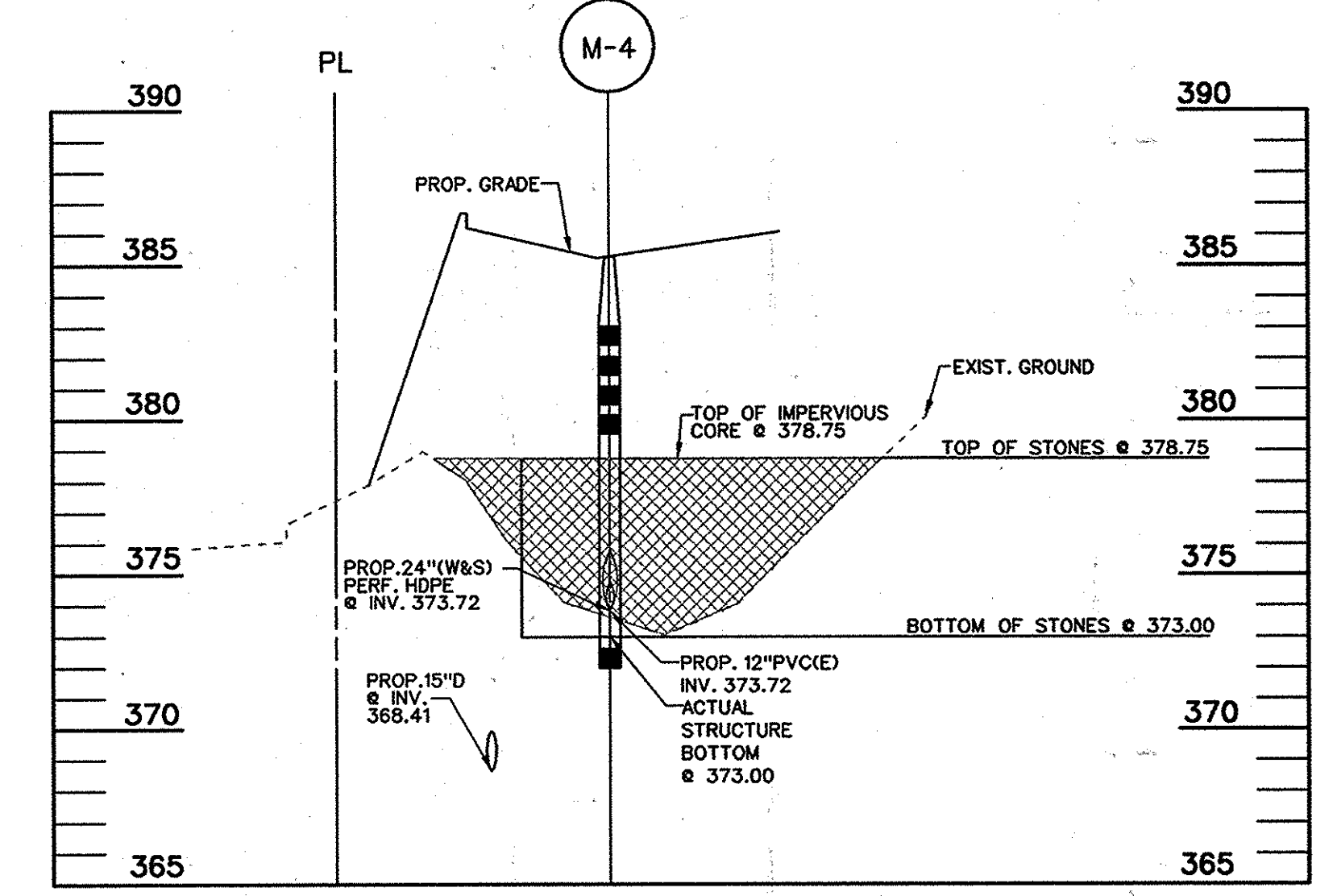
PLAN
SCALE: 1" = 30'



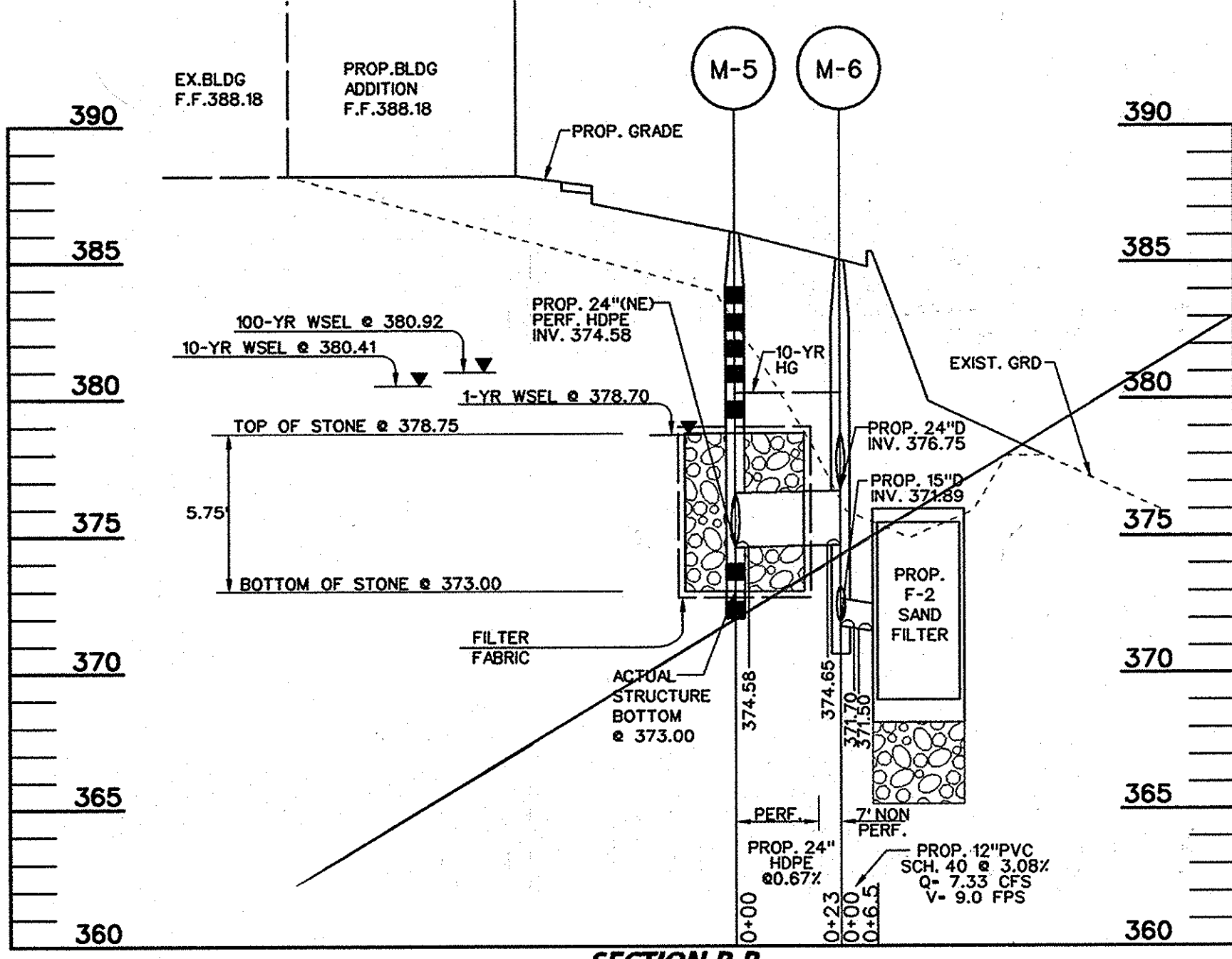
SECTION A-A
SCALE: H: 1" = 30'
V: 1" = 5'

MANHOLE SCHEDULE

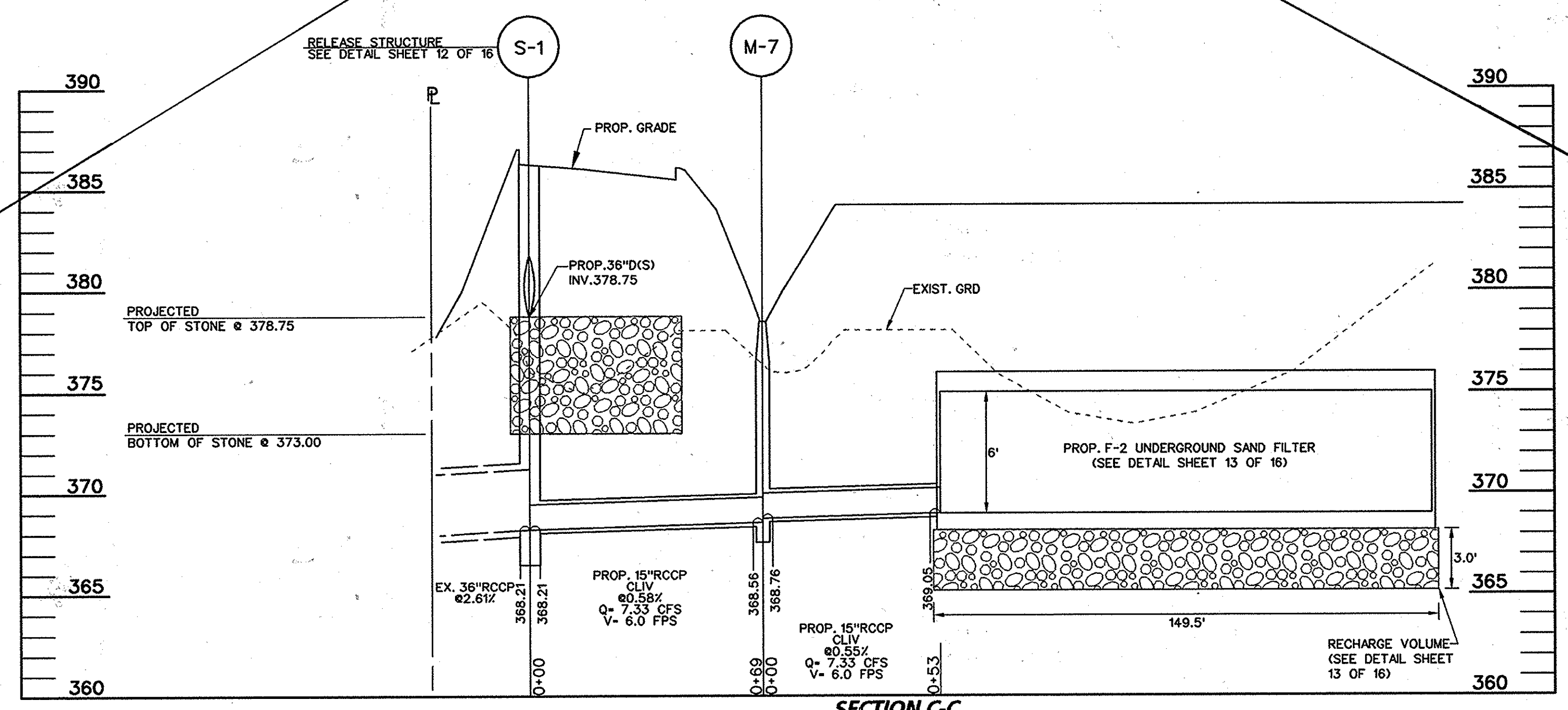
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV	REMARKS
M-1	MODIFIED MH	374.78	374.78	386.25	SEE DETAIL SHEET 12 OF 16
M-2	STD. 48" MH	374.44	374.44	386.25	SEE HOWARD CO. STD. DETAIL PLATE G 5.12
M-3	STD. 60" MH	373.89	373.89	386.00	SEE HOWARD CO. STD. DETAIL PLATE G 5.12
M-4	STD. 60" MH	373.72	373.72	385.45	SEE HOWARD CO. STD. DETAIL PLATE G 5.13
M-5	STD. 60" MH	374.47	374.47	386.05	SEE HOWARD CO. STD. DETAIL PLATE G 5.13
M-6	MODIFIED MH	371.89	371.70	386.30	SEE DETAIL SHEET 12 OF 16
M-7	STD. 48" MH	368.76	368.56	378.50	SEE HOWARD CO. STD. DETAIL PLATE G 5.12



SECTION D-D
SCALE: H: 1" = 30'
V: 1" = 5'



SECTION B-B
SCALE: H: 1" = 30'
V: 1" = 5'



SECTION C-C
SCALE: H: 1" = 30'
V: 1" = 5'

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 04/24/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* Date: 4/22/08
 Chief, Land Development Division: *[Signature]* Date: 4/23/08
 Director, DEP: *[Signature]* Date: 4/24/08

ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART

SUBDIVISION NAME RIVERS CORPORATE PARK	SECTION / AREA 1 / 1	LOT / PARCEL NO. C
PLAT NO. 5077	GRID NO. 1	ZONING NT
TAX MAP NO. 42	ELEC. DIST. 6TH	CENSUS TRACT 6069-02
WATER CODE E16	SEWER CODE 528000	

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

AS-BUILT CERTIFICATION FOR PWSM
THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.
IWONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
NAME P.E. LICENSE NO. DATE OF AS-BUILT
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

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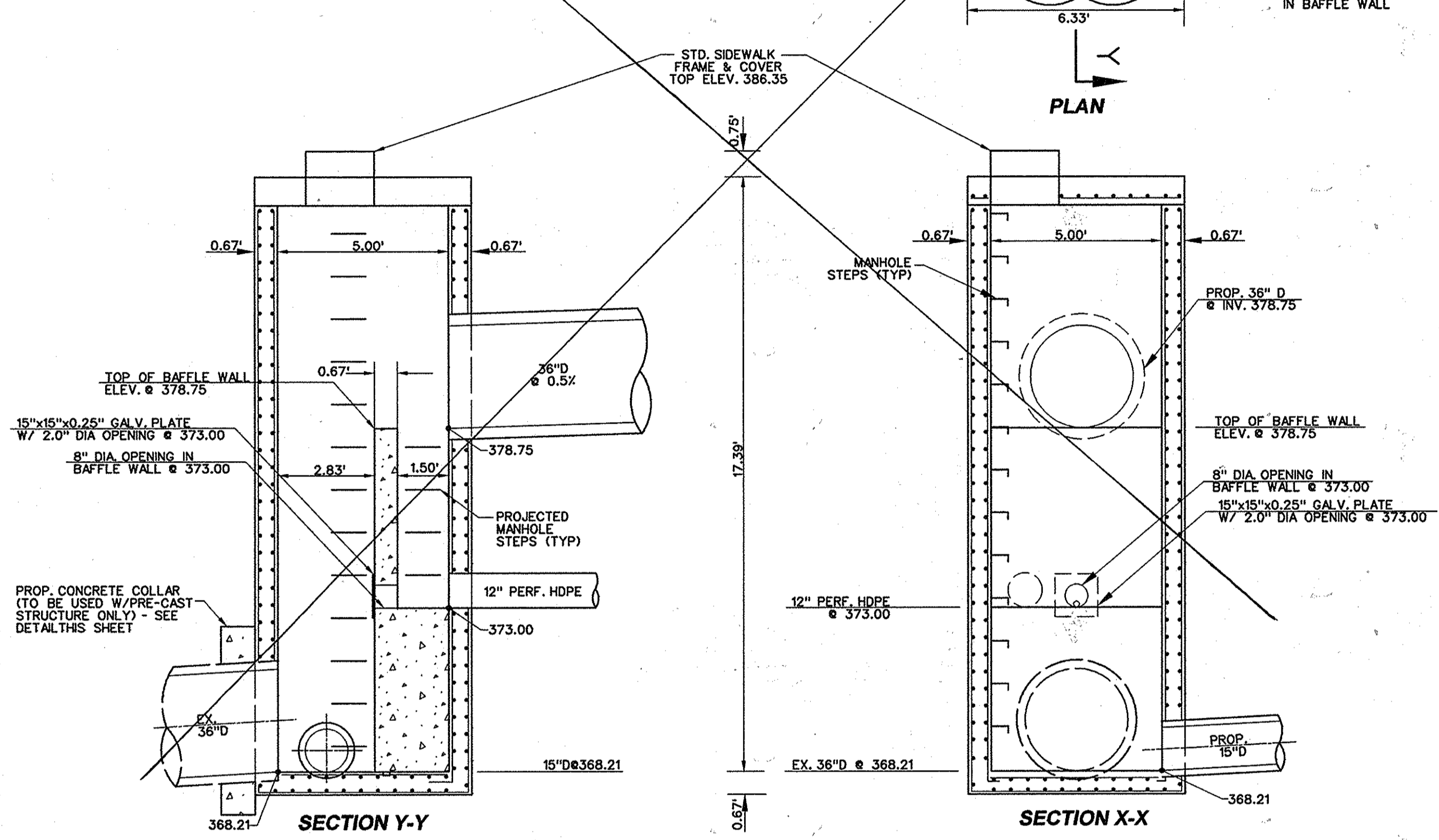
DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
02/01/16	2	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

STORMWATER MANAGEMENT PLAN & PROFILES
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE

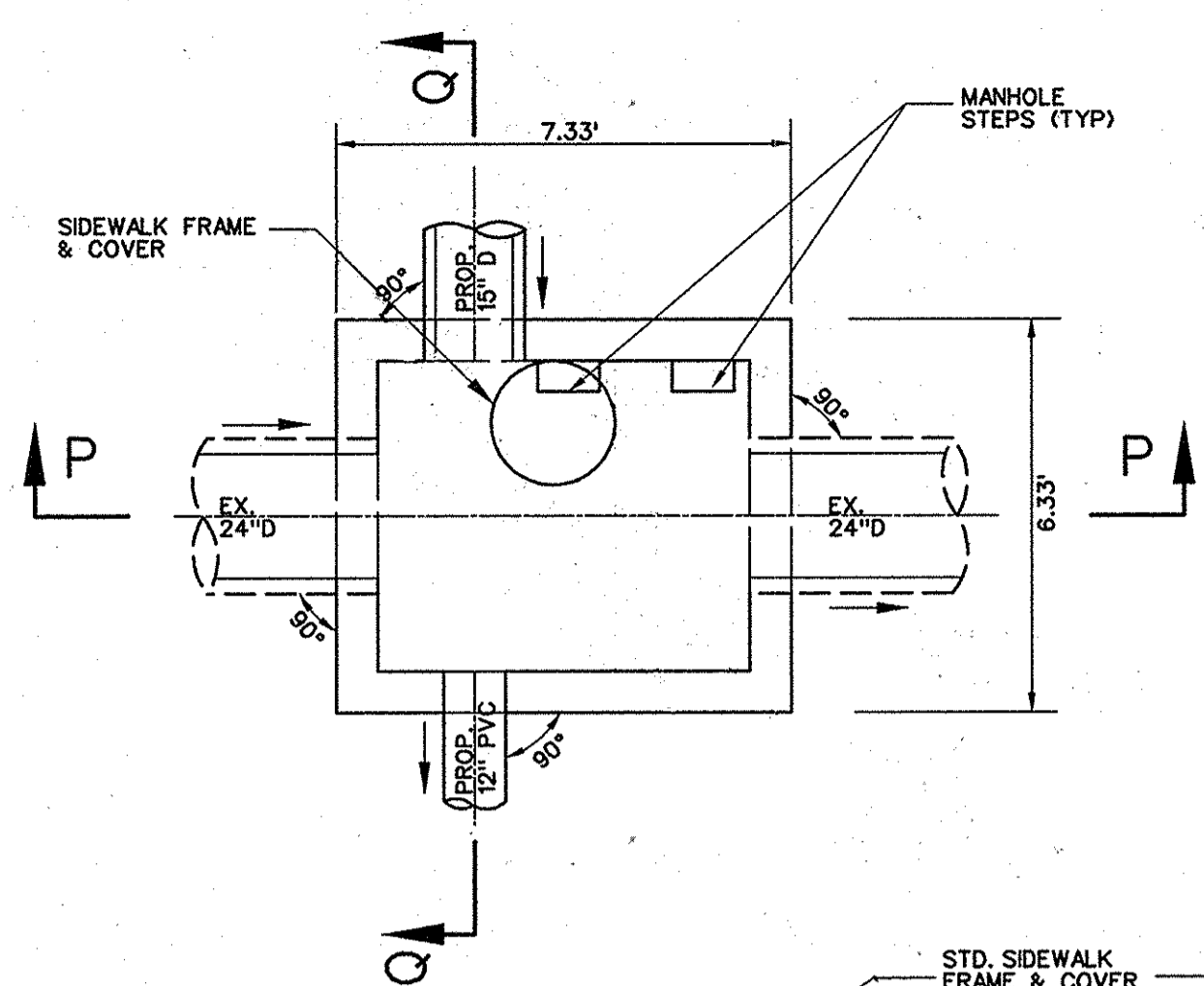
HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' SDP-07-070 SHEET 11 OF 16 DATE: NOVEMBER 15, 2007 SDP-07-070

NOTES

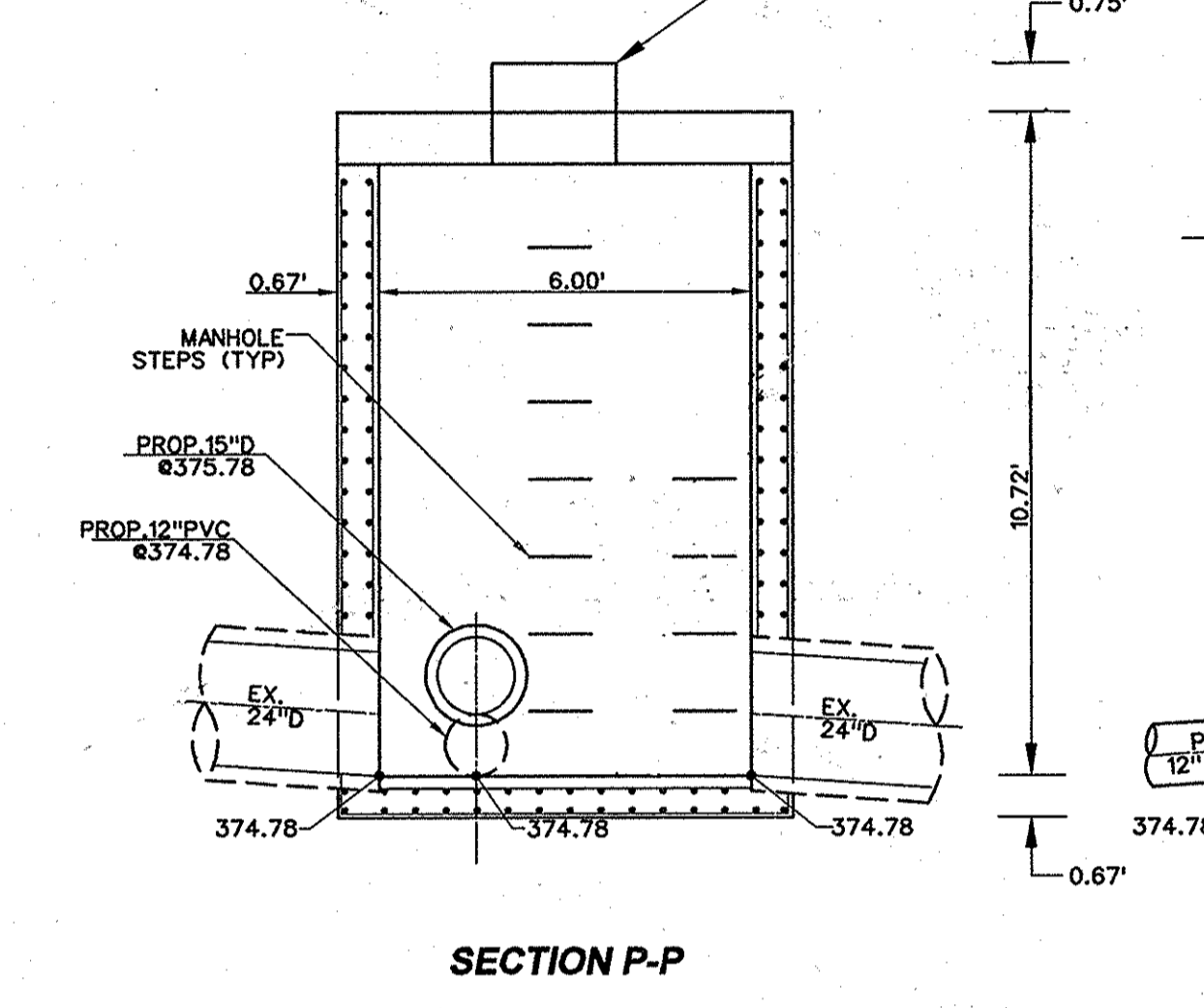
- CAST IN PLACE STRUCTURE:**
- UNLESS OTHERWISE NOTED, INLET SHALL BE BUILT IN ACCORDANCE WITH H.C.S.D. PLATE SD-4.01, TYPE 'A' INLET.
 - STRUCTURE TO BE CAST IN PLACE REINFORCED CONCRETE WITH 3500 P.S.I. (MIN. COMPRESSIVE STRENGTH @ 28 DAYS); SHA MIX NO. 3.
 - REINFORCING FOR WALLS AND BASE TO BE IN ACCORDANCE WITH B.C.S.D. PLATE D-2.03. REINFORCING FOR TOP SLAB PER B.C.S.D., PLATE D-2.05.
 - ALL REINFORCING TO BE CONTINUOUS THROUGH STRUCTURE AND AT CORNERS.
 - PROVIDE ADDITIONAL REBARS ALONG PERIMETER OF ALL OPENINGS, B.C.S.D., PLATE G-1A.
 - MANHOLE STEPS SHALL BE AS SHOWN ON BALTIMORE COUNTY STANDARD DETAIL C-4.
 - ALL PIPE JOINTS TO HAVE GROUT USING NON-SHRINK GROUT JOINT FILLER.
 - ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 1/4" x 1/4" MILLED CHAMFER STRIPS.
 - MINIMUM COVER FOR ANY BARS SHALL BE 2" ON WALLS AND 3" AT BOTTOM.
- OPTIONAL PRECAST STRUCTURE:**
- SHOP DRAWINGS FOR PRECAST CONCRETE RISERS WITH SUPPORTING STRUCTURAL CALCULATIONS (SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER MEETING A.S.T.M. REQUIREMENTS FOR PRE-CAST STRUCTURES) MUST BE SUBMITTED TO THE ENGINEER, AND THE APPROVING AGENCY (HOWARD COUNTY DEVELOPMENT ENGINEERING DIVISION FOR APPROVAL PRIOR TO FABRICATION. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED/APPROVED, THEN THE HYDRAULICS, FLOTATION AND STRUCTURAL INTEGRITY WILL HAVE TO BE RE-ANALYZED. ALL JOINTS AND CONNECTIONS MUST BE WATER-TIGHT. THE METHOD OF ACHIEVING A WATER-TIGHT SEAL BETWEEN THE RISER STRUCTURE, AND ALL CONDUITS (I.E. BARREL AND LOW FLOW PIPES) SHALL BE APPROVED BY THE ENGINEER IN CHARGE, AND HOWARD COUNTY DEVELOPMENT ENGINEERING DIVISION PRIOR TO FABRICATION.
 - MANHOLE STEPS SHALL BE AS SHOWN ON HOWARD COUNTY STANDARD DETAIL C-5.21.
 - ALL PIPE JOINTS TO HAVE GROUT USING NON-SHRINK GROUT JOINT FILLER.
 - ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 1/4" x 1/4" MILLED CHAMFER STRIPS.
 - SEE H.C.S.D. PLATE SD-4.40 FOR STRUCTURE REINFORCEMENT.
 - SEE H.C.S.D. PLATE SD-4.40 FOR PRE-CAST STRUCTURE GENERAL NOTES.
 - CONCRETE COLLAR AROUND OUTFALL PIPE SHALL BE ATTACHED TO RELEASE STRUCTURE WHEN PRECAST STRUCTURE IS USED. SEE DETAIL ON THIS SHEET.



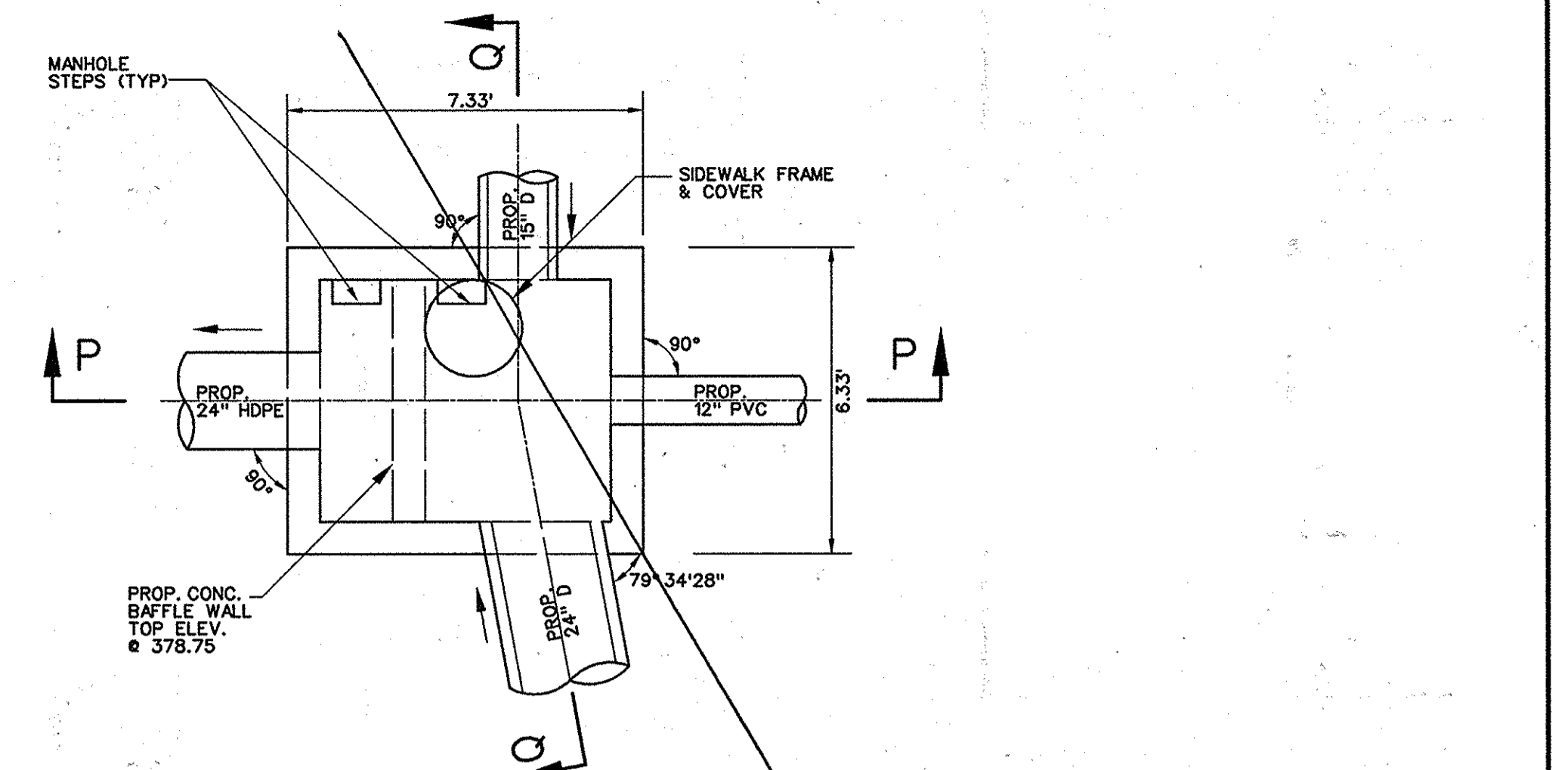
RELEASE STRUCTURE S-1 DETAIL
SCALE 1"=3'



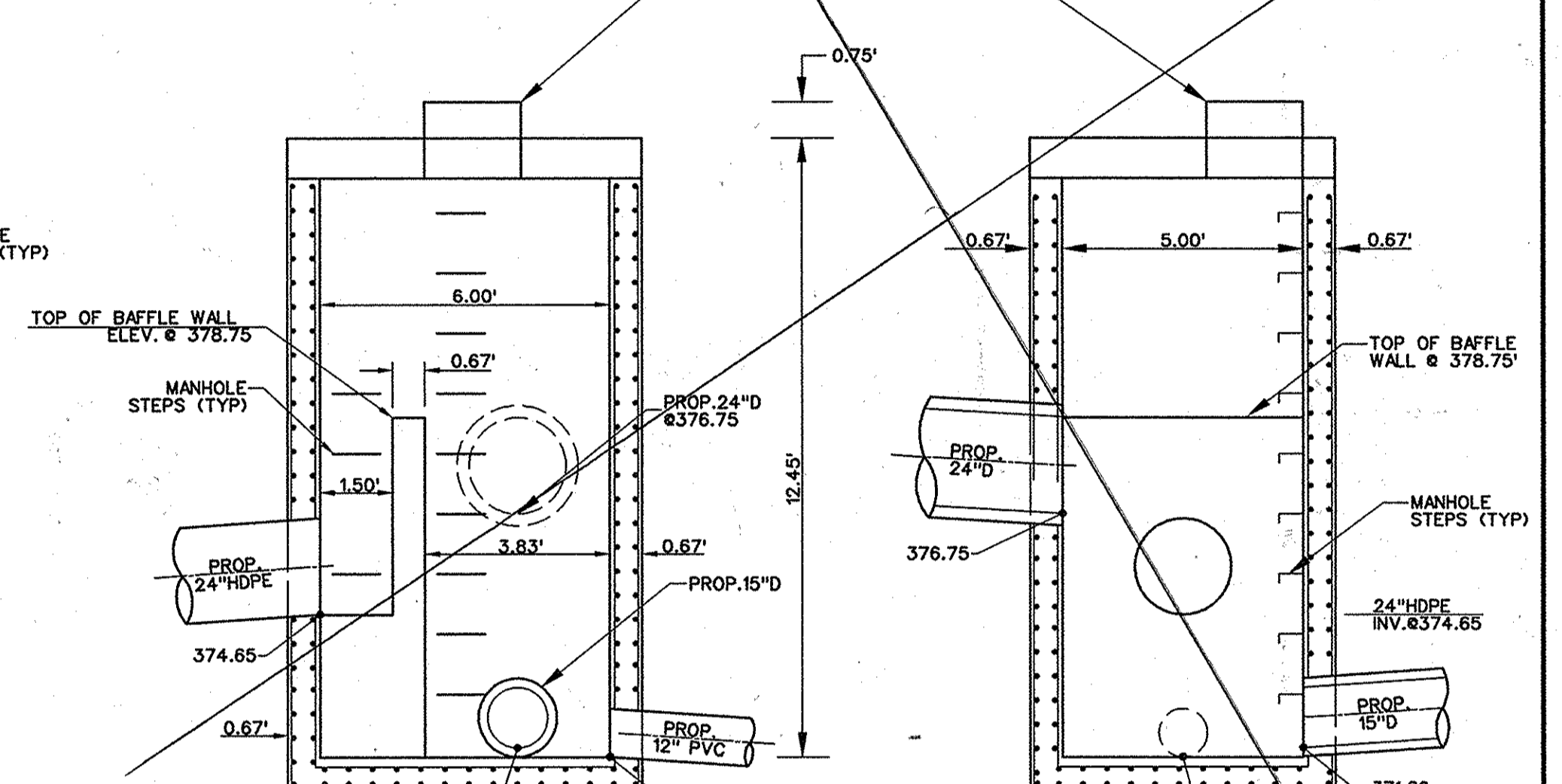
STRUCTURE M-1 DETAIL
SCALE 1"=3'



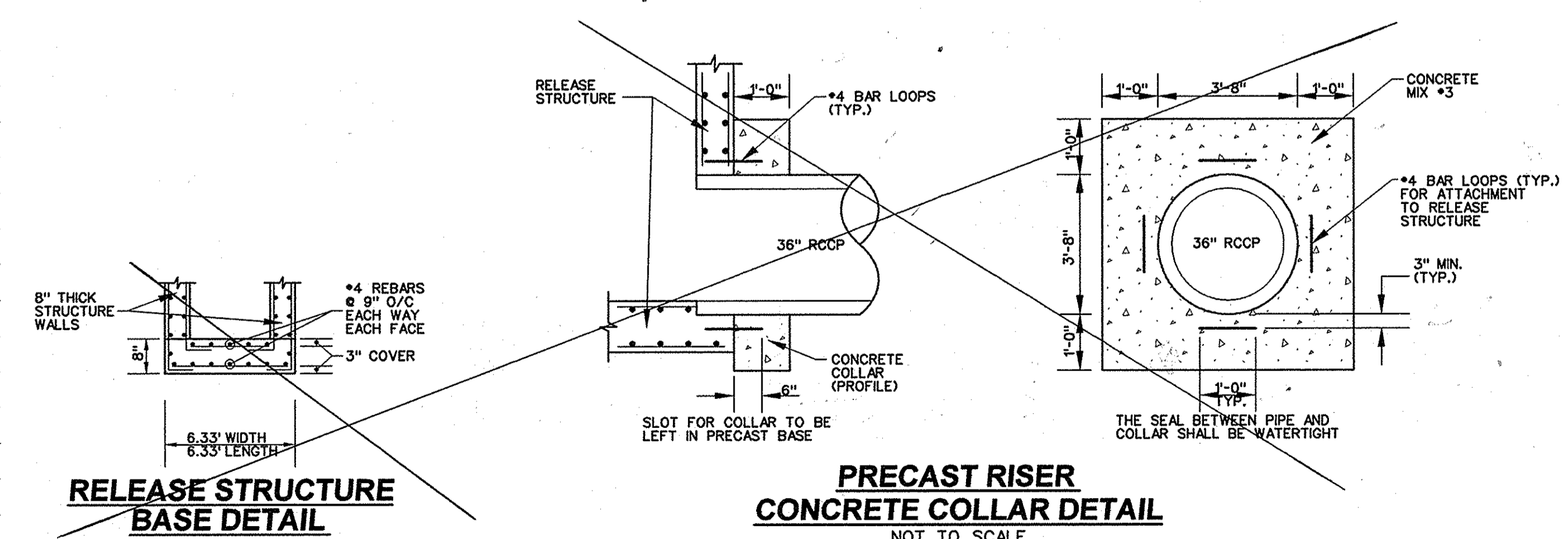
STRUCTURE M-1 DETAIL
SCALE 1"=3'
UNLESS OTHERWISE NOTED, THIS STRUCTURE SHALL BE BUILT ACCORDING TO HOWARD COUNTY STANDARD DETAIL PLATE SD-4.01, 'A-5' INLET.



