

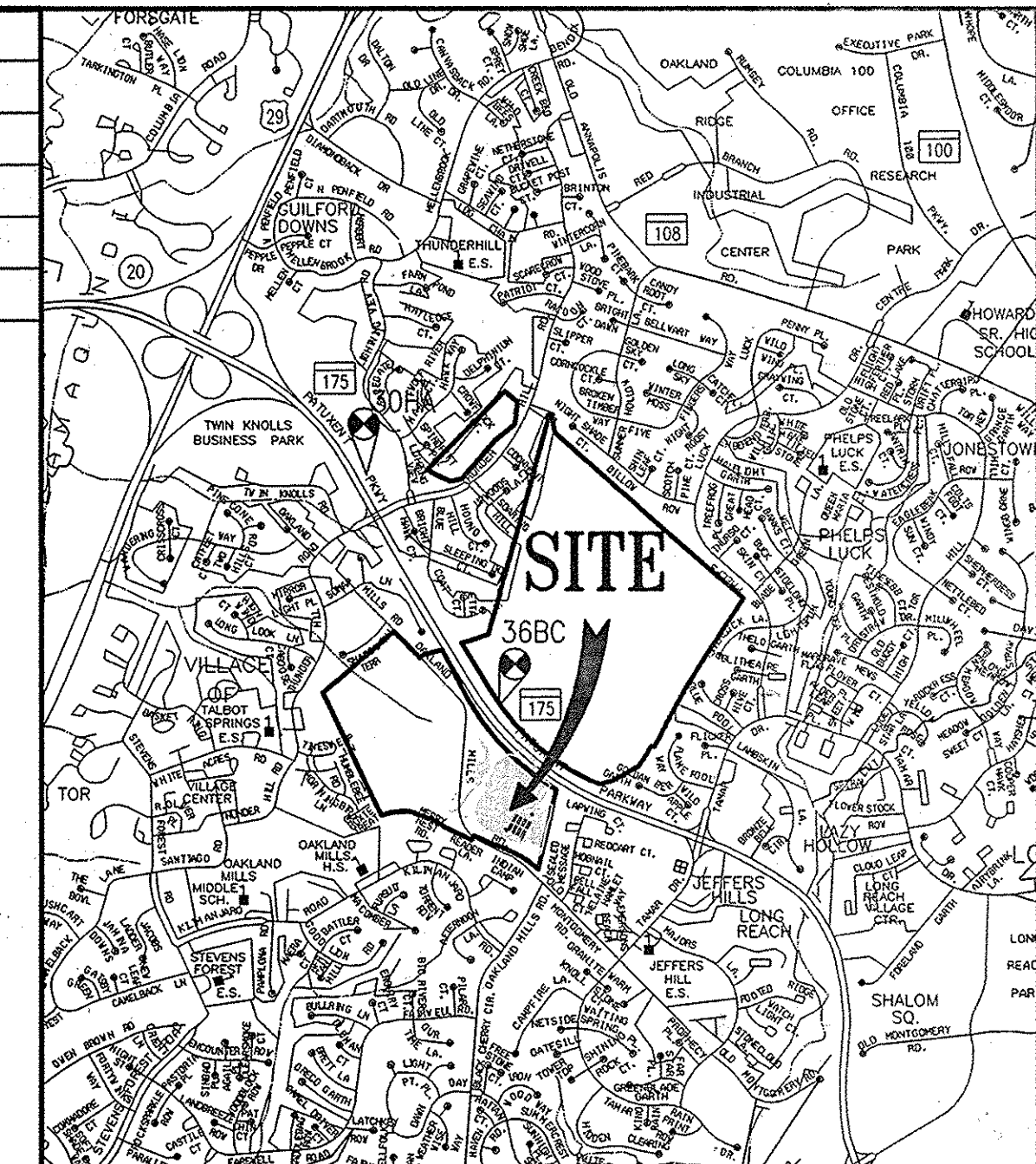
BLANDAIR REGIONAL PARK - PHASE 2

HOWARD COUNTY, MARYLAND
CAPITAL PROJECT #N-3102
SITE DEVELOPMENT PLAN SDP-12-063

BENCHMARK DATA

30HA: N 566030.6258, E 1357989.5444, ELEV. 386.983
36BC: N 563264.1261, E 1359585.7197, ELEV. 409.981

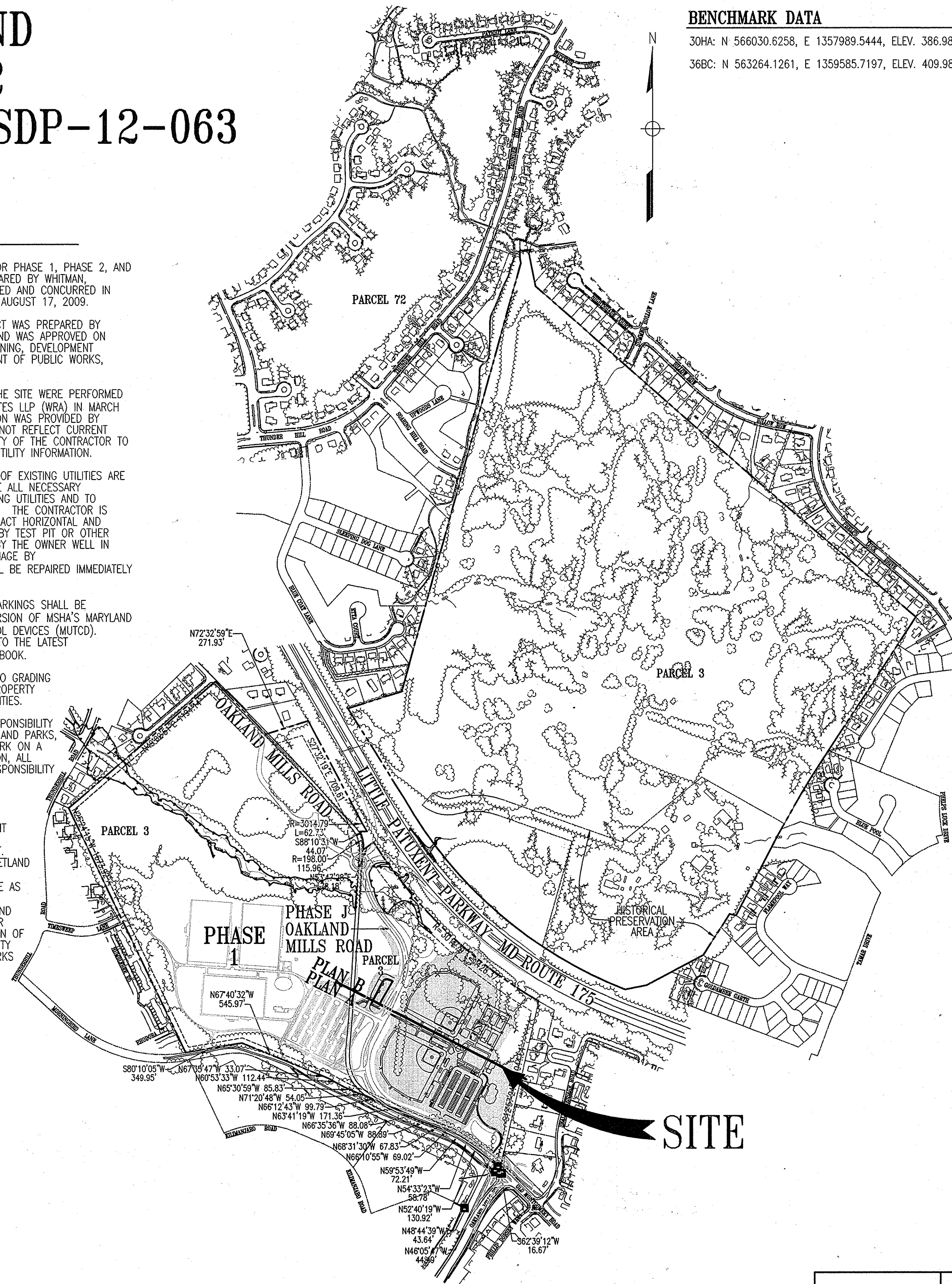
REVISIONS	



ADC MAP: 4935
GRID: G7
VICINITY MAP
1" = 200'

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY SPECIFICATIONS AND DETAILS FOR CONSTRUCTION PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 - 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.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 2/2/04 COMPREHENSIVE ZONING PLAN AND PER THE "COMP LITE" ZONING REGULATION AMENDMENTS EFFECTIVE 7/28/06.
 - NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING OR NEW STRUCTURES SHALL BE PERMITTED WITHIN WETLANDS, STREAMS, WETLAND OR STREAM BUFFERS, 100-YEAR FLOODPLAIN, OR FOREST CONSERVATION EASEMENTS UNLESS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - THIS PROJECT WILL PHASE THE REQUIREMENTS OF SUBSECTION 16.1202(g)(1) OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION AS ALLOWED BY WAIVER PETITION WP-10-013, APPROVED OCTOBER 15, 2009. THE TOTAL PROJECT FOREST CONSERVATION OBLIGATION WILL BE UPDATED UPON SUBMITTAL OF EACH NEW PHASE. IN ADDITION, RECONSIDERATION OF WP-10-013, APPROVED JANUARY 27, 2010, WILL WAIVE SUBSECTION 16.1204(d) TO ALLOW TEMPORARY DEFERRAL OF RECORDATION OF FOREST CONSERVATION EASEMENTS. PRIOR TO APPROVAL OF THE SDP FOR THE FINAL PHASE OF THE PARK, A FINAL PLAN APPLICATION SHALL BE SUBMITTED CONCURRENTLY TO DEPICT THE FOREST CONSERVATION EASEMENTS OF THE FINAL PHASE AND ALL FOREST CONSERVATION EASEMENTS PREVIOUSLY APPROVED ON PRIOR SDP'S FOR THE PARK.
- TOTAL EXISTING FOREST (EXCLUDING FLOODPLAIN): 109.45 AC
ESTIMATED TOTAL CLEARING PER MASTERPLAN: 44.14 AC
ESTIMATED TOTAL FOREST RETAINED: 63.85 AC
- PHASE 1 PROPOSED CLEARING: 2.87 AC
PHASE 1 PROPOSED RETENTION: 1.94 AC
PHASE 2 PROPOSED CLEARING: 2.99 AC
PHASE 2 PROPOSED RETENTION: 0.72 AC
TOTAL PROPOSED CLEARING: 5.86 AC
TOTAL PROPOSED RETENTION: 2.66 AC
- WATER IS PUBLIC: CONTRACT NUMBER 24-4751-D.
 - SEWER IS PUBLIC: CONTRACT NUMBER 24-4751-D.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM: HORIZONTAL NAD'83/91 VERTICAL NAVD'88.
 - HOWARD COUNTY MONUMENTS USED FOR THIS PROJECT:
30HA: N 566030.6258, E 1357989.5444
36BC: N 563264.1261, E 1359585.7197
 - THE 100-YEAR APPROXIMATE FLOODPLAIN IS SHOWN ON NFIP FIRM PANEL 240044 0034B, DATED 12/4/1986 AND NFIP LOWR, DATED 10/14/1999. A FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY WHITMAN, REQUARDT & ASSOCIATES AND WAS APPROVED ON NOVEMBER 5, 2009 BY PLANNING AND ZONING, DEVELOPMENT ENGINEERING DIVISION.
 - THE WETLANDS DELINEATION STUDY FOR PHASE 1, PHASE 2, AND PHASE J OF THE PROJECT WAS PREPARED BY WHITMAN, REQUARDT & ASSOCIATES AND REVIEWED AND CONCURRED IN THE FIELD WITH MDE AND USACE ON AUGUST 17, 2009.
 - THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY WHITMAN, REQUARDT & ASSOCIATES AND WAS APPROVED ON JULY 26, 2012 BY PLANNING AND ZONING, DEVELOPMENT ENGINEERING DIVISION AND DEPARTMENT OF PUBLIC WORKS, TRAFFIC ENGINEERING DIVISION.
 - TOPOGRAPHICAL FIELD SURVEYS OF THE SITE WERE PERFORMED BY WHITMAN, REQUARDT AND ASSOCIATES LLP (WRA) IN MARCH 2008. ADDITIONAL UTILITY INFORMATION WAS PROVIDED BY HOWARD COUNTY RECORDS AND MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY CURRENT TOPOGRAPHIC AND UTILITY INFORMATION.
 - APPROXIMATE LOCATION AND INVERTS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN AN UNINTERRUPTED SERVICE. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES BY TEST PIT OR OTHER MEANS OF INVESTIGATION APPROVED BY THE OWNER WELL IN ADVANCE OF CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
 - ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF MSHA'S MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC SIGNS SHALL CONFORM TO THE LATEST VERSION OF MSHA'S STANDARD SIGN BOOK.
 - LETTERS SHALL BE OBTAINED PRIOR TO GRADING PERMIT APPROVAL FROM ADJACENT PROPERTY OWNERS AUTHORIZING OFF-SITE ACTIVITIES.
 - ALL TRASH AND REFUSE WILL BE RESPONSIBILITY OF THE DEPARTMENT OF RECREATION AND PARKS, AND WILL BE REMOVED FROM THE PARK ON A WEEKLY BASIS. DURING CONSTRUCTION, ALL TRASH AND REFUSE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - ENVIRONMENTAL SITE DESIGN (ESD) IS INCORPORATED INTO THE PHASE 2 DEVELOPMENT AT THE MAXIMUM EXTENT POSSIBLE. ESD FACILITIES INCLUDE BIO-SWALES AND PERVIOUS PAVEMENT, AN EXTENDED DETENTION SHALLOW WETLAND (W-2) CONSTRUCTED UNDER PHASE J WILL PROVIDE ADDITIONAL ESD VOLUME AS WATER QUALITY VOLUME (WQV). AN EXTENDED DETENTION SHALLOW WETLAND POND WAS ALSO CONSTRUCTED UNDER PHASE J AND WILL PROVIDE MITIGATION OF THE 100-YEAR EVENT. HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES.



SITE ANALYSIS DATA CHART

TOTAL PROPERTY AREA: 298.08 ACRES
AREA OF PLAN SUBMISSION: 16.3 ACRES
LIMIT OF DISTURBED AREA: 16.3 ACRES

PRESENT ZONING DESIGNATION: RC-DEO

PROPOSED USES: REGIONAL PARK, BASEBALL FIELDS, PLAYGROUND, PICNIC SHELTER, COMFORT STATION

FLOOR SPACE:
PICNIC SHELTER - 1ST FLOOR: 1470 SF;
COMFORT STATION - 1ST FLOOR: 1270 SF

PARKING REQUIREMENTS (PER HOWARD COUNTY RECREATION & PARKS)
BASEBALL FIELD: 35 SPACES X 2 = 70 SPACES
PICNIC SHELTER: 50 SPACES
PLAYGROUND: 10 SPACES
TENNIS COURTS: 2 SPACES X 5 = 10 SPACES
TOTAL REQUIRED: 140 SPACES

PARKING SPACES PROVIDED: 183 SPACES,
6 HANDICAP (189 TOTAL)

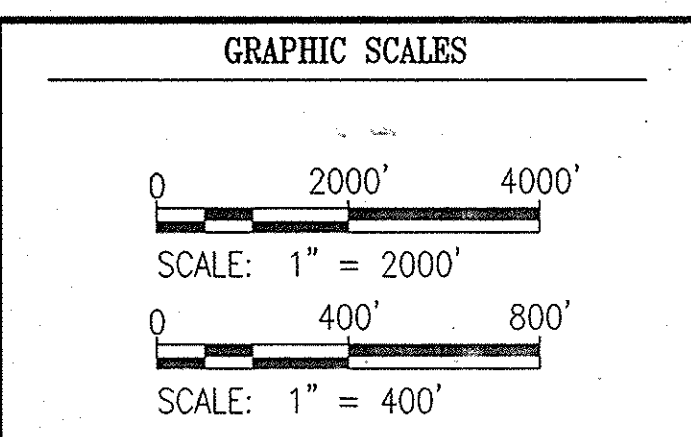
APPLICABLE DPZ FILE NUMBERS: ECP-11-023,
SDP-10-007; WP-10-013

LIST OF DRAWINGS

CIVIL	LANDSCAPE
1. C0.1 COVER SHEET	24. L1.1 LANDSCAPE PLAN
2. C0.2 ABBREVIATIONS, NOTES, AND LEGENDS	25. L1.2 LANDSCAPE PLAN
3. C1.0 EXISTING SITE PLAN	26. L1.3 CENTRAL PLAZA MATERIALS PLAN ENLARGEMENT
4. C1.1 OVERALL SITE DEVELOPMENT PLAN	27. L1.4 CENTRAL PLAZA PLANTING PLAN ENLARGEMENT
5. C1.2 SITE PLAN A	28. L1.5 PLAYGROUND ENLARGEMENT SEEDING PLAN
6. C1.3 SITE PLAN B	29. L1.6 SEEDING PLAN
7. C1.4 STAKEOUT PLAN A	30. L2.1 BALLFIELD ENLARGEMENTS
8. C1.5 STAKEOUT PLAN B	31. L2.2 HARDSCAPE DETAILS
9. C1.6 OVERALL EROSION & SEDIMENT CONTROL PLAN	32. L2.3 HARDSCAPE DETAILS
10. C1.7 EROSION & SEDIMENT CONTROL/GRADING PLAN A	33. L2.4 HARDSCAPE DETAILS
11. C1.8 EROSION & SEDIMENT CONTROL/GRADING PLAN B	34. L2.5 HARDSCAPE DETAILS
12. C1.9 PHOTOMETRIC TEST PLAN	35. L2.6 HARDSCAPE DETAILS
13. C2.1 STORM DRAIN PROFILES	36. L3.1 PLANTING DETAILS
14. C2.2 STORM DRAIN PROFILES	37. L3.2 PLANTING SCHEDULES
15. C3.1 ENLARGED SITE PLANS	
16. C3.2 ENLARGED SITE PLANS	
17. C4.1 SITE DETAILS	
18. C4.2 SITE DETAILS	
19. C4.3 SITE DETAILS	
20. C4.4 STORMWATER MANAGEMENT DETAILS AND NOTES	
21. C5.1 EROSION AND SEDIMENT CONTROL - NOTES	
22. C5.2 EROSION AND SEDIMENT CONTROL - NOTES/DETAILS	
23. C5.3 BORING LOGS	



WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716



SIGNATURE

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. 19376. EXPIRATION DATE: 09/22/2015.

BLANDAIR REGIONAL PARK - PHASE 2

COVER SHEET

Drawing No. **C0.1**

Scale: AS SHOWN

Date: 03/31/2014 Sheet 1 of 41

Des: CYH Drawn: SAD Check: AUO

APPROVED: DEPARTMENT OF PUBLIC WORKS	
DIRECTOR OF PUBLIC WORKS	DATE
CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS	DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
Chad Edwards	6-17-14
Chief, Development Engineering Division	DATE
Kat Shalovich	7-28-14
Chief, Division of Land Development	DATE
Trinity Lewis	7-28-14
DIRECTOR	DATE

APPROVED: DEPARTMENT OF RECREATION AND PARKS	
Anthony Bell	5-28-14
DIRECTOR	DATE

LOCATION MAP

1" = 400'

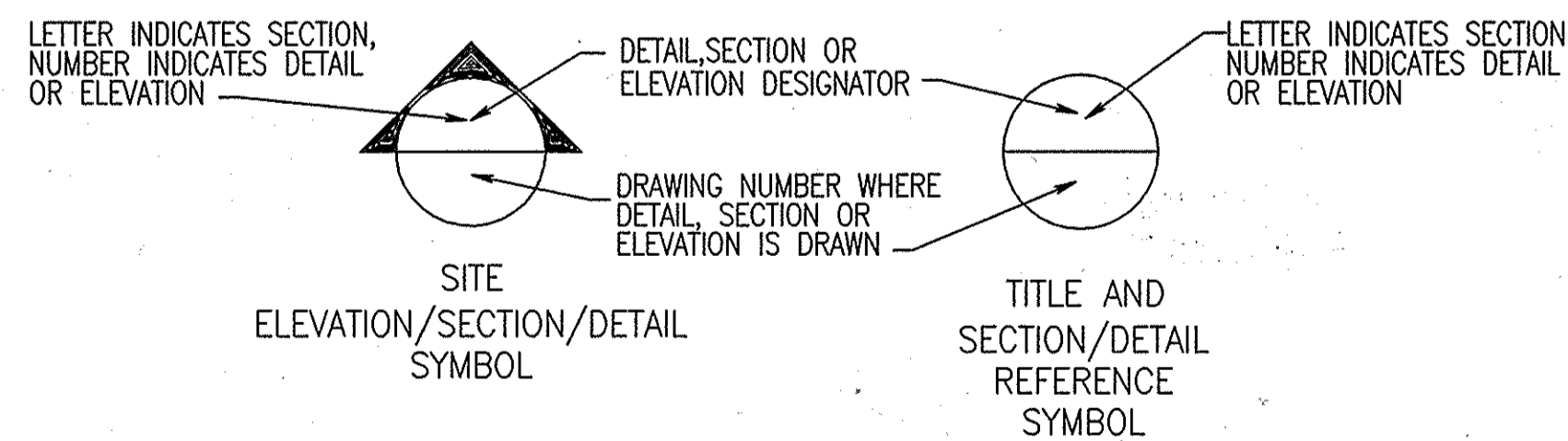
OWNER:	DEVELOPER:	PERMIT INFORMATION CHART			
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS 7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME VOICE 410-313-4689 FAX 410-313-4646	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARK KOVACH VOICE 410-313-6153 FAX 410-313-6144	WATER CODE: PUBLIC	SEWER CODE: PUBLIC	BUILDING: N/A	STREET ADDRESS: N/A
PROJECT NAME: BLANDAIR REGIONAL PARK - PHASE 2		SECTION/AREA: N/A	PARCEL: 3/72		
L/F: 4391/25 5203/439	GRID #5:	ZONING: RC-DEO	TAX MAP BLOCK: 36	ELEC. DIST.:	CENSUS TRACT: 60603

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	OD	OUTSIDE DIAMETER
ABAN, ABAND	ABANDON	OHE	OVERHEAD ELECTRIC
APPROX	APPROXIMATELY	OHT	OVERHEAD TELEPHONE
ASTM	ASSOCIATION FOR STANDARD TESTING METHODS	PC	POINT OF CURVATURE
BLDG	BUILDING	PCC	POINT OF COMPOUND CURVATURE
BIT	BITUMINOUS	PERF	PERFORATED
B.M.	BENCH MARK	PI	POINT OF INTERSECTION, POST INDICATOR
C.F.S.	CUBIC FEET PER SECOND	POB	POINT OF BEGINNING
C.I.	CAST IRON	POC	POINT ON CURVE
C.I.P.	CAST IRON PIPE	POE	POINT OF END
C/L	CENTERLINE	POT	POINT ON TRAVERSE
CO	CLEAN OUT	PT	POINT OF TANGENCY
COMM	COMMUNICATION	PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVE
CONTR. JT	CONTRACTION JOINT	PVI	POINT OF VERTICAL INTERSECTION
CONC	CONCRETE	PVMT	PAVEMENT
CMP	CORRUGATED METAL PIPE	PVT	POINT OF VERTICAL TANGENCY
DEMO	DEMOLITION	PP	POWER POLE
DIP	DUCTILE IRON PIPE	PIV	POST INDICATOR VALVE
DIA, DIAM	DIAMETER	PROP	PROPOSED
DWG, DRWG	DRAWING	R	RADIUS, RIGHT
E	EAST	RD	ROAD
EL, ELEV	ELEVATION	RCCP	REINFORCED CONCRETE CULVERT PIPE
ELECT, ELEC	ELECTRICAL	RCP	REINFORCED CONCRETE PIPE
EMBED	EMBEDDED	REIN, REINF	REINFORCED
EX	EXISTING	RR	RAILROAD
EXP JT	EXPANSION JOINT	S	SOUTH, SLOPE, SANITARY
EW	EACH WAY	SAN	SANITARY
F&C	FRAME AND COVER	SCE	STABILIZED CONSTRUCTION ENTRANCE
FH	FIRE HYDRANT	SCH	SCHEDULE
FIN, FL, F.F.	FINISHED FLOOR	SD	STORM DRAIN
FT	FEET	SDR	STANDARD DIMENSION RATIO
FPS	FEET PER SECOND	SE	SOUTHEAST
HB	HORIZONTAL BEND	SF	SILT FENCE
HO. CO.	HOWARD COUNTY	SHT	SHEET
HC	HANDICAPPED	SP	STUDY POINT
HP	HIGH POINT	SS	STAINLESS STEEL
IN	INCH	STA	STATION
INV	INVERT	STD	STANDARD
IP	INLET PROTECTION	STRUCT, STR	STRUCTURAL
JT	JOINT	SW	SOUTHWEST
LT	LEFT	TEL	TELEPHONE
LOD	LIMIT OF DISTURBANCE	TS&V	TAPPING SLEEVE & VALVE
LP	LOW POINT	T/C	TOP OF CURB
MAX	MAXIMUM	TC	TOP OF COVER
MECH	MECHANICAL	TG	TOP OF GRATE
MH	MANHOLE	TW	TOP OF WALL
MIN	MINIMUM	TYP	TYPICAL
MW	MONITORING WELL	UG	UNDERGROUND
N	NORTH	UE	UNDERGROUND ELECTRIC DUCT
NE	NORTHEAST	UMH	UNKNOWN MANHOLE
NIC	NOT IN CONTRACT	UT	UNDERGROUND TELEPHONE DUCT
NTS	NOT TO SCALE	UFA	UNDERGROUND FIRE ALARM
NW	NORTHWEST	VB	VERTICAL BEND
OC, O/C	ON CENTER	VC	VERTICAL CURVE
		W	WEST, WATT, WATER, WIDE
		W/	WITH
		WWF	WELDED WIRE FABRIC

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CONTOUR
		SPOT ELEVATION
		STORM DRAIN
		WATER
		SANITARY SEWER
		UNDERGROUND ELECTRIC
		UNDERGROUND TELEPHONE
		CONCRETE CURB AND GUTTER
		FENCE
		BUILDING
		CONCRETE PAVEMENT
		HEAVY DUTY CONCRETE PAVEMENT
		BITUMINOUS CONCRETE PAVEMENT
		PLAYGROUND PAVEMENT
		POROUS PAVEMENT
		TENNIS COURT PAVEMENT
		ARTIFICIAL TURF
		REINFORCED TURF
		WATER VALVE
		FIRE HYDRANT
		STORM DRAIN INLET
		STORM DRAIN MANHOLE
		SANITARY SEWER MANHOLE
		ELECTRIC MANHOLE
		TELEPHONE MANHOLE
		LIGHT POLE
		UTILITY POLE
		TRANSFORMER
		UTILITY MARKER
		ELECTRIC JUNCTION BOX
		GUY WIRE
		SIGN
		EVERGREEN TREE
		DECIDUOUS TREE
		WOODSLINE
		RIPRAP
		15-24.9% SLOPES
		>25% SLOPES
		100-YR FLOODPLAIN
		STREAM
		75' STREAM BUFFER
		FLY MONUMENT
		GPS MONUMENT
		SURVEY TRAVERSE MONUMENT
		LIMIT OF DISTURBANCE
		PROPERTY LINE
		SETBACK
		BORING LOCATION



REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

 DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

 TAX MAP 36, GRID 5, PARCEL 3,72

 ZONING: RC-DEO

 ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

 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. 19376, EXPIRATION DATE: 09/22/2015

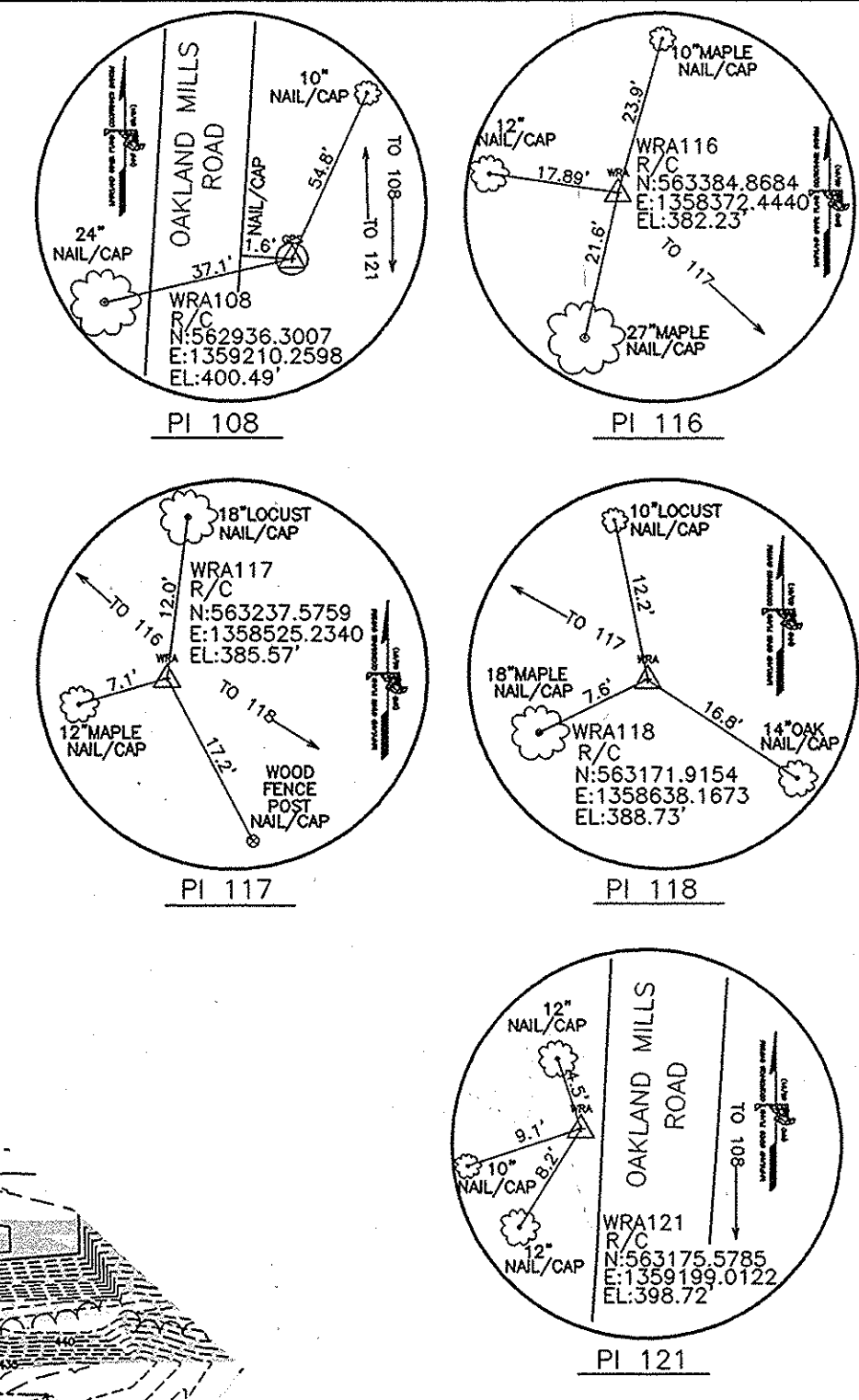
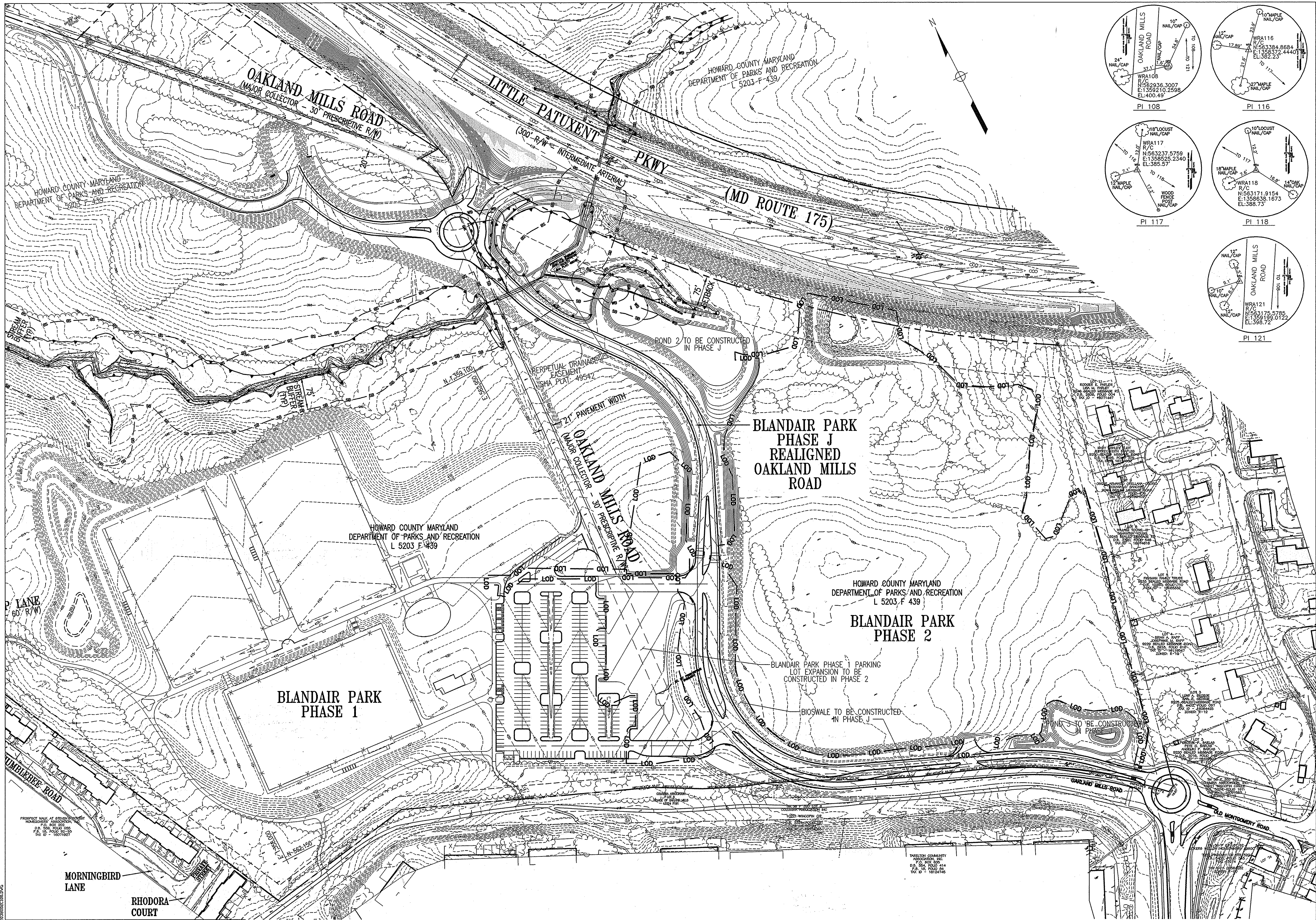
BLANDAIR REGIONAL PARK - PHASE 2

ABBREVIATIONS, NOTES AND LEGENDS

 Drawing No.
CO-2

Scale: NONE
 Date: 03/31/2014 Sheet 2 of 41
 Des: CJK Drawn: CJK Check: AUO

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division *Aw* DATE: 6-17-14
 Chief, Division of Land Development *sm* DATE: 6-28-14
 Director *sm* DATE: 7-28-14



REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

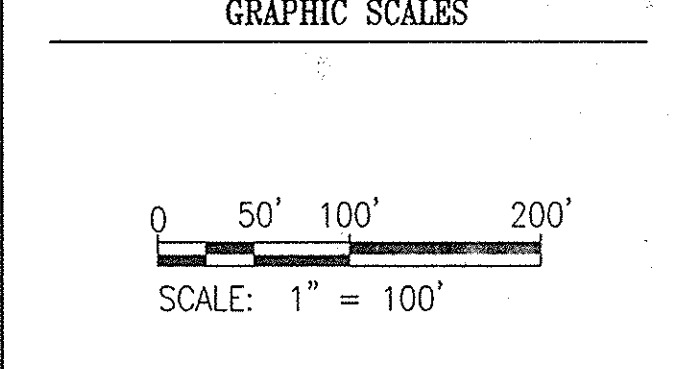
WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7



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 EXPIRATION DATE: 09/22/2015

BLANDAIR REGIONAL PARK - PHASE 2

EXISTING SITE PLAN

Drawing No.
C1.0

Scale: 1" = 100'

Date: 03/31/2014 Sheet 3 of 41

Des: CYH Drawn: CYH Check: AUO

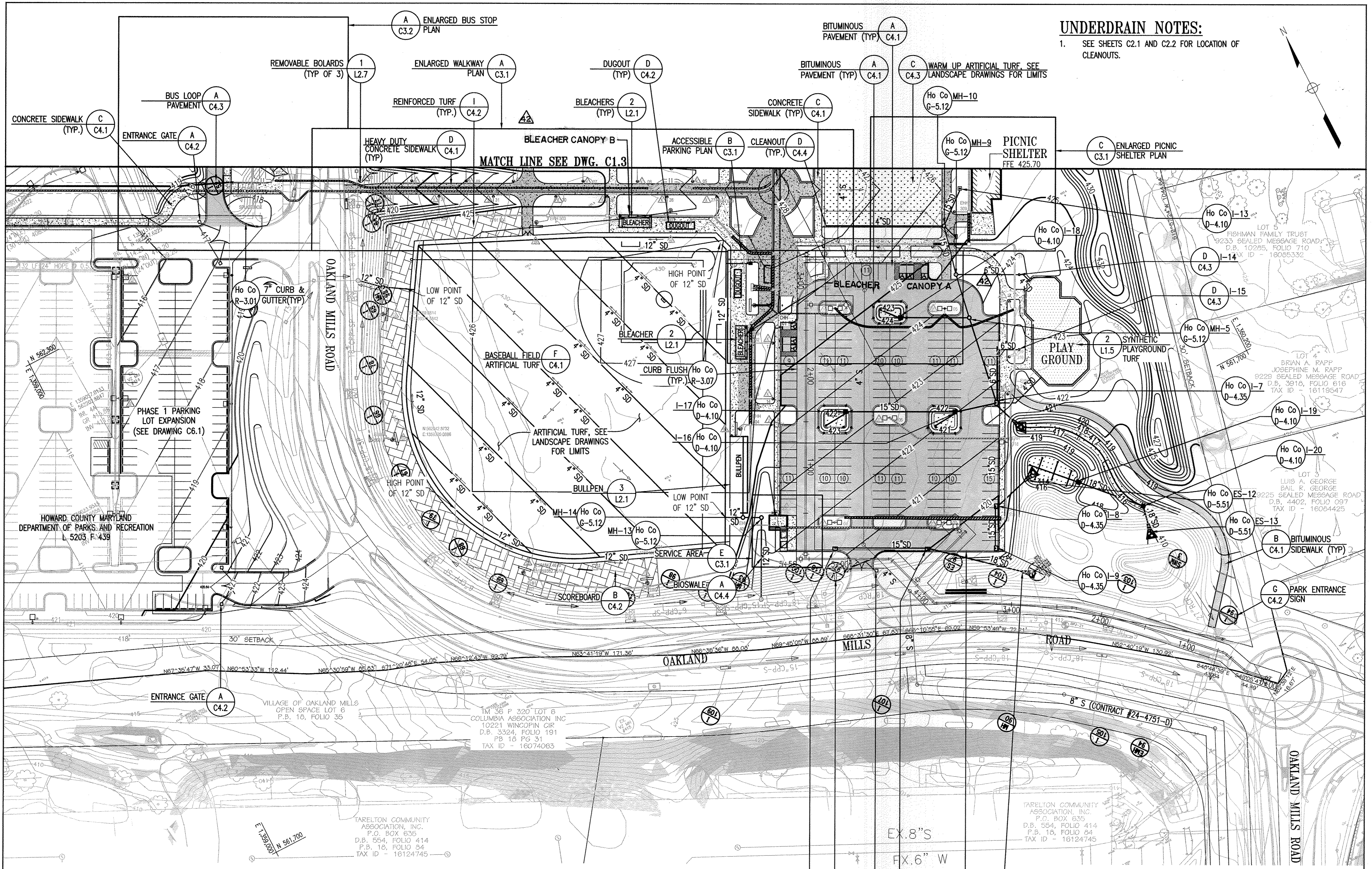
APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edman 6-17-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kate L. Jones 7-28-14
 CHIEF, DIVISION OF LAND DEVELOPMENT

Richard J. Javelle 7-28-14
 DIRECTOR

NOTE:
 ALL ADJACENT PROPERTIES SHOWN ARE WITHIN THE VILLAGE OF OAKLAND MILLS AND ZONED NT, UNLESS OTHERWISE NOTED



UNDERDRAIN NOTES:

- SEE SHEETS C2.1 AND C2.2 FOR LOCATION OF CLEANOUTS.

BASEBALL FIELD NOTES:

- FIELDTURF TO PROVIDE ALL ITEMS FOR ARTIFICIAL TURF BASEBALL FIELDS INCLUDING:
 - CONCRETE CURB SURROUNDING FIELD
 - 12 IN PERFORATED PVC PERIMETER DRAIN
 - 4 IN PERFORATED PVC INTERIOR DRAIN
 - ALL SUBDRAINAGE STONE AND GEOTEXTILE
 - FIELDTURF 2" DOUBLE PLAY ARTIFICIAL TURF

NOTE:

- SEE SHEET C4.5 FOR THE STORMWATER MANAGEMENT ENLARGED PLAN.

REDLINE REVISION 7 PURPOSE STATEMENT:

- REMOVAL OF THE PERVIOUS PAVEMENT REQUIRED THE DESIGN OF MICRO-BIORETENTION AND A BIO-SWALE FACILITY TO TREAT THE STORMWATER REQUIREMENTS

REVISIONS		
REDLINE REVISION 7		3/22/16
REDLINE REVISION 42		2/14/17

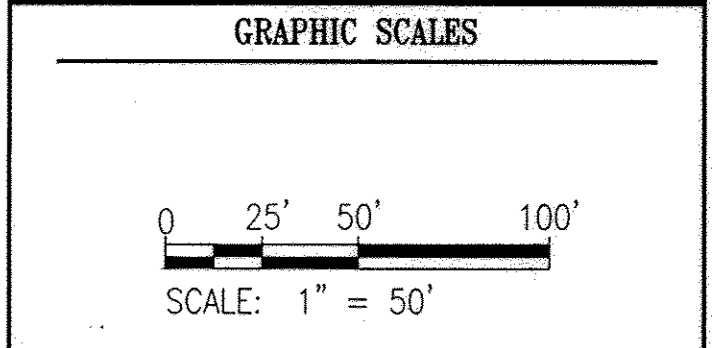
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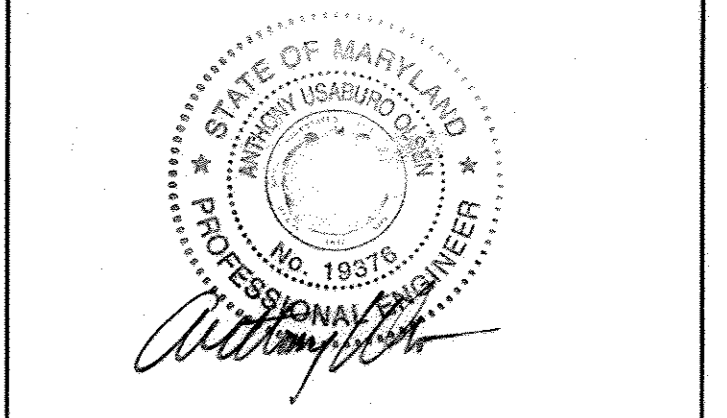


WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21201
 Phone: 410.235.3450 Fax: 410.243.5710

PROPERTY
TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7



SIGNATURE



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. 19573.
 EXPIRATION DATE: 09/22/2017

BLANDAIR REGIONAL PARK - PHASE 2

SITE PLAN A REVISED SITE DEVELOPMENT PLAN Drawing No.		
C1.2		
Scale: 1" = 50'	Date: 03/24/16	Sheet 5 of 41
Des: CYH	Drawn: SAD	Check: AUO

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i>	5-17-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>[Signature]</i>	5-19-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>[Signature]</i>	5-19-16
DIRECTOR	DATE

PARKING LOT STAKEOUT

POINT	NORTHING	EASTING	R	Δ	T
P1	561625.63	1359748.62	-	-	-
C1	561641.24	1359711.23	40.00'	090°44'19"	40.52'
C2	561693.17	1359733.71	15.00'	093°56'52"	16.07'
P2	561629.29	1359857.22	-	-	-
P3	561751.87	1359920.62	-	-	-
C3	561760.13	1359904.63	6.00'	090°00'00"	6.00'
C4	561778.79	1359914.28	6.00'	090°00'00"	6.00'
P4	561770.52	1359930.27	-	-	-
P5	561858.45	1359975.75	-	-	-
C5	561866.72	1359959.76	6.00'	090°00'00"	6.00'
C6	561901.36	1359977.67	30.00'	090°00'00"	30.00'
C7	561928.93	1359924.38	5.00'	090°00'00"	5.00'

POINT	NORTHING	EASTING	R	Δ	T
P6	561944.92	1359932.65	-	-	-
P7	561994.99	1359835.83	-	-	-
C8	561979.00	1359827.56	5.00'	090°00'00"	5.00'
C9	561995.08	1359796.47	30.00'	090°00'00"	30.00'
C10	561953.33	1359774.88	5.00'	090°00'00"	5.00'
P8	561961.60	1359758.89	-	-	-
P9	561880.77	1359717.09	-	-	-
C11	561872.50	1359733.08	6.00'	090°00'00"	6.00'
C12	561853.85	1359723.43	6.00'	090°00'00"	6.00'
P10	561862.12	1359707.44	-	-	-
P11	561774.18	1359661.96	-	-	-

POINT	NORTHING	EASTING	R	Δ	T
P12	561735.87	1359651.15	-	-	-
C13	561705.84	1359709.20	15.00'	074°12'25"	11.35'
C14	561647.10	1359697.19	40.00'	101°06'25"	48.62'
P13	561665.83	1359652.33	-	-	-

PATHWAY STAKEOUT

POINT	NORTHING	EASTING	R	Δ	T
1	561448.86	1360028.00	-	-	-
2	561573.04	1360130.68	66.00'	113°16'58"	100.25'
3	561633.16	1359925.12	139.00'	078°40'11"	113.91'
4	561774.13	1359937.39	74.00'	022°22'34"	14.64'
5	561918.19	1360011.89	40.00'	089°59'59"	40.00'
12	562069.85	1359865.22	-	-	-
13	562094.20	1359818.15	-	-	-
14	562119.01	1359770.19	-	-	-
15	562175.31	1359661.31	-	-	-
16	562218.50	1359577.82	-	-	-
17	562199.93	1359567.92	-	-	-
18	562186.15	1359560.79	-	-	-

PLAYGROUND STAKEOUT

POINT	NORTHING	EASTING	R	Δ	T
19	562252.47	1359595.70	-	-	-
20	562218.50	1359577.82	-	-	-
21	562263.20	1359601.95	-	-	-

POINT	NORTHING	EASTING
22	561760.66	1360037.02
23	561752.86	1360012.52
24	561765.42	1359988.25
25	561789.91	1359980.45
26	561836.56	1360004.58
27	561847.34	1360001.14
28	561871.11	1360013.43
29	561880.05	1360028.34
30	561868.78	1360050.12
31	561859.33	1360053.13
32	561845.44	1360045.94
33	561838.71	1360058.96
34	561828.74	1360062.12
35	561800.04	1360047.28
36	561787.93	1360051.13

STAKEOUT NOTES

- ALL PARKING LOT STAKEOUT IS FROM FACE OF CURB, UNLESS OTHERWISE NOTED.
- ALL CURB FILLETS ARE 6' UNLESS OTHERWISE NOTED.
- ALL CONCRETE SIDEWALK FILLETS ARE 5' UNLESS OTHERWISE NOTED.
- ALL ASPHALT PATHWAY FILLETS ARE 15' UNLESS OTHERWISE NOTED.
- ATHLETIC FIELD STAKEOUT ARE AT C/L OF FENCE.
- CURVE COORDINATES SHOWN ARE AT THE POINT OF INTERSECTION.
- SEE DRAWING C1.5 FOR BUS LOOP STAKEOUT.

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

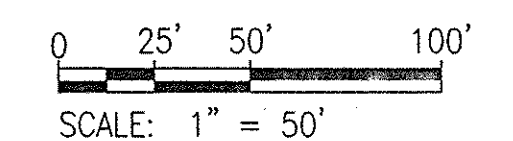


WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES



SIGNATURE



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. 19376, EXPIRATION DATE: 09/22/2015.

BLANDAIR REGIONAL PARK - PHASE 2

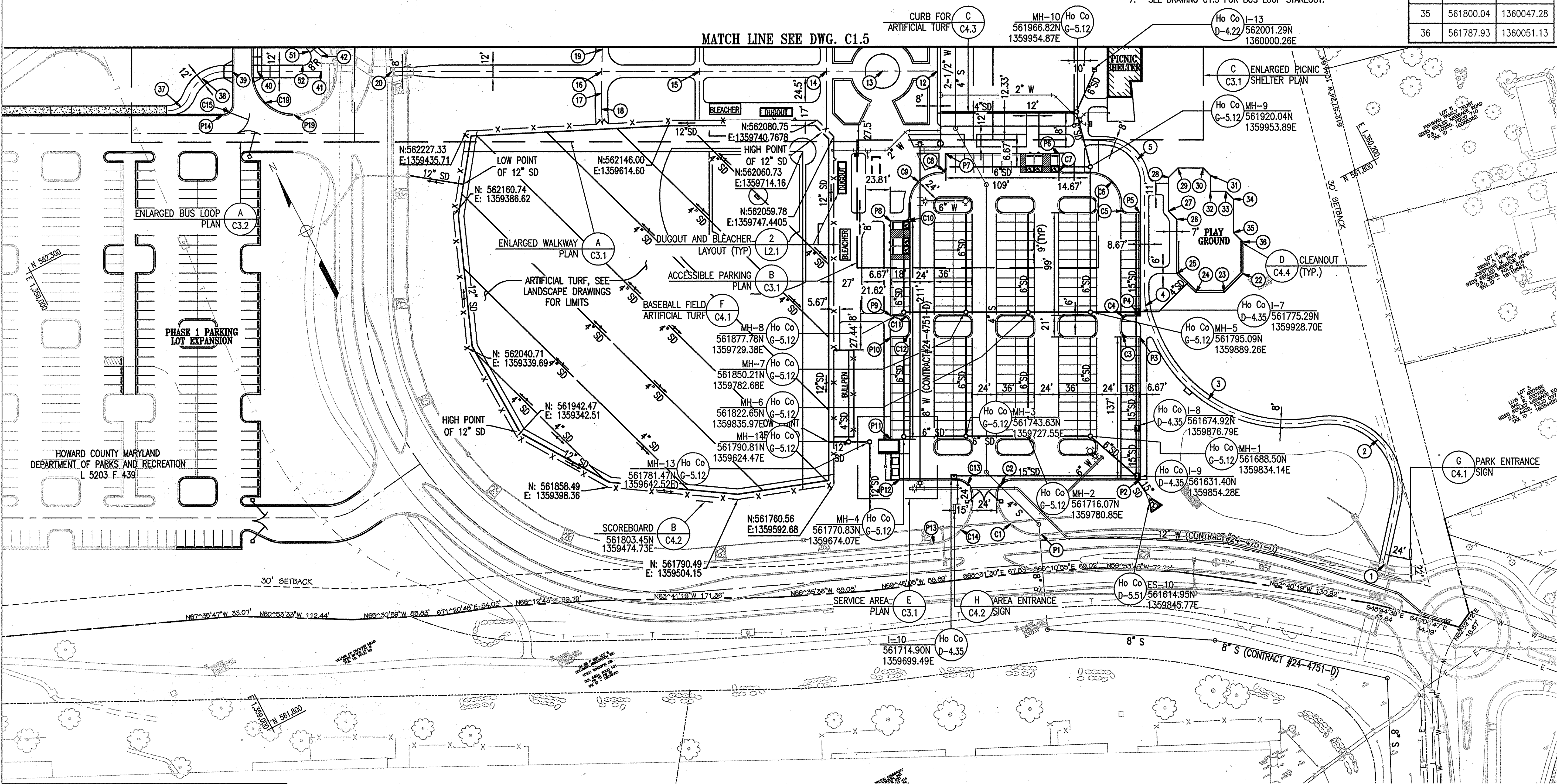
STAKEOUT PLAN A

Drawing No. **C1.4**

Scale: 1" = 50'

Date: 03/31/2014 Sheet 7 of 41

Des: CYH Drawn: SAD Check: AUO

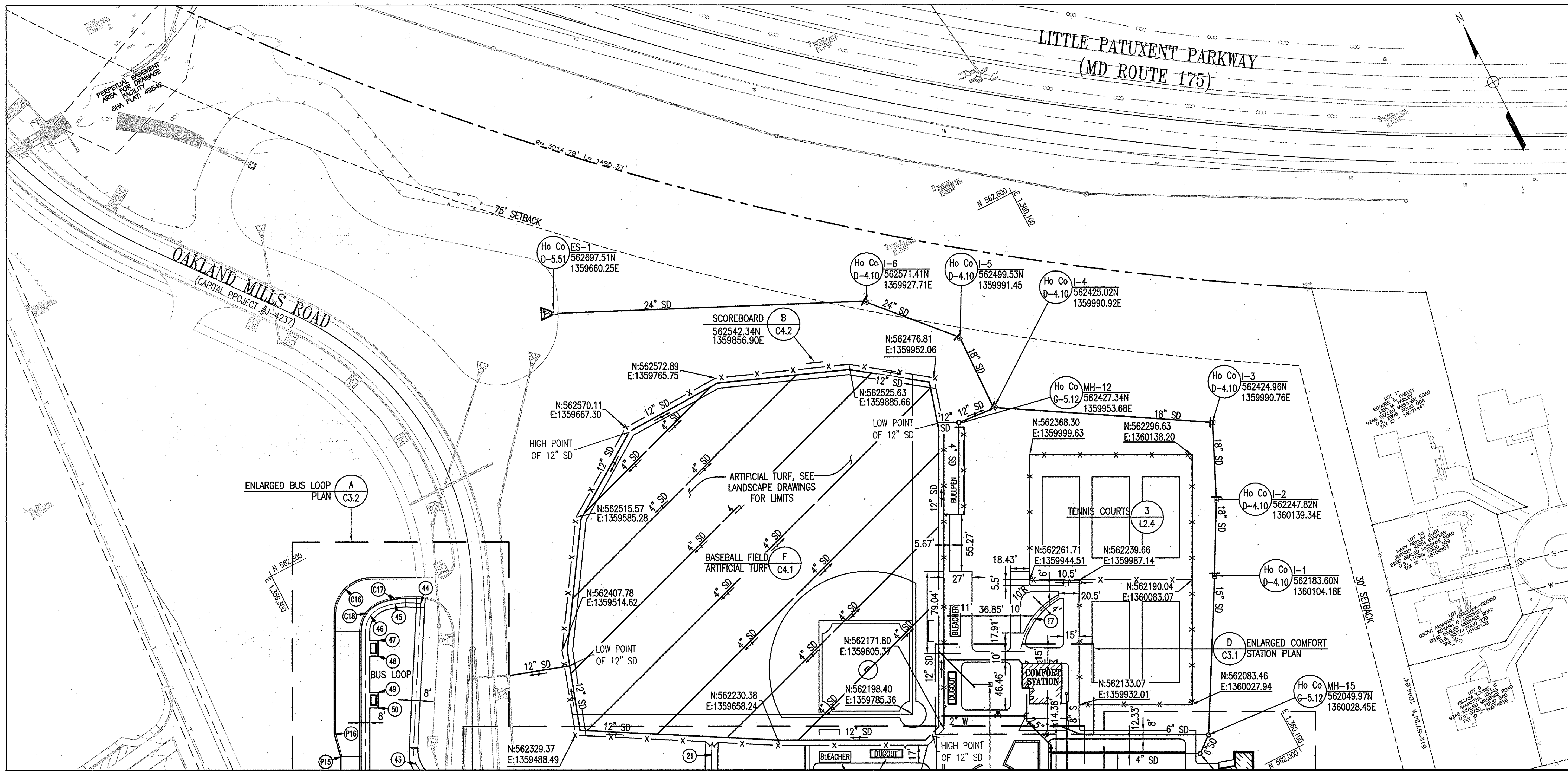


APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Clark, Chief, Development Engineering Division, DATE: 6-17-14

Walter J. ... DATE: 7-28-14

... DATE: 7-28-14



REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046
 DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3,72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7

GRAPHIC SCALES

 SCALE: 1" = 50'

SIGNATURE

 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. 19376
 EXPIRATION DATE: 09/22/2015

BLANDAIR REGIONAL PARK - PHASE 2

STAKEOUT PLAN B
 Drawing No.
C1.5
 Scale: 1" = 50'
 Date: 03/31/2014 Sheet 8 of 41
 Des: CYH Drawn: SAD Check: AUO
 SDP-12-1063

- STAKEOUT NOTES**
- ALL PARKING LOT STAKEOUT IS FROM FACE OF CURB, UNLESS OTHERWISE NOTED.
 - ALL CURB FILLETS ARE 6' UNLESS OTHERWISE NOTED.
 - ALL CONCRETE SIDEWALK FILLETS ARE 5' UNLESS OTHERWISE NOTED.
 - ALL ASPHALT PATHWAY FILLETS ARE 15' UNLESS OTHERWISE NOTED.
 - ATHLETIC FIELD AND TENNIS COURT STAKEOUT ARE AT C/L OF FENCE.
 - CURVE COORDINATES SHOWN ARE AT THE POINT OF INTERSECTION.

