SITE DEVELOPMENT PLAN

SOCCER ASSOCIATION OF COLUMBIA

PARCEL A

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

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FOR REVISION #8

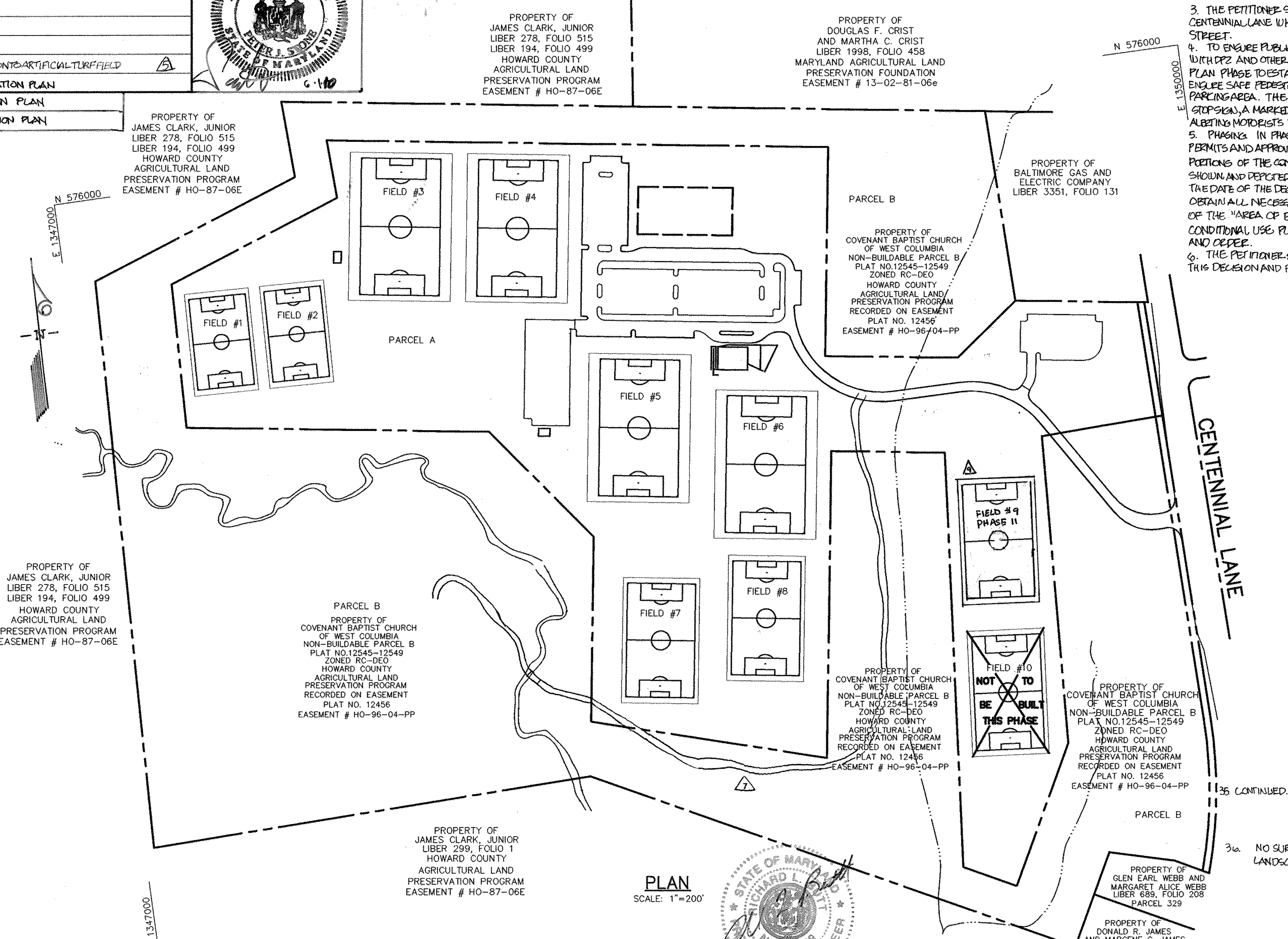
LANDSCAPE ARCHITECT 3068 PETER J. STONE STATE OF MARYLAND 6-1-10

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.
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-04-134.
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-04-134 A WAIVER OF SECTION 16.156.M.(1) TO EXTEND THE DEADLINE DATE BY WHICH A DEVELOPER MUST OBTAIN A BUILDING PERMIT WAS APPROVED JUNE 15, 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 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.6C.
    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 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 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)

35 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.

36. NO SURETY IS REQUIRED FOR OVERFLOW PARKING PERIMETER LANDSCAPING REQUIRED BY BA-09-036C.



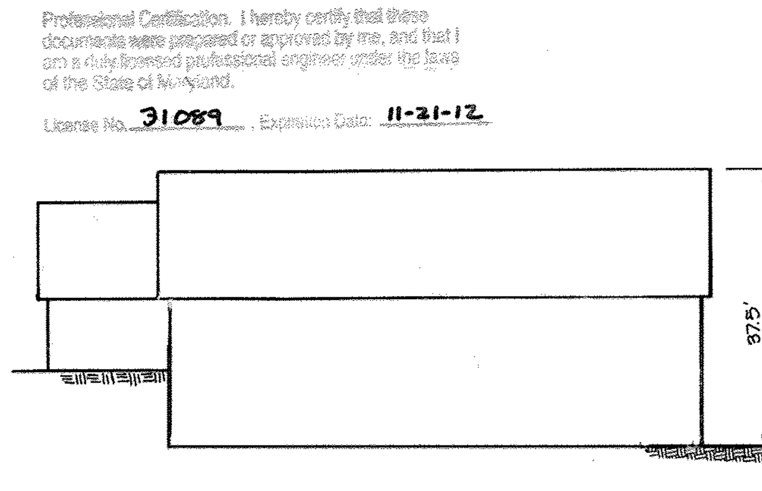
PLAN
SCALE: 1"=200'

STATE OF MARYLAND RICHARD L. BARTT No. 031089 PROFESSIONAL ENGINEER 11-10-11

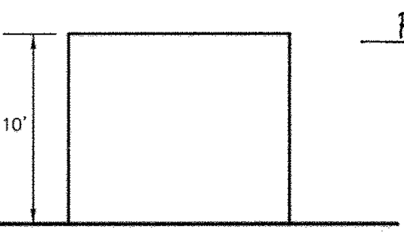
FOR REVISION #9

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.

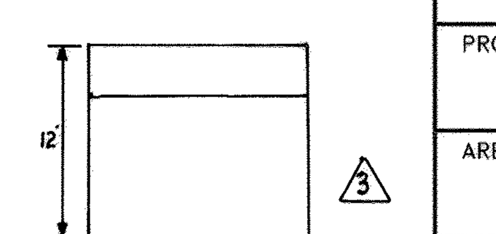
License No. 31089, Expiration Date: 11-21-12



ADMINISTRATION BUILDING ELEVATION
SCALE: 1" = 20' (1)



TYPICAL SHELTER ELEVATION
NOT TO SCALE



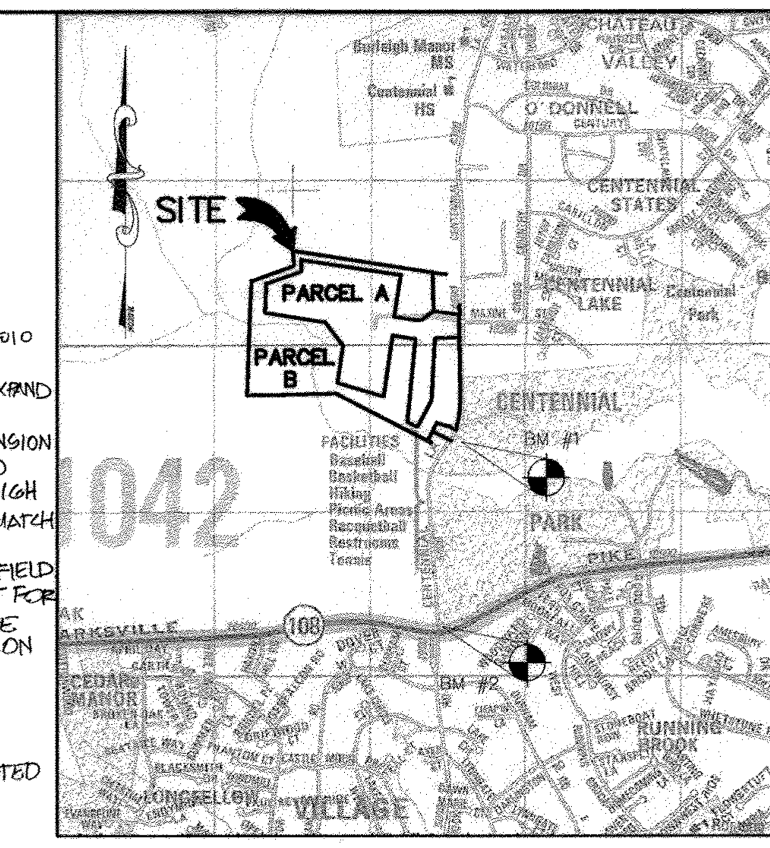
(3)

PROPOSED PAVILLION
NOT TO SCALE

"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

STATE OF MARYLAND MARIANNE K. CRAMPTON No. 25058 PROFESSIONAL ENGINEER



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 UNPAVED-144 TOTAL 676 (75 SPACES ADDED TO FIELD #9)
   HANDICAP SPACES REQUIRED 12
   HANDICAP SPACES PROVIDED 12 (INCL. 4 VAN SPACES)
7. BUILDING COVERAGE 6672 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.

DATE	NO	REVISION
8/05/11	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 RIP RAP ON SHEET 2
2/21/08	5	REVISED FIELD #5 TO ARTIFICIAL TURF

AS-BUILT CERTIFICATION

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

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

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
08-09-04	2	ADDED WP-04-134 INFORMATION
1-14-03	1	REVISED BLDG. ELEVATION & SITE TABULATION

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: **TITLE SHEET**

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

ADDRESS CHART

SITE NUMBER	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

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

DATE 3.12.03

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 SDP1.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	1 OF 61

SDP-02-75

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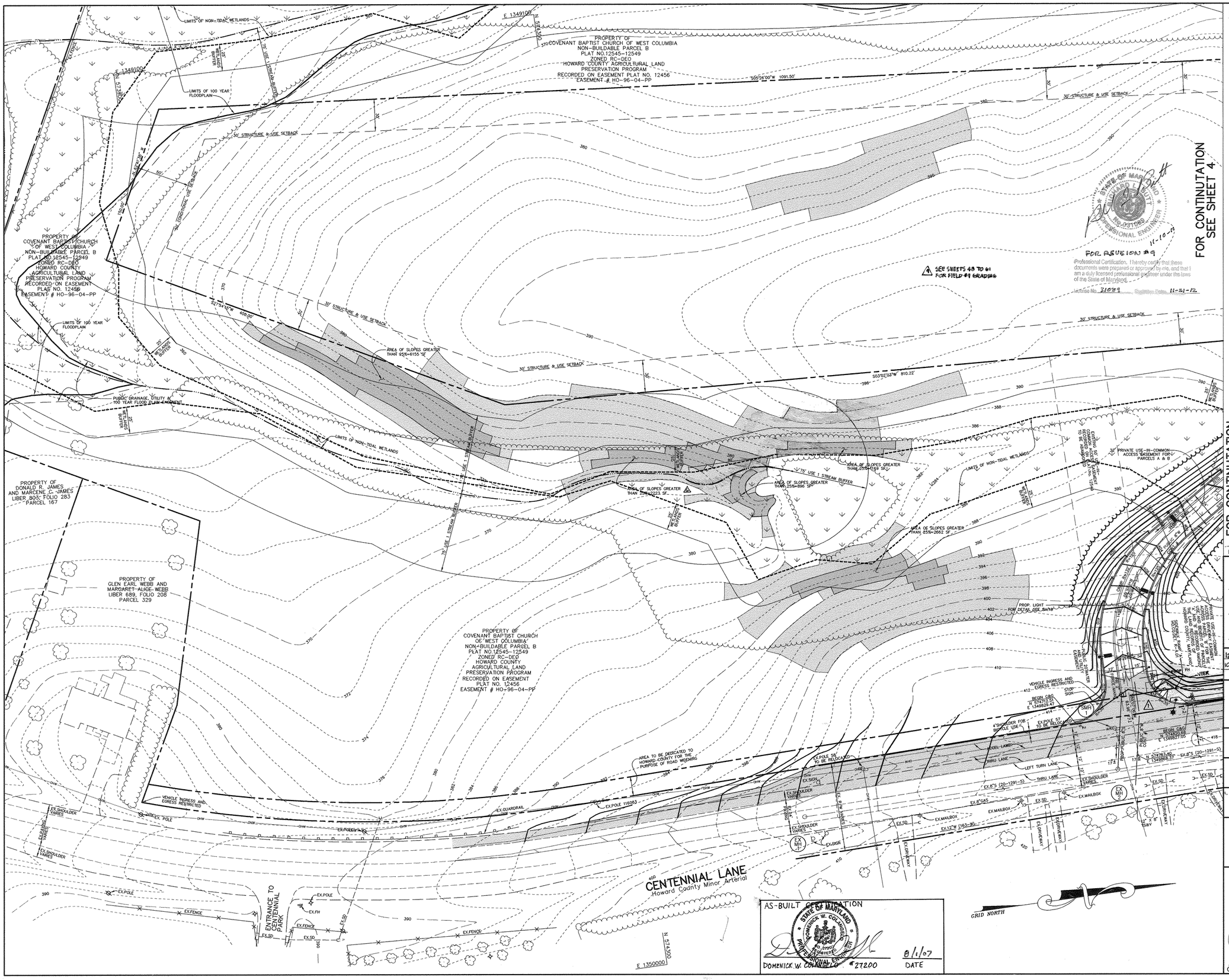


FOR CONTINUATION SEE SHEET 4

FOR CONTINUATION SEE SHEET 3

SEE SHEETS 48 TO 61 FOR FIELD 49 GRADING

STATE OF MARYLAND — RICHARD L. LEWIS — No. 31089 — PROFESSIONAL ENGINEER

FOR REVISION #9 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.

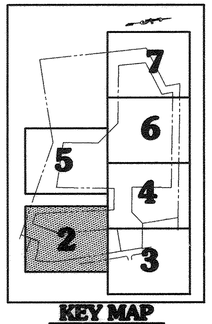
License No. 31089 Expiration Date 11-21-12

LEGEND

- 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
3/05/10	9	CONSTRUCTION OF FIELD #49
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
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
REVISED
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

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 61

SDP-02-75

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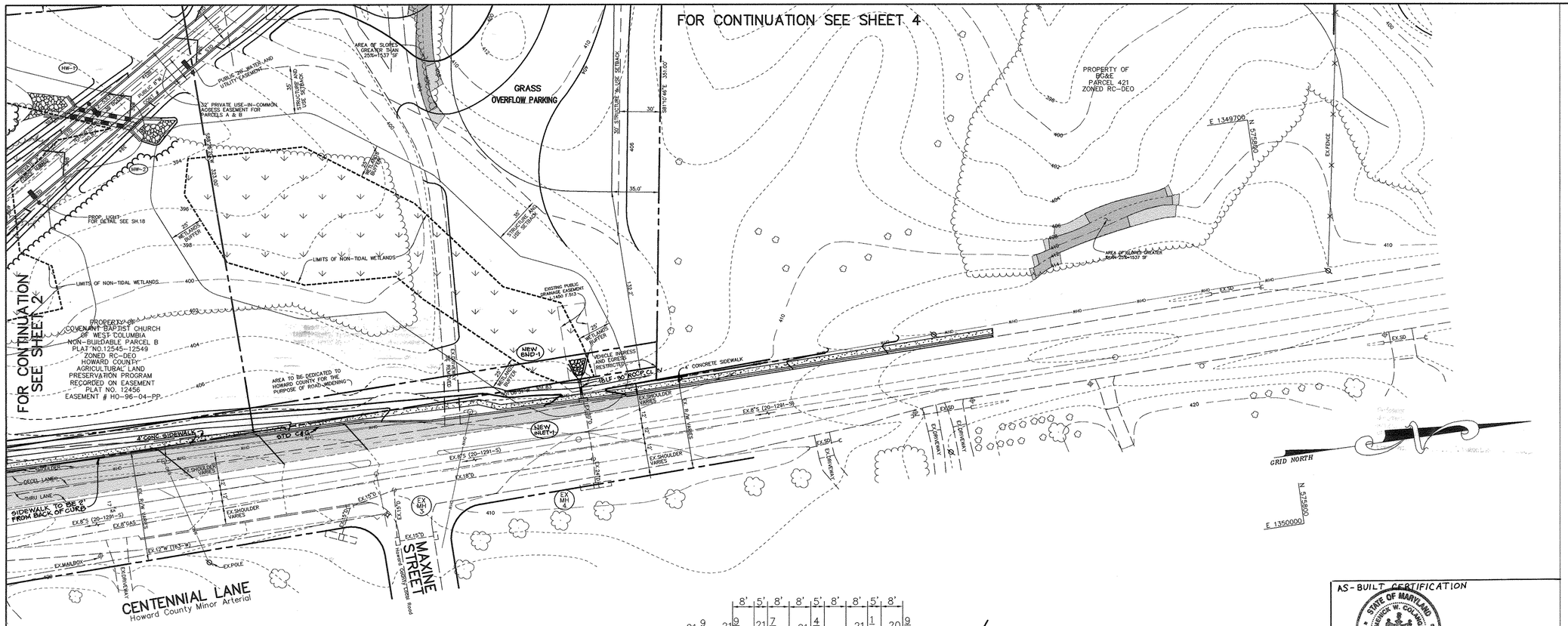

LEGEND

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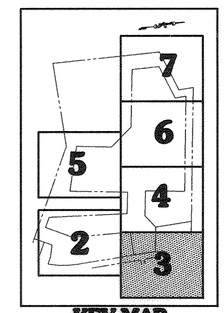
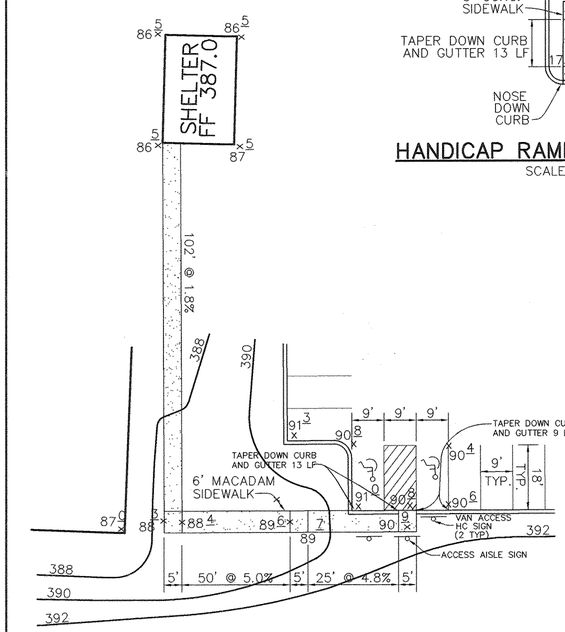


KEY MAP
NOT TO SCALE

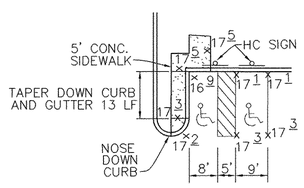
AS-BUILT CERTIFICATION

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

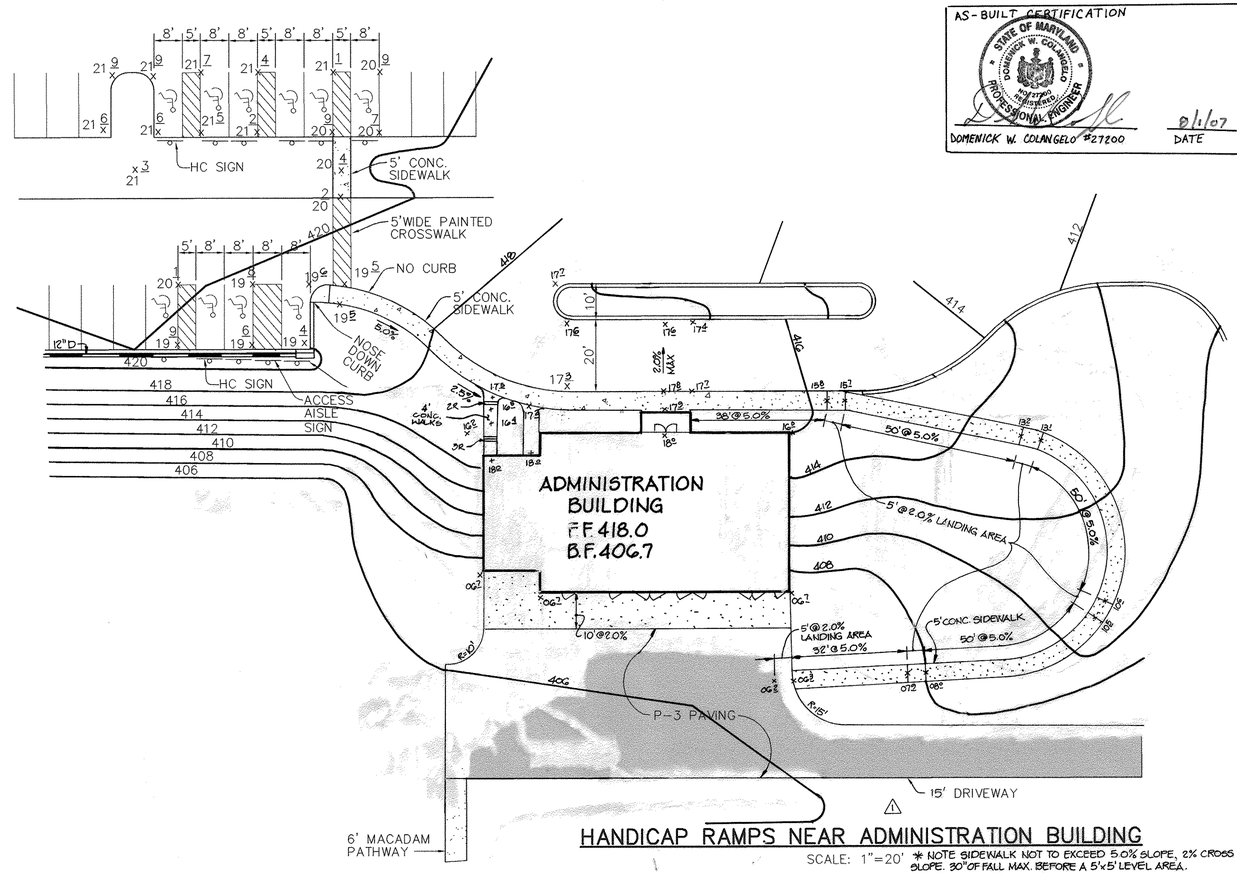
DOMENICK W. COLANGELO #27200 — 8/1/07 DATE



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



HANDICAP RAMP TO FIELDS #1-4
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 4/1/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION	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.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282
PHR+A

3.12.03
DATE

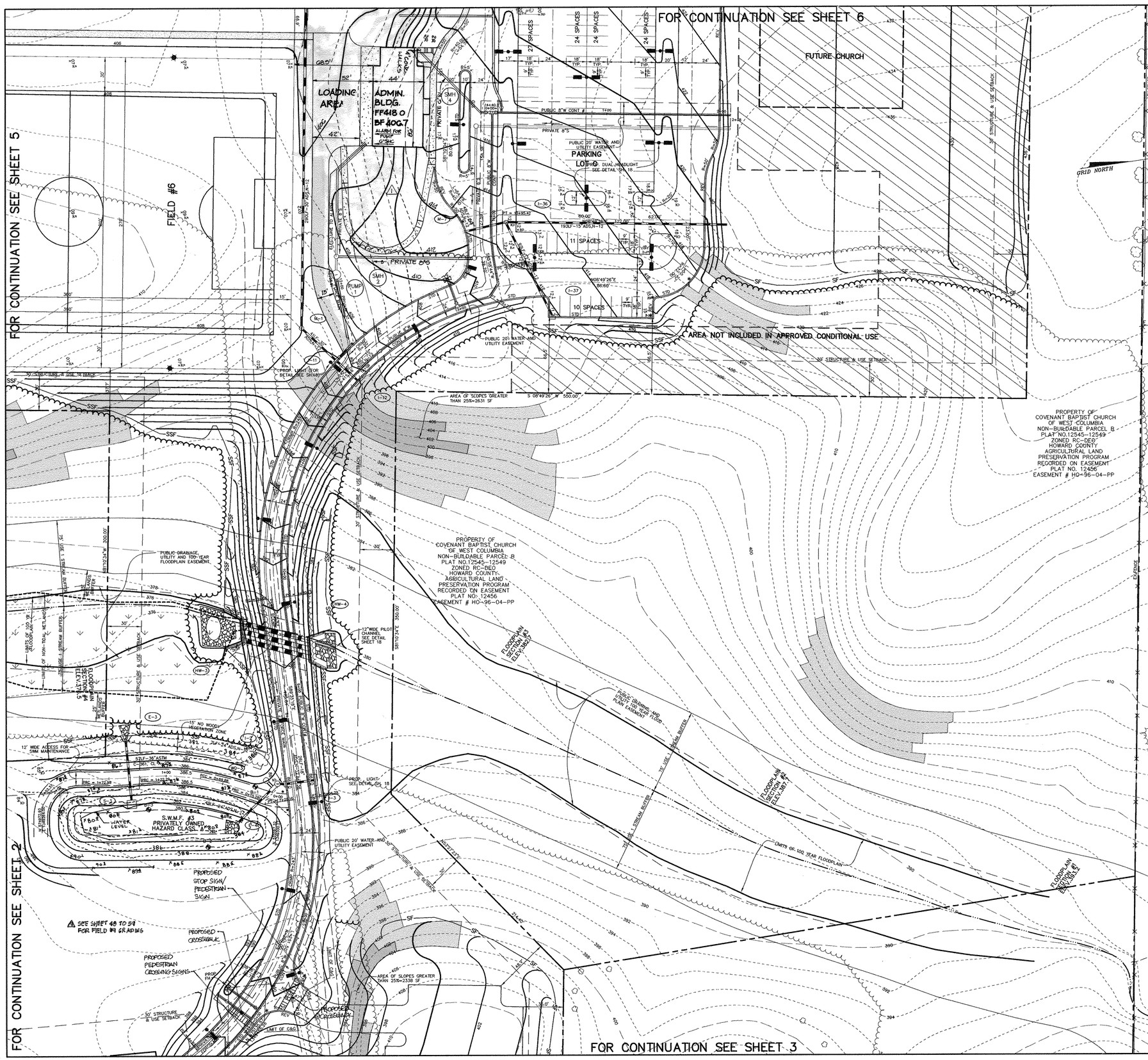
STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

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 61

SDP-02-75

P:\project\00287\1-0\Engr\Plans\Sdp3.dwg, Layout1, 03/07/2003 03:03:12 PM, HP7550C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40



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

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: 11-31-12

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	8216 CF

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

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

STATE OF MARYLAND — RICHARD L. BUTLER — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

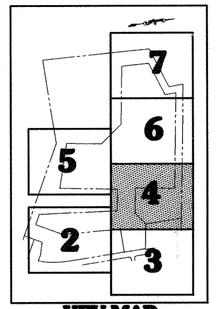
LEGEND

- 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 #3



KEY MAP
NOT TO SCALE

DATE	NO.	REVISION
5-28-10	3	ADDED CROSSWALKS AND SIGNS
08-09-04	2	ADDED CONCRETE WALKS TO ADMIN. BLDG.
04-02-04	1	REVISED ADMINISTRATION BUILDING & HC RAMP

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 — 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
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

PHR+A

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 64

SDP-02-75

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

WQv AND CPv 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

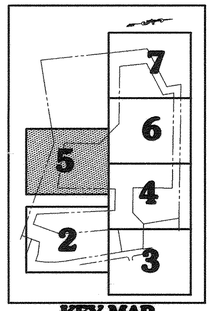
DOMENICK W. COLANGELO #27200 — 8/1/07 DATE

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

DATE	NO.	REVISION
07-07-05	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 — 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 61

SDP-02-75

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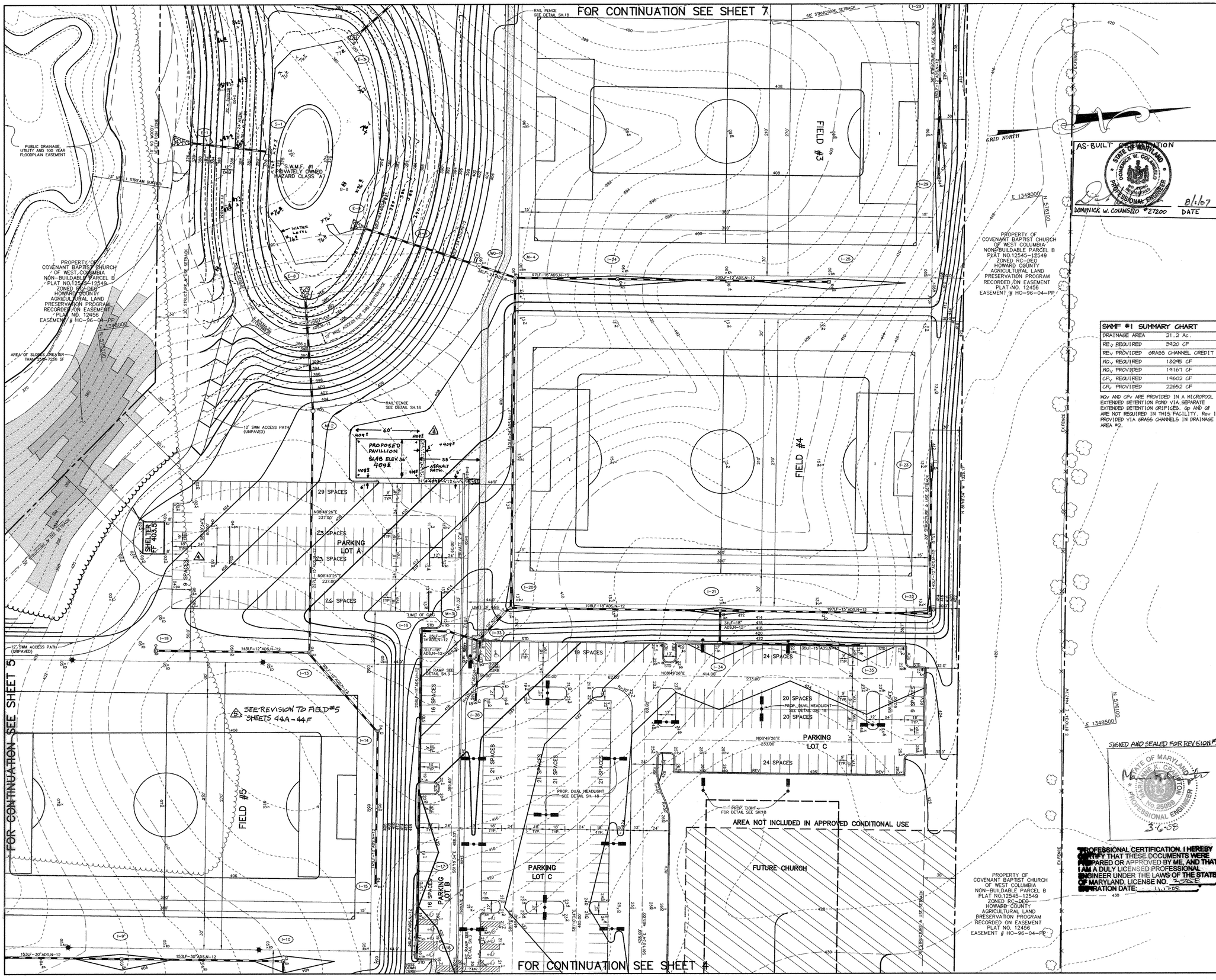


LEGEND

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
WETLANDS BUFFER
AREA NOT INCLUDED IN APPROVED CONDITIONAL USE
STREAM BUFFER
STREAM

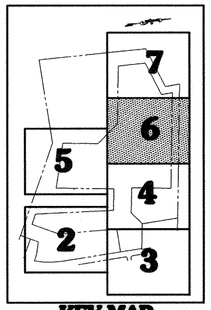
AS-BUILT CERTIFICATION
STATE OF MARYLAND DOMENICK W. COLANGELO No. 27200 PROFESSIONAL ENGINEER
DOMENICK W. COLANGELO #27200 — 8/1/07 DATE

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.

SWMF #1 SUMMARY CHART	
DRAINAGE AREA	21.2 Ac.
Rev REQUIRED	3920 CF
Rev PROVIDED	GRASS CHANNEL CREDIT
WQv REQUIRED	18285 CF
WQv PROVIDED	19167 CF
CPv REQUIRED	19602 CF
CPv PROVIDED	22652 CF

WQv AND CPv ARE PROVIDED IN A MICROPOOL EXTENDED DETENTION POND VIA SEPARATE EXTENDED DETENTION ORIFICES. Qp AND QF ARE NOT REQUIRED IN THIS FACILITY. Rev IS PROVIDED VIA GRASS CHANNELS IN DRAINAGE AREA #2.



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

SIGNED AND SEALED FOR REVISION #5
STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER — 3-6-08

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

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. 19949 EXPIRATION DATE: 11-1-08

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 61

SDP-02-75

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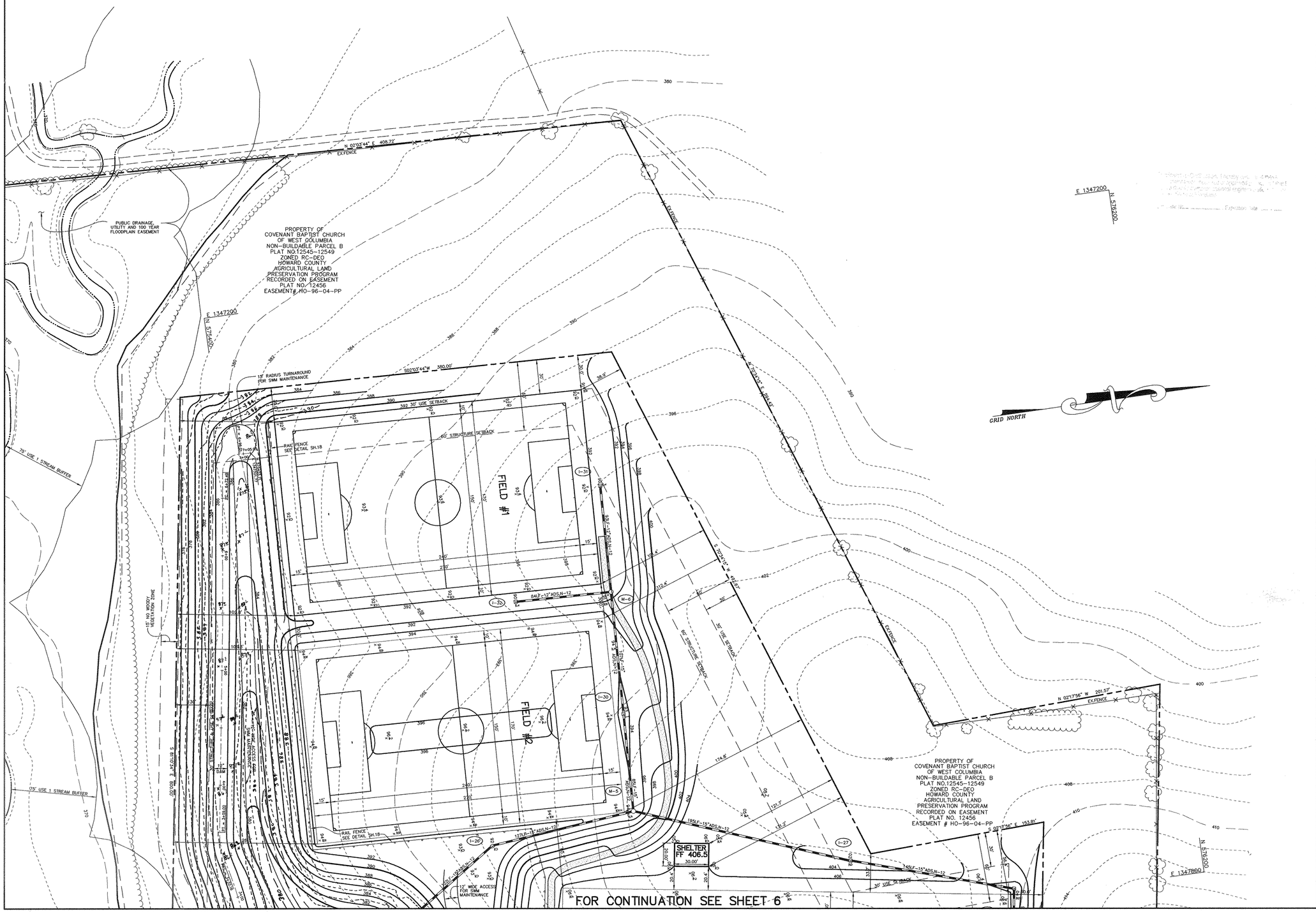
AS-BUILT CERTIFICATION

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

DOMENICK W. COLANGELO #27200 — DATE 8/6/07

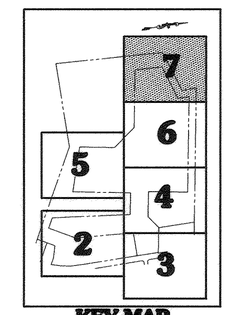


LEGEND

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 4/1/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION	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 RC-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 SDP7.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	7 OF 61

SDP-02-75

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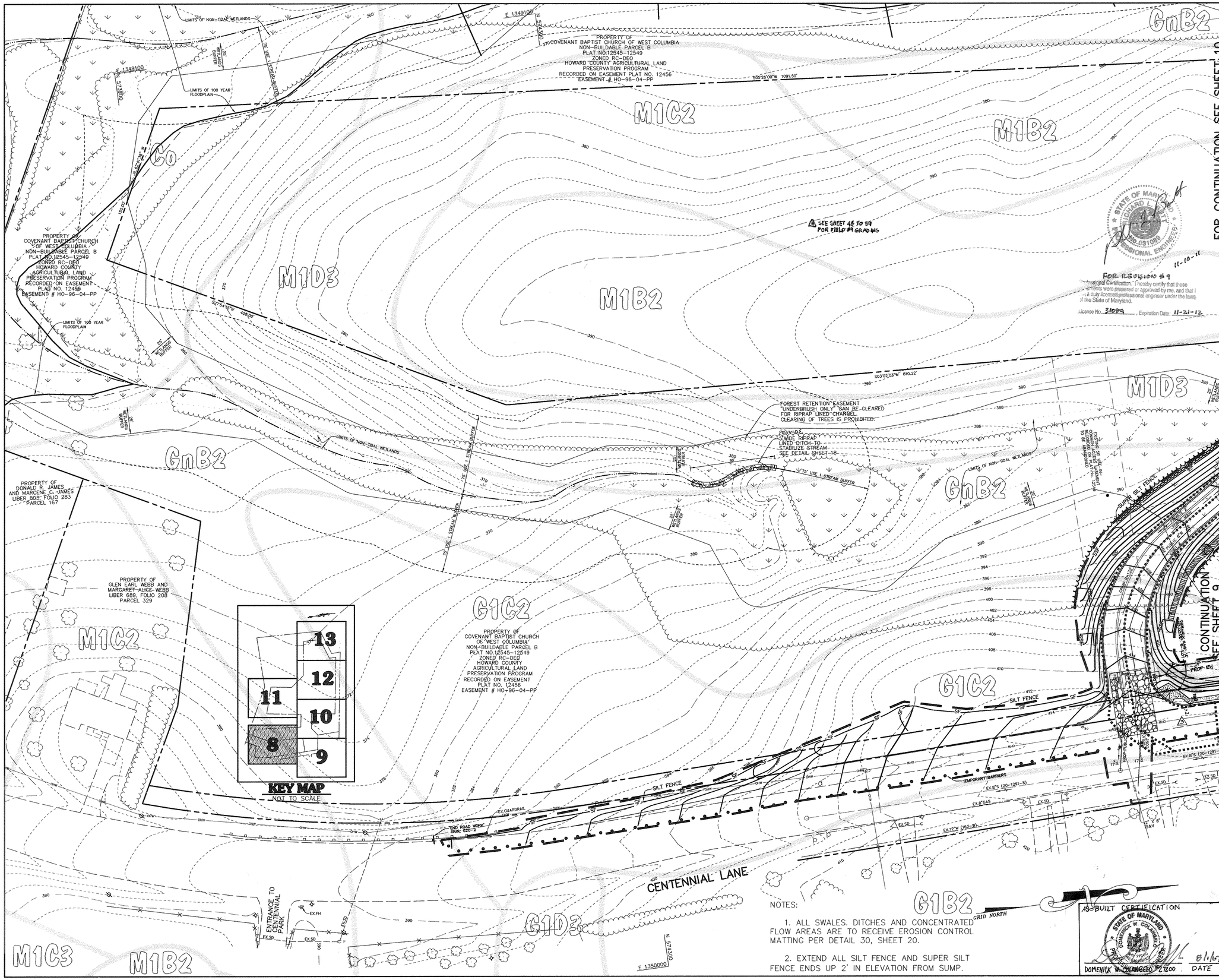


NOTES:

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.

