REVISED 10

SITE DEVELOPMENT PLAN
SOCCER ASSOCIATION OF COLUMBIA
PARCEL A
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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FOR REVISION #8

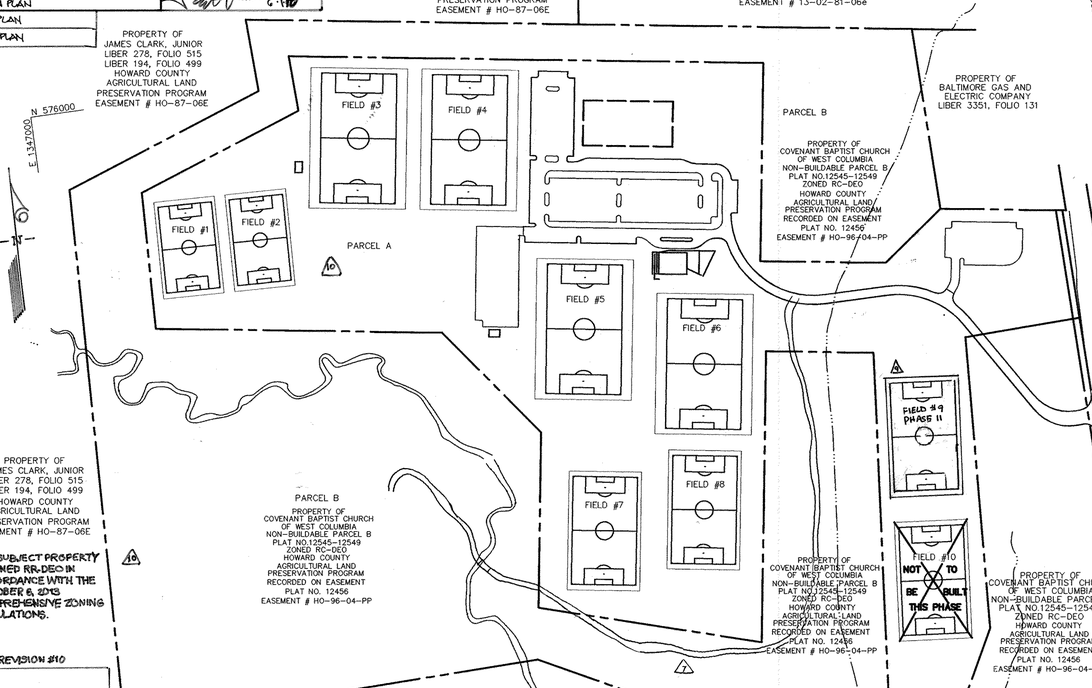
LANDSCAPE ARCHITECT 3068 PETER J. STOKO STATE OF MARYLAND 6-1-10

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
2. THE CONTRACTOR 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.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY FISHER COLLINS & CARTER DATED MARCH, 2000.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 30AA AND 30DC WERE USED FOR THIS PROJECT.
8. WATER IS PUBLIC. CONTRACT NO. 24-4040-D
9. SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATUXENT CONTRACT NO. 24-4040-D
10. THE STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA GRASS SWALES, AND THREE (3) STORMWATER MANAGEMENT PONDS. THE RECHARGE VOLUME WILL BE PROVIDED VIA THE GRASS CHANNEL CREDIT. WATER QUALITY VOLUME AND CHANNEL PROTECTION VOLUME WILL BE PROVIDED IN ONE (1) MICROPOOL EXTENDED DETENTION POND AND TWO (2) POCKET PONDS. THE FACILITIES WILL BE PRIVATELY MAINTAINED.
11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
12. A 100-YEAR FLOODPLAIN STUDY IS SHOWN FROM PLATS 12545-49, BY FCC, INC.
13. A TRAFFIC STUDY HAS BEEN PREPARED BY THE TRAFFIC GROUP INC DATED
14. A GEOTECHNICAL STUDY HAS BEEN PREPARED BY ECS, LTD DATED
15. THE BOUNDARY FOR THIS PROJECT IS PER RECORD PLATS 12545-49 BY FCC, INC.
16. ~~SUBJECT PROPERTY ZONED RC-DEO PER 10-18-93 COMPREHENSIVE ZONING PLAN.~~ THE SUBJECT PROPERTY IS ZONED RR-DEO IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING REGULATIONS.
17. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
18. SEE DEPARTMENT OF PLANNING AND ZONING FILE NOs: F-97-38, WP-97-60, PLAT OF EASEMENT 12456, BA-01-20E, WP-04-124
19. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
20. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
21. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
22. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
23. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
24. ALL PIPE ELEVATIONS SHOWN ARE INVERT ⌒ ELEVATIONS.
25. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
26. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
27. THE PAVEMENT DETAILS SHOWN FOR THIS SITE REFLECT THE HOWARD COUNTY STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE.
28. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
29. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION THROUGH THE PLACEMENT OF 22.27 ACRES OF FOREST RETENTION EASEMENTS ON PARCELS A AND B, COVENANT BAPTIST CHURCH.
30. CONDITIONAL USE CASE BA-01-20E WAS GRANTED BY THE BOARD OF APPEALS PER DECISION AND ORDER DATED 3/21/02 WITH THE FOLLOWING CONDITION OF APPROVAL:
    1. THE CONDITIONAL USE SHALL APPLY ONLY TO THE PROPOSED OUTDOOR ATHLETIC FACILITY AS DESCRIBED IN THE PETITION, AND AS DEPICTED ON THE CONDITIONAL USE PLAN FOR THE "SOCCER ASSOCIATION OF COLUMBIA" SUBMITTED ON MAY 21, 2001, AND NOT TO ANY OTHER ACTIVITIES, USES, OR STRUCTURES OF THE PROPERTY.
    2. THE EXISTING VEGETATION ON THE SITE TO THE NORTH AND SOUTH OF THE EXISTING DRIVEWAY SHALL BE RETAINED TO THE GREATEST EXTENT POSSIBLE.
    3. THE REDUCTION TO THE USE SETBACK FROM 50' TO 30' EXCEPT ALONG CENTENNIAL LANE FRONTAGE AND ALONG THE BOUNDARY TO THE SOUTH OF THE EAST FIELDS (#9 AND #10).
    4. THE REMOVAL OF VEGETATION FOR THE DRIVEWAY ACROSS PARCEL B SHALL BE KEPT TO AN ABSOLUTE MINIMUM, AND THE PETITIONER IS HEREBY ADVISED THAT EVEN WITH THE CONDITIONAL USE GRANT, THIS DEVELOPMENT WILL STILL NEED TO SUCCESSFULLY JUSTIFY THE DISTURBANCE IN THE WETLANDS AND BUFFERS UNDER THE "NECESSARY DISTURBANCE" PROVISIONS OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS FOR THE SITE DEVELOPMENT PLAN PROCESS. THE PETITIONER SHALL SPECIFY WHETHER THERE WILL BE AN ACCESS EASEMENT ESTABLISHED ON PARCEL B FOR THIS PORTION OF THE DRIVEWAY, AND THE PETITION SHALL ALSO INCLUDE THIS PORTION OF PARCEL B WITHIN THE THE CONDITIONAL USE BOUNDARIES.
    5. THE FIELD LIGHTS WILL BE TURNED OFF NO LATER THAN 10:15 P.M.
    6. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND COUNTY LAWS AND REGULATIONS.
31. THE WETLAND DELINEATION IS SHOWN FROM PLATS 12545-12549 BY FCC, INC.
32. A PERMIT TO DISTURB NON-TIDAL WETLANDS WAS SUBMITTED TO MD DEPT OF ENVIRONMENT: PERMIT TRACKING NO. 200261257. BOTH AREAS OF DISTURBANCE HAVE BEEN DEEMED 'NECESSARY' BY THE DEPARTMENT OF PLANNING AND ZONING.
33. THIS PLAN IS SUBJECT TO THE FIFTH EDITION OF THE SUBDIVISION REGULATIONS, AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 50-2001.
34. WP-04-124 A WAIVER OF SECTION 16.150.M.(1) TO EXTEND THE DEADLINE DATE BY WHICH A DEVELOPER MUST OBTAIN A BUILDING PERMIT WAS APPROVED JUNE 19, 2004. THE NEW DEADLINE IS APRIL 11, 2005.
35. BA 09-036C WAS APPROVED ON FEBRUARY 22, 2010 SUBJECT TO THE FOLLOWING CONDITIONS:
    1. EXPANSION. THE PETITIONER'S REQUEST TO EXPAND THE RECREATIONAL USE AS DEPICTED IN THE CONDITIONAL USE PLAN IS GRANTED. THIS EXPANSION INCLUDES A 75-SPACE PAVED PARKING LOT AND DRIVEWAY, A 36-FOOT BY 48-FOOT, 25-FOOT HIGH (MAXIMUM) PAVILION SHELTER CONSTRUCTED TO MATCH THE EXISTING PAVILIONS, AND A [redacted] BY 540-FOOT, UNLIGHTED MULTI-PURPOSE ATHLETIC FIELD. THE 50-FOOT SETBACKS REDUCED TO 32 FEET FOR THE PARKING LOT AND ABOUT 34 FEET FOR THE EXPANSION FIELD, AS IS PERMITTED BY SECTION 131.N.6.c.
    2. THREE MODIFICATIONS:
        a. A THIRD WINTER SEASON.
        b. NUMBER OF TOURNAMENTS.
        c. INCREASE IN THE NUMBER OF LIGHTED NIGHTS.
    3. THE PETITIONER SHALL AUGMENT THE LANDSCAPE BUFFER ALONG CENTENNIAL LANE WHERE THE OVERFLOW PARKING IS VISIBLE FROM THE STREET.
    4. TO ENSURE PUBLIC SAFETY ON-SITE, THE PETITIONER SHALL CONSULT WITH DPZ AND OTHER APPROPRIATE AGENCIES AT THE SITE DEVELOPMENT PLAN PHASE TO ESTABLISH THE PROPER PUBLIC SAFETY RESOLUTION TO ENSURE SAFE PEDESTRIAN CROSSING ALONG THE DRIVEWAY BY THE OVERFLOW PARKING AREA. THE RESOLUTION MAY INCLUDE, BUT IS NOT LIMITED TO, A STOP SIGN, A MARKED PEDESTRIAN WALKWAY, AND/OR A FLASHING LIGHT ALERTING MOTORISTS TO THE PEDESTRIAN WALKWAY.
    5. PHASING. IN PHASE I, THE PETITIONER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS AND SHALL COMMENCE THE USE OF THESE PORTIONS OF THE CONDITIONAL USE OUTSIDE THE AREA OF EXPANSION (AS SHOWN AND DEPICTED ON THE CONDITIONAL USE PLAN) WITHIN TWO YEARS OF THE DATE OF THE DECISION AND ORDER. IN PHASE II, THE PETITIONER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS AND COMMENCE THE USE OF THE "AREA OF EXPANSION" (AS SHOWN AND DEPICTED ON THE CONDITIONAL USE PLAN) WITHIN SIX YEARS OF THE DATE OF THE DECISION AND ORDER.
    6. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE CONDITIONS OF THIS DECISION AND PRIOR TO THE COMMENCEMENT OF EACH PHASED USE. 1
36. CONTINUED. THE HEARING EXAMINER DENIED THE PETITION OF THE SOCCER ASSOCIATION OF COLUMBIA, INC., TO MODIFY THE HOURS OF OPERATIONS APPROVED IN BA 01-020C TO INCLUDE EARLY SUNDAY MORNING START HOURS.
37. NO SURETY IS REQUIRED FOR OVERFLOW PARKING PERIMETER LANDSCAPING REQUIRED BY BA-09-036C.
38. All perennial streams require a 100' stream bank buffer in accordance with Section 16.116(a)(2)(iii) of the Subdivision and Land Development Regulations.

FOR REVISION #10

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 37736
EXPIRATION DATE: 06/30/2017 10

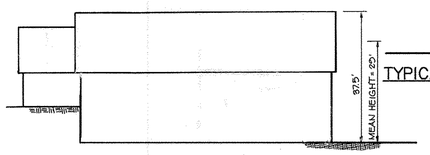


PLAN
SCALE: 1"=200'

FOR REVISION #9

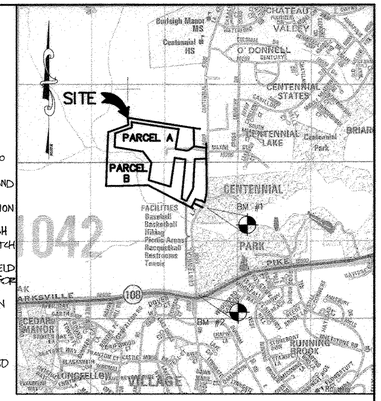
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 31089, Expiration Date: 11-21-12

11-10-11



TYPICAL SHELTER ELEVATION
NOT TO SCALE

ADMINISTRATION BUILDING ELEVATION
SCALE: 1" = 20'



VICINITY MAP
SCALE: 1"=2000'

SITE TABULATION
COVENANT BAPTIST CHURCH OF WEST COLUMBIA - PARCEL A

1. GROSS AREA OF TRACT 52.47
2. ZONING OF TRACT RR-DEO
3. AREA OF FLOODPLAIN 1.16 AC
4. NET AREA 51.31 AC
5. PARKING AS REQUIRED UNDER BA-01-20E: SEE PARKING STUDY DATED APRIL 18, 2002
6. PARKING PROVIDED PAVED- 462 (75 SPACES ADDED TO FIELD #9) UNPAVED- 144 TOTAL 606
   HANDICAP SPACES REQUIRED 12
   HANDICAP SPACES PROVIDED 12 (INCL 4 VAN SPACES)
7. BUILDING COVERAGE 66,672 SF (0.3% COVERAGE)

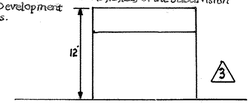
BENCHMARKS

BENCHMARK #1
HOWARD COUNTY SURVEY CONTROL STATION: 30AA
N 573,670.208 E 1,349,816.541
ELEVATION: 384.632
CONCRETE MONUMENT ON EAST SIDE OF CENTENNIAL LANE 25' WEST OF CENTENNIAL PARK TENNIS COURTS.

BENCHMARK #2
HOWARD COUNTY SURVEY CONTROL STATION: 30DC
N 571,937.689 E 1,349,597.163
ELEVATION: 422.112
CONCRETE MONUMENT WITHIN MEDIAN OF CENTENNIAL LANE 500' NORTH OF ROUTE 108.

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

SIGNED AND SEALED FOR REVISION #5



PROPOSED PAVILLION
NOT TO SCALE

ADDRESS CHART

SITE NUMBER	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

SUBDIVISION NAME: COVENANT BAPTIST CHURCH OF WEST COLUMBIA				SECT./AREA: -	PARCEL: A
PLAT: 15652-15657	BLOCK 1	ZONE: RR-DEO	TAX MAP NO.: 30	ELECT. DIST.: 2nd	CENSUS TRACT: 6023.01
WATER CODE: -			SEWER CODE: 5720200		

DATE	NO	REVISION
6.21.12	10	TURF FIELD CONVERSION 10
4/05/11	9	CONSTRUCTION OF FIELD #9
5-28-10	8	ADDED GENERAL NOTES 35 & 36
3/31/09	7	REVISE DRIVEWAY LOCATION AND FOREST CON. ESMTS.
12.10.08	6	REMOVED RIPRAP ON SHEET 2
DATE	NO	REVISION
2/21/08	5	REVISED FIELD #5 TO ARTIFICIAL TURF
1-12-07	4	REMOVED ISLANDS FROM PARKING LOT A.
2-24-06	3	ADDED PROPOSED PAVILLION
08-09-04	2	ADDED WP-04-124 INFORMATION
1-14-03	1	REVISED BLDG. ELEVATION & SITE TABULATION

AS-BUILT CERTIFICATION
DOMENICK W. COLANGELO #27200 — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/1/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA, INC.
SUITE 100
6854 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER / OWNER 10
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE Revised Site Development Plan 10
TITLE SHEET

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

4.12.03 DATE

STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 SDP1.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	1 OF ~~77~~ 61

SDP-02-75

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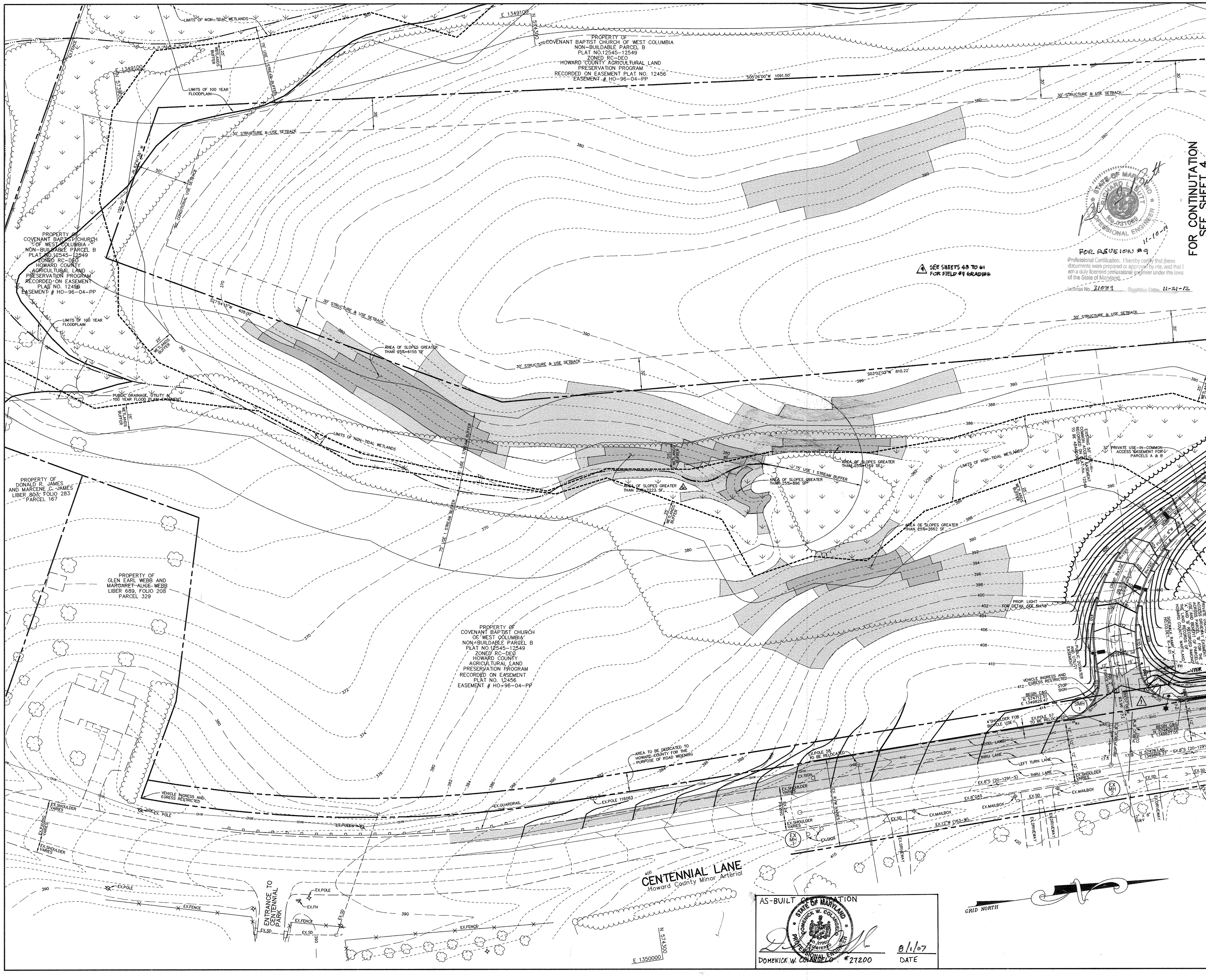


AS-BUILT CERTIFICATION

DOMENICK W. COLANGELO #27200 8/1/07 DATE

FOR REVISION #9

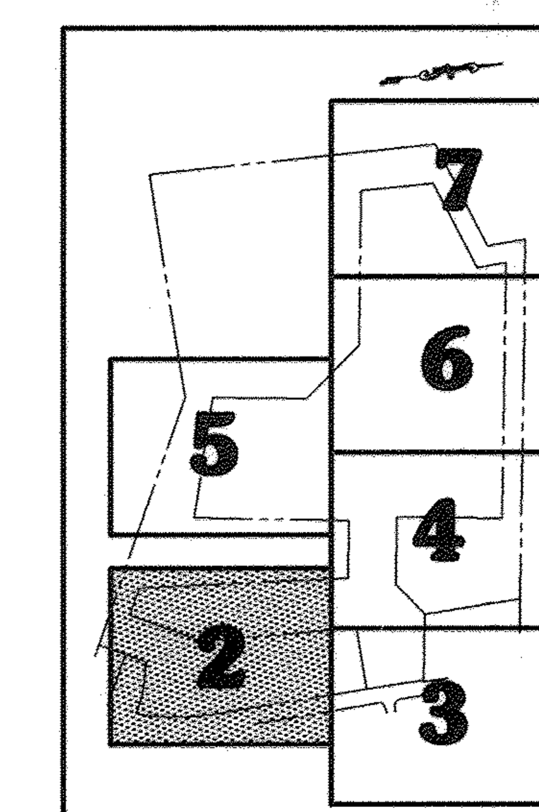
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 31089 Expiration Date 11-21-12

LEGEND

EX.CONTOUR	
PROP.CONTOUR	
EX.TREELINE	
PROP.TREELINE	
100 YEAR FLOODPLAIN	
SETBACK LINES	
15%-25% SLOPES	
25% OR GREATER SLOPES	
WETLANDS	
LIGHT DUTY PAVING	
P-5 PAVING	
SIDEWALK	
P-3 PAVING	
LIGHT-ROADWAY/PARKING	
LIGHT-FIELD	
LIMIT OF WETLANDS	
WETLANDS BUFFER	
AREA NOT INCLUDED IN APPROVED CONDITIONAL USE	
STREAM BUFFER	
STREAM	

NOTES:

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
5. * STD/REV - STANDARD TO REVERSE CURB TRANSITION.
6. SITE LIGHTS TO BE 175 WATT MH CUTOFF RECTILINEAR FIXTURE (COOPER) MOUNTED AT 20' ON A EMBEDED BRONZE FIBERGLASS POLE.



KEY MAP
NOT TO SCALE

DATE	NO.	REVISION
8/05/11	9	CONSTRUCTION OF FIELD #9
12-10-08	6	REMOVED RIP-RAP IN STREAM CHANNEL
10-8-04	1	ADDED CURB, MOVED SIDEWALK & ADJUSTED GRADES

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT: **SOCCER ASSOCIATION OF COLUMBIA**

AREA: TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: REVISED
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 SDP2.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	2 OF 77

SDP-02-75

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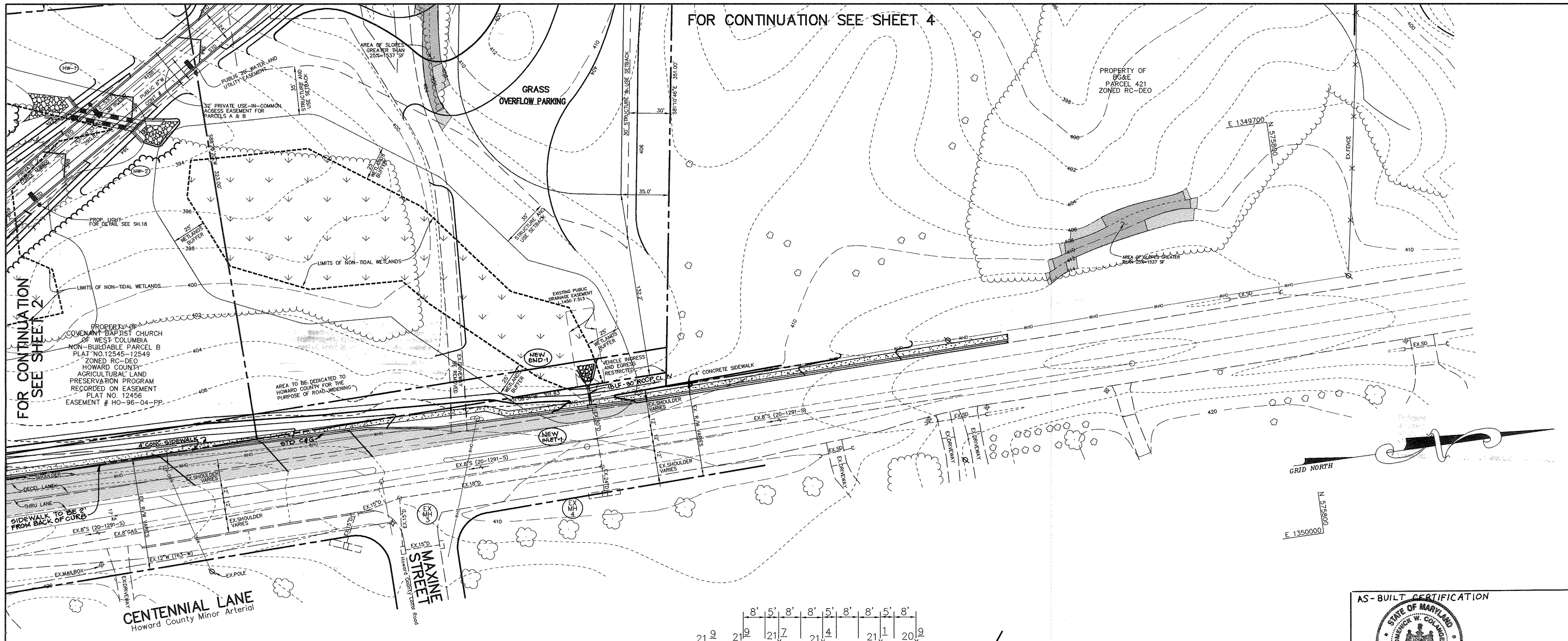

LEGEND

EX.CONTOUR	
PROP.CONTOUR	
EX.TREELINE	
PROP.TREELINE	
100 YEAR FLOODPLAIN	
SETBACK LINES	
15%–25% SLOPES	
25% OR GREATER SLOPES	
WETLANDS	
LIGHT DUTY PAVING	
P–5 PAVING	
SIDEWALK	
P–3 PAVING	
LIGHT–ROADWAY/PARKING	
LIGHT–FIELD	
LIMIT OF WETLANDS	
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STREAM BUFFER	
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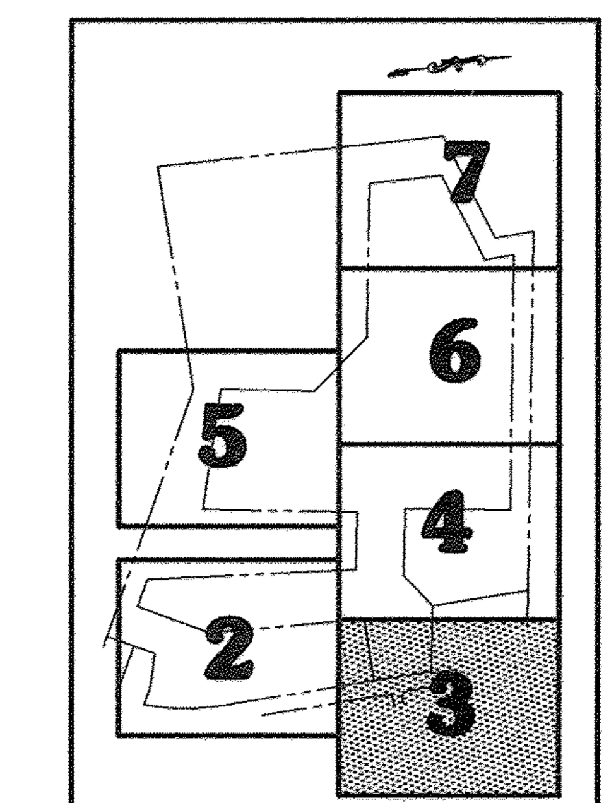
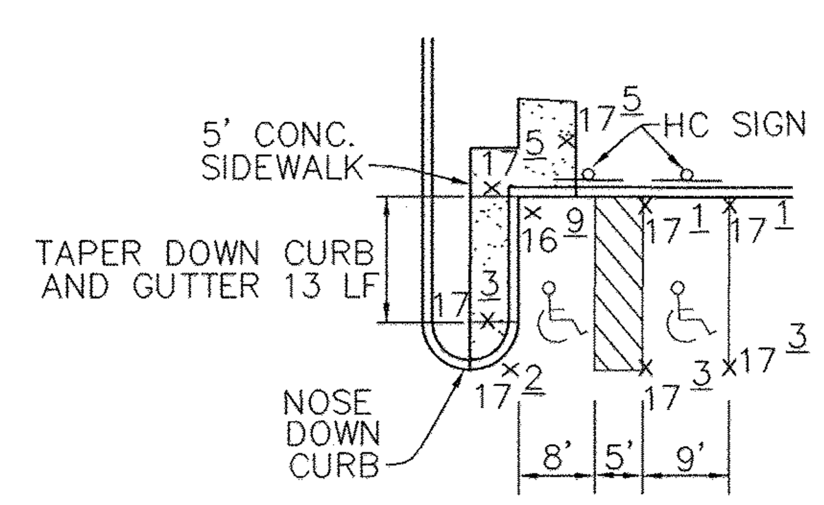
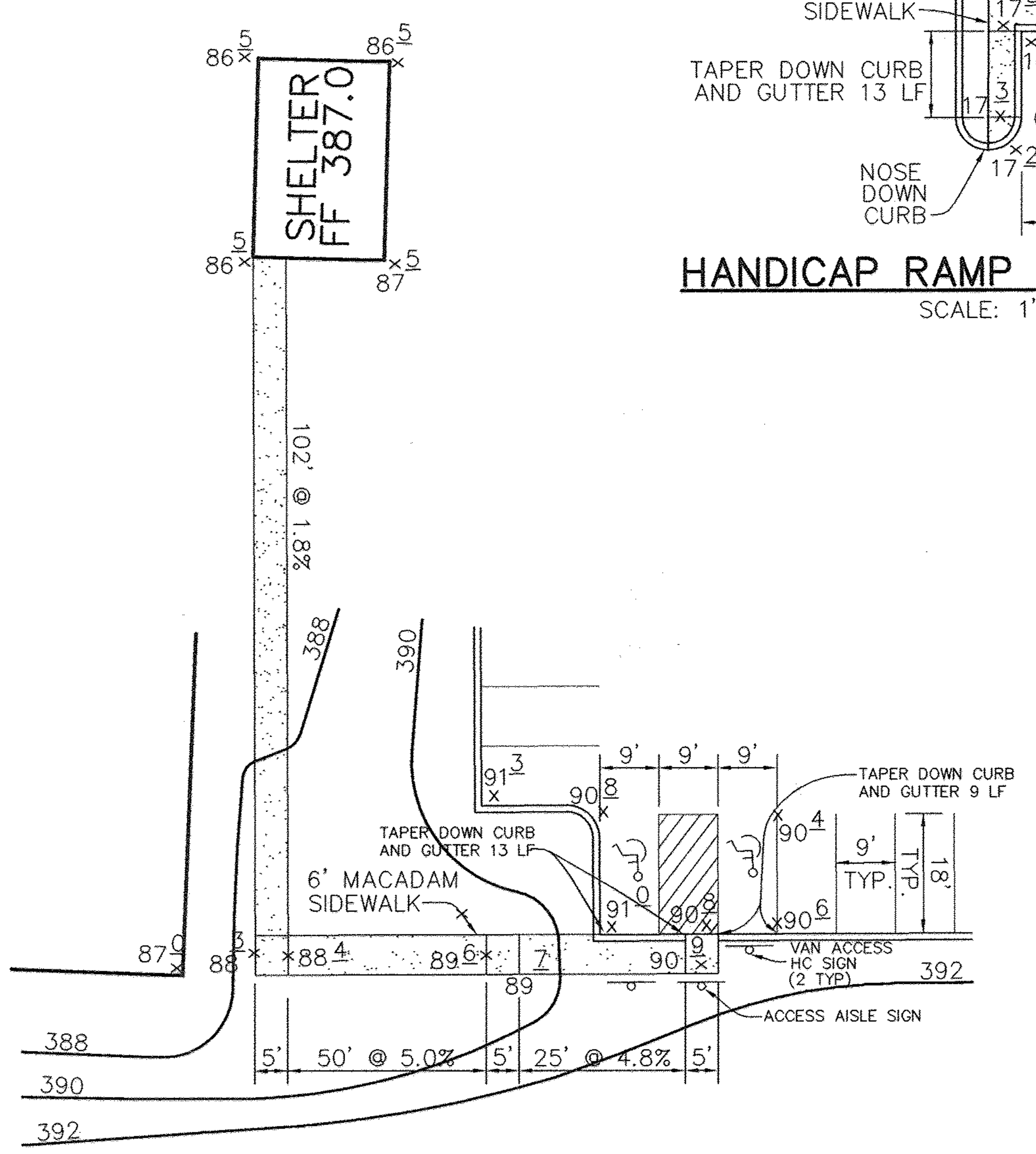


KEY MAP
NOT TO SCALE

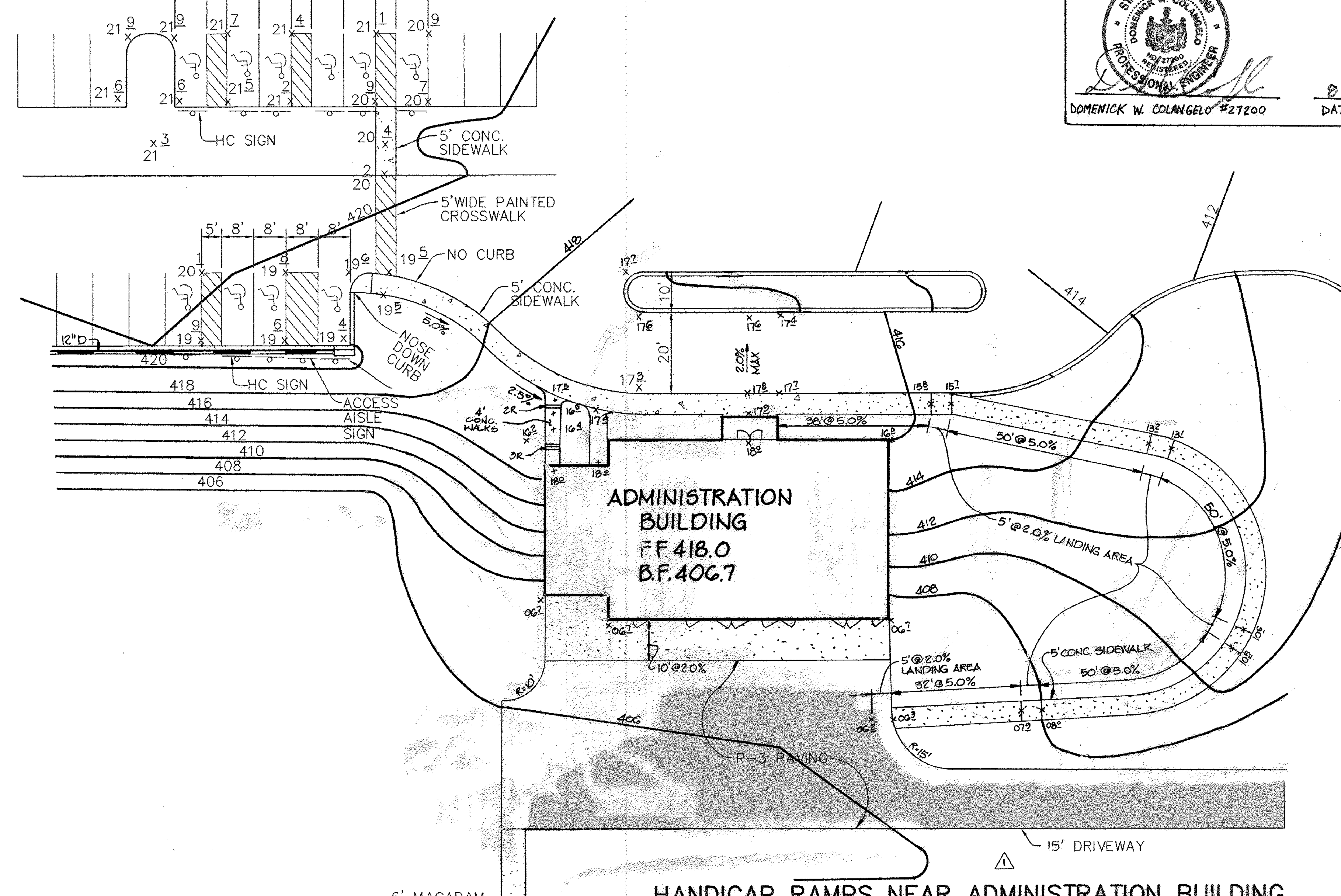
AS-BUILT CERTIFICATION
DOMENICK W. COLANGELO #27200 — 8/1/07
DATE



HANDICAP RAMP TO FIELDS #1–4
SCALE: 1"=20'



HANDICAP RAMP TO FIELD #9
SCALE: 1"=20'



HANDICAP RAMPS NEAR ADMINISTRATION BUILDING
SCALE: 1"=20' * NOTE SIDEWALK NOT TO EXCEED 5.0% SLOPE, 2% CROSS SLOPE. 30" OF FALL MAX. BEFORE A 5'x5' LEVEL AREA.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 4/11/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 4/1/03
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4/8/03

DATE	NO.	REVISION
08-09-04	2	ADDED CONCRETE WALKS TO DECK
4-1-04	1	REVISED HC RAMP NEAR ADMIN. BUILDING

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980–D ROUTE 108 COLUMBIA, MD 21045 410–772–9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA
TAX MAP 30 BLOCK 1 ZONED RR–DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652–15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 SDP3.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	3 OF 77

SDP–02–75

P:\project\00287\1-0\Engr\Plans\Sdp3.dwg, Layout1, 03/07/2003 03:03:12 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

FOR CONTINUATION SEE SHEET 6

FOR CONTINUATION SEE SHEET 5

FOR CONTINUATION SEE SHEET 2

FOR CONTINUATION SEE SHEET 3

FUTURE CHURCH

LOADING AREA

ADMIN. BLDG. FF418.0 BF 400.7

ALARM FOR FIXED SPKR

PARKING LOTS G

DUAL-MINIDUCT SEE DETAIL SH 18

FIELD #6

PRIVATE 6"S

PUBLIC 20' WATER AND UTILITY EASEMENT

PUBLIC 8"W CONT #

PUBLIC 12"W CONT #

PUBLIC 20' WATER AND UTILITY EASEMENT

AREA NOT INCLUDED IN APPROVED CONDITIONAL USE

50' STRUCTURE & USE SETBACK

30' STRUCTURE & USE SETBACK

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM REGORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

AREA OF SLOPES GREATER THAN 25%=2631 SF

AREA OF SLOPES GREATER THAN 25%=2338 SF

S 08°49'26" W 350.00'

N 08°49'26" E 350.00'

PUBLIC DRAINAGE, UTILITY AND 100-YEAR FLOODPLAIN EASEMENT

PUBLIC DRAINAGE AND UTILITY EASEMENT

PUBLIC 20' WATER AND UTILITY EASEMENT

PROPOSED STOP SIGN/ PEDESTRIAN SIGN

PROPOSED CROSSWALK

PROPOSED PEDESTRIAN CROSSING SIGNS

SEE SHEET 48 TO 59 FOR FIELD #6 GRADING

S.W.M.F. #3 PRIVATELY OWNED HAZARD CLASS. A

WATER LEVEL

12" WIDE PILOT CHANNEL SEE DETAIL SHEET 18

12' WIDE ACCESS FOR SWM MAINTENANCE

15' NO MOWED VEGETATIVE ZONE

PROP. LIGHT- SEE DETAIL SH 18

PROP. LIMIT OF DISTURBANCE SEE SH 48

LIMIT OF 100' WETLANDS BUFFER

LIMIT OF NON-TIDAL WETLANDS

25' WETLAND & STREAM BUFFER

100 YEAR FLOODPLAIN ELEVATIONS

FLOODPLAIN SECTION #3 ELEV.385.7

FLOODPLAIN SECTION #2 ELEV.382.2

FLOODPLAIN SECTION #1 ELEV.380.7

LIMITS OF 100 YEAR FLOODPLAIN

TIMET OF CAC

GRID NORTH

N 576000

E 1349000

E 1349500

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8/1/07 DATE

FOR REVISION # 3

LANDSCAPE ARCHITECT — 3068 — PETER J. STONE — STATE OF MARYLAND — 6-1-10

FOR REVISION # 4

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. 31083, Expiration Date: 11-21-12

SWMF #3 SUMMARY CHART		
DRAINAGE AREA	3.4 Ac.	
REV REQUIRED	1307 CF	
REV PROVIDED	GRASS CHANNEL CREDIT	
WQv REQUIRED	3485 CF	
WQv PROVIDED	3485 CF	
CPv REQUIRED	7405 CF	
CPv PROVIDED	8276 CF	

WQv AND CPv ARE PROVIDED IN A POCKET POND. Qp AND Qf ARE NOT REQUIRED IN THIS FACILITY.

Rev 15 PROVIDED VIA GRASS CHANNELS IN DRAINAGE AREA #2.

STATE OF MARYLAND — RICHARD L. BLOOM — No. 031068 — PROFESSIONAL ENGINEER

11-10-10

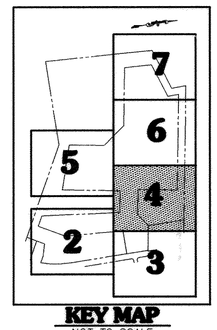
LEGEND

EX.CONTOUR
PROP.CONTOUR
EX.TREELINE
PROP.TREELINE
100 YEAR FLOODPLAIN
SETBACK LINES
15%-25% SLOPES
25% OR GREATER SLOPES
WETLANDS
LIGHT DUTY PAVING
P-5 PAVING
SIDEWALK
P-3 PAVING
LIGHT-ROADWAY/PARKING
LIGHT-FIELD
LIMIT OF WETLANDS
WETLANDS BUFFER
AREA NOT INCLUDED IN APPROVED CONDITIONAL USE
STREAM BUFFER
STREAM

NOTES:

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
5. * STD/REV - STANDARD TO REVERSE CURB TRANSITION.
6. SITE LIGHTS TO BE 175 WATT MH CUTOFF RECTILINEAR FIXTURE (COOPER) MOUNTED AT 20' ON A EMBEDED BRONZE FIBERGLASS POLE.

8/05/11 | 4 | CONSTRUCTION OF FIELD #6



KEY MAP
NOT TO SCALE

5-28-10 | 3 | ADDED CROSSWALKS AND SIGNS

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/14/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/11/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

08-09-04 | 2 | ADDED CONCRETE WALKS TO ADMIN. BLDG.

04-02-04 | 1 | REVISED ADMINISTRATION BUILDING & HC RAMP

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 SDP4.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	4 OF 77

SDP-02-75

P:\project\00287\1-01\Engr\Plans\Sdp4.dwg, Layout1, 03/07/2003 09:55:36 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

GRID NORTH

SWMF #2 SUMMARY CHART	
DRAINAGE AREA	10.4 Ac.
Re_v REQUIRED	2614 CF
Re_v PROVIDED	GRASS CHANNEL CREDIT
MQ_v REQUIRED	11326 CF
MQ_v PROVIDED	12197 CF
CP_v REQUIRED	11326 CF
CP_v PROVIDED	15682 CF

MQ_v AND CP_v ARE PROVIDED IN A POCKET POND.
Q_p AND Q_f ARE NOT REQUIRED IN THIS FACILITY.

Rev IS PROVIDED VIA GRASS CHANNELS IN DRAINAGE AREA #2.

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · NO. 27200 · PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8/1/07 DATE

AREA OF SLOPES GREATER THAN 25%=18542

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

75' USE 1 STREAM BUFFER

PUBLIC DRAINAGE, UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

CLARK'S CREEK

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

AREA OF SLOPES GREATER THAN 25%=6380 SF

EX. STONE PROTECTION (APPROXIMATE LOCATION)

E 1348200 N 571400

N08°49'26"E 487.14'

30' STRUCTURE & USE SETBACK

FIELD #7

FIELD #8

SWMF #2 (PRIVATELY OWNED) HAZARD CLASS A

36'x48' SHELTER FF 404.5

RAIL FENCE SEE DETAIL SH.18

8' CHAIN LINK FENCE

GATE

S.W.M. ACCESS PATH (UNPAVED)

FOR CONTINUATION SEE SHEET 6

FOR CONTINUATION SEE SHEET 4

AREA OF SLOPES GREATER THAN 25%=1935

S08°49'26"W 807.21'

AREA OF SLOPES GREATER THAN 25%=3229 SF

AREA OF SLOPES GREATER THAN 25%=5973 SF

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

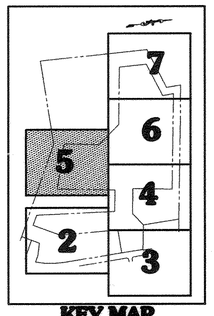
E 1348800 N 571400

LEGEND

EX.CONTOUR
PROP.CONTOUR
EX.TREELINE
PROP.TREELINE
100 YEAR FLOODPLAIN
SETBACK LINES
15%-25% SLOPES
25% OR GREATER SLOPES
WETLANDS
LIGHT DUTY PAVING
P-5 PAVING
SIDEWALK
P-3 PAVING
LIGHT-ROADWAY/PARKING
LIGHT-FIELD
LIMIT OF WETLANDS
WETLANDS BUFFER
AREA NOT INCLUDED IN APPROVED CONDITIONAL USE
STREAM BUFFER
STREAM

NOTES:

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
5. * STD/REV - STANDARD TO REVERSE CURB TRANSITION.
6. SITE LIGHTS TO BE 175 WATT MH CUTOFF RECTILINEAR FIXTURE (COOPER) MOUNTED AT 20' ON A EMBEDED BRONZE FIBERGLASS POLE.



KEY MAP
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/4/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION
070705	1	ADD SHELTER

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND · CHRISTOPHER J. REID · NO. 19949 · REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 SDP5.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 5 OF ~~51~~ 77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\Sdp5.dwg, Layout1, 03/07/2003 03:07:59 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

FOR CONTINUATION SEE SHEET 7

FOR CONTINUATION SEE SHEET 5

FOR CONTINUATION SEE SHEET 4

PUBLIC DRAINAGE, UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

75' USFWS STREAM BUFFER

S.W.M.F. #1 PRIVATELY OWNED HAZARD CLASS 'A'

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP E 1348000 N 578100

AREA OF SLOPES GREATER THAN 25%-7256 SF

30' STRUCTURE & USE SETBACK

RAIL FENCE SEE DETAIL SH.18

12' SWM ACCESS PATH (UNPAVED)

PROPOSED PAVILLION SLAB ELEV.36' 409.2

ASPHALT PATH

SHELTER HF 403.5

PARKING LOT A

29 SPACES

23 SPACES

9 SPACES

26 SPACES

N08°49'26"E 237.00'

N08°49'26"E 237.00'

LIMIT OF GRADING

FIELD #3

FIELD #4

FIELD #5

60' STRUCTURE SETBACK

30' STRUCTURE & USE SETBACK

PARKING LOT C

19 SPACES

24 SPACES

20 SPACES

PROP. DUAL HEADLIGHT SEE DETAIL SH-18

PROP. LIGHT FOR DETAIL SEE SH18

AREA NOT INCLUDED IN APPROVED CONDITIONAL USE

FUTURE CHURCH

PARKING LOT B

16 SPACES

21 SPACES

SEE REVISION TO FIELD #5 SHEETS 44A-44F

AS-BUILT CERTIFICATION

STATE OF MARYLAND DOMENICK W. COLANGELO NO. 27200 PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200

8/1/07 DATE

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

SWMF #1 SUMMARY CHART	
DRAINAGE AREA	21.2 Ac.
Re_v REQUIRED	3920 CF
Re_v PROVIDED	GRASS CHANNEL CREDIT
Wq_v REQUIRED	18285 CF
Wq_v PROVIDED	19161 CF
Cp_v REQUIRED	14602 CF
Cp_v PROVIDED	22652 CF

Wq_v AND Cp_v ARE PROVIDED IN A MICROPOOL EXTENDED DETENTION POND VIA SEPARATE EXTENDED DETENTION ORIFICES. Qp AND Qf ARE NOT REQUIRED IN THIS FACILITY. Rev 15 PROVIDED VIA GRASS CHANNELS IN DRAINAGE AREA #2.

SIGNED AND SEALED FOR REVISION #5

STATE OF MARYLAND MARK A. HOFFMAN No. 25058 PROFESSIONAL ENGINEER

3.6.08

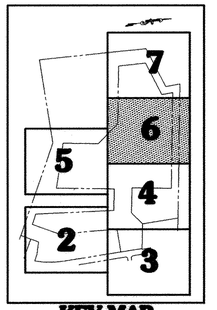
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25058 EXPIRATION DATE: 11.1.08

LEGEND

- EX.CONTOUR
- PROP.CONTOUR
- EX.TREELINE
- PROP.TREELINE
- 100 YEAR FLOODPLAIN
- SETBACK LINES
- 15%-25% SLOPES
- 25% OR GREATER SLOPES
- WETLANDS
- LIGHT DUTY PAVING
- P-5 PAVING
- SIDEWALK
- P-3 PAVING
- LIGHT-ROADWAY/PARKING
- LIGHT-FIELD
- LIMIT OF WETLANDS
- WETLANDS BUFFER
- AREA NOT INCLUDED IN APPROVED CONDITIONAL USE
- STREAM BUFFER
- STREAM

NOTES:

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
5. * STD/REV - STANDARD TO REVERSE CURB TRANSITION.
6. SITE LIGHTS TO BE 175 WATT MH CUTOFF RECTILINEAR FIXTURE (COOPER) MOUNTED AT 20' ON A EMBEDED BRONZE FIBERGLASS POLE.



KEY MAP
NOT TO SCALE

2/21/08 | 5 | REVISED FIELD #5 TO ARTIFICIAL TURF

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/15/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/14/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION
1-12-07	4	REMOVED ISLANDS FROM PARKING LOT A
2-24-06	3	ADDED PROPOSED PAVILLION

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

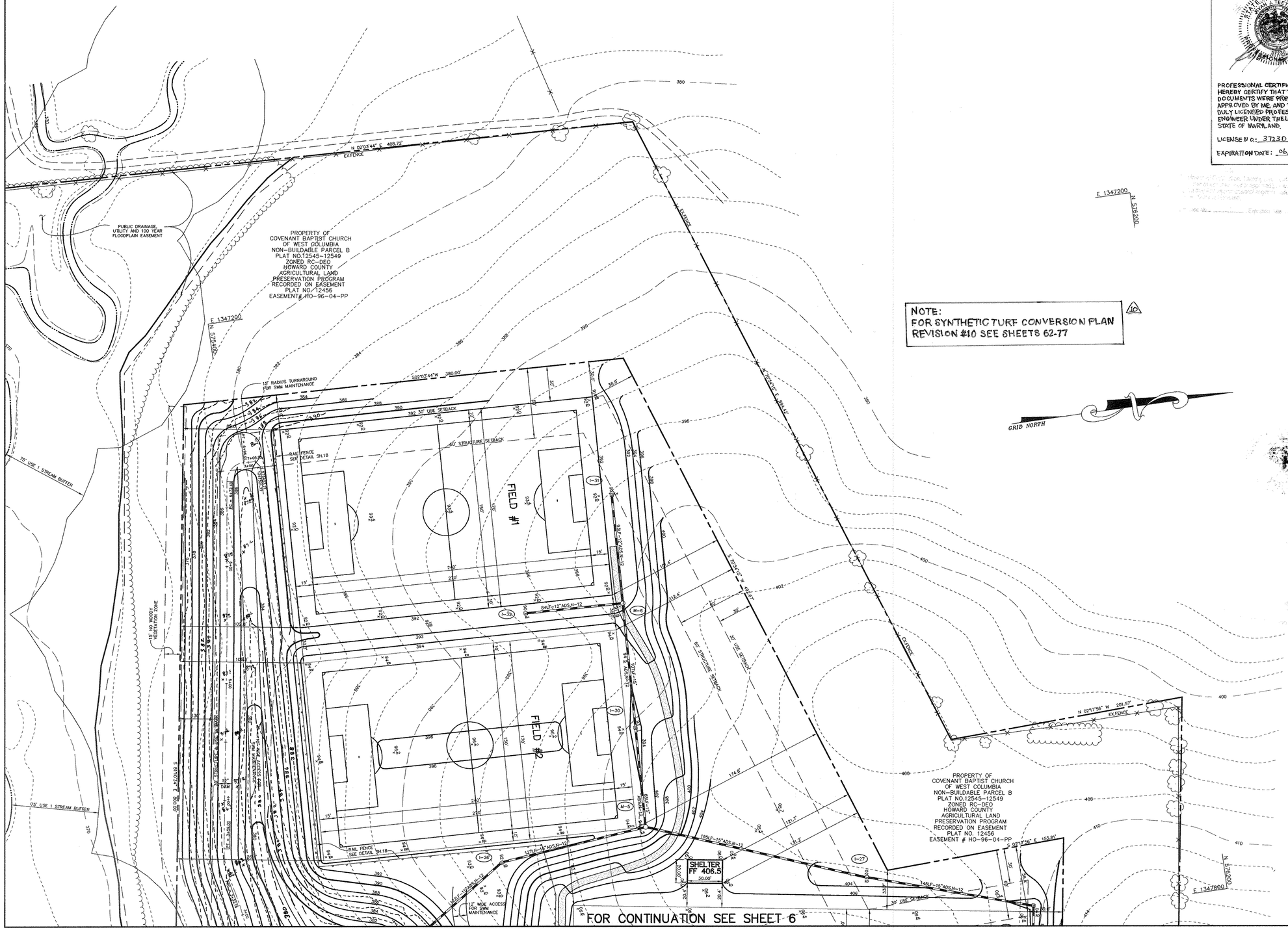
STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 SDP6.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	6 OF 41 77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\Sdp6.dwg, Layout1, 03/07/2003 03:09:11 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40



AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8/1/07 DATE

FOR REVISION #10

STATE OF MARYLAND — EDWARD J. TERRY — 37230 — REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO.: 37230

EXPIRATION DATE: 06/30/2017 (10)

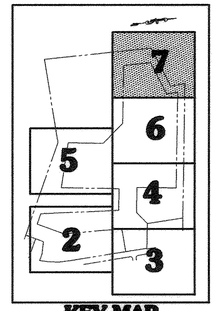
NOTE:
FOR SYNTHETIC TURF CONVERSION PLAN REVISION #10 SEE SHEETS 62-77 (10)

LEGEND

- EX.CONTOUR
- PROP.CONTOUR
- EX.TREELINE
- PROP.TREELINE
- 100 YEAR FLOODPLAIN
- SETBACK LINES
- 15%-25% SLOPES
- 25% OR GREATER SLOPES
- WETLANDS
- LIGHT DUTY PAVING
- P-5 PAVING
- SIDEWALK
- P-3 PAVING
- LIGHT-ROADWAY/PARKING
- LIGHT-FIELD
- LIMIT OF WETLANDS
- WETLANDS BUFFER
- AREA NOT INCLUDED IN APPROVED CONDITIONAL USE
- STREAM BUFFER
- STREAM

NOTES:

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
5. * STD/REV - STANDARD TO REVERSE CURB TRANSITION.
6. SITE LIGHTS TO BE 175 WATT MH CUTOFF RECTILINEAR FIXTURE (COOPER) MOUNTED AT 20' ON A EMBEDED BRONZE FIBERGLASS POLE.



KEY MAP
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/4/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/08

DATE	NO.	REVISION
02.21.17	10	TURF FIELD CONVERSION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER / OWNER (10)
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RC-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE — REVISED (10)
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

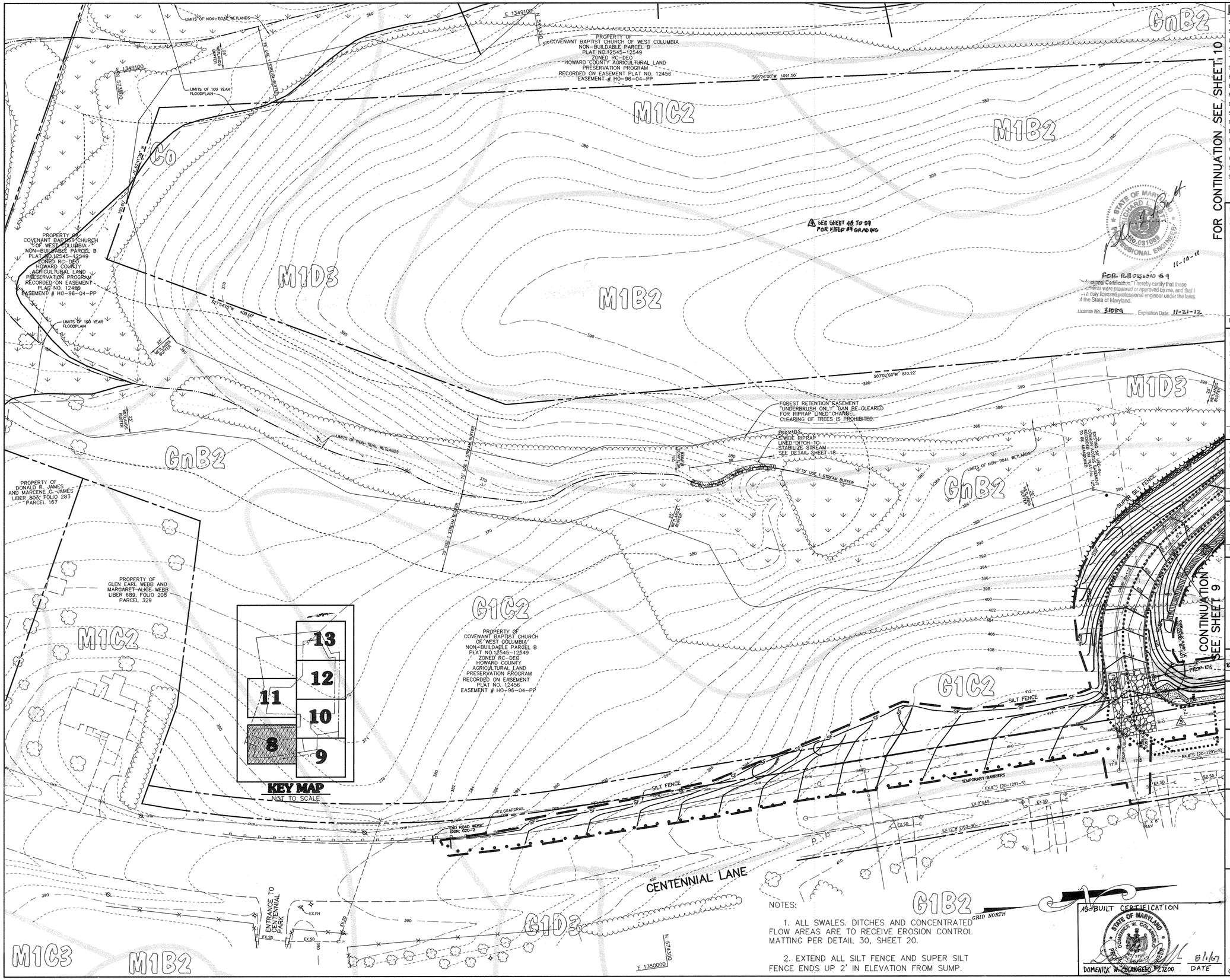
STATE OF MARYLAND — CHRISTOPHER J. REID — 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 SDP7.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	7 OF 77

SDP-02-75

P:\project\00287\1-0\Engr\PlansSdp7.dwg, Layout1, 03/07/2003 03:13:57 PM, HP750C(96).pc3, Arch D - 24 x 36 in. (landscape), 1:40



NOTES:

1. ALL SWALES, DITCHES AND CONCENTRATED FLOW AREAS ARE TO RECEIVE EROSION CONTROL MATTING PER DETAIL 30, SHEET 20.

2. EXTEND ALL SILT FENCE AND SUPER SILT FENCE ENDS UP 2' IN ELEVATION FROM SUMP.

LEGEND

- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY BARRIERS
- SANDBAGS
- EROSION CONTROL MATTING
- EARTH DIKE
- RIPRAP INFLOW PROTECTION
- DRAINAGE AREA LINES
- SOIL LINES
- REMOVABLE PUMPING STATION
- BORING LOCATION
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BUFFER
- STREAM

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 3/11/03

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE 3.12.03

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/25/03

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/25/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HBZ — DATE 4/6/03

DATE	NO.	REVISION
8/05/03	1	CONSTRUCTION OF FIELD #9
10-7-04	2	ADDED CURB, MOVED SIDEWALK & ADJUSTED GRADES

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

CHRISTOPHER J. REID #19949

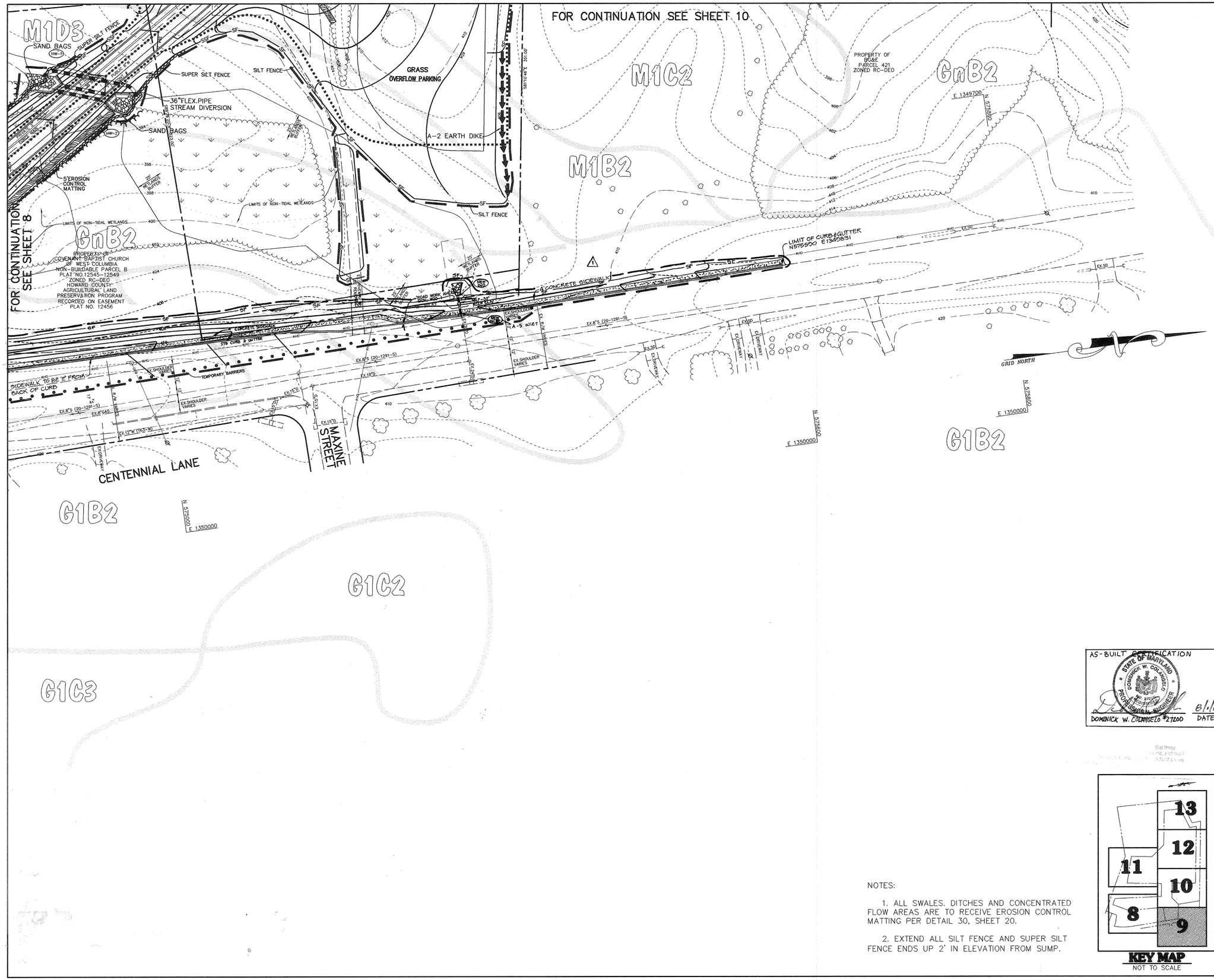
DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 SEDCONT1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	8 OF 41 77

AS-BUILT CERTIFICATION

DOMENICK W. CHIANGLES #21200 — DATE 8.1.07

SDP-02-75

P:\project\00287\1-0\Engr\Plans\SEDCONT1.dwg, Layout1, 03/07/2003 03:39:13 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40



NOTES:

1. ALL SWALES, DITCHES AND CONCENTRATED FLOW AREAS ARE TO RECEIVE EROSION CONTROL MATTING PER DETAIL 30, SHEET 20.

2. EXTEND ALL SILT FENCE AND SUPER SILT FENCE ENDS UP 2' IN ELEVATION FROM SUMP.

KEY MAP
NOT TO SCALE

LEGEND

- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY BARRIERS
- SANDBAGS
- EROSION CONTROL MATTING
- EARTH DIKE
- RIPRAP INFLOW PROTECTION
- DRAINAGE AREA LINES
- SOIL LINES
- REMOVABLE PUMPING STATION
- BORING LOCATION
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BUFFER
- STREAM

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 3/11/03

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE 3.12.03

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/25/03

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/25/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/4/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/15/03

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — DATE 8.1.07

DATE	NO.	REVISION
10-8-04	1	ADDED CURB, MOVED SIDEWALK & ADJUSTED GRADES

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 SEDCONT2.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 9 OF 17

SDP-02-75

P:\project\00287\1-01Engr\Plans\SEDCONT2.dwg, Layout1, 03/07/2003 03:40:56 PM, HP7500C(88).pc3, Arch D - 24 x 36 in. (landscape), 1:40

FOR CONTINUATION SEE SHEET 12

FOR CONTINUATION SEE SHEET 11

FOR CONTINUATION SEE SHEET 8

FOR CONTINUATION SEE SHEET 9

FUTURE CHURCH

LOADING AREA

ADMINISTRATION BUILDING
FF 418.0
BF 408.0

PATIO
FF 418.0

FIELD #6

PARKING LOT C

PUBLIC 8"W CONT #

PRIVATE 8"S

PUBLIC 20' WATER AND UTILITY EASEMENT

ALARM FOR PUMP

EROSION CONTROL MATTING

PIPE OUTLET SEDIMENT TRAP #1
RISER DIA. = 12"ø
TRASH RACK DIA. = 42"
36LF-21"CMP

EARTH DIKE A-2

GABION INFLOW PROTECTION

SUPER SILT FENCE

MOUNTABLE EARTH DIKE A-2

5' EROSION CONTROL MATTING

PUBLIC DRAINAGE, UTILITY AND 100-YEAR FLOODPLAIN EASEMENT

SUMP PIT

SAND BAGS

48"FLEX-PIPE STREAM DIVERSION

FILTER BAG

12"WIDE PILOT CHANNEL

LIMITS OF NON-TIDAL WETLANDS

25' WIDE STREAM BUFFER

100 YEAR FLOODPLAIN ELEV.=392.5

12' WIDE ACCESS FOR SWM MAINTENANCE

15' NO WOODY VEGETATION ZONE

SEDIMENT BASIN #3 RPS

PLYWOOD BAFFLES

RIPRAP INFLOW PROTECTION

PUBLIC 20' WATER AND UTILITY EASEMENT

SILT FENCE

SF

SSF

LIMITS OF 100 YEAR FLOODPLAIN

FLOODPLAIN ELEV.=392.5

FLOOD DRAINAGE AND UTILITY PLAN EASEMENT

75' USE-IN-COMMON

25' STREAM BUFFER

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

PROPERTY OF COVENANT BAPTIST CHURCH OF WEST COLUMBIA NON-BUILDABLE PARCEL-B PLAT NO.12545-12549 ZONED RC-DEO HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM RECORDED ON EASEMENT PLAT NO. 12456 EASEMENT # HO-96-04-PP

GRID NORTH

E 1349000

E 1349500

N 576000

S 08°49'26" W 550.00'

N 22°27'37" E 214.40'

M1B2 M1C2 M1C3 M1D3 G1B2 EkB2 GnB2

PIPE OUTLET SEDIMENT TRAP #1

EXISTING D.A. = 1.5 AC.
PROPOSED D.A = 4.8 AC.
WET STORAGE REQ'D = 8640 CF
DRY STORAGE REQ'D = 8640 CF
WET STORAGE PROV. = 9583 CF @ 392.0
DRY STORAGE PROV. = 19602 CF @ 395.0
CREST ELEV = 395.0
TOP OF DAM = 398.0
BOTTOM ELEV = 390.0
CLEANOUT ELEV. = 391.0
BOTTOM DIMENSIONS = 40'x80'
Q_1 EX = 0.18 CFS
Q_1 PROP = 0.18 CFS

SEDIMENT BASIN #3

EXISTING D.A = 1.3 AC.
PROPOSED D.A = 3.4 AC.
WET STORAGE REQ'D = 6,120 CF
DRY STORAGE REQ'D = 6,120 CF
WET STORAGE PROV. = 6,120 CF @ 382.00
DRY STORAGE PROV. = 6,120 CF @ 383.20
CREST ELEV = 384.15
TOP OF DAM = 386.5
BOTTOM ELEV = 380.5
CLEANOUT ELEV. = 381.32
Q_1 EX = 0.20 CFS
Q_1 PROP = 0.20 CFS

13 12 11 10 8 9

KEY MAP
NOT TO SCALE

LEGEND

- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY BARRIERS
- SANDBAGS
- EROSION CONTROL MATTING
- EARTH DIKE
- RIPRAP INFLOW PROTECTION
- DRAINAGE AREA LINES
- SOIL LINES
- REMOVABLE PUMPING STATION
- BORING LOCATION
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BUFFER
- STREAM

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 3/11/03

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE 3.12.03

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/25/03

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/25/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/16/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/11/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

AS-BUILT FIELD VERIFICATION — DOMENICK W. COLONGELO — 21200 — PROFESSIONAL ENGINEER — 8/1/07 DATE

DATE	NO.	REVISION
8/1/07	1	CONSTRUCTION OF FIELD #6

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8816 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

FOR REVISIONS #4

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 31089 Expiration Date: 11-21-12

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 031089 — PROFESSIONAL ENGINEER — 11-10-10

3.12.03
DATE

STATE OF MARYLAND — CHRISTOPHER JAMES REID — 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 SEDCONT3.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	10 OF 17

NOTES:

1. ALL SWALES, DITCHES AND CONCENTRATED FLOW AREAS ARE TO RECEIVE EROSION CONTROL MATTING PER DETAIL 30, SHEET 20.

2. EXTEND ALL SILT FENCE AND SUPER SILT FENCE ENDS UP 2' IN ELEVATION FROM SUMP.

SEE SHEET 18 TO 54 FOR FIELD #4 GRADING

SDP-02-75

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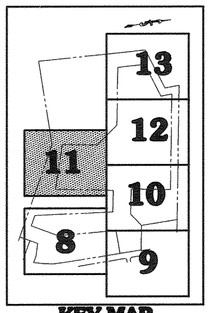


NOTES:

1. ALL SWALES. DITCHES AND CONCENTRATED FLOW AREAS ARE TO RECEIVE EROSION CONTROL MATTING PER DETAIL 30, SHEET 20.

2. EXTEND ALL SILT FENCE AND SUPER SILT FENCE ENDS UP 2' IN ELEVATION FROM SUMP.

SEDIMENT BASIN #2

EXISTING D.A = 6.3 AC.
PROPOSED D.A = 10.4 AC.
WET STORAGE REQ'D = 18,720 CF
DRY STORAGE REQ'D = 18,720 CF
WET STORAGE PROV. = 18,720 CF @ 384.58
DRY STORAGE PROV. = 18,720 CF @ 387.28
CREST ELEV = 389.17
TOP OF DAM = 392.00
BOTTOM ELEV = 380.00
CLEANOUT ELEV. = 382.85
Q_1 EX = 0.49 CFS
Q_1 PROP = 0.48 CFS

KEY MAP
NOT TO SCALE

STONE OUTLET SEDIMENT TRAP #2

EXISTING D.A = 1.1 AC.
PROPOSED D.A = 0.7 AC.
WET STORAGE REQ'D = 1980 CF
DRY STORAGE REQ'D = 1980 CF
WET STORAGE PROV. = 2520 CF @ 390.0
DRY STORAGE PROV. = 2416 CF @ 391.0
CREST ELEV = 391.0
TOP OF DAM = 392.0
BOTTOM ELEV = 388.5
CLEANOUT ELEV. = 389.25
WEIR LENGTH = 10'
BOTTOM DIMERSIONS = 30'x50'

AS-BUILT CERTIFICATION

8/1/07
DATE

DOMENICK W. COLANGELO #27200

LEGEND

SILT FENCE	——SF——
SUPER SILT FENCE	——SSF——
LIMIT OF DISTURBANCE	▬ ▬ ▬
STABILIZED CONSTRUCTION ENTRANCE	▨
TEMPORARY BARRIERS	● ● ● ● ● ● ● ● ●
SANDBAGS	○○○○○○○○○○○○
EROSION CONTROL MATTING	▨
EARTH DIKE	← ← ← ← ←
RIPRAP INFLOW PROTECTION	▨
DRAINAGE AREA LINES	■■■■■■■■■■
SOIL LINES	░░░░
REMOVABLE PUMPING STATION	☒
BORING LOCATION	⊕
100 YEAR FLOODPLAIN	———
WETLANDS	▭
WETLAND BUFFER	———
STREAM BUFFER	- - - - -
STREAM	——···——···——

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

3/11/03
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Christy J Reid 3.12.03
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

3/25/03
NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

3/25/03
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

4/11/03
DIRECTOR DATE

4/1/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

Cindy Hamilton 4/8/03
CHIEF, DIVISION OF LAND DEVELOPMENT HB DATE

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH
OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION
OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA
TAX MAP 30 BLOCK 1 ZONED ~~RR~~-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

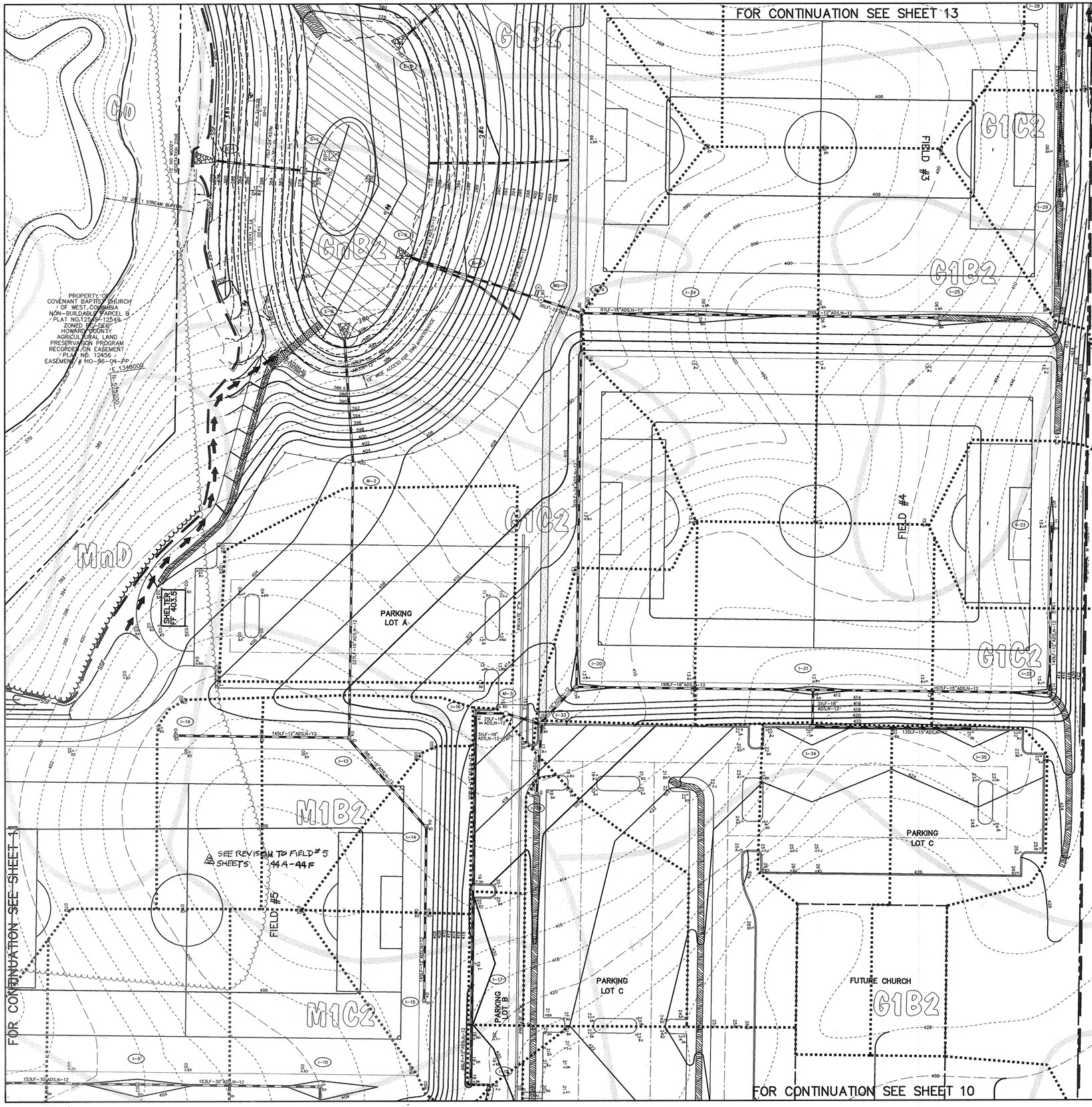
3.12.03
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 SEDCONT4.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 11 OF ~~61~~ 77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\SEDCONT4.dwg, Layout1, 03/07/2003 04:16:28 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40



AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 21200 — PROFESSIONAL ENGINEER

8.1.07

DOMENICK W. COLANGELO #21200 DATE

SIGNED AND SEALED FOR REVISION #5

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

3-6-08

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21200 EXPIRATION DATE: 11-03

LEGEND

- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY BARRIERS
- SANDBAGS
- EROSION CONTROL MATTING
- EARTH DIKE
- RIPRAP INFLOW PROTECTION
- DRAINAGE AREA LINES
- SOIL LINES
- REMOVABLE PUMPING STATION
- BORING LOCATION
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BUFFER
- STREAM
- CLAY LINING

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — 3/11/03 DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Christy J Reid — 3.12.03

ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 3/25/03 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 3/25/03 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 4/4/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 4/1/03 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 4/8/03 DATE

DATE	NO.	REVISION
2/21/08	A	REVISED FIELD #5 TO ARTIFICIAL TURF

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT

SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 SEDCONT5.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	12 OF 47