BUS LOOP STAKEOUT

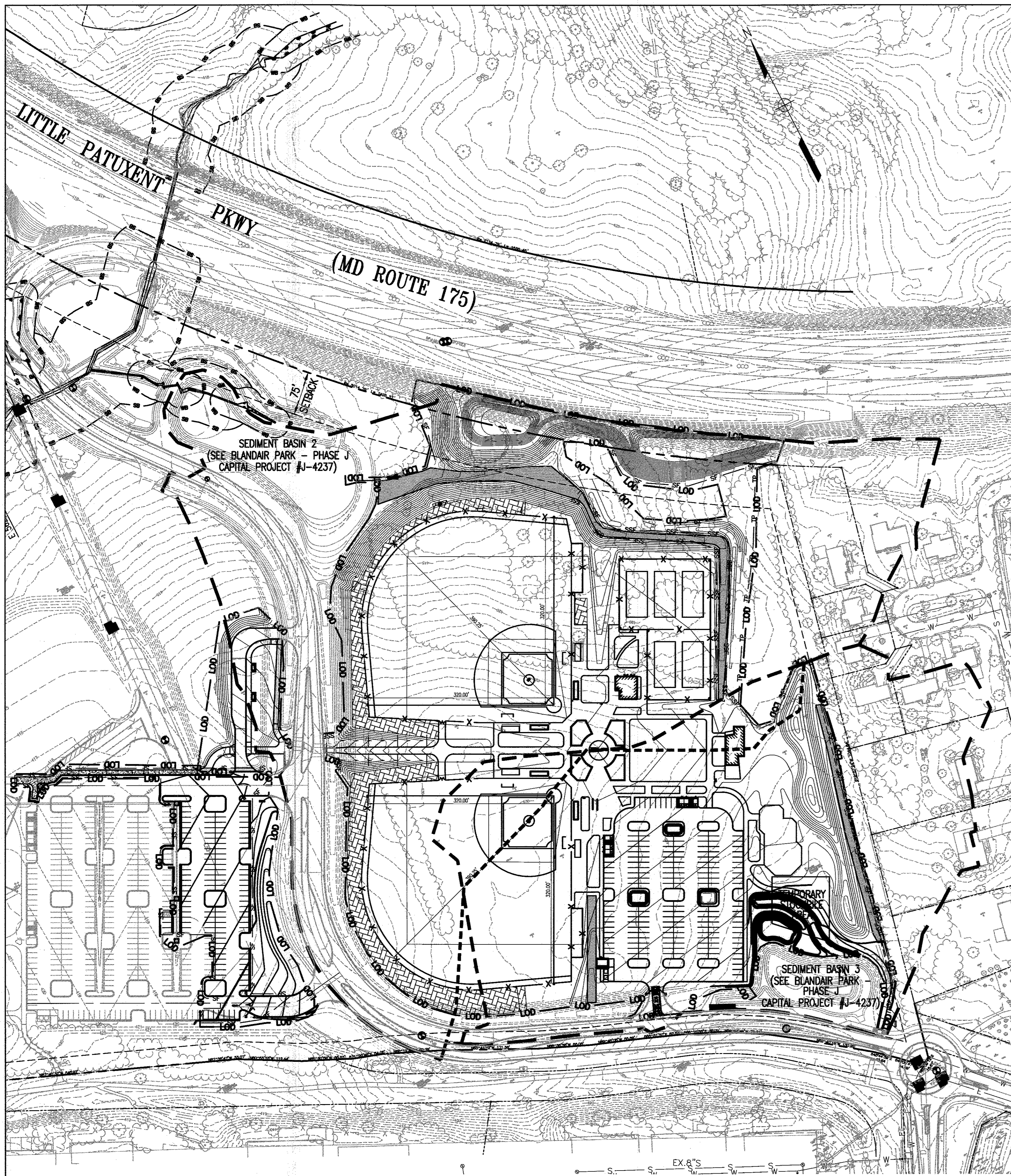
POINT	NORTHING	EASTING	R	Δ	T
P14	562349.41	1359234.09	-	-	-
C15	562344.82	1359242.98	10.00'	090°00'00"	10.00'
P15	562414.69	1359279.12	-	-	-
P16	562436.72	1359283.76	-	-	-
C16	562570.21	1359352.80	35.00'	090°00'00"	35.00'
C17	562526.81	1359395.36	80.00'	017°41'00"	12.44'
C18	562532.58	1359361.48	30.00'	072°19'00"	21.92'
C19	562336.09	1359259.85	40.00'	090°00'00"	40.00'
P19	562317.71	1359295.38	-	-	-

BUS LOOP PATHWAY STAKEOUT

POINT	NORTHING	EASTING	R	Δ	T
37	562370.32	1359202.44	21.00'	069°22'15"	14.53'
38	562397.46	1359231.80	36.00'	070°30'42"	25.45'
39	562382.09	1359261.51	-	-	-
40	562370.92	1359283.12	-	-	-
41	562342.73	1359337.62	-	-	-
42	562356.14	1359344.56	-	-	-
43	562375.26	1359336.23	30.00'	053°41'21"	15.18'
44	562510.65	1359414.89	-	-	-

POINT	NORTHING	EASTING	R	Δ	T
45	562522.48	1359393.03	74.83'	016°32'26"	10.87'
46	562527.41	1359364.06	25.33'	072°19'00"	18.51'
47	562497.71	1359362.21	-	-	-
48	562484.38	1359355.31	-	-	-
49	562453.30	1359339.24	-	-	-
50	562439.97	1359332.34	-	-	-
51	562365.35	1359336.09	-	-	-
52	562356.17	1359324.69	-	-	-

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 6-17-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] DATE: 7-28-14
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] DATE: 7-28-14
 DIRECTOR



SEQUENCE OF CONSTRUCTION

***CONSTRUCTION OF PHASE 2 MAY NOT BEGIN UNTIL THE RELEVANT DOWNSTREAM CONTROLS IN PHASE J (CAPITAL PROJECT #J-4237) ARE INSTALLED AND FUNCTIONING.

1. OBTAIN A GRADING PERMIT AND ARRANGE FOR AN ON-SITE PRE-CONSTRUCTION MEETING. (1 DAY)
2. NOTIFY THE SEDIMENT CONTROL INSPECTION OFFICE 24 HOURS PRIOR TO CONSTRUCTION. (1 DAY)
3. INSTALL THE STONE CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS INCLUDING SILT FENCE AND EARTH DIKE. (1 WEEK)
4. COORDINATE WITH PHASE J CONTRACTOR AND DIRECT ALL RUNOFF TO SEDIMENT BASINS 2 AND 3. (1 WEEK)
5. PERFORM ROUGH GRADING. (3 MONTHS)
6. INSTALL ALL UTILITIES AND COORDINATE WITH GRADING OPERATION. DURING INSTALLATION OF SANITARY AND WATER, ONLY EXCAVATE AMOUNT OF TRENCH TO ALLOW INSTALLATION OF PIPE AND BACKFILL WITHIN 1 WORK DAY. PLACE EXCAVATED MATERIAL ON UPHILL SIDED OF TRENCH AND IMMEDIATELY STABILIZE ALL DISTURBED AREA AROUND TRENCH AT THE END OF EACH WORK DAY. (1 MONTH)
7. INSTALL SUBBASE FOR TENNIS COURT AND PARKING LOT. (1 MONTH)
8. INSTALL PARKING CURB AND GUTTER, SIDEWALKS AND PAVE ALL AREAS TO BE PAVED. (1 MONTH)
9. STABILIZE ALL OTHER AREAS WITH PERMANENT SEEDING, MULCH, AND LANDSCAPING. COMPLETE UTILITY, BUILDING AND REMAINING SITE CONSTRUCTION. (1 MONTH)
10. UPON STABILIZATION OF ALL CONTRIBUTING AREAS, INSTALL BIO-SWALES. (1 WEEK)
11. UPON STABILIZATION OF ALL CONTRIBUTING DRAINAGE AREAS, INSTALL PERVIOUS PAVEMENT AND ASPHALT PAVING OF PARKING LOT. INSTALLATION OF THE FINAL PAVEMENT COURSE MUST BE INSPECTED BY THE ON-SITE GEO-TECHNICAL ENGINEER. (1 MONTH)
12. FLUSH AND PUMP CLEAN THE STORM DRAIN SYSTEM. (1 DAY)
13. UPON PERMANENT STABILIZATION OF ALL DISTURBED AREAS AND WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES AND ALL NON-NATURAL ITEMS FROM FORESTS, FLOODPLAIN, STREAMS, WETLANDS AND THEIR BUFFERS.

***ALL ROOT PRUNING SHALL BE COMPLETED PRIOR TO ANY CONSTRUCTION ACTIVITIES

***NO CLEARING OR GRUBBING SHALL COMMENCE PRIOR TO THE INSTALLATION OF THE TREE PROTECTION FENCING AND SIGNAGE ADJACENT TO THE CLEARING/GRUBBING AREA WHERE APPLICABLE.

***TREE PROTECTION FENCING AND SIGNAGE SHOULD BE INSTALLED SIMULTANEOUSLY WITH SILT FENCE/SUPER SILT FENCE/IMBRICATED SILT FENCE AND PRIOR TO INSTALLATION OF EARTHS DIKES. (STEP 3)

***ALL TREE PROTECTION FENCING AND SIGNAGE AS INDICATED ON FOREST CONSERVATION PLAN SHEETS FCP2.2 THROUGH FCP2.4 SHALL BE INSTALLED IN STEPS 1 THROUGH 4, BEFORE BEGINNING ROUGH GRADING OF THE ENTIRE SITE.

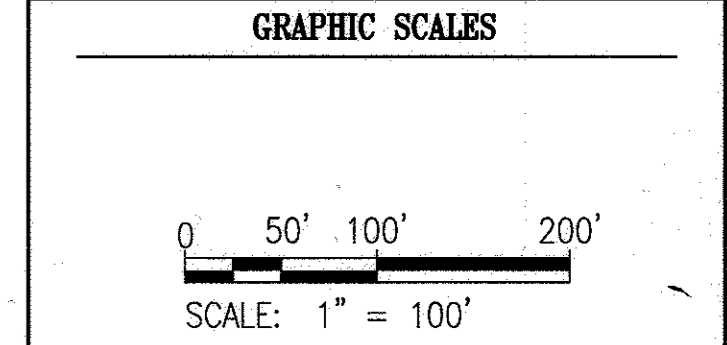
***TREE PROTECTION FENCING AND SPECIMEN TREE SIGNAGE SHALL BE REMOVED UPON PERMANENT STABILIZATION OF ALL DISTURBED AREAS. FOREST RETENTION SIGNAGE SHALL REMAIN. (STEP 13)

REVISIONS		
A	REVISED SITE DEVELOPMENT PLAN	10/26/16

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046
 DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3,72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7



SIGNATURE

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. 19376 EXPIRATION DATE: 09/22/2017

BLANDAIR REGIONAL PARK - PHASE 2

OVERALL SEDIMENT/EROSION CONTROL PLAN
 Drawing No. **C1.6**
 Scale: 1" = 100'
 Date: 03/24/16 Sheet 9 of 41
 Des: CYH Drawn: CYH Check: AUO

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Howard Soil Conservation District
 12/21/16

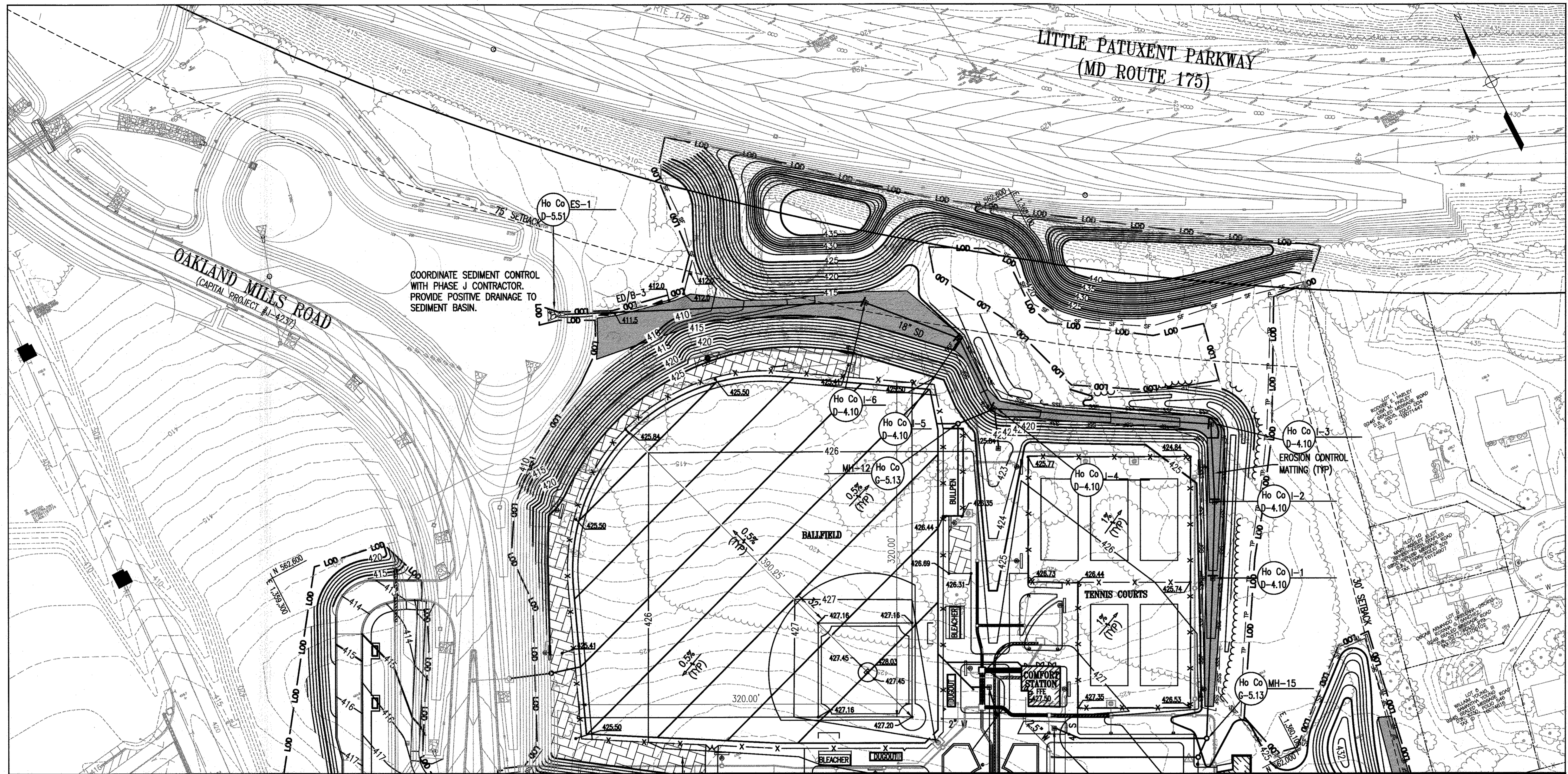
ENGINEER'S CERTIFICATION
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I 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.
 Signature of Engineer: Anthony U. Olsen
 Date: 11/16/16

DEVELOPER'S CERTIFICATION
 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 DAY OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature of Developer: A. RAIL DELERME
 Date: 11/16/16

LEGEND

---	EXISTING DRAINAGE DIVIDE	█	STABILIZED CONSTRUCTION ENTRANCE
---	PROPOSED DRAINAGE DIVIDE	█	EROSION CONTROL MATTING
---	INTERMEDIATE DRAINAGE DIVIDE	---	EXISTING CONTOURS
---	EXISTING/PROPOSED DRAINAGE DIVIDE	---	FINISHED CONTOURS
---	EXISTING TIME OF CONCENTRATION FLOW PATH	---	LIMIT OF DISTURBANCE
---	SF --- SILT FENCE		
---	SSF --- SUPER SILT FENCE		

PLANS IN ACCORDANCE WITH HOWARD SOIL CONSERVATION DISTRICT

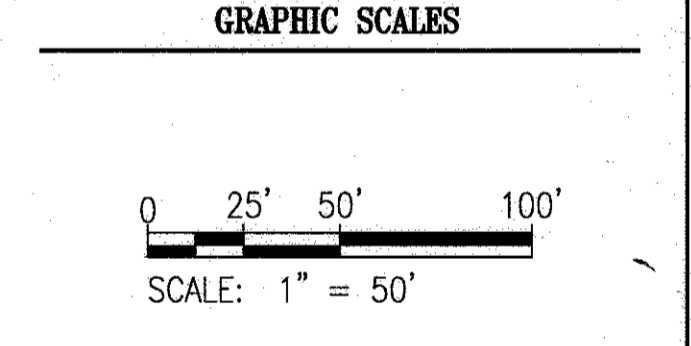


REVISIONS		
A	REVISED SITE DEVELOPMENT PLAN	10/28/16

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046
 DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21201
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3,72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7



SIGNATURE

PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19376, EXPIRATION DATE: 09/22/2017.

BLANDAIR REGIONAL PARK - PHASE 2

EROSION & SEDIMENT CONTROL / GRADING PLAN B
 Drawing No. **C1.8**
 Scale: 1" = 50'
 Date: 03/24/16 Sheet 11 of 41
 Des: CYH Drawn: SAD Check: AUO

DEVELOPER'S CERTIFICATION

"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 DAY OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

A. Paul Pelzer 11/10/16
 SIGNATURE OF DEVELOPER DATE
 (PRINT NAME BELOW SIGNATURE) A. PAUL PELZER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edick 1-6-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Natalie Deane 1-11-17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Natalie Deane 1-11-17
 DIRECTOR DATE

REINFORCED TURF (TYP.) C4.2

MATCH LINE SEE DWG. C1.7

1-13 Ho Co D-4.22 Ho Co D-4.22 Ho Co MH-11 G-5.13

ENGINEER'S CERTIFICATION

"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."

Anthony U. Olson 11/7/16
 SIGNATURE OF ENGINEER DATE
 (PRINT NAME BELOW SIGNATURE) ANTHONY U. OLSON

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

John K. Roberts 12/21/16
 HOWARD SOIL CONSERVATION DISTRICT DATE

REINFORCED TURF (TYP.) C4.2

MATCH LINE SEE DWG. C1.7

1-13 Ho Co D-4.22 Ho Co D-4.22 Ho Co MH-11 G-5.13

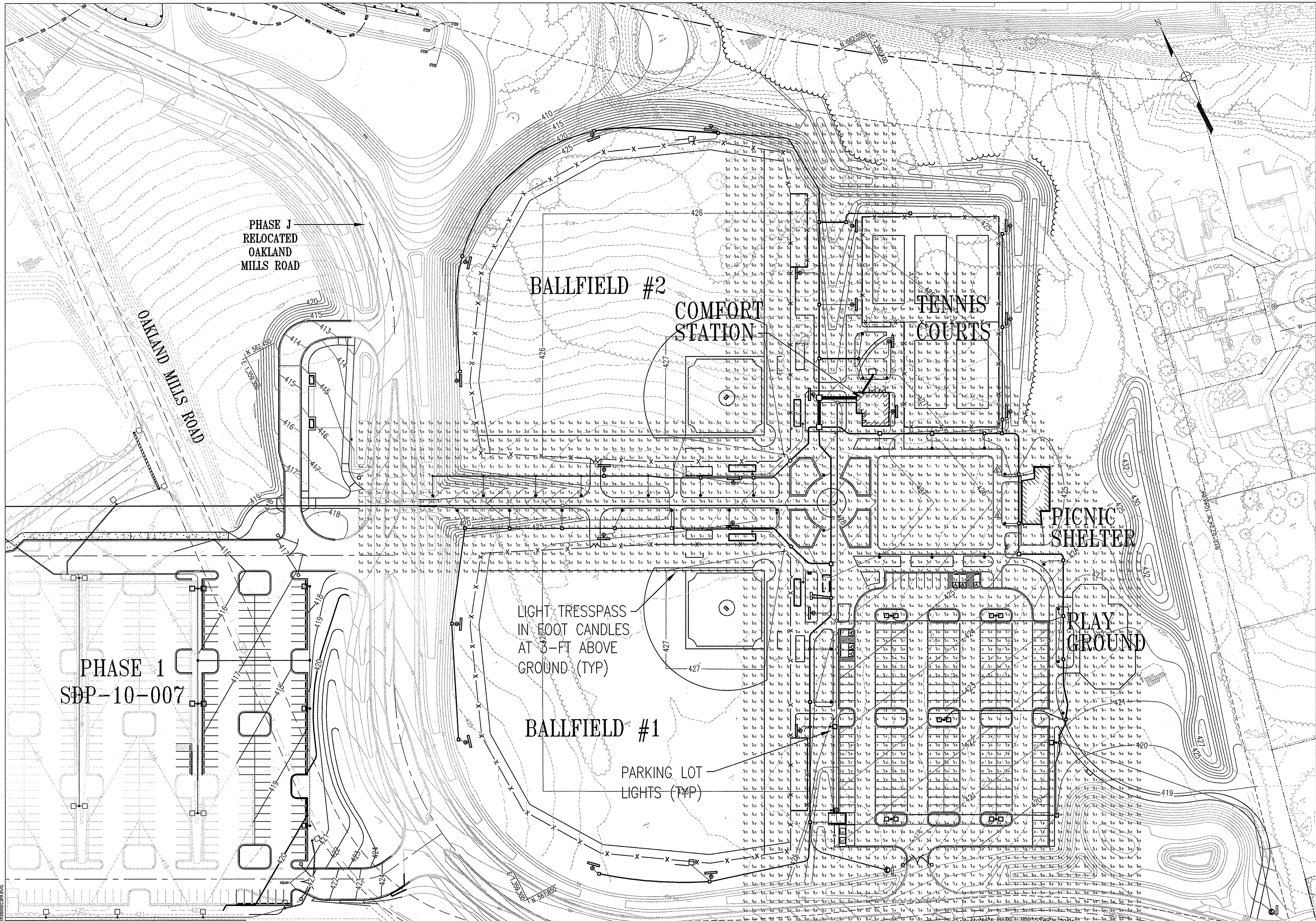
DEVELOPER'S CERTIFICATION

"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 DAY OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

A. Paul Pelzer 11/10/16
 SIGNATURE OF DEVELOPER DATE
 (PRINT NAME BELOW SIGNATURE) A. PAUL PELZER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edick 1-6-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Natalie Deane 1-11-17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Natalie Deane 1-11-17
 DIRECTOR DATE



REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3,72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7

GRAPHIC SCALES

 SCALE: 1" = 50'

SIGNATURE

 Anthony Allen

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. 19376
 EXPIRATION DATE: 09/22/2015

BLANDAIR REGIONAL PARK - PHASE 2

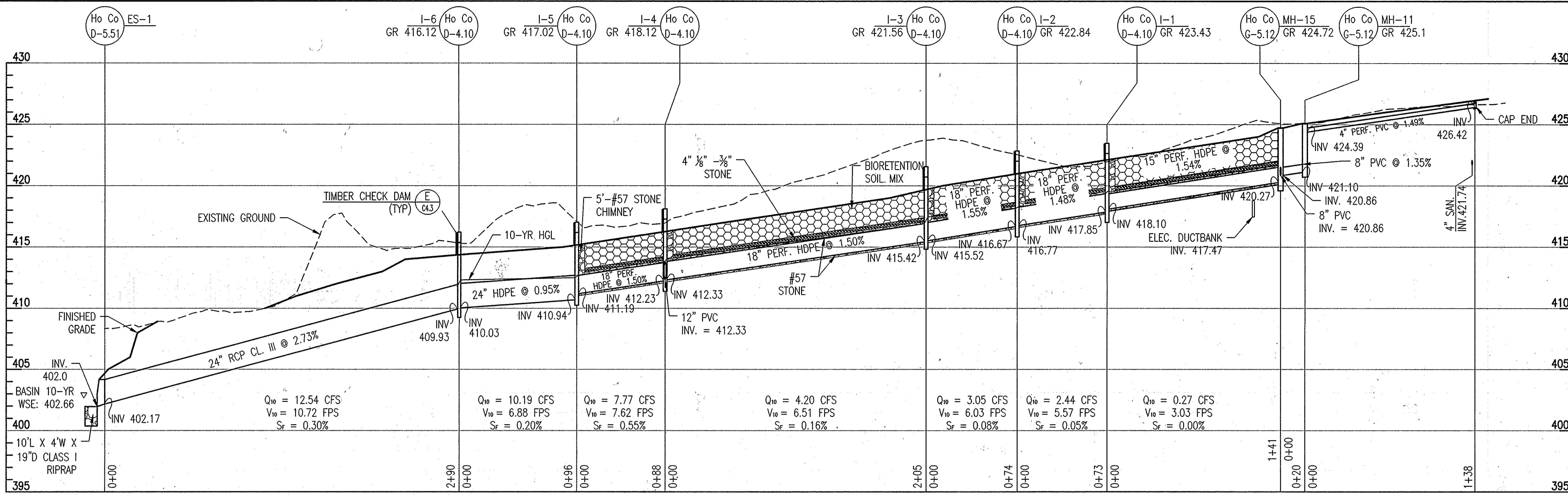
PHOTOMETRIC TEST DIAGRAM
 Drawing No. **C1.9**
 Scale: 1" = 50'
 Date: 03/31/2014 Sheet 12 of 41
 Des: CYH Drawn: CYH Check: AUO

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 6-17-14
 7-28-14
 7-28-14

BEARINGS AND DISTANCES:
 N87°36'47"W 33.07' N60°53'33"W 112.44'
 N82°30'59"W 53.63' S71°20'48"E 34.06'
 N88°12'43"W 88.78' N82°41'18"W 171.36'
 N88°35'36"W 88.06' N68°24'05"W 64.82'
 N52°40'18"W 120.38'
 S46°44'38"E 43.64' S46°08'47"E 44.89'

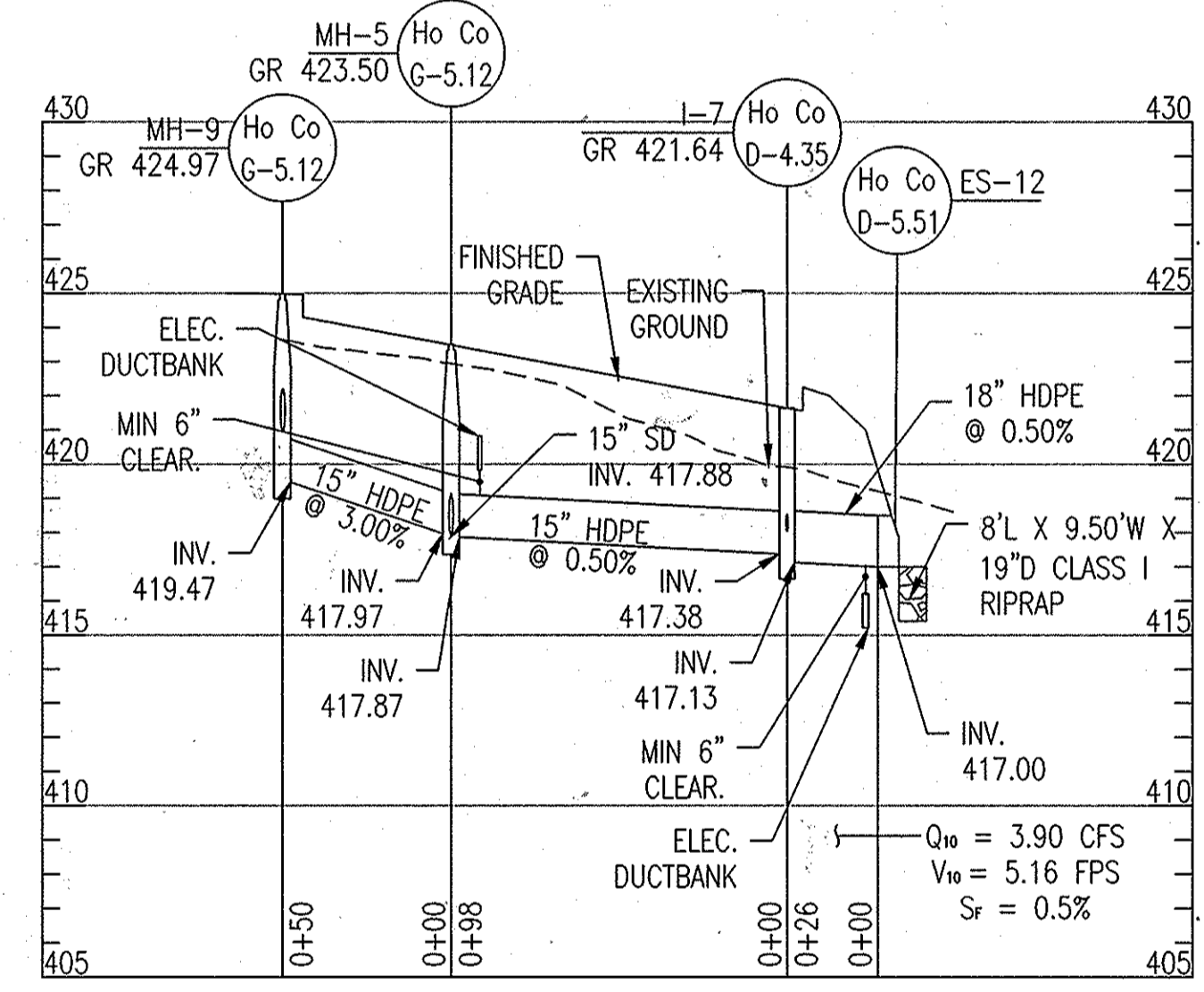
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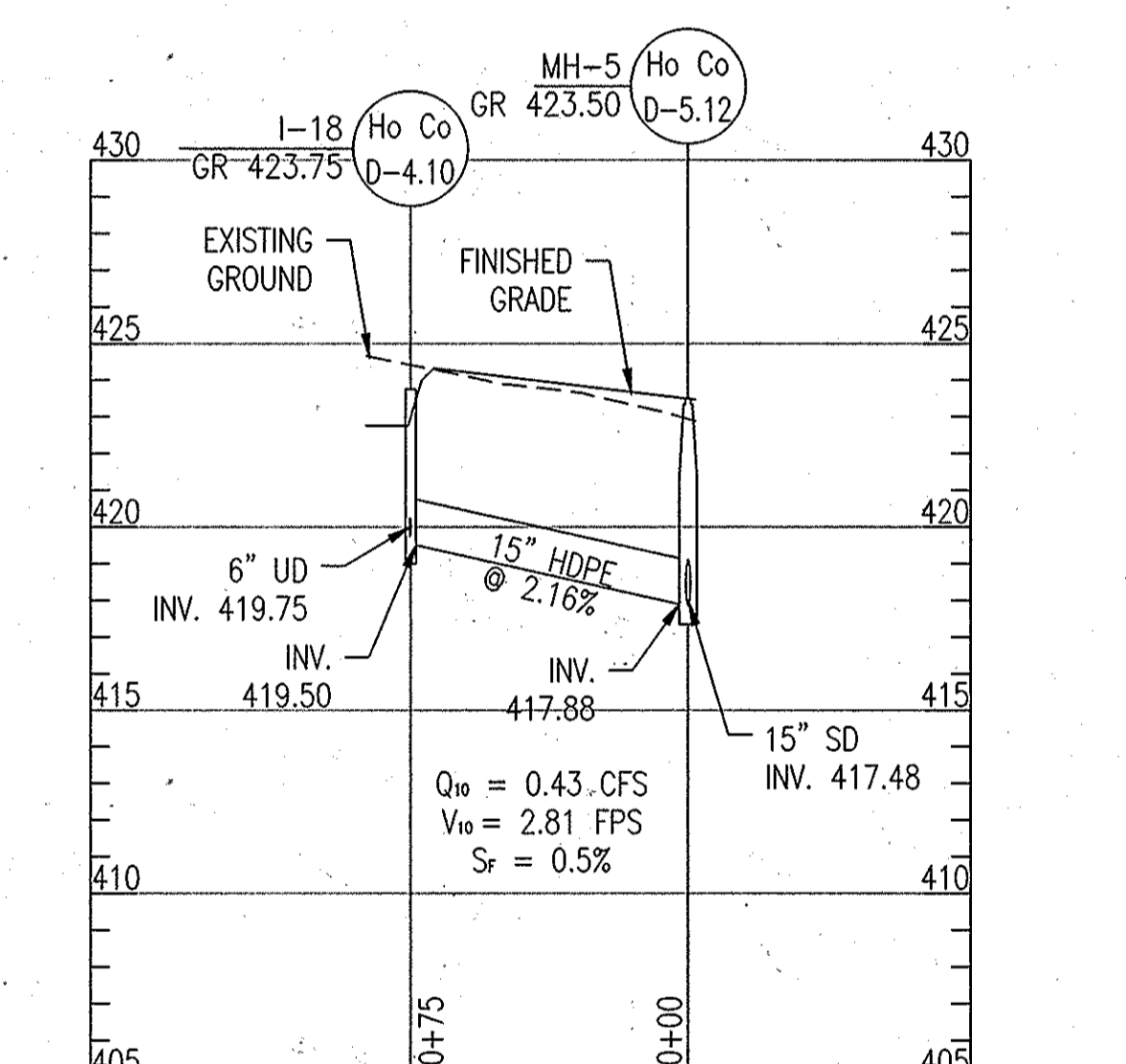
STORM DRAIN PROFILE: I-1 TO ES-1
SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL

ESD FACILITY ELEVATION CHART						
ESD FACILITY	FILTER BED ELEVATION	INLET	INLET TOP ELEV.	INLET INV. OUT	UNDERDRAIN INV. ELEV.	FACILITY BOTTOM
MB-1	422.75	I-18	423.75	419.50	419.75	419.58
MB-2	420.10	I-16	421.10	417.48	417.50	416.93
MB-3	421.50	I-17	422.50	418.18	418.50	418.33
MB-4	414.00	I-19	415.00	410.77	410.80	410.83
BS-2	415.55	I-20	415.55*	410.10	412.40	412.38

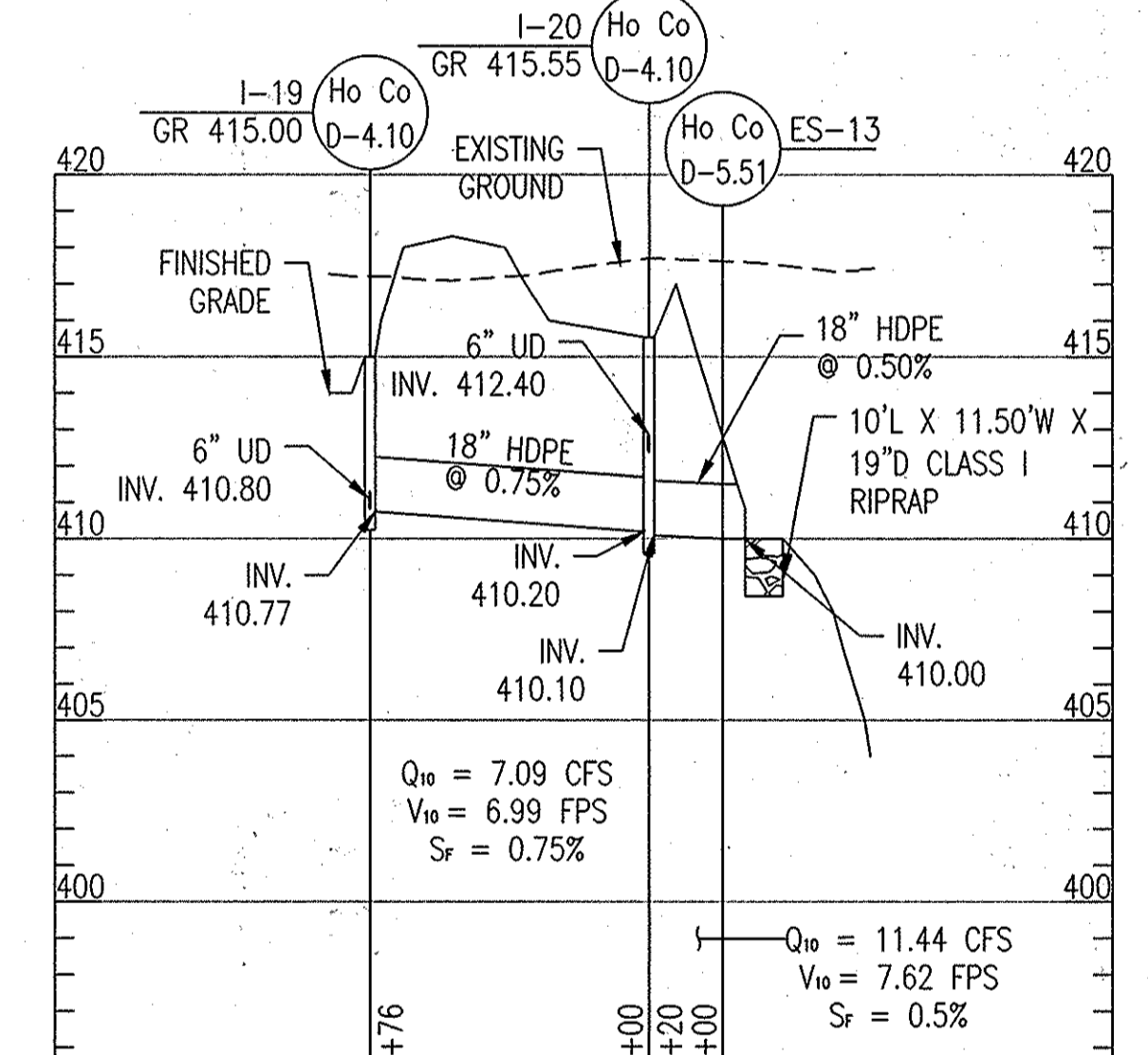
* CHECK DAM AT INLET WEIR ELEV. = 416.55



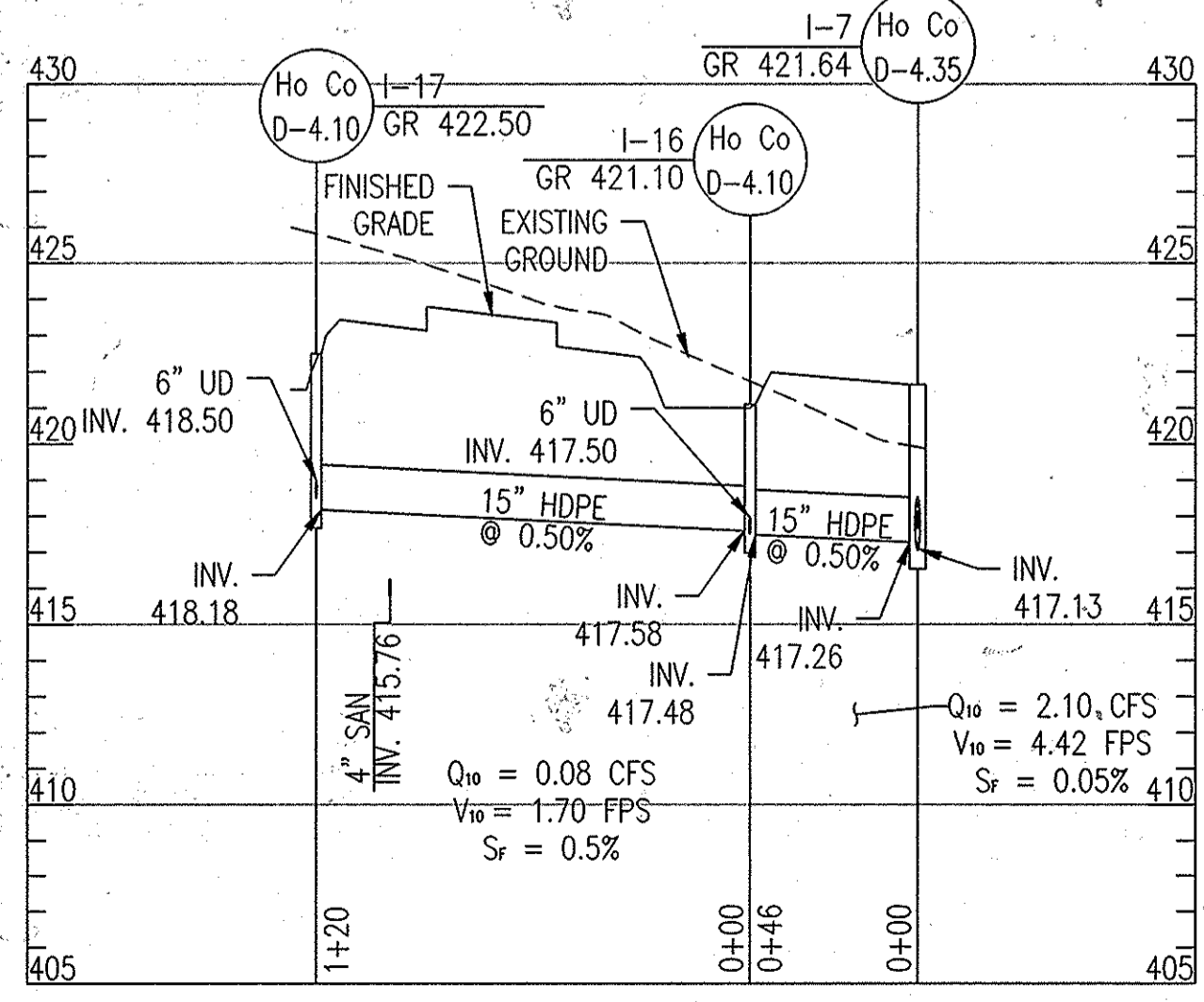
STORM DRAIN PROFILE: MH-9 TO ES-12
SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



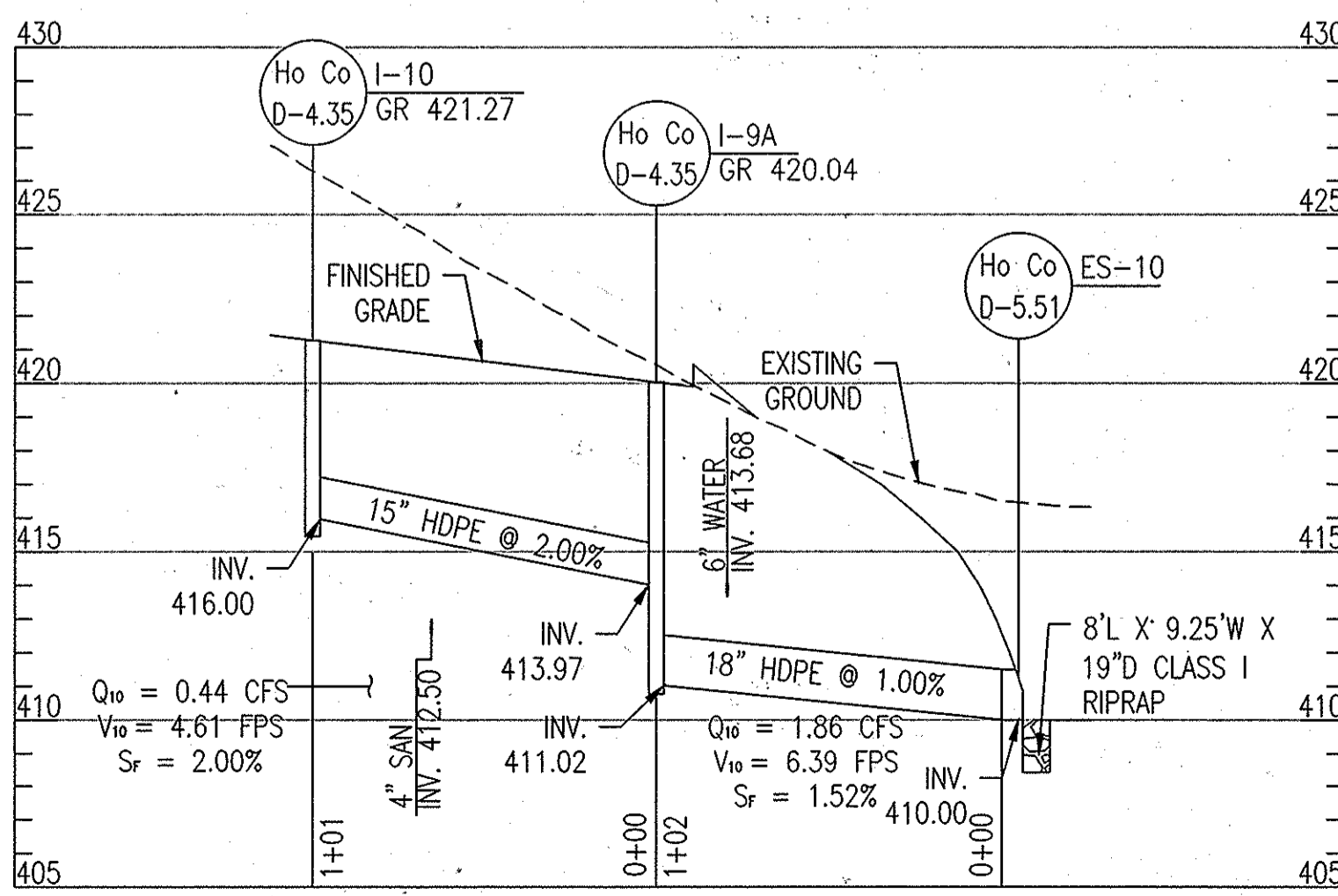
STORM DRAIN PROFILE: I-18 TO MH-5
SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



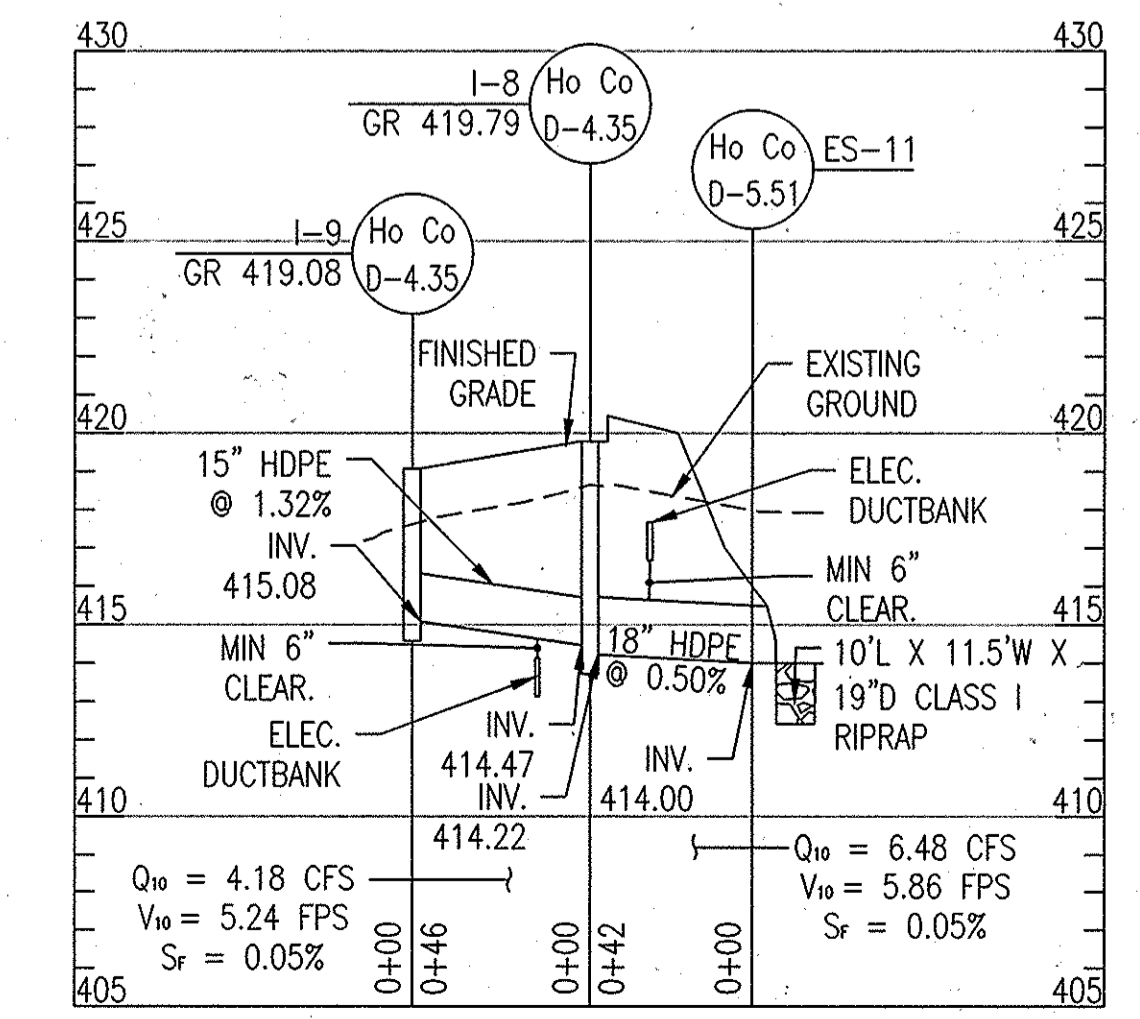
STORM DRAIN PROFILE: I-19 TO ES-13
SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



STORM DRAIN PROFILE: I-17 TO I-7
SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



STORM DRAIN PROFILE: I-10 TO ES-10
SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



STORM DRAIN PROFILE: I-9 TO ES-11
SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL

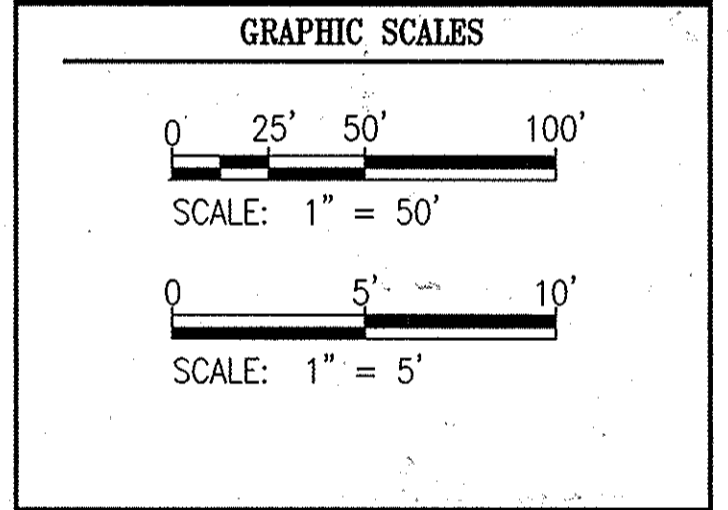
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Date: 5-17-16
 Chief, Division of Land Development
 Date: 5-19-16
 Director
 Date: 5-19-16

REVISIONS	
REDLINE REVISION 7	3/22/16

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046
 DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21201
 Phone: 410-238-3450 Fax: 410-243-9718

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3,72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7

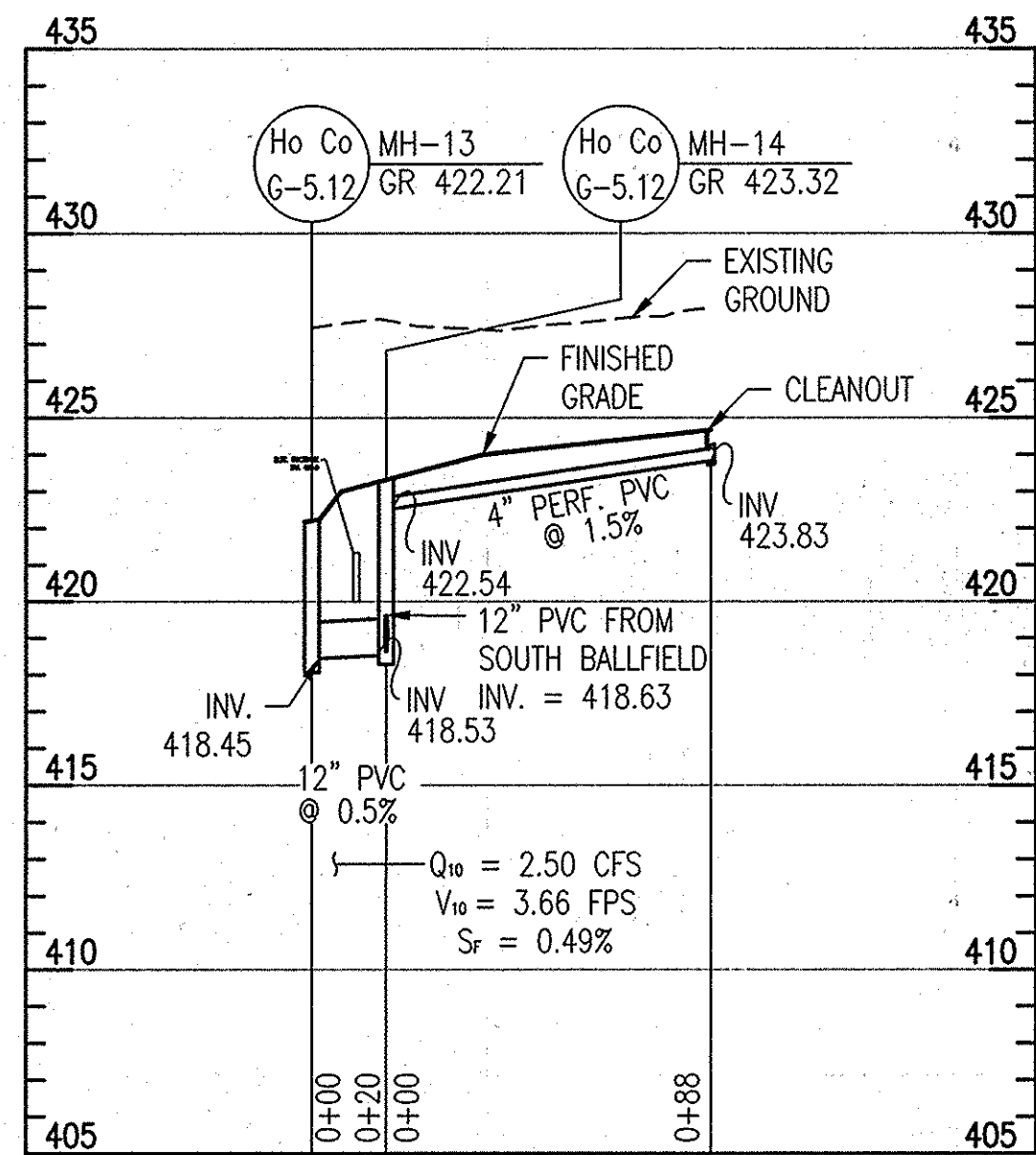


SIGNATURE
 STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 License No. 19378
 Expiration Date: 09/22/2017

PROFESSIONAL CERTIFICATION.
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19378, EXPIRATION DATE: 09/22/2017.