AS-BUILT CERTIFICATION

STATE OF MARYLAND DOMENICK W. CHUNGEE No. 27200

DOMENICK W. CHUNGEE, P.E. 27200 — DATE 8/1/07

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 HB — DATE 4/5/03

DATE	NO.	REVISION
8/1/07	4	CONSTRUCTION OF FIELD #9
10-7-04	3	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 RC-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

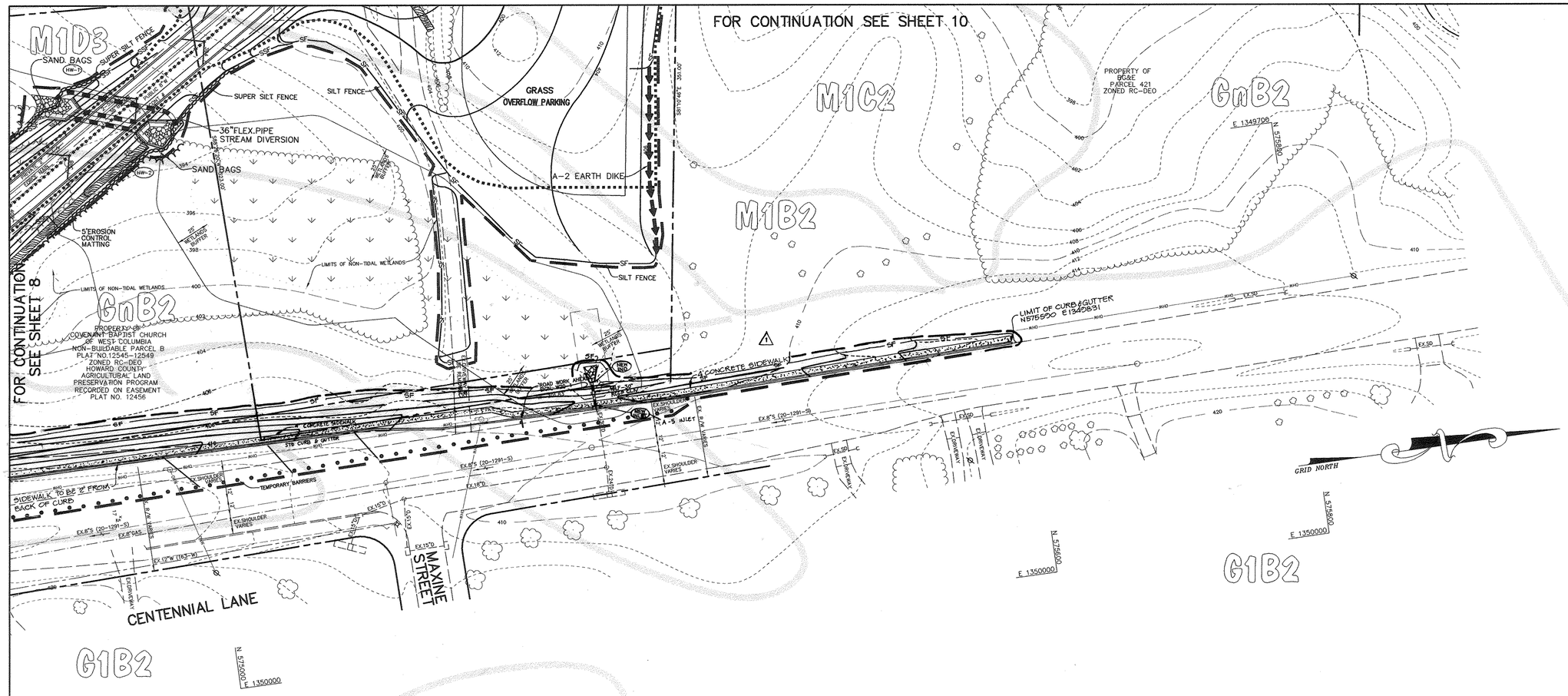
STATE OF MARYLAND CHRISTOPHER J. REID No. 19949 PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	.00287 SEDCONT1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	8 OF 61

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



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 4/14/03

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

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

AS-BUILT CERTIFICATION

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
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T 410.997.8900
F 410.997.9282

3.12.03
DATE

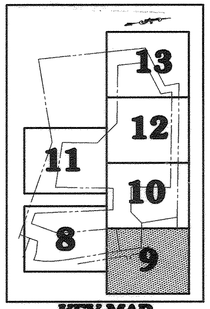
CHRISTOPHER J. REID #19949

DESIGNED BY :	C.J.R.
DRAWN BY:	DAM
PROJECT NO	00287 SEDCONT2.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	9 OF 61

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

SDP-02-75

P:\project\00287\1-0\Engr\Plans\SEDCONT2.dwg, Layout1, 03/07/2003 03:40:56 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

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

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 = 396.0
BOTTOM ELEV = 390.0
CLEANOUT ELEV. = 391.0
BOTTOM DIMENSIONS = 40'x80'
Q_1 EX = 0.18 CFS
Q_1 PROP = 0.18 CFS

KEY MAP
NOT TO SCALE

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
SUPER SILT FENCE
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 — DATE 4/1/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

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

DATE	NO.	REVISION
8/07/07	1	CONSTRUCTION OF FIELD #9

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

FOR REVISIONS #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

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

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 61

SDP-02-75

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NOTES:

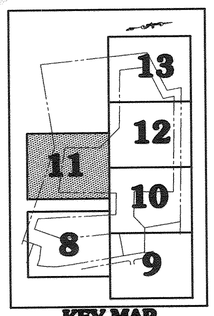
1. ALL SWALES, DITCHES AND CONCENTRATED FLOW AREAS ARE TO RECEIVE EROSION CONTROL MATTING PER DETAIL 30, SHEET 20.

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

GRID NORTH

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
STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — PROFESSIONAL ENGINEER
8/1/07
DOMENICK W. COLANGELO #27200 DATE

LEGEND

SILT FENCE
SUPER SILT FENCE
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 3/4/03

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 — DATE 4/6/03

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
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 SEDCONT4.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 11 OF 61

SDP-02-75

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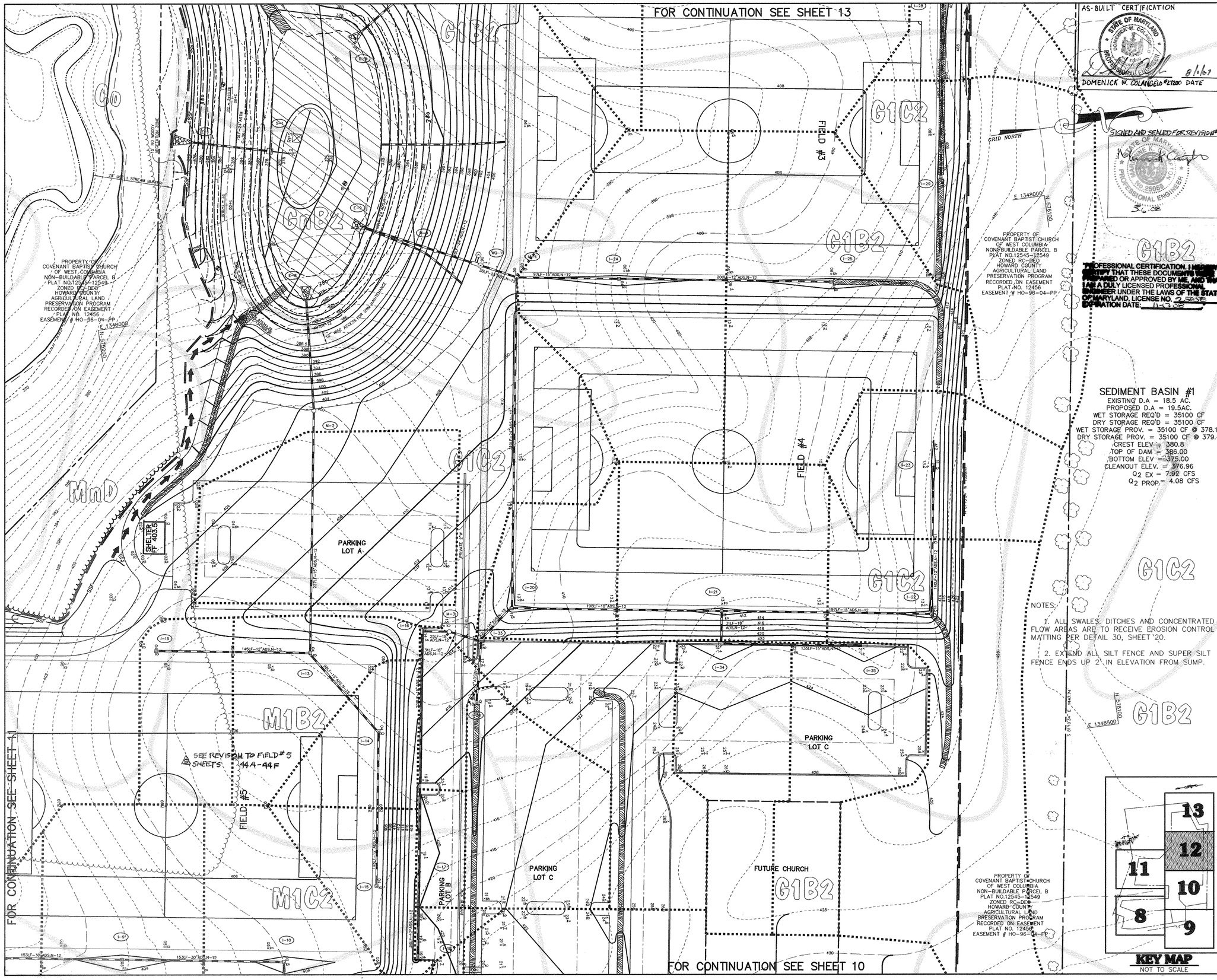

AS-BUILT CERTIFICATION

STATE OF MARYLAND DOMENICK W. COLANGELO PROFESSIONAL ENGINEER

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

SIGNED AND SEALED FOR REVISION #5

STATE OF MARYLAND NO. 25088 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. 25088. EXPIRATION DATE: 11-3-08

SEDIMENT BASIN #1

EXISTING D.A = 18.5 AC.
PROPOSED D.A = 19.5AC.
WET STORAGE REQ'D = 35100 CF
DRY STORAGE REQ'D = 35100 CF
WET STORAGE PROV. = 35100 CF @ 378.10
DRY STORAGE PROV. = 35100 CF @ 379.4
CREST ELEV. = 380.8
TOP OF DAM = 386.00
BOTTOM ELEV. = 375.00
CLEANOUT ELEV. = 376.96
Q_2 EX = 7.92 CFS
Q_2 PROP. = 4.08 CFS

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
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 — 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 — DATE 4/8/03

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

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
SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
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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 SEDCONT5.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	12 OF 61

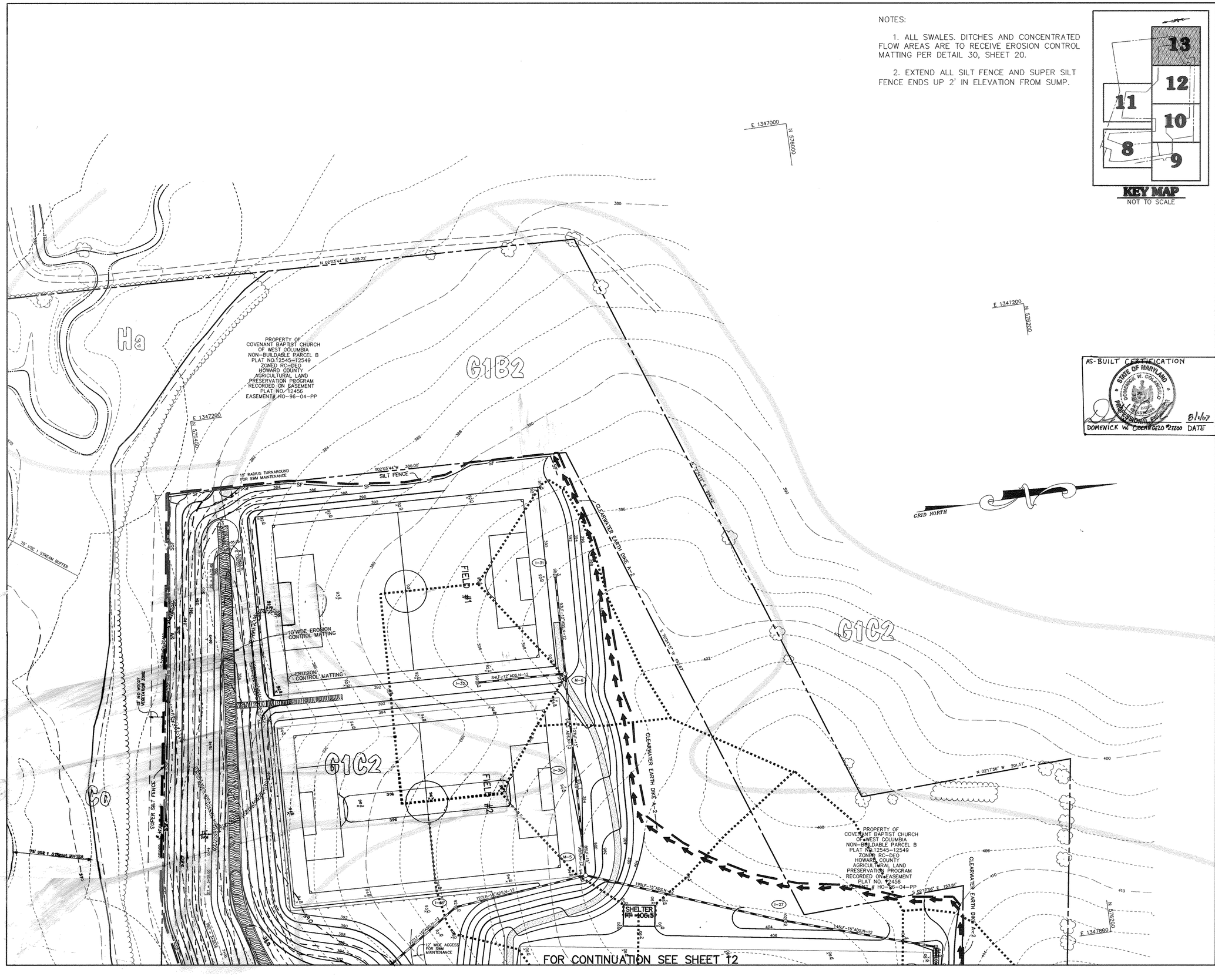
SDP-02-75

P:\project\002871-0\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.



FOR CONTINUATION SEE SHEET 12

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 :

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ENGINEER — DATE 3.12.03

AS-BUILT CERTIFICATION

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

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

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 KD — 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
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 SEDCONT6.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 13 OF 61

SDP-02-75

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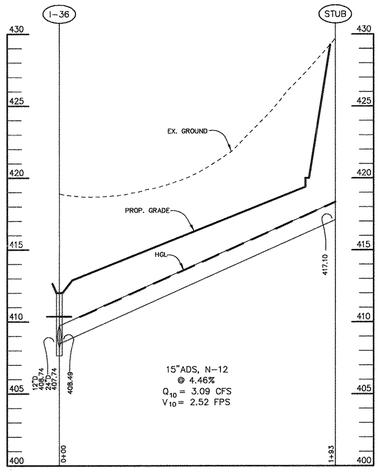

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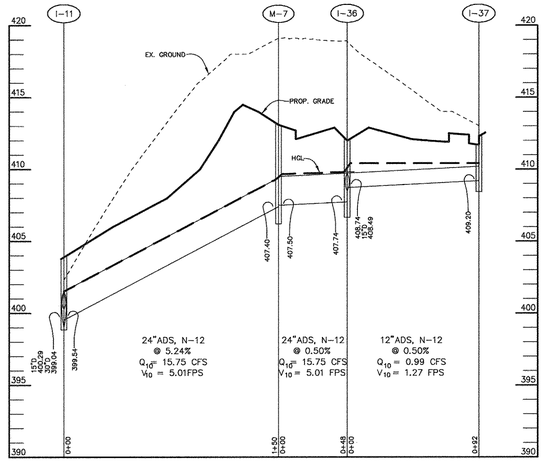

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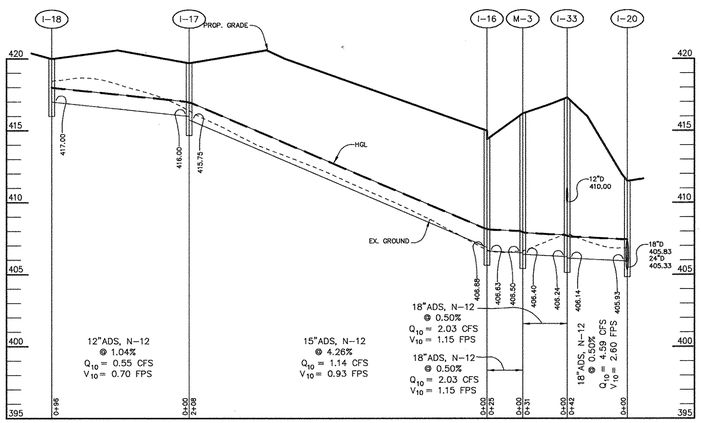

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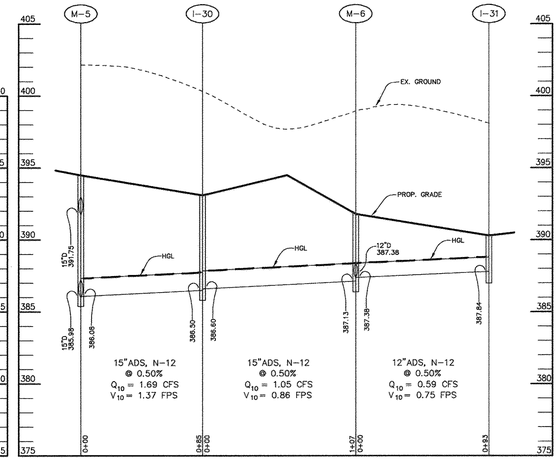

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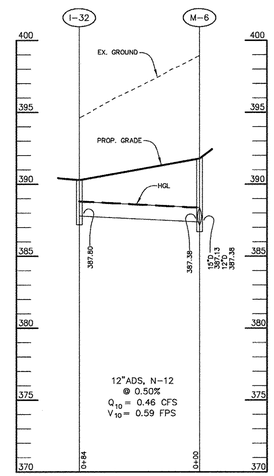

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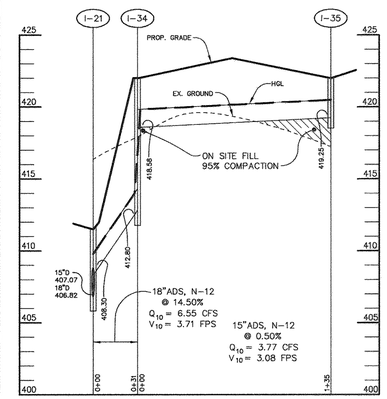

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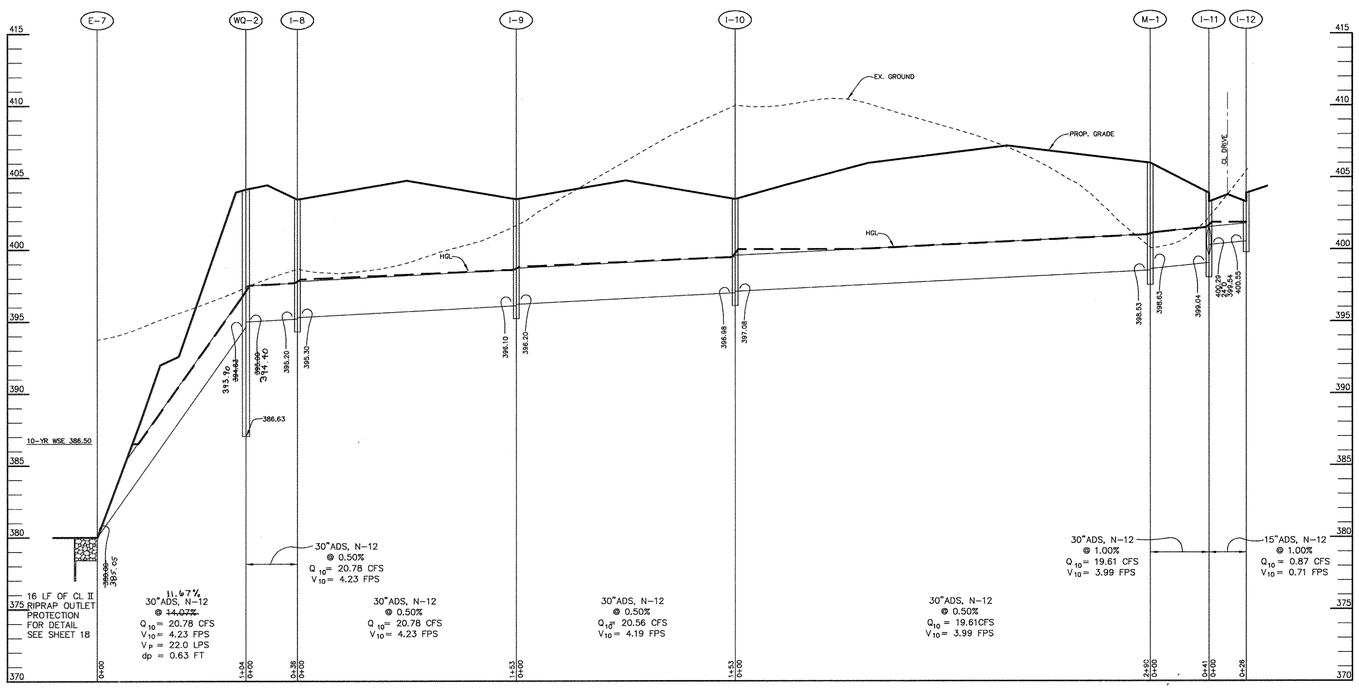

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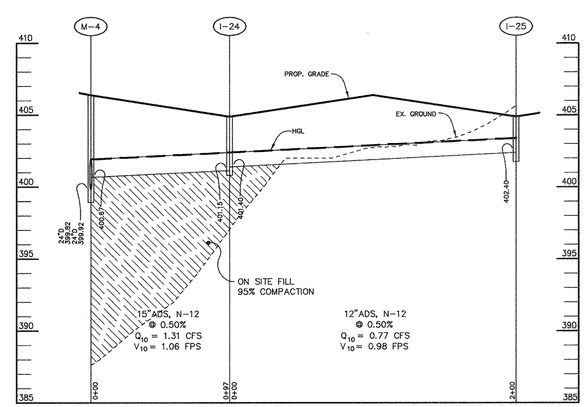

PROFILE
SCALE :
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AS-BUILT CERTIFICATION

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

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
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
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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

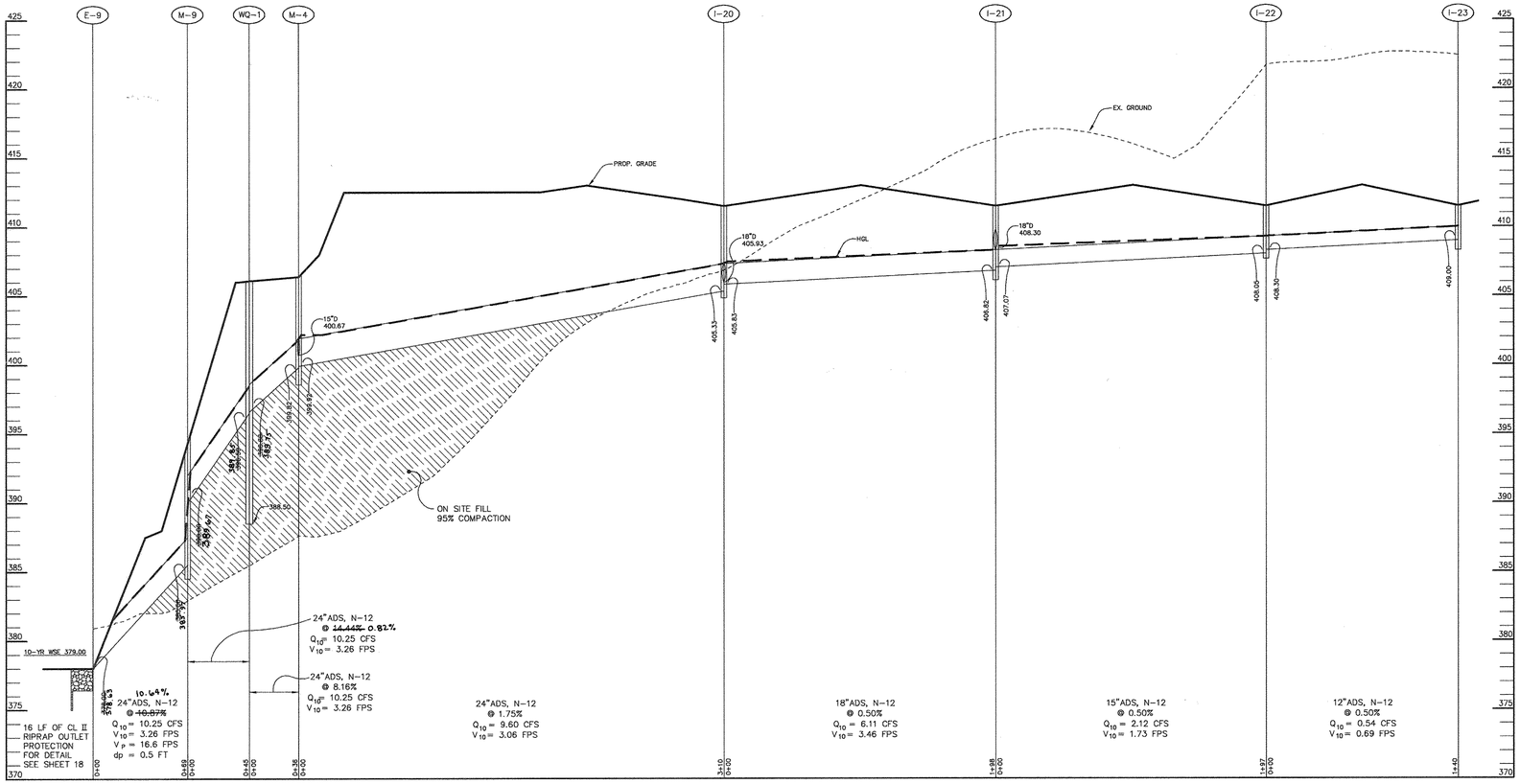
3-12-03
DATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — 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. 14 OF 61

SDP-02-75



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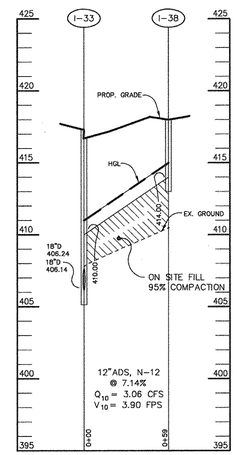

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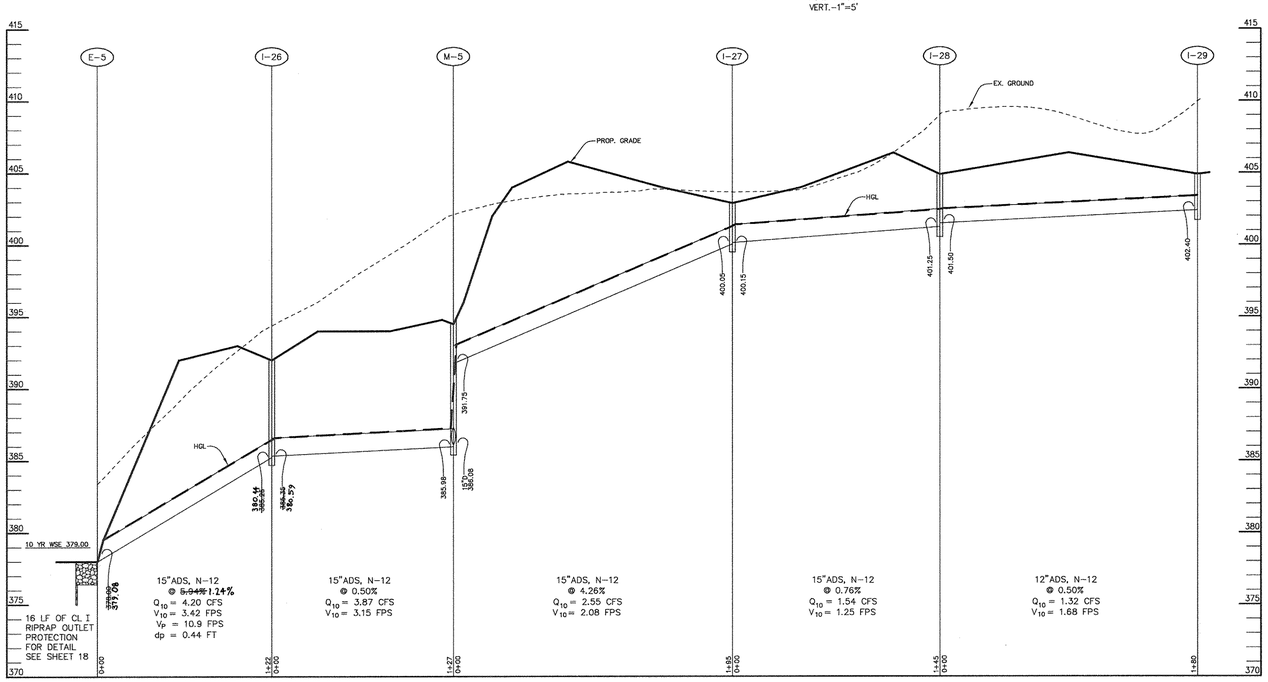

PROFILE

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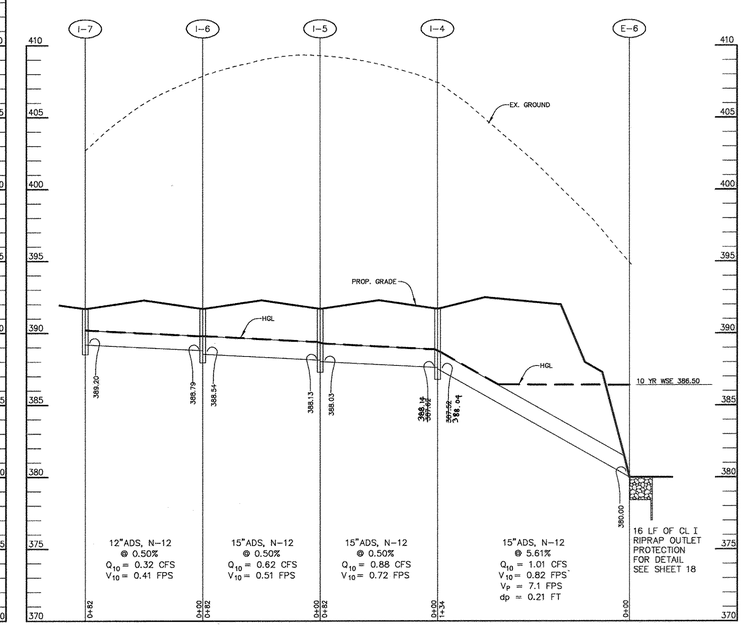

PROFILE

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

AS-BUILT CERTIFICATION

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

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 4/10/03
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
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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
STORM DRAIN PROFILES

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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 — 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.	15 OF 61

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	~~N574785~~ ~~N574784~~	~~E1348591~~ ~~E1348590~~	~~388.14~~ ~~387.62~~ (15")	~~388.04~~ ~~387.62~~ (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 (12")	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

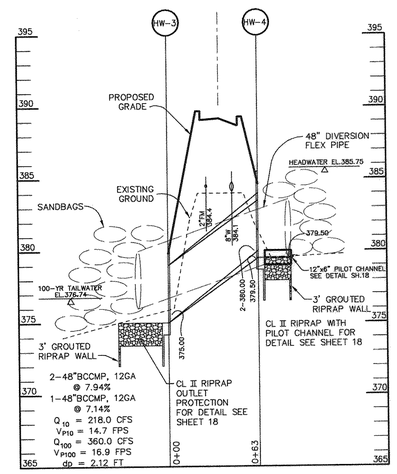
STRUCTURE SCHEDULE

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✓	~~392.28~~ ~~390.81~~ (15")	~~391.48~~ ~~391.84~~ (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. ✓	~~N575519~~ ~~N575525~~	~~E1347916~~ ~~E1347971~~	~~389.47~~ ~~390.00~~ (24")	~~385.97~~ ~~385.50~~ (24")	~~394.47~~ ~~394.5~~	HOCO STD. DETAIL G-5.11
E-1✓	24" ASTM END SECTION	~~N575509~~ ~~N575511~~	E1347838 ✓	~~374.43~~ ~~374.00~~ (24")	–	–	HOCO STD. DETAIL SD-5.51
E-2✓	30" ASTM END SECTION	~~N574899~~ ~~N574800~~	~~E1348291~~ ~~E1348290~~	~~378.69~~ ~~378.20~~ (30")	–	–	HOCO STD. DETAIL SD-5.51
E-3✓	36"ASTM END SECTION	~~N574641~~ ~~N575043~~	~~E1349214~~ ~~E1349220~~	~~380.66~~ ~~380.06~~ (36")	–	–	HOCO STD. DETAIL SD-5.51
E-4✓	24" ADS END SECTION	~~N575131~~ ~~N575130~~	~~E1349314~~ ~~E1349316~~	~~381.27~~ ~~380.59~~ (24")	–	–	ADS, N-12
E-5	15" ADS END SECTION	N575484	E1347758	~~379.09~~ ~~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	~~N574881~~ ~~N574886~~	~~E1348491~~ ~~E1348487~~	–	~~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	~~N575496~~ ~~N575492~~	~~E1347939~~ ~~E1347940~~	~~378.53~~ ~~378.00~~ (24")	–	–	ADS, N-12
NEW END-1	30" RCCP END SECTION	N575284	E1348816	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	~~N574899~~ ~~N574889~~	~~E1348378~~ ~~E1348382~~	–	~~380.41~~ ~~380.00~~ (30")	~~392.11~~ ~~390.67~~	SEE SHEET 23
S-3	MODIFIED STRUCTURE	N575042 ✓	E1349286	–	~~381.12~~ ~~380.66~~ (36")	~~387.42~~ ~~386.07~~	SEE SHEET 23
NEW INLET-1	A-5 2.5'WIDE	N575284	E1348836	403.70 (30")	403.60 (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~~ ~~396.00~~ (24")	~~398.95~~ ~~398.50~~ (24")	~~395.95~~ ~~400.1~~	BAYSAVER 3K
WQ-2✓	3K ✓	~~N574961~~ ~~N574963~~	~~E1348239~~ ~~E1348239~~	~~394.40~~ ~~393.00~~ (30")	~~393.70~~ ~~393.63~~ (30")	~~403.70~~ ~~404.2~~	BAYSAVER 3K
WQ-3✓	3K ✓	N575169✓	E1349286✓	~~381.79~~ ~~381.84~~ (24")	~~381.99~~ ~~381.46~~ (24")	~~386.79~~ ~~386.5~~	BAYSAVER 3K

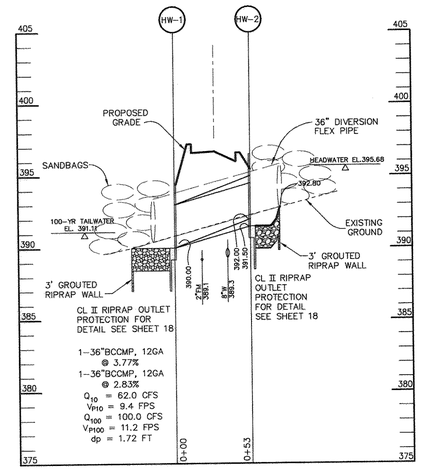
NOTES:
FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE.
LOCATION OF INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB;

PIPE SCHEDULE

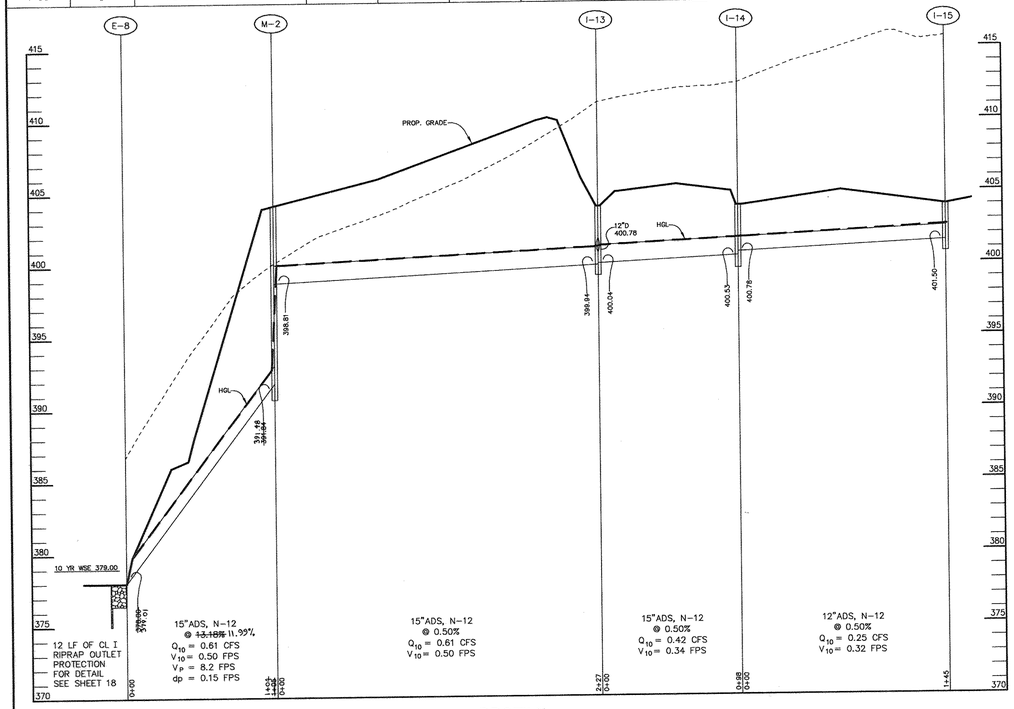
PIPE LENGTH	SIZE	TYPE
1316	12"	ADS, N-12
2365	15"	ADS, N-12
353	18"	ADS, N-12
714	24"	ADS, N-12
777	30"	ADS, N-12
75	24"	ASTM
84	30"	ASTM
57	36"	ASTM
106	36"	BCCMP
189	48"	BCCMP



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



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



PROFILE
SCALE :
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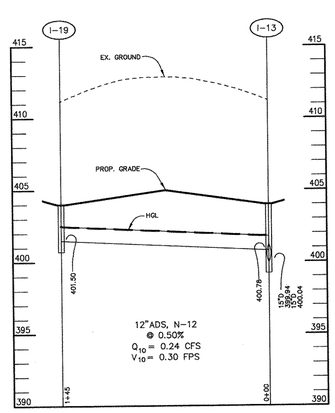
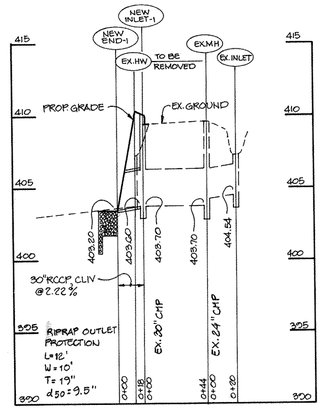
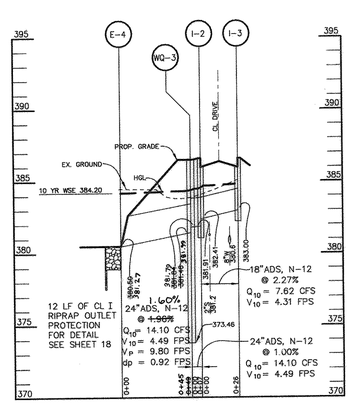
VERT.-1"=5'



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 — PROFESSIONAL ENGINEER

8/1/07
DOMENICK W. COLANGELO #27200 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 4/8/03

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

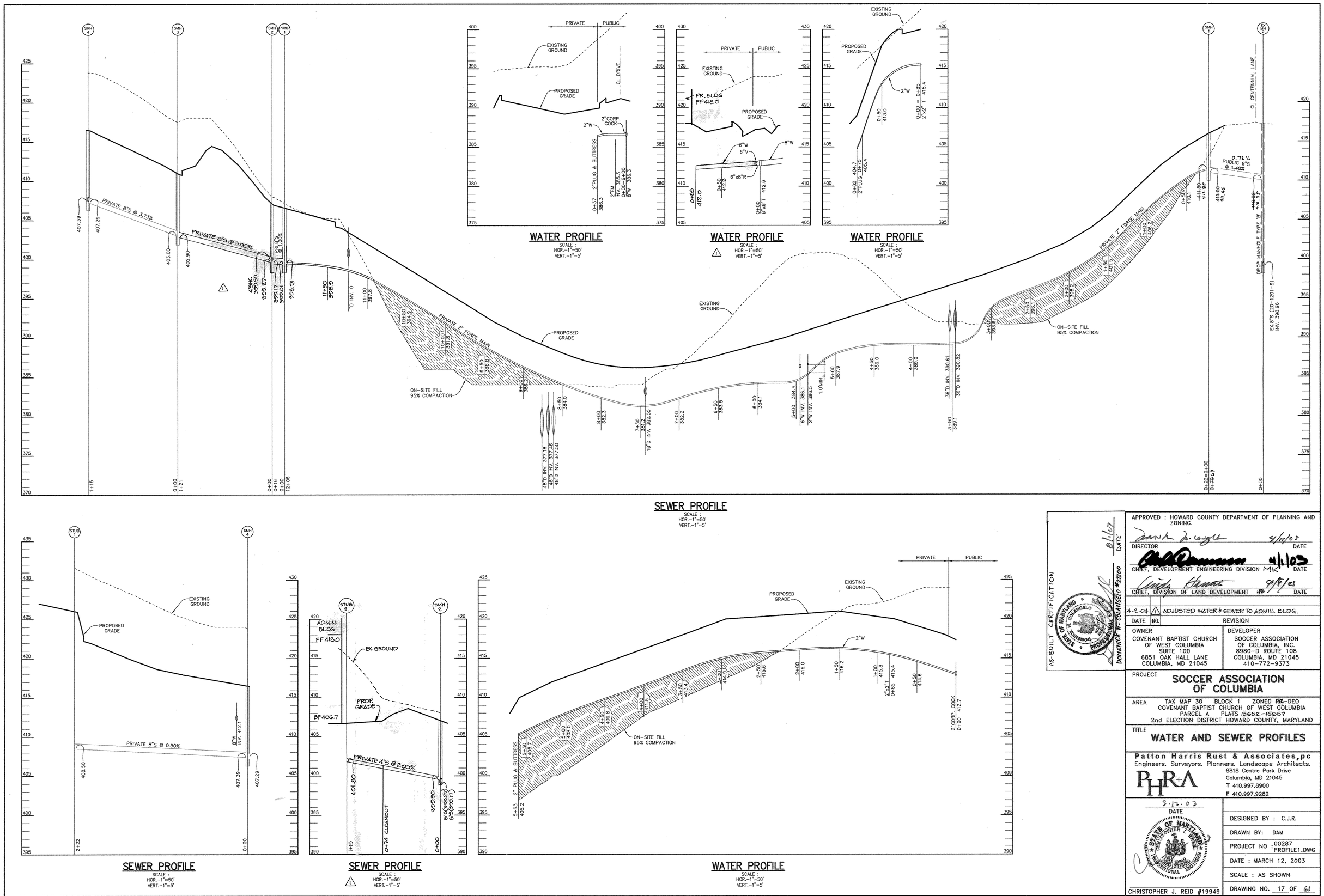
3.12.03
DATE

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 61

SDP-02-75



AS-BUILT CERTIFICATION

DOMENICK W. COLANGELO #27200 — STATE OF MARYLAND — PROFESSIONAL ENGINEER — 8/1/07 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/11/03

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 RR-DEO
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
PARCEL A PLATS 15652-15657
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

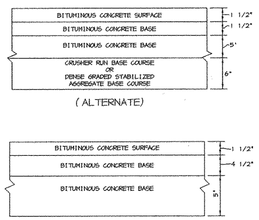
STATE OF MARYLAND — CHRISTOPHER J. REID — REGISTERED PROFESSIONAL ENGINEER — 19949

CHRISTOPHER J. REID #19949

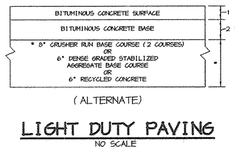
DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 PROFILE1.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 17 OF 61

SDP-02-75

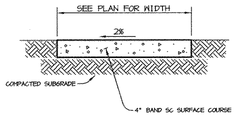
P:\project\00287\1-0\Engr\Plans\PROFILE1.dwg, Model, 03/07/2003 12:41:24 PM, HP750C(36).pc3, User1308, 1:50



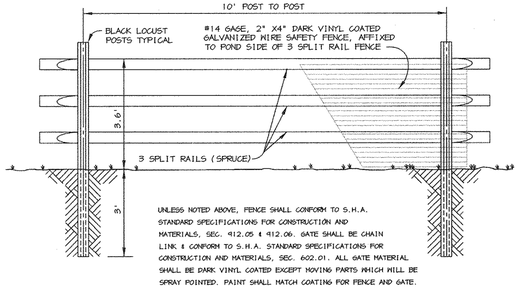
P-5 PAVING
NO SCALE



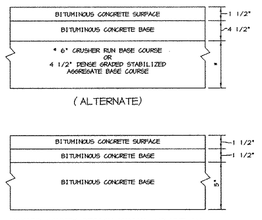
LIGHT DUTY PAVING
NO SCALE



ASPHALT WALK DETAIL
NO SCALE



3 SPLIT RAIL (WOOD) FENCE WITH SAFETY WIRE
NO SCALE



P-3 PAVING
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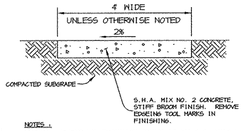
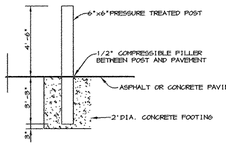
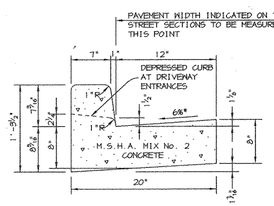


NOTES:
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.)
PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCORED IN 5' MAX. SQUARES.