DIVERSION STRUCTURE M-6 DETAIL
SCALE 1"=3'



DIVERSION STRUCTURE M-6 DETAIL
SCALE 1"=3'
UNLESS OTHERWISE NOTED, THIS STRUCTURE SHALL BE BUILT ACCORDING TO HOWARD COUNTY STANDARD DETAIL PLATE SD-4.01, 'A-5' INLET.



RELEASE STRUCTURE BASE DETAIL
NOT TO SCALE

PRECAST RISERS CONCRETE COLLAR DETAIL
NOT TO SCALE

WEEP HOLE DETAIL FOR M-3, M-4 & M-5
NOT TO SCALE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 04/24/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING					
 Chief, Development Engineering Division Date: 4/22/08				 Chief, Land Development Division Date: 4/22/08	
ADDRESS CHART					
LOT / PARCEL NO.		STREET ADDRESS			
PARCEL C		7101 RIVERWOOD DRIVE			
PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION / AREA		LOT / PARCEL NO.	
RIVERS CORPORATE PARK		1 / 1		C	
PLAT NO.	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
5077	1	NT	42	6TH	6069-02
WATER CODE			SEWER CODE		
E16			S290000		

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	ITEM	BY
02/01/08	ELIMINATION OF PHASE II - A	BLDG

STORMWATER MANAGEMENT DETAILS I
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE

HOWARD COUNTY, MARYLAND
SCALE: 1" = 30'

SDP-07-070

SHEET 12 OF 16
DATE: NOVEMBER 15, 2007
SDP-07-070

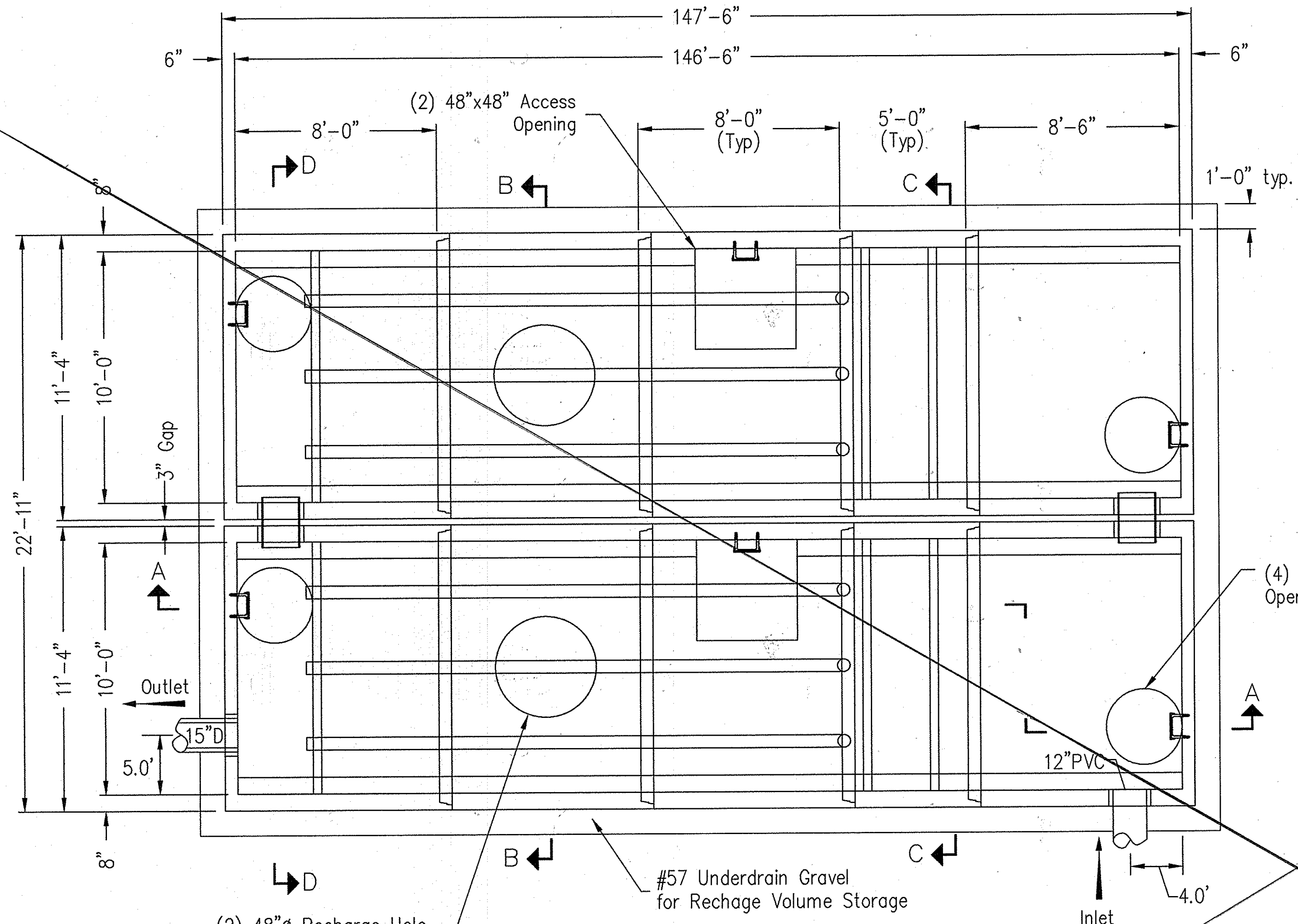
BLDG
Baltimore Land Design Group Inc.
Consulting Engineers

222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

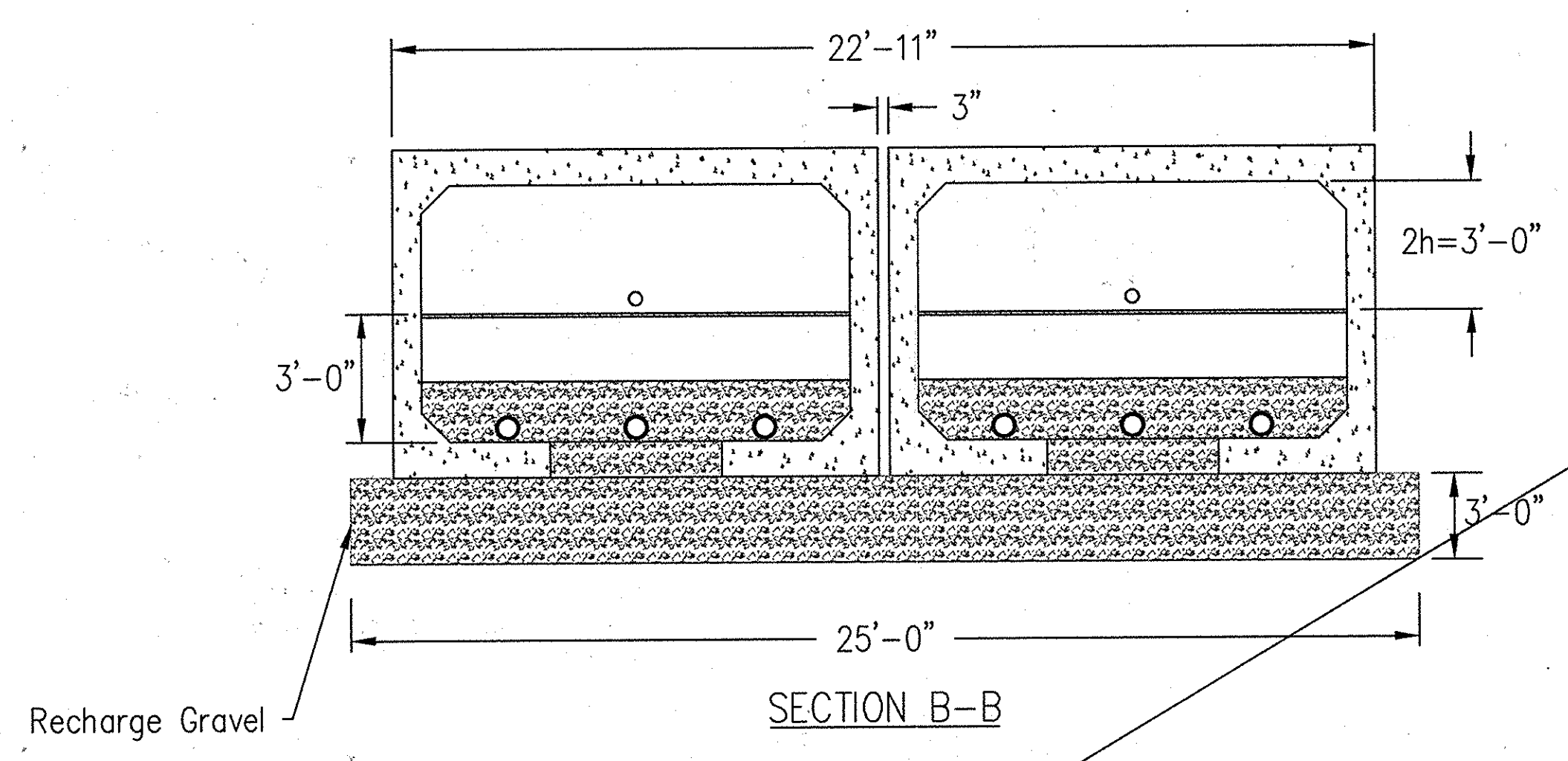
AS-BUILT CERTIFICATION FOR PSWM
THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.

J. ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
NAME RE. LICENSE NO. DATE OF AS-BUILT

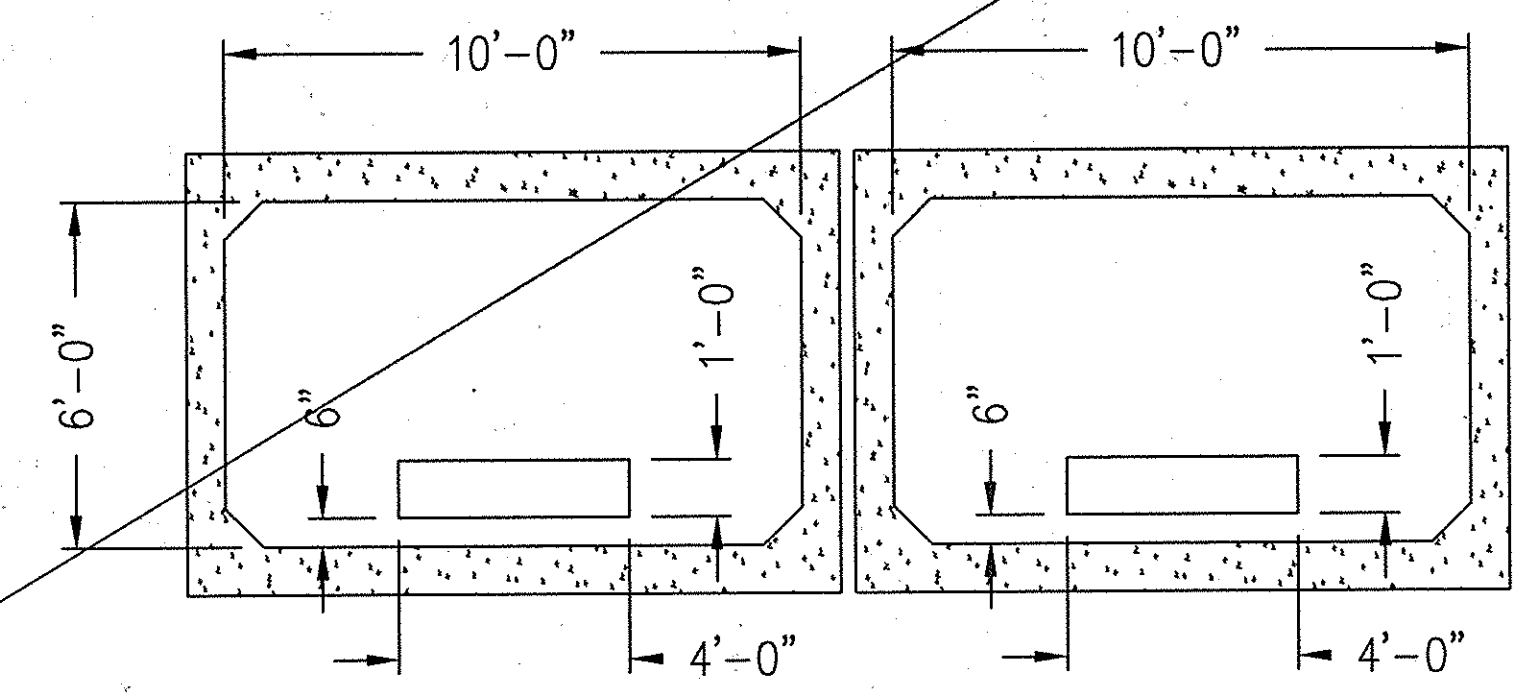
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.



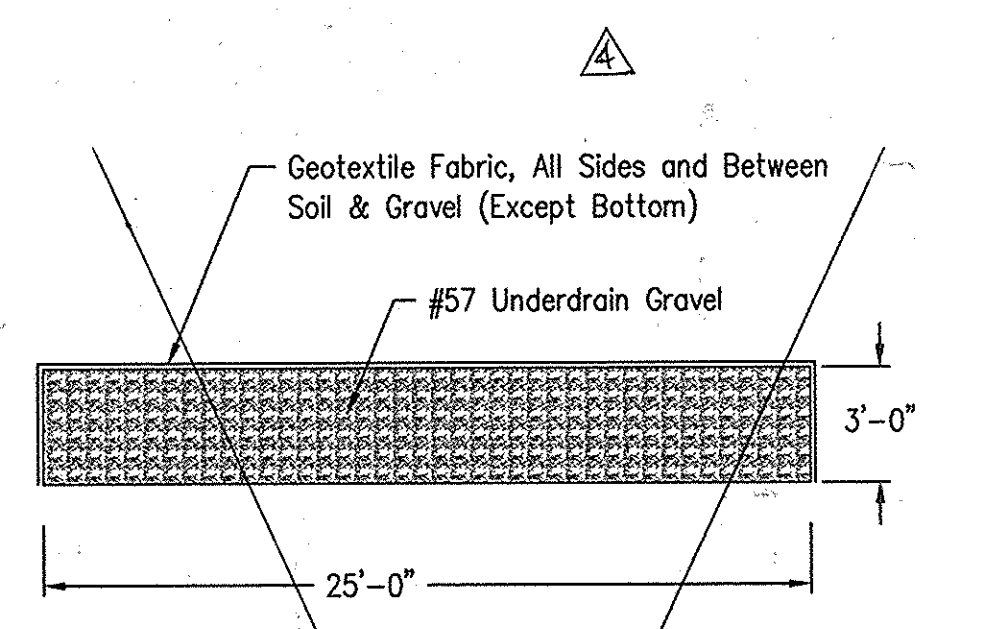
PLAN VIEW
Access Risers and Covers
Not Shown for Clarity