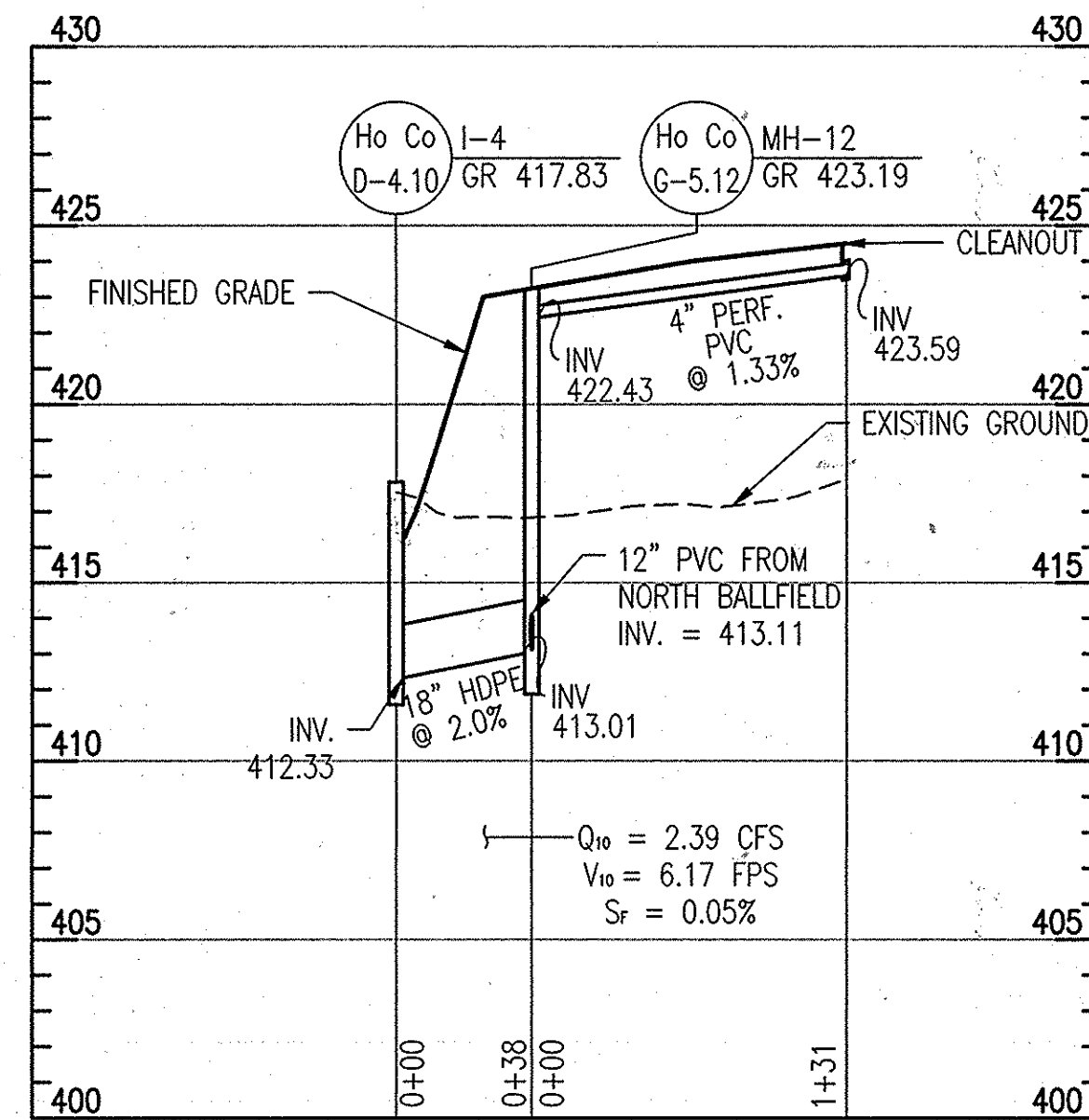
BLANDAIR REGIONAL PARK - PHASE 2

STORM DRAIN PROFILES
 REVISED SITE DEVELOPMENT PLAN
 Drawing No. **C2.1**
 Scale: AS SHOWN
 Date: 03/24/16 Sheet 13 of 41
 Des: SAD Drawn: SAD Check: AUO
 SDP-12-063



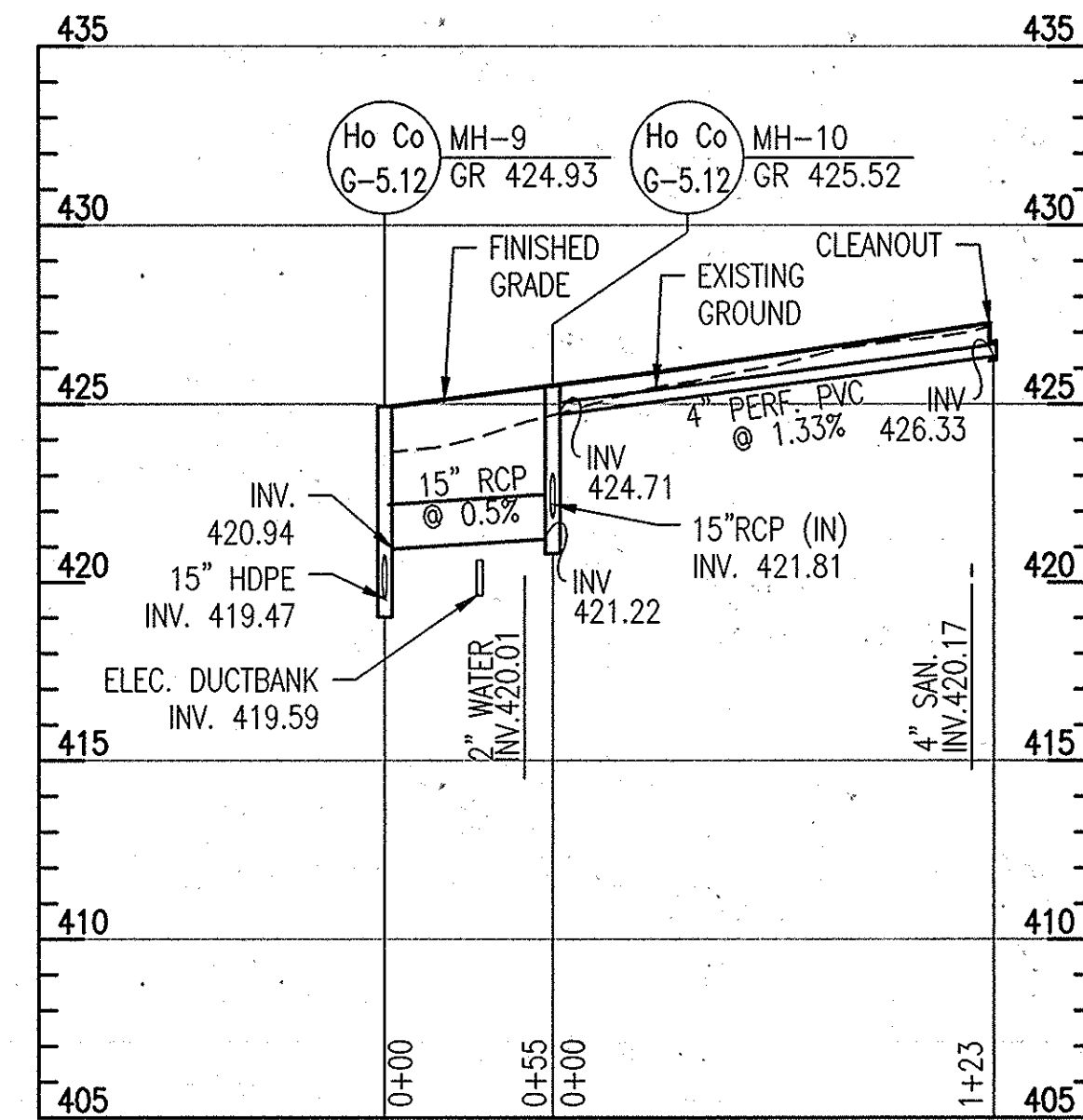
UNDERDRAIN PROFILE: MH-13 TO MH-14

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



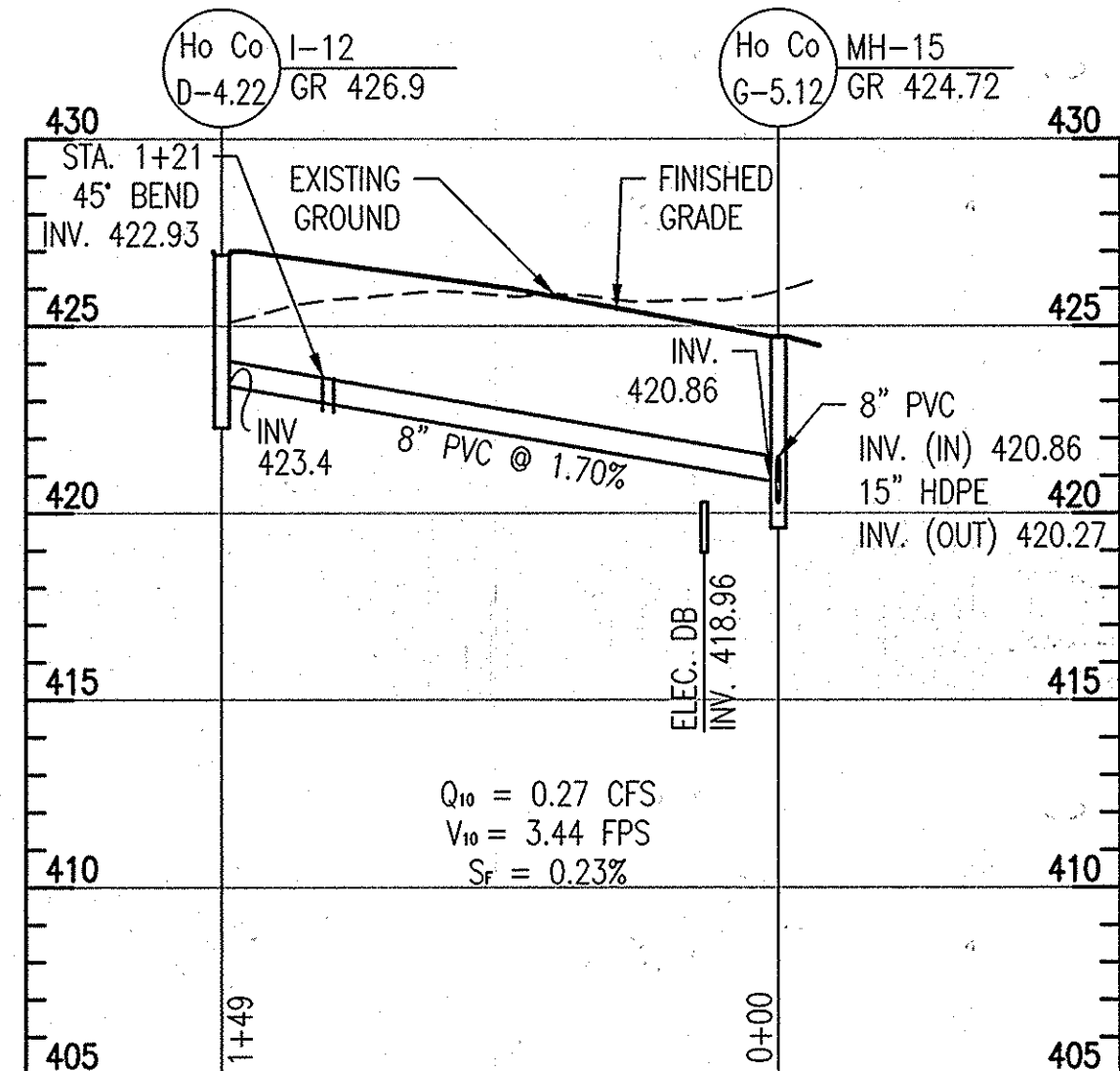
UNDERDRAIN PROFILE: I-4 TO MH-12

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



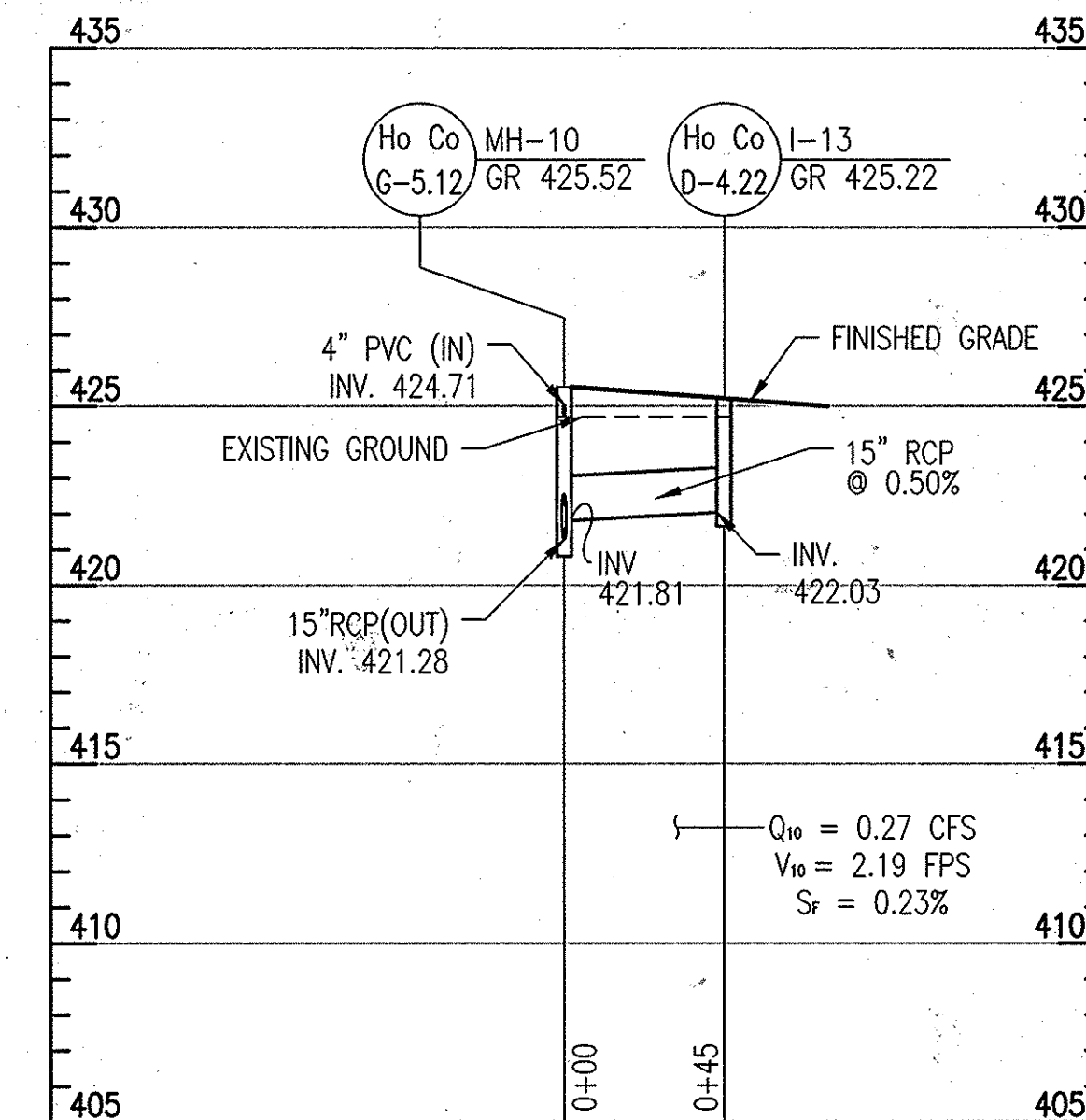
UNDERDRAIN PROFILE: MH-9 TO MH-10

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



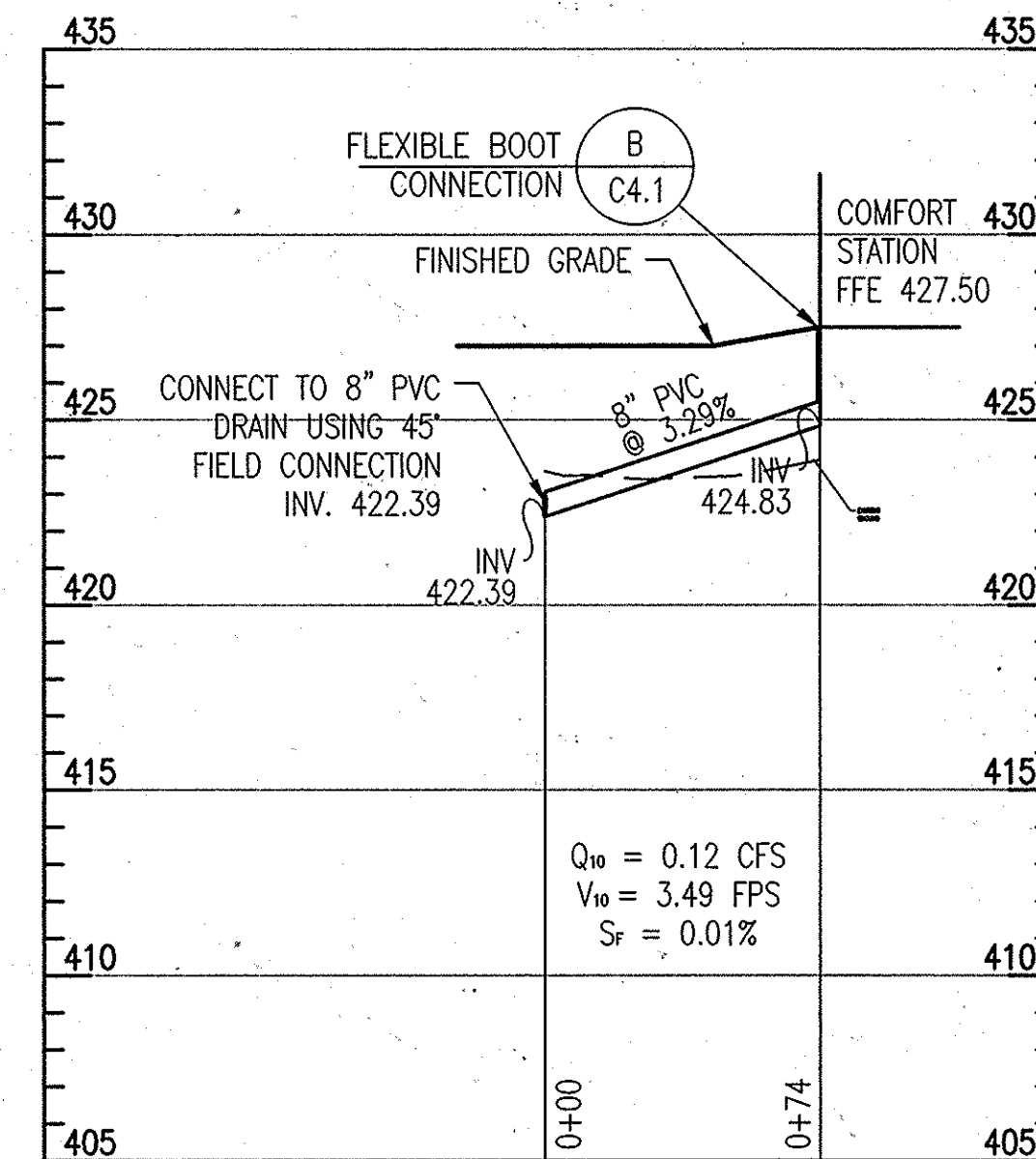
STORM DRAIN PROFILE: I-12 TO MH-15

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



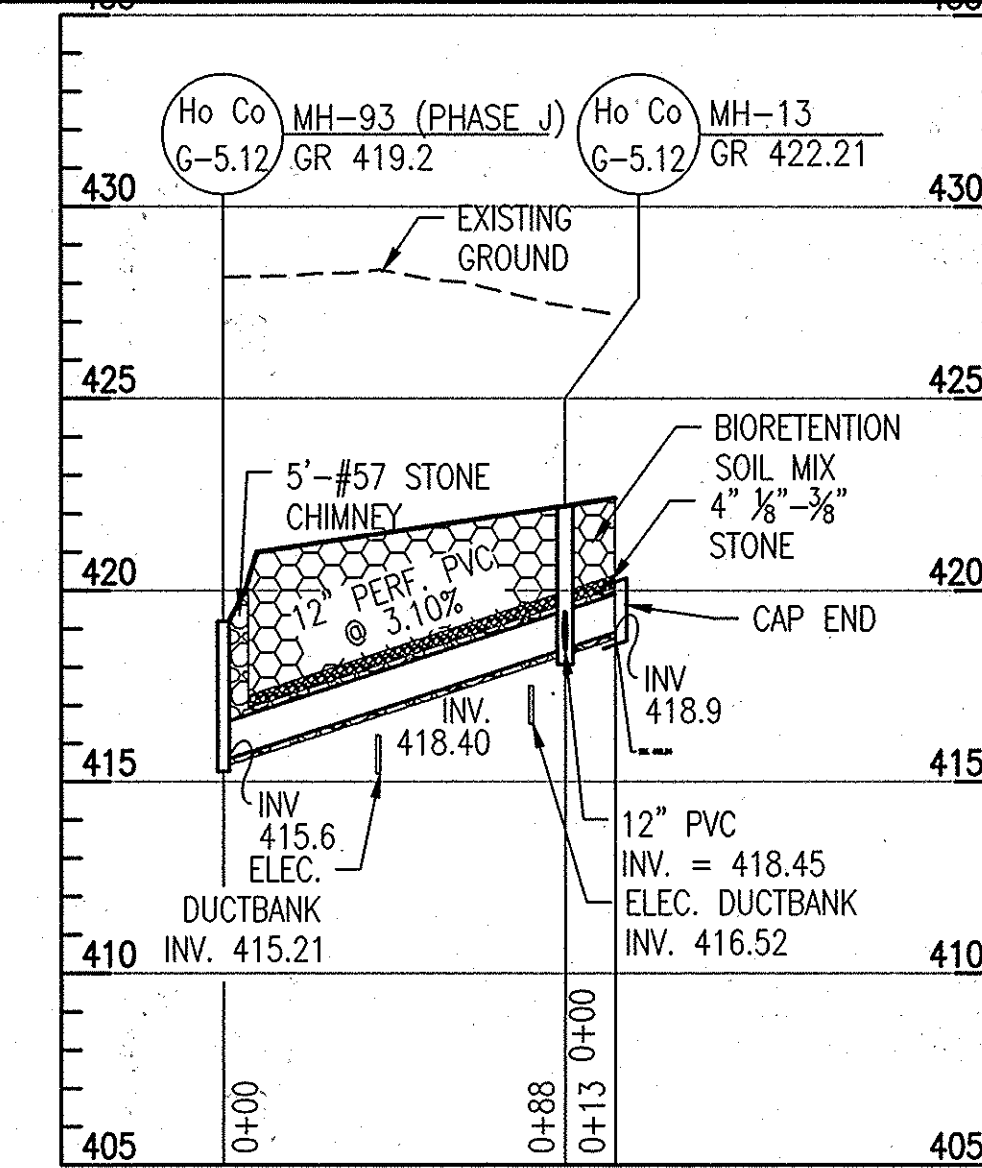
STORM DRAIN PROFILE: MH-10 TO I-13

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



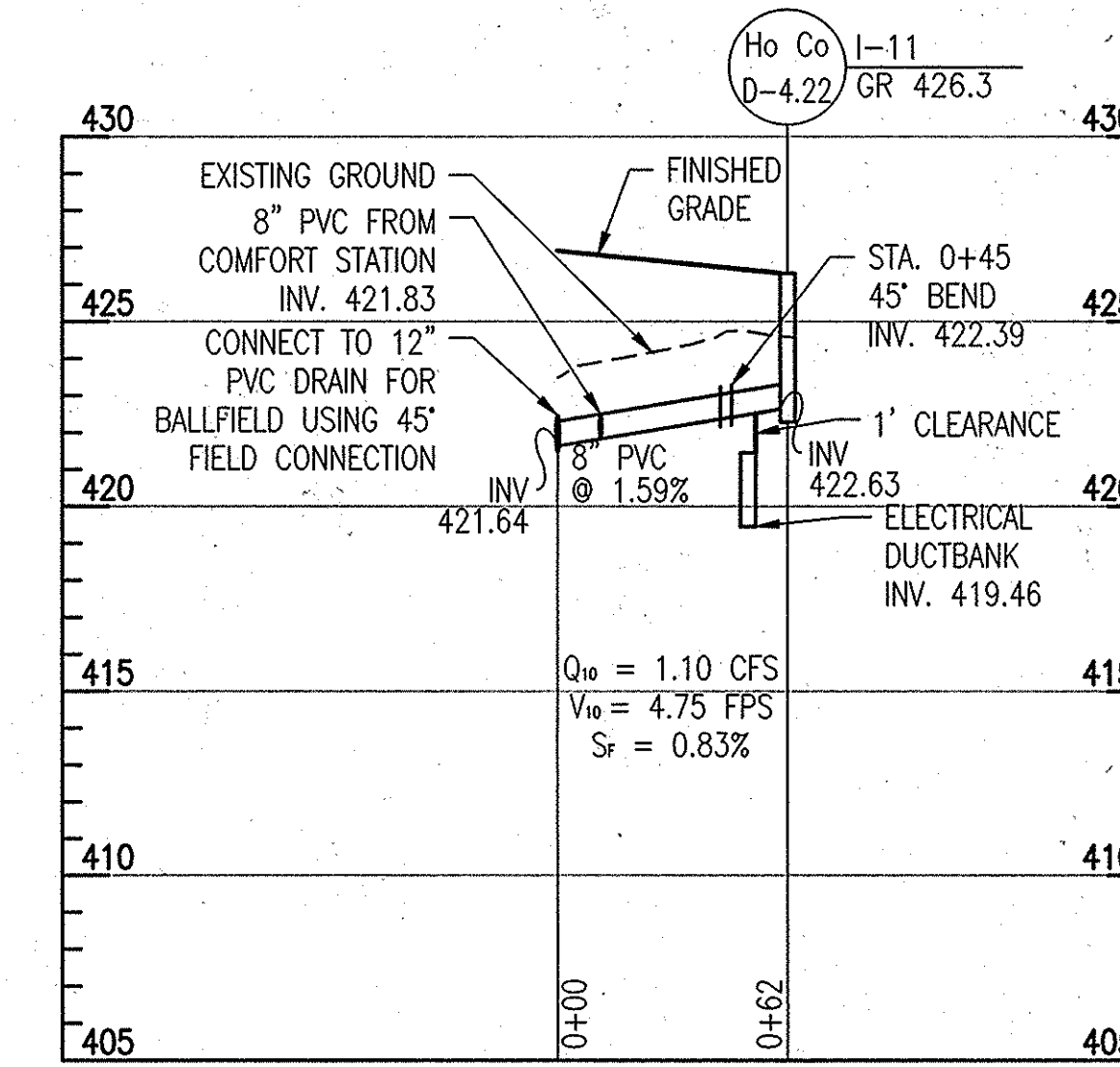
STORM DRAIN PROFILE: COMFORT STATION DRAIN

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



UNDERDRAIN PROFILE: BIOSWALE 9A2-B

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL



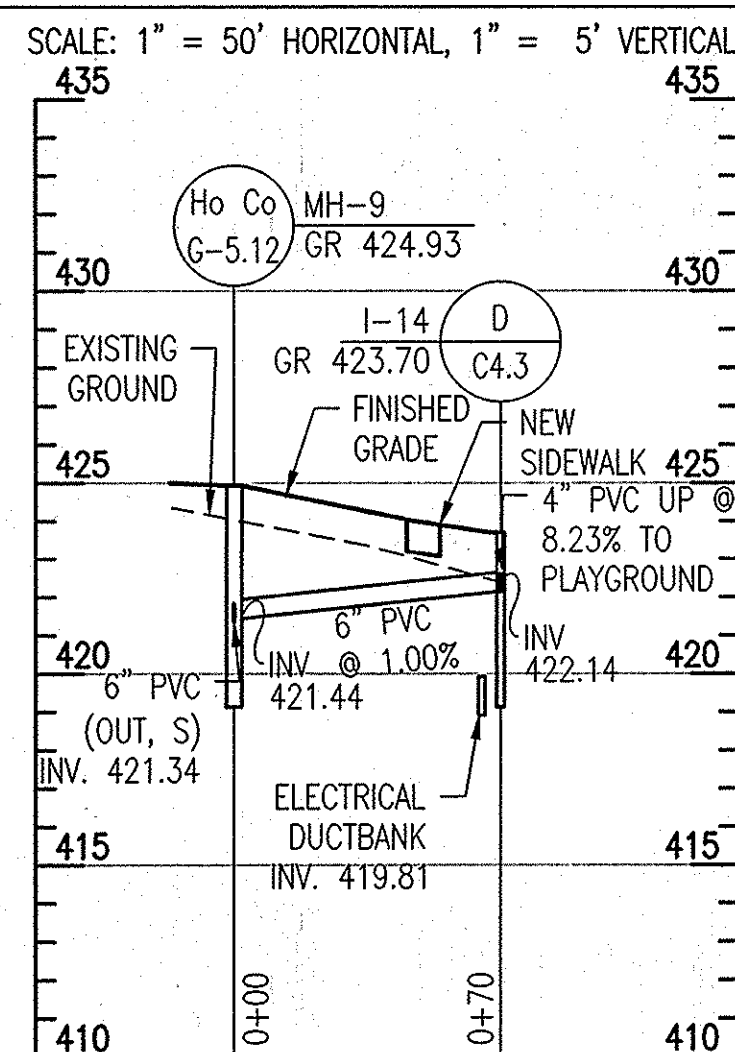
STORM DRAIN PROFILE: I-11 TO BALLFIELD

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL

STORM DRAIN STRUCTURE SCHEDULE				
NO.	TYPE	STANDARD DETAIL	GRATE/RIM ELEV.	THROAT ELEV.
ES-1	CONCRETE END SECTION	HO.CO. D-5.51		
ES-10	CONCRETE END SECTION	HO.CO. D-5.51		
ES-11	CONCRETE END SECTION	HO.CO. D-5.51		
ES-12	CONCRETE END SECTION	HO.CO. D-5.51		
ES-13	CONCRETE END SECTION	HO.CO. D-5.51		
I-1	TYPE 'D' INLET	HO.CO. D-4.10		422.63
I-2	TYPE 'D' INLET	HO.CO. D-4.10		422.01
I-3	TYPE 'D' INLET	HO.CO. D-4.10		420.73
I-4	TYPE 'D' INLET	HO.CO. D-4.10		417.29
I-5	TYPE 'D' INLET	HO.CO. D-4.10		416.19
I-6	TYPE 'D' INLET	HO.CO. D-4.10		415.38
I-7	DOUBLE WR INLET	HO.CO. D-4.35	421.64	
I-8	DOUBLE WR INLET	HO.CO. D-4.35	419.79	
I-9	DOUBLE WR INLET	HO.CO. D-4.35	419.08	
I-9A	DOUBLE WR INLET	HO.CO. D-4.36	420.04	
I-10	DOUBLE WR INLET	HO.CO. D-4.35	421.27	
I-11	TYPE 'S' INLET	HO.CO. D-4.22	426.30	
I-12	TYPE 'S' INLET	HO.CO. D-4.22	426.90	
I-13	TYPE 'S' INLET	HO.CO. D-4.22	425.22	
I-14	24" NYLOPLAST INLET	DETAIL D/C4.3	423.70	
I-15	24" NYLOPLAST INLET	DETAIL D/C4.3	422.50	
I-16	TYPE 'D' INLET	HO.CO. D-4.10	421.10	
I-17	TYPE 'D' INLET	HO.CO. D-4.10	422.50	
I-18	TYPE 'D' INLET	HO.CO. D-4.10	423.75	
I-19	TYPE 'D' INLET	HO.CO. D-4.10	415.00	
I-20	TYPE 'D' INLET	HO.CO. D-4.10	415.55	
MH-5	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	423.50	
MH-6	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	422.91	
MH-7	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	423.64	
MH-8	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	424.35	
MH-9	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	424.97	
MH-10	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	425.52	
MH-11	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	425.11	
MH-12	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	423.19	
MH-13	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	422.21	
MH-14	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	423.32	
MH-15	4'-0" PRECAST MANHOLE	HO.CO. G-5.12	424.72	

STORM DRAIN PIPE SCHEDULE				
FROM	TO	SIZE	TYPE	LENGTH
CAP	MH-11	4	PVC	138
MH-11	MH-15	8	PVC	20
I-12	MH-15	8	PVC	149
MH-15	I-1	15	HDPE	141
I-1	I-2	15	HDPE	73
I-2	I-3	15	HDPE	74
I-3	I-4	15	HDPE	205
MH-12	I-4	18	HDPE	38
CAP	MH-12	4	PVC	131
I-4	I-5	18	HDPE	88
I-5	I-6	21	HDPE	96
I-6	ES-1	21	HDPE	290
CAP	MH-9	6	PVC	135
CAP	MH-10	15	RCP	123
MH-10	MH-9	15	RCP	55
MH-9	MH-5	15	HDPE	50
MH-5	I-7	15	HDPE	98
I-7	ES-12	18	HDPE	26
I-10	I-9A	15	HDPE	101
I-9A	ES-10	18	HDPE	102
I-9	I-8	15	HDPE	46
I-8	ES-11	18	HDPE	42
I-17	I-16	15	HDPE	120
I-16	I-7	15	HDPE	46
I-18	MH-5	15	HDPE	75
I-19	I-20	18	HDPE	76
I-20	ES-13	18	HDPE	20

STORM DRAIN PIPE SCHEDULE				
FROM	TO	SIZE	TYPE	LENGTH
MH-1	I-9	6	PVC	59
CAP	I-7	6	PVC	94
CAP	I-7	4	PVC	60
MH-14	MH-13	12	PVC	20
MH-13	MH-93	12	PVC	88
CAP	MH-13	12	PVC	13
I-13	MH-10	6	PVC	45
CS	I-11	8	PVC	74
I-11	BALLFIELD	8	PVC	62
I-14	MH-9	6	PVC	68
I-15	PP	6	PVC	25



STORM DRAIN PROFILE: I-14 TO MH-9

SCALE: 1" = 50' HORIZONTAL, 1" = 5' VERTICAL

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

DATE: 5-17-16
 DATE: 5-19-16
 DATE: 5-19-16

REVISIONS	
REDLINE REVISION 7	3/22/16

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043



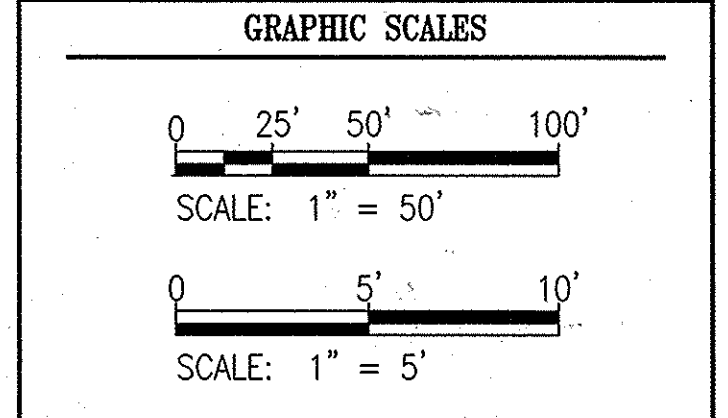
WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21201
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7



SIGNATURE

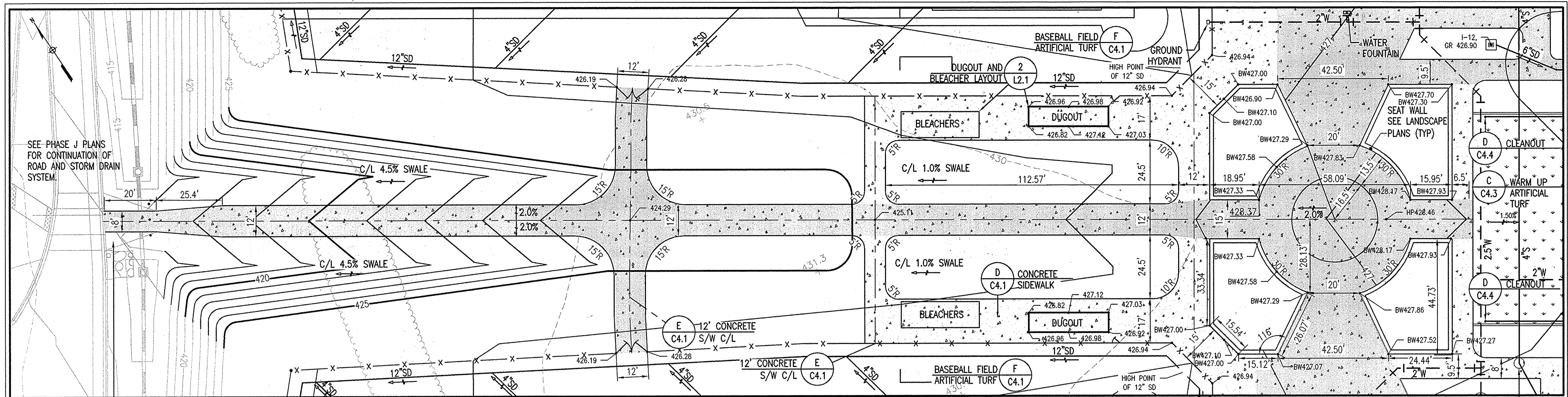
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19376, EXPIRATION DATE: 09/22/2017.

BLANDAIR REGIONAL PARK - PHASE 2

STORM DRAIN PROFILES
 REVISED SITE DEVELOPMENT PLAN

Drawing No.
C2.2

Scale: AS SHOWN
 Date: 03/24/16 Sheet 14 of 41
 Des: SAD Drawn: SAD Check: AUO
 SDP-12-063



REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 301 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7

GRAPHIC SCALES

0 10' 20' 40'

SCALE: 1" = 20'

SIGNATURE

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BLANDAIR REGIONAL PARK - PHASE 2

ENLARGED SITE PLANS

Drawing No. **C3.1**

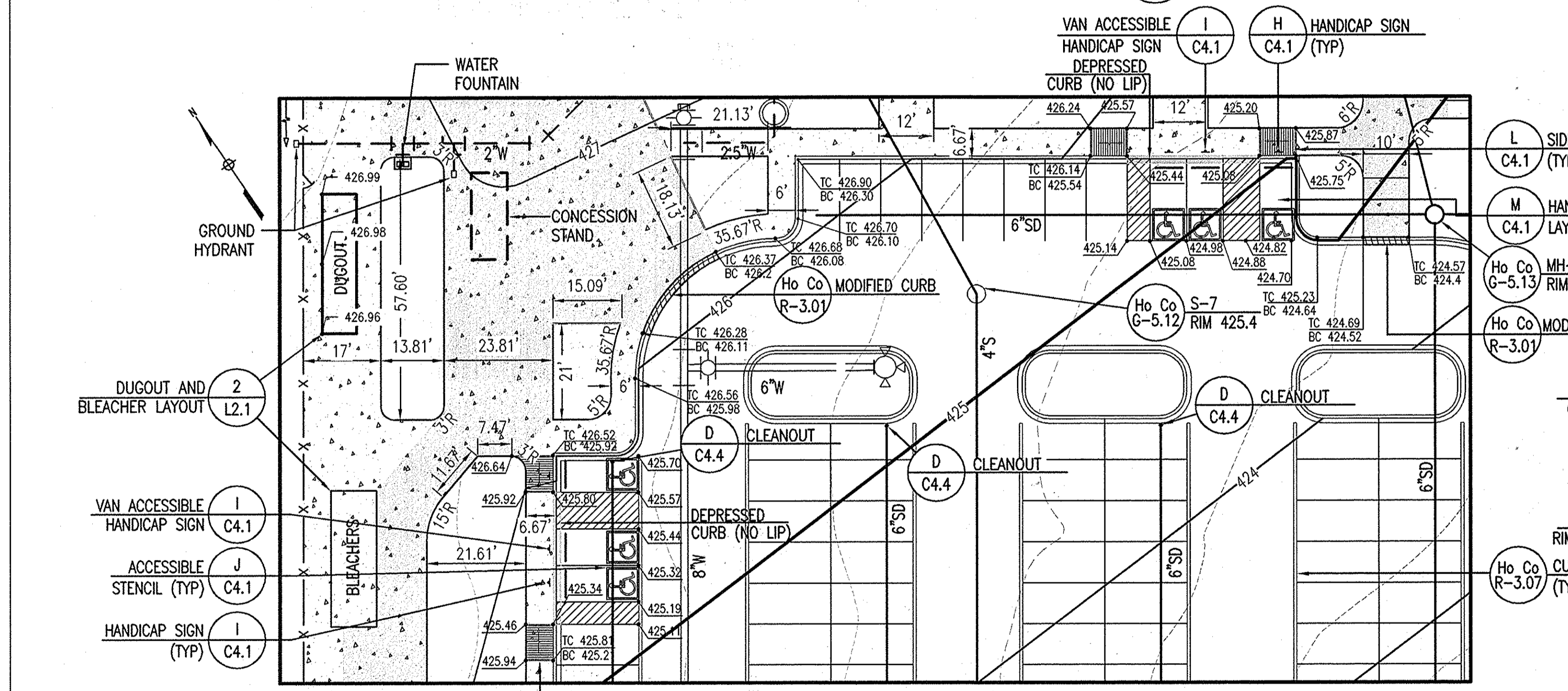
Scale: 1" = 20'

Date: 03/31/2014 Sheet 15 of 41

Des: CYH Drawn: SAD Check: AUO

2 REMOVABLE BOLLARD L2.5 (TYP OF 3)

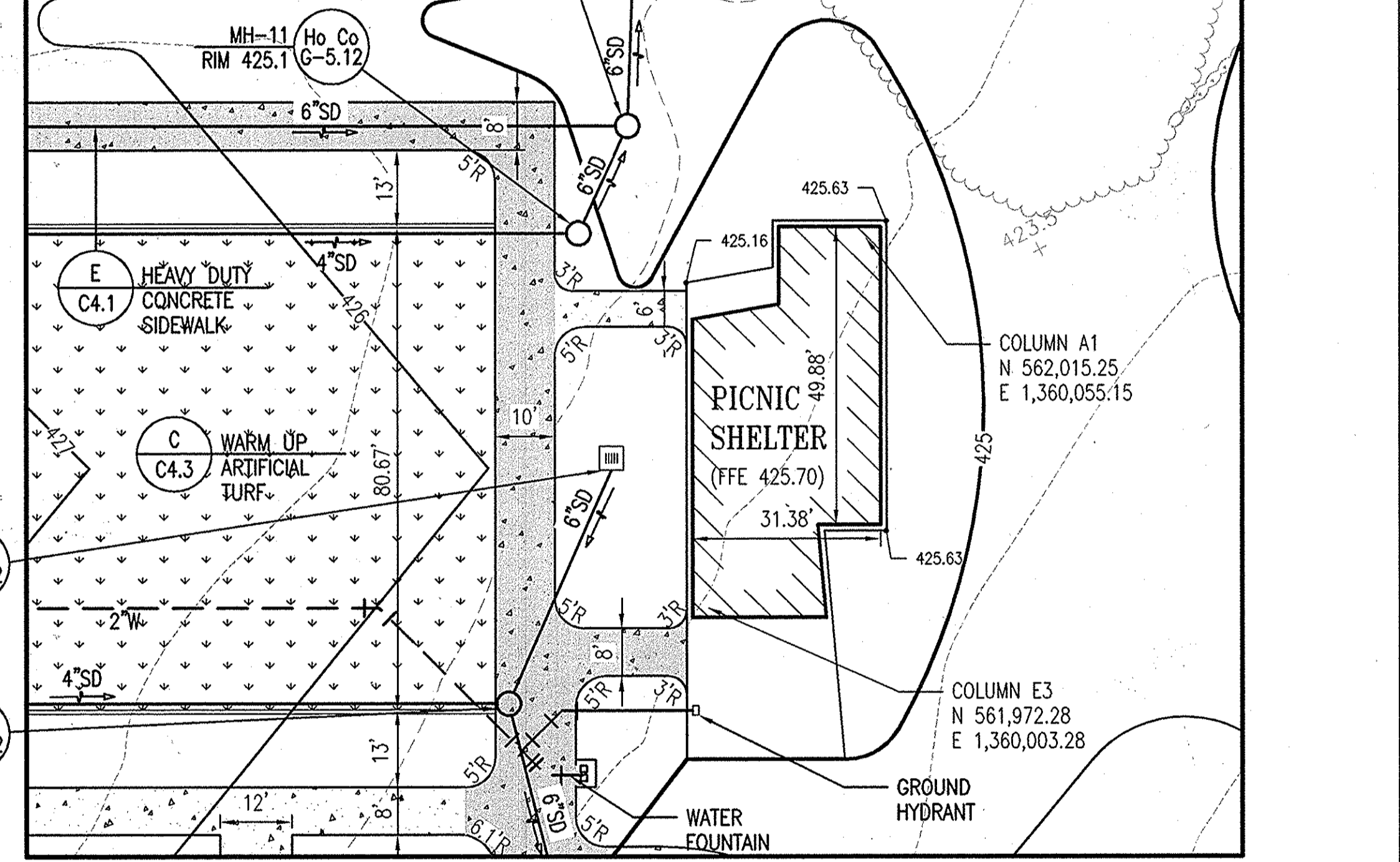
A ENLARGED WALKWAY PLAN
 C3.1 1" = 20'



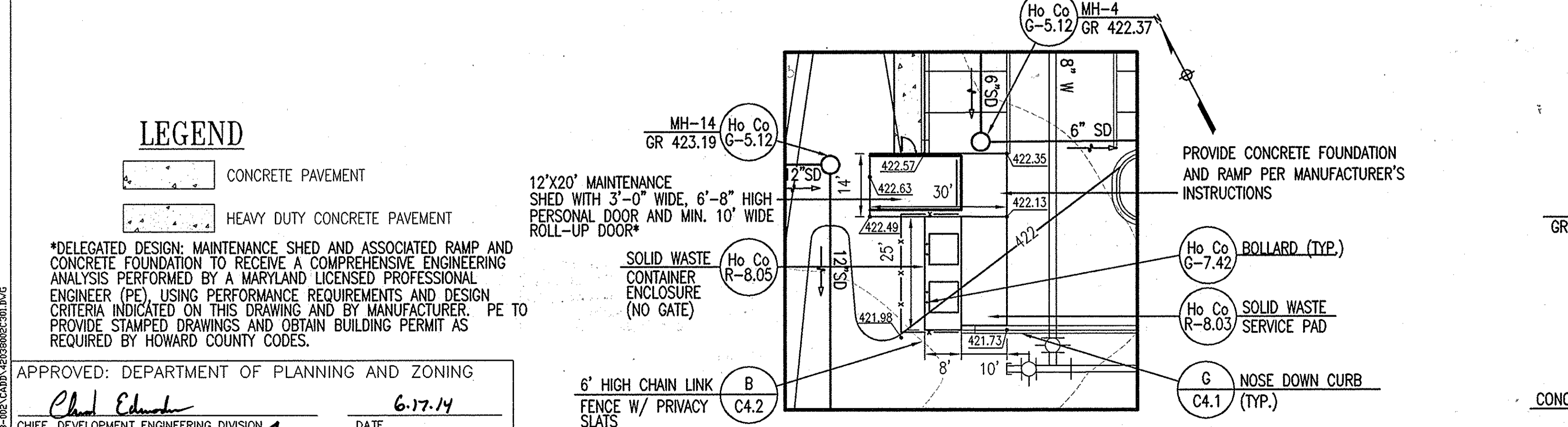
MH-15 Ho Co RIM 424.55 G-5.12

S-8 Ho Co RIM 427.2 G-5.12

C ENLARGED PICNIC SHELTER PLAN
 C3.1 1" = 20'

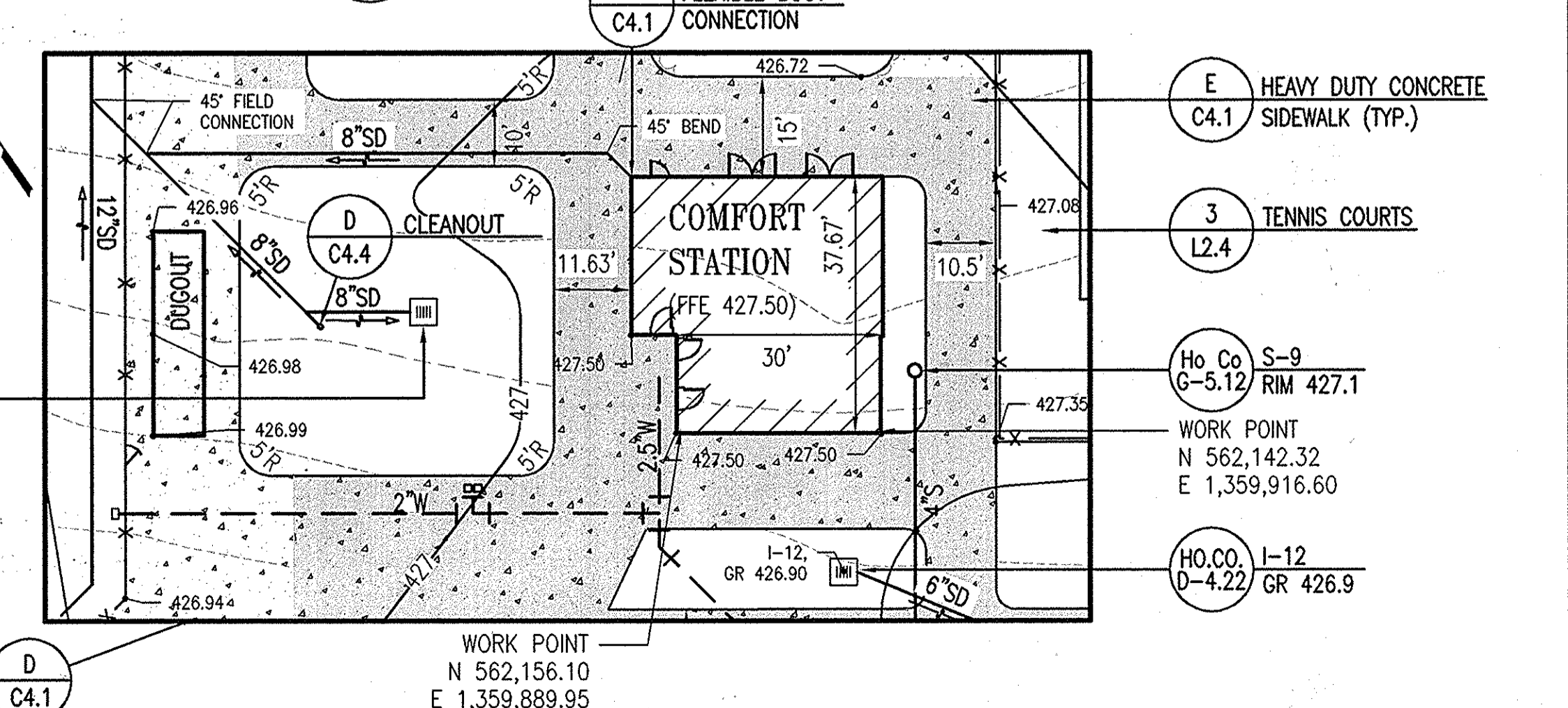


B ACCESSIBLE PARKING PLAN
 C3.1 1" = 20'



B FLEXIBLE BOOT CONNECTION
 C4.1

D ENLARGED COMFORT STATION PLAN
 C3.1 1" = 20'



LEGEND

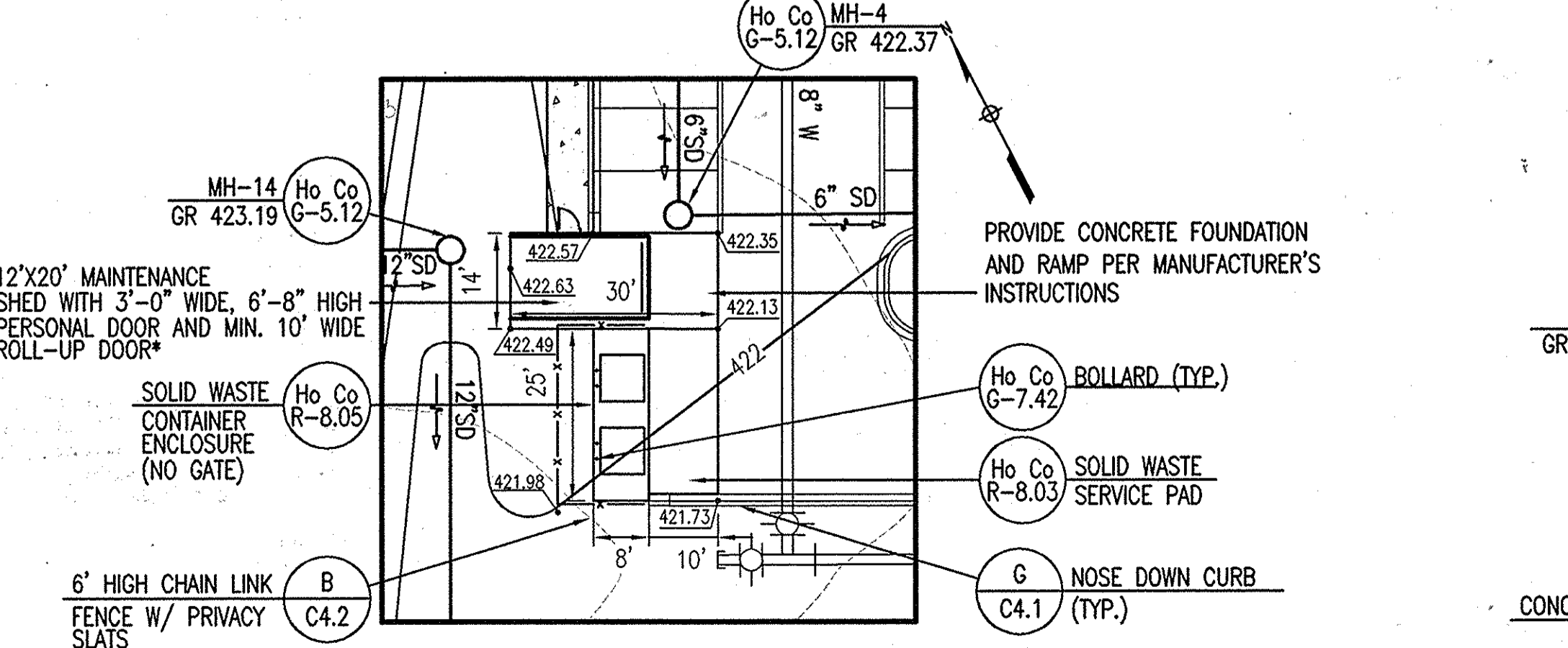
- CONCRETE PAVEMENT
 - HEAVY DUTY CONCRETE PAVEMENT
- *DELEGATED DESIGN: MAINTENANCE SHED AND ASSOCIATED RAMP AND CONCRETE FOUNDATION TO RECEIVE A COMPREHENSIVE ENGINEERING ANALYSIS PERFORMED BY A MARYLAND LICENSED PROFESSIONAL ENGINEER (PE) USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED ON THIS DRAWING AND BY MANUFACTURER. PE TO PROVIDE STAMPED DRAWINGS AND OBTAIN BUILDING PERMIT AS REQUIRED BY HOWARD COUNTY CODES.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edwards 6-17-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Walter D. ... 7-28-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 7-28-14
 DIRECTOR DATE



E SERVICE AREA PLAN
 C3.1 1" = 20'

NOTE:
 PLEASE SEE DRAWING WS0.1-WS0.4 FOR WATER AND SEWER CONSTRUCTION.

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

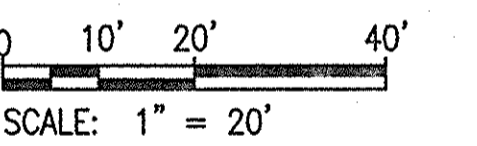


WHITMAN, REQUARDT & ASSOCIATES, LLP
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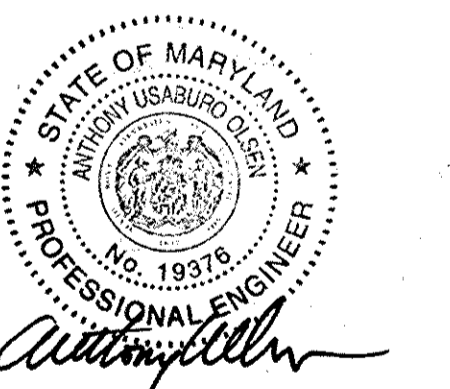
PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES



SIGNATURE



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EXPIRATION DATE: 09/22/2015

BLANDAIR REGIONAL PARK - PHASE 2

ENLARGED SITE PLANS

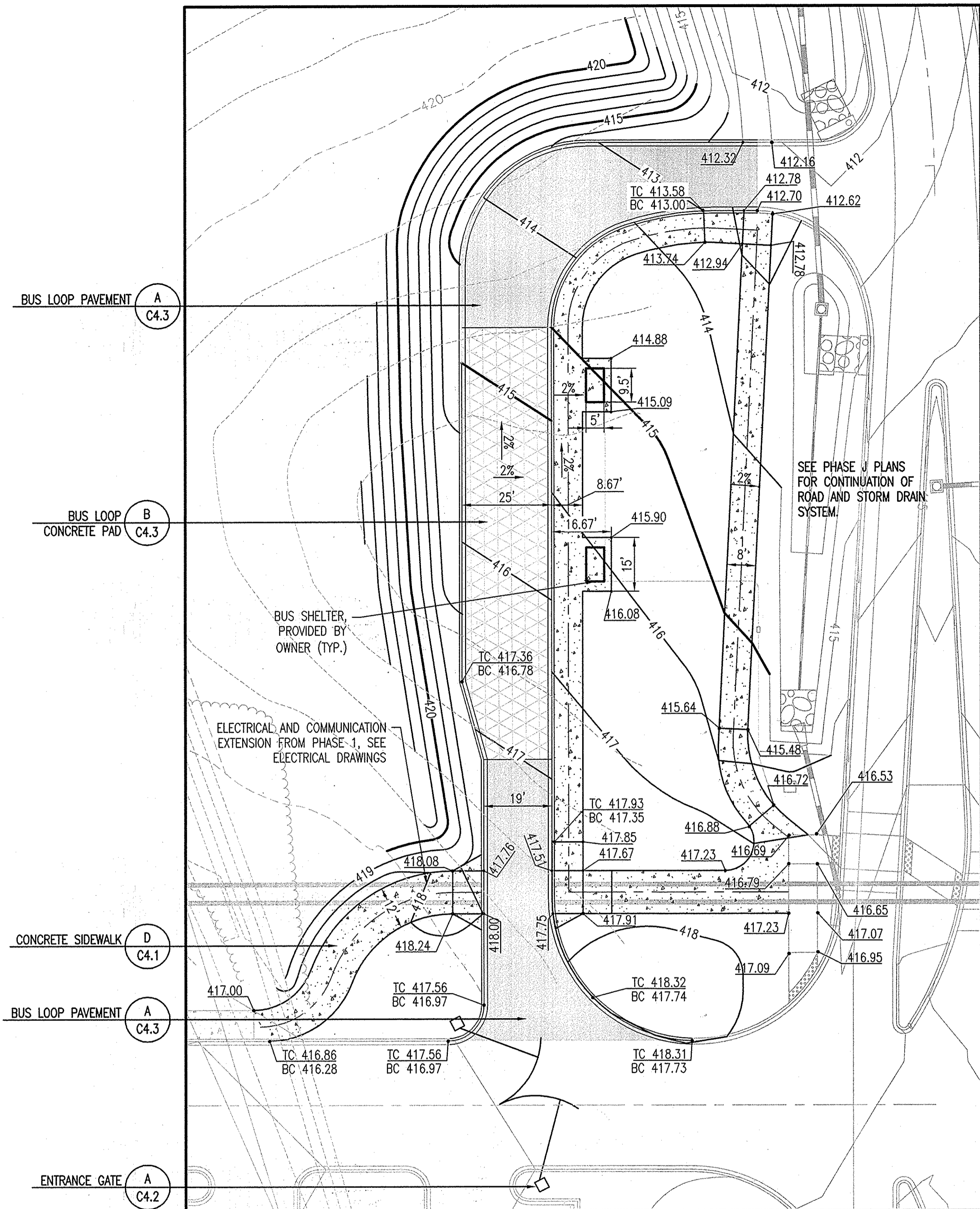
Drawing No.