SIDEWALK DETAIL
NO SCALE



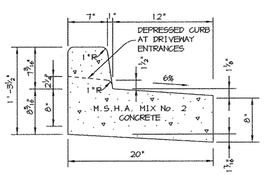
BOLLARD DETAIL
NO SCALE



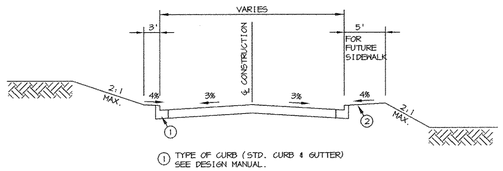
HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* 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

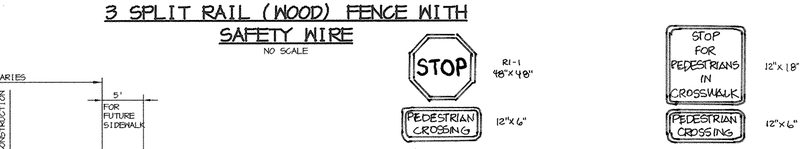


REVERSE 7" COMBINATION CURB AND GUTTER
NO SCALE



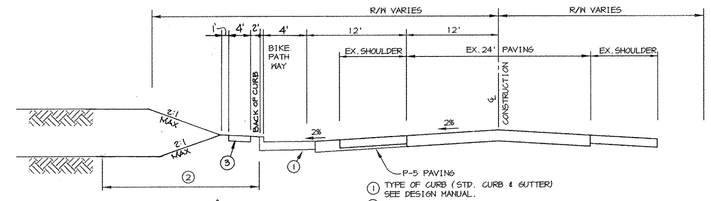
① TYPE OF CURB (STD. CURB & GUTTER) SEE DESIGN MANUAL.
② INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION - DRIVE LANE
NO SCALE



STOP SIGN/ PEDESTRIAN SIGN DETAIL
NOT TO SCALE

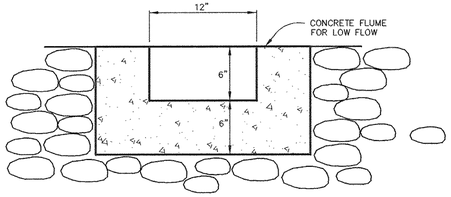
PEDESTRIAN CROSSING SIGN DETAIL
NOT TO SCALE



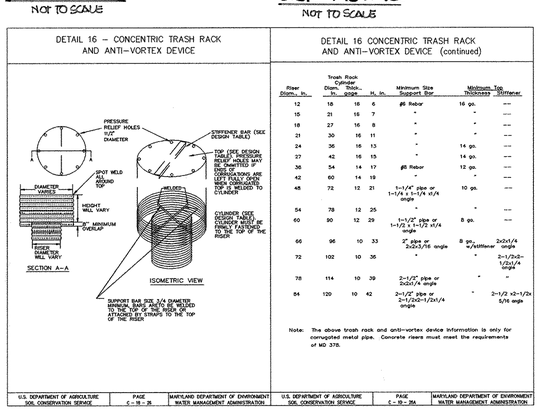
① TYPE OF CURB (STD. CURB & GUTTER) SEE DESIGN MANUAL.
② INDICATES 2" TOPSOIL, SEED AND MULCH.
③ 4" CONCRETE SIDEWALK

TYPICAL SECTION CENTENNIAL LANE
NO SCALE

NOTE: PILOT CHANNEL TO BE CONNECTED WITH STREAM INVERT



PILOT CHANNEL DETAIL @ HW-4
NO SCALE



"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;

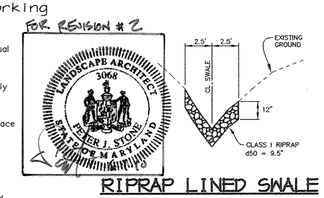
d) Maintain the hydrologic regime of nontidal wetlands outside the limits of disturbance.

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;

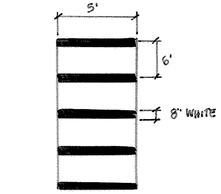
f) To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:

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

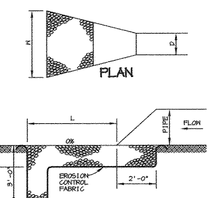
g) No removal of vegetation, grading, filling, draining or other alteration of the nontidal wetlands or buffer outside the limits of disturbance shall occur without written authorization from the Water Management Administration.

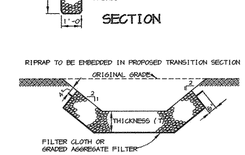


RIPRAP LINED SWALE
NO SCALE

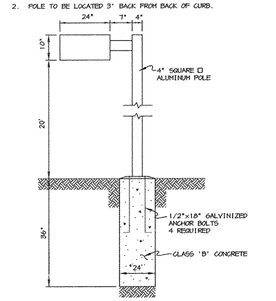


CROSSWALK DETAIL
NOT TO SCALE

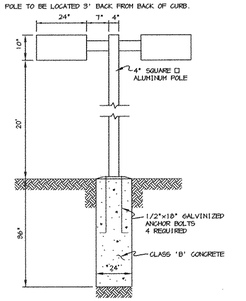




SECTION A-A



LIGHT POLE DETAIL
NO SCALE

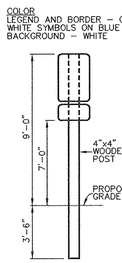


DUAL LIGHT POLE DETAIL
NO SCALE

* FOR VAN ACCESSIBLE SPACES ONLY. SEE PLAN FOR LOCATION.

NOTE
DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7'.

COLOR
LEGEND AND BORDER – GREEN
WHITE SYMBOLS ON BLUE BACKGROUND
BACKGROUND – WHITE



HANDICAP SIGN DETAIL
NO SCALE

* FOR VAN ACCESSIBLE SPACES ONLY. SEE PLAN FOR LOCATION.

NOTE
DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7'.

ACCESS AISLE SIGN
NO SCALE

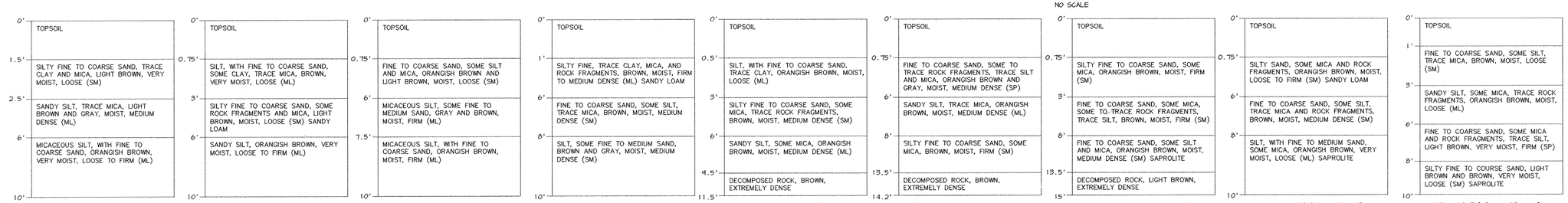
NOTE: d_{50}, V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	d_{50} (FPS)	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
					d_{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 WHETHER 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 WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS 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.



BORING B-1 NO SCALE · BORING B-2 NO SCALE · BORING B-3 NO SCALE · BORING B-4 NO SCALE · BORING B-5 NO SCALE · BORING B-6 NO SCALE · BORING B-7 NO SCALE · BORING B-8 NO SCALE · BORING B-9 NO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND DOMINICK W. COLARUSSO #27200 PROFESSIONAL ENGINEER

DOMENICK W. COLARUSSO #27200 — 6/1/07 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/[illegible]/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 4/11/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 4/1/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/8/03

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

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
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 DETAILS5.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 18 OF 61

SDP-02-75

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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 mimimum 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 betwnen 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 6/1/07

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

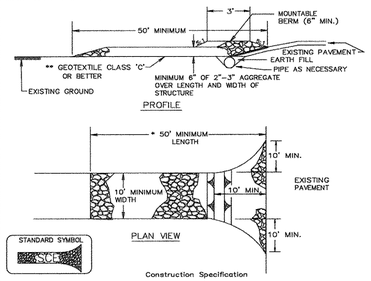
CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 DETAILS3.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 19 OF 61

SDP-02-75

P:\project\00287\1-0\Engr\Plans\DETAILS3.dwg, Model, 03/07/2003 12:49:42 PM, HP750C(36).pc3, User1308, 1:40

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.

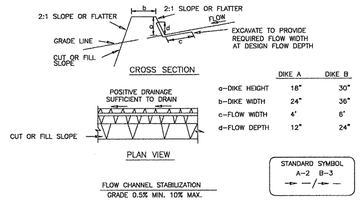
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

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 - 37 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	8'
d-FLOW DEPTH	12"	24"

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.

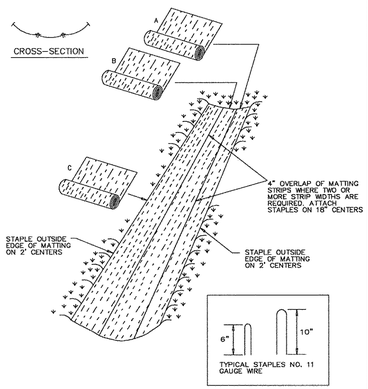
6. Fill shall be compacted by earth moving equipment.

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.

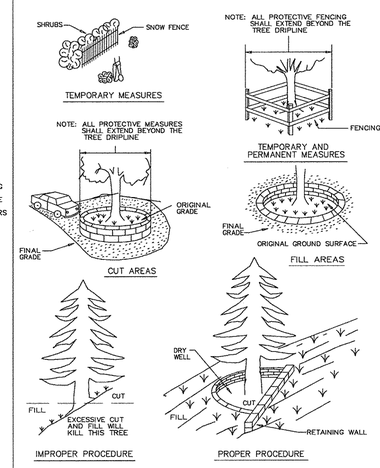
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



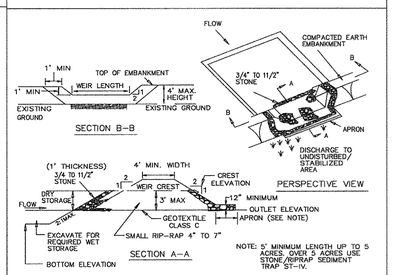
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 28 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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



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.

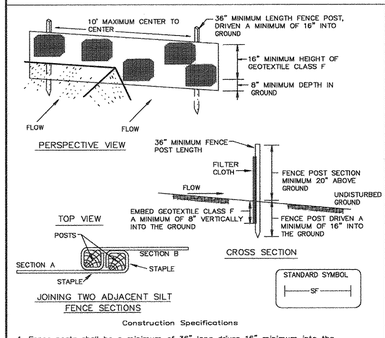
3. All cut and fill slopes shall be 2:1 or flatter.

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 should 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 - 9 - 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:

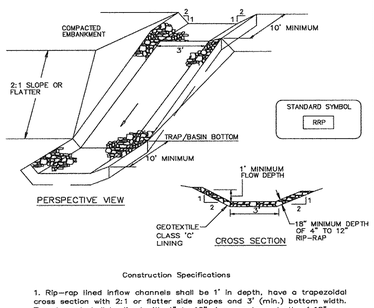
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ² / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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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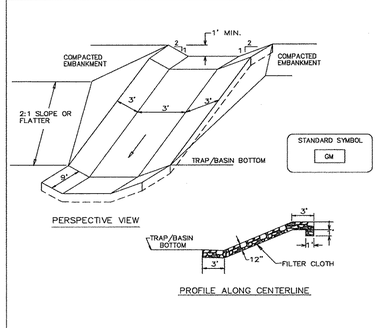
DETAIL 6 - GABION INFLOW PROTECTION



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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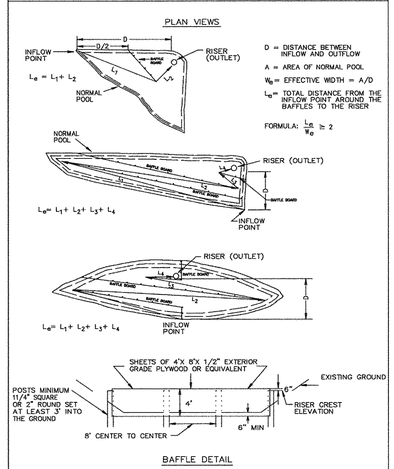
DETAIL 18 - SEDIMENT BASIN BAFFLES



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 19 - 28	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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. VEGATATIVE 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.

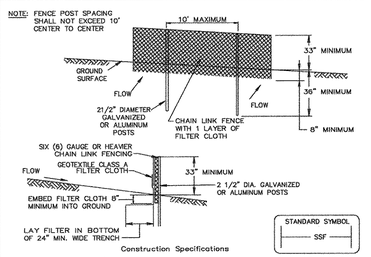
REFERENCES

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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 30 - 1	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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 buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

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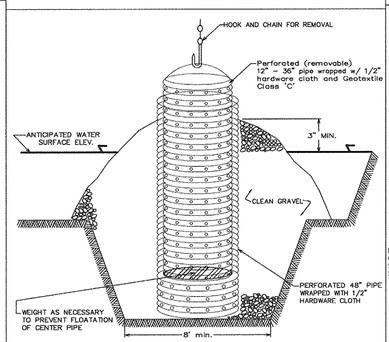
DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

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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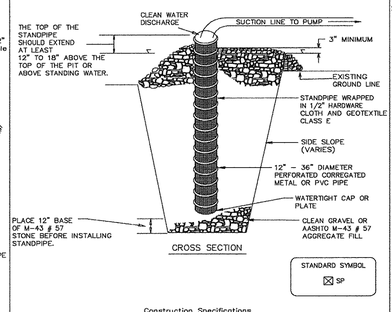
DETAIL 20B - SUMP PIT



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 same 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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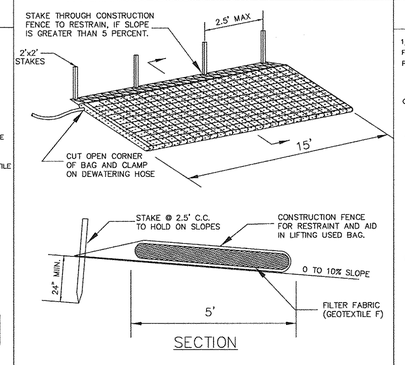
FILTER BAG

TEMPORARY EROSION CONTROL MEASURE (FB)

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

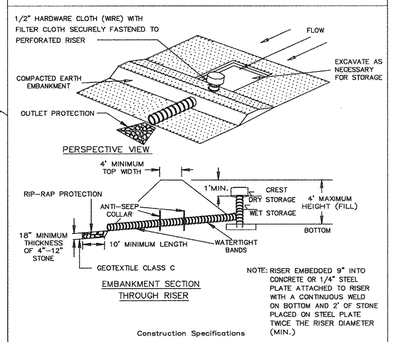


NOTES:

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

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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 7	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

AS-BUILT CERTIFICATION

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

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

SDP-02-75

P:\project\00287\1-0\Engr\Plans\DETAILS1.dwg, Model, 03/07/2003 02:38:15 PM, HP750C(36).pc3, User1308, 1:40

DETAIL 4 - PIPE SLOPE DRAIN

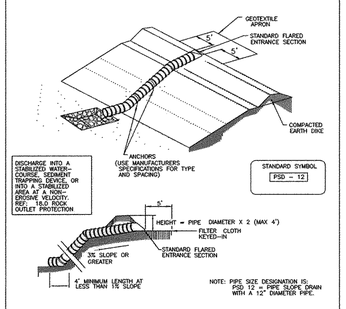


Table 6 Design Criteria for Pipe Slope Drain

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

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

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.

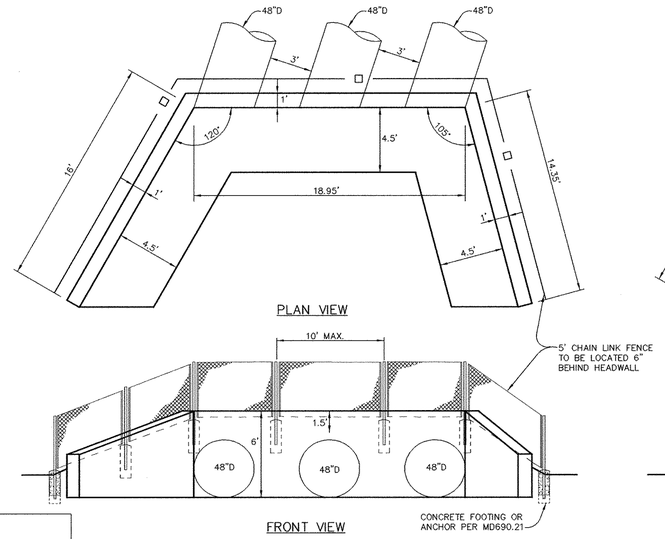
8. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible then the slope drain will discharge into a stable conveyance that leads to a sediment trap or basin. When discharging into a trap or basin the PSD shall discharge at the 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.

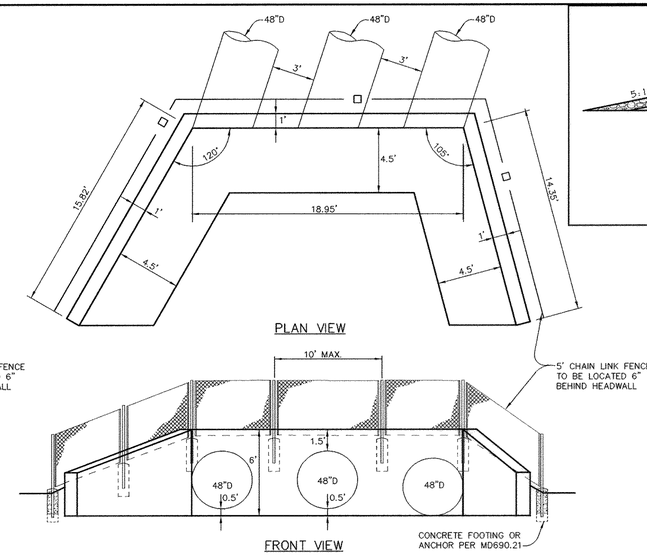
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 5 - 4A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



HEADWALL 3

SCALE: 1" = 5'

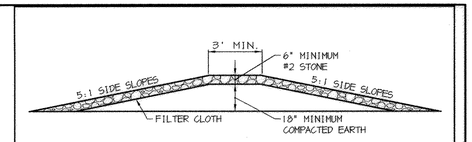
SEE HO.CO. STANDARD DETAIL SD-5.11 TYPE 'A' HEADWALL (48"D) FOR DIMENSIONS AND REBAR LAYOUT UNLESS OTHERWISE NOTED.



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.

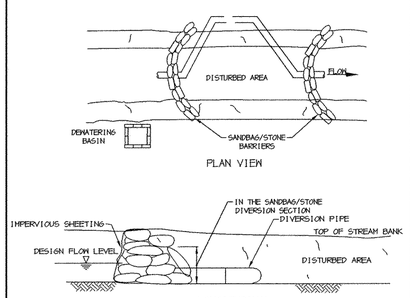


IF MOUNTABLE BERM IS PART OF A "B" CLASS DIKE, COMPACTED EARTH MUST BE 36" MINIMUM.

MOUNTABLE BERM

SCALE: NO SCALE

MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 1.4 : DIVERSION PIPE



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 insufficient 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

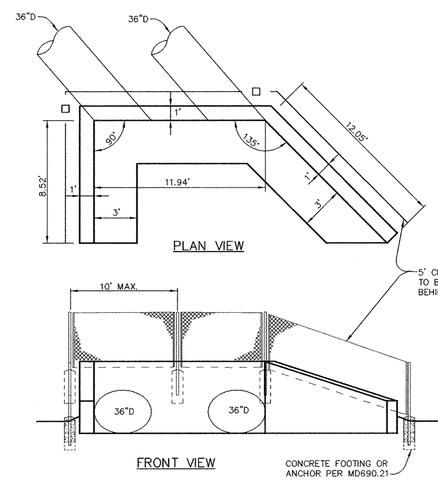
All erosion and sediment control devices including mandatory dewatering basins should be installed as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during low flow conditions. If necessary, silt fence or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

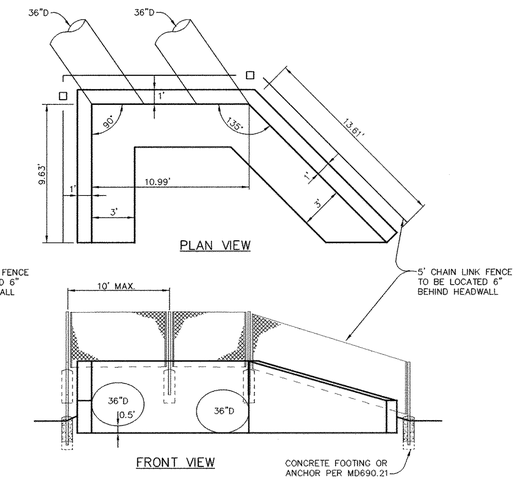
PAGE 1.4 - 1



HEADWALL 1

SCALE: 1" = 5'

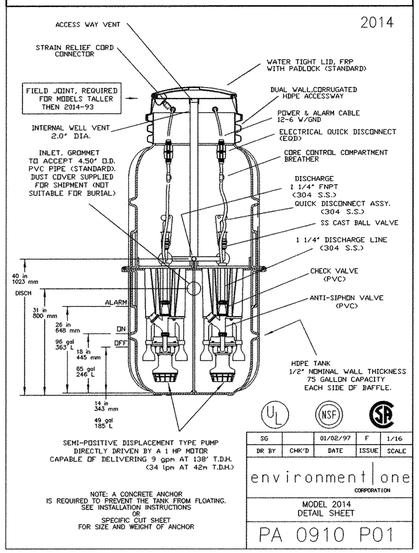
SEE HO.CO. STANDARD DETAIL SD-5.11 TYPE 'A' HEADWALL (36"D) FOR DIMENSIONS AND REBAR LAYOUT UNLESS OTHERWISE NOTED.



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.

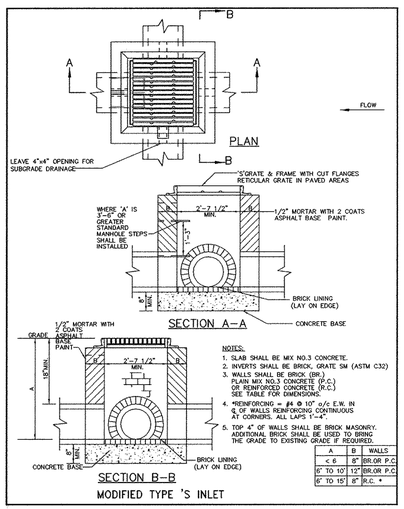


SG		01/02/97	F	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

environment one CORPORATION

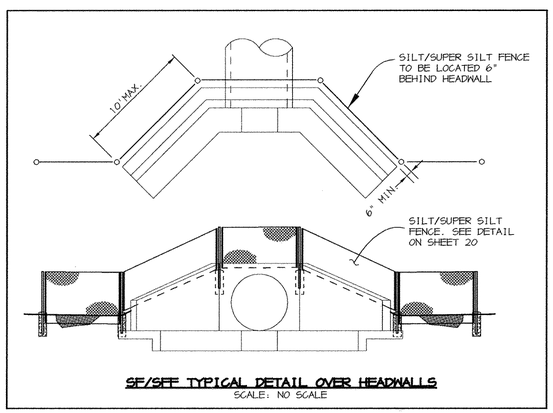
MODEL 2014 DETAIL SHEET

PA 0910 P01



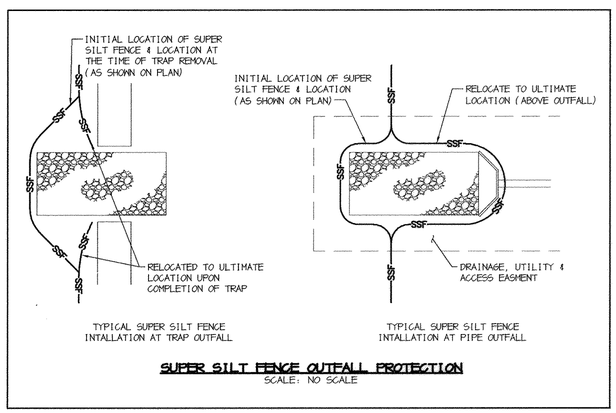
NOTES:
1. SLAB SHALL BE MIX NO.3 CONCRETE.
2. INVERTS SHALL BE BRICK. GRATE SM (ASTM C32)
3. WALLS SHALL BE BRICK (BR.) PLAIN MIX NO.3 CONCRETE (P.C.) OR REINFORCED CONCRETE (R.C.) SEE TABLE FOR DIMENSIONS.
4. *REINFORCING = #4 @ 10" o/c E.W. IN 6" OF WALLS REINFORCING CONTINUOUS AT CORNERS. ALL LAPS 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. *



SF/SFF TYPICAL DETAIL OVER HEADWALLS

SCALE: NO SCALE



SUPER SILT FENCE OUTFALL PROTECTION

SCALE: NO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27200 — 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 — 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 MK — 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
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

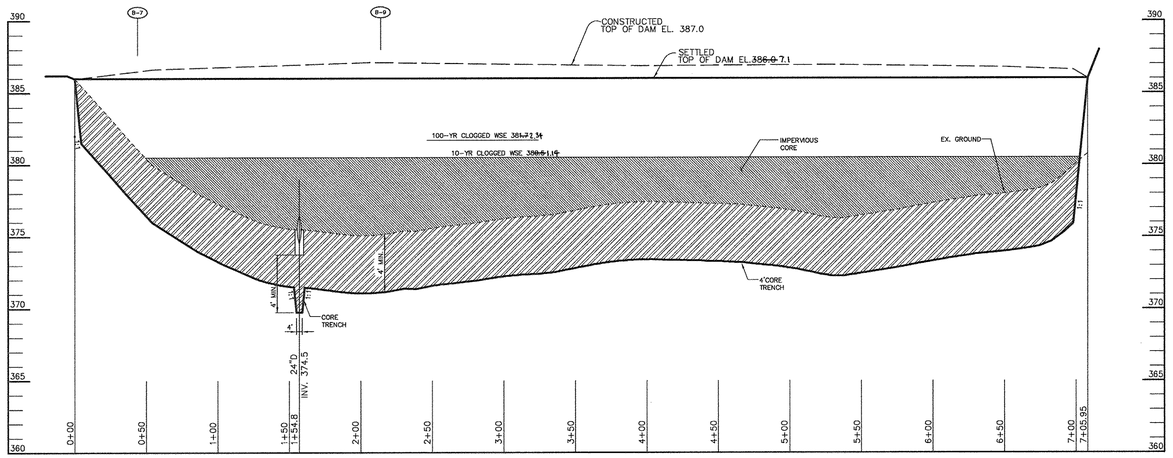
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 DETAILS2.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 21 OF 61

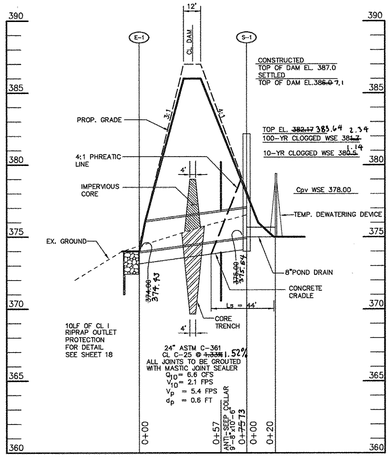
SDP-02-75

P:\project\00287\1-D\Engr\Plans\DETAILS2.dwg, Model, 03/07/2003 02:38:52 PM, HP750C(96).pc3, User1308, 1:40



PROFILE OF CL EMBANKMENT – SWMF #1

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



PRINCIPAL SPILLWAY – SWMF #1

SCALE :
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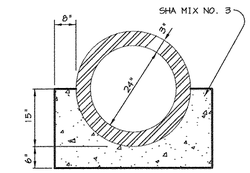
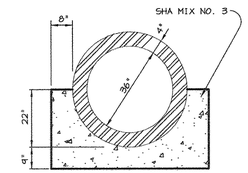
VERT.-1"=5'



CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE FOR POND #1

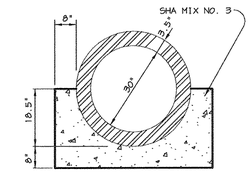
NO SCALE



CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE FOR POND #3

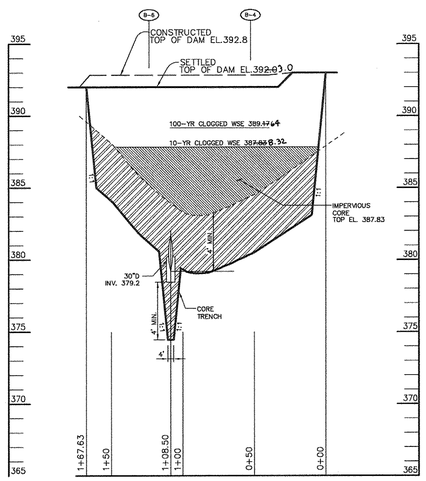
NO SCALE



CLASS 'A' DAMS LESS THAN 50' HIGH

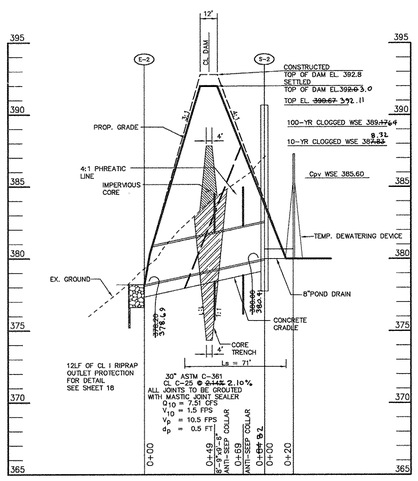
A-2 CONCRETE CRADLE FOR POND #2

NO SCALE



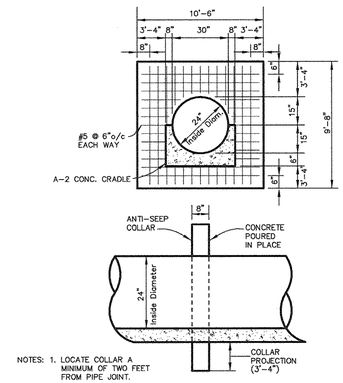
PROFILE OF CL EMBANKMENT – SWMF #2

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



PRINCIPAL SPILLWAY – SWMF #2

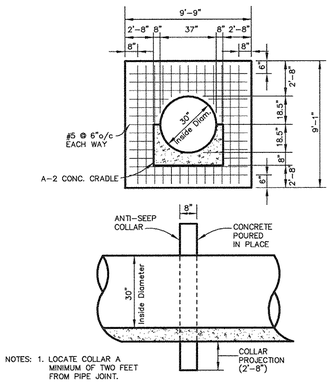
SCALE :
HOR.-1"=50'
VERT.-1"=5'



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

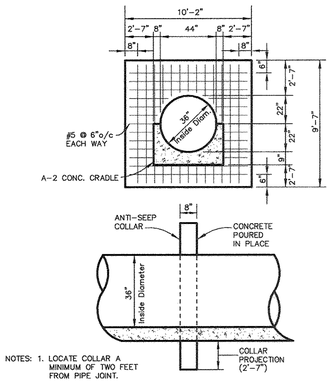
NO SCALE



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

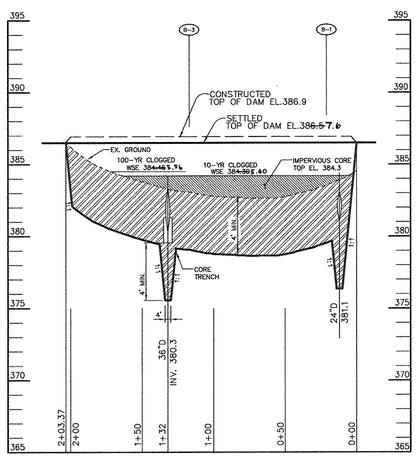
NO SCALE



NOTES: 1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.
NOTES: 2. COLLAR/PIPE CONNECTION SHALL BE WATERTIGHT.

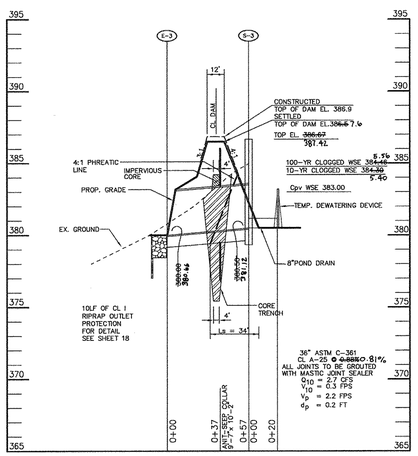
CONCRETE ANTI-SEEP COLLAR SWMF #3

NO SCALE



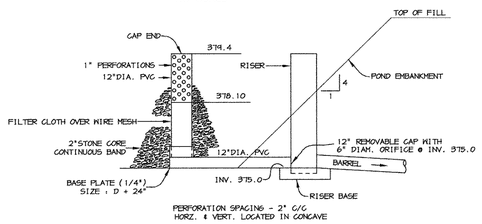
PROFILE OF CL EMBANKMENT – SWMF #3

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



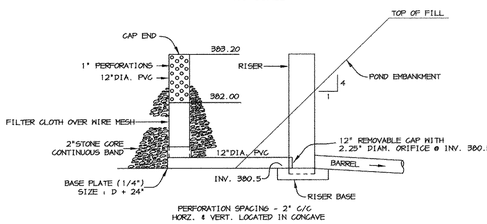
PRINCIPAL SPILLWAY – SWMF #3

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



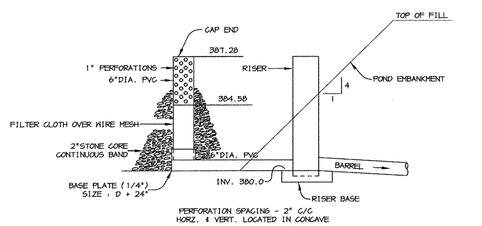
TEMP.SEDIMENT BASIN #1 DEWATERING DEVICE WITH 12" PERFORATED RISER

NO SCALE



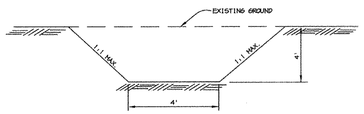
TEMP.SEDIMENT BASIN #3 DEWATERING DEVICE WITH 12" PERFORATED RISER

NO SCALE



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. 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 3/20/03

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 3/1/03

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

3.12.03
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 DETAILS7.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 22 OF 61

SDP-02-75

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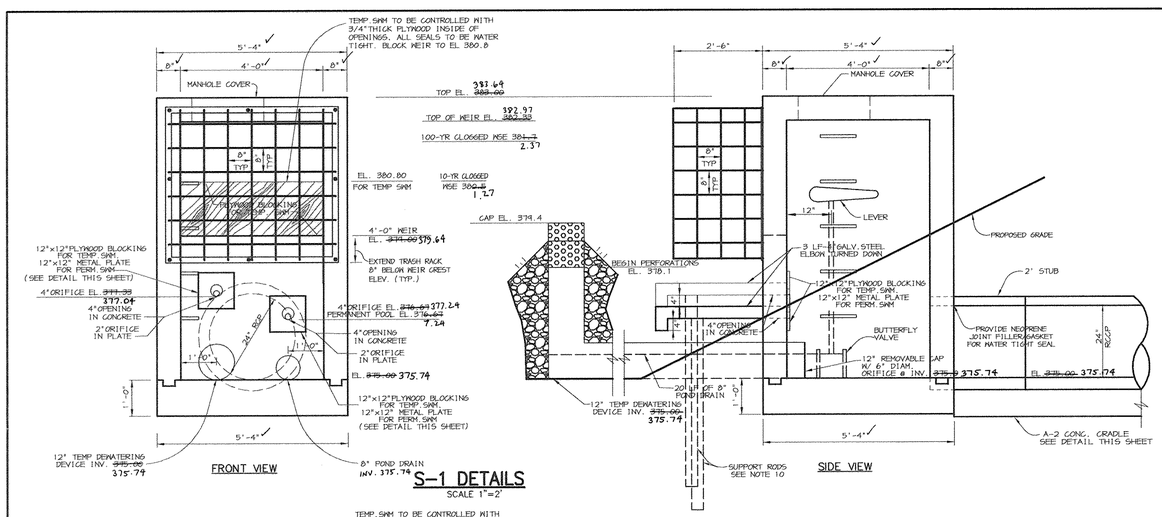
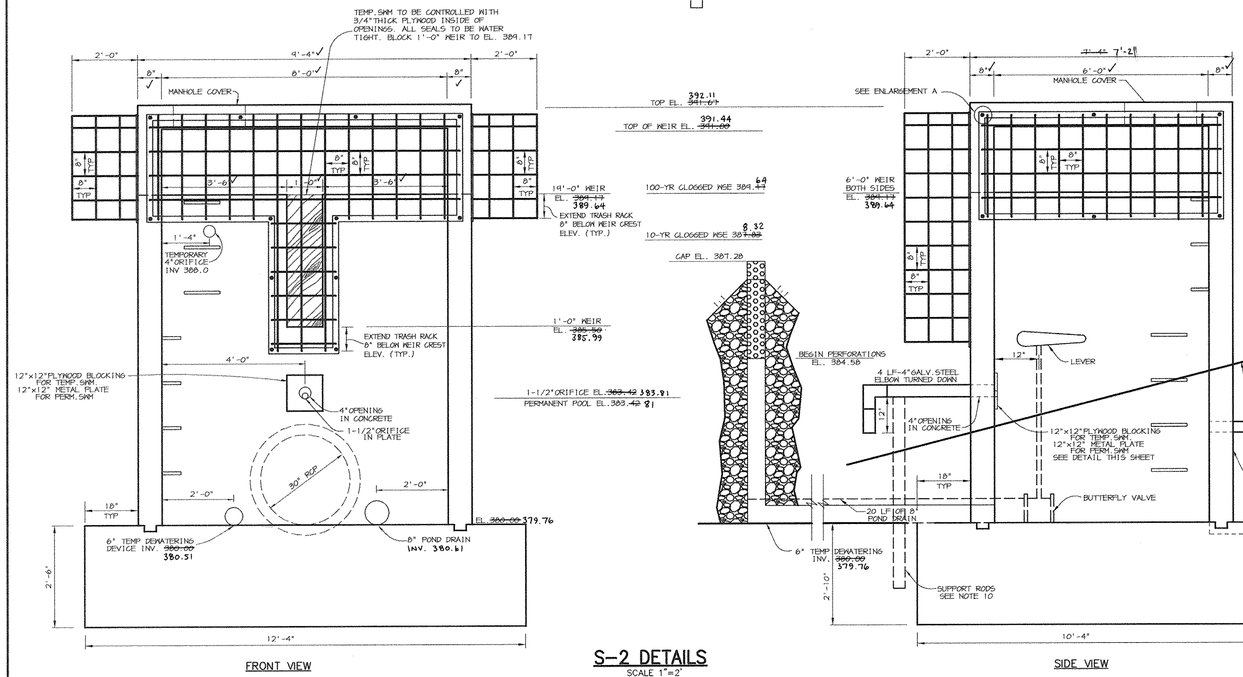


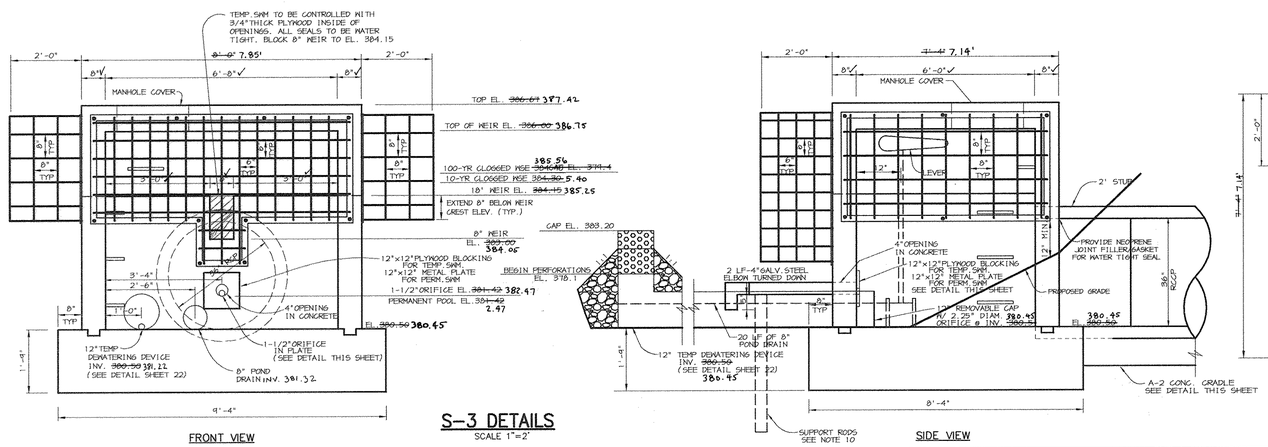
S-1 DETAILS

SCALE 1"=2'



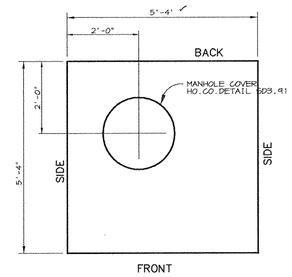
S-2 DETAILS

SCALE 1"=2'

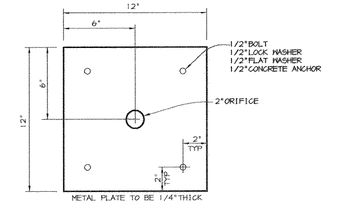


S-3 DETAILS

SCALE 1"=2'



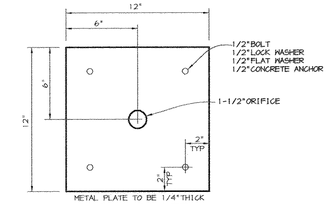
TOP VIEW



METAL PLATE (POND 1, BOTH PLATES)

SCALE 1"=6"

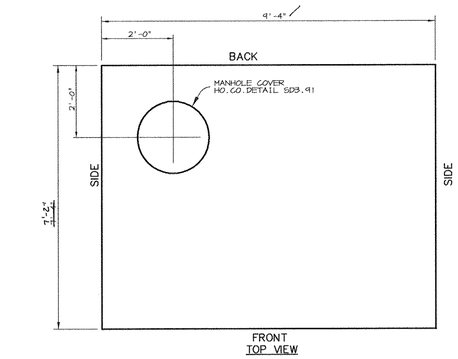
GALVANIZE METAL PLATE AFTER FABRICATION AND PAINT BATTLESHIP GRAY.