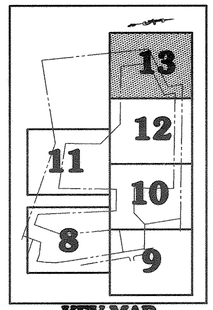
SDP-02-75

P:\project\00287\1-0\Engr\Plans\SEDCONT5.dwg, Layout1, 03/07/2003 04:17:51 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

NOTES:

1. ALL SWALES. DITCHES AND CONCENTRATED FLOW AREAS ARE TO RECEIVE EROSION CONTROL MATTING PER DETAIL 30, SHEET 20.

2. EXTEND ALL SILT FENCE AND SUPER SILT FENCE ENDS UP 2' IN ELEVATION FROM SUMP.



KEY MAP
NOT TO SCALE

LEGEND

- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY BARRIERS
- SANDBAGS
- EROSION CONTROL MATTING
- EARTH DIKE
- RIPRAP INFLOW PROTECTION
- DRAINAGE AREA LINES
- SOIL LINES
- REMOVABLE PUMPING STATION
- BORING LOCATION
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BUFFER
- STREAM

NOTE:
FOR SYNTHETIC TURF CONVERSION PLAN
REVISION #10 SEE SHEETS 62-77

10

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COCIANGELO — #21200 — PROFESSIONAL ENGINEER

DOMENICK W. COCIANGELO #21200 — 8/14/07 DATE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 3/14/03

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Christy J Reid — ENGINEER — DATE 3.12.03

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/25/03

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/25/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION
02.21.17	10	TURF FIELD CONVERSION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER / OWNER 10
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE — REVISED SITE DEVELOPMENT PLAN 4A
SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

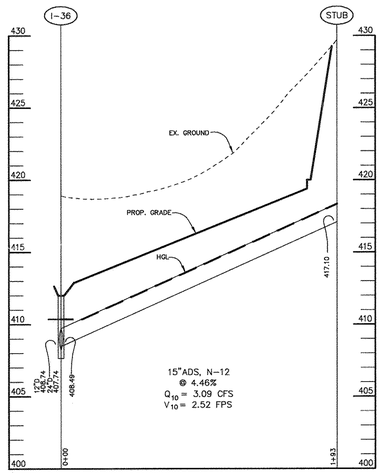
STATE OF MARYLAND — CHRISTOPHER J. REID — #19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287
	SEDCONT6.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	13 OF 61 77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\SEDCONT6.dwg, Layout1, 03/07/2003 04:18:51 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40



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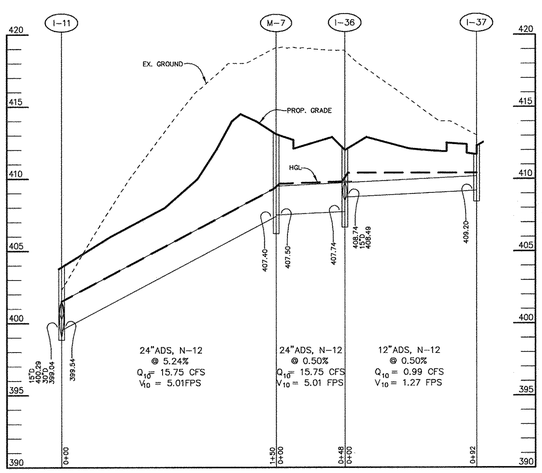
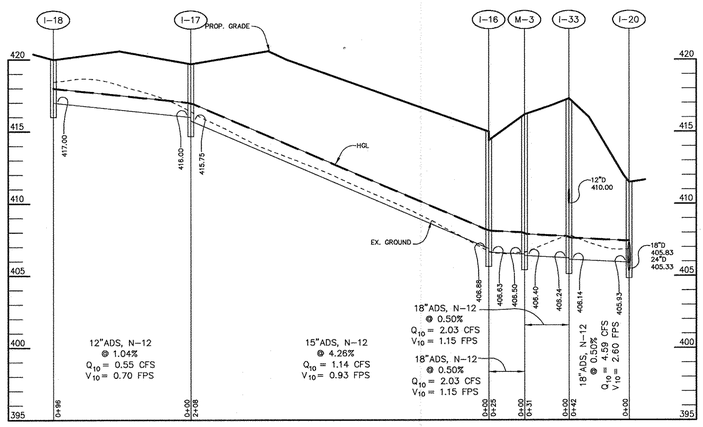
VERT.-1"=5'



PROFILE
SCALE :
HOR.-1"=50'
VERT.-1"=5'



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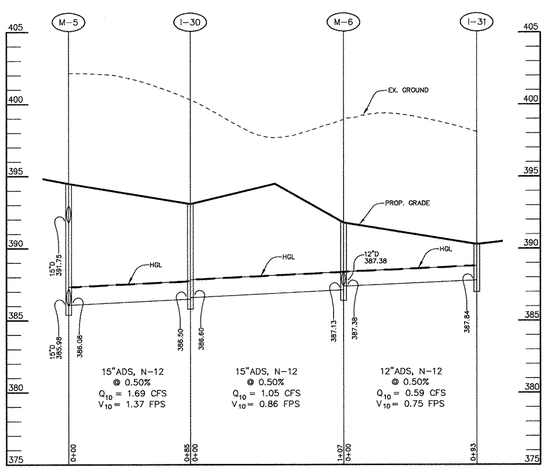
VERT.-1"=5'



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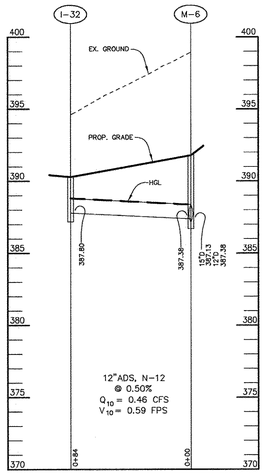
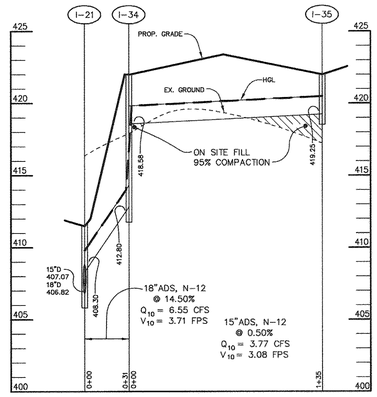
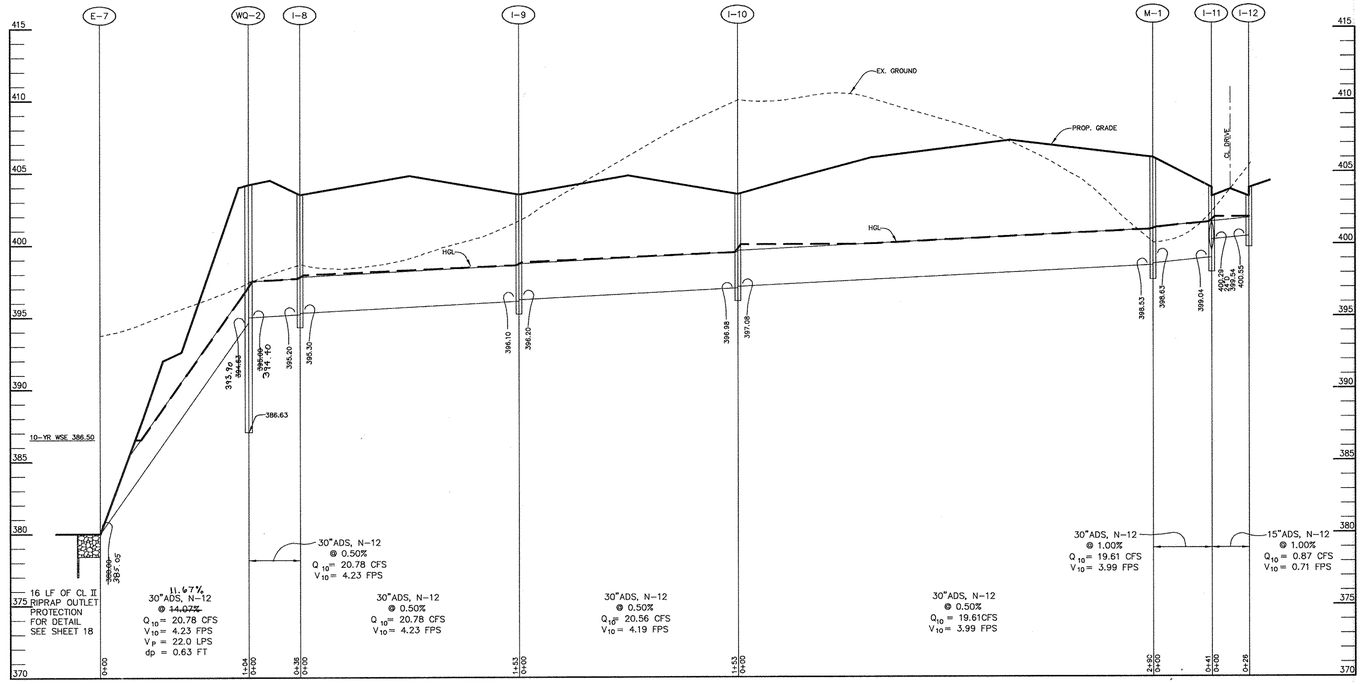
SCALE :
HOR.-1"=50'
VERT.-1"=5'



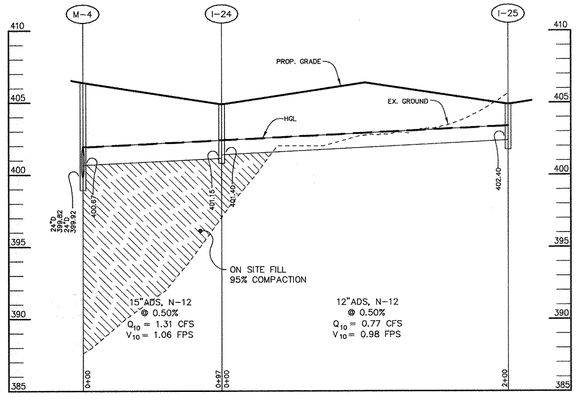
PROFILE
SCALE :
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE :
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE :
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE :
HOR.-1"=50'
VERT.-1"=5'

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — DATE 8/1/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/10/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/10/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

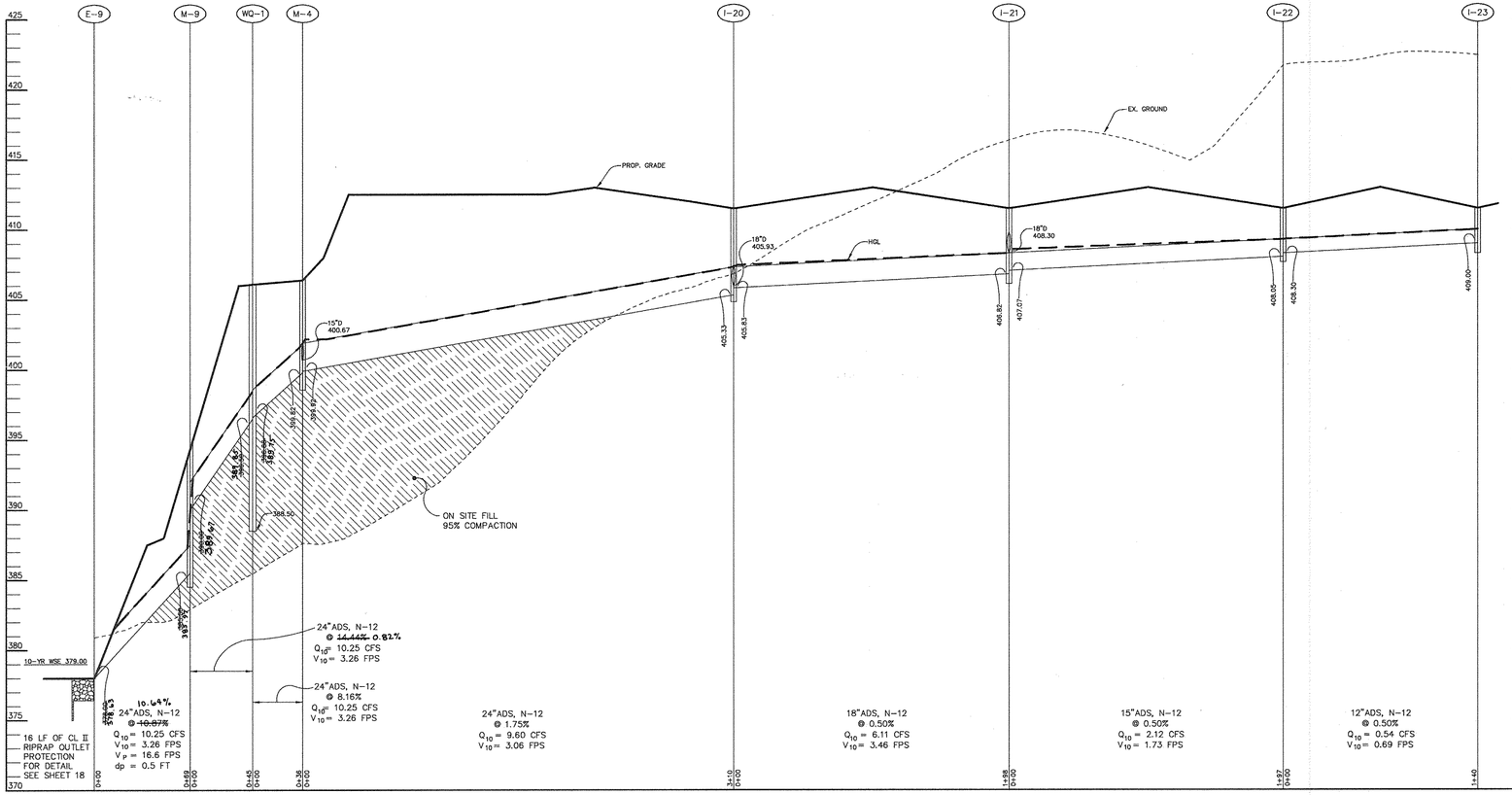
3-12-03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — PROFESSIONAL ENGINEER

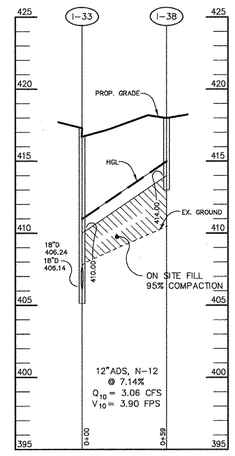
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 PROFILE1.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	14 OF ~~61~~ 77

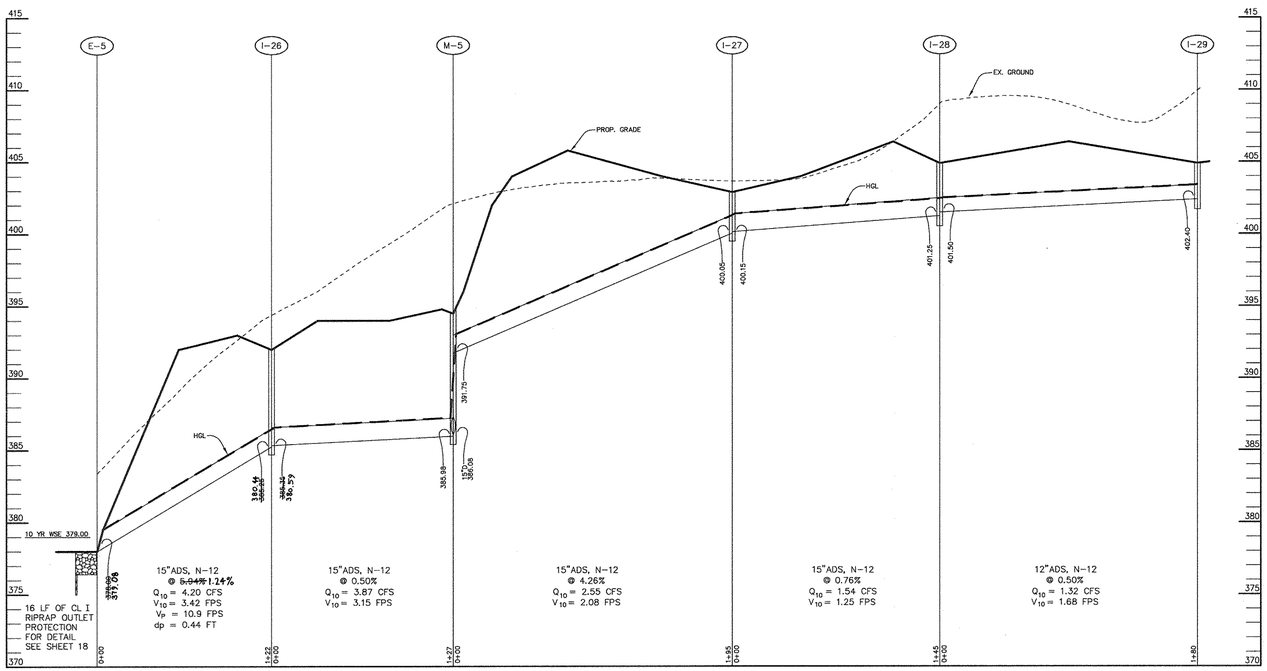
SDP-02-75



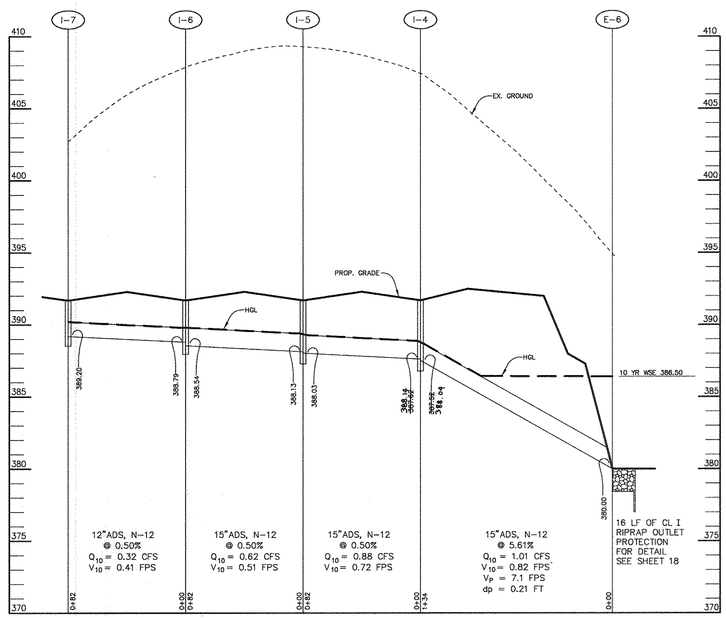
PROFILE
SCALE : HOR.-1"=50' VERT.-1"=5'



PROFILE
SCALE : HOR.-1"=50' VERT.-1"=5'



PROFILE
SCALE : HOR.-1"=50' VERT.-1"=5'



PROFILE
SCALE : HOR.-1"=50' VERT.-1"=5'

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · No. 27200 · REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8.1.07 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/4/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RC-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND · CHRISTOPHER J. REID · No. 19949 · REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 PROFILE1.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 15 OF ~~17~~

SDP-02-75

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STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION		INV. IN	INV. OUT	TOP	REMARKS
I-2	A-5 2.5'WIDE	N575177.42	E1349287.41	382.41 (18")	381.91 (24")	386.6	HOCO STD. DETAIL SD-4.40
I-3	A-10 2.5'WIDE	N575201.42	E1349287.58	383.00 (18")	–	386.6	HOCO STD. DETAIL SD-4.41
I-4✓	S	~~N574746~~ N574781	~~E1348691~~ E1348870	~~388.14~~ ~~387.82~~ (15")	~~388.04~~ ~~387.82~~ (15")	~~392.24~~ 391.7	HOCO STD. DETAIL SD-4.22
I-5	S	N574703	E1348557	388.13 (15")	388.03 (15")	391.7	HOCO STD. DETAIL SD-4.22
I-6	S	N574622	E1348544	388.79 (12")	388.54 (15")	391.7	HOCO STD. DETAIL SD-4.22
I-7	S	N574541	E1348532	–	389.20 (12")	391.7	HOCO STD. DETAIL SD-4.22
I-8	S 4.5'WIDE	N574989	E1348564	395.30 (30")	395.20 (30")	403.5	HOCO STD. DETAIL SD-4.22
I-9	S 3.5'WIDE	N575140	E1348587	396.20 (30")	396.10 (30")	403.5	HOCO STD. DETAIL SD-4.22
I-10	S 3.5'WIDE	N575291	E1348611	397.08 (24")	396.98 (30")	403.5	HOCO STD. DETAIL SD-4.22
I-11	A-10 2.5'WIDE	N575272.77	E1348930.65	400.29 (15") 399.54 (24")	399.04 (30")	403.9	HOCO STD. DETAIL SD-4.41
I-12	A-10 2.5'WIDE	N575287.87	E1348949.31	–	400.55 (15")	403.9	HOCO STD. DETAIL SD-4.41
I-13	S	N575356	E1348327	400.04 (15") 400.78 (12")	399.94 (15")	404.0	HOCO STD. DETAIL SD-4.22
I-14	S	N575409	E1348409	400.78 (12")	400.53 (15")	404.0	HOCO STD. DETAIL SD-4.22
I-15	S	N575387	E1348553	–	401.50 (12")	404.0	HOCO STD. DETAIL SD-4.22
I-16	A-5 2.5'WIDE	N575464.12	E1348322.47	406.88 (15")	406.63 (18")	415.0	HOCO STD. DETAIL SD-4.40
I-17	A-5 2.5'WIDE	N575432.29	E1348527.52	416.00 (12")	415.75 (15")	419.7	HOCO STD. DETAIL SD-4.40
I-18	A-5 2.5'WIDE	N575417.33	E1348623.86	–	417.00 (12")	420.0	HOCO STD. DETAIL SD-4.40
I-19	S	N575212	E1348305	–	401.50 (12")	404.0	HOCO STD. DETAIL SD-4.22
I-20	S 3.5'WIDE	N575550	E1348313	405.93 (18") 405.83 (18")	405.33 (24")	411.5	HOCO STD. DETAIL SD-4.22
I-21	S	N575745	E1348343	408.30 (18") 407.07 (15")	406.82 (18")	411.5	HOCO STD. DETAIL SD-4.22
I-22	S	N575940	E1348373	408.30 (12")	408.05 (18")	411.5	HOCO STD. DETAIL SD-4.22
I-23	S	N575961	E1348235	–	409.00 (12")	411.5	HOCO STD. DETAIL SD-4.22
I-24	S	N575692	E1348021	401.40 (12")	401.15 (15")	404.9	HOCO STD. DETAIL SD-4.22
I-25	S	N575890	E1348052	–	402.40 (12")	404.9	HOCO STD. DETAIL SD-4.22
I-26	S	N575586	E1347691	385.35 (15")	385.25 (15")	392.0	HOCO STD. DETAIL SD-4.22
I-27	S	N575895	E1347747	400.15 (15")	400.05 (15")	402.9	HOCO STD. DETAIL SD-4.22
I-28	S	N576033	E1347791	401.50 (12")	401.25 (15")	404.9	HOCO STD. DETAIL SD-4.22
I-29	S	N576006	E1347969	–	402.40 (15")	404.3	HOCO STD. DETAIL SD-4.22
I-30	S	N575716	E1347593	386.60 (15")	386.50 (15")	393.1	HOCO STD. DETAIL SD-4.22
I-31	S	N575723	E1347392	–	387.84 (12")	390.3	HOCO STD. DETAIL SD-4.22
I-32	S	N575636	E1347483	–	387.80 (12")	390.3	HOCO STD. DETAIL SD-4.22
I-33	A-5 2.5'WIDE	N575516.47	E1348339.62	406.24 (18") 410.00 (12")	406.14 (18")	417.3	HOCO STD. DETAIL SD-4.40
I-34	A-5 2.5'WIDE	N575740.04	E1348374.33	418.58 (15")	412.80 (18")	422.0	HOCO STD. DETAIL SD-4.40
I-35	A-5 2.5'WIDE	N575873.22	E1348395.00	–	419.25 (15")	422.0	HOCO STD. DETAIL SD-4.40
I-36	S	N575436	E1348832	408.49 (15") 408.74 (12")	407.74 (24")	412.0	HOCO STD. DETAIL SD-4.22
I-37	A-5 2.5'WIDE	N575464.20	E1348918.46	–	409.20 (12")	412.3	HOCO STD. DETAIL SD-4.40
I-38	S	N575504	E1348396	–	414.00 (12")	418.0	HOCO STD. DETAIL SD-4.22

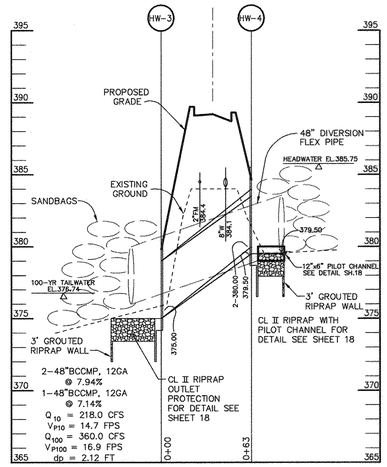
STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION		INV. IN	INV. OUT	TOP	REMARKS
M-1	4'-0" DIA.	N575246	E1348897	398.63 (24")	398.53 (24")	406.0	HOCO STD. DETAIL G-5.11
M-2✓	4'-0" DIA.	N575391✓	E1348103✓	~~398.38~~ ~~398.81~~ (15")	~~398.48~~ ~~398.84~~ (15")✓	~~403.56~~ ~~404.2~~	HOCO STD. DETAIL G-5.11
M-3	4'-0" DIA.	N575488	E1348326	406.50 (18")	406.40 (18")	416.2	HOCO STD. DETAIL G-5.11
M-4	4'-0" DIA.	N575597	E1348006	399.92 (24") 400.67 (15")	399.82 (24")	406.4	HOCO STD. DETAIL G-5.11
M-5	4'-0" DIA.	N575713	E1347678	386.08 (15") 391.75 (15")	385.98 (15")	394.5	HOCO STD. DETAIL G-5.11
M-6	4'-0" DIA.	N575718	E1347486	387.38 (12") 387.38 (12")	387.13 (15")	391.8	HOCO STD. DETAIL G-5.11
M-7	4'-0" DIA.	N575388	E1348836	407.50 (24")	407.40 (24")	413.1	HOCO STD. DETAIL G-5.11
M-9	4'-0" DIA. ✓	~~N575510~~ ~~N576826~~	~~E1347976~~ ~~E1347971~~	~~399.47~~ ~~399.00~~ (24")	~~395.57~~ ~~395.00~~ (24")	~~396.47~~ ~~394.5~~	HOCO STD. DETAIL G-5.11
E-1✓	24" ASTM END SECTION	~~N575509~~ ~~N576811~~	E1347838 ✓	~~374.43~~ ~~374.00~~ (24")	–	–	HOCO STD. DETAIL SD-5.51
E-2✓	30" ASTM END SECTION	~~N574889~~ ~~N574890~~	~~E1348491~~ ~~E1348298~~	~~378.49~~ ~~378.20~~ (30")	–	–	HOCO STD. DETAIL SD-5.51
E-3✓	36"ASTM END SECTION	~~N575042~~ ~~N575043~~	~~E1348214~~ ~~E1348220~~	~~380.44~~ ~~380.00~~ (36")	–	–	HOCO STD. DETAIL SD-5.51
E-4 ✓	24" ADS END SECTION	~~N575131~~ ~~N575130~~	~~E1348316~~ ~~E1348316~~	~~391.37~~ ~~390.50~~ (24")	–	–	ADS, N-12
E-5	15" ADS END SECTION	N575484	E1347758	~~379.08~~ ~~378.00~~ (15")	–	–	ADS, N-12 NO SCOOP END!
E-6	15" ADS END SECTION	N574873	E1348469	380.00 (15")	–	–	ADS, N-12
E-7 ✓	30" ADS END SECTION	~~N574691~~ ~~N574686~~	~~E1348491~~ ~~E1348467~~	–	~~383.05~~ ~~380.00~~ (30")	–	ADS, N-12
E-8 ✓	15" ADS END SECTION	N575398 ✓	E1347999	~~379.01~~ ~~378.00~~ (15")	–	–	ADS, N-12
E-9✓	24" ADS END SECTION	~~N575486~~ ~~N576762~~	~~E1347959~~ ~~E1347940~~	~~378.53~~ ~~378.00~~ (24")	–	–	ADS, N-12
NEW END-1	30" RCCP END SECTION	N575284	E1348616	403.20 (30")	–	–	HO. CO. STD. DETAIL SD-5.51
S-1	MODIFIED STRUCTURE	N575383	E1347857	–	375.00 (24")	382.17	SEE SHEET 23
S-2	MODIFIED STRUCTURE	~~N574889~~ ~~N574888~~	~~E1348378~~ ~~E1348382~~	–	~~380.41~~ ~~380.00~~ (30")	~~391.11~~ ~~390.67~~	SEE SHEET 23
S-3	MODIFIED STRUCTURE	N575042 ✓	E1349286	–	~~381.12~~ ~~380.50~~ (36")	~~387.42~~ ~~386.07~~	SEE SHEET 23
NEW INLET-1	A-5 2.5'WIDE	N575284	E1348636	403.20 (30")	403.20 (30")	407.70	HO. CO. STD. DETAIL SD-5.51
HW-1	TYPE "A" HEADWALL	N574936	E1349571	390.00 (36") 390.00 (36")	–	–	SEE SHEET 21
HW-2	TYPE "A" HEADWALL	N574987	E1349588	–	392.00 (36") 391.50 (36")	–	SEE SHEET 21
HW-3	TYPE "A" HEADWALL	N575156	E1349150	(3)375.00 (48")	–	–	SEE SHEET 21
HW-4	TYPE "A" HEADWALL	N575214	E1349175	–	(2)380.00 (48") (1)379.50 (48")	–	SEE SHEET 21
SMH-2	4'-0" DIA.	N575285	E1348840	400.00 (8") 400.33 (4")	399.90 (8")	407.1	HOCO STD. DETAIL G-5.11
SMH-3	4'-0" DIA.	N575404	E1348859	403.00 (8")	402.90 (8")	411.0	HOCO STD. DETAIL G-5.11
SMH-4	4'-0" DIA.	N575422	E1348745	407.39 (8")	407.29 (8")	416.5	HOCO STD. DETAIL G-5.11
PUMP-1	–	N575283	E1348856	399.74 (8")	399.64 (2")	406.6	SEE SHEET 21
WQ-1✓	3K✓	~~N575540~~ ~~N575565~~	~~E1347985~~ ~~E1347991~~	~~397.75~~ ~~397.00~~ (24")	~~398.95~~ ~~398.00~~ (24")	~~395.95~~ ~~401.~~	BAYSAVER 3K
WQ-2✓	3K✓	~~N574961~~ ~~N574963~~	~~E1348519~~ ~~E1348539~~	~~394.90~~ ~~395.00~~ (30")	~~393.40~~ ~~394.65~~ (30")	~~403.70~~ ~~404.2~~	BAYSAVER 3K
WQ-3✓	3K✓	N575169✓	E1349286✓	~~381.79~~ ~~381.84~~ (24")	~~381.99~~ ~~381.45~~ (24")	~~386.99~~ ~~386.5~~	BAYSAVER 3K

NOTES:
FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE.
LOCATION OF INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB;

PIPE SCHEDULE

PIPE LENGTH	SIZE	TYPE
1316	12"	ADS, N-12
2365	15"	ADS, N-12
353	18"	ADS, N-12
714	24"	ADS, N-12
777	30"	ADS, N-12
75	24"	ASTM
84	30"	ASTM
57	36"	ASTM
106	36"	BCCMP
189	48"	BCCMP



PROFILE

SCALE :
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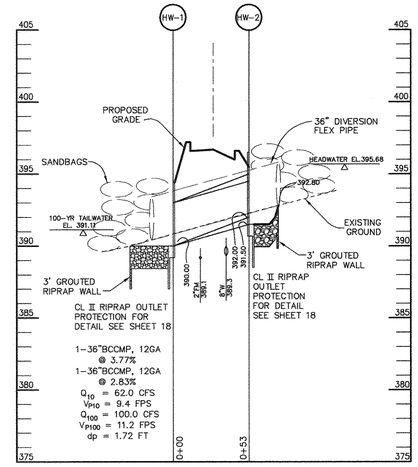
VERT.-1"=5'



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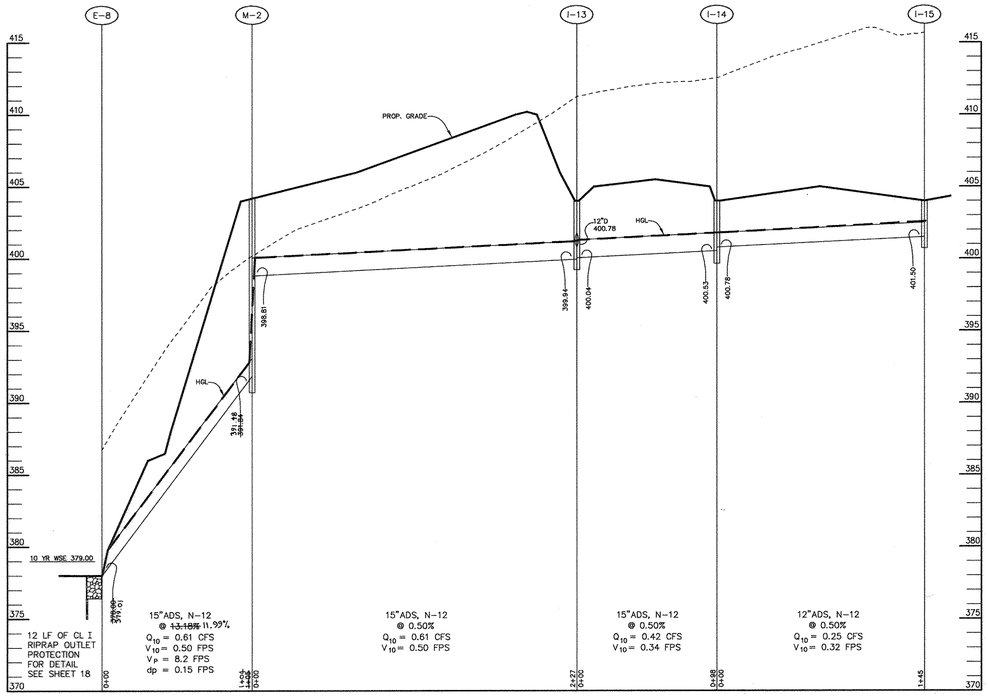

PROFILE

SCALE :
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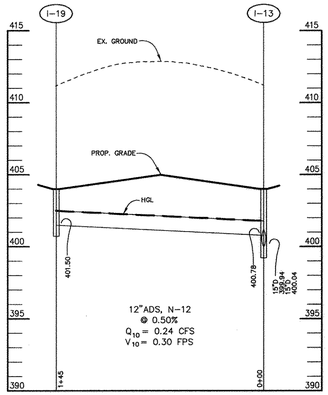

PROFILE

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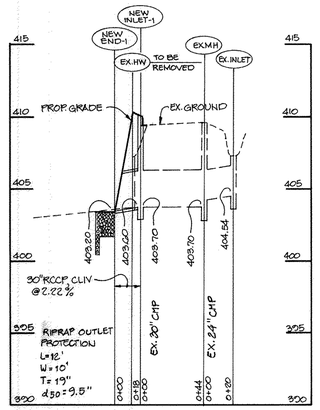

PROFILE

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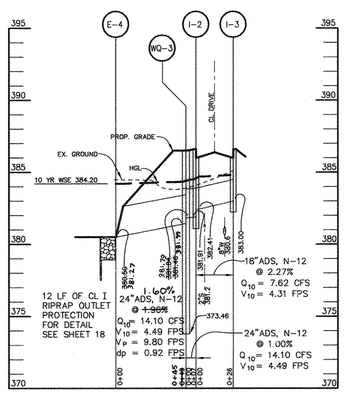


PROFILE

SCALE :
HOR.-1"=50'
VERT.-1"=5'

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · No. 27000 · REGISTERED PROFESSIONAL ENGINEER

8/1/07
DOMENICK W. COLANGELO #27000 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 4/1/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 4/1/03
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4/9/03

DATE	NO.	REVISION
10-7-04	1	ADDED PROFILE

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

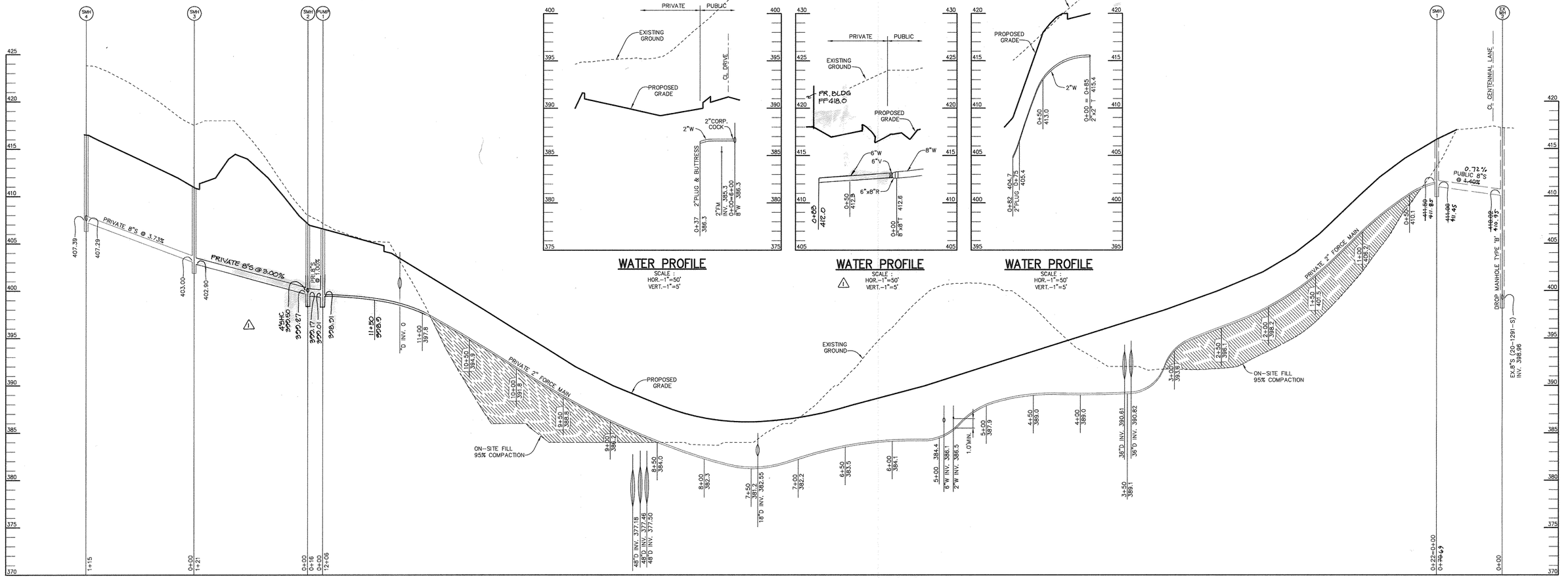
3.12.03
DATE

STATE OF MARYLAND · CHRISTOPHER J. REID · No. 19949 · PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 PROFILE1.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	16 OF ~~17~~

SDP-02-75



WATER PROFILE

SCALE :
HOR.-1"=50'
VERT.-1"=5'

WATER PROFILE

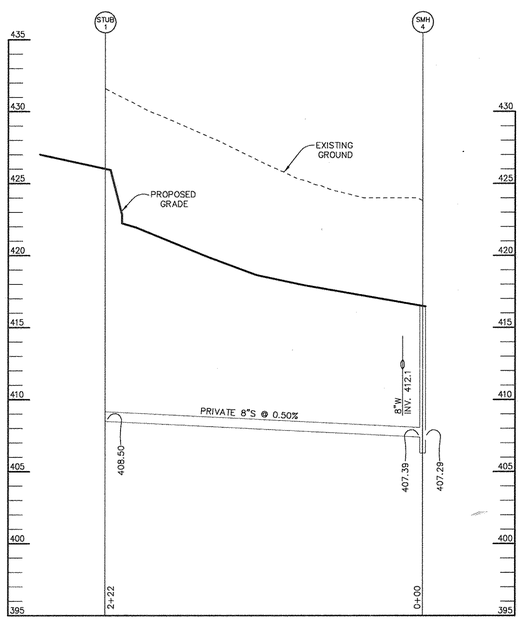
SCALE :
HOR.-1"=50'
VERT.-1"=5'

WATER PROFILE

SCALE :
HOR.-1"=50'
VERT.-1"=5'

SEWER PROFILE

SCALE :
HOR.-1"=50'
VERT.-1"=5'



SEWER PROFILE

SCALE :
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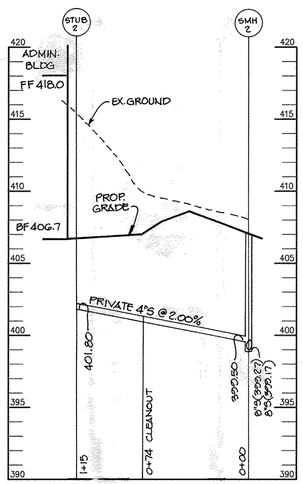
VERT.-1"=5'



WATER PROFILE

SCALE :
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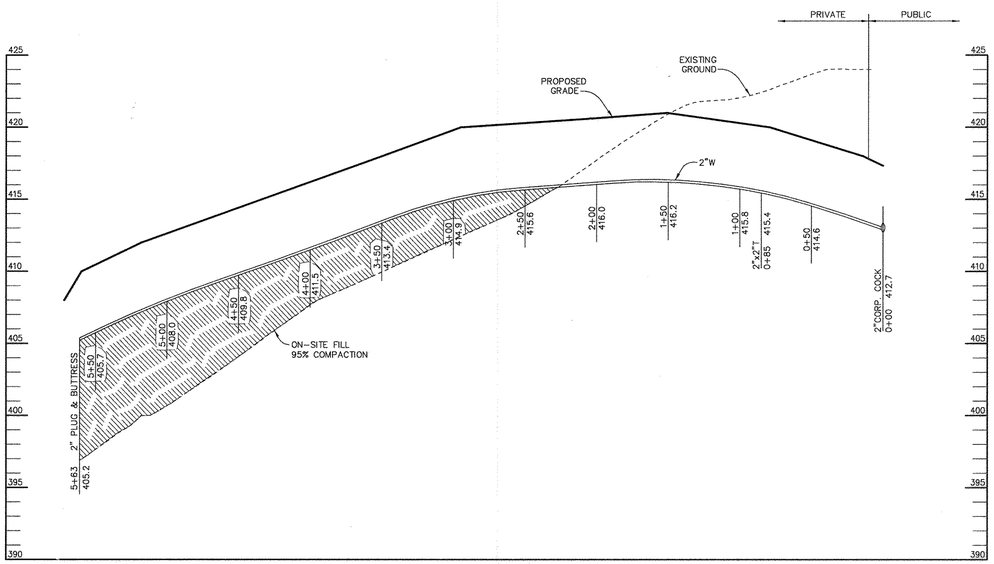

AS-BUILT CERTIFICATION
DOMENICK W. COLANGELO #22200
STATE OF MARYLAND
COLANGELO
DOMENICK W.
PROFESSIONAL ENGINEER
9.1.07
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/4/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION
4-2-04	1	ADJUSTED WATER & SEWER TO ADMIN. BLDG.

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RC-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15057
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
WATER AND SEWER PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
#19949
PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287
PROFILE1.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 17 OF 17

SDP-02-75

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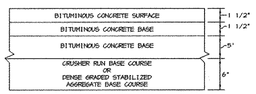

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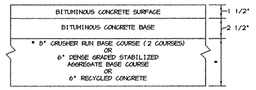
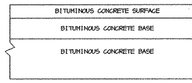


(ALTERNATE)

LIGHT DUTY PAVING

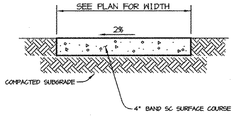
NO SCALE



HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

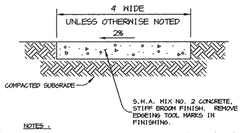
P-5 PAVING

NO SCALE



ASPHALT WALK DETAIL

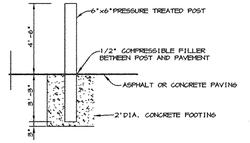
NO SCALE



NOTES :
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.)
PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCORIED IN 5' MAX. SQUARES.

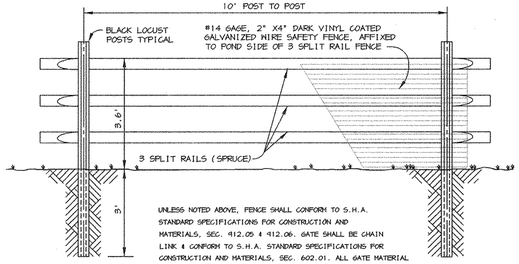
SIDEWALK DETAIL

NO SCALE



BOLLARD DETAIL

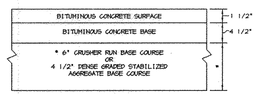
NO SCALE



UNLESS NOTED ABOVE, FENCE SHALL CONFORM TO S.H.A. STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SEC. 912.05 & 912.06. GATE SHALL BE CHAIN LINK & CONFORM TO S.H.A. STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SEC. 902.01. ALL GATE MATERIAL SHALL BE DARK VINYL COATED EXCEPT MOVING PARTS WHICH WILL BE SPRAY POINTED. PAINT SHALL MATCH COATING FOR FENCE AND GATE.

3 SPLIT RAIL (WOOD) FENCE WITH SAFETY WIRE

NO SCALE



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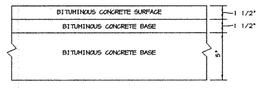
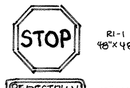


HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

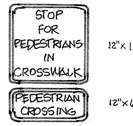
P-3 PAVING

NO SCALE



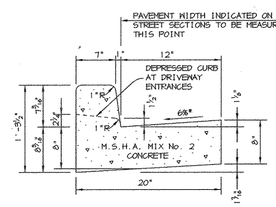
STOP SIGN/ PEDESTRIAN SIGN DETAIL

NOT TO SCALE



PEDESTRIAN CROSSING SIGN DETAIL

NOT TO SCALE

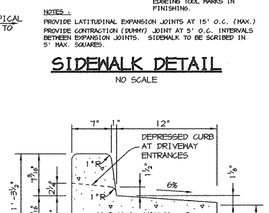


HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

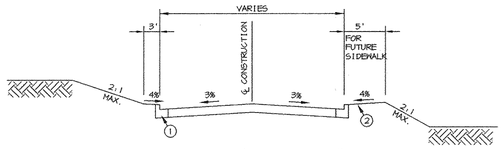
STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE



REVERSE 7" COMBINATION CURB AND GUTTER

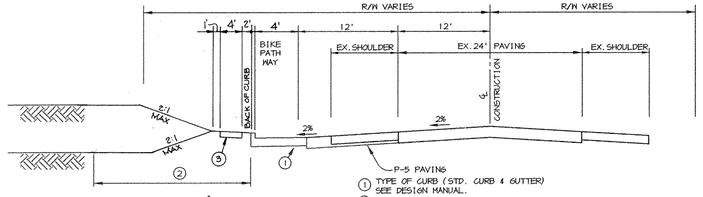
NO SCALE



① TYPE OF CURB (STD. CURB & GUTTER) SEE DESIGN MANUAL.
② INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION - DRIVE LANE

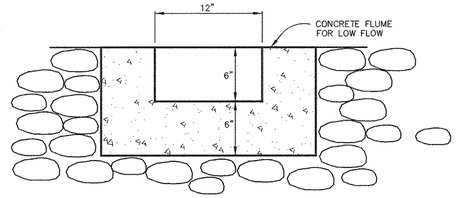
NO SCALE



① TYPE OF CURB (STD. CURB & GUTTER) SEE DESIGN MANUAL.
② INDICATES 2" TOPSOIL, SEED AND MULCH.
③ 4" CONCRETE SIDEWALK

TYPICAL SECTION CENTENNIAL LANE

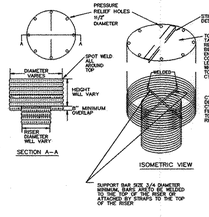
NO SCALE



PILOT CHANNEL DETAIL @ HW-4

NO SCALE

DETAIL 16 – CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE



DETAIL 16 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (continued)

Riser Diam., in.	Trash Rack Cylinder Diam., in.	Trash Rack Cylinder Thick., in.	H, in.	Minimum Size Support Bar	Minimum Top Thickness	Stiffener
12	18	16	6	#6 Rebar	16 ga.	---
15	21	16	7	"	"	---
18	27	16	8	"	"	---
21	30	16	11	"	"	---
24	36	16	13	"	14 ga.	---
27	42	16	15	"	14 ga.	---
36	54	14	17	#8 Rebar	12 ga.	---
42	60	14	19	"	"	---
48	72	12	21	1-1/4" abe or 1-1/4 x 1-1/4 x1/4 angle	10 ga.	---
54	78	12	25	"	"	---
60	90	12	29	1-1/2" abe or 1-1/2 x 1-1/2 x1/4 angle	8 ga.	---
66	96	10	33	2" abe or 2x2x5/16 angle	8 ga. w/stiffener	2x2x1/4 angle
72	102	10	36	"	"	2-1/2x2-1/2x1/4 angle
78	114	10	39	2-1/2" abe or 2x2x1/4 angle	"	"
84	120	10	42	2-1/2" abe or 2-1/2x2-1/2x1/4 angle	"	2-1/2 x2-1/2x 5/16 angle

Note: The above trash rack and anti-vortex device information is only for corrugated metal pipe. Concrete risers must meet the requirements of MD 378.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 18 - 26 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 19 - 264 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

"Conditions and Management Practices for Working In Nontidal Wetlands and Buffers"

a) Remove excavated material, construction material or debris to an upland disposal area outside of any waterway, floodplain, nontidal wetland, or buffer;

b) If backfill is obtained, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.

c) Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland;

d) Maintain the hydrologic regime of nontidal wetlands outside the limits of disturbance.

e) Rectify any nontidal wetlands and buffers temporarily impacted by the permitted activity. All stabilization in the wetland and buffer shall be of the following recommended species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Oats (Uniola sp.), and/or Rye (Secale cereale). Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. Kentucky 31 fescue shall not be utilized in the wetland or buffer. All temporary fills shall be removed in their entirety on or before the completion of construction;

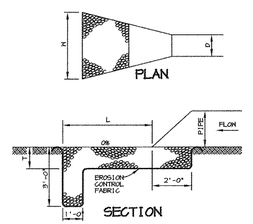
f) To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:

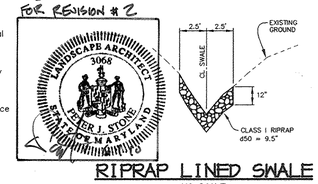
Use I Waters. In-stream work may not be conducted during the period March 1 – June 15 inclusive, during any year.

g) No removal of vegetation, grading, filling, draining or other alteration of the nontidal wetlands or buffer outside the limits of disturbance shall occur without written authorization from the Water Management Administration.

CROSSWALK DETAIL

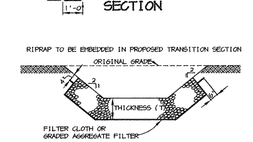
NOT TO SCALE





RIPRAP LINED SWALE

NO SCALE



SECTION A-A

NOTE: q_p , V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

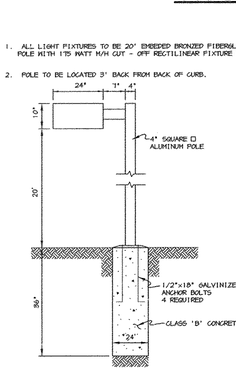
STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	q_w (CFS)	V_p (FPS)	DEPTH (FT)
E-1	9.5" (CL I)	12'	14'	19"	6.6	5.4	0.6
E-2	9.5" (CL I)	12'	14'	19"	–	–	–
E-3	9.5" (CL I)	12'	15'	19"	2.7	2.2	0.2
E-4	9.5" (CL I)	12'	14'	19"	14.1	9.8	0.92
E-5	9.5" (CL I)	15'	17'	19"	4.2	10.9	0.44
E-6	9.5" (CL I)	16'	18'	19"	1.0	7.1	0.21
E-7	16" (CL II)	16'	18.5'	32"	20.8	22.0	0.63
E-8	9.5" (CL I)	12'	14'	19"	0.6	8.2	0.15
E-9	16" (CL II)	16'	18'	19"	10.3	16.6	0.50
					q_{100}	V_p	DEPTH
HW-1	16" (CL II)	22'	15'	32"	–	11.17	1.72
HW-2	16" (CL II)	20'	18'	32"	–	–	–
HW-3	16" (CL II)	30'	32'	32"	–	16.9	2.12
HW-4	16" (CL II)	19'	30'	32"	–	–	–

RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

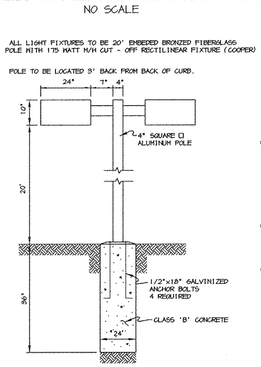
CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED AMETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT SHALL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.



LIGHT POLE DETAIL

NO SCALE



DUAL LIGHT POLE DETAIL

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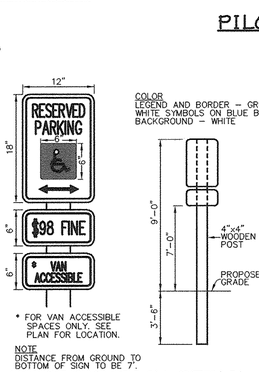
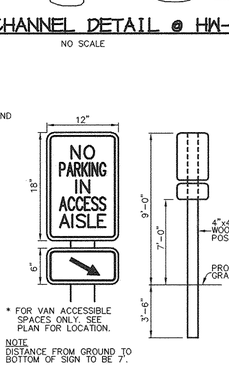


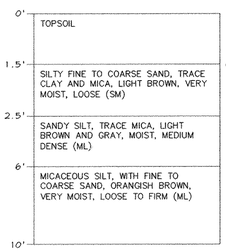
HANDICAP SIGN DETAIL

NO SCALE



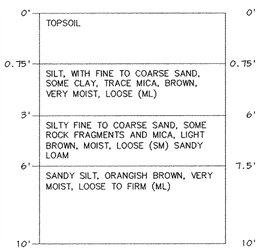
ACCESS AISLE SIGN

NO SCALE



BORING B-1

NO SCALE



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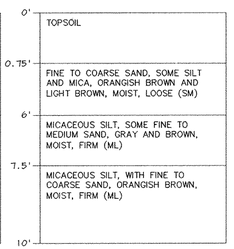
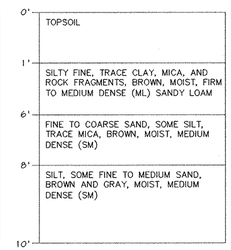


BORING B-3

NO SCALE



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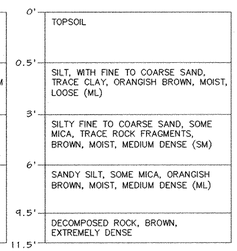
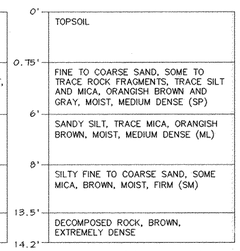


BORING B-5

NO SCALE



BORING B-6

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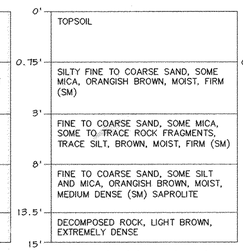
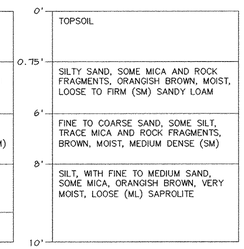


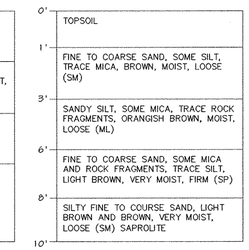
BORING B-7

NO SCALE



BORING B-8

NO SCALE



BORING B-9

NO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMINICK W. COLOMBO — 27200 — REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLOMBO #27200 — 8/1/07 DATE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — 3/1/03 DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — 3.12.03 DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 5/25/03 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 5/25/03 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 4/11/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 4/11/03 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 4/9/03 DATE

DATE	NO.	REVISION
5-28-10	2	ADDED SIGN AND CROSSWALK DETAILS
10-7-04	1	REVISED TYPICAL SECTION CENTENNIAL LANE

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT

SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 DETAILS5.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	18 OF 61-77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\DETAILS5.dwg, Model, 03/07/2003 12:48:14 PM, HP750C(36).pc3, User1308, 1:40

MD-378 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS

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

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 sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless 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 cleared.

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.

EARTH FILL

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 cut off trench shall conform to Unified Soil Classification GC, 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.

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 into the embankment.

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 a minimum 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 be so wet that water can be squeezed out.

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

Cutoff 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 compacted with construction equipment, rollers, or hand tampers to assure maximum density and maximum permeability.

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.

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 a 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 2000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to 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 assure 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 adjoinig soil fill shall be placed in horizontal layers not to exceed four inched 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 that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS

All pipes shall be circular in cross section.

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

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10mil) 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 coupling bands or flanges.

   Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or 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 one coat of zinc chromate primer or two coats of asphalt.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to to the requirements of AASHTO Specifications M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or 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. 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 mat be used for connections. the pH of the surrounding soils shall be betwwen 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coted as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at at least 24 mils in thickness.

3. 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 band width. The following type connections are acceptable for pipes less than 24" in diameter; flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide standard lap type band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe ends. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch on the end of each pipe. Flanged joints with 3/8 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 caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill."

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All 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 side 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 stanard. Gravel bedding is not permitted.

3. 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 line, 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.

4. Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for pipe:

1. 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 M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to Structure "Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

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 921.09, Class C.

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 removal of water from the 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 the 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 of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting 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 to sumps from which the water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms 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.

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.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

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, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments : Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding : For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 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, or use sod.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

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, discing or other acceptable means before seeding, if not previously loosened.

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. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding : For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 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 (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options :

1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.

2) Use sod.

3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance : Inspect all seeded areas and make needed repairs, replacements and reseedings.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND SHOWN HEREON SHALL BE PERFORMED AT LEAST ONCE ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATION FOR PONDS" (MD378). THE POND OWNER AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

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 purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

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. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

   I. 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 materials larger than 1½" in diameter.

   II. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

   III. Where 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.

II. For sites having disturbed areas under 5 acres:
   I. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

   I. On soil 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 500 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 to 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 diversions, 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, albeit 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 site having disturbed areas under 5 acres shall conform to the following requirements:
      a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 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.
      d. 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.

GEOTECHNICAL RECOMMENDATIONS FOR EMBANKMENT CONSTRUCTION

EARTHWORK OPERATIONS

SUBGRADE PREPARATION

SUBGRADE PREPARATION SHOULD GENERALLY INCLUDE THE STRIPPING OF ANY TOPSOIL AND OTHER SOFT OR UNSUITABLE MATERIALS FROM THE SWM FACILITIES AREAS. CAUTION SHOULD BE TAKEN WHEN STRIPPING TOPSOIL NOT TO MIX TOPSOIL WITH THE LOOSE SURFACE SOILS. IF MIXING OF THE TOPSOIL OCCURS THE UNDERLYING SOILS WILL BECOME UNSUITABLE FOR CONSTRUCTION. IN NON-STRUCTURAL FILL AREAS IT MAY BE POSSIBLE TO LEAVE THE TOPSOIL LAYER IN PLACE PROVIDED THAT THE EXPOSED SUBGRADE IS FIRM AND STABLE FOR THE PLACEMENT OF NON-STRUCTURAL FILL OVER THE TOPSOIL. THE ACTUAL DEPTHS, QUANTITIES, AND QUALITY OF SURFACE MATERIALS MUST BE DETERMINED DURING THE STRIPPING OPERATIONS.

PRIOR TO PLACING ANY FILL MATERIALS, THE EXPOSED SUBGRADE SOILS SHOULD BE EXAMINED BY AN EXPERIENCED GEOTECHNICAL ENGINEER OR AND AUTHORIZED REPRESENTATIVE. THE EXPOSED SOILS SHOULD BE THOROUGHLY PROOFROLLED BY A VEHICLE HAVING AN AXLE WEIGHT OF AT LEAST 10 TONS, SUCH AS A LOADED TANDEM-AXLE DUMP TRUCK. THIS PROCEDURE IS INTENDED TO ASSIST IN IDENTIFYING ANY LOCALIZED LOOSE OR YIELDING MATERIALS.

FILL PLACEMENT

THE EARTHWORK OPERATIONS WILL CONSIST OF CUTS ON THE ORDER OF 1 FOOT TO 10 FEET AND FILLS ON THE ORDER OF 2 FEET TO 20 FEET IN THE PROPOSED POND No.1, POND No.2 AND POND No.3 AREAS, PRIOR TO PLACEMENT OF COMPACTED FILL, REPRESENTATIVE BULK SAMPLES (ABOUT 50 POUNDS) SHOULD BE TAKEN OF THE PROPOSED FILL SOILS AND LABORATORY TESTS SHOULD BE CONDUCTED TO DETERMINE ATTERBERG LIMITS, NATURAL MOISTURE CONTENT, GRAIN-SIZE DISTRIBUTION, AND MOISTURE-DENSITY RELATIONSHIPS FOR COMPACTION. PROPER MONITORING OF NEWLY PLACED FILL WITH RESPECT TO LIFT THICKNESS AND COMPACTION OF EACH LIFT IS ESSENTIAL AT THIS SITE. THE FOLLOWING PARAGRAPHS DETAIL OUR RECOMMENDATIONS REGARDING THE COMPACTED FILL REQUIREMENTS.

UPON ACHIEVING COMPETENT SUBGRADE MATERIALS, WHICH WILL NECESSITATE THE REMOVAL OF THE SURFACE TOPSOIL, TREES AND ROOT SYSTEMS AND ANY OTHER SUBSURFACE FEATURE, APPROVED CONTROLLED COMPACTED ENGINEERED FILL MAY BE PLACED TO REACH PLANNED GRADES. ENGINEERED FILL FOR THE PONDS SHOULD CONSIST OF SOILS CLASSIFIED AS CL, ML, SC, OR GC PER ASTM D 2487 WITH AT LEAST 30 PERCENT PASSING THE No. 200 SIEVE AND A MINIMUM PLASTICITY INDEX OF 10. IF SUFFICIENT QUANTITIES OF THESE FILL MATERIALS ARE NOT AVAILABLE, THEN THE DAM SHOULD BE DESIGNED AND CONSTRUCTED AS A ZONED EMBANKMENT DAM WITH A SHELL AND IMPERVIOUS CORE. THE IMPERVIOUS CORE SHOULD CONSIST OF SOILS CLASSIFIED AS CH, MH, CL, ML, SC, OR GC PER ASTM D 2487 AND HAVE AT LEAST 30 PERCENT PASSING THE No.200 SIEVE AND PLASTICITY INDEX GREATER THAN 10. COMPACTED FILL TO BE USED FOR THE SHELL SHOULD CONSIST OF SOILS CLASSIFIED AS CL, ML, SC OR SM PER ASTM D 2487 AND HAVE AT LEAST 10 PERCENT PASSING THE No.200 SIEVE. IN ADDITION A CUT-OFF TRENCH PER NRCS SHOULD BE PROVIDED. COMPACTED FILL FOR THE CUT-OFF TRENCH SHOULD MEET THE SAME REQUIREMENTS AS THE IMPERVIOUS CORE. UNACCEPTABLE FILL MATERIALS INCLUDE TOPSOIL AND ORGANIC MATERIALS (OH, OL). ALL SUCH MATERIALS REMOVED DURING GRADING OPERATIONS SHOULD BE EITHER STOCKPILED FOR LATER USE IN LANDSCAPE FILLS, OR PLACED IN APPROVED DISPOSAL AREAS EITHER ON SITE OR OFF SITE. ALL OTHER SOIL MATERIALS NOT EXCLUDED ABOVE ARE ACCEPTABLE FOR REUSE AS FILL. ALL FILL SHOULD BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE ECS ORIGINAL REPORT DATED JUNE 8, 2001. ALL EMBANKMENT SLOPES AND EMBANKMENT TOPS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH MD-378 GUIDELINES.

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 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).

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.

6. 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.

7. SITE ANALYSIS:

TOTAL AREA OF SITE	52.47 ACRES
AREA DISTURBED	41.5 ACRES
AREA TO BE ROOFED OR PAVED	4.2 ACRES
AREA TO BE VEGETATIVELY STABILIZED	37.3 ACRES
TOTAL CUT	156600 CU. YARDS
TOTAL FILL	156600 CU. YARDS

OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10. 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.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.

13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.

14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND WETLANDS PERMIT. ENSURE THAT THE MDE REPRESENTATIVE IS NOTIFIED FIVE (5) DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING AND START OF WORK.

2. STREAM WORK IS PROHIBITED FROM MARCH 1 TO JUNE 15 INCLUSIVE OF ANY YEAR.

3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, TREE PROTECTION FENCE ON PARCEL B AND STREAM DIVERSION NEEDED FOR ACCESS TO CONSTRUCT SEDIMENT BASINS.
IF ACCESS IS DESIRED DURING STREAM CLOSURE PERIOD CONTRACTOR IS TO USE EXISTING STREAM CROSSING DRIVEWAY. CONTRACTOR CAN PERFORM GRADING IN FILL AREAS UPHILL OF BASINS WITH EXCAVATED MATERIAL FROM THE BASINS. REMAINDER OF SILT FENCE, TRAPS, AND DIKES DOES NOT NEED TO BE INSTALLED PRIOR TO BASIN WORK HOWEVER IT CAN BE INSTALLED CONCURRENTLY (4 WEEKS).

4. UPON ACCEPTANCE BY THE COUNTY INSPECTOR CONTRACTOR TO PROCEED WITH ROUGH GRADING OF ENTIRE SITE. CONTRACTOR TO PROVIDE DUST CONTROL AS NECESSARY.

5. AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM DRAINS, WATER, AND SEWER. (10 WEEKS)

6. INSTALL CURB AND GUTTER AND PAVE ROADWAYS. (6 WEEKS)

7. ONCE STORM DRAIN SYSTEM AND CURB AND GUTTER HAVE BEEN INSTALLED TO SEDIMENT BASIN #3 AND UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, TRAP #1 CAN BE REMOVED. (2 DAYS)

8. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)

9. PERFORM FINE GRADING, LANDSCAPING, LIGHTING AND SIDEWALKS. (8 WEEKS)

10. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND CONVERT SEDIMENT BASINS TO PERMANENT STORM WATER MANAGEMENT FACILITIES. CONVERT FACILITIES IN THE FOLLOWING STEPS:
    A. CLEAN STORM DRAIN INLETS AND FLUSH OUT PIPES. (5 DAYS)
    B. PUMP OUT STANDING WATER IN BASIN USING PUMPING STATION. (2 DAYS)
    C. REMOVE TEMPORARY DRAW DOWN DEVICE AND PLYWOOD. (1 DAY)
    D. INSTALL POND DRAIN AND ORIFICE PLATES. (3 DAYS)
    E. REMOVE ACCUMULATED SEDIMENT. (2 DAYS)
    F. STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 DAYS)

OPERATION AND MAINTENANCE SCHEDULE
OF PRIVATELY OWNED AND MAINTAINED
STORMWATER MANAGEMENT FACILITY
EXTENDED DETENTION POND

ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.
2. Sediment should be removed when its accumulation significantly reduces the design storage, interfere with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.

AS-BUILT CERTIFICATION

DOMENICK W. COLANGELO #27200 — DATE 8/1/07

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 3/11/03

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/25/03

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/25/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA
TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652 - 15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL NOTES

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 DETAILS3.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 19 OF 77

SDP-02-75

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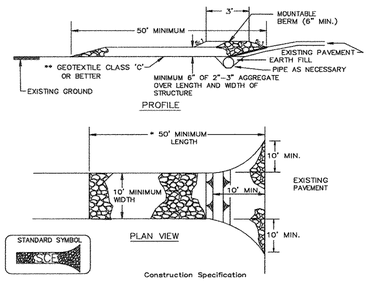
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).

2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.

3. 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.

4. 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.

5. 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 SCE 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.

6. 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.

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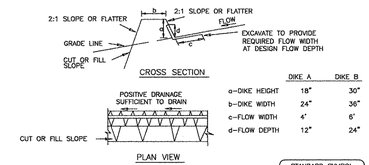
DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

STANDARD SYMBOL A-2 B-3

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" – 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

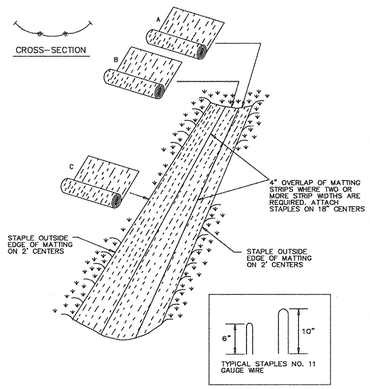
6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after each rain event.

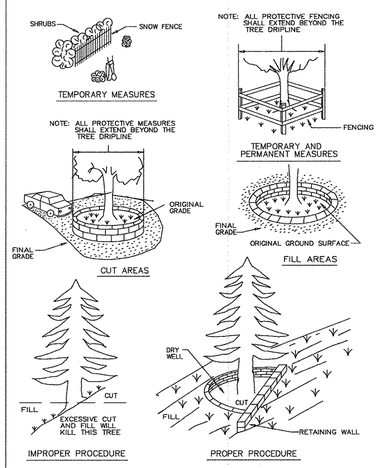
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



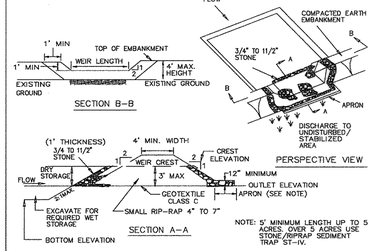
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 20 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 31 - TREE PROTECTION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 29 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



NOTE: 5' MINIMUM LENGTH UP TO 5 ACRES, OVER 5 ACRES USE STONE/RIPRAP SEDIMENT TRAP ST-IV.

Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

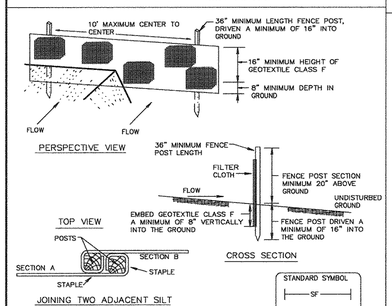
3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 5 - 10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" 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 pond per linear foot.

2. 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:

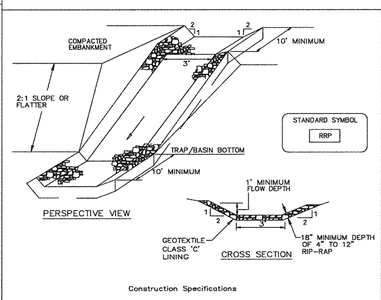
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. 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 E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 - RIP-RAP INFLOW PROTECTION



Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".

2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.

3. Entrance and exit sections shall be installed as shown on the detail section.

4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.

5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.

6. Rip-rap should blend into existing ground.

7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

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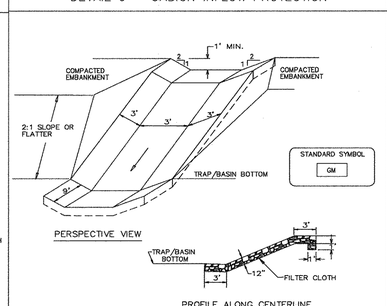
DETAIL 6 - GABION INFLOW PROTECTION



Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

2. Geotextile Class C shall be installed under all gabion baskets.

3. The stone used to fill the gabion baskets shall be 4" – 7".

4. Gabions shall be installed in accordance with manufacturers recommendations.

5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

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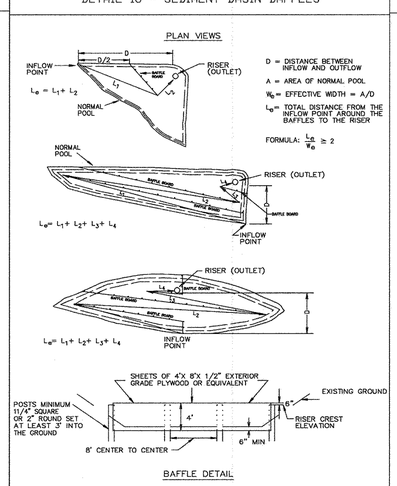
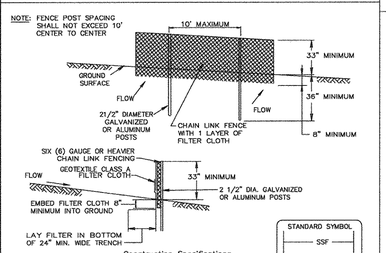
DETAIL 18 - SEDIMENT BASIN BAFFLES



BAFFLE DETAIL

DETAIL 33 - SUPER SILT FENCE



Construction Specifications

1. 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" fabric and 6 foot length posts.

2. The posts do not need to be set in concrete.

3. 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 fencing shall be six (6) gauge or heavier.

4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

5. Filter cloth shall be embedded a minimum of 8" into the ground.

6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.

7. Maintenance shall be performed as needed and silt bulldups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

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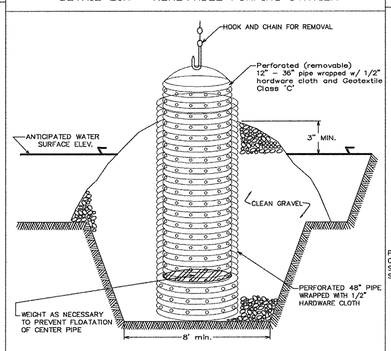
DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or small, 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.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. 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 C.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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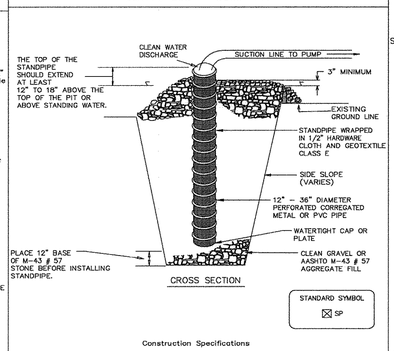
DETAIL 20B - SUMP PIT



Construction Specifications

1. Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.

2. The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with 1/2" hardware cloth and Geotextile Class E. The perforations shall be 1/2" x 6" slits or 1" diameter holes.

3. A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the some filter material.

4. The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

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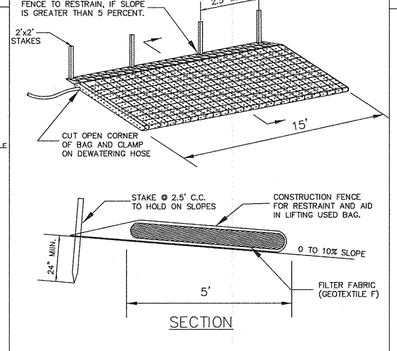
FILTER BAG

TEMPORARY EROSION CONTROL MEASURE (FB)

DRAWN BY:	C.J.R.
CHECKED BY:	
SCALE:	NONE
	FB



NOTES:

1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC 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/FT²/MINUTE (MAX.)	TEST: MSMT 322
FILTER EFFICIENCY	75% (MIN.)	TEST: MSMT 322

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30.0 - DUST CONTROL

DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

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" 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 THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS – SOLID BOARD FENCES, SILT 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 RATES 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 EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

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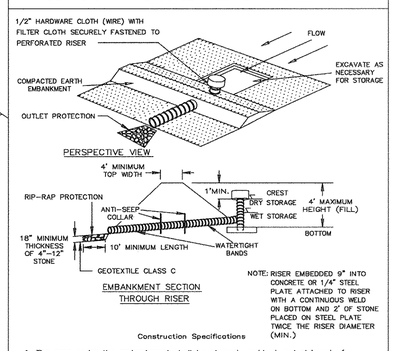
DETAIL 8 - PIPE OUTLET SEDIMENT TRAP - ST I



NOTE: RISER EMBEDDED 9" INTO CONCRETE OR 1/4" STEEL PLATE ATTACHED TO RISER WITH A CONTINUOUS WELD ON BOTTOM AND 2' OF STONE PLACED ON STEEL PLATE TWICE THE RISER DIAMETER (MIN.)

Construction Specifications

1. The area under the embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be 1' above the riser crest elevation.

4. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap (900cf/ac). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.

5. The structure shall be inspected periodically and after each rain and repairs made as necessary.

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AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 01/1/03 DATE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — 3/1/03 DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — 3.12.03 DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 3/25/03 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 3/25/03 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 4/1/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 4/1/03 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 4/8/03 DATE

DATE	NO.	REVISION

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT

SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO.	00287 DETAILS1.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	20 OF 61-77

SDP-02-75

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DETAIL 4 - PIPE SLOPE DRAIN

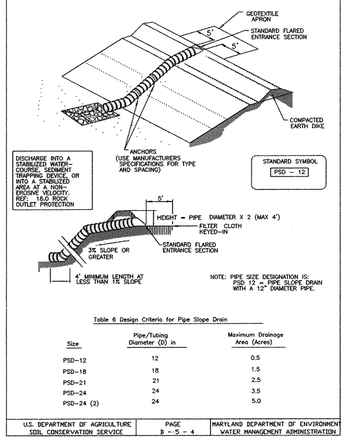

Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

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PIPE SLOPE DRAIN

Construction Specifications – Pipe Slope Drain

1. The Pipe Slope Drain (PSD) shall have a slope of 3 percent or steeper.

2. The top of the earth dike over the inlet pipe shall be at least 2 times the pipe diameter measured at the invert of the pipe.
pipe.

3. Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.
pipe.

4. A flared end section shall be attached to the inlet end of pipe with a watertight connection. Filter cloth shall be placed under the inlet of the pipe slope drain and shall extend out 5' from the inlet. The filter cloth shall be "keyed in" on all sides.
pipe.

5. The Pipe Slope Drain shall be securely anchored to the slope by staking at the grommets provided. Spacing for anchors shall be as provided by manufacturer's specification. In no case shall less than two (2) anchors be provided, equally spaced along the length of pipe. These details should be provided by pipe suppliers.
pipe.
pipe.

6. The soil around and under the pipe and end section shall be hand tamped in 4 inch lifts to the top of the earth dike.

7. All pipe connections shall be watertight.

8. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible then the slope drain will discharge into a stable conveyance that leads to a sediment trap or basin. When discharging into a trap or basin the PSD shall discharge at the same elevation as the wet pool elevation. The discharge from the PSD must be as far away from the sediment control outlet as possible.

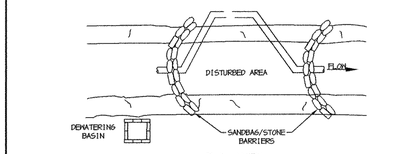
9. When the drainage area is stabilized, the PSD shall discharge onto a stabilized area at a non-erosive velocity.