C3.2

Scale: 1" = 20'

Date: 03/31/2014 Sheet 16 of 41

Des: BWJ/SAD Drawn: SAD Check: AUO

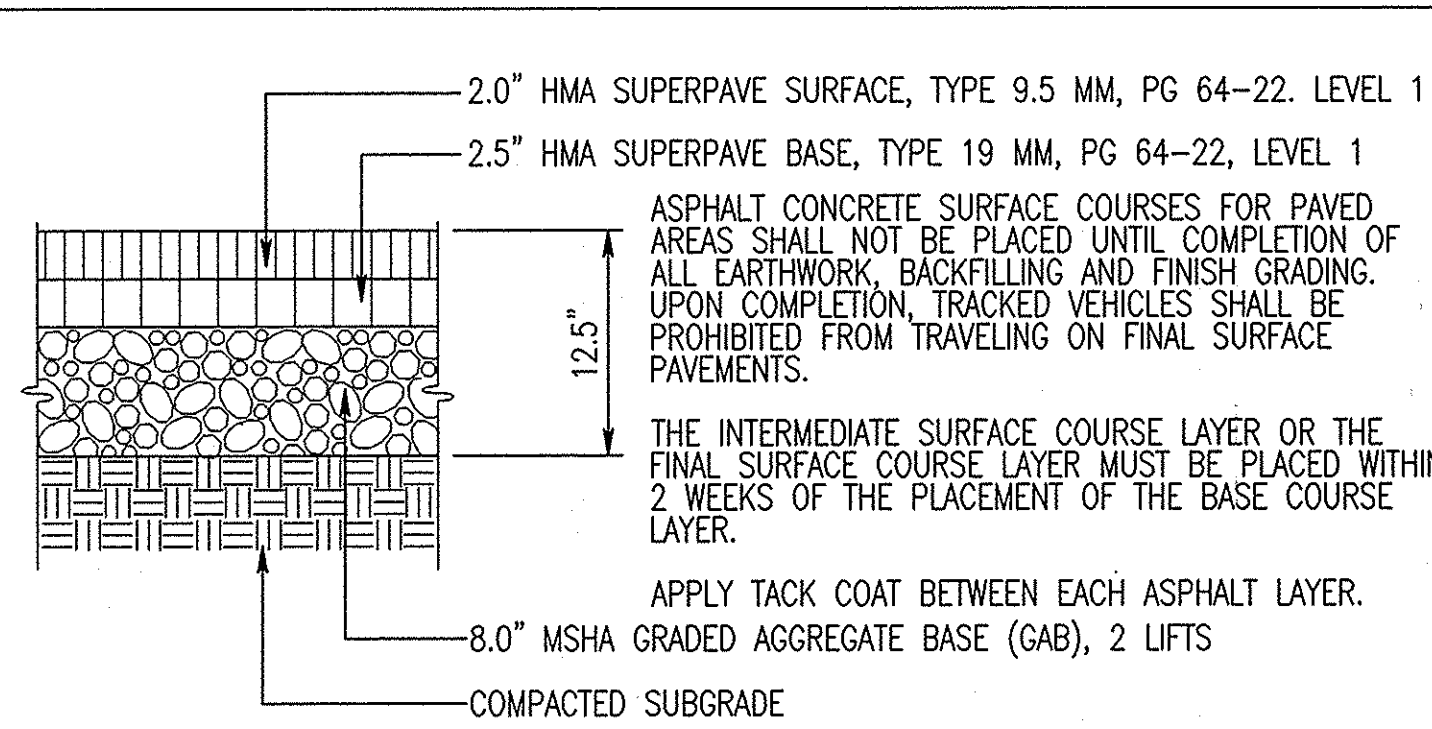


A ENLARGED BUS LOOP PLAN
C3.2 1" = 20'

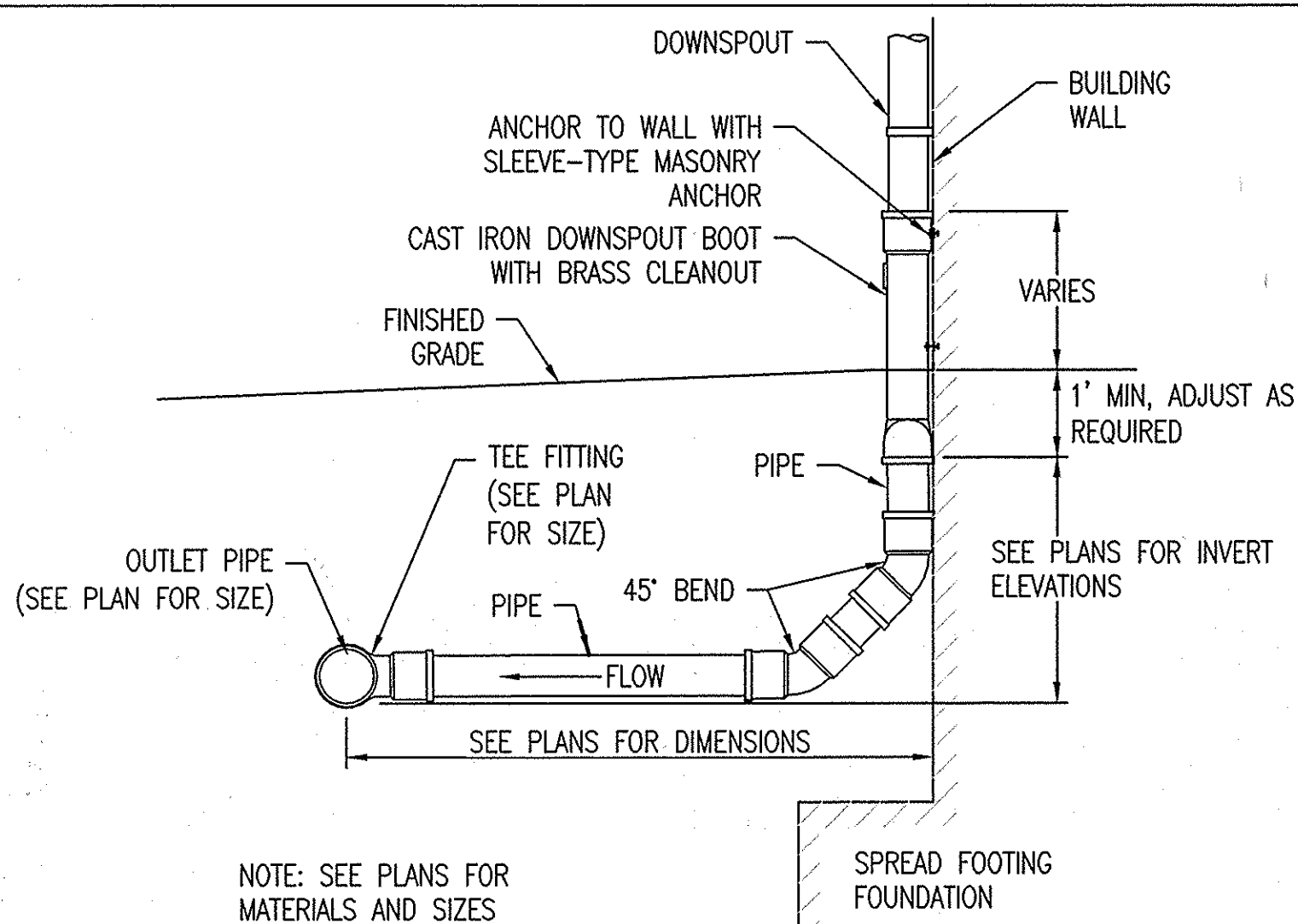
APPROVED: DEPARTMENT OF PLANNING AND ZONING

6-17-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 7-28-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 7-28-14
 DIRECTOR DATE

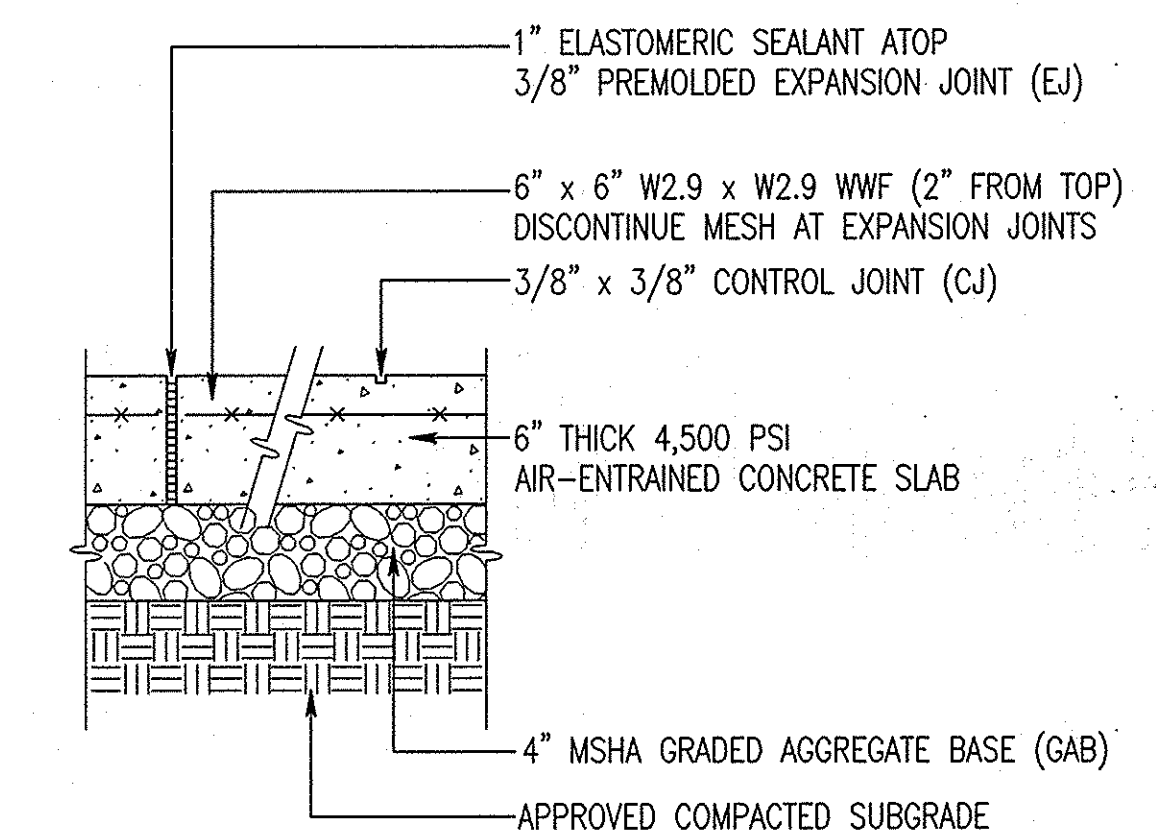
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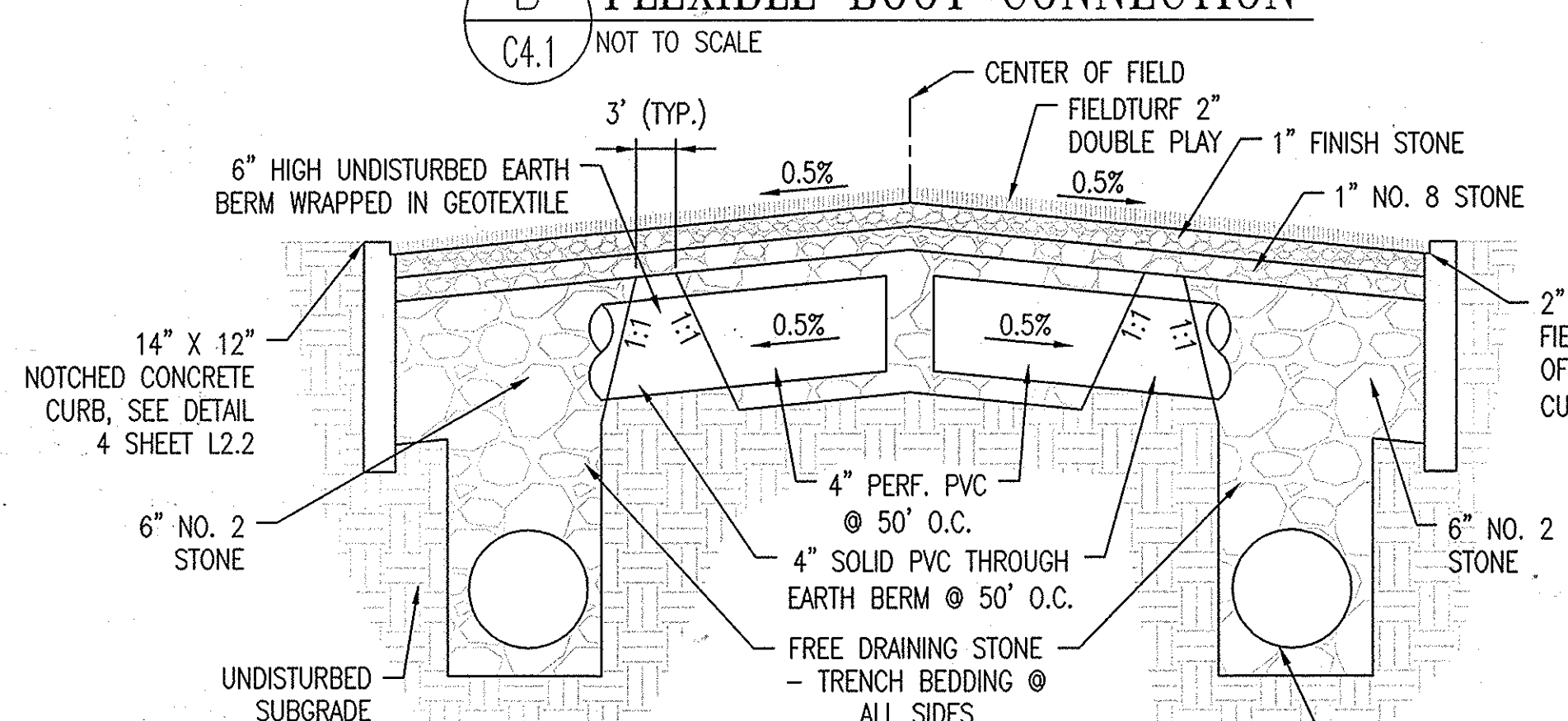
A BITUMINOUS CONCRETE PAVEMENT
C4.1 NOT TO SCALE



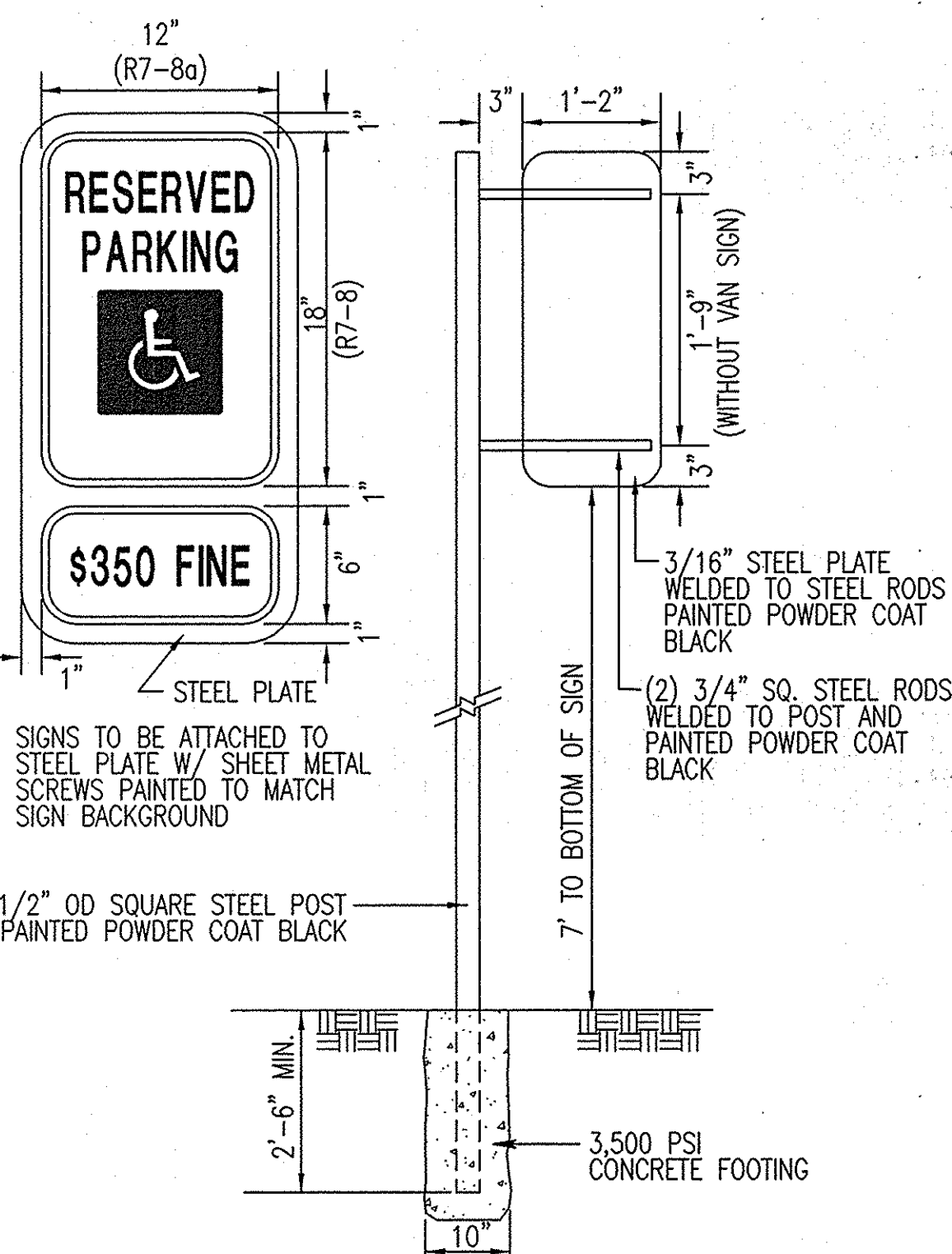
B FLEXIBLE BOOT CONNECTION
C4.1 NOT TO SCALE



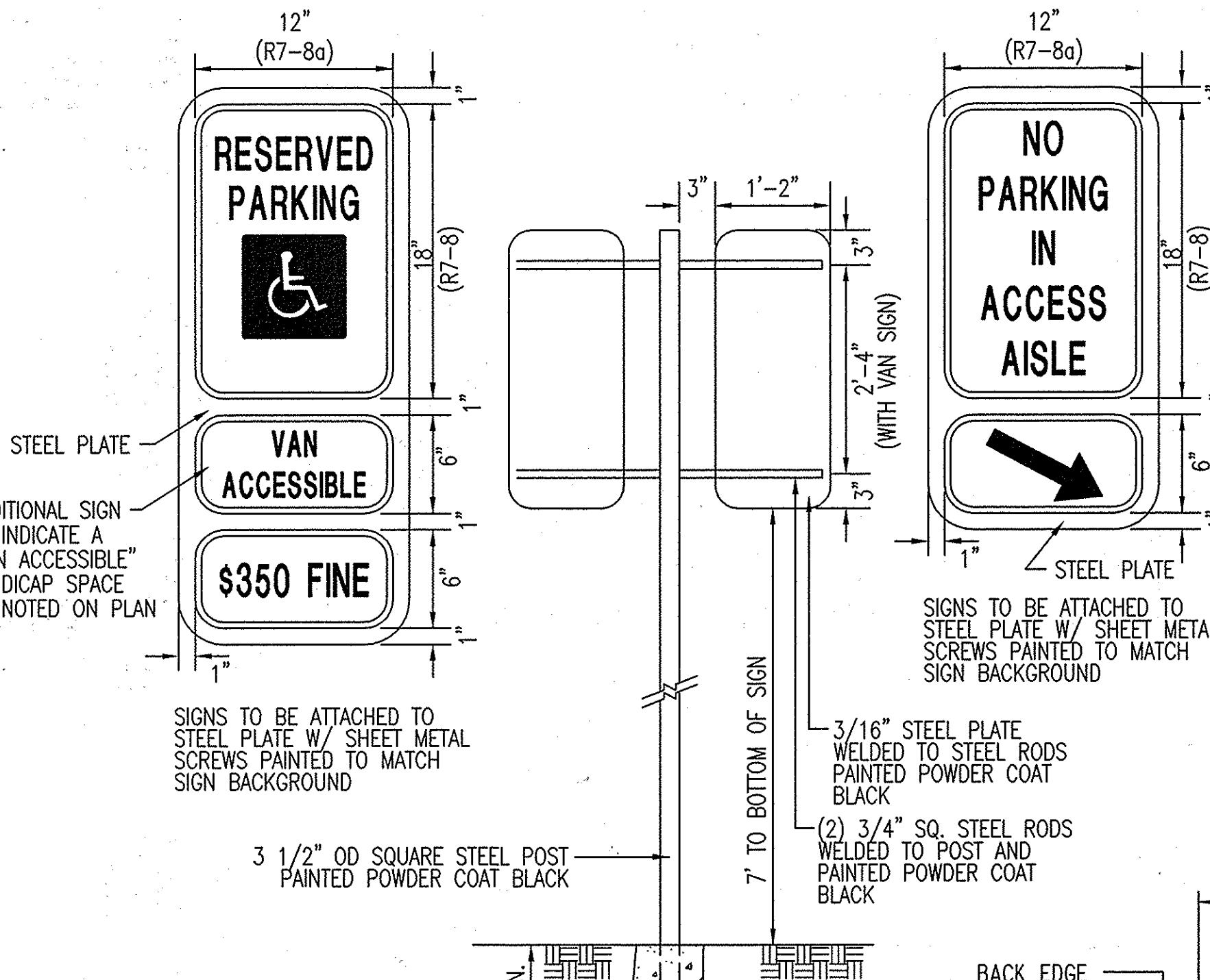
E HEAVY-DUTY CONCRETE PAVEMENT
C4.1 NOT TO SCALE



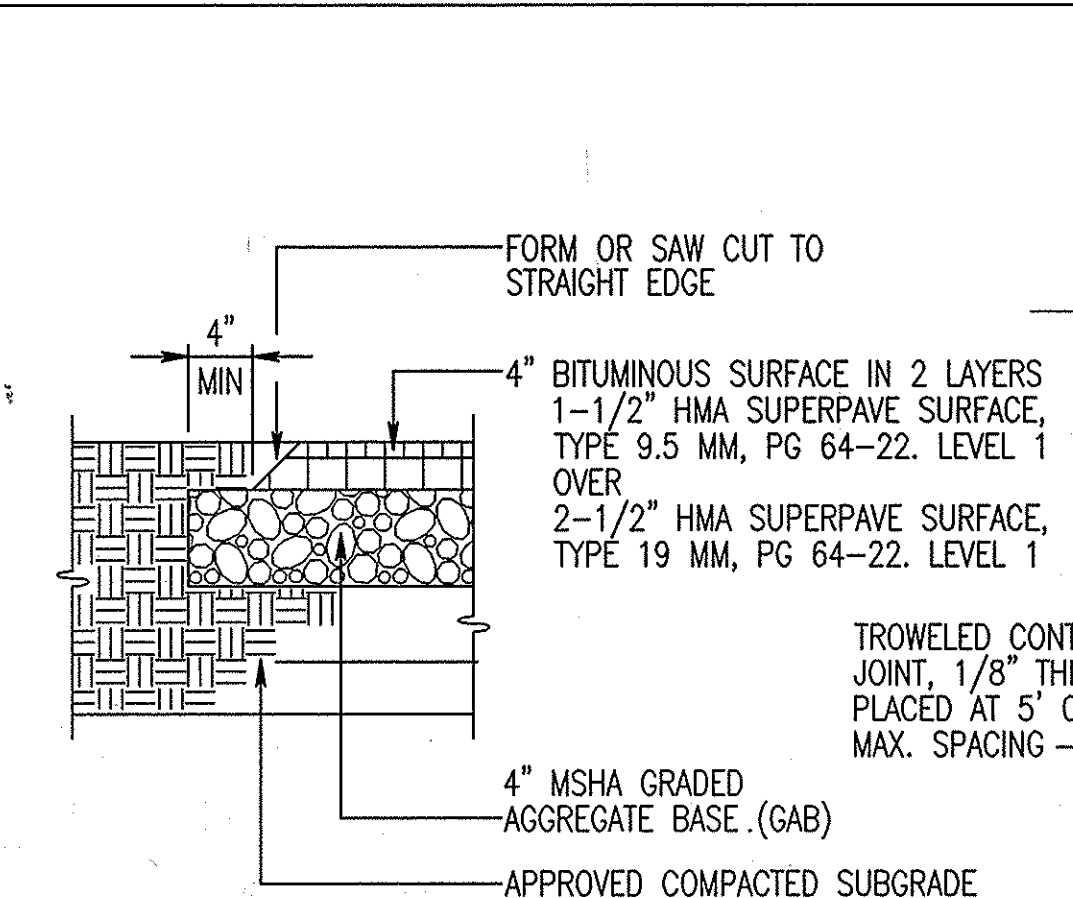
F BASEBALL FIELD ARTIFICIAL TURF
C4.1 NOT TO SCALE



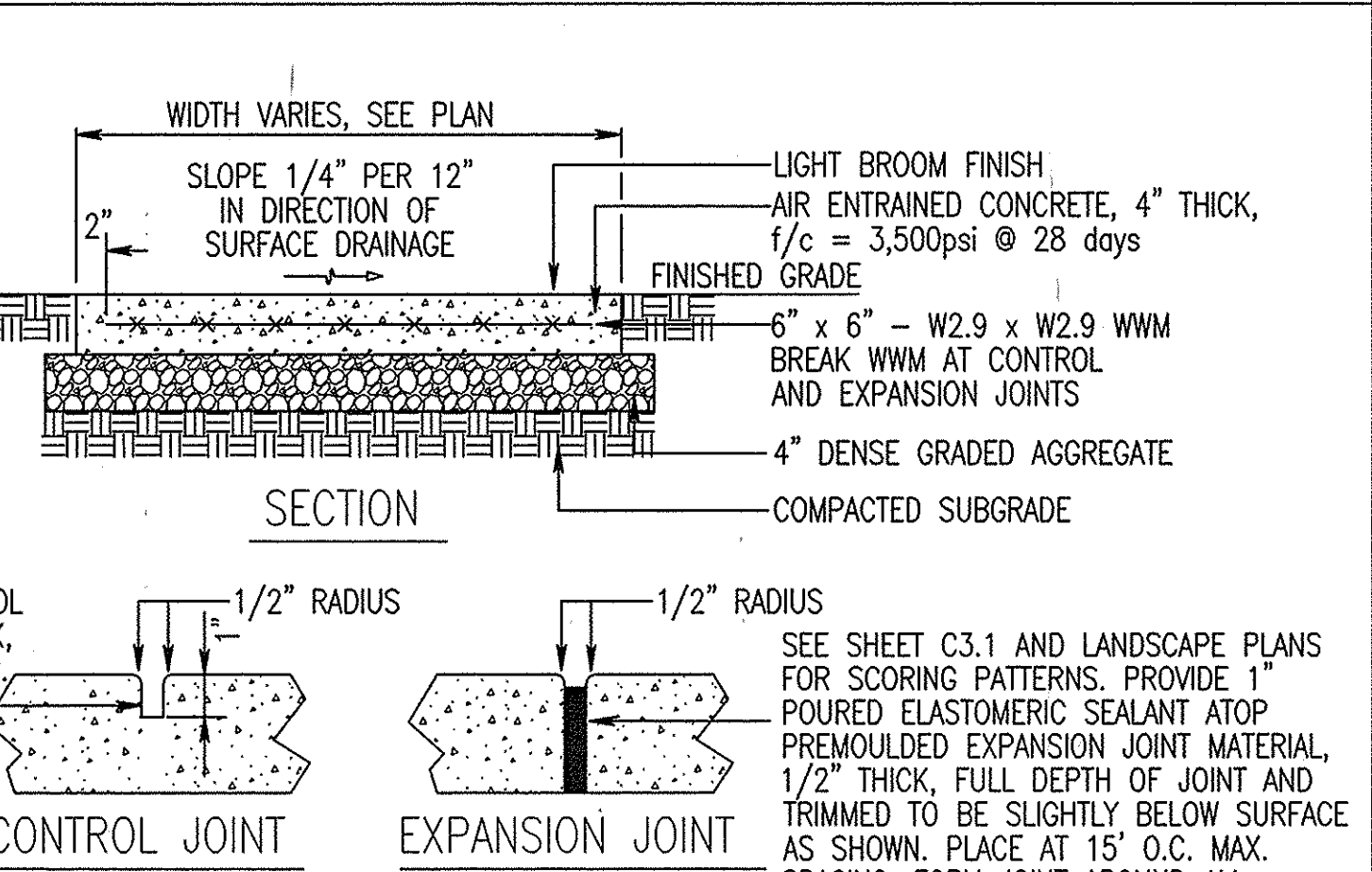
H HANDICAP SIGN
C4.1 NOT TO SCALE



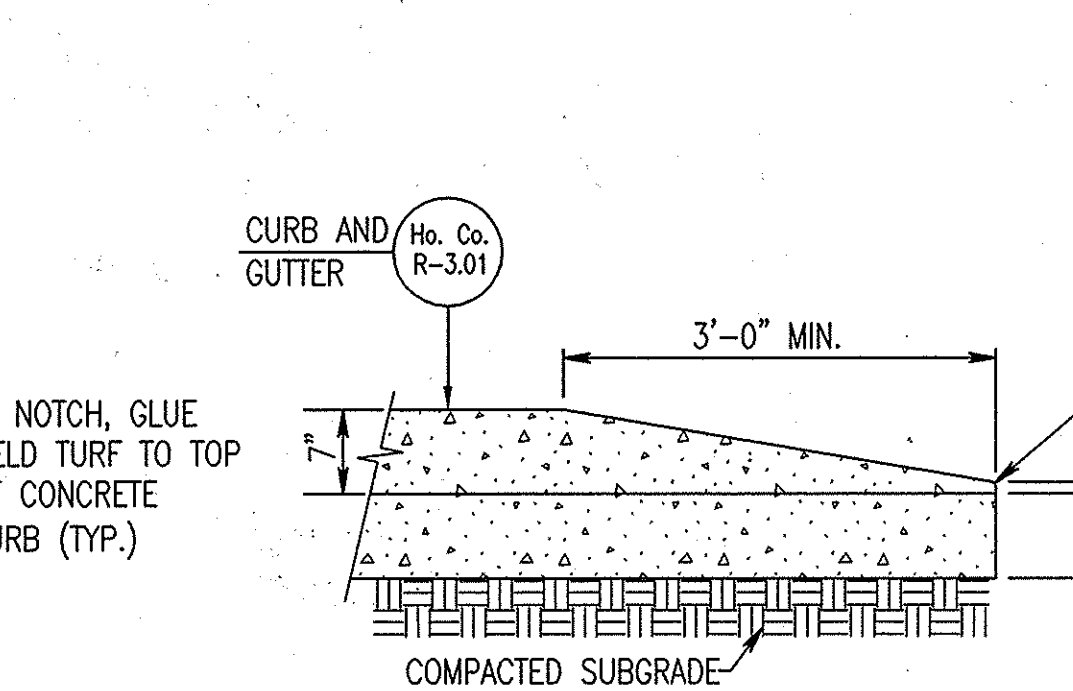
I VAN ACCESSIBLE HANDICAP SIGN
C4.1 NOT TO SCALE



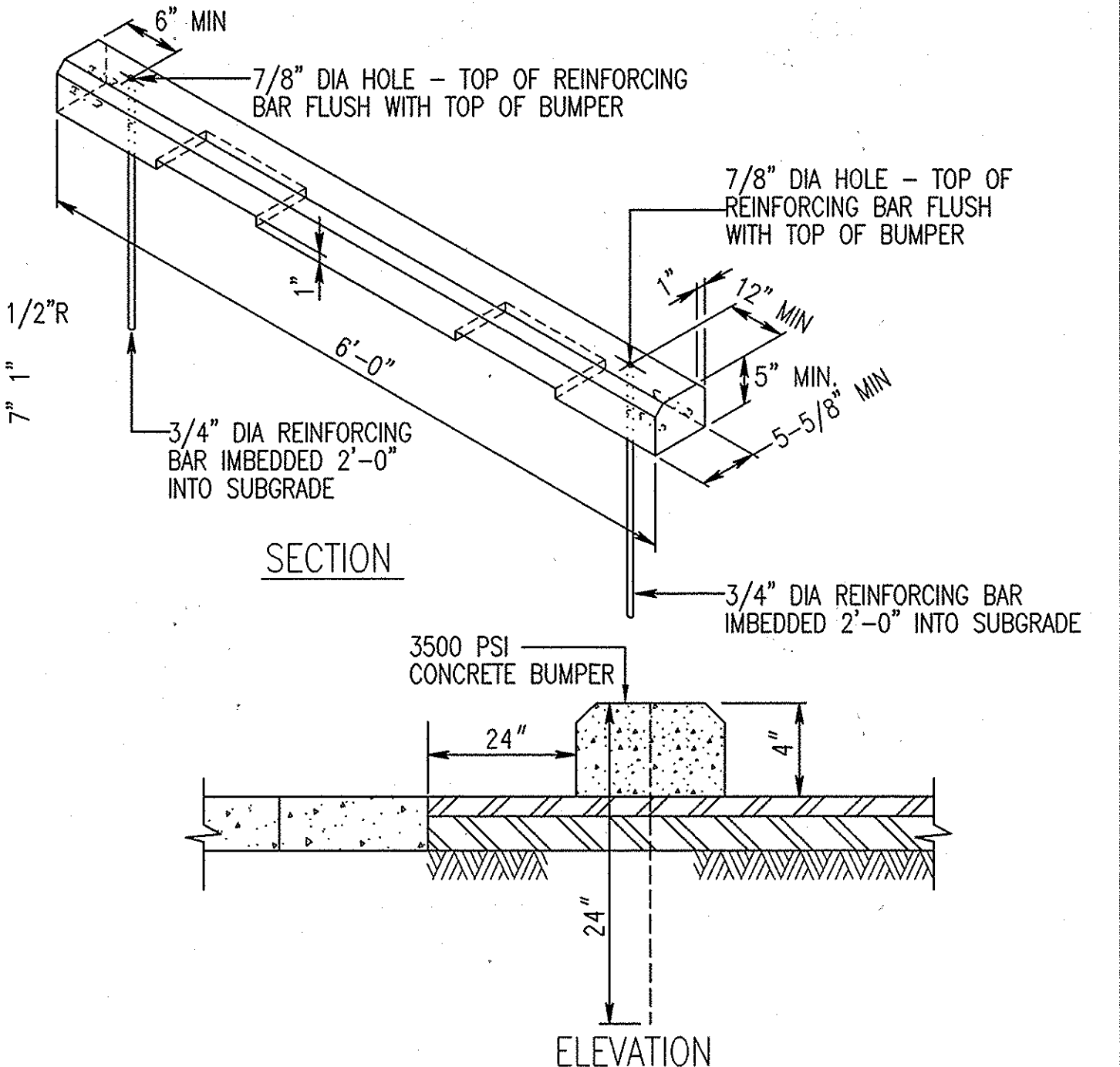
C BITUMINOUS SIDEWALK
C4.1 NOT TO SCALE



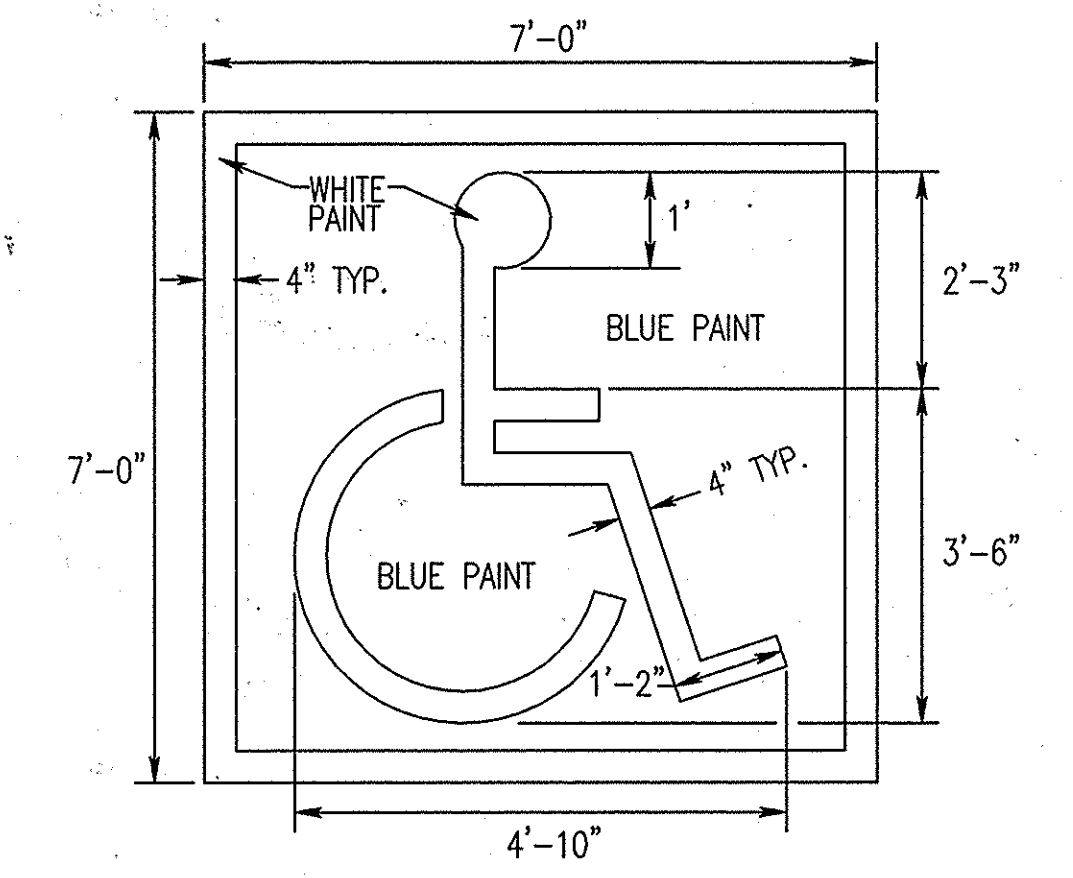
D CONCRETE SIDEWALK
C4.1 NOT TO SCALE



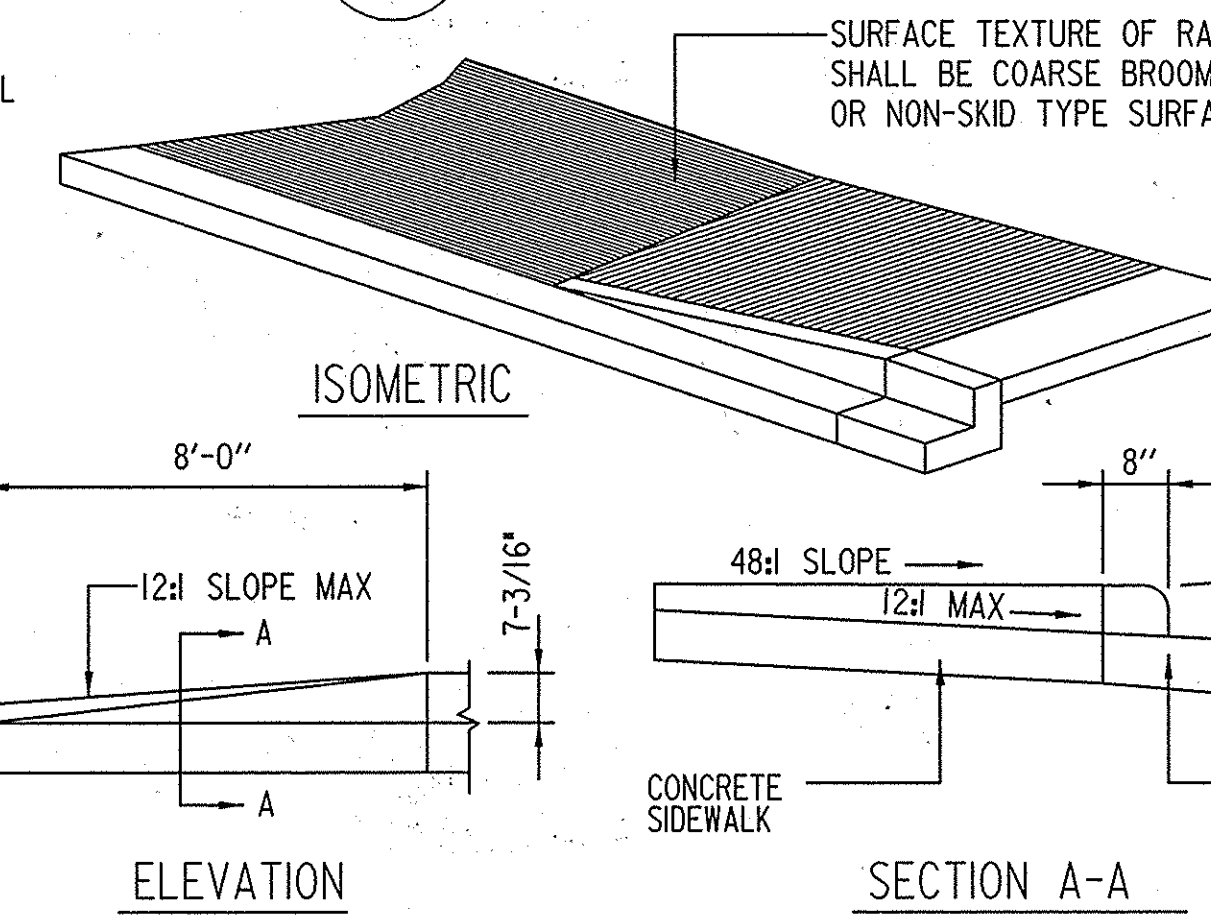
G NOSE DOWN CURB
C4.1 NOT TO SCALE



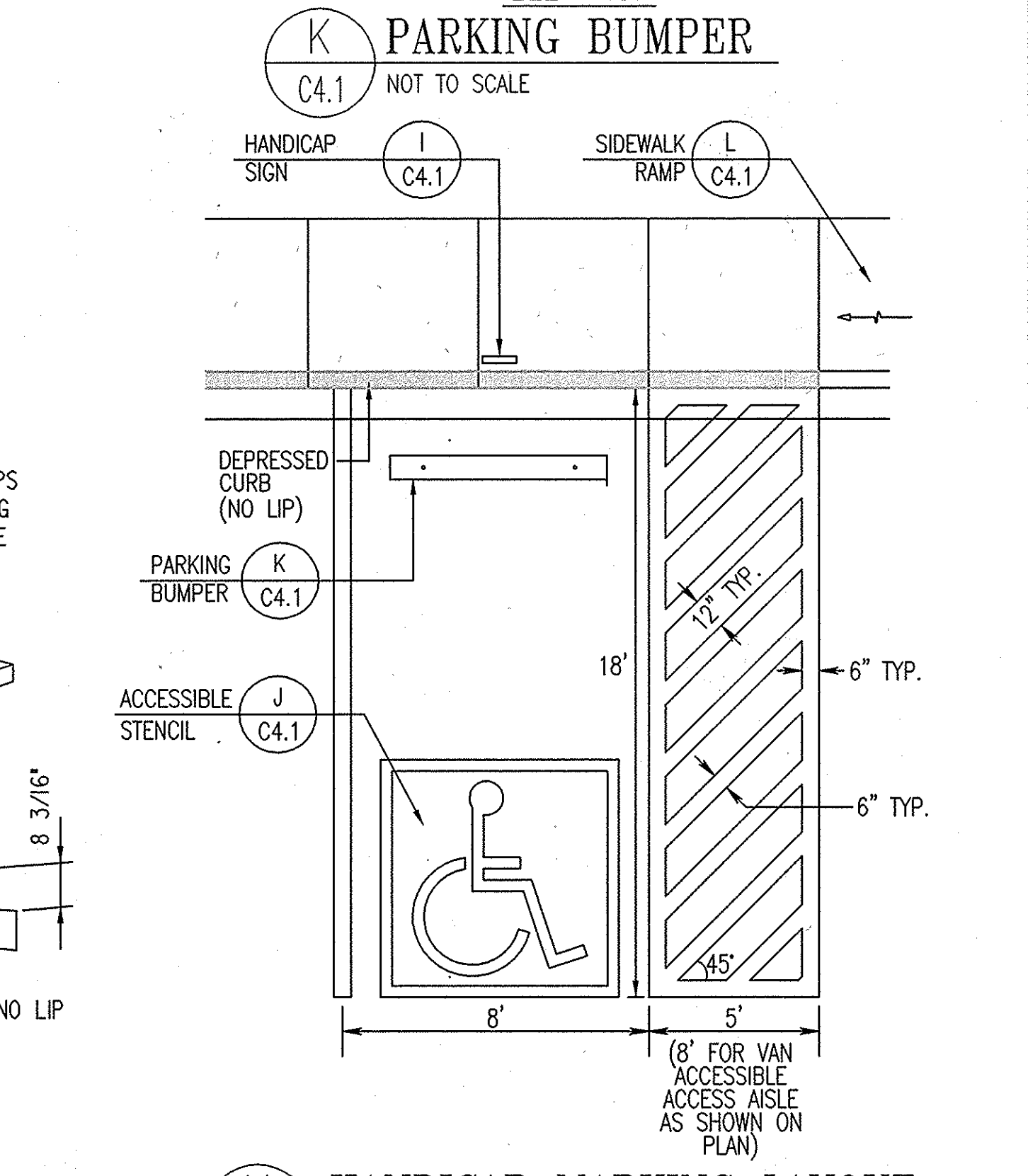
K PARKING BUMPER
C4.1 NOT TO SCALE



J ACCESSIBLE STENCIL
C4.1 NOT TO SCALE



L SIDEWALK RAMP DETAIL
C4.1 NO SCALE



M HANDICAP MARKING LAYOUT
C4.1 NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

DATE: 6-17-14
 DATE: 8-28-14
 DATE: 7-28-14

REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

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 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

STATE OF MARYLAND
 PROFESSIONAL ENGINEERING BOARD
 PROFESSIONAL ENGINEER
 No. 19376
 Signature: Anthony Bellini
 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. 19376
 EXPIRATION DATE: 09/22/2015

BLANDAIR REGIONAL PARK - PHASE 2

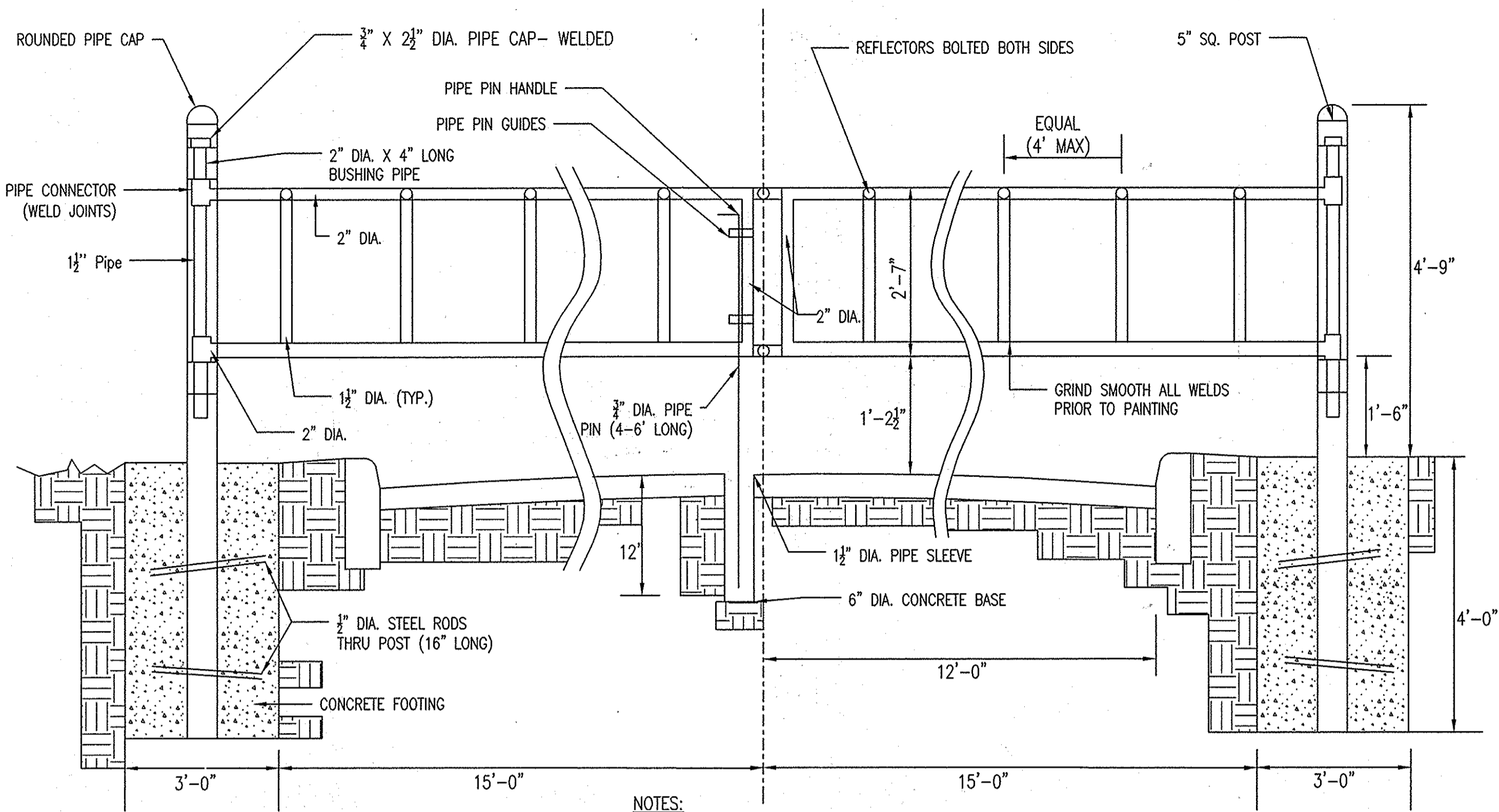
SITE DETAILS

Drawing No. **C4.1**

Scale: NONE

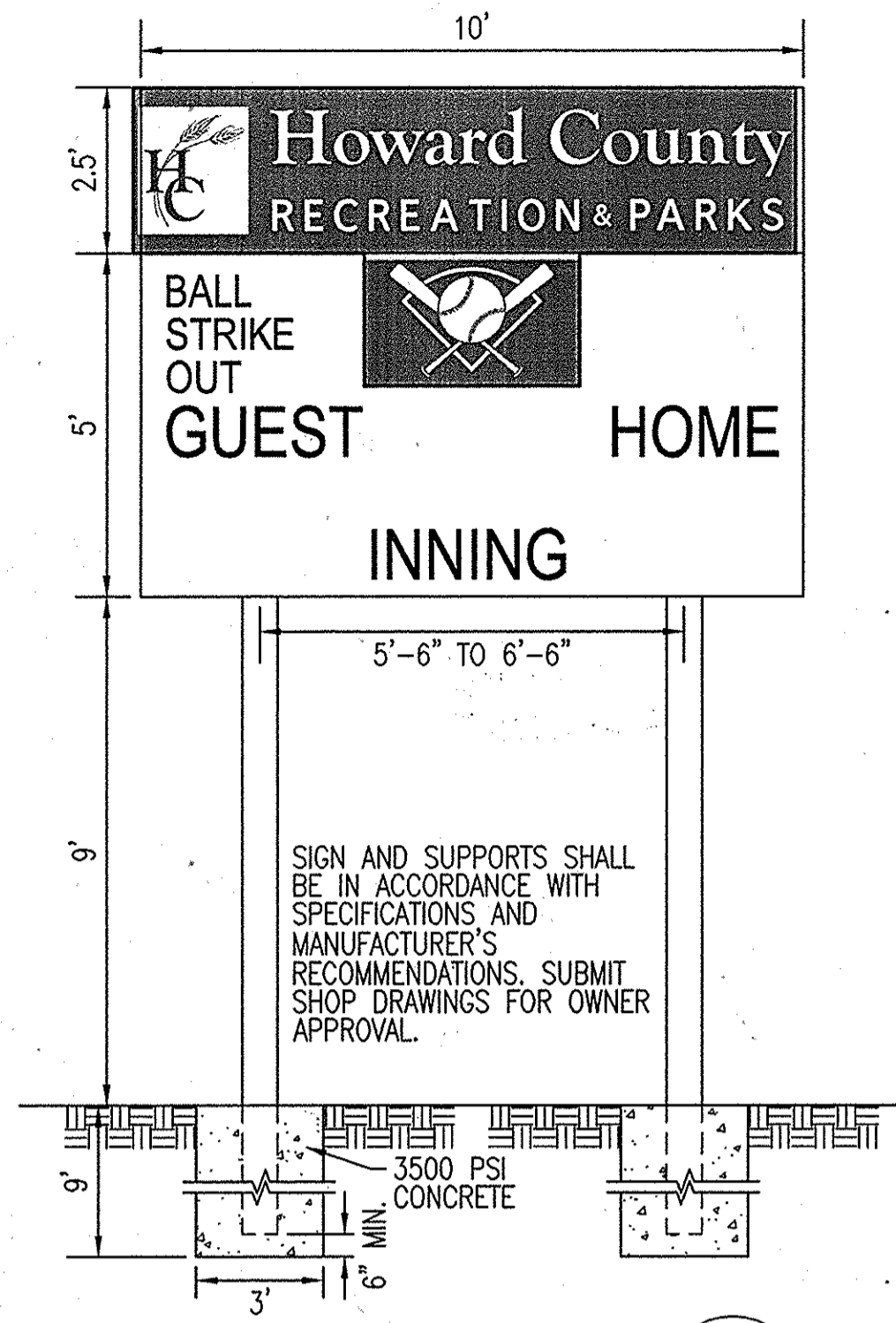
Date: 03/31/2014 Sheet 17 of 41

Des: CYH Drawn: CJK Check: AUO

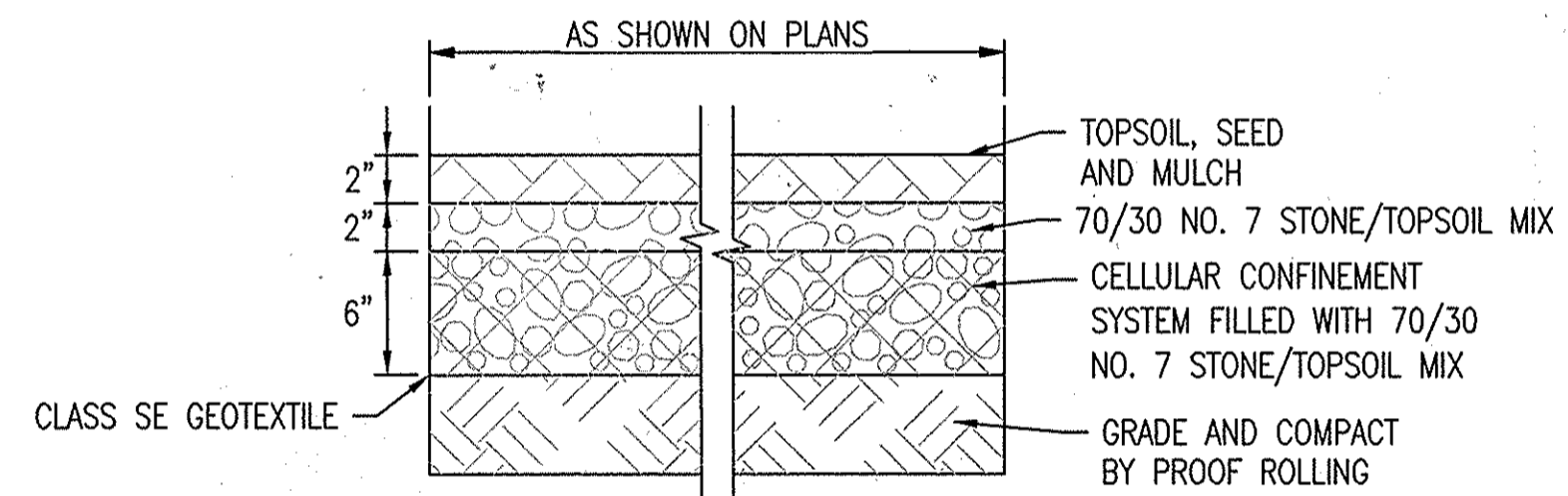


- NOTES:**
- GATE SHALL SWING IN TOWARDS PARK.
 - CONTRACTOR TO PROVIDE SHOP DRAWINGS OF GATE FOR OWNERS APPROVAL.
 - PAINT GATES AND POST WITH TWO (2) COATS OF GLOSS BLACK, POLYURETHANE PAINT, PRIME FIRST.
 - INSTALL 4"x4" HOLD-OPEN POSTS ON EACH SIDE OF GATE, 2 FT. 7 IN. FROM EDGE OF ROADWAY, AND APPROPRIATE DISTANCE FROM GATE.

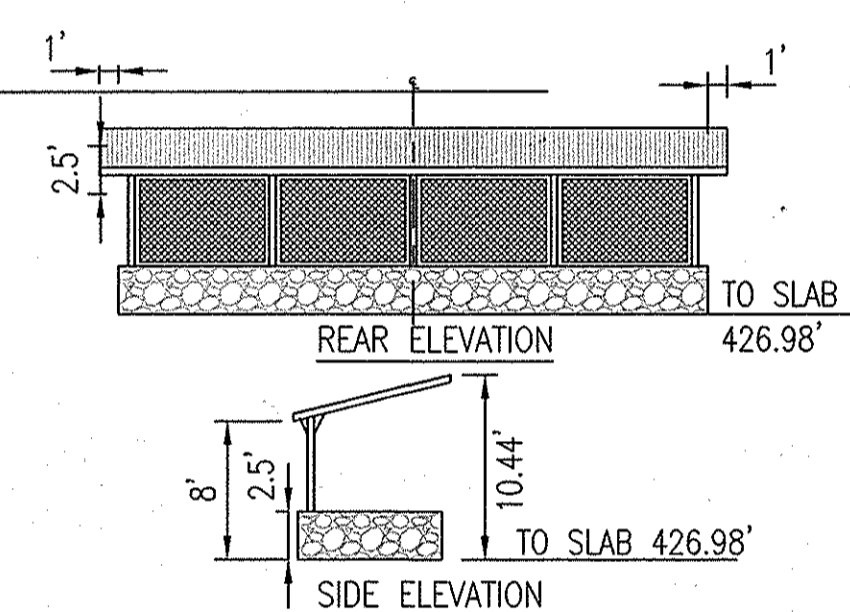
(A) ENTRANCE GATE
C4.2 NOT TO SCALE



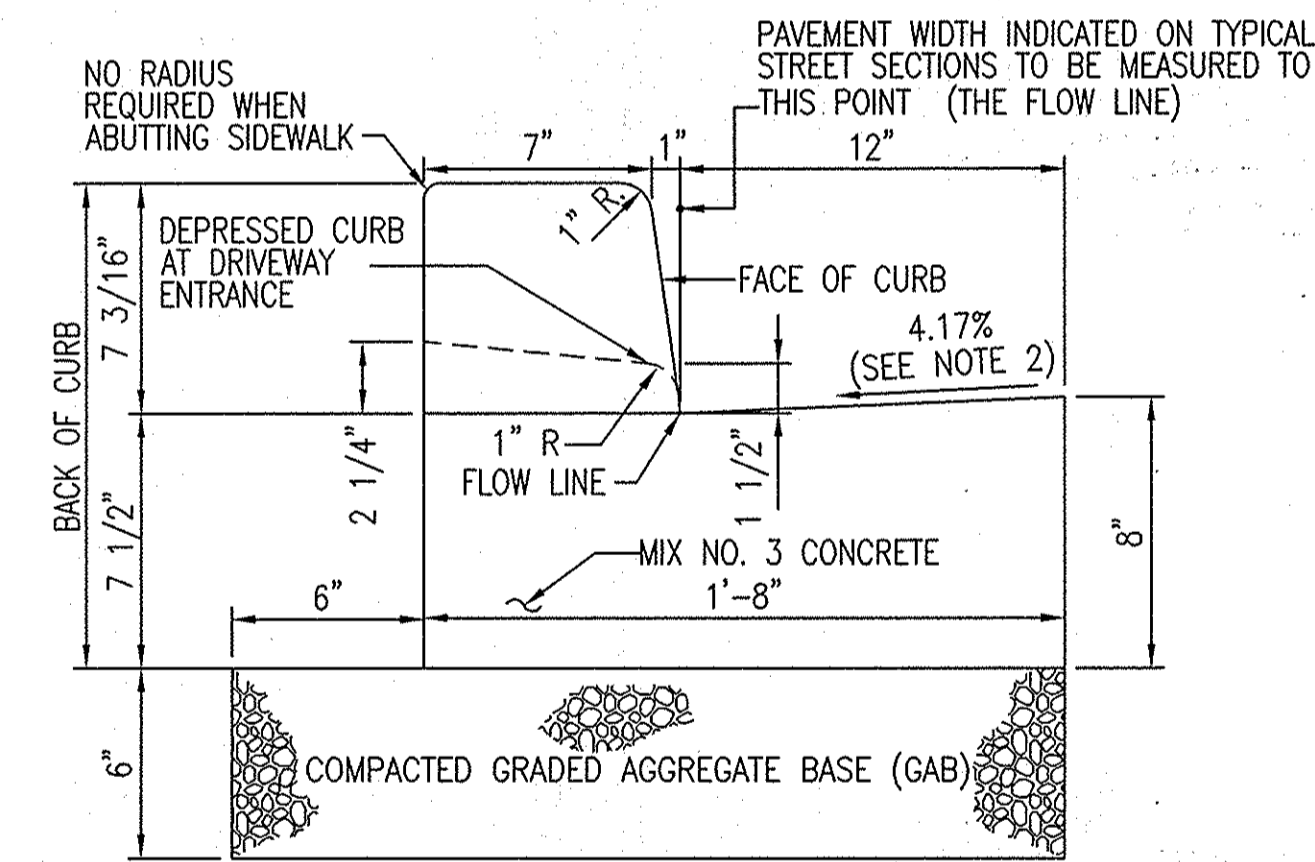
SCOREBOARD ELEVATION (B)
C4.2 NOT TO SCALE



(I) REINFORCED TURF
C4.2 NOT TO SCALE

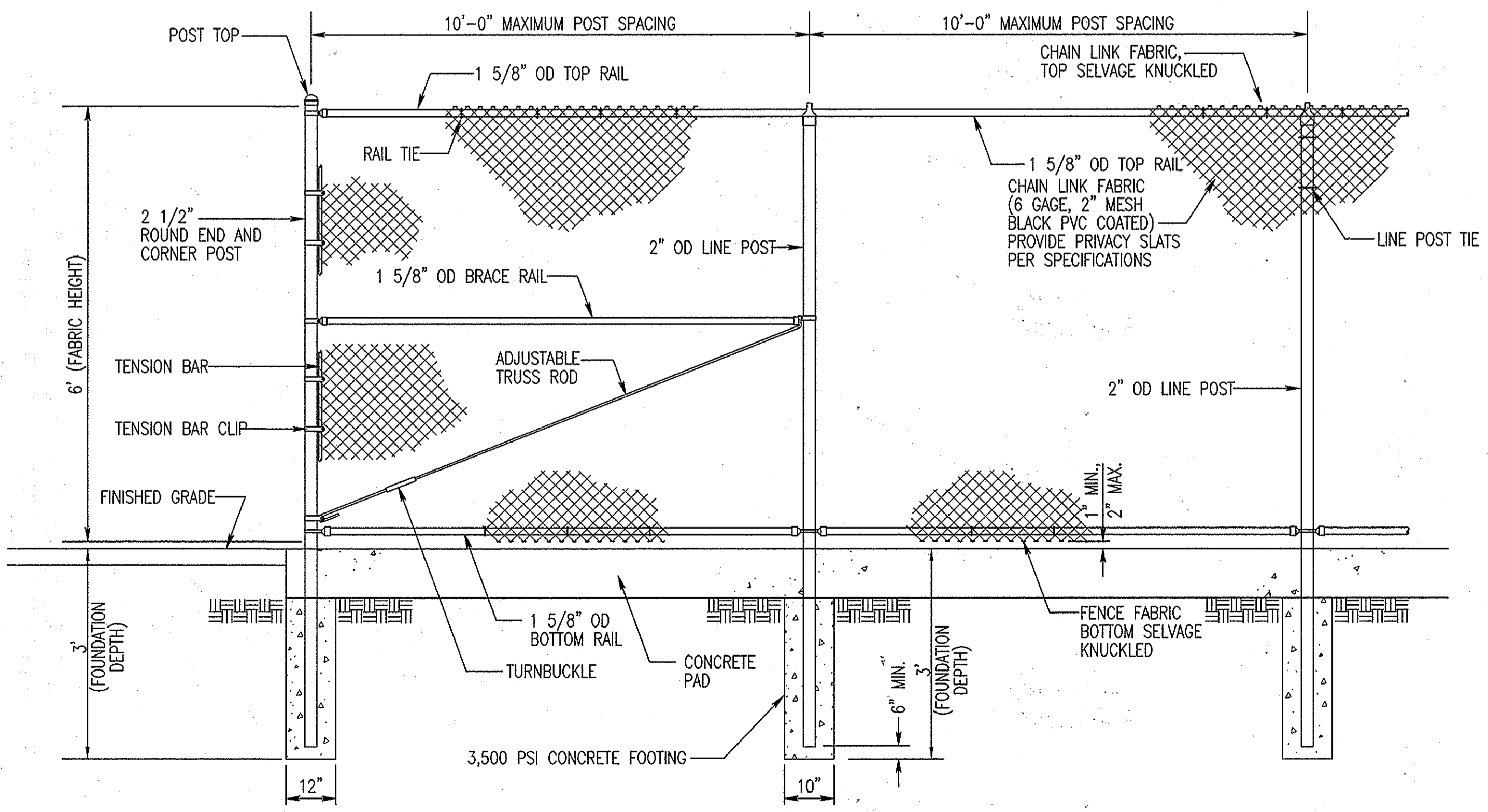


(D) DUGOUT ELEVATIONS
C4.2 SCALE: 1" = 10'

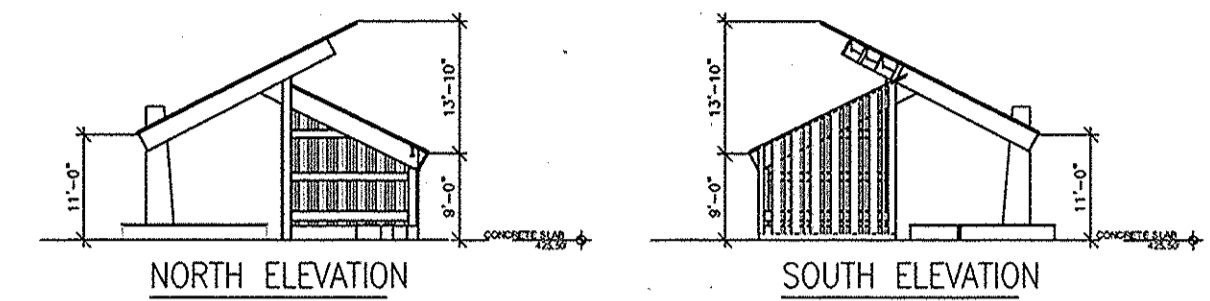
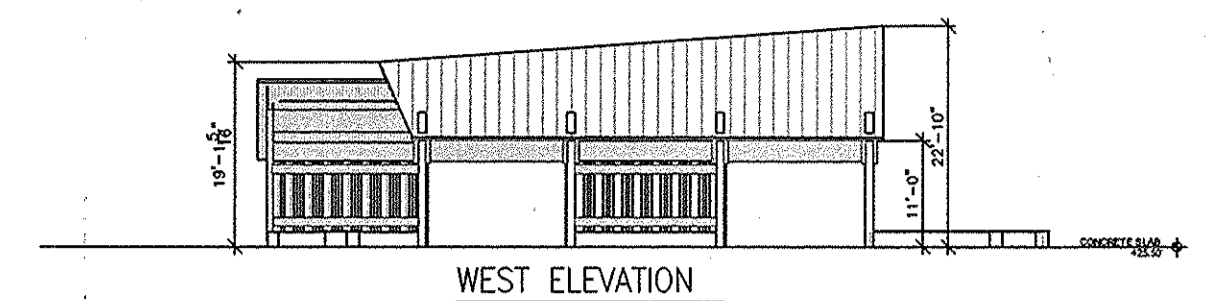
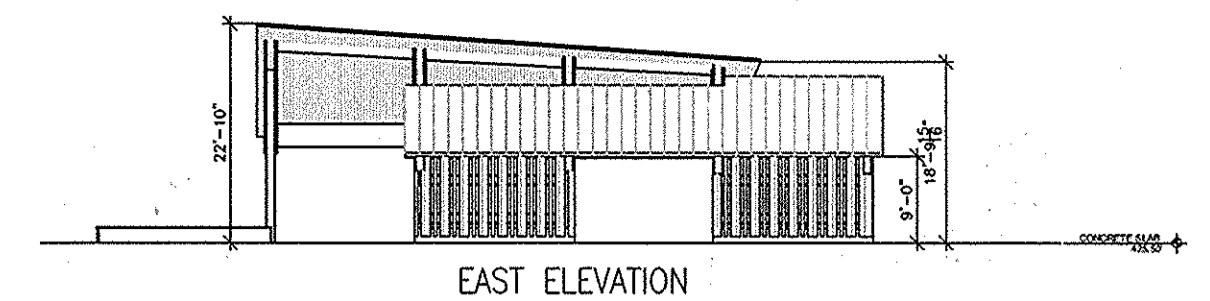


- NOTES:**
- A REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4.17% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS DRAINAGE CREATES A HAZARDOUS CONDITION.
 - GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB & GUTTER.
 - A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
 - POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.
 - DETAIL PROVIDED FOR REFERENCE ONLY. SEE HOWARD COUNTY STANDARD DETAILS.