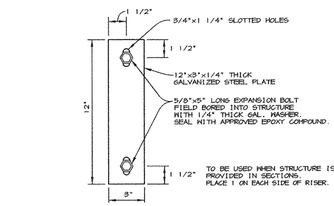
METAL PLATE (PONDS 2 & 3)

SCALE 1"=6"

GALVANIZE METAL PLATE AFTER FABRICATION AND PAINT BATTLESHIP GRAY.

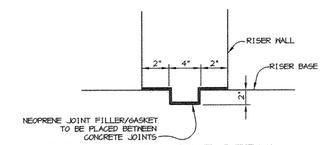


TOP VIEW



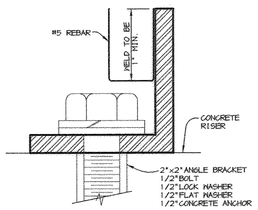
RISER JOINT FASTENER

NO SCALE



TYPICAL KEY JOINT DETAIL

NO SCALE



ENLARGEMENT A

NO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND DOMENICK W. COLANGELO No. 27200 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 — 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 — DATE 4/1/03

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

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 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 DETAILS4.DWG
DATE :	MARCH 12, 2003
SCALE :	AS SHOWN
DRAWING NO.	23 OF 61

SDP-02-75

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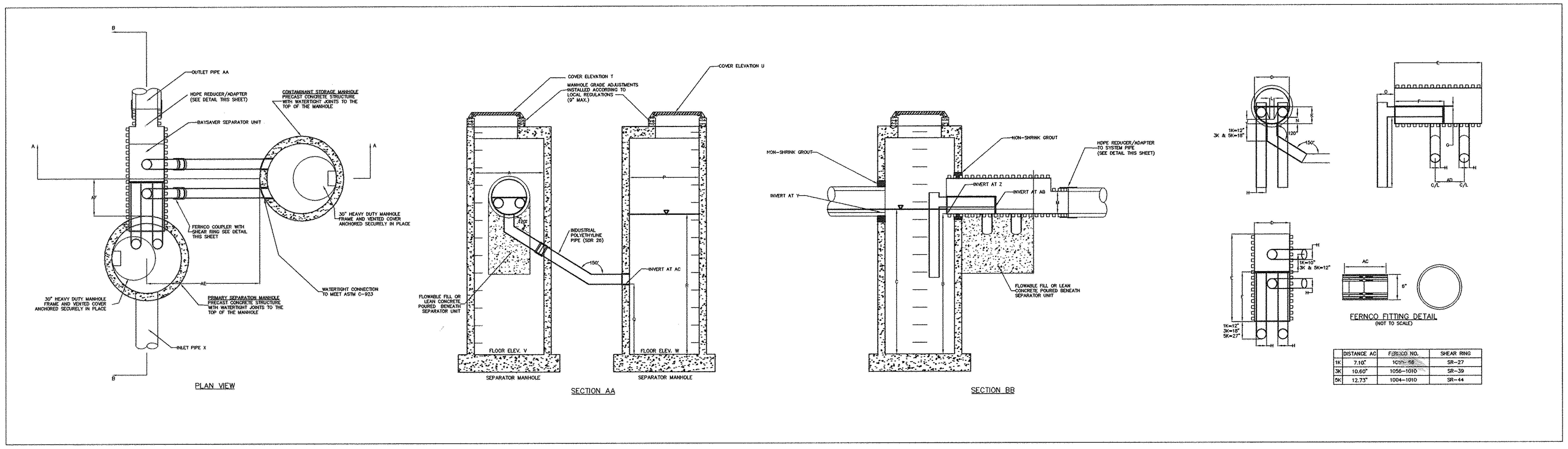


	DISTANCE AC	FERNCO NO.	SHEAR RING
1K	7.10"	1056-56	SR-27
3K	10.60"	1056-1010	SR-39
5K	12.73"	1004-1010	SR-44

BAYSAVER SYSTEM DIMENSIONS

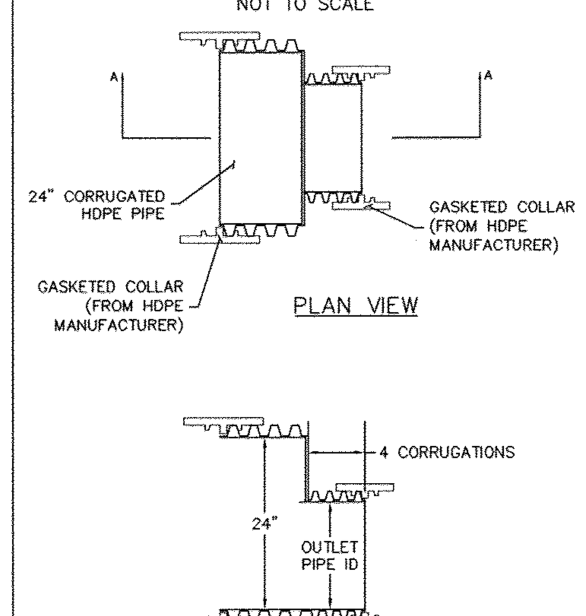
	DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
	SEPARATOR MANHOLE DIMENSIONS			
A	PRIMARY MANHOLE DIAMETER	48"	60"	72"
B	MANHOLE DEPTH BELOW OUTLET	8' – 0"	8' – 0"	8' – 0"
C	MINIMUM FLUID DEPTH	8' – 3"	8' – 4 1/2"	8' – 6"
	STANDARD SEPARATOR UNIT DIMENSIONS			
D	SEPARATOR UNIT ID	24"	36"	48"
E	SEPARATOR UNIT 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			

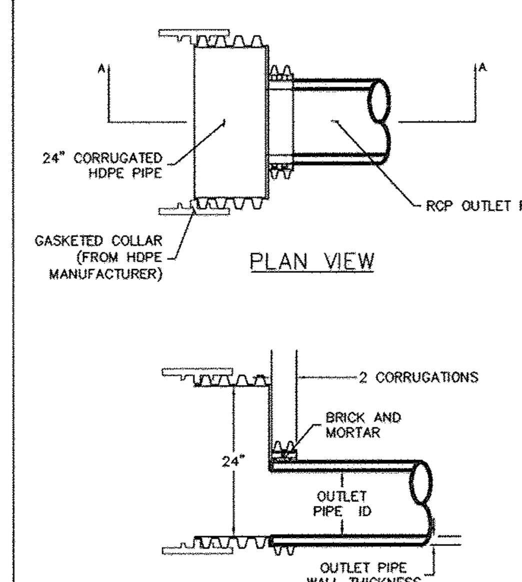
HDPE-HDPE REDUCER DETAIL

FOR USE WITH HDPE OUTLET PIPES
NOT TO SCALE



REDUCER/ADAPTER DETAIL

FOR USE WITH OUTLET PIPES OTHER THAN HDPE
NOT TO SCALE



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.

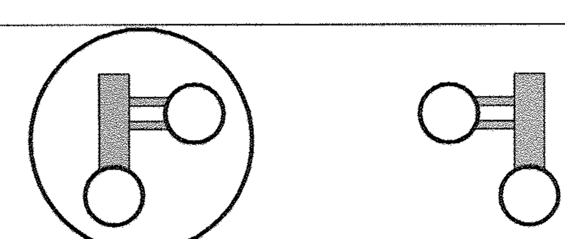
6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.

7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.

8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

Project: SOCCER ASSOC.
Address: 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 ☐



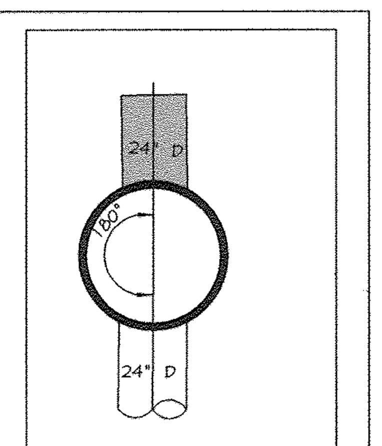
Circle system orientation above

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.

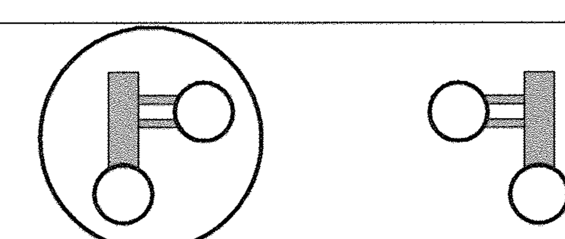
Cover Elevations:
Primary Manhole ~~406.1~~ 398.95
Storage Manhole ~~406.1~~ 399.06

WQ-1/WQ-1A

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

Project: SOCCER ASSOC.
Address: 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 ☐



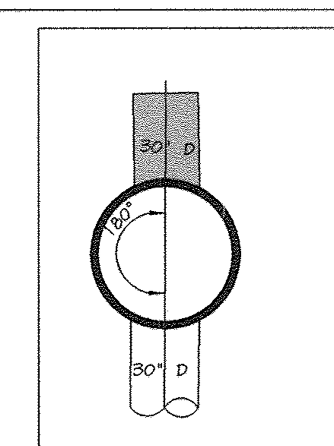
Circle system orientation above

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.

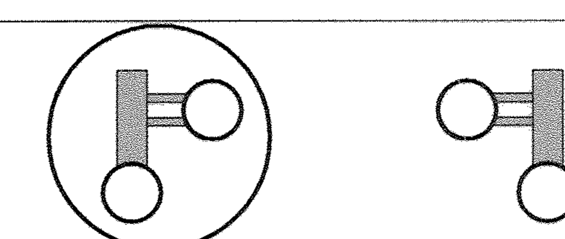
Cover Elevations:
Primary Manhole ~~404.2~~ 403.70
Storage Manhole ~~404.2~~ 403.55

WQ-2/WQ-2A

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

Project: SOCCER ASSOC.
Address: 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 ☐



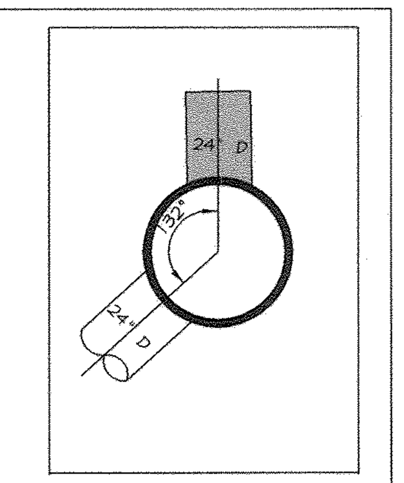
Circle system orientation above

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
DIRECTOR — DATE 4/11/03
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.
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 DETAILS6.DWG
DATE : MARCH 12, 2003
SCALE : AS SHOWN
DRAWING NO. 24 OF 61

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.
(106,578 SF)

FOREST RETENTION EASEMENT AREA C
TOTAL AREA = 1.98 Ac.
UNFORESTED AREA = 0.44 Ac.

PERIMETER 1
CREDIT: 2,843 LF

SEE SHEET 48 TO 54 FOR FIELD #9 GRADING

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

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 031089 — PROFESSIONAL ENGINEER

11-10-11

FOREST RETENTION EASEMENT UNDERBRUSH ONLY SHALL BE CLEARED FOR RIPRAP LINED CHANNEL. CLEARING OF TREES IS PROHIBITED.

20' WIDE RIPRAP LINED STOCK TO STABILIZE STREAM SEE DETAIL SHEET 16

LIMITS OF 100 YEAR FLOODPLAIN

AREA OF SLOPES GREATER THAN 25%=6155 SF

PUBLIC DRAINAGE, UTILITY & 100 YEAR FLOOD PLAIN EASEMENT

75' OFF 1 STREAM BUFFER

S32°54'48"W 408.00'

S05°26'00"W 1091.50'

S03°32'03"W 810.22'

N 574300

E 1350000

CENTENNIAL LANE

ENTRANCE TO CENTENNIAL PARK

EX.GUARDRAIL

EX.POLE 116083

EX.POLE 57 TO BE RELOCATED

EX.POLE 59 TO BE RELOCATED

EX.MAILBOX

EX.8"GAS

EX.12"W (163-W)

EX.SIGN

EX.SD

EX.FENCE

EX.FH

STOP SIGN

PUBLIC DRAINAGE EASEMENT

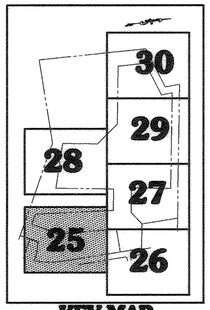
30' PRIVATE USE-IN COMMON ACCESS EASEMENT FOR PARCELS A & B

PRIVATE DRIVEWAY-COMMON ACCESS EASEMENT FOR PARCELS A AND B RECORDED IN LIBER 15657 AT FOLIO 317 OF THE RECORDS OF HOWARD COUNTY, MARYLAND

GRID NORTH

NOTE: NO LANDSCAPING THIS SHEET

AS-BUILT CERTIFICATION
STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 31089 — PROFESSIONAL ENGINEER
DOMENICK W. COLANGELO #7200 — 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 FORCON 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
8/06/11	1	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

PHR+A

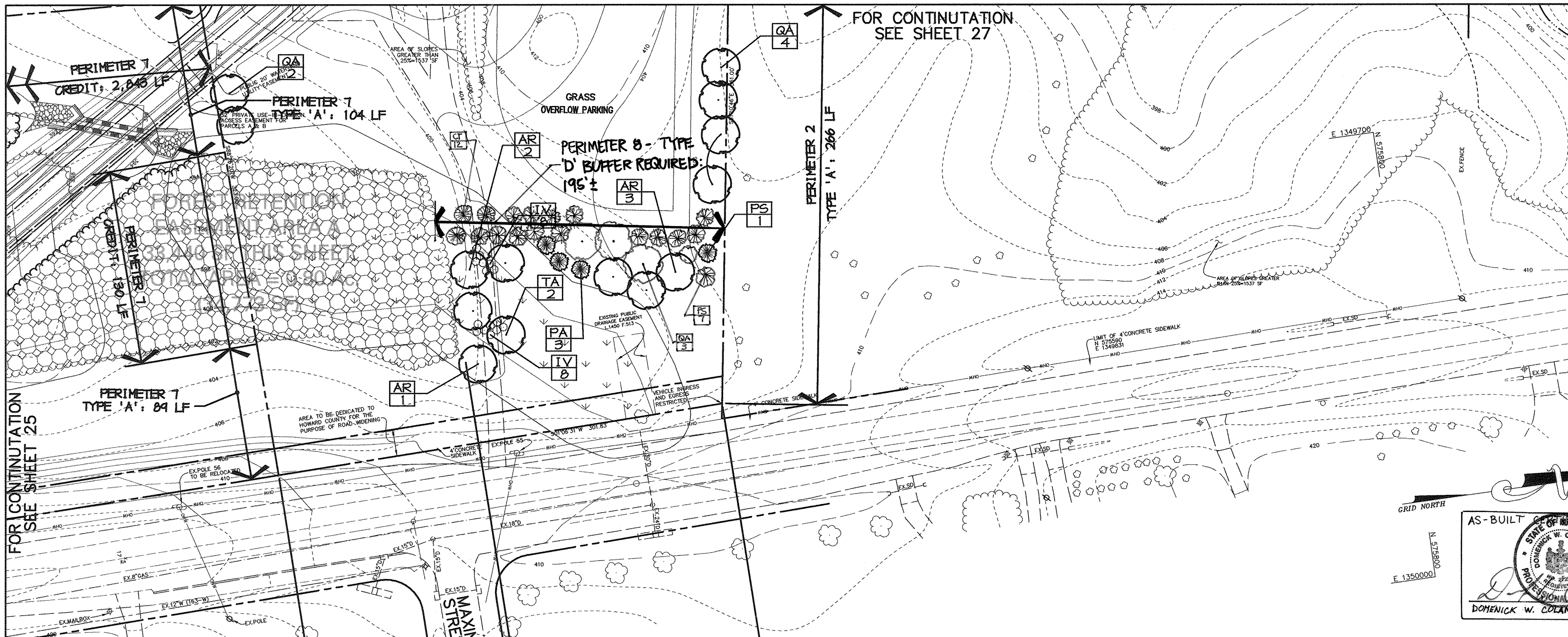
3-10-03
DATE

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

SDP-02-75

P:\project\00287\1-0\Engr\Plans\LSCP1.dwg, Layout1, 03/07/2003 09:33:45 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

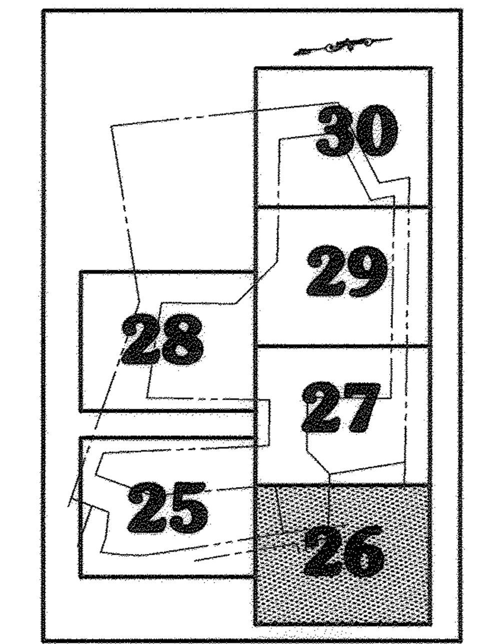


LANDSCAPE ARCHITECT 3068 PETER J. STONE STATE OF MARYLAND

6·1·10
FOR REVISION #1

AS-BUILT CERTIFICATION

DOMENICK W. COLANGELO #27200 — 8/1/07 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 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 FORCON PLANS)

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)

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.

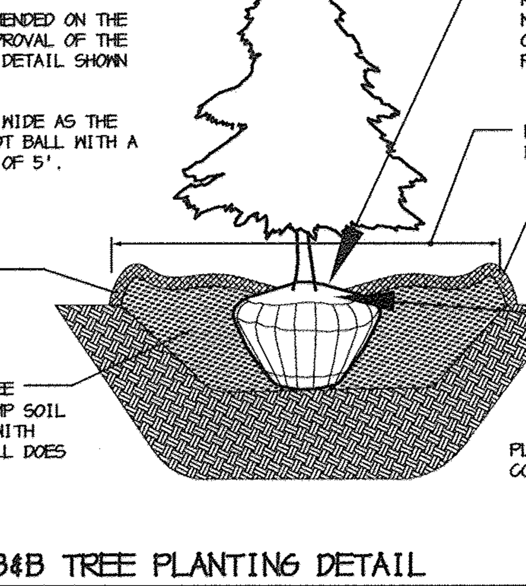
11) NO SURETY IS REQUIRED FOR OVERFLOW PARKING PERIMETER LANDSCAPING REQUIRED BY BA-09-036C.

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 TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



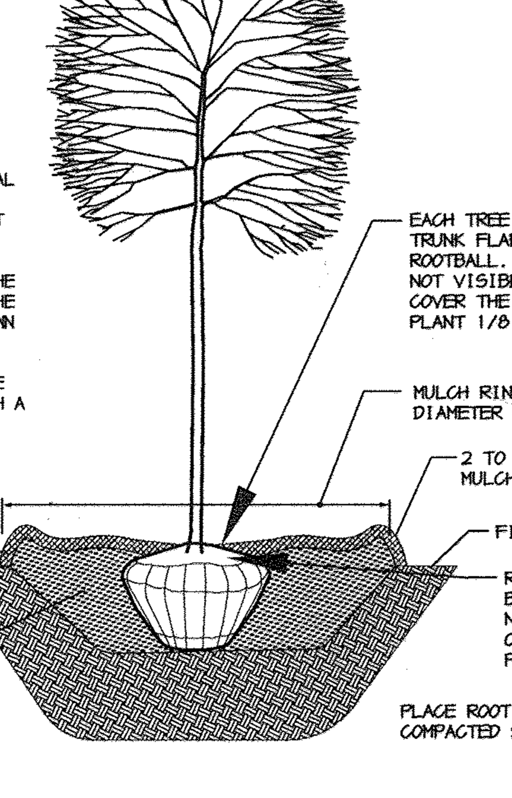
EVERGREEN B&B TREE PLANTING DETAIL
NOT TO SCALE

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 TWICE 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

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
5-28-10	1	ADDED PERIMETER 8, SCHEDULE E, GENERAL NOTE 11.

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
LANDSCAPE 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

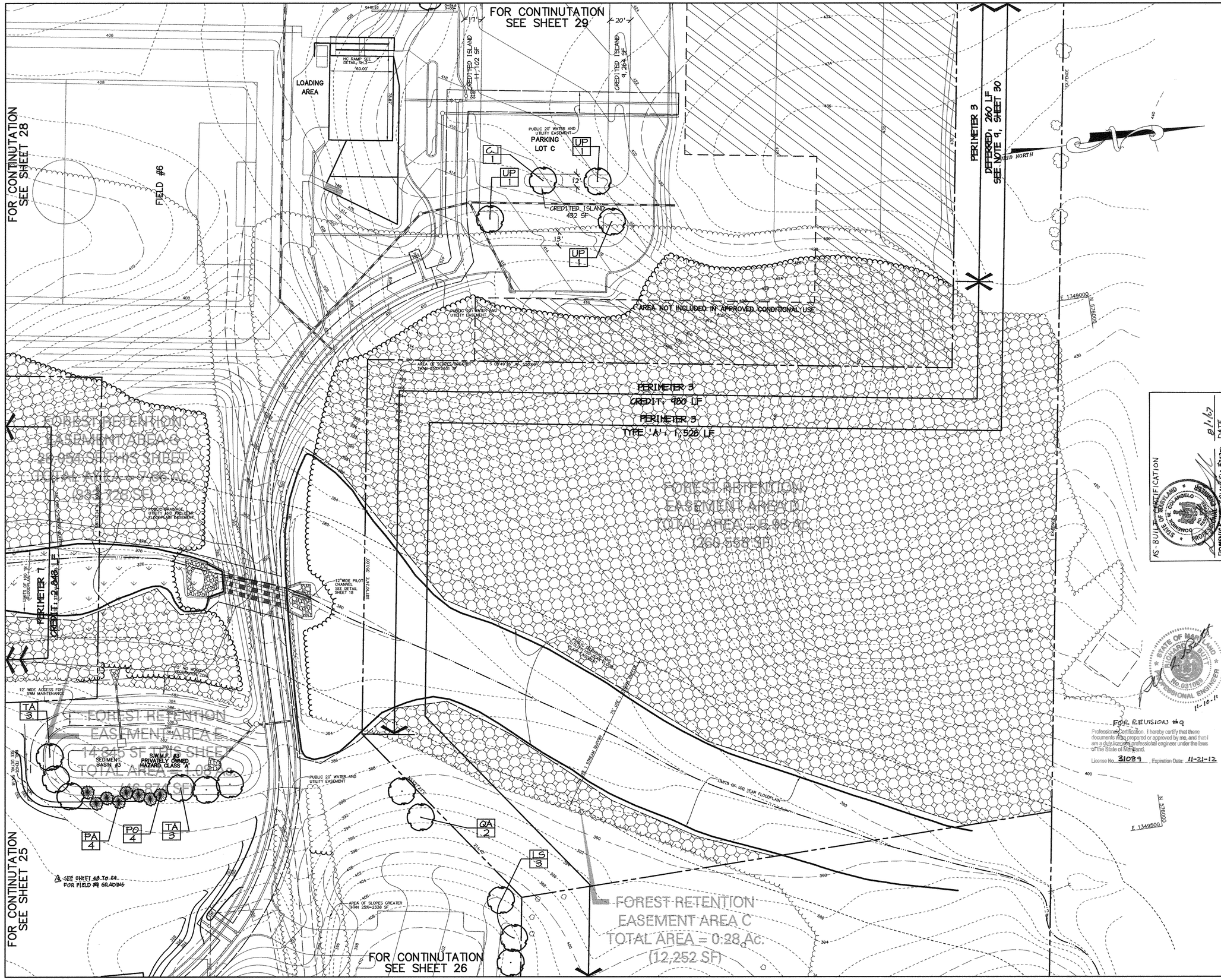
3·10·03
DATE

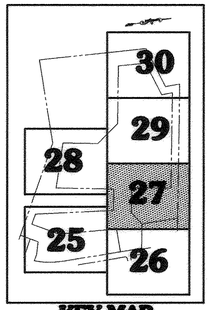
STATE OF MARYLAND 830 DAVID T. DOWS BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS
DAVID T. DOWS #830

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:\project\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





KEY MAP
NOT TO SCALE

LEGEND

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/11/03

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

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

DATE	NO.	REVISION
8/05/11	1	CONSTRUCTION OF FIELD #9

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
LANDSCAPE 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

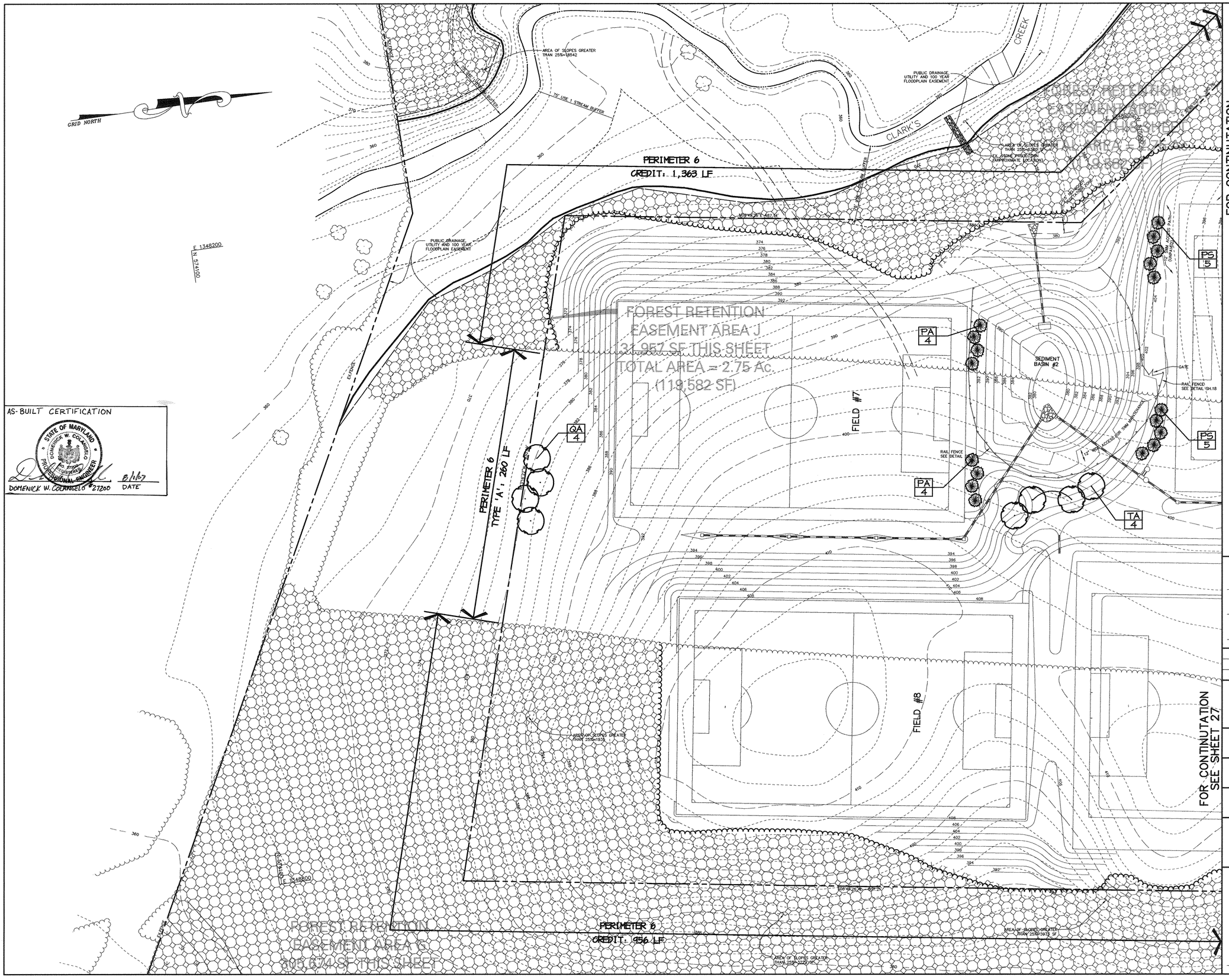
3·10·03
DATE

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

SDP-02-75

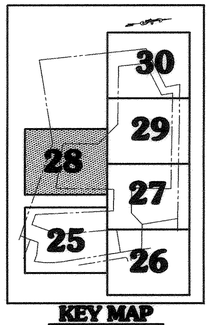
P:\project\00287\1-0\Engr\Plans\LSCP3.dwg, Layout1, 03/07/2003 09:36:45 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40



AS-BUILT CERTIFICATION

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

DOMENICK W. COLARIGELO #27200 — DATE 8/18/03



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 KB	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
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

PHR+A

3·10·03
DATE

STATE OF MARYLAND — 830 — DAVID T. DOWS — REGISTERED 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 61

SDP-02-75

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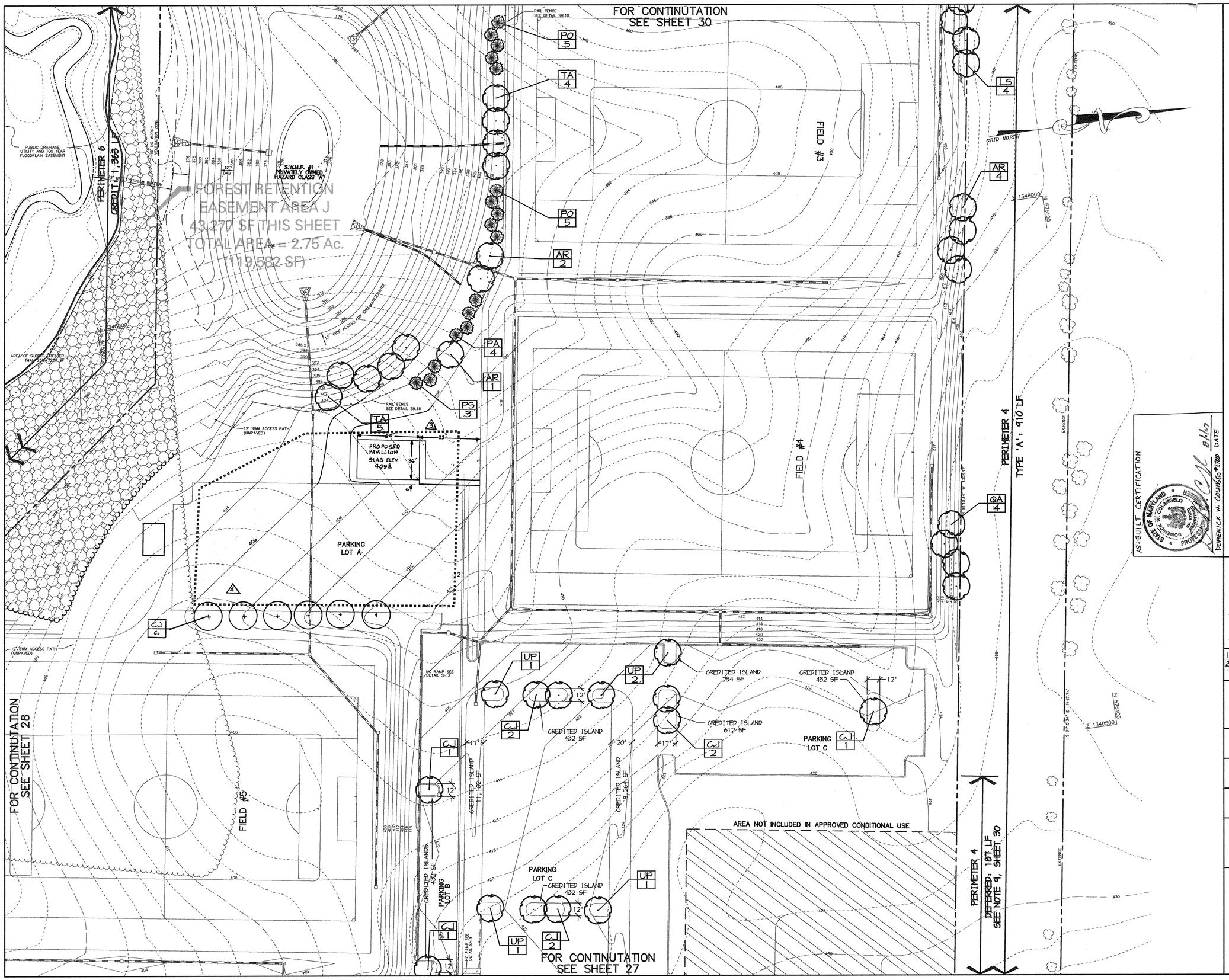

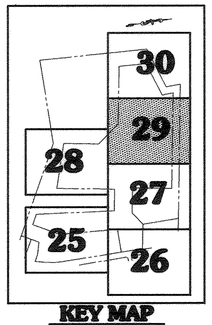

KEY MAP
NOT TO SCALE

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
- PERIMETER LANDSCAPE EDGE LIMITS
- PERIMETER LANDSCAPE EDGE CONTINUES
- PROPOSED FOREST CONSERVATION EASEMENT (SEE FORCON PLANS)

AS-BUILT CERTIFICATION

STATE OF MARYLAND · DOMENICK W. COLANGELO · REGISTERED PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27200 — 8/1/07 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 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.
PHR+A
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 : G.T.H.
DRAWN BY: G.T.H.
PROJECT NO : 00287 LSCP5.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 29 OF 61

SDP-02-75

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AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — PROFESSIONAL ENGINEER

8/1/07

DOMENICK W. COLANGELO #17200 — 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	CHAMAECYPARISTHYOIDES ATLANTIC WHITECEDAR	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 verticillata Winterberry	18-24"	B&B	Plant as shown

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	4	5	12	18	4	3	4
EVERGREEN TREES	0	0	0	0	0	0	0
SHRUBS	0	0	0	0	0	0	42
NUMBER OF PLANTS PROVIDED							
SHADE TREES	4	5	12	18	4	3	5
EVERGREEN TREES	0	0	0	0	0	0	4
SMALL FLOWERING TREES	0	0	0	0	0	0	0
SHRUBS	0	0	0	0	0	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	6	2	16
OTHER TREES (2:1 SUBSTITUTION)	–	–	–
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	18	8	6
EVERGREEN TREES	22	10	8
NUMBER OF PLANTS PROVIDED			
SHADE TREES	18	4	6
EVERGREEN TREES	22	18	8
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	–	–	–

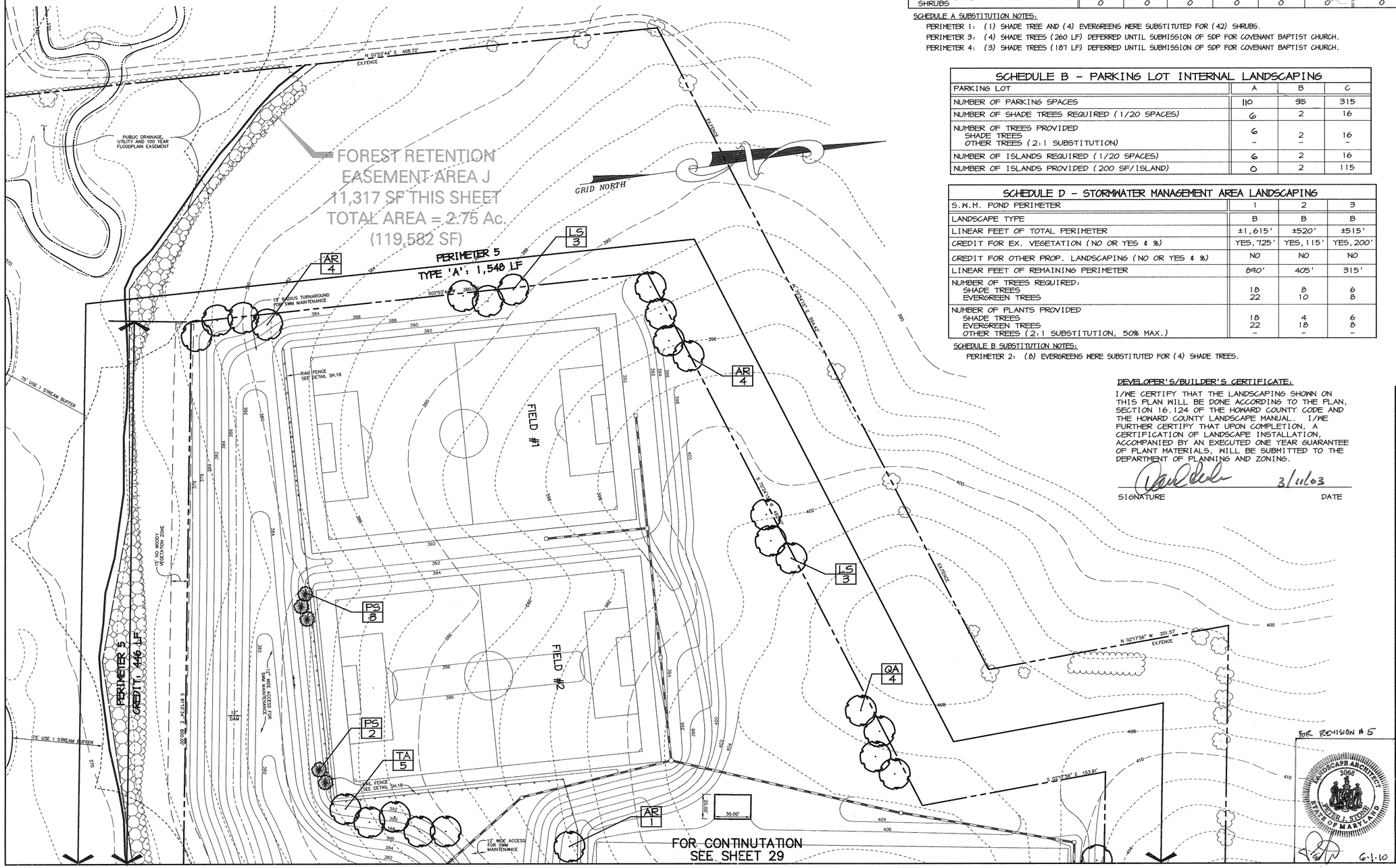
SCHEDULE B SUBSTITUTION NOTES:

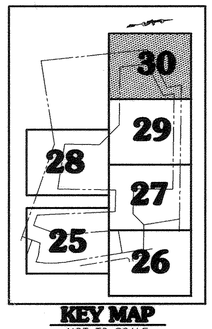
PERIMETER 2: (8) EVERGREENS WERE SUBSTITUTED FOR (4) SHADE TREES.