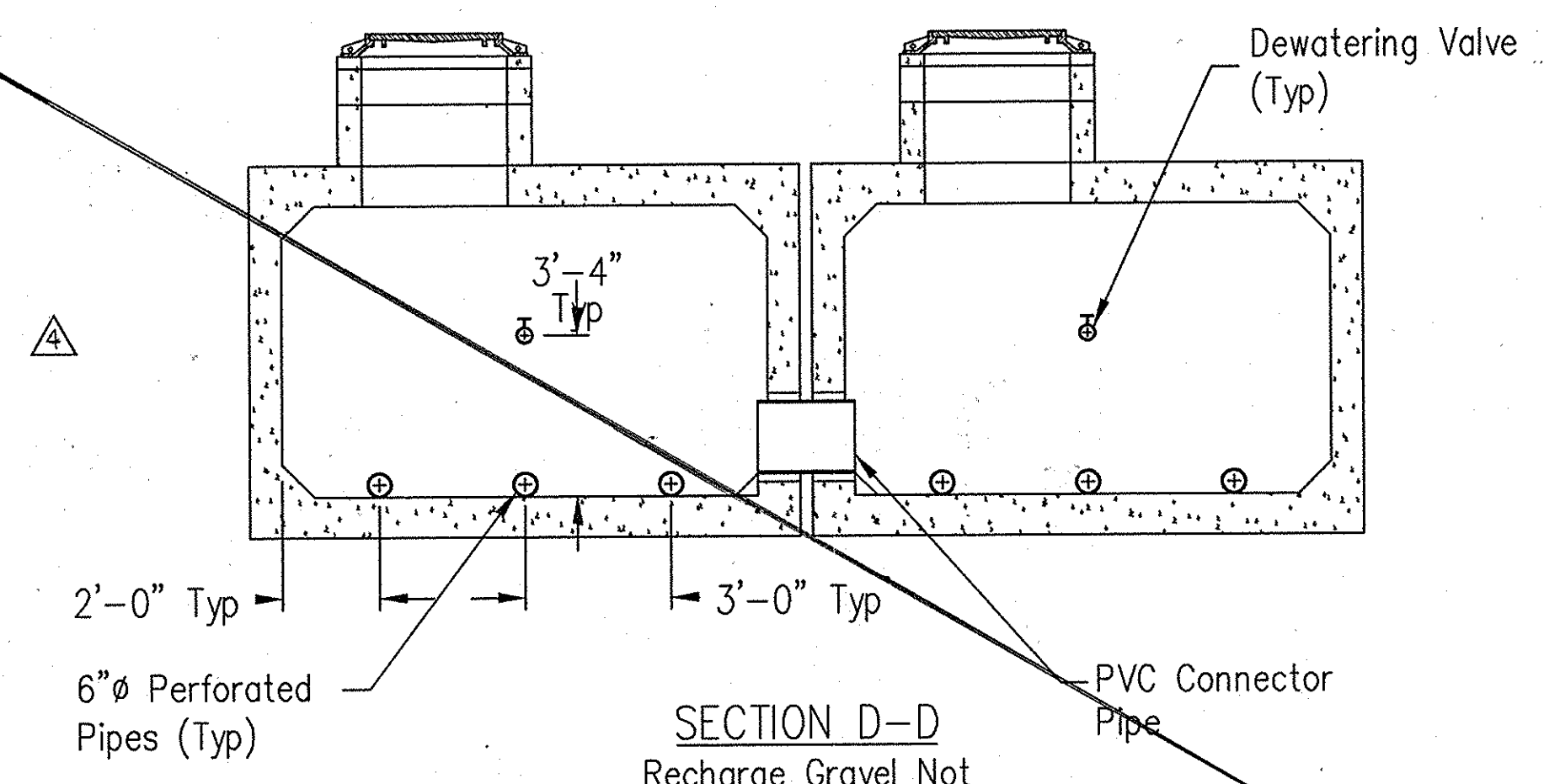
SECTION B-B



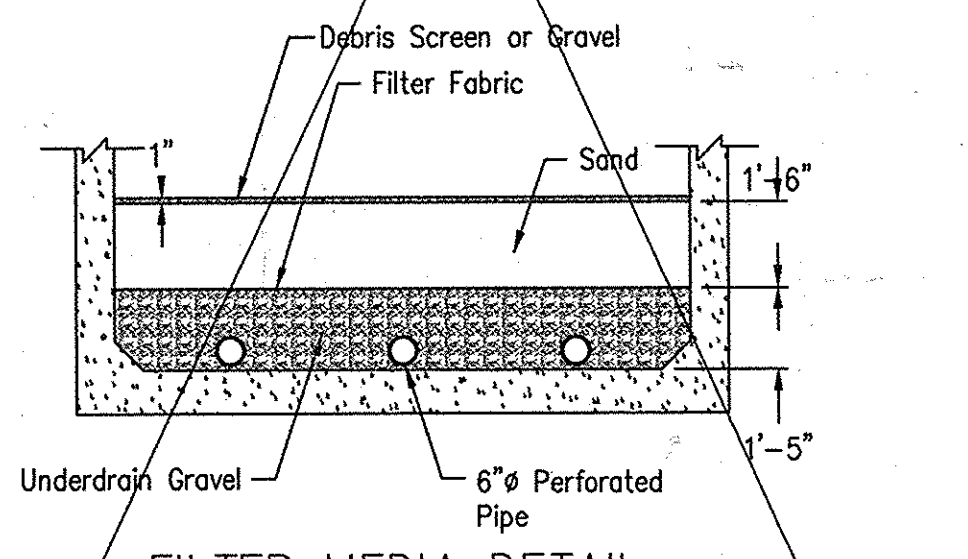
SECTION C-C
Recharge Gravel Not
Shown for Clarity



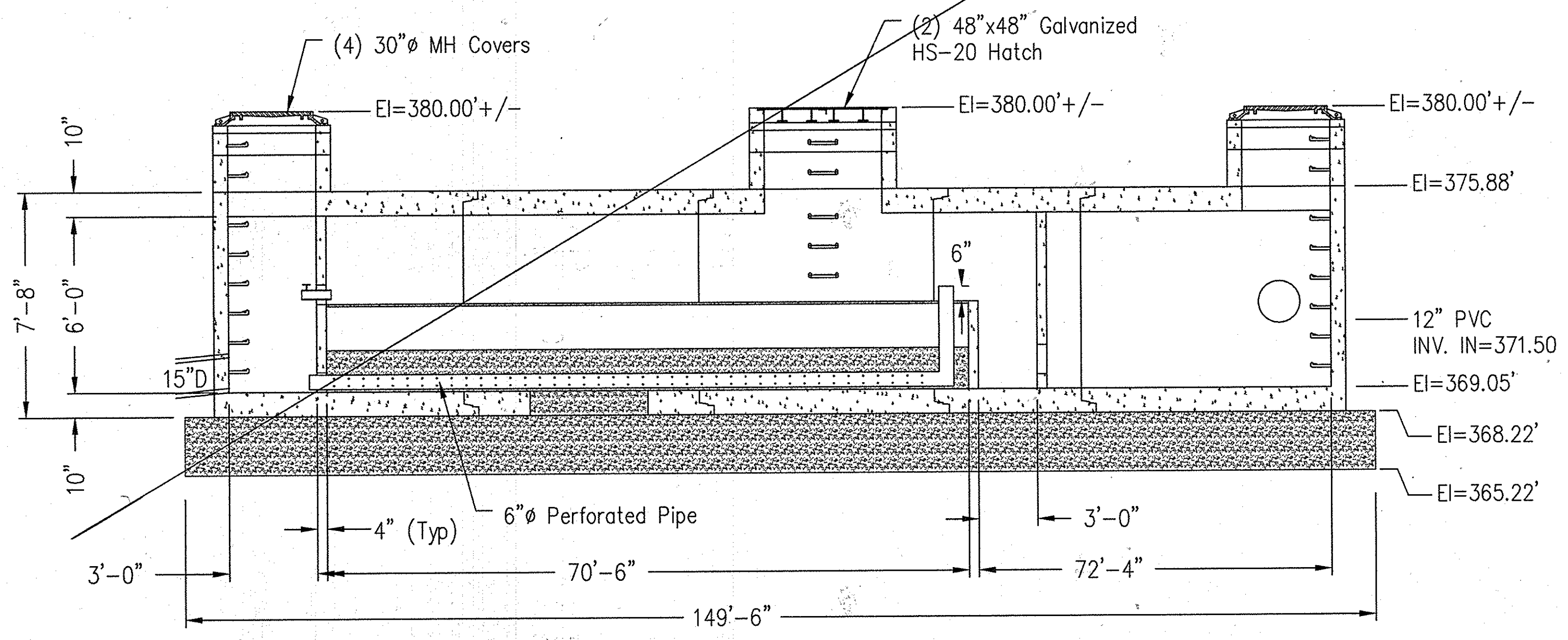
RECHARGE BED DETAIL



SECTION D-D
Recharge Gravel Not
Shown for Clarity



FILTER MEDIA DETAIL

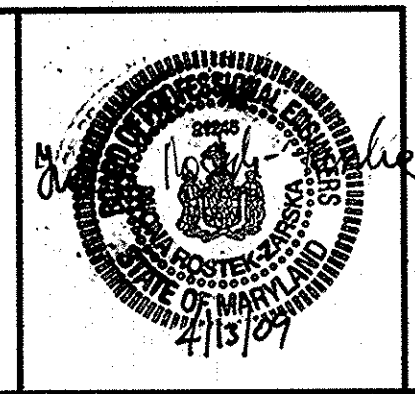


SECTION A-A

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 04/24/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING					
<i>Mr. Damm</i> Chief, Development Engineering Division					4/22/08
<i>Anna Stahl</i> Chief, Land Development Division					4/22/08
<i>Annex J. Butler</i> Director, DEP					4/23/08
ADDRESS CHART					
LOT / PARCEL NO.			STREET ADDRESS		
PARCEL C			7101 RIVERWOOD DRIVE		
PERMIT INFORMATION CHART					
SUBDIVISION NAME RIVERS CORPORATE PARK		SECTION / AREA 1 / 1		LOT / PARCEL NO. C	
PLAT NO. 5077	GRID NO. 1	ZONING NT	TAX MAP NO. 42	ELEC. DIST. 6TH	CENSUS TRACT 6069-02
WATER CODE E16			SEWER CODE 529000		

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers
222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



AS-BUILT CERTIFICATION FOR PSWM
THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET
WYONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2019
NAME P.E. LICENSE NO. DATE OF AS-BUILT
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

MANUFACTURER
ROTONDO
ENVIRONMENTAL SOLUTIONS LLC
4950 EISENHOWER AVE, UNIT C
ALEXANDRIA, VA 22304
(703) 212-4830

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	ITEM	BY
02/01/16	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

STORMWATER MANAGEMENT DETAILS II (UNDERGROUND SAND FILTER)
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
HOWARD COUNTY, MARYLAND
SCALE: NOT TO SCALE
SDP-07-070

DESIGN SPECIFICATIONS:
 Concrete Minimum (28-Day) Compressive Strength 5000 psi.
 Reinforcing Deformed Bars Conforming to ASTM A-615 (Fy=60 ksi)
 Reinforcing Welded Wire Fabric Conforming to ASTM A-185 or A-497 (Fy=65 ksi).
 Design Live Load: AASHTO HS-20.
 Earth Cover: 0'-6" Minimum to 4'-0" Maximum.
 Soil Unit Weight: 120 pcf
 Structure Design Criteria to Meet AASHTO Specification for Highway Bridges, 16th Edition.
 Vertical Joints to be Watertight and in Conformance to ASTM C-443.

CONSTRUCTION NOTES:
 Precast Concrete supplied by Rotondo Environmental Solutions, LLC at 703-212-4830 or equal.
 Water test to be performed prior to placement of filter media.
 Structure to be completely backfilled prior to performing water test.
 Later pipe openings to be temporarily plugged after installation and prior to water test.
 Later pipes to extend into the structure beyond the inside wall and sealed with grout.
 Grout between grade rings to meet required finished grade.
 All areas draining to the sandfilter shall be stabilized prior to allowing any runoff to enter it.