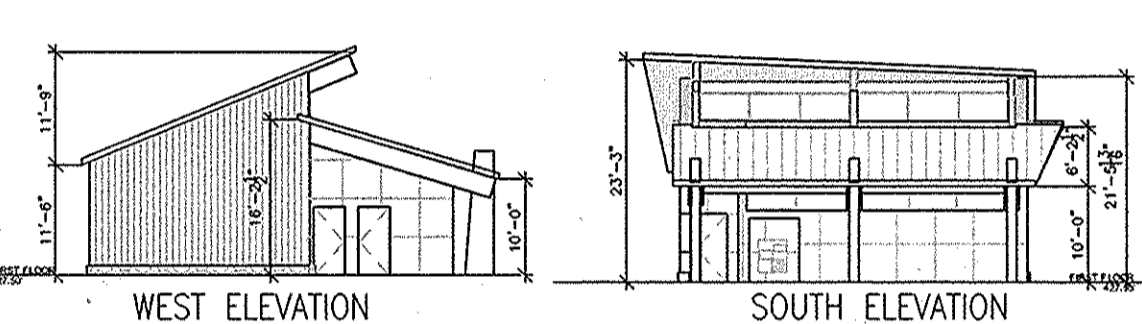
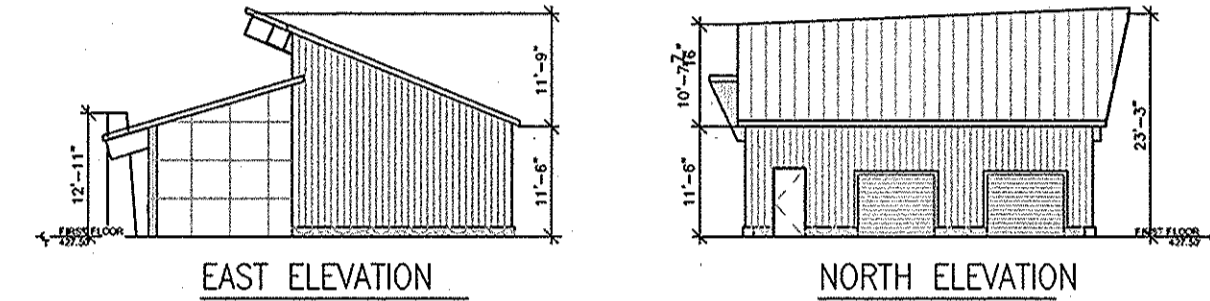
Ho. Co. **HOWARD CO. 7" CURB**
R-3.01 NOT TO SCALE



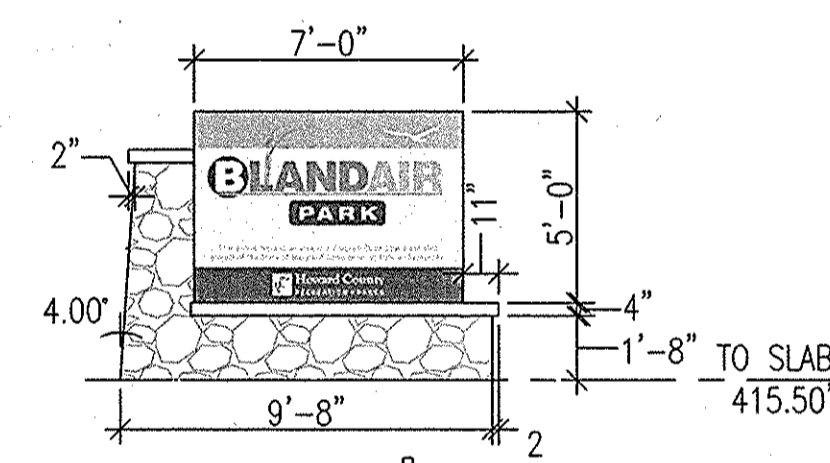
(F) CHAIN LINK FENCE FOR SOLID WASTE ENCLOSURE
C4.2 NOT TO SCALE



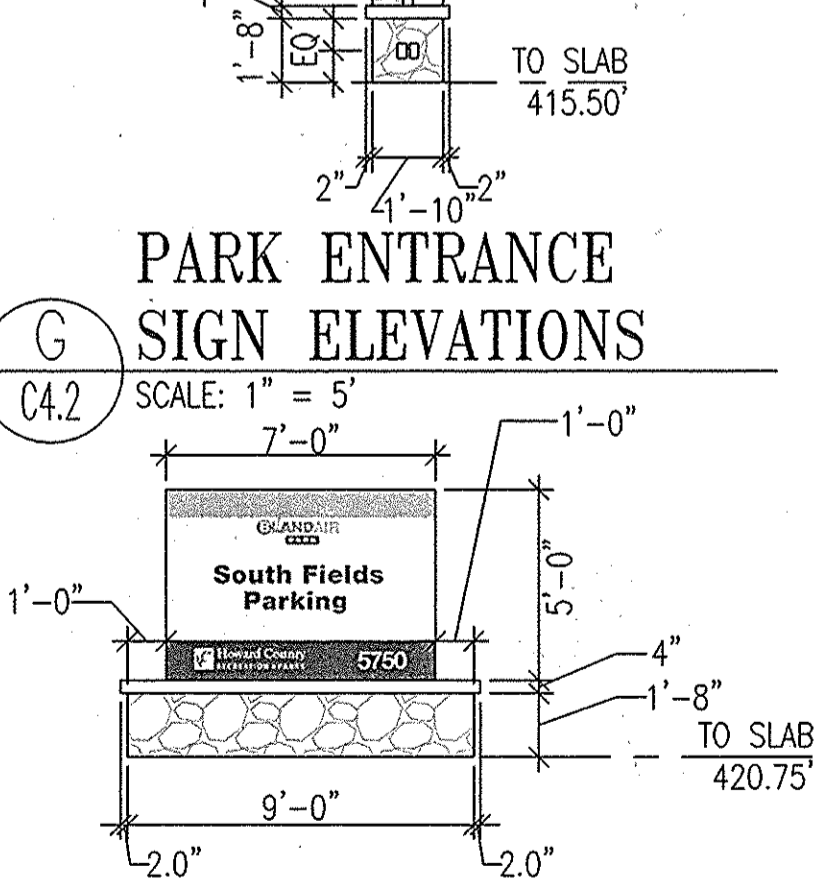
(C) PICNIC SHELTER ELEVATIONS
C4.2 SCALE: 1" = 20'



(E) COMFORT STATION ELEVATIONS
C4.2 SCALE: 1" = 20'



(G) PARK ENTRANCE SIGN ELEVATIONS
C4.2 SCALE: 1" = 5'



(H) AREA ENTRANCE SIGN ELEVATIONS
C4.2 SCALE: 1" = 5'

REVISIONS	

HOWARD COUNTY
DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

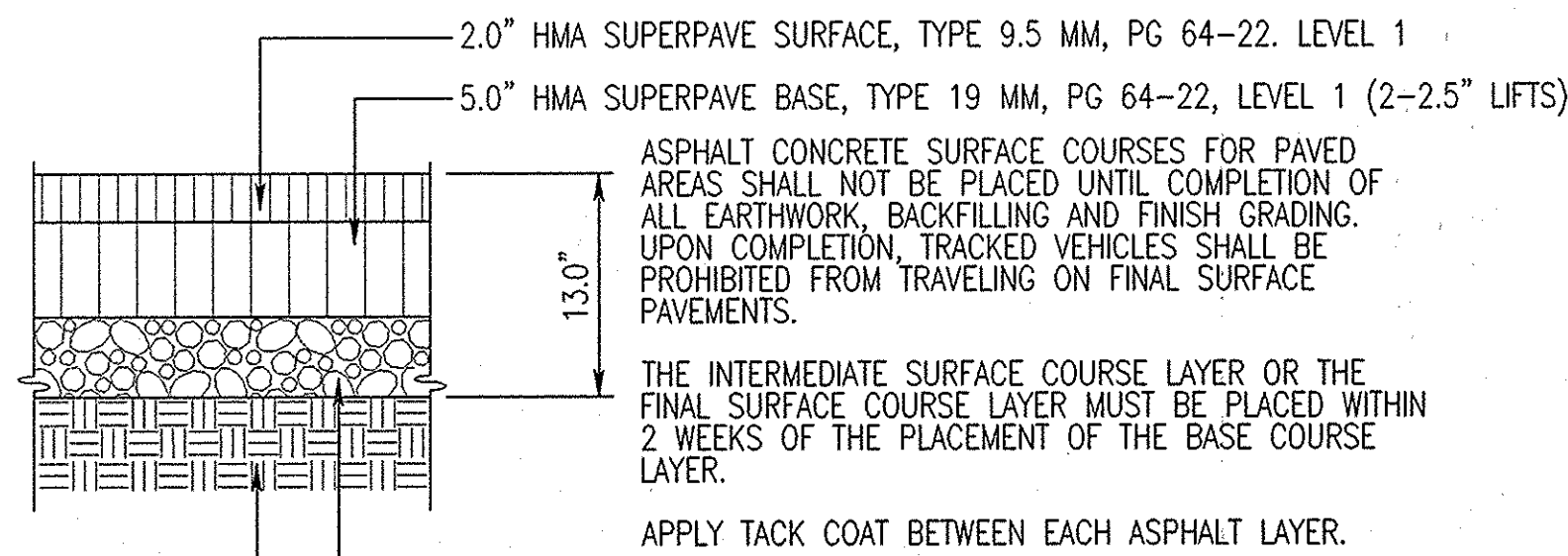
GRAPHIC SCALES
0 10' 20' 40'
SCALE: 1" = 20'-0"
0 5' 10' 20'
SCALE: 1" = 10'-0"
0 5' 10'
SCALE: 1" = 5'-0"

SIGNATURE

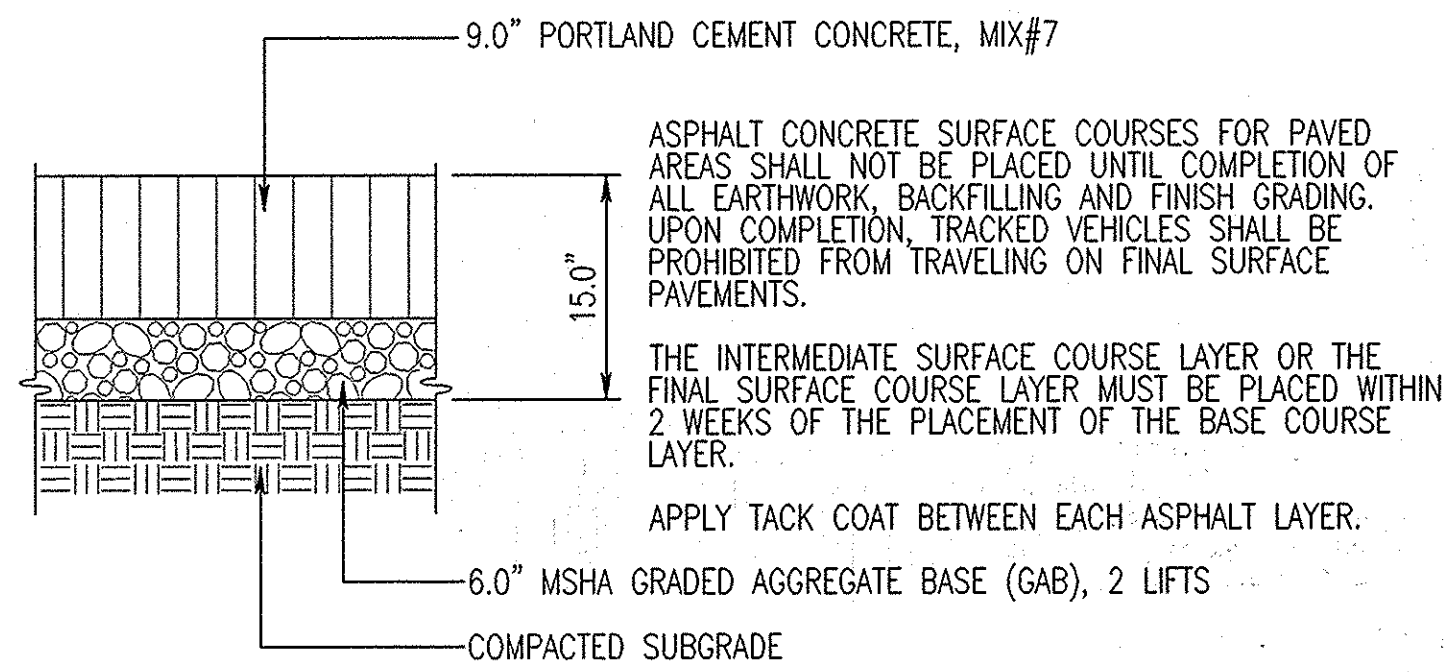
BLANDAIR REGIONAL PARK - PHASE 2

SITE DETAILS
Drawing-No. **C4.2**

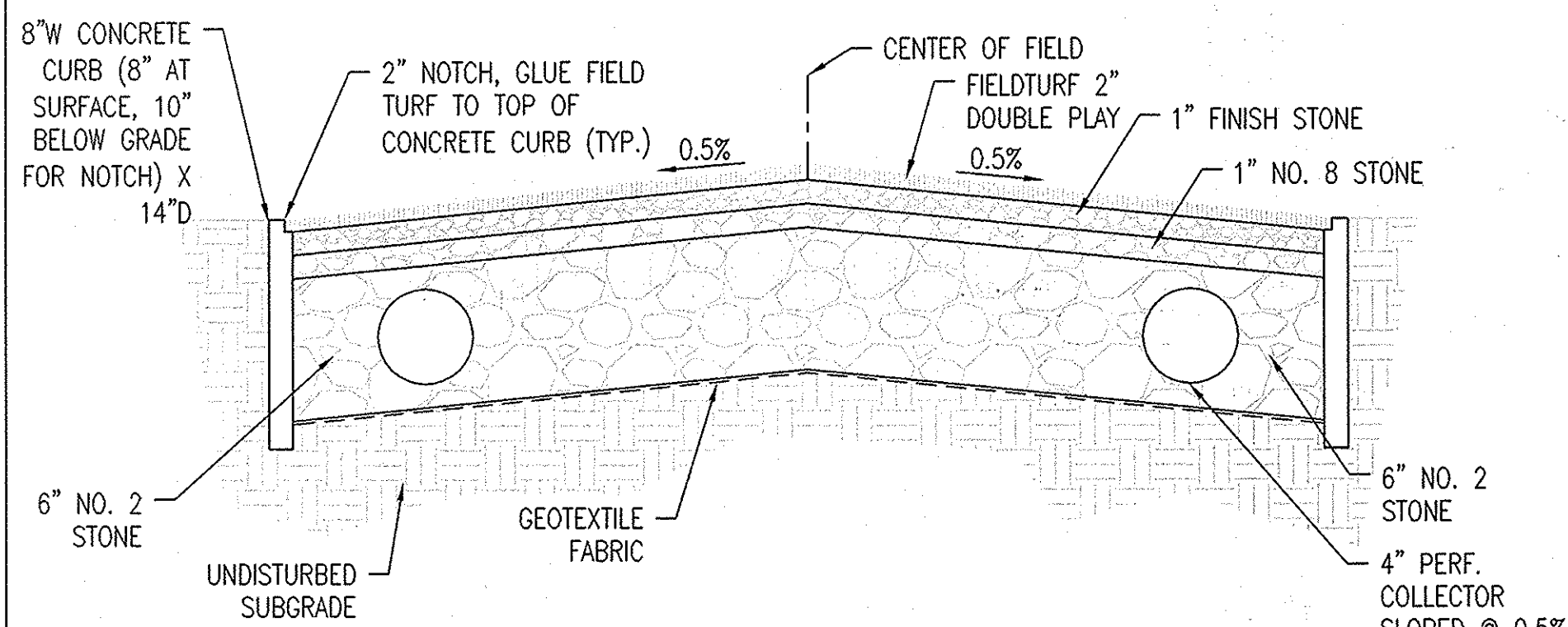
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Date: 03/31/2014 Sheet 18 of 41
Des: CYH Drawn: CJK Check: AUO



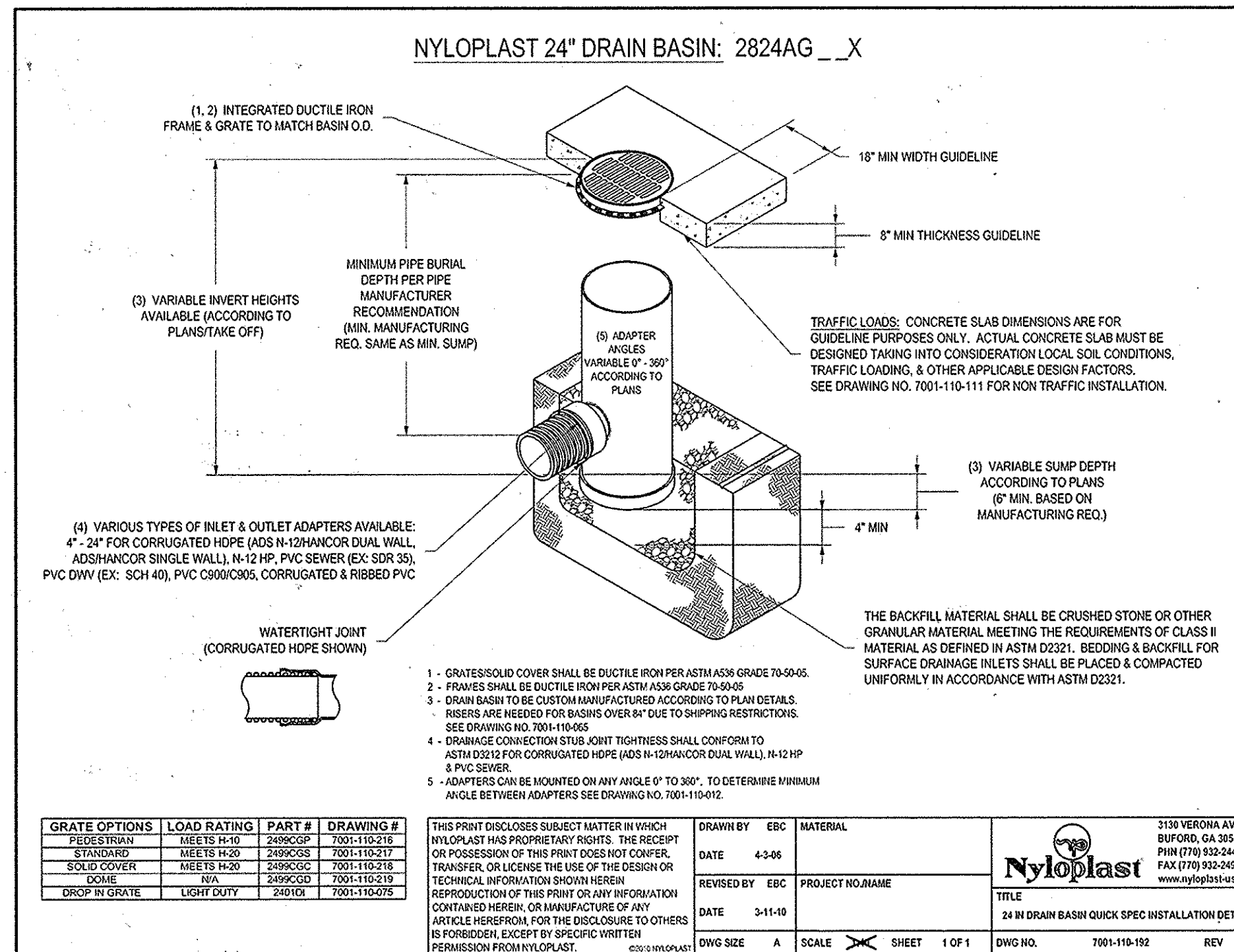
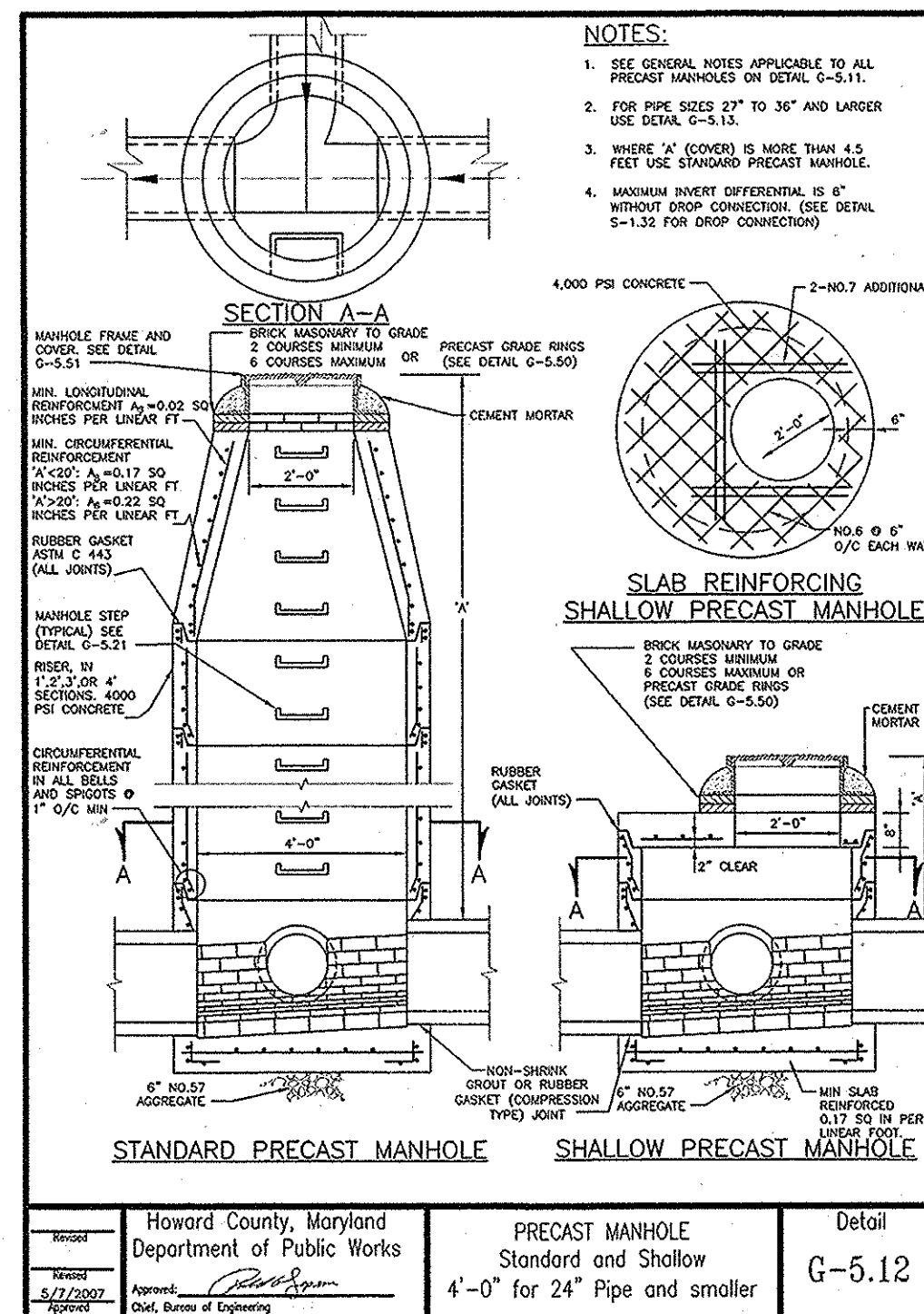
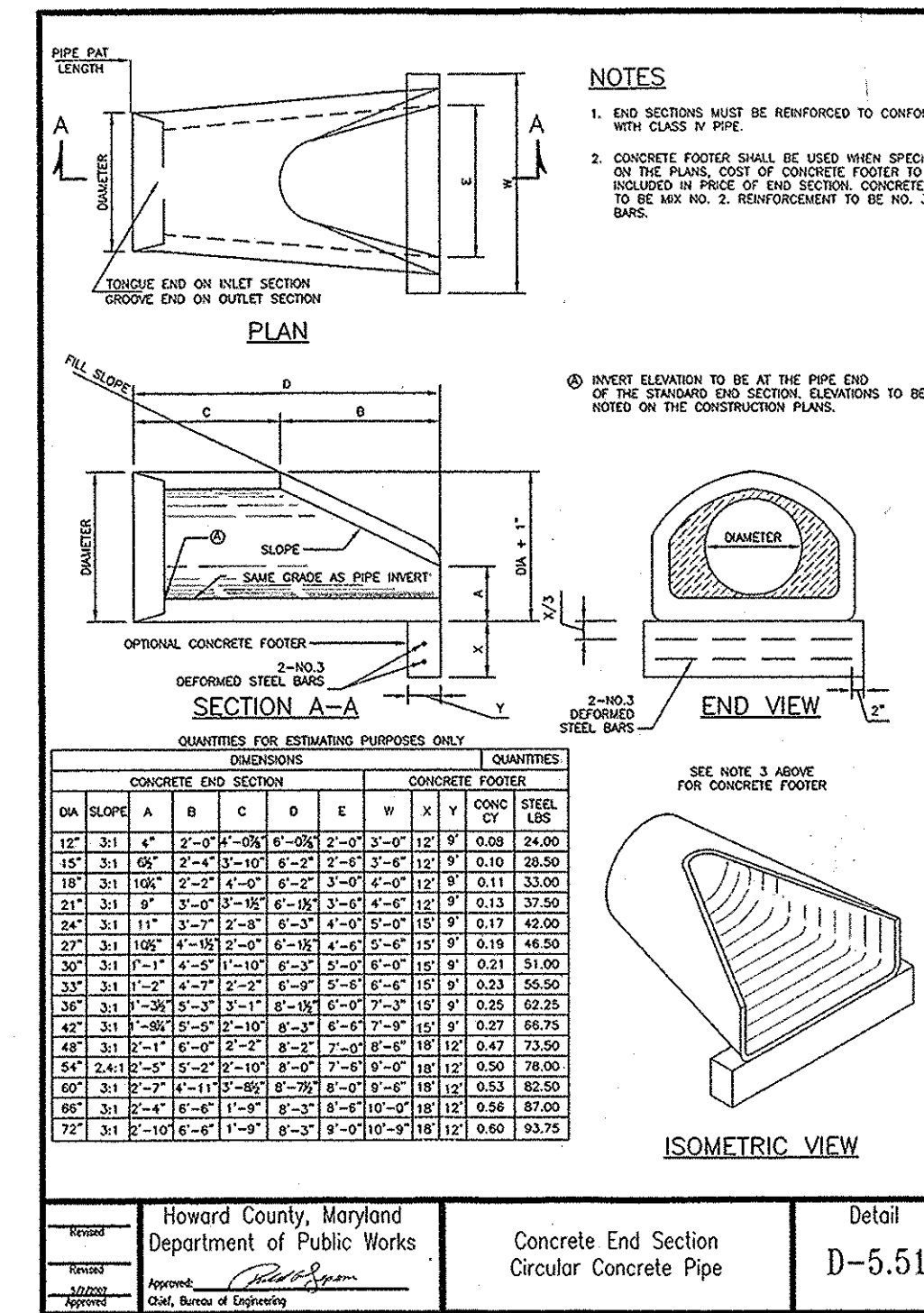
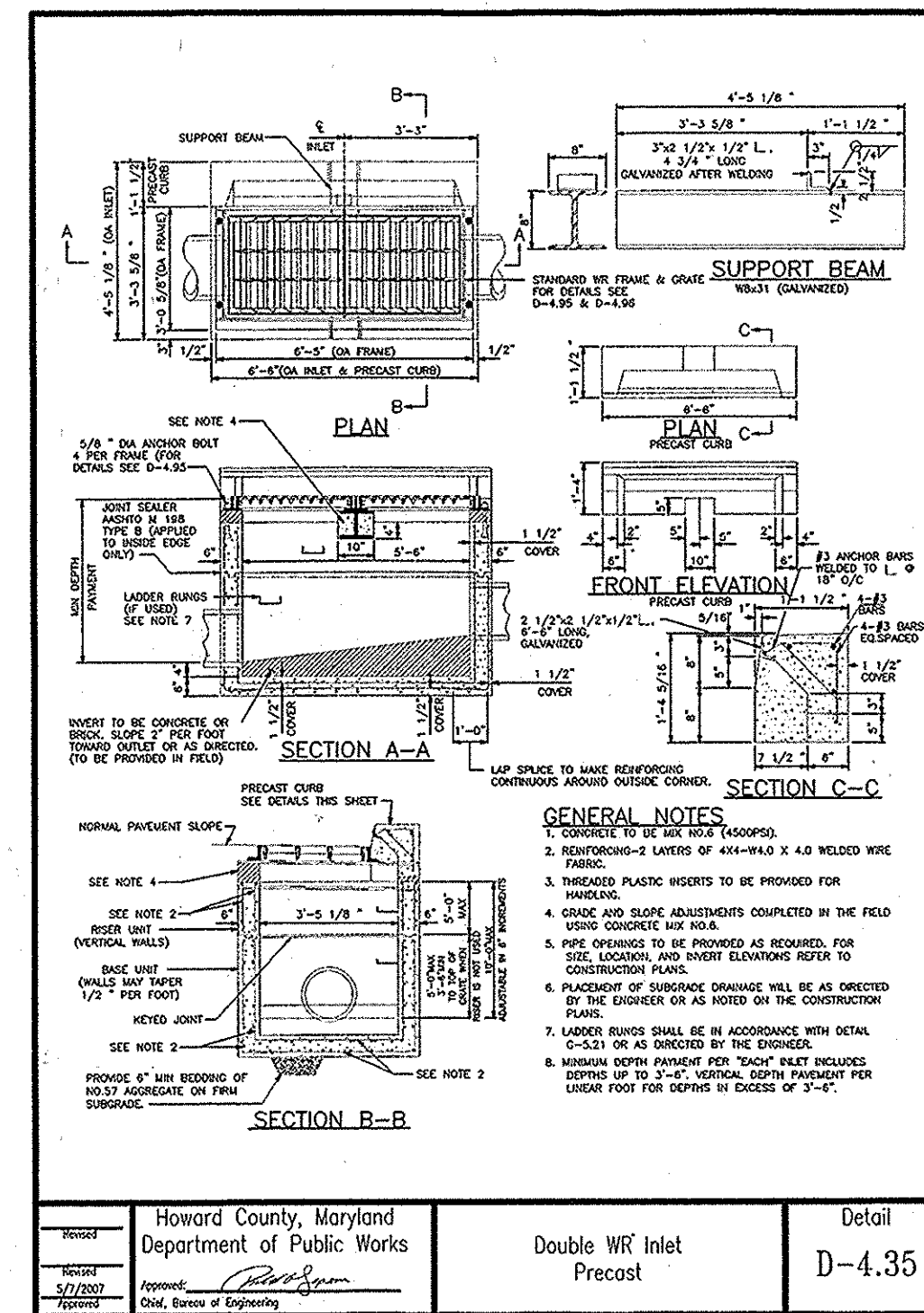
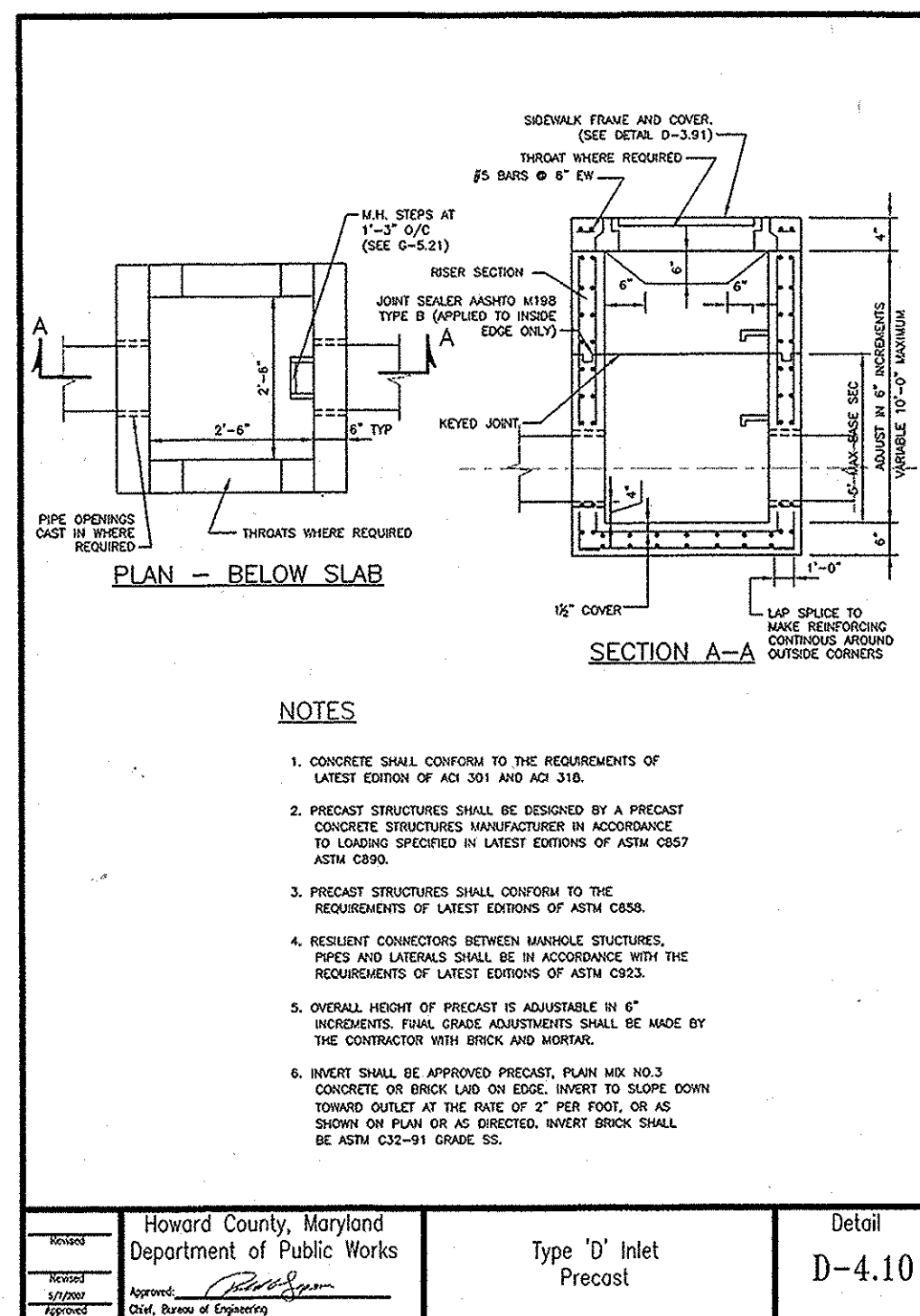
A BUS LOOP PAVEMENT
 C4.3 NOT TO SCALE



B BUS LOOP CONCRETE PAD
 C4.3 NOT TO SCALE



C WARM-UP ARTIFICIAL TURF
 C4.3 NOT TO SCALE



D 24" NYLOPLAST DRAIN BASIN
 C4.3 NOT TO SCALE

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 TAX MAP 36, GRID 5, PARCEL 3,72
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GRAPHIC SCALES

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BLANDAIR REGIONAL PARK - PHASE 2

SITE DETAILS
 Drawing No.
C4.3
 Scale: NONE
 Date: 03/31/2014 Sheet 19 of 41
 Des: CYH Drawn: SAD Check: AUO

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

6-17-14
 6-23-14
 7-28-14

FILED DATE: 4/11/2014 9:55:50 AM PAGE: 18 OF 20 PLOT STYLE: WVA_2006.ctb PAPER: SIZE: 8.5x11

B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION AND BIO-SWALES

1. MATERIAL SPECIFICATIONS

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

2. FILTERING MEDIA OR PLANTING SOIL

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

- SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
- ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
- CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
- PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE

EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL

SEE LANDSCAPING PLANS.

5. PLANT INSTALLATION

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

-PIPE- SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE).

-PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.

-GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

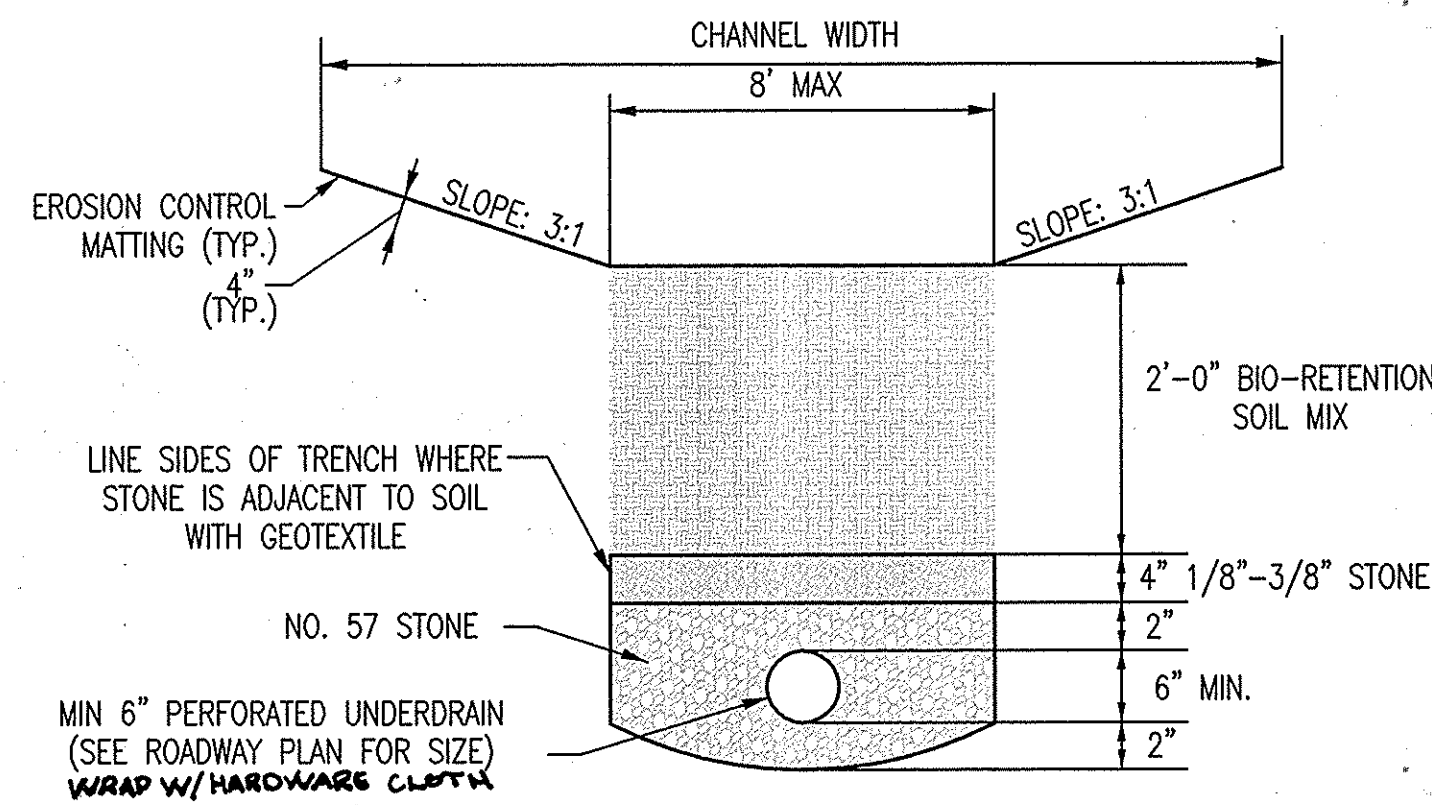
-THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

-A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

-A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

7. MISCELLANEOUS

THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



A BIOSWALE DETAIL
C4.4 NOT TO SCALE

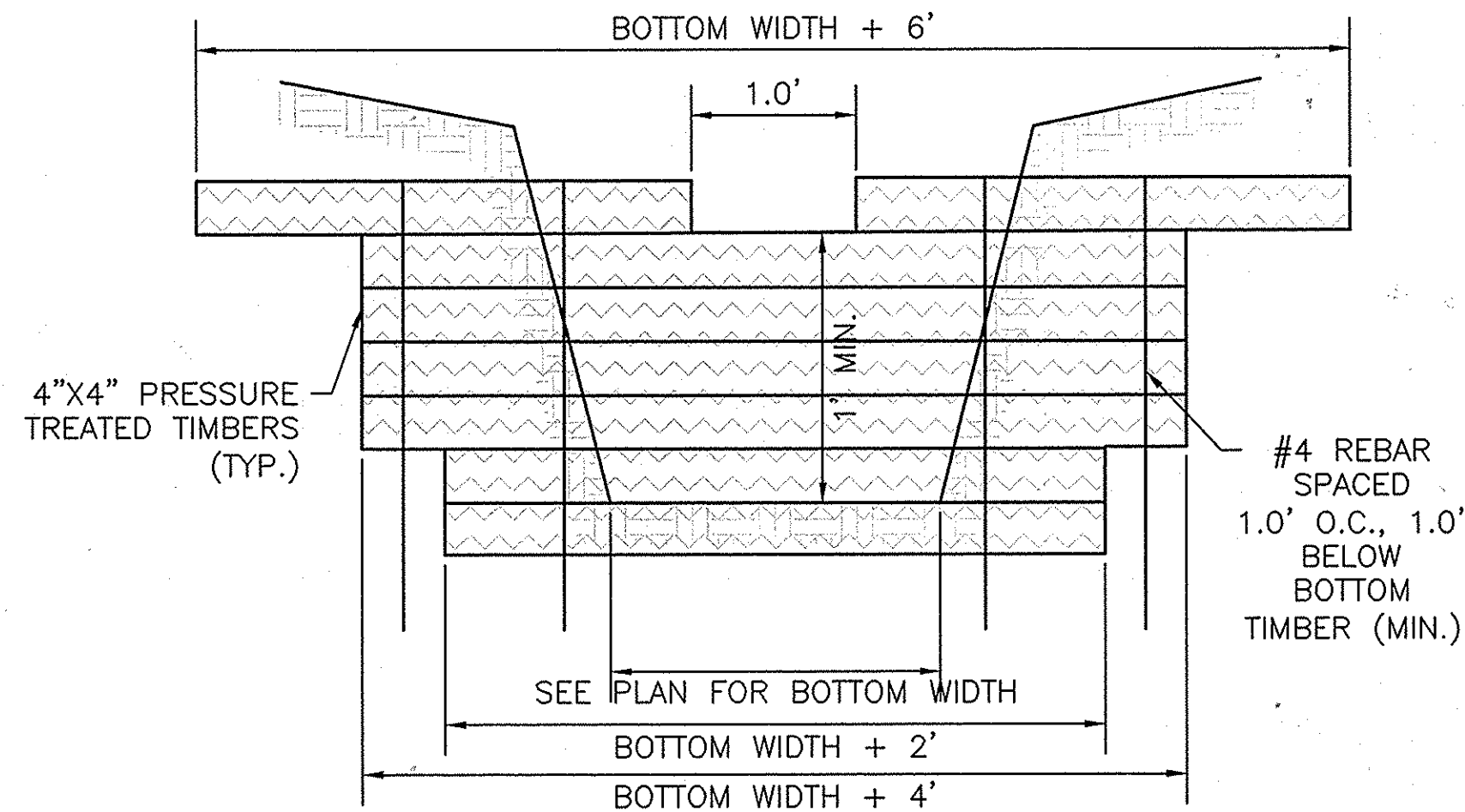
BIO-SWALE TYPICAL SECTION

Table B.4.1 Materials Specifications for Micro-Bioretention and Bio-Swailes-

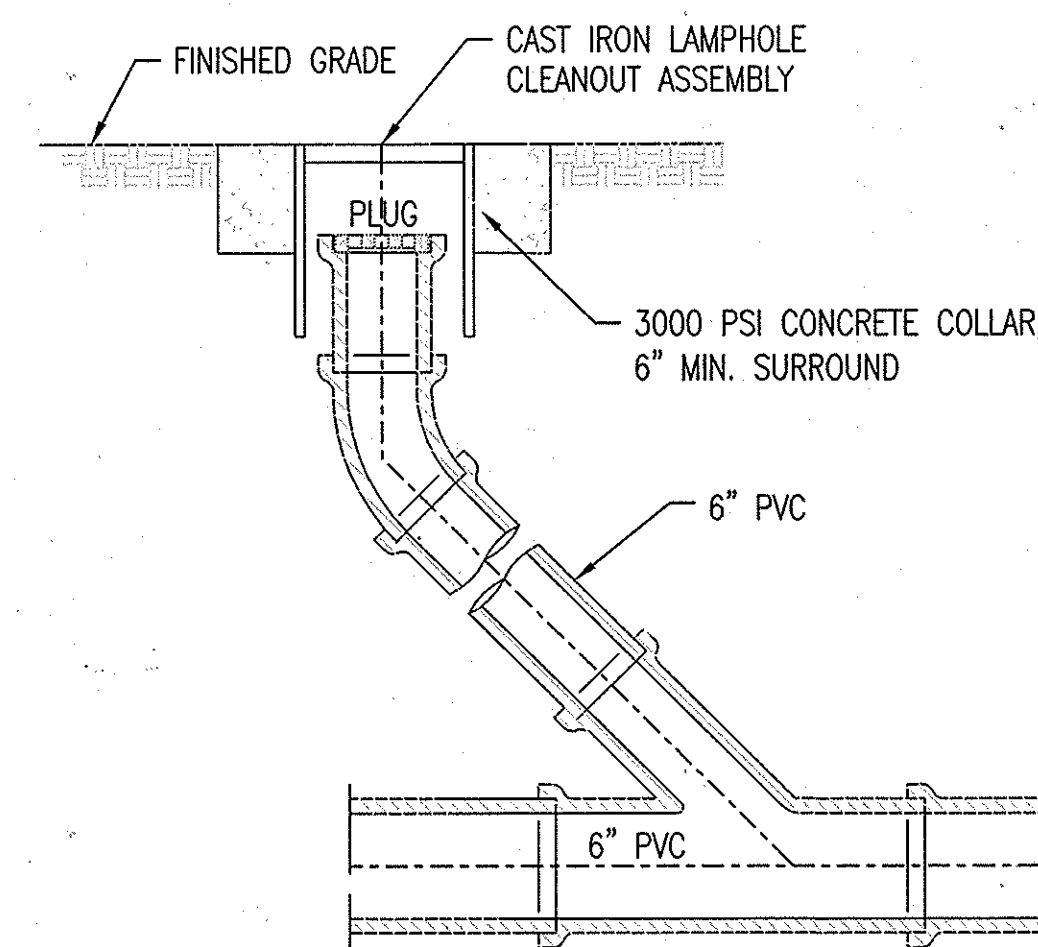
Material	Specification	Size	Notes
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content <5%
Organic content	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea Gravel	ASTM-D-448	No. 8 or No. 9 (1/8" or 3/8")	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains)	AASHTO M-43	No. 57 OR NO. 6 AGGREGATE	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	6" rigid schedule 40 PVC or as shown on plan	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3' of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION SWALES

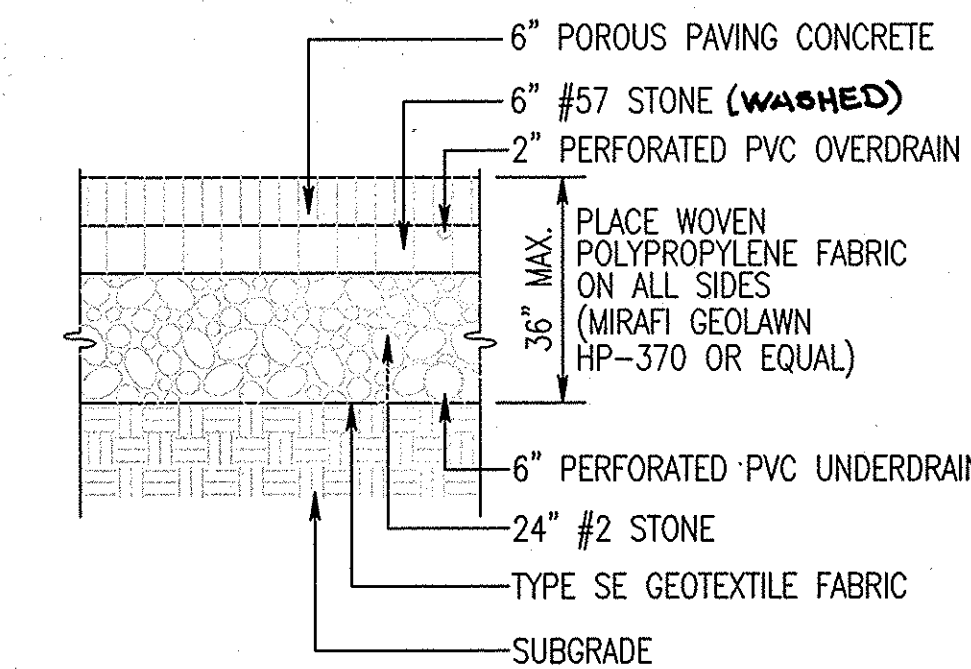
- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



C TIMBER CHECK DAM
C4.4 NOT TO SCALE



D CLEANOUT
C4.4 NOT TO SCALE



B POROUS PAVEMENT
C4.4 NOT TO SCALE

- CONTRACTOR SHALL PROVIDE EVIDENCE OF EMPLOYMENT OF ONE (1) NRMCA CERTIFIED PERVIOUS CONCRETE CRAFTSMAN WHO MUST BE ON-SITE, OVERSEEING EACH PLACEMENT CREW. DURING ALL CONCRETE PLACEMENT, OR WITH THE APPROVAL OF ARCHITECT/ENGINEER, CONTRACTOR MAY PROVIDE WRITTEN EVIDENCE OF PROJECT EXPERIENCE AND PROFICIENCY IN SUCCESSFULLY COMPLETING PERVIOUS CONCRETE PAVEMENT CONSTRUCTION, AND SUBMIT EVIDENCE OF COMPLETION OF A PERVIOUS CONCRETE CRAFTSMAN CERTIFICATION PROGRAM.
- POROUS CONCRETE MUST BE COVERED WITH PLASTIC FOR A MINIMUM OF 7 DAYS IMMEDIATELY AFTER PLACEMENT.
- 6" PERFORATED PLUG SCHEDULE 40, 3/8" DIAMETER PERFORATIONS AT 4" O.C. LENGTH WIDE AND 90 DEGREES RADIALLY AROUND. INSTALL END CAP ON OPEN END.

OPERATION AND MAINTENANCE SCHEDULE FOR PERMEABLE PAVEMENT

- THE OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.
- THE OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE.
- THE OWNER SHALL USE DEICERS IN MODERATION. DEICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.
- THE OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE-INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOWMELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

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

1. PERVIOUS CONCRETE SPECIFICATIONS (ALSO SEE ACI 522.1-08)

DESIGN THICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED. APPLICATIONS MAY BE DESIGNED USING EITHER STANDARD PAVEMENT PROCEDURES (E.G. AASHTO, ACI 325.9R, ACI 330R) OR USING STRUCTURAL VALUES DERIVED FROM FLEXIBLE PAVEMENT DESIGN PROCEDURES.

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

AGGREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE AGGREGATE CONTENT. COMMONLY USED GRADATIONS INCLUDE ASTM C 33 NO. 67 (3/4" IN. TO NO. 4), NO. 8 (3/8" IN. TO NO. 16) AND NO. 89 (3/4" IN. TO NO. 50) SIEVES. SINGLE-SIZED AGGREGATE (UP TO 1 INCH) MAY ALSO BE USED.

WATER CONTENT - WATER-TO-CEMENT RATIOS BETWEEN 0.27 AND 0.30 ARE USED ROUTINELY WITH PROPER INCLUSION OF CHEMICAL ADMIXTURES. WATER QUALITY SHOULD MEET ACI 30A. AS A GENERAL RULE, POTABLE WATER SHOULD BE USED ALTHOUGH RECYCLED CONCRETE PRODUCTION WATER MEETING ASTM C 94 OR AASHTO M 157 MAY ALSO BE USED.

ADMIXTURES - CHEMICAL ADMIXTURES (E.G. RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN PERVIOUS CONCRETE. USE OF ADMIXTURES SHOULD MEET ASTM C 494 (CHEMICAL ADMIXTURES) AND ASTM C 260 (AIR ENTRAINING ADMIXTURES) AND CLOSELY FOLLOW MANUFACTURER'S RECOMMENDATIONS.

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

REVISIONS	

HOWARD COUNTY
DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21213
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

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. 19376. EXPIRATION DATE: 09/22/2015.