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





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 FOREST CONSERVATION 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 #B	DATE 4/8/03

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
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

PHR+A

FOR REVISION # 5

3-10-03 DATE

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

STATE OF MARYLAND 830 DAVID T. DOWS 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 61

SDP-02-75

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LEGEND

EXISTING DRAINAGE DIVIDES	
TIME OF CONCENTRATION	A B
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. COLUCCIO — No. 27200 — REGISTERED PROFESSIONAL ENGINEER

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/14/03

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

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
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

SDP-02-75

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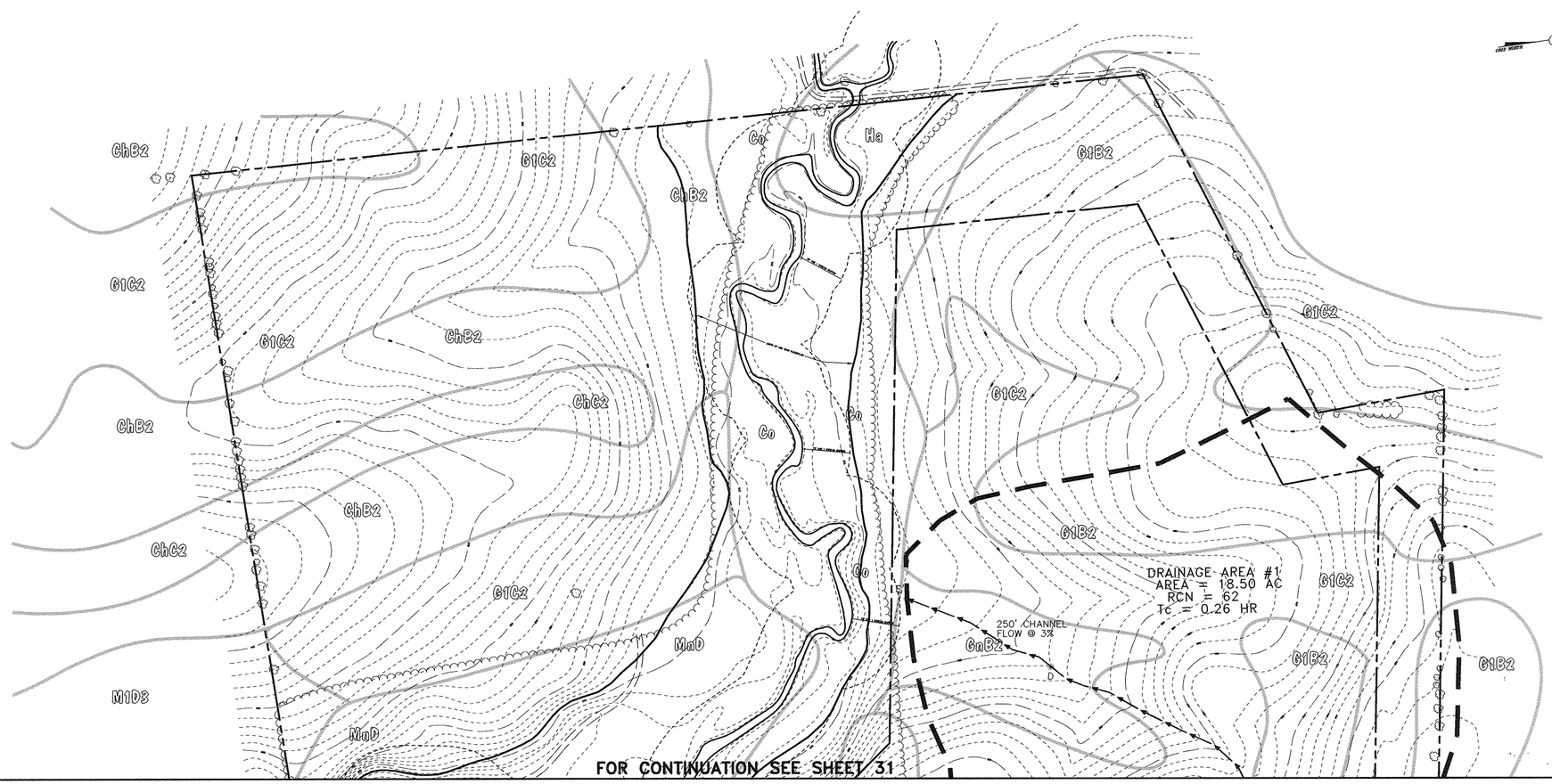
LEGEND

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



FOR CONTINUATION SEE SHEET 31

AS-BUILT CERTIFICATION

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

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/08

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 — 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

SDP-02-75

P:\project\00287\1-0\Engr\Plans\DA-EX2.dwg, Layout1, 03/07/2003 10:00:19 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:100

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 — DATE 6/1/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 6/1/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/1/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/1/03

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

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
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

STATE OF MARYLAND — RICHARD J. ROSS — No. 31089 — 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

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 DA-PR1.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 100'
DRAWING NO.	33 OF 61

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	

FOR CONTINUATION SEE SHEET 33

AS-BUILT CERTIFICATION

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

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/15/03

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
DRAINAGE AREA MAP PROPOSED CONDITIONS

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

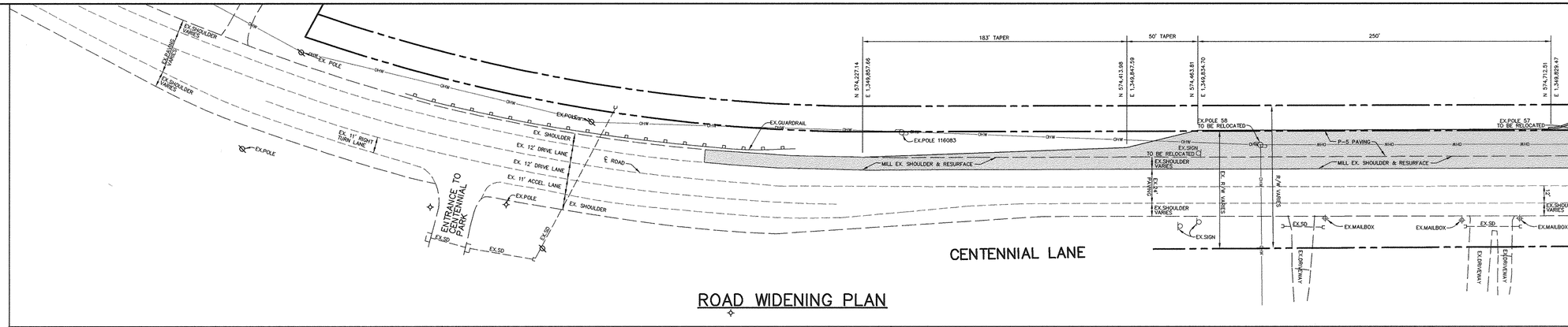
STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID #19949

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

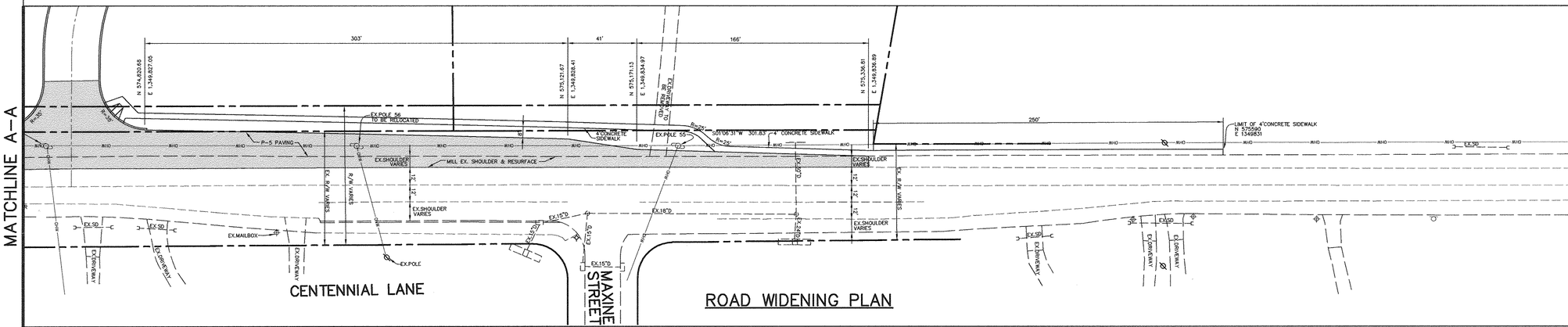
SDP-02-75

P:\project\00287\1-0\Engr\Plans\DA-PR2.dwg, Layout1, 03/07/2003 10:03:03 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:100

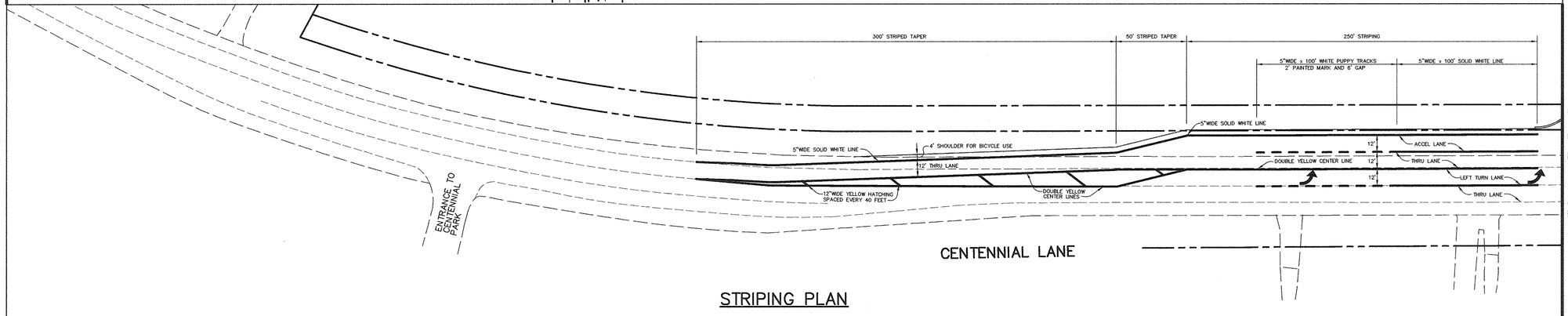


ROAD WIDENING PLAN

MATCHLINE A-A

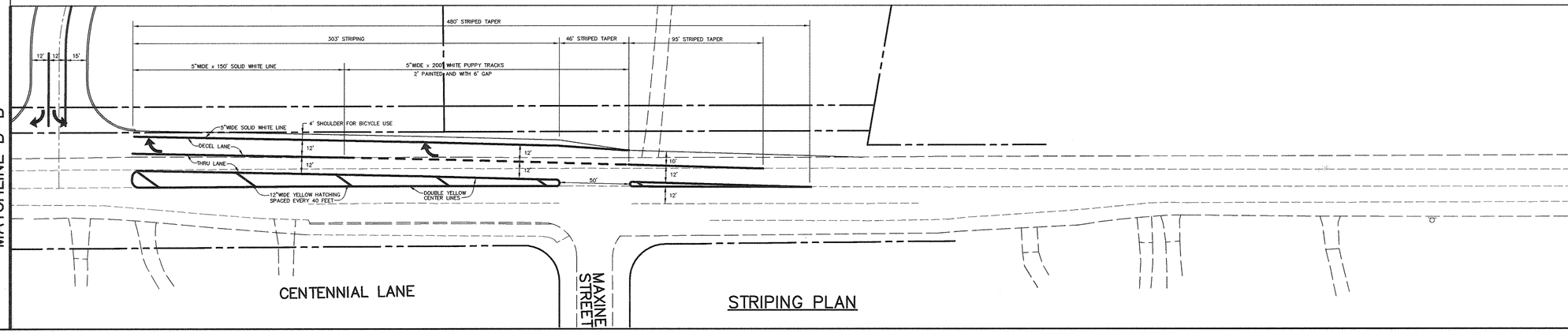


MATCHLINE A-A



STRIPING PLAN

MATCHLINE B-B



MATCHLINE B-B

AS-BUILT CERTIFICATION

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

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

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

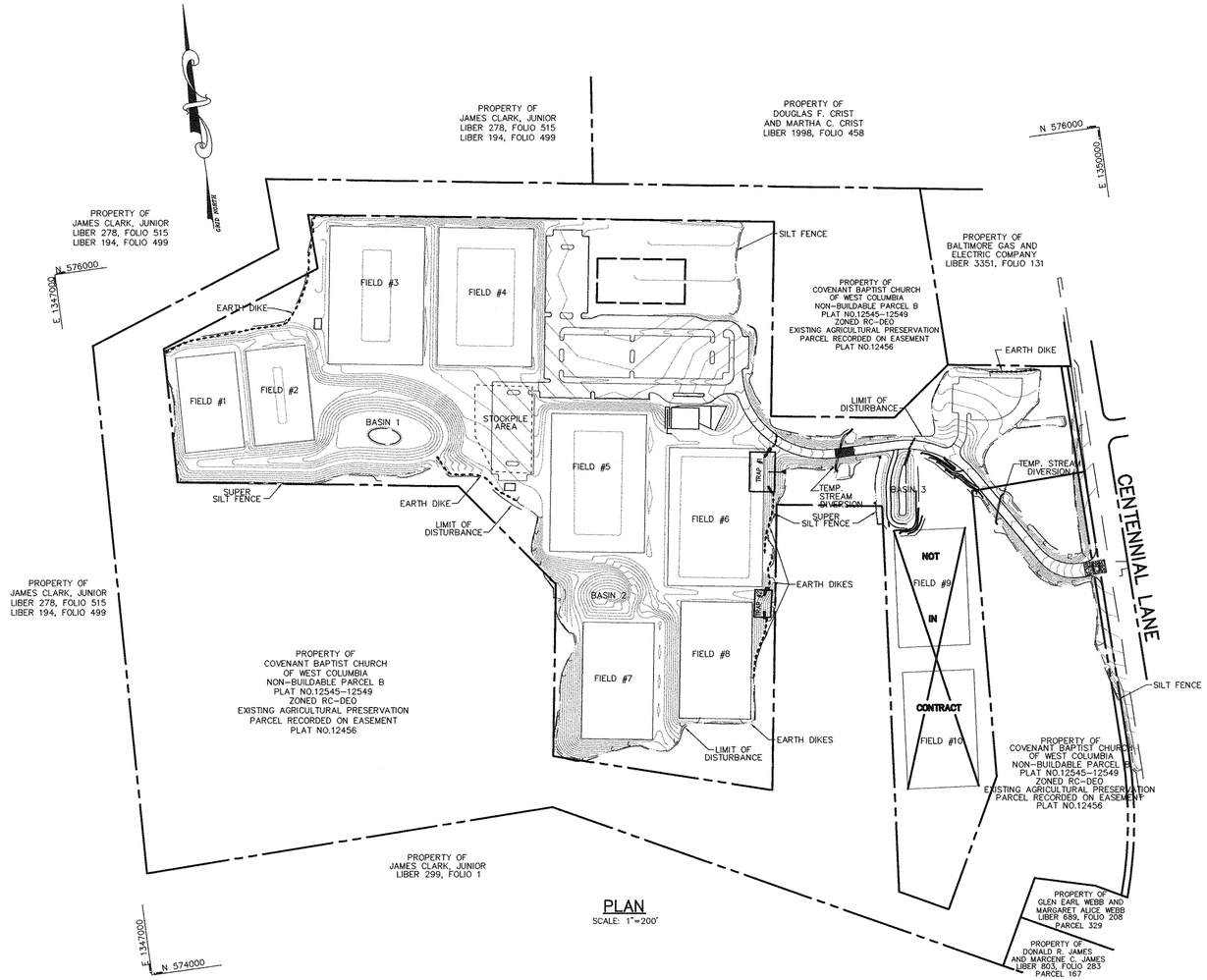
DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 00287 RD1.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 35 OF 61

SDP-02-75

P:\project\00287\1-0Engr\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 — REGISTERED 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 4/4/03

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

CHIEF, DIVISION OF LAND DEVELOPMENT HB — 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 **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 — 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

SDP-02-75

P:\project\00287\1-01\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

LIMITS OF 100 YEAR FLOODPLAIN

PUBLIC DRAINAGE, UTILITY & 100 YEAR FLOOD PLAIN EASEMENT

AREA OF SLOPES GREATER THAN 25%=6155 SF

FOREST RETENTION EASEMENT "UNDERBRUSH ONLY" SHALL BE CLEARED FOR RIPRAP LINED CHANNEL. CLEARING OF TREES IS PROHIBITED.

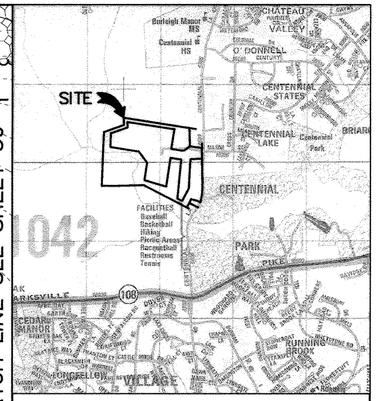
AREA OF SLOPES GREATER THAN 25%=2223 SF

PROPERTY OF DONALD R. JAMES AND MARGENE O. JAMES LIBER 803, FOLIO 283 PARCEL 167

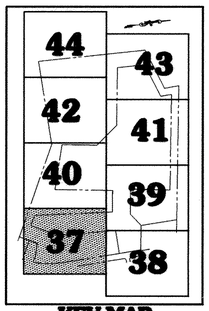
PROPERTY OF GLEN EARL WEBB AND MARGARET-ALICE WEBB LIBER 689, FOLIO 208 PARCEL 329

CENTENNIAL LANE

ENTRANCE TO CENTENNIAL PARK



VICINITY MAP
SCALE: 1"=2000'



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 4/1/03

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

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

DATE	NO.	REVISION
8/03/11	1	CONSTRUCTION OF FIELD #9

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

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

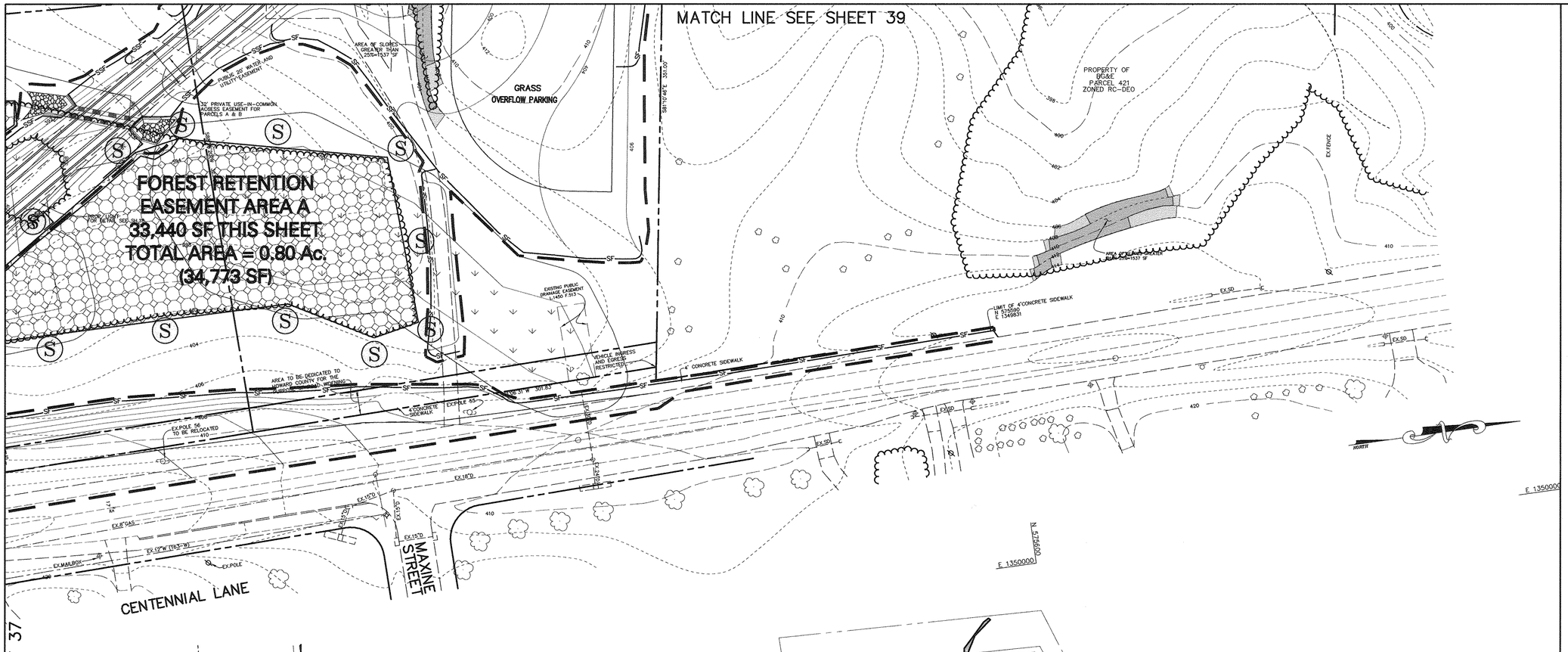
DAVID T. DOWS #830

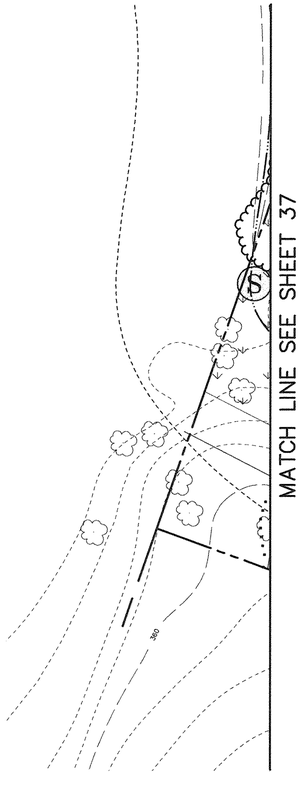
FOR REVISION #9
professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 31089, Expiration Date: 11-21-12.

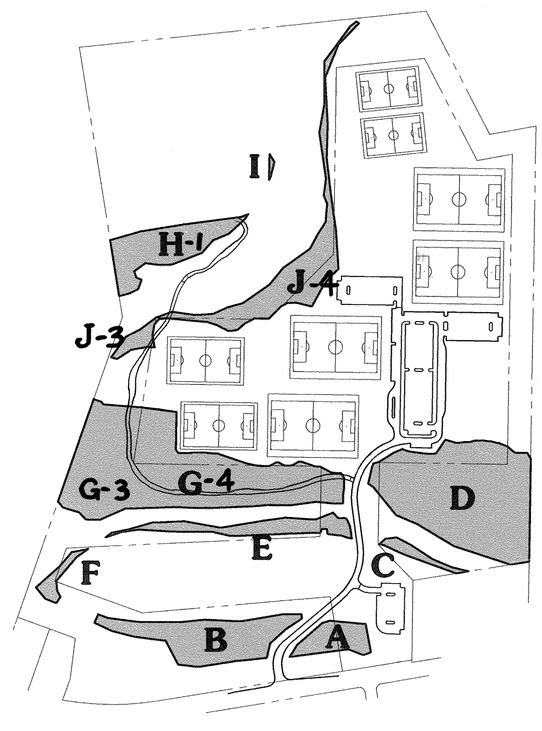
AS-BUILT CERTIFICATION
DOMENICK W. COLANGELO #27200 DATE 8/1/07

SDP-02-75

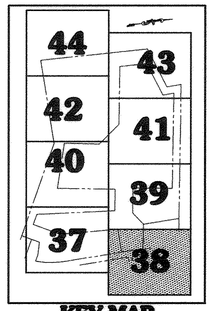
P:\project\0028871-0\Engr\Plans\FCP1.dwg, Layout1, 03/08/2003 12:03:58 PM, HP750C(96).pc3, Arch D - 24 x 36 in. (landscape), 1:40







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)
- 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 — PROFESSIONAL ENGINEER
DOMENICK W. COLANGELO #27200 — DATE 8.1.03

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 FCP2.DWG
DATE :	MARCH 12, 2003
SCALE :	1" = 40'
DRAWING NO.	38 OF 61

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)

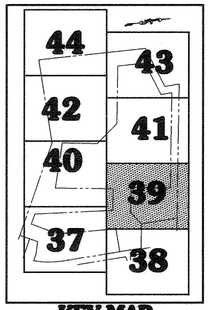
FOREST RETENTION EASEMENT AREA D
TOTAL AREA = 5.98 Ac.
(260,558 SF)

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



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.	

DATE	NO.	REVISION
8/25/11	4	CONSTRUCTION OF FIELD #4
3/31/09	1	REVISE DRIVEWAY LOCATION & FOREST CON. EASEMENTS. SUBSTITUTE SHEET

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 KB — DATE 4/8/03

AS-BUILT CERTIFICATION
DOMENICK W. COLANGELO #27200 — DATE 8.1.07

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

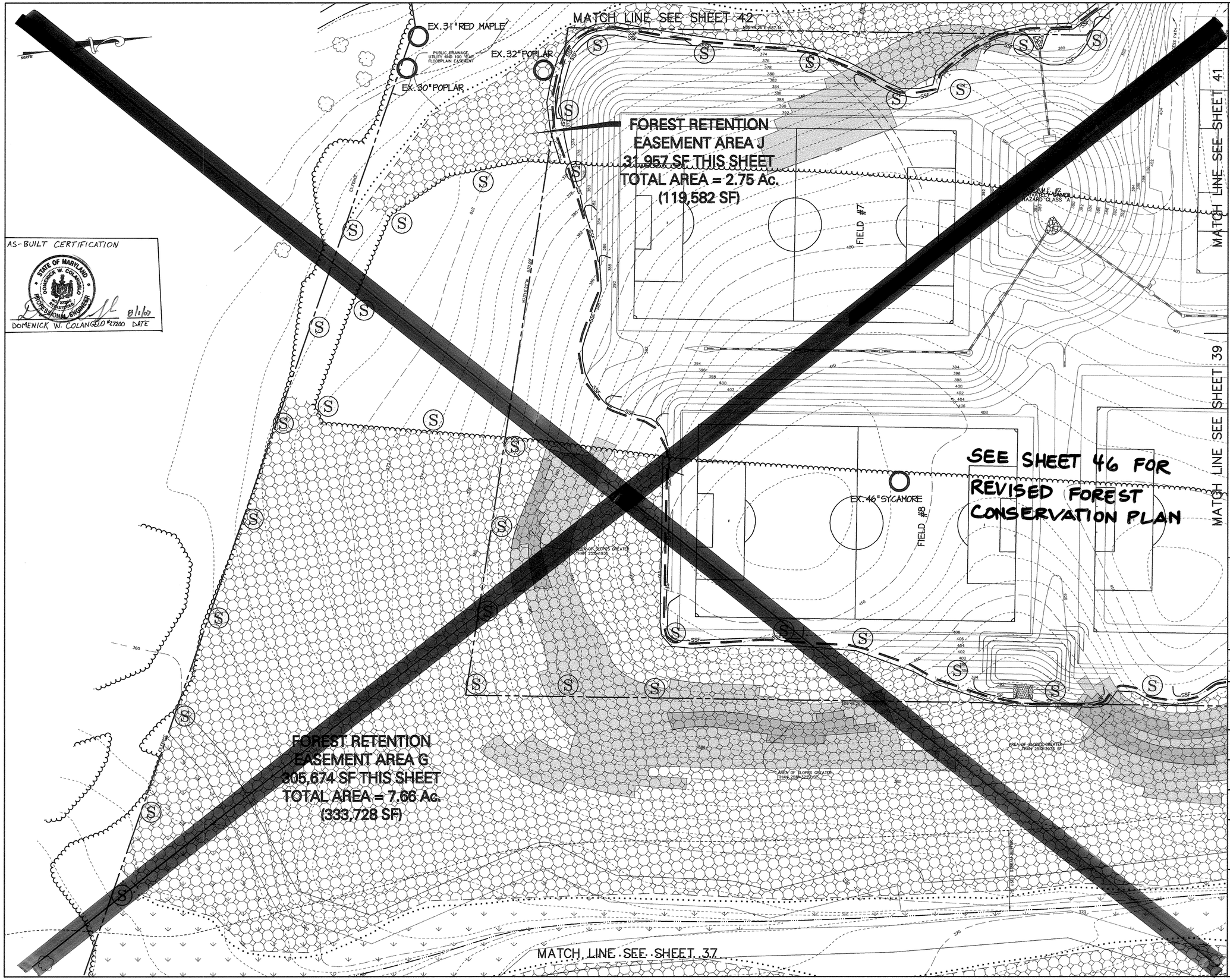
3-10-03
DATE

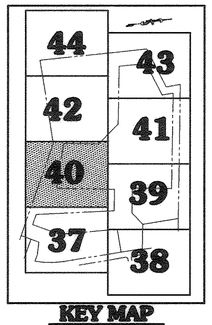
DAVID T. DOWS #830

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 61

SDP-02-75

P:\project\00287\1-0\Engr\Plans\FCP3.dwg, Layout1, 03/08/2003 12:13:37 PM, HP7550C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40





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 4/1/03

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

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

DATE	NO.	REVISION
3/31/09	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.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.10.03
DATE

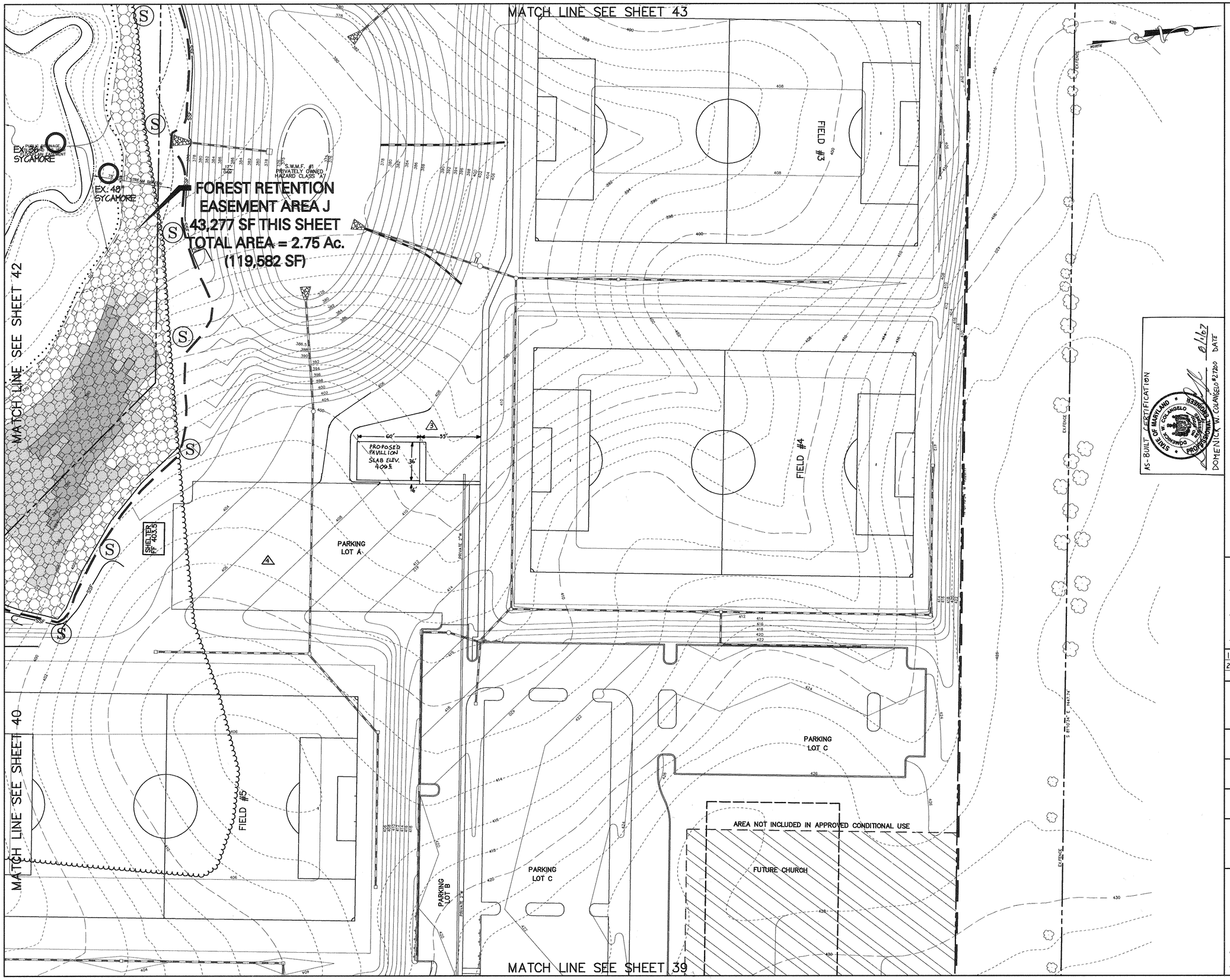
STATE OF MARYLAND 830 DAVID T. DOWS REGISTERED PROFESSIONAL ENGINEER

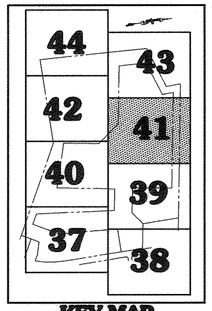
DAVID T. DOWS #830

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 61

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





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.

AS-BUILT CERTIFICATION
STATE OF MARYLAND
DOMENICK W. COLANGELO
PROFESSIONAL ENGINEER
DOMENICK W. COLANGELO #27200
8/1/07
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/11/03

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

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
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.
PHR+A
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 : 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, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40

MATCH LINE SEE SHEET 44

NORTH

AS-BUILT CERTIFICATION

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

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

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

POPLAR

MATCH LINE SEE SHEET 43

MATCH LINE SEE SHEET 41

EX. 62" POPLAR

FOREST RETENTION EASEMENT AREA H
TOTAL AREA = 1.82 Ac.
(79,293 SF)

EX. 38" OAK

EX. ASH

EX. 30" +POPLARS

EX. 42" POPLAR

EX. 34" BEECH

EX. 34" POPLAR

EX. 35" RED OAK

EX. 52" DOUBLE POPLAR

EX. 36" RED OAK

EX. 36" BEECH

75' USE & STREAM BUFFER

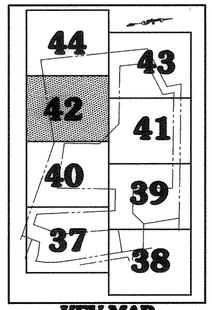
PUBLIC DRAINAGE, UTILITY AND 100 YEAR FLOODPLAIN EASEMENT

CLARK'S

EX. OZONE PROTECTION (APPROXIMATE LOCATION)

FOREST RETENTION EASEMENT AREA J
33,031 SF THIS SHEET
TOTAL AREA = 2.7[illegible]
(119,582 SF)

MATCH LINE SEE SHEET 40



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 (370)
- PROP. CONTOURS (400, 398)
- TREE ≥ 30" DIAM.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION MAK	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, 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
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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 FCP6.DWG
DATE : MARCH 12, 2003
SCALE : 1" = 40'
DRAWING NO. 42 OF 61

SDP-02-75

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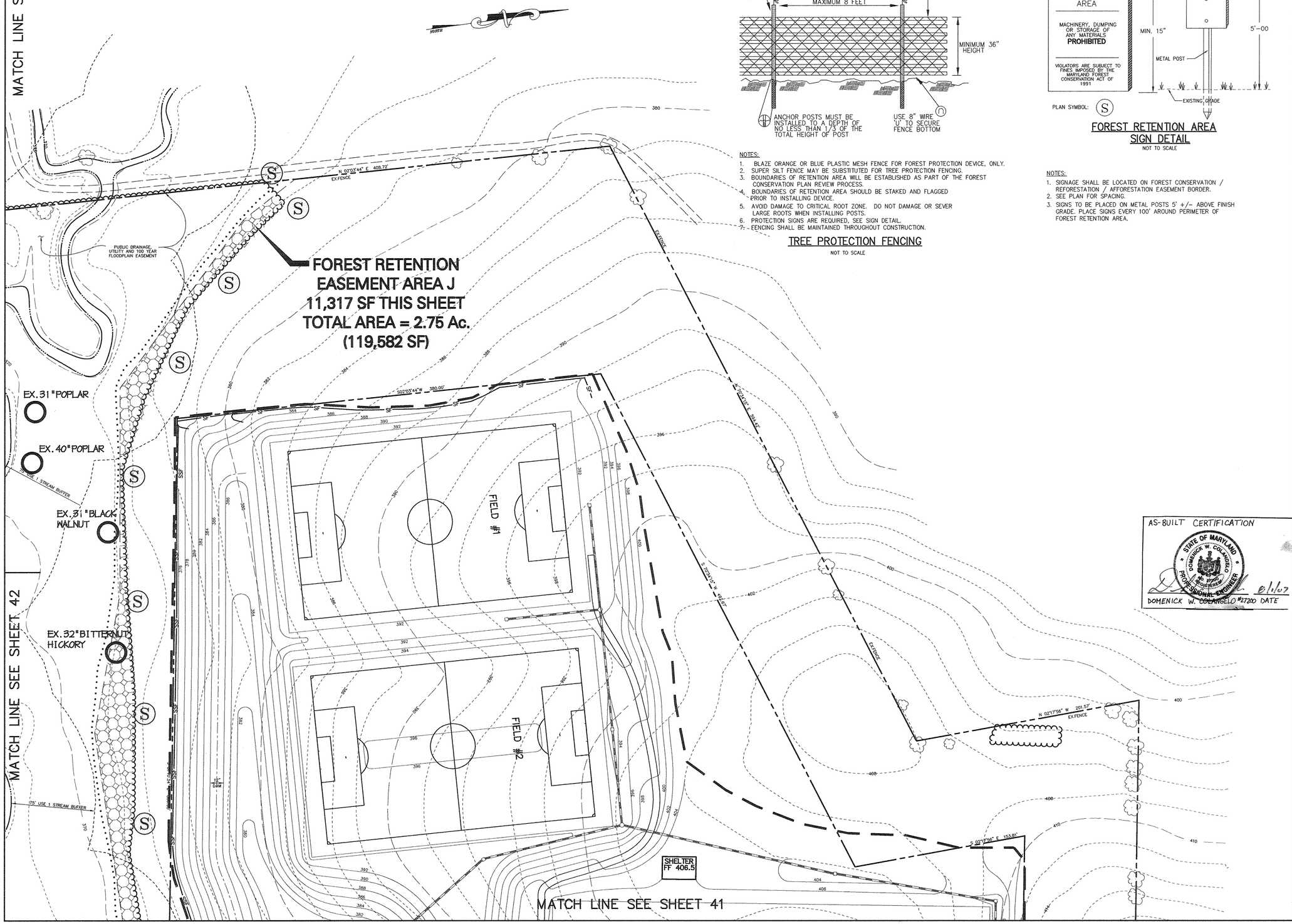
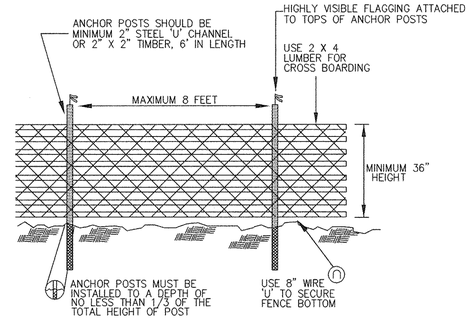
MATCH LINE SEE SHEET 44



TREE PROTECTION SIGNAGE & FENCING

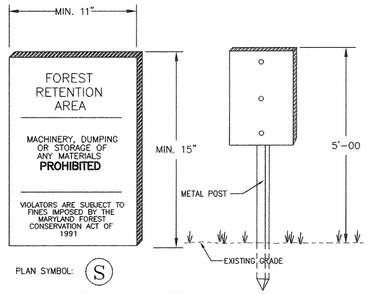


NOTES:

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

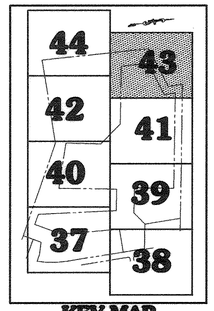


FOREST RETENTION AREA SIGN DETAIL

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.



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
CHIEF, DEVELOPMENT ENGINEERING DIVISION MAK	DATE 4/1/03
CHIEF, DIVISION OF LAND DEVELOPMENT HB	DATE 4/8/03

AS-BUILT CERTIFICATION

STATE OF MARYLAND — DOMENICK W. COLANGELO — No. 27220 — PROFESSIONAL ENGINEER

DOMENICK W. COLANGELO #27220 DATE 8/1/07

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
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

SDP-02-75

P:\project\00287\1.0\Engr\Plans\FCP7.dwg, Layout1, 03/08/2003 12:20:18 PM, HP750C(36).pc3, Arch D (24 x 36 in (landscape)), 1:40

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

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

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 25.[illegible] 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 [illegible] 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. BEARRINGS 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.