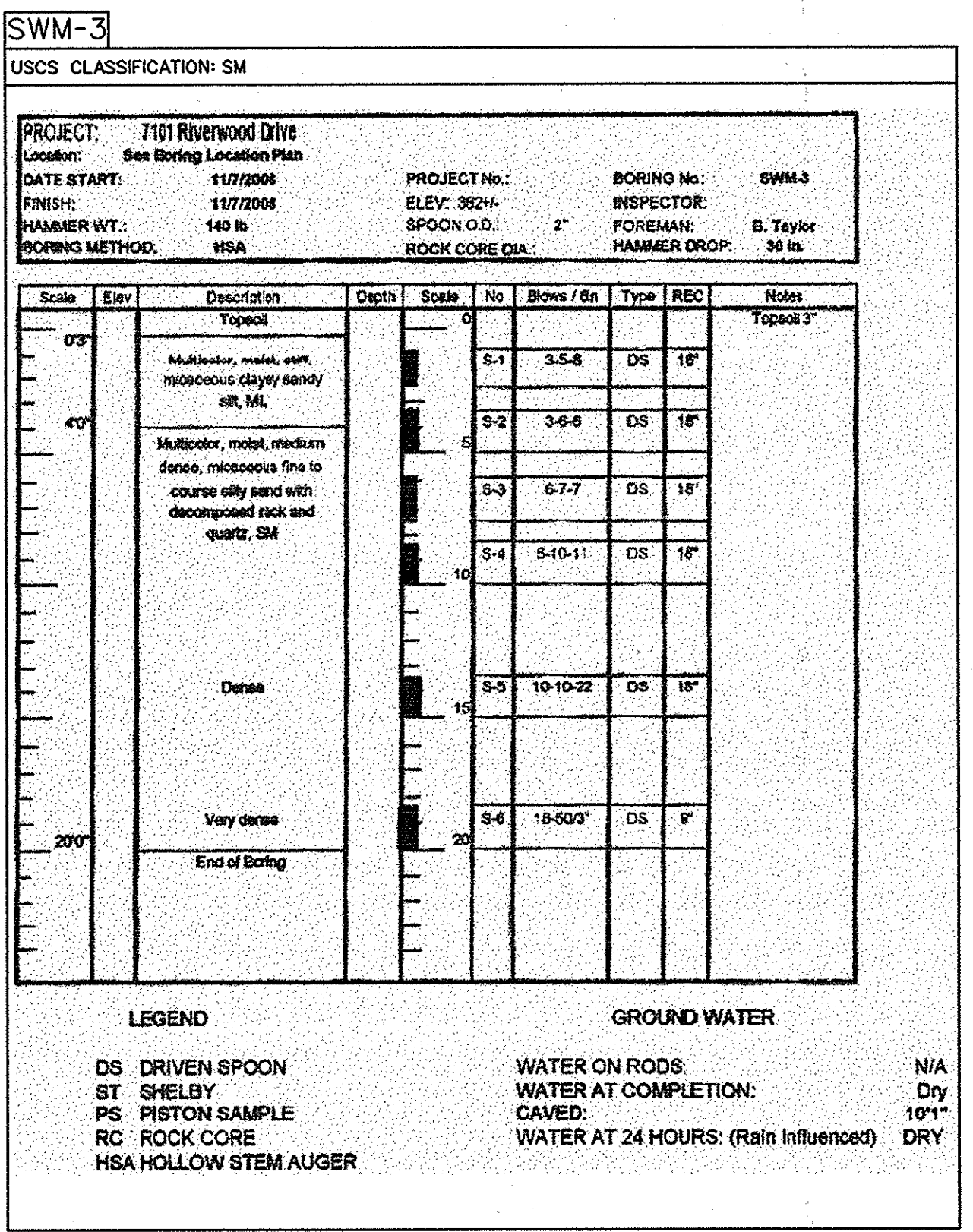
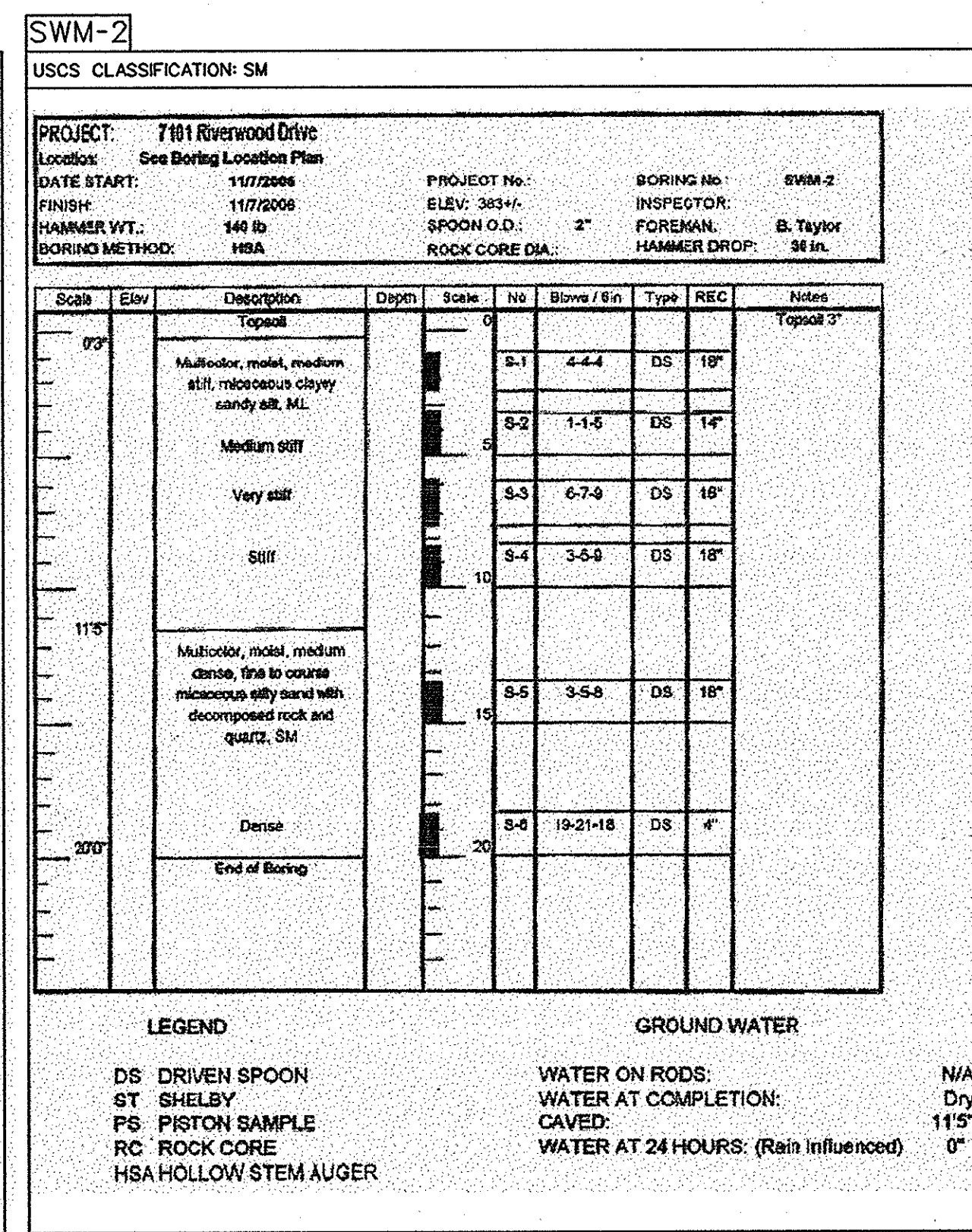
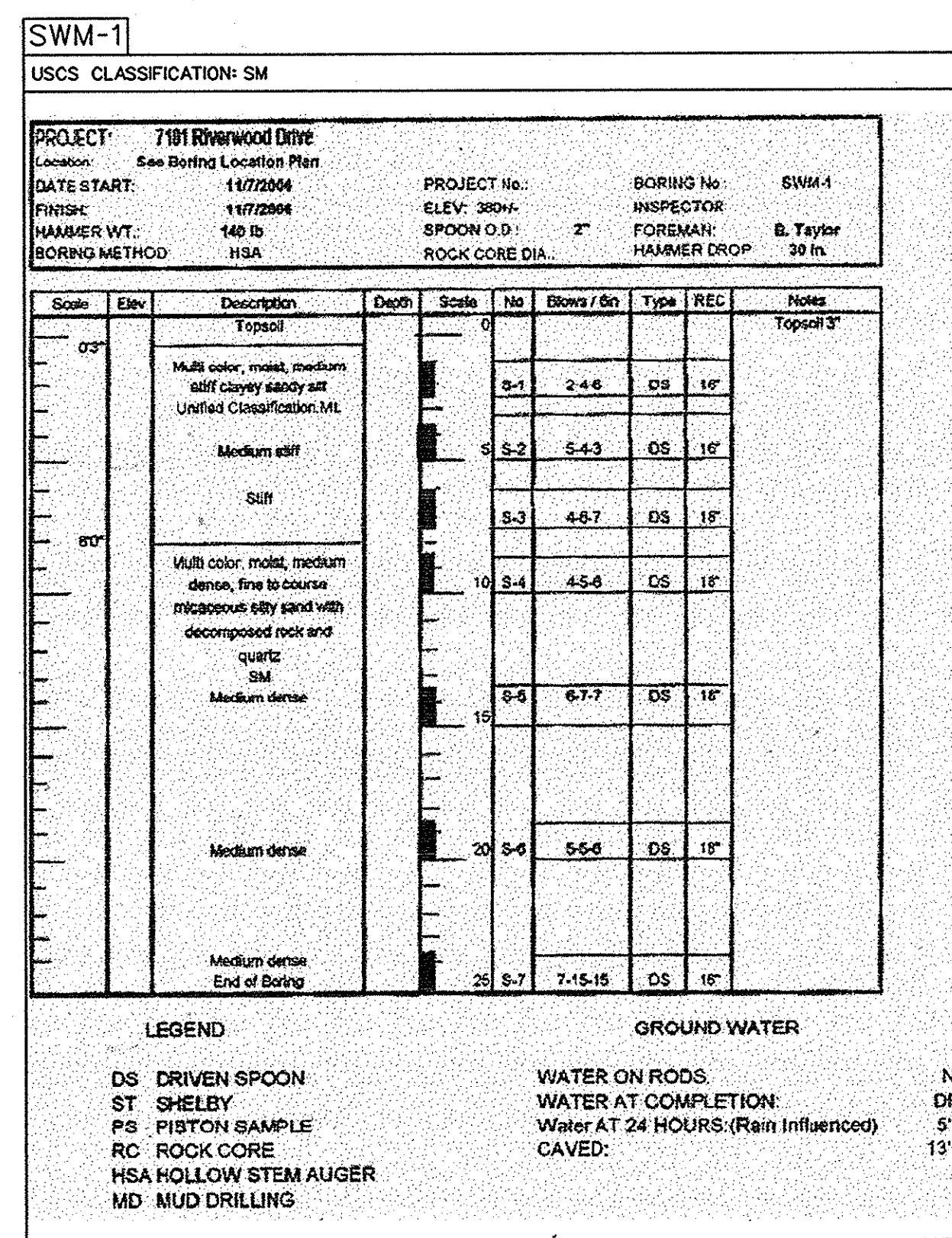
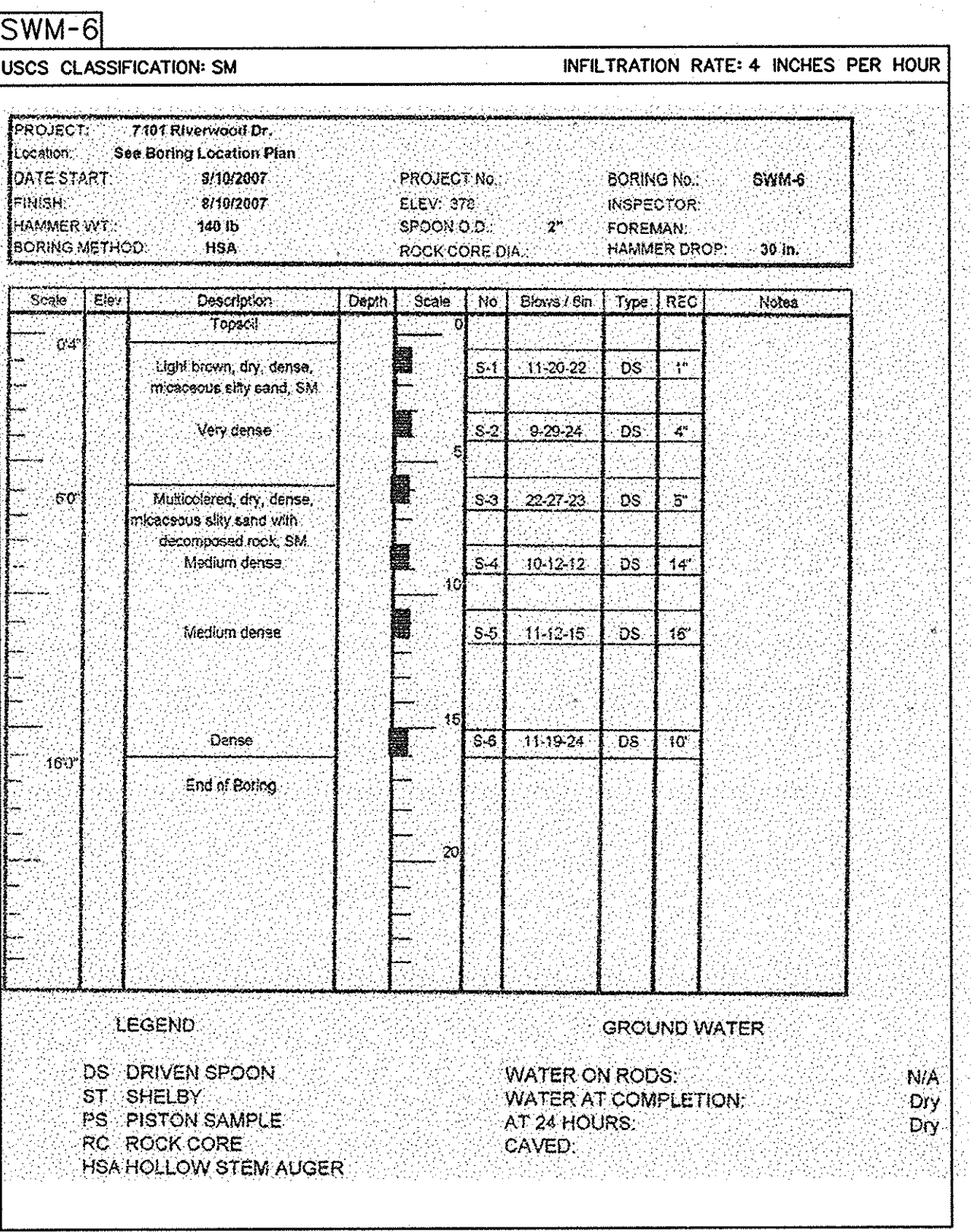
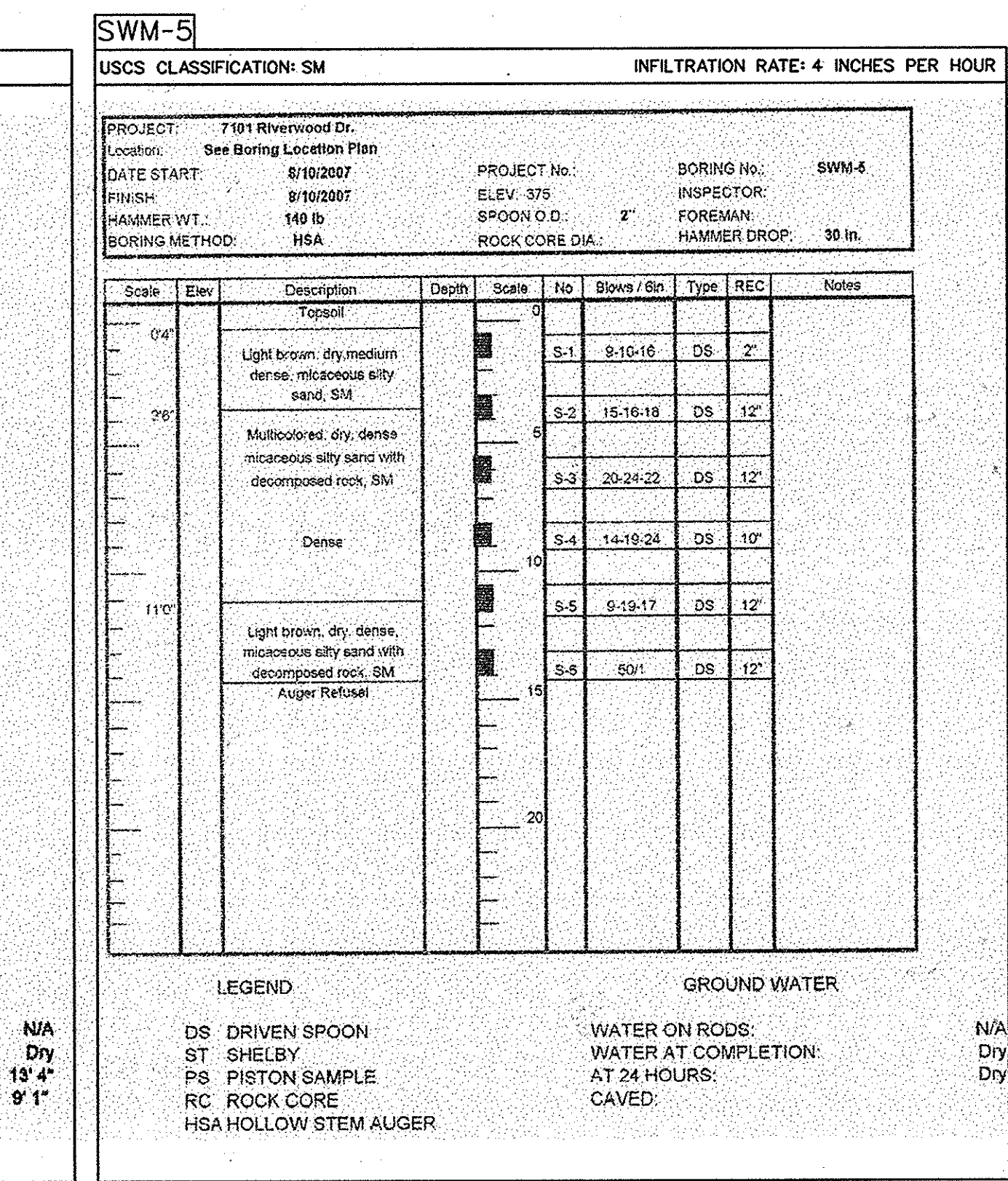
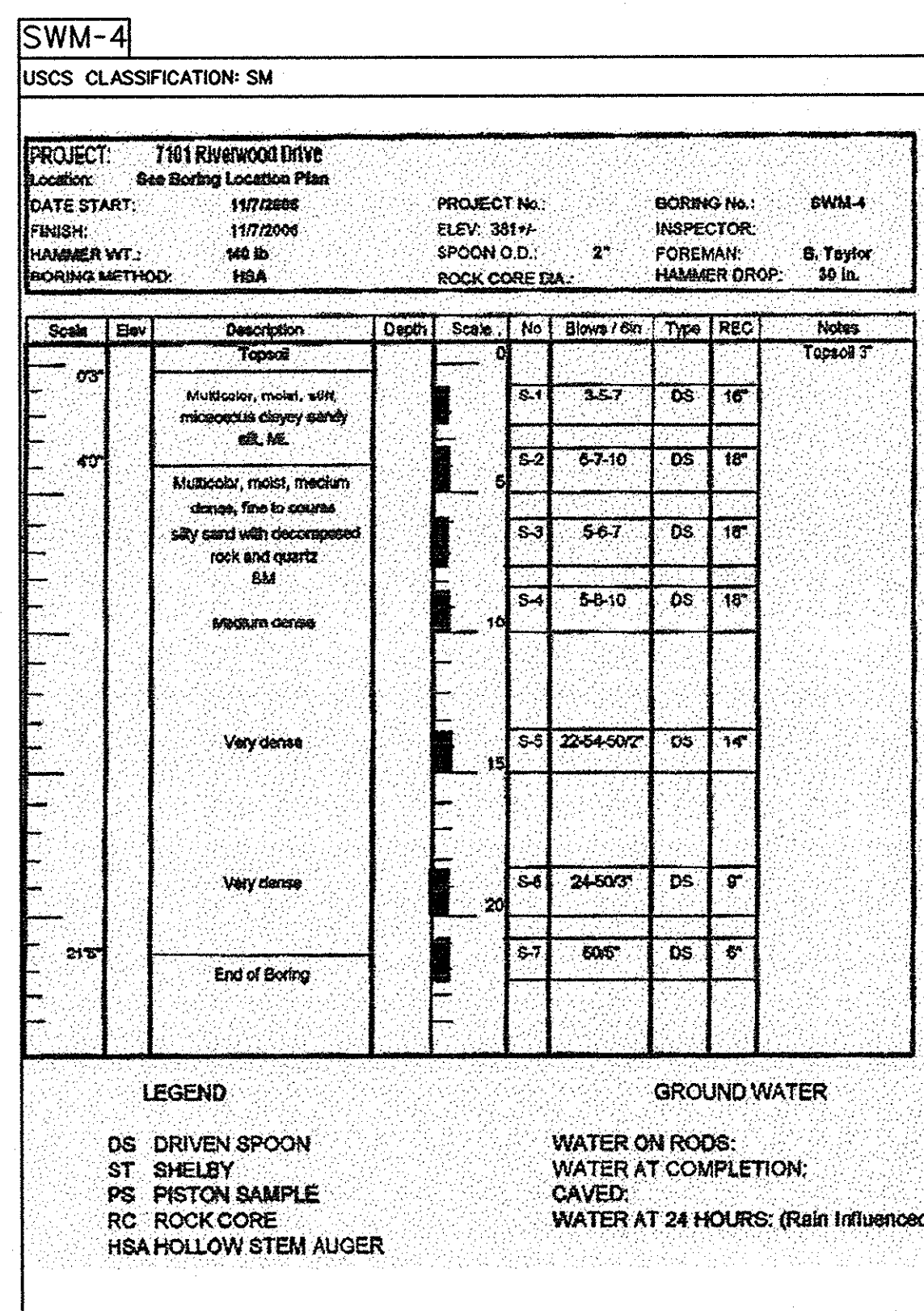
BED PREPARATION PROCEDURES:
 Excavate the recharge trench to the outer dimensions of the recharge bed and to the specified elevation.
 The excavation sub-grade must be transit level and prepared per site engineer's requirements.
 Line the sides of the trench with geotextile fabric and allow access to rest around the top of trench.
 Fill bottom of trench with 6" of sand.
 Fill the remainder of trench with #57 gravel and level with a transit.
 Lay geotextile fabric over the top of gravel bed so that it extends a minimum of 24" under precast structure.

INSTALLATION PROCEDURES:
 Structure supplier shall provide an experienced site technician on site during the installation to verify structure is installed per manufacturer's specifications and guarantee watertightness of structure.
 Locate outlet end of structure to insure proper orientation of structure.
 Install outlet section with bell joint facing toward inlet end. Verify location and orientation of section before proceeding.
 Lubricate o-ring gasket of the section being installed and the bell joint of the previous section. Install spigot end of section being installed into bell end of previously installed section.
 Connect come-alongs to a previously set section and to the section being installed. To prevent separation of previously installed joint, leave one spacer section between the section being installed and the section being used as an anchor. Draw sections together until interior joint measures approximately 3/8".
 Special care must be given not to trap debris from the bedding between sections.
 Repeat procedure for remainder of sections.

BACKFILL PROCEDURES:
 The excavation must be dewatered until the chamber has been completely backfilled to eliminate possibility of floatation.
 The ends or short walls of structure must be completely backfilled prior to long walls to compress joints and insure a tight seal.
 Backfill structure with granular material free from large stones, rocks, pavement, etc. Expansive soil material shall not be used as backfill around the structure.
 Backfilling shall be achieved by using even lifts on both sides of structure to the required compaction.

SANDFILTER MAINTENANCE NOTES:
 The sediment chamber outlet devices shall be cleaned/repared when drawdown times within the chamber exceed 36 hours. Trash and debris shall be removed as necessary.
 Sediment should be cleaned out of the sedimentation chamber when it accumulates to a depth of more than six inches. When the filtering capacity of the filter diminishes substantially (e.g. when water ponds on the surface of the filter bed for more than 72 hours), the top few inches of discolored material shall be removed and shall be replaced with fresh material. The removed sediments should be disposed in an acceptable manner (e.g. landfill). Silt/sediment should be removed from the filter bed when the accumulation exceeds one inch.