10. Inspection and any required maintenance shall be performed periodically and after each rain event.

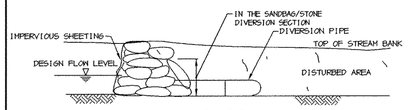
11. The inlet must be kept open at all times.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 5 - 4A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION
DETAIL 1.4 : DIVERSION PIPE



PLAN VIEW



LONGITUDINAL SECTION VIEW

MGWC 1.4: DIVERSION PIPE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing flow diversion pipes in combination with sandbag or stone diversions when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

Diversion pipes with an inefficient flow capacity can cause the channel diversion to fail thereby resulting in severe erosion of the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low flow.

MATERIAL SPECIFICATIONS

Materials for stream diversions should meet the following requirements:

- *Riprap:* Stone should be washed and have a minimum diameter of 6 inches (15 centimeters).
- *Sandbags:* Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- *Sheeting:* Sheeting should consist of polyethylene or other material which is impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES

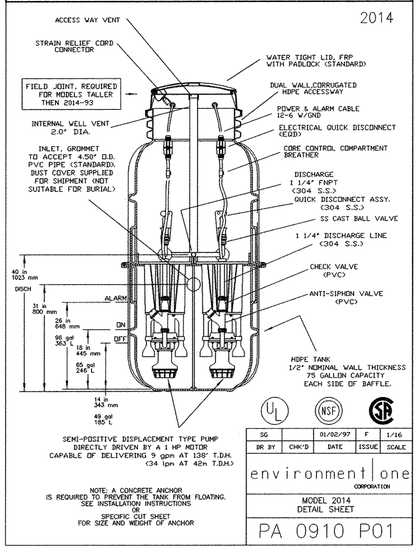
All erosion and sediment control devices including mandatory dewatering basins should be installed as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during low flow conditions. If necessary, silt fences or straw bales should be installed around the perimeter of the work area.

Diversion pipes with sandbag or stone barriers should be completed as follows (refer to Detail *1.4*):

1. Sandbag/stone barriers should be sized and installed as detailed in MGWC 1.5: Sandbag/Stone Diversion. The materials should be sized to withstand baseflow velocities.
2. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
3. Sediment-laden water from the construction area should be pumped to a dewatering basin.
4. The diversion pipe should have a minimum capacity sufficient to convey the 2-year flow for projects with a duration of two weeks or greater. For projects of shorter duration, the capacity of the pipe can be reduced accordingly.
5. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.
6. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal.

TEMPORARY INSTREAM CONSTRUCTION MEASURES — *MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000*

PAGE 1.4 - 1



SEMI-POSITIVE DISPLACEMENT TYPE PUMP DIRECTLY DRIVEN BY A 1 HP MOTOR CAPABLE OF DELIVERING 9 gpm AT 138' T.D.H. (34 lpm AT 42m T.D.H.)

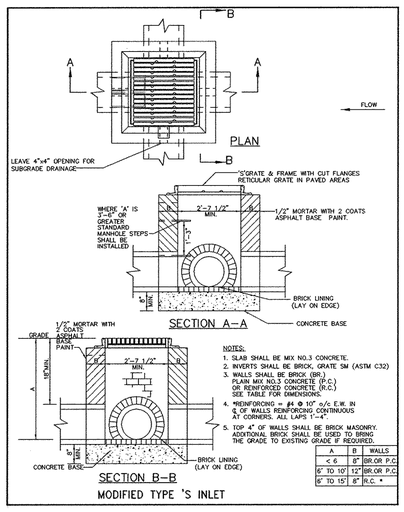
NOTE: A CONCRETE ANCHOR IS REQUIRED TO PREVENT THE TANK FROM FLOATING. SEE INSTALLATION INSTRUCTIONS OR SPECIFIC CUT SHEET FOR SIZE AND WEIGHT OF ANCHOR

SG		01/02/97	F.	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

environment one CORPORATION

MODEL 2014 DETAIL SHEET

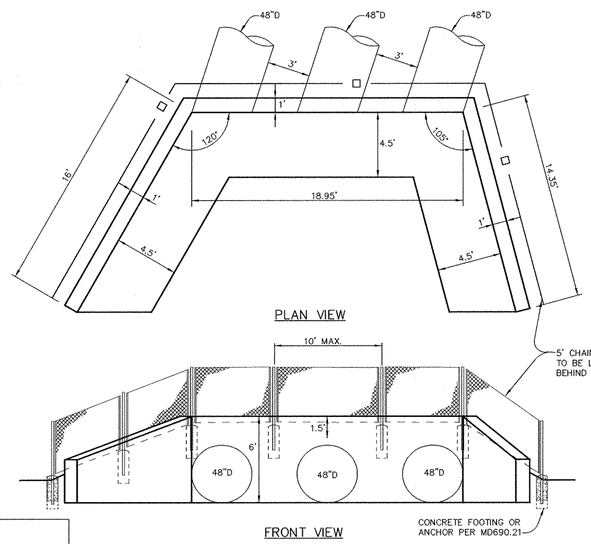
PA 0910 P01



NOTES:
1. SLAB SHALL BE MIX NO.3 CONCRETE.
2. INVERTS SHALL BE BRICK, GRATE SM (ASTM C32)
3. WALLS SHALL BE BRICK (BR.) PLAIN MIX NO.3 CONCRETE (P.C.) OR REINFORCED CONCRETE (R.C.) SEE TABLE FOR DIMENSIONS.
4. *REINFORCING = #4 @ 10" o/c E.W. IN 8" OF WALLS REINFORCING CONTINUOUS AT CORNERS. ALL LAPS 1'-4"
5. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRADE TO EXISTING GRADE IF REQUIRED.

A	B	WALLS
< 6	8"	BR.OR P.C.
6' TO 10'	12"	BR.OR P.C.
6' TO 15'	8"	R.C. *

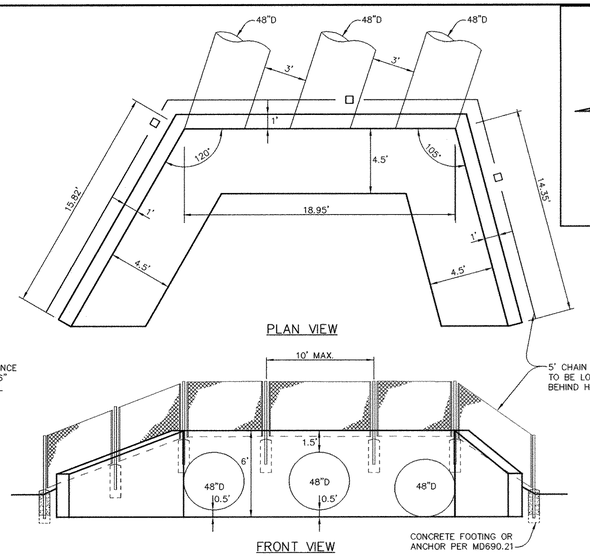
MODIFIED TYPE 'S INLET



HEADWALL 3

SCALE: 1" = 5'

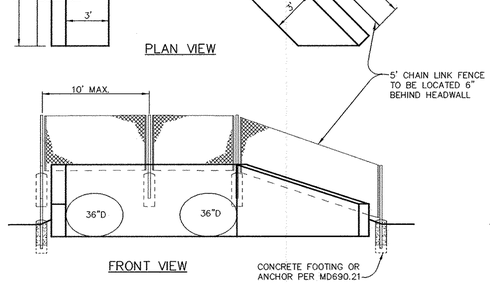
SEE HO.CO. STANDARD DETAIL SD-5.11 TYPE 'A' HEADWALL (48"D) FOR DIMENSIONS AND REBAR LAYOUT UNLESS OTHERWISE NOTED.



HEADWALL 4

SCALE: 1" = 5'

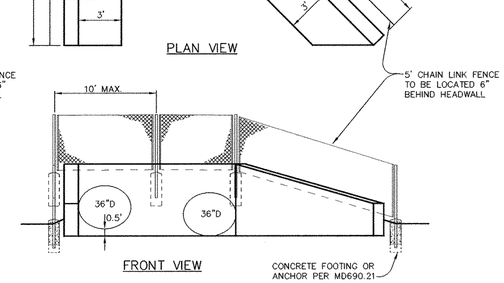
SEE HO.CO. STANDARD DETAIL SD-5.11 TYPE 'A' HEADWALL (48"D) FOR DIMENSIONS AND REBAR LAYOUT UNLESS OTHERWISE NOTED.



HEADWALL 1

SCALE: 1" = 5'

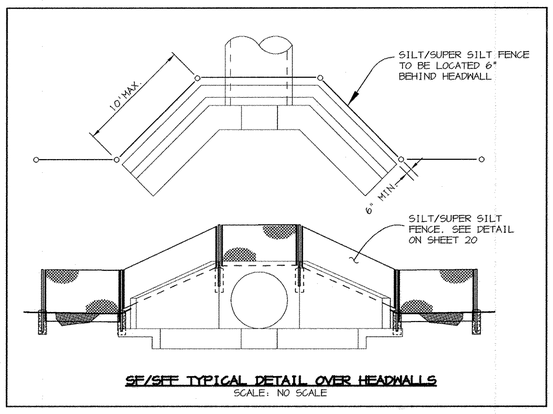
SEE HO.CO. STANDARD DETAIL SD-5.11 TYPE 'A' HEADWALL (36"D) FOR DIMENSIONS AND REBAR LAYOUT UNLESS OTHERWISE NOTED.



HEADWALL 2

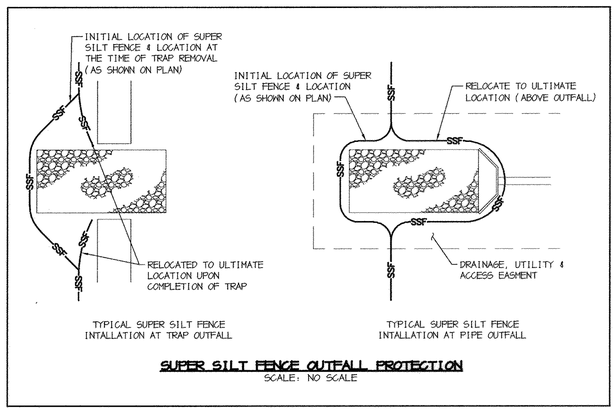
SCALE: 1" = 5'

SEE HO.CO. STANDARD DETAIL SD-5.11 TYPE 'A' HEADWALL (36"D) FOR DIMENSIONS AND REBAR LAYOUT UNLESS OTHERWISE NOTED.



SF/SFF TYPICAL DETAIL OVER HEADWALLS

SCALE: NO SCALE



TYPICAL SUPER SILT FENCE INTALLATION AT TRAP OUTFALL

TYPICAL SUPER SILT FENCE INTALLATION AT PIPE OUTFALL

SUPER SILT FENCE OUTFALL PROTECTION

SCALE: NO SCALE

IF MOUNTABLE BERM IS PART OF A "B" CLASS DIKE, COMPACTED EARTH MUST BE 36" MINIMUM.

MOUNTABLE BERM

SCALE: NO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8/1/07 DATE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — 3/11/03 DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — 3.12.03 DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 7/25/03 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 7/25/03 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 8/1/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 8/1/03 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT HP — 8/8/03 DATE

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 DETAILS2.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	21 OF 77

SDP-02-75

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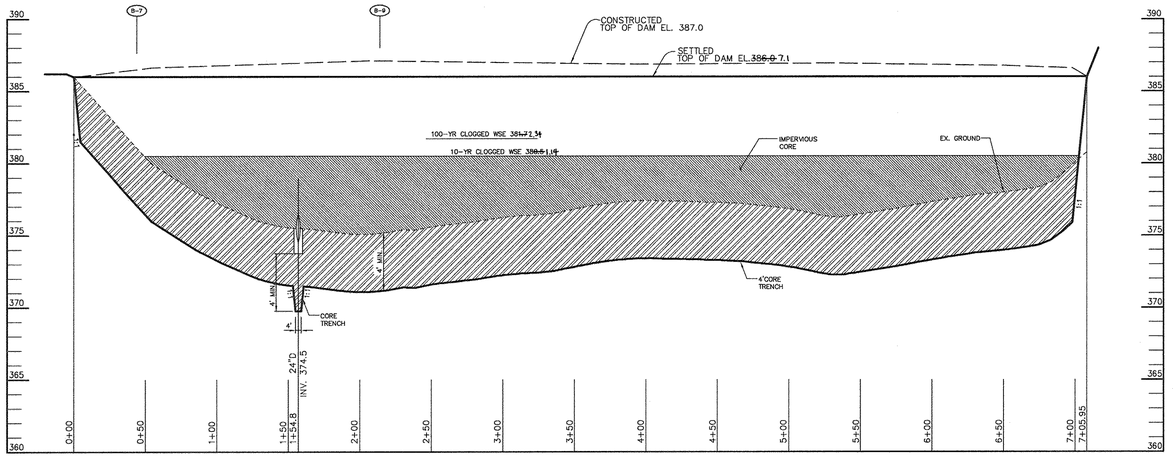
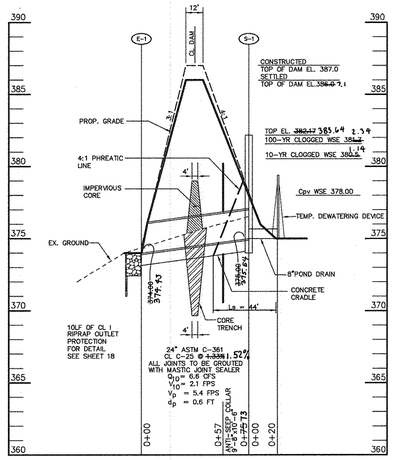


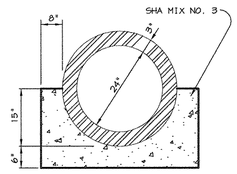
PROFILE OF CL EMBANKMENT – SWMF #1

SCALE :
HOR.–1"=50'
VERT.–1"=5'



PRINCIPAL SPILLWAY – SWMF #1

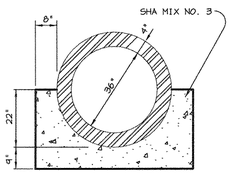
SCALE :
HOR.–1"=50'
VERT.–1"=5'



CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE FOR POND #1

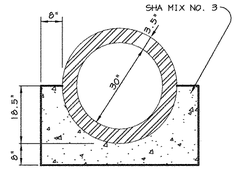
NO SCALE



CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE FOR POND #3

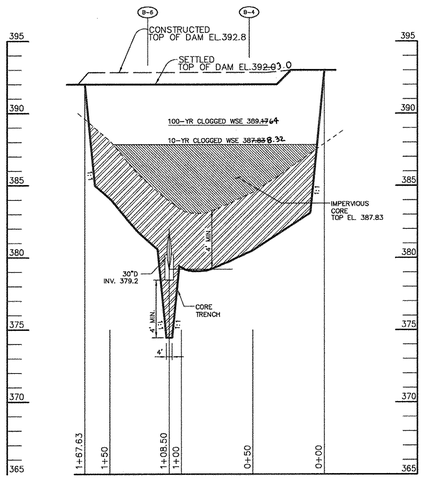
NO SCALE



CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE FOR POND #2

NO SCALE



PROFILE OF CL EMBANKMENT – SWMF #2

SCALE :
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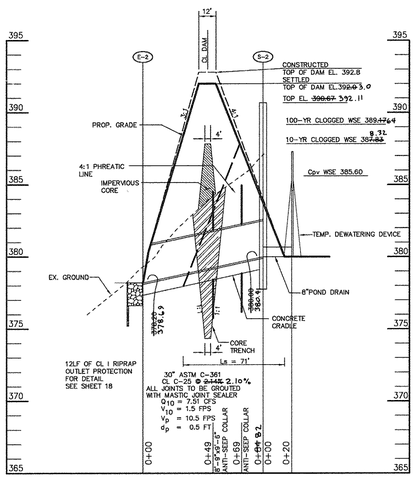
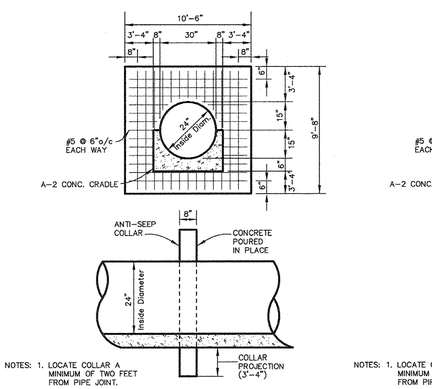
VERT.–1"=5'



PRINCIPAL SPILLWAY – SWMF #2

SCALE :
HOR.–1"=50'
VERT.–1"=5'

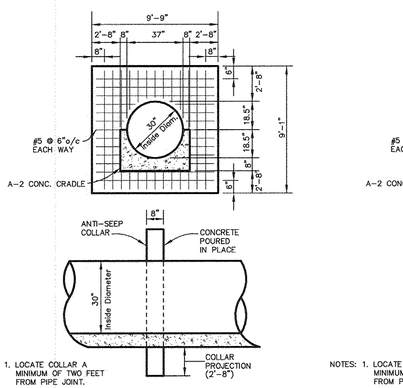


NOTES: 1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.

NOTES: 2. COLLAR/PIPE CONNECTION SHALL BE WATERTIGHT.

CONCRETE ANTI-SEEP COLLAR SWMF #1

NO SCALE

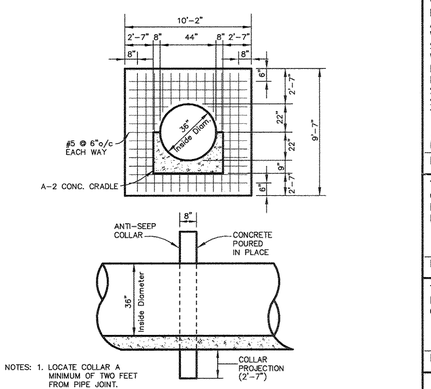


NOTES: 1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.

NOTES: 2. COLLAR/PIPE CONNECTION SHALL BE WATERTIGHT.

CONCRETE ANTI-SEEP COLLAR SWMF #2

NO SCALE

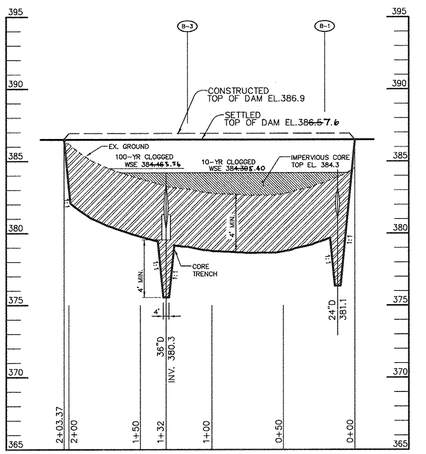


NOTES: 1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.

NOTES: 2. COLLAR/PIPE CONNECTION SHALL BE WATERTIGHT.

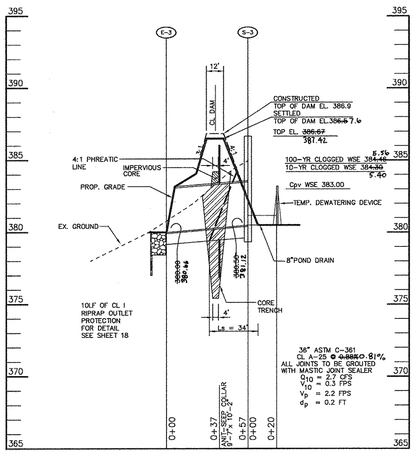
CONCRETE ANTI-SEEP COLLAR SWMF #3

NO SCALE



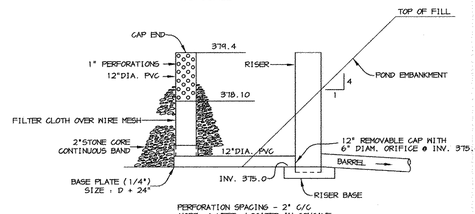
PROFILE OF CL EMBANKMENT – SWMF #3

SCALE :
HOR.–1"=50'
VERT.–1"=5'



PRINCIPAL SPILLWAY – SWMF #3

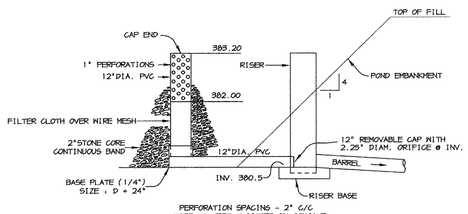
SCALE :
HOR.–1"=50'
VERT.–1"=5'



PERFORATION SPACING - 2" C/C
HORZ. & VERT. LOCATED IN CONCAVE

TEMP.SEDIMENT BASIN #1 DEWATERING DEVICE WITH 12" PERFORATED RISER

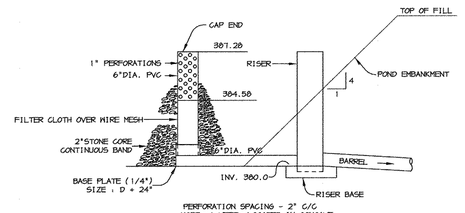
NO SCALE



PERFORATION SPACING - 2" C/C
HORZ. & VERT. LOCATED IN CONCAVE

TEMP.SEDIMENT BASIN #3 DEWATERING DEVICE WITH 12" PERFORATED RISER

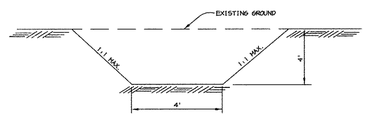
NO SCALE



PERFORATION SPACING - 2" C/C
HORZ. & VERT. LOCATED IN CONCAVE

TEMP.SEDIMENT BASIN #2 DEWATERING DEVICE WITH 6" PERFORATED RISER

NO SCALE



NOTE: GC, SC, CH, OR CL MATERIAL IS TO BE USED FOR CORE TRENCH. IF UNSUITABLE MATERIAL EXISTS ON SITE, ACCEPTABLE MATERIAL WILL NEED TO BE TRUCKED TO SITE.

CORE TRENCH DETAIL

NO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · No. 21200 · PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #21200

8.1.07
DATE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 3/11/03

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE 3.12.03

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/20/03

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/25/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT PROFILES

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.13.03
DATE

STATE OF MARYLAND · CHRISTOPHER J. REID · No. 19949 · PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 DETAILS7.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	22 OF 41

SDP-02-75

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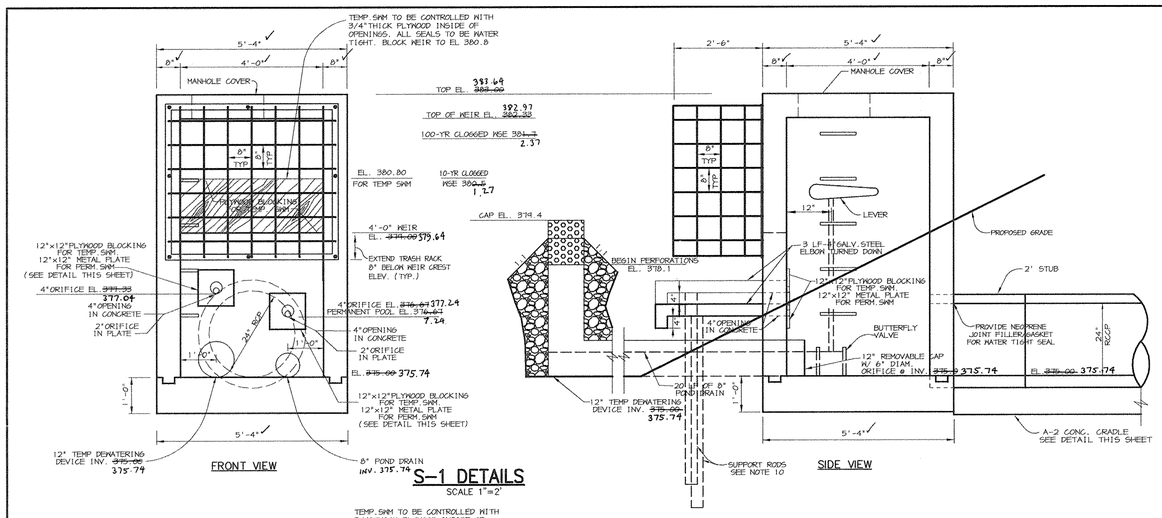
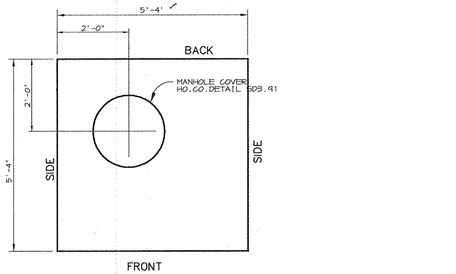
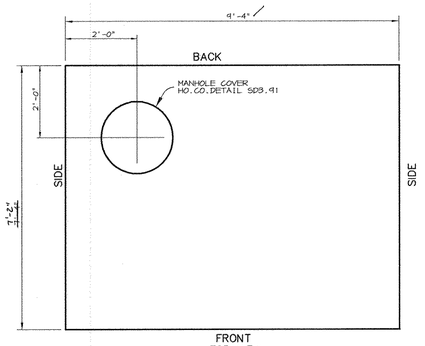
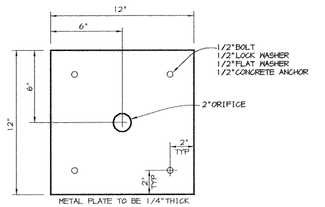


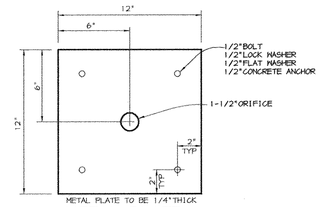






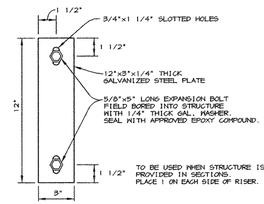
METAL PLATE
(POND 1, BOTH PLATES)
SCALE 1"=6"

GALVANIZE METAL PLATE AFTER FABRICATION AND PAINT BATTLESHIP GRAY.

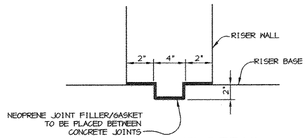


METAL PLATE
(PONDS 2 & 3)
SCALE 1"=6"

GALVANIZE METAL PLATE AFTER FABRICATION AND PAINT BATTLESHIP GRAY.



RISER JOINT FASTENER
NO SCALE



TYPICAL KEY JOINT DETAIL
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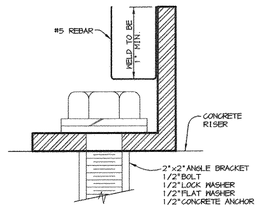


ENLARGEMENT A
NO SCALE

AS-BUILT CERTIFICATION
STATE OF MARYLAND
DOMENICK W. COLANGELO
NO. 27200
REGISTERED
PROFESSIONAL ENGINEER
DOMENICK W. COLANGELO #27200 8/1/07 DATE

RISER STRUCTURE NOTES FOR S-1,S-2 & S-3

1. RISER TO BE CAST IN PLACE. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST IN PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
2. CONCRETE SHALL BE MSHA MIX NO. 3 (fc=3,500 psi MINIMUM).
3. WHEN POND IS CONVERTED INTO A PERMANENT FACILITY, THE DRAWDOWN DEVICE HOLE SHALL BE REMOVED.
4. REFER TO HOWARD COUNTY STD. G-5.21 FOR MANHOLE STEP DETAILS.
5. RISER JOINTS SHALL BE WATERTIGHT USING NEOPRENE GASKETS.
6. ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATERTIGHTNESS.
7. RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
8. AN 8" OPEN LEFT GATE VALVE (AWWA C-153, CL. 350) SHALL BE CONNECTED TO THE RISER WITH ALL-THREADED ROD AND A FLANGE JOINT. PROVIDE A STEM EXTENSION ON THE GATE VALVE AND FIRMLY SECURE TO RISER WALL WITH BRACKET(S). PROVIDE A STANDARD VALVE BOX AND COVER IN THE TOP SLAB DIRECTLY OVERTOP THE GATE VALVE.
9. PROVIDE SUPPORT OF GALV. STEEL ELBOWS TO PREVENT SAGGING. AN ACCEPTABLE METHOD IS TO STAKE BOTH SIDES OF ELBOW WITH 1" STEEL ANGLE OR 1" BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GUAGE MINIMUM WIRE.
10. PROVIDE SUPPORT OF GALV. STEEL ELBOWS TO PREVENT SAGGING. AN ACCEPTABLE METHOD IS TO STAKEOUT BOTH SIDES OF STEEL ELBOW WITH 1" STEEL ANGLE OR 1" BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3 FEET MIN. INTO GROUND THEN JOINING THEM TO THE ELBOW BY WRAPPING WITH 12 GAUGE MIN. WIRE.

REMOVABLE TRASH RACK NOTES:

1. STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
2. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
3. ALL BENDS TO BE 2" RADIUS. 2" x 2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
4. GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.

RISER REINFORCEMENT NOTES:

1. REINFORCING TO BE #7 DEFORMED BARS @ 6" C/C, 2 WAYS, WITH 2" COVER IN TOP SLAB.
2. REINFORCING TO BE #4 DEFORMED BARS @ 6" C/C, 2 WAYS WITH 2" COVER IN WALLS AND BOTTOM SLAB.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER 3/11/03 DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Christy J Reid 3.12.03
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

3/25/03
NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

3/25/03
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 4/1/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 4/1/03 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 4/8/03 DATE

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

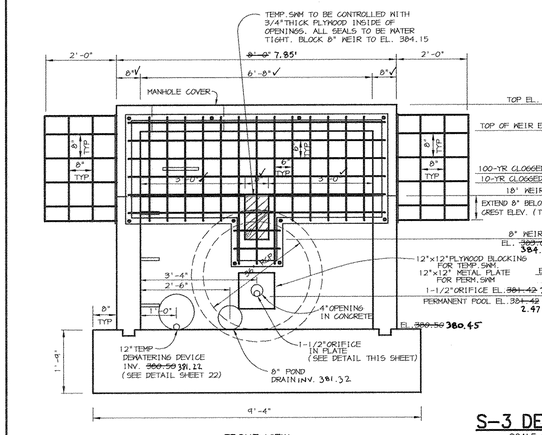
3-12-03 DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 DETAILS4.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	23 OF ~~41~~ 77

SDP-02-75



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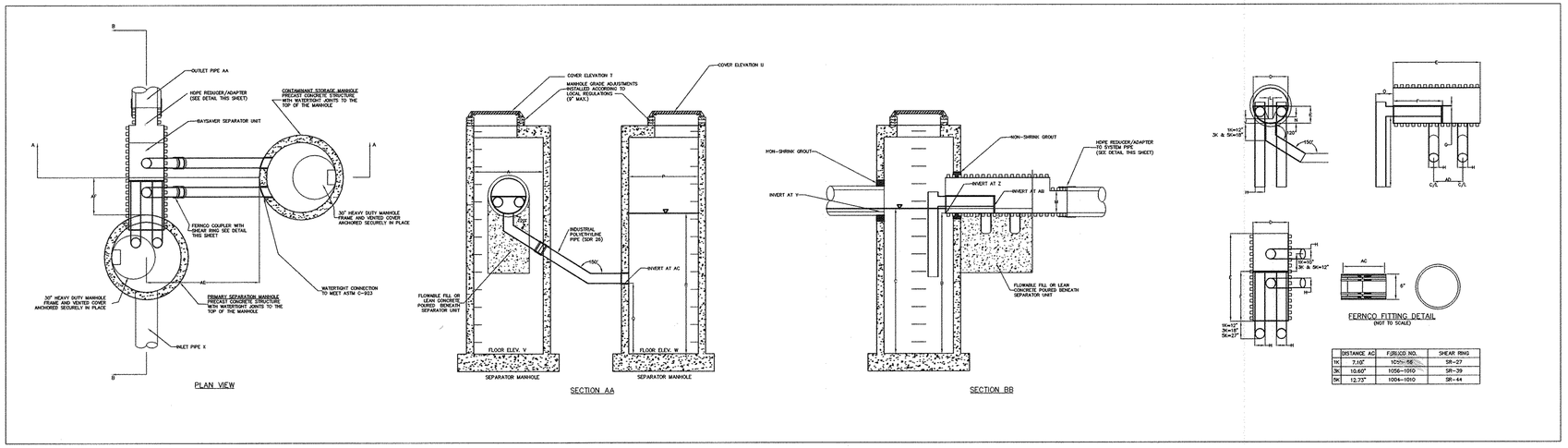


	DISTANCE AC	FERNCO NO.	SHEAR RING
1K	7.10"	1010-66	SR-27
3K	10.60"	1056-1010	SR-39
5K	12.73"	1004-1010	SR-44

BAYSAVER SYSTEM DIMENSIONS

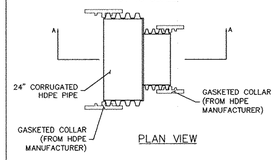
	DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
	SEPARATOR MANHOLE DIMENSIONS			
A	PRIMARY MANHOLE DIAMETER	48"	60"	72"
B	MANHOLE DEPTH BELOW OUTLET	8' – 0"	8' – 0"	8' – 0"
C	MINIMUM FLUID DEPTH	8' – 3"	8' – 4 1/2"	8' – 6"
	STANDARD SEPARATOR UNIT DIMENSIONS			
D	SEPARATOR UNIT ID	24"	36"	48"
E	SEPARATOR UNIT LENGTH	60"	78.2"	75.4"
F	BYPASS PLATE LENGTH	34"	45"	45"
G	WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"	3/4"
H	ELBOW AND CONNECTING PIPE OD	7.125"	10.75"	12.75"
I	ELBOW LENGTH	48"	48"	48"
J	WEIR HEIGHT ABOVE INVERT	3"	4"	6"
K	BYPASS PLATE HEIGHT ABOVE INVERT	12"	18"	24"
L	WIDTH OF WEIR AT BASE	3"	4 1/2"	6"
M	OUTLET PIPE DIAMETER	M	M	M
N	ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"	7 1/2"	11"
O	ELBOW PIPE OVERHANG	12"	18"	24"
	STORAGE MANHOLE DIMENSIONS			
P	STORAGE MANHOLE DIAMETER	48"	60"	72"
Q	MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"	48"
R	FLUID DEPTH	8' – 0"	8' – 0"	8' – 0"
S	TOTAL STORAGE VOLUME	200 CF	300 CF	450 CF
	SYSTEM DIMENSIONS AND ELEVATIONS			
T	SEPARATOR MANHOLE COVER ELEVATION	T	T	T
U	STORAGE MANHOLE COVER ELEVATION	U	U	U
V	SEPARATOR MANHOLE FLOOR ELEVATION	V	V	V
W	STORAGE MANHOLE FLOOR ELEVATION	W	W	W
X	INLET PIPE ID AND MATERIAL	X1 X2	X1 X2	X1 X2
Y	INLET PIPE INVERT	Y1 Y2	Y1 Y2	Y1 Y2
Z	SEPARATOR UNIT INVERT	Z	Z	Z
AA	OUTLET PIPE ID AND MATERIAL	AA	AA	AA
AB	ELBOW INVERT ELEVATION	AB	AB	AB
AC	CONNECTING PIPE INVERT ELEVATION	AC	AC	AC
AD	CONNECTION PIPE SPACING	20"	24"	24"
AE	STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"	72 ± 6"
AF	STORAGE MANHOLE DOWNSTREAM OFFSET	23"	31"	25"

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS

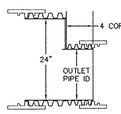
Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting.	X		X		X	
2. Install Manholes and associated storm drainage: a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction)					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final inspection.			X			

HDPE-HDPE REDUCER DETAIL

FOR USE WITH HDPE OUTLET PIPES
NOT TO SCALE



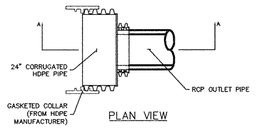
PLAN VIEW



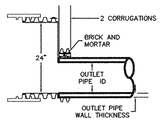
SECTION AA

REDUCER/ADAPTER DETAIL

FOR USE WITH OUTLET PIPES OTHER THAN HDPE
NOT TO SCALE



PLAN VIEW



SECTION AA

Baysaver Separator Unit	Baysaver Manhole Sizes (prim. x stor.)	Maximum Treatment (cfs)*1	Maximum Treatment (gpm)*1	Impervious Area (acres)
1K Baysaver Separator	48x48 48x50 48x72 60x60	2.4 2.4 2.4 2.4	1076 1076 1076 1076	1.2 1.4 1.6 1.5
3K Baysaver Separator	60x60 60x72 60x84 72x72	7.2 7.2 7.2 7.2	3231 3231 3231 3231	3.6 4.1 4.6 4.4
5K Baysaver Separator	72x72 72x84 72x96 96x96	11.1 11.1 11.1 11.1	4981 4981 4981 4981	5.5 6.5 7.5 8.0

NOTE:

BAYSAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES.

UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAVER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER

GENERAL CONSTRUCTION NOTES

1. ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.
2. ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.
3. KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

BAYSAVER MAINTENANCE

BAYSAVER SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYSAVER.

MAINTENANCE CONSISTS OF THE FOLLOWING:

A. CONTAMINANT STORAGE MANHOLE

1. REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.
2. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

B. PRIMARY SEPARATION MANHOLE

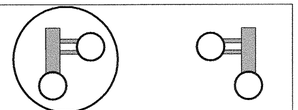
1. USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.
2. REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.
3. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
4. CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

BAYSAVER INSTALLATION INSTRUCTIONS

1. EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAVER UNIT. INSTALL PRECAST DROP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.
2. VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.
3. MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT, INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.
4. BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.
5. INSTALL BAYSAVER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.
6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.
7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.
8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

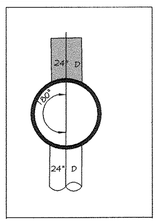
Project: SOCCER ASSOC. — CENTENNIAL LANE — COLUMBIA, MD — 21042
Designer: PHR&A
Contact: AIMEE REMINGTON
Phone: 410-997-8900
Fax: 410-997-9282
Delivery Date:
Owner: COVENANT BAPTIST — Contact: – — Address: COLUMBIA, MD. — –
Contractor:
Address:
Contact:
Phone:
Fax:

Separator Unit Model:
1K ☐
3K ■
5K ☐



Circle system orientation above

Manhole Specifications:
Primary Manhole Diameter: 60 inches
Storage Manhole Diameter: 60 inches
Floor Elevations:
Primary Manhole 388.5
Storage Manhole ~~388.5~~ 381.66
Primary Manhole Inverts:
Separator Unit ~~396.88~~ 389.75
Inlet Pipe(s) 396.88 (IN) ~~389.75~~
~~389.95~~
~~396.50~~ (OUT)



Please show orientation (including angle), size and material of inlet pipes above.

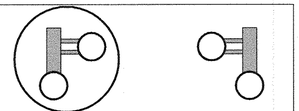
Cover Elevations:
Primary Manhole ~~406.1~~ 398.95
Storage Manhole ~~406.1~~ 399.06

WQ-1/WQ-1A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

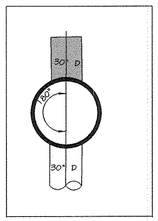
Project: SOCCER ASSOC. — CENTENNIAL LANE — COLUMBIA, MD — 21042
Designer: PHR&A
Contact: AIMEE REMINGTON
Phone: 410-997-8900
Fax: 410-997-9282
Delivery Date:
Owner: COVENANT BAPTIST — Contact: – — Address: COLUMBIA, MD. — –
Contractor:
Address:
Contact:
Phone:
Fax:

Separator Unit Model:
1K ☐
3K ■
5K ☐



Circle system orientation above

Manhole Specifications:
Primary Manhole Diameter: 60 inches
Storage Manhole Diameter: 60 inches
Floor Elevations:
Primary Manhole 386.63
Storage Manhole 386.63 ~~386~~.15
Primary Manhole Inverts:
Separator Unit ~~395.00~~ 394.40
Inlet Pipe(s) ~~395.00~~ (IN) 394.40
393.90
~~394.63~~ (OUT)



Please show orientation (including angle), size and material of inlet pipes above.

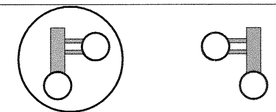
Cover Elevations:
Primary Manhole ~~404.2~~ 403.70
Storage Manhole ~~404.2~~ 403.55

WQ-2/WQ-2A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

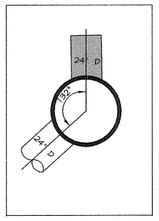
Project: SOCCER ASSOC. — CENTENNIAL LANE — COLUMBIA, MD — 21042
Designer: PHR&A
Contact: AIMEE REMINGTON
Phone: 410-997-8900
Fax: 410-997-9282
Delivery Date:
Owner: COVENANT BAPTIST — Contact: – — Address: COLUMBIA, MD. — –
Contractor:
Address:
Contact:
Phone:
Fax:

Separator Unit Model:
1K ☐
3K ■
5K ☐



Circle system orientation above

Manhole Specifications:
Primary Manhole Diameter: 60 inches
Storage Manhole Diameter: 60 inches
Floor Elevations:
Primary Manhole 373.46
Storage Manhole ~~373.46~~ 374.00
Primary Manhole Inverts:
Separator Unit ~~381.84~~ 381.79
Inlet Pipe(s) 381.84 (IN) .79
.99
381.46 (OUT)



Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole ~~386.0~~ 386.99
Storage Manhole ~~386.0~~ 387.00

WQ-3/WQ-3A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

AS-BUILT CERTIFICATION
DATE 4/1/03
DOMINICK W. COMANDUCCI #21200
STATE OF MARYLAND — PROFESSIONAL ENGINEER

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03
CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
BAYSAVER DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 DETAILS6.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	24 OF ~~41~~ 47

SDP-02-75

P:\project\00287\1-0\Engr\Plans\DETAILS6.dwg, Layout1, 03/07/2003 02:41:22 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

FOR CONTINUATION SEE SHEET 27

FOR CONTINUATION SEE SHEET 26

FOREST RETENTION EASEMENT AREA E
32,029 SF THIS SHEET
TOTAL AREA = 1.08 Ac.
(46,874 SF)

FOREST RETENTION EASEMENT AREA F
TOTAL AREA = 0.28 Ac.
(12,039 SF)

FOREST RETENTION EASEMENT AREA A
1,333 SF THIS SHEET
TOTAL AREA = 0.80 Ac.
(34,773 SF)

FOREST RETENTION EASEMENT AREA B
TOTAL AREA = 2.42 Ac.
(106,573 SF)

FOREST RETENTION EASEMENT AREA C
TOTAL AREA = 1.98 Ac.

UNFORESTED AREA = 0.44 Ac.

PERIMETER 1
CREDIT: 2,843 LF

CENTENNIAL LANE

ENTRANCE TO CENTENNIAL PARK

4 SEE SHEET 48 TO 54 FOR FIELD #1 GRADING

FOR REVISION #9

1-10-11

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 31089, Expiration Date: 11-21-12.

STATE OF MARYLAND — DOMINICK W. COLASURDO — No. 031089 — PROFESSIONAL ENGINEER

AS-BUILT CERTIFICATION

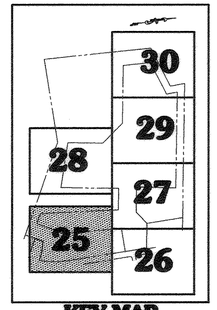
STATE OF MARYLAND — DOMINICK W. COLASURDO — No. 17200 — REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLASURDO #17200 DATE 8/1/07

GRID NORTH

NOTE: NO LANDSCAPING THIS SHEET

KEY MAP



NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN EASEMENT
- CONTOUR LINES
- PROP. SHADE TREE
- PROP. EVERGREEN TREE
- LANDSCAPE REQUIREMENT (AR 4)
- PERIMETER LANDSCAPE EDGE LIMITS
- PERIMETER LANDSCAPE EDGE CONTINUES
- PROPOSED FOREST CONSERVATION EASEMENT (SEE FOREST CONSERVATION PLANS)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION
8/6/11	4	CONSTRUCTION OF FIELD #9

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	G.T.H.
DRAWN BY:	G.T.H.
PROJECT NO	00287
	LSCP1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	25 OF 61-77

SDP-02-75

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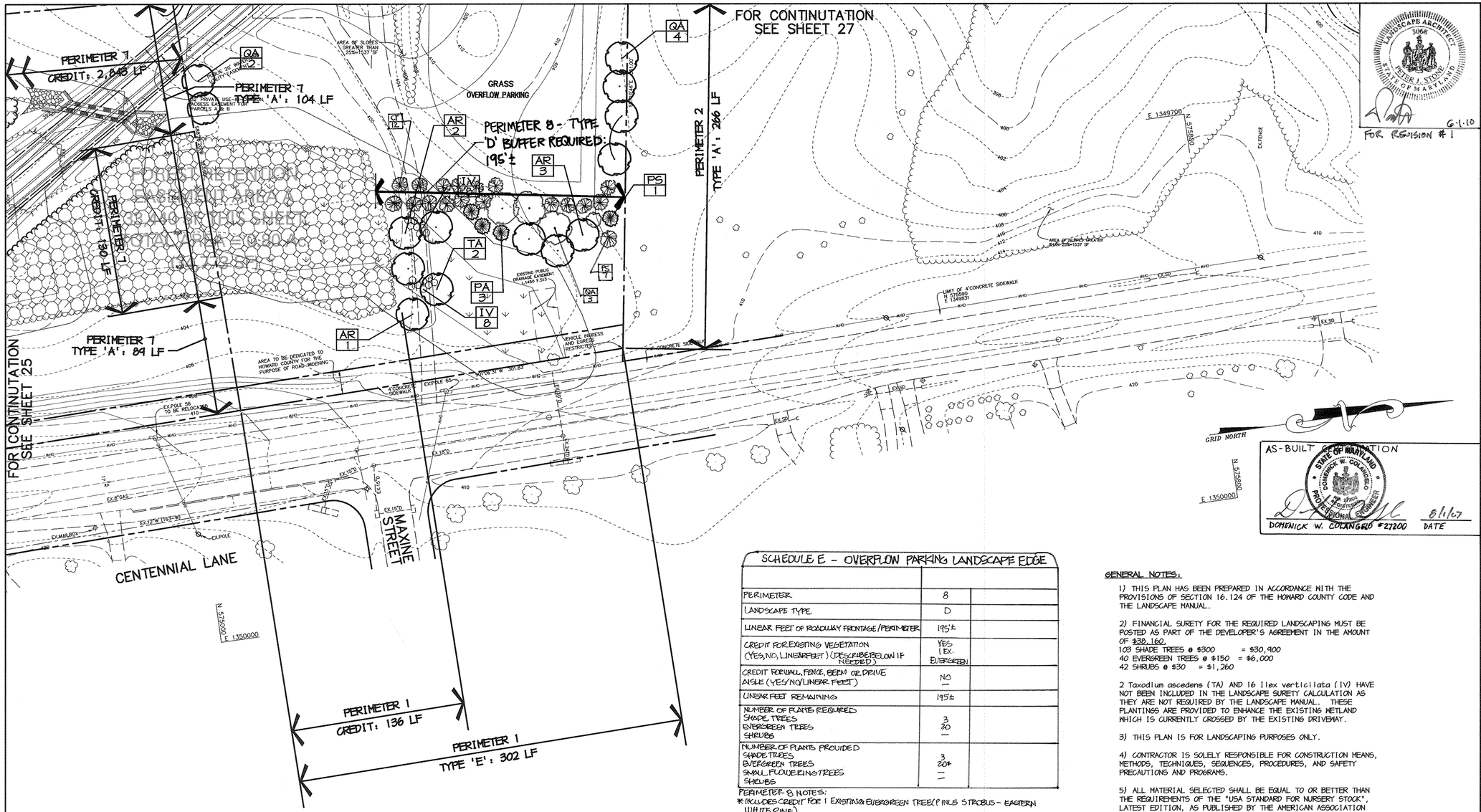


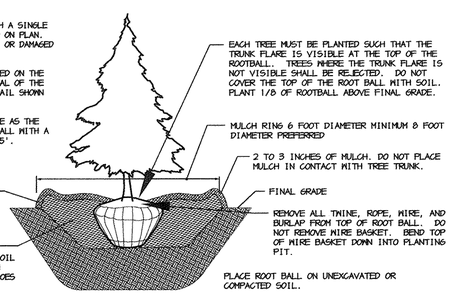
SCHEDULE E - OVERFLOW PARKING LANDSCAPE EDGE

PERIMETER	8	
LANDSCAPE TYPE	D	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	195±	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 1 EX. EVERGREEN	
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	NO —	
LINEAR FEET REMAINING	195±	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	3 20 —	
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SMALL FLOWERING TREES SHRUBS	3 20* — —	

PERIMETER 8 NOTES:
*INCLUDES CREDIT FOR 1 EXISTING EVERGREEN TREE (PINUS STROBUS - EASTERN WHITE PINE)

NOTES:

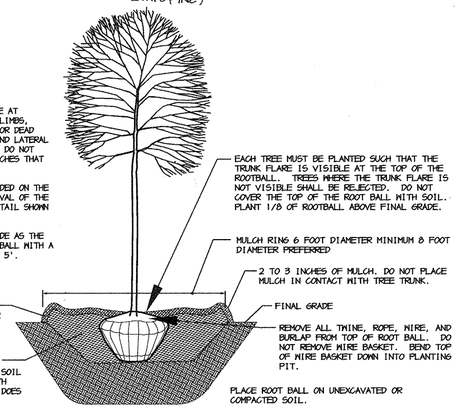
1. SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
2. STAKE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
3. DIG PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



EVERGREEN B&B TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

1. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
2. STAKE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
3. DIG PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



DECIDUOUS B&B TREE PLANTING DETAIL
NOT TO SCALE

GENERAL NOTES:

1) THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.

2) FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $38,160.
103 SHADE TREES @ $300 = $30,900
40 EVERGREEN TREES @ $150 = $6,000
42 SHRUBS @ $30 = $1,260

2 Taxodium ascedens (TA) AND 16 Ilex verticilata (IV) HAVE NOT BEEN INCLUDED IN THE LANDSCAPE SURETY CALCULATION AS THEY ARE NOT REQUIRED BY THE LANDSCAPE MANUAL. THESE PLANTINGS ARE PROVIDED TO ENHANCE THE EXISTING WETLAND WHICH IS CURRENTLY CROSSED BY THE EXISTING DRIVEWAY.

3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.

4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

5) ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

6) ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.

7) AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.

8) NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.

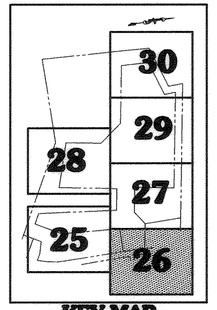
9) 447 LINEAR FEET ALONG PERIMETERS 3 & 4 HAS BEEN DEFERRED IN THE AREA LABELED AS "AREA NOT INCLUDED IN APPROVED CONDITIONAL USE." THE AREA SHOWN IS SUBJECT TO A SEPARATE CONDITIONAL USE PETITION WHICH HAS NOT YET BEEN APPROVED BY THE HOWARD COUNTY BOARD OF APPEALS. THE REQUIRED PLANTING WILL BE SHOWN AS PART OF A SEPARATE SDP SUBMISSION FOR THIS AREA.

10) THE EXISTING FOREST ON PARCEL B HAS BEEN CREDITED FOR THE REQUIRED LANDSCAPING WHERE POSSIBLE. THE EXISTING FOREST ON PARCEL B OUTSIDE OF THE FLOODPLAIN WILL BE PLACED IN A FOREST CONSERVATION EASEMENT. PARCEL B HAS BEEN CREATED AS A BUFFER FOR PARCEL A AND THE ENTIRE AREA OF PARCEL B IS ALSO IN AN AGRICULTURAL PRESERVATION EASEMENT.

11) NO SURETY IS REQUIRED FOR OVERFLOW PARKING PERIMETER LANDSCAPING REQUIRED BY BA-09-030C.

LANDSCAPE ARCHITECT
30668
PETER J. STONE
STATE OF MARYLAND
6-1-10
FOR REVISION #1

AS-BUILT CERTIFICATION
STATE OF MARYLAND
DOMENICK W. COLANGELO
21200
PROFESSIONAL ENGINEER
DOMENICK W. COLANGELO #21200 — DATE 8/1/07



KEY MAP
NOT TO SCALE

LEGEND

TREES	
EX. TREELINE	
PROP. TREELINE	
PROPERTY LINE	
WETLANDS AND 25' BUFFER	
PERENNIAL STREAM AND 50'/75' BUFFER	
100-YEAR FLOODPLAIN EASEMENT	
CONTOUR LINES	370
PROP. SHADE TREE	
PROP. EVERGREEN TREE	
LANDSCAPE REQUIREMENT	AR 4
PERIMETER LANDSCAPE EDGE LIMITS	
PERIMETER LANDSCAPE EDGE CONTINUES	
PROPOSED FOREST CONSERVATION EASEMENT (SEE FOREON PLANS)	

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION
5-28-10	1	ADDED PERIMETER E, SCHEDULE E, GENERAL NOTE 11.

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3·10·03
DATE

STATE OF MARYLAND
830
DAVID T. DOWS
DAVID T. DOWS #830

DESIGNED BY :	G.T.H.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 LSCP2.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	26 OF 61

SDP-02-75

P:\projects\00287\1-0\Engr\Plans\LSCP2.dwg, Layout1, 03/07/2003 09:34:45 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

FOR CONTINUATION SEE SHEET 29

FOR CONTINUATION SEE SHEET 28

FOR CONTINUATION SEE SHEET 25

FOR CONTINUATION SEE SHEET 26

LOADING AREA

HC RAMP SEE DETAIL/SH.3

CREDITED ISLAND 11,102 SF

CREDITED ISLAND 9,264 SF

PARKING LOT C

PUBLIC 20' WATER AND UTILITY EASEMENT

CREDITED ISLAND 432 SF

PERIMETER 3
DEFERRED; 260 LF
SEE NOTE 9, SHEET 30

FIELD #6

AREA NOT INCLUDED IN APPROVED CONDITIONAL USE

PERIMETER 3
CREDIT; 980 LF

PERIMETER 3
TYPE 'A'; 1,520 LF

PERIMETER 1
CREDIT; 1,240 LF

FOREST RETENTION EASEMENT AREA D
TOTAL AREA = 2.47 AC.
(108,558 SF)

FOREST RETENTION EASEMENT AREA E
14,845 SF THIS SHEET
TOTAL AREA = 0.09 AC.
(4,076 SF)

FOREST RETENTION EASEMENT AREA C
TOTAL AREA = 0.28 AC.
(12,252 SF)

FOREST RETENTION EASEMENT AREA G
26,956 SF THIS SHEET
TOTAL AREA = 1.86 AC.
(83,728 SF)

PUBLIC DRAINAGE, UTILITY AND 100-YEAR FLOODPLAIN EASEMENT

12" WIDE PILOT CHANNEL SEE DETAIL SHEET 18

75' NO WOODY VEGETATION ZONE

12' WIDE ACCESS FOR SWM MAINTENANCE

SEDIMENT BASIN #3

S.W.M. FOR PRIVATELY OWNED HAZARD CLASS 'A'

PUBLIC 20' WATER AND UTILITY EASEMENT

LIMITS OF 100 YEAR FLOODPLAIN

AREA OF SLOPES GREATER THAN 25%=2338 SF

SEE SHEET 48 TO 58 FOR FIELD #9 GRADING

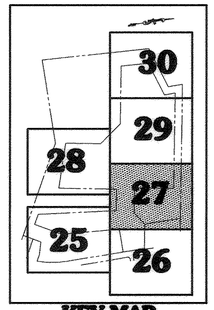
E 1349000

N 575000

E 1349500

N 575500

KEY MAP
NOT TO SCALE



LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN EASEMENT
- CONTOUR LINES (370)
- PROP. SHADE TREE
- PROP. EVERGREEN TREE
- LANDSCAPE REQUIREMENT (AR 4)
- PERIMETER LANDSCAPE EDGE LIMITS
- PERIMETER LANDSCAPE EDGE CONTINUES
- PROPOSED FOREST CONSERVATION EASEMENT (SEE FOREON PLANS)

AS-BUILT CERTIFICATION
STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 21200 — PROFESSIONAL ENGINEER
DATE 8.1.07

STATE OF MARYLAND — RICHARD E. BUTT — No. 031089 — PROFESSIONAL ENGINEER
11-10-11

FOR REVISION #9

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 31089, Expiration Date: 11-21-12

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/4/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HS — DATE 4/8/03

DATE	NO.	REVISION
8/06/11	9	CONSTRUCTION OF FIELD #9

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — PROFESSIONAL ENGINEER
DAVID T. DOWS #830

DESIGNED BY :	G.T.H.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 LSCP3.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	27 OF 61 77

SDP-02-75

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GRID NORTH

AREA OF SLOPES GREATER THAN 25%=18542

75' USE 1 STREAM BUFFER

PUBLIC DRAINAGE UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

CLARK'S CREEK

AREA OF SLOPES GREATER THAN 25%=2303 SF

EX. STONE RIPRAP/CONC. (APPROXIMATE LOCATION)

PERIMETER 6
CREDIT: 1,363 LF

S08°48'26"E 467.14'

E 1348200
N 574100

FOREST RETENTION EASEMENT AREA J
31,957 SF THIS SHEET
TOTAL AREA = 2.75 Ac.
(119,582 SF)

FIELD #7

SEDIMENT BASIN #2

RAIL FENCE SEE DETAIL

GATE

RAIL FENCE SEE DETAIL SH.18

1.5" MIN. ASPHALT SURFACE FOR SWM MAINTENANCE

PA 4

QA 4

PS 5

AR 4

TA 4

PERIMETER 6
TYPE 'A'; 260 LF

FOR CONTINUTATION SEE SHEET 29

FOR CONTINUTATION SEE SHEET 27

FIELD #8

AREA OF SLOPES GREATER THAN 25%=1935

AREA OF SLOPES GREATER THAN 25%=3973 SF

AREA OF SLOPES GREATER THAN 25%=2220 SF

S08°48'26"E 407.21'

PERIMETER 6
CREDIT: 956 LF

FOREST RETENTION EASEMENT AREA G
305,674 SF THIS SHEET

E 1348800

N 573700

AS-BUILT CERTIFICATION

STATE OF MARYLAND
DOMENICK W. COLANGELO
No. 27260
PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27260 — DATE 8/1/07

KEY MAP

NOT TO SCALE

30
29
28
27
25
26

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN EASEMENT
- CONTOUR LINES (370)
- PROP. SHADE TREE
- PROP. EVERGREEN TREE
- LANDSCAPE REQUIREMENT (AR 4)
- PERIMETER LANDSCAPE EDGE LIMITS
- PERIMETER LANDSCAPE EDGE CONTINUES
- PROPOSED FOREST CONSERVATION EASEMENT (SEE FOREON PLANS)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT MB — DATE 7/8/03

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
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PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
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Columbia, MD 21045
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F 410.997.9282

3.10.03
DATE

STATE OF MARYLAND
830
DAVID T. DOWS
PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	G.T.H.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 LSCP4.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	28 OF 47

SDP-02-75

P:\projects\00287\1-0\Engr\Plans\LSCP4.dwg, Layout1, 03/07/2003 09:37:57 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

FOR CONTINUTATION SEE SHEET 30

FOR CONTINUATION SEE SHEET 28

FOR CONTINUATION SEE SHEET 27

PERIMETER 6
CREDIT: 1,363 LF

PUBLIC DRAINAGE UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

STREAM BUFFER

WOODY WETLAND BUFFER ZONE

S.W.M.F. #1
PRIVATELY OWNED
HAZARD CLASS 'A'

FOREST RETENTION EASEMENT AREA J
43,277 SF THIS SHEET
TOTAL AREA = 2.75 Ac.
(119,582 SF)

AREA OF SLOPES GREATER THAN 25%

12' WIDE ACCESS FOR SWM MAINTENANCE

12' SWM ACCESS PATH (UNPAVED)

RAIL FENCE SEE DETAIL SH.18

PROPOSED PAVILION
SLAB ELEV. 409.2
60' × 36'

PARKING LOT A

FIELD #3

FIELD #4

FIELD #5

PERIMETER 4
TYPE 'A', 910 LF

PERIMETER 4
DEFERRED, 107 LF
SEE NOTE 9, SHEET 30

AREA NOT INCLUDED IN APPROVED CONDITIONAL USE

GRID NORTH

E 1348000
N 575100

PO 5
TA 4
AR 2
PA 4
AR 1
PS 3
TA 5
LS 4
AR 4
QA 4
CJ 1
CJ 2
CJ 6
UP 1
UP 2

CREDITED ISLAND 234 SF
CREDITED ISLAND 432 SF
CREDITED ISLAND 612 SF
CREDITED ISLAND 11,102 SF
CREDITED ISLAND 9,264 SF
CREDITED ISLANDS 432 SF

PARKING LOT B
PARKING LOT C

HC RAMP SEE DETAIL SH.3

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS CORRECT AS-BUILT INFORMATION.

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8/1/03 DATE

KEY MAP
NOT TO SCALE

30 | 29 | 28 | 27 | 25 | 26

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN EASEMENT
- CONTOUR LINES (370)
- PROP. SHADE TREE
- PROP. EVERGREEN TREE
- LANDSCAPE REQUIREMENT (AR 4)
- PERIMETER LANDSCAPE EDGE LIMITS
- PERIMETER LANDSCAPE EDGE CONTINUES
- PROPOSED FOREST CONSERVATION EASEMENT (SEE FOR CON PLANS)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION
1-12-07	4	REMOVED ISLANDS FROM PARKING LOT A
2-24-06	3	ADDED PROPOSED PAVILLION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3-10-03 DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	G.T.H.
DRAWN BY:	G.T.H.
PROJECT NO	00287 LSCP5.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	29 OF 6177

SDP-02-75

P:\project\00287\1-0\Engr\Plans\LSCP5.dwg, Layout1, 03/07/2003 09:39:10 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · No. 17200 · PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #17200 — 8/1/07 DATE

SCHEDULE E PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
QA	3	QUERCUS ACUTISSIMA SAWTOOTH OAK	2.5"-3" Cal.	B&B	Plant as shown
CT	12	CHAMAECYPARIS THYOIDES ATLANTIC WHITE CEDAR	6-8' HT.	B&B	Plant as shown
PS	7	PINUS STROBUS EASTERN WHITE PINE	6-8' HT.	B&B	Plant as shown

PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
AR	22	Acer rubrum 'October Glory' October Glory Red Maple	2.5"-3" cal.	B&B	Plant as shown
CJ	13	Cercidiphyllum japonicum Katsuratree	2.5"-3" cal.	B&B	Plant as shown
QA	20	Quercus acutissima Sawtooth Oak	2.5"-3" cal.	B&B	Plant as shown
LS	13	Liquidambar styraciflua Sweet Gum	2.5"-3" cal.	B&B	Plant as shown
TA	26	Taxodium ascendens Pond Cypress	2.5"-3" cal.	B&B	Plant as shown
UP	8	Ulmus parvifolia Allee Allee Chinese elm	2.5"-3" cal.	B&B	Plant as shown
PA	19	Picea abies Norway Spruce	6'-8' ht.	B&B	Plant as shown
PO	14	Picea omorika Serbian Spruce	6'-8' ht.	B&B	Plant as shown
PS	19	Pinus strobus Eastern White Pine	6'-8' ht.	B&B	Plant as shown
IV	16	Ilex verticilata Winterberry	18-24"	B&B	Plant as shown

FOR REVISION #10

STATE OF MARYLAND · BRIAN J. TEEFEY · No. 21741 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE No.: 37230

EXPIRATION DATE: 06/30/2007 (10)

SCHEDULE A - PERIMETER LANDSCAPE EDGE							
	ADJACENT TO PERIMETER PROPERTIES						ADJACENT TO ROADWAYS
PERIMETER	2	3	4	5	6	7	1
LANDSCAPE TYPE	A	A	A	A	A	A	E
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	266'±	1,528'±	910'±	1,548'±	2,579'±	3,166'±	302'±
CREDIT FOR EXISTING DRIVE AISLE (LINEAR FEET)	NO	NO	NO	NO	NO	NO	NO
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES 980'±	NO	YES 446'±	YES 2,319'±	YES 2,973'±	YES 136'±
LINEAR FEET REMAINING	266'±	288'±	723'±	1,102'±	260'±	193'±	166'±
CREDIT FOR WALL, FENCE, OR BERM (YES/NO/LINEAR FEET)	NO –	NO –	NO –	NO –	NO –	NO –	NO –
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	4 0 0	5 0 0	12 0 0	18 0 0	4 0 0	3 0 0	4 0 42
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SMALL FLOWERING TREES SHRUBS	4 0 0 0	5 0 0 0	12 0 0 0	18 0 0 0	4 0 0 0	3 0 0 0	5 4 0 0

SCHEDULE A SUBSTITUTION NOTES:

PERIMETER 1: (1) SHADE TREE AND (4) EVERGREENS WERE SUBSTITUTED FOR (42) SHRUBS.
PERIMETER 3: (4) SHADE TREES (260 LF) DEFERRED UNTIL SUBMISSION OF SDP FOR COVENANT BAPTIST CHURCH.
PERIMETER 4: (3) SHADE TREES (187 LF) DEFERRED UNTIL SUBMISSION OF SDP FOR COVENANT BAPTIST CHURCH.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING			
PARKING LOT	A	B	C
NUMBER OF PARKING SPACES	110	95	315
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	6	2	16
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	6 –	2 –	16 –
NUMBER OF ISLANDS REQUIRED (1/20 SPACES)	6	2	16
NUMBER OF ISLANDS PROVIDED (200 SF/ISLAND)	0	2	115

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING			
S.W.M. POND PERIMETER	1	2	3
LANDSCAPE TYPE	B	B	B
LINEAR FEET OF TOTAL PERIMETER	±1,615'	±520'	±515'
CREDIT FOR EX. VEGETATION (NO OR YES & %)	YES, 725'	YES, 115'	YES, 200'
CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES & %)	NO	NO	NO
LINEAR FEET OF REMAINING PERIMETER	890'	405'	315'
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	18 22	8 10	6 8
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	18 22 –	4 18 –	6 8 –

SCHEDULE B SUBSTITUTION NOTES:

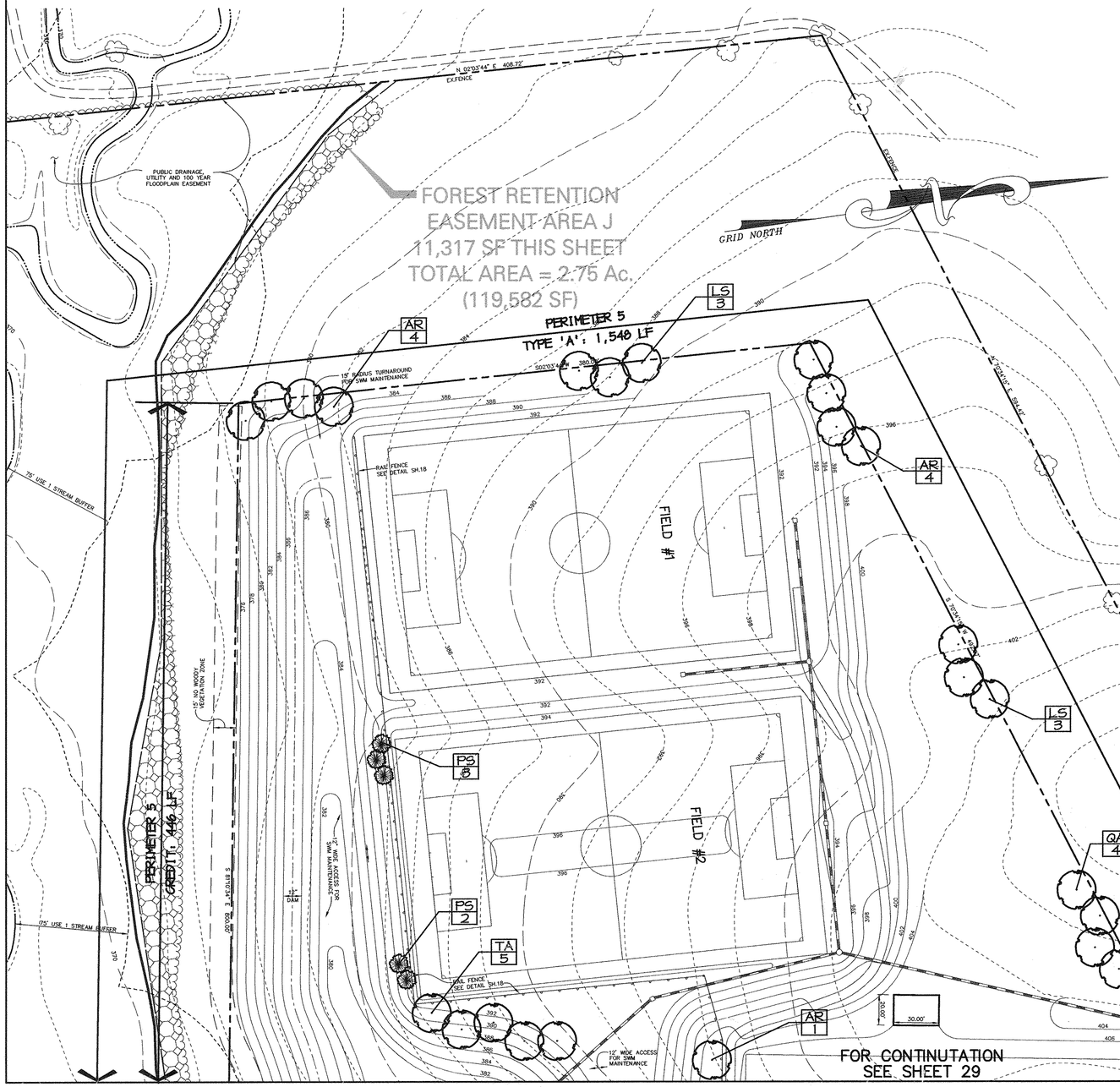
PERIMETER 2: (8) EVERGREENS WERE SUBSTITUTED FOR (4) SHADE TREES.

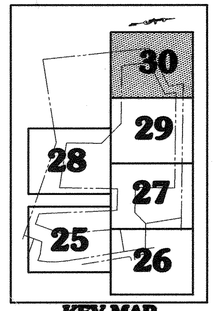
DEVELOPER'S/BUILDER'S CERTIFICATE:

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.

SIGNATURE — 3/11/03 DATE

02.21.17 | 10 | TURF FIELD CONVERSION





KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN EASEMENT
- CONTOUR LINES (370)
- PROP. SHADE TREE
- PROP. EVERGREEN TREE
- LANDSCAPE REQUIREMENT (AR 4)
- PERIMETER LANDSCAPE EDGE LIMITS
- PERIMETER LANDSCAPE EDGE CONTINUES
- PROPOSED FOREST CONSERVATION EASEMENT (SEE FOR CON PLANS)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 4/1/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 4/1/03 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT HB — 4/8/03 DATE

DATE	NO.	REVISION
1-12-07	4	REMOVED ISLANDS FROM PARKING LOT A
5-28-10	5	ADDED SCHEDULE E PLANT LIST

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER / OWNER (10)
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE REVISED SITE DEVELOPMENT PLAN (10)
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

FOR REVISION # 5

3068 · LANDSCAPE ARCHITECT · PETER J. STONE · STATE OF MARYLAND

6.1.10

3.10.03 DATE

830 · STATE OF MARYLAND · DAVID T. DOWS · REGISTERED LANDSCAPE ARCHITECT

DAVID T. DOWS #830

DESIGNED BY :	G.T.H.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 LSCP6.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	30 OF ~~81~~ 77

SDP-02-75

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LEGEND

- EXISTING DRAINAGE DIVIDES
- TIME OF CONCENTRATION
- DRAINAGE AREA LINES
- SOIL LINES
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BUFFER
- STREAM
- PULBLIC DRAINAGE EASEMENT

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLARUSSO — No. 21720 — REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLARUSSO #21720D — 6/1/04 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/10/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/4/03

CHIEF, DIVISION OF LAND DEVELOPMENT MB — DATE 4/8/03

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH
OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION
OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA — TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
DRAINAGE AREA MAP EXISTING CONDITIONS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 DA-EX1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 100'
DRAWING NO.	31 OF ~~61~~ 77

SDP-02-75

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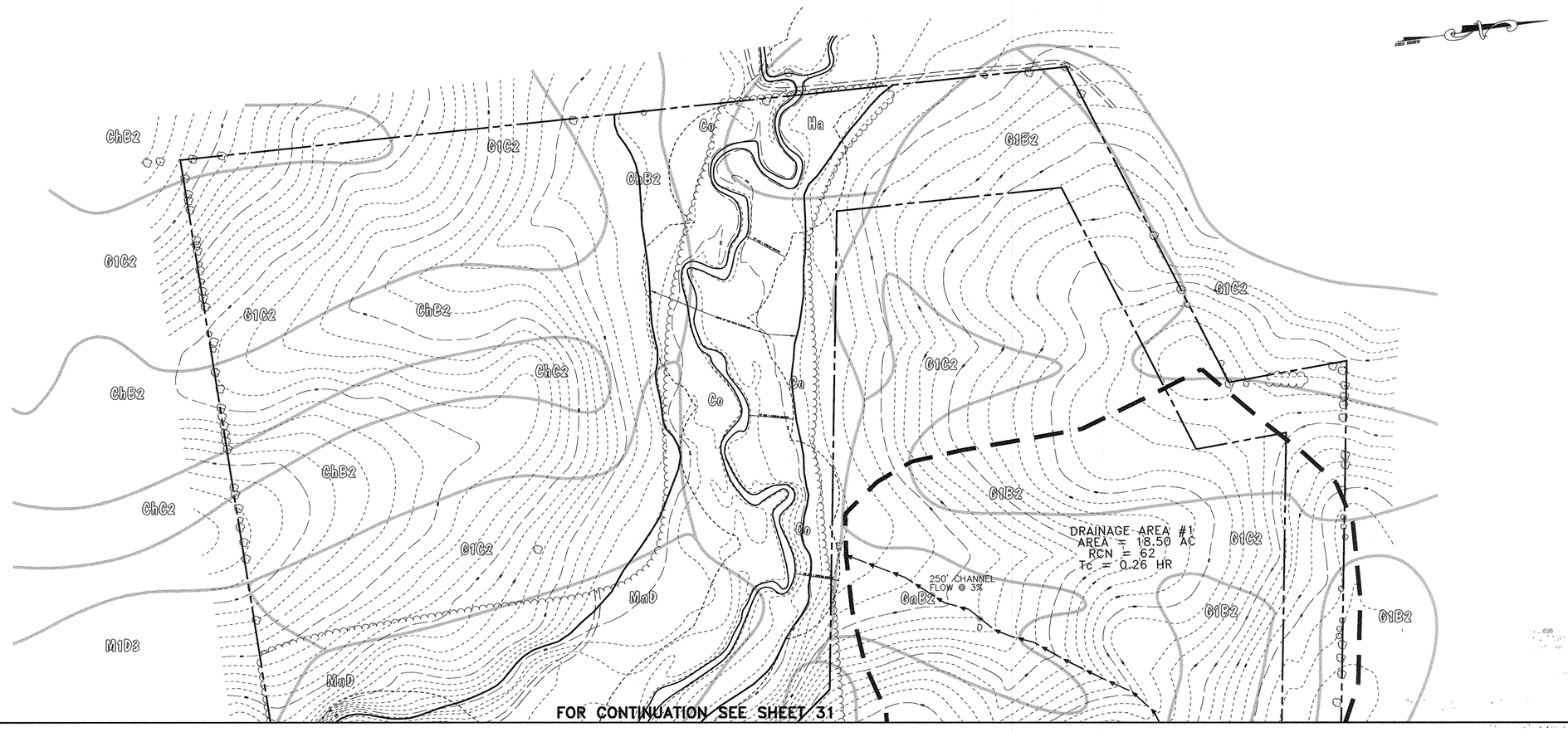
LEGEND

EXISTING DRAINAGE DIVIDES
TIME OF CONCENTRATION
DRAINAGE AREA LINES
SOIL LINES
100 YEAR FLOODPLAIN
WETLANDS
WETLAND BUFFER
STREAM BUFFER
STREAM
PULBLIC DRAINAGE EASEMENT



AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — NO. 27200 — REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — DATE 8/1/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 8/1/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/08

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
DRAINAGE AREA MAP EXISTING CONDITIONS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO .00287 DA-EX2.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 100'
DRAWING NO. 32 OF 61 77

SDP-02-75

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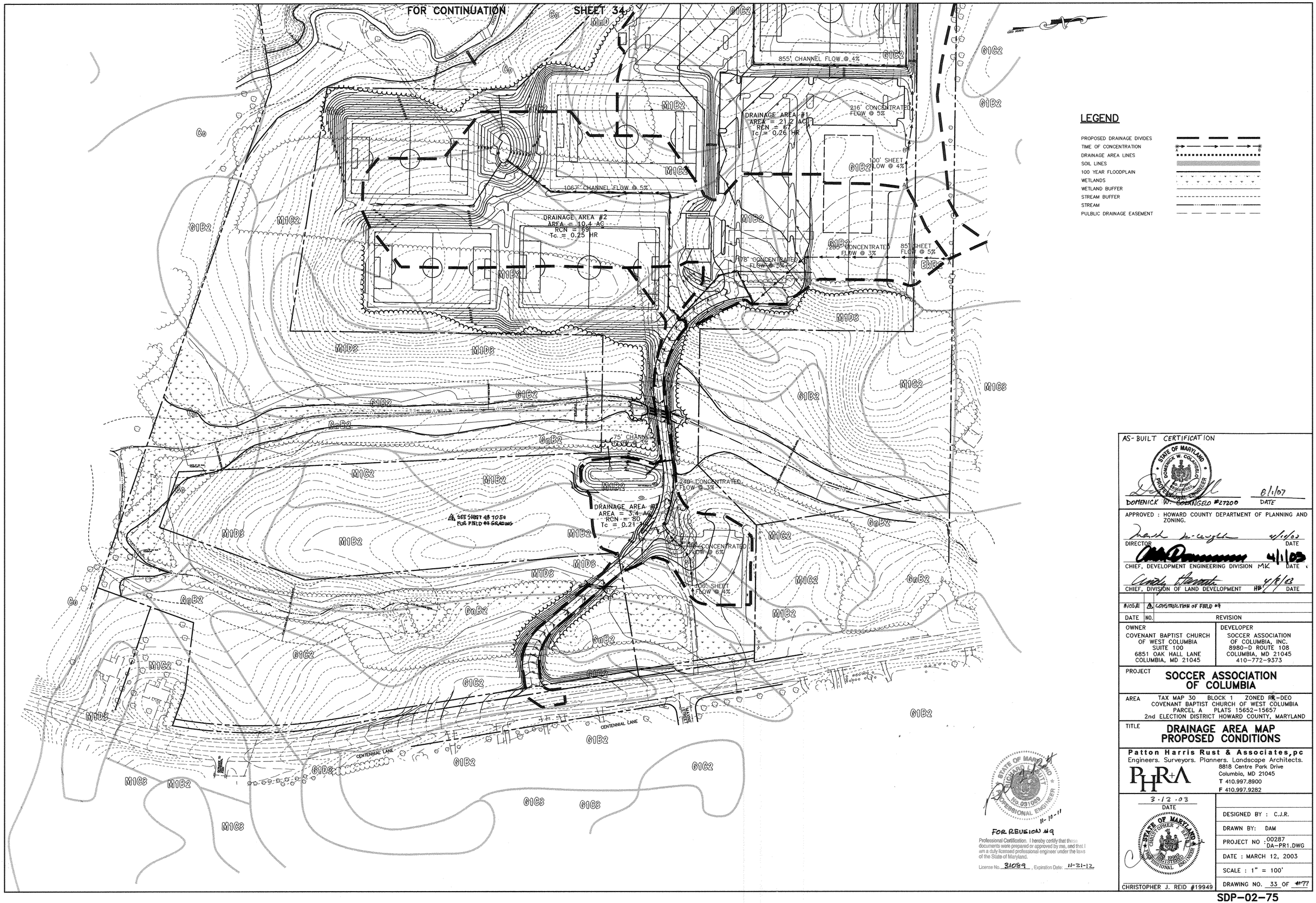

LEGEND

- PROPOSED DRAINAGE DIVIDES
- TIME OF CONCENTRATION
- DRAINAGE AREA LINES
- SOIL LINES
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BUFFER
- STREAM
- PULBLIC DRAINAGE EASEMENT

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 6/1/07 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 6/1/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/1/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/6/07

DATE	NO.	REVISION
8/05/11	4	CONSTRUCTION OF FIELD #4

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
DRAINAGE AREA MAP PROPOSED CONDITIONS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

STATE OF MARYLAND — RICHARD A. BAUER — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

FOR REVISION #4

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 31089, Expiration Date: 11-21-12.