△1 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:

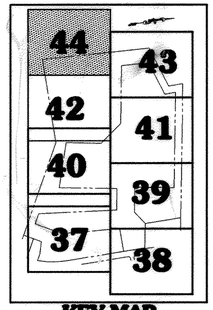
A TWO (2) YEAR POST-CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE PROBABILITY OF A HIGH SURVIVAL RATE INCLUDES THE FOLLOWING:

- 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~~	~~0.03~~	~~ACRES~~
~~AREA J~~	~~2.75~~	~~ACRES~~
△1 ~~TOTAL~~	~~23.10~~	~~ACRES~~

SEE REVISED TABLES ON SHEET 47



KEY MAP
NOT TO SCALE

MATCH LINE SEE SHEET 43

LEGEND

- TREES
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- PERENNIAL STREAM AND 50'/75' BUFFER
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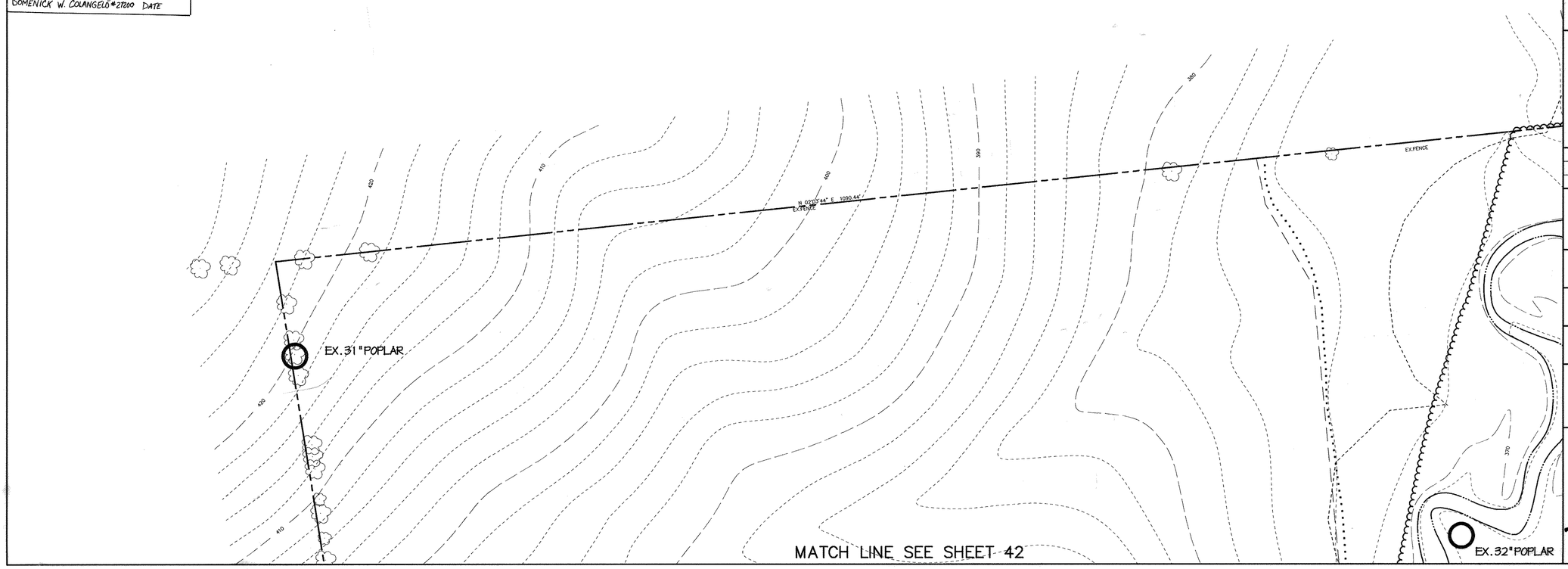

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 4/1/03

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

CHIEF, DIVISION OF LAND DEVELOPMENT HP — DATE 4/1/03

DATE	NO.	REVISION
3/31/03	1	REVISE DRIVEWAY LOCATION & FOREST CON. EASEMENTS

OWNER
COVENANT BAPTIST CHURCH OF WEST COLUMBIA
SUITE 100
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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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Engineers. Surveyors. Planners. Landscape Architects.
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F 410.997.9282

3-10-03
DATE

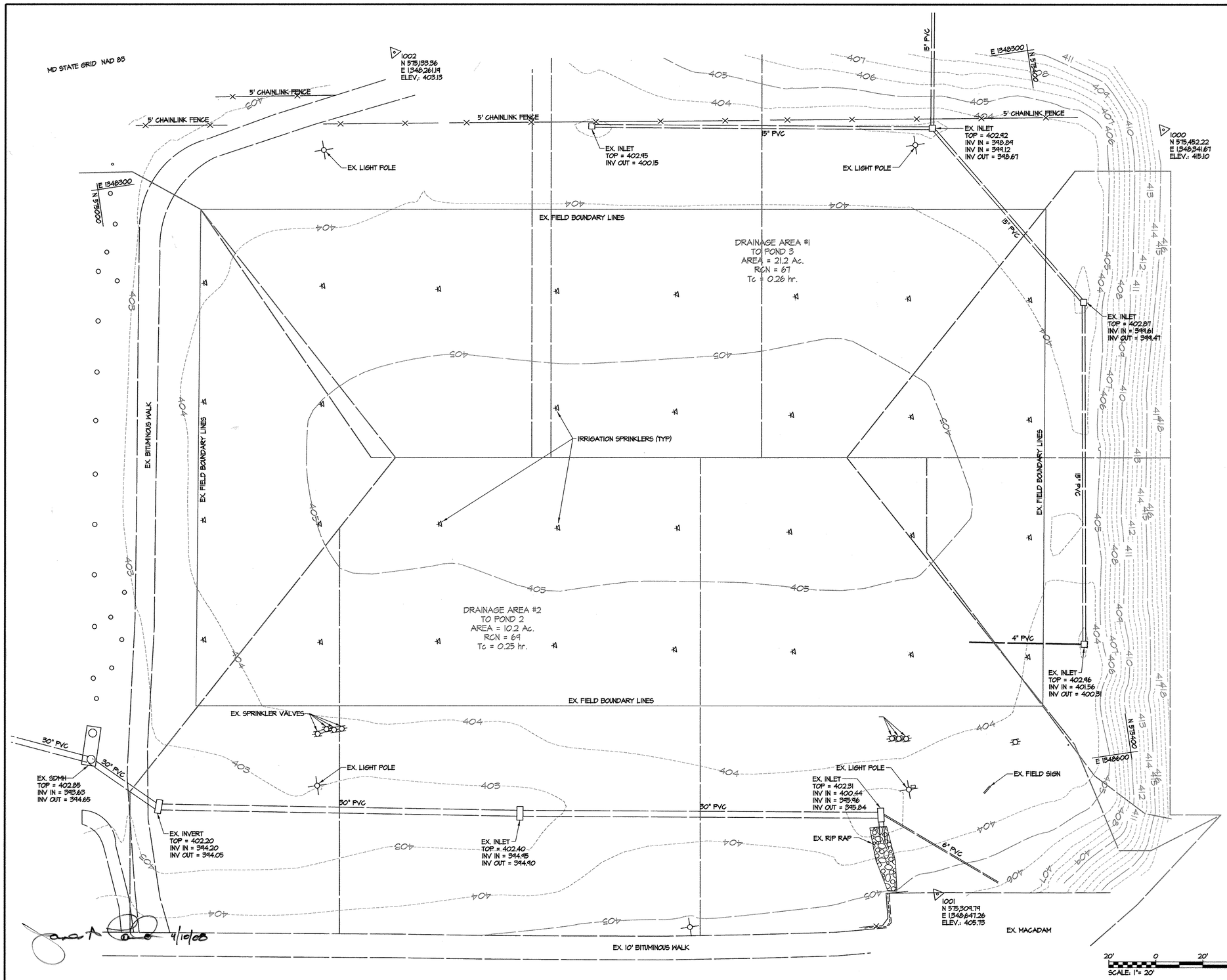
STATE OF MARYLAND — 830 — DAVID T. DOWS — PROFESSIONAL ENGINEER

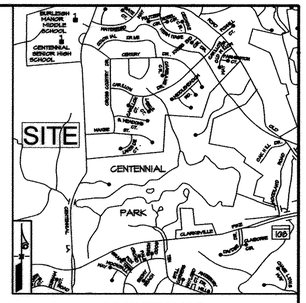
DAVID T. DOWS #830

DESIGNED BY :	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\1-01Engr\Plans\FCP8.dwg, Layout1, 03/08/2003 12:21:35 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:40





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: 7
   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. 2400440028 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: 571,931.6734	E: 1,344,597.1212	421.48
24GB	N: 579,069.4554	E: 1,350,441.8587	492.32

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: 4/30/08 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION: 4/25/08 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: 4/29/08 DATE

STATE OF MARYLAND — DUANE K. CRAWFORD — LICENSE 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:
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
410-772-4373

PERMIT INFORMATION CHART

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA			N/A	A
PLAT# OR LP	BLOCK#	ZONING	TAX MAP NO.	ELECT DISTR.	CENSUS TRACT
15652-15657	1	RC-DEO	30	2nd	6023.01
WATER CODE		SEWER CODE			
N/A		S720200			

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" = 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-F
KCI JOB NUMBER
16071202

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

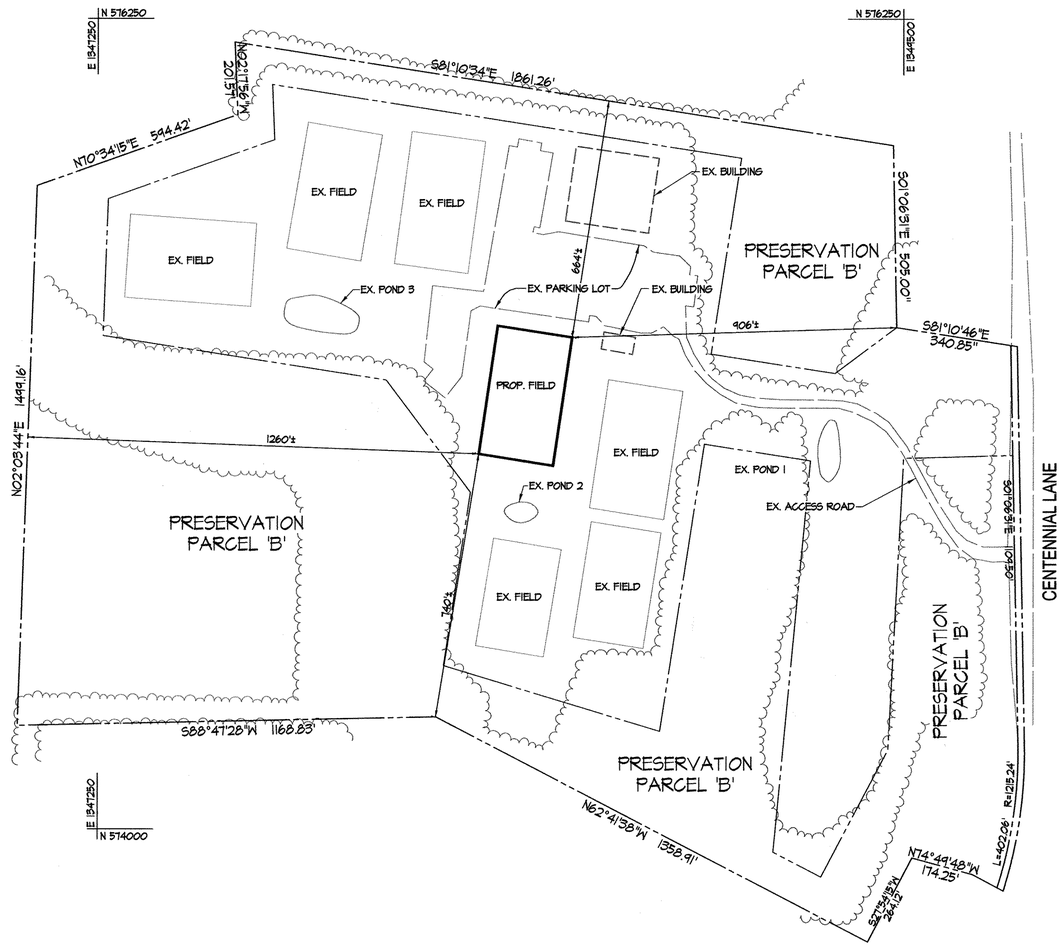
SDP-02-075

N

MD STATE GRID NAD 83
NGVD 29 VERTICAL

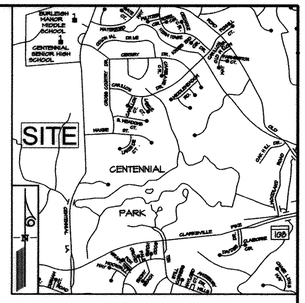
HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

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: 7
   - 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 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. 2400440028 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 4/30/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/30/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/30/08

STATE OF MARYLAND — MARVINE K. CRAWFORD — 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
15652-15657	1	RC-DEO	30	3rd	6025.01
WATER CODE		SEWER CODE	
N/A		9730200	

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

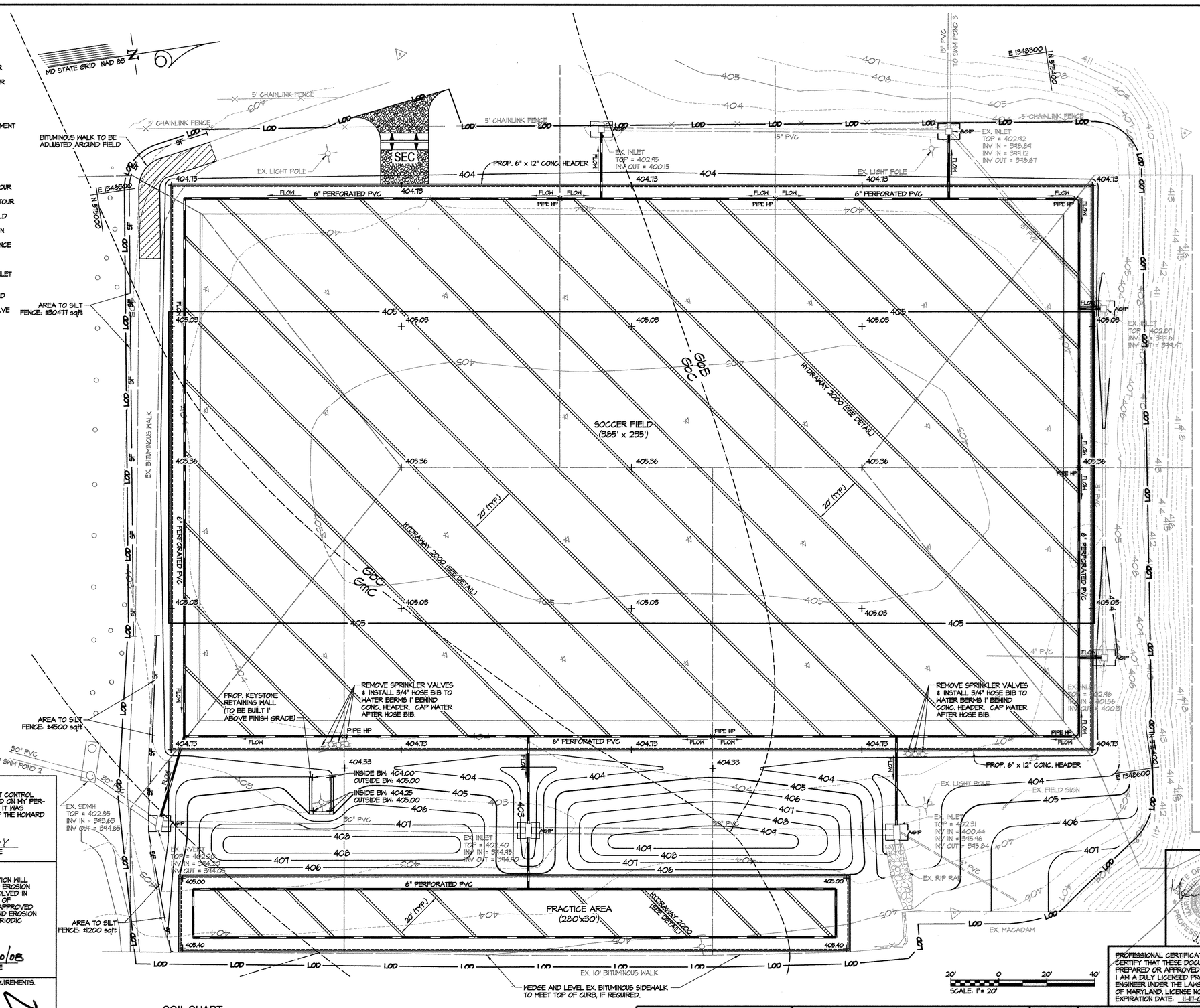
DRAWING NO. SEC1
SHEET 44-8 OF 44-F
KCI JOB NUMBER 16071202

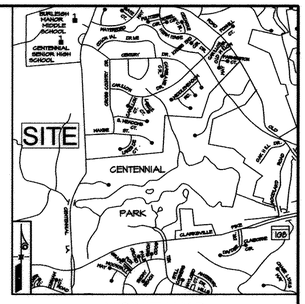
PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

SDP-02-075

LEGEND

- EX. MINOR CONTOUR
- EX. MAJOR CONTOUR
- EX. SOCCER FIELD
- EX. STORM DRAIN
- EX. EDGE OF PAVEMENT
- EX. FENCE
- DRAINAGE AREA
- EX. LIGHT POLE
- PROP. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. SOCCER FIELD
- PROP. STORM DRAIN
- LIMIT OF DISTURBANCE
- PROP. SILT FENCE
- 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 / 11
   - LIBER / FOLIO: 7199 / 255
   - TRACT AREA: 52.34 Ac.
   - ELECTION DISTRICT: 7
   - 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. 2400440022B C, EFFECTIVE DATE APRIL 02, 1997.
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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: 1348547.1212	421.43
24GB	N: 579,069.4554	E: 1350,441.8587	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.

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 4/30/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/25/08

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 410-712-4373

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

STATE OF MARYLAND — THOMAS H. MOORE — No. 25058 — PROFESSIONAL ENGINEER — 4/4/08

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
18662-18667	1	RC-DEO	30	2nd	6025.01
WATER CODE		SEWER CODE			
N/A		9720200			

ADDRESS CHART	
LOT/PARCEL #	STREET ADDRESS
PARCEL A	4560 CENTENNIAL LANE

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

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" = 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 44-F
KCI JOB NUMBER 16071202

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

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 serecia 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.

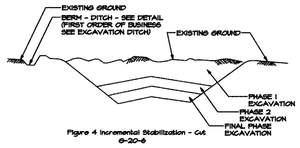

Figure 4 Incremental Stabilization - Cut
G-20-6

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; 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 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 1.6% maximum and water holding capacity of 40% 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 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 3,000 feet long.

I. Incremental Stabilization - Cut Slopes

I. 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.

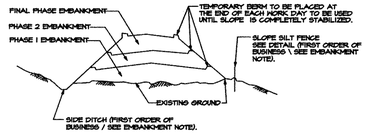

Figure 5 Incremental Stabilization - Fill
G-20-7

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 (15 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-20-4, to be performed at the time of seeding.

Permanent Seeding Summary

Seed Mixture (Hardiness Zone 7A) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	*Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE PEN. RYE GRASS KENT BLUEGRASS	125 15 10	3/1 TO 5/15 OR 8/15 TO 11/15	1/2"	90 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 #3
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", 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 hedged 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 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 45 - 100%, certified Kentucky Bluegrass Cultivars 0 - 55%. 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 #71, "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

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

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

STATE OF MARYLAND — STEVEN K. CUNNINGHAM — LICENSE NO. 25098 — 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. 25098 EXPIRATION DATE: 11-17-08

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
410-772-4373

PERMIT INFORMATION CHART					
SUBDIVISION NAME				SECTION/AREA	LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA				N/A	A
PLAT# OR LIF	BLOCK#	ZONING	TAX MAP NO.	ELECT DISTR	CENSUS TRACT
15662-15667	1	RC-DEO	50	2nd	6023.01
WATER CODE			SEWER CODE		
N/A			9720300		

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

SEDIMENT & EROSION CONTOL NOTES & DETAILS
REVISED SITE DEVELOPMENT PLAN
4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO. SEC3
SHEET 44-D OF 44-F
KCI JOB NUMBER 16071202

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 27 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	190

* US STD. SIEVE CW-02215 ** 50 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"/ MIM. STRAIN RATE IN BOTH PRINCIPAL DIRECTIONS OF GEOTEXTILEFABRIC.

-BURST STRENGHT ASTM D 3786

THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDRCARBONS, AND WILL BE ROT AND MILDEW RESISTANT. IT SHALLBE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNHETIC POLYMERS, AND COMPPOSED OF A MINIMUM OF 85% BY WEIGHT OF POLYOLEPHINS, 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 (20%)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 STRENGTH AND A 20 LB/IN MINIMUM TENSILE MODULES WHEN TESTED IN ACCORDANCE WITH MSMT 509. MATERIAL SHALL ALSO HAVE A 0.3 GAL./FT.SQUARED/MIN. FLOW RATE ND 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 AMINIMUM OF 12 MOUNTHS 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. I, 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:

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SIGNATURE OF DEVELOPER — DATE 4/10/08

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

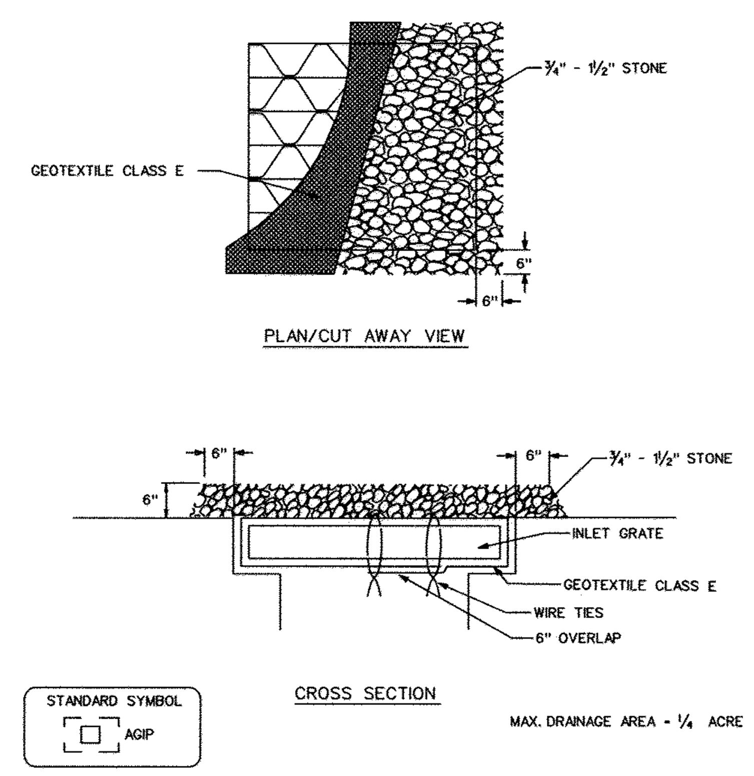
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

PLOTTED: "12:31 PM on Friday, April 04, 2008"
BY: Nicholas Barrick Division: 6653
FILE: M:\2007\16071202\drawings\C-05-SEC-DetailsNotes.dgn

DETAIL 23B - AT GRADE INLET PROTECTION



MAX. DRAINAGE AREA = 1/4 ACRE

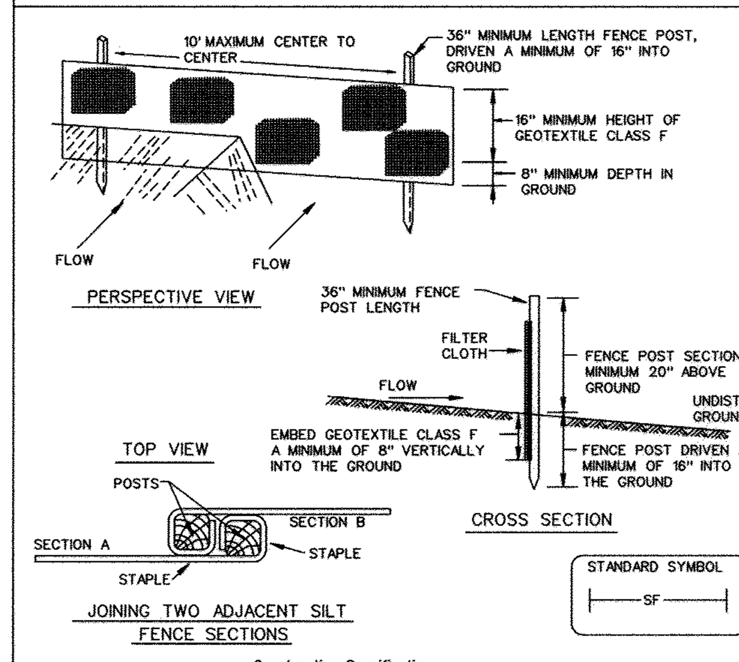
Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 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 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 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

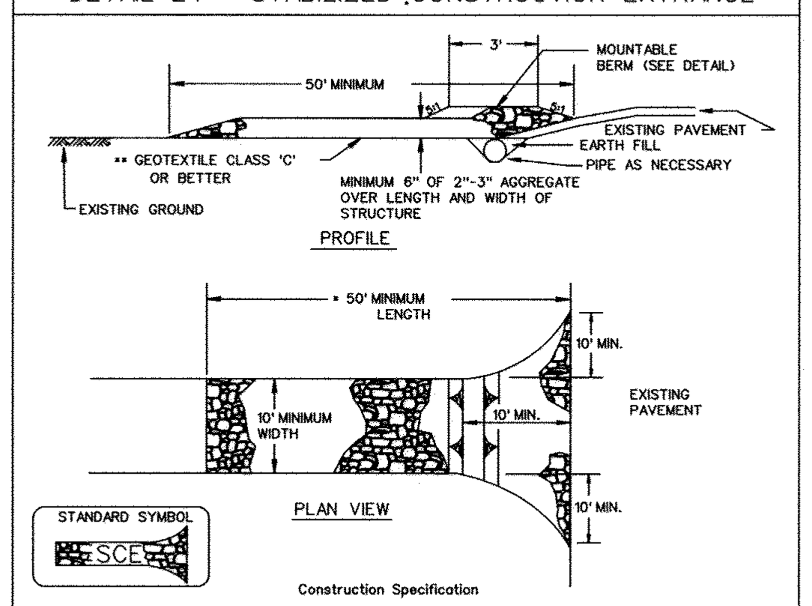
Silt Fence Design Criteria

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 - 45 - 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. **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 - 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 - 47 - 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 4/29/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/28/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/29/08

STATE OF MARYLAND — MARIANNE K. CRAMTON — 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.
8980-D ROUTE 108
COLUMBIA, MD 21045
410-772-9313

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	RC-DEO	50	2nd	6025.01
WATER CODE			SEWER CODE		
N/A			5120200		

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

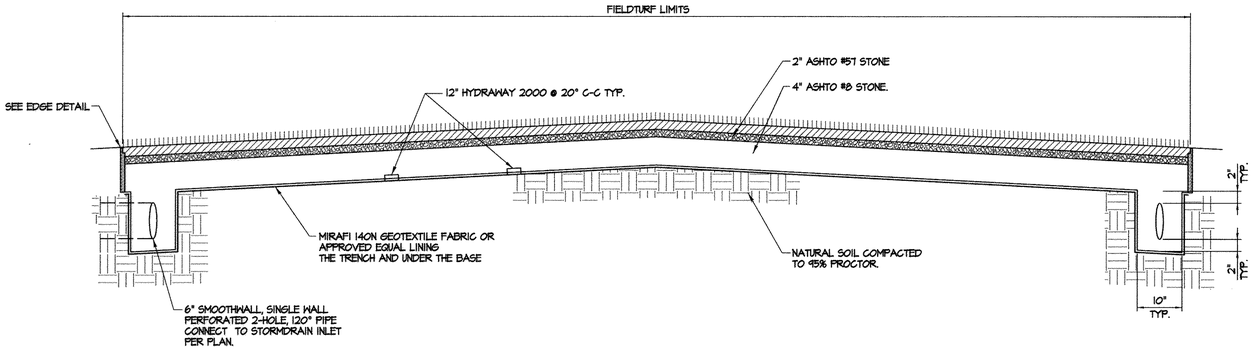
DATE 4/4/08
SCALE AS SHOWN
DESIGNED BY NAB
CHECKED BY THM

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

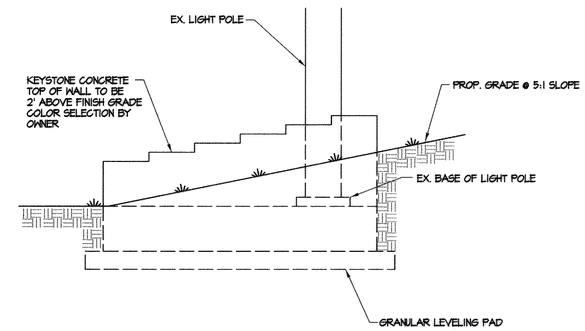
DRAWING NO. SEC4
SHEET 44-E OF 44-F
KCI JOB NUMBER 16071202

SDP-02-075



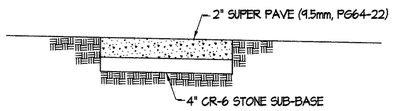
SOCCER FIELD TYPICAL CROSS SECTION

NOT TO SCALE



RETAINING WALL CROSS SECTION

NOT TO SCALE

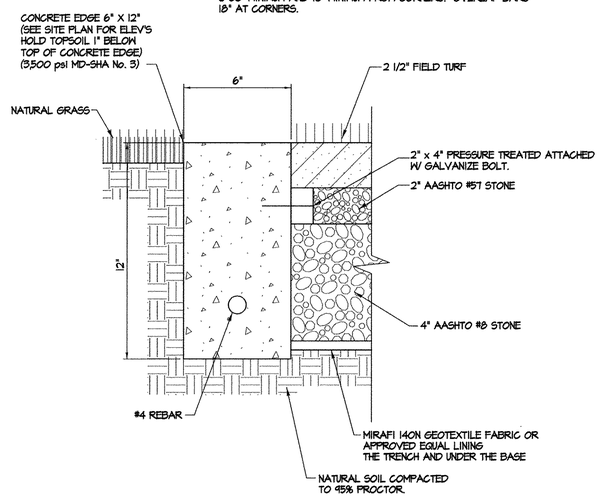


8' BITUMINOUS PATH

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

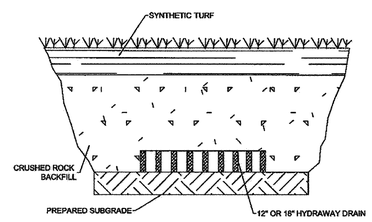
Product	Test Method	Typical Value
Compressive Strength	ASTM D-695/1621 [2]	9,200 PSF
Flow Rate At 1,500 PSF	ASTM D-4716 [1]	21 GPM/FT-Width
Flow Rate At 3,600 PSF	ASTM D-4716 [1]	17 GPM/FT-Width
Thickness	ASTM D-1777	1 Inch
Fabric (4.5 oz.)		
Grab Tensile Strength	ASTM D-4632	120 lbs.
Grab Elongation	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 fo type of product at time of testing.
3. The property values listed below are effective 1/2/01 and 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 qu assurance testing will exceed the value reported.

View Spec Data from First Source

© 2007 H



SYNTHETIC TURF INSTALLATION

HYDRAWAY 2000 TYPICAL DETAIL

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/m² (gal/min/ft²)	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	m²(yd²)	27.3 (33.3)	418 (500)
Rolls per pallet	-	25	-

24" PIPE

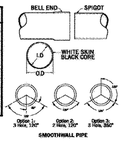
SINGLE WALL PIPE

SMOOTHWALL, TURF FLOW®

3", 4", 6" SMOOTHWALL* SINGLE WALL

INSIDE DIAMETER	OUTSIDE DIAMETER	STANDARD LENGTHS	STYLE	PRODUCT CODE
3" (75mm)	3.25" (83mm)	10' (3m)	Plain	DW 0ER 03 0010
4" (100mm)	4.215" (107mm)	10' (3m)	2-hole, 120°	DW 2ER 03 0010
			Plain	DW 0ER 04 0010
			2-hole, 120°	DW 2ER 04 0010
			3-hole, 120° 1/4"	DW 3ER 04 0010
			3-hole, 120° 1/2"	DW 334 04 0010
			3-hole, 90°	DW 4ER 04 0010
6" (150mm)	6.275" (159mm)	10' (3m)	Plain	DW 0ER 06 0010
			2-hole, 120°	DW 2ER 06 0010
			3-hole, 120°	DW 3ER 06 0010

*HDPE spun welded coupler available on 3" and 4" diameters. Contact your local sales representative for availability.



2" TURF FLOW SINGLE WALL**

INSIDE DIAMETER	OUTSIDE DIAMETER	STANDARD LENGTHS	STYLE	PRODUCT CODE
2" (50mm)	2.4" (61mm)	100' (30m)	Plain	TF PL1 02 0100
			Wide Slot	TF WS1 02 0100
		118' (35.4m)	Wide Slot	TF WS1 02 0L18
			Wide Slot with Wrap	TF PWK 02 0L18
		500' (150m)	Narrow Slot	TF NS1 02 0500

**All prices are F.O.B. Origin (Findlay, OH).

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

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 4/30/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/28/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/29/08

STATE OF MARYLAND — MARK E. CRAIGHILL — No. 25058 — PROFESSIONAL ENGINEER — 11-9-08

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
410-772-4373

PERMIT INFORMATION CHART

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL NO.
COVENANT BAPTIST CHURCH OF WEST COLUMBIA			N/A	A
PLAT# OR L/F 15482-15487	BLOCK# 1	ZONING RC-DEO	TAX MAP NO. 50	ELECT DISTR 2nd	CENSUS TRACT 6029.01
WATER CODE N/A			SEWER CODE 9720200	

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: 11-11-08

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

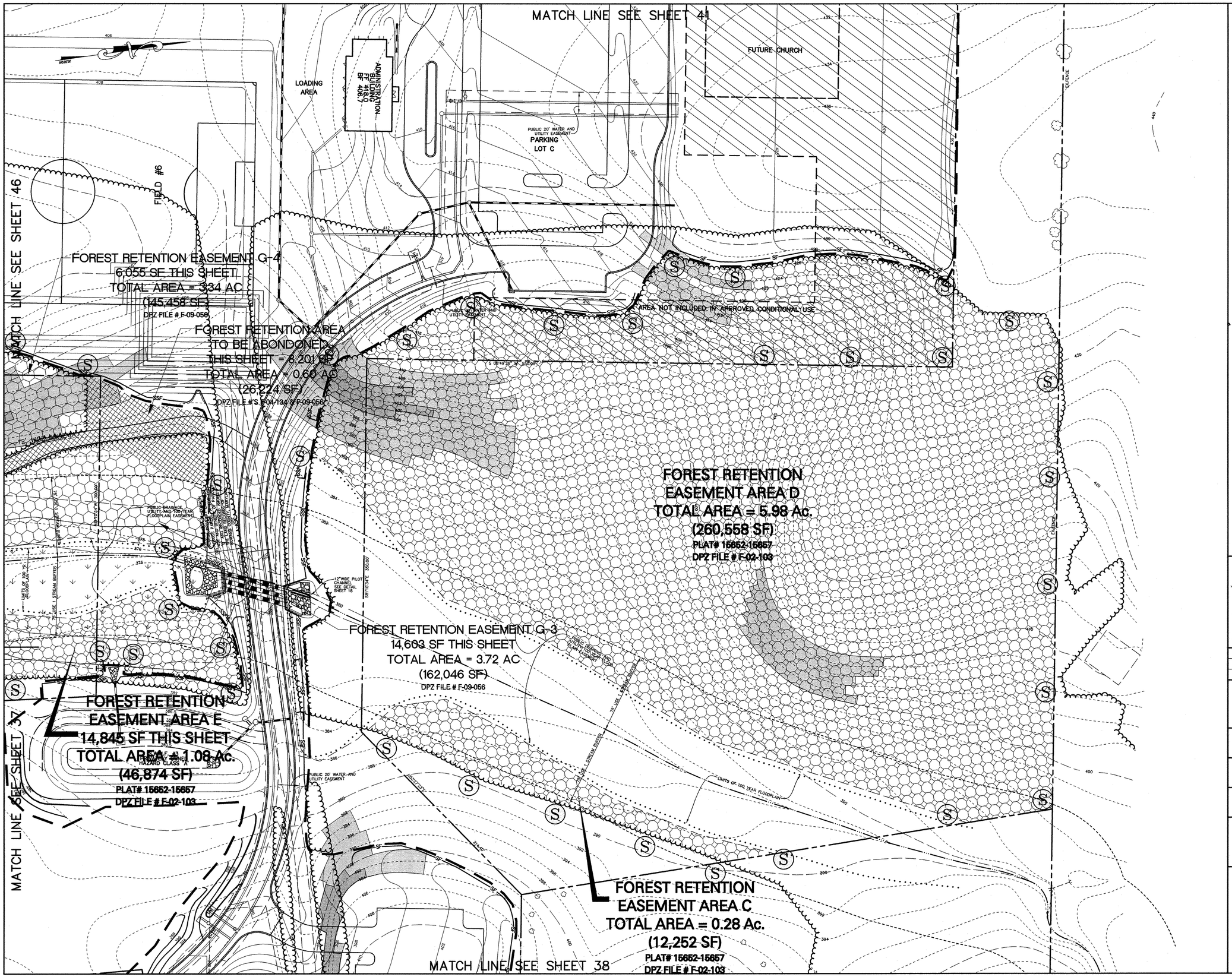
DETAILS & NOTES

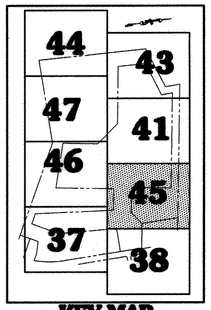
REVISED SITE DEVELOPMENT PLAN

4560 CENTENNIAL LANE, HOWARD COUNTY, MARYLAND

DRAWING NO. D1
SHEET 44-F OF 44-F
KCI JOB NUMBER 16071202

SDP-02-075





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 PROFESSIONAL ENGINEER OF LANDSCAPE ARCHITECTS

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

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

FIELD #7

FOREST RETENTION EASEMENT J-4
13,718 SF THIS SHEET
TOTAL AREA = 2.29 AC
(99,642 SF)
DPZ FILE # F-09-056

36'x48' SHELTER FF 404.5

FOREST RETENTION AREA TO BE ABONDONED
18,023 SF THIS SHEET
TOTAL AREA = 0.60 AC
(26,224 SF)
DPZ FILE # F-09-056

12' WIDE DRIVEWAY

EX. 46" SYCAMORE

FIELD #8

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

MATCH LINE SEE SHEET 41

MATCH LINE SEE SHEET 45

MINIMAL CLEARING FOR DRIVEWAY. EXISTING TREES AND VEGETATION WILL BE RETAINED AS MUCH AS POSSIBLE.

AREA OF SLOPES GREATER THAN 25%=3226 SF

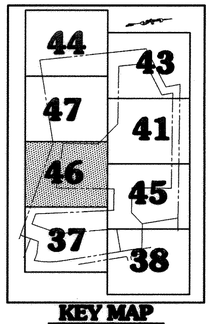
AREA OF SLOPES GREATER THAN 25%=3872 SF

FOREST RETENTION EASEMENT

12' WIDE DRIVEWAY

FOREST RETENTION EASEMENT G-3
147,443 SF THIS SHEET
TOTAL AREA = 3.72 AC
(162,046 SF)
DPZ FILE # F-09-056

MATCH LINE SEE SHEET 37



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 4/14/09
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

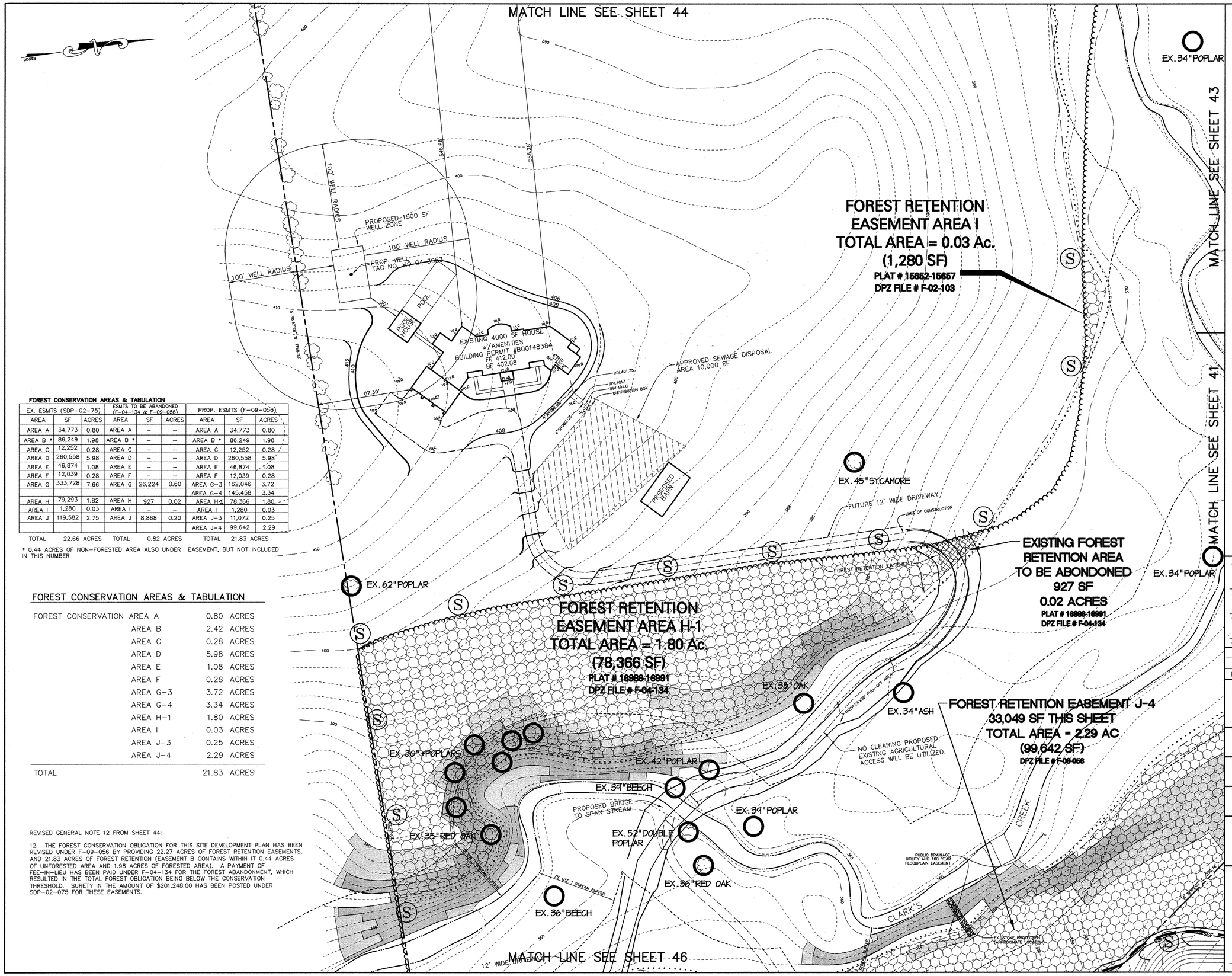
4.2.09
DATE

STATE OF MARYLAND 3068 PETER J. STONE PROFESSIONAL ENGINEER

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



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	

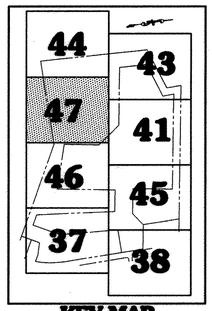
* 0.44 ACRES OF NON-FORESTED AREA ALSO UNDER EASEMENT, BUT NOT INCLUDED IN THIS NUMBER

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 4-5-9
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

PETER J. STONE, #3068

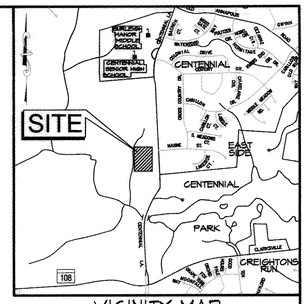
DESIGNED BY : P.J.S.
DRAWN BY: P.J.S.
PROJECT NO : 00287
FCP6-REV.DWG
DATE : APRIL 3, 2009
SCALE : 1" = 40'
DRAWING NO. 47 OF 47

SDP-02-75

NAD 83/91
NAVD 88

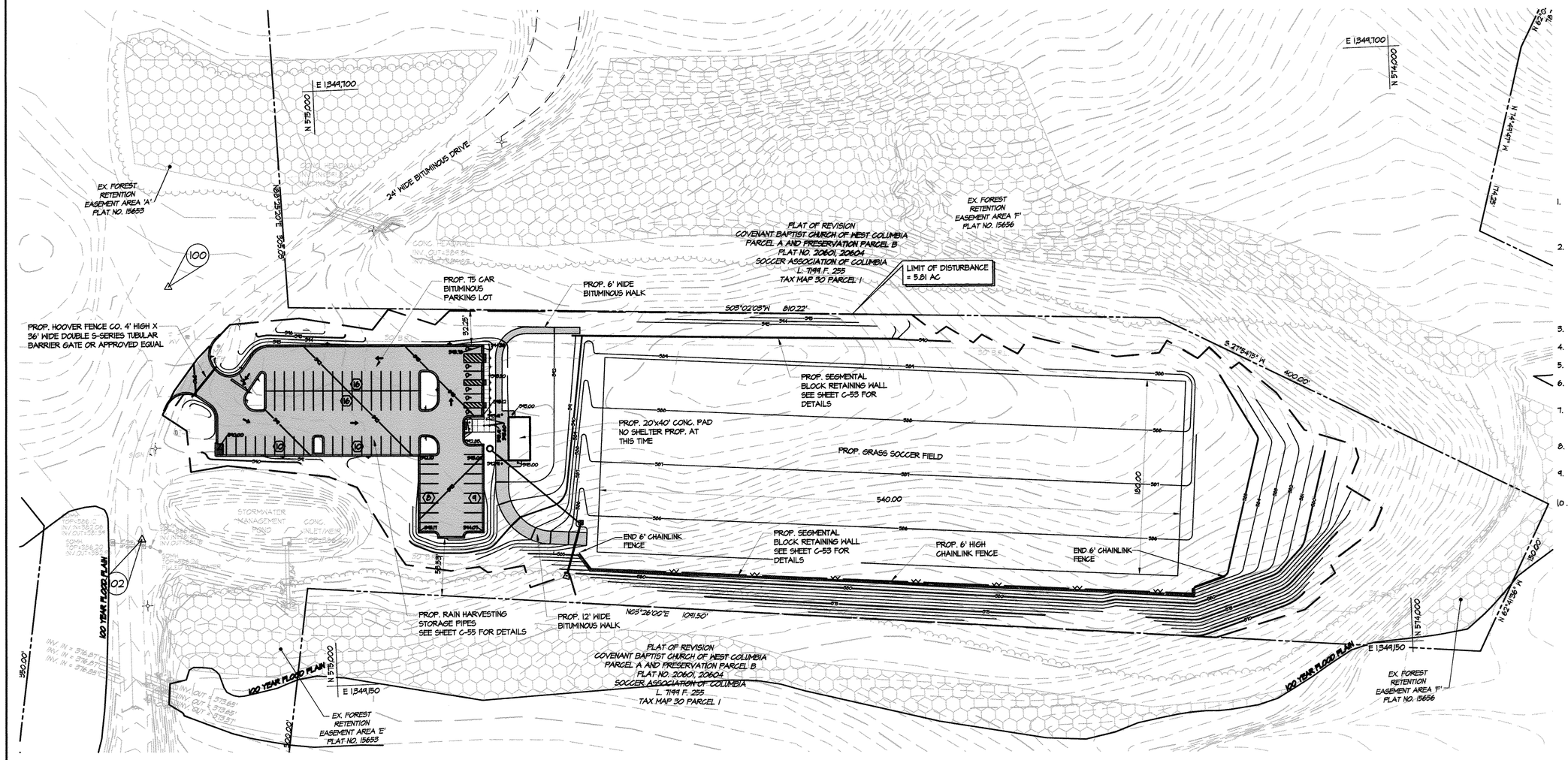
BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,349,524.74	348.84
102	REBAR & CAP	575,176.57	1,349,242.75	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. 2400440022B 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
- 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

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 09-36C.