Material	Qty/ft of Filter Chamber	Specification	Size	Notes
Sand	15 cf/ft	Clean AASHTO-M-6 or ASTM C-33 Concrete Sand	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Underdrain Gravel	14.4 cf/ft	AASHTO-M-43	3/8" to 3/4"	
Geotextile Fabric (If Required)	10.0 sf/ft/layer	ASTM-D4833 (Puncture Strength=125 lbs.), ASTM-D4632 (Tensile Strength=300 lbs.)	0.08" Thick equivalent opening size of #30 sieve	Must maintain 125 gpm per sq. ft. flow rate. Note: a 4" pea gravel layer may be substituted for geotextiles meant to "separate" sandfilter layers.
Underdrain Piping	3.0 ft/ft	F 758, Type PS 28 or AASHTO-M-278	6" rigid schedule 40 PVC or SDR35	3/8" perforations @ 6" on center, 4 holes per row, minimum of 3" of gravel over pipes; not necessary under pipes.



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND FACILITIES (RETENTION FACILITY)

- The underground stormwater 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.
- The underground stormwater management facility shall be inspected yearly at a minimum and after especially severe storm events.
- When sediment accumulation of more than 2" is observed or any debris that might obstruct the outfall is observed, the facility shall be cleaned.
- The facility shall be cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies notifying them of the spill and cleanup operations.
- The sediment and debris shall be removed from the underground stormwater management facility by vacuum truck or other manual means. The owner shall follow proper cleaning and disposal of the removed material and liquid.
- 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.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER MANAGEMENT FILTRATION SYSTEMS (F-2 AND F-3)

- The sediment chamber outlet devices shall be cleaned and/or repaired when drawdown times within the chamber exceed 36 hours.
- Debris and litter shall be removed as necessary to insure proper operation of the system.
- Sediment shall be cleaned out of the sedimentation chamber when it accumulates to a depth of 6 inches. Vegetation within the sediment chamber shall be limited to a height of 18 inches.
- 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 material 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.

SEQUENCE OF CONSTRUCTION

- This sequence of construction shall be implemented in accordance with the sequence of construction as shown on the approved sediment and erosion control plans.
- Notify Howard County Department of Permits and License 48 hours prior to beginning work. (1 DAY)
- Notify Miss Utility at 1-800-257-7777 at least three (3) working days prior to beginning of the work. (1 DAY)
- Notify professional engineers who will be performing the As-Built certification at least two (2) working days prior to installation of underground retention facility (stone storage) and F-2 underground sand filter. (1 DAY)
- Follow Sequence of Operations shown on the approved Erosion and Sediment Control Plans.
- PROCEED WITH PAVING AND LANDSCAPING OPERATIONS. (3 DAYS)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* Date: 4/23/09

Chief, Land Development Division: *[Signature]* Date: 4/23/09

Director, DEP: *[Signature]* Date: 4/23/09

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART					
SUBDIVISION NAME	RIVERS CORPORATE PARK	SECTION / AREA	1 / 1	LOT / PARCEL NO.	C
PLAT NO.	5077	GRID NO.	1	ZONING	NT
TAX MAP NO.	42	ELEC. DIST.	6TH	CENSUS TRACT	6069-02
WATER CODE	E16	SEWER CODE	5290000		

APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE: 04/24/08

BLDG
 Baltimore Land Design Group Inc.
 Consulting Engineers
 222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
 PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

AS-BUILT CERTIFICATION FOR PSWM
 THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.
 IWONA-ROSTEK ZARSKA 21245 SEPTEMBER 2, 2015
 NAME P.E. LICENSE DATE OF AS-BUILT

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

MANUFACTURER
 ROTONDO ENVIRONMENTAL SOLUTIONS LLC
 4950 EISENHOWER AVE, UNIT C
 ALEXANDRIA, VA 22304
 (703) 212-4830

OWNER / DEVELOPER
 MERRITT RW1 LLC
 A MARYLAND LLC
 2066 LORD BALTIMORE DRIVE
 BALTIMORE, MD 21244
 (410) 298-2600

DATE	ITEM	BY
02/01/16	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

STORMWATER MANAGEMENT SPECIFICATIONS FOR F-2 SAND FILTER
RIVERS CORPORATE PARK
 SECTION 1, AREA 1
 PARCEL C
 7101 RIVERWOOD DRIVE

HOWARD COUNTY, MARYLAND
 SCALE: N/A

SDP-07-070

SHEET 14 OF 16
 DATE: NOVEMBER 15, 2007
 SDP-07-070

CONSTRUCTION SPECIFICATIONS (MD-378)

I GENERAL:

These specifications are appropriate to all plans within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

II SITE PREPARATION:

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and steep breaks shall be sloped no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment or as shown on plans.

Areas to be covered by the reservoir shall be cleared of all trees, brush, logs, fences, rubbish and other materials otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be maintained.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

III EARTH FILL:

A) MATERIAL - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment and cutoff trench shall conform to Unified Soil Classification Cc, Sc, Ch, or Cl, and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

B) PLACEMENT - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated.

C) COMPACTION - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by the use of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not so wet that water can be squeezed out.

When required by the reviewing agency the minimum required layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the contractor at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor), with a moisture content within +/- 2% of the optimum. Each density shall not be less than 95% of maximum dry density.

D) CUT OFF TRENCH - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

E) EMBANKMENT CORE - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

IV STRUCTURE BACKFILL:

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding) over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to ensure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

V PIPE CONDUITS

All pipes shall be circular in cross section.

A) Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

- Materials - (Polymer Coated Steel Pipe) - Steel pipes with a polymeric coating shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 With watertight couplings bands or flanges.
- Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-247 with watertight couplings bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with a coat of zinc chromate primer or two coats of asphalt.
- Materials - (Aluminum Pipe) - This pipe and its Appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight couplings bands or flanges. Aluminum pipe, when used with flowable fill or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

- Couplings bands, anti-seep collars, and sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of a rubber or plastic insulating materials at least 24 mils in thickness.
- Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bedding length. The following type connections are acceptable: for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 7/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide by 7/8 inch thick closed cell circular neoprene gasket and a 12 inch wide by 7/8 inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 7/8 inch closed cell gaskets the full width of the flange is also acceptable. Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal locking or a neoprene bead.

- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soils encountered, all such material shall be removed and replaced with suitable earth compacted or provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

B) Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed.
- Beddings - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Grovel bedding is not permitted.
- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire length, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

C) Plastic Pipe - The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241, Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M292 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type S.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soils encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

VI DRAINAGE DIAPHRAGMS

When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

VII CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 420 and 902.10.03, Mix No. 3.

VIII ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 929.09, Class 1.

IX CARE OF WATER DURING CONSTRUCTION:

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for the removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compaction of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

X STABILIZATION:

All borrow areas shall be graded to provide proper drainage and left in a slightly rough condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and borrow shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings. 3" minimum of topsoil shall be placed on all disturbed areas.

XI EROSION AND SEDIMENT CONTROL:

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

XII FILTER CLOTH

Filter Cloth shall allow passage of water and retain sediment. Filter Cloth shall be MIRAFIL40N or approved equal. Filter cloth shall be protected from punching or tearing. Any damage other than on occasional small hole shall be repaired by placing another small piece of filter cloth over the damaged area or by replacing the cloth section. All overlaps shall be minimum of one foot.

XIII OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs need to be retained in a file. The issuance of Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

INSPECTION AND MAINTENANCE NOTES FOR SILT TRAPPING STRUCTURES:

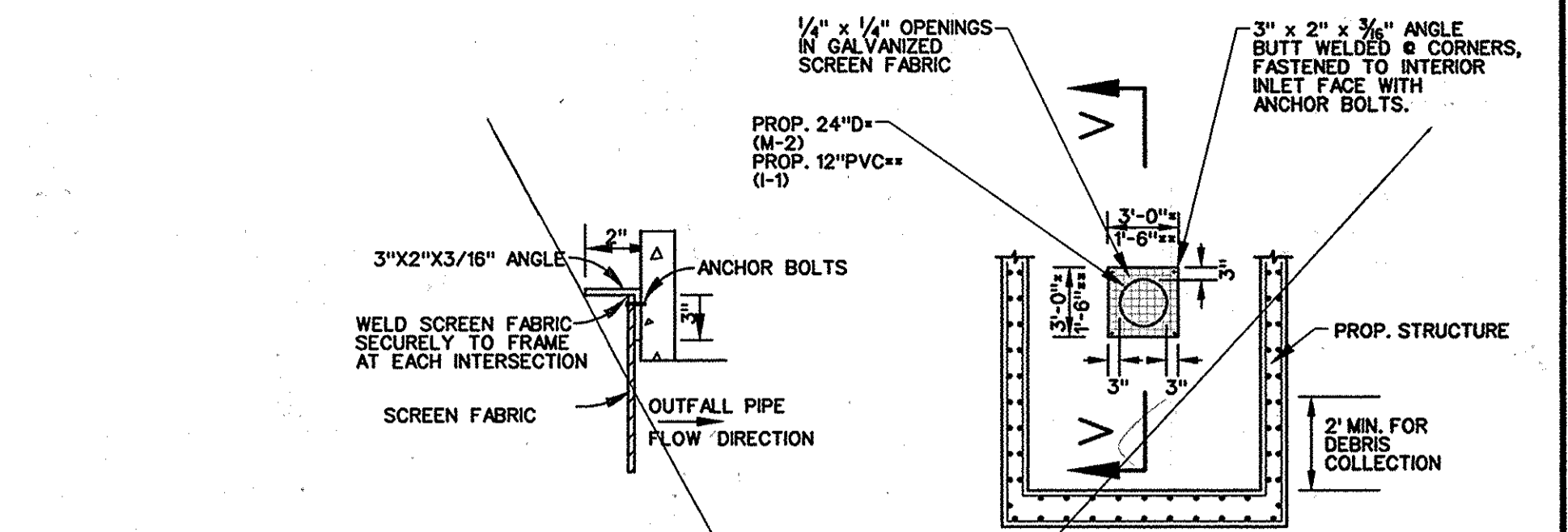
- ALL STRUCTURES LEADING TO UNDERGROUND S.W.M. (THOSE WITH PIPE SCREENING INSTALLED & DROPPED BOTTOMS FOR TRASH & SILT COLLECTION) MUST BE INSPECTED AND CLEANED UP AT INTERVALS NOT TO EXCEED 6 MONTHS AND AFTER ALL HEAVY RAINFALLS.
- ACCUMULATION OF SEDIMENT AND TRASH SHALL BE REMOVED AND DISPOSED OF IN A COUNTY APPROVED SANITARY LANDFILL.
- ALL STRUCTURAL COMPONENTS OF THE STRUCTURES INCLUDING SLABS, WALLS, PIPES GRATES TRASH RACKS AND MANHOLE COVERS SHALL BE REPAIRED OR REPLACED AS REQUIRED TO KEEP THE STRUCTURES SAFE AND SERVICEABLE.
- ACCUMULATION OF ANY SEDIMENT, TRASH AND DEBRIS AT THE EXISTING 24" STORM DRAIN OUTFALL MUST BE INSPECTED ON A MONTHLY BASIS AND REMOVED.

CAUTION MUST BE EXERCISED DURING STORM WATER MANAGEMENT FACILITY CONSTRUCTION TO ENSURE THAT SEDIMENT WILL NOT ENTER STONE STORAGE AREA.

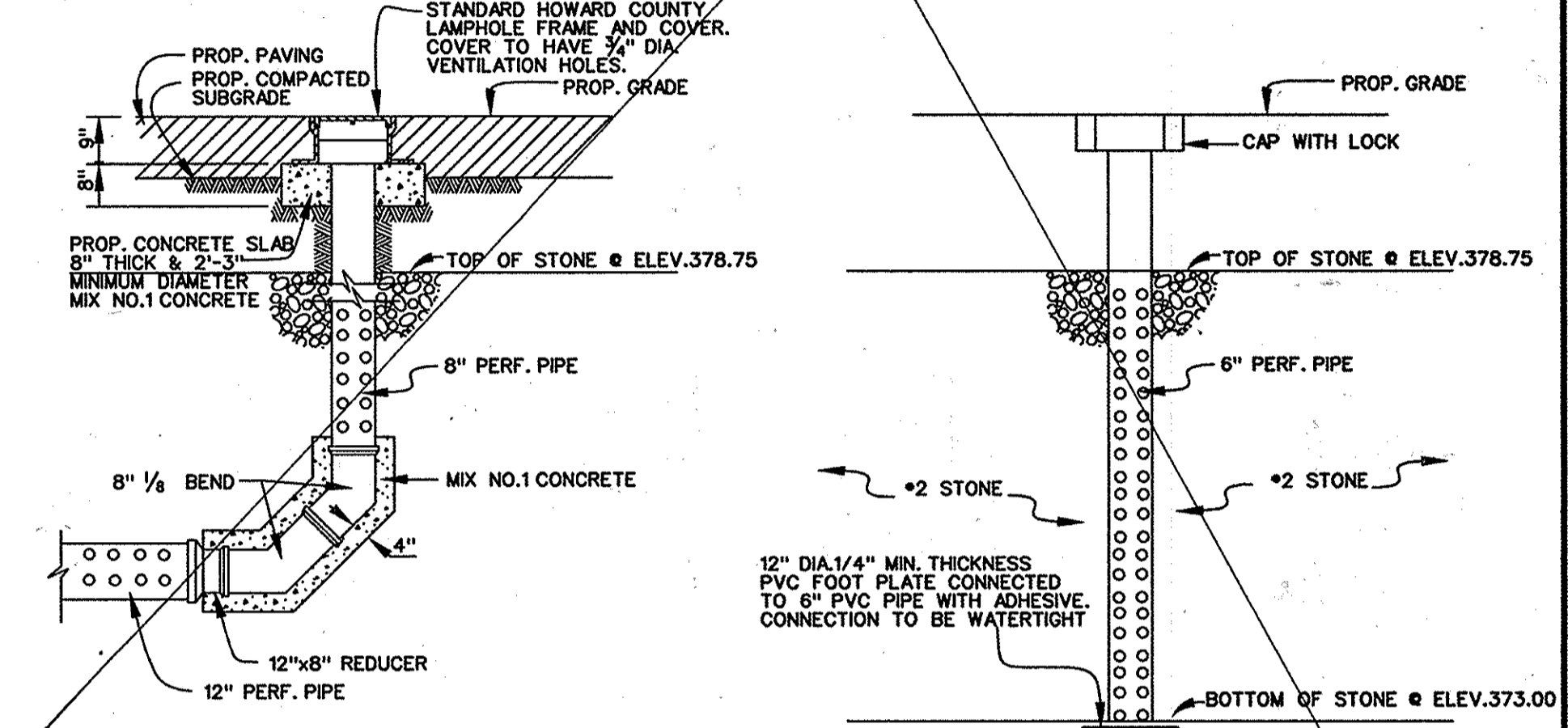
CONSTRUCTION OF FACILITY SHALL BE UNDERTAKEN DURING A 5-DAY DRY WEATHER FORECAST TIME FRAME.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

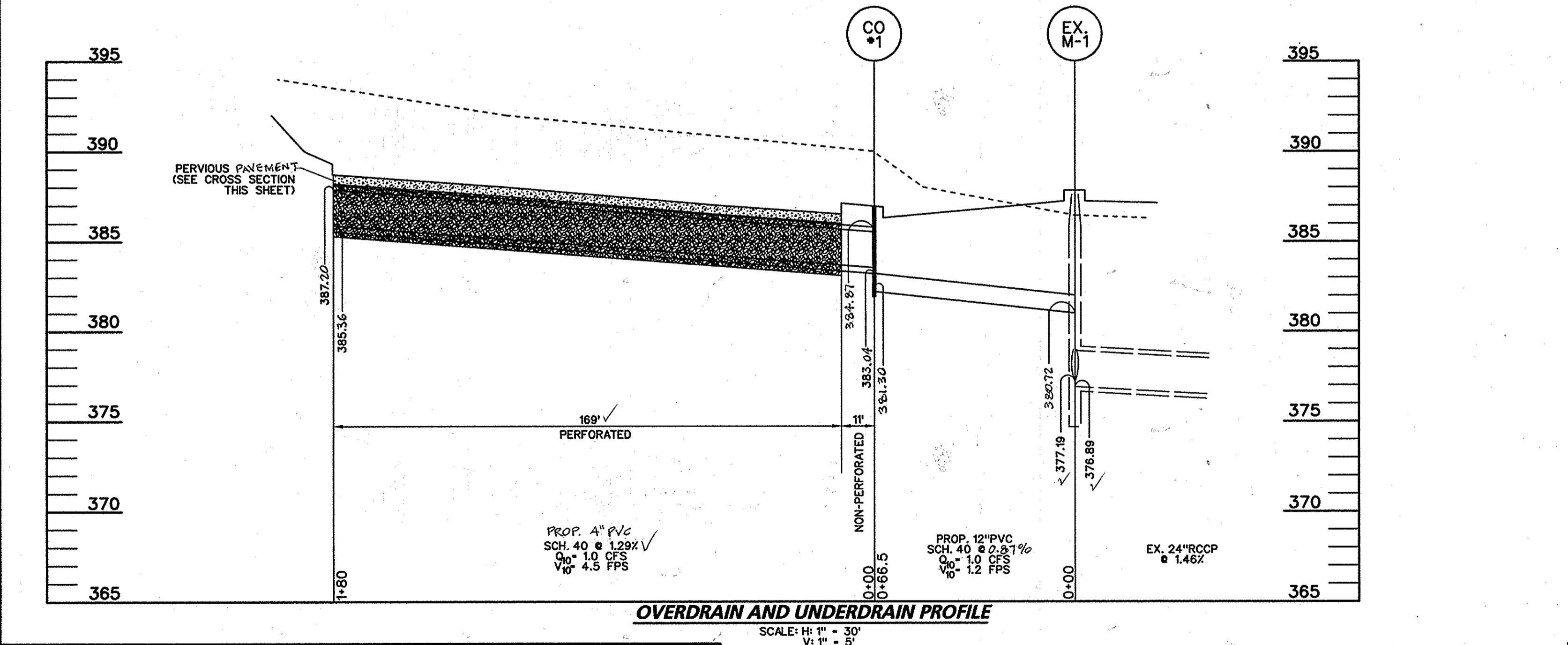
- The Owner shall periodically sweep (or vacuum previous concrete pavement) the pavement surfaces to reduce sediment accumulation and ensure continued surface porosity. Sweeping should be performed at least twice annually with a commercial cleaning unit. Washing or compressed air units should not be used to perform surface cleaning.
- The Owner shall periodically clean drainage pipes, inlets, stone edge drains and other structures within or draining to the subsurface.
- The Owner shall use deicers in moderation. Deicers should be non-toxic and be applied either as calcium magnesium acetate or as pretreated salt.
- The Owner shall ensure snow piling is performed carefully with blades set one-inch above the surface. Plowed snow and snow melt should not be directed to permeable pavement.