3.12.03 DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 DA-PR1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 100'
DRAWING NO.	33 OF 77

SDP-02-75

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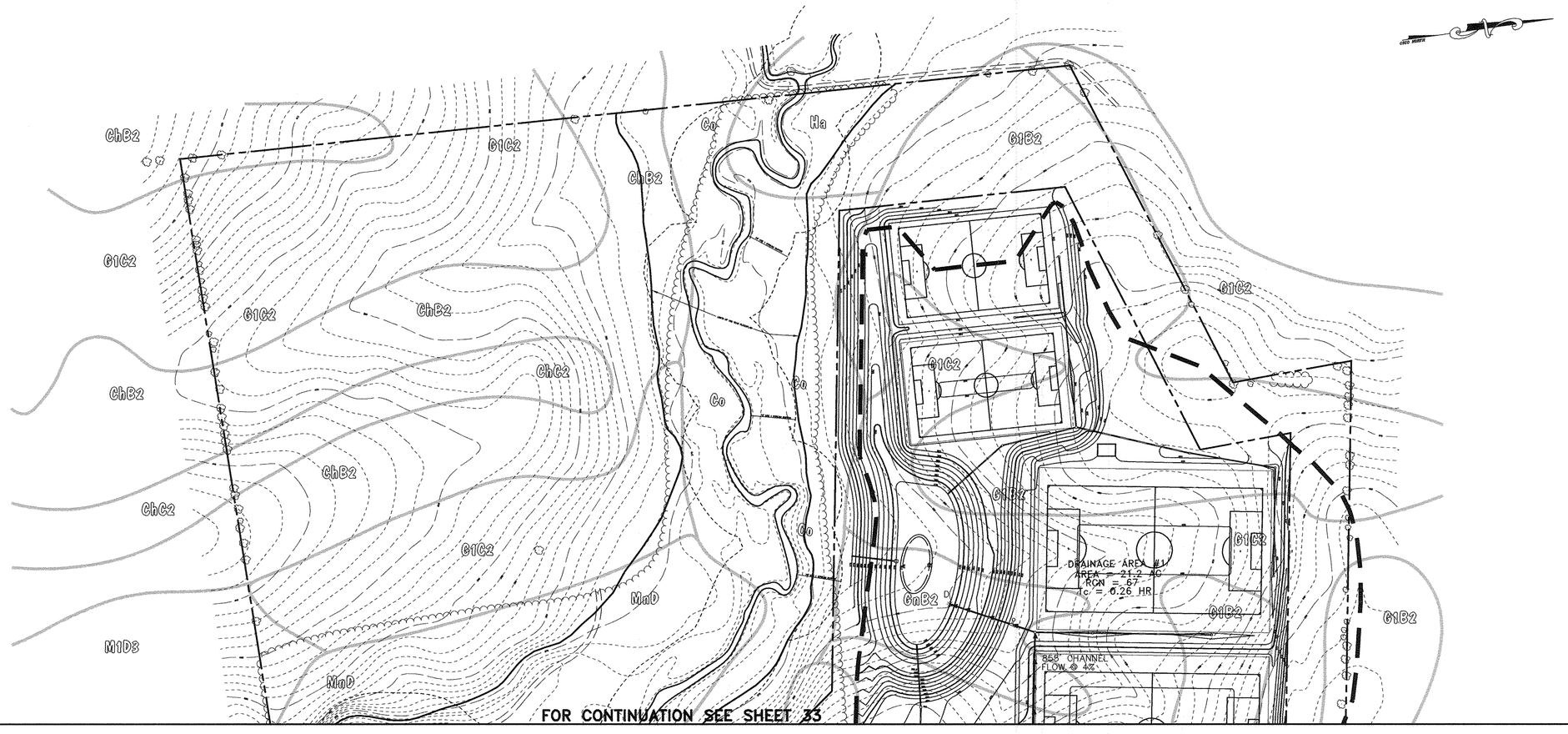
LEGEND

EXISTING DRAINAGE DIVIDES
TIME OF CONCENTRATION
DRAINAGE AREA LINES
SOIL LINES
100 YEAR FLOODPLAIN
WETLANDS
WETLAND BUFFER
STREAM BUFFER
STREAM
PULBLIC DRAINAGE EASEMENT



AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · 22200 · 2nd SPECIAL · REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #22200 — DATE 8/11/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
DRAINAGE AREA MAP PROPOSED CONDITIONS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

PHR+A

3.12.03
DATE

STATE OF MARYLAND · CHRISTOPHER J. REID · 19949 · REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO 00287 DA-PR2.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 100'
DRAWING NO. 34 OF ~~61~~ 77

SDP-02-75

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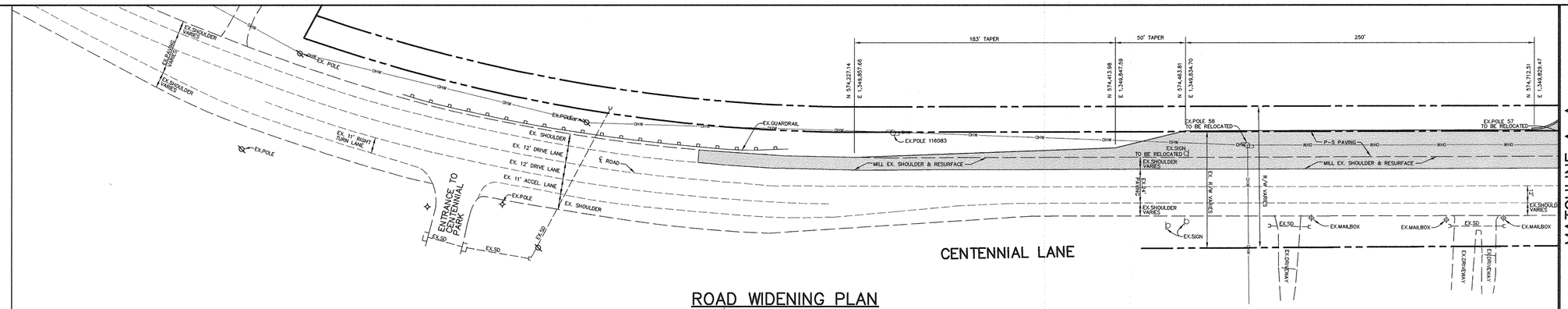
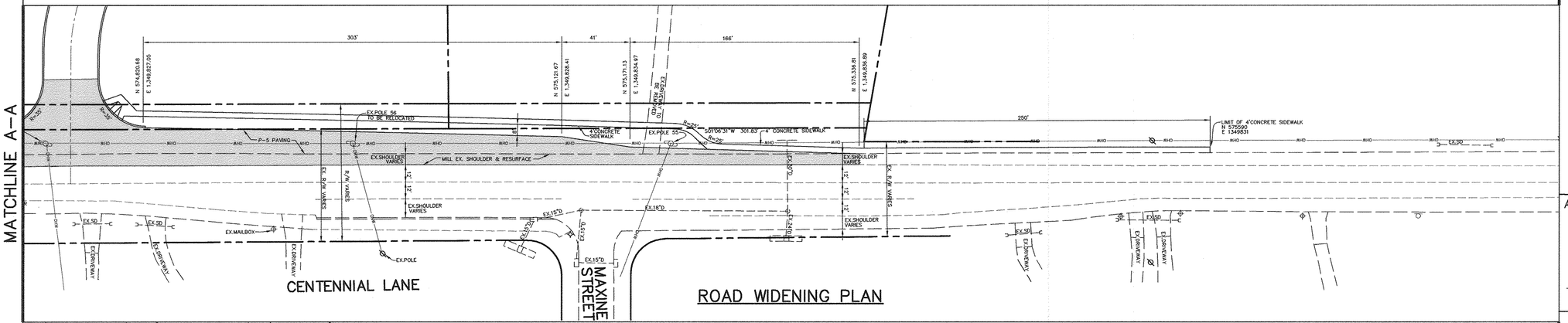
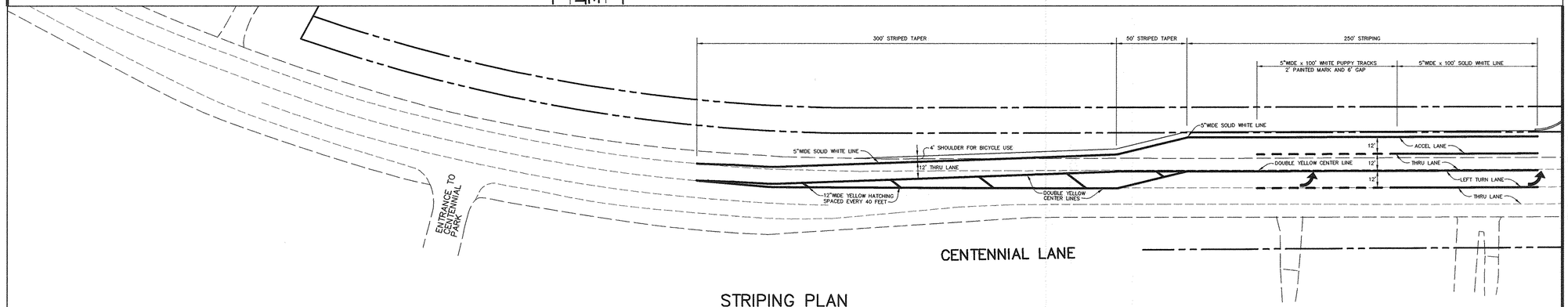
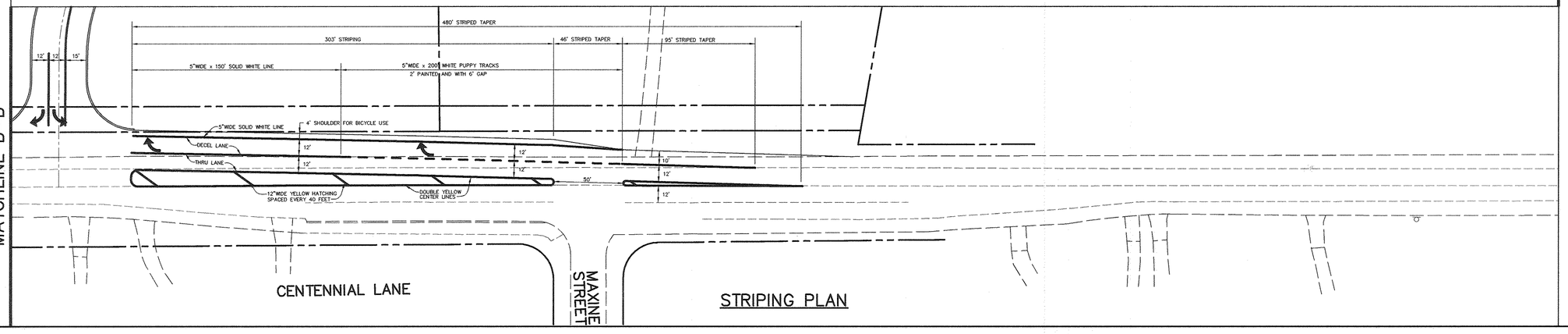








AS-BUILT CERTIFICATION

STATE OF MARYLAND
DOMENICK W. COLANGELO
No. 27200
PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8/1/07 DATE

SEE SHEET 18 FOR TYPICAL CROSS SECTION OF CENTENNIAL LANE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
ROAD WIDENING AND STRIPING PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03
DATE

STATE OF MARYLAND
CHRISTOPHER J. REID
No. 19949
REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

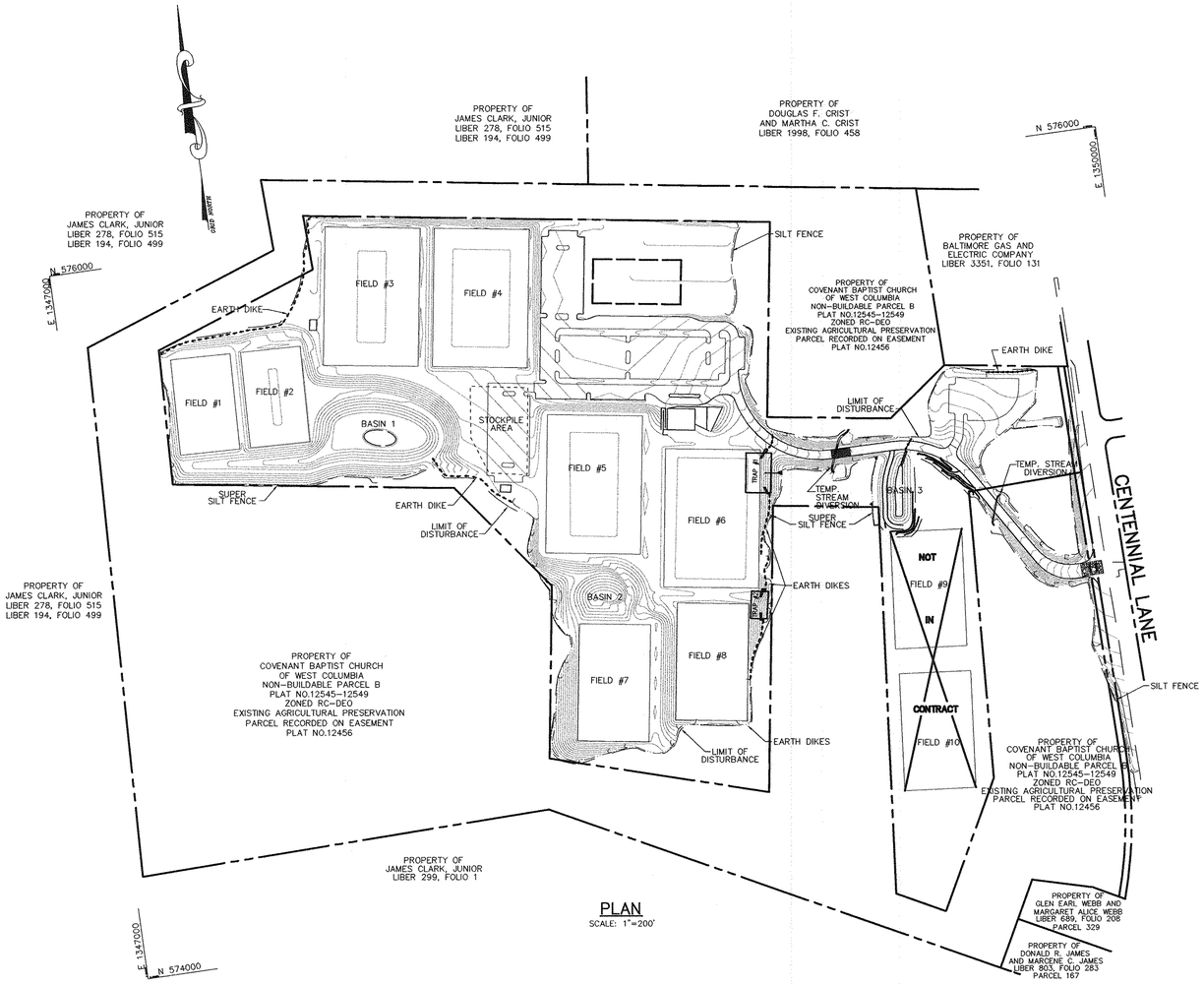
DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO :	00287 RD1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	35 OF ~~61~~ 77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\RD1.dwg, Layout1, 03/07/2003 02:42:25 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

LEGEND

SILT FENCE
SUPER SILT FENCE
LIMIT OF DISTURBANCE
STABILIZED CONSTRUCTION ENTRANCE
EARTH DIKE
RIPRAP INFLOW PROTECTION
PROPOSED CONTOUR



PLAN
SCALE: 1"=200'

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · NO. 27200 · PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — DATE 8/1/07

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 3/11/03

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE 3.12.03

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/25/03

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/25/03

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/14/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/9/03

DATE	NO.	REVISION

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
OVERALL SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.12.03 — DATE

STATE OF MARYLAND · CHRISTOPHER J. REID · NO. 19949 · REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 SEDCONT7.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	36 OF ~~61~~ 77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\SEDCONT7.dwg, Model, 03/07/2003 09:41:27 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:200

MATCH LINE SEE SHEET 40

MATCH LINE SEE SHEET 39

MATCH LINE SEE SHEET 38

FOREST RETENTION EASEMENT AREA E
32,029 SF THIS SHEET
TOTAL AREA = 1.08 Ac.
(46,874 SF)

FOREST RETENTION EASEMENT AREA F
TOTAL AREA = 0.28 Ac.
(12,039 SF)

FOREST RETENTION EASEMENT AREA A
1,333 SF THIS SHEET
TOTAL AREA = 0.80 Ac.
(34,773 SF)

FOREST RETENTION EASEMENT AREA B
TOTAL AREA = 2.42 Ac.
(105,578 SF)
FORESTED AREA = 1.98 Ac.
UNFORESTED AREA = 0.44 Ac.

⚠ SEE SHEET 48 TO 54 FOR FIELD #9 GRADING

S 05°26'00" W 1091.50'

S 03°54'42" W 408.00'

S 03°02'03" W 810.22'

LIMITS OF 100 YEAR FLOODPLAIN

AREA OF SLOPES GREATER THAN 25%=6155 SF

AREA OF SLOPES GREATER THAN 25%=223 SF

AREA OF SLOPES GREATER THAN 25%=808 SF

PUBLIC DRAINAGE UTILITY & 100 YEAR FLOOD PLAIN EASEMENT

75' USE-IN-BUFFER

25' WETLAND BUFFER

FOREST RETENTION EASEMENT "UNDERBRUSH ONLY" MAY BE CLEARED FOR RIPRAP LINED CHANNEL. CLEARING OF TREES IS PROHIBITED.

GRADE RIPRAP LINED CHANNEL AND PLANT TREES TO STABILIZE STREAM. SEE DETAIL SHEET 49

PROPERTY OF
DONALD R. JAMES
AND MARCENE C. JAMES
LIBER 803; FOLIO 283
PARCEL 167

PROPERTY OF
GLEN EARL WEBB AND
MARGARET-ALICE WEBB
LIBER 689, FOLIO 208
PARCEL 329

EX. POLE

EX. GUARDRAIL

EX. POLE 58

EX. POLE 57 TO BE RELOCATED

EX. POLE 58 TO BE RELOCATED

EX. SIGN

EX. 8" GAS

EX. MAILBOX

EX. 12" W (161-W)

EX. 5D

EX. FENCE

EX. FH

EX. 3D

ENTRANCE TO CENTENNIAL PARK

CENTENNIAL LANE

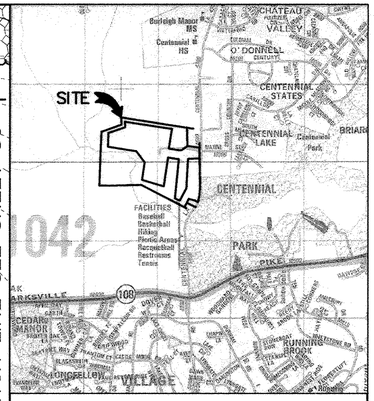
PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR PARCELS A & B

LSC LIMIT OF SPECIMEN TREE EASEMENT

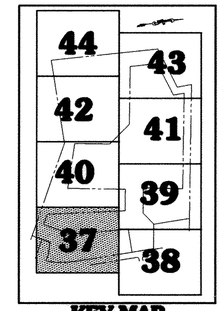
STOP SIGN

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) (S)
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS 370
- PROP. CONTOURS 400 398
- TREE ≥ 30" DIAM.



VICINITY MAP
SCALE: 1"=2000'



KEY MAP
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/16/03

DATE	NO.	REVISION
8/05/11	⚠	CONSTRUCTION OF FIELD #9

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 FCP1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	37 OF 61

DAVID T. DOWS #830

STATE OF MARYLAND — RICHARD J. BATT — No. 031099 — PROFESSIONAL ENGINEER
11-10-11
FOR REVISION #9

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 31099, Expiration Date: 11-21-12

AS-BUILT CERTIFICATION
STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER
8/10/07
DOMENICK W. COLANGELO #27200 DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — PROFESSIONAL ENGINEER

SDP-02-75

P:\projects\00287\1-0\Engr\Plans\FCP1.dwg, Layout1, 03/06/2003 12:00:58 PM, HP7550C(06).pc3, Arch D - 24 x 36 in. (landscape), 1:40

MATCH LINE SEE SHEET 39

MATCH LINE SEE SHEET 37

MATCH LINE SEE SHEET 37

FOREST RETENTION EASEMENT AREA A
33,440 SF THIS SHEET
TOTAL AREA = 0.80 Ac.
(34,773 SF)

GRASS OVERFLOW PARKING

PROPERTY OF BGE PARCEL 421 ZONED RC-DEO

AREA OF SLOPES GREATER THAN 25%=1537 SF

20' PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR PARCELS A & B

PUBLIC JOINT WATER AND UTILITY EASEMENT

PROVIDE 10' METAL SIGN POST

EXISTING PUBLIC DRAINAGE EASEMENT L.1400 F.313

VEHICLE INGRESS AND EGRESS RESTRICTED

AREA TO BE DEDICATED TO HOWARD COUNTY FOR THE MAXINE/CENTENNIAL WIDENING

4' CONCRETE SIDEWALK

EXPOLE 55

EXPOLE 56 TO BE RELOCATED

LIMIT OF 4' CONCRETE SIDEWALK
N 572580
E 1349851

EX.50

EX.18"D

EX.15"D

EX.8" GAS

EX.12" W

EX.MAILBOX

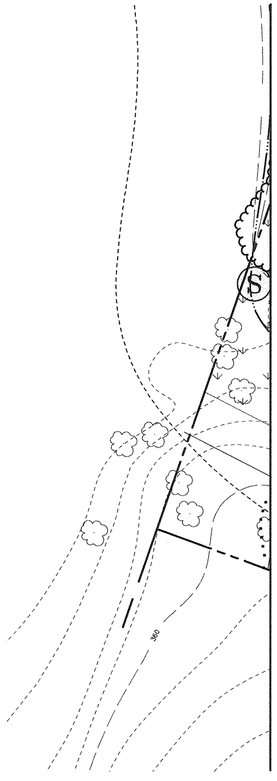
EXPOLE

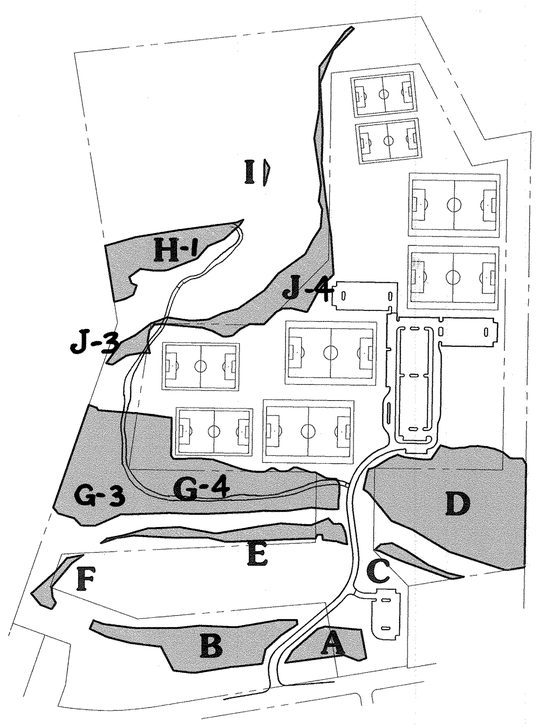
MAXINE STREET

CENTENNIAL LANE

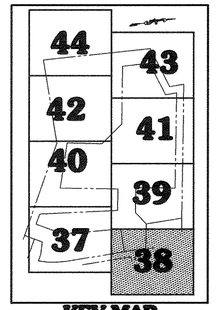
N 572600

E 1350000





OVERALL PLAN
SCALE: 1" = 300'



KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) (S)
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS 370
- PROP. CONTOURS 400 398
- TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

DATE	NO.	REVISION
3/31/03	1	REVISE DRIVEWAY LOCATION & FOREST CON. EASEMENTS

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

AS-BUILT CERTIFICATION
STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — REGISTERED PROFESSIONAL ENGINEER
DOMENICK W. COLANGELO #27200 DATE 8/1/07

3-10-03
DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — REGISTERED LANDSCAPE ARCHITECT
DAVID T. DOWS #830

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 FCP2.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	38 OF 41

SDP-02-75

P:\project\00287\1-0\Engr\Plans\FCP2.dwg, Layout1, 03/08/2003 12:11:16 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

MATCH LINE SEE SHEET 41

MATCH LINE SEE SHEET 40

MATCH LINE SEE SHEET 37

MATCH LINE SEE SHEET 38

FUTURE CHURCH

LOADING AREA

ADMINISTRATION BUILDING
FF 418.0
BF 408.0

PATIO
FF 418.0

PUBLIC 20' WATER AND UTILITY EASEMENT

PARKING LOT C

FIELD #6

AREA NOT INCLUDED IN APPROVED CONDITIONAL USE

FOREST RETENTION EASEMENT AREA G
28,054 SF THIS SHEET
TOTAL AREA = 7.66 Ac.
(333,728 SF)

FOREST RETENTION EASEMENT AREA D
TOTAL AREA = 5.98 Ac.
(260,558 SF)

SEE SHEET 45 FOR REVISED FOREST CONSERVATION PLAN

FOREST RETENTION EASEMENT AREA E
14,845 SF THIS SHEET
TOTAL AREA = 1.08 Ac.
(46,874 SF)

FOREST RETENTION EASEMENT AREA C
TOTAL AREA = 0.28 Ac.
(12,252 SF)

SEE SHEET 48 TO 54 FOR FIELD #4 GRADING

12" MDE PILOT CHANNEL SEE DETAIL SHEET 18

PUBLIC 20' WATER AND UTILITY EASEMENT

PUBLIC 20' WATER AND UTILITY EASEMENT

PUBLIC DRAINAGE, UTILITY AND ROCHAMBEAU FLOODPLAIN EASEMENT

PRIVATELY OWNED PARCEL CLASS "A"

UNITS OF 100 YR. FLOODPLAIN

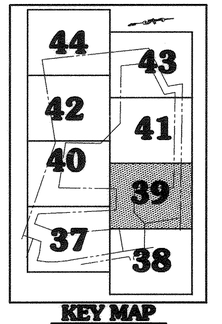
75' WIDE STREAM BUFFER

75' WIDE STREAM BUFFER

LIMITS OF 100 YEAR FLOODPLAIN

S 05°49'20" W 550.00'

S 37°37'37" E 314.57'



KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) — S
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS — 370
- PROP. CONTOURS — 400, 398
- TREE ≥ 30" DIAM.

5/05/11 | 4 | CONSTRUCTION OF FIELD #4

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION
3/31/04	1	REVISE DRIVEWAY LOCATION & FOREST CON. EASEMENTS.
		SUBSTITUTE SHEET

AS-BUILT CERTIFICATION — 6/1/07 DATE

STATE OF MARYLAND — DOMENICK W. COLANGELO — #21200 — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #21200 DATE

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03 DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — REGISTERED PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 FCP3.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	39 OF 77

SDP-02-75

P:\project\00287\1-0\Engr\Plans\FCP3.dwg, Layout1, 03/08/2003 12:13:37 PM, HP750C(36).pc3, Arch D - 24 x 36 in (landscape), 1:40

MATCH LINE SEE SHEET 42

EX.31"RED MAPLE

EX.32"POPLAR

PUBLIC DRAINAGE UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

EX.30"POPLAR

FOREST RETENTION
EASEMENT AREA J
31,957 SF THIS SHEET
TOTAL AREA = 2.75 Ac.
(119,582 SF)

FIELD #7

MATCH LINE SEE SHEET 41

MATCH LINE SEE SHEET 39

MATCH LINE SEE SHEET 43

SEE SHEET 46 FOR
REVISED FOREST
CONSERVATION PLAN

EX.46"SYCAMORE

FIELD #8

AREA OF SLOPES GREATER THAN 25%=1935 SF

AREA OF SLOPES GREATER THAN 25%=3670 SF

AREA OF SLOPES GREATER THAN 25%=3220 SF

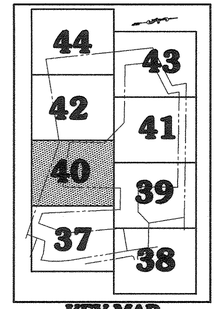
FOREST RETENTION
EASEMENT AREA G
305,674 SF THIS SHEET
TOTAL AREA = 7.66 Ac.
(333,728 SF)

MATCH LINE SEE SHEET 37

AS-BUILT CERTIFICATION

STATE OF MARYLAND
DOMENICK W. COLANGELO
No. 27200
REGISTERED
PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 DATE 6/1/07



KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) (S)
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS 370
- PROP. CONTOURS 400 398
- TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/1/03

DATE	NO.	REVISION
3/31/03	1	REVISE DRIVEWAY LOCATION & FOREST CON. EASEMENTS, SUBSTITUTE SHEET

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

STATE OF MARYLAND
830
DAVID T. DOWS
REGISTERED PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO	.00287 FCP4.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	40 OF ~~47~~

SDP-02-75

P:\project\00287\1-0\Engr\Plans\FCP4.dwg, Layout1, 03/08/2003 12:15:07 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

MATCH LINE SEE SHEET 43

MATCH LINE SEE SHEET 42

MATCH LINE SEE SHEET 40

MATCH LINE SEE SHEET 39

EX. 48" SYCAMORE

EX. 48" SYCAMORE

STREAM BUFFER

FOREST RETENTION EASEMENT AREA J
43,277 SF THIS SHEET
TOTAL AREA = 2.75 Ac.
(119,582 SF)

S.W.M.F. #1
PRIVATELY OWNED
HAZARD CLASS 'A'

DAM

FIELD #3

FIELD #4

FIELD #5

PROPOSED PAVILLION
SLAB ELEV. 409.2

60'

55'

36'

16'

SHELTER FF 403.5

PARKING LOT A

PARKING LOT B

PARKING LOT C

PARKING LOT C

PRIVATE 24'R

AREA NOT INCLUDED IN APPROVED CONDITIONAL USE

FUTURE CHURCH

EXISTING

S 81°10'34" E 942.74'

KEY MAP
NOT TO SCALE

44 43 42 41 40 39 37 38

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) (S)
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS 370
- PROP. CONTOURS 400 398
- TREE ≥ 30" DIAM.

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICO W. COLANGELO · #21700 · PROFESSIONAL ENGINEER

DOMENICO W. COLANGELO #21700 DATE 01.16.07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 11/6/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/15/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/15/03

DATE	NO.	REVISION
1-12-07	4	REMOVED ISLANDS FROM PARKING LOT A
2-24-06	3	ADDED PROPOSED PAVILLION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

STATE OF MARYLAND · 830 · DAVID T. DOWS · PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO	00287 FCP5.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	41 OF 61

SDP-02-75

P:\project\00287\1-0\Engr\Plans\FCP5.dwg, Layout1, 03/08/2003 12:17:44 PM, HP7550C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

MATCH LINE SEE SHEET 44

NORTH

POPLAR

MATCH LINE SEE SHEET 43

MATCH LINE SEE SHEET 41

FOREST RETENTION
EASEMENT AREA I
TOTAL AREA = 0.03 Ac.
(1,280 SF)

EX. 45"SYCAMORE

SEE SHEET 47
FOR REVISED
FOREST
CONSERVATION PLAN

EX. 34"POPLAR

EX. 62"POPLAR

FOREST RETENTION
EASEMENT AREA H
TOTAL AREA = 1.82 Ac.
(79,293 SF)

EX. 38"OAK

EX. 30"+POPLARS

EX. 42"POPLAR

EX. 34"BEECH

EX. 39"POPLAR

EX. 35"RED OAK

EX. 52"DOUBLE POPLAR

EX. 36"RED OAK

EX. 36"BEECH

75' USE 1 STREAM BUFFER

PUBLIC DRAINAGE, UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

CLARK'S RUN

EX. 230KV PROJECTION (APPROXIMATE LOCATION)

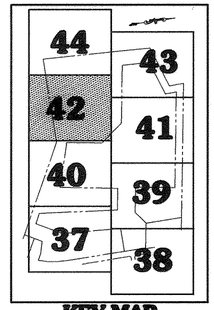
FOREST RETENTION
EASEMENT AREA J
33,031 SF THIS SHEET
TOTAL AREA = 2.72 Ac.
(119,582 SF)

MATCH LINE SEE SHEET 40

AS-BUILT CERTIFICATION

STATE OF MARYLAND
DOMENICK W. COLANGELO
No. 27200
PROFESSIONAL ENGINEER

9/1/07
DOMENICK W. COLANGELO #27200 DATE



KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) — S
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS — 370
- PROP. CONTOURS — 400 / 398
- TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT MB — DATE 4/1/03

DATE	NO.	REVISION
3/31/09	1	REVISE DRIVEWAY LOCATION & FOREST CON. EASEMENTS, SUBSTITUTE SHEET

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

STATE OF MARYLAND
830
DAVID T. DOWS
REGISTERED PROFESSIONAL ENGINEER
DAVID T. DOWS #830

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 FCP6.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	42 OF 47

SDP-02-75

P:\project\00287\1-0\Engr\Plans\FCP6.dwg, Layout1, 03/06/2003 12:18:57 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

MATCH LINE SEE SHEET 44

MATCH LINE SEE SHEET 42

MATCH LINE SEE SHEET 41

NORTH

N 07°03'44" E 408.72'

EX.FENCE

PUBLIC DRAINAGE, UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

FOREST RETENTION EASEMENT AREA J
11,317 SF THIS SHEET
TOTAL AREA = 2.75 Ac.
(119,582 SF)

EX.31"POPLAR

EX.40"POPLAR

75' USE 1 STREAM BUFFER

EX.31"BLACK WALNUT

EX.32"BITTERNUT HICKORY

S 02°03'44" W 380.00'

FIELD #1

FIELD #2

4" DIAM. DAM

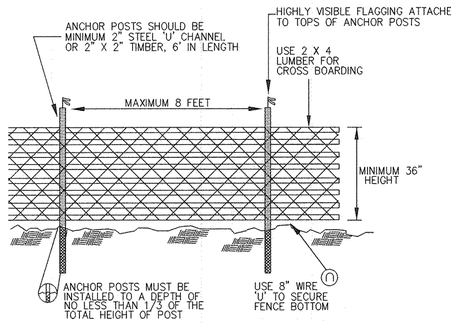
S 07°03'44" W 484.45'

N 02°17'56" W 201.57'

S 02°17'56" E 153.81'

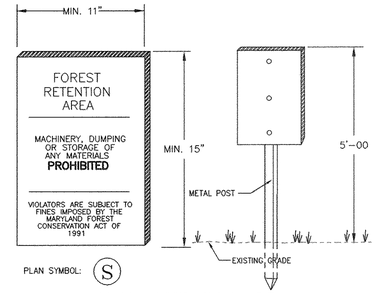
SHELTER FF 406.5

TREE PROTECTION SIGNAGE & FENCING



NOTES:
1. BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE, ONLY.
2. SUPER SILT FENCE MAY BE SUBSTITUTED FOR TREE PROTECTION FENCING.
3. BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
4. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
5. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
6. PROTECTION SIGNS ARE REQUIRED, SEE SIGN DETAIL.
7. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCING
NOT TO SCALE



FOREST RETENTION AREA SIGN DETAIL
NOT TO SCALE

NOTES:
1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
2. SEE PLAN FOR SPACING.
3. SIGNS TO BE PLACED ON METAL POSTS 5' +/- ABOVE FINISH GRADE. PLACE SIGNS EVERY 100' AROUND PERIMETER OF FOREST RETENTION AREA.

NOTE:
FOR SYNTHETIC TURF CONVERSION PLAN REVISION #10 SEE SHEETS 62-77

FOR REVISION #10

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO.: 37230

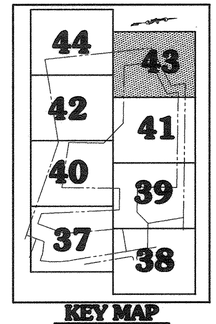
EXPIRATION DATE: 06/30/2017

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · NO. 37230 · REGISTERED PROFESSIONAL ENGINEER

8/1/07

DOMENICK W. COLANGELO #27200 DATE



KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) (S)
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS 370
- PROP. CONTOURS 400 398
- TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/4/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/4/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/8/03

DATE	NO.	REVISION
02.21.17	10	TURF FIELD CONVERSION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER / OWNER (10)
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE REVISED SITE DEVELOPMENT PLAN (10)
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

STATE OF MARYLAND · 830 · DAVID T. DOWS · REGISTERED PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO	00287 FCP7.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	43 OF 61 77

SDP-02-75

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Figure B-5 Forest Conservation Worksheet 2.0

			Acres
Net Tract Area			
A.	*Total Tract Area*	A =	115.94
B.	*Area within 100 year nontidal floodplain (drainage area greater than 400 acres or Class III waters)*	B =	14.98
C.	*Other Deductions*	C =	0.00
D.	*Net Tract Area* Net Tract Area = (A-B-C)	D =	100.96
Land Use Category: Institutional	**Percent of tract**		
E.	*Afforestation Threshold* (Net Tract Area X 15%)	E =	15.14
F.	*Conservation Threshold* (Net Tract Area X 20%)	F =	20.19
Existing Forest Cover			
G.	***Existing Forest Cover within the Net Tract Area***	G =	30.74
H.	*Area of Forest Above Conservation Threshold* If the Existing Forest Cover (G) is greater than Conservation Threshold (F), then H = Existing Forest Cover (G) - Conservation Threshold (F)	H =	10.55
Break Even Point			
I.	*Break Even* (Amount of forest that must be retained so that no mitigation is required) If the area of forest above the Conservation Threshold is greater than zero, then I = (0.2 X the area of forest above Conservation Threshold (H)) + the Conservation Threshold (F)	I =	22.30
J.	*Forest Clearing Permitted Without Mitigation* J = Existing Forest Cover (G) - Break Even Point (I)	J =	8.44
Proposed Forest Clearing			
K.	***Total Area of Forest to be Cleared***	K =	8.08
L.	*Total Area of Forest Remaining* L = Existing Forest Cover (G) - forest to be cleared (K)	L =	22.66
Planting Requirements			
If you are retaining forest at or above the break even point (I), no planting is required. If not, calculate the planting requirement below.			
M.	*Reforestation for Clearing Above the Conservation Threshold* (1) if the total area of forest to be retained (L) is greater than or equal to the Conservation Threshold (F), then M = the area of forest to be cleared (K) X 0.25. or (2) If the forest to be retained (L) is less than the Conservation Threshold (F), then M = area of forest above Conservation Threshold (H) X 0.25	M =	0.00
N.	*Reforestation for Clearing Below the Conservation Threshold* (1) If Existing Forest Cover (G) is greater than Conservation Threshold (F) and the forest to be retained (L) is less than the Conservation Threshold (F), then N = 2.0 X (the Conservation Threshold (F) - the forest to be retained (L)) (2) If Existing Forest (G) is less than or equal to the Conservation Threshold (F), then N = 2.0 X Forest to be cleared (K).	N =	0.00
P.	*Credit for Retention Above the Conservation Threshold* If the area of forest to be retained (L) is greater than the Conservation Threshold (F), then P = L - F	P =	2.47
Q.	*Total Reforestation Required* Q = M + N - P	Q =	0.00
R.	*Total Afforestation Required* (1) If Existing Forest Cover (G) is less than the Afforestation Threshold (E) then R = the Afforestation Threshold (E) - the Existing Forest Cover (G) (2) If Existing Forest Cover (G) is less than the Afforestation Threshold (E) and you are clearing forest, then R = the Afforestation Threshold (E) - the Existing Forest Cover (G) + (2.0 X Forest to be Cleared (K))	R =	0.00
S.	*Total Planting Requirement* S = Q + R	S =	0.00

Fee-in-lieu @ $0.50/ square foot (Howard County) $0

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER

8/1/07

DOMENICK W. COLANGELO #27200 DATE

FOREST CONSERVATION SEQUENCE OF OPERATIONS

1. Prior to beginning any grading operations on this site or on a respective lot, there shall be a preconstruction meeting held at the site which is to include the Contractor and representatives from Patton Harris Rust & Associates, pc. The Howard County Department of Planning and Zoning (DPZ) and the owner will be notified by the Contractor as to the time and place of the field meeting, should they wish to send a representative. The purpose of this meeting will be to review the approved FCP and to field verify the correct Limits of Disturbance (LOD).

2. The Limits of Disturbance (LOD) pertinent to the preservation of wooded areas shall be staked in the field with final adjustments being made as necessary to insure adequate protection of the Critical Root Zone of trees designated for retention. Stakes to be used shall be those specified for the "TREE PROTECTION DEVICE" to which approved protective material will be attached. Alternate means of defining the LOD may be used if approved by the DPZ.

3. All forest retention areas shall be protected by highly visible, well anchored temporary protection devices (see detail), which shall be securely in place prior to any clearing or grading operations.

4. Install tree protection signage.

5. Grading operations or other construction operations which could dislodge or otherwise damage the protective devices shall be avoided along the edges of the LOD lines if possible. Any protective devices which are damaged during site construction operations shall be properly repaired immediately by the Contractor.

6. After site grading, utility access road, and driveway construction have been completed, all trees adjacent to the LOD line shall be inspected for indications of crown die-back (summer indicator), damage within respective critical root zones or any dead wood or other conditions which might be hazardous to pedestrians, buildings, utility lines vehicular access ways or parked vehicles.

7. Should there be evidence of any damage to tree trunks, branches or the critical root zone of trees within the protected areas, or to isolated specimen trees to be preserved, the damage shall be examined within a period of two (2) days from the date of observance by a licensed tree care professional. Exposed roots should be covered immediately to a depth of 6 - 8 inches with soil, preferably mixed with 50% peat moss or leaf mold.

8. Remove damaged, dead or dying trees or limbs only if the trees or limbs pose an immediate safety hazard to buildings, utility lines, vehicles, or access and egress drives or pedestrian areas. Trees designated for pruning or removal shall be pruned or removed using equipment and methods which will not damage or destroy adjacent large trees or understory trees or shrubs designated for retention.

9. All temporary forest protection devices will be carefully removed after all general construction, necessary tree surgery, removal of debris, etc. regrading and reseeding of sediment and erosion control disturbance have been completed and acceptance and approval of the work and site conditions have been given by the DPZ.

GENERAL NOTES:

1. THE MAJORITY OF THE PLAN HAS BEEN PREPARED USING COUNTY AERIAL TOPOGRAPHY. PORTIONS OF THE EXISTING AERIAL TREELINE AND SPECIMEN TREES WERE FIELD APPROXIMATED.

2. SOME SPECIMEN TREE LOCATIONS AND PORTIONS OF THE TREE LINE ARE FIELD APPROXIMATED.

3. NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.

4. NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.

5. THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.

6. THERE ARE NO EXISTING BUILDINGS ON THE SITE. STRUCTURES ARE PROPOSED ON PARCEL 'A' AS SHOWN. NO STRUCTURES ARE PROPOSED ON PARCEL 'B' WITH THIS PLAN.

7. THIS SITE CONTAINS ONE HYDRIC SOIL, HATBORO (Ha), AND TWO SOILS WITH POSSIBLE HYDRIC INCLUSIONS, GLENVILLE (GnB2) AND CODORUS (Co).

8. THE FSD, DATED NOVEMBER 30, 2001, HAS BEEN PREPARED BY PATTON HARRIS RUST & ASSOCIATES IN CONJUNCTION WITH THIS PROJECT.

9. JUSTIFICATION FOR FOREST REMOVAL: IN ORER TO DEVELOP THE ATHLETIC FACILITY, SMALL PORTIONS OF THE FORESTED AREA NEED TO BE CLEARED.

10. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.

11. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.

12. THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SITE DEVELOPMENT HAS BEEN MET BY PLACING 23.10 AC OF FOREST IN FOREST RETENTION EASEMENTS. SURETY IN THE AMOUNT OF $201,247.20 (1,006,236 SF x $0.20) HAS BEEN POSTED FOR THESE EASEMENTS. 22.66 AC OF FOREST HAVE BEEN RETAINED. EASEMENT B CONTAINS WITHIN IT 0.44 AC OF UNFORESTED AREA AND 1.98 AC OF FORESTED AREA.

13. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

14. BEARINGS AND DISTANCES FOR THE FOREST CONSERVATION EASEMENT ARE PROVIDED ON A PLAT OF FOREST CONSERVATION EASEMENT AS PLAT NO. 15652-15657 RECORDED ON NOVEMBER 4, 2002.

⚠ SEE REVISED NOTE 12 ON SHEET 47

FOREST CONSERVATION PROGRAM

I. OBJECTIVE:

IT IS THE OBJECTIVE OF THE FOREST RETENTION PORTION OF THE PROPOSED SOCCER ASSOCIATION OF COLUMBIA DEVELOPMENT TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING EXISTING WOODED AREAS.

II. PRESERVATION:

FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.

III. POST CONSTRUCTION MANAGEMENT PRACTICE:

A TWO (2) YEAR POST-CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE PROBABILITY OF A HIGH SURVIVAL RATE INCLUDES THE FOLLOWING:

- MAINTENANCE OF SIGNS, FENCES AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED INTRUSIONS AND DAMAGE.
- CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
- ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.

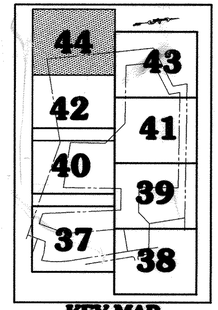
FOREST CONSERVATION AREAS & TABULATION

FOREST CONSERVATION AREA A	0.80 ACRES
AREA B	2.42 ACRES
AREA C	0.28 ACRES
AREA D	5.98 ACRES
AREA E	1.08 ACRES
AREA F	0.28 ACRES
AREA G	7.66 ACRES
AREA H	1.82 ACRES
AREA I	0.93 ACRES
AREA J	2.75 ACRES
TOTAL	23.10 ACRES

⚠ 1

SEE REVISED TABLES ON SHEET 47

NORTH

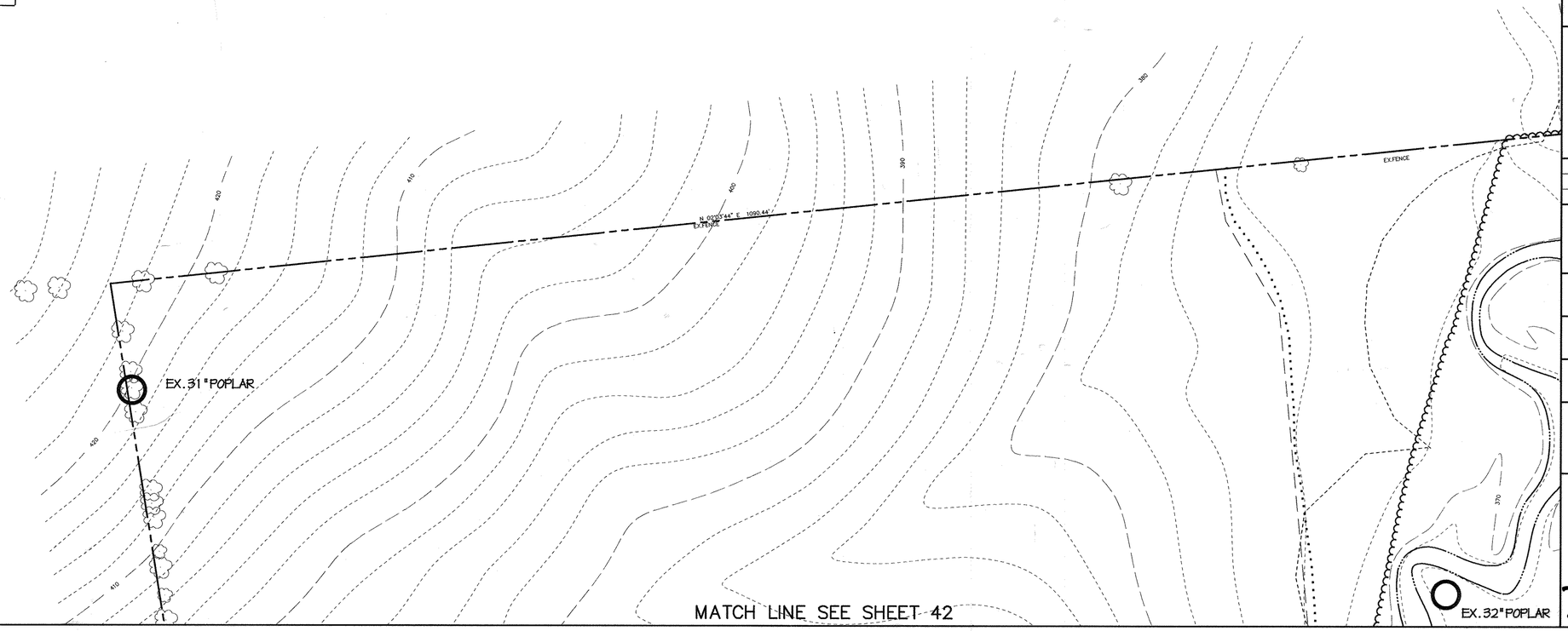


KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) — S
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS — 370
- PROP. CONTOURS — 400 / 398
- TREE ≥ 30" DIAM.

MATCH LINE SEE SHEET 43



MATCH LINE SEE SHEET 42

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE 4/1/03

DATE	NO.	REVISION
3/31/07	1	REVISE DRIVEWAY LOCATION & FOREST CON. EASEMENTS

OWNER	DEVELOPER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8980-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03 DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — PROFESSIONAL ENGINEER

DAVID T. DOWS #830

DESIGNED BY :	P.J.S.
DRAWN BY:	G.T.H.
PROJECT NO :	00287 FCP8.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	44 OF 61

SDP-02-75

P:\project\00287\1.0\Engr\Plans\FCP8.dwg, Layout1, 03/08/2003 12:21:35 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

MD STATE GRID NAD 83

1002
N 575,133.36
E 1,348,261.19
ELEV.: 403.13

1000
N 575,452.22
E 1,348,341.67
ELEV.: 415.10

1001
N 575,309.79
E 1,348,641.26
ELEV.: 405.75

5' CHAINLINK FENCE

EX. LIGHT POLE

EX. INLET
TOP = 402.95
INV OUT = 400.15

15" PVC

EX. INLET
TOP = 402.92
INV IN = 398.89
INV IN = 399.12
INV OUT = 398.67

EX. INLET
TOP = 402.87
INV IN = 398.61
INV OUT = 399.47

EX. INLET
TOP = 402.46
INV IN = 401.56
INV OUT = 400.31

E 1348300
N 575400
E 1348600

EX. FIELD BOUNDARY LINES

EX. BITUMINOUS WALK

DRAINAGE AREA #1
TO POND 3
AREA = 21.2 Ac.
RCN = 67
Tc = 0.26 hr.

DRAINAGE AREA #2
TO POND 2
AREA = 10.2 Ac.
RCN = 69
Tc = 0.25 hr.

IRRIGATION SPRINKLERS (TYP)

EX. SPRINKLER VALVES

30" PVC

EX. SDMH
TOP = 402.85
INV IN = 393.63
INV OUT = 394.65

EX. INVERT
TOP = 402.20
INV IN = 394.20
INV OUT = 394.05

EX. INLET
TOP = 402.40
INV IN = 394.95
INV OUT = 394.90

EX. RIP RAP

6" PVC

4" PVC

EX. FIELD SIGN

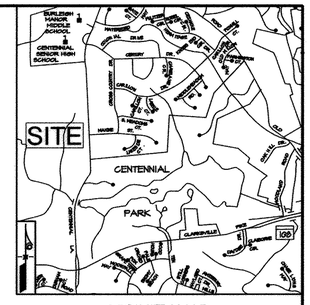
EX. MACADAM

EX. 10' BITUMINOUS WALK

EX. ARTIFICIAL SOCCER FIELD

4/10/08

20' 0 20' 40'
SCALE: 1"= 20'



VICINITY MAP
SCALE: 1" = 2000'

SITE NOTES

1. PROPERTY OWNER: SOCCER ASSOCIATION OF COLUMBIA
   4560 CENTENNIAL LANE
   ELLICOTT CITY, MARYLAND 21042
2. SITE DATA:
   TAX MAP / GRID: 30 / 1
   LIBER / FOLIO: 7199 / 255
   TRACT AREA: 52.34 Ac.
   ELECTION DISTRICT: 1
   ADC MAP / GRID: 11/F13 & 15/F1
   ADDRESS: 4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
3. CURRENT USE: PARK
4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 145,930 sqft or 3.35 Ac.
6. TOTAL CUT: 23,000 CF
   TOTAL FILL: 23,000 CF
   * ALL CUT WILL BE KEPT ON SITE AND USED ON PROP. BERMS.
7. NO WATER OR SANITARY UTILITES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
8. PROPERTY SHOWN HEREON LIES WITHIN ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA COMMUNITY PANEL No. 2400440002B C, EFFECTIVE DATE APRIL 02, 1997.
9. EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY KCI TECHNOLOGIES, INC CONDUCTED ON OR ABOUT OCTOBER 15, 2007.
10. COURSES AND COORDINATES SHOWN HEREON ARE BASED ON A GPS SURVEY STABLISHED IN HOWARD COUNTY, MD REFLECTING A HORIZONTAL ATUM BASED ON NAD 83/91 AND A VERTICAL DATUM OF NAVD 88 AND HAS BEEN DERIVED FROM THE FOLLOWING NGS CONTROL STATIONS:

STATION	NORTH	EAST	ELEVATION
30DC	N: 571,937.6734	E: 1,349,547.1212	421.48
24GB	N: 574,069.4554	E: 1,350,441.8587	442.52

11. ALL ABOVE GROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION.

LEGEND

- 408 — EX. MINOR CONTOUR
- 410 — EX. MAJOR CONTOUR
- EX. SOCCER FIELD
- EX. STORM DRAIN
- EX. EDGE OF PAVEMENT
- EX. FENCE
- DRAINAGE AREA
- EX. LIGHT POLE
- EX. SPRINKLER HEAD
- EX. SPRINKLER VALVE

PURPOSE STATEMENT - 4-4-08
CONVERSION OF NATURAL TURF FIELD TO AN ARTIFICIAL TURF FIELD WITH A 30'x280' ARTIFICIAL SURFACE PRACTICE AREA.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 4/30/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/25/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/29/08

STATE OF MARYLAND — LANE K. CRAWLEY — No. 25058 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25058 EXPIRATION DATE: 11-17-08

OWNER:	DEVELOPER:
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8480-D ROUTE 108 COLUMBIA, MD 21045 410-772-4373

PERMIT INFORMATION CHART

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA			N/A		A
PLAT# OR L/F	BLOCK#	ZONING	TAX MAP NO.	ELECT DISTR	CENSUS TRACT
13662-13697	1	RC-DEO	30	2nd	6023.01
WATER CODE			SEWER CODE		
N/A			W7202000		

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
14502 GREENVIEW DRIVE
LAUREL, MARYLAND 20708
PHONE: (410) 792-9086
FAX: (410) 792-7419
www.kci.com

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 4/4/08
SCALE 1" = 20'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA
NORTHRUP FIELDS AT COVENANT PARK
FIELD #5

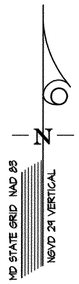
EXISTING CONDITIONS

REVISED SITE DEVELOPMENT PLAN
4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO. EC
SHEET 44-A OF ~~44~~ 77
KCI JOB NUMBER 16071202

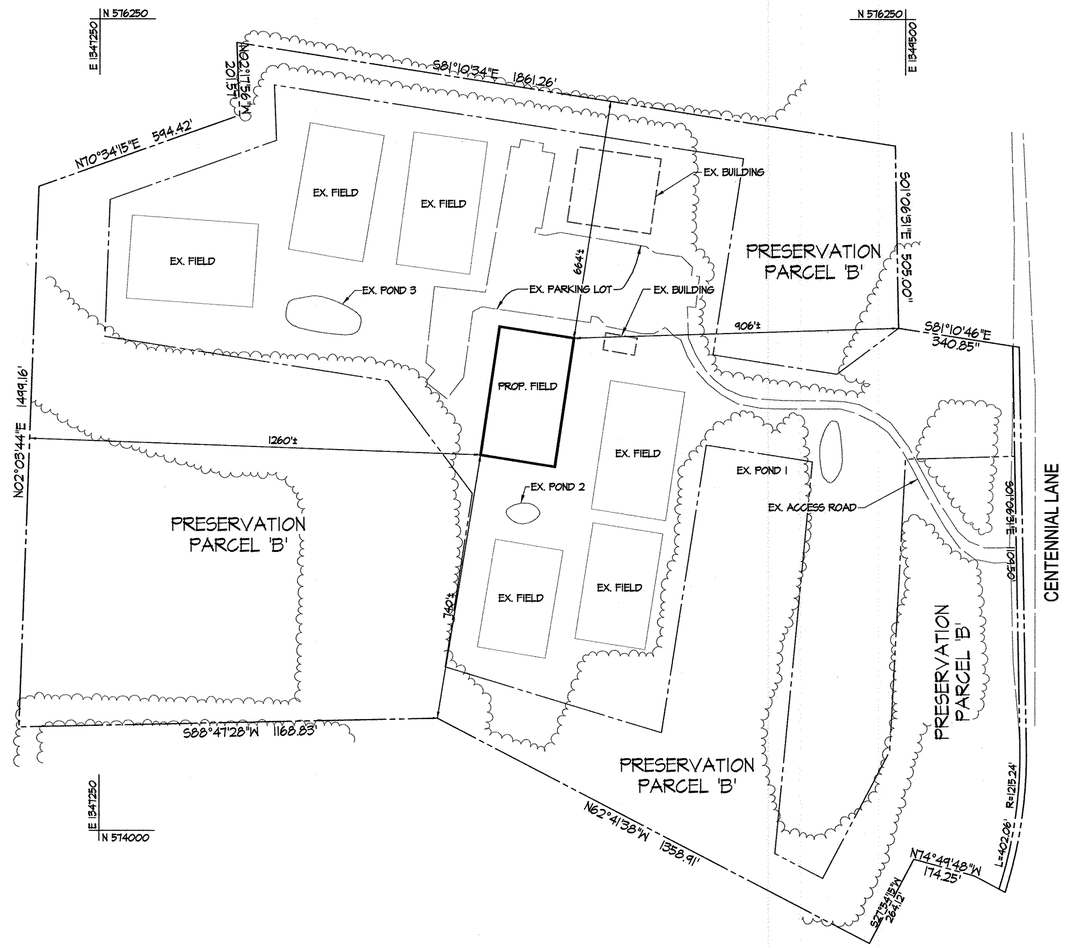
SDP-02-075

PLOTTED: 10/24/08
BY: CHRISTOPHER
FILE: SP1.DGN



HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

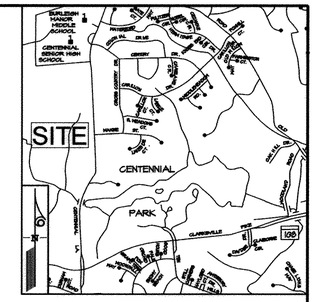
1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. 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.
7. Site Analysis:
   - Total Area of Site: 52.34 Acres
   - Area Disturbed: 3.35 Acres
   - Area to be roofed or paved: 0 Acres
   - Area to be vegetatively stabilized: 0 Acres
   - Total Cut: 23,000 Cu. Yds.
   - Total Fill: 23,000 Cu. Yds.
   - Offsite waste/borrow area location: NONE
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. 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.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.



OVERALL SITE PLAN

200' 0 200' 400'

SCALE: 1" = 200'



VICINITY MAP

SCALE: 1" = 2000'

SITE NOTES

1. PROPERTY OWNER: SOCCER ASSOCIATION OF COLUMBIA, 4560 CENTENNIAL LANE, ELLICOTT CITY, MARYLAND 21042
2. SITE DATA:
   - TAX MAP / GRID: 30 / 1
   - LIBER / FOLIO: 7194 / 255
   - TRACT AREA: 52.34 Ac.
   - ELECTION DISTRICT: 1
   - ADC MAP / GRID: 11/F13 & 15/F1
   - ADDRESS: 4560 CENTENNIAL LANE, ELLICOTT CITY, MD 21042
3. CURRENT USE: PARK
4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 145,930 sqft or 3.35 Ac.
6. TOTAL CUT: 23,000 CF
   TOTAL FILL: 23,000 CF
   * ALL CUT WILL REMAIN ON SITE AND USED ON PROP. BERMS.
7. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
8. PROPERTY SHOWN HEREON LIES WITHIN ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA COMMUNITY PANEL No. 2400440022 C, EFFECTIVE DATE APRIL 02, 1997.
9. EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY KCI TECHNOLOGIES, INC CONDUCTED ON OR ABOUT OCTOBER 15, 2007.

LEGEND

- PROPERTY LINE
- EX. TREELINE
- EX. FIELD
- EX. BUILDING
- EX. EDGE OF ROAD
- EX. EDGE OF WATER
- PROP. FIELD

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 4.4.08

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 4/10/08

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE 4/22/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 4/22/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/21/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/21/08

STATE OF MARYLAND — CHARLES K. CRAMPTON — No. 25058 — PROFESSIONAL ENGINEER — 4.4.08

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25058 EXPIRATION DATE: 11-17-08

OWNER:	DEVELOPER:
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8480-D ROUTE 108 COLUMBIA, MD 21045 410-772-9373

PERMIT INFORMATION CHART

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA			N/A	A
PLAT# OR L/F	BLOCK#	ZONING	TAX MAP NO.	ELECT DISTR.	CENSUS TRACT
15692-15697	1	RC-DEO	30	2nd	6073.01
WATER CODE	N/A		SEWER CODE	9720200

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
14502 GREENVIEW DRIVE
LAUREL, MARYLAND 20708
PHONE: (410) 792-8086
FAX: (410) 792-7419
www.kci.com

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 4/4/08
SCALE 1" = 200'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA
NORTHRUP FIELDS AT COVENANT PARK
FIELD #5

OVERALL SITE PLAN

REVISED SITE DEVELOPMENT PLAN

4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO. SEC1

SHEET 44-B OF 44-F 77

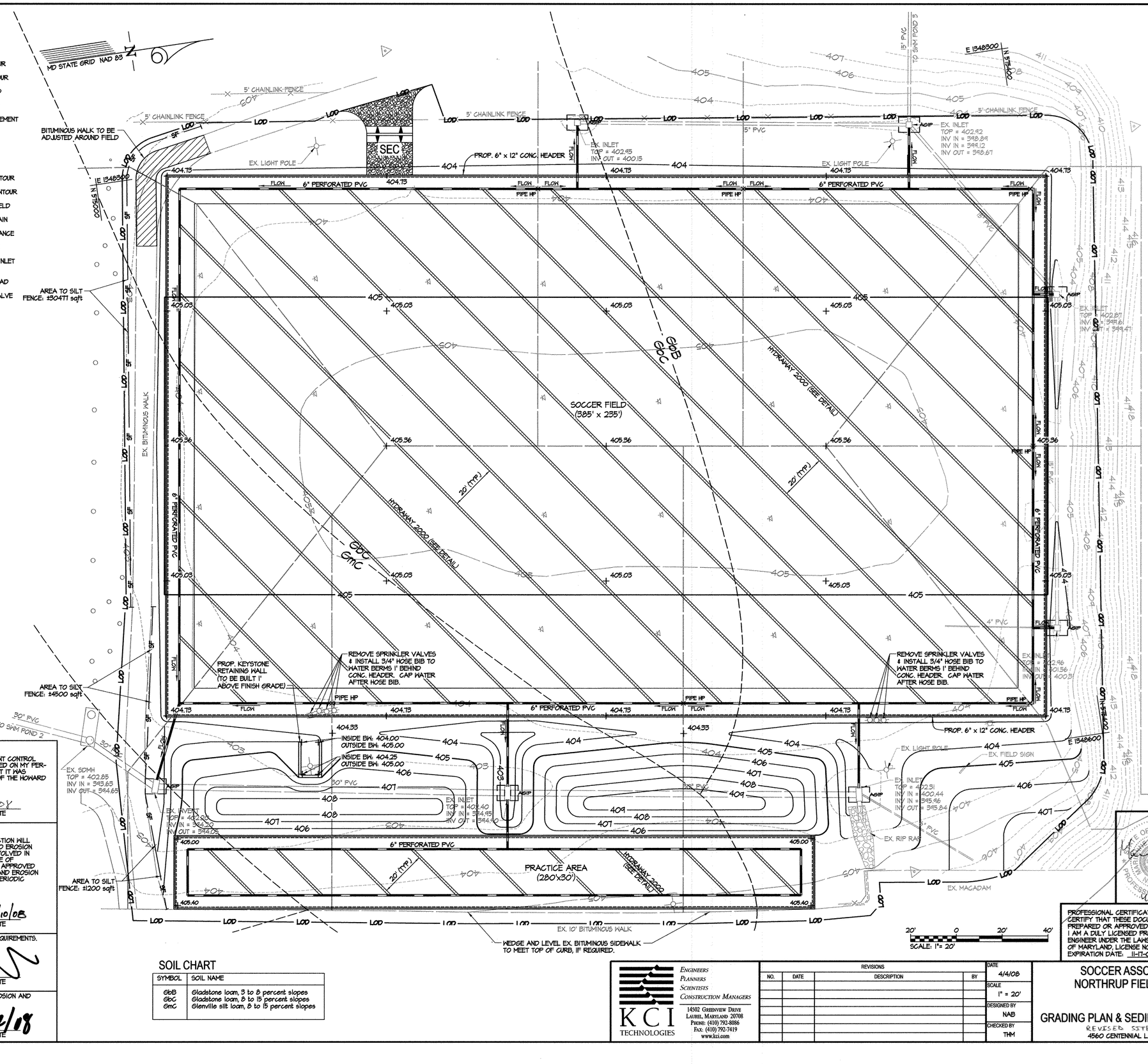
KCI JOB NUMBER 16071202

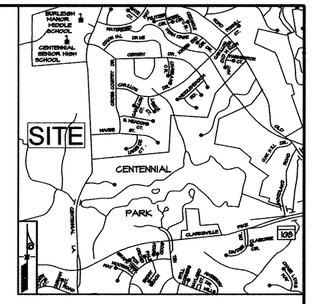
SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $XREFS$

LEGEND

- 408 — EX. MINOR CONTOUR
- 410 — EX. MAJOR CONTOUR
- EX. SOCCER FIELD
- EX. STORM DRAIN
- EX. EDGE OF PAVEMENT
- EX. FENCE
- DRAINAGE AREA
- EX. LIGHT POLE
- 408 — PROP. MINOR CONTOUR
- 410 — PROP. MAJOR CONTOUR
- PROP. SOCCER FIELD
- PROP. STORM DRAIN
- LOD — LIMIT OF DISTURBANCE
- SF — PROP. SILT FENCE
- AGIP — PROP AT GRADE INLET PROTECTION
- EX. SPRINKLER HEAD
- EX. SPRINKLER VALVE





VICINITY MAP

SCALE: 1" = 2000'

SITE NOTES

1. PROPERTY OWNER: SOCCER ASSOCIATION OF COLUMBIA
   4560 CENTENNIAL LANE
   ELLICOTT CITY, MARYLAND 21042
2. SITE DATA:
   - TAX MAP / GRID: 30 / 1
   - LIBER / FOLIO: 7199 / 255
   - TRACT AREA: 52.34 Ac.
   - ELECTION DISTRICT: 1
   - ADC MAP / GRID: 11/F13 & 15/F1
   - ADDRESS: 4560 CENTENNIAL LANE ELLICOTT CITY, MD 21042
3. CURRENT USE: PARK
4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 145,930 sqft or 3.35 Ac.
6. TOTAL CUT: 23,000 CF
   TOTAL FILL: 23,000 CF
   * ALL CUT WILL BE KEPT ON SITE AND USED ON PROP. BERMS.
7. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
8. PROPERTY SHOWN HEREON LIES WITHIN ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA COMMUNITY PANEL No. 2400440002B C, EFFECTIVE DATE APRIL 02, 1997.
9. EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY KCI TECHNOLOGIES, INC CONDUCTED ON OR ABOUT OCTOBER 15, 2007.
10. COURSES AND COORDINATES SHOWN HEREON ARE BASED ON A GPS SURVEY STABLISHED IN HOWARD COUNTY, MD REFLECTING A HORIZONTAL ATUM BASED ON NAD 83/91 AND A VERTICAL DATUM OF NAVD 88 AND HAS BEEN DERIVED FROM THE FOLLOWING NGS CONTROL STATIONS:

STATION	NORTH	EAST	ELEVATION
30DC	N: 571,937.6734	E: 1,344,571.1212	421.43
24GB	N: 574,069.4554	E: 1,350,441.8587	442.32

11. ALL ABOVE GROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION.

NOTE:
CONTRACTOR TO PROVIDE TWO HOSE BIBS AND QUICK DISCONNECTS TEES ON EAST SIDE OF THE FIELD AFTER IRRIGATION SYSTEM IS DEMOLISHED INSIDE THE EXISTING TURF FIELD.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 4/30/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/30/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/29/08

OWNER:	DEVELOPER:
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8480-D ROUTE 108 COLUMBIA, MD 21045 410-772-4515

STATE OF MARYLAND — MARC A. CEMA — No. 25058 — PROFESSIONAL ENGINEER — 4-4-08

PERMIT INFORMATION CHART

SUBDIVISION NAME: COVENANT BAPTIST CHURCH OF WEST COLUMBIA			SECTION/AREA: N/A		LOT/PARCEL NO.: A
PLAT OR L/F: 8962-9687	BLOCK#: 1	ZONING: RC-DEO	TAX MAP NO.: 30	ELECT DISTR: 2nd	CENSUS TRACT: 6025.01
WATER CODE: N/A			SEWER CODE: 9720000		

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25058 EXPIRATION DATE: 11-17-08

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 4.4.08

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 4/10/08

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE 4/22/08

SOIL CHART

SYMBOL	SOIL NAME
GbB	Gladstone loam, 3 to 8 percent slopes
GbC	Gladstone loam, 8 to 15 percent slopes
GmC	Glenville silt loam, 8 to 15 percent slopes

PLOTTED: 8/DATE
BY: USER NAME
FILE: $FILE$

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
14502 GREENVIEW DRIVE
LAUREL, MARYLAND 20708
PHONE: (410) 792-9086
FAX: (410) 792-7419
www.kci.com

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE: 4/4/08
SCALE: 1" = 20'
DESIGNED BY: NAB
CHECKED BY: THM

SOCCER ASSOCIATION OF COLUMBIA
NORTHRUP FIELDS AT COVENANT PARK
FIELD #5

GRADING PLAN & SEDIMENT EROSION CONTROL PLAN

REVISED SITE DEVELOPMENT PLAN
4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO.: SEC2
SHEET 44-C OF 44F 77
KCI JOB NUMBER: 16071202

SDP-02-075

SECTION I - VEGETATIVE STABILIZATION METHODS & MATERIALS

A. Site Preparation

I. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.

II. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.

III. Schedule required soil test to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

I. Soil test must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be preformed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

II. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.

III. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98 - 100% will pass through a #20 mesh sieve.

IV. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

C. Seedbed Preparation

I. Temporary Seeding

a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

II. Permanent Seeding

a. Minimum soil conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0
2. Soluble salts shall be less that 500 parts per million (ppm).
3. The soil shall contain less that 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericea lespedeza is to be planted, then an sandy soil (< 30% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter of weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and specification for Topsoil.

b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

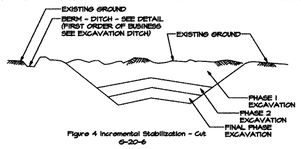


Figure 4 Incremental Stabilization - Cut
G-20-6

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

c. Apply soil amendments as per soil test or as included on the plans.

d. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will note permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 -3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

I. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

II. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80^ F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding

I. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.

a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P2O5 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.

b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

II. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to proved good seed to soil contact.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

III. Drill or Cultipacker Seeding: Mechanized seeder that apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after panting.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (In order of preference)

I. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

II. Wood Cellulose Fiber Mulch (WCFM)

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.

b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

c. WCFM, including dye, shall contain no germination or growth inhibiting factors.

d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogenous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic.

f. WCFM must conform to the following physical requires: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, as content of 1.8% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

I. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

II. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acres. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.

III. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acres. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:

I. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.

II. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acres. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

III. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax N, Terra TAck AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

IV. Lightweight: plastic netting may be stapled over the mulch according to manufacture's recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization - Cut Slopes

I. All cut slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.

II. Construction sequence (refer to Figure 4, page G-20-6):

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.

b. Perform phase 1 excavation, dress, and stabilize.

c. Perform phase 2 excavation, dress, and stabilize. Overseed phase 1 areas as necessary.

d. Perform final phase excavation, dress, and stabilize. Overseed previously seeded areas as necessary.

J. Incremental Stabilization of Embankments - Fill Slopes

I. Embankments shall be constructed in lifts as prescribed on the plans.

II. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.

III. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.

IV. Construction sequence: Refer to Figure 4, page G-20-7.

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct Slope Silt Fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.

b. Place phase 1 embankment, dress and stabilize.

c. Place phase 2 embankment, dress and stabilize.

d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

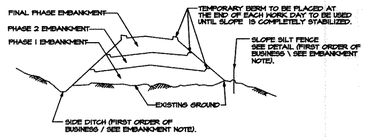


Figure 5 Incremental Stabilization - Fill
G-20-7

Section II- Temporary Seeding

Vegetation - annual grass or grain used to provide cover on disturbed areas for up 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed Mixtures - Temporary Seeding

I. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary Seeding Summary, page G-20-8, along with application rates, seeding dates and seeding depths. If this Summary is not put on the plans and completed, then Table 26 must be put on the plans.

II. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Temporary Seeding Summary

Seed Mixture (Hardiness Zone 7A From Table 26)					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
	RYE PLUS FOXTAIL MILLET	150	2/1 TO 11/30	1"		
					600 lb/ac (13 lb/1000 sf)	2 tons/ac (100 lb/1000 sf)

Section III - Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding

I. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see sections III Sod and II Turfgrass.

II. For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

(46-0-0) at 3.5 lbs/1000 s.f. (150 lbs/ac), in addition to the above soil amendments shown in the table, page G-20-9, to be performed at the time of seeding.

Permanent Seeding Summary

Seed Mixture (Hardiness Zone 7A From Table 25)					Fertilizer Rate (10-20-20)			
No.	Species	Application Rate (lb/ac)	*Seeding Dates	Seeding Depths	N	P2O5	K20	Lime Rate
5	TALL FESCUE PERN. RYE GRASS KENT BLUEGRASS	125 15 10	3/1 TO 5/15 OR 8/15 TO 11/15	1 /2"	40 lb/ac (2.0 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 sf)	2 tons/ac (100 lb/ 1000 sf)

*For 5-16 to 8-14 10 lbs. of Millet to Mixture #5
SECTION IV - SOD: to provide quick cover on disturbed areas (2:1 grade or flatter)

A. General specifications

I. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.

II. Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/2", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.

III. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.

IV. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

V. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.

B. Sod Installation

I. During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.

II. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.

III. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.

IV. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

C. Sod Maintenance

I. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.

II. After the first week, sod watering is required as necessary to maintain adequate moisture content.

III. The first moving of should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section IV- Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. Areas to receive seed shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1.5 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.

Note: Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

A. Turfgrass Mixtures

I. Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and eastern shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

II. Kentucky Bluegrass/Perennial Rye - Full sun mixture - For use when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding rate: 2 pounds mixture/ 1000 square feet. A minimum of 3 Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from 10% to 35% of the mixture by weight.

III. Tall Fescue/Kentucky Bluegrass - Full sun mixture - For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; certified Tall Fescue Cultivars 95 - 100%, certified Kentucky Bluegrass Cultivars 0 - 5%. Seeding rate: 5 to 8 lb/ 1000 s.f. One or more cultivars may be blended.

IV. Kentucky Bluegrass/Fine Fescue - Shade mixture - For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; certified Kentucky Bluegrass Cultivars 30-40% and certified Fine Fescue and 60-70%. Seeding rate: 1.5- 3 lbs/1000 square feet. A minimum of 3 Kentucky bluegrass cultivars must be chosen, with each

Note: Turfgrass varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Mimeo #77, "Turfgrass Cultivar Recommendations for Maryland".

cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

B. Ideal times of seeding

Western MD: March 15-June 1, August 1- October 1 (hardiness zones - 5B, 6A)
Central MD: March 1- May 15, August 15 - October 15 (hardiness zone -6B)
Southern MD Eastern Shore: March 1- May 15, August 15 - October 15 (Hardiness Zone - 7A, 7B)

C. Irrigation

If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2" - 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. Repairs and Maintenance

Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season.

I. Once the vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized.

II. If the stand provides less that 40% ground coverage, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.

III. If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally

IV. Maintenance fertilizer rates for permanent seedings are shown in Table 24. For lawns and other medium to high maintenance turfgrass areas, refer to the University of Maryland publication "Lawn Care in Maryland" Bulletin No. 171.