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

STATE OF MARYLAND — RICHARD C. BUTT — 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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 2/28/12
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2-28-12
DIRECTOR — DATE 2/28/12

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

NO.	DATE	DESCRIPTION	BY

REVISIONS

DATE 11/09/2011
SCALE 1" = 50'
DESIGNED BY NAB
CHECKED BY THM

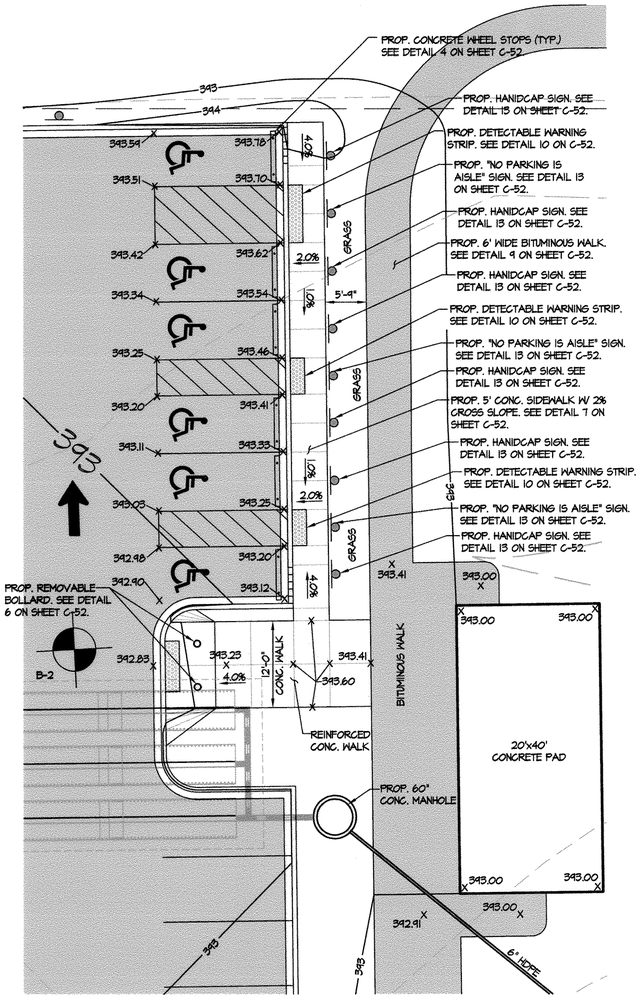
SOCCER ASSOCIATION OF COLUMBIA, INC.
FIELD #9
REVISED OVERALL SITE PLAN

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
ACI JOB NUMBER 27110147

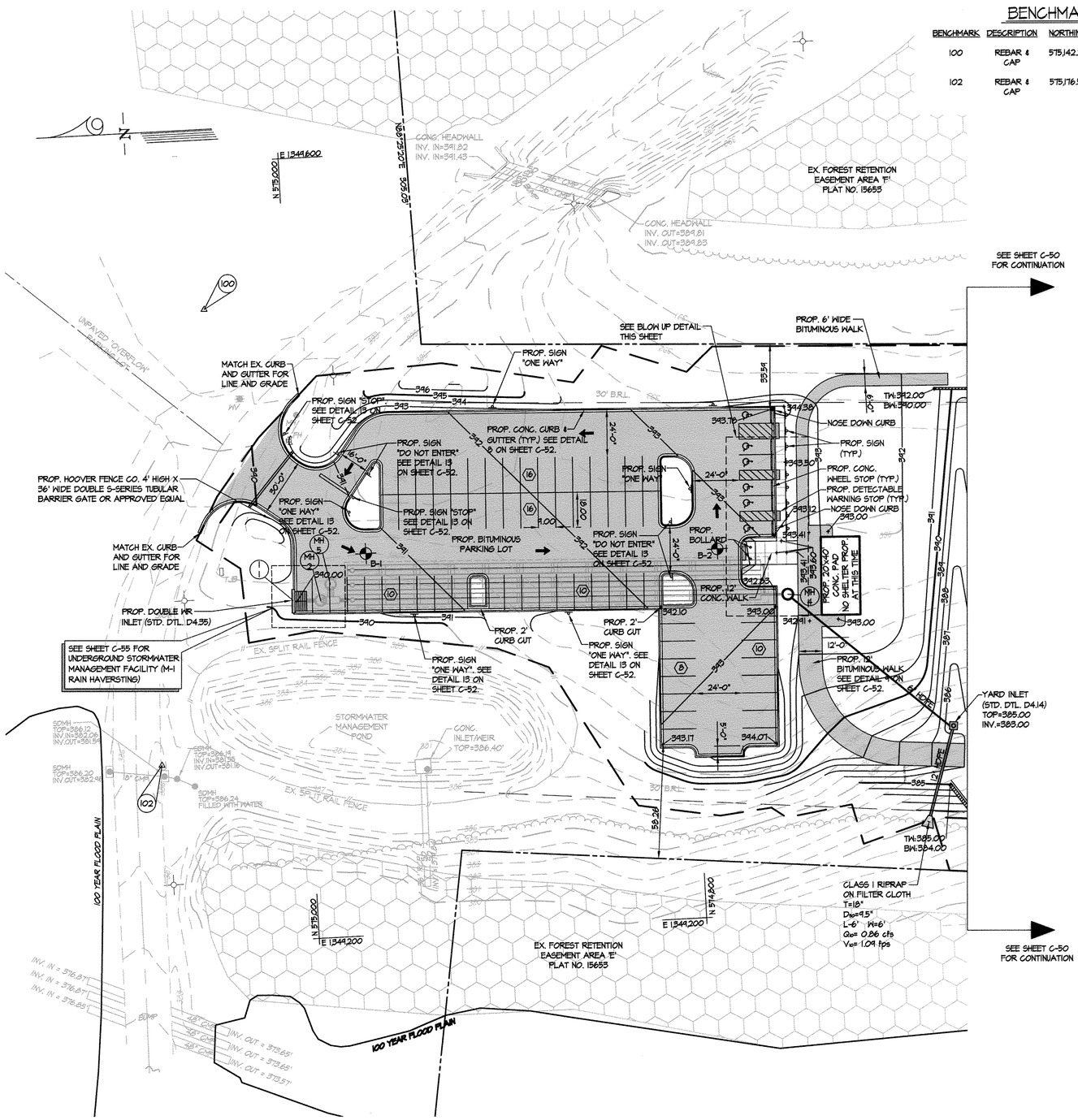
SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$



SITE PLAN BLOW UP

SCALE: 1" = 10'

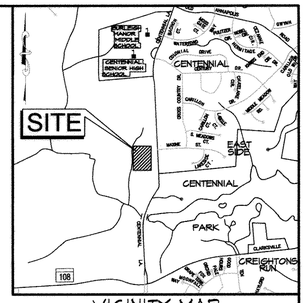


SITE PLAN

SCALE: 1" = 30'

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344,524.74	348.84
102	REBAR & CAP	575,176.57	1,344,242.75	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
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4. CURRENT ZONING: RR-DEO
5. TOTAL DISTURBED AREA: 253,126 sq.ft. or 5.81 Ac.
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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. 09-36C, FIELD #9 SHALL REMAIN UNLIGHTED.

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

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 2-23-12
DIRECTOR — DATE 2/24/12

STATE OF MARYLAND — RICHARD L. DUTT — 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)792-8086
FAX: (410)792-7419

REVISIONS			
NO.	DATE	DESCRIPTION	BY

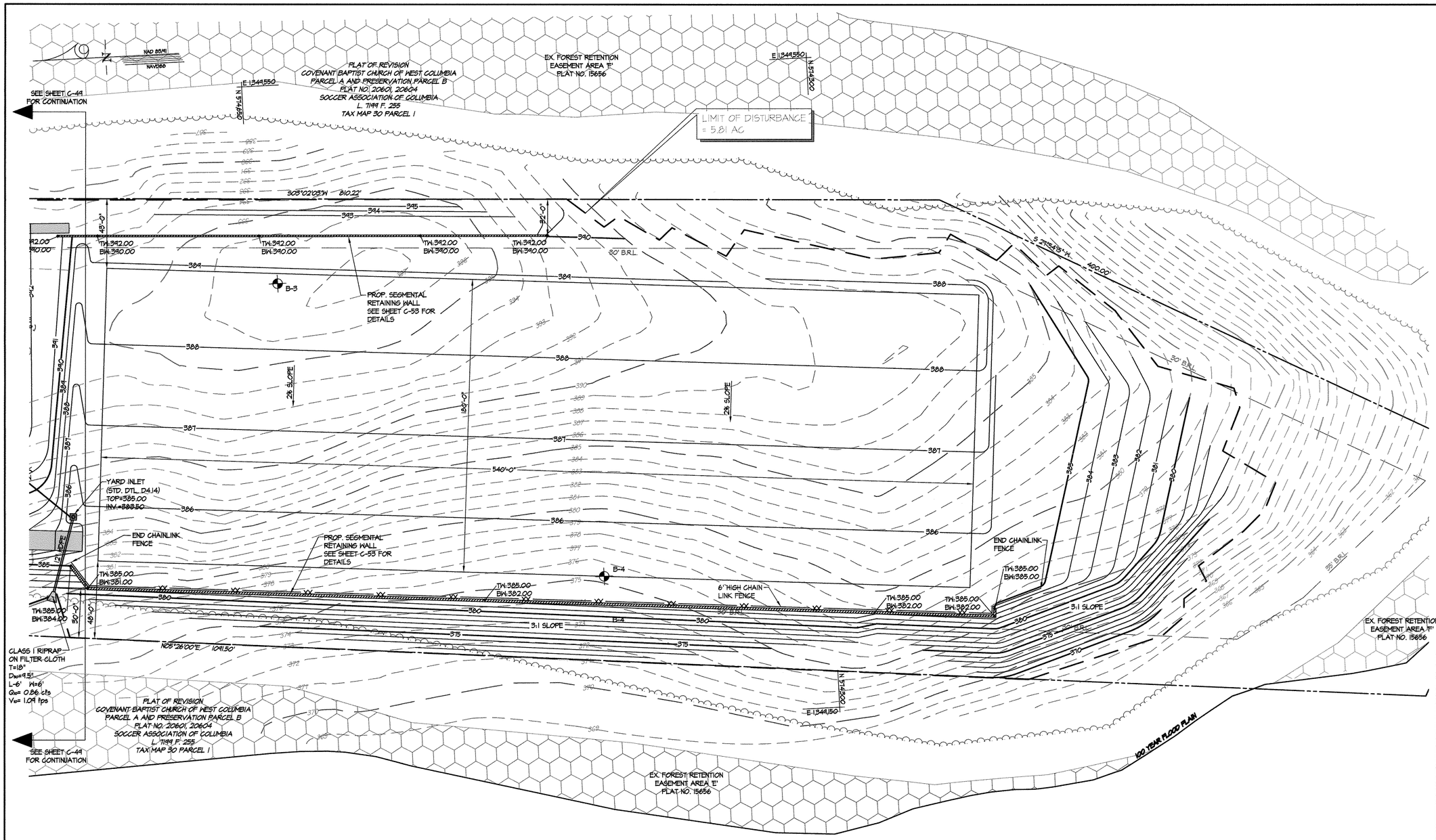
DATE 11/09/2011
SCALE 1" = 30'
DESIGNED BY NAB
CHECKED BY THM

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 15651

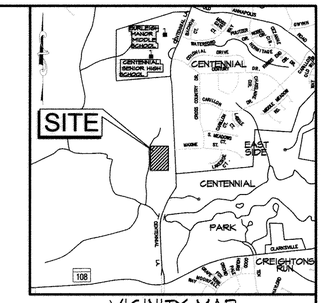
DRAWING NO. C-49
SHEET 49 OF 61
KCI JOB NUMBER 27110147

PLOTTED: 9/14/15
BY: SHELLY KESS
FILE: SDP-02-075

SDP-02-075



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:

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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

STATE OF MARYLAND — RICHARD L. SMITH — No. 031069 — 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. 31084 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 3/28/12

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: 410-203-9540

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
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 61
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: BAYES
BY: SUSENAMES
FILE: 6-LES

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	575,094.55	1,344,475.37	34.07
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	575,073.34	1,344,423.66	8.00
7	0+30.00	575,076.18	1,344,446.77	8.00
8	0+35.34	575,060.15	1,344,441.54	8.00
9	0+36.74	575,055.64	1,344,434.45	12.57
10	0+43.92	575,061.08	1,344,454.06	8.23
11	0+55.17	575,050.20	1,344,467.14	12.00
12	1+44.83	574,911.72	1,344,438.03	14.50
13	1+47.33	574,904.13	1,344,431.43	12.00
14	2+01.83	574,904.63	1,344,431.25	12.00
15	2+53.86	574,851.70	1,344,434.13	12.00

BASELINE 'C' DATA

NO.	STATION	NORTHING	EASTING	LENGTH
16	0+22.00	574,845.04	1,344,426.85	12.00
17	0+38.00	574,845.64	1,344,410.86	12.00
18	0+54.00	574,854.36	1,344,383.18	30.00
19	0+54.00	574,867.35	1,344,383.11	17.00
20	0+54.00	574,872.55	1,344,388.41	12.00
21	0+66.00	574,872.84	1,344,381.42	12.00
22	0+71.00	574,873.20	1,344,372.43	17.00
23	0+71.00	574,855.41	1,344,367.20	30.00
24	0+82.00	574,847.46	1,344,366.90	12.00
25	0+86.50	574,847.64	1,344,362.40	12.00
26	0+84.00	574,900.24	1,344,360.01	14.50
27	0+84.00	574,914.73	1,344,360.54	24.00
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	574,904.84	1,344,288.12	16.00
31	1+61.00	574,872.67	1,344,286.85	16.00
32	1+65.00	574,900.81	1,344,283.47	12.00
33	1+65.00	574,876.83	1,344,283.00	12.00
34	1+66.00	574,900.85	1,344,282.47	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	574,908.08	1,344,401.27	12.00
37	0+22.00	574,907.05	1,344,377.24	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	1,344,394.65	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	1,344,404.86	14.50
50	1+73.50	575,054.46	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	1,344,367.21	30.00

BASELINE 'E' DATA

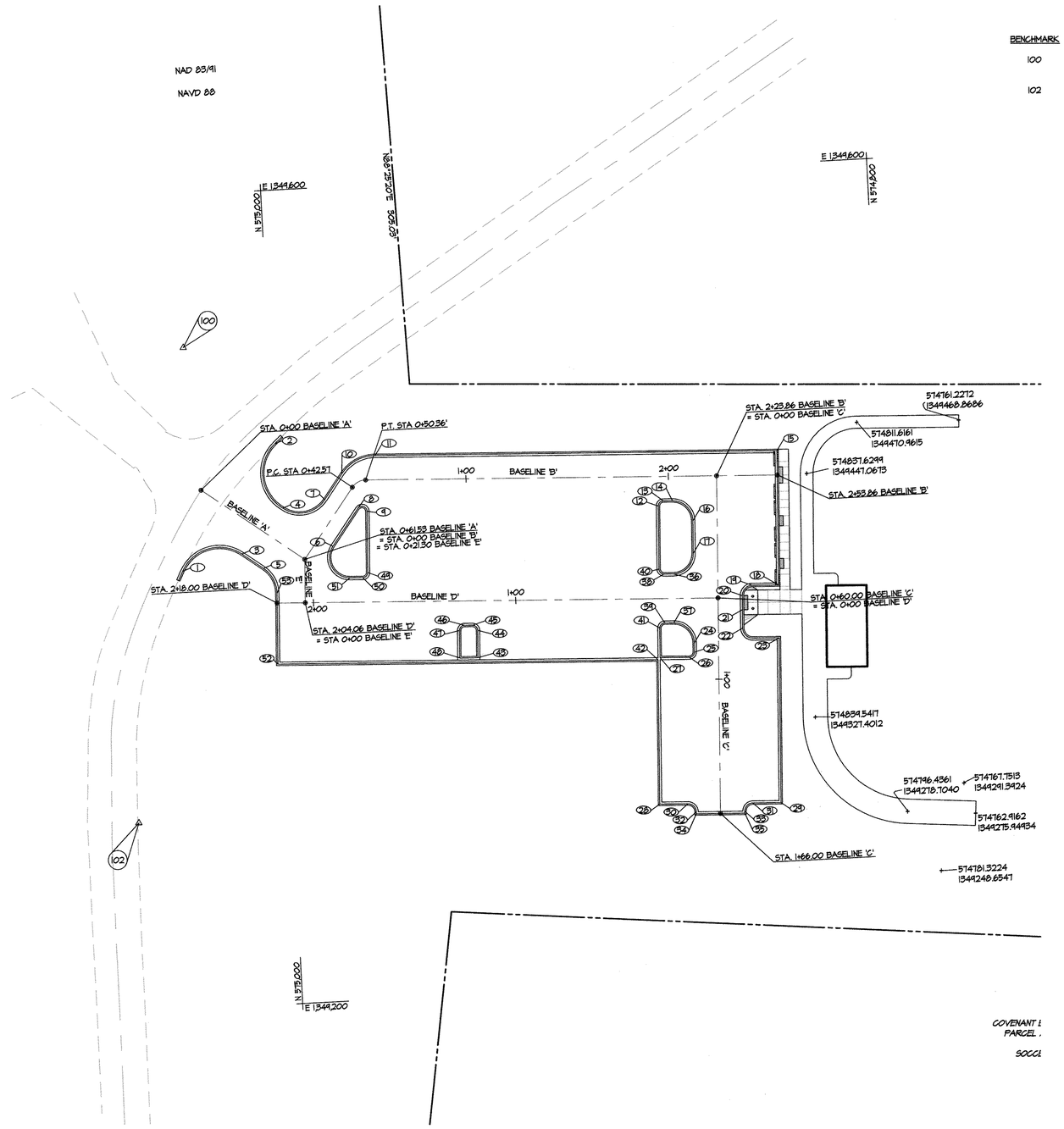
NO.	STATION	NORTHING	EASTING	LENGTH
53	0+04.70	575,102.22	1,344,401.88	13.94

BASELINE CURVE DATA

NO.	TO	FROM	RADIUS	LENGTH	CHORD
C-1	0+42.57	0+50.36	8.00'	7.79	7.48

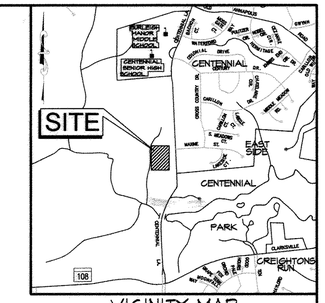
BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344524.74	348.89
102	REBAR & CAP	575,176.57	1,344,292.75	386.26



GEOMETRY PLAN

SCALE: 1" = 30'



VICINITY MAP

SCALE: 1" = 2000'

COVENANT L
PARCEL .
SOCCL

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 2/27/12

STATE OF MARYLAND — RICHARD L. BLUTT — 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: 410-203-4540

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

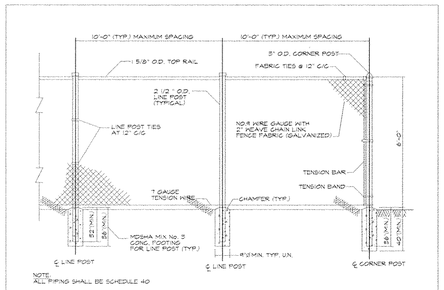
GEOMETRY PLAN

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15651

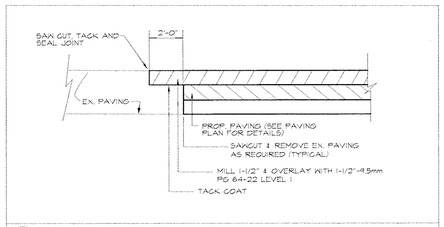
DRAWING NO. C-51
SHEET 51 OF 61
KCI JOB NUMBER 27110147

SDP-02-075

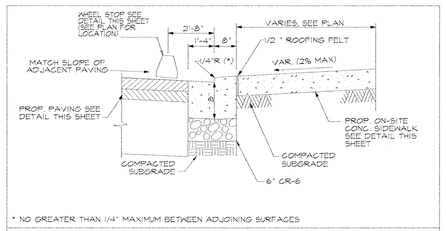
PLOTTED BY: NAB
DATE: 11/09/2011
FILE: SDP-02-075



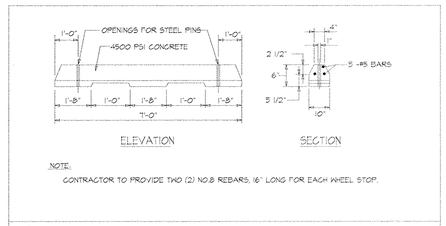
1 6' HIGH CHAIN LINK FENCE DETAIL SCALE: N.T.S.



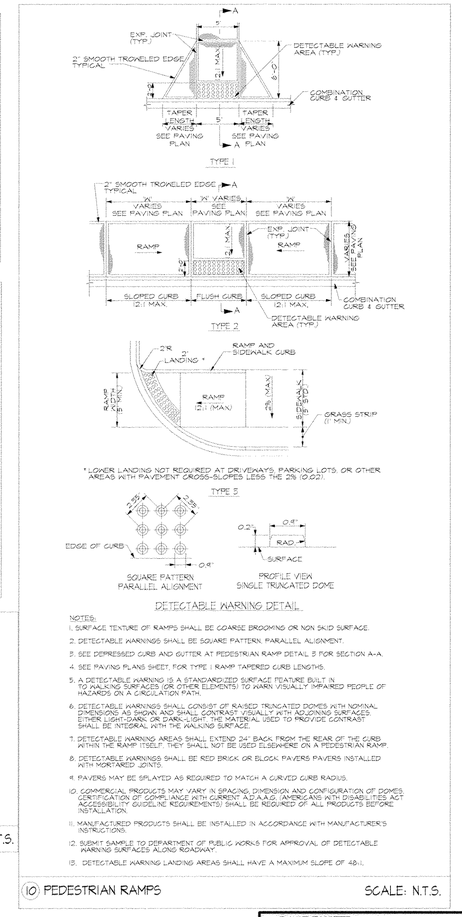
2 PAVING TIE-IN DETAIL SCALE: N.T.S.



3 DEPRESSED CURB & GUTTER AT PEDESTRIAN RAMP (SECTION A-A TYPE 2) SCALE: N.T.S.

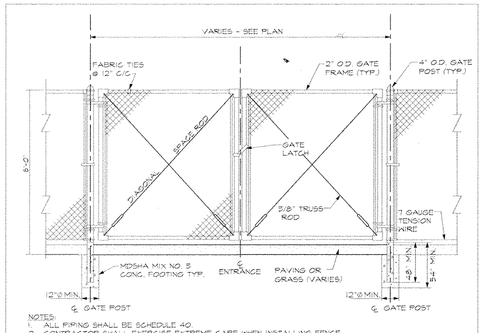


4 PRECAST CONCRETE WHEEL STOP SCALE: N.T.S.

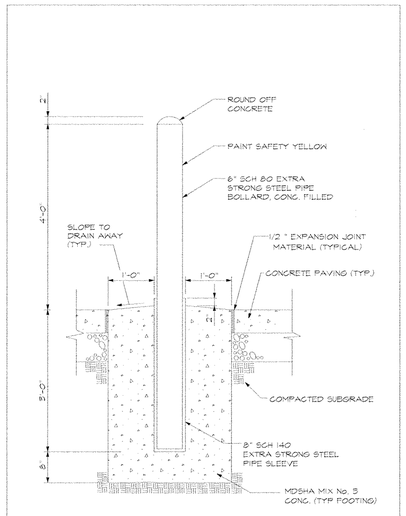


NOTES:
1. SURFACE TEXTURE OF RAMPS SHALL BE COARSE BROOMING OR NON SKID SURFACE.
2. DETECTABLE WARNINGS SHALL BE SQUARE PATTERN PARALLEL ALIGNMENT.
3. SEE DEPRESSED CURB AND GUTTER AT PEDESTRIAN RAMP DETAIL 3 FOR SECTION A-A.
4. SEE PAVING PLANS SHEET FOR TYPE 1 RAMP TAPERED CURB LENGTHS.
5. A DETECTABLE WARNING IS A STANDARDIZED SURFACE FEATURE BUILT IN TO WALKING SURFACES (OR OTHER ELEMENTS) TO WARN VISUALLY IMPAIRED PEOPLE OF HAZARDS 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.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.

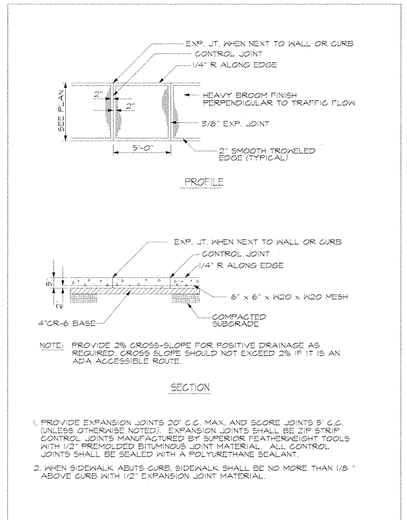
10 PEDESTRIAN RAMPS SCALE: N.T.S.



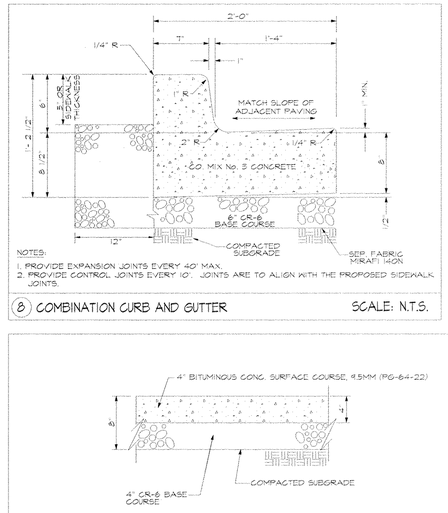
5 6' DOUBLE SWING GATE DETAIL SCALE: N.T.S.



6 PIPE BOLLARD SCALE: N.T.S.

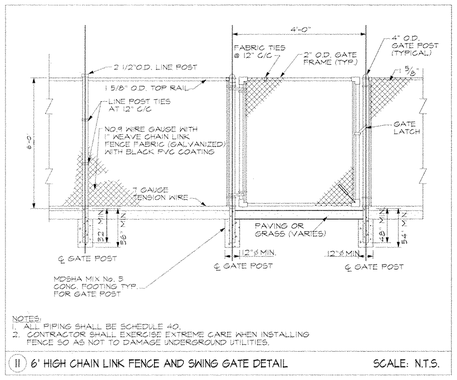


7 CONCRETE SIDEWALK & PAVILION PAD SCALE: N.T.S.

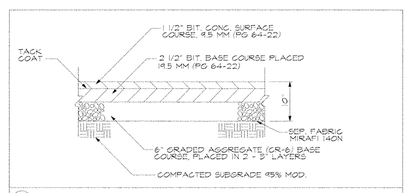


8 COMBINATION CURB AND GUTTER SCALE: N.T.S.

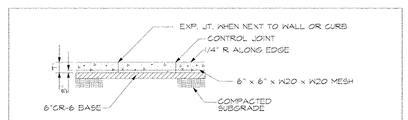
9 BITUMINOUS PATH DETAIL SCALE: N.T.S.



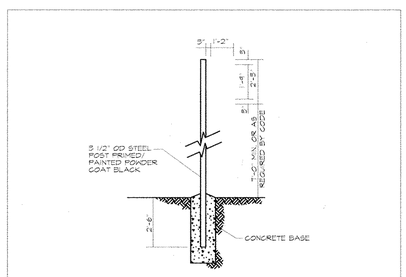
11 6' HIGH CHAIN LINK FENCE AND SWING GATE DETAIL SCALE: N.T.S.



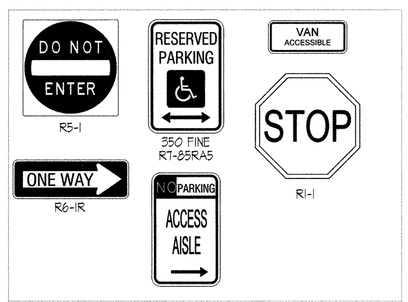
12 PARKING LOT PAVING DETAIL SCALE: N.T.S.



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 11/8/12

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 2/28/12

STATE OF MARYLAND — RICHARD T. DUNN — 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: 410-203-9540

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 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 61
KCI JOB NUMBER 27110147

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILENAME$

SDP-02-075

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 MANUFACTURER'S 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.

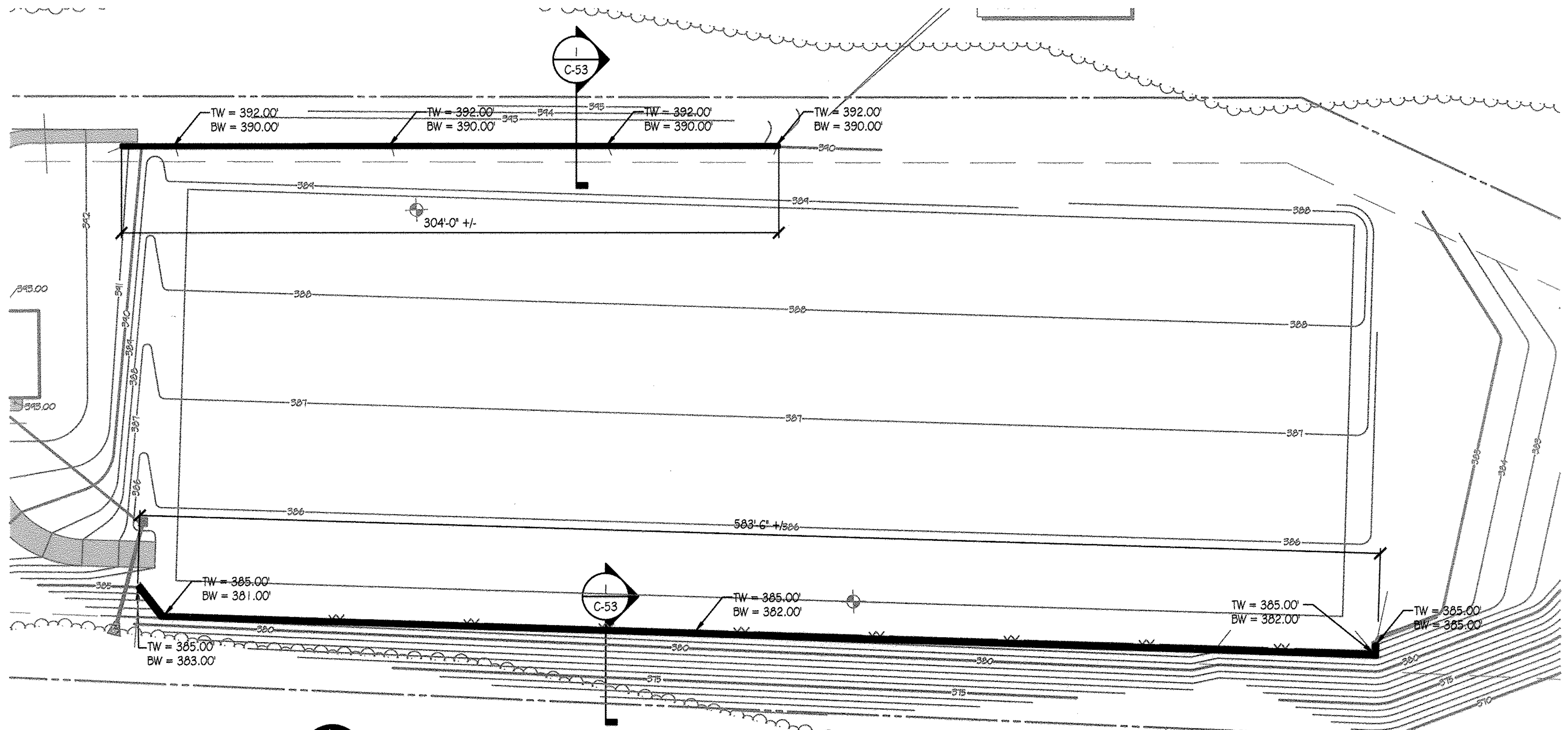
5. MISCELLANEOUS

   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

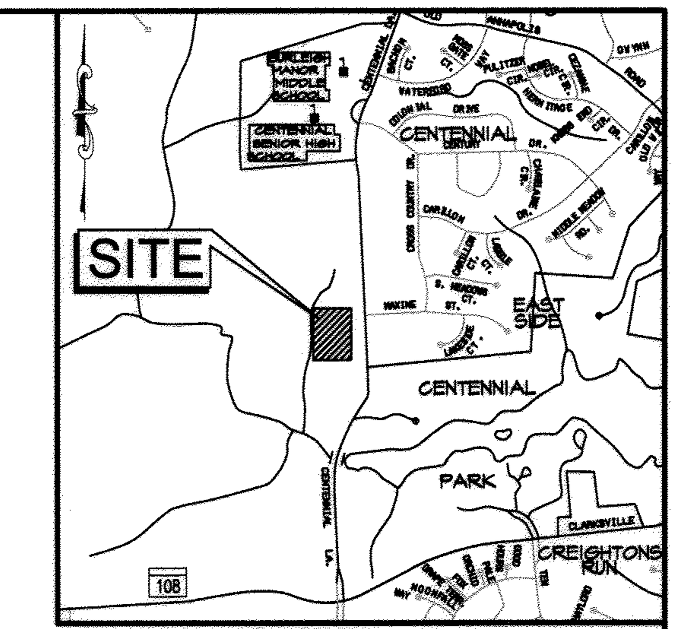
PLAN NOTES:

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.

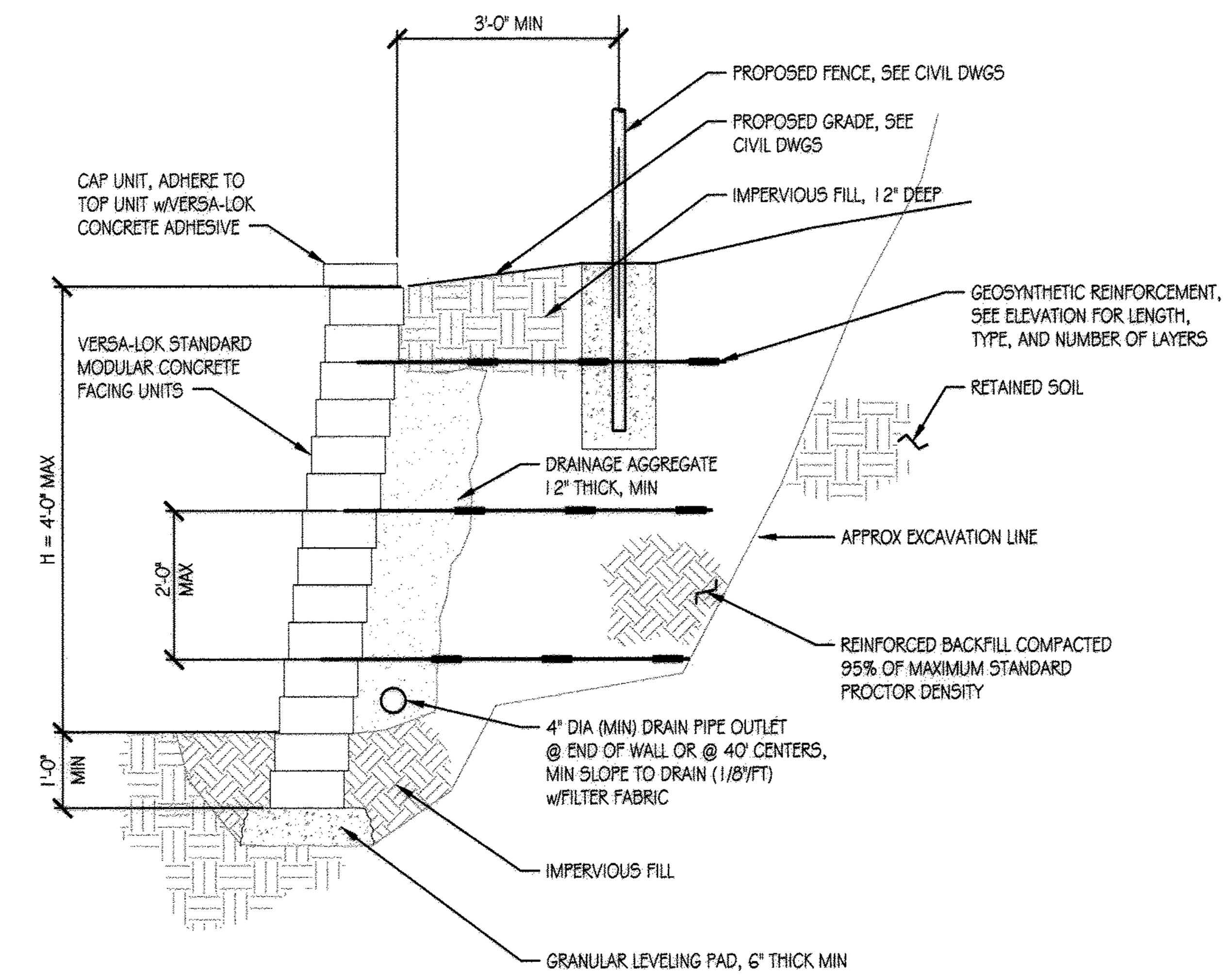
3. TOP OF WALL ELEVATION IS INDICATED ON PLAN THUS: TW = XXX.XX'. TOP OF WALL INDICATES RETAINED SOIL HEIGHT ON HIGH SIDE OF WALL.

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.



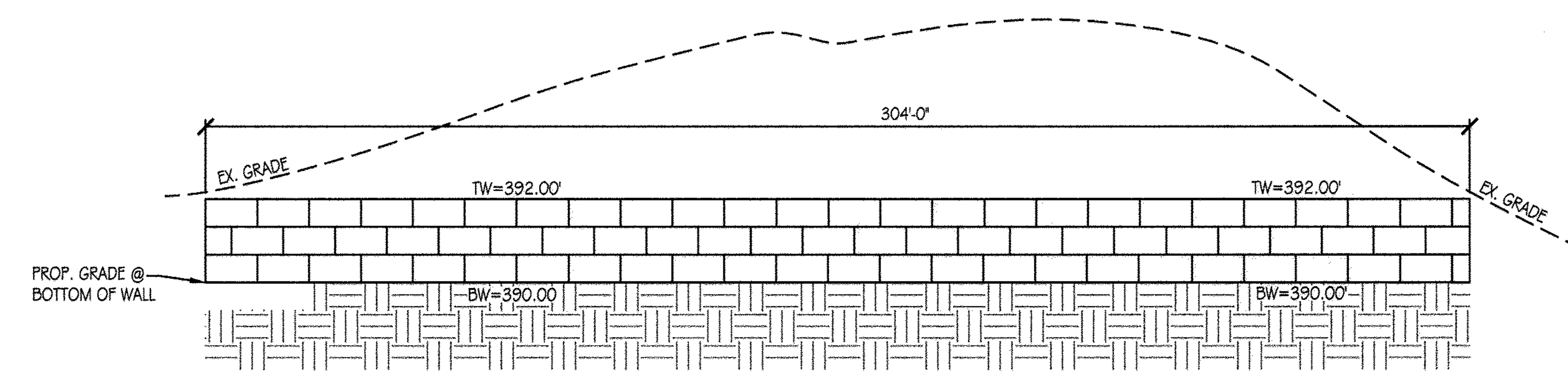
VICINITY MAP

SCALE: 1" = 2000'



SECTION AT RETAINING WALL

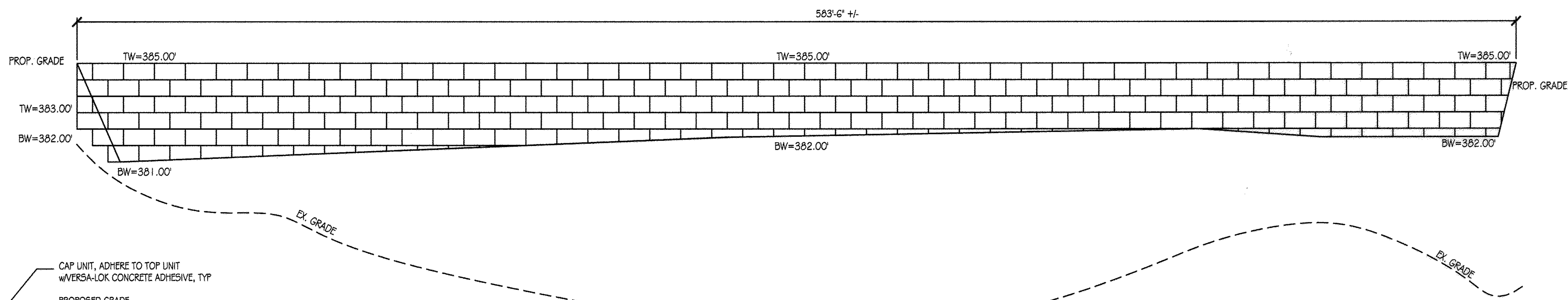
1/C-53 SCALE: 1/2"=1'-0"



EAST WALL PROFILE

SCALE:
HORIZONTAL 1" = 30'
VERTICAL 1" = 3'

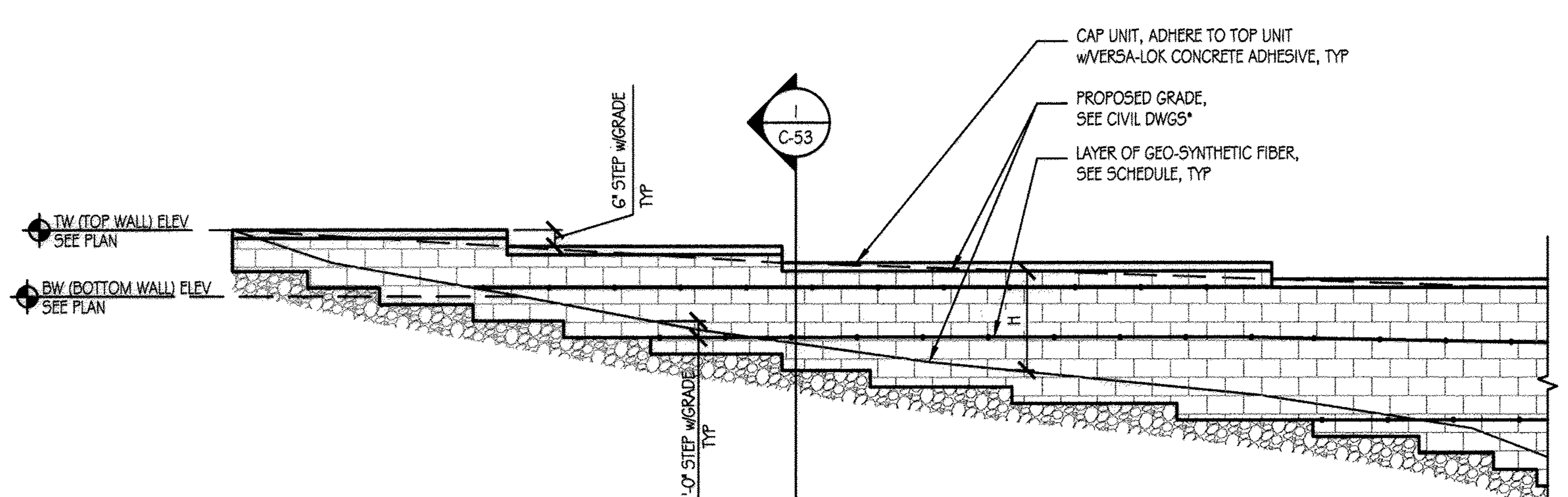
SEE TYPICAL ELEVATION DETAIL THIS SHEET FOR GEO-SYNTHETIC FIBER REQUIREMENTS AND PLACEMENT



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.