BLANDAIR REGIONAL PARK - PHASE 2

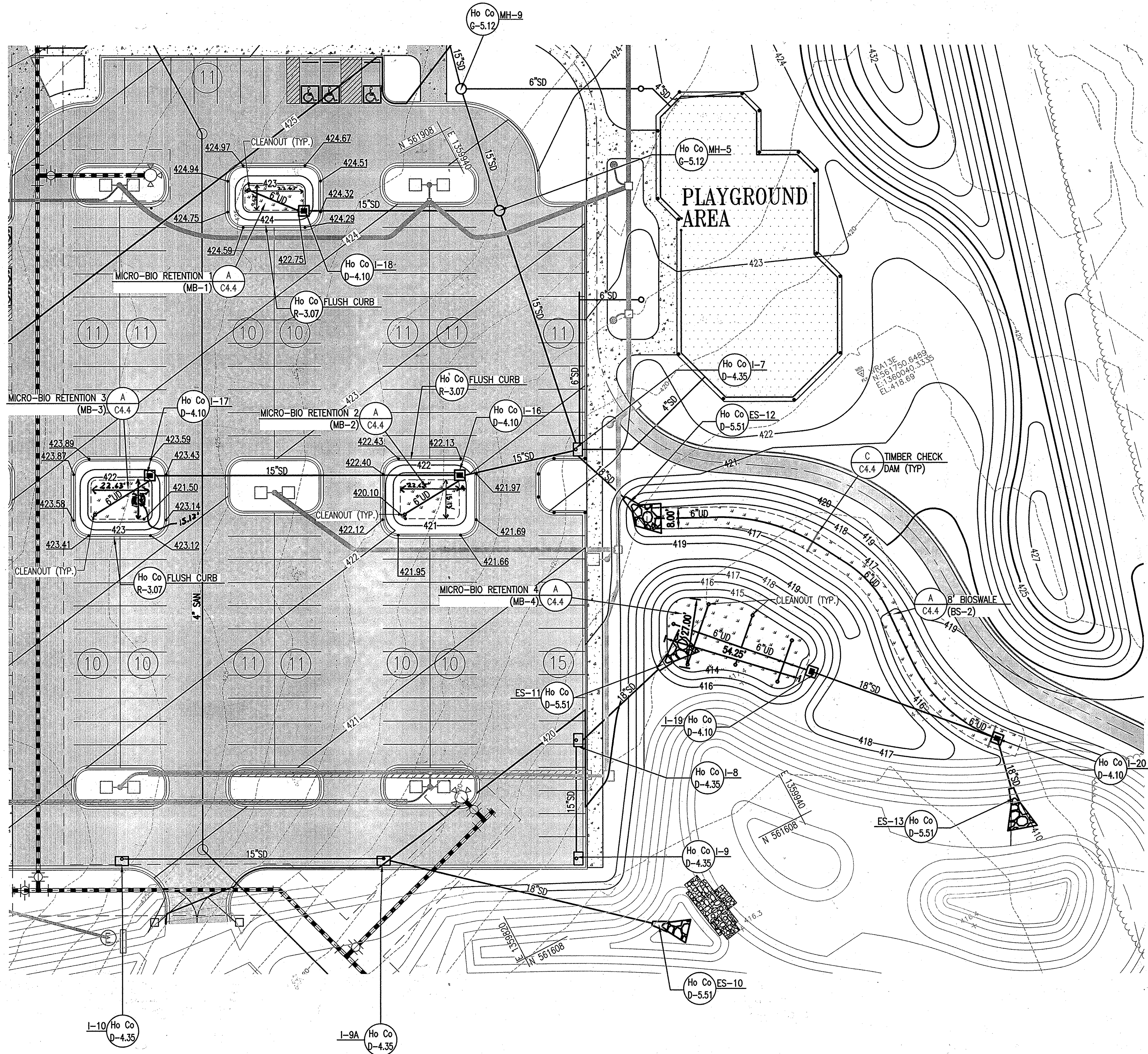
STORMWATER MANAGEMENT DETAILS AND NOTES

Drawing No.
C4.4

Scale: NONE
Date: 03/31/2014 Sheet 20 of 41
Des: CYH Drawn: SAD Check: AUO

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 6-17-14
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 7-28-14
DIRECTOR DATE: 7-28-14



REVISIONS	
REDLINE REVISION 7	3/22/16

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

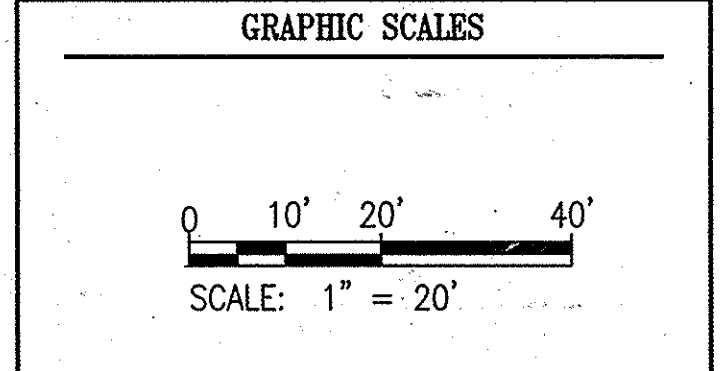


PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7



SIGNATURE

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. 19376
EXPIRATION DATE: 09/22/2017

BLADAIR REGIONAL PARK - PHASE 2

STORMWATER MANAGEMENT ENLARGED PLAN
REVISED SITE DEVELOPMENT PLAN

Drawing No.
C4.5

Scale: 1" = 20'
Date: 03/24/16 Sheet 20A of 41
Des: BWJ Drawn: AKC Check: AUO

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Carter 5-17-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kevin L. ... 5-19-16
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Val ... 5-19-16
DIRECTOR DATE

**HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES**

- 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 (410-313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 30 CALENDAR DAYS FOR ALL PERIMETER 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.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT 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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
TOTAL AREA OF SITE: 17.15 ACRES
AREA DISTURBED: 17.15 ACRES
AREA TO BE ROOFED OR PAVED ACRES: 3.20 ACRES
AREA TO BE VEGETATIVELY STABILIZED ACRES: 13.95 ACRES
TOTAL CUT CU. YDS.: 42,061 CU. YDS.
TOTAL FILL: 50,151 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION: TO BE DETERMINED BY CONTRACTOR
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES 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.

**HOWARD SOIL CONSERVATION DISTRICT
TEMPORARY SEEDING NOTES**

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
- SEEDBED PREPARATION: --- LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
- SOIL AMENDMENTS: --- APPLY 600 LBS/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.).
- SEEDING: --- FOR PERIODS MARCH 1 --- APRIL 30 AND FROM AUGUST 15 --- OCTOBER 15, SEED WITH 2-1/2 BU/ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 --- AUGUST 14, SEED WITH 3 LBS/ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 15 --- FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/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/ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.
- REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

This plan revision must meet the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control Sections B-4-2, B-4-3, B-4-4, B-4-5, and where applicable Section B-4-6

ENGINEER'S CERTIFICATION

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 EMPLOY 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.

SIGNATURE OF ENGINEER: *Anthony W. Olson* DATE: 3/27/14

DEVELOPER'S CERTIFICATION

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 EMPLOY 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 DAY OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: *Anthony W. Olson* DATE: 3/27/14

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 6/17/14
DIRECTOR DATE: 7-28-14

**HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES**

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

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

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

- ACCEPTABLE --- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS/ACRE 30-0-0 UREA/FORM FERTILIZER (9 LBS/1000 SQ. FT.)
- ACCEPTABLE --- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS/ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING --- FOR THE PERIODS MARCH 1 --- APRIL 30, AND AUGUST 1 --- OCTOBER 15, SEED WITH 60 LBS/ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 --- JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS/ACRE (.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 --- FEBRUARY 28, PROTECT SITE BY:
OPTION 1 --- TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.
OPTION 2 --- USE SOD.
OPTION 3 --- SEED WITH 60 LBS/ACRE KENTUCKY 30 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

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

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

**B-4 STANDARDS AND SPECIFICATIONS
FOR
VEGETATIVE STABILIZATION**

Definition
Using vegetation as cover to protect exposed soil from erosion.

Purpose
To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies
On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity
Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment
Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

- Adequate vegetative stabilization requires 95 percent groundcover.
- If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
- If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
- Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

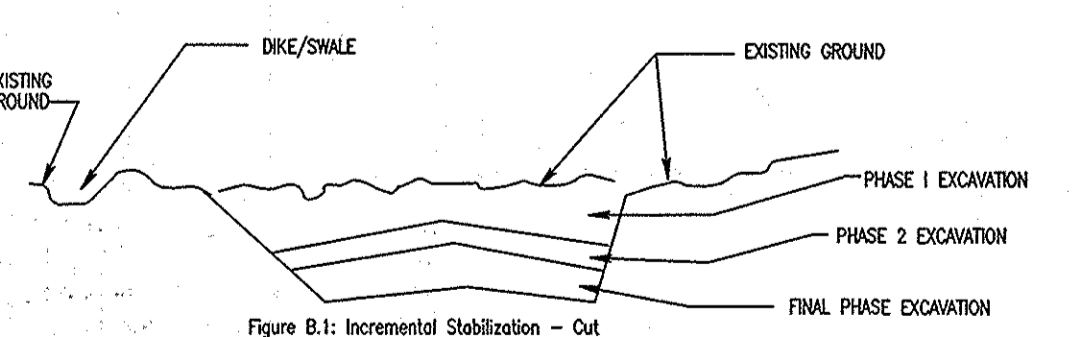
**B-4-1 STANDARDS AND SPECIFICATIONS
FOR
INCREMENTAL STABILIZATION**

Definition
Establishment of vegetative cover on cut and fill slopes.

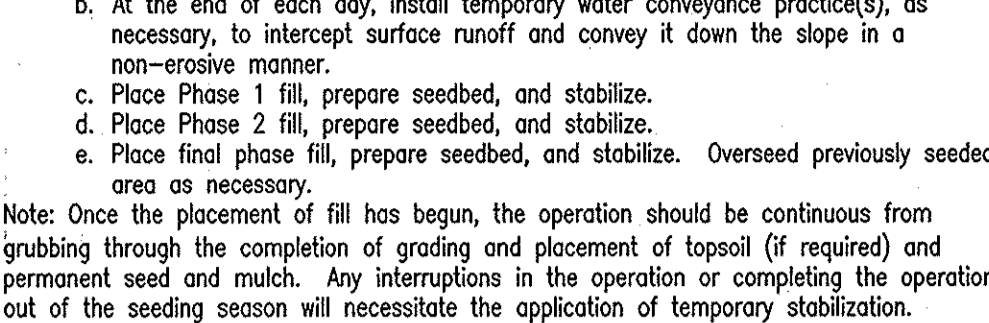
Purpose
To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies
Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

- Incremental Stabilization - Cut Slopes
 - Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
 - Construction sequence example (Refer to Figure B.1)
 - Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
 - Perform Phase 1 excavation, prepare seedbed, and stabilize.
 - Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
 - Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.
- Note: Once excavation has begun, the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.



- Incremental Stabilization - Fill Slopes
 - Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
 - Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
 - At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 - Construction sequence example (Refer to Figure B.2):
 - Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.
 - At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 - Place Phase 1 fill, prepare seedbed, and stabilize.
 - Place Phase 2 fill, prepare seedbed, and stabilize.
 - Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded area 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.



**B-4-2 STANDARDS AND SPECIFICATIONS
FOR
SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**

Definition
The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose
To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies
Where vegetative stabilization is to be established.

Criteria

- Soil Preparation
 - Temporary Stabilization
 - Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
 - Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if loessess will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Take lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.
- Topsoiling
 - Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
 - Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. The depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
 - Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
 - Areas having slopes steeper than 2:1 require special consideration and design.
 - Topsoil specifications: Soil to be used as topsoil must meet the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
 - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - Topsoil Application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- Soil Amendments (Fertilizer and Lime Specifications)
 - Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manual application for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
 - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

- Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

**B-4-3 STANDARDS AND SPECIFICATIONS
FOR
SEEDING AND MULCHING**

Definition
The application of seed and mulch to establish vegetative cover.

Purpose
To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

- Seeding
 - All seeds must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rates.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Application
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
 - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/2 inch of soil covering. Seedbed must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P205 (phosphorus), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
 - Lime: Use site 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.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - When hydroseeding do not incorporate seed into the soil.
 - Mulching
 - Mulch Materials (in order of preference)
 - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw which is areas where on species of grass is desired.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WSFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - WSFM, including dye, must contain no germination or growth inhibiting factors.
 - WSFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WSFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - WSFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
 - Application
 - Apply mulch to all seeded areas immediately after seeding.
 - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
 - Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Anchoring
 - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the site of the area and erosion hazard:
 - A mulch anchoring tool is a tractor draw implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
 - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Synthetic binders such as Acrylic DLR (Agra-Tack), DCA-700, Petrosel, Terra Tox II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

**B-4-4 STANDARDS AND SPECIFICATIONS
FOR
TEMPORARY STABILIZATION**

Definition
To stabilize disturbed soils with vegetation for up to 6 months.

Purpose
To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

Temporary Seeding Summary

Hardness Zone (from Figure B.3): 6b				Fertilizer Rate (10-20-20)			Lime Rate
Seed Mixture (from Table B.1):							
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	N	P205	K20
	Annual Ryegrass	40	3/1-10/15	1/2"-3/4"			
	Forcht Millet	30	5/16-7/31	1/2"			
				436 lb/acre (10lb/1000sf)	436 lb/acre (10lb/1000sf)		2 tons/acre (90 lb/1000sf)

**B-4-5 STANDARDS AND SPECIFICATIONS
FOR
PERMANENT STABILIZATION**

Definition
To stabilize disturbed soils with permanent vegetation.

Purpose
To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for 6 months or more.

Criteria

- Seed Mixtures
 - General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
 - For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
 - For areas requiring low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
 - Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playground, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Notes: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

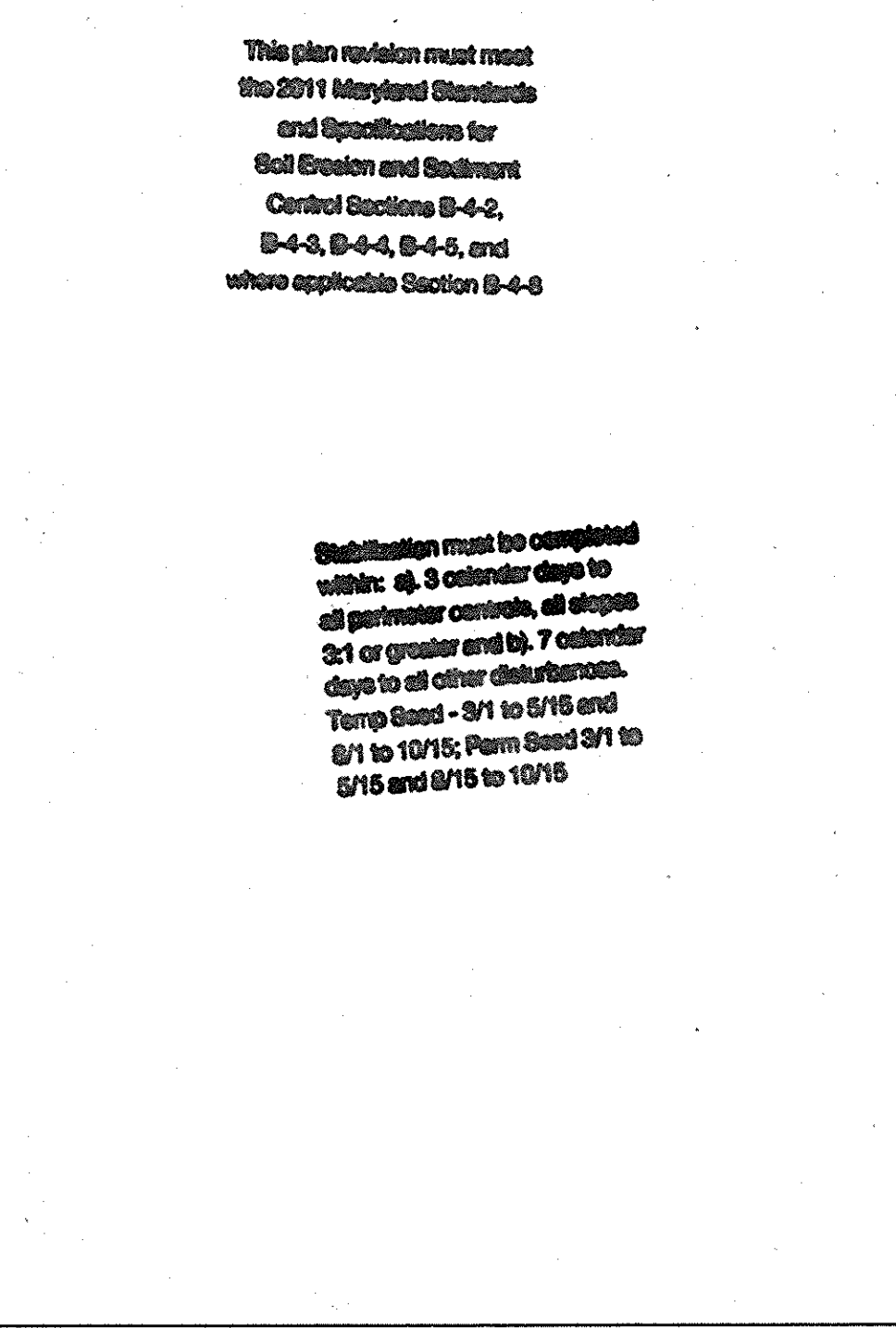
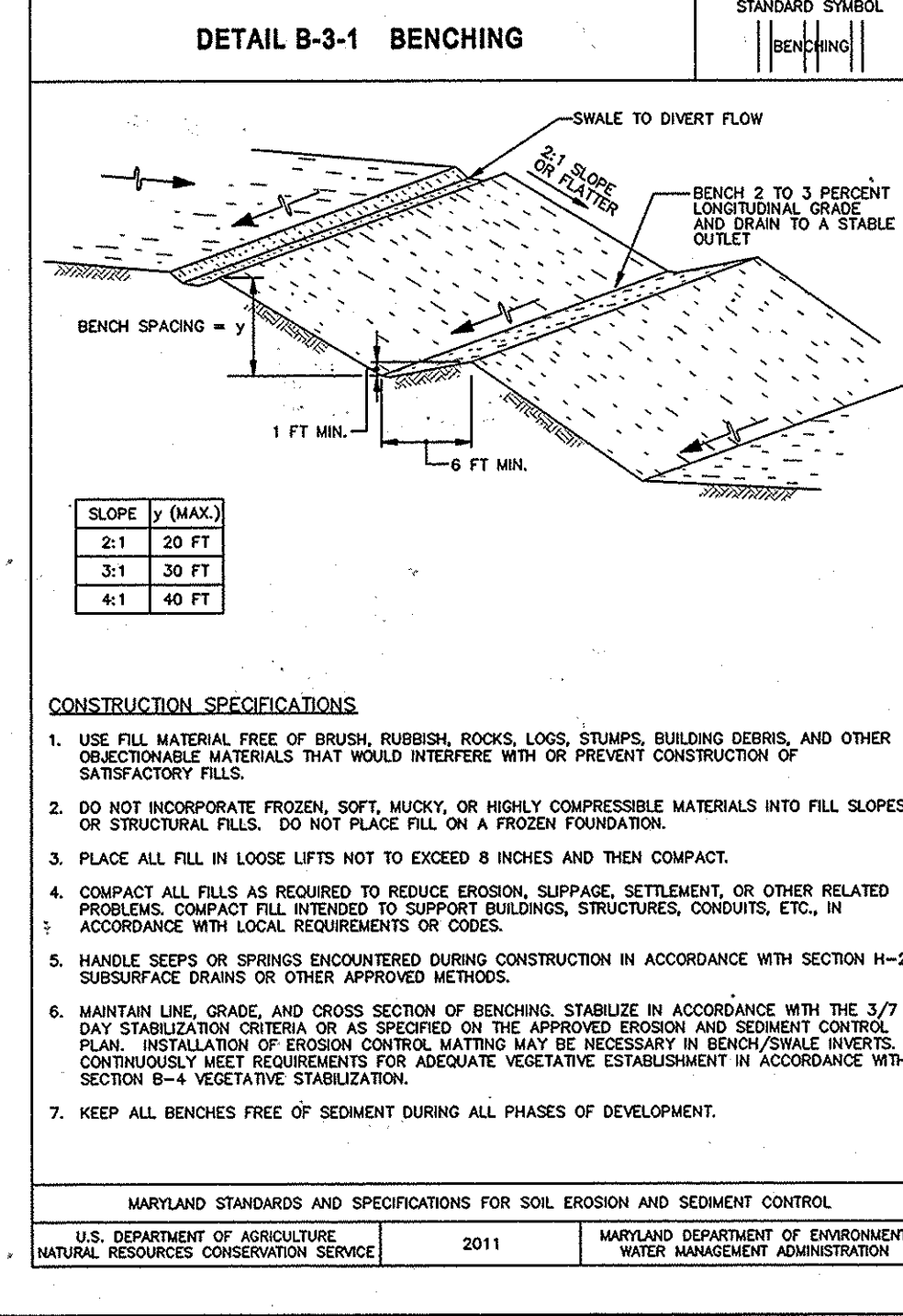
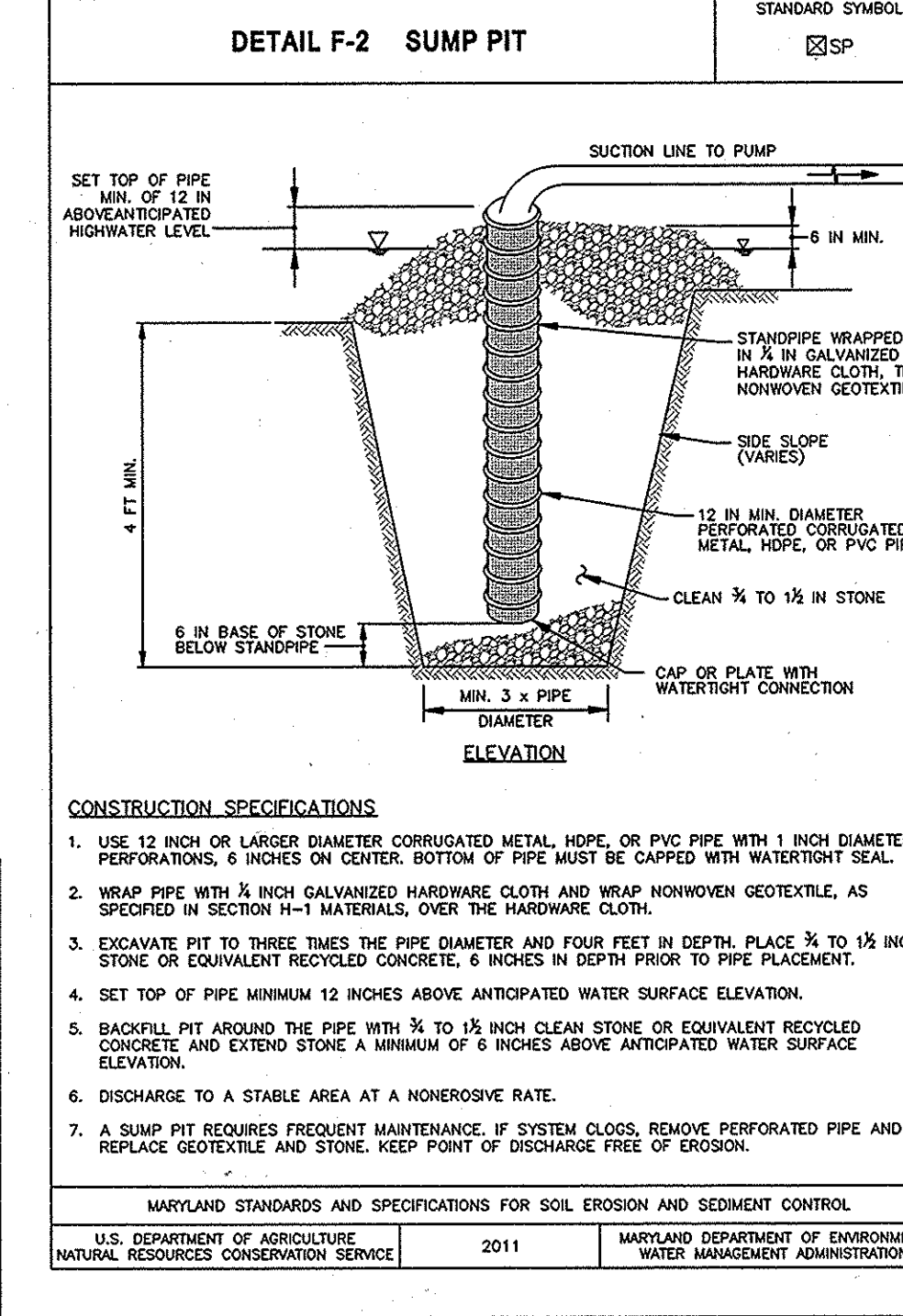
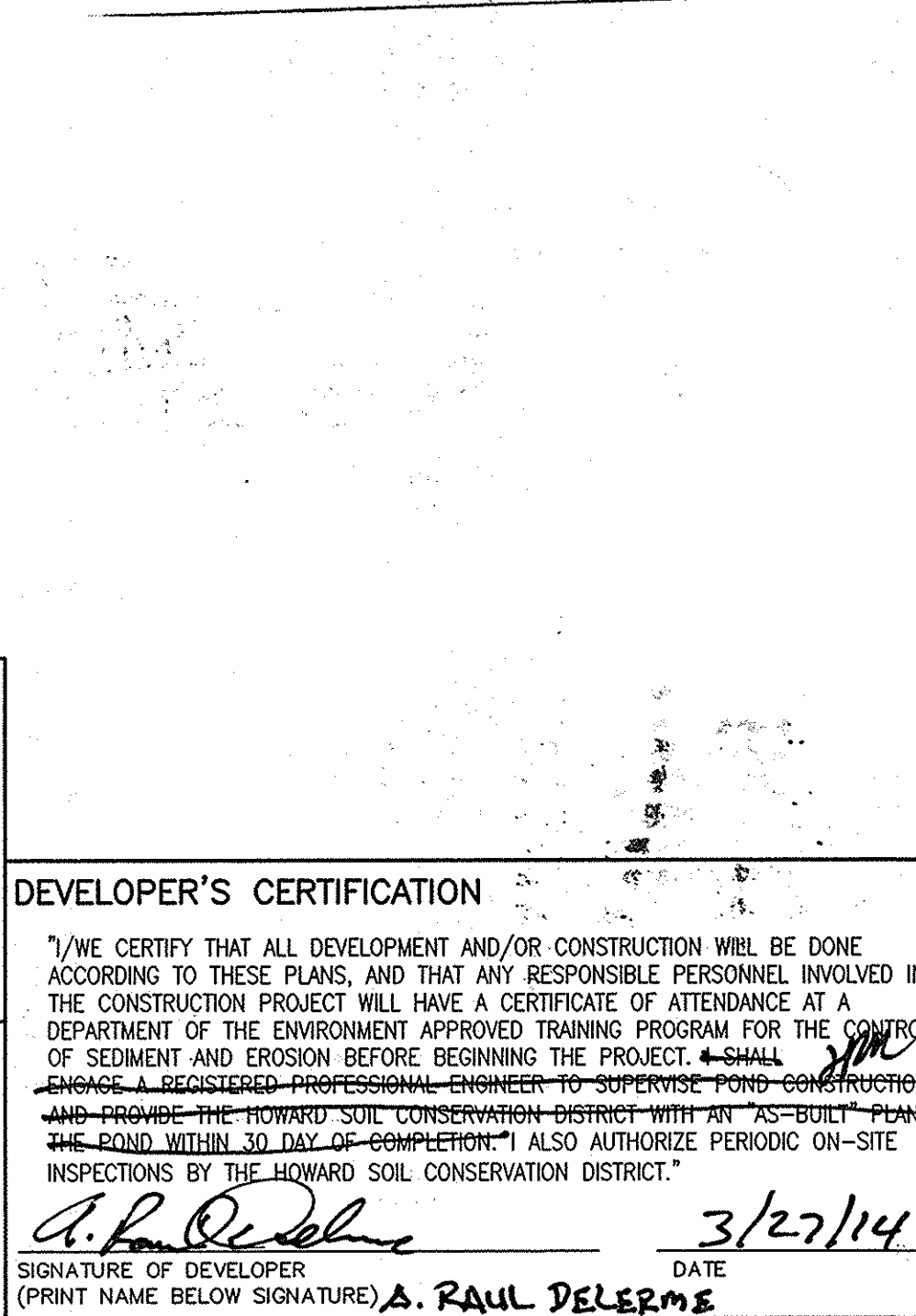
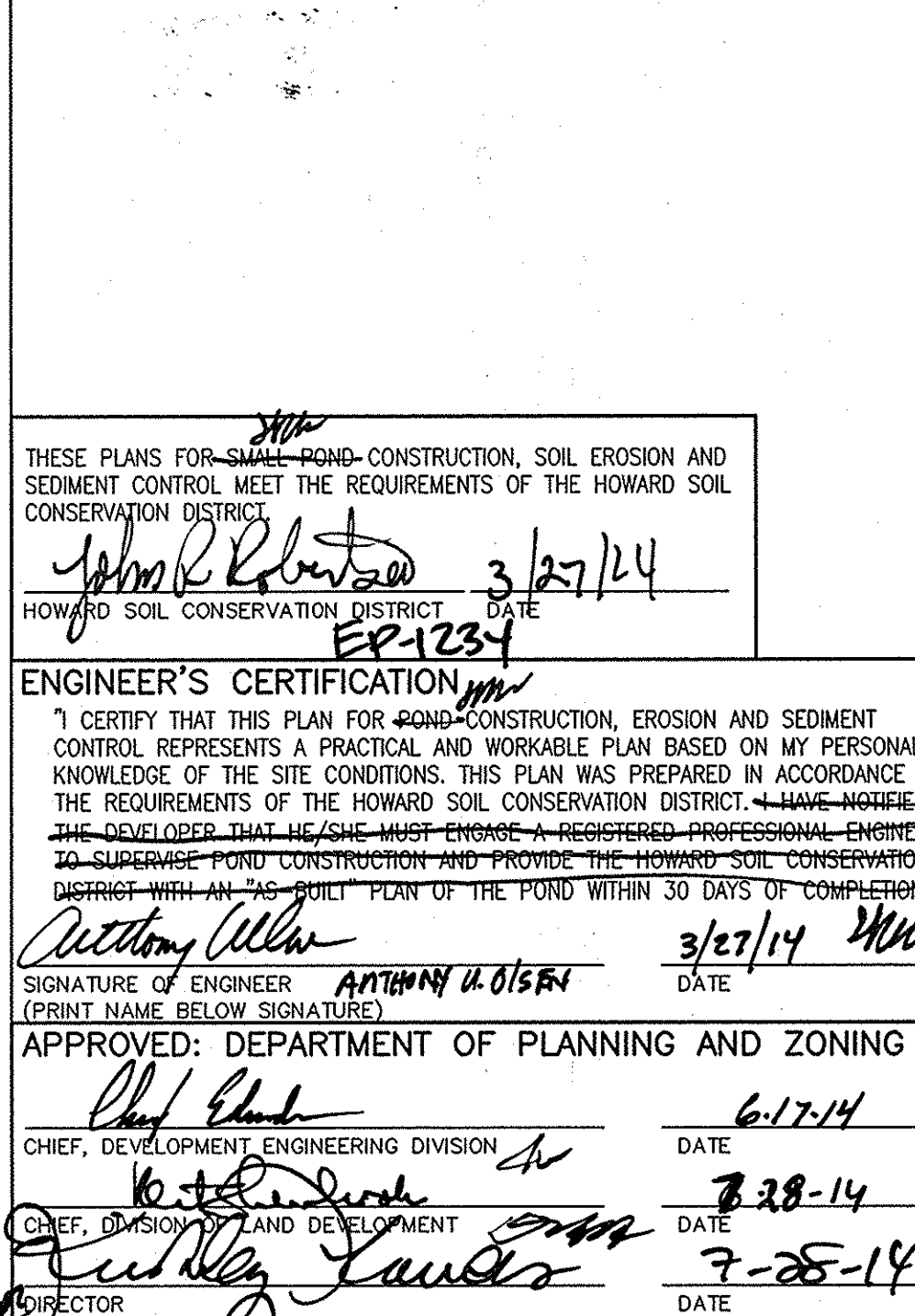
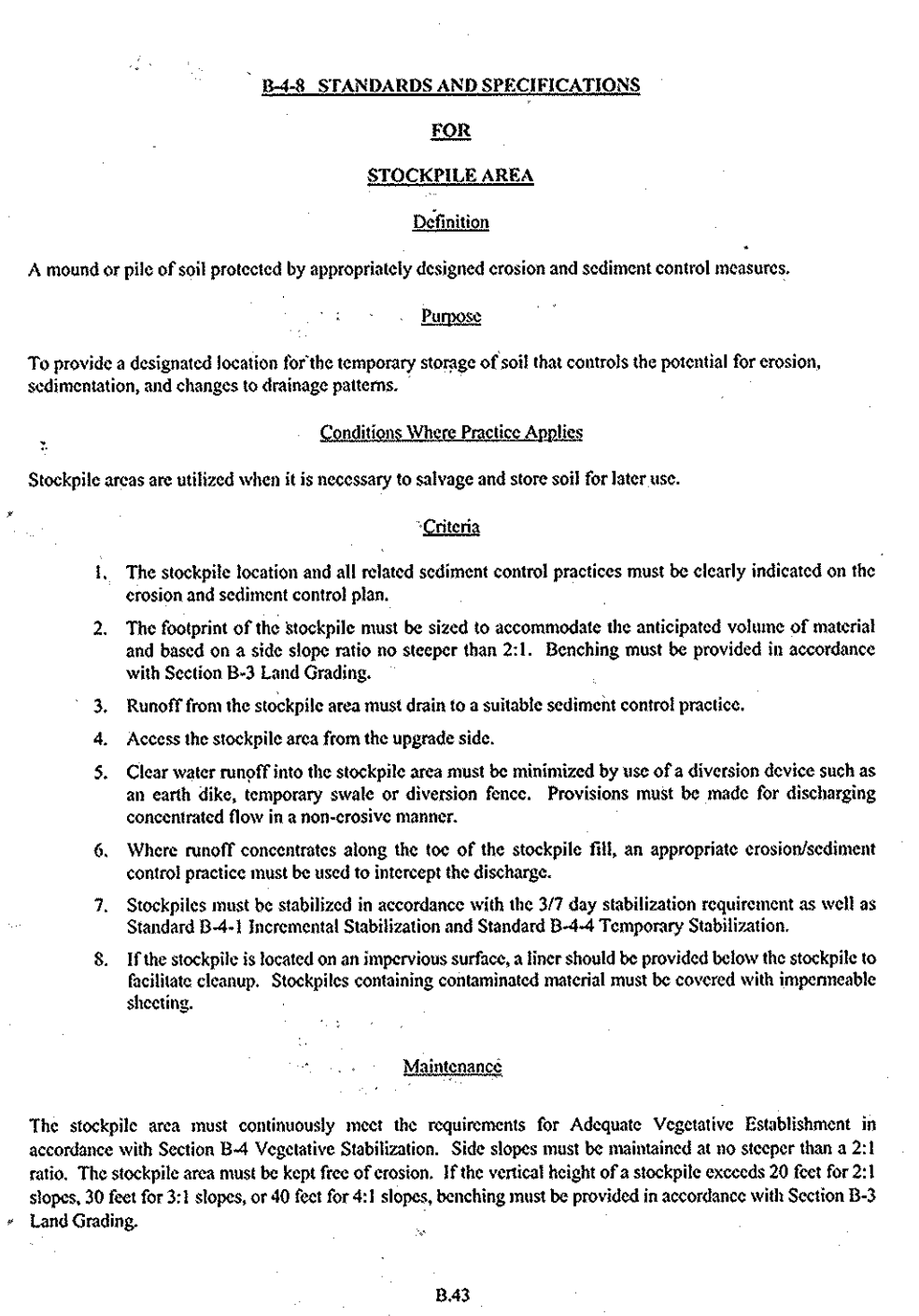
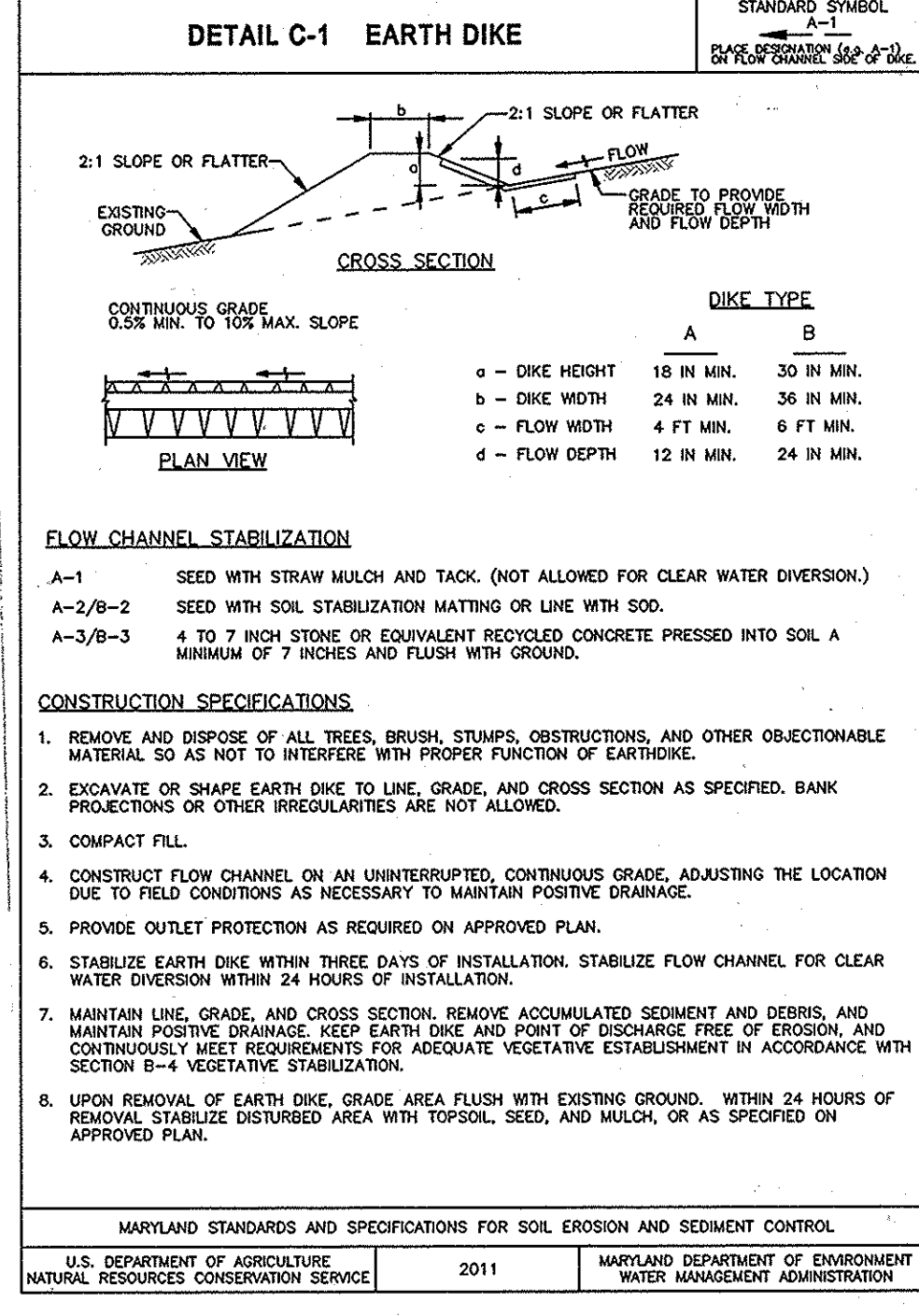
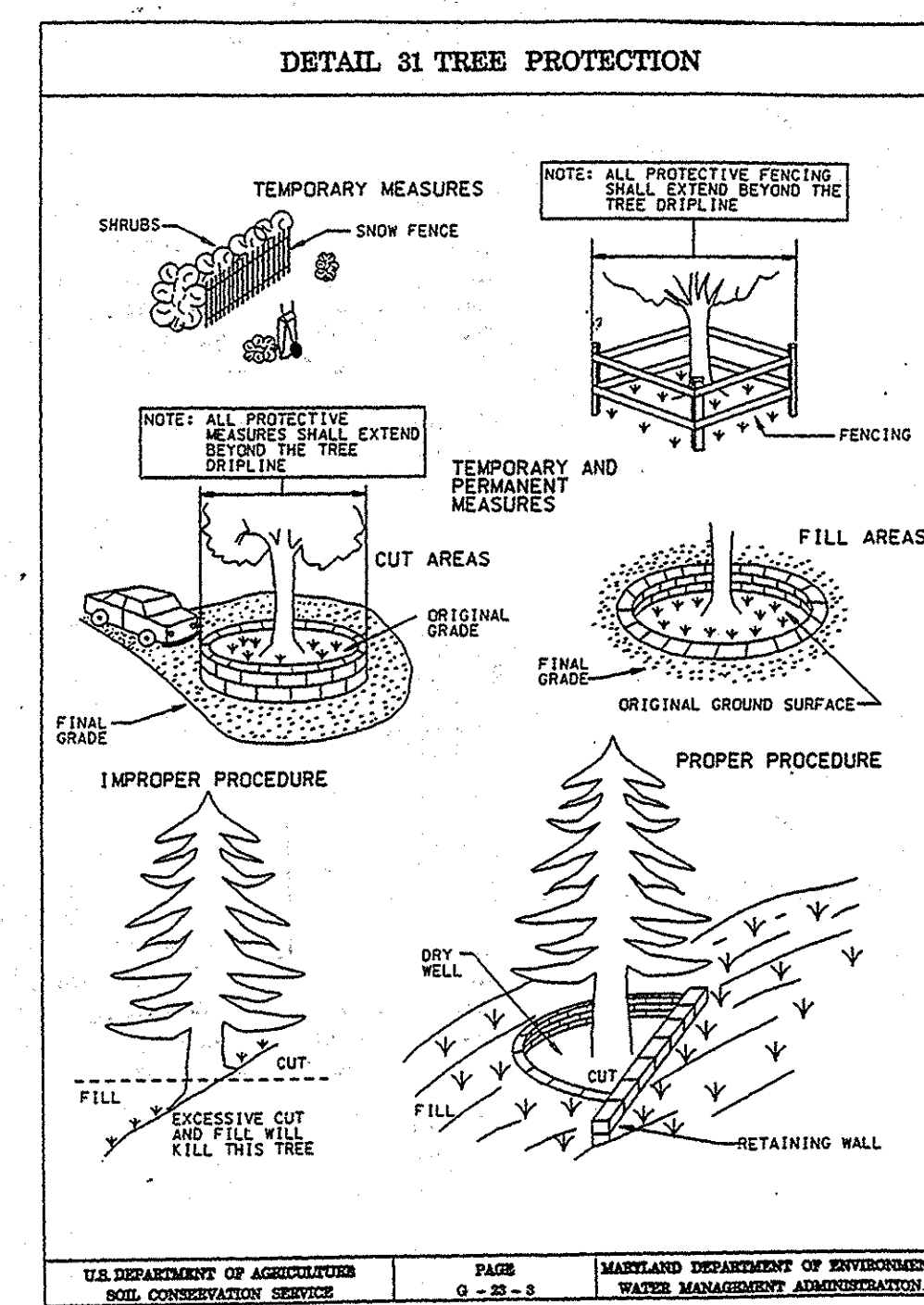
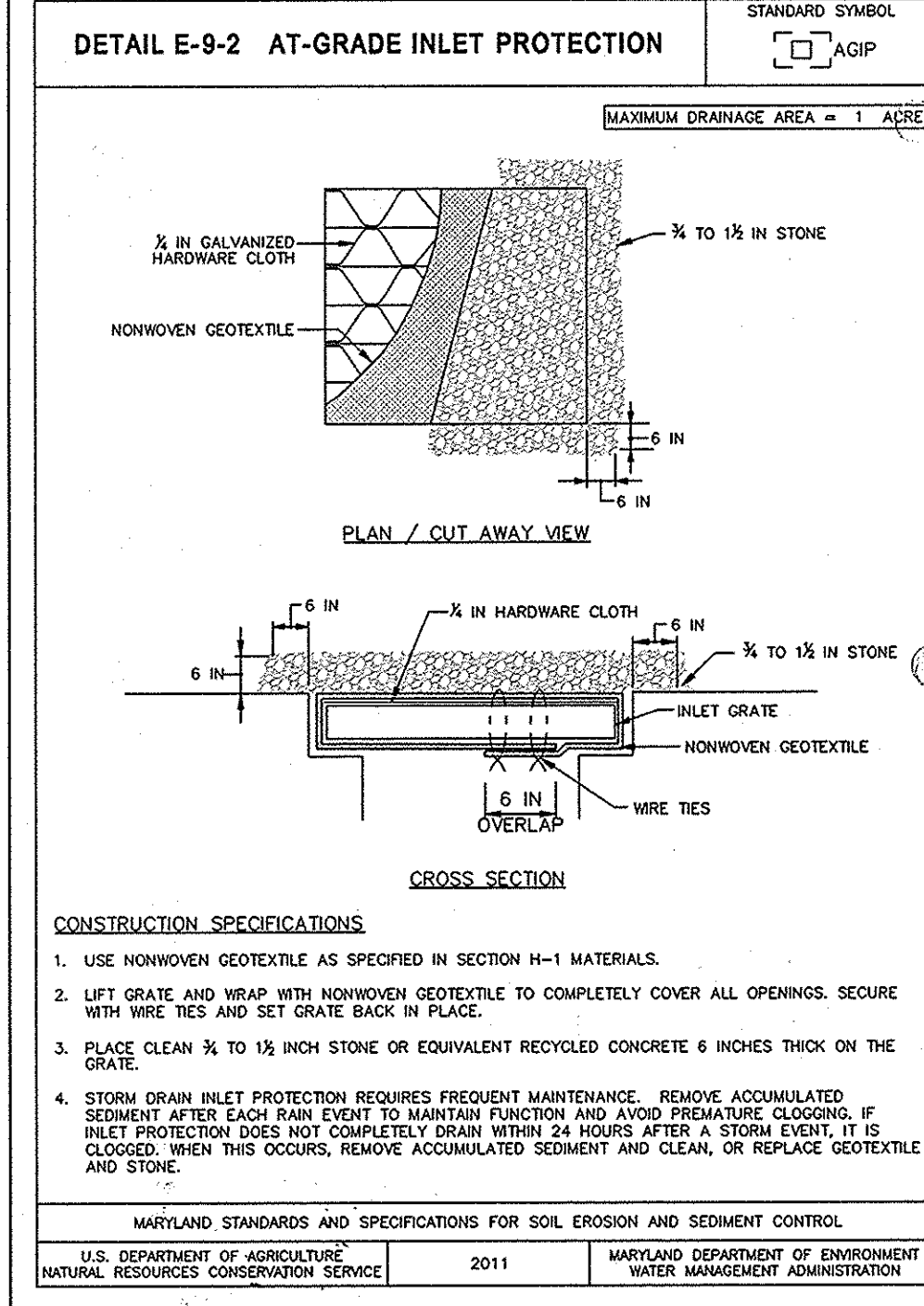
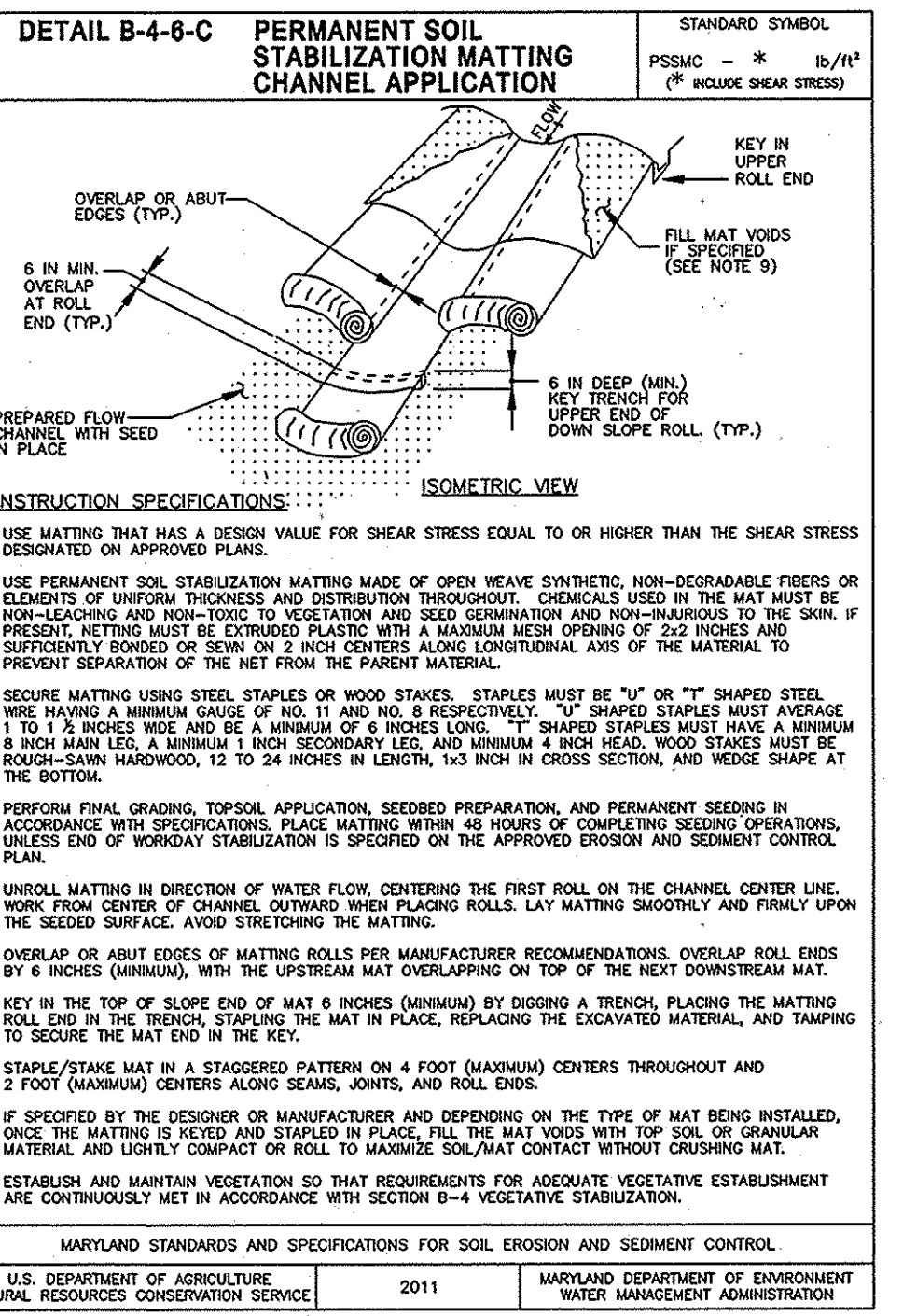
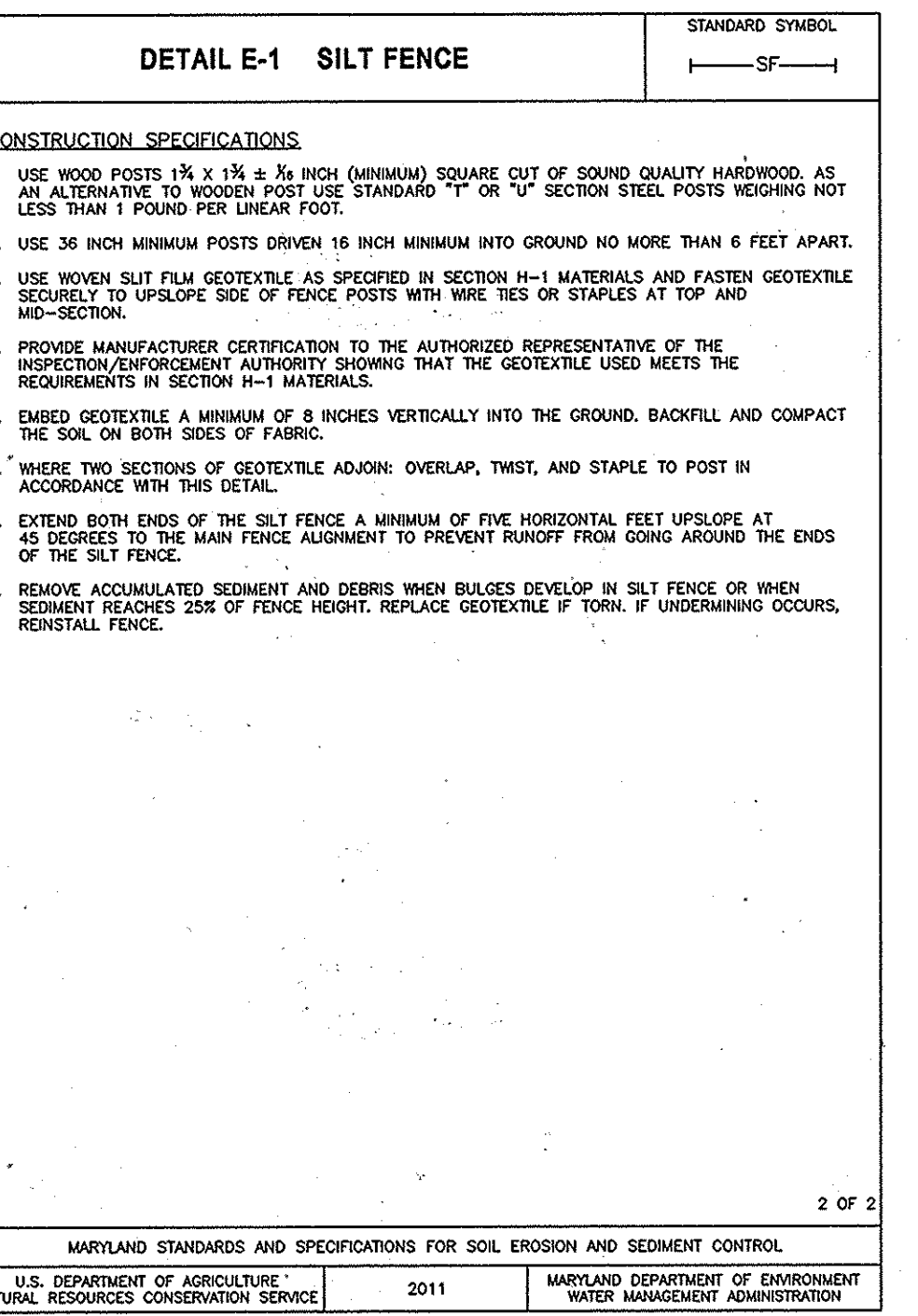
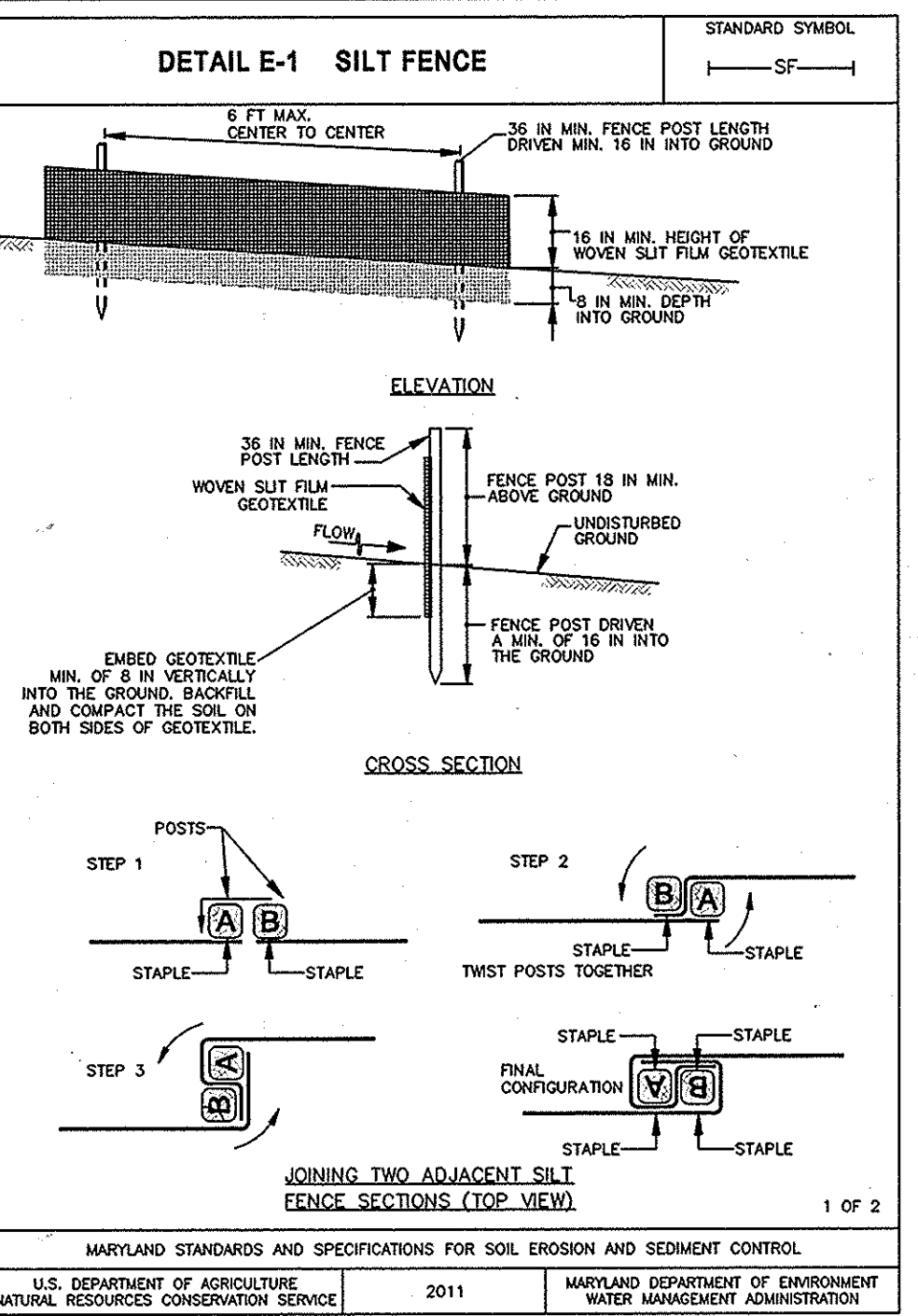
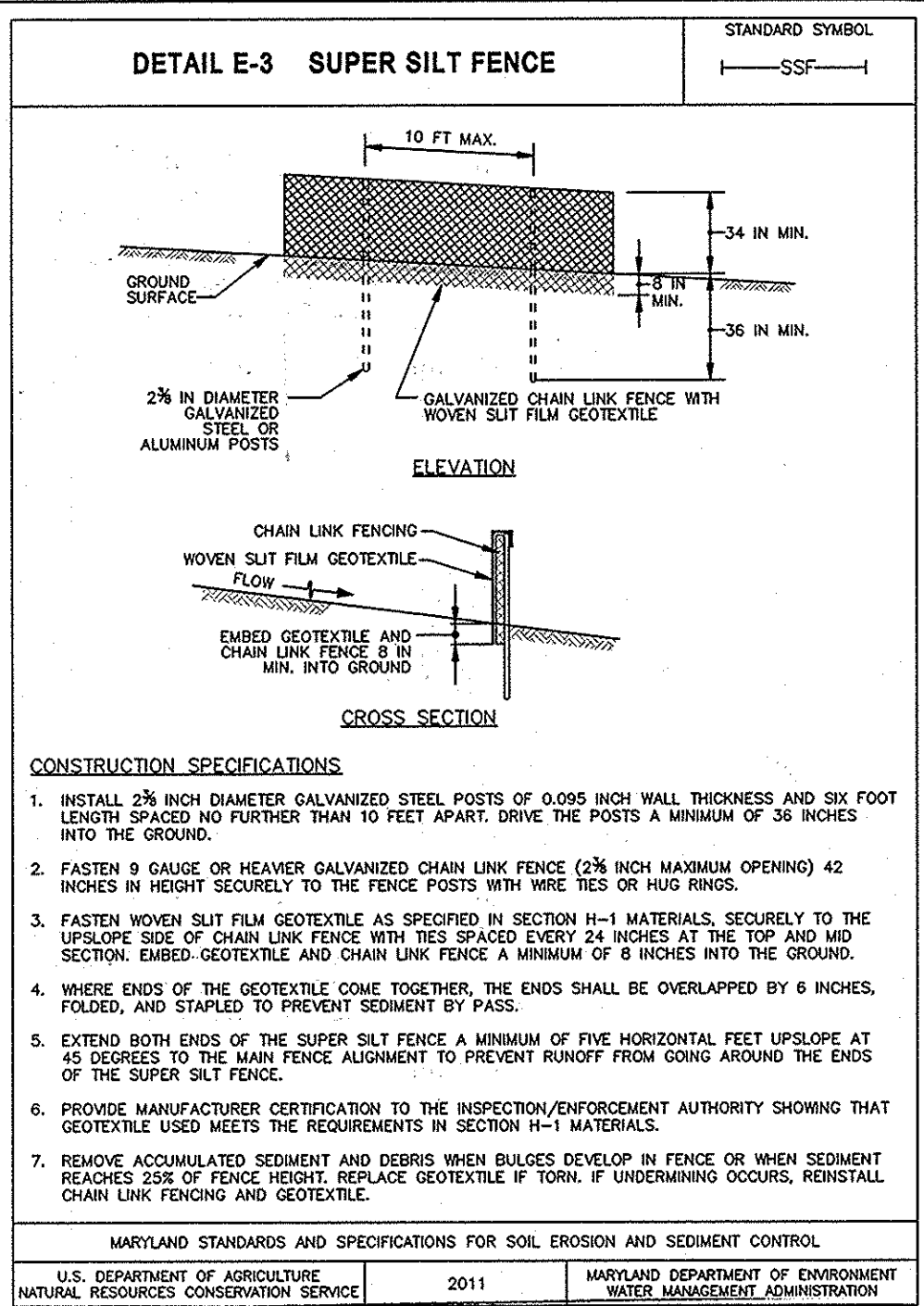
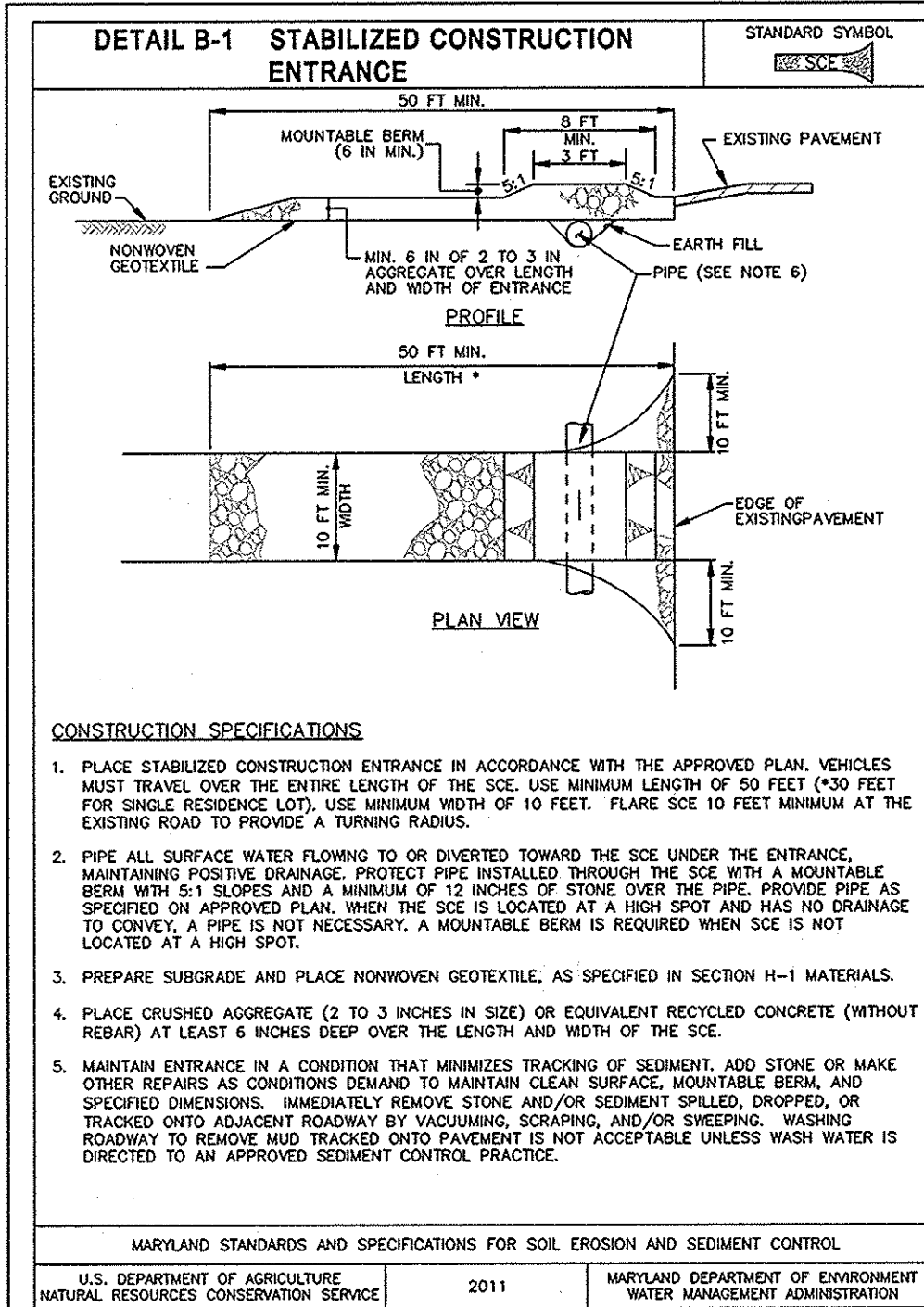
Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

- Ideal Times of Seeding for Turf Grass Mixtures
 - Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6a)
 - Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zone: 6b)
 - Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)
- Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the area to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardness Zone (from Figure B.3): 6b				Fertilizer Rate (10-20-20)			Lime Rate
Seed Mixture (from Table B.1): 11							
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	N	P205	K20
	Creeeping Red Fescue	30	3/1-10/15	1/2"-3/4"			
	Chewings Fescue	30	3/1-10/15	1/2"-3/4"	45 lb/acre (10lb/1000sf)	90 lb/acre (20lb/1000sf)	90 lb/acre (20lb/1000sf)
	Kentucky Bluegrass	15	3/1-10/15	1/2"-3/4"			
				436 lb/acre (10lb/1000sf)	436 lb/acre (10lb/1000sf)		2 tons/acre (90 lb/1000sf)

- Seeding
 - All seeds must meet the requirements of the Maryland State Seed Law. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rates.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Application
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide



REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043



WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 Anthony J. Blum

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. 193376
 EXPIRATION DATE: 09/22/2015

BLANDAIR REGIONAL PARK - PHASE 2

EROSION AND SEDIMENT CONTROL - NOTES/DETAILS

Drawing No. C5.2

Scale: NONE

Date: 03/31/2014 Sheet 22 of 41

Des: BWJ Drawn: SAD Check: AUO

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

John P. Roberts 3/27/14
 HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATION

I CERTIFY THAT THIS PLAN FOR ~~SMALL 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 NOTICED THE DEVELOPER THAT HE/SHE MUST EMPLOY 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.