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 4.4.08

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 4/10/08

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE 4/22/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 4/23/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/25/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/29/08

STATE OF MARYLAND — MARK K. CROSS — No. 25058 — PROFESSIONAL ENGINEER — 4.4.08

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25058 EXPIRATION DATE: 11-17-08

OWNER:	DEVELOPER:
COVENANT BAPTIST CHURCH OF WEST COLUMBIA SUITE 100 6851 OAK HALL LANE COLUMBIA, MD 21045	SOCCER ASSOCIATION OF COLUMBIA, INC. 8480-D ROUTE 108 COLUMBIA, MD 21045 410-772-4373

PERMIT INFORMATION CHART

SUBDIVISION NAME		SECTION/AREA	LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA		N/A	A
PLAT# OR L/F	BLOCK#	ZONING	TAX MAP NO.	ELECT DISTR.	CENSUS TRACT
15652-16071	1	RC-DEO	30	2nd	6035.01
WATER CODE		SEWER CODE	
N/A		7320300	

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
14502 GREENVIEW DRIVE
LAUREL, MARYLAND 20708
PHONE: (410) 792-8066
FAX: (410) 792-7419
www.kci.com

REVISIONS				
NO.	DATE	DESCRIPTION	BY	

DATE 4/4/08
SCALE AS SHOWN
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA
NORTHRUP FIELDS AT COVENANT PARK
FIELD #5

SEDIMENT & EROSION CONTOL NOTES & DETAILS
REVISED SITE DEVELOPMENT PLAN
4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO. SEC3
SHEET 44-D OF 44-F 77
KCI JOB NUMBER 16071202

PLOTTED: $DATE$
PLOT BY: $USERNAME$
FILE NAME: $FILENAME$

SDP-02-075

TOPSOIL STANDARDS AND SPECIFICATIONS

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 purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications to the placement of topsoil.
Lime shall be disturbed

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
   I. 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 materials larger than 1.5" in diameter.
   II. Topsoil must be free of plants or plant parts such as 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 uniformly over designate areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

III. For sites having disturbed areas under 5 acres:
   I. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

IV. For site having disturbed areas over 5 acres:
   I. On soil 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 500 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 as elapsed (14 days min.) to permit dissipation of phyto-toxic materials. 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.

24.0 MATERIALS AND SPECIFICATIONS
TABLE 21 GEOTEXTILE FABRICS

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI MIN.
A	0.50**	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40 - 0.80 *	90	140

* US STD. SIEVE CW-02215 ** .30 MM. MAX. FOR SUPER SILT FENCE

THE PROPERTIES SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:
- APPARENT OPENING SIZE MSMT 323

-GRAB TENSILE STRENGHT ASTM D 1682 4"x8" SPECIMEN 1"x2" CLAMPS, 12"/ MIN. STRAIN RATE IN BOTH PRINCIPAL DIRECTIONS OF GEOTEXTILEFABRIC.

-BURST STRENGHT ASTM D 3786

THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, AND MILL BE ROT AND MILDEW RESISTANT. IT SHALLBE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS, AND COMPOSED OF A MINIMUM OF 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES. THE GEOTEXTILE FABRIC SHALL RESISTDETERIORATION FROM ULTRAVIOLET EXPOSURE.

IN ADDITION CLASSES A THROUGH E SHALL HAVE A 0.01 CM/SEC. MINIMUM PERMEABILITY WHEN TESTED IN ACCORDANCE WITH MSMT 507, AND AN APPARENT MINIMUM ELONGATION OF 20 PERCENT (GD/MD)WHEN TESTED IN ACCORDANCE WITH THE GRAB TENSILE STRENGTH REQUIREMENTS LISTED ABOVE.

SILT FENCE
CLASS F GEATEXTILE FABRICS FOR ALL SILT FENCE SHALL HAVE A 50LB/IN. MINIMUM TENSILE STRENTH AND A 20 LB/IN MINIMUM TENSILE MODULES WHEN TESTED IN ACCORDANCE WITH MSMT 509. MATERIAL SHALL ALSO HAVE A 0.5 GAL./FT.SQUARE/MIN. FLOW RATE NO SEVENTY-FIVE PERCENT (75%) MINIMUMFILTERING EFFICIENCY WHEN TESTED IN ACCORDANCE WITH MSMT 322.

GEOTEXTILE FABRICS USED IN THE CONSTRUCTION OF THE SILT FENCE SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE. THE FABRIC SHALL CONTAIN SUFFICIENT AMOUNTS OF ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 12 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERTURE RANGE OF 0 TO 120 DEGREES F.

V. Topsoil Application

I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, 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, albeit 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 my 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 originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 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.

GENERAL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Sediment Control Division prior to the start of any construction (880-3450).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calender days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. 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.
7. Site Analysis:

Total Area of Site	52.34 Acres
Area Disturbed	3.35 Acres
Area to be Roofed or Paved	0 Acres
Area to be Vegetatively Stabilized	0 Acres
Total Cut	23,000 Cubic Yards
Total Fill	23,000 Cubic Yards
Offsite Waste/Borrow Area Location	NONE

8. Any sediment control practices which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County Department of Public Works Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of the 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.

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 4.4.08

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 4/10/08

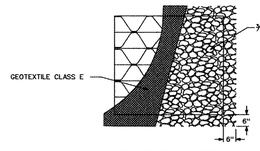
REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

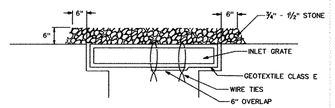
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD S.C.D. — DATE 4/22/08

DETAIL 23B - AT GRADE INLET PROTECTION



PLAN/CUT AWAY VIEW



CROSS SECTION

STANDARD SYMBOL: AGIP

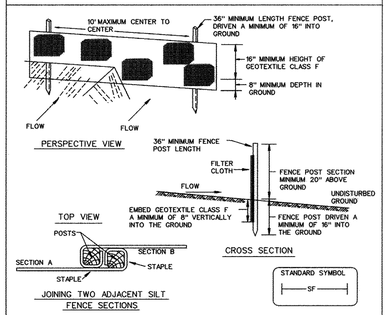
MAX. DRAINAGE AREA - ¼ ACRE

Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place ¾" to 1½" 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 - 46 - 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22. - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1½" x 1½" square (minimum) cut, or 1¾" 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 pond per linear foot.
2. 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/ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. 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 E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE

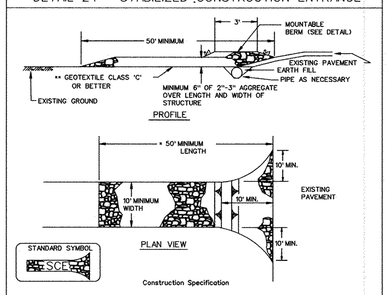
Silt Fence Design Criteria

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

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

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

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. Stone - crushed aggregate (2" to 3") or recycled or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. 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 SCE 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.
6. 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

STABILIZED CONSTRUCTION ENTRANCE

Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. 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.
4. 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.
5. 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 SCE 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.
6. 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 - 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

1.	Obtain Grading Permit.	1 DAY
2.	Notify Howard County Sediment Control Inspector for pre-construction meetings as required by note number one (No. 1) of the Standard Erosion and Control Notes shown on this sheet. Notify Miss Utility.	1 DAY
3.	Install sediment control measures (i.e. sce, inlet protection & silt fence).	1 DAY
4.	With inspectors approval, grade site within the limits of disturbance. Cap sprinkler line and strip topsoil. Construct earth mounds between Field #5 and sidewalk.	3 DAYS
5.	Construct new soccer field.	45 DAYS
6.	Install artificial turf for field and warm-up area, adjust bituminous path.	1 WEEK
7.	Install drain lines to inlets from field & hose bibs, relocate signs	3 DAYS
8.	Stabilize all disturbed areas.	1 DAY
9.	With inspector's approval, remove all sediment control measures and stabilize all areas disturbed by this process.	1 DAY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 4/22/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/22/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/29/08

STATE OF MARYLAND — MARIE K. CRAWFORD — No. 25058 — PROFESSIONAL ENGINEER — 4-4-08

OWNER:
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER:
SOCCER ASSOCIATION OF COLUMBIA, INC.
8480-D ROUTE 108
COLUMBIA, MD 21045
410-772-4973

PERMIT INFORMATION CHART

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA			N/A	A
PLAT# OR L/F	BLOCK#	ZONING	TAX MAP NO.	ELECT DISTR	CENSUS TRACT
15652-15657	1	NC-CEO	50	2nd	6025.01
WATER CODE			SEWER CODE	
N/A			8720200	

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25058 EXPIRATION DATE: 11-17-08

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
14502 GREENVIEW DRIVE
LAUREL, MARYLAND 20708
PHONE: (410) 792-8086
FAX: (410) 792-7419
www.kci.com

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 4/4/08
SCALE AS SHOWN
DESIGNED BY NAB
CHECKED BY THM

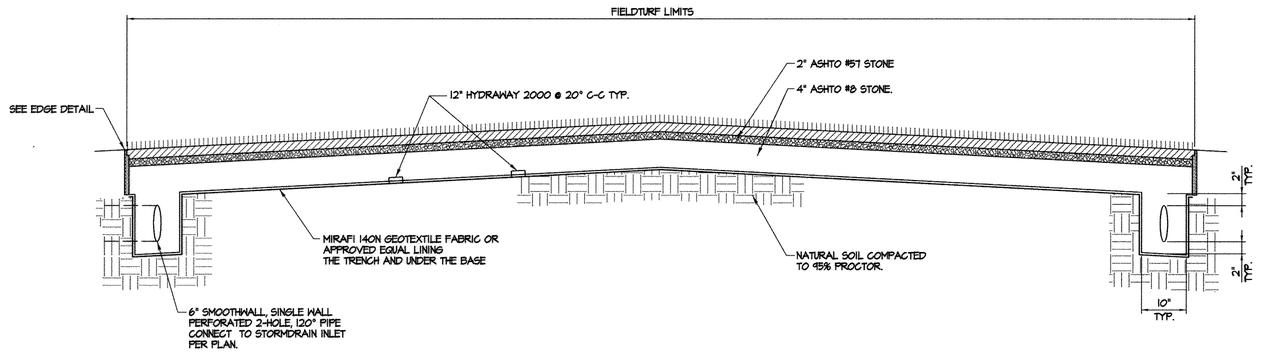
SOCCER ASSOCIATION OF COLUMBIA
NORTHRUP FIELDS AT COVENANT PARK
FIELD #5

SEDIMENT & EROSION CONTROL NOTES & DETAILS
REVISED SITE DEVELOPMENT PLAN
4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO. SEC4
SHEET 44 OF 44 ff 77
KCI JOB NUMBER 160711202

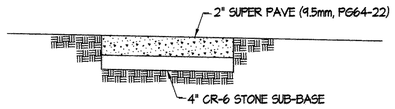
SDP-02-075

PLOTTED: "12:31 PM on Friday, April 04, 2008"
BY: Nicholas Barrick Division: 6653
FILE: M:\2007\160712021\drawings\C-05-SEC-DetailsNotes.dgn



SOCCER FIELD TYPICAL CROSS SECTION

NOT TO SCALE

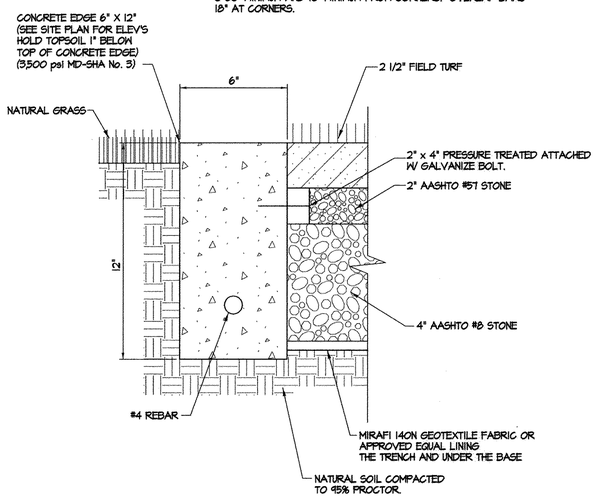


8' BITUMINOUS PATH

NOT TO SCALE

NOTE:

CONCRETE CURB (MOW EDGE) SHALL BE 3,500 psi MD-SHA MIX No. 3 CONCRETE. THE #4 REBAR SHALL RUN CONTINUOUS. PLACE EXPANSION JOINTS @ 30' MINIMUM AND 10' MINIMUM FROM CORNERS. OVERLAP BARS 18" AT CORNERS.



TYPICAL EDGE DETAIL

NOT TO SCALE

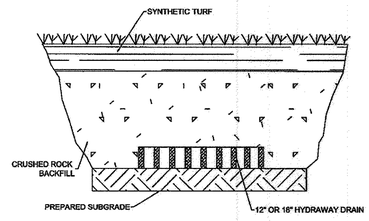
HYDRAWAY 2000 - Physical Properties

Product	Test Method	Typical Value
Compressive Strength	ASTM D-695/1622t [3]	9,200 PSF
Flow Rate At 1,500 PSF	ASTM D-4716 [1]	21 GPM/FT-Width
Flow Rate At 3,600 PSF	ASTM D-4716 [1]	17 GPM/FT-Width
Thickness	ASTM D-1777	1 Inch
Fabric (4.5 oz.)		
Grab Tensile Strength	ASTM D-4632	120 lbs.
Grab Elongation	ASTM D-4632	50%
Puncture Strength	ASTM D-4833	65 lbs.
Mullen Burst	ASTM D-3786	225 psi
Trapezoidal Tear	ASTM D-4533	50 lbs.
Wide Width Tensile	ASTM D-4595	50 lbs/in
UV Resistance	ASTM D-4355	70%
Apparent Opening Size (AOS)	ASTM D-4751	70 US Std. Sieve
Permittivity	ASTM D-4491 [3]	1.8sec.
Permeability	ASTM D-4491 [4]	0.21 cm/sec
Water Flow Rate	ASTM D-4491	135 gpm/ft [2]
Roll Dimensions		
Width		6" and 12"
Length		up to 550'
SF/Roll		260 Square Feet (includes 2" flange)
Weight		66 lbs.

Footnotes

1. Gradient of 0.1
2. Modified - an existing ASTM test was modified since a recognized test method had not been established f type of product at time of testing.
3. The property values listed below are effective 1/2/01 are subject to change without notice.
4. Values shown are in weaker principal direction. Minimum average roll values are calculated as the typical two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from q assurance testing will exceed the value reported.

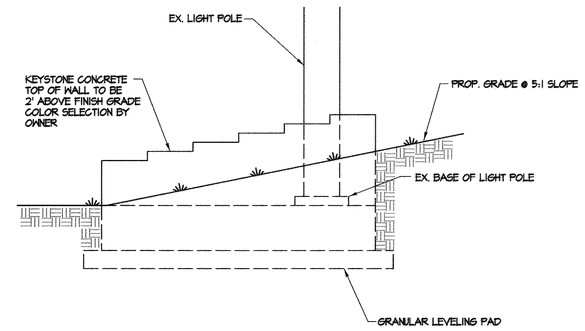
View Spec Data from First Source



SYNTHETIC TURF INSTALLATION

HYDRAWAY 2000 TYPICAL DETAIL

NOT TO SCALE



RETAINING WALL CROSS SECTION

NOT TO SCALE

Mirafi® 140N

for Subsurface Drainage

Property / Test Method	Unit	140N
MECHANICAL PROPERTIES		
Grab Tensile Strength ASTM D 4632		
Strength @ Ultimate	kN (lbs)	0.53 (120)
Elongation @ Ultimate	%	50
Mullen Burst Strength ASTM D 3786	kPa (psi)	1550 (225)
Trapezoidal Tear Strength ASTM D 4355	kN (lbs)	0.22 (50)
Puncture Strength ASTM D 4833	kN (lbs)	0.30 (65)
UV Resistance after 500 hrs. ASTM D 4355	% strength	70
HYDRAULIC PROPERTIES		
Apparent Opening Size (AOS) ASTM D 4751	US Sieve mm	70 0.212
Permittivity ASTM D 4491	sec^{-1}	1.8
Flow Rate ASTM D 4491	l/min/m^2 (gal/min/ft^2)	5500 (135)

Packaging	Units	POP Bags	Commercial Pack
Roll Width	m(ft)	0.9 (3)	3.8 (12.5)
Roll Length	m(ft)	30.4 (100)	110 (360)
Est. Gross Weight	kg(lbs)	4.5 (10)	67 (148)
Area	m^2(yd^2)	27.3 (33.3)	418 (500)
Rolls per pallet	-	25	-

SINGLE WALL PIPE

SMOOTHWALL, TURF FLOW

3" - 6" SMOOTHWALL SINGLE WALL

INSIDE DIAMETER	OUTSIDE DIAMETER	STANDARD LENGTHS	STYLE	PRODUCT CODE
3" (75mm)	3.00" (63mm)	10' (3m)	Plain	DW DER 03 0050
			2-hole, 120°	DW 2ER 03 0050
4" (100mm)	4.215" (107mm)	10' (3m)	Plain	DW DER 04 0050
			2-hole, 120°	DW 2ER 04 0050
			3-hole, 120°-1/4"	DW 3ER 04 0020
			3-hole, 120°-3/4"	DW 334 04 0050
			3-hole, 360°	DW 4ER 04 0050
6" (150mm)	6.215" (158mm)	10' (3m)	Plain	DW DER 06 0050
			2-hole, 120°	DW 2ER 06 0050
			3-hole, 120°	DW 3ER 06 0050

*HDPE spun welded coupler available on 3" and 4" diameters. Contact your local sales representative for availability.

SMOOTHWALL PIPE

2" TURF FLOW SINGLE WALL**

INSIDE DIAMETER	OUTSIDE DIAMETER	STANDARD LENGTHS	STYLE	PRODUCT CODE
2" (50mm)	2.4" (61mm)	100' (30m)	Plain	TF FLS 02 0500
			Wide Slot	TF WS1 02 0500
		118' (35.4m)	Wide Slot	TF WS1 02 0118
			Wide Slot with Wrap	TF PWK 02 0118
		500' (150m)	Narrow Slot	TF NS1 02 0500

**All prices are F.O.B. Ogdis (Findlay, OH).

TURF FLOW PIPE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 4/22/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/25/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/29/08

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 4.4.08

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 4/10/08

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE

OWNER:
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER:
SOCCER ASSOCIATION OF COLUMBIA, INC.
8480-D ROUTE 108
COLUMBIA, MD 21045
410-772-4313

STATE OF MARYLAND — MARK K. CRAIG — No. 25058 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25058 EXPIRATION DATE: 11-17-08

PERMIT INFORMATION CHART

SUBDIVISION NAME				SECTION/AREA	LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA				N/A	A
PLAT# OR L/F	BLOCK#	ZONING	TAX MAP NO.	ELECT DISTR	CENSUS TRACT
5662-15657	1	RC-DEO	30	2nd	6025.01
WATER CODE			SEWER CODE		
N/A			W-7320200		

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
14502 GREENVIEW DRIVE
LAUREL, MARYLAND 20708
PHONE: (410) 792-8086
FAX: (410) 792-7419
www.kci.com

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 4/4/08
SCALE AS SHOWN
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA NORTHRUP FIELDS AT COVENANT PARK FIELD #5

DETAILS & NOTES

REVISED SITE DEVELOPMENT PLAN

4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO. D1

SHEET 44 OF 44 77

KCI JOB NUMBER 16071202

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

SDP-02-075

MATCH LINE SEE SHEET 41

MATCH LINE SEE SHEET 46

MATCH LINE SEE SHEET 37

MATCH LINE SEE SHEET 38

FUTURE CHURCH

LOADING AREA

ADMINISTRATION BUILDING #1 & 2 BF #18.0 BF 406.7

PUBLIC 20' WATER AND UTILITY EASEMENT

PARKING LOT C

FIELD #6

FOREST RETENTION EASEMENT G-4
6,055 SF THIS SHEET
TOTAL AREA = 3.34 AC
(145,458 SF)
DPZ FILE # F-09-056

FOREST RETENTION AREA TO BE ABONDONED
THIS SHEET = 8,201 SF
TOTAL AREA = 0.60 AC
(26,274 SF)
DPZ FILE #'S F-04-134 & F-09-056

AREA NOT INCLUDED IN APPROVED CONDITIONAL USE

FOREST RETENTION
EASEMENT AREA D
TOTAL AREA = 5.98 Ac.
(260,558 SF)
PLAT# 15652-15657
DPZ FILE # F-02-103

FOREST RETENTION EASEMENT G-3
14,603 SF THIS SHEET
TOTAL AREA = 3.72 AC
(162,046 SF)
DPZ FILE # F-09-056

FOREST RETENTION
EASEMENT AREA E
14,845 SF THIS SHEET
TOTAL AREA = 1.08 Ac.
(46,874 SF)
PLAT# 15652-15657
DPZ FILE # F-02-103

FOREST RETENTION
EASEMENT AREA C
TOTAL AREA = 0.28 Ac.
(12,252 SF)
PLAT# 15652-15657
DPZ FILE # F-02-103

MATCH LINE SEE SHEET 38

42" WIDE PILOT CHANNEL SEE DETAIL SHEET 18

PUBLIC DRAINAGE, UTILITY AND 100-YEAR FLOODPLAIN EASEMENTS

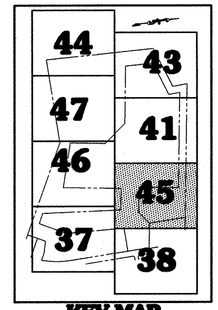
PUBLIC 20' WATER AND UTILITY EASEMENT

LIMITS OF 100 YR FLOODPLAIN

75' USE - STREAM BUFFER

25' USE - WETLAND BUFFER

HAZARD CLASS 'E'



KEY MAP
NOT TO SCALE

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS) (S)
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS 370
- PROP. CONTOURS 400 398
- TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/17/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4.8.9

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/16/09

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RC-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
REVISED FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

4-2-09
DATE

STATE OF MARYLAND 3068 PETER J. STONE REGISTERED PROFESSIONAL ENGINEER

PETER J. STONE, #3068

DESIGNED BY :	P.J.S.
DRAWN BY:	P.J.S.
PROJECT NO :	00287 FCP3-REV.DWG
DATE :	APRIL 3, 2009
SCALE :	1" = 40'
DRAWING NO.	45 OF 47

SDP-02-75

MATCH LINE SEE SHEET 47

MINIMAL CLEARING FOR DRIVEWAY, EXISTING TREES AND VEGETATION WILL BE RETAINED AS MUCH AS POSSIBLE.

EX. 34" RED MAPLE

EX. 32" POPLAR

EX. 30" POPLAR

PUBLIC DRAINAGE, UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

FOREST RETENTION EASEMENT J-3
TOTAL AREA = 0.25 AC
(11,072 SF)
DPZ FILE # F-09-056

EXISTING FOREST RETENTION EASEMENT TO BE ABANDONED
TOTAL AREA = 0.01 AC
(358 SF)
DPZ FILE # F-09-056

EXISTING FOREST RETENTION EASEMENT TO BE ABANDONED
TOTAL AREA = 0.05 AC
(2,204 SF)
PLAT # 16986 - 16991
DPZ FILE # F-04-134

FOREST RETENTION AREA TO BE ABONDONED
TOTAL AREA = 0.14 AC
(6,307 SF)
DPZ FILE # F-09-056

FOREST RETENTION EASEMENT J-4
13,718 SF THIS SHEET
TOTAL AREA = 2.29 AC
(99,642 SF)
DPZ FILE # F-09-056

FOREST RETENTION AREA TO BE ABONDONED
18,023 SF THIS SHEET
TOTAL AREA = 0.60 AC
(26,224 SF)
DPZ FILE # F-09-056

FOREST RETENTION EASEMENT G-4
AREA OF SLOPES GREATER THAN 25%=1935
139,403 SF THIS SHEET
TOTAL AREA = 3.34 AC
(145,458 SF)
DPZ FILE # F-09-056

FOREST RETENTION EASEMENT G-3
147,443 SF THIS SHEET
TOTAL AREA = 3.72 AC
(162,046 SF)
DPZ FILE # F-09-056

AREA OF SLOPES GREATER THAN 25%=3220 SF

AREA OF SLOPES GREATER THAN 25%=3423 SF

MINIMAL CLEARING FOR DRIVEWAY, EXISTING TREES AND VEGETATION WILL BE RETAINED AS MUCH AS POSSIBLE

12' WIDE DRIVEWAY

FOREST RETENTION EASEMENT

FIELD #7

FIELD #8

EX. 46" SYCAMORE

36'x48' SHELTER FF 404.5

W.F. #2 WELL UNDER HAZARD CLASS A

25' ROW ACCESS PATH (UNPAVED)

MATCH LINE SEE SHEET 41

MATCH LINE SEE SHEET 45

MATCH LINE SEE SHEET 37

N68°49'26"E 497.14'

S68°49'26"W 667.21'

KEY MAP
NOT TO SCALE

44 | 43
47 | 41
46 | 45
37 | 38

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS)
- FOREST CONSERVATION AREA
- SLOPES: 15%-25%
- SLOPES: 25% & GREATER
- EX. CONTOURS
- PROP. CONTOURS
- TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/14/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4.8.9

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/14/09

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA
TAX MAP 30 BLOCK 1 ZONED RC-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
REVISED FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

4.2.09
DATE

STATE OF MARYLAND
3068
PETER J. STONE
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

PETER J. STONE, #3068

DESIGNED BY : P.J.S.
DRAWN BY: P.J.S.
PROJECT NO : 00287
FCP4-REV.DWG
DATE : APRIL 3, 2009
SCALE : 1" = 40'
DRAWING NO. 46 OF 47

SDP-02-75

MATCH LINE SEE SHEET 44

MATCH LINE SEE SHEET 43

MATCH LINE SEE SHEET 41

MATCH LINE SEE SHEET 46

NORTH

100' WELL RADIUS

PROPOSED 1500 SF WELL ZONE

PROP. WELL TAG NO. HO 94 3083

POOL

POOL HOUSE

EXISTING 4000 SF HOUSE w/AMENITIES
BUILDING PERMIT #B00148384
FF 412.00
BF 402.08

APPROVED SEWAGE DISPOSAL AREA 10,000 SF

INV.401.35
INV.401.1
INV.401.0
DISTRIBUTION BOX

PROPOSED BARN

EX.34"POPLAR

EX.45"SYCAMORE

FUTURE 12' WIDE DRIVEWAY

LIMIT OF CONSTRUCTION

FOREST RETENTION EASEMENT

FOREST RETENTION
EASEMENT AREA I
TOTAL AREA = 0.03 Ac.
(1,280 SF)
PLAT # 15652-15657
DPZ FILE # F-02-103

EXISTING FOREST
RETENTION AREA
TO BE ABONDONED
927 SF
0.02 ACRES
PLAT # 16986-16991
DPZ FILE # F-04-134

EX.34"POPLAR

EX.62"POPLAR

FOREST RETENTION
EASEMENT AREA H-1
TOTAL AREA = 1.80 Ac.
(78,366 SF)
PLAT # 16986-16991
DPZ FILE # F-04-134

EX.38"OAK

EX.34"ASH

PROP.24"-48" PULL-OFF AREA

FOREST RETENTION EASEMENT J-4
33,049 SF THIS SHEET
TOTAL AREA = 2.29 AC
(99,642 SF)
DPZ FILE # F-09-056

NO CLEARING PROPOSED. EXISTING AGRICULTURAL ACCESS WILL BE UTILIZED.

EX.30"+POPLARS

EX.42"POPLAR

EX.39"BEECH

PROPOSED BRIDGE TO SPAN STREAM

EX.39"POPLAR

EX.52"DOUBLE POPLAR

EX.35"RED OAK

EX.36"RED OAK

EX.36"BEECH

75' USE 1 STREAM BUFFER

PUBLIC DRAINAGE, UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

CLARK'S CREEK

EX. STONE PROTECTION (APPROXIMATE LOCATION)

12' WIDE DRIVEWAY

FOREST CONSERVATION AREAS & TABULATION

EX. ESMTS (SDP-02-75)			ESMTS TO BE ABANDONED (F-04-134 & F-09-056)			PROP. ESMTS (F-09-056)		
AREA	SF	ACRES	AREA	SF	ACRES	AREA	SF	ACRES
AREA A	34,773	0.80	AREA A	–	–	AREA A	34,773	0.80
AREA B *	86,249	1.98	AREA B *	–	–	AREA B *	86,249	1.98
AREA C	12,252	0.28	AREA C	–	–	AREA C	12,252	0.28
AREA D	260,558	5.98	AREA D	–	–	AREA D	260,558	5.98
AREA E	46,874	1.08	AREA E	–	–	AREA E	46,874	1.08
AREA F	12,039	0.28	AREA F	–	–	AREA F	12,039	0.28
AREA G	333,728	7.66	AREA G	26,224	0.60	AREA G-3	162,046	3.72
						AREA G-4	145,458	3.34
AREA H	79,293	1.82	AREA H	927	0.02	AREA H-1	78,366	1.80
AREA I	1,280	0.03	AREA I	–	–	AREA I	1,280	0.03
AREA J	119,582	2.75	AREA J	8,868	0.20	AREA J-3	11,072	0.25
						AREA J-4	99,642	2.29
TOTAL		22.66 ACRES	TOTAL		0.82 ACRES	TOTAL		21.83 ACRES

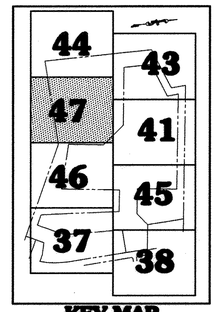
* 0.44 ACRES OF NON-FORESTED AREA ALSO UNDER EASEMENT, BUT NOT INCLUDED IN THIS NUMBER

FOREST CONSERVATION AREAS & TABULATION

FOREST CONSERVATION AREA A	0.80	ACRES
AREA B	2.42	ACRES
AREA C	0.28	ACRES
AREA D	5.98	ACRES
AREA E	1.08	ACRES
AREA F	0.28	ACRES
AREA G-3	3.72	ACRES
AREA G-4	3.34	ACRES
AREA H-1	1.80	ACRES
AREA I	0.03	ACRES
AREA J-3	0.25	ACRES
AREA J-4	2.29	ACRES
TOTAL	21.83	ACRES

REVISED GENERAL NOTE 12 FROM SHEET 44:

12. THE FOREST CONSERVATION OBLIGATION FOR THIS SITE DEVELOPMENT PLAN HAS BEEN REVISED UNDER F-09-056 BY PROVIDING 22.27 ACRES OF FOREST RETENTION EASEMENTS, AND 21.83 ACRES OF FOREST RETENTION (EASEMENT B CONTAINS WITHIN IT 0.44 ACRES OF UNFORESTED AREA AND 1.98 ACRES OF FORESTED AREA). A PAYMENT OF FEE-IN-LIEU HAS BEEN PAID UNDER F-04-134 FOR THE FOREST ABANDONMENT, WHICH RESULTED IN THE TOTAL FOREST OBLIGATION BEING BELOW THE CONSERVATION THRESHOLD. SURETY IN THE AMOUNT OF $201,248.00 HAS BEEN POSTED UNDER SDP-02-075 FOR THESE EASEMENTS.



KEY MAP
NOT TO SCALE

LEGEND

TREES
EX. TREELINE
PROP. TREELINE
PROPERTY LINE
WETLANDS AND 25' BUFFER
PERENNIAL STREAM AND 50'/75' BUFFER
100-YEAR FLOODPLAIN
LIMIT OF DISTURBANCE
FOREST CONSERVATION SIGN (PLACED AT 100' INTERVALS)
FOREST CONSERVATION AREA
SLOPES: 15%-25%
SLOPES: 25% & GREATER
EX. CONTOURS
PROP. CONTOURS
TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/14/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4.8.9

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/14/09

DATE	NO.	REVISION

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
6851 OAK HALL LANE
COLUMBIA, MD 21045

DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9373

PROJECT
SOCCER ASSOCIATION OF COLUMBIA

AREA TAX MAP 30 BLOCK 1 ZONED RC-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
REVISED FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

4.2.09
DATE

STATE OF MARYLAND
3068
PETER J. STONE
REGISTERED PROFESSIONAL ENGINEER
PETER J. STONE, #3068

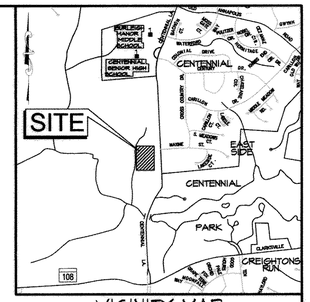
DESIGNED BY :	P.J.S.
DRAWN BY:	P.J.S.
PROJECT NO :	00287 FCP6-REV.DWG
DATE :	APRIL 3, 2009
SCALE :	1" = 40'
DRAWING NO.	47 OF 47

SDP-02-75

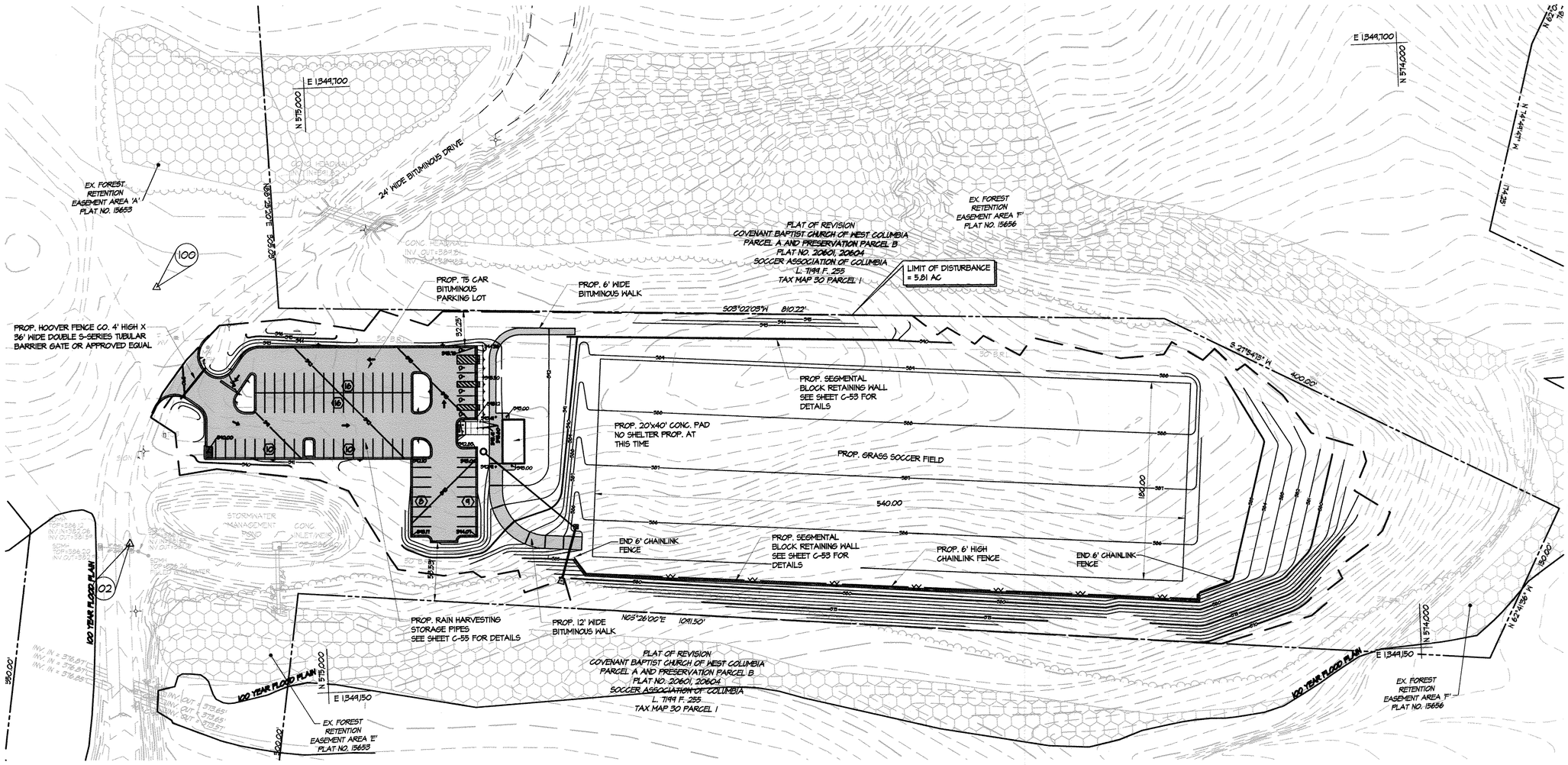
NAD 83/91
NAVD 88

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,349,524.74	398.89
102	REBAR & CAP	575,176.51	1,349,292.75	386.26



VICINITY MAP
SCALE: 1" = 2000'



OVERALL SITE PLAN
SCALE: 1" = 50'

SITE NOTES

1. PROPERTY OWNER:
   SOCCER ASSOCIATION OF COLUMBIA
   4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
2. SITE DATA:
   TAX MAP/GRID: 30/1
   LIBER/FOLIO: 7199/255
   TRACT AREA: 52.345 ACRES/"PARCEL A"
   ELECTION DISTRICT: 2
   ADC MAP/GRID: 11/F13 & 15/F1
   ADDRESS: 4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
3. CURRENT USE: SOCCER PARK / CHURCH
4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 253,126 sq.ft. or 5.81 Ac.
6. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THE FACILITY.
7. PROPERTY SHOWN HEREON LIES WITHIN ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA COMMUNITY PANEL No. 2400440002 C, EFFECTIVE DATE APRIL 02, 1997.
8. EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY KCI TECHNOLOGIES, INC CONDUCTED ON OR ABOUT MARCH 2011.
9. ALL ABOVE GROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION.
10. Forest Conservation shall be provided as shown on the Forest Conservation Plan Sheets for this site plan.

LEGEND

- PROPERTY LINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. EDGE OF ROAD
- 5D EX. STORM DRAIN LINE
- W EX. WATER LINE
- EX. WOOD FENCE
- EX. EDGE OF WOODS
- EX. STORM DRAIN MANHOLE
- EX. WATER VALVE
- EX. LIGHTPOLE
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- PROP. CURB AND GUTTER
- PROP. BUILDING
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROP. BITUMINOUS WALK
- PROP. STORM DRAIN MANHOLE
- PROP. SIGN

PARKING ANALYSIS FOR FIELD #9

NUMBER OF TOTAL PARKING SPACES:	75
NUMBER OF STANDARD SPACES:	69
NUMBER OF REQUIRED HANDICAP SPACES:	4
NUMBER OF PROPOSED HANDICAP SPACES:	6
NUMBER OF REQUIRED VAN-ACCESSIBLE SPACES:	1
NUMBER OF PROPOSED VAN-ACCESSIBLE SPACES:	1

REQUIRED PARKING:
4 TEAMS OF 16 PLAYERS EACH = 64 SPACES
PROVIDED PARKING:
STANDARD SPACES = 69
HANDICAP SPACES = 6
TOTAL = 75

PURPOSE STATEMENT:
THE PURPOSE OF THIS WORK IS TO CONSTRUCT A 75 CAR PARKING LOT AND ONE LARGE NATURAL GRASS SOCCER FIELD AS SHOWN ON THE SDP AT FIELD #9, AND PER BA CASE 09-96C.

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."
SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:
"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 COUNTY SOIL CONSERVATION DISTRICT."
SIGNATURE OF DEVELOPER — DATE 2/8/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
HOWARD S.C.D. — DATE 2/16/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/22/12
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/28/12
DIRECTOR — DATE 2/27/12

STATE OF MARYLAND · RICHARD C. PUTT · No. 031089 · PROFESSIONAL ENGINEER · 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

GRAPHIC SCALE
50' 0 50' 100'
SCALE: 1" = 50'

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
8161 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-9086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 50'
DESIGNED BY NAB
CHECKED BY THM

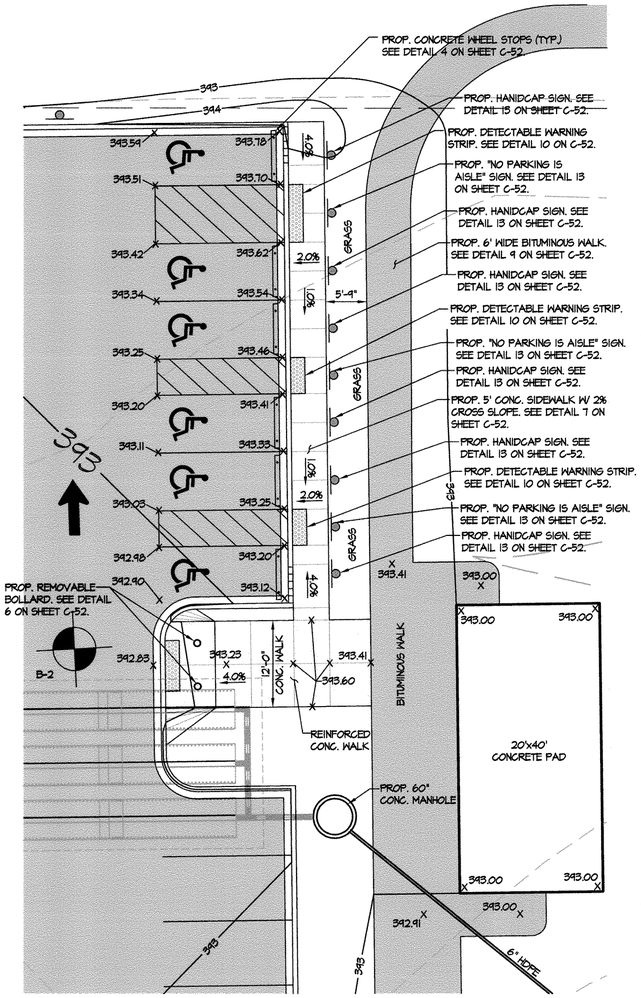
SOCCER ASSOCIATION OF COLUMBIA, INC.
FIELD #9
REVISED OVERALL SITE PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-48
SHEET 48 OF 61-77
KCI JOB NUMBER 27110147

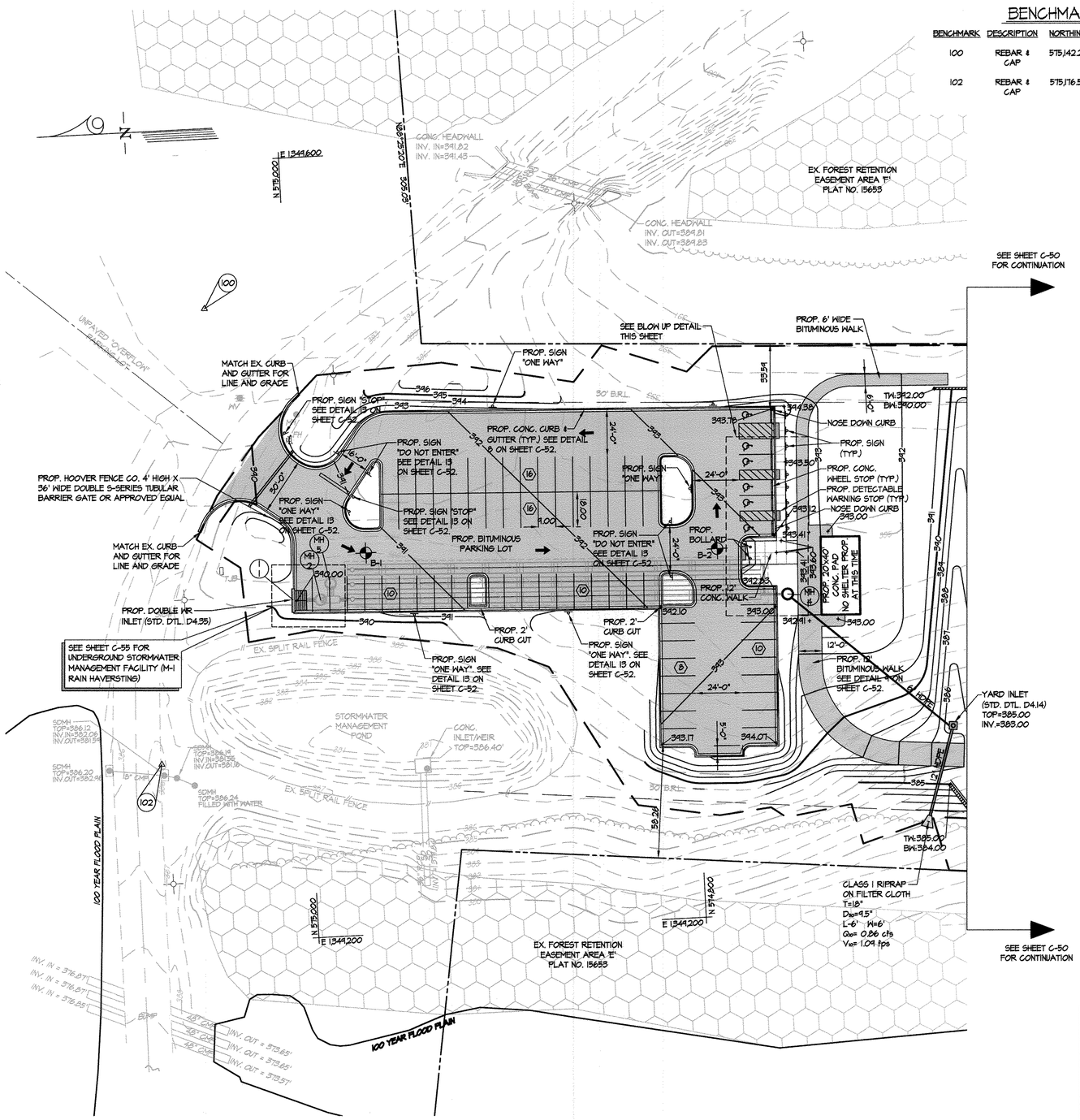
SDP-02-075

PLOTTED: 3/14/12
PLOTTED BY: JAMES
FILE: SDP-02-075



SITE PLAN BLOW UP

SCALE: 1" = 10'

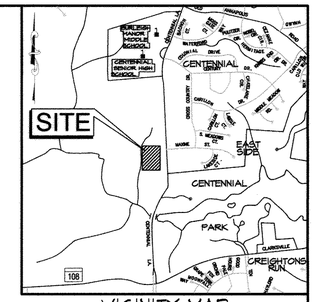


SITE PLAN

SCALE: 1" = 30'

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344524.74	398.89
102	REBAR & CAP	575,176.51	1,344,292.75	386.26



VICINITY MAP

SCALE: 1" = 2000'

SITE NOTES

1. PROPERTY OWNER:
   SOCCER ASSOCIATION OF COLUMBIA
   4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
2. SITE DATA:
   TAX MAP/GRID: 30/1
   LIBER/FOLIO: 7199/255
   TRACT AREA: 52.345 ACRES/"PARCEL A"
   ELECTION DISTRICT: 2
   ADC MAP/GRID: 11/F13 & 15/F1
   ADDRESS: 4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
3. CURRENT USE: SOCCER PARK / CHURCH
4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 253,126 sq.ft. or 5.81 Ac.
6. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THE FACILITY.
7. PROPERTY SHOWN HEREON LIES WITHIN ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA COMMUNITY PANEL No. 2400440028 C, EFFECTIVE DATE APRIL 02, 1997.
8. EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY KCI TECHNOLOGIES, INC CONDUCTED ON OR ABOUT MARCH 2011.
9. ALL ABOVE GROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION.
10. AS PER ORDER RENDERED IN BA CASE NO. 09-36G, FIELD #9 SHALL REMAIN UNLIGHTED.

LEGEND

- PROPERTY LINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. EDGE OF ROAD
- SD — EX. STORM DRAIN LINE
- W — EX. WATER LINE
- EX. WOOD FENCE
- EX. EDGE OF WOODS
- EX. STORM DRAIN MANHOLE
- EX. WATER VALVE
- EX. LIGHTPOLE
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- PROP. CURB AND GUTTER
- PROP. BUILDING
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROP. BITUMINOUS WALK
- PROP. STORM DRAIN MANHOLE
- PROP. SIGN

GRAPHIC SCALE

30' 0 30' 60'

SCALE: 1" = 30'

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/8/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12

DIRECTOR — DATE 2/24/12

STATE OF MARYLAND · RICHARD L. HAUT · No. 031089 · PROFESSIONAL ENGINEER · 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4590

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
8161 MAPLE LAWN BOULEVARD SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-9086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9

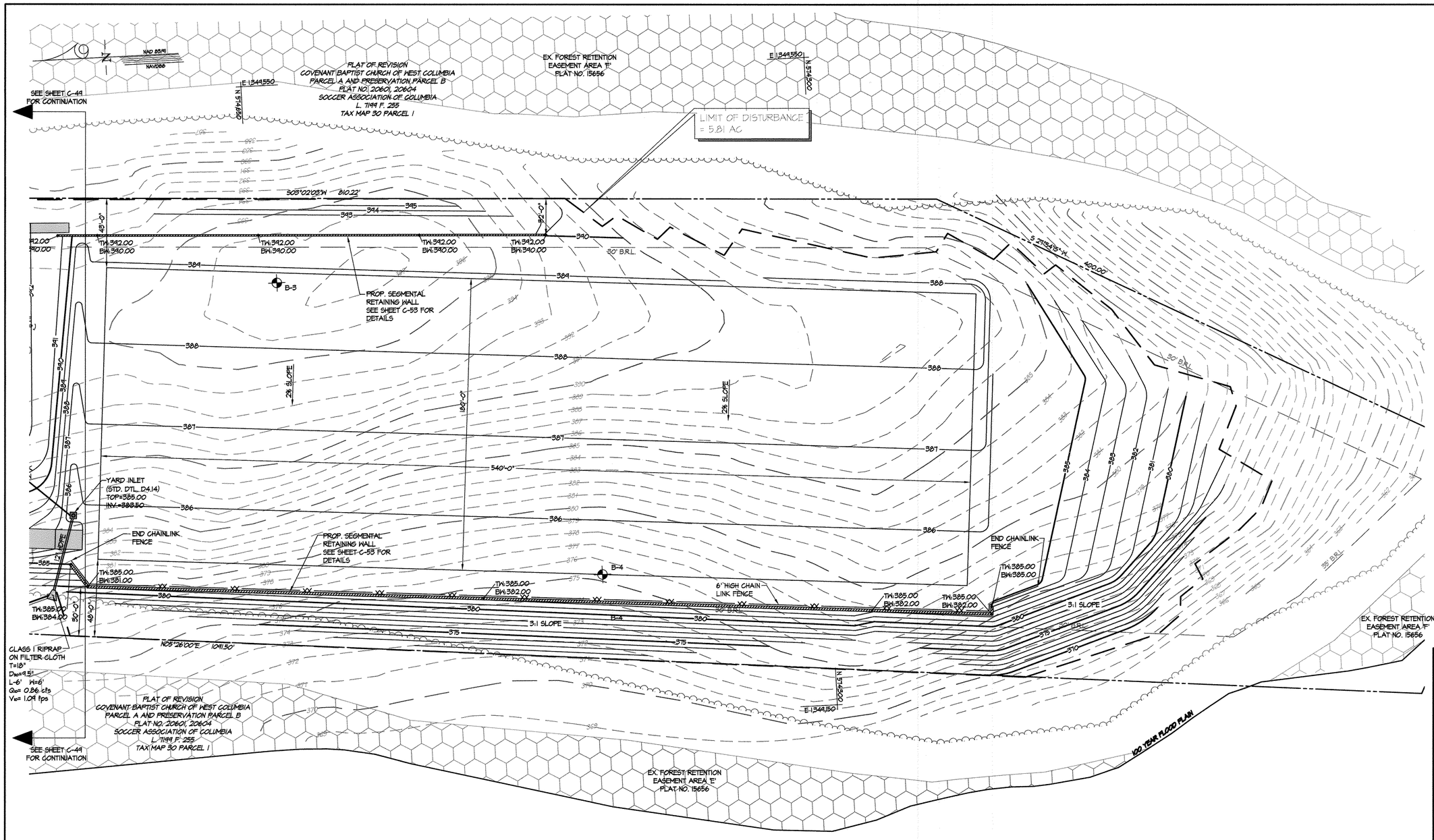
REVISED SITE PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

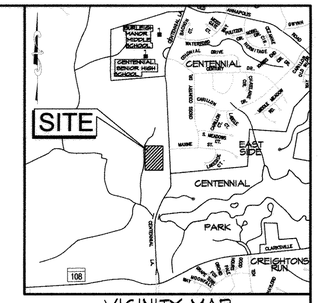
DRAWING NO. C-49
SHEET 44 OF 61 77
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
DRAWING NAME: $USERNAME$
PLOT SCALE: $SCALE$



SITE PLAN
SCALE: 1" = 30'



VICINITY MAP
SCALE: 1" = 2000'

LEGEND

- PROPERTY LINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. EDGE OF ROAD
- SD — EX. STORM DRAIN LINE
- W — EX. WATER LINE
- EX. WOOD FENCE
- EX. EDGE OF WOODS
- EX. STORM DRAIN MANHOLE
- EX. WATER VALVE
- EX. LIGHTPOLE
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- PROP. CURB AND GUTTER
- PROP. BUILDING
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROP. BITUMINOUS WALK
- PROP. STORM DRAIN MANHOLE
- PROP. SIGN

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/8/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURSES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12

DIRECTOR — DATE 2/24/12

STATE OF MARYLAND — RICHARD L. SCHMITT — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

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

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4980 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4940

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8161 MAPLE LAWN BOULEVARD
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TELEPHONE: (410)792-8086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC.
FIELD #9
REVISED SITE PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-50
SHEET 50 OF 6177
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: 8/22/12
PLOTTED BY: NANCY
FILE: SHEET 50.DWG

BASELINE 'A' DATA

NO.	STATION	NORTHING	EASTING	LENGTH
1	0+14.44	575,148.26	1,344,415.17	38.30
2	0+17.73	575,099.55	1,344,475.37	34.01
3	0+34.16	575,118.53	1,344,422.14	15.00
4	0+38.53	575,097.17	1,344,443.65	15.00
5	0+46.94	575,108.27	1,344,414.54	15.00

BASELINE 'B' DATA

NO.	STATION	NORTHING	EASTING	LENGTH
6	0+13.04	575,073.39	1,344,423.66	8.00
7	0+30.00	575,076.18	1,344,446.71	8.00
8	0+35.34	575,060.15	1,344,441.54	8.00
9	0+36.79	575,055.64	1,344,439.95	12.51
10	0+43.92	575,067.08	1,344,459.06	8.23
11	0+55.17	575,050.20	1,344,467.14	12.00
12	1+44.83	574,911.72	1,344,435.03	14.50
13	1+97.33	574,909.13	1,344,437.43	12.00
14	2+01.83	574,904.63	1,344,437.25	12.00
15	2+53.86	574,851.70	1,344,459.13	12.00

BASELINE 'C' DATA

NO.	STATION	NORTHING	EASTING	LENGTH
16	0+22.00	574,895.04	1,344,426.85	12.00
17	0+38.00	574,895.64	1,344,410.86	12.00
18	0+54.00	574,854.36	1,344,393.18	30.00
19	0+54.00	574,867.35	1,344,393.71	11.00
20	0+59.00	574,872.55	1,344,388.91	12.00
21	0+66.00	574,872.84	1,344,381.92	12.00
22	0+71.00	574,873.20	1,344,372.93	11.00
23	0+71.00	574,855.41	1,344,367.20	30.00
24	0+82.00	574,897.46	1,344,366.90	12.00
25	0+86.50	574,897.64	1,344,362.40	12.00
26	0+89.00	574,900.24	1,344,360.01	14.50
27	0+89.00	574,914.73	1,344,360.54	29.00
28	1+61.00	574,918.63	1,344,288.64	30.00
29	1+61.00	574,858.64	1,344,286.27	30.00
30	1+61.00	574,904.64	1,344,288.12	16.00
31	1+61.00	574,872.67	1,344,286.83	16.00
32	1+65.00	574,900.81	1,344,283.91	12.00
33	1+65.00	574,876.83	1,344,283.00	12.00
34	1+66.00	574,900.85	1,344,282.91	12.00
35	1+66.00	574,876.87	1,344,282.00	12.00

BASELINE 'D' DATA

NO.	STATION	NORTHING	EASTING	LENGTH
36	0+22.00	574,906.08	1,344,401.27	12.00
37	0+22.00	574,907.05	1,344,377.29	12.00
38	0+26.50	574,910.58	1,344,401.46	12.00
39	0+26.50	574,911.54	1,344,377.48	12.00
40	0+29.00	574,912.97	1,344,404.05	14.50
41	0+29.00	574,914.14	1,344,375.08	14.50
42	0+30.00	574,915.77	1,344,359.65	30.00
43	1+19.00	575,004.61	1,344,365.22	28.00
44	1+19.00	575,004.07	1,344,378.71	14.50
45	1+21.50	575,006.47	1,344,381.31	12.00
46	1+25.50	575,010.46	1,344,381.47	12.00
47	1+28.00	575,013.06	1,344,379.07	14.50
48	1+28.00	575,013.61	1,344,365.58	28.00
49	1+73.00	575,056.86	1,344,409.86	14.50
50	1+73.50	575,059.46	1,344,407.46	12.00
51	1+81.81	575,065.76	1,344,407.72	12.00
52	2+18.00	575,103.61	1,344,361.21	30.00

BASELINE 'E' DATA

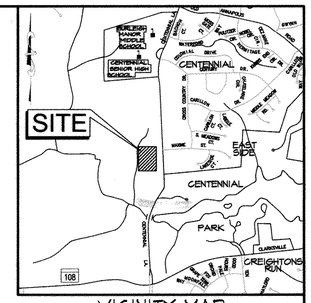
NO.	STATION	NORTHING	EASTING	LENGTH
53	0+04.10	575,102.22	1,344,401.88	13.44

BASELINE CURVE DATA

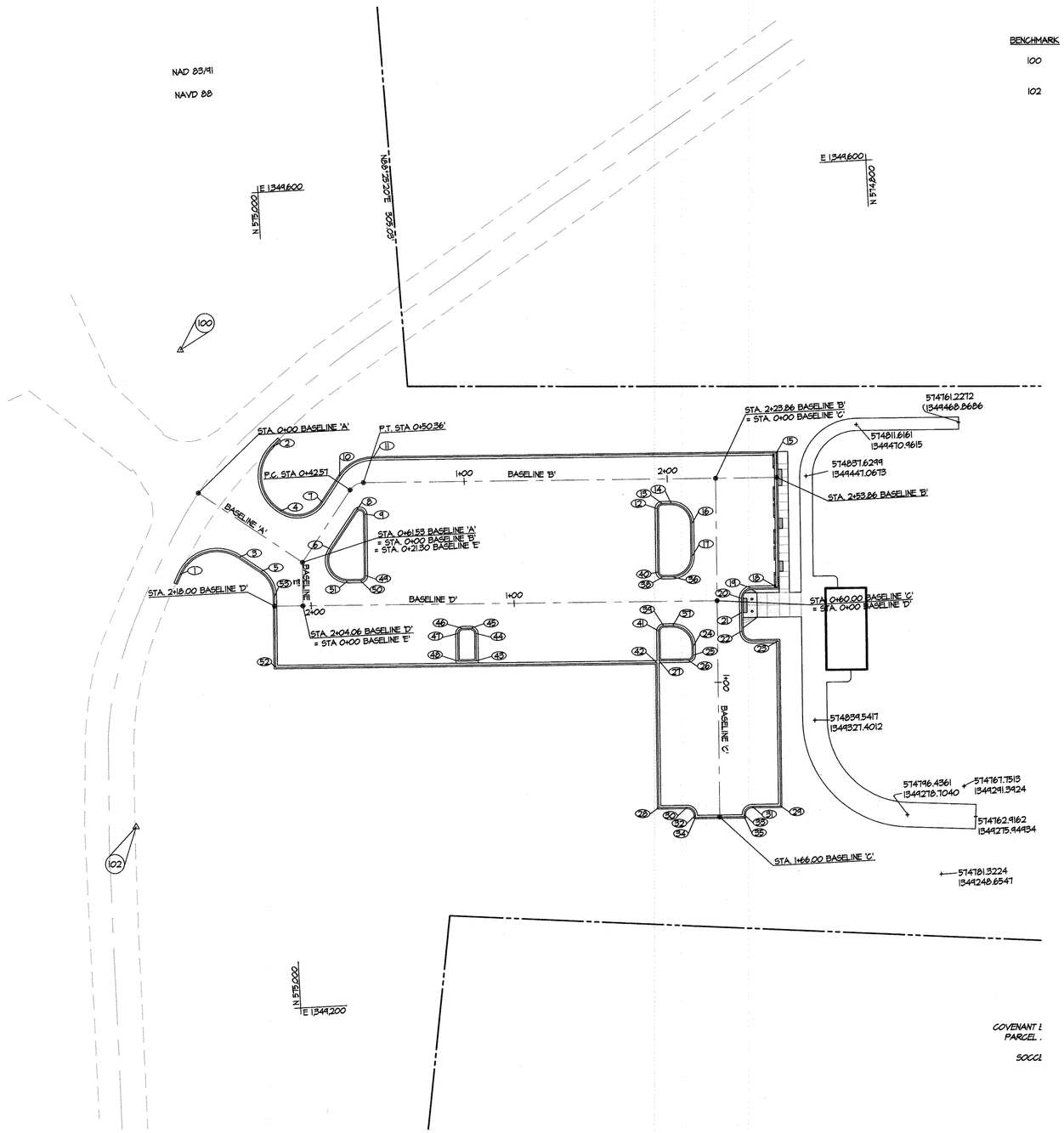
NO.	TO	FROM	RADIUS	LENGTH	CHORD
C-1	0+42.51	0+30.36	8.00'	7.79	7.48

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344,524.74	348.89
102	REBAR & CAP	575,176.57	1,344,292.73	386.26



VICINITY MAP
SCALE: 1" = 2000'



GEOMETRY PLAN
SCALE: 1" = 30'

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/8/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12

DIRECTOR — DATE 4/30/12

STATE OF MARYLAND · RICHARD L. BEALL · No. 031089 · PROFESSIONAL ENGINEER · 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089. EXPIRATION DATE: 11-21-12

LEGEND

- PROPERTY LINE
- PROP. CURB AND GUTTER
- PROP. CONCRETE WALK
- PROP. ALIGNMENT

GRAPHIC SCALE

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

OWNER/DEVELOPER

SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-8540

KCI TECHNOLOGIES
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CONSTRUCTION MANAGERS
8161 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-9086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9

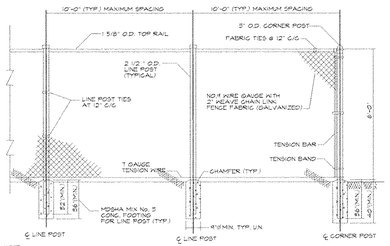
GEOMETRY PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-51
SHEET 51 OF 77
KCI JOB NUMBER 27110147

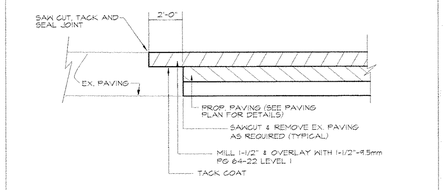
SDP-02-075

PLOTTED: 3/14/12
PLOT SCALE: 1.0000
FILE: SFIELD9

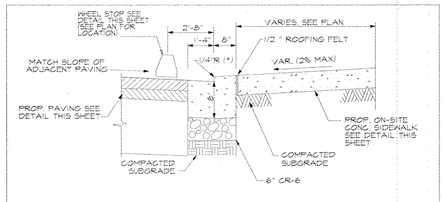


NOTE:
ALL PIPING SHALL BE SCHEDULE 40

(1) 6' HIGH CHAIN LINK FENCE DETAIL — SCALE: N.T.S.

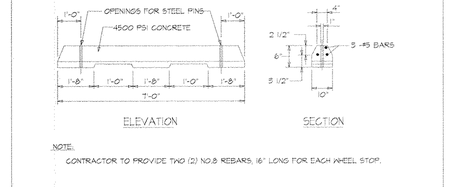


(2) PAVING TIE-IN DETAIL — SCALE: N.T.S.



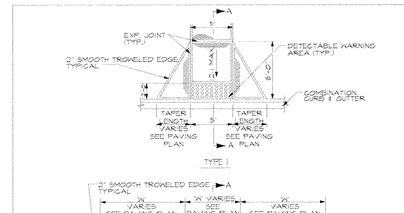
* NO GREATER THAN 1/4" MAXIMUM BETWEEN ADJOINING SURFACES

(3) DEPRESSED CURB & GUTTER AT PEDESTRIAN RAMP (SECTION A-A TYPE 2) — SCALE: N.T.S.

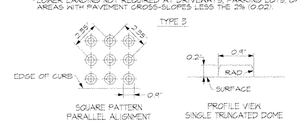


NOTE:
CONTRACTOR TO PROVIDE TWO (2) NO.8 REBARS, 16" LONG FOR EACH WHEEL STOP.

(4) PRECAST CONCRETE WHEEL STOP — SCALE: N.T.S.



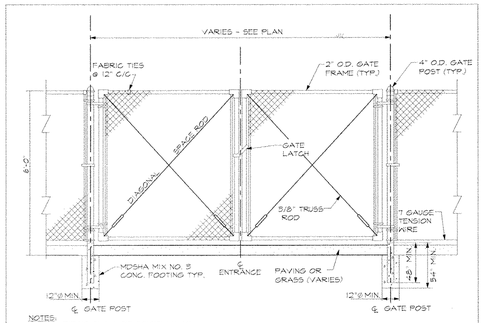
* LONGER LANDING NOT REQUIRED AT DRIVEWAYS, PARKING LOTS, OR OTHER AREAS WITH PAVEMENT CROSS-SLOPES LESS THE 2% (0.02).



DETECTABLE WARNING DETAIL

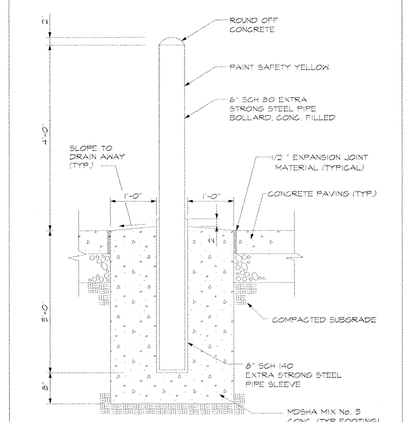
NOTES:
1. SURFACE TEXTURE OF RAMPS SHALL BE COARSE BROOMING OR NON SKID SURFACE.
2. DETECTABLE WARNINGS SHALL BE SQUARE PATTERN, PARALLEL ALIGNMENT.
3. SEE DEPRESSED CURB AND GUTTER AT PEDESTRIAN RAMP DETAIL 3 FOR SECTION A-A
4. SEE PAVING PLANS SHEET, FOR TYPE 1 RAMP TAPERED CURB LENGTHS.
5. A DETECTABLE WARNING IS A STANDARDIZED SURFACE FEATURE BUILT IN TO WALKING SURFACES OR OTHER ELEMENTS TO WARN VISUALLY IMPAIRED PEOPLE OF HAZARD ON A CIRCULATION PATH.
6. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH NOMINAL DIMENSIONS AS SHOWN AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-DARK OR DARK-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE INTEGRAL WITH THE WALKING SURFACE.
7. DETECTABLE WARNING AREAS SHALL EXTEND 24" BACK FROM THE REAR OF THE CURB WITHIN THE RAMP ITSELF. THEY SHALL NOT BE USED ELSEWHERE ON A PEDESTRIAN RAMP.
8. DETECTABLE WARNINGS SHALL BE RED BRICK OR BLOCK PAVERS PAVERS INSTALLED WITH MORTARED JOINTS.
9. PAVERS MAY BE SPLAYED AS REQUIRED TO MATCH A CURVED CURB RADIUS.
10. COMMERCIAL PRODUCTS MAY VARY IN SPACING, DIMENSION AND CONFIGURATION OF DOMES. CERTIFICATION OF COMPLIANCE WITH CURRENT A.D.A.A.G. (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINE REQUIREMENTS) SHALL BE REQUIRED OF ALL PRODUCTS BEFORE INSTALLATION.
11. MANUFACTURED PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
12. SUBMIT SAMPLE TO DEPARTMENT OF PUBLIC WORKS FOR APPROVAL OF DETECTABLE WARNING SURFACES ALONG ROADWAY.
13. DETECTABLE WARNING LANDING AREAS SHALL HAVE A MAXIMUM SLOPE OF 48:1.

(10) PEDESTRIAN RAMPS — SCALE: N.T.S.

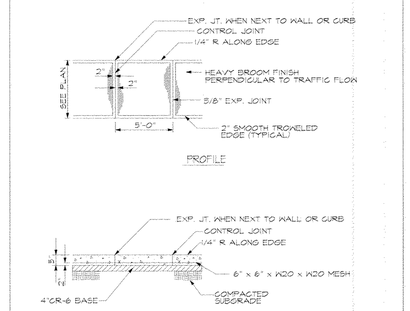


NOTES:
1. ALL PIPING SHALL BE SCHEDULE 40.
2. CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN INSTALLING FENCE SO AS NOT TO DAMAGE UNDERGROUND UTILITIES.

(5) 6' DOUBLE SWING GATE DETAIL — SCALE: N.T.S.



(6) PIPE BOLLARD — SCALE: N.T.S.

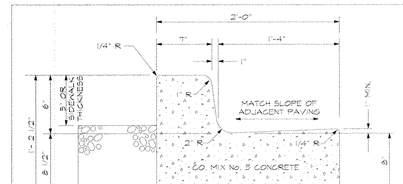


NOTE: PROVIDE 2% CROSS-SLOPE FOR POSITIVE DRAINAGE AS REQUIRED. CROSS SLOPE SHOULD NOT EXCEED 2% IF IT IS AN ADA ACCESSIBLE ROUTE.

SECTION

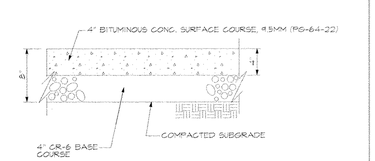
1. PROVIDE EXPANSION JOINTS 20' C.C. MAX. AND SCORE JOINTS 5' C.C. (UNLESS OTHERWISE NOTED). EXPANSION JOINTS SHALL BE ZIP STRIP CONTROL JOINTS MANUFACTURED BY SUPERIOR FEATHERWEIGHT TOOLS WITH 1/2" PREMOLDED BITUMINOUS JOINT MATERIAL. ALL CONTROL JOINTS SHALL BE SEALED WITH A POLYURETHANE SEALANT.
2. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE NO MORE THAN 1/8" ABOVE CURB WITH 1/2" EXPANSION JOINT MATERIAL.

(7) CONCRETE SIDEWALK & PAVILION PAD — SCALE: N.T.S.

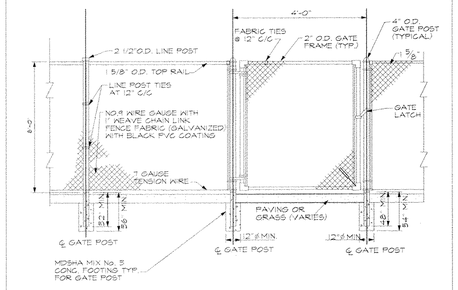


NOTES:
1. PROVIDE EXPANSION JOINTS EVERY 40' MAX.
2. PROVIDE CONTROL JOINTS EVERY 10'. JOINTS ARE TO ALIGN WITH THE PROPOSED SIDEWALK JOINTS.

(8) COMBINATION CURB AND GUTTER — SCALE: N.T.S.

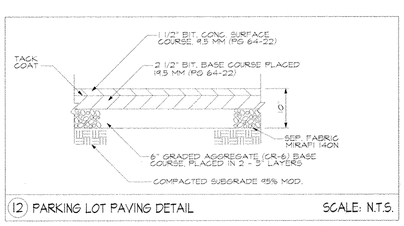


(9) BITUMINOUS PATH DETAIL — SCALE: N.T.S.

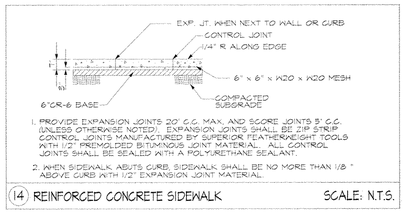


NOTES:
1. ALL PIPING SHALL BE SCHEDULE 40.
2. CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN INSTALLING FENCE SO AS NOT TO DAMAGE UNDERGROUND UTILITIES.

(11) 6' HIGH CHAIN LINK FENCE AND SWING GATE DETAIL — SCALE: N.T.S.

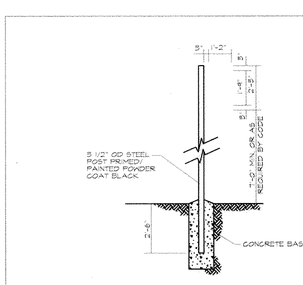


(12) PARKING LOT PAVING DETAIL — SCALE: N.T.S.

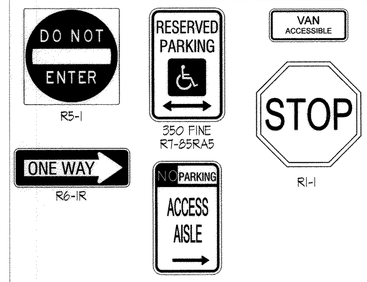


1. PROVIDE EXPANSION JOINTS 20' C.C. MAX. AND SCORE JOINTS 5' C.C. (UNLESS OTHERWISE NOTED). EXPANSION JOINTS SHALL BE ZIP STRIP CONTROL JOINTS MANUFACTURED BY SUPERIOR FEATHERWEIGHT TOOLS WITH 1/2" PREMOLDED BITUMINOUS JOINT MATERIAL. ALL CONTROL JOINTS SHALL BE SEALED WITH A POLYURETHANE SEALANT.
2. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE NO MORE THAN 1/8 " ABOVE CURB WITH 1/2" EXPANSION JOINT MATERIAL.

(14) REINFORCED CONCRETE SIDEWALK — SCALE: N.T.S.



(13) SIGN INSTALLATION DETAIL — SCALE: N.T.S.



(15) REQUIRED SIGNAGE — SCALE: N.T.S.

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 6/8/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

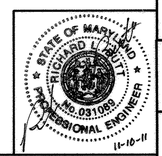
HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12

DIRECTOR — DATE 2/29/12



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

OWNER/DEVELOPER

SOCCER ASSOCIATION OF COLUMBIA, INC.
4960 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES

ENGINEERS
PLANNERS
SURVEYORS
CONSTRUCTION MANAGERS

8181 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-9086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE AS SHOWN
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9

SITE DETAILS & NOTES

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-52
SHEET 52 OF 6177
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

STRUCTURAL NOTES:

1. BUILDING CODES

   A. THE 2009 INTERNATIONAL BUILDING CODE (IBC) AND ALL SUBSEQUENT SUPPLEMENTS
   B. GOVERNING LOCAL BUILDING CODE

2. DESIGN LOADS

   A. THE STRUCTURE IS DESIGNED FOR THE FOLLOWING SURCHARGE LOADS:

      LIVE LOAD 100 PSF

   B. THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS OR UNDERTAKE ANY CONSTRUCTION OPERATION WHICH WILL EXCEED THE DESIGN LIVE LOADINGS NOTED.

   C. ALL RAILINGS SHALL BE DESIGNED FOR THE LOADS INDICATED OR SPECIFIED BY THE BUILDING CODE.

3. SEGMENTAL RETAINING WALLS

   A. REFER TO "SEGMENTAL RETAINING WALL UNITS" SECTION FOR APPLICABLE CODES AND STANDARDS.

   B. ASSUMED PARAMETERS FOR DESIGN ARE AS FOLLOWS:

      1. ASSUMED NET ALLOWABLE BEARING CAPACITY = 2000 PSF
      2. EQUIVALENT FLUID LATERAL EARTH PRESSURE = 35 PCF

   C. CONTRACTOR TO SUPPLY OR VERIFY BACKFILL MATERIALS WITH THE FOLLOWING CHARACTERISTICS:
      1. SATURATED SOIL DENSITY: 120 PCF
      2. INTERNAL FRICTION ANGLE: 30 DEGREES
      3. COHESION (C): 0
      4. COULOMB ACTIVE PRESSURE CONSTANT (Ka): 0.250

   D. ALL RETAINING WALLS ARE DESIGNED USING THE FOLLOWING FACTORS OF SAFETY:
      1. SLIDING = 1.5
      2. OVERTURNING = 2.0

   E. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 2000 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

4. SEGMENTAL RETAINING WALL (SRW) UNITS:

   A. CODES AND STANDARDS:
      1. NCMA "SEGMENTED RETAINING WALL DESIGN MANUAL"

   B. SUBMITTALS:
      1. MATERIAL CERTIFICATES FOR SRW UNITS AND GEOSYNTHETIC REINFORCEMENT, UNLESS BASIS OF DESIGN MANUFACTURER IS UTILIZED.
      2. CALCULATIONS, SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF MARYLAND, UNLESS BASIS OF DESIGN MANUFACTURER IS UTILIZED.
      3. THREE COLOR AND BLOCK OPTIONS TO BE SELECTED BY OWNER FROM MANUFACTURERS PRODUCT BROCHURES. CONTRACTOR SHALL SUBMIT ACTUAL PRODUCT SAMPLES FOR FINAL APPROVAL BY OWNER PRIOR TO CONSTRUCTION.

   C. MATERIALS:
      1. SRW UNITS SHALL BE VERSA-LOK STANDARD UNITS OR APPROVED EQUAL, CONSISTING OF MACHINE-FORMED, PORTLAND CEMENT CONCRETE BLOCKS (ASTM C 1372).
      2. NORMAL WEIGHT SRW UNITS: ASTM C 140 USING CONCRETE MEETING 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
      3. SRW UNIT CONNECTOR PINS: VERSA-TUFF PINS OR APPROVED EQUAL CONSISTING OF GLASS-REINFORCED NYLON, MADE FOR EXPRESS USE WITH THE SRW UNITS SPECIFIED.
      4. GEOSYNTHETIC REINFORCEMENT: VERSA-GRID GEOGRID OR APPROVED EQUAL WITH MINIMUM LONG TERM DESIGN TENSILE STRENGTH OF 1250 PLF PER ASTM D 4595 AND ASTM D 5262.
      5. LEVELING PAD: COMPACTED SAND, GRAVEL, OR COMBINATION THEREOF (USCS SOIL TYPES GP, GW, SP, AND SW).
      6. CONCRETE ADHESIVE: VERSA-LOK CONCRETE ADHESIVE OR APPROVED FLEXIBLE, HIGH-STRENGTH ADHESIVE. RIGID ADHESIVES OR MORTARS ARE NOT ACCEPTABLE.

   D. INSTALLATION:
      1. FOLLOW APPLICABLE PROVISIONS OF MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
      2. EXCAVATION:
         a. STRIP VEGETATION AND ORGANIC SOIL FROM WALL AND GEOSYNTHETIC ALIGNMENT.
         b. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION. OVER-EXCAVATION SHALL BE FILLED WITH COMPACTED BACKFILL MATERIAL AND CONTRACTOR'S EXPENSE.
      3. LEVELING PAD SHALL BE COMPACTED TO FORM A SMOOTH, LEVEL BEARING SURFACE.
      4. ALL SRW UNITS TO BE INSTALLED WITH A MINIMUM EMBEDMENT AS INDICATED. COMPACT FILL IN FRONT OF EMBEDDED UNITS AT THE SAME TIME AS FILL BEHIND UNITS.
      5. TWO (2) VERSA-TUFF PINS SHALL BE INSERTED THROUGH PIN HOLES OF EACH UPPER COURSE UNIT AND INTO RECEIVING SLOT OF LOWER COURSE UNIT.
      6. ALL GEOSYNTHETIC REINFORCEMENT SHALL BE PLACED WITH THE STRONGEST DIRECTION PERPENDICULAR TO THE WALL. FOLLOW MANUFACTURER'S WRITTEN INSTRUCTIONS AND SPECIFICATIONS.
      7. SRW CAPS SHALL BE PROPERLY ALIGNED AND GLUED TO UNDERLYING UNITS WITH VERSA-LOK CONCRETE ADHESIVE OR APPROVED EQUAL. CAPS SHALL OVERHANG THE TOP COURSE BY 3/4 TO 1 INCH, MAX.