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."

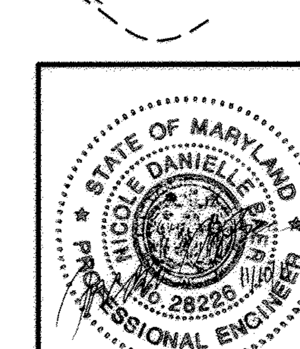
2/8/12
SIGNATURE OF DEVELOPER DATE

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



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

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 — 2/24/12 DATE

OWNER/DEVELOPER

SOCCER ASSOCIATION OF COLUMBIA, INC.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-9590

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

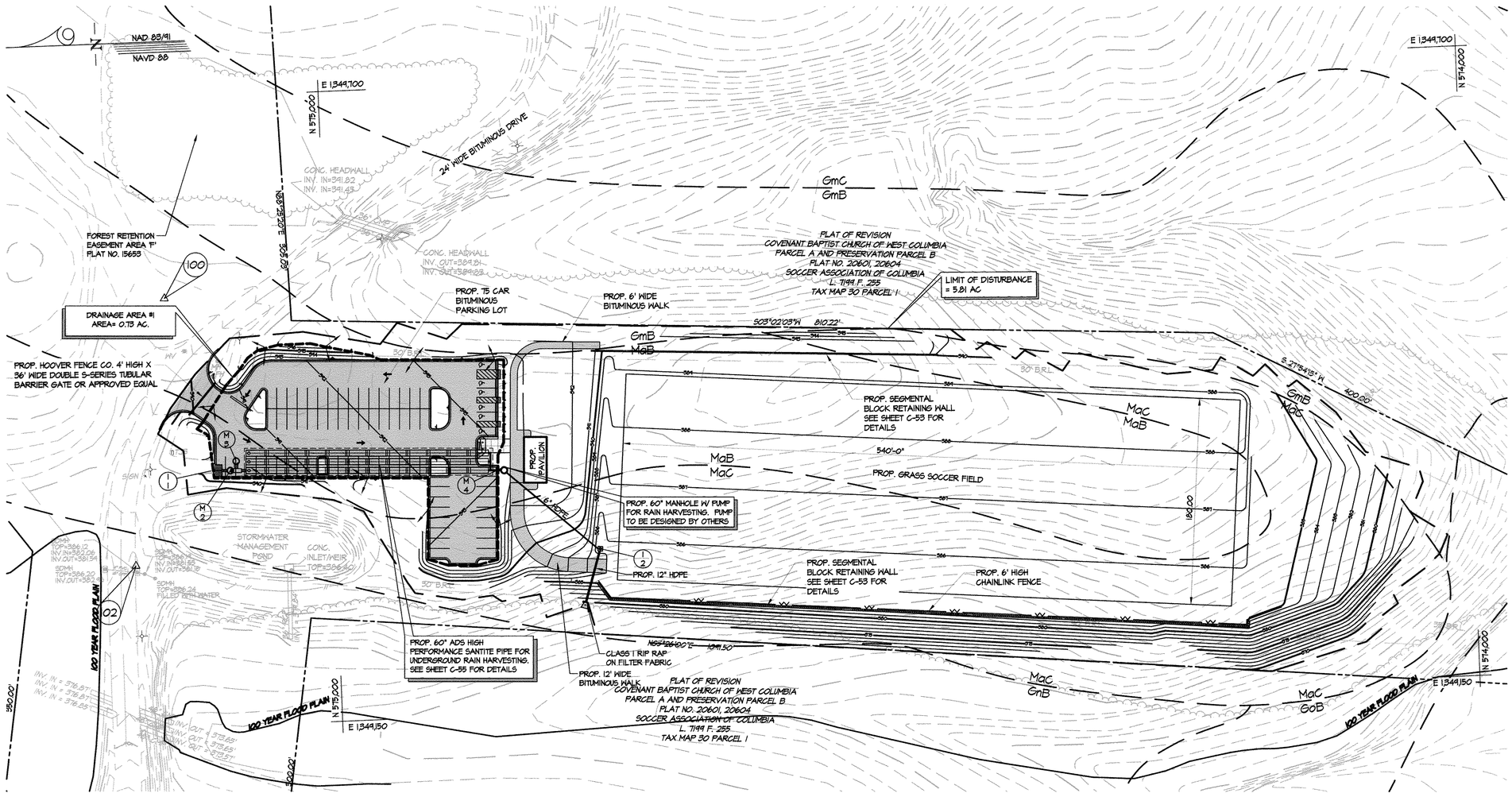
DRAWING NO. C-53

SHEET 53 OF 61

KCI JOB NUMBER 27110147

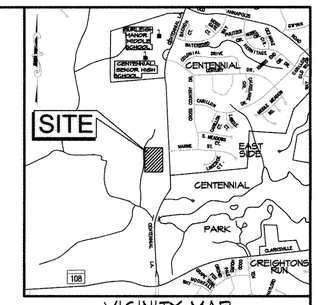
SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$



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	1,344524.74	348.84
102	REBAR & CAP	575,176.57	1,344,242.75	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.

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 2/28/12

STATE OF MARYLAND — RICHARD L. BUST — No. 031083 — PROFESSIONAL ENGINEER — 11-10-11

STATE OF MARYLAND — DOUGLAS A. BARNES — No. 23772 — PROFESSIONAL ENGINEER — 2/8/15

FOR AS-BUILT ONLY

Professional Certification. I hereby certify that those 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. 23772, 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. 31083, EXPIRATION DATE: 11-21-12

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	3,531	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

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)792-8086
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

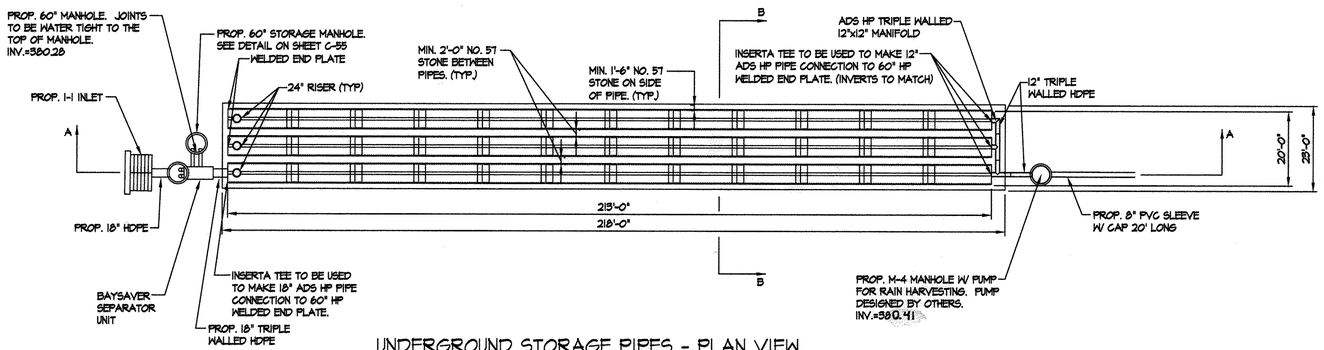
HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15651

DRAWING NO. C-54
SHEET 54 OF 61
KCI JOB NUMBER 27110147

SDP-02-075

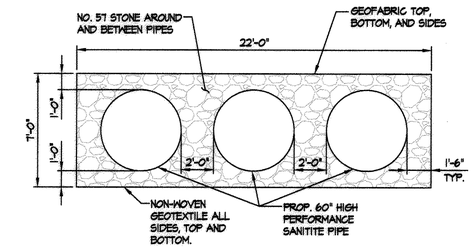
PLOTTED: 8/24/15
BY: BISER, JAMES
FILE: C-54.DWG

NOTE:
634 LF 60" ADS TRIPLE WALLED PIPE IS BEING USED AS UNDERGROUND STORAGE FOR IRRIGATION USE FOR FIELD #1 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.



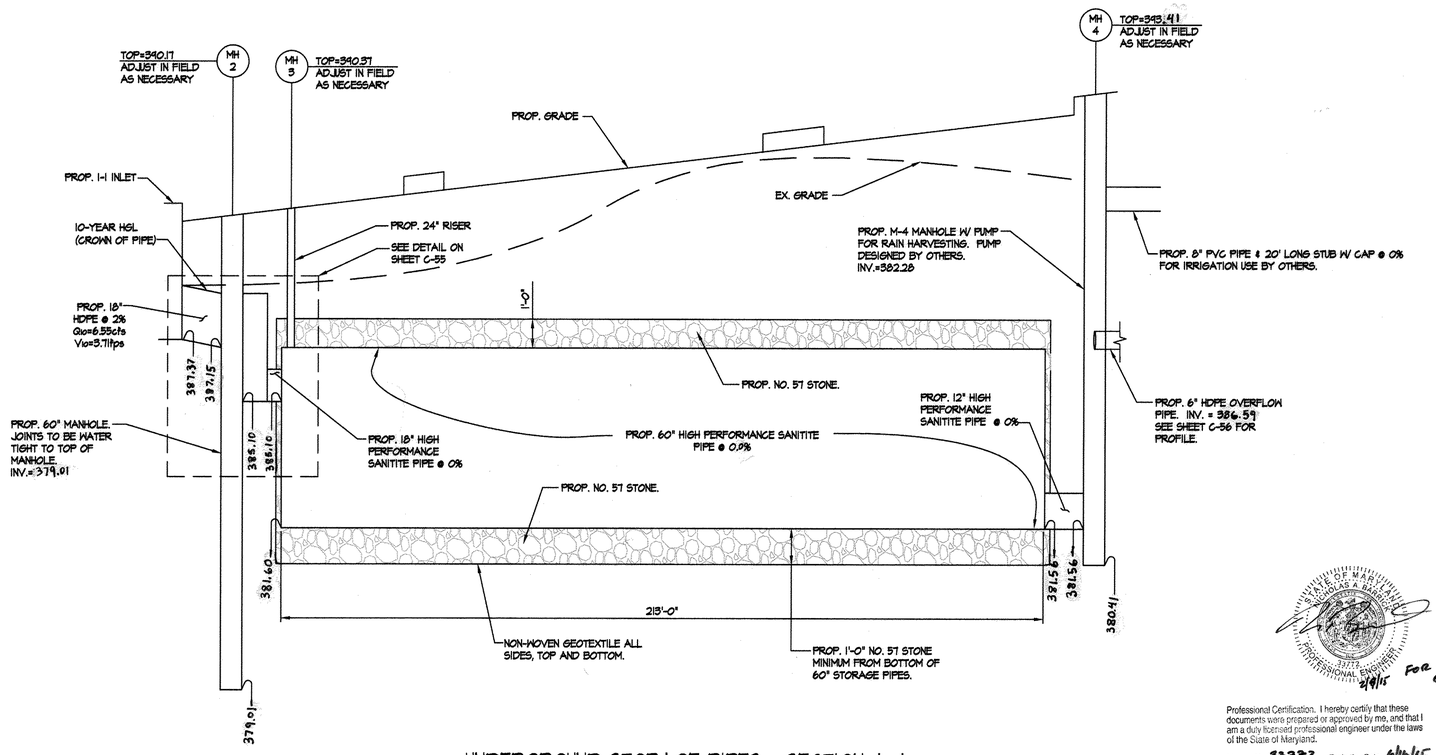
UNDERGROUND STORAGE PIPES - PLAN VIEW

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 4-10-11

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 NICHOLAS A. BARBIERI PROFESSIONAL ENGINEER 33772 2/9/15 FOR PERMIT 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. 33772, Expiration Date: 6/16/15

STATE OF MARYLAND RICHARD L. DAVIS 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

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: 410-203-1590

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

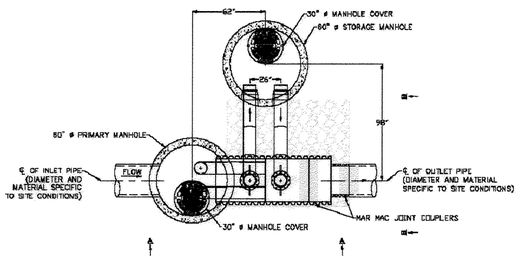
STORM WATER MANAGEMENT DETAILS

HOWARD COUNTY, MARYLAND — 2ND ELECTION DISTRICT
TAX MAP 30, BLOCK 1, ZONED RR-DEO, PARCEL A, PLAT #15652 TO 15657

DRAWING NO. C-55
SHEET 55 OF 61
KCI JOB NUMBER 27110147

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

SDP-02-075

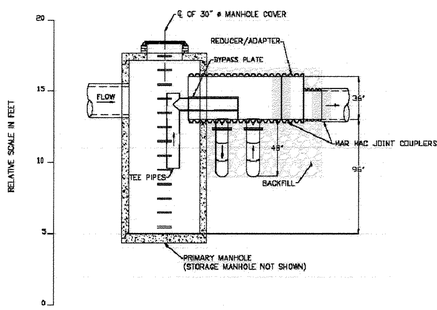


PLAN VIEW-BAYSAVER SEPARATION SYSTEM
(LEFT HAND ORIENTATION SHOWN)

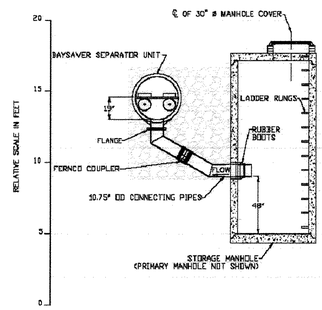
INLET PIPE INVERT:	387.15
INLET PIPE ID AND MATERIAL:	18" HDPE
OUTLET PIPE INVERT:	385.10
OUTLET PIPE ID AND MATERIAL:	18" HDPE
PRIMARY MANHOLE RIM ELEVATION:	390.71
STORAGE MANHOLE RIM ELEVATION:	390.20
ORIENTATION (RIGHT OR LEFT):	

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) MARMAC 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 I, 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



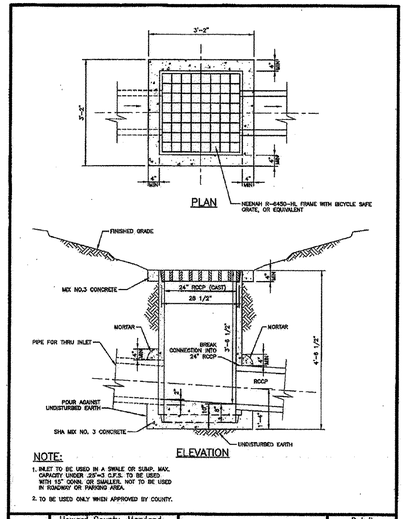
PROFILE VIEW B-B

REV	DESCRIPTION	DATE	APPR	NOTES:

BAYSAVER TECHNOLOGIES, INC.
Engineering Stormwater Solutions
www.BaySaver.com 800.229.7263

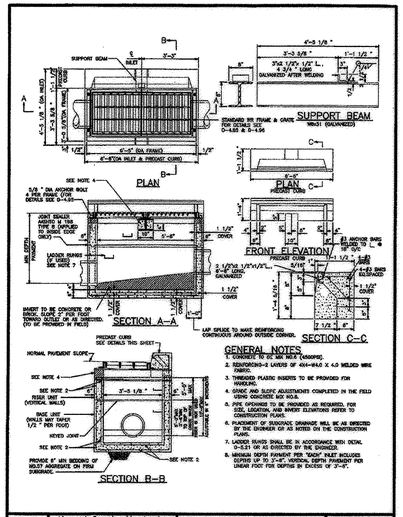
DESIGNED:	TEP	DATE:	11/04/08
DRAWN:	EKH	SCALE:	N.T.S.
CHECKED:	EKH	DWG NO:	3K

3K BAYSEPARATOR™
GENERAL SYSTEM DETAILS



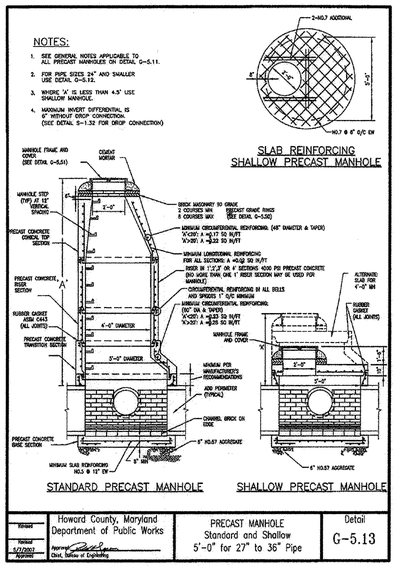
NOTE:
1. INLET TO BE USED IN A SWALE OR SUMP. MAX. CAPACITY UNDER 20"=3 C.F.S. TO BE USED WITH 15" CONN. OR SMALLER. NOT TO BE USED IN ROADWAY OR PARKING AREA.
2. TO BE USED ONLY WHEN APPROVED BY COUNTY.

Revised / Revised 5/7/2001 / Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	Yard Inlet — Detail D-4.14



GENERAL NOTES

Revised / Revised 5/7/2001 / Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	Double WR Inlet Precast — Detail D-4.35



Revised / Revised 5/7/2001 / Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	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.

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

STATE OF MARYLAND — RICHARD L. DENNEE — No. 031089 — PROFESSIONAL ENGINEER — 11-10-11

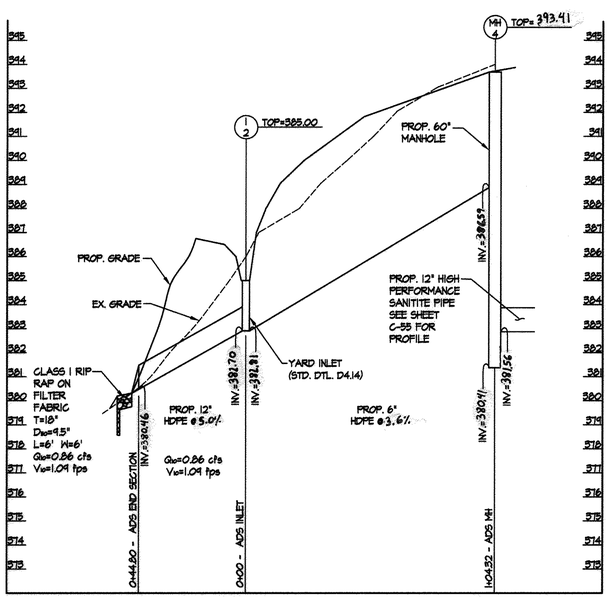
STATE OF MARYLAND — DOUGLAS A. BAKER — No. 32772 — PROFESSIONAL ENGINEER — 2/9/15 — FOR AS-BUILT ONLY

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

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



12" & 6" HDPE PROFILE

SCALE: HOR: 1" = 30'
VERT: 1" = 3'

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: 410-203-4940

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	11/04/2011
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

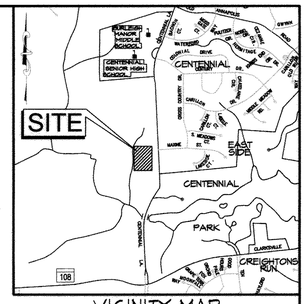
DRAWING NO. C-56
SHEET 56 OF 61
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344524.74	348.84
102	REBAR & CAP	575,176.57	1,349,292.75	386.26



VICINITY MAP

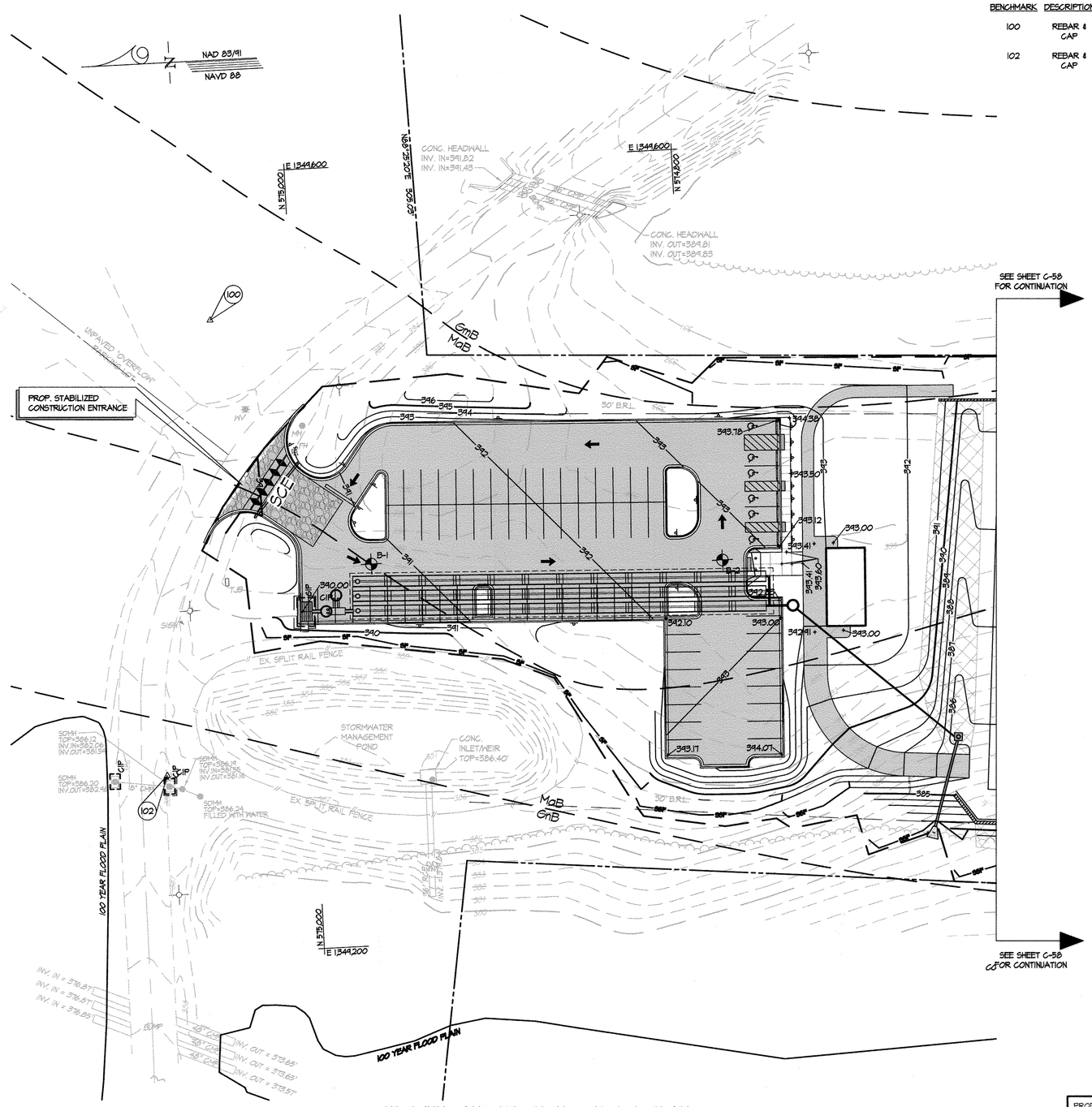
SCALE: 1" = 2000'

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 5.81Ac.
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
- 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
- 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'

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

~~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. DOVE — No. 031089 — 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. 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

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: 410-203-4940

KCI TECHNOLOGIES

ENGINEERS
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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

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

KCI JOB NUMBER 27110147

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$

SDP-02-075

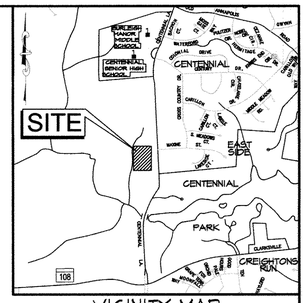
BENCHMARK DATA

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

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'

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
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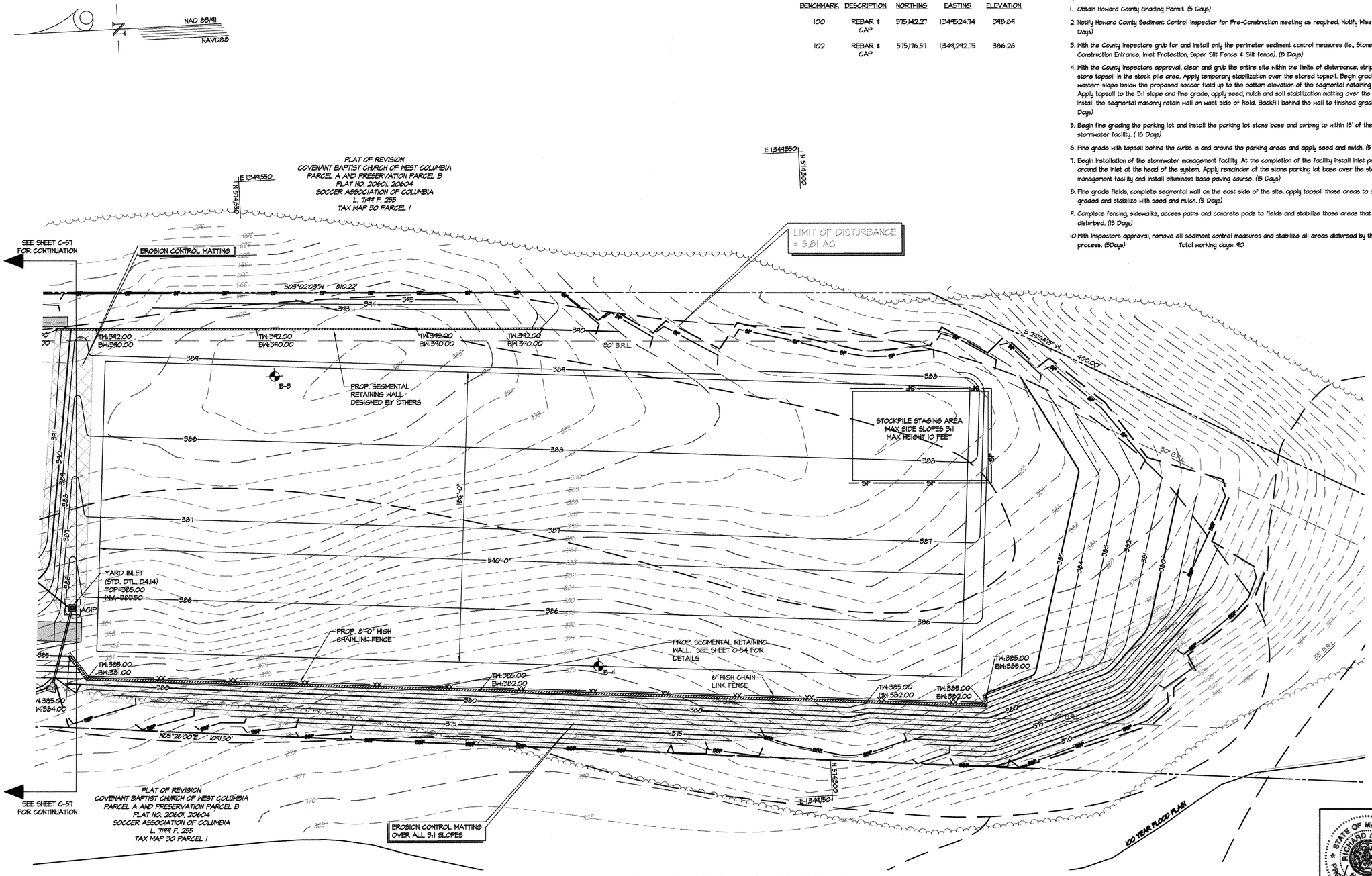
- PROP. CURB AND GUTTER
- PROP. BUILDING
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROP. BITUMINOUS WALK
- PROP. STORM DRAIN MANHOLE
- PROP. SIGN
- SF — PROP. SILT FENCE
- SSF — PROP. SUPER SILT FENCE
- PROP. EROSION CONTROL MATTING
- AGIP — AT GRADE INLET PROTECTION



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.

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

STATE OF MARYLAND — RICHARD L. SCHUCK — 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

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

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

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: 410-203-4590

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

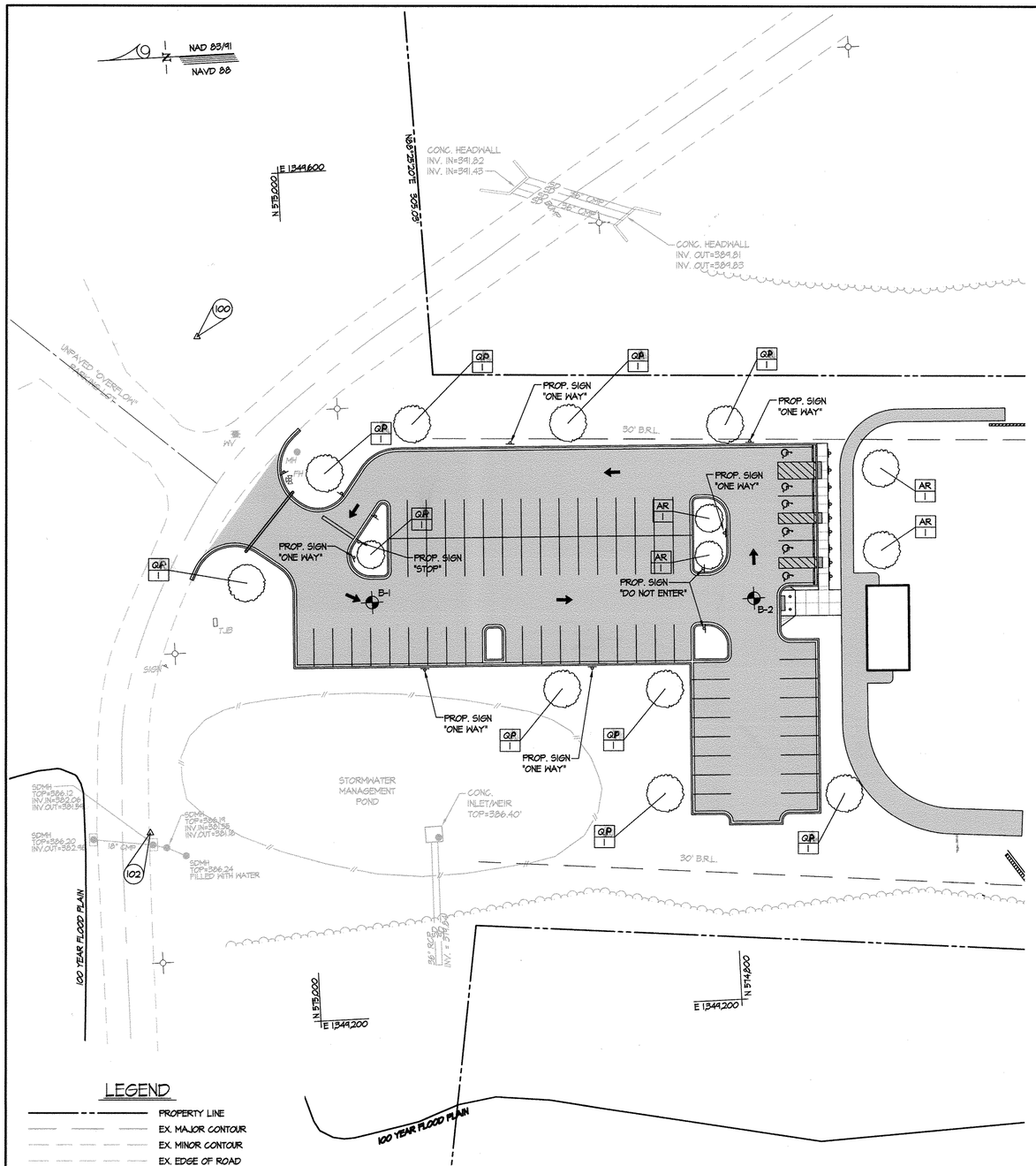
SEDIMENT AND EROSION CONTROL PLAN

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
KCI JOB NUMBER 27110147

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FULLNAME$

SDP-02-075



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
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- 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	14
OTHER TREES (2:1 SUBSTITUTION)	-
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 WILLOWOAK	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 #4 UNDER THE RED-LINE REVISIONS FOR SDP-02-075.

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

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
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILENAME$

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

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 E. 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.

BENCHMARK DATA

BENCHMARK	DESCRIPTION	NORTHING	EASTING	ELEVATION
100	REBAR & CAP	575,142.27	1,344524.74	398.89
102	REBAR & CAP	575,176.57	1,349,292.75	386.26

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 E. 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

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. 31028
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

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 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.

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 3 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 G), 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 cut 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

52.35 TOTAL SITE AREA (AC.)

5.81 TOTAL DISTURBED AREA (AC.)

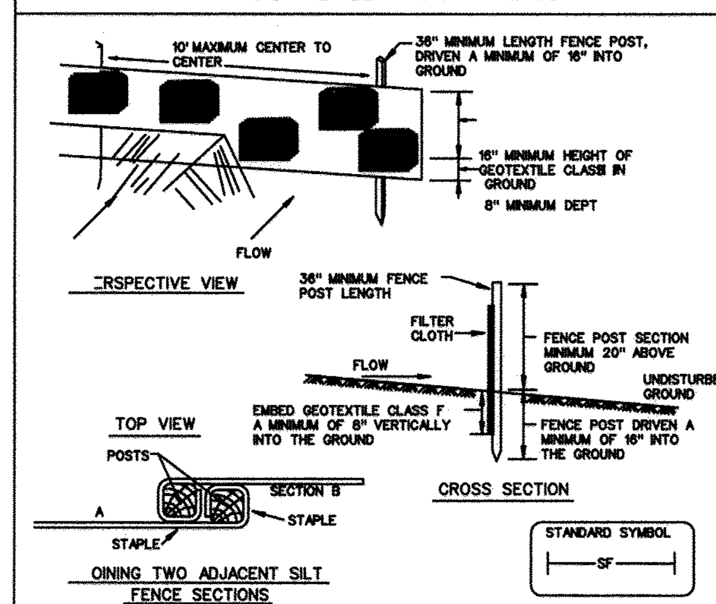
0 VOLUME OF BORROW MATERIAL (CU. YDS.)

* ____ 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 S

oosts shall be a minimum of 36" long driven 16" minimum into the Wood posts shall be 1½" x 1½" square (minimum) 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.

tile 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
iltering 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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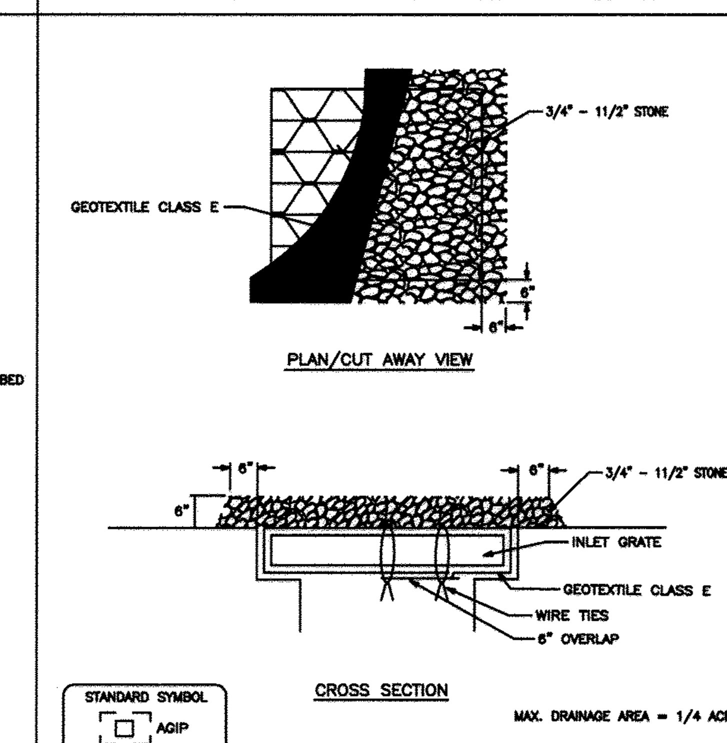
DETAIL 23B – AT GRADE INLET PROTECTION



MAX. DRAINAGE AREA = 1/4 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 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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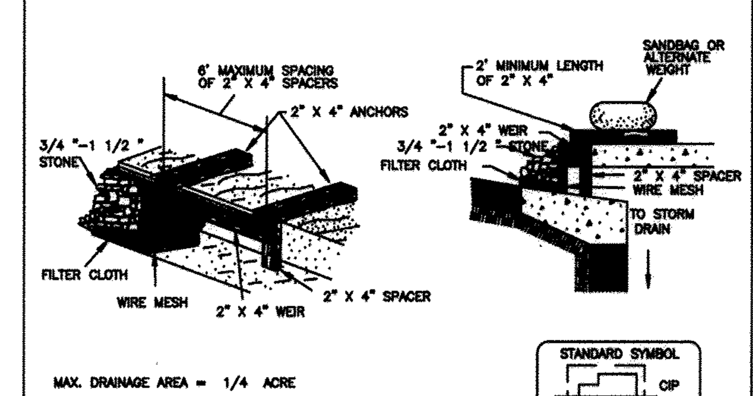
DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



MAX. DRAINAGE AREA = 1/4 ACRE

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 9" 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.

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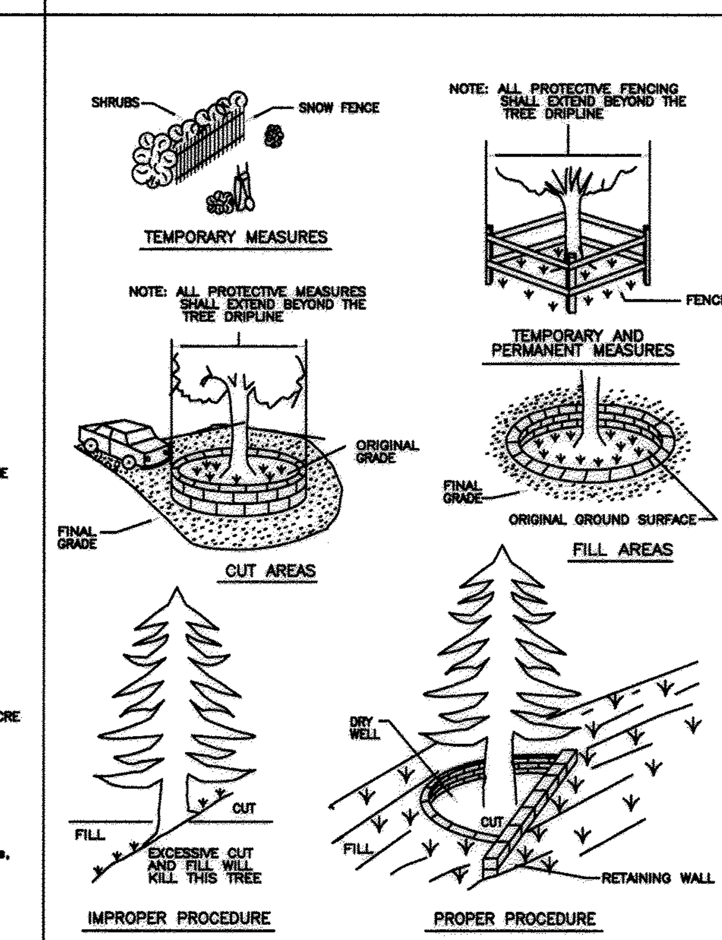
DETAIL 31 – TREE PROTECTION



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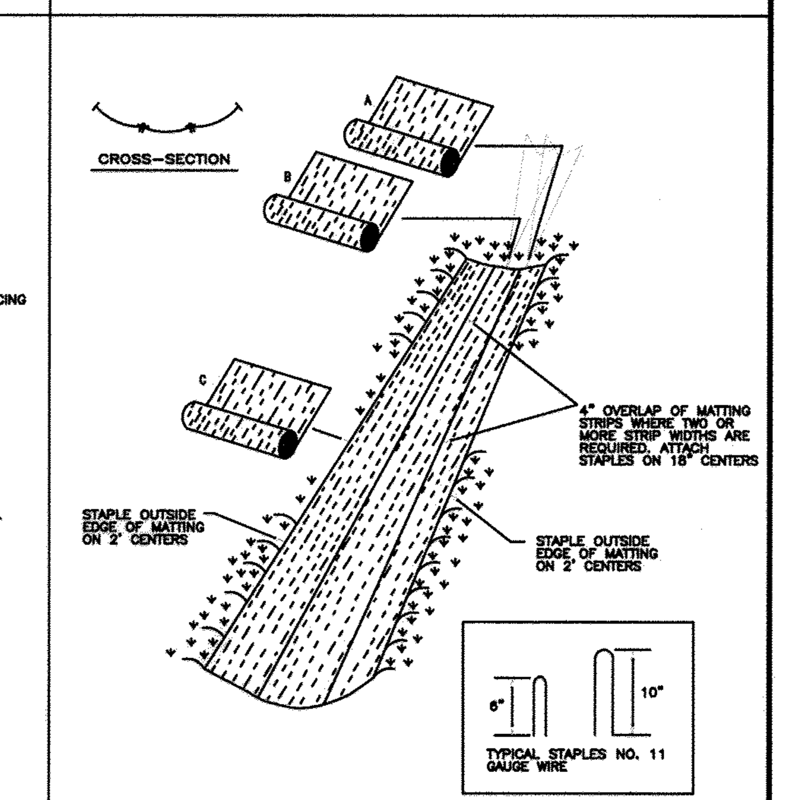
DETAIL 30 – EROSION CONTROL MATTING



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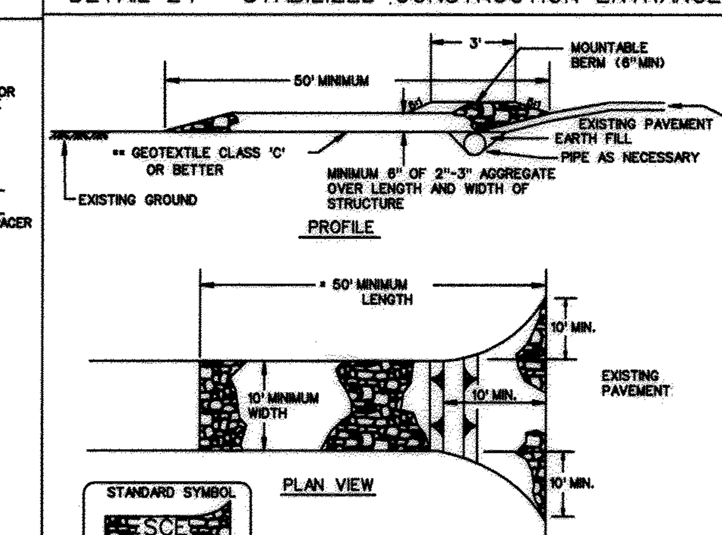
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



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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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 boxed in to prevent mechanical injury. The box should be as close to the drip line of the trees as possible.
2. Boards 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 leveling operations. 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 our of the drip line of protected trees. Protective fencing shall be utilized for trees retained and shall be located at the drip line.
6. Broad 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 ½' 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.

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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.~~

~~USDA-NATURAL RESOURCES CONSERVATION SERVICE~~ ~~DATE~~

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

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 2/28/12

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.
4560 CENTENNIAL LANE
ELLICOTT CITY, MD 21042
MR. JAMES CARLAN
PHONE: 410-203-9590

KCI TECHNOLOGIES
ENGINEERS
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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 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
KCI JOB NUMBER 27110147

SDP-02-075

PLOTTED: $DATE$
BY: $USERNAME$
FILE: $FILE$