Anthony J. Blum 3/27/14
 SIGNATURE OF ENGINEER ANTHONY J. BLUM DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John J. Deane 6-17-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John J. Deane 7-28-14
 CHIEF, DIVISION OF PLANNING AND DEVELOPMENT DATE

John J. Deane 7-28-14
 DIRECTOR DATE

DEVELOPER'S CERTIFICATION

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 EMPLOY 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.

A. Raul Delema 3/27/14
 SIGNATURE OF DEVELOPER DATE

(PRINT NAME BELOW SIGNATURE) A. RAUL DELEMA

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD 21043

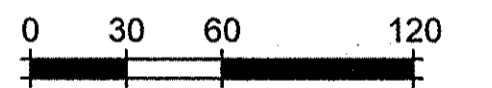


WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3.72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES



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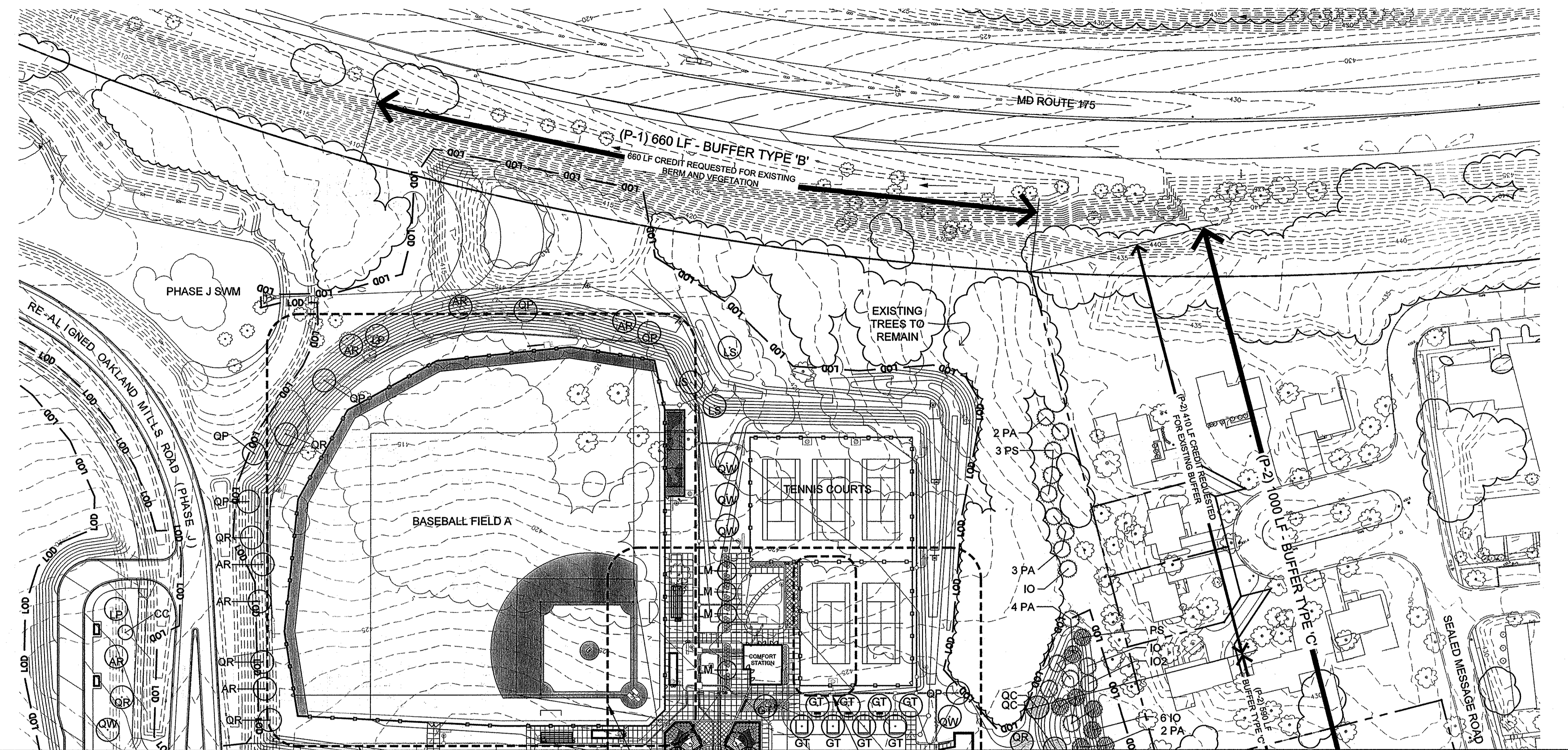
BLANDAIR REGIONAL PARK - PHASE 2

Landscape Plan

Drawing No.

L1.1

Scale: 1"=60'
Date: 03/31/2014 Sheet 24 of 41
Des: CB/NS Drawn: CO Check: CB



MATCH LINE - SEE SHEET L1.2
SEE 1/L2.1 FOR ENLARGEMENT
SEE L1.3 AND L1.4 FOR ENLARGEMENTS
SEE 1/L2.4 FOR ENLARGEMENT
SEE SHEET L1.2

LEGEND:

- LOD— LIMIT OF DISTURBANCE
- ☉ EXISTING TREE
- PROPOSED DECIDUOUS TREE
- ⊙ PROPOSED EVERGREEN TREE
- ⊗ PROPOSED SHRUBS
- PHASE 1 DECIDUOUS TREE
- ⊙ PHASE 1 EVERGREEN TREE

NOTES:

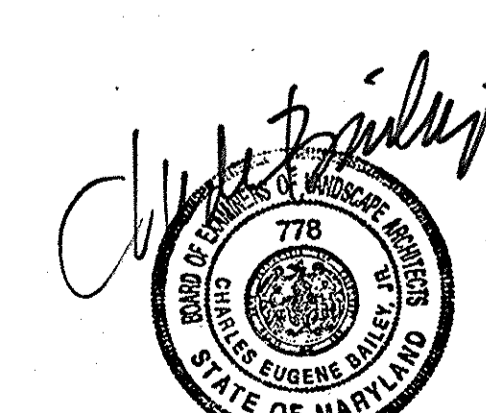
1. ALL PLANT LOCATIONS TO BE MARKED IN THE FIELD AND APPROVED BY HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS REPRESENTATIVE PRIOR TO PLANTING.
2. FOR SEEDING PLAN, SEE SHEET L1.6
3. SEE L3.2 FOR MINIMUM LANDSCAPE REQUIREMENT CHART FOR PERIMETER BUFFER PLANTING.

SHADED TREES ALONG EAST PROPERTY LINE REPRESENT PLANTS REQUIRED BY HOWARD COUNTY LANDSCAPE MANUAL

PLANT LIST (THIS SHEET ONLY)

Qty.	Key	Botanical/Common Name	Size	Root	Comments	Qty.	Key	Botanical/Common Name	Size	Root	Comments
SHADE TREES						EVERGREEN TREES					
7	AR	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B&B	Full, central leader	8	IO	Ilex opaca 'Miss Helen' / Miss Helen American Holly	6' Ht.	B&B	Full to base, central leader
9	GT	Gleditsia triacanthos var. inermis / Thornless Honeylocust	2-1/2" Cal.	B&B	Full, matched	1	IO2	Ilex opaca 'Jersey Knight' / Jersey Knight American Holly	6' Ht.	B&B	Full to base, central leader
11	LP	Platanus acerifolia 'Bloodgood' / Bloodgood London Plane Tree	2-1/2" Cal.	B&B	Full, central leader	11	PA	Picea abies / Norway Spruce	6' Ht.	B&B	Full to base, central leader
3	LS	Liquidambar styraciflua 'Rotundiloba' / Seedless Sweetgum	2-1/2" Cal.	B&B	Full, central leader	4	PS	Pinus strobus / Eastern White Pine	6' Ht.	B&B	Full to base, central leader
2	MS	Magnolia soulangiana / Saucer Magnolia	6' Ht.	B&B	Multi-stemmed, 3-5 canes, matched, specimen, white flowering						
2	QC	Quercus coccinea / Scarlet Oak	2-1/2" Cal.	B&B	Full, central leader						
6	QP	Quercus palustris / Pin Oak	2-1/2" Cal.	B&B	Full, central leader						
6	QR	Quercus rubra / Red Oak	2-1/2" Cal.	B&B	Full, central leader						
5	QW	Quercus phellos 'Hightower' / Hightower Willow Oak	2-1/2" Cal.	B&B	Full, central leader, matched						
UNDERSTORY TREES											
1	CC	Cercis canadensis 'Appalachian Red' / Appalachian Red Eastern Redbud	8' Ht.	B&B	Full, central leader						
4	LM	Lagerstroemia 'muskogee' / Muskogee Crape Myrtle	6' Ht.	B&B	Full to base, central leader						

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE 6-17-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] DATE 7-28-14
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] DATE 7-25-14
 DIRECTOR



MAHAN RYKIEL ASSOCIATES INC
The Steiff Silver Building, 800 Wyman Park Drive., Suite 100, Baltimore, MD 21211 410.235.6001

REVISIONS		
1	ADDENDUM NO. 1	10/20/14
2	ADDENDUM NO. 2	11/12/14
	REDLINE REVISION 7	3/22/16

HOWARD COUNTY
DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD 21043

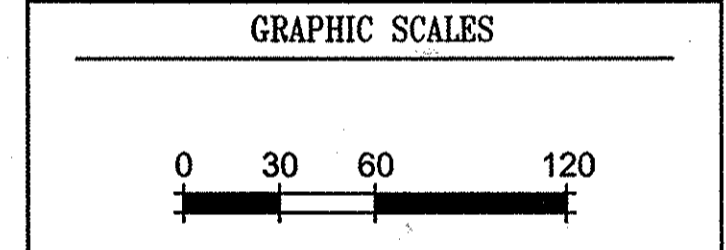
WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7



SIGNATURE

BLANDAIR REGIONAL PARK - PHASE 2

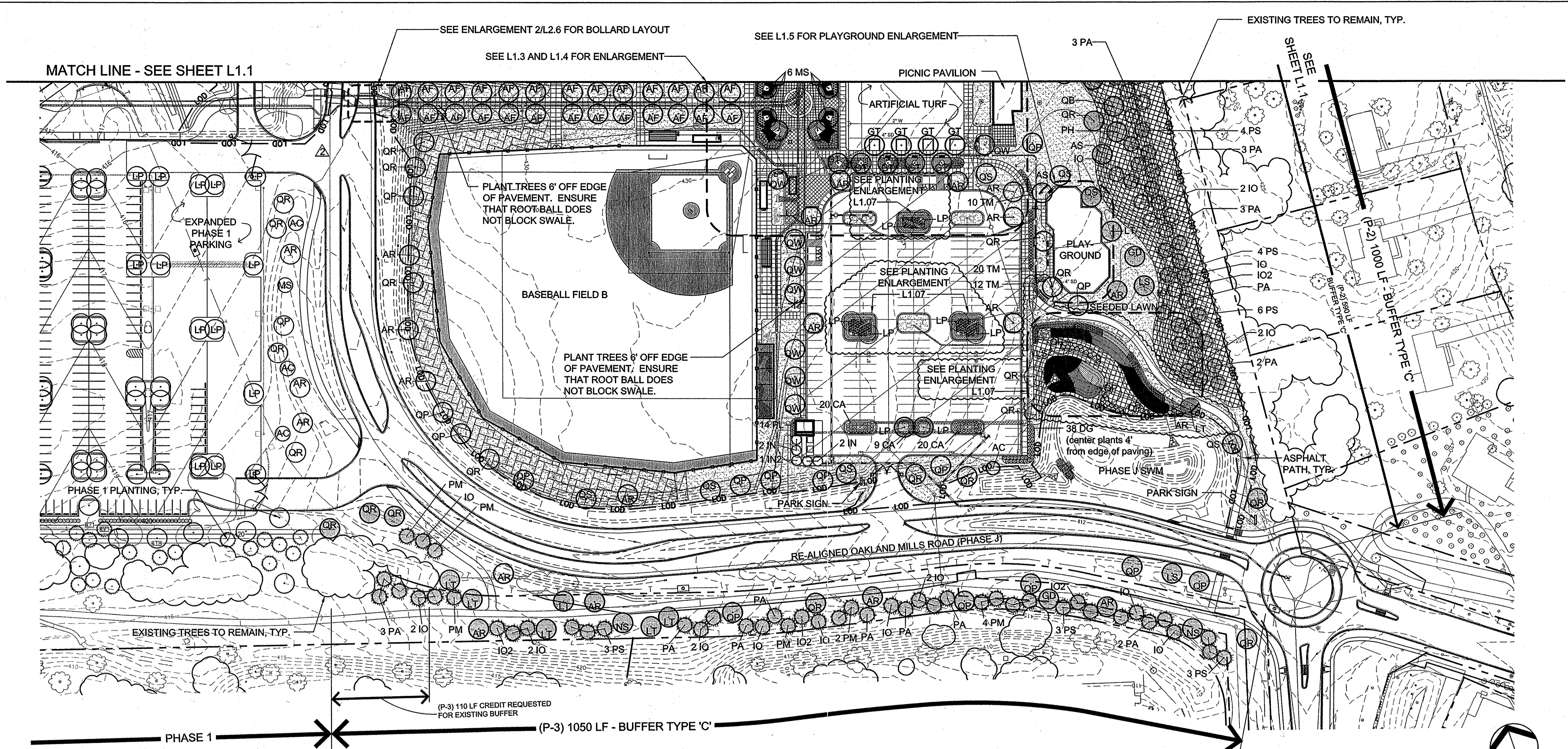
Landscape Plan
Revised Site Development Plan
Drawing No.
L1.2

Scale: 1"=60'

Date: 03/24/2016 Sheet 25 of 41

Des: CB/NS Drawn: CO Check: CB

MAHAN RYKIEL ASSOCIATES INC
The Stieff Silver Building, 800 Wyman Park Drive., Suite 100, Baltimore, MD 21211 410.235.6001



PLANT LIST (THIS SHEET ONLY)

Qty.	Key	Botanical/Common Name	Size	Root	Comments	Qty.	Key	Botanical/Common Name	Size	Root	Comments
SHADE TREES						EVERGREEN TREES					
26	AF	Acer freemanii 'Jeffersred' / Autumn Blaze Maple	2-1/2" Cal.	B&B	Full, central leader	4	IN	Ilex x 'Nellie R. Stevens' / Nellie Stevens Holly	6' Ht.	B&B	Full to base, central leader
21	AR	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B&B	Full, central leader	1	IN2	Ilex x 'Edward J. Stevens' / Edward Stevens Holly	6' Ht.	B&B	Full to base, central leader
2	AS	Acer saccharum 'Green Mountain' / Green Mountain Sugar Maple	2-1/2" Cal.	B&B	Full, central leader	21	IO	Ilex opaca 'Miss Helen' / Miss Helen American Holly	6' Ht.	B&B	Full to base, central leader
2	GD	Gymnocladus dioica / Kentucky Coffee Tree	2-1/2" Cal.	B&B	Full, central leader	4	IO2	Ilex opaca 'Jersey Knight' / Jersey Knight American Holly	6' Ht.	B&B	Full to base, central leader
9	GT	Gleditsia triacanthos var. inermis / Thornless Honeylocust	2-1/2" Cal.	B&B	Full, matched	23	PA	Picea abies / Norway Spruce	6' Ht.	B&B	Full to base, central leader
22	LP	Platanus acerifolia 'Bloodgood' / Bloodgood London Plane Tree	2-1/2" Cal.	B&B	Full, central leader	10	PM	Pseudotsuga menziesii / Douglas Fir	6' Ht.	B&B	Full to base, central leader
3	LS	Liquidambar styraciflua 'Rotundiloba' / Sweetgum	2-1/2" Cal.	B&B	Full, central leader	23	PS	Pinus strobus / White Pine	6' Ht.	B&B	Full to base, central leader
8	LT	Liriodendron tulipifera / Tulip Tree	2-1/2" Cal.	B&B	Full, central leader	UNDERSTORY TREES					
2	NS	Nyssa sylvatica / Black Gum	2-1/2" Cal.	B&B	Full, central leader	7	MS	Magnolia soulangiana / Saucer Magnolia	6' Ht.	B&B	Multi-stemmed, 3-5 canes, matched, specimen, white flowering
1	PH	Phellodendron lavalleyi / Lavalley Corktree	2-1/2" Cal.	B&B	Full, central leader	4	AC	Amelanchier canadensis / Shadblow Serviceberry	6' Ht.	B&B	Full, central leader
1	QB	Quercus bicolor / Swamp White Oak	2-1/2" Cal.	B&B	Full, central leader	SHRUBS					
19	QP	Quercus palustris / Pin Oak	2-1/2" Cal.	B&B	Full, central leader	38	DG	Deutzia gracilis / Slender Deutzia	24" Spd.	Cont.	4" O.C., staggered rows
21	QR	Quercus rubra / Red Oak	2-1/2" Cal.	B&B	Full, central leader	14	PL	Prunus laurocerasus 'Otto Luyken' / Otto Luyken Cherry Laurel	30" Spd.	B&B/Cont.	Full, 3" O.C., staggered rows
7	QS	Quercus coccinea / Scarlet Oak	2-1/2" Cal.	B&B	Full, central leader	43	TM	Taxus x media 'Densifolmis' / Dense Yew	#5	B&B	3" O.C., 24" Spd.
8	QW	Quercus phellos / Willow Oak	2-1/2" Cal.	B&B	Full, central leader, matched	49	CA	Clethra alnifolia 'Hummingbird' / Sweet Pepperbush	36" Spd.	B&B	3" O.C., staggered rows

- LEGEND:**
- LIMIT OF DISTURBANCE
 - ☉ EXISTING TREE
 - PROPOSED DECIDUOUS TREE
 - PROPOSED EVERGREEN TREE
 - ⊗ PROPOSED SHRUBS
 - (with dot) PHASE 1 DECIDUOUS TREE
 - (with dot) PHASE 1 EVERGREEN TREE

- NOTES:**
- ALL PLANT LOCATIONS TO BE MARKED IN THE FIELD AND APPROVED BY HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS REPRESENTATIVE PRIOR TO PLANTING.
 - FOR SEEDING PLAN, SEE SHEET L1.6
 - INSTALLATION OF PLANT MATERIAL SHOWN OFF RECREATION AND PARKS PROPERTY ALONG SOUTH PROPERTY BOUNDARY TO BE COORDINATED WITH THE COLUMBIA ASSOCIATION.
 - SEE L3.2 FOR MINIMUM LANDSCAPE REQUIREMENT CHART FOR PERIMETER BUFFER PLANTING.
- SHADED TREES ALONG EAST PROPERTY LINE REPRESENT PLANTS REQUIRED BY HOWARD COUNTY LANDSCAPE MANUAL

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad E. ... 5-17-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION

... 5-19-16
CHIEF, DIVISION OF LAND DEVELOPMENT

... 5-19-16
DIRECTOR

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

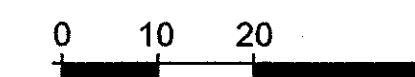


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801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES



SIGNATURE

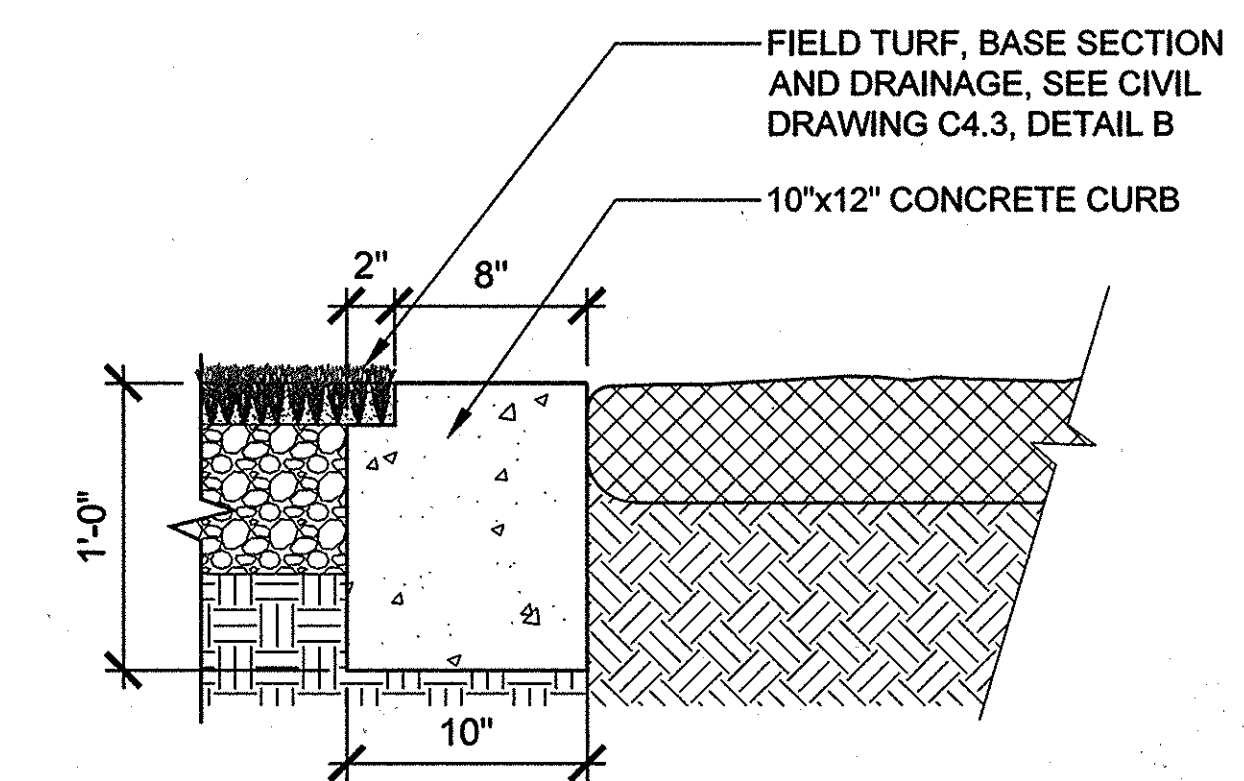
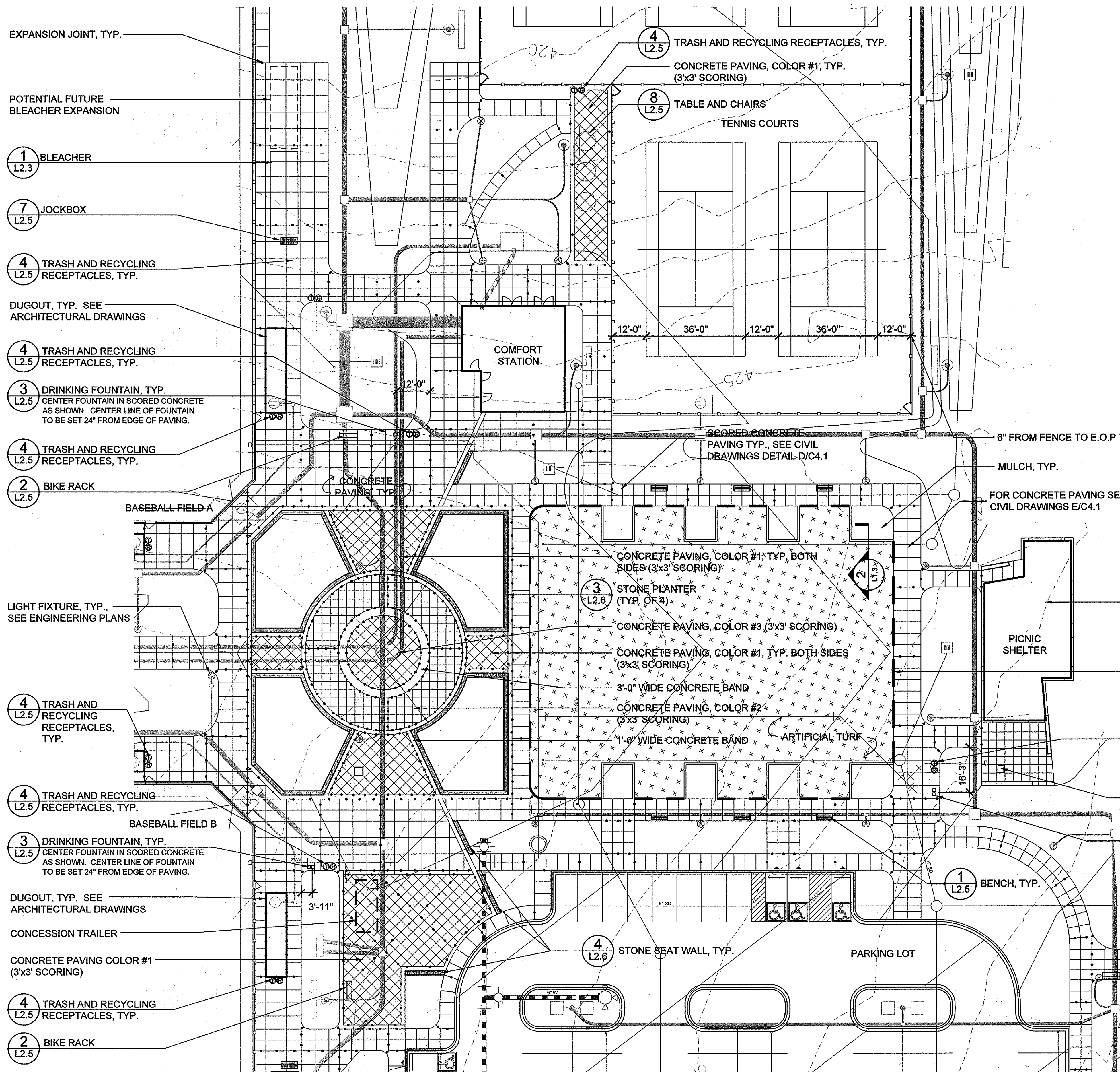
BLANDAIR REGIONAL PARK - PHASE 2

Central Plaza Materials Plan Enlargement

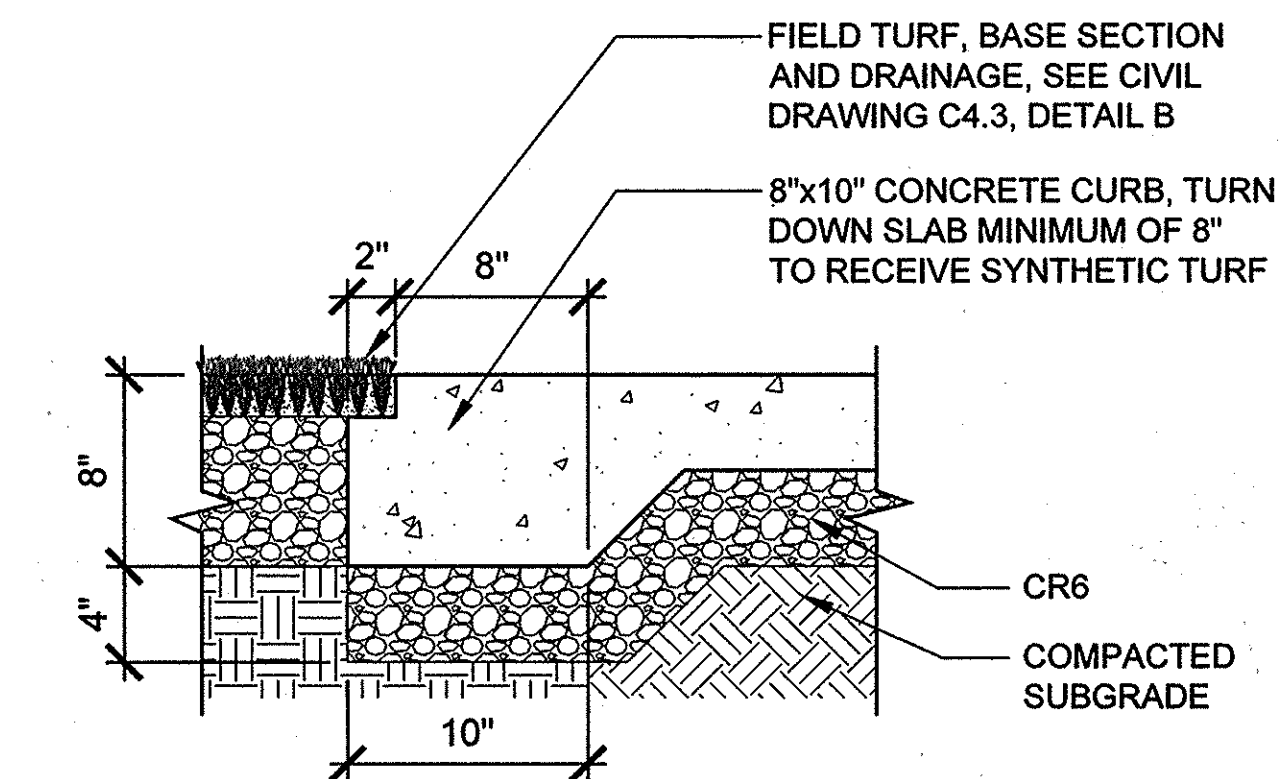
Drawing No.

L1.3

Scale: 1"=20'	
Date: 03/31/2014	Sheet 26 of 41
Des: CB/NS	Drawn: CO
Check: CB	



2 Mulch Bed Detail
Scale: 1" = 1'-0"



3 Concrete Edge at Synthetic Turf
Scale: 1" = 1'-0"

- EXPANSION JOINT, TYP.
- POTENTIAL FUTURE BLEACHER EXPANSION
- 1 BLEACHER L2.3
- 7 JOCKBOX L2.5
- 4 TRASH AND RECYCLING RECEPTACLES, TYP. L2.5
- DUGOUT, TYP. SEE ARCHITECTURAL DRAWINGS
- 4 TRASH AND RECYCLING RECEPTACLES, TYP. L2.5
- 3 DRINKING FOUNTAIN, TYP. L2.5
CENTER FOUNTAIN IN SCORED CONCRETE AS SHOWN. CENTER LINE OF FOUNTAIN TO BE SET 24" FROM EDGE OF PAVING.
- 4 TRASH AND RECYCLING RECEPTACLES, TYP. L2.5
- 2 BIKE RACK L2.5
- CONCRETE PAVING, TYP.
- BASEBALL FIELD A
- LIGHT FIXTURE, TYP., SEE ENGINEERING PLANS
- 4 TRASH AND RECYCLING RECEPTACLES, TYP. L2.5
- BASEBALL FIELD B
- 3 DRINKING FOUNTAIN, TYP. L2.5
CENTER FOUNTAIN IN SCORED CONCRETE AS SHOWN. CENTER LINE OF FOUNTAIN TO BE SET 24" FROM EDGE OF PAVING.
- DUGOUT, TYP. SEE ARCHITECTURAL DRAWINGS
- CONCESSION TRAILER
- CONCRETE PAVING COLOR #1 (3'x3' SCORING)
- 4 TRASH AND RECYCLING RECEPTACLES, TYP. L2.5
- 2 BIKE RACK L2.5

- 4 TRASH AND RECYCLING RECEPTACLES, TYP. L2.5
- CONCRETE PAVING, COLOR #1, TYP. (3'x3' SCORING)
- 8 TABLE AND CHAIRS L2.5
- TENNIS COURTS

12'-0" 36'-0" 12'-0" 36'-0" 12'-0"

SCORED CONCRETE PAVING TYP., SEE CIVIL DRAWINGS DETAIL D/C4.1
6" FROM FENCE TO E.O.P. TYP.
MULCH, TYP.
FOR CONCRETE PAVING SEE CIVIL DRAWINGS E/C4.1

3 STONE PLANTER (TYP. OF 4) L2.6
CONCRETE PAVING, COLOR #3 (3'x3' SCORING)
CONCRETE PAVING, COLOR #4, TYP. BOTH SIDES (3'x3' SCORING)
3'-0" WIDE CONCRETE BAND
CONCRETE PAVING, COLOR #2 (3'x3' SCORING)
1'-0" WIDE CONCRETE BAND
ARTIFICIAL TURF

PICNIC SHELTER

1 BENCH, TYP. L2.5

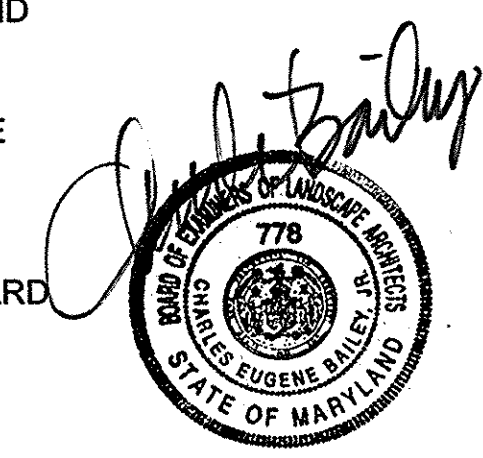
4 STONE SEAT WALL, TYP. L2.6

PARKING LOT

SEE STRUCTURAL DRAWINGS FOR SCORING OF PICNIC SHELTER SLAB

- 3 TURN DOWN EDGE OF CONCRETE TO 8" MINIMUM, TYP. L1.3
- 4 TRASH AND RECYCLING RECEPTACLES, TYP. L2.5
- 6 GRILL L2.5
- 3 DRINKING FOUNTAIN, TYP. L2.5
CENTER FOUNTAIN IN SCORED CONCRETE AS SHOWN. CENTER LINE OF FOUNTAIN TO BE SET 24" FROM EDGE OF PAVING.

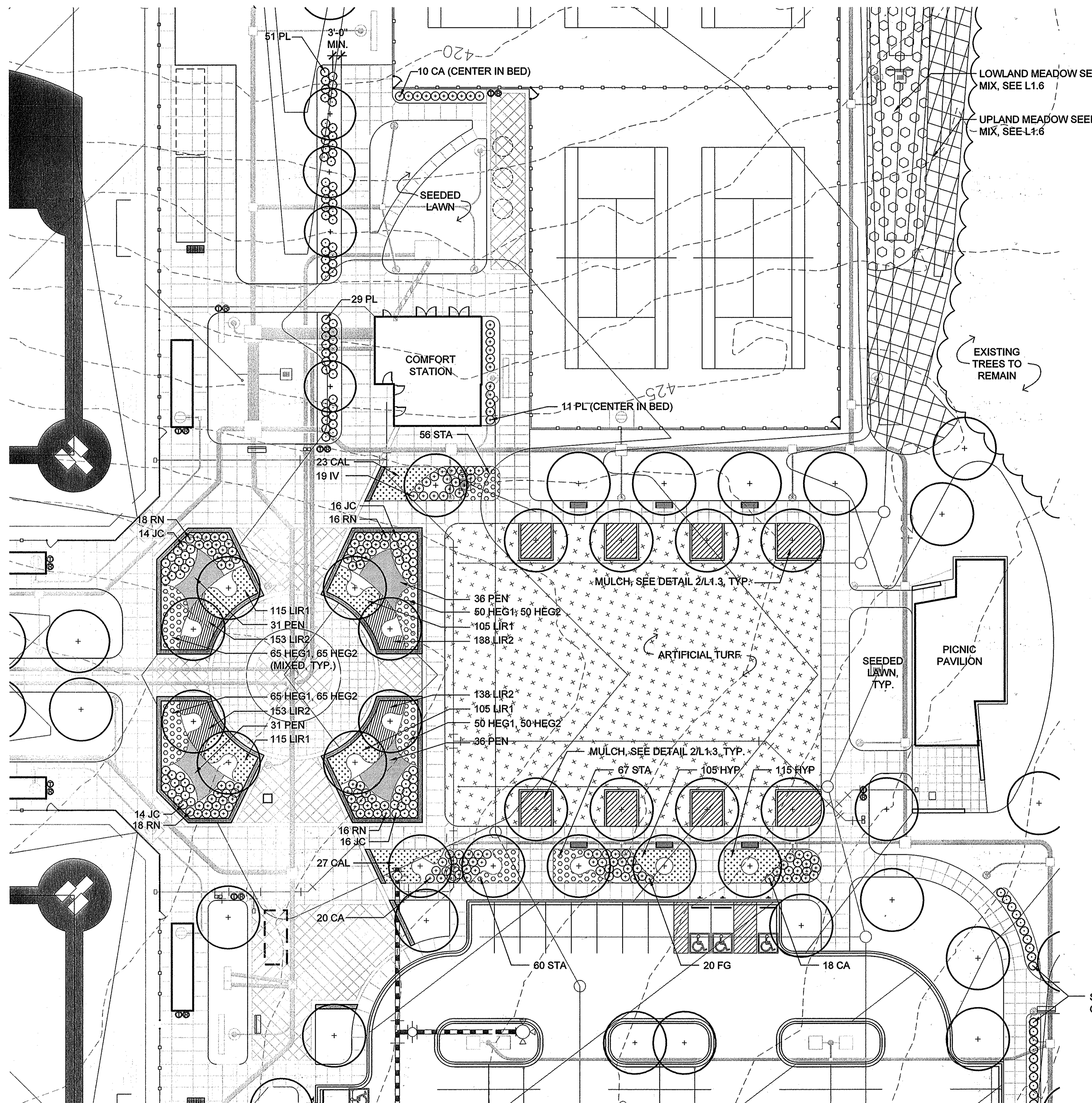
- NOTES:**
1. PROVIDE EXPANSION JOINTS AT ALL CURBS, WALLS, BUILDINGS AND OTHER VERTICAL CONSTRUCTION. SPACE EXPANSION JOINTS AS SHOWN ON THIS PLAN AND NO GREATER THAN 25' O.C. EXPANSION JOINT LOCATIONS ARE SHOWN WITH DOTS IN CONCRETE SCORING ON THIS SHEET.
 2. COLORED CONCRETE #1, 2, & 3 TO BE SELECTED BY LANDSCAPE ARCHITECT FROM LM SCOFIELD'S INTEGRAL CHROMIX ADMIXTURES. COLORS TO BE SELECTED TO COMPLEMENT COLORS IN STONEMASONRY ON STRUCTURES AND SEAT WALLS.
 3. CONCRETE BANDING SHOWN AROUND COLORED CONCRETE AND AROUND PLANTERS TO BE SCORED 6'-0" O.C. MAX. EXPANSION JOINTS AT 24' O.C. TYP.
 4. ALL CONCRETE NOT SPECIFIED AS COLORED TO BE STANDARD CONCRETE WITH BROOM FINISH.
 5. WHERE NOT SHOWN ON DRAWINGS, PROVIDE EXPANSION JOINTS IN SIDEWALKS AT 24' O.C. MAX.



MAHAN RYKIEL
ASSOCIATES INC.
The Steiff Silver Building, 800 Wyman Park Drive.,
Suite 100, Baltimore, MD 21211 410.235.6001

1 Materials Plan Enlargement
Scale: 1" = 20'-0"

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i>	DATE 6-17-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7-28-14
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7-28-14
DIRECTOR	DATE



PLANT LIST (THIS SHEET ONLY)

Qty.	Key	Botanical/Common Name	Size	Root	Comments
SHRUBS					
48	CA	Clethra alnifolia 'Hummingbird' / Sweet Pepperbush	36" Spd.	B&B	3' O.C., staggered rows
20	FG	Fothergilla gardenii Dwarf Fothergilla	#3	Cont.	18" Spd., 3' O.C.
19	IV	Itea virginica 'Little Henry' / Little Henry Itea	#3	Cont.	24" Spd., 3' O.C.
60	JC	Juniperus conferta / Shore Juniper	#3	Cont.	18" Spd., 3' O.C.
72	PL	Prunus laurocerasus 'Otto Luyken' / Otto Luyken Cherry Laurel	#3	Cont.	24" Spd., 3' O.C.
67	RN	Rosa x 'Nostradam' Flower Carpet Pink Groundcover Rose	#3	Cont.	18" Spd., 3' O.C.
GROUNDCOVERS, PERENNIALS, ORNAMENTAL GRASSES					
230	HEG1	Hemerocallis x 'Happy Returns' / Happy Returns Dwarf Daylily	#1	Cont.	15" O.C.
230	HEG2	Hemerocallis x 'Stella de Oro' / Stella De Oro Dwarf Daylily	#1	Cont.	15" O.C.
438	LIR1	Liriope muscari 'Variegata' / Variegated Lilyturf	#1	Cont.	15" O.C.
582	LIR2	Liriope muscari 'Royal Purple' / Royal Purple Lilyturf	#1	Cont.	12" O.C.
48	CAL	Calamagrostis x acutiflora 'Overdam' / Overdam Feather Reed Grass	#3	Cont.	36" O.C.
190	HYP	Hypericum calycinum / St. John's Wort	#1	Cont.	18" O.C.
183	STA	Stachys 'Helene von Stein' / Lamb's Ear	#1	Cont.	18" O.C.
122	PEN	Pennisetum orientale 'Karley Rose' / Oriental Pink Fountain Grass	#3	Cont.	30" O.C.

PLANTING NOTES:

- ALL PLANT LOCATIONS TO BE MARKED IN THE FIELD AND APPROVED BY HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS REPRESENTATIVE PRIOR TO PLANTING.
- SHRUB AND GROUNDCOVER SPACING TO BE STAGGERED.
- FOR SEEDING PLAN, SEE SHEET L1.6
- FOR TREE PLANTINGS, SEE SHEETS L1.1 AND L1.2

LEGEND

- UPLAND MEADOW SEED MIX
- LOWLAND MEADOW SEED MIX

NOTE:
ALL OTHER DISTURBED AREAS TO BE SEEDED WITH STANDARD TURF MIX

REVISIONS	

HOWARD COUNTY
DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD 21043

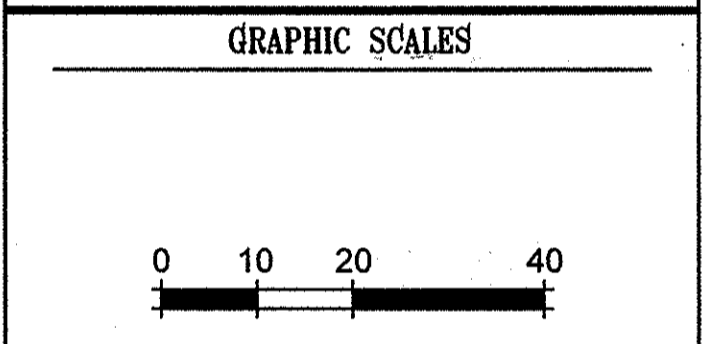
WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7



SIGNATURE

BLANDAIR REGIONAL PARK - PHASE 2

Central Plaza Planting Plan Enlargement

Drawing No.
L1.4

Scale: 1"=20'

Date: 03/31/2014 Sheet 27 of 41

Dep: CB/NS Drawn: CO Check: CB

1 | Planting Plan Enlargement
Scale: 1" = 20'-0"

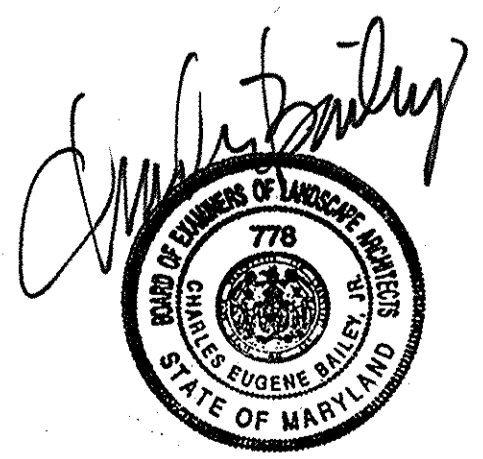
APPROVED: DEPARTMENT OF PLANNING AND ZONING

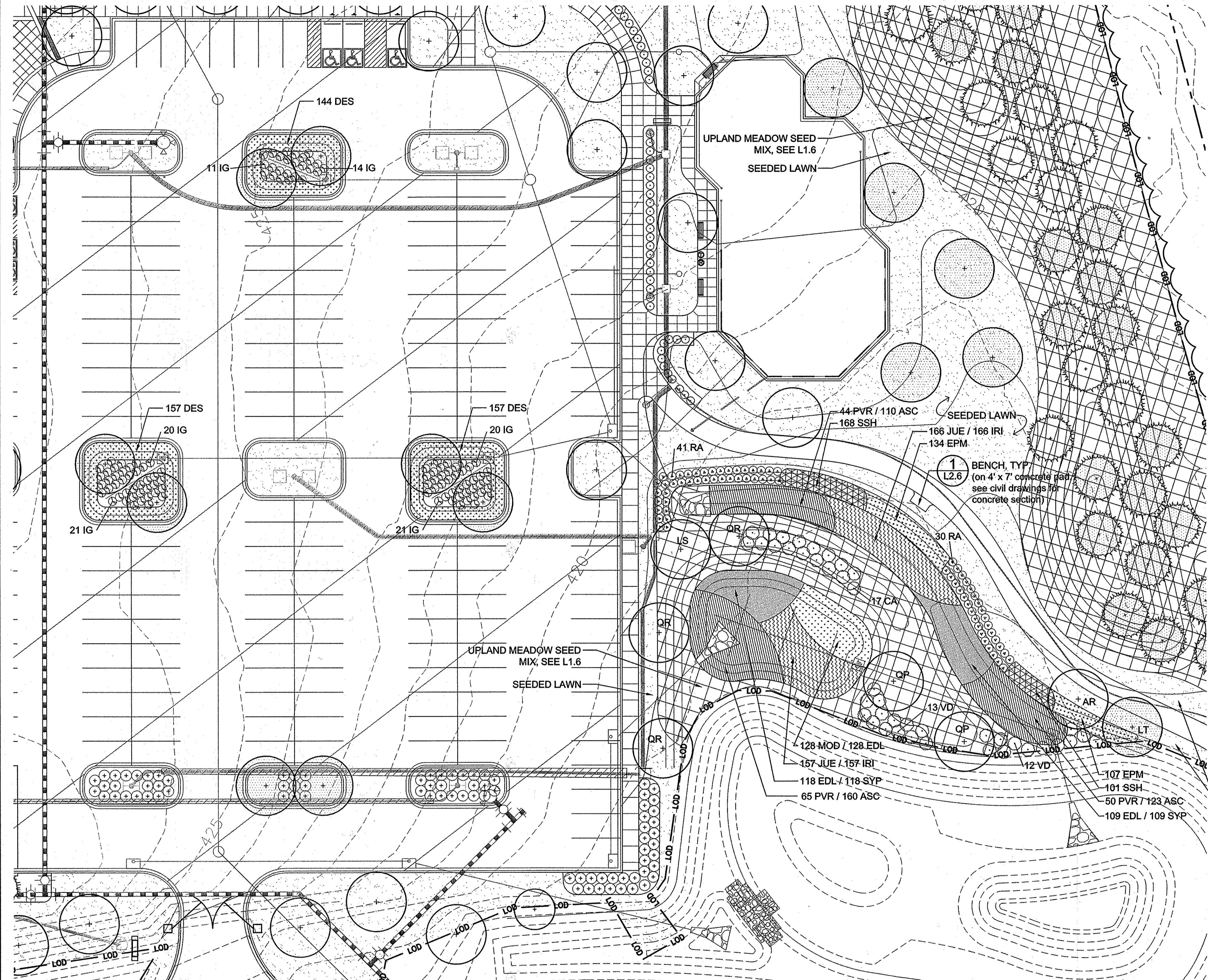
[Signature] DATE: 6-17-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] DATE: 7-28-14
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] DATE: 7-28-14
DIRECTOR

MAHAN RYKIEL
ASSOCIATES INC
The Steiff Silver Building, 800 Wyman Park Drive.,
Suite 100, Baltimore, MD 21211 410.235.6001





STANDARD SHA SEED MIXES

UPLAND MEADOW MIX
Use: Meadow Sites

- Common Name**
 Blackeyed Susan
 Eastern Purple Coneflower
 Gray Goldenrod
 Lanceleaf Tickseed
 Partridge Pea
 Sundial Lupine
 Talus Slope Penstemon
 Wild Bergamot

SEED MIX NOTE:
 SEE SHA STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR CONSTRUCTION MATERIALS AND METHODS FOR MEADOW INSTALLATION. SEED VARIETIES LISTED ABOVE ARE THE EIGHT (8) FORBS PROPOSED FOR THE SEED MIXES FOR THIS PROJECT. FOLLOW SHA SPECS FOR OTHER SEED VARIETIES AND SPECIAL PURPOSE MIX.

PLANT SCHEDULE (THIS SHEET ONLY)

QTY.	KEY	BOTANICAL/Common Name	SIZE	ROOT	COMMENTS
SHRUBS					
17	CA	Clethra alnifolia Sweet Pepperbush	#5	Cont.	30" Ht.
25	VD	Viburnum dentatum Arrowwood Viburnum	#5	Cont.	24" Spd.
107	IG	Ilex galabra 'Charzin' Nordic Inkberry Holly	#3	Cont.	24" Spd.
71	RA	Rhus aromatica 'Gro Low' Gro Low Fragrant Sumac	#3	Cont.	24" Spd.
PERENNIALS / GROUNDCOVERS / GRASSES					
393	ASC	Asclepias tuberosa Butterfly Weed	SP#4	Cont.	15" O.C.
458	DES	Deschampsia cespitosa 'Goldtau' Tufted Hair Grass	#1	Cont.	24" O.C.
355	EDL	Eupatorium dubium 'Little Joe' Joe Pye Weed	#1	Cont.	18" O.C.
241	EPM	Echinacea purpurea 'Magnus' Purple Coneflower	#1	Cont.	18" O.C.
323	IRI	Iris versicolor Blue Flag Iris	#1	Cont.	18" O.C.
323	JUE	Juncus effusus Soft Rush	#1	Cont.	18" O.C.
128	MOD	Monarda didyma Bee Balm	#1	Cont.	18" O.C.
159	PVR	Panicum virgatum 'Rostratibush' Red Switchgrass	#1	Cont.	36" O.C.
269	SSH	Solidago shortii 'Solar Cascade' Goldenrod	#1	Cont.	15" O.C.
227	SYP	Symphoricarpon novae-angliae 'Purple Dome' New England Aster	#1	Cont.	18" O.C.

SCHEDULE NOTES:

- PLANT IN DOUBLE STAGGERED ROWS UNLESS OTHERWISE INDICATED.
- ADJUST SEEDED LAWN AND UPLAND MEADOW SEED MIX QUANTITY BASED ON AREAS SHOWN ON BOTH L1.6 AND L1.7.
- AREAS INDICATING TWO PLANT SPECIES ARE TO BE PLANTED IN GROUPS OF 10 TO 15 PLANTS FROM EACH SPECIES.

LEGEND:

- LIMIT OF DISTURBANCE
- EXISTING TREE
- PROPOSED DECIDUOUS TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS
- UPLAND MEADOW MIX

NOTES:

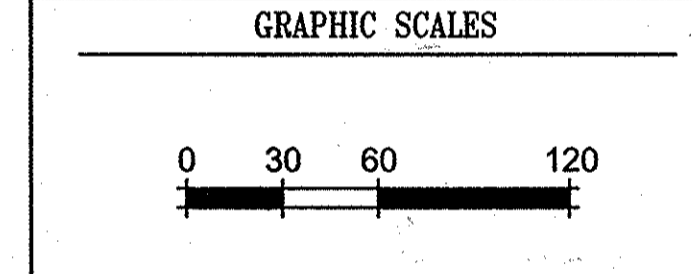
- ALL PLANT LOCATIONS TO BE MARKED IN THE FIELD AND APPROVED BY HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS REPRESENTATIVE PRIOR TO PLANTING.
- FOR TREE TYPES AND QUANTITIES, SEE SHEET L1.2
- FOR SEEDING PLAN, SEE SHEET L1.6
- INSTALLATION OF PLANT MATERIAL SHOWN OFF RECREATION AND PARKS PROPERTY ALONG SOUTH PROPERTY BOUNDARY TO BE COORDINATED WITH THE COLUMBIA ASSOCIATION.
- SEE L3.2 FOR MINIMUM LANDSCAPE REQUIREMENT CHART FOR PERIMETER BUFFER PLANTING.