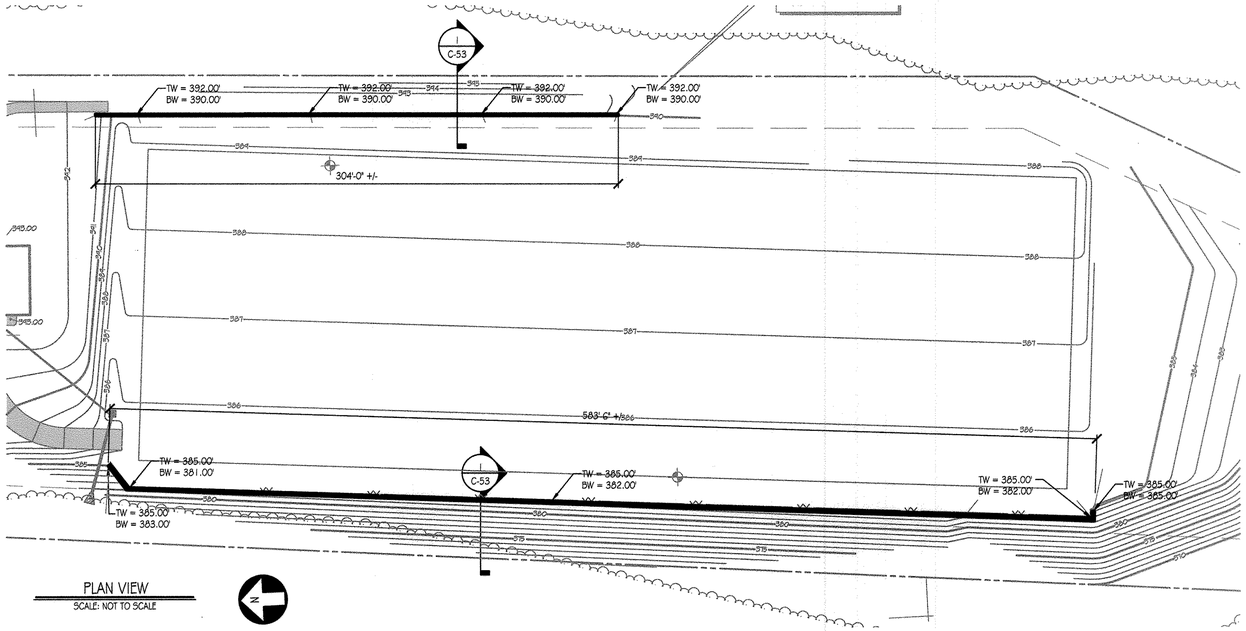
5. MISCELLANEOUS

   A. THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF CONSTRUCTION AND PREVENT DAMAGE TO THEM. SHOULD DAMAGE OCCUR TO ANY UTILITIES, THE CONTRACTOR IS REQUIRED TO REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER AT HIS OWN EXPENSE.

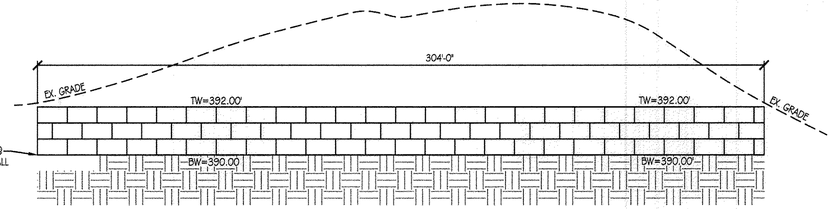
   B. THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.

   C. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION.

   D. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.

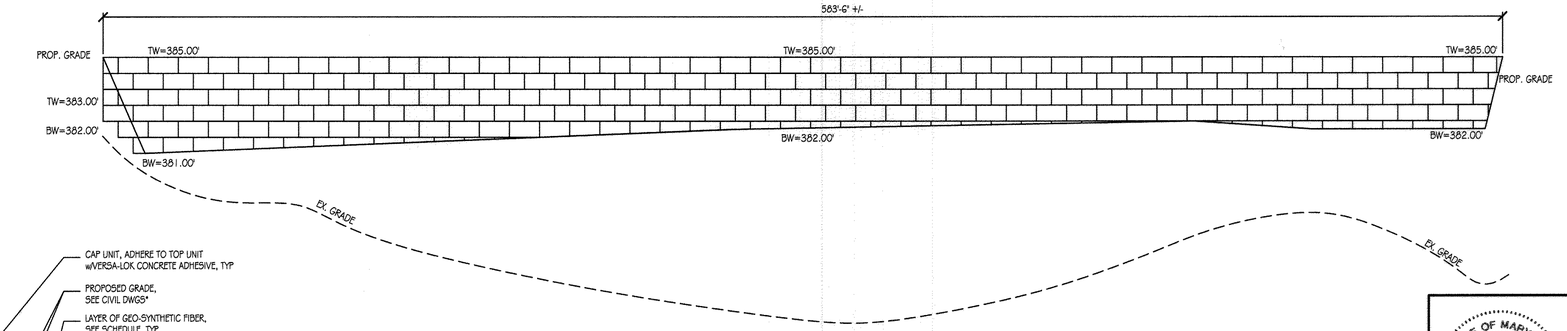


PLAN VIEW
SCALE: NOT TO SCALE



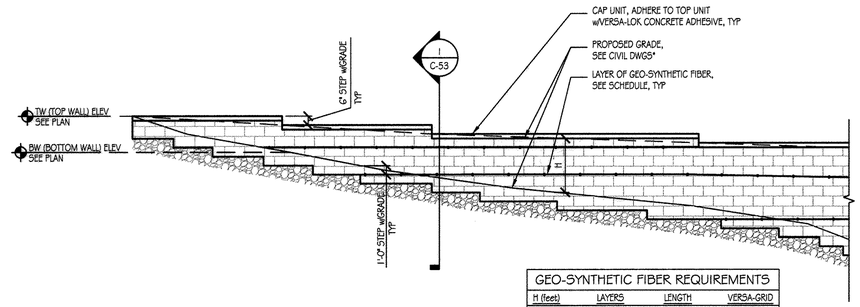
EAST WALL PROFILE
SCALE:
HORIZONTAL 1" = 30'
VERTICAL 1" = 3'

SEE TYPICAL ELEVATION DETAIL THIS SHEET FOR GEO-SYNTHETIC FIBER REQUIREMENTS AND PLACEMENT



WEST WALL PROFILE
SCALE:
HORIZONTAL 1" = 30'
VERTICAL 1" = 3'

SEE TYPICAL ELEVATION DETAIL THIS SHEET FOR GEO-SYNTHETIC FIBER REQUIREMENTS AND PLACEMENT



GEO-SYNTHETIC FIBER REQUIREMENTS			
H (feet)	LAYERS	LENGTH	VERSA-GRID
4'-0"	2	4'-0"	VG 3.0
2'-0"	1	2'-6"	VG 3.0

A TYPICAL ELEVATION DETAIL
SCALE: 1/8" = 1'-0" (H); 1/4" = 1'-0" (V)

*NOTE: ELEVATION SHOWN IS FOR GENERAL USE. REFER TO SITE PLAN FOR ACTUAL GRADE AT EACH WALL.

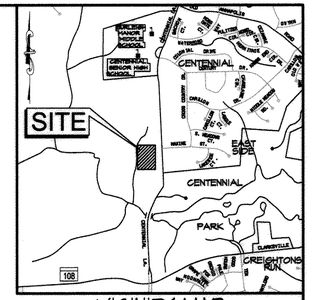
PLAN NOTES:

1. REFER TO CIVIL DRAWING C-50 FOR FINAL GRADING AND LOCATION OF UTILITIES.

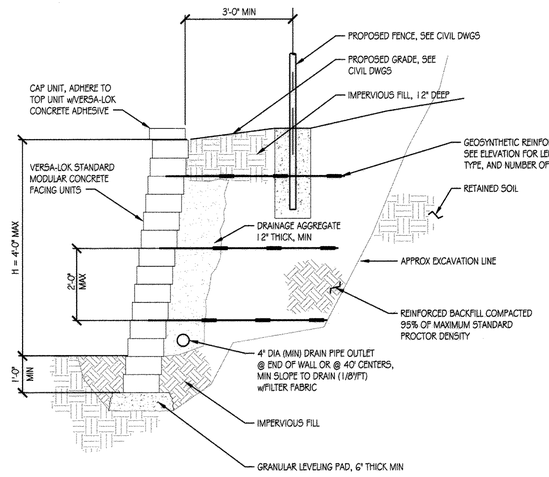
2. PROVIDE SEGMENTED RETAINING WALL CONSISTING OF "VERSA-LOK" STANDARD UNITS AND ACCESSORIES. SOIL SHALL BE REINFORCED USING "VERSAGRID 3.0" GEOSYNTHETIC FIBER OR APPROVED EQUAL. REFER TO DETAIL AND SECTIONS FOR GEO-SYNTHETIC FIBER LAYOUT.

3. TOP OF WALL ELEVATION IS INDICATED ON PLAN THUS: TW = XXX.XX'. TOP OF WALL INDICATES RETAINED SOIL HEIGHT ON HIGH SIDE OF WALL.

4. BOTTOM OF WALL ELEVATION IS INDICATED ON PLAN THUS: BW = XXX.XX'. BOTTOM OF WALL INDICATES SOIL HEIGHT ON LOW SIDE OF WALL. WALL SHALL EXTEND A MINIMUM OF 2 COURSES (12") BELOW SOIL.



VICINITY MAP
SCALE: 1" = 2000'



1 C-53 SECTION AT RETAINING WALL
SCALE: 1/2"= 1'-0"

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER 2/8/12 DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/23/12 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 2-23-12 DATE

DIRECTOR 2/24/12 DATE

STATE OF MARYLAND NICOLE DANIELLE HUDSON NO. 28226 PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28226 EXPIRATION DATE: 01-06-12

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
8161 MAPLE LAWN BOULEVARD SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-8086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE AS NOTED
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC.
FIELD #9

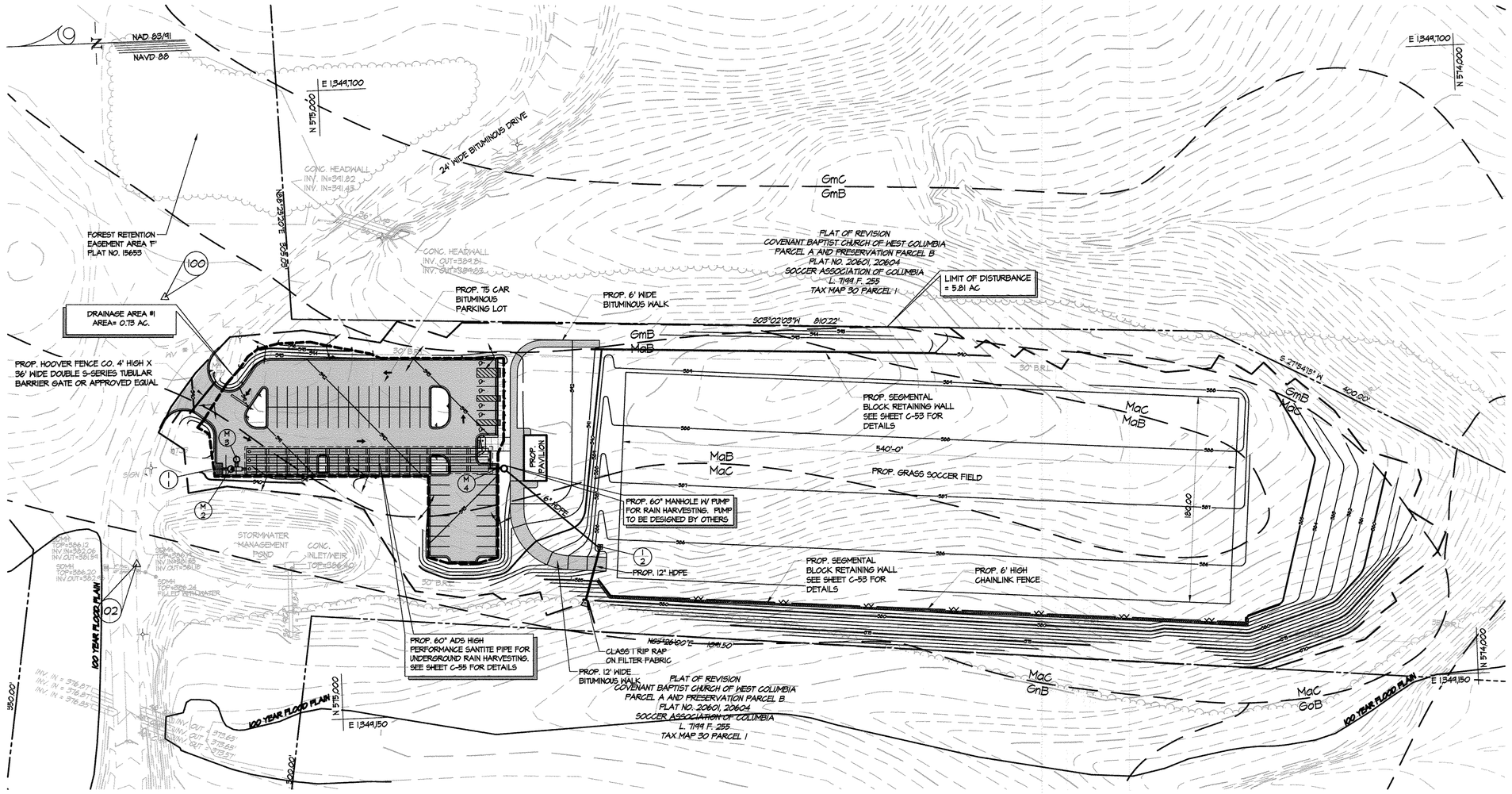
SEGMENTED WALL DETAILS

HOWARD COUNTY, MARYLAND 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-53
SHEET 55 OF 177
KCI JOB NUMBER 27110147

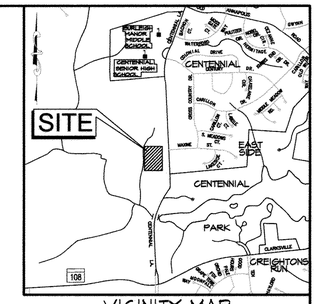
SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILES$



OVERALL STORM WATER MANAGEMENT PLAN

SCALE: 1" = 50'



VICINITY MAP

SCALE: 1" = 2000'

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,349524.74	348.89
102	REBAR & CAP	575,176.57	1,349,292.75	386.26

SITE NOTES

1. PROPERTY OWNER:
   SOCCER ASSOCIATION OF COLUMBIA
   4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
2. SITE DATA:
   TAX MAP/GRID: 30/1
   LIBER/FOLIO: 7199/255
   TRACT AREA: 52.345 ACRES/"PARCEL A"
   ELECTION DISTRICT: 2
   ADC MAP/GRID: 11/F13 & 15/F1
   ADDRESS: 4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
3. CURRENT USE: SOCCER PARK / CHURCH
4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 253,126 sq.ft. or 5.81 Ac.
6. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THE FACILITY.
7. PROPERTY SHOWN HEREON LIES WITHIN ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA COMMUNITY PANEL No. 2400440028 C, EFFECTIVE DATE APRIL 02, 1997.
8. EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY KCI TECHNOLOGIES, INC CONDUCTED ON OR ABOUT MARCH 2011.
9. ALL ABOVE GROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION.

STORMWATER MANAGEMENT DATA

DISTURBED AREA (AC)	EX. IMPERVIOUS (AC)	PROP. IMPERVIOUS (AC)	TOTAL IMPERVIOUS (AC)*	ESD (CF)		PE		BMP
				REQ.	PROV.	REQ.	PROV.	
5.81 AC.	0.00	0.76	0.76	3,557	12,174	1.00	3.03	RAIN HARVESTING

SOILS TABLE

SOIL SYMBOL	SOIL NAME	HYDROLOGIC SOILS GROUP
MaB	MANOR LOAM, 3 TO 8 PERCENT SLOPES	B
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

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SIGNATURE OF DEVELOPER — DATE 2/8/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA/NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE 2/16/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-23-12

DIRECTOR — DATE 2/23/12

STATE OF MARYLAND — JAMES A. BARNHART — No. 39772 — PROFESSIONAL ENGINEER — 2/4/15

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 39772, Expiration Date: 06/16/15

FOR AS-BUILT ONLY

STATE OF MARYLAND — RICHARD L. CRUZ — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089, EXPIRATION DATE: 11-21-12

GRAPHIC SCALE

50' 0 50' 100'

SCALE: 1"= 50'

OWNER/DEVELOPER

SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4940

KCI TECHNOLOGIES

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

8161 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-9086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 50'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9
OVERALL STORM WATER MANAGEMENT PLAN

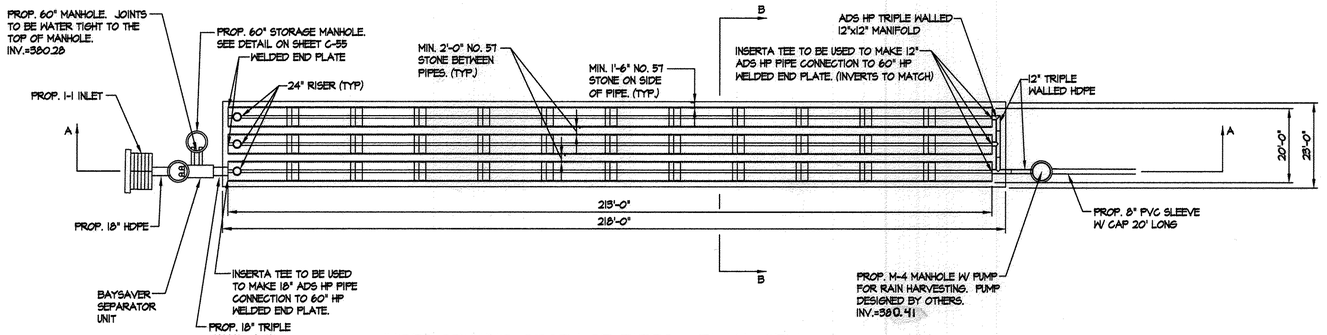
HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-54
SHEET 54 OF 61 77
KCI JOB NUMBER 27110147

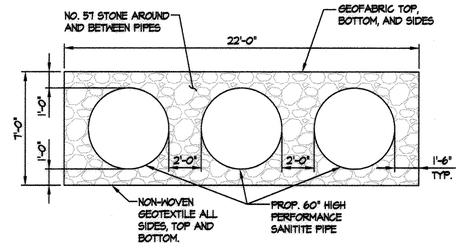
SDP-02-075

PLOTTED: $DATE$
FILE NAME: $FILENAME$
FILE: $FILE$

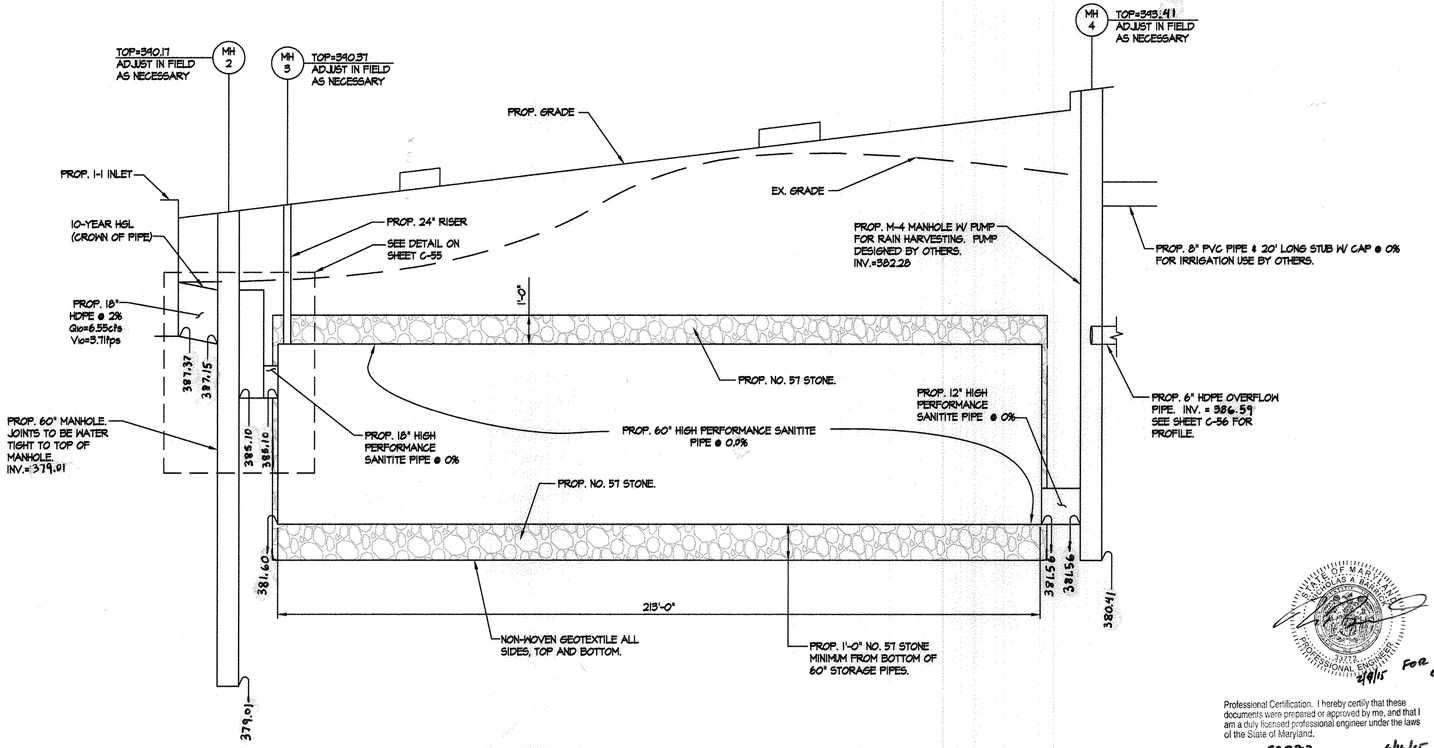
NOTE:
634 LF 60" ADS TRIPLE WALLED PIPE IS BEING USED AS UNDERGROUND STORAGE FOR IRRIGATION USE FOR FIELD #9. IRRIGATION SYSTEM. THE PUMP, CONNECTION TO THE IRRIGATION SYSTEM, AND THE IRRIGATION SYSTEM ARE DESIGNED BY OTHERS. TOTAL REQUIRED STORAGE TO PROVIDE 1.5" OF IRRIGATION OVER THE AREA OF THE FIELD IS 12,332 CF.



UNDERGROUND STORAGE PIPES - PLAN VIEW
SCALE 1" = 20'



UNDERGROUND STORAGE PIPES - SECTION B-B
NOT TO SCALE



UNDERGROUND STORAGE PIPES - SECTION A-A
SCALE HOR 1" = 20'
VERT 1" = 2'

WATER HARVESTING NOTES:
1) ADS SANITITE HP PIPE JOINTS ARE WATERTIGHT ACCORDING TO THE REQUIREMENTS OF ASTM D3212.
2) PIPE FITTINGS SHALL BE VACUUM TESTED PRIOR TO SHIPMENT TO ENSURE WELD INTEGRITY.
3) HP PIPE JOINT TYPICALLY HAVE MINIMAL ALLOWABLE LEAKAGE RATE IN ACCORDANCE WITH INDUSTRY STANDARDS.
4) APPLICATIONS REQUIRING LONG-TERM FLUID CONTAINMENT OR HYDROSTATIC PRESSURE MAY NOT BE APPROPRIATE.
5) A THERMOPLASTIC LINER (BY OTHERS) MAY BE UTILIZED OR REQUIRED DEPENDING ON JOINT PERFORMANCE EXPECTATIONS.

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/8/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-23-12
DIRECTOR — DATE 2/24/12

STATE OF MARYLAND — RICHARD L. HOLT — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

STATE OF MARYLAND — CHRISTOPHER T. MOORE — No. 21672 — PROFESSIONAL ENGINEER — 2/9/15 — FOR RE-SUBMITTAL ONLY

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 33972, Expiration Date: 6/16/15

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

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

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4960 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
8151 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-9086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

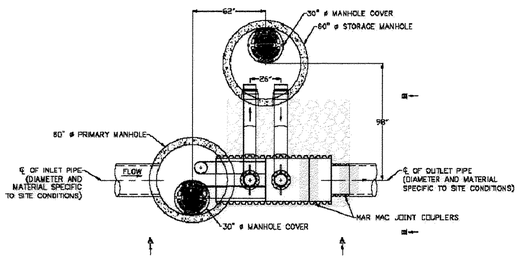
DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC.
FIELD #9
STORM WATER MANAGEMENT DETAILS
HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #18652 TO 18657

DRAWING NO. C-55
SHEET 55 OF 61 77
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

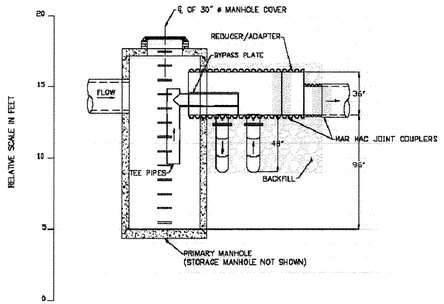


PLAN VIEW-BAYSAVER SEPARATION SYSTEM
(LEFT HAND ORIENTATION SHOWN)

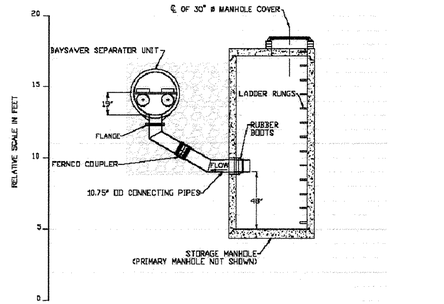
INLET PIPE INVERT:	387.15
INLET PIPE ID AND MATERIAL:	18" HDPE
OUTLET PIPE INVERT:	385.10
OUTLET PIPE ID AND MATERIAL:	18" HDPE
PRIMARY MANHOLE RIM ELEVATION:	390.17
STORAGE MANHOLE RIM ELEVATION:	390.20
ORIENTATION (RIGHT OR LEFT):	

GENERAL NOTES:

1. MANHOLES SHOWN REPRESENT STANDARD PRECAST STRUCTURES PROVIDED BY OTHERS.
2. SEAL THE CONNECTING PIPES INTO THE STORAGE MANHOLE USING RUBBER BOOTS/GASKETS.
3. THE BAYSAVER SEPARATION SYSTEM INCLUDES THE SEPARATOR UNIT, (2) CONNECTING PIPES, (2) CLAMPS, (1) REDUCER/ADAPTER, (4) WARMAC COUPLERS AND (2) FERNCO COUPLERS.
4. LEFT HAND ORIENTATION SHOWN. FOR RIGHT HAND ORIENTATION ROTATE STORAGE MANHOLE AND CONNECTING PIPES 180°.
5. SEE BAYSAVER SPECIFICATIONS AND INSTALLATION INSTRUCTIONS FOR FURTHER DETAIL.
6. USE NON-SHRINK GROUT TO SEAL THE INLET PIPE AND BAYSEPARATOR IN TO THE PRIMARY MANHOLE.
7. BACKFILL: CLASS 1, II OR III BACKFILL SHOULD BE USED TO AN ELEVATION OF AT LEAST 6" OVER THE CROWN OF THE SEPARATOR UNIT.
8. 12" COVER REQUIRED FOR TRAFFIC RATED SURFACE.
9. BAYSEPARATOR IS PROTECTED BY US PATENT NO. 5,746,911



PROFILE VIEW A-A



PROFILE VIEW B-B

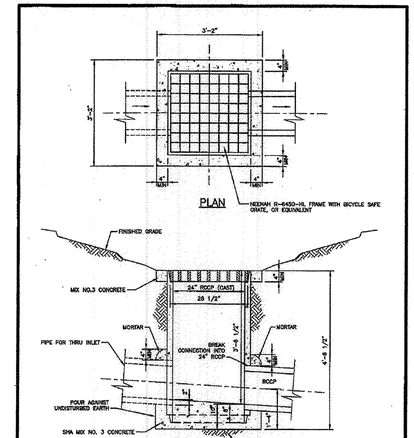
REV	DESCRIPTION	DATE	APPR

NOTES:

BAYSAVER TECHNOLOGIES, INC.
Engineering Stormwater Solutions
www.BaySaver.com 800.229.7283

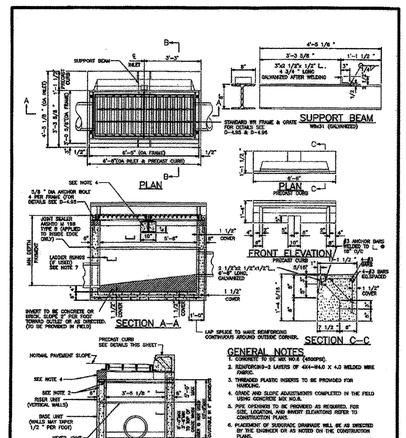
DESIGNED:	TEP	DATE:	11/04/08
DRAWN:	EKH	SCALE:	N.T.S.
CHECKED:	EKH	DWG NO:	3K

3K BAYSEPARATOR.™
GENERAL SYSTEM DETAILS

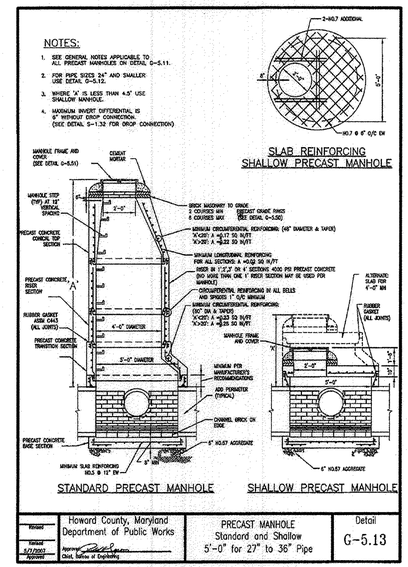


NOTE:
1. INLET TO BE USED IN A SINGLE OR SUMP, MAX. CAPACITY UNDER .25*Q CFS. TO BE USED WITH 15" DOWN, OR SMALLER, NOT TO BE USED IN ROADWAY OR PARKING AREA.
2. TO BE USED ONLY WHEN APPROVED BY COUNTY.

Revised 1/1/2003 Approved	Howard County, Maryland Department of Public Works Approved: Chief, Bureau of Engineering	Yard Inlet	Detail D-4.14



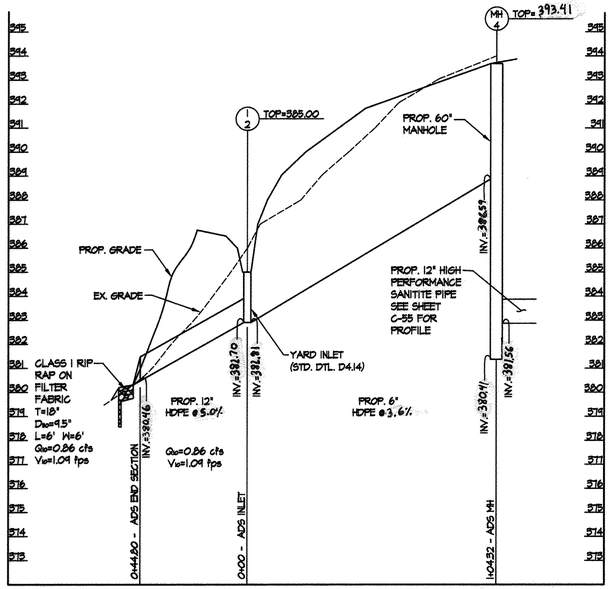
Revised 1/1/2003 Approved	Howard County, Maryland Department of Public Works Approved: Chief, Bureau of Engineering	Double WR Inlet Precast	Detail D-4.35



Revised 1/1/2003 Approved	Howard County, Maryland Department of Public Works	PRECAST MANHOLE Standard and Shallow 5'-0" for 27" to 36" Pipe	Detail G-5.13

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED BAYSEPARATOR WATER QUALITY DEVICE

1. THE BAYSEPARATOR WATER QUALITY STRUCTURE SHALL BE PERIODICALLY INSPECTED AND CLEANED TO MAINTAIN OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE BAYSEPARATOR UNIT YEARLY AT A MINIMUM, UTILIZING THE BAYSEPARATOR INSPECTION/MONITORING FORM. INSPECTIONS SHALL BE DONE BY USING A CLEAR PLEXIGLASS TUBE ("SLUDGE JUDGE") TO EXTRACT A WATER COLUMN SAMPLE. WHEN THE SEDIMENT DEPTHS EXCEED THE LEVEL SPECIFIED IN TABLE 6 OF THE BAYSEPARATOR TECHNICAL MANUAL, THE UNIT MUST BE CLEANED.
2. THE BAYSEPARATOR WATER QUALITY STRUCTURE SHALL BE CHECKED AND CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES.
3. THE MAINTENANCE OF THE BAYSEPARATOR UNIT SHALL BE DONE USING A VACUUM TRUCK WHICH WILL REMOVE THE WATER, SEDIMENT, DEBRIS, FLOATING HYDROCARBONS AND OTHER MATERIALS IN THE UNIT. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
4. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX MONTHS. IF OBSTRUCTIONS ARE FOUND THE OWNER SHALL HAVE THEM REMOVED. STRUCTURAL PARTS OF THE BAYSEPARATOR UNIT SHALL BE REPAIRED AS NEEDED.
5. THE OWNER SHALL RETAIN AND MAKE THE BAYSEPARATOR INSPECTION/MONITORING FORMS AVAILABLE THE HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.



12" & 6" HDPE PROFILE

SCALE: HOR: 1" = 30'
VERT: 1" = 5'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RAINWATER HARVESTING (M-1)

1. THE OWNER SHALL EMPTY UNDERGROUND STORAGE PIPES EVERY FALL AND PERFORM AN INSPECTION OF THE SYSTEM.
2. THE OWNER SHALL INSPECT THE BAYSAVER DEVICE EVERY SPRING AND FALL AND CLEAN AND REMOVE DEBRIS YEARLY.
3. THE OWNER SHALL REPLACE DAMAGED COMPONENTS AS NEEDED.
4. THE OWNER SHALL VERIFY THE INTEGRITY OF THE OVERFLOW PIPE AND CLEAN AND REMOVE ANY DEBRIS EVERY SPRING AND FALL.

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

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
8161 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-8086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC.
FIELD #9
STORM WATER MANAGEMENT DETAILS
HOWARD COUNTY, MARYLAND
2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-56
SHEET 56 OF 61 77
KCI JOB NUMBER 27110147

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 10-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/9/12

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12
DIRECTOR — DATE 2/28/12

STATE OF MARYLAND — RICHARD L. BOOTH — NO. 031089 — PROFESSIONAL ENGINEER — 10-10-11

STATE OF MARYLAND — NICHOLAS A. BOTTA — 32772 — PROFESSIONAL ENGINEER — 2/9/12 — FOR ASBUILT ONLY

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 32772, Expiration Date: 6/10/15

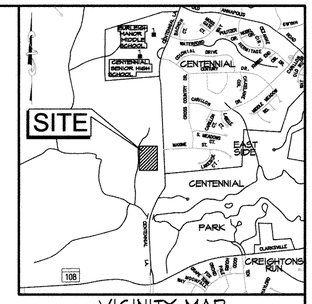
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILENAME$

SDP-02-075

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344,524.74	348.84
102	REBAR & CAP	575,176.57	1,344,292.75	386.26



VICINITY MAP
SCALE: 1" = 2000'

SITE NOTES

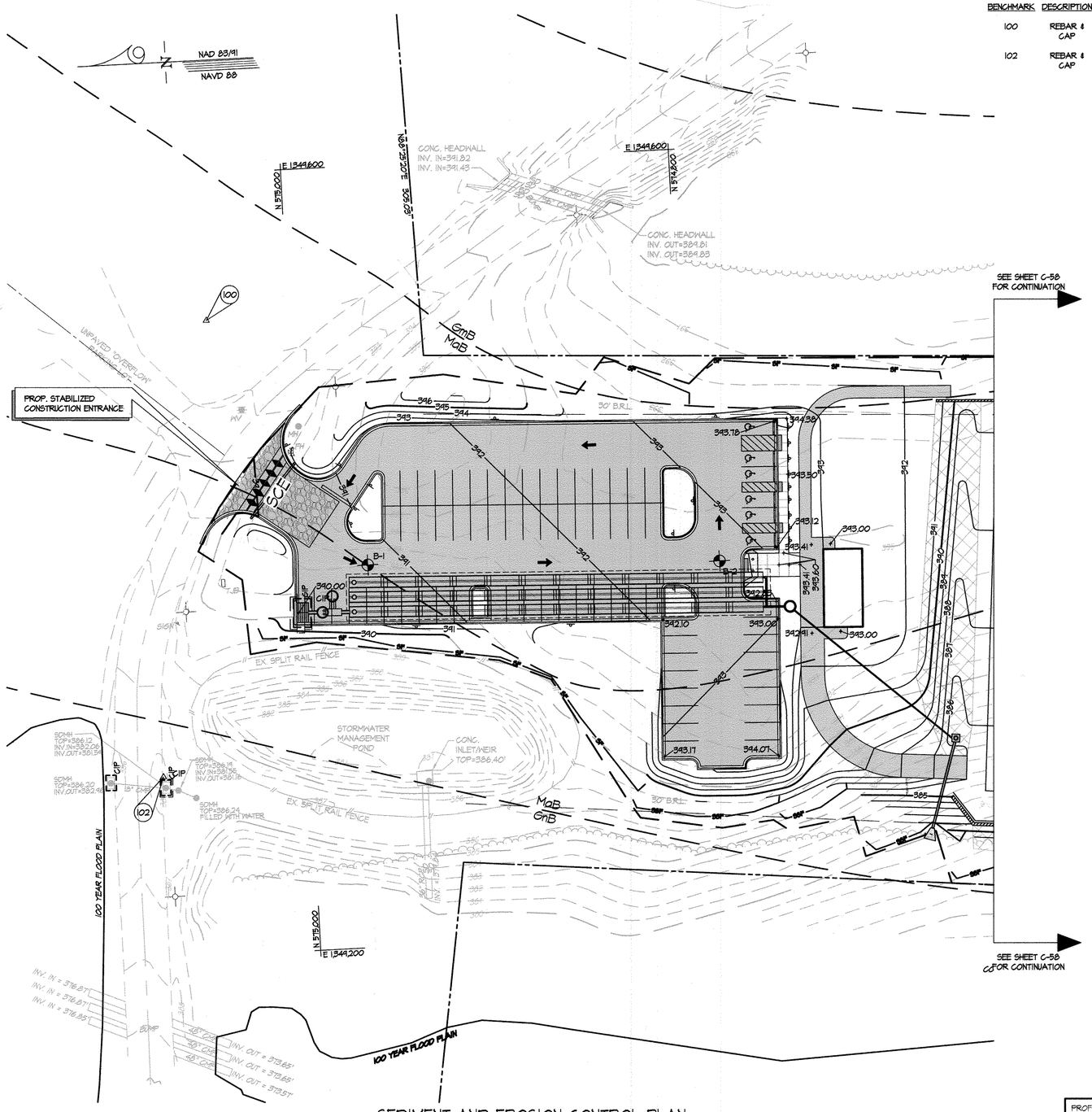
1. PROPERTY OWNER:
   SOCCER ASSOCIATION OF COLUMBIA
   4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
2. SITE DATA:
   TAX MAP/GRID: 30/1
   LIBER/FOLIO: 7199/255
   TRACT AREA: 52.345 ACRES/"PARCEL A"
   ELECTION DISTRICT: 2
   ADC MAP/GRID: 11/F13 & 15/F1
   ADDRESS: 4560 CENTENNIAL LANE
   ELLICOTT CITY, MD 21042
3. CURRENT USE: PARK
4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 231,136 sq.ft. or 5.31Ac.
6. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THE FACILITY.
7. PROPERTY SHOWN HEREON LIES WITHIN ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA COMMUNITY PANEL No. 2400440028 C, EFFECTIVE DATE APRIL 02, 1997.
8. EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY KCI TECHNOLOGIES, INC CONDUCTED ON OR ABOUT MARCH 2011.
9. ALL ABOVE GROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION.

SOILS TABLE

SOIL SYMBOL	SOIL NAME	HYDROLOGIC SOILS GROUP
MaB	MANOR LOAM, 3 TO 8 PERCENT SLOPES	B
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C

LEGEND

- PROPERTY LINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. EDGE OF ROAD
- SD — EX. STORM DRAIN LINE
- W — EX. WATER LINE
- EX. WOOD FENCE
- EX. EDGE OF WOODS
- EX. STORM DRAIN MANHOLE
- EX. WATER VALVE
- EX. LIGHTPOLE
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- PROP. CURB AND GUTTER
- PROP. BUILDING
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROP. BITUMINOUS WALK
- PROP. STORM DRAIN MANHOLE
- PROP. SIGN
- SF — PROP. SILT FENCE
- SSF — PROP. SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- PROP. EROSION CONTROL MATTING
- SEC — PROP. STABILIZED CONSTRUCTION ENTRANCE
- CIP — CURB INLET PROTECTION



SEDIMENT AND EROSION CONTROL PLAN
SCALE: 1" = 30'

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

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/6/12

~~REVISED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.~~

~~USDA-NATURAL RESOURCES CONSERVATION SERVICE~~ — ~~DATE~~

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

HOWARD S.C.D. — DATE 2/16/12

STATE OF MARYLAND — RICHARD L. SWEITZER — No. 031089 — PROFESSIONAL ENGINEER — 11/21/11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089, EXPIRATION DATE: 11-21-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12

DIRECTOR — DATE 2/28/12

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES
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8161 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-8086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9

SEDIMENT AND EROSION CONTROL PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-57
SEC SHEET 1 OF 2
SHEET 57 OF 61.77
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: 5/24/12
PLOT BY: MICHAEL
FILE: SHEET5

NAD 83/91
NAVD88

BENCHMARK DATA

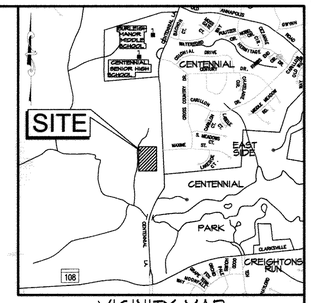
BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344,524.74	398.89
102	REBAR & CAP	575,176.57	1,344,242.75	386.26

SEQUENCE OF CONSTRUCTION

Sequence of Construction for Field #9

1. Obtain Howard County Grading Permit. (5 Days)
2. Notify Howard County Sediment Control Inspector for Pre-Construction meeting as required. Notify Miss Utility. (2 Days)
3. With the County Inspectors grub for and install only the perimeter sediment control measures (ie., Stone Construction Entrance, Inlet Protection, Super Silt Fence & Silt fence). (8 Days)
4. With the County Inspectors approval, clear and grub the entire site within the limits of disturbance, strip and store topsoil in the stock pile area. Apply temporary stabilization over the stored topsoil. Begin grading the western slope below the proposed soccer field up to the bottom elevation of the segmental retaining wall. Apply topsoil to the 3:1 slope and fine grade, apply seed, mulch and soil stabilization matting over the slope. Install the segmental masonry retain wall on west side of field. Backfill behind the wall to finished grade. (15 Days)
5. Begin fine grading the parking lot and install the parking lot stone base and curbing to within 15' of the stormwater facility. (15 Days)
6. Fine grade with topsoil behind the curbs in and around the parking areas and apply seed and mulch. (5 Days)
7. Begin installation of the stormwater management facility. At the completion of the facility install inlet protection around the inlet at the head of the system. Apply remainder of the stone parking lot base over the stormwater management facility and install bituminous base paving course. (15 Days)
8. Fine grade fields, complete segmental wall on the east side of the site, apply topsoil those areas to be fine graded and stabilize with seed and mulch. (5 Days)
9. Complete fencing, sidewalks, access paths and concrete pads to fields and stabilize those areas that remain disturbed. (15 Days)
10. With inspectors approval, remove all sediment control measures and stabilize all areas disturbed by this process. (5Days)

Total working days: 90



VICINITY MAP
SCALE: 1" = 2000'

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- EX. MINOR CONTOUR
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- EX. EDGE OF WOODS
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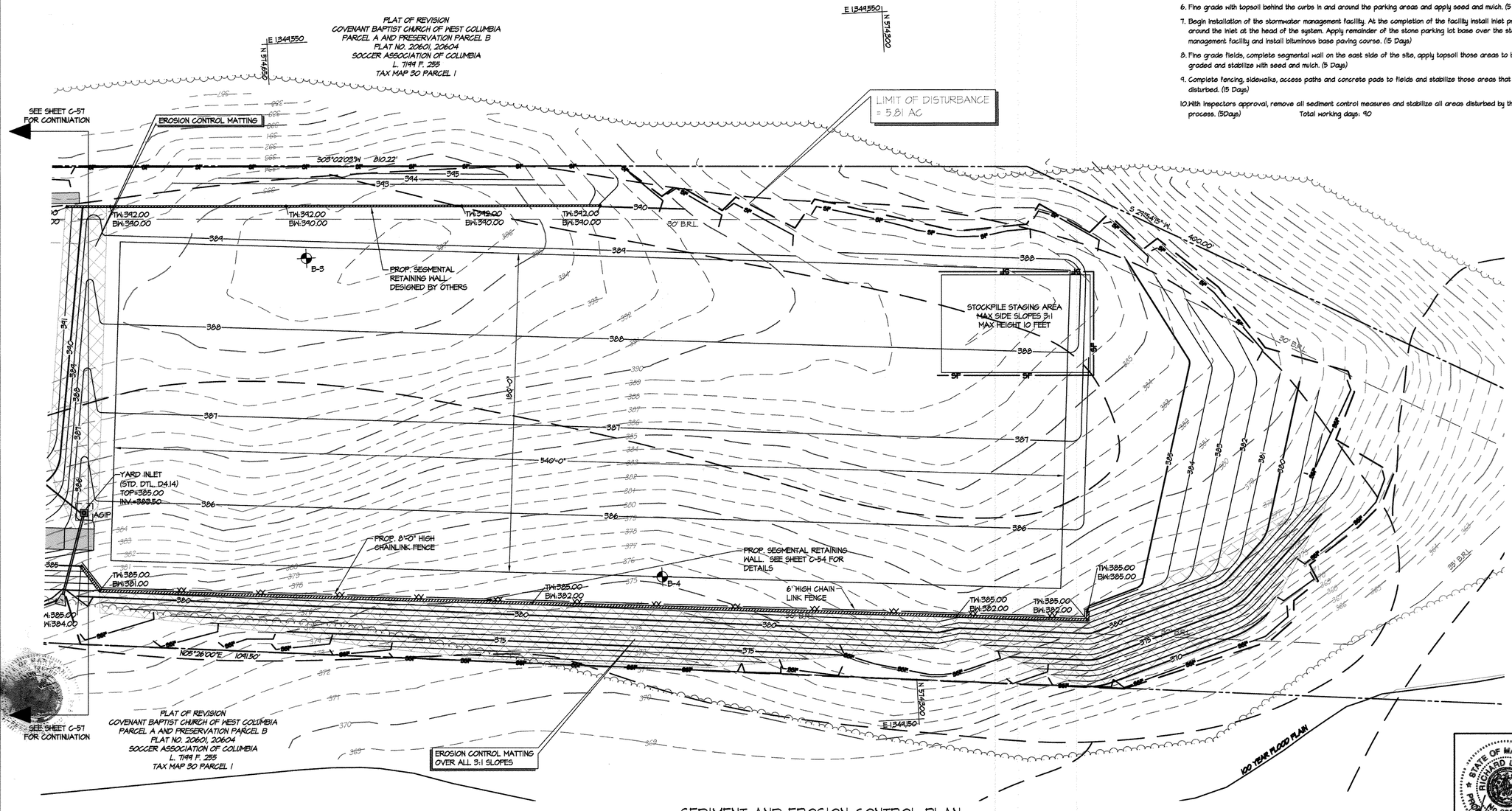
- PROP. BUILDING
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROP. BITUMINOUS WALK
- PROP. STORM DRAIN MANHOLE
- PROP. SIGN
- SF — PROP. SILT FENCE
- SSF — PROP. SUPER SILT FENCE
- PROP. EROSION CONTROL MATTING
- AGIP — AT GRADE INLET PROTECTION



SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1" = 30'

SITE ANALYSIS

TOTAL CUT:	13,100 CY	
TOTAL FILL:	13,100 CY	
TOTAL DISTURBED AREA:		5.81 AC.
AREA TO BE ROOFED OR PAVED:		0.76 AC.
AREA TO BE VEGETATIVELY STABILIZED:		5.05 AC.

SOILS TABLE

SOIL SYMBOL	SOIL NAME	HYDROLOGIC SOILS GROUP
MaB	MANOR LOAM, 3 TO 8 PERCENT SLOPES	B
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B
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GRAPHIC SCALE
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BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/8/12

~~REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.~~

~~MD DEPT. OF NATURAL RESOURCES CONSERVATION SERVICE~~ — ~~DATE~~

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

HOWARD S.C.D. — DATE 2/16/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12

DIRECTOR — DATE 2/29/12

STATE OF MARYLAND RICHARD L. [illegible] No. 031089 PROFESSIONAL ENGINEER 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

OWNER/DEVELOPER

SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

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FULTON, MD 20759
TELEPHONE: (410)792-8086
FAX: (410)792-7419

NO.	DATE	REVISIONS DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9

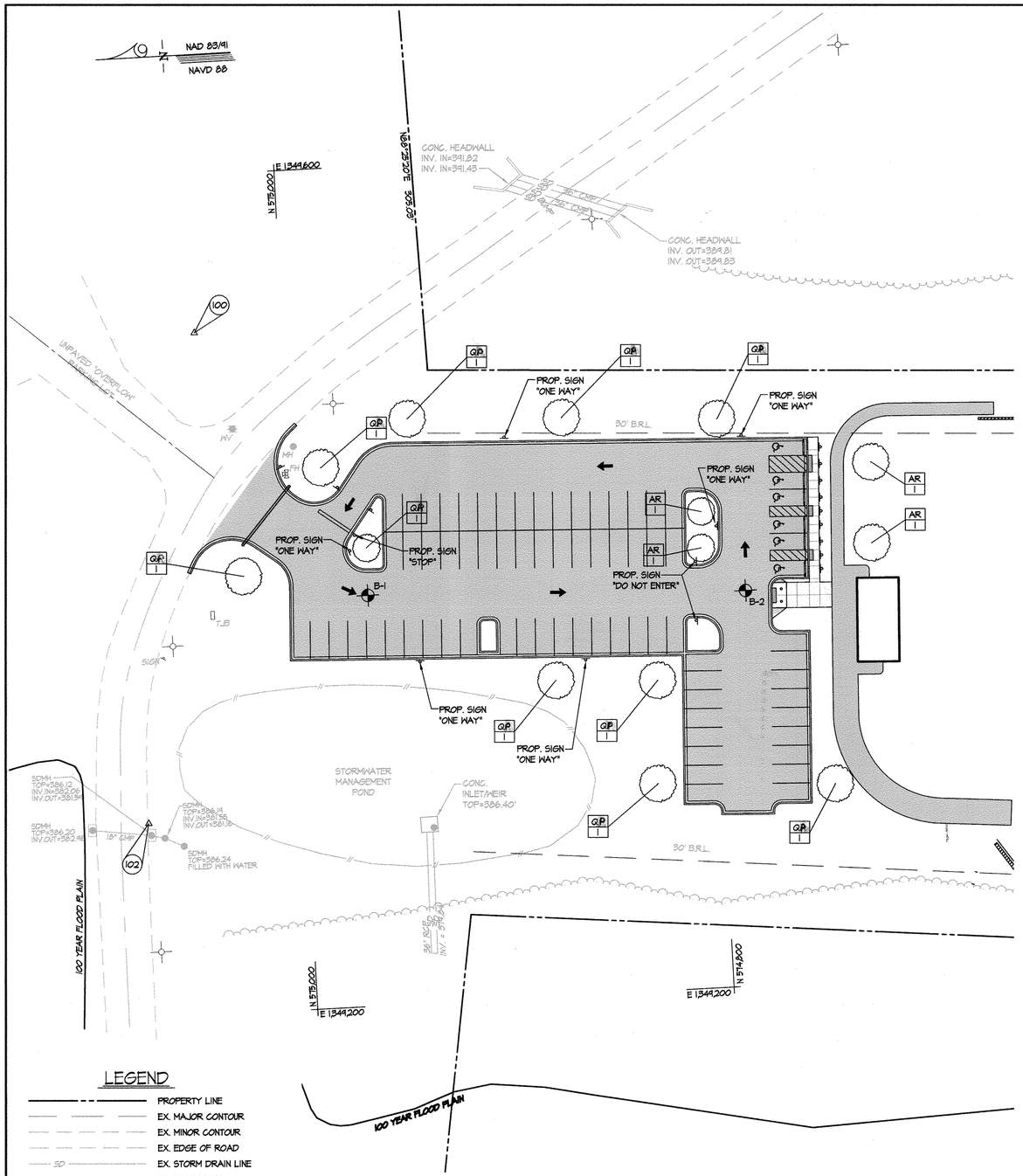
SEDIMENT AND EROSION CONTROL PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-58
SEC SHEET 2 OF 2
SHEET 58 OF 61 77
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
PLOT BY: $USERNAME$
FILE: $FILENAME$



LANDSCAPE PLAN

SCALE: 1" = 30'

LEGEND

- PROPERTY LINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. EDGE OF ROAD
- EX. STORM DRAIN LINE
- EX. WATER LINE
- EX. WOOD FENCE
- EX. EDGE OF WOODS
- EX. STORM DRAIN MANHOLE
- EX. WATER VALVE
- EX. LIGHTPOLE
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- PROP. CURB AND GUTTER
- PROP. BUILDING
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROP. BITUMINOUS WALK
- PROP. STORM DRAIN MANHOLE
- PROP. SIGN

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	75
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	4
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	 14 -
NUMBER OF ISLANDS REQUIRED (1/20 SPACES)	4
NUMBER OF ISLANDS PROVIDED (200 SF/ISLAND)	7

GRAPHIC SCALE

30' 0 30' 60'

SCALE: 1"= 30'

SCHEDULE A - PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	4	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2.5"-3" CAL.	B&B	PLANT AS SHOWN
Q.P.	10	QUERCUS PHELLOS WILLOW OAK	2.5"-3" CAL.	B&B	PLANT AS SHOWN

NOTE:
PERIMETER AND PARKING LOT LANDSCAPING SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL AND AS SHOWN ON THIS SITE PLAN. SURETY IN THE AMOUNT OF $4,200.00 FOR 14 SHADE TREES SHALL BE POSTED WITH THE GRADING PERMIT FOR DEVELOPMENT OF FIELD #9 UNDER THE RED-LINE REVISIONS FOR SDP-02-075.

ORDER

Based upon the foregoing, it is this **22nd Day of February 2010**, by the Howard County Board of Appeals Hearing Examiner, **ORDERED:**

That the petition of the Soccer Association of Columbia, Inc., to modify the hours of operations approved in BA 01-020C to include early Sunday morning start hours (9:00 a.m., rather than the approved 12:30 p.m. start time) for tournament play is **DENIED;**

That the Petition of the Soccer Association of Columbia, Inc., to modify and expand the existing outdoor athletic facility is **GRANTED**, as follows:

1. Expansion. The Petitioner's request to expand the recreational use as depicted in the Conditional Use Plan is granted. This expansion includes a 75-space paved parking lot and driveway, a 36-foot by 48-foot, 25-foot high (maximum) pavilion shelter constructed to match the existing pavilions, and a 210-foot by 540-foot, unlighted multipurpose athletic field.

The 50-foot setback is reduced to 32 feet for the parking lot and about 31 feet for the expansion field, as is permitted by Section 131.N.6.c.

2. Three Modifications

a. A third, Winter season. The Petitioner's request to add a third Winter Season running from December through February on the weekends is granted. Only the synthetic fields shall be used during the season. No lights shall be used. The start time shall be 12:30 p.m.

b. Number of tournaments. The Petitioner is permitted to increase the number of tournaments to nine. The nine tournaments shall be held on the days set forth in Table II of this Decision and Order.

c. Increase in the number of lighted nights. The Petitioner's request to increase the number of lighted nights from 90 to 165 is granted, specifically 15 nights in March, 25 in April, 25 in May, 15 in June, no lighted nights in July, 5 in August, 30 in September, 30 in October and 20 in November. The Petitioner shall turn off all field lights by 10:15 p.m.

3. The Petitioner shall augment the landscape buffer along Centennial Lane where the overflow parking is visible from the street. The Petitioner shall consult with DPZ at the site development plan phase to determine the appropriate landscaping.

4. To ensure public safety on-site, the Petitioner shall consult with DPZ and other appropriate agencies at the site development plan phase to establish the proper public safety resolution to ensure safe pedestrian crossing along the driveway by the overflow parking area. The resolution may include, but is not limited to, a stop sign, a marked pedestrian walkway, and/or a flashing light alerting motorists to the pedestrian walkway.

5. Phasing. In Phase I, the Petitioner shall obtain all necessary permits and approvals and shall commence the use of those portions of the conditional use outside the Area of Expansion (as shown and depicted on the Conditional Use Plan) within two years of the date of the Decision and Order. In Phase II, the Petitioner shall obtain all necessary permits and approvals and commence the use of the "Area of Expansion" (as shown and

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344524.74	398.89
102	REBAR & CAP	575,176.51	1,344,242.75	386.26

depicted on the Conditional Use Plan) within six years of the date of the Decision and Order.

6. The Petitioner shall comply with all applicable conditions of this Decision and prior to the commencement of each phased use.

HOWARD COUNTY BOARD OF APPEALS
HEARING EXAMINER
Michael L. LeFaivre

Date Mailed: 2/24/10

Notice: A person aggrieved by this decision may appeal it to the Howard County Board of Appeals within 30 calendar days of the issuance of the decision. An appeal must be submitted to the Department of Planning and Zoning on a form provided by the Department. At the time the appeal petition is filed, the person filing the appeal must pay the appeal fees in accordance with the current schedule of fees. The appeal will be heard *de novo* by the Board. The person filing the appeal will bear the expense of providing notice and advertising the hearing.

LANDSCAPING CERTIFICATION

I HEREBY 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 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.

SIGNATURE DAVID LOCKE — 11-10-11 DATE

~~BY THE ENGINEER:~~

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

~~SIGNATURE OF ENGINEER~~ ~~DATE~~

~~BY THE DEVELOPER:~~

~~"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 COUNTY SOIL CONSERVATION DISTRICT."~~

~~SIGNATURE OF DEVELOPER~~ ~~DATE~~

~~REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.~~

~~USDA NATURAL RESOURCES CONSERVATION SERVICE~~ ~~DATE~~

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

~~HOWARD S.C.D.~~ ~~DATE~~

STATE OF MARYLAND
DAVID E. LOCKE
No. 654
REGISTERED LANDSCAPE ARCHITECT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 2/23/12 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 2-28-12 DATE

DIRECTOR — 3/28/12 DATE

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31084, EXPIRATION DATE: 11-21-12

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REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC.
FIELD #9
LANDSCAPE PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-59
SHEET 59 OF 61-77
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Section I - Vegetative Stabilization Methods and Materials

A. Site Preparation
I. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
II. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
III. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)
I. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the contractor or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
II. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
III. Lime materials shall be ground limestone (hydrated or burnt lime may be submitted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98 - 100% will pass through a #20 mesh sieve.
IV. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

C. Seedbed Preparation
I. Temporary Seeding
a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.
II. Permanent Seeding
a. Minimum soil conditions required for permanent vegetative establishment:
1. Soil pH shall be between 6.0 and 7.0
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericia lespedeza is to be planted, then a sandy soil (> 30% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
c. Apply soil amendments as per soil test or as included on the plans.
d. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specification
I. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
II. Inoculant - The inoculants for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculants as directed on package. Use four times the recommended rate when hydroseeding.
Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80°F can weaken bacteria and make the inoculants less effective.

E. Methods of Seeding
I. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.
a. If fertilizer is being applied at the time of seeding, the application rate amount will not exceed the following: nitrogen; maximum of 100 lbs. Per acre total of soluble nitrogen; P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.
b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
II. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
III. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (in order of preference)
I. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
II. Wood Cellulose Fiber Mulch (WCFM)
a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogenous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic.
f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
I. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
II. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
III. Wood cellulose fiber used as a mulch shall be applied at a net dry weights of 1,500 lbs. Per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
I. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
II. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pound/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
III. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCI 70, Petroset, Terra Tack II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
IV. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 9,000 feet long.

I. Incremental Stabilization - Cut Slopes
I. All cut slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
II. Construction sequence (Refer to Figure 3 below):
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
b. Perform phase 1 excavation, dress, and stabilize.

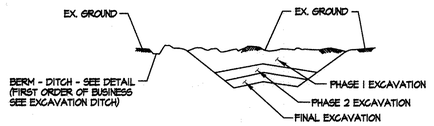


FIGURE 3

J. Incremental Stabilization of Embankments - Fill Slopes
I. Embankments shall be constructed in lifts as prescribed on the plans.
II. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
III. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
IV. Construction sequence. Refer to Figure 4 (below)
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct Slope Silt Fence on low side of fill as shown in Figure 4, unless other methods shown on the plans address this area.
b. Place phase 1 embankment, dress and stabilize.
c. Place phase 2 embankment, dress and stabilize.
d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

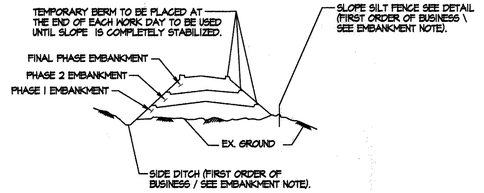


FIGURE 4

Section II - Temporary Seeding

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed Mixtures - Temporary Seeding
I. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this Summary is not put on the plans and completed, then Table 26 must be put on the plans.
II. For sites having soil test performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

TEMPORARY SEEDING SUMMARY

Seed Mixture (For Hardiness Zone 6B) (From Table 26)					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	Barley	122	9/1-4/30 8/15-11/15	1"-2"	600 lb/ac (15 lb/100 sf)	2 tons/ac (100 lb/1000 sf)
2	Millet	50	5/1-8/14	1/2"		
3	Rye and Foxtail Millet	150	9/1-11/15	1"		

STONE FOR GABION BASKETS

BASKET INCHES		SIZE OF INDIVIDUAL STONES	
INCHES	MM	INCHES	MM
6	150	3-5	75-125
9	225	4-7	100-175
12	300	4-7	100-175
18	460	4-7	100-175
36	910	4-12	100-300

Section III: Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding
I. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Section IV Sod and V Turfgrass.
II. For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
III. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

PERMANENT SEEDING SUMMARY

Seed Mixture (For Hardiness Zone 6B) (From Table 26)					Fertilizer Rate (5-10-10)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	Tall Fescue(85%) Perennial Ryegrass(10%) Kentucky Blue Grass(5%)	125 15 10	3/1-5/15 8/15-10/15	1/2"	90 lb/ac (2 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 sf)	2 tons/ac (100 lb/ 1000 sf)
7	Tall Fescue(85%) Perennial Weeping Lovegrass(2%) Sericia Lespedeza(15%)	110 5 20	3/1-5/15 5/16-8/14 8/15-10/15	1/2"				

Section IV - Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

A. General specifications
I. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.
II. Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
III. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
IV. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
V. Sod shall be harvested, delivered, and installed with a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.

B. Sod Installation
I. During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
II. The first row of sod shall be laid in a straight line with subsequent rows place parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
III. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
IV. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

C. Sod Maintenance
I. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.
II. After the first week, sod watering is required as necessary to maintain adequate moisture content.
III. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section V - Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. Areas to receive seed shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1 1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.

Note: Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

A. Turfgrass Mixtures
I. Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and eastern shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
II. Kentucky Bluegrass/Perennial Rye - Full sun mixture - For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding rate: 2 pounds mixture/1000 square feet. A minimum of 3 Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from 10% to 35% of the mixture by weight.
III. Tall Fescue/Kentucky Bluegrass - Full sun mixture - For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: certified Tall Fescue Cultivars 45 - 100%, certified Kentucky Bluegrass Cultivars 0 - 5%. Seeding rate: 5 to 8 lb/1000 sf. One or more cultivars may be blended.
IV. Kentucky Bluegrass/Fine Fescue - Shade Mixture - For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: certified Kentucky Bluegrass Cultivars 30-40% and certified Fine Fescue and 60-70%. Seeding rate: 1 1/2 - 3 lbs/1000 square feet. A minimum of 3 Kentucky bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

Note: Turfgrass varieties should be selected from those listed in the most current University of Maryland publication, agronomy mimeo #71, "turfgrass cultivar recommendations for Maryland".

B. Ideal Times of Seeding
Western MD: March 15 - June 1, August 1 - October 1 (hardiness zones - 5b, 6a)
Central MD: March 1 - May 15, August 15 - October 15 (hardiness zone - 6b)
Southern MD, Eastern Shore: March 1 - May 15, August 15 - October 15 (hardiness zone - 7a, 7b)

C. Irrigation
If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2" - 1" every 5 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. Repairs and Maintenance
Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season.
I. Once the vegetation is established, the site shall have 95% ground cover to be considered adequately stabilized.
II. If the stand provides less that 40% ground coverage, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.
III. If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.
IV. Maintenance fertilizer rates for permanent seedings are shown in table 24. For lawns and other medium to high maintenance turfgrass areas, refer to the University of Maryland publication "lawn care in maryland" bulletin no. 171.

GEOTEXTILE FABRICS

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN	BURST STRENGTH PSI. MIN
A	0.30	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

* US Std Sieve CW-02215

STONE SIZE

	SIZE RANGE	D_{50}	D_{100}	AASHTO	WEIGHT
NUMBER 57*	3/8"-1 1/2"	1/2"	1 1/2"	M-43	N/A
NUMBER 1	2"-3"	2 1/2"	3"	M-43	N/A
RIP-RAP**	4"-7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150 LB MAX
CLASS II	N/A	16"	24"	N/A	700 LB MAX
CLASS III	N/A	23"	34"	N/A	2000 LB MAX

* This classification is to be used on the inside face of stone outlets and check dams

** This classification is to be used when ever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (905.01.04)

Borrow / Spoil Area Note:

The contractor is responsible for obtaining an approved sediment control plan for all borrow and spoil material areas associated with this construction.

Standard Stabilization

"Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within seven (7) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes and all slopes greater than 3 horizontal to 1 vertical (3:1); and fourteen days (14) as to all other disturbed or graded areas on the project site."

PLANT HARDINESS ZONE: 6B

IF AREA TO BE VEGETATIVELY STABILIZED EXCEEDS 5 ACRES, THE FOLLOWING APPLIES: AT THE TIME OF FINAL GRADING SOILS TEST TO BE PERFORMED TO DETERMINE FERTILIZER AND LIME RATE

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/8/12

~~REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS~~

~~USDA-NATURAL RESOURCES CONSERVATION SERVICE~~ ~~DATE~~

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

HOWARD S.C.D. — DATE 2/16/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12

DIRECTOR — DATE 2/29/12

STATE OF MARYLAND — RICHARD L. [illegible] — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

OWNER/DEVELOPER
SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
8161 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-9286
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE AS SHOWN
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9

SEDIMENT & EROSION CONTROL NOTES

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-60
SHEET 60 OF 77
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

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 purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

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. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

A. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or 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 materials larger than 1 1/2 " in diameter.

B. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

C. 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.

III. For sites having disturbed areas under 5 acres place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

IV. For sites having disturbed areas over 5 acres:

A. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

1. 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.

2. Organic content of topsoil shall be not less than 1.5 percent by weight.

3. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

4. 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 recommends by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

B. 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

A. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

1. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

2. 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.

3. 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:

A. 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:

1. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

2. 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.

3. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

B. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lbs/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 1975.

19.0 STANDARDS AND SPECIFICATIONS FOR LAND GRADING

DESIGN CRITERIA

The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measures for drainage and water removal and vegetative treatment, etc.

Many counties have regulations and design procedures already established for land grading and cut and fill slopes. Where these requirements exist, they shall be followed. The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (include grade and cross section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include phasing of these practices. The following shall be incorporated into the plan:

I. Provisions shall be made to safely conduct surface runoff to storm drains, protected outlets or to stable water courses to insure that surface runoff will not damage slopes or other graded areas.

II. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. (Where the slope is to be mowed the slope should be no steeper than 3:1) 4:1 is preferred because of safety factors related to mowing steep slopes.) Slopes exceeding 2:1 shall require special design and stabilization considerations that shall be adequately shown on the plans.

III. Reverse benches shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slope it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.

A. Benches shall be a minimum of six-feet wide to provide for ease of maintenance.
B. Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 5 percent, unless accompanied by appropriate design and computations.
C. The flow length within a bench shall not exceed 800' unless accompanied by appropriate design and computations. For flow channel stabilization see temporary swale.

IV. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of earth dikes, ditches and swales or conveyed downslope by the use of a designed structure, except where:

A. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected from surface runoff until they are stabilized.
B. The face of the slope shall not be subject to any concentrated flows of surface water such as from natural drainageways, graded swales, downspouts, etc.
C. The face of the slope will be protected by special erosion control materials, to include, but not limited to: approved vegetative stabilization practices (see section 6), rip-rap or other approved stabilization methods.

V. Cut slopes occurring in ripable rock shall be serrated as shown on MDE detail F-14-3A. These serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps out at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1:1. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization. Overland flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.

VI. Subsurface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.

VII. Slopes shall not be created so close to property lines as to endanger adjoining properties without adequately protecting such properties against sedimentation, erosion, slippage, settlement, subsidence or other related damages.

VIII. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers or over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.

IX. Stockpiles, borrow areas and spoil shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

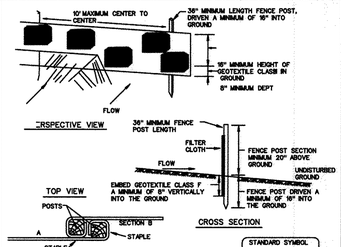
X. All disturbed areas shall be stabilized structurally or vegetatively in compliance with 20.0 Standards and Specifications for Vegetative Stabilization.

SITE ANALYSIS

52.25	TOTAL SITE AREA (AC.)
5.81	TOTAL DISTURBED AREA (AC.)
0	VOLUME OF BORROW MATERIAL (CU. YDS.)
*	OFF-SITE BORROW AREA LOCATION
0	VOLUME OF EXCAVATED MATERIAL (CU. YDS.)

*BORROW SOIL TO BE OBTAINED FROM AREA WITH AN OPEN COUNTY APPROVED PERMIT. SOURCE TO BE DETERMINED BY THE CONTRACTOR PRIOR TO BEGINNING WORK.

DETAIL 22 - SILT FENCE



Construction Sp

oosts shall be a minimum of 36" long driven 16" minimum into the Wood posts shall be 1½" x 1½" square cross section cut, or 1¾"

round and shall be of sound quality hardwood. Steel posts will be T or U section weighting not less than 1.00 pond per linear foot.

ile shall be fastened securely to each fence post with wire ties e at top and mid-section and shall meet the following requirements xtile Class F:

ensile Strength	50 lbs/in (min.)	Test: MSMT 509
ensile Modulus	20 lbs/in (min.)	Test: MSMT 509
low Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
ltering Efficiency	75% (min.)	Test: MSMT 322

ends of geotextile fabric come together, they shall be overlapped, d stapled to prevent sediment bypass.

nce shall be inspected after each rainfall event and maintained when our or when sediment accumulation reached 50% of the fabric height.

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SILT FENCE

Silt Fence Design Criteria

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

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

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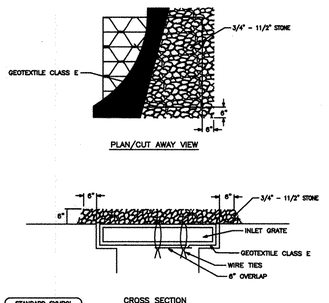
DETAIL 23B – AT GRADE INLET PROTECTION



Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 1 1/2" stone, 4"-8" thick on the grate to secure the fabric and provide additional filtration.

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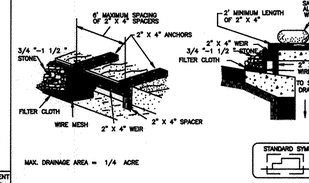
DETAIL 23C - CURB INLET PROTECTION (CGG OR COS INLETS)

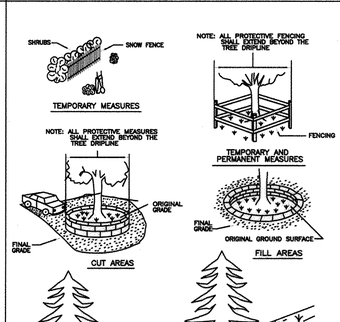


Construction Specifications

1. 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.
2. 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.
3. Securely nail the 2" X 4" weir to a 6" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. 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 top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. 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.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

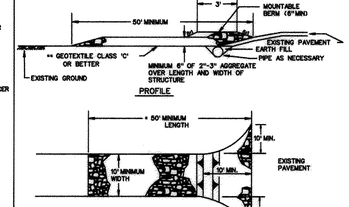
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 19 - 5B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 31 – TREE PROTECTION



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

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

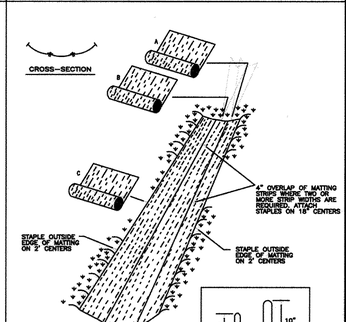


Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. 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.
4. 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.
5. 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 SCE 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.
6. 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 - 23 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 – EROSION CONTROL MATTING



TREE PROTECTION

TREE PROTECTION FENCE SPECIFICATIONS

Intent: To employ the necessary protective measures to insure the survival of desirable trees for shade, beautification, and vegetative cover.

Mark all trees with bright paint or ribbon so there is no doubt as to which trees are to be left and protected from damage during construction.

1. Trees within 25' of a building site and associated grading, parking and utility extensions shall be fenced in a manner as indicated hereon. The box should be as close to the drip line of the trees as possible.
2. Storage will not be nailed to trees during building operations.
3. Heavy equipment operators will be cautioned to avoid damage to existing tree trunks and roots during land preparation. Tunnel under root system when installing utility lines, if possible.
4. Tree trunks and exposed roots and limbs damaged during equipment operations will be cared for as prescribed by a forester or licensed tree expert.
5. The use of heavy equipment on root systems of desirable trees must be avoided to prevent soil compaction. All construction should be kept out of the drip line of protected trees. Fencing or barricading shall be utilized for trees retained and shall be maintained throughout construction.
6. Shade leaf trees should receive a heavy application of complete fertilizer to aid their recovery from possible damage caused by construction operations. Fertilization should be done during the winter and/or early spring following completion of construction. It should be applied at the following rate: 2 to 4 lbs. of 10-6-4 for each inch of trunk diameter measured at 4 1/2' above ground line. Fertilizer should be applied in holes 1" in diameter 18" deep. Spaced about 2' apart at the drip line of the tree.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 23 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 11-10-11

BY THE DEVELOPER:

"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 COUNTY SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 2/6/12

~~REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.~~

~~USDA-NATURAL RESOURCES CONSERVATION SERVICE~~ ~~DATE~~

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

HOWARD S.C.D. — DATE 2/16/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/23/12

CHIEF, DIVISION OF LAND DEVELOPMENT BB — DATE 2-28-12

DIRECTOR — DATE 3/6/12

STATE OF MARYLAND — RICHARD J. BEATTY — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089 EXPIRATION DATE: 11-21-12

OWNER/DEVELOPER

SOCCER ASSOCIATION OF COLUMBIA, INC.
4980 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-4540

KCI TECHNOLOGIES

ENGINEERS
PLANNERS
SURVEYORS
CONSTRUCTION MANAGERS

8161 MAPLE LAWN BOULEVARD
SUITE 150
FULTON, MD 20759
TELEPHONE: (410)792-8086
FAX: (410)792-7819

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE 11/09/2011
SCALE AS SHOWN
DESIGNED BY NAB
CHECKED BY THM

SOCCER ASSOCIATION OF COLUMBIA, INC. FIELD #9
SEDIMENT & EROSION CONTROL NOTES AND DETAILS

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-61
SHEET 61 OF 61-77
KCI JOB NUMBER 27110147

SDP-02-075

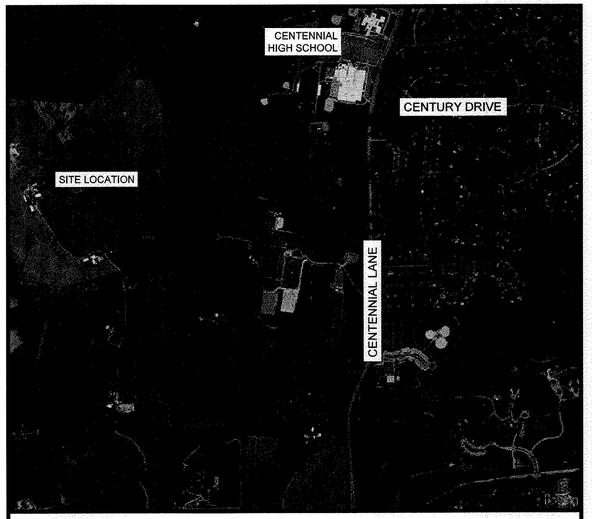
PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

SOCCER ASSOCIATION OF COLUMBIA, INC.
CONVERSION OF GRASS FIELDS 1&2 TO SYNTHETIC TURF

4560 Centennial Lane
ELLICOTT CITY, MARYLAND 21042
2ND ELECTION DISTRICT

LEGEND

MAJOR CONTOUR	40
MINOR CONTOUR	41
BUILDING	
PAVEMENT	
CURB AND GUTTER	
STORM DRAIN (SD)	18" SD
DITCH/CONCRETE FLUME/EP	
TOP OF BANK	TOB
TOE OF SLOPE	TOS
CHAIN LINK FENCE/BACK STOP	x x x
UNDERGROUND POWER	x UGP x
BENCHES	
EDGE OF WOODS	
TREE/SHURBS	
SIGN	
LIGHT POLE	
GENERATOR PAD	
DROP INLET	DI
EXISTING FLOODPLAIN	
EXISTING PROPERTY LINE	



VICINITY MAP
SCALE: 1" = 1,000'

SITE ANALYSIS
TOTAL AREA OF PARCEL: 52.34 ACRES
CURRENT ZONING: RR-DEO
CURRENT USE: PARK
TOTAL DISTURBED AREA: 2.81 ACRES
SITE DATA: TAX MAP / GRID: 30 / 1 LIBER/FOLIO: 7199 / 255 TRACT AREA: 52.34 AC ELECTION DISTRICT: 2ND ADC MAP / GRID: 11/F13 & 15/F1 ADDRESS: 4560 CENTENNIAL LANE, ELLICOTT CITY, MD 21042
TOTAL CUT: 3,385 CY TOTAL FILL: 1,972 CY
EXISTING TOPOGRAPHY SHOWN HEREON IS PER A FIELD RUN SURVEY BY COUNTRY SIDE SURVEYORS ON 10/26/2016 REFLECTING A HORIZONTAL DATUM NAD83 AND VERTICAL DATUM NAVD 88.
ALL ABOVE GROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION.
THERE IS NO FLOODPLAIN OR WETLANDS ON THIS SITE WITHIN THE SCOPE OF WORK

OWNER/DEVELOPER: SOCCER ASSOCIATION OF COLUMBIA
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: (410) 203-9590

SITE/CIVIL ENGINEER: LEADING DESIGN & DEVELOPMENT, LLC
13384 BERLIN TURNPIKE
LOVETTSVILLE, VIRGINIA 20182
PROJECT MANAGER: MATHEW VETTER
PHONE: (703) 999-9748
MATT.VETTER@LDDSPORTS.COM

PURPOSE STATEMENT (05-01-2017):
CONVERSION OF NATURAL GRASS FIELDS 1 AND 2 TO SYNTHETIC TURF.