SECTION V-V PIPE SCREENING DETAIL @ M-2 & I-1 NOT TO SCALE

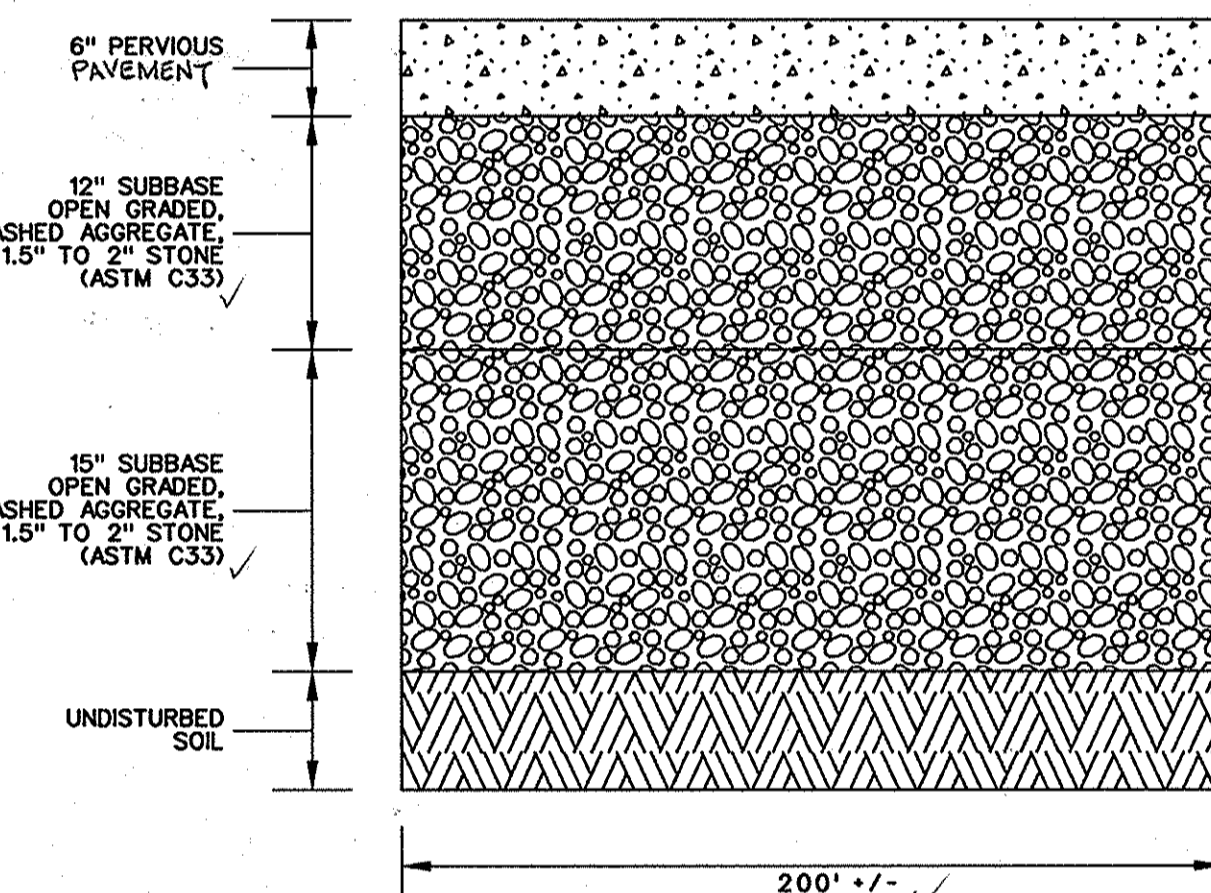


CLEANOUT WITH VENTS DETAIL OBSERVATION WELL DETAIL

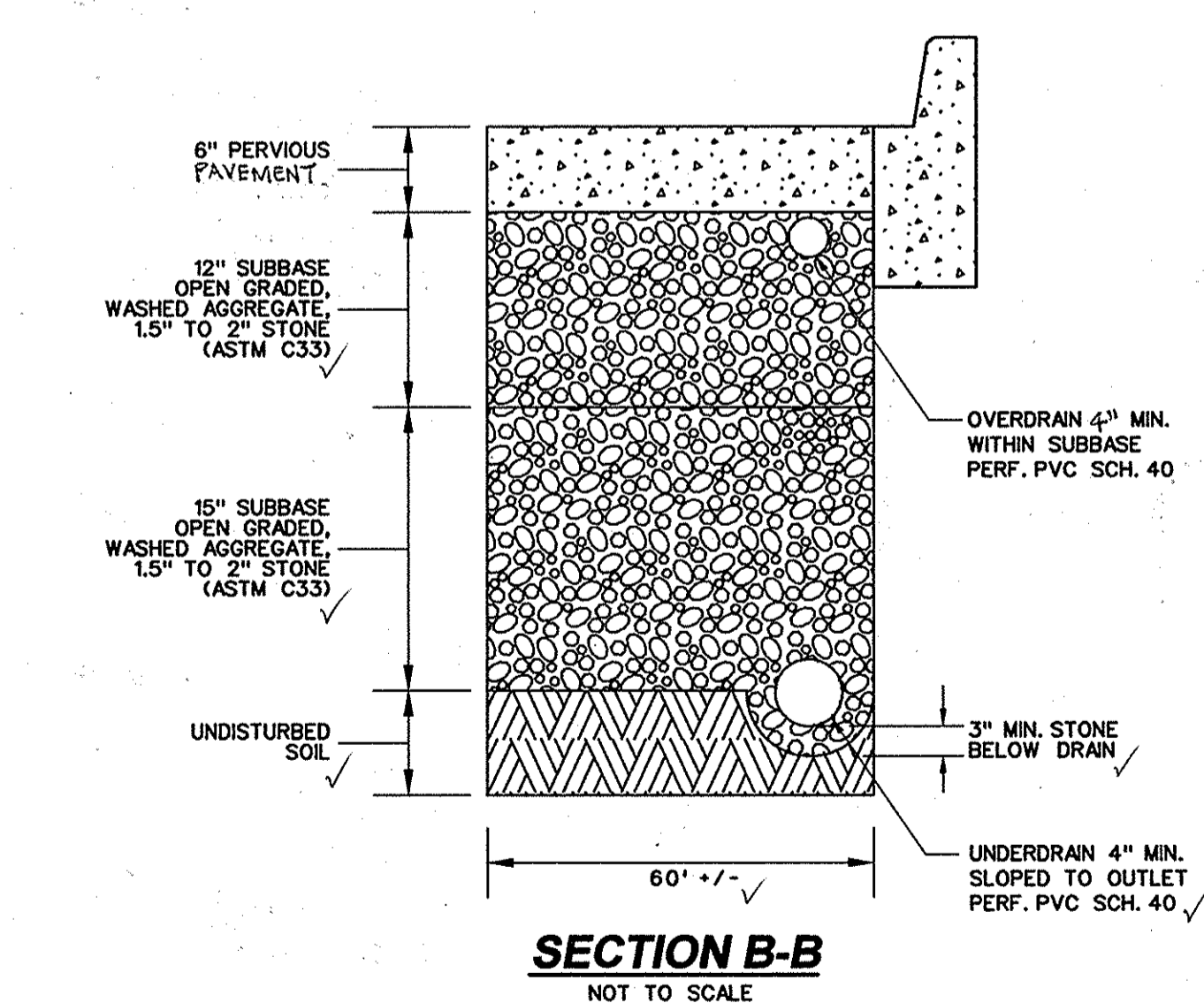


OVERDRAIN AND UNDERDRAIN PROFILE

THE AS-BUILT SURVEY WAS CONDUCTED ON AUGUST 7, 2015 BY MTP/LB



SECTION A-A NOT TO SCALE



SECTION B-B NOT TO SCALE

SEE SHEET 2 FOR LOCATION OF SECTIONS

CONSTRUCTION CHECK MARK NOTE

ALL ELEMENTS OF THE STORM WATER MANAGEMENT PRACTICE HAVE BEEN CONSTRUCTED AS PER APPROVED STORM WATER MANAGEMENT PLANS, UNLESS NOTED OTHERWISE WITH ACTUAL AS-BUILT DATA. ITEMS MARKED WITH A CHECK MARK (✓) INDICATE THAT THEY WERE BUILT PER APPROVED STORM WATER MANAGEMENT PLANS.

AS-BUILT CERTIFICATION FOR PSWM

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THE PLAN WAS CONSTRUCTED AS SHOWN ON THE 'AS-BUILT' PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

NAME: *Iwona Roster Zarska* P.E. LICENSE NO. 21245 EXPIRATION DATE: JUNE 3, 2016

SIGNATURE: *Iwona Roster Zarska* DATE OF AS-BUILT: SEPTEMBER 2, 2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* Date: 10/27/11

Chief, Land Development Division: *[Signature]* Date: 10/31/11

Director: *[Signature]* Date: 10/31/11

APPROVED

PLANNING BOARD OF HOWARD COUNTY

DATE: 04/24/08

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART				
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.		
RIVERS CORPORATE PARK	1 / 1	C		
PLAT NO. OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.
5077	1	NT	42	6TH
WATER CODE	SEWER CODE			
E16	5290000			

BLDG

Baltimore Land Design Group Inc.

Consulting Engineers

222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21080
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2016.

DATE	NO.	ITEM	BY
08/25/11	▲	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
02/01/16	▲	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

STORMWATER MANAGEMENT SPECIFICATIONS

RIVERS CORPORATE PARK

SECTION 1, AREA 1

PARCEL C

7101 RIVERWOOD DRIVE

SDP-07-070 (REVISED SITE DEVELOPMENT PLAN)

HOWARD COUNTY, MD SCALE: N/A

SHEET 15 OF 16 DATE: OCTOBER, 2011

SDP-07-070

LANDSCAPE NOTES

Plant Identification: All plants shall be properly marked for identification and checking. List of Plant Materials: The Contractor will verify plant quantities prior to bidding and any discrepancies shall be brought to the attention of the Landscape Architect. The Contractor shall furnish and plant all plants required to complete the work as shown on the drawings. Substitutions shall not be made without the written approval of the Landscape Architect. This contract will be based on the bidder having verified, prior to bidding, the availability of the required plant materials as specified on the Plant List.

Plant Quantity: All shrubs shall be dense, heavy to the ground, and well grown, showing evidence of having been sheared regularly, and sound, free of plant disease or insect eggs, and shall have a healthy, normal root system. Plants shall be nursery grown. Plants shall not be pruned prior to delivery. The shape of the plant shall in general conform to its natural growth proportions unless otherwise specified. All plants including container grown shall conform to American Standard for Nursery Stock (ANSI z60.1, latest edition), and shall have a well-shaped, heavy branch structure for the species. Evergreen trees are to have an internode no greater than 24" and shall be uniformly well-shaped. All plant sizes shall average at least the middle of the range given in the plant list.

Plant Spacing: Plant spacing is to scale on the plan or as shown on the plant list.

Soil Mix: Soil mix will be 2/3 existing soil and 1/3 leaf mold or equal organic material, thoroughly mixed and homogenized.

Ball Size: The ball size shall conform to the American Association of Nurserymen's publication entitled American Standard for Nursery Stock, ANSI z60.1, latest edition.

Excavation: Holes for all plants shall be 18" larger in diameter than size of ball or container and shall have vertical sides. Hedges shall be planted in a trench 12" wider than ball diameter. Beds for mass planting shall be entirely rototilled to a depth of 8" and shall be 18" beyond the average outside edge of plant balls. A 2" layer of organic material (i.e., leaf mold) will be incorporated into plant beds by tilling again.

Planting: Backfilling shall be done with soil mix, reasonably free of stones, subsoil, clay, lumps, stumps, roots, weeds, bermuda grass, litter, toxic substances, or any other material which may be harmful to plant growth or hinder grading, planting, or maintenance operations. Should any unforeseen or unsuitable planting conditions arise, such as faulty soil drainage or chemical residues, they should be called to the attention of the Landscape Architect and Owner for adjustments before planting. The plant shall be set plumb and straight and shall be staked at the time of planting. Backfill shall be well worked about the roots and settled by watering. Plants will be planted higher than surrounding grade. Shrubs will be 1" higher and trees will be 3" higher. Remove rope from around tree trunks and lay back burlap from top of all B&B material. Nylon or vinyl rope and/or burlap will be completely removed from all plant material prior to planting.

Transplanting Trees by Tree Machines: Trees shall be moved by machines that provide a minimum of 9" per 1" of tree caliper. Holes are to be dug by the same size machine as the one transporting the plant. The plant material shall be transplanted in approximately the same growing condition as it is presently growing, in terms of soil type and moisture content. Fertilize and guy as described in these plans and specifications.

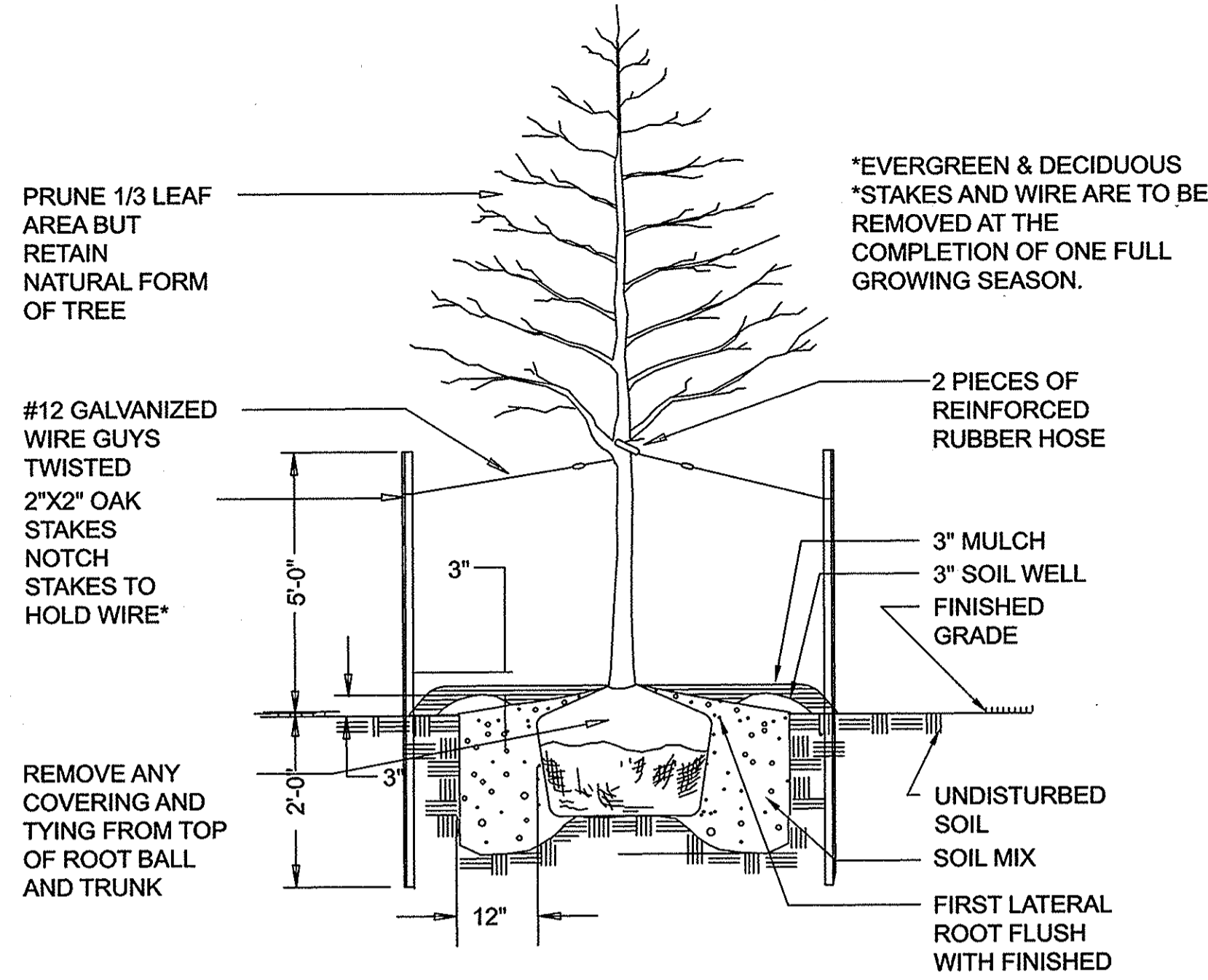
Cultivation: All trenches and shrub beds shall be cultivated, edged and mulched to a depth of 3" with shredded bark. The area around isolated plants shall be mulched to at least 6" greater diameter than that of the hole. Plant beds adjacent to buildings shall be mulched to the building wall.

Maintenance: The Contractor shall be responsible during the contract and up to the time of acceptance for keeping the planting and work incidental thereto in good condition, by replanting, plant replacement, watering, weeding, cultivating, pruning and spraying, restaking and cleaning up and by performing all other necessary operations of care for promotion of good plant growth so that all work is in satisfactory condition at time of acceptance, at no additional cost to the Owner.

Fertilizer: Fertilizer shall be a slow release type contained in polyethylene perforated bags with micro pore holes for controlled feeding, such as Easy Grow as manufactured by Specialty Fertilizer, Inc., Box 355, Suffern, New York 10901, or approved equal. The bags shall contain 1 ounce of soluble fertilizer analysis 16-18-16 per unit to last three (3) years and shall be applied during planting as recommended by the manufacturer. If fertilizer packets are not used, the Contractor shall apply granular fertilizer to the soil mix with 10-6-4 analysis, 50% organic, at the following rates: Trees @ 2-3 lbs. per caliper inch; Shrub Beds @ 3-5 lbs. per 100 sq. ft.; and Groundcover Beds @ 2-3 lbs. per 100 sq. ft.