FEBRUARY 21, 2017

	DRAWING INDEX		
DRAWING COUNT	SHEET NAME		
CIVIL			
62	COVER SHEET	●	
63	GENERAL NOTES & DETAILS	●	
64	GENERAL NOTES & DETAILS	●	
65	GENERAL NOTES & DETAILS	●	
66	OVERALL EXISTING CONDITIONS	●	
67	EXISTING CONDITIONS, SOILS AND DEMOLITION PLAN	●	
68	PHASE I EROSION AND SEDIMENT CONTROL	●	
69	PHASE I EROSION AND SEDIMENT CONTROL	●	
70	PHASE I EROSION AND SEDIMENT CONTROL	●	
71	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	●	
72	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	●	
73	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	●	
74	LAYOUT PLAN	●	
75	GRADING PLAN	●	
76	STORM SEWER PROFILES	●	
77	ESD & STORMWATER MANAGEMENT PLAN	●	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.17.17

Chief, Division of Land Development — Date 5.25.17

Director — Date 5-25-17

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."

RYAN J. TEETER, P.E. DATE: 05/01/2017
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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 THE 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."

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE: 12/14/16
CRAIG BLACKBURN

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

HOWARD SCD DATE 5/9/17

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

Seal

STATE OF MARYLAND — RYAN J. TEETER — 37230 — REGISTERED PROFESSIONAL ENGINEER
05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LDDSPORTS

LEADING DESIGN AND DEVELOPMENT, LLC.
13384 BERLIN TURNPIKE
LOVETTSVILLE, VA 20180
TEL: 607.351.8254
www.lddsports.com

Client:

SOCCER ASSOCIATION OF COLUMBIA, INC.
BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
COVER SHEET

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 62 OF 77

SDP-02-075

SITE INFORMATION

APPLICANT:

SOCCER ASSOCIATION OF COLUMBIA (SAC)
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
CONTACT: CRAIG BLACKBURN - EXECUTIVE DIRECTOR
PHONE: (410) 336-8674

PREPARER:

LEADING DESIGN & DEVELOPMENT, LLC
13384 BERLIN TURNPIKE
LOVETTSVILLE, VA 20180
CONTACT: RYAN TETTER, P.E.
TEL: (607) 351-8254

1. THE SUBJECT PARCEL SHOWN HEREON IS LOCATED ON HOWARD COUNTY TAX MAP No. 30 / 1, PARCEL "A" AND CURRENTLY ZONED RR-DEO. THE SITE IS LOCATED AT 4560 CENTENNIAL LANE, ELLICOT CITY MD, 21042. THE OWNER OF RECORD IS SOCCER ASSOCIATION OF COLUMBIA, INC. DEED REFERENCE LIBER 7199 FOLIO 255.
2. THE PURPOSE OF THIS PROJECT IS TO REPLACE THE EXISTING NATURAL GRASS ATHLETIC FIELD WITH A SYNTHETIC TURF SURFACE AND STONE BASE INSIDE THE FIELD LIMITS. THE PROJECT WILL CONSIST OF A 210' X 360' SOCCER FIELD AND ALL NECESSARY UNDERDRAINAGE PIPING. THE TOTAL DISTURBED AREA IS 2.81 ACRES (122,279 SF). THE OVERALL SITE AREA IS 52.34 ACRES.
3. THE PROPERTY IS CURRENTLY CLASSIFIED AS PARK FACILITY USE. THE PURPOSE OF THIS APPLICATION IS TO REPLACE AN EXISTING NATURAL GRASS ATHLETIC FIELD WITH SYNTHETIC TURF SURFACES. THE USE OF THE PROPERTY WILL NOT CHANGE.
4. THE TOPOGRAPHY SHOWN WAS PROVIDED BY COUNTRY SIDE SURVEYORS ON OCTOBER, 2016. THE CONTOURS SHOWN ARE 1' CONTOUR INTERVALS. VERTICAL DATUM IS BASED ON NAD 83. THERE ARE NO STEEP SLOPES WITHIN THE PROJECT LIMITS.
5. THERE ARE NO KNOWN WELL AND SEPTIC SYSTEMS ON THE SITE. SOILS INFORMATION SHOWN HEREON IS TAKEN FROM DIGITAL MAPS PROVIDED BY THE USDA-NATURAL RESOURCES CONSERVATION SERVICE. THIS SITE DOES NOT CONTAIN HYDRIC OR ERODIBLE SOILS. PLEASE REFERENCE SHEET 67 FOR SOILS INFORMATION.
10. SEDIMENT & EROSION CONTROL WILL BE PROVIDED IN ACCORDANCE WITH THE MARYLAND EROSION & SEDIMENT CONTROL GUIDELINES FOR STATE AND FEDERAL PROJECTS AND THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
11. THERE WILL BE NO CHANGE IN TREE COVERAGE WITHIN THE PROJECT ENVELOPE.
12. THERE ARE NO WETLANDS OR 100 YEAR FLOODPLAIN WITHIN THE PROJECT ENVELOPE.
13. THIS PROPERTY IS WITHIN THE PATUXENT RIVER WATERSHED, 8 DIGIT NO. 02131105.
14. ALL STORMWATER MANAGEMENT AND WATER QUALITY REQUIREMENTS WILL BE MET BY IMPLEMENTING INFILTRATION TRENCHES ALONG THE FIELD'S PERIMETER PER HOWARD COUNTY ESD REGULATIONS.
15. EXISTING DRAINAGE DIVIDES HAVE BEEN MAINTAINED WITH THIS PLAN.

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE STANDARDS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION AND HOWARD COUNTY.
2. ALL FILL, BASE AND SUBBASE MATERIAL SHALL BE COMPACTED TO 95% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD A WITHIN PLUS OR MINUS 20% OF OPTIMUM MOISTURE FOR THE SUBGRADE. CONTRACTOR SHALL VERIFY COMPACTION AND PROVIDE TESTING DOCUMENTATION TO THE OWNER FOR REVIEW AND ACCEPTANCE PRIOR TO PLACEMENT OF STONE BASE.
3. CONTRACTOR SHALL CONTACT ENGINEER TO VERIFY GRADES PRIOR TO PLACEMENT OF ARTIFICIAL TURF MATERIAL. IN ADDITION, GRADE REPORT SHALL BE PROVIDED TO OWNER PRIOR TO PLACEMENT OF ARTIFICIAL TURF.
4. CALL "MISS UTILITY" 48 HOURS PRIOR TO THE START OF EXCAVATION. VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN AREA OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT INDICATED. IF THERE APPEARS TO BE A CONFLICT, AND UPON DISCOVERY OF ANY UTILITY NOT INDICATED, CALL "MISS UTILITY" AT 1-800-257-7777.
5. ACQUIRE ANY AND ALL NECESSARY CONSTRUCTION PERMITS REQUIRED TO COMPLETE THE SITEWORK AND FURNISH COPIES TO THE COUNTY AND OWNER.
6. DRAIN ALL DISTURBED AREAS TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
7. BURNING OF CONSTRUCTION OR DEMOLITION MATERIALS IS NOT PERMITTED ON SITE.
8. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER OF COMPLYING WITH ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.
9. ALL TEST PITS SHALL BE PERFORMED 10 DAYS PRIOR TO CONSTRUCTION AND ANY DISCREPANCY IN THE RESULTS FORWARDED TO THE ENGINEER FOR A REDESIGN. SUCH REDESIGNS ARE SUBJECT TO COUNTY APPROVAL.
10. CONTROLLED FILLS:
    A. CONTROLLED COMPACTION SHALL OCCUR IN ALL FILL SECTIONS FOR PAVEMENTS, TRENCHES FOR UTILITIES, AND IN ANY AREA DESIGNATED ON THE DRAWINGS.
    B. CONTROLLED FILLS MUST BE COMPACTED TO 100% DENSITY AS DETERMINED BY METHODS AS PER STANDARD PROCTOR AASHTO-T99 OR ASTM-D698. DENSITY MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER.
    C. CONTROLLED FILLS SHALL BE COMPACTED IN SIX (6) INCH LIFTS (LOOSE THICKNESS) TO THE SPECIFIED DENSITY, BEGINNING FROM THE EXISTING GROUND SURFACE. UNLESS OTHERWISE APPROVED IN WRITING BY A QUALIFIED SOILS ENGINEER.
    D. THE SURFACE AREA DIRECTLY BENEATH AREAS TO RECEIVE CONTROLLED FILLS OF LESS THAN FIVE (5) FEET IT TO BE DENUDED OF ALL VEGETATION AND SCARIFIED AND COMPACTED TO A DEPTH OF SIX (6) INCHES TO THE SAME DENSITY AS THE CONTROLLED FILL TO BE PLACED THEREON.

GENERAL STORM DRAIN AND PAVING NOTES

1. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND OR VACUUM, AT UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF CLEARANCES TO WATER AND SEWER LINES ARE LESS THAN SHOWN ON THIS PLAN, OR LESS THAN TWELVE (12) INCHES, CONTACT THE HOWARD COUNTY DEPARTMENT OF INSPECTION BEFORE PROCEEDING WITH CONSTRUCTION.
2. ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STORMWATER MANAGEMENT STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY DEPARTMENT OF ENGINEERING DIVISION.
3. FOR TYPES OF STORM DRAIN STRUCTURES, REFER TO THE LATEST STANDARD DETAILS OF HOWARD COUNTY DEPARTMENT OF ENGINEERING DIVISION, UNLESS OTHERWISE NOTED.
4. ALL ROADWAY CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING: THE HOWARD COUNTY SPECIFICATIONS AND STANDARDS FOR ROADWAYS AND BRIDGES; THE HOWARD COUNTY ROAD ORDINANCE; AND THE HOWARD COUNTY POLICY AND SPECIFICATION FOR UTILITY INSTALLATION AND MAINTENANCE.
5. PRIOR TO DIGGING WITHIN THE ROADWAY, CALL — MISS UTILITY TOLL FREE AT (800) 257-7777 FOR UTILITY LOCATION AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.
6. PRIOR TO STARTING ANY WORK SHOWN ON THIS PLAN, THE PERMITTEE SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR BY CALLING (410) -313-2455.
7. IN ACCORDANCE WITH THE COUNTY'S ROAD ORDINANCE, A PROJECT SIGN SHALL BE POSTED PROMINENTLY DESCRIBING THE FOLLOWING:
    - SUBDIVISION NAME (AS SHOWN ON PERMIT APPLICATION)
    - OWNER/PERMITTEE NAME
    - OWNER/PERMITTEE ADDRESS AND PHONE
    - HOWARD COUNTY PERMIT NUMBER
8. ALL ELEVATIONS SHOWN ON THIS PLAN ARE IN ACCORDANCE WITH THE FOLLOWING:
    - HORIZONTAL--MARYLAND COORDINATE SYSTEM (STATE PLANE GRID) BASED ON NORTH AMERICAN DATUM OF 1983 (NAD 83);
    - VERTICAL--NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
9. TEMPORARY TRAFFIC CONTROL AND PERMANENT TRAFFIC SIGNS SHALL CONFORM TO THE LATEST EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION'S *MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES* (MUTCD).

GENERAL STORM DRAIN AND PAVING NOTES CONT':

10. IT SHALL BE THE RESPONSIBILITY OF THE PERMITTEE TO ARRANGE FOR THE ADJUSTMENT OR RELOCATION OF ALL UTILITIES.
11. ALL UNSUITABLE MATERIAL MUST BE REMOVED AND REPLACED WITH SUITABLE MATERIAL TO A DEPTH AS DIRECTED BY THE GEOTECHNICAL ENGINEER, THE DPW&T INSPECTOR, AND/OR THE DEPARTMENT'S ENGINEER.
12. EXCAVATION AND PLACEMENT OF FILL MATERIAL SHALL BE PERFORMED UNDER THE SUPERVISION OF A MARYLAND-LICENSED ENGINEER.
13. THE PERMITTEE WILL BE REQUIRED TO FURNISH COMPACTION REPORTS CERTIFIED BY A MARYLAND-LICENSED ENGINEER ON EACH LAYER OF FILL MATERIAL PRIOR TO PLACING SUBSEQUENT LAYERS.
14. DURING THE PLACEMENT OF A STANDARD PAVEMENT SECTION, NO PAVEMENT COURSE OR STONE LIFT SHALL BE PLACED UNTIL THE UNDERLYING COURSE OR SUBGRADE IS APPROVED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. THE APPROVAL SHALL EXPIRE IF TRAFFIC OR INCLEMENT WEATHER AFFECTS THE SITE PRIOR TO PAVING.
15. AS SOON AS THE ASPHALT BASE COURSE IS APPROVED, THE INTERMEDIATE ASPHALT COURSE SHALL BE PLACED IMMEDIATELY OVER IT TO FORM A PROTECTIVE SEAL.
16. TEMPORARY STREET NAME SIGN INSTALLATION AND MAINTENANCE
17. WHERE ROADWAY CONSTRUCTION IS ON OR IN THE VICINITY OF AN EXISTING ROAD, IN-KIND PAVEMENT MARKING AND STRIPING REPLACEMENT (E.G., THERMOPLASTIC, PAINTED, ETC.) IS REQUIRED. ALSO, APPROPRIATE PAVEMENT MARKING AND STRIPING SHALL BE PROVIDED IN THE AREA OF PAVEMENT WIDENING AND/OR RECONSTRUCTION AND/OR OVERLAY OF AN EXISTING ROAD.
18. SAW CUT AND MILL A 2-INCH DEEP, 10-FOOT-WIDE NOTCH AT EXISTING EDGE OF PAVEMENT WHERE IT IS NECESSARY TO CONNECT TO OR TO EXTEND AN EXISTING ROAD, OVERLAY AT POINT OF TIE-IN TO ENSURE A SMOOTH TRANSITION AND POSITIVE DRAINAGE.
19. WHERE IT IS NECESSARY TO WIDEN AN EXISTING ROAD, AND MILLING AND OVERLAY REQUIREMENTS HAVE BEEN WAIVED OR REDUCED, THE FOLLOWING EDGE TREATMENT SHALL BE USED AT THE PROPOSED WIDENING OF EXISTING ROAD:
    - SAW CUT EDGE OF EXISTING PAVEMENT TO SET STRAIGHT EDGE.
    - PLACE APPROVED SUBGRADE AND SUBBASE FOR FULL WIDENING.
    - PLACE ASPHALT FOR FULL WIDENING (BASE COURSE ONLY).
    - MILL ADDITIONAL 1-FOOT MINIMUM WIDTH INTO EXISTING SURFACE
    - FOR DEPTH OF FINAL SURFACE COURSE (MILLING MUST REMOVE EXISTING WHITE STRIPE AT EDGE OF EXISTING ROAD). LIMITS OF MILLING MAY BE EXTENDED, IF NECESSARY.
    - PLACE ASPHALT FOR FULL WIDENING PLUS THIS ADDITIONAL 1 FOOT INTO EXISTING SURFACE (FINAL SURFACE COURSE).
20. ALL RESIDENTIAL ROADWAY FILLET RADII SHALL BE AT LEAST 37 FEET, UNLESS OTHERWISE NOTED. ROADWAYS WITH HIGHER CLASSIFICATION REQUIRE 45 FEET AND/OR 50 FEET RADII.
21. AN UNDERDRAIN SYSTEM IS REQUIRED FOR THE FULL LENGTH OF ALL PROPOSED AND MODIFIED ROADWAYS, ON BOTH SIDES, AND TO THE LIMITS OF THE PERMIT SHOWN ON THIS PLAN.
22. ALL CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARD UNLESS DIRECTED OTHERWISE BY THE DEPARTMENT.
23. BRICK CHANNELIZATION IS REQUIRED IN ALL PUBLIC DPW&T STORM DRAIN STRUCTURES. CONCRETE CHANNELIZATION IS NOT ALLOWED.
24. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE AREA COVERED BY THIS PERMIT AND THROUGH ADJACENT PROPERTY FRONTAGES.
25. ALL UNPAVED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE SODDED.
26. ALL SIDEWALK RAMPS SHOWN ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS AND SHALL COMPLY WITH THE LATEST REVISION TO THE FEDERAL ACCESSIBILITY GUIDELINES OF THE AMERICANS WITH DISABILITIES ACT. '
27. ALL SIDEWALKS SHOWN ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST HOWARD COUNTY STANDARDS AND SHALL COMPLY WITH THE LATEST REVISION TO THE FEDERAL ACCESSIBILITY GUIDELINES OF AMERICANS WITH DISABILITIES ACT.
28. ALL SIDEWALKS (EXCEPT AS NOTED HEREIN) ARE TO BE CONSTRUCTED BY THE SITE DEVELOPER.
29. SIDEWALKS ALONG FRONTAGES OF OPEN-SPACE PARCELS AND THOSE NOT COVERED BY A SINGLE-FAMILY BUILDING PERMIT SHALL BE CONSTRUCTED UNDER THIS STREET CONSTRUCTION PERMIT.
30. THE WIDTH OF A RESIDENTIAL DRIVEWAY APRON AT THE PROPERTY LINE SHALL NOT BE LESS THAN THE WIDTH OF THE ON-SITE PARKING PAD AT ITS WIDEST POINT, A MAXIMUM WIDTH OF 20 FEET, AND A MINIMUM WIDTH OF 10 FEET. A RESIDENTIAL DRIVEWAY APRON FLARE SHALL NOT BE CONSTRUCTED CLOSER THAN 3.5 FEET TO THE NEAREST ABUTTING PROPERTY LINE.
31. ALL DRIVEWAY APRONS ARE TO BE CONSTRUCTED BY THE SITE DEVELOPER.
32. ENSURE THAT STREET TREES ARE NO CLOSER THAN 1 FOOT TO THE RIGHT-OF-WAY LINE, IN AN OPEN SPACE SECTION CONFIGURATION, AND NO CLOSER THAN 15 FEET FROM STREET LIGHT OR POLE, AND OF APPROPRIATE HEIGHT SO AS NOT TO INTERFERE WITH EXISTING OR PROPOSED OVERHEAD UTILITY LINES. ALL STREETSCAPE PLANTING SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS UNLESS DIRECTED OTHERWISE BY THE DEPARTMENT.
33. PAVEMENT CORING OF ALL PAVEMENT COURSES WILL BE REQUIRED OF THE PERMITTEE USING THE FOLLOWING PROCESS:
    - 48 HOURS PRIOR TO CORING, PERMITTEE CONTACTS INSPECTOR REQUESTING DEMARCATION OF CORE LOCATIONS AND PROVIDING PAVING INFORMATION NEEDED FOR THE HOWARD COUNTY CORE TESTING REQUEST (CTR) FORM.
    - INSPECTOR RANDOMLY SELECTS AND MARKS CORE LOCATIONS. INSPECTOR WILL INITIAL EACH CORE WITH KEEL MARKER AND THEN MARK WITH SPRAY PAINT TO ENSURE THAT THE CORE THAT GOES TO THE LAB HAS COME FROM THE SELECTED LOCATION. NOTE THAT THE LOCATION OF CORES OR CORING OF THE PAVEMENT IS PERMITTED ON THE SAME DAY THAT THE PAVING HAS OCCURRED.
    - AFTER CORING, INSPECTOR VERIFIES THAT CORED LOCATIONS ARE THE SAME AS MARKED (DOES NOT ABSOLUTELY HAVE TO BE PRESENT TO WITNESS).
    - PERMITTEE DELIVERS CORES TO THE MATERIALS LAB WITHIN 24 HOURS FROM PAVING.
      NOTE: THE PERMITTEE MAY SUBMIT CORES TO A COUNTY PRE-APPROVED PRIVATE MATERIALS LAB FOR ANALYSIS. RESULTS ARE THEN SUBMITTED DIRECTLY TO THE COUNTY MATERIALS LAB.
    - COUNTY MATERIALS LAB PERFORMS ANALYSIS. THE PERMITTEE MAY USE AN ACCREDITED PRIVATE LAB TO PERFORM THE ANALYSIS.
    - COUNTY MATERIALS LAB PROVIDES RESULTS TO INSPECTOR AND MAILS TO PERMITTEE.
34. PERMITTEE SHALL SUBMIT PROPERTY CORNER CERTIFICATIONS AND UTILIZE METAL PROPERTY MARKERS PER HOWARD COUNTY CODE, PRIOR TO ACCEPTANCE OF STREETS.
35. DEPARTMENT OF ENGINEERING DIVISION - STORMWATER CONCEPT APPROVAL NUMBER: SDP-02-075
36. SEDIMENT CONTROL APPROVAL NUMBER: _____
37. RECORD PLAT RECORDING NUMBER: N/A
38. AT THE TIME OF PERMIT RELEASE, THE FOLLOWING MINIMUM SUBMITTAL REQUIREMENTS WHERE APPLICABLE SHALL APPLY:
    - BITUMINOUS CONCRETE CORE CERTIFICATIONS, ALL PAVEMENT COURSES;
    - PROPERTY MARKER CERTIFICATION;
    - DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION LETTER APPROVING STORM DRAIN AS-BUILT;
    - TREE APPROVAL AND TREE BOND POSTED, IF NECESSARY;
    - PROOF/STATEMENT THAT ALL FINANCIAL MATTERS HAVE BEEN SETTLED.
41. THE PERMITTEE IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL TRAFFIC SIGNS, TRAFFIC SIGNALS, AND ROADWAY MARKINGS FOR ROADWAY IMPROVEMENTS ON SUBDIVISION ACCESS ROADS WHICH INCLUDE ARTERIAL, COLLECTOR, INDUSTRIAL, AND ANY NECESSARY OFFSITE CONDITIONS WHICH REQUIRE ROADWAY IMPROVEMENTS. THE DESIGN AND/OR ON CONSTRUCTION DRAWINGS SHALL BE INCLUDED ALONG WITH THE PERMIT PLANS, AND SHALL BE REVIEWED THE DEPARTMENT'S TRAFFIC SAFETY DIVISION PRIOR TO PERMIT ISSUANCE.

GENERAL STORM DRAIN AND PAVING NOTES CONT':

42. THE PERMITTEE IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL TRAFFIC MARKINGS, TRAFFIC SIGNALS, IF REQUIRED, AND PAYMENT OF FEE FOR STREET NAME SIGNS ON INTERNAL SUBDIVISION STREETS. TRAFFIC SIGNS WILL BE FURNISHED AND INSTALLED BY COUNTY FORCES.

GENERAL NOTES:

1. REFER TO MANUFACTURERS SPECIFICATIONS FOR MATERIAL AND METHODS OF CONSTRUCTION.
2. WALL THICKNESS SHALL BE AS FOLLOWS:

   MINIMUM OF 6 INCHES THICK FOR THE FIRST 8'-0" OF DEPTH, 12-INCH THICK WALLS BETWEEN 8'-0" AND 12'-0" OF DEPTH AND 16 INCH THICK WALLS FOR DEPTH GREATER THAN 12'-0". VARIATIONS IN THICKNESS CAN BE ACCEPTED IF STRUCTURAL COMPUTATIONS ARE CERTIFIED BY A PROFESSIONAL ENGINEER. DEPTH TO BE MEASURED FROM TOP OF TOP SLAB TO TOP OF BOTTOM SLAB.
3. ALL PRE-CAST STRUCTURES MUST HAVE SHOP DRAWINGS APPROVED BY DER PRIOR TO FABRICATION.
4. WHEN THE STRUCTURE IS SUBJECT TO TRAFFIC LOADING, REINFORCING SHALL BE DESIGNED FOR THE APPROPRIATE TRAFFIC LOADS.
5. MANHOLE COVERS SHALL BE PROVIDED WITH ADEQUATE LOCKING DEVICES.

CONSTRUCTION NOTES:

1. SILT AND DEBRIS SHALL NOT BE ALLOWED TO ENTER THE STRUCTURE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
2. ALL OPENINGS TO THE STRUCTURE SHALL BE PROTECTED BY THE APPROPRIATE SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. (SEE EROSION AND SEDIMENT CONTROL PLAN.)

INSPECTION NOTES:

1. THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION MUST BE CALLED (401) 313-2455 48 HOURS IN ADVANCE OF THE BEGINNING OF CONSTRUCTION OF WATER QUALITY CONTROL STRUCTURES AND FOR FINAL INSPECTION.

MAINTENANCE NOTES:

1. WATER QUALITY – STRUCTURES WILL REQUIRE PERIODICAL CLEANING. OWNERS OF THESE FACILITIES WILL HAVE TO CLEAN THEM AS NEEDED OR ON A FREQUENCY THAT THE COUNTY DETERMINES APPROPRIATE BUT MINIMALLY ON A SEMI-ANNUAL BASIS. OWNERS OF A WATER QUALITY STRUCTURE WILL BE NOTIFIED BY THE COUNTY OF THE FREQUENCY OF MAINTENANCE.
2. MAINTENANCE OF THESE FACILITIES WILL CONSIST OF CLEANING OUT THE SEPARATOR AND DISPOSAL OF THE WASTE AND REPAIR OF THE FACILITY AS NEEDED. PERIODIC INSPECTION OF THESE FACILITIES WILL BE MADE BY DER.

ADDITIONAL STORM DRAINAGE NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM WHERE APPLICABLE TO THE CURRENT HOWARD COUNTY, MARYLAND SPECIFICATIONS.
2. ALL CONCRETE FOR STORM STRUCTURES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION.
3. MANHOLES AND DROP INLETS SHALL BE CONSTRUCTED FROM INVERT TO TOP AS FOLLOWS:
   A. MANHOLES TO EIGHT FEET DEEP.
      - BLOCK CONSTRUCTION - MINIMUM EIGHT INCH WALLS.
      - POURED IN PLACE CONCRETE - MINIMUM EIGHT INCH WALLS AND NONREINFORCED.
      - PRECAST - MINIMUM EIGHT INCH WALLS IN CONJUNCTION WITH PRECAST THROAT AND PRECAST BASE SLAB.
      - PRECAST.
   B. MANHOLES OVER EIGHT FEET DEEP.
      - PRECAST.
      - POURED IN PLACE REINFORCED CONCRETE.
      - SPECIAL DESIGN, I.E., BENDS, PRECAST TEES, PRECAST BOXES, WYES.
4. DROP INLETS SHALL HAVE STEPS. THE MAXIMUM DIMENSION FROM FINISH GRADE TO THE FIRST STEP IN THE INLET SHALL NOT EXCEED THREE FEET.
5. UNLESS STATED ON THE APPROVED PLANS, SYMMETRICAL CHANNELS SHALL BE PREFORMED IN THE INVERT OF ALL STRUCTURES TO PREVENT STANDING OR PONDING OF WATER.
6. IF BLOCK CONSTRUCTION IS USED, THE INSIDE AND OUTSIDE WALLS, AS THEY ARE LAID, SHALL BE PLASTERED WITH MORTAR A MINIMUM OF 1/2" THICK.
7. ALL PRECAST DROP INLETS AND MANHOLES SHALL CONFORM TO ASTM C-478.
8. WHERE PIPE SIZE IS LARGER THAN 48 INCHES I.D., REQUIRE A SPECIAL DESIGN. IN CASE OF SPECIAL DESIGN INLETS THAT DEVIATE FROM THE STANDARD, THE PRECAST MANUFACTURER OR DESIGN ENGINEER MUST SUBMIT FIVE COPIES OF DETAIL DRAWINGS TO HOWARD COUNTY FOR PROPER APPROVAL.
9. THE OPENING IN PRECAST STORM SEWER STRUCTURES FOR ALL SIZE PIPE SHALL BE A MINIMUM OF FOUR INCHES AND A MAXIMUM OF SIX INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE AND PROPERLY GROUTED AND SEALED.
10. THE "H" DIMENSIONS SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF OUTFALL PIPE TO THE TOP OF THE STRUCTURE.
11. THE CONTRACTOR MUST NOTIFY THE DESIGN ENGINEER AS TO WHICH WILL BE PRECAST SO THAT THE PROPER STAKEOUT PROCEDURES CAN BE FOLLOWED.
12. ALL PIPES ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
13. ALL FILL BENEATH SEWER PIPES IS TO BE CONTROLLED FILL OR BETTER. CONTROLLED FILLS MUST BE COMPACTED TO 100% DENSITY AS DETERMINED BY AASHTO T99 OR ASTM D-698. DENSITY MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER. CONTROLLED FILLS SHALL BE COMPACTED IN EIGHT-INCH LIFTS (LOOSE THICKNESS) TO THE SPECIFIED DENSITY, BEGINNING FROM THE EXISTING GROUND SURFACE, UNLESS OTHERWISE APPROVED IN WRITING BY A QUALIFIED SOILS ENGINEER. ALL SITE WORK CUT/FILLSHALL BE PER THE STANDARDS SET FORTH BY HOWARD COUNTY AND HCSCD.
14. ALL FILL BENEATH MANHOLES IS TO BE SELECT FILL. SELECT FILL MATERIAL SHALL CONSIST OF #57 STONE AND MUST BE COMPACTED TO 100% DENSITY AS DETERMINED BY AASHTO T99 OR ASTM D-698. DENSITY MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER. SELECT FILLS SHALL BE COMPACTED IN EIGHT-INCH LIFTS (LOOSE THICKNESS) TO THE SPECIFIED DENSITY, BEGINNING FROM THE EXISTING GROUND SURFACE. UNLESS OTHERWISE APPROVED IN WRITING BY A QUALIFIED SOILS ENGINEER.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTIONS DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH 1' CONTOUR INTERVALS AS PREPARED BY COUNTRY SIDE SURVEYORS DATED 10/26/2016.
5. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLAN COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. AND NAD83/NAVD88 HORIZONTAL AND VERTICAL DATUMS WERE USED FOR THIS PROJECT.
6. A INFILTRATION TRENCH(I-1) IS BEING USED FOR STORMWATER MANAGEMENT FOR THIS PROPOSED PROJECT. THE INFILTRATION TRENCH WILL BE OWNED AND MAINTAINED BY THE SOCCER ASSOCIATION OF COLUMBIA IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE SCHEDULE CONTAINED WITHIN THESE PLANS (SHEET 76).
7. EXISTING SITE UTILITIES ARE BASED ON FIELD RUN SURVEY WITHIN THE LIMITS OF DISTURBANCE.
8. THERE IS NO FLOODPLAIN ON THIS SITE WITHIN THE SCOPE OF WORK.
9. THERE ARE NO WETLANDS ON THIS SITE WITHIN THE SCOPE OF WORK.
10. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.17.17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND — RYAN J. TETTER — 37230 — PROFESSIONAL ENGINEER — 05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LEADING DESIGN & DEVELOPMENT, LLC.
13384 BERLIN TURNPIKE
LOVETTSVILLE, VA 20180
TEL: 607.351.8254
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Client:

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BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

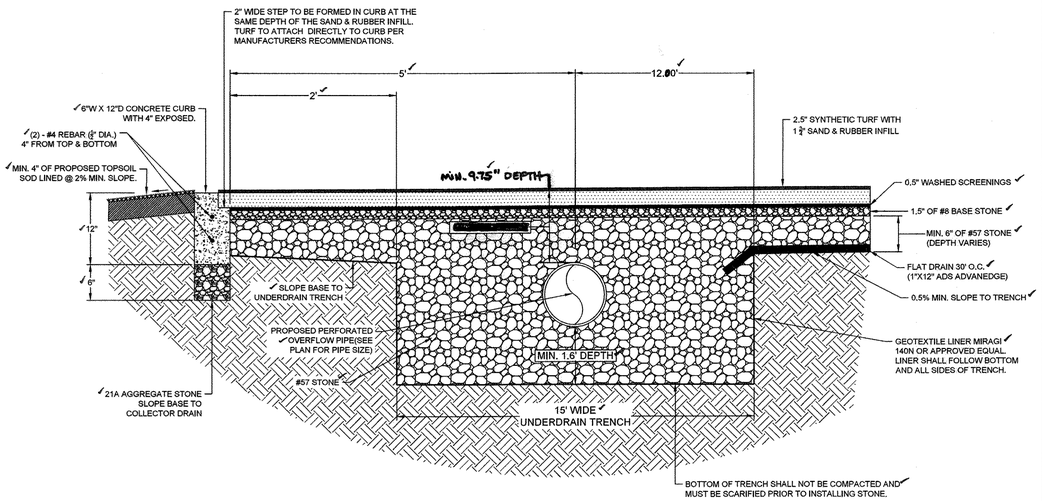
Drawing Title
REVISED SITE DEVELOPMENT PLAN
GENERAL NOTES & DETAILS

Scale: SEE PLAN SHEET

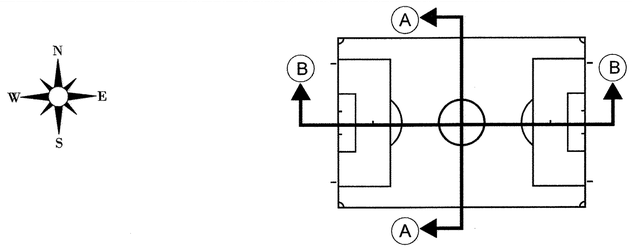
DRAWING No.

SHEET 63 OF 77

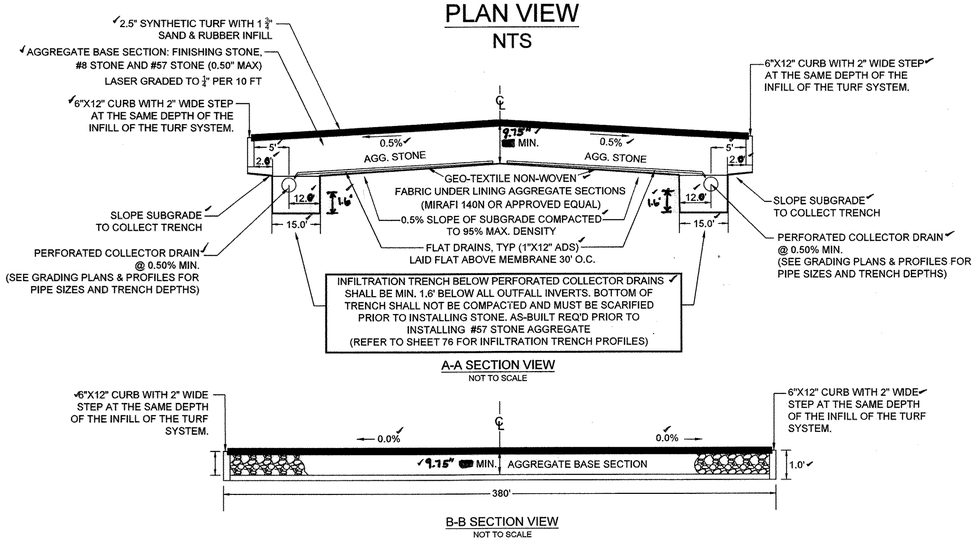
SDP-02-075



1 PERIMETER DRAIN & CURB X-SECTION DETAIL - (NORTH, SOUTH AND EAST SIDES)
NOT TO SCALE



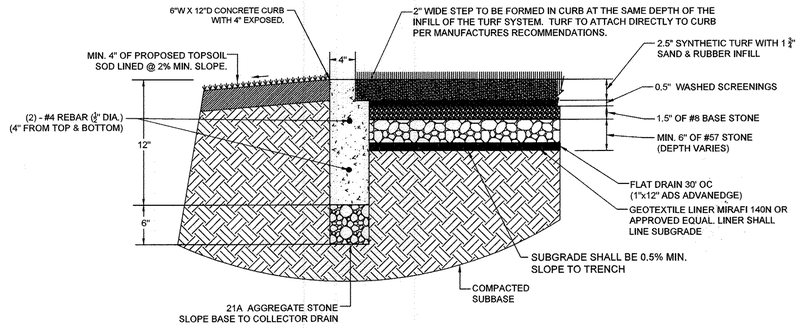
PLAN VIEW
NTS



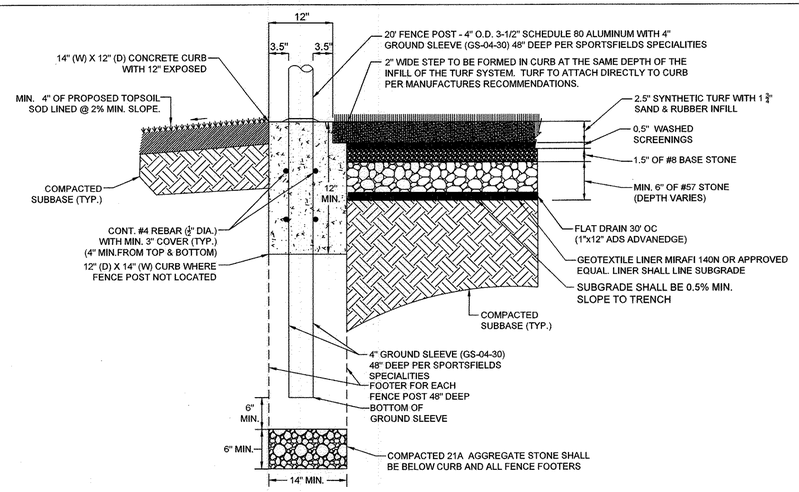
A-A SECTION VIEW
NOT TO SCALE

B-B SECTION VIEW
NOT TO SCALE

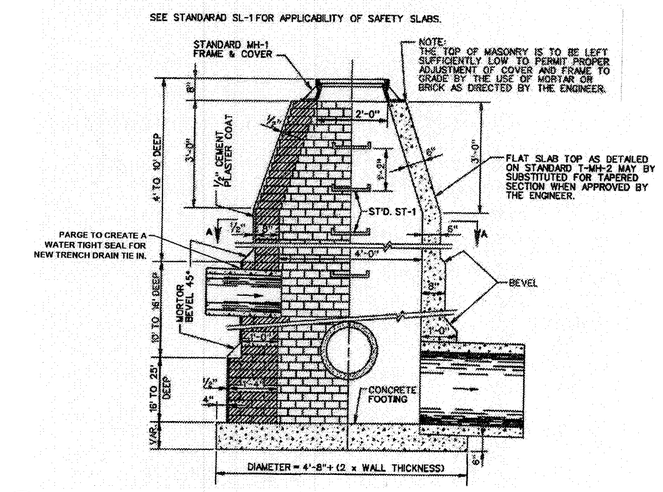
2 STADIUM SUB-GRADE CROSS SECTIONS (A-A & B-B)
NOT TO SCALE



3 PERIMETER DRAIN & CURB X-SECTION DETAIL (WEST SIDE)
NOT TO SCALE



4 PERIMETER DRAIN & CURB X-SECTION DETAIL (WEST SIDE)
NOT TO SCALE



5 MANHOLE - CONCRETE OR CONCRETE BLOCK DETAIL
NOT TO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND — RYAN J. TESTER — 37230 — PROFESSIONAL ENGINEER

Ryan J. Tester — 04/20/2018
DATE

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.18.17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND — RYAN J. TESTER — 37230 — PROFESSIONAL ENGINEER — 05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

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REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
GENERAL NOTES & DETAILS

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 64 OF 77

SDP-02-075

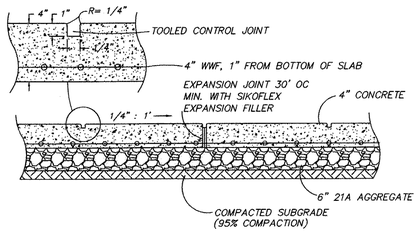
LEGEND

- EXISTING STORM SEWER
- STORM SEWER
- DROP INLET & STRUCTURE NO.
- PROPERTY LINE
- DESCRIPTION / ELEVATION — BENCH MARK
- EC-2 LINED DITCH
- LIMITS OF CONSTRUCTION
- CHAIN LINK FENCE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- B-1 — APPROXIMATE BORING LOCATION
- LIGHTPOLES
- W — EXISTING WATER LINE
- TEST PIT

ABBREVIATIONS

CNC	CONCRETE
EX.	EXISTING
F.F.	FINISHED FLOOR
GRND	GROUND
RCP	REINFORCED CONCRETE PIPE
RFDR	ROOFDRAIN
SDWK	SIDEWALK
MHD	DRAINAGE MANHOLE
SMH	SANITARY MANHOLE
E/P	EDGE OF PAVEMENT
T/C	TOP OF CURB

PAVEMENT SECTIONS

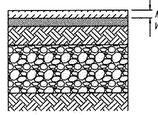


CONCRETE PAD AND CONTROL JOINT
NO SCALE

NOTES:
1. ALL CONCRETE TO BE 4000PSI WITH 4" WELDED WIRE FABRIC

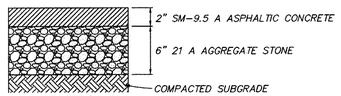
STANDARD SIDEWALK PAVEMENT SECTION
NO SCALE

DENOTES CONCRETE PAVEMENT ON PLANS



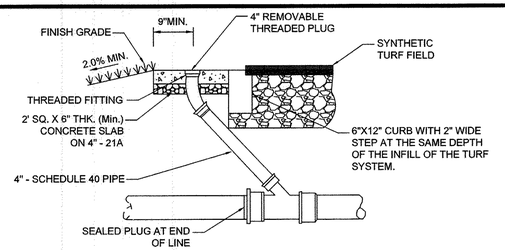
MILL & OVERLAY SECTION
(ASPHALT PARKING LOT AND ENTRANCE ROAD)
NO SCALE

DENOTES ASPHALT PAVEMENT SECTION OF MILLING
*** ADDITIONAL MILLING MAY BE REQUIRED AT ANY DAMAGED AREAS

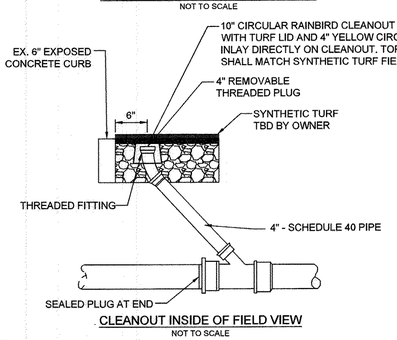


ASPHALT TRAIL
(TRAILS AND ADA ACCESS)
NO SCALE

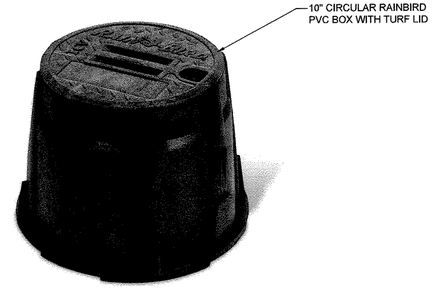
DENOTES LIGHT DUTY ASPHALT PAVEMENT ON PLANS



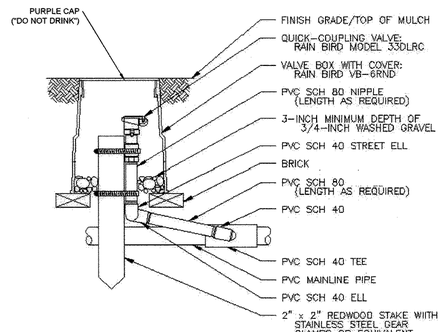
CLEANOUT OUTSIDE OF FIELD VIEW
NOT TO SCALE

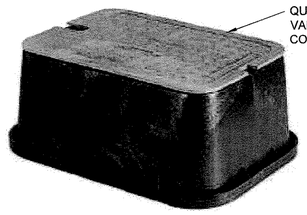


CLEANOUT INSIDE OF FIELD VIEW
NOT TO SCALE



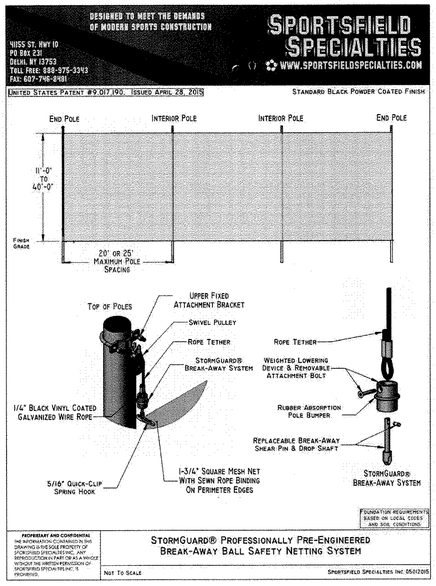
6 UNDERDRAIN CLEANOUTS INSIDE/OUTSIDE OF FIELD & COMM. TURF BOX
NOT TO SCALE



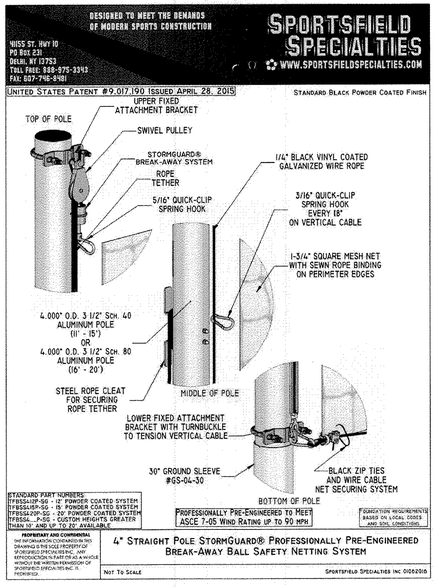


NOTES:
(1) QUICK COUPLER VALVE KEY PER BOX - (2) MIN. KEYS REQUIRED

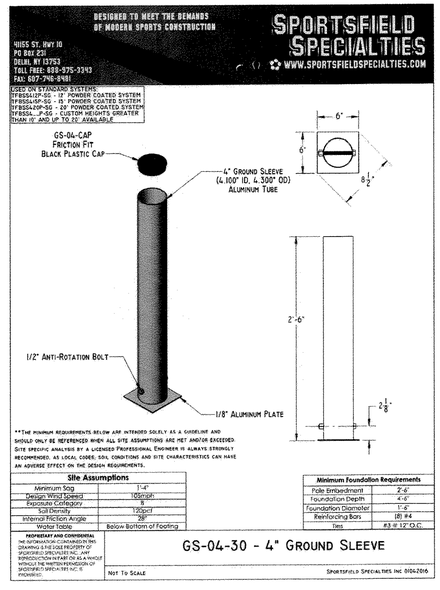
7 QUICK COUPLER VALVE AND BOX
NOT TO SCALE



8 15' BREAK-AWAY BALL SAFETY NETTING SYSTEM
NOT TO SCALE



9 4" STRAIGHT POLE BREAK-AWAY NETTING
NOT TO SCALE



10 4" GROUND SLEEVE
NOT TO SCALE

MISS UTILITY NOTE:
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APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.17.17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND — CHARLES E. SOMERVILLE — 37230 — PROFESSIONAL ENGINEER — 05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

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TEL: 607.351.8254
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Client:

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BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
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PHONE: 410-203-9590
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REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

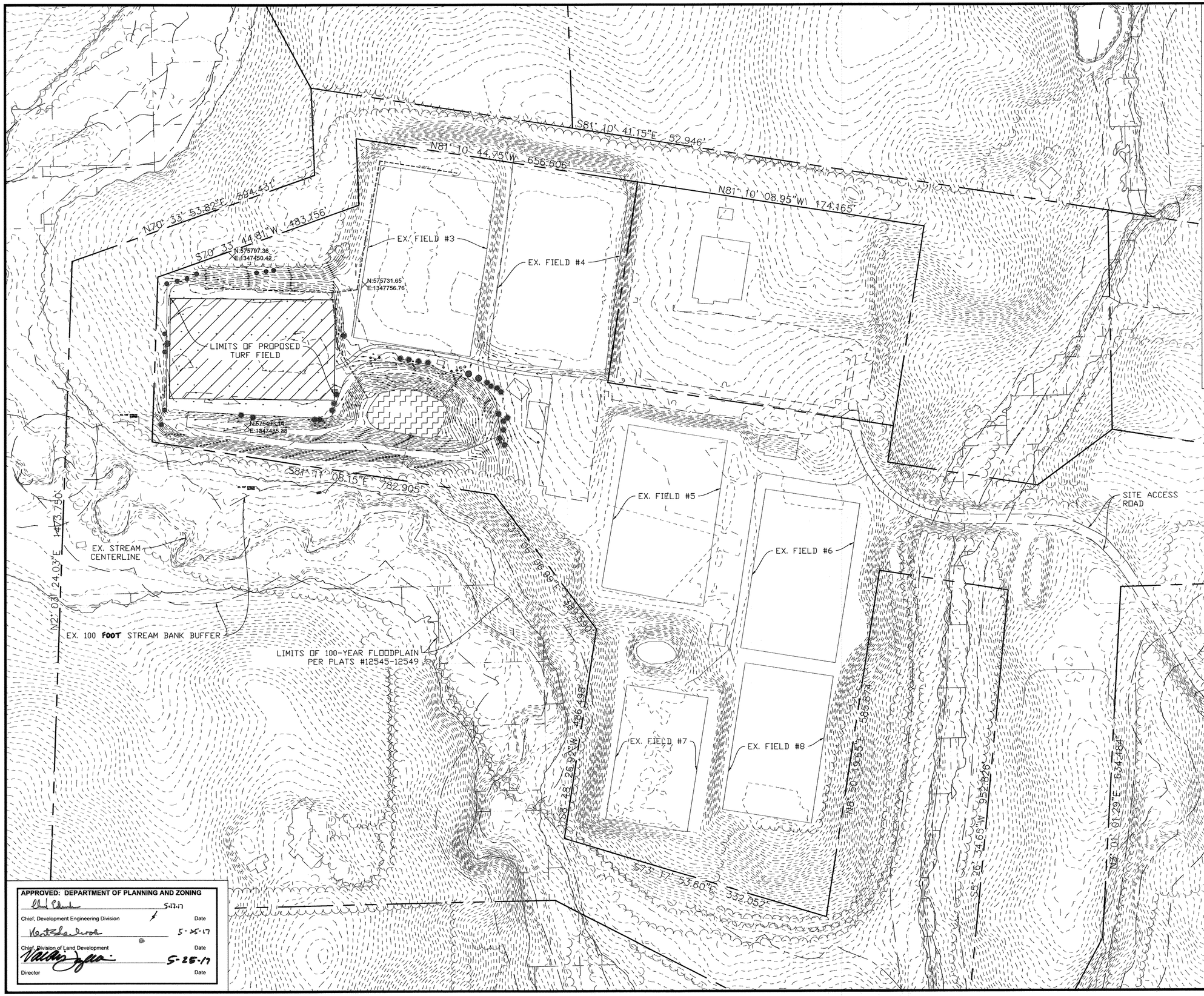
Drawing Title
REVISED SITE DEVELOPMENT PLAN
GENERAL NOTES & DETAILS

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 65 OF 77

SDP-02-075



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5-17-17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND
RYAN J. TEETSEL
37230
REGISTERED PROFESSIONAL ENGINEER
05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

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DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
OVERALL EXISTING CONDITIONS

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 66 OF 77

SDP-02-075

USDA NRCS SOILS SUMMARY

MAPPING UNIT	HYDROLOGIC GROUP	SLOPE	MAPPING UNIT NAME	SOIL CHARACTERISTICS	GENERAL DEVELOPMENT CENTRAL WATER AND SEWER	DEPTH TO ROCK GENERALLY EXPECTED	K
GbB	A	3–8%	GLADSTONE LOAM	WELL DRAINED. SURFACE AND SUBSURFACE LAYERS AT DEPTHS OF 8–75 INCHES ARE LOAM, SANDY CLAY LOAM AND LOAMY SAND TYPE SOILS.	MODERATE – EXCESS FINES. WATER MANAGEMENT – DRAINAGE NOT NEEDED	MORE THAN 80 INCHES	0.6–6.0 IN/HR
GmB	C	3–8%	GLENVILLE SILT LOAM	MODERATELY WELL DRAINED. SURFACE AND SUBSURFACE LAYERS AT DEPTHS OF 8 TO 70 INCHES ARE SILT LOAM AND LOAM TYPE SOILS.	MODERATE – EXCESS FINES. WATER MANAGEMENT – DRAINAGE NOT NEEDED	24 TO 39 INCHES	0.06–0.57 IN/HR
GbC	A	8–15%	GLADSTONE LOAM	WELL DRAINED. SURFACE AND SUBSURFACE LAYERS AT DEPTHS OF 8–75 INCHES ARE LOAM, SANDY CLAY LOAM AND LOAMY SAND TYPE SOILS.	MODERATE – EXCESS FINES. WATER MANAGEMENT – DRAINAGE NOT NEEDED	MORE THAN 80 INCHES	0.6–6.0 IN/HR

LEGEND

- MAJOR CONTOUR — 40
- MINOR CONTOUR — 41
- BUILDING
- PAVEMENT
- CURB AND GUTTER
- STORM DRAIN (SD) — 18" SD
- DITCH/CONCRETE FLUME/EP
- TOP OF BANK — TOB
- TOE OF SLOPE — TOS
- CHAIN LINK FENCE/BACK STOP — X
- UNDERGROUND POWER — UGP
- BENCHES
- EDGE OF WOODS
- TREE/SHURBS
- SIGN
- LIGHT POLE
- GENERATOR PAD
- DROP INLET — DI
- EXISTING FLOODPLAIN
- EXISTING PROPERTY LINE

BORING LOCATIONS:
F – # = LIGHT POLES
P – # = FIELD BORINGS

DEMOLITION NOTES

1. ALL EROSION AND SEDIMENT CONTROLS SHALL BE COMPLETELY INSTALLED PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO REMOVE IRRIGATION SYSTEM ON THE EXISTING ATHLETIC FIELD. ALL HEADS SHALL BE TURNED OVER TO OWNER. IRRIGATION SYSTEM TO BE CAPPED AT LOCATION WHERE IRRIGATION FEED ENTERS THE FIELD.
3. CONTRACTOR SHALL CONTACT IRRIGATION COMPANY TO COORDINATE LOCATION AND REMOVAL OF EXISTING IRRIGATION SYSTEM WITH OWNER AND IRRIGATION COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN SERVICE TO OTHER IRRIGATION SYSTEMS AND SHALL TAKE ALL NECESSARY MEASURES INCLUDING RECONNECTING, REFEEDING, ETC.
4. COORDINATE DEMOLITION WORK WITH THE CONTRACTING OFFICER.
5. MAINTAIN TEMPORARY WATER SERVICE IF ANY TO EXISTING FACILITY. COORDINATE WORK WITH FACILITY USER AND FIRE DEPARTMENT AS NECESSARY.
6. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF ANY WORK.
7. MAINTAIN AREA CLEAN AND DUST FREE.
8. PROTECT FEATURES NOT SCHEDULED FOR DEMOLITION FROM DAMAGE.
9. CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO EXISTING PAVEMENT AND SITE FEATURES FROM CENTENNIAL LANE TO STABILIZED CONSTRUCTION ENTRANCE.
10. MATERIALS NOT SCHEDULED FOR REUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

LIST OF EXISTING UTILITIES AND IMPACTS:

THE EXISTING UTILITIES IMPACTED WITHIN THE PROJECT LIMITS ARE:
1. IRRIGATION SYSTEM AND WATER LINE FEEDS
2. UNDERGROUND STORM SYSTEM

STORM DRAINAGE NOTE:
ALL EXISTING ONSITE STORM STRUCTURES AND SYSTEMS ARE PRIVATELY OWNED.

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

SCALE 1"=40'
0 40' 80'

N70° 33' 53.82"E 594.

S70° 33' 44.81"W 483.156'

N81° 10' 08.15"E 782.905'

N:575797.36
E:1347450.42

N:575731.65
E:1347756.76

N:575403.14
E:1347485.38

EX. STR.1 (CS-1)
INV.IN=376.59 (15"PVC)

EX. STR.2
GRATE INLET
TOP=389.69
INV.IN=379.59 (15"PVC)
INV.OUT=379.49 (15"PVC)

EX. STR.3
MANHOLE
TOP=391.60
INV. IN=381.00 (15"PVC)
INV. IN=381.00 (15"PVC)
INV. OUT=380.86 (15"PVC)

EX. STR.4
GRATE INLET
TOP=388.49
INV. IN=382.16 (12"PVC)
INV. OUT=382.05 (15" PVC)

EX. STR.5
GRATE INLET
TOP=387.77
INV.OUT=385.62 (12"PVC)

EX. STR.6
MANHOLE
TOP=395.55
INV.IN=389.22 (15"PVC)
INV.OUT=388.32 (15"PVC)

EX. STR.7
GRATE INLET
TOP=394.46
INV.IN=389.91 (15"PVC)
INV.OUT=389.81 (15"PVC)

EX. STR.8
GRATE INLET
TOP=394.69
INV.IN=391.14 (12"PVC)
INV.OUT=391.00 (15"PVC)

EX. STR.9
GRATE INLET
TOP=395.65
INV.IN=392.40 (12"PVC)

GbB GmB GbC

TREES TO REMAIN
TREE TO REMAIN
TREES TO REMAIN
LOD
EX. TREELINE
100' STREAM BANK BUFFER
POST WITH RAIN BIRD CONTROL BOX
IRRIGATION CONTROL BOX TO BE REMOVED
CONTRACTOR TO PROTECT EXISTING FENCE THROUGHOUT CONSTRUCTION.
CONTRACTOR TO PROTECT EXISTING 8" TREE WITH ORANGE SAFETY FENCE AROUND DRIP LINE EDGE. TREE TO REMAIN.
CONTRACTOR TO PROTECT EXISTING 6" OAK WITH ORANGE SAFETY FENCE AROUND DRIP LINE EDGE. TREE TO REMAIN.
REMOVE IRRIGATION HEADS AND SYSTEM PER NOTES #2 AND #3 ON THIS SHEET. (TYP.)
REMOVE AND REPLACE ASPHALT TRAIL
12" HEMLOCK TO BE RELOCATED PER THE LAYOUT PLAN ON SHEET 74.
EX. SPRINKLER HEAD (TYP.)
CONTRACTOR IS RESPONSIBLE TO REPAIR ALL DAMAGED ASPHALT BACK TO EXISTING CONDITIONS.
EXISTING STORMWATER MANAGEMENT POND
EX. POND WATER SURFACE =376.37
EXISTING SOCCER FIELD #3
EXISTING SOCCER FIELD #4
EX. PARKING LOT
PAVILION WITH GRADE FLOOR
LIMITS OF 100-YEAR FLOODPLAIN PER PLATS #12545-12549

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5-12-17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND — RYAN J. TEFFT — 37230 — REGISTERED PROFESSIONAL ENGINEER
05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LEADING DESIGN AND DEVELOPMENT, LLC.
13384 BERLIN TURNPIKE
LOVETTSVILLE, VA 20180
TEL: 607.351.8254
www.lddsports.com

Client:

SOCCER ASSOCIATION OF COLUMBIA, INC.
BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
EXISTING CONDITIONS, SOILS, AND DEMOLITION PLAN

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 67 OF 77

SDP-02-075

THIS SHEET FOR EROSION CONTROL PURPOSES ONLY!!

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

EROSION CONTROL NOTES:
1. ALL DISTURBED AREAS TO BE TEMPORARY SEEDED. REFER TO DETAIL ON SHEETS SC#2.3 & SC#2.4
2. THE SUPER SILT FENCE (SSF) AND SILT FENCE (SF) SHALL REMAIN IN-PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.

SCALE 1"=30'
0 30' 60'

EROSION AND SEDIMENT CONTROL LEGEND

NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL TO BE STRICTLY ENFORCED

HOWARD COUNTY EROSION CONTROL STANDARD SYMBOLS

SYMBOL	DESCRIPTION	DETAIL#
LOD	LIMITS OF DISTURBANCE	
SF	SILT FENCE – (SF)	(E–1)
SSF	SUPER SILT FENCE – (SSF)	(E–3)
	DRAINAGE DIVIDE LINES	
	SITE ACCESS AREA	
320	EXISTING MAJOR CONTOUR LINE	
320	EXISTING MINOR CONTOUR LINE	
	EXISTING PROPERTY LINE	
287	PROPOSED CONTOUR LINE	
	EXISTING STORM STR. & INLETS	
	EXISTING STORM PIPE	

SYMBOL	DESCRIPTION	DETAIL#
SCE	STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM (SCE)	(B–1) (C–8)
SIP	STANDARD INLET PROTECTION (TYPE B)	(E–9–1)
	SEED WITH SOIL STABILIZATION MATTING	(B–4–6–A)
SIP STRUCTURE 1.00 Ac C FACTOR 0.30	DRAINAGE AREA LABEL TO ESC PRACTICE	

N70° 33' 53.82"E 594.431'
S70° 33' 44.81"W 483.156'
EX. TREELINE
N:575797.36 E:1347450.42
EX. STR.5 GRATE INLET TOP=387.77 INV.OUT=385.62 (12"PVC)
EX. STR.4 GRATE INLET TOP=388.49 INV. IN=382.16 (12"PVC) INV. OUT=382.05 (15" PVC)
EX. STR.3 MANHOLE TOP=391.50 INV. IN=381.00 (15"PVC) INV. IN=381.00 (15"PVC) INV. OUT=380.86 (15"PVC)
EX. STR.7 GRATE INLE TOP=394.4 INV.IN=389 INV.OUT=38
GRATE TOP=394.45 INVERT=389.91
N:575731.65 E:1347756.76
EX. STR.6 MANHOLE TOP=395.55 INV.IN=389.22 (15"PVC) INV.OUT=388.32 (15"PVC)
EX. STR.2 GRATE INLET TOP=389.69 INV.IN=379.59 (15"PVC) INV.OUT=379.49 (15"PVC)
EX. STR.1 (ES–1) INV.IN=376.59 (15"PVC)
N:575403.14 E:1347485.38
TREES TO REMAIN
POST WITH RAIN BIRD CONTROL BOX
SIP (TYPE B) (SEE DETAIL E-9-1 ON SHEET 72)
SIP STRUCTURE AREA 0.97 Ac C FACTOR 0.30
SIP STRUCTURE AREA 0.96 Ac C FACTOR 0.30
SIP STRUCTURE AREA 0.69 Ac C FACTOR 0.30
SSF STRUCTURE AREA 1.11 Ac C FACTOR 0.30
ORANGE SAFETY FENCE (TP). TREE TO REMAIN.
SUPER SILT FENCE (TYP.) (SEE DETAIL E-3 ON SHEET 71)
SILT FENCE (TYP.) (SEE DETAIL E-1 ON SHEET 71)
EX. SPRINKLER HEAD (TYP.)
TEMPORARY STOCKPILE AREA
MAX. STOCKPILE HEIGHT = 12'
@ 2:1 SLOPES
(STABILIZE IF LEFT OVER 7 DAYS)
PROTECT EXISTING 12" HEMLOCK WITH ORANGE SAFETY FENCE (TP) UNTIL RELOCATION PER LAYOUT PLAN ON SHEET 74.
TREE TO REMAIN
100' STREAM BANK BUFFER
EXISTING SOCCER FIELD #3
EXISTING STORMWATER MANAGEMENT POND
EX. POND WATER SURFACE =376.37
EX. TOT LOT
PAVILION WITH CONCRETE FLOOR
EX. ASPHALT TRAIL
EX. WOODEN FENCE
EX. CHAIN LINK FENCE
EX. SIGN
EX. 15" PVC
EX. 12" PVC
LOD
SF
SSF
SCE
SIP
MATCHLINE SHEET 69

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."

RYAN J. TEETER, P.E. DATE: 05/01/2017
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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 THE 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."

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE: 12/14/16
CRAIG B. ACKERMAN

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
HOWARD SCD DATE 5/9/17

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.17.17
Chief, Division of Land Development — Date 5-25-17
Director — Date 5-25-17

Seal

STATE OF MARYLAND — RYAN J. TEETER — 37230 — REGISTERED PROFESSIONAL ENGINEER — 05/01/2017

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REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
EROSION & SEDIMENT CONTROL PLAN

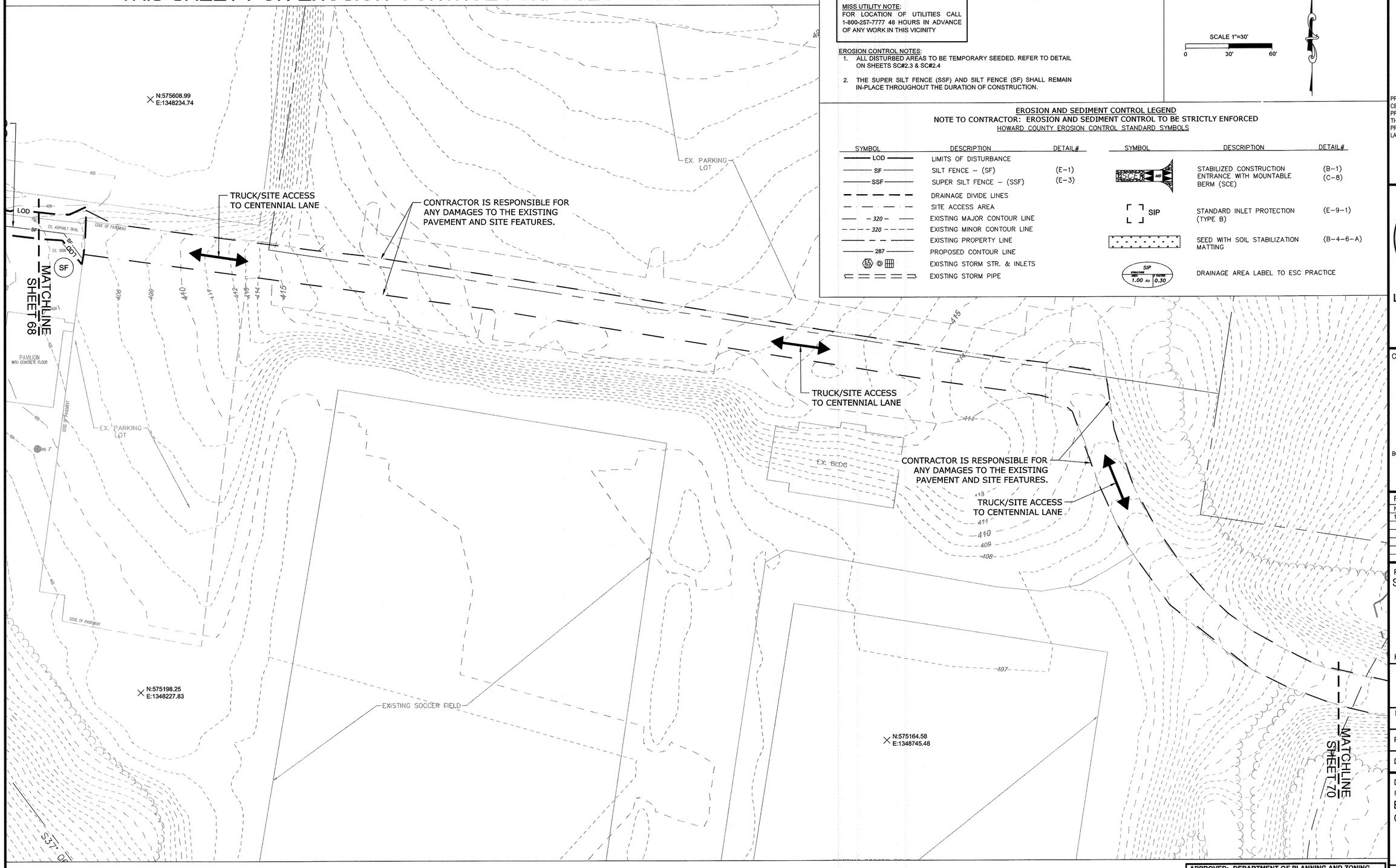
Scale: SEE PLAN SHEET

DRAWING No.

SHEET 68 OF 77

SDP-02-075

THIS SHEET FOR EROSION CONTROL PURPOSES ONLY!!



MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

EROSION CONTROL NOTES:

1. ALL DISTURBED AREAS TO BE TEMPORARY SEEDED. REFER TO DETAIL ON SHEETS SC#2.3 & SC#2.4
2. THE SUPER SILT FENCE (SSF) AND SILT FENCE (SF) SHALL REMAIN IN-PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.

SCALE 1"=30'
0 30' 60'

EROSION AND SEDIMENT CONTROL LEGEND

NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL TO BE STRICTLY ENFORCED

HOWARD COUNTY EROSION CONTROL STANDARD SYMBOLS

SYMBOL	DESCRIPTION	DETAIL#
LOD	LIMITS OF DISTURBANCE	
SF	SILT FENCE – (SF)	(E-1)
SSF	SUPER SILT FENCE – (SSF)	(E-3)
	DRAINAGE DIVIDE LINES	
	SITE ACCESS AREA	
320	EXISTING MAJOR CONTOUR LINE	
320	EXISTING MINOR CONTOUR LINE	
	EXISTING PROPERTY LINE	
287	PROPOSED CONTOUR LINE	
	EXISTING STORM STR. & INLETS	
	EXISTING STORM PIPE	

SYMBOL	DESCRIPTION	DETAIL#
MS SCE	STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM (SCE)	(B-1) (C-8)
SIP	STANDARD INLET PROTECTION (TYPE B)	(E-9-1)
	SEED WITH SOIL STABILIZATION MATTING	(B-4-6-A)
SIP STRUCTURE NO. 1.00 Ac DRAINAGE AREA C FACTOR 0.30	DRAINAGE AREA LABEL TO ESC PRACTICE	

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."

RYAN J. TEETER, P.E. DATE: 05/01/2017
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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 THE 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."

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE: 12/19/16
CRAIG D. ACKERSON

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
HOWARD SCD DATE: 3/9/17

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5-17-17

Chief, Division of Land Development — Date 5-25-17

Director — Date

Seal

STATE OF MARYLAND — RYAN J. TEETER — 37230 — REGISTERED PROFESSIONAL ENGINEER — 05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

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REVISION		
No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
EROSION & SEDIMENT CONTROL PLAN

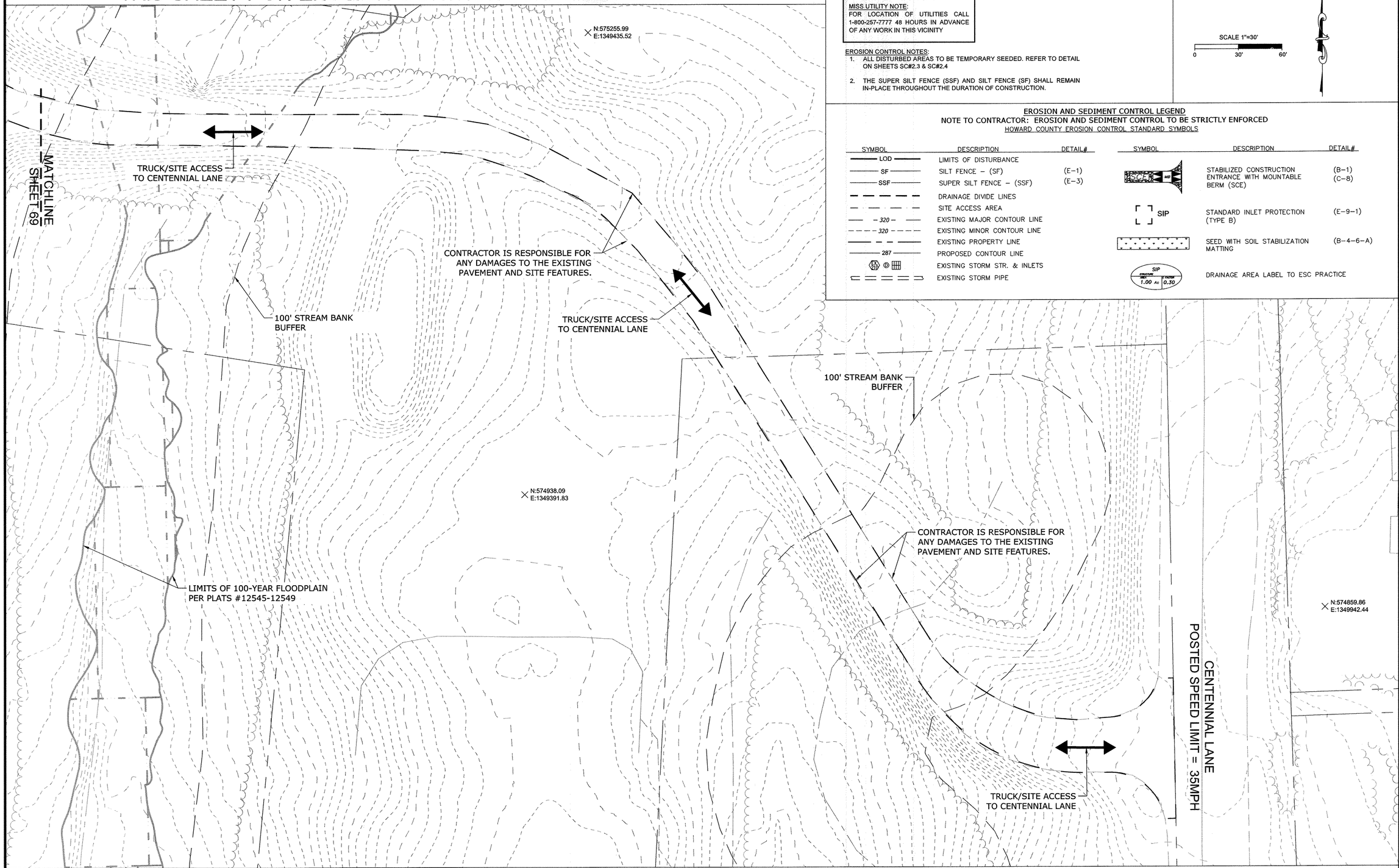
Scale: SEE PLAN SHEET

DRAWING No.

SHEET 69 OF 77

SDP-02-075

THIS SHEET FOR EROSION CONTROL PURPOSES ONLY!!



MISS UTILITY NOTE:
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EROSION CONTROL NOTES:

1. ALL DISTURBED AREAS TO BE TEMPORARY SEEDED. REFER TO DETAIL ON SHEETS SC#2.3 & SC#2.4
2. THE SUPER SILT FENCE (SSF) AND SILT FENCE (SF) SHALL REMAIN IN-PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.

SCALE 1"=30'
0 30' 60'

EROSION AND SEDIMENT CONTROL LEGEND

NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL TO BE STRICTLY ENFORCED

HOWARD COUNTY EROSION CONTROL STANDARD SYMBOLS

SYMBOL	DESCRIPTION	DETAIL#
LOD	LIMITS OF DISTURBANCE	
SF	SILT FENCE – (SF)	(E-1)
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287	PROPOSED CONTOUR LINE	
	EXISTING STORM STR. & INLETS	
	EXISTING STORM PIPE	

SYMBOL	DESCRIPTION	DETAIL#
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	SEED WITH SOIL STABILIZATION MATTING	(B-4-6-A)
SIP STRUCTURE DA 1.00 Ac C FACTOR 0.30	DRAINAGE AREA LABEL TO ESC PRACTICE	

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."

RYAN J. TEETER, P.E. DATE: 05/01/2017
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

DEVELOPER'S CERTIFICATE
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SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE)
CRAIG R. ACKERMAN DATE: 12/19/16

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
HOWARD SCD DATE: 5/9/17

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5-17-17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND — RYAN J. TEETER — No. 21708 — REGISTERED PROFESSIONAL ENGINEER
05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230
EXPIRATION DATE: 06/30/2017

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REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
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4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
EROSION & SEDIMENT CONTROL PLAN

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 70 OF 77

SDP-02-075

EROSION AND SEDIMENT CONTROL NARRATIVE - PROJECT DESCRIPTION

THIS PROJECT IS LOCATED AT SOCCER ASSOCIATION OF COLUMBIA (SAC) IN HOWARD COUNTY MARYLAND. THE PURPOSE OF THIS PROJECT IS TO REPLACE AN EXISTING NATURAL GRASS SOCCER FIELD WITH A SYNTHETIC TURF ATHLETIC FIELD AND IMPROVE THE SITE DRAINAGE. THE PROJECT WILL CONSIST OF AN ATHLETIC FIELD WITH STRIPING FOR SOCCER. THERE WILL BE NO CHANGE IN TREE COVERAGE AND THERE ARE NO WETLANDS OR FLOODPLAINS WITHIN THE PROJECT ENVELOPE. **THE TOTAL DISTURBED AREA IS ± 2.81 ACRES (122,279 SF).**

THIS SITE IS CURRENTLY A SOCCER CLUB FACILITY CONSISTING NATURAL GRASS AND SYNTHETIC TURF SOCCER FIELDS, ASSOCIATED PARKING AND COVENANT BAPTIST CHURCH OF WEST COLUMBIA. THE EXISTING SOCCER FIELD IS BEING IMPROVED ALONG WITH THE SITE DRAINAGE. THE EXISTING FIELD DRAINS BY A WAY OF SHEET FLOW TO EXISTING STORM GRATE INLETS, WHICH THEN CONNECTS TO AN EXISTING CLOSED UNDERGROUND STORM SYSTEM. ONCE THE STORMWATER IS WITHIN THE EXISTING UNDERGROUND STORM SYSTEM THE RUNOFF IS CONVEYED TOWARDS THE EXISTING STORMWATER MANAGEMENT POND DIRECTLY SOUTHEAST OF THE EXISTING SOCCER FIELD.

THIS PROPERTY IS WITHIN THE LITTLE PATUXENT RIVER WATERSHED (MD 8 DIGIT WATERSHED NUMBER 02131105) WHICH REQUIRES THE TOTAL MAXIMUM DAILY LOAD (TMDL) TO BE TREATED TO THE MAXIMUM EXTEND POSSIBLE (MEP) PRIOR TO EXITING THE SITE LIMITS (LOD). ALL LAND DISTURBANCE WILL BE CONTAINED WITHIN THE PROPOSED SEDIMENT CONTROL PERIMETERS ILLUSTRATED ON SHEET 68 AND 69.