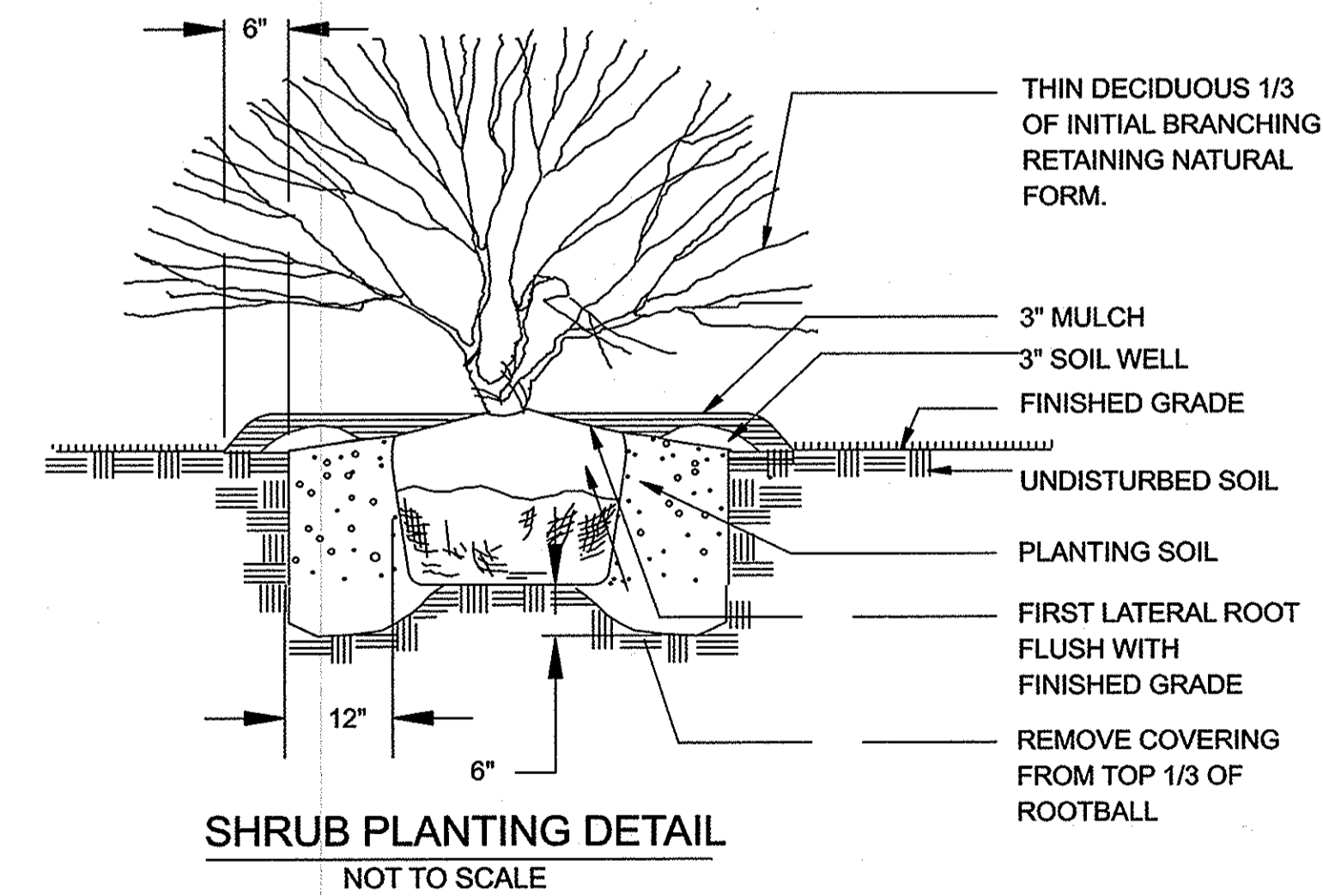
Groundcover: All areas of groundcover shall be rototilled to a depth of 6". Apply 2" of organic material and rototill until thoroughly mixed. Apply fertilizer as stated above.

Guarantee and Replacement: All material shall be unconditionally guaranteed for one (1) year. The Contractor is responsible for watering but not for losses or damage caused by mechanical injury or vandalism.



TREE PLANTING DETAIL
NOT TO SCALE

- PLANTING NOTES:**
- This Plan is for planting purposes only.
 - This Plan has been prepared in accordance with the provisions of section 16.124 of the Howard County Code and the Landscape Manual.
 - All plant material shall be nursery grown and shall conform to American Association of Nurserymen latest standards. Plant installation must conform to the minimum standards cited in the latest edition of the "LANDSCAPE SPECIFICATION GUIDELINES" by the Landscape Contractor's Association.
 - Contractor is to notify Miss Utility a minimum of 72 hours prior to digging. Telephone 1-800-257-7777
 - The Landscape Architect is to be notified 48 hours before planting begins. The location of all plant material is to be approved in field by the Landscape Architect.
 - No tree or shrub planting pits are to be left open or unattended.
 - Shrubs are to be grouped into mulched beds. Beds are to be edged and the grass is to be killed or removed prior to mulching.
 - Sod is to be Kentucky blue/tall fescue mix
 - "At the time of installment, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscape 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."



SHRUB PLANTING DETAIL
NOT TO SCALE

PHASE I: SCHEDULE B: PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces Existing / Proposed	125 / 208
Number of Trees Required (<50%>50%)	MORE THAN 50% = 11 PUS
Number of Trees Provided	14 EX. TREES / 16 PROPOSED NONE REQUIRED
Shade Trees (2:1 substitution)	
Other Trees (2:1 substitution)	
Internal Islands Required	11 @ 200 SF = 2200 SF
Internal Islands Provided (Min. 200 SF)	2200 SF REQUIRED 9759 SF PROVIDED

PHASE I: SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways		
	1	2	
Perimeter Number	1	2	
Landscape Type	E	B	E
Linear Feet of Roadway Frontage/Perimeter	356 LF	71 LF	385 LF
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	YES	NO	YES
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	YES	NO	YES
Number of Plants Required			
Shade Trees	9	2	10
Evergreen Trees	0		
Shrubs	89		97
Number of Plants Provided			
Shade Trees	3		8
Evergreen Trees		5	3
Other Trees (2:1 substitution)		3	
Shrubs (10:1 substitution)		3	51
(Describe plant substitution credits if needed)			
Perimeter 1: Substituted 3 evergreens for 1 canopy trees			
Perimeter 2: Substituted 3 ornamental trees & 5 evergreens for 2 canopy trees			
Perimeter 1: Credit for (5) 13"-18" DBH canopy trees & (7) 14"-21" evergreen trees			
Credit for 356 LF of existing berm in lieu of 89 shrubs			
Perimeter 2: Credit for (1) 16" canopy tree			
Credit for 185 LF of berm in lieu of 47 shrubs			
Note: East and south perimeters of the site are parcels within the same development			

NOTE:
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.

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.

Daniel F. Pallace
DANIEL F. PALLACE

LANDSCAPE SURETY NOTE:

LANDSCAPE SURETY IN THE AMOUNT OF \$12,870 HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT.

(26) SHADE TREES @ \$500 EACH =	\$ 13,000
(4) EVERGREEN TREES @ \$150 EACH =	\$ 600
(149) SHRUBS @ \$30 EACH =	\$ 4,470
TOTAL =	\$12,870

PHASE II: SCHEDULE B: PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces Existing / Proposed	208 / 73
Number of Trees Required (<50%>50%)	LESS THAN 50% = 4 PUS
Number of Trees Provided	4
Shade Trees (2:1 substitution)	
Other Trees (2:1 substitution)	
Internal Islands Required	4 @ 200 SF = 800 SF
Internal Islands Provided (Min. 200 SF)	800 SF REQUIRED 1,275 SF PROVIDED

PHASE 2: SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways		
	1	2	
Perimeter Number	1	2	
Landscape Type	B	E	
Linear Feet of Roadway Frontage/Perimeter	18 LF	144 LF	
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	NO	NO	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	NO	NO	
Number of Plants Required			
Shade Trees	1	4	
Evergreen Trees			
Shrubs		36	
Number of Plants Provided			
Shade Trees	1	4	
Evergreen Trees			
Other Trees (2:1 substitution)			
Shrubs (10:1 substitution)			36
(Describe plant substitution credits if needed)			
Note: East and south perimeters of the site are parcels within the same development			

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 04-24-08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John G. Rohde
Chief, Development Engineering Division
Date 11-9-15

West
Chief, Planning & Development Division
Date 11-10-15

Mark Joffe
Director
Date 11-10-15

ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART

SUBDIVISION NAME RIVERS CORPORATE PARK	SECTION / AREA 1 / 1	LOT / PARCEL NO. C
PLAT NO. 5077	GRID NO. 1	ZONING NT
TAX MAP NO. 42	ELEC. DIST. 6TH	CENSUS TRACT 6069-02
WATER CODE E16	SEWER CODE 5290000	

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers

222 SCHILLING CIRCLE SUITE 105 • HUNT VALLEY, MARYLAND 21030
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
NO. 853

HUMAN & ROHDE, INC.
LANDSCAPE ARCHITECTS
512 VIRGINIA AVENUE
TOWSON, MD 21286
410.825.3885 phone
410.825.3887 fax

AS-BUILT CERTIFICATION FOR PSWM

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.

JOHN G. ROHDE 353 SEPTEMBER 2, 2015
NAME P.L.A. LICENSE NO. DATE OF AS-BUILT

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED A CONC. PATIO, REDUCED BUILDING ADDITION AND REVISED THE LANDSCAPING ON PHASE TWO SHOW AS BUILT	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

LANDSCAPE NOTES AND DETAILS
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
(REVISED SITE DEVELOPMENT PLAN)

SDP-07-070

HOWARD COUNTY, MARYLAND
SCALE: 1" = 30'

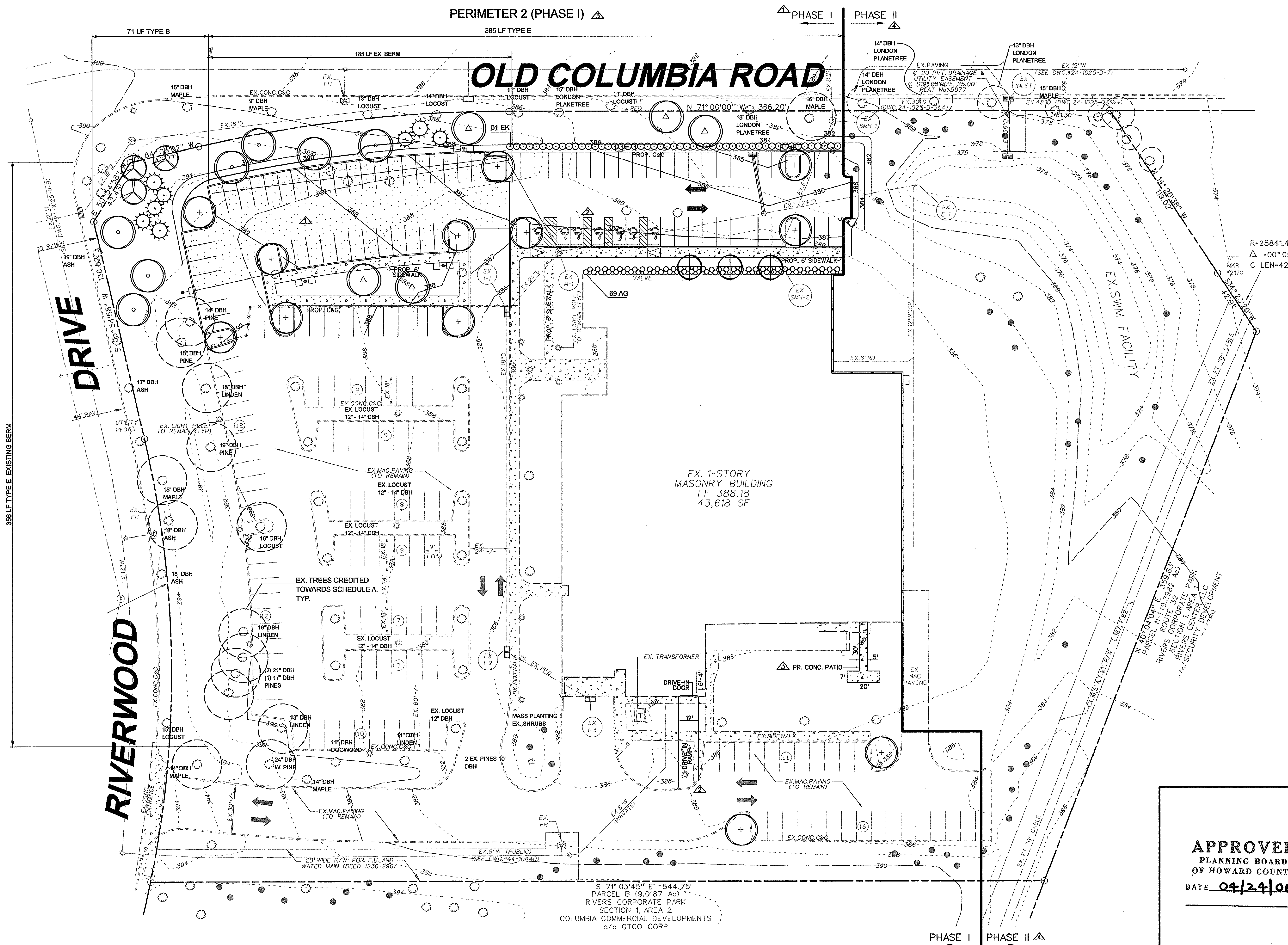
SHEET 16A OF 16
DATE: NOVEMBER, 2015

PHASE I: EXISTING AS OF AUGUST 2015
PHASE I PLANT LIST

KEY	QUANTITY	BOTANICAL NAME COMMON NAME	SIZE	CONDITION	REMARKS
(+)	7	ACER RUBRUM 'RED SUNSET' 'RD SUNSET' RED MAPLE	2 1/2"-3" CAL.	B & B	
(+)	12	GLEDITSIA TRIACANTHOS 'SHADEMASTER' 'SHADEMASTER' HONEYLOCUST	2 1/2"-3" CAL.	B & B	
(+)	5	PLATANUS X ACERIFOLIA 'BLOODGOOD' 'BLOODGOOD' LONDON PLANETREE	2 1/2"-3" CAL.	B & B	
(+)	3	CORNUS KOUSA KOUSA DOGWOOD	8-10' HT.	B & B	SINGLE STEM
(+)	3	AMALANCHIER X GRAND 'AUTUMN BRILLIANCE' 'AUTUMN BRILLIANCE' SERVICEBERRY	8-10' HT.	B & B	SINGLE STEM
(+)	8	PINUS STROBUS EASTERN WHITE PINE	6-8' HT.	B & B	SPACE 12' O.C. STAGGER
EK	51	ELIOMYRUS HAUTSCHOVICIUS 'MANHATTAN' 'MANHATTAN' ELIOMYRUS	24-30' HT.	#3 CONT.	SPACE 4' O.C.
AG	69	ABELIA GRAND 'LITTLE RICHARD' 'LITTLE RICHARD' ABELIA	18-24" SPD	#3 CONT.	AS SHOWN.

PHASE I: EXISTING AS OF AUGUST 2015

PERIMETER 2 (PHASE I)



PHASE I: EXISTING AS OF AUGUST 2015
PERIMETER 1 (PHASE I)

SEE SHEET 16A FOR NOTES AND DETAILS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
Chief, Land Development Division
Director

5.16.16
5.18.16
5.18.16

DATE

ADDRESS CHART

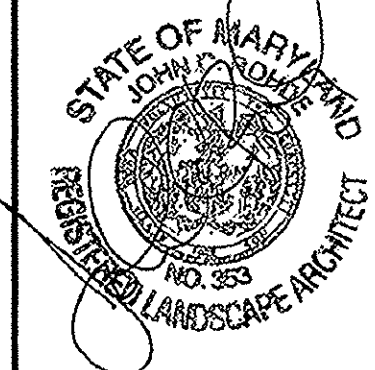
LOT / PARCEL NO.	STREET ADDRESS
PARCEL C	7101 RIVERWOOD DRIVE

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.
RIVERS CORPORATE PARK	1 / 1	C
PLAT NO. OR L/F	GRID NO.	ZONING
5077	1	NT
TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
42	6TH	6069-02
WATER CODE	SEWER CODE	
E16	5290000	

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 04/24/08

BLDG
Baltimore Land Design Group Inc.
Consulting Engineers



HUMAN & ROHDE, INC.
LANDSCAPE ARCHITECTS
512 VIRGINIA AVENUE
TOWSON, MD 21286
410.825.3885 phone
410.825.3887 fax

AS-BUILT CERTIFICATION FOR PSWM

NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.

JOHN C. ROHDE 363 SEPTEMBER 2, 2015
NAME R.L.A. LICENSE NO. DATE OF AS-BUILT

OWNER / DEVELOPER
MERRITT RW1 LLC
A MARYLAND LLC
2066 LORD BALTIMORE DRIVE
BALTIMORE, MD 21244
(410) 298-2600

DATE	NO.	ITEM	BY
08/25/11	1	PHASE I CONSTRUCTION (PARKING LOT ADDITION)	BLDG
04/27/15	2	RELOCATION OF HC PARKING SPACES AND ADDITION OF A DRIVE-IN RAMP	BLDG
09/22/15	3	ADDED CONC. PATIO, REDUCED BLDG ADDITION AND REVISED LANDSCAPING IN PHASE I TO SHOW AS-BUILT.	BLDG
02/01/16	4	ELIMINATION OF PHASE II CONSTRUCTION	BLDG

HOWARD COUNTY, MD
SCALE: 1" = 30'

Revised FINAL LANDSCAPE PLAN
RIVERS CORPORATE PARK
SECTION 1, AREA 1
PARCEL C
7101 RIVERWOOD DRIVE
SDP-07-070
(REVISED SITE DEVELOPMENT PLAN)

SHEET 16 OF 16
DATE: MAY, 2016
SDP-07-070