THE REQUIRED SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES INCLUDING DEMOLITION OR EARTHWORK / SITE STRIPPING. THE CONTRACTOR SHALL STRIP THE FIRST 4 INCHES OF SOD / TOPSOIL FROM THE ENTIRE SITE WITHIN THE FIRST (2-3) DAYS OF CONSTRUCTION. ONCE THE FIRST 4 INCHES OF TOPSOIL HAS BEEN REMOVED FROM THE FIELD AREA THEN THE CONTRACTOR WILL BEGIN EXCAVATING THE REQUIRED +/- 10" INCHES OF MATERIAL IN-ORDER TO OBTAIN THE REQUIRED SUBGRADE PROFILE. AFTER THE SUBGRADE PROFILE HAS BEEN ESTABLISHED THE CONTRACTOR SHALL LINE THE ENTIRE FIELD WITH GEOTEXTILE FABRIC IMMEDIATELY TO ENSURE THE SITE IS STABILIZED. BOTH EXCAVATION MEASURES ARE TO BE CONDUCTED DURING A (3) DAY DRY WEATHER FORECAST TO ELIMINATE / REMOVE ANY SEDIMENTATION PRODUCED BY CONSTRUCTION ACTIVITIES FROM EXITING THE SITE LIMITS (LOD) AND SHALL BE COMPLETED WITHIN THE FIRST 2-3 WEEKS OF COMMENCING CONSTRUCTION. THE SUPER SILT FENCE (SSF) AND STANDARD INLET PROTECTION (SIP) SHALL REMAIN IN-PLACE AND WILL BE REPLACED AT THE END OF EACH WORK DAY AS NEEDED THROUGHOUT THE DURATION OF CONSTRUCTION TO PROVIDE THE PROPER SEDIMENTATION TREATMENT UNTIL THE SITE IS COMPLETELY STABILIZED. IN ADDITION, THE PROPOSED PERIMETER COLLECTOR TRENCH DRAINS WILL BE INSTALLED WITH GEOTEXTILE FABRIC LINING THE SUBGRADE AND ENTIRELY WRAPPING THE FREE DRAINING TRENCH STONE. THE CONTRACTOR WILL THEN INSTALL THE REQUIRED STONE DEPTH CROSS SECTIONAL PROFILE THROUGHOUT THE FIELD AND ALSO POUR THE PERIMETER CONCRETE CURB.

WITH THIS OUTLINED CONSTRUCTION PROCEDURE THIS WILL PROVIDE AN ENHANCED TREATMENT MEASURE TO ENSURE SEDIMENT CONTROL PROTECTION IS BEING ENFORCED TO THE MAXIMUM EXTENT POSSIBLE (MEP) PRIOR TO ANY STORMWATER EXITING THE SITE LIMITS (LOD). ALL TMDL PRODUCED DURING CONSTRUCTION ACTIVITIES WILL BE REMOVED TO PROTECT ALL DOWNSTREAM IMPACTS ON THE PATUXENT RIVER WATERSHED.

THIS APPLICATION HAS ADDRESSED ALL EIGHT (8) POINTS OF EROSION AND SEDIMENT CONTROL PLANS AND STORMWATER MANAGEMENT PLANS AS FOLLOWS:

1. THIS APPLICATION HAS MET THE ONSITE ENVIRONMENTAL SITE DESIGN (ESDv) AND STORMWATER MANAGEMENT REQUIREMENTS WITH THE USE OF INFILTRATION TRENCHES ALONG THE PERIMETER OF THE PROPOSED SYNTHETIC TURF FIELD.
2. THE LIMITS OF DISTURBANCE SHALL BE MAINTAINED WITHIN THE ENVELOPED OF THE DESIGNATED SUPER SILT FENCE (SSF) TO PROTECT ALL NATURAL ONSITE AREAS AS ILLUSTRATED ON THE EROSION AND SEDIMENT CONTROL SHEET 68.
3. AS ILLUSTRATED ON THE EROSION AND SEDIMENT CONTROL PLAN SHEET 68, ALL CONSTRUCTION EQUIPMENT AND VEHICLES SHALL REMAIN WITHIN THE DESIGNATED ACCESS ROUTE TOO / FROM THE SITE. ALL CONSTRUCTION EQUIPMENT AND VEHICLES SHALL NOT UTILIZE ANY OTHER ACCESS ROUTES FOR THE SITE TO KEEP CONSTRUCTION ACTIVITIES UNDER COMPLETE CONTROL THROUGHOUT THE DURATION OF CONSTRUCTION.
4. 1-2 DAYS PER WEEK A SITE INSPECTION / EVALUATION OF ALL SITE CLEARING WITHIN THE THE ENVELOPE OF THE PROJECT LIMITS SHALL BE ENFORCED THROUGHOUT THE DURATION OF CONSTRUCTION.
5. ALL SITE EVALUATIONS AND DESIGNATIONS OF SITE AREAS ARE ILLUSTRATED WITHIN THE SEQUENCE PHASING OF CONSTRUCTION AS ILLUSTRATED ON THIS SHEET BELOW.
6. ALL EXISTING SOILS HAVE BEEN IDENTIFIED AND THERE ARE NO HIGH RISK SOILS WHICH WOULD BE A CONCERN FOR EROSION AND ADVANCED STABILIZATION TECHNIQUES TO BE USED. REFER TO SHEET C1.1 FOR ALL SOIL CHARACTERISTICS AND DESIGNATIONS.
7. THERE ARE NO STEEP SLOPES WITHIN THIS APPLICATION'S LIMITS OF DISTURBANCE.
8. AS DEMONSTRATED AND OUTLINED ABOVE AND WITHIN THE SEQUENCE PHASING OF CONSTRUCTION THIS APPLICATION HAS EVALUATED AND DESIGNATED STABILIZATION REQUIREMENTS, TIME LIMITS AND PROTECTION MEASURES OF DISCHARGES TO THE CHESAPEAKE BAY, IMPAIRED WATERS OR WATERS WITH AN ESTABLISHED TOTAL MAXIMUM DAILY LOAD (TMDL).

ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED PER THE DETAILS SHOWN ON THIS SHEET & SHEETS 72 AND 73 AND AS ILLUSTRATED ON SHEETS 68 (EROSION & SEDIMENT CONTROL PLANS).

AS NOTED IN THE SEQUENCE OF CONSTRUCTION ON THIS SHEET, A PRE-CONSTRUCTION MEETING MUST BE HELD 72 HOURS IN ADVANCED OF ANY EARTH DISTURBING ACTIVITIES WITH THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. FURTHERMORE, REMOVAL OF ANY SEDIMENT CONTROL MEASURE REQUIRES MUST BE APPROVED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

EROSION CONTROL SEQUENCE OF CONSTRUCTION PHASE 1:

1.	NOTIFY HOWARD COUNTY SEDIMENT CONTROL DIVISION, (301) 880-3450 AT LEAST 24 HOURS PRIOR TO STARTING ANY CONSTRUCTION WORK. CONTRACTOR SHALL ARRANGE A MEETING WITH OWNER, ENGINEER AND HOWARD COUNTY SEDIMENT CONTROL INSPECTOR FOR A PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS (2 DAYS) PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES.	COMPLETE WITHIN (1-2) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES
2.	ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE LIMIT OF DISTURBANCE, WHERE THE LIMIT IS WITHIN 50 FEET OF ANY FOREST BUFFER/CONSERVATION EASEMENTS. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRE-CONSTRUCTION MEETING.	COMPLETE WITHIN (1-2) DAYS PRIOR TO PRE-CONCONSTRCUTION MEETING
3.	INSTALL STABILIZED CONSTRUCTION ENTRANCE (SCE). CONSTRUCTION ENTRANCE SHALL BE COORDINATED WITH HOWARD COUNTY SEDIMENT CONTROL INSPECTOR FOR OPTIMUM ROUTE TO ACCESS SITE. CONSTRUCTION ENTRANCE SHALL BE ESTABLISH WITHIN (1) WEEK FOLLOWING THE PRE-CONSTRUCITON MEETING, WEATHER PERMITTING)	COMPLETE WITHIN WEEK (1)
4.	INSTALL ALL SEDIMENT & EROSION CONTROL MEASURES AND DEVICES ONLY. INCLUDING SUPER SILT FENCE (SSF) AND STANDARD INLET PROTECTION (SIP). (CONDUCT ALL OPERATIONS UNDER A (3) DAY DRY WEATHER FORECAST AND FORECAST MUST BE VERIFIED EVERY 3-4 DAYS PRIOR TO REMOVING SILT FENCE. ALL DEVICES SHALL BE INSTALLED WITHIN (1) WEEK FOLLOWING THE PRE-CONSTRUCTION MEETING)	COMPLETE WITHIN WEEK (1)
5.	NOTIFY HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, UPON COMPLETION OF SAID INSTALLATION.	COMPLETE WITHIN WEEK (1) - WEEK (2)
6.	CLEAR AND STRIP SITE. USE DESIGNATED TEMPORARILY STOCKPILE FOR TOPSOIL (IF ANY) ON SITE. STABILIZE STOCKPILE WITH TEMPORARY SEEDING IF LEFT OVER 7 DAYS. (OPERATIONS SHALL BE PREFORMED WITHIN (1-2) WEEKS AFTER ALL EROSION CONTROL DEVICES HAVE BEEN INSTALLED AND APPROVED BY INSPECTOR)	COMPLETE WITHIN WEEK (1) - WEEK (2)
7.	WITH THE APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF SITE. BEGIN DEMOLITION & GRADING OPERATIONS UPON NOTIFICATION TO PROCEED FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.	COMPLETE WITHIN WEEK (2) - WEEK (3)
8.	COMPLETE SITE WORK CONSTRUCTION INCLUDING SUBGRADE EXCAVATION OF THE ATHLETIC FIELD TO REQUIRED DEPTH. INSTALL GEOTEXTILE FABRIC, STORM DRAINS (PERIMETER & FLAT PANEL DRAINS), FIELD PERIMETER CURB, AND GRADING/AGGREGATE.	COMPLETE WITHIN WEEK (3) - WEEK (6)
9.	CONTRACTOR SHALL FIELD VERIFY THE ATHLETIC FIELDS PLANARITY AND CROSS SLOPES PER THE DESIGN SPECIFICATIONS PRIOR TO INSTALLING SYNTHETIC TURF CARPET AND INFILL MIX. ONCE ENGINEER HAS APPROVED THE CONTRACTOR MAY PROCEED WITH THE TURF CARPET AND INFILL MIX INSTALLATION.	COMPLETE WITHIN WEEK (7) - WEEK (10)
10.	THE CONTRACTOR SHALL MAINTAIN AND VERIFY AT THE END OF EACH DAY ALL EROSION AND SEDIMENT CONTROLS DEVICES ARE IN-PLACE AND APPROVED BY HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.	RE-ESTABLISH E&S CONTROLS AT THE END OF EACH DAY
11.	STABILIZE REMAINING AREAS ON SITE AND CONTRACTOR MUST SOD ALL DISTURBED PERVIOUS AREAS. CONTRACTOR TO MAINTAIN SOD AREAS UNTIL SUCH TIME AS AN ESTABLISHED STAND OF GRASS IS PRESENT.	COMPLETE WITHIN WEEK (10) - WEEK (11)
12.	HOWARD COUNTY SEDIMENT CONTROL INSPECTOR HAS THE AUTHORITY TO ADD OR DELETE EROSION AND SEDIMENT CONTROLS IN THE FIELD AS SITE CONDITIONS WARRANT.	RE-ESTABLISH E&S CONTROLS AT THE END OF EACH DAY
13.	UPON STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS. NO E&S DEVICES SHALL BE REMOVED WITHOUT PRIOR APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.	COMPLETE WITHIN WEEK (10) - WEEK (11)

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."

RYAN J. TEETER, P.E. [signature] DATE: 05/01/2017

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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 THE 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."

[signature] DATE: 12/14/16

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE)

CRAIG BLACKBURN

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

[signature] DATE: 5/9/17

HOWARD SCD

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
   a. PRIOR TO THE START OF EARTH DISTURBANCE,
   b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
   c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
   d. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

   OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
5. 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 CID.
6. SITE ANALYSIS:
   TOTAL AREA OF SITE: 52.34 ACRES
   AREA DISTURBED: 2.81 ACRES
   AREA TO BE ROOFED OR PAVED: N/A ACRES
   AREA TO BE VEGETATIVELY STABILIZED: 2.81 ACRES
   TOTAL CUT: 3,385 CU. YDS.
   TOTAL FILL: 1,972 CU. YDS.
   OFFSITE WASTE/BORROW AREA LOCATION: N/A
7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
   - INSPECTION DATE
   - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
   - NAME AND TITLE OF INSPECTOR
   - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
   - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
   - EVIDENCE OF SEDIMENT DISCHARGES
   - IDENTIFICATION OF PLAN DEFICIENCIES
   - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
   - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
   - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
   - PHOTOGRAPHS
   - MONITORING/SAMPLING
   - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
   - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
   - USE I AND IP MARCH 1 - JUNE 15
   - USE III AND IIIP OCTOBER 1 - APRIL 30
   - USE IV MARCH 1 - MAY 31
16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

ADDITIONAL EROSION AND SEDIMENT CONTROL NOTES

1. REFER TO *"2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOILS EROSION AND SEDIMENT CONTROL"* FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
4. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO *"2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL"*, PG. H.22, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
5. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE HOWARD COUNTY SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.
6. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO *"MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION"* BY THE WATER MANAGEMENT ADMINISTRATION OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, REVISED NOVEMBER 2000, FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.
7. PUMPING SEDIMENT-LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED. ANY PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.

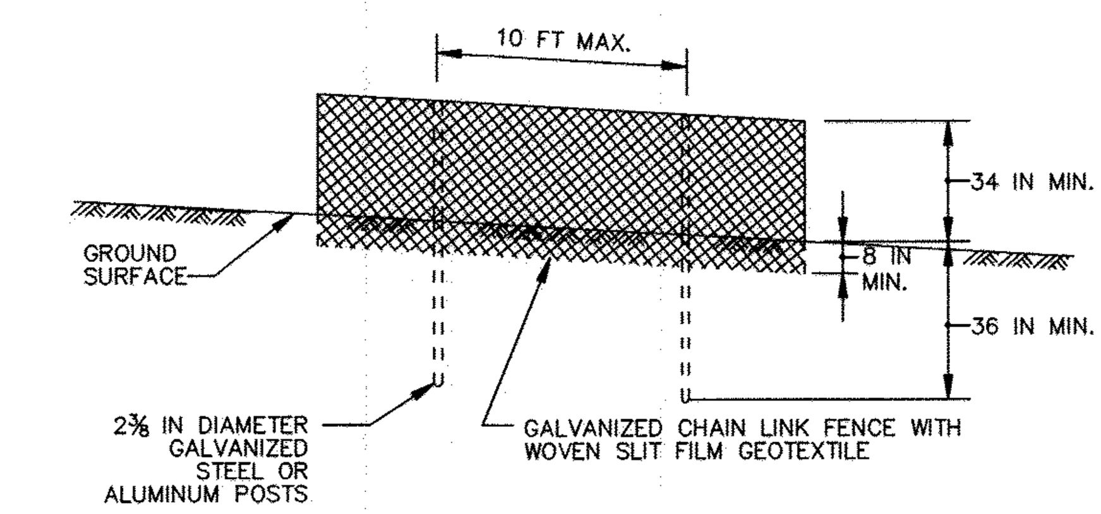
MAINTENANCE NOTE:
CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

STABILIZATION NOTE:
STABILIZATION PRACTICES ON ALL PROJECTS MUST BE IN COMPLIANCE WITH THE REQUIREMENTS OF COMAR 26.17.1.08 G REGULATIONS BY JANUARY 9, 2013, REGARDLESS OF WHEN AN EROSION CONTROL PLAN WAS APPROVED. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: THREE (3) CALENDAR DAYS AS TO BE THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND ALL SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

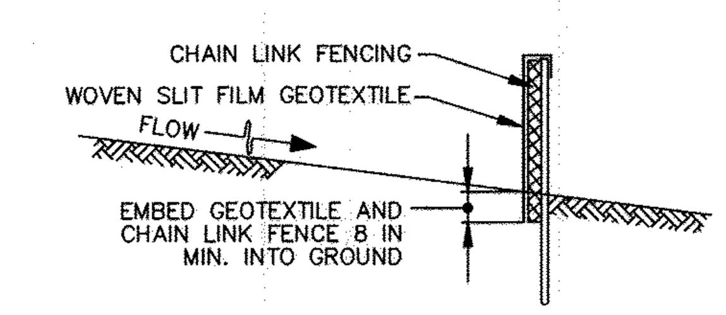
PERMANENT STABILIZATION
ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. SEED TYPE SHALL BE AS SPECIFIED FOR "SEEDING" IN THE DESIGN STANDARDS. MULCH (STRAW OR FIBER) SHALL BE USED ON ALL SEEDED SURFACES. IN ALL SEEDING OPERATIONS SEED, FERTILIZER AND LIME SHALL BE APPLIED PRIOR TO MULCHING.

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: ——SSF——



ELEVATION



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

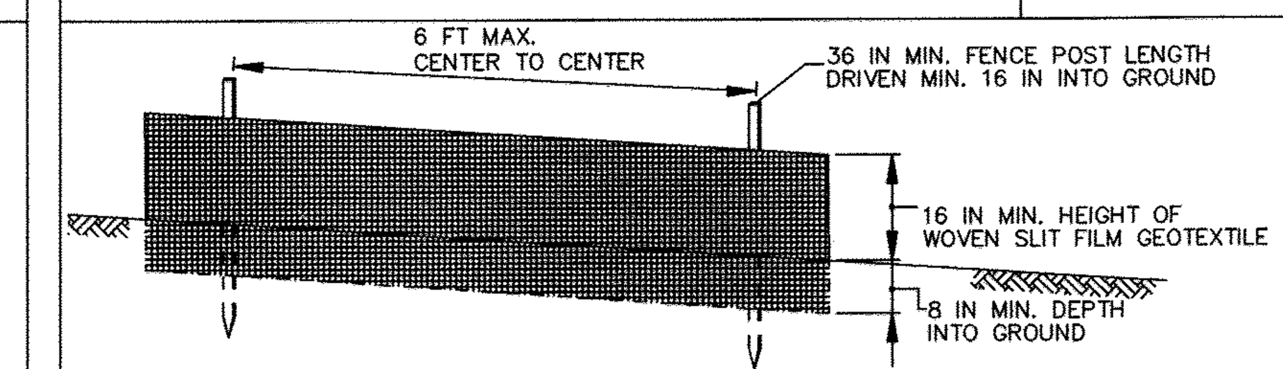
1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

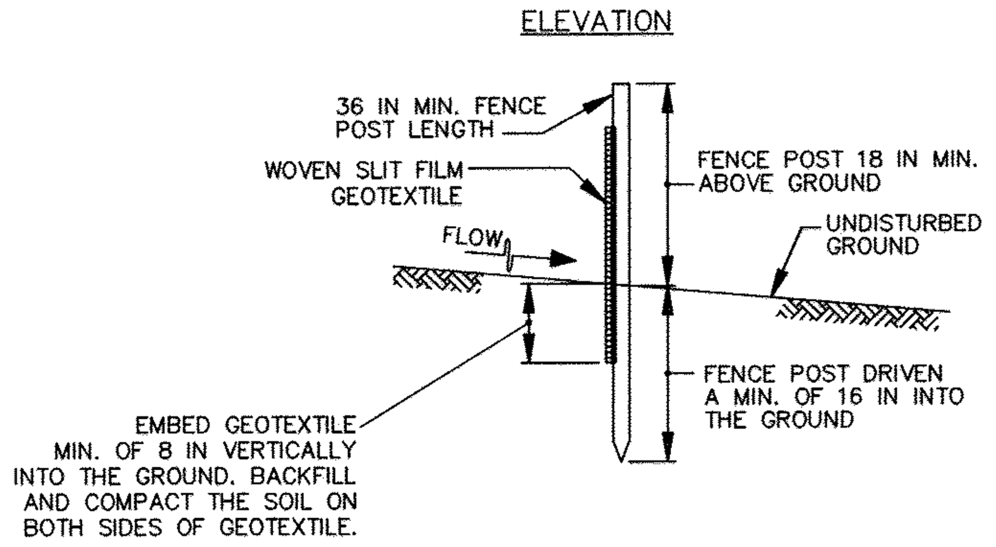
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

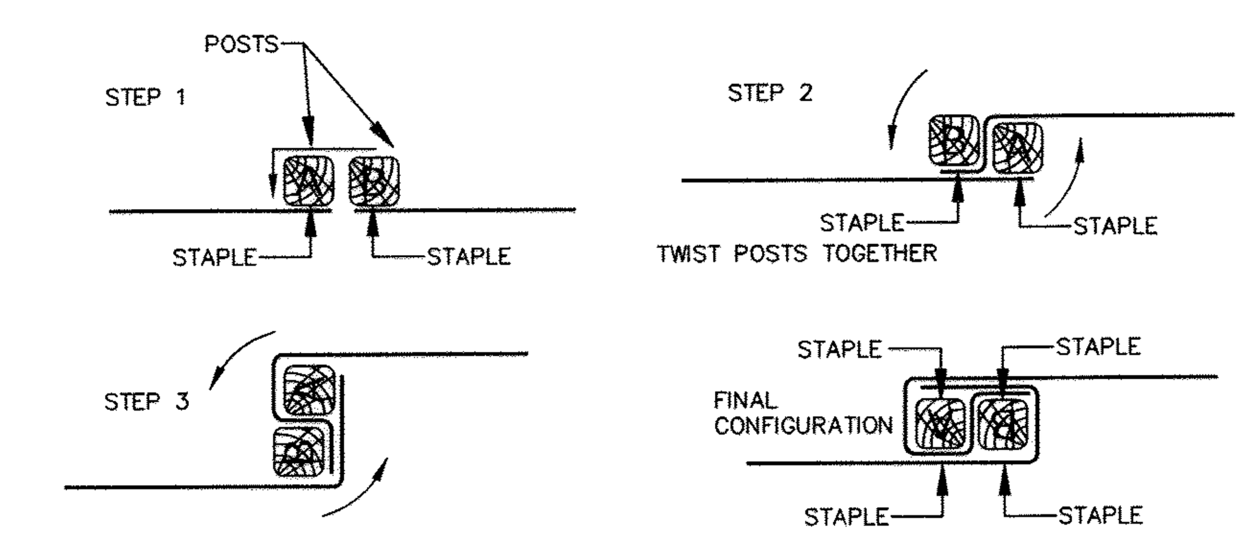
STANDARD SYMBOL: ——SF——



ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

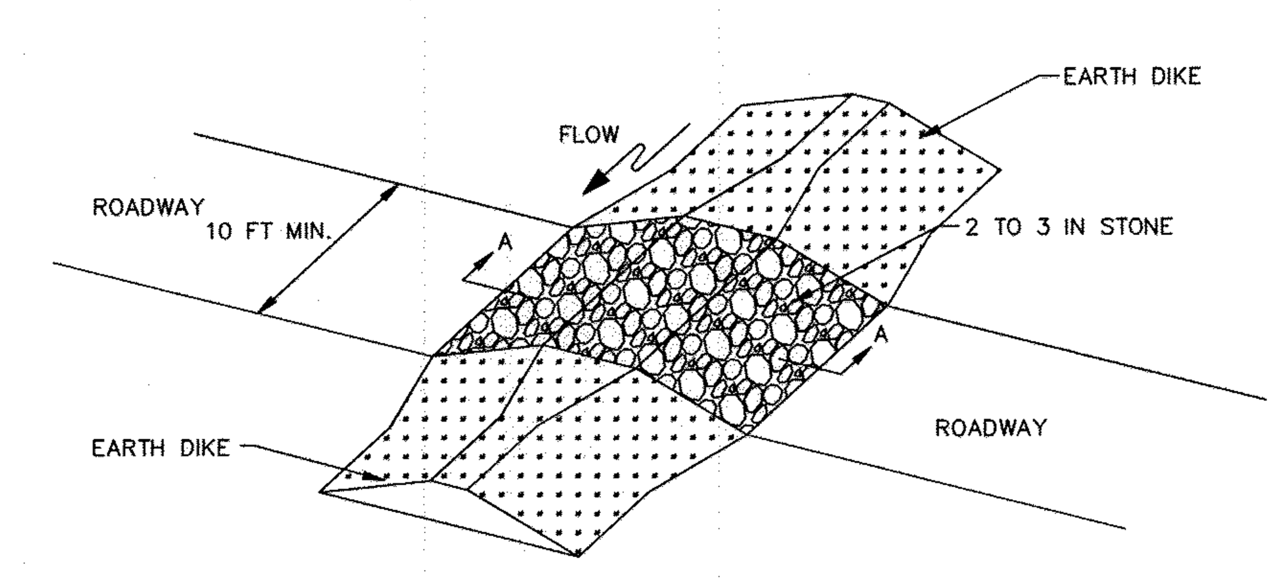
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

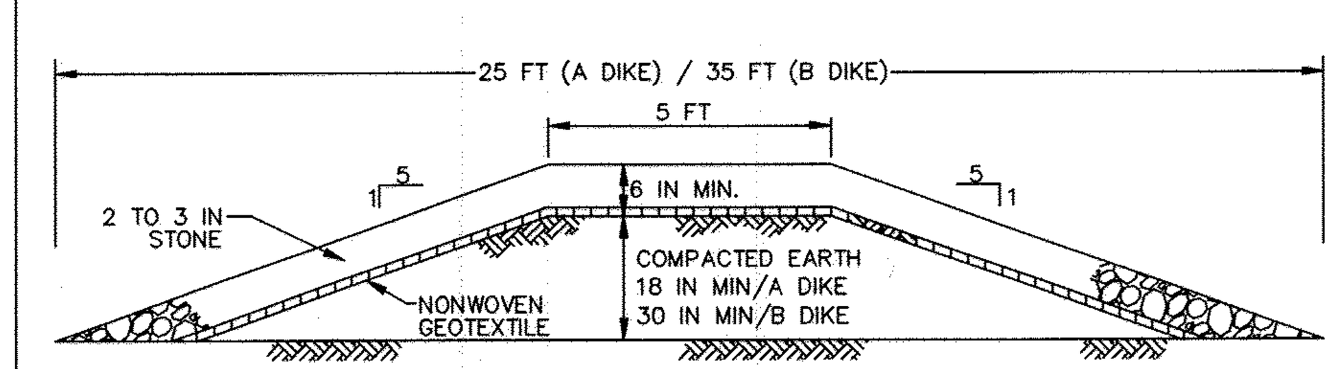
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL: MB



ISOMETRIC VIEW



SECTION A-A

CONSTRUCTION SPECIFICATIONS

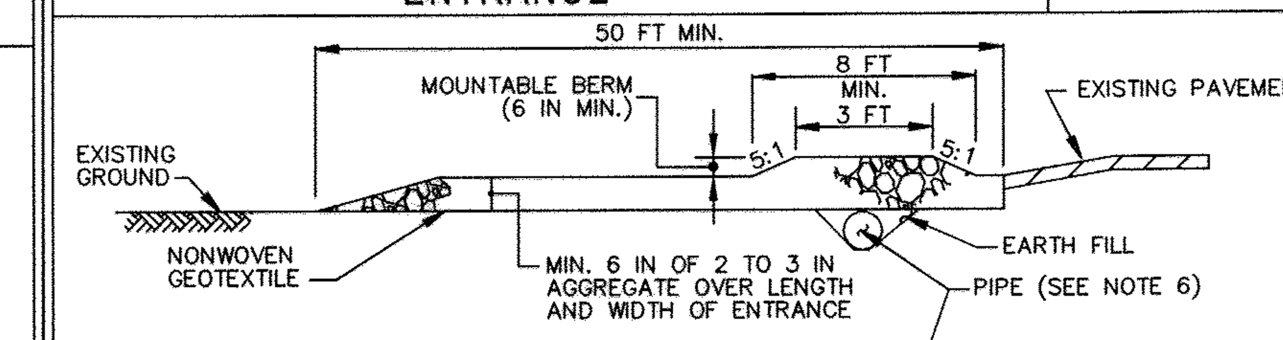
1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

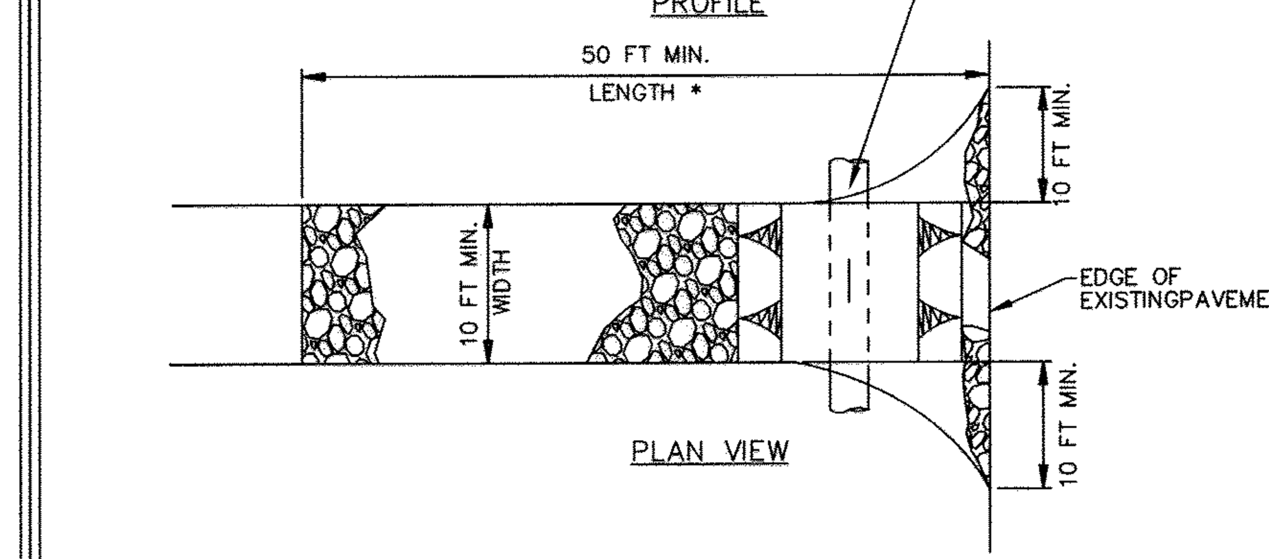
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



PROFILE



PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature	Date
[signature] Chief, Development Engineering Division	5-17-17
[signature] Chief, Division of Land Development	5-25-17
[signature] Director	5-25-17

Seal

STATE OF MARYLAND — RYAN J. TEETER — 37230 — PROFESSIONAL ENGINEER — 05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LDDSPORTS

LEADING DESIGN AND DEVELOPMENT, LLC.
13384 BERLIN TURNPIKE
LOVETTSVILLE, VA 20180
TEL: 607.351.8254
www.lddsports.com

Client:

SAC

SOCCER ASSOCIATION OF COLUMBIA, INC.
BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
EROSION & SEDIMENT CONTROL NOTES AND DETAILS

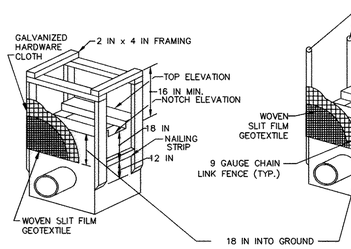
Scale: SEE PLAN SHEET

DRAWING No.

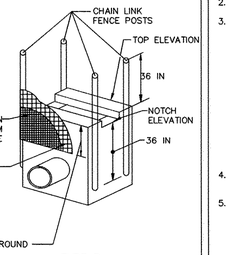
DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

TYPE A MAXIMUM DRAINAGE AREA = ¼ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE

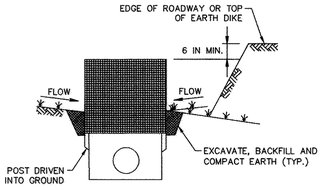


TYPE A



TYPE B

ISOMETRIC VIEW



SECTION FOR TYPE A AND B

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT 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 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2½ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

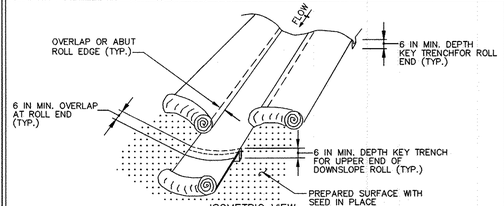
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: TSSMC - 2.0 lb/ft²



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

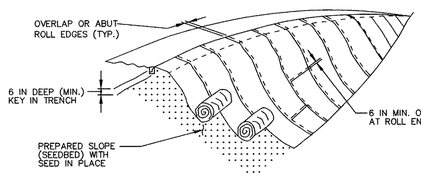
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS - 2.0 lb/ft²



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E-1 STANDARDS AND SPECIFICATIONS FOR SILT FENCE

Definition

A temporary barrier of woven geotextile used to intercept, retain, and filter surface runoff from disturbed areas.

Purpose

To intercept sediment-laden sheet flow runoff allowing the deposition of sediment transported from upslope. Silt fence is not to be used as a velocity check in swales or placed where it will intercept concentrated flow.

Conditions Where Practice Applies

Silt fence is limited to intercepting sheet flow runoff from small disturbed areas. The use of silt fence is based on slope length and steepness of the contributing drainage area.

Design Criteria

Table E.1: Silt Fence Design Constraints

Average Slope Steepness	Maximum Slope Length	Maximum Silt Fence Length
Flatter than 50:1 (<2%)	300 feet*	Unlimited
50:1 to 10:1 (2-10 %)	125 feet	1,000 feet
<10:1 to 5:1 (>10-20%)	100 feet	750 feet
<5:1 (>20%)	40 feet	250 feet

* Maximum slope length is unlimited on Hydrologic Soil Group (HSG) "A" soils.

1. The use of silt fence must conform to the design constraints listed in Table E.1 above.
2. The area downgrade of the silt fence must be undisturbed ground.
3. Silt fence is to be placed on the contour.
4. Silt fence should be used with caution in areas where rocky soils may prevent trenching.
5. Extend both ends of the silt fence a minimum five (5) feet horizontally upslope at 45 degrees to the main fence alignment to prevent runoff from going around the ends of the silt fence.

Maintenance

Accumulated sediment and debris must be removed when bulges develop in the silt fence or when sediment reaches 25 percent of the fence height. The geotextile must be replaced if torn. If undermining occurs, reinstall fence.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding

1. Specifications
   a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
   b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
   c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
   d. Sod or seed must not 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.
2. Application
   a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
   b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
   c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
      i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P_2O_5 (phosphorous), 200 pounds per acre; K_2O (potassium), 200 pounds per acre.
      ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      iii. Mix seed and fertilizer on site and seed immediately and without interruption.
      iv. When hydroseeding do not incorporate seed into the seed.

B. Mulching

1. Mulch Materials (in order of preference)
   a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. **Note: Use only sterile straw mulch in areas where one species of grass is desired.**
   b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
      i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
      iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
      v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
2. Application
   a. Apply mulch to all seeded areas immediately after seeding.
   b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
   c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. Anchoring
   a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
      i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
      ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. **Use of asphalt binders is strictly prohibited.**
      iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/ lb/ac	Seeding Rate 1/ lb/1000 ft²	Seeding Depth 2/ (inches)	Recommended Seeding Dates by Plant Hardiness Zone 3/ 5b and 6a	6b	7a and 7b
Cool-Season Grasses						
Annual Ryegrass (*Lolium perenne ssp. multiflorum*)	40	1.0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Barley (*Hordeum vulgare*)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Oats (*Avena sativa*)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (*Triticum aestivum*)	120	2.8	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Cereal Rye (*Secale cereale*)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug 1 to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15
Warm-Season Grasses						
Foxtail Millet (*Setaria italica*)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14
Pearl Millet (*Pennisetum glaucum*)	20	0.5	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14

NOTES:
1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Oats are the recommended nurse crop for warm-season grasses.

2/ For sandy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): 7A
Seed Mixture (from Table B.1): FOXTAIL MILLET

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate
	FOXTAIL MILLET	30	MAY 1ST - AUG. 14TH	0.50"	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
	ANNUAL RYE	40	FEB 15th - APR 30th AUG 15th - NOV 30th	0.50"		

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

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."

RYAN J. TEETER, P.E. DATE: 05/01/2017
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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 THE 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."

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE)
CRAIG BLACKSTEIN DATE: 12/14/16

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

HOWARD SCD DATE: 5/9/17

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date: 5.17.17

Chief, Division of Land Development — Date: 5-25-17

Director — Date: 5-25-17

Seal

STATE OF MARYLAND — RYAN J. TEETER — No. 37230 — PROFESSIONAL ENGINEER
05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LEADING DESIGN AND DEVELOPMENT, LLC.
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Client:

SOCCER ASSOCIATION OF COLUMBIA, INC.
BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15952-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
EROSION & SEDIMENT CONTROL NOTES AND DETAILS

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 72 OF 77

SDP-02-075

B-4-5 STANDARDS AND SPECIFICATIONS

FOR

PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures

1. General Use
   a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
   b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
   c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
   d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary .
2. Turfgrass Mixtures
   a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
   b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
      i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
      ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
      iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
      iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

      Notes:
      Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

      Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line
   c. Ideal Times of Seeding for Turf Grass Mixtures

      Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)

      Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

      Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)
   d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
   e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 7A Seed Mixture (from Table B.3): COASTAL PANIC					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
1	SEE TABLE B.3	SEE TABLE B.3	* MAY 1ST - MAY 31ST	½- ½ in	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
2	SEE TABLE B.3	SEE TABLE B.3	* MAY 1ST - MAY 31ST	½- ½ in				
8	SEE TABLE B.3	SEE TABLE B.3	FEB 15th - APR 30th; AUG 15th - OCT 31st	½- ½ in				

* ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT.
** FOR SEEDING DATES MAY 1ST - AUG 14TH, ADD 5LBS PER ACRE OF FOXTAIL MILLET TO SEED MIXTURE No. 8.

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

1. General Specifications
   a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
   b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
   c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
   d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
   e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
2. Sod Installation
   a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
   b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
   c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
   d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.
3. Sod Maintenance
   a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
   b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
   c. Do not mow until the sod is firmly rooted. No more than ½ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

Table B.2: Recommended Permanent Seeding Mixtures by Site Condition or Purpose

Site Condition or Purpose of the Planting	Recommended Mix (see Table B.3)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Steep Slopes, Roadsides	R	R	R	A	R	A				A	A	R	R
Sand and Gravel Pits, Sanitary Landfills	R	R	R	A	R	A				A	A	R	
Salt-Damaged Areas	A												R
Mine Spoil, Dredged Material, and Spoil Banks	A		R	A	A								
Utility Rights-of-Way	R	R	R	R	R	R	A			R	R	R	
Dikes and Dams	A	A	R	A		R	R	A		R	R	R	
Berms and Low Embankments (not on Ponds)	R	R	R	R	R	R	A	A		R	R	R	A
Pond and Channel Banks, Streambanks	R	R	R	R	A	A	A			A	A		
Grassed Waterways, Diversions, Terraces, Spillways	A				A	R	R	A	R		R		A
Bottom of Drainage Channels, Swales, Detention Basins				A		R	A			A	R		R
Field Borders, Filter Strips, Contour Buffer Strips	R	R	R	A	A	R	A	R	R	R	R	R	A
Wastewater Treatment Strips and Areas								R	A	A			
Heavy Use Areas (Grass Loafing Paddocks for Livestock)								R					
Athletic Fields, Residential and Commercial Lawns							A	R	R		R		
Recreation Areas							R	R	R		R		

R = Recommended mix for this site condition or purpose.

A = Alternative mix, depending on site conditions.

Table B.3: Selected List of Permanent Herbaceous Seeding Mixtures

Mix	Recommended Cultivar	Seeding Rate [1] lb/ac	Seeding Rate [1] lb/ 1000 ft²	Soil Drainage Class [2]	Max. Height (inch)	Maint. Level [3]	Remarks
WARM-SEASON/COOL-SEASON GRASS MIXES							
1. SELECT ONE WARM-SEASON GRASS:							
Switch Grass (*Panicum virgatum*)	Blackwell, Carthage, Cave-in-Rock, or Shelter	10	0.23				All species are native to Maryland.
OR							
Coastal Panic Grass (*Panicum amarum var. amarulum*)	Atlantic	10	0.23				Plant this mix with a regular grass drill. Coastal panicgrass is best adapted to Zones 7a and 7b.
AND ADD:							
Creeping Red Fescue (*Festuca rubra var. rubra*)	Dawson, Pennlawn, Flyer, Fortress, Ruby, or Salem	15	0.34	E - P	4 - 7	C - D	Creeping red fescue is a cool-season grass that will provide erosion protection while the warm-season grass (switchgrass or coastal panicgrass) is becoming established.
PLUS ONE OF THE FOLLOWING LEGUMES:							
Partridge Pea (*Chamaecrista fasciculate*)	Common	4	0.09				Switchgrass, coastal panicgrass, the Dawson variety of creeping red fescue, and partridge pea are moderately salt-tolerant. Do not use bush clover or wild indigo on wet sites.
Bush Clover (*Lespedeza capitata*)	Common	2	0.05				
Wild Indigo (*Baptisia tinctoria*)	Common	2	0.05				
2. Big Bluestem (*Andropogon gerardii*)	Niagara or Rountree	6	0.14				All species are native to Maryland.
Indiangrass (*Sorghastrum nutans*)	Rumsey	6	0.14				The indiangrass and bluestems have fluffy seeds. Plant with a specialized native seed drill.
Little Bluestem (*Schizachyrium scoparium*)	Aldous or Blaze	4	0.09				
Creeping Red Fescue (*Festuca rubra var. rubra*)	Dawson, Pennlawn, Flyer, Fortress, Ruby, or Salem	15	0.34	E - MW	6 - 8	C - D	Creeping red fescue is a cool-season grass that will provide erosion protection while the warm-season grasses are becoming established.
PLUS ONE OF THE FOLLOWING LEGUMES:							
Partridge Pea (*Chamaecrista fasciculata*)	Common	4	0.09				
Bush Clover (*Lespedeza capitata*)	Common	2	0.05				
Wild Indigo (*Baptisia tinctoria*)	Common	2	0.05				
Showy Tick-Trefoil (*Desmodium canadense*)	Common	1	0.02				

Table B.3: Selected List of Permanent Herbaceous Seeding Mixtures (Continued)

Mix	Recommended Cultivar	Seeding Rate [1] lb/ac	Seeding Rate [1] lb/ 1000 ft²	Soil Drainage Class [2]	Max. Height (inch)	Maint. Level [3]	Remarks
8. Tall Fescue (*Lolium arundinaceum*) (formerly *Festuca arundinacea*)	Recommended MD turf-types [4]	100	2.3	E - SP	2 - 3	A - D	Tall fescue produces a dense turf if frequently mowed, but tends to be clumpy if mowed only occasionally. For best results, recommend using a blend of 3 cultivars. Use low-endophyte cultivars in areas where livestock may graze.
9. SELECT ONE SPECIES OF FESCUE:							
Tall Fescue (*Lolium arundinaceum*) (formerly *Festuca arundinacea*) **OR**	Recommended MD turf-types [4]	60	1.38				Good for highly managed athletic fields. Tall fescue is more suitable for compacted, high use areas and on moist sites.
Hard Fescue (*Festuca trachyphylla*)	Attila or Aurora	40	0.92				
AND ADD:							
Kentucky Bluegrass (*Poa pratensis*)	Recommended MD turf-types [4]	40	0.92	W - SP	2 - 3	A - B	Hard fescue produces finer-textured turf with more shade tolerance.
Perennial Ryegrass (*Lolium perenne*)	Blazer (II), Pennfine	20	0.46				Use tall fescue instead of hard fescue for wastewater treatment strips and areas. For best results, recommend using a blend of 3 cultivars each for tall fescue and Kentucky bluegrass.
10. Orchardgrass (*Dactylis glomerata*)	Amy	25	0.57				Low maintenance mix that is easy to establish.
Creeping Red Fescue (*Festuca rubra var. rubra*)	Dawson, Pennlawn, Flyer, Fortress, Ruby, or Salem	10	0.23				
Redtop (*Agrostis gigantean*)	Streaker	1	0.02	W - SP	2 - 3	C - D	Alsike clover can be toxic to horses. Omit the clovers if using this mix for wastewater treatment strips and areas.
Alsike Clover (*Trifolium hybridum*)	Common	3	0.07				
White Clover (*Trifolium repens*)	Common	3	0.07				

B-4-1 STANDARDS AND SPECIFICATIONS

FOR

INCREMENTAL STABILIZATION

Definition

Establishment of vegetative cover on cut and fill slopes.

Purpose

To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

Criteria

A. Incremental Stabilization - Cut Slopes
   1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
   2. Construction sequence example (Refer to Figure B.1):
      a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
      b. Perform Phase 1 excavation, prepare seedbed, and stabilize.
      c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

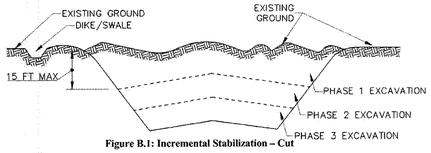


Figure B.1: Incremental Stabilization – Cut

B. Incremental Stabilization - Fill Slopes
   1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
   2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
   3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
   4. Construction sequence example (Refer to Figure B.2):
      a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.
      b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
      c. Place Phase 1 fill, prepare seedbed, and stabilize.
      d. Place Phase 2 fill, prepare seedbed, and stabilize.
      e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

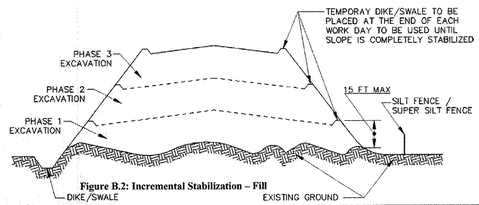


Figure B.2: Incremental Stabilization – Fill

B-3 STANDARDS AND SPECIFICATIONS

FOR

LAND GRADING

Definition

Reshaping the existing land surface to provide suitable topography for building facilities and other site improvements.

Purpose

To provide erosion control and vegetative establishment for extreme changes in grade.

Conditions Where Practice Applies

Earth disturbances or extreme grade modifications on steep or long slopes.

Design Criteria

The grading plan should be based on the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, adjacent properties, drainage patterns, measures for water removal, and vegetative treatment, etc.

Many jurisdictions have regulations and design procedures already established for land grading that must be followed. The plan must show existing and proposed contours for the area(s) to be graded including practices for erosion control, slope stabilization, and safe conveyance of runoff (e.g., waterways, lined channels, reverse benches, grade stabilization structures). The grading/construction plans are to include the phasing of these practices and consideration of the following:

1. Provisions to safely convey surface runoff to storm drains, protected outlets or stable water courses to ensure that surface runoff will not damage slopes or other graded areas.
2. Cut and fill slopes, stabilized with grasses, no steeper than 2:1. (Where the slope is to be mowed, the slope should be no steeper than 3:1, but 4:1 is preferred because of safety factors related to mowing steep slopes.) Slopes steeper than 2:1 require special design and stabilization considerations to be shown on the plans.
3. Benching per Detail B-3-1 whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slopes, when it exceeds 30 feet; and for 4:1 slopes, when it exceeds 40 feet. Locate benches to divide the slope face as equally as possible and to convey the water to a stable outlet. Soils, seeps, rock outcrops, etc. are to be taken into consideration when designing benches.
   a. Provide benches with a minimum width of six feet for ease of maintenance.
   b. Design benches with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Grade the longitudinal slope of the bench between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
   c. The maximum allowable flow length within a bench is 800 feet unless accompanied by appropriate design and computations.
4. Diversion of surface water from the face of all cut and fill slopes using earth dikes or swales. Convey surface water down slope using a designed structure, and:
   a. Protect the face of all graded slopes from surface runoff until they are stabilized.
   b. Do not subject the slope's face to any concentrated flow of surface water such as from natural drainage ways, graded swales, downspouts, etc.
   c. Protect the face of the slope by special erosion control materials to include, but not be limited to, approved vegetative stabilization practices, riprap or other approved stabilization methods.
5. Serrated slope as shown in Detail B-3-2. The steepest allowable slope for ripable rock is 1.5:1. For non rock surfaces, the slopes are to be 2:1 or flatter. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization.
6. Subsurface drainage provisions. Provide subsurface drainage where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.
7. Proximity to adjacent property. Slopes must not be created close to property lines without adequate protection against sedimentation, erosion, slippage, settlement, subsidence, or other related damages.
8. Quality of fill material. Fill material must be free of brush, rubbish, logs, stumps, building debris, and other objectionable material. Do not place frozen materials in the fill nor place the fill material on a frozen foundation.
9. Stabilization. Stabilize all disturbed areas structurally or vegetatively in compliance with Section B-4 Standards and Specifications for Stabilization Practices.

Maintenance

The line, grade, and cross section of benching and serrated slopes must be maintained. Benches and serrated slopes must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization.

H-1 STANDARDS AND SPECIFICATIONS

FOR

MATERIALS

Table H.1: Geotextile Fabrics

		WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE[1]					
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	
Apparent Opening Size[2]	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Sieve 70 (0.21 mm)		U.S. Sieve 70 (0.21 mm)	
Permittivity	ASTM D-4491	0.05 sec^{-1}		0.28 sec^{-1}		1.1 sec^{-1}	
Ultraviolet Resistance Retained at 500 hours	ASTM D-4355	70% strength		70% strength		70% strength	

[1] All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

[2] Values for AOS represent the average maximum opening.

Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other, including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

Table H.2: Stone Size

TYPE	SIZE RANGE	d_{50}	d_{100}	AASHTO	MIDSIZE WEIGHT[1]
NUMBER 57[1]	3/8 to 1 ½ inch	½ in	1 ½ in	M-43	N/A
NUMBER 1	2 to 3 inch	2 ½ in	3 in	M-43	N/A
RIPRAP[2] (CLASS 0)	4 to 7 inch	5 ½ in	7 in	N/A	N/A
CLASS I	N/A	9 ½ in	15 in	N/A	40 lb
CLASS II	N/A	16 in	24 in	N/A	200 lb
CLASS III	N/A	23 in	34 in	N/A	600 lb

[1] This classification is to be used on the upstream face of stone outlets and check dams.

[2] This classification is to be used for gabions.

[3] Optimum gradation is 50 percent of the stone being above and 50 percent below the midsize.

Stone must be composed of a well graded mixture of stone sized so that fifty (50) percent of the pieces by weight are larger than the size determined by using the charts. A well graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone in such a mixture must not exceed the respective d_{100} selected from Table H.2. The d_{50} refers to the median diameter of the stone. This is the size for which 50 percent, by weight, will be smaller and 50 percent will be larger.

Note: Recycled concrete equivalent may be substituted for all stone classifications for temporary control measures only. Concrete broken into the sizes meeting the appropriate classification, containing no steel reinforcement, and having a minimum density of 150 pounds per cubic foot may be used as an equivalent.

Table H.3: Compost

Parameters[1]	Acceptable Range
pH	5.0 - 8.5
Moisture content	30% - 60%, wet weight basis
Organic matter content	25% - 65%, dry weight basis
Particle size	% passing a selected mesh size, dry weight basis 3 in (75 mm), 100% passing 1 in (25 mm), 90 – 100% passing 0.75 in (19 mm), 70 – 100% passing 0.25 in (6.4 mm), 30 – 60% passing 0.04 in (1 mm), 30% min. passing
Physical contaminants (manmade inerts)	<1% dry weight basis

Adapted from AASHTO Standards Specs for Compost Filter Socks and EPA Example Compost Filter Parameters.

[1] Recommended test methodologies are provided in Test Methods for the Examination of Composting and Compost (TMEC, The U.S Composting Council).

B-4-2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

A. Soil Preparation
   1. Temporary Stabilization
      a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
   2. Permanent Stabilization
      a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
         i. Soil pH between 6.0 and 7.0.
         ii. Soluble salts less than 500 parts per million (ppm).
         iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
         iv. Soil contains 1.5 percent minimum organic matter by weight.
         v. Soil contains sufficient pore space to permit adequate root penetration.
      b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
      c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
      d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
      e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling
   1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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.
   2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
   3. Topsoiling 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.
   4. Areas having slopes steeper than 2:1 require special consideration and design.
   5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
      a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
      b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
      c. 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.
   6. Topsoil Application
      a. Erosion and sediment control practices must be maintained when applying topsoil.
      b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to 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 must be corrected in order to prevent the formation of depressions or water pockets.
      c. Topsoil must not be placed if 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.

C. Soil Amendments (Fertilizer and Lime Specifications)
   1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
   3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
   4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
   5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.17.17

Chief, Division of Land Development — Date 5-25-17

Director — Date 6-25-17

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."

RYAN J. TEETER, P.E. — DATE: 05/01/2017

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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 THE 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."

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE: 12/14/16

CRAIG BLACKWELL

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

HOWARD SCD — DATE: 5/9/17

Seal

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LEADING DESIGN AND DEVELOPMENT, LLC.
13384 BERLIN TURNPIKE
LOVETTSVILLE, VA 20180
TEL: 607.351.8254
www.lddsports.com

Client:

SOCCER ASSOCIATION OF COLUMBIA, INC.
BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

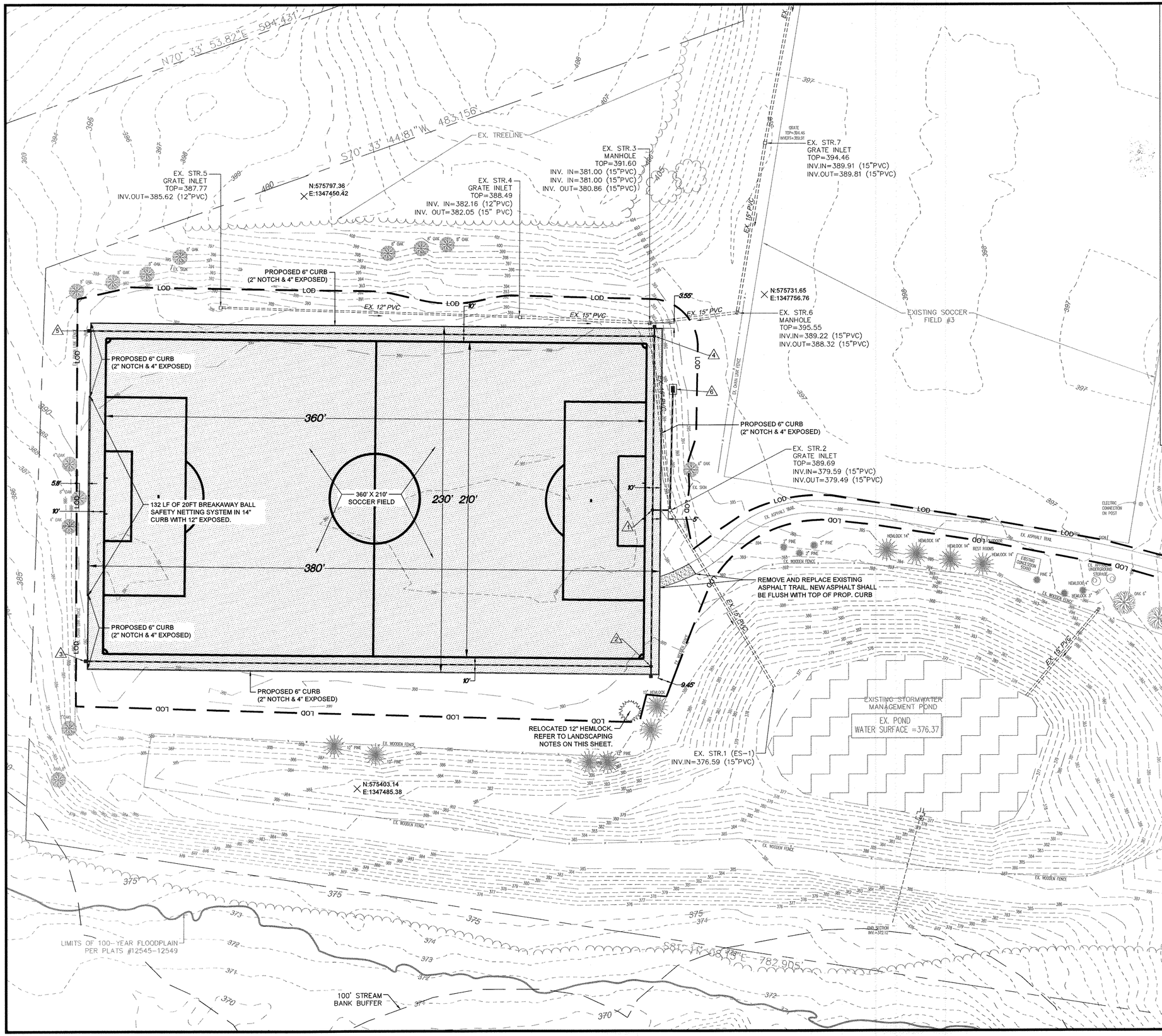
Drawing Title
REVISED SITE DEVELOPMENT PLAN
EROSION & SEDIMENT CONTROL NOTES AND DETAILS

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 73 OF 77

SDP-02-075



SCALE 1"=30'

0 30' 60'

LAYOUT LEGEND:

- PROPOSED SYNTHETIC TURF FIELDS
- PROPOSED CONCRETE CURB
- PROPOSED ASPHALT TRAIL

LAYOUT NOTES:

1. ALL DIMENSIONS SHOWN ARE MEASURED FROM INSIDE OF FACE OF CURB.
2. ALL BASE INFORMATION IS FROM GIS OBTAINED FROM HOWARD COUNTY, MARYLAND.

LANDSCAPING NOTES:

1. THE RELOCATED TREE IS TO HAVE ITS ROOTS PRUNED AND RE-PLANTED WITH THE ACCEPTED STANDARDS OF THE HOWARD COUNTY LANDSCAPING MANUAL.
2. ALL CARE MUST BE TAKEN TO ENSURE THAT THE PLANT IS UPRIGHT. THE TREE MUST BE BRACED USING 2" X 2" STAKES AS NECESSARY TO ENSURE THAT IT IS SECURE IN THE GROUND.
3. SHREDDED HARDWOOD MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2-3".
4. CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANT MATERIAL DURING INSTALLATION AND UNTIL FINAL INSPECTION / ACCEPTANCE BY OWNER.

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL
1-800-257-7777 48 HOURS IN ADVANCE
OF ANY WORK IN THIS VICINITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5-12-17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND
RYAN J. TEETER
37230
REGISTERED PROFESSIONAL ENGINEER
05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LDDSPORTS
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4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

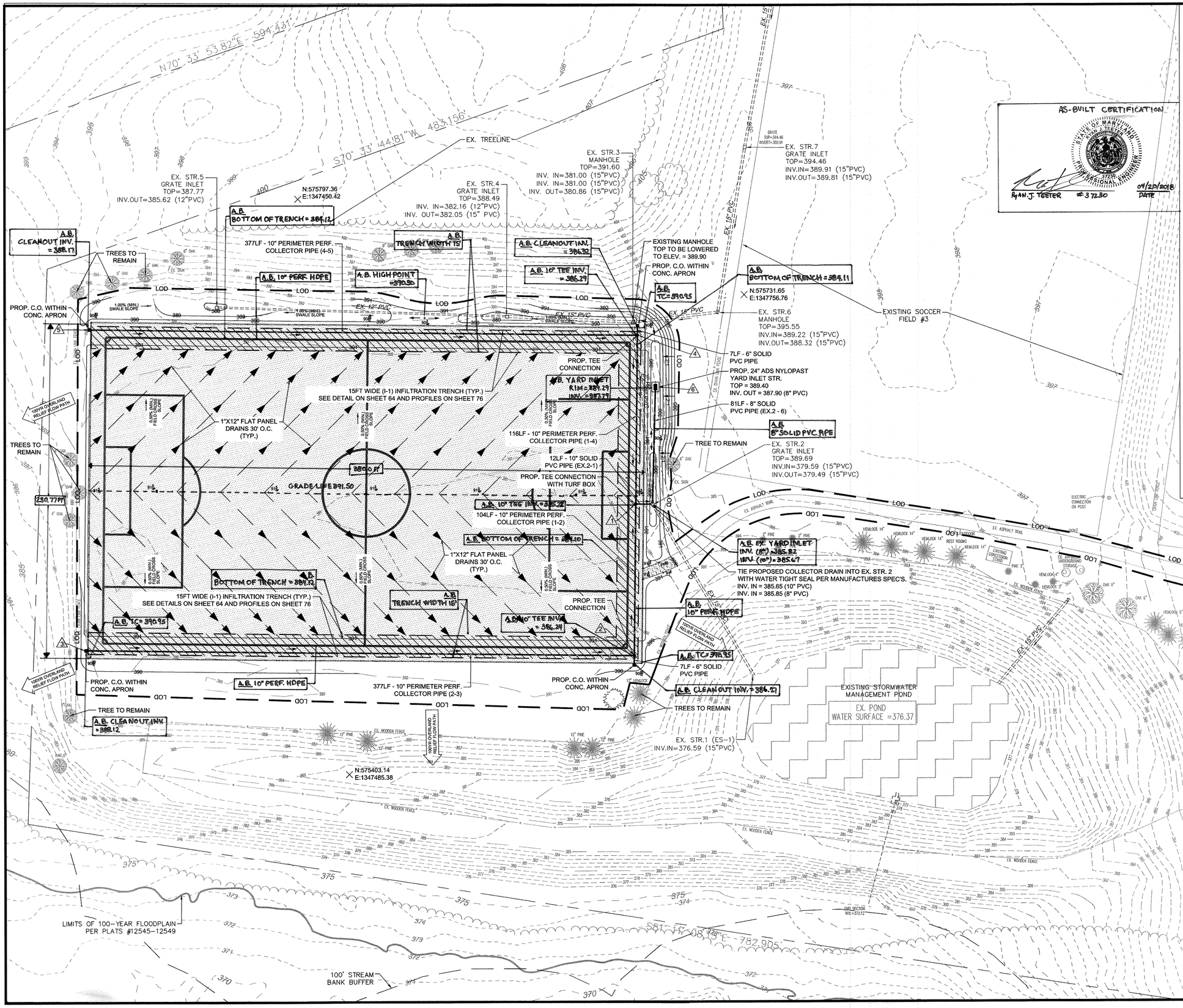
Drawing Title
REVISED SITE DEVELOPMENT PLAN
LAYOUT PLAN

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 74 OF 77

SDP-02-075



AS-BUILT CERTIFICATION

STATE OF MARYLAND — RYAN J. TEETER — 37230 — PROFESSIONAL ENGINEER

RYAN J. TEETER #37230 — 04/20/2018 DATE

LEGEND

SYMBOL	DESCRIPTION
LOD	LIMITS OF DISTURBANCE
287	PROPOSED CONTOUR LINES
282 284	PROPOSED SPOT SHOT
●	PROPOSED CLEANOUT WITH TURF BOX AND ALUMINUM LID
■	PROPOSED CLEANOUT WITHIN CONC. APRON
	PROPOSED FLAT PANEL DRAINS
	PROPOSED STORM PIPE
	PROPOSED SYNTHETIC TURF ATHLETIC FIELD
	EXISTING 100 YEAR FLOODPLAIN
	EXISTING PROPERTY LINE
320	EXISTING MAJOR CONTOUR LINE
301	EXISTING MINOR CONTOUR LINE
FX ⓓ	EXISTING STORM STR. & INLETS
	EXISTING STORM PIPE

STORM PIPE NOTE:

1. ALL HDPE & PVC PERFORATED AND NON-PERFORATED COLLECTOR PIPES SHALL BE @ 0.50% MIN., PIPE SHALL BE A MIN. 1.5FT BELOW FINISH GRADE.
2. ALL EXISTING ONSITE STORM STRUCTURES AND SYSTEMS ARE PRIVATELY OWNED.

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

SCALE 1"=30'
0 30' 60'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.17.17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND — RYAN JOSEPH TEETER — 37230 — PROFESSIONAL ENGINEER — 05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230
EXPIRATION DATE: 06/30/2017

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HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
GRADING PLAN

Scale: SEE PLAN SHEET

DRAWING No.

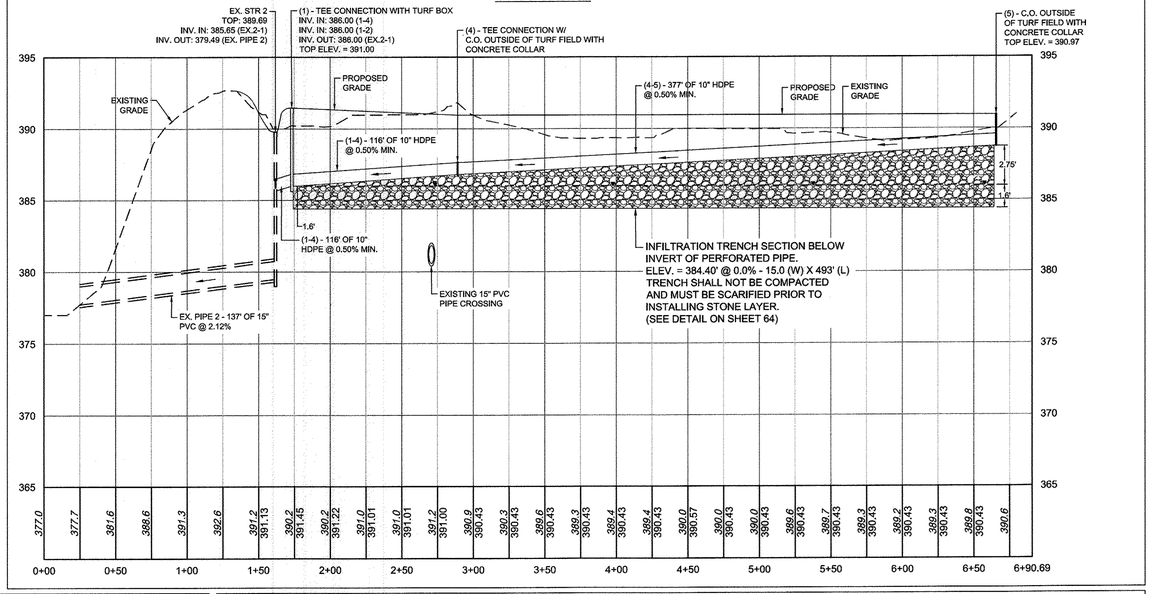
SHEET 75 OF 77

SDP-02-075

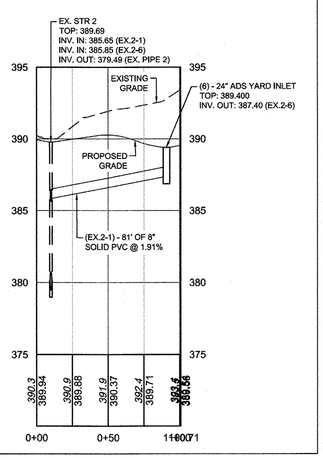
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES (I-1)

a. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
b. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
c. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
d. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
e. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
f. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY 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.

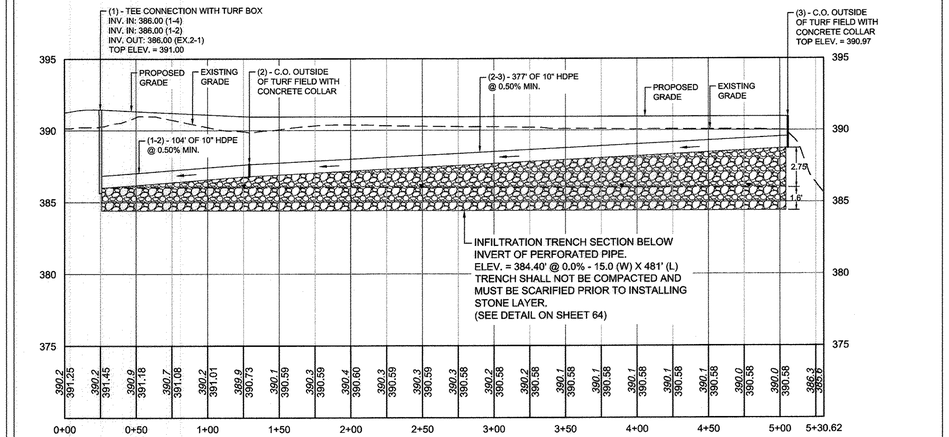
EX. STR.2 TO C.O. 5



EX. STR.2 TO STR. 6



TEE 1 TO C.O.3



Soccer Association of Columbia (SAC) - Post Development

STORM SEWER DESIGN COMPUTATIONS

HDPE n = 0.011

FROM	TO	STR. TYPE AND SCHEDULE	MAINTENANCE	AREA acres	RUN-OFF COEFF. (C)	CA INC.	CA CUM.	INLET TIME MIN.	RAINFALL IN./HR.	Q(INC) CFS	RUNOFF Q(CUM) CFS	INVERT EL'S UPPER	INVERT EL'S LOWER	LENGTH FT.	SLOPE FT./FT.	DIA. IN.	CAPACITY n=0.013 CFS	VELOCITY FPS	FLOW TIME SEC.	TOP
6	EX. STR.2	24" ADS - Nyloplast Yard Inlet	PRIVATE	0.36	0.30	0.11	0.11	5.0	6.55	0.71	**0.71**	387.40	385.85	81	0.0191	8	**2.0**	5.1	16	389.40
5	4	Perforated HDPE Pipe - Sch.40	PRIVATE	0.86	0.30	0.26	0.26	5.0	6.55	1.69	**1.69**	388.75	386.80	377	0.0052	10	**1.9**	3.9	96	390.95
4	1	Perforated HDPE Pipe - Sch.40	PRIVATE	0.14	0.30	0.04	0.30	5.0	6.55	0.28	**1.97**	386.80	386.00	116	0.0069	10	**2.2**	4.5	26	390.95
3	2	Perforated HDPE Pipe - Sch.40	PRIVATE	0.86	0.30	0.26	0.26	5.0	6.55	1.69	**1.69**	388.75	386.80	377	0.0052	10	**1.9**	3.9	96	390.95
2	1	Perforated HDPE Pipe - Sch.40	PRIVATE	0.14	0.30	0.04	0.30	5.0	6.55	0.28	**1.97**	386.80	386.00	104	0.0077	10	**2.3**	4.7	22	390.95
1	EX. STR.2	ADS Tee Connection	PRIVATE	0.00	0.00	0.00	0.60	5.0	6.55	0.00	**3.93**	386.00	385.65	12	0.0292	10	**4.4**	9.2	1	391.50
EX. STR 9	EX. STR 8	EX. YARD INLET - DPWT	PRIVATE	1.27	0.30	0.38	0.38	10.0	5.24	2.00	**2.00**	392.40	391.14	179	0.0070	12	**3.5**	4.6	39	-395.65
EX. STR 8	EX. STR 7	EX. YARD INLET - DPWT	PRIVATE	0.85	0.30	0.26	0.64	10.0	5.24	1.34	**3.33**	391.00	389.91	187	0.0058	15	**5.8**	4.9	38	394.69
EX. STR 7	EX. STR 6	EX. YARD INLET - DPWT	PRIVATE	0.93	0.30	0.28	0.92	10.0	5.24	1.46	**4.79**	389.81	389.22	114	0.0052	15	**5.5**	5.1	22	394.46
EX. STR 6	EX. STR 3	MH - DPWT	PRIVATE	0.00	0.00	0.00	0.92	10.0	5.24	0.00	**4.79**	388.32	381.00	59	0.1248	15	**27.0**	15.6	4	395.55
EX. STR 5	EX. STR 4	EX. YARD INLET - DPWT	PRIVATE	0.38	0.30	0.11	0.11	5.0	6.55	0.75	**0.75**	385.62	382.16	199	0.0174	12	**5.6**	4.6	43	387.77
EX. STR 4	EX. STR 3	EX. YARD INLET - DPWT	PRIVATE	0.53	0.30	0.16	0.27	5.0	6.55	1.04	**1.79**	382.05	381.00	86	0.0122	12	**4.6**	5.5	16	388.49
EX. STR 3	EX. STR 2	MH - DPWT	PRIVATE	0.00	0.00	0.00	1.19	10.0	5.24	0.00	**6.23**	380.86	379.59	126	0.0101	15	**7.7**	7.0	18	391.60
EX. STR 2	EX. STR 1	EX. YARD INLET - DPWT	PRIVATE	0.17	0.30	0.05	1.95	10.0	5.24	0.27	**10.20**	379.49	376.59	137	0.0212	15	**11.1**	10.4	13	389.69
		Total Post Developed DA to Outfall Str. 1 =		**6.49**																

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — 5.17.17 — Date

Chief, Division of Land Development — 5.25.17 — Date

Director — 5-25-17 — Date

Seal

STATE OF MARYLAND — RYAN J. TEE — 37230 — REGISTERED PROFESSIONAL ENGINEER — 05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

LEADING DESIGN AND DEVELOPMENT, LLC.
13384 BERLIN TURNPIKE
LOVETTSVILLE, VA 20180
TEL: 607.351.8254
www.lddsports.com

Client:

SOCCER ASSOCIATION OF COLUMBIA, INC.
BOB LUCIDO FIELDS AT COVENANT PARK
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
PHONE: 410-203-9590
FAX: 410-203-9592

REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name

SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF

4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title

REVISED SITE DEVELOPMENT PLAN

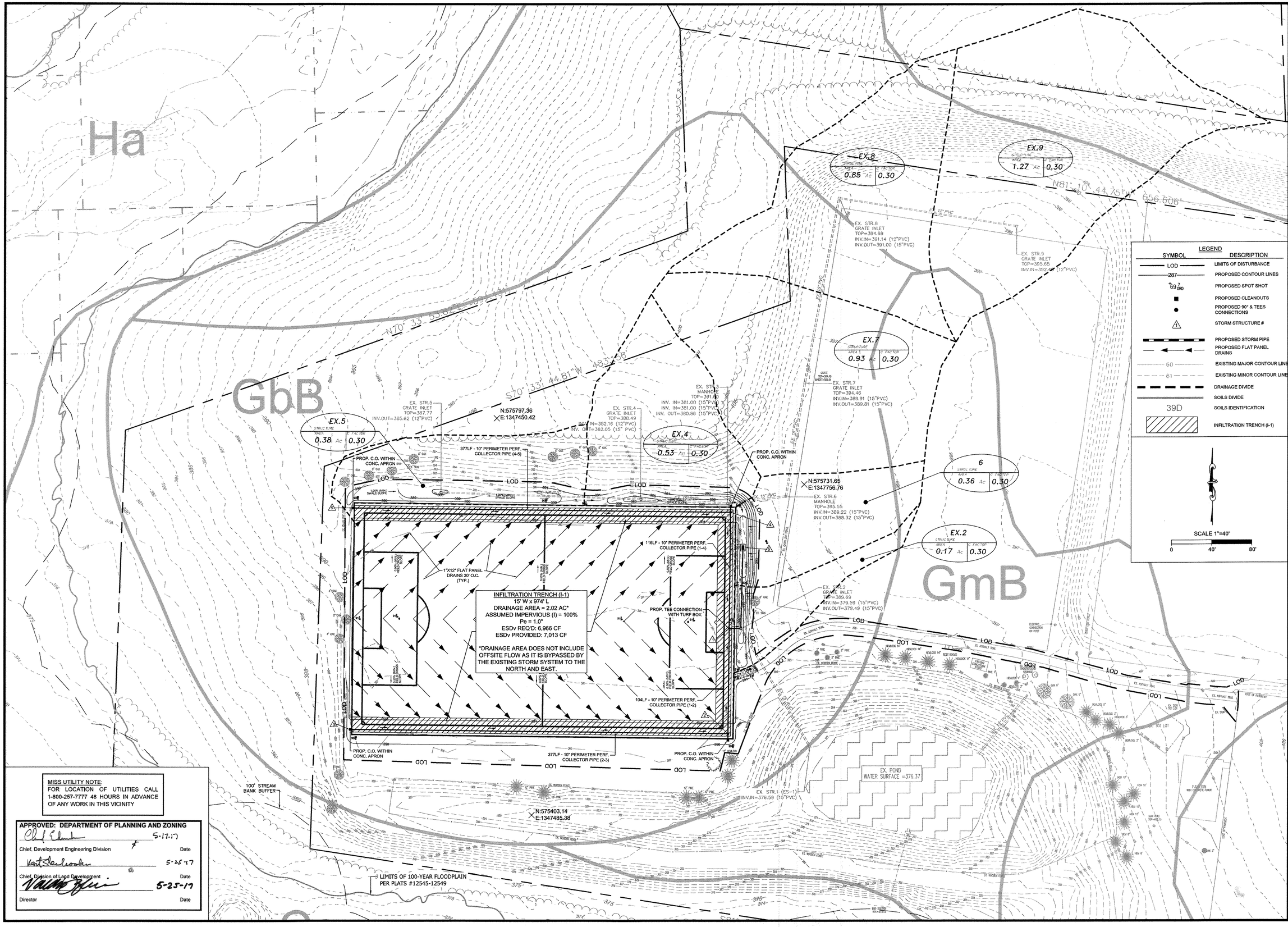
STORM PROFILES

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 76 OF 77

SDP-02-075



LEGEND

SYMBOL	DESCRIPTION
LOD	LIMITS OF DISTURBANCE
287	PROPOSED CONTOUR LINES
697	PROPOSED SPOT SHOT
■	PROPOSED CLEANOUTS
●	PROPOSED 90° & TEES CONNECTIONS
△	STORM STRUCTURE #
	PROPOSED STORM PIPE
	PROPOSED FLAT PANEL DRAINS
60	EXISTING MAJOR CONTOUR LINE
61	EXISTING MINOR CONTOUR LINE
	DRAINAGE DIVIDE
	SOILS DIVIDE
39D	SOILS IDENTIFICATION
	INFILTRATION TRENCH (I-1)

MISS UTILITY NOTE:
FOR LOCATION OF UTILITIES CALL 1-800-257-7777 48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.17.17

Chief, Division of Land Development — Date 5-25-17

Director — Date 5-25-17

Seal

STATE OF MARYLAND — ROBERT J. TRETTER — No. 37230 — REGISTERED PROFESSIONAL ENGINEER
05/01/2017

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37230 EXPIRATION DATE: 06/30/2017

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REVISION

No.	DESCRIPTION	DATE
10	TURF FIELD	05.01.2017

Project Name
SOCCER ASSOCIATION OF COLUMBIA CONVERSION OF GRASS FIELDS 1 & 2 TO SYNTHETIC TURF
4560 CENTENNIAL LANE
HOWARD COUNTY, MARYLAND

2ND ELECTION DISTRICT
TAX MAP #: 30
ZONED: RR-DEO
PARCEL - A
PLAT: 15652-15657

DRAWN	DESIGNED	CHECKED
KWG	MSV	RJT

Project No.

Date 05/01/2017

Drawing Title
REVISED SITE DEVELOPMENT PLAN
ESD & STORMWATER MANAGEMENT PLAN

Scale: SEE PLAN SHEET

DRAWING No.

SHEET 77 OF 77

SDP-02-075