REVISIONS	
REDLINE REVISION 7	3/22/16

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046
 DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3,72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7



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BLANDAIR REGIONAL PARK - PHASE 2

Stormwater Management
 Planting Plan Enlargement
 Revised Site Development Plan
 Drawing No.
L1.7
 Scale: 1"=20'
 Date: 03/24/2016 Sheet 29A of 41
 Des: CB/NS Drawn: CO Check: CB

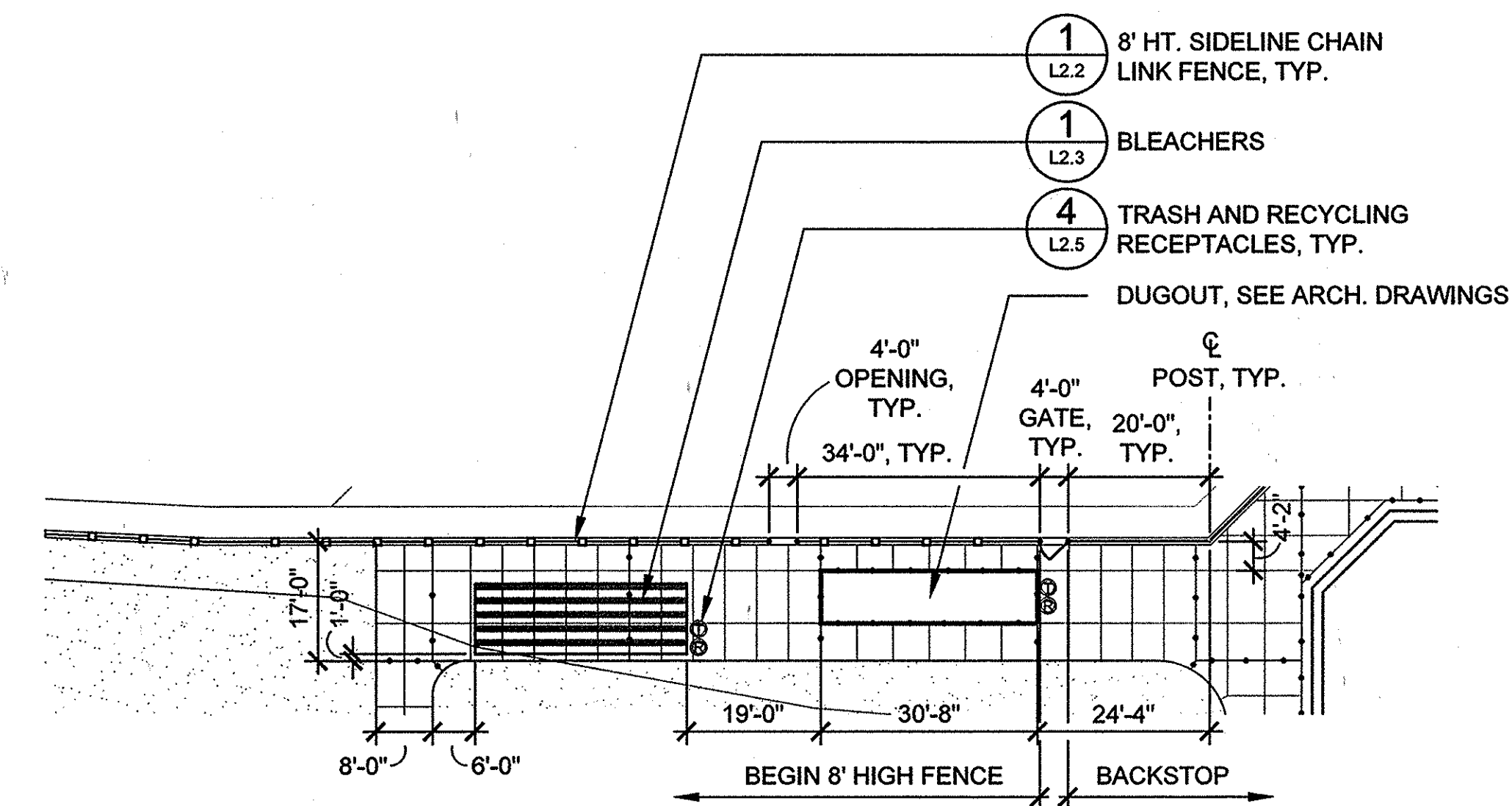
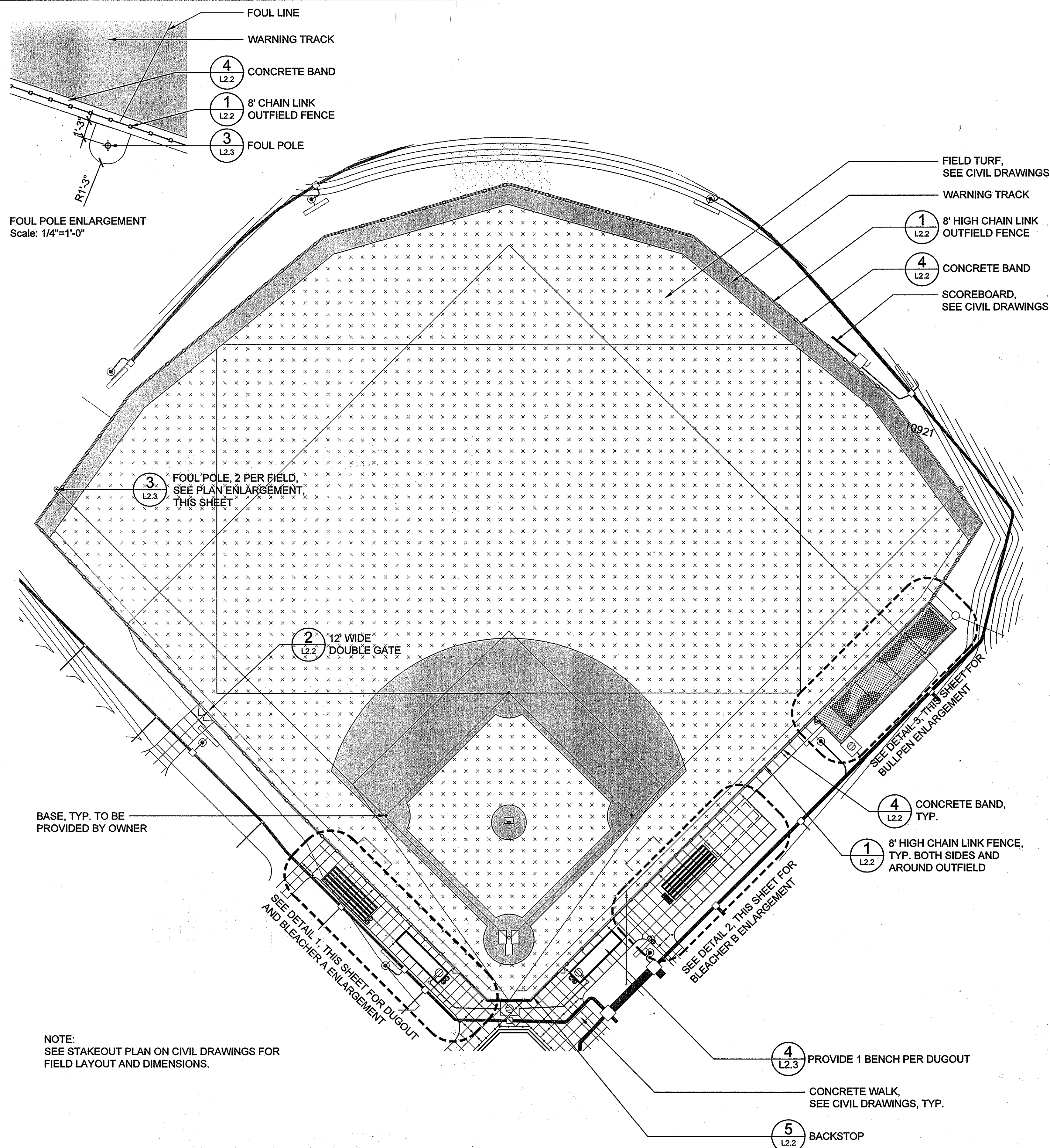
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 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5-17-16

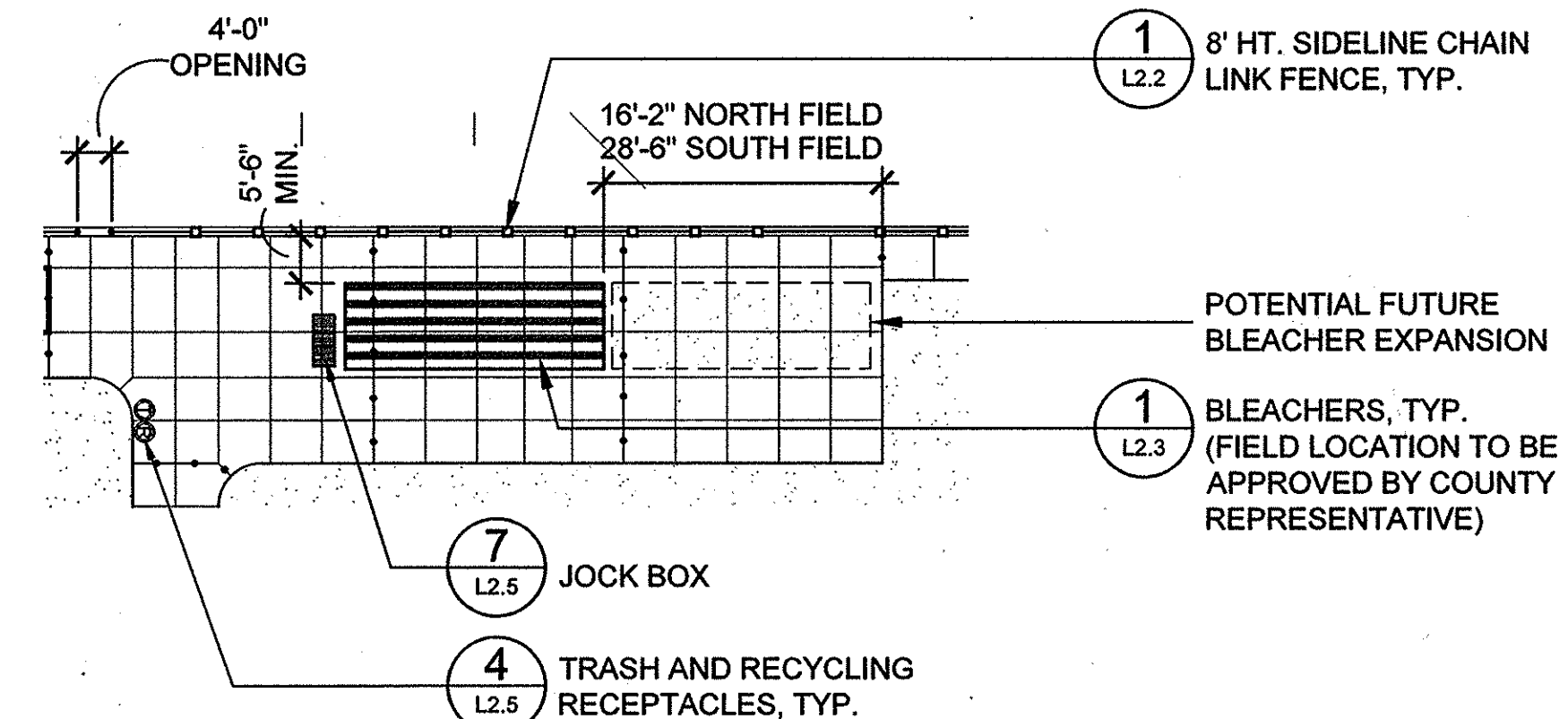
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-19-16

 DIRECTOR
 DATE: 5-19-16

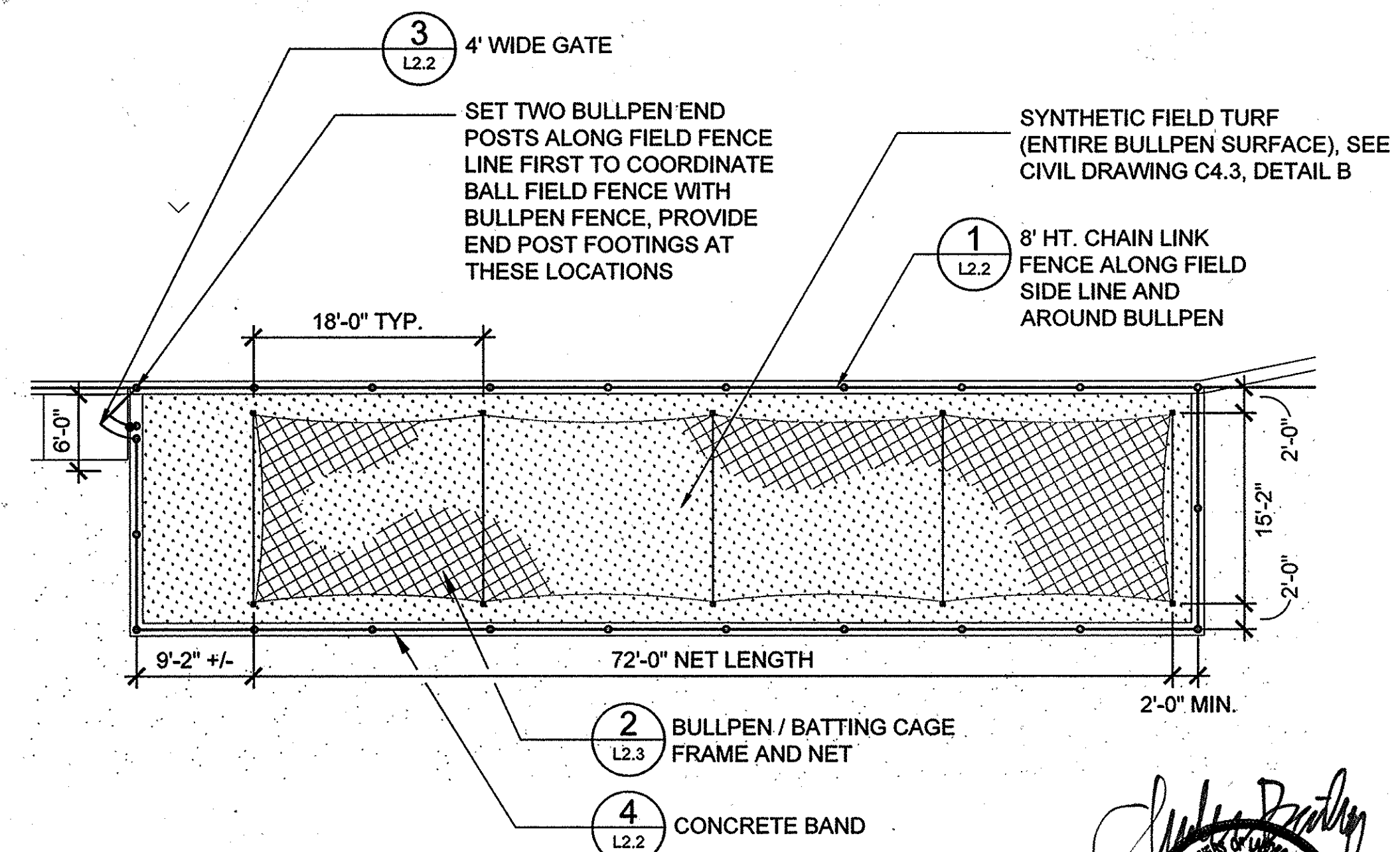
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 The Stieff Silver Building, 800 Wyman Park Drive.,
 Suite 100, Baltimore, MD 21211 410.235.6001



1 Typical Dugout and Bleacher A Layout (Typ. of 2)
Scale: 1" = 20'-0"



2 Typical Bleacher B Layout (Typ. of 2)
Scale: 1" = 20'-0"



3 Bullpen Enlargement (Typ. of 2)
Scale: 1" = 10'-0"

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD 21043



WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

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TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

BLANDAIR REGIONAL PARK - PHASE 2

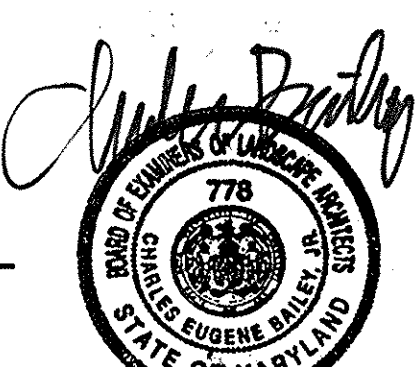
Ballfield Enlargements

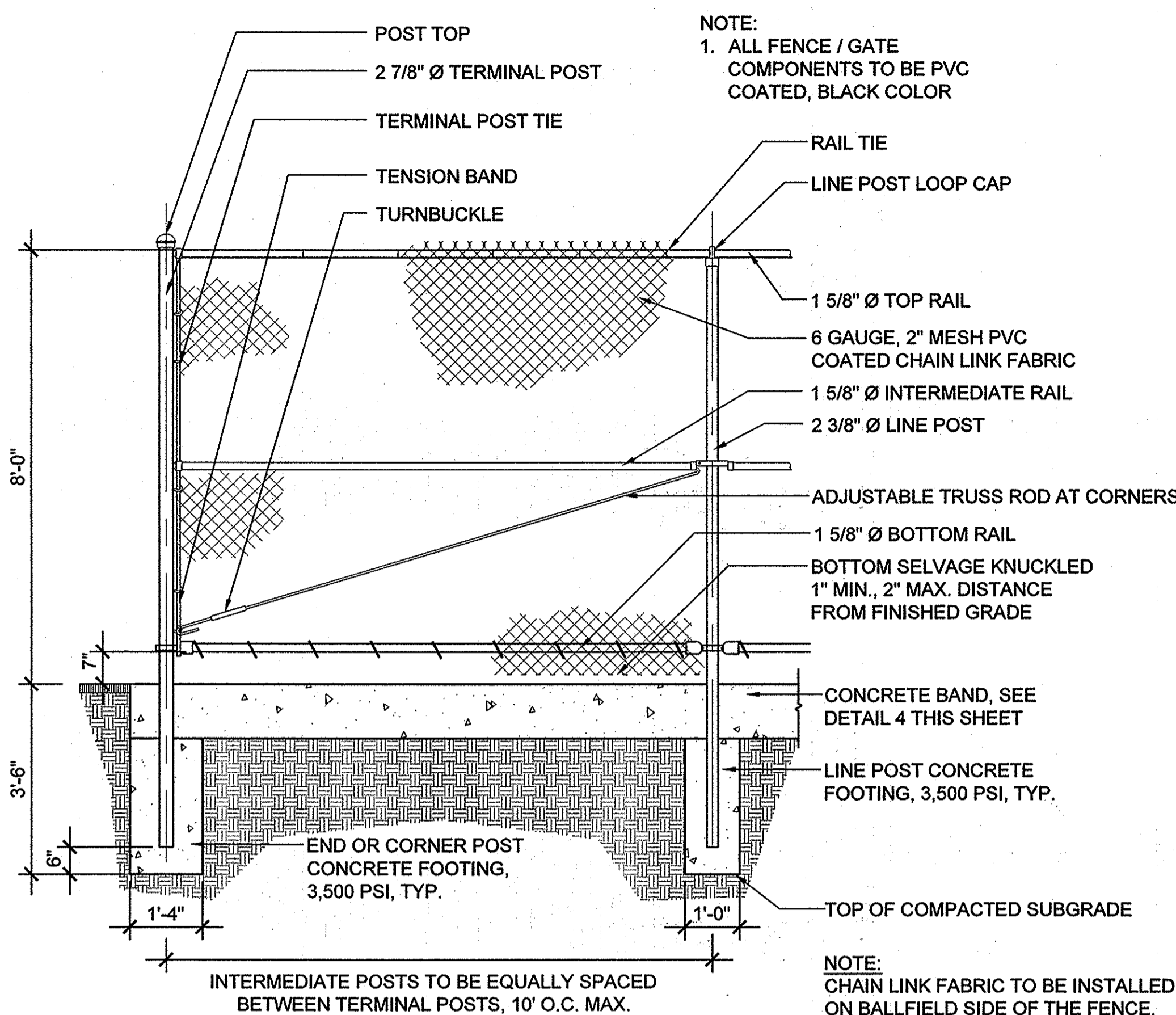
Drawing No.
L2.1

Scale: AS SHOWN
Date: 03/31/2014 Sheet 30 of 41
Des: CB/NJS Drawn: CO Check: CB

APPROVED: DEPARTMENT OF PLANNING AND ZONING
DATE: 6-17-14
DATE: 7-28-14
DATE: 7-28-14

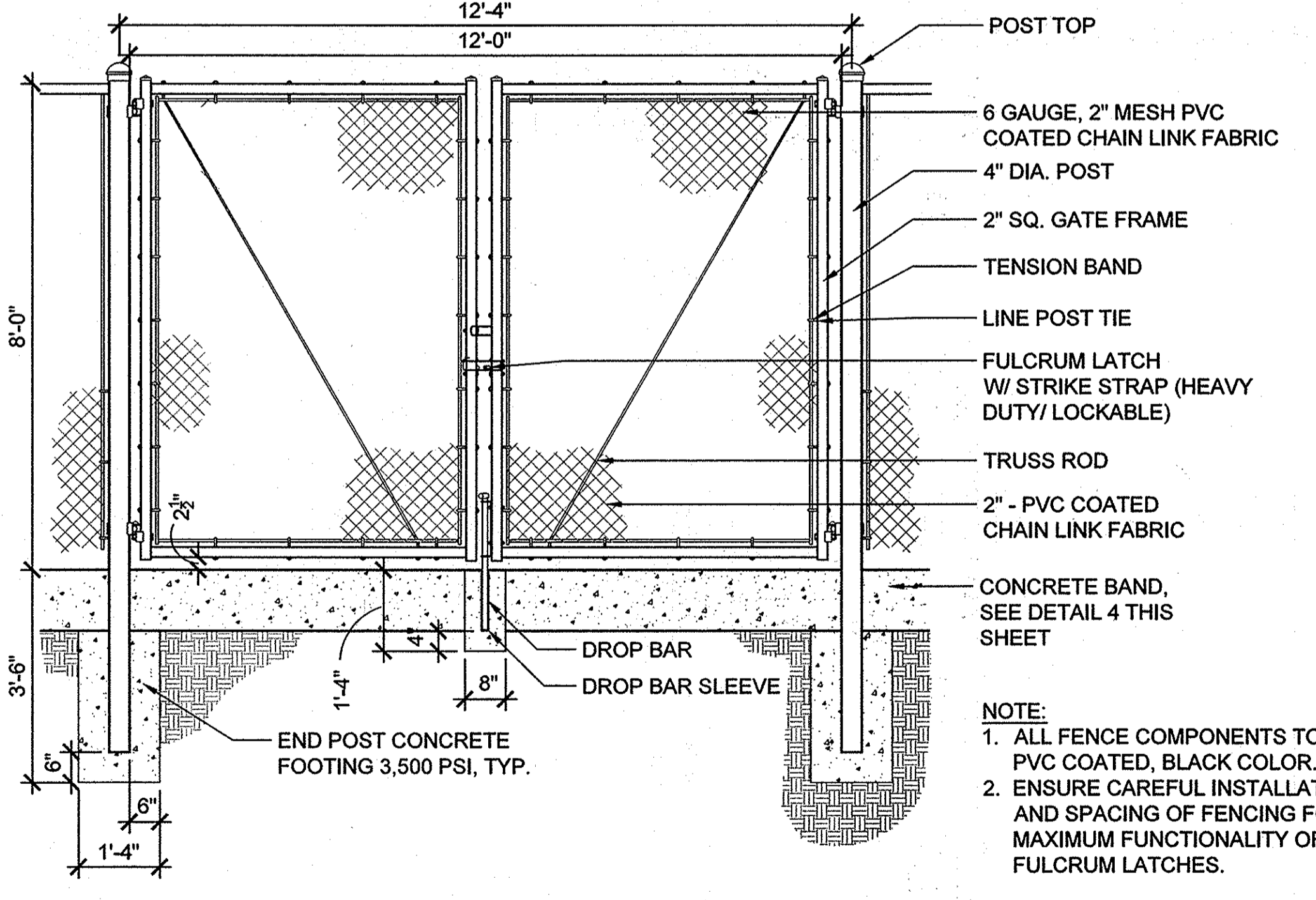
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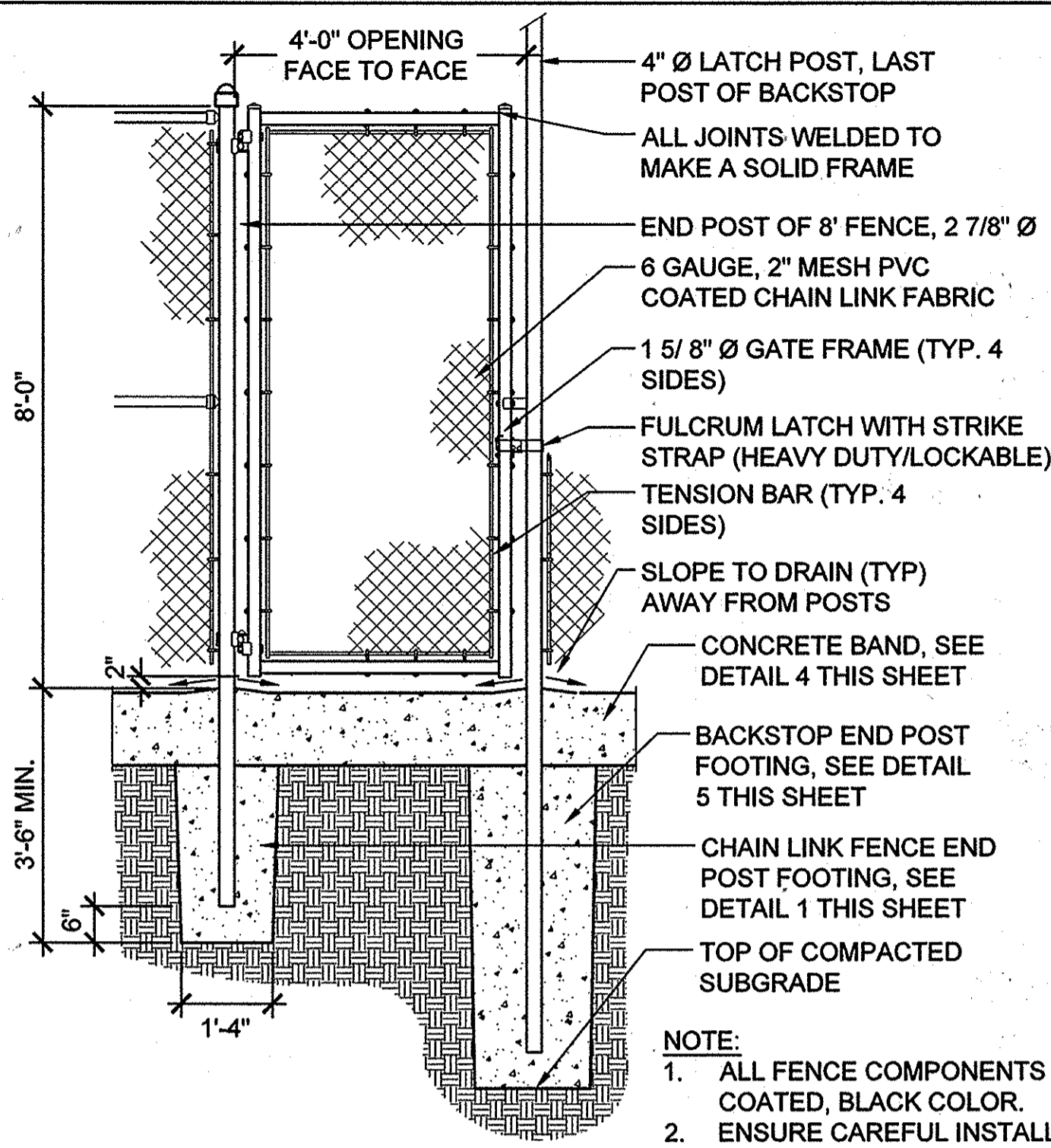
1 | 8' High Chain Link Fence
Scale: 1/2" = 1'-0"

- NOTE:
1. SUBMIT ALL FENCING AND BACKSTOP PRODUCT DATA FOR APPROVAL.
2. PROVIDE SHOP DRAWING OF POST, GATE, AND FENCE LAYOUT.

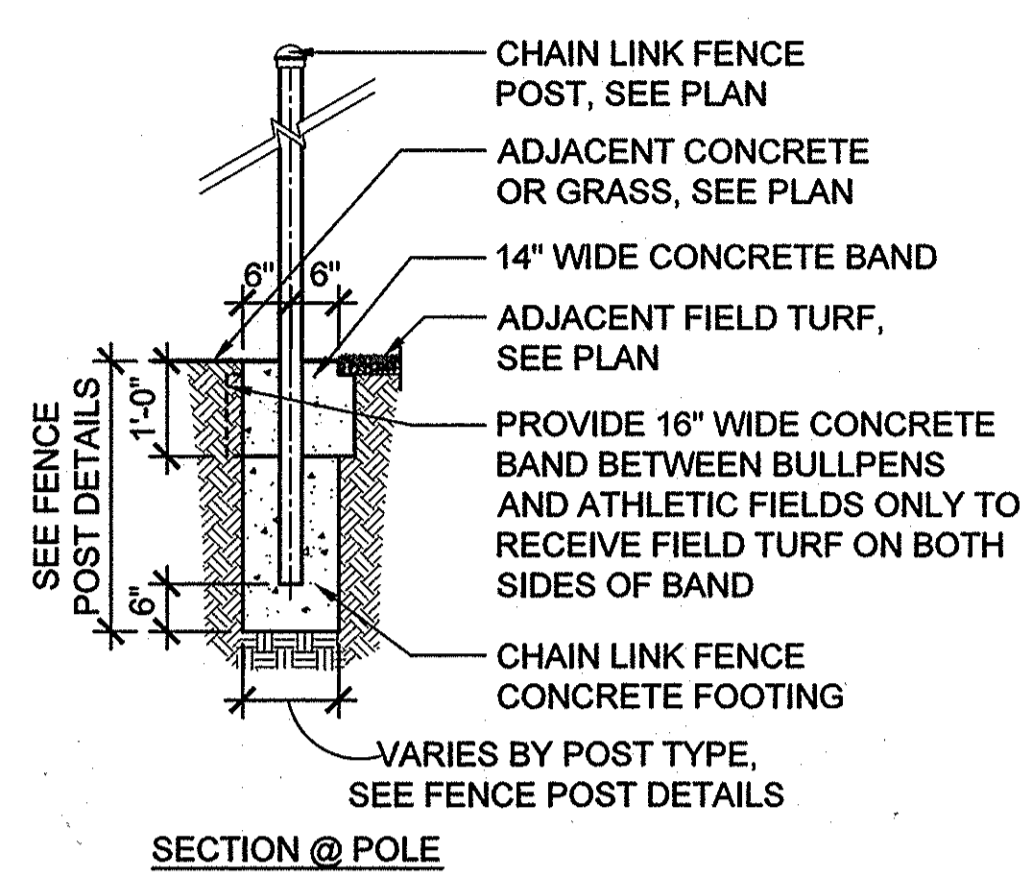
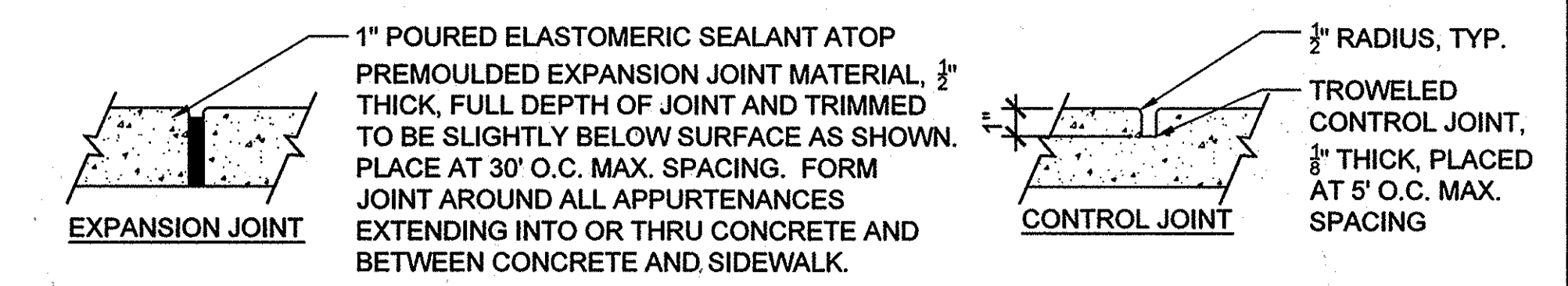


2 | 8' High Chain Link Double Swing Gate
Scale: 1/2" = 1'-0"

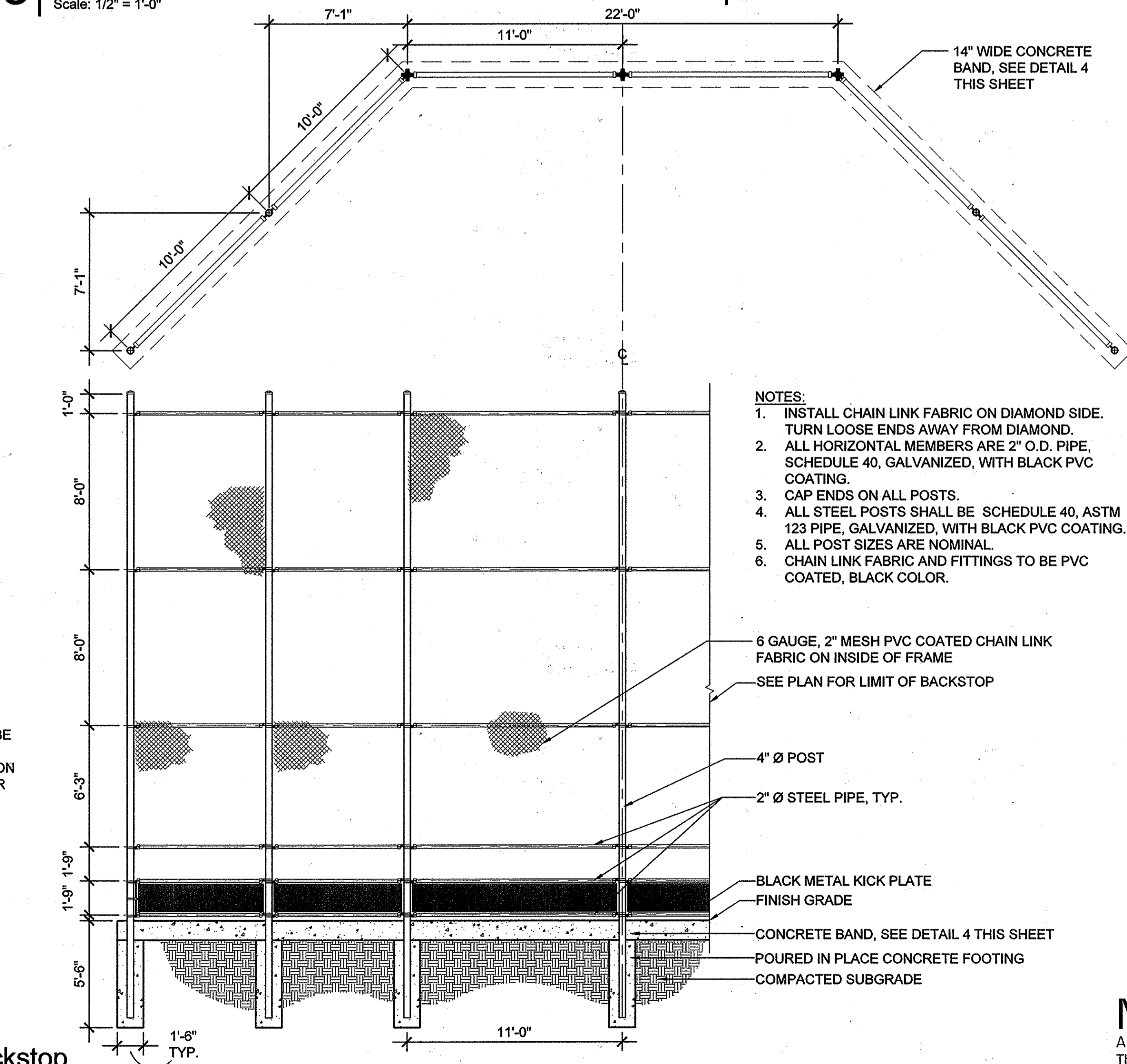
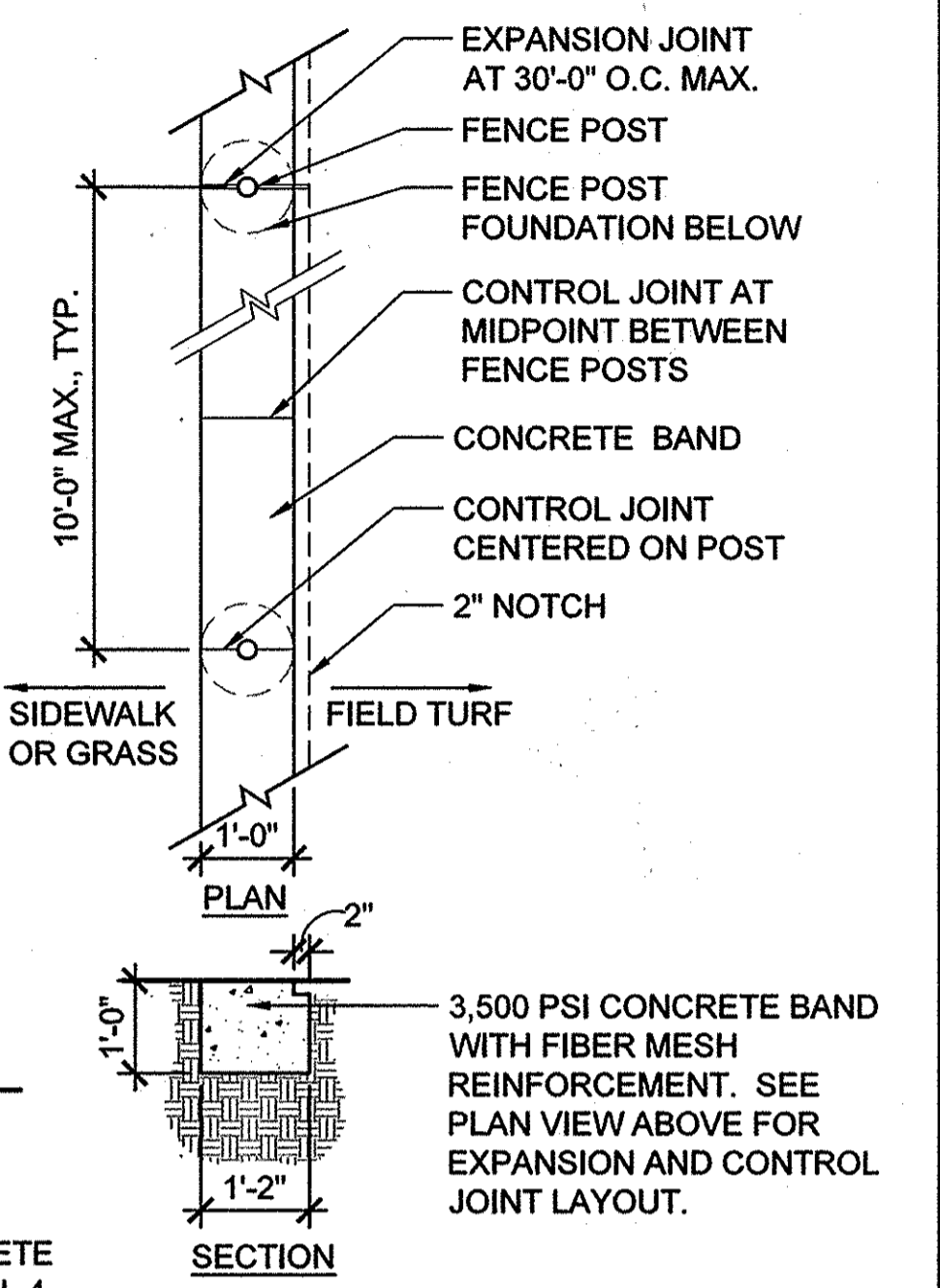
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Date: 6/17/14
 Chief, Division of Land Development
 Date: 7-28-14
 Director
 Date: 7-28-14



3 | 4' Wide Single Gate
Scale: 1/2" = 1'-0"



4 | Concrete Band
Scale: 1/2" = 1'-0"



5 | Backstop
Scale: 1/4" = 1'-0"

MAHAN RYKIEL ASSOCIATES INC
 The Steiff Silver Building, 800 Wyman Park Drive.,
 Suite 100, Baltimore, MD 21211 410.235.6001

REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046
 DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3,72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

BLANDAIR REGIONAL PARK - PHASE 2

Hardscape Details
 Drawing No. **L2.2**
 Scale: AS SHOWN
 Date: 03/31/2014 Sheet 31 of 41
 Des: CB/NS Drawn: CO Check: CB

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043



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801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

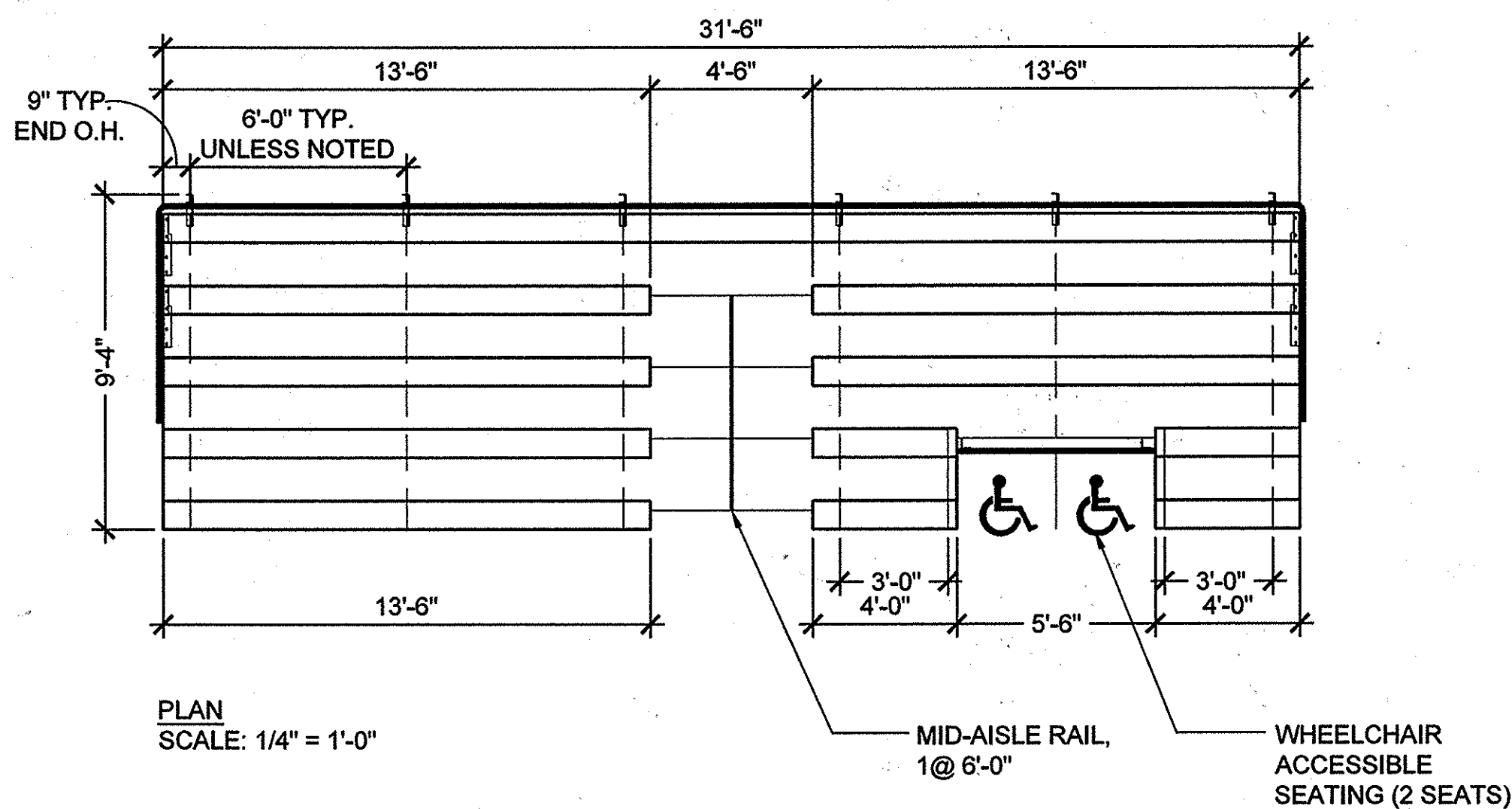
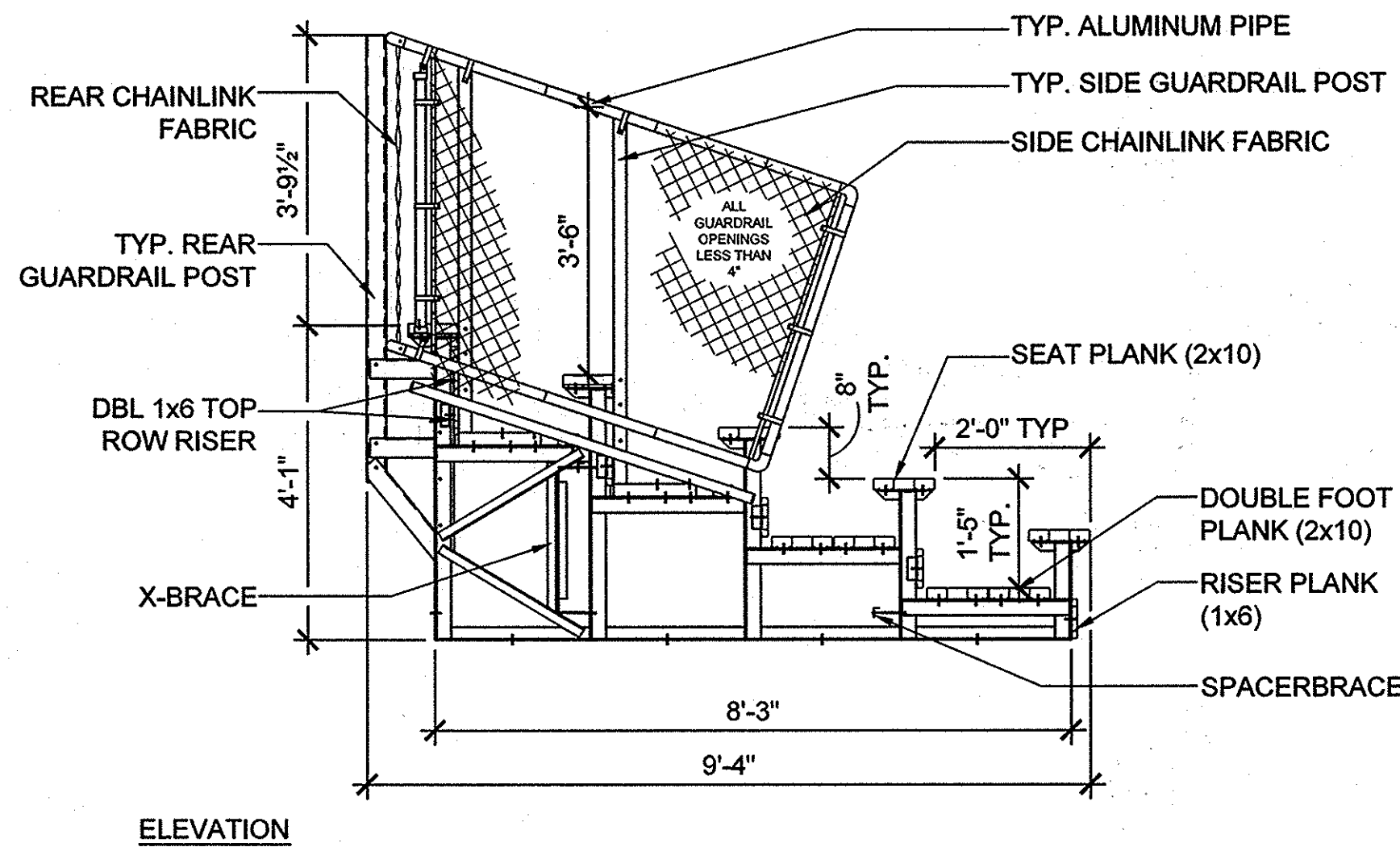
BLANDAIR REGIONAL PARK - PHASE 2

Hardscape Details

Drawing No.
L2.3

Scale: AS SHOWN
Date: 03/31/2014 Sheet 32 of 41
Des: CB/NJS Drawn: CO Check: CB

NOTE:
A BUILDING PERMIT WILL BE REQUIRED FOR THE BLEACHERS, TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND.



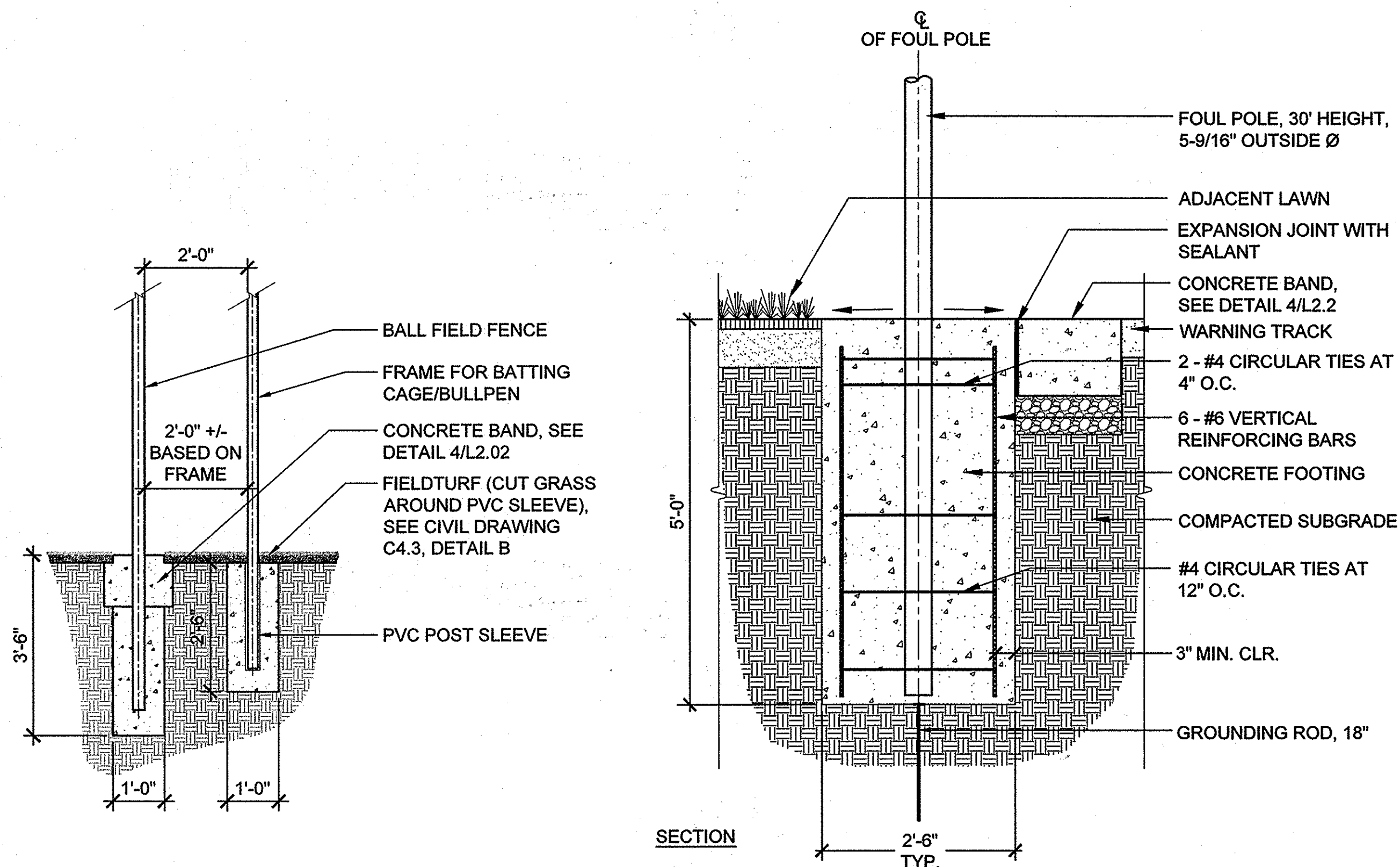
MANUFACTURER:
NATIONAL RECREATION SYSTEMS
5120 INVESTMENT DRIVE,
FORT WAYNE, IN 46808
(888) 568-9064
(OR EQUAL)

MODEL:
ADA SERIES 5-ROW, 31'-6" LONG NON-ELEVATED DELUX ALUMINUM BLEACHER,
MODEL NB-0531.5AADA

- NOTE:
- END CAPS FOR SEAT BOARDS AND FOOT BOARDS ARE TO BE FIELD-APPLIED BY USING A RUBBER MALLET AND DRIVING THEM IN PLACE.
 - END CAPS FOR RISER BOARDS ARE TO BE FIELD-APPLIED WITH ALUMINUM POP-RIVETS (3 POP-RIVETS PER RISER END CAP.)
 - RISER BOARDS GET END CAPS ON CLOSED-DECK UNITS ONLY.

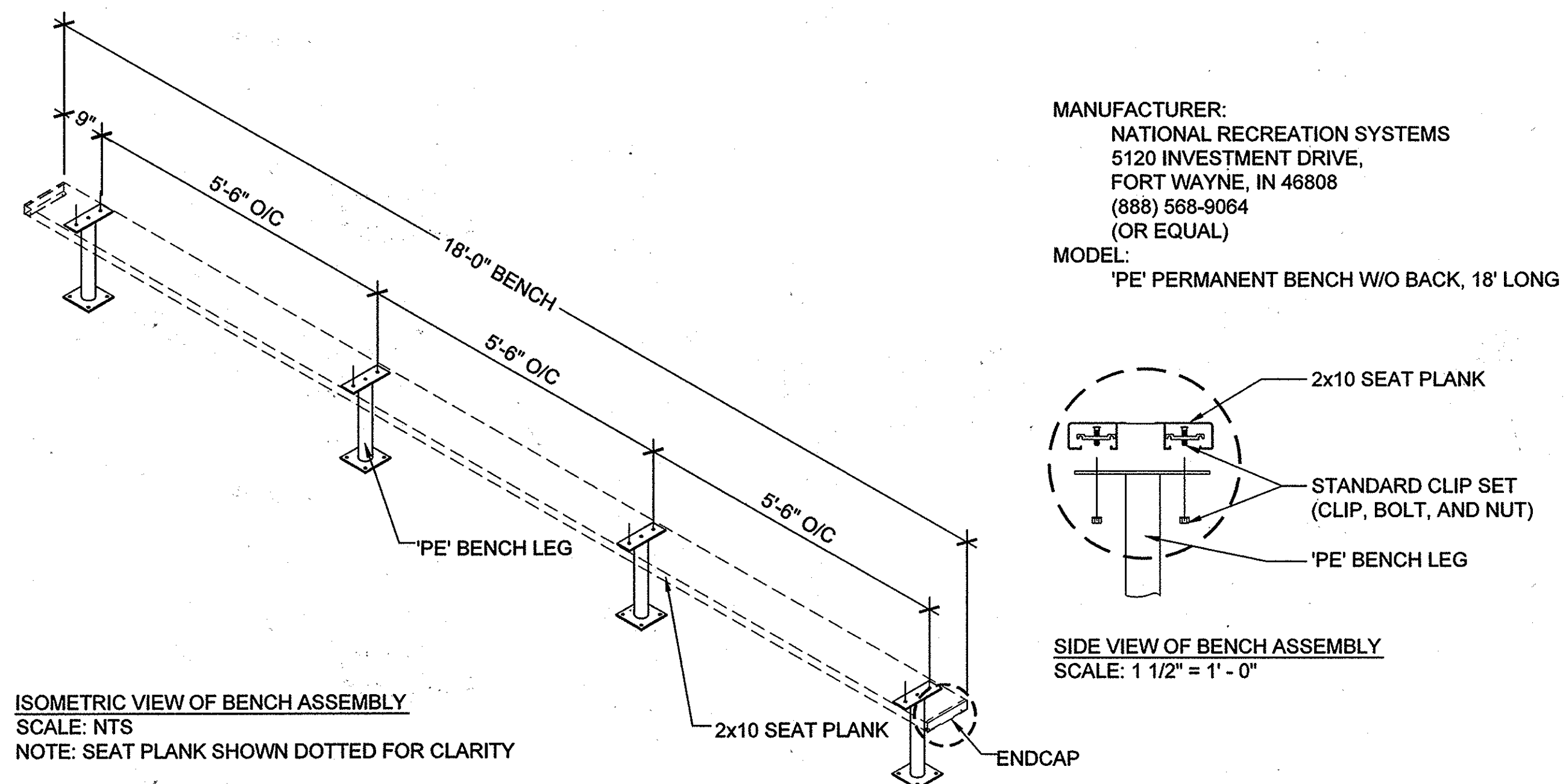
1 Bleacher

Scale: 1/2" = 1' - 0"



3 Foul Pole Footing

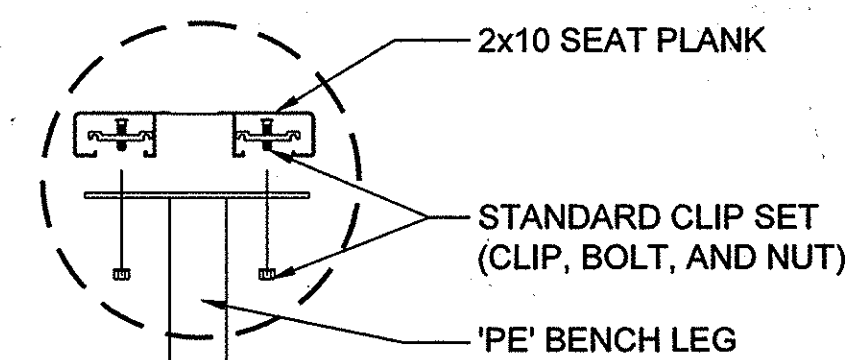
Scale: 3/4" = 1'-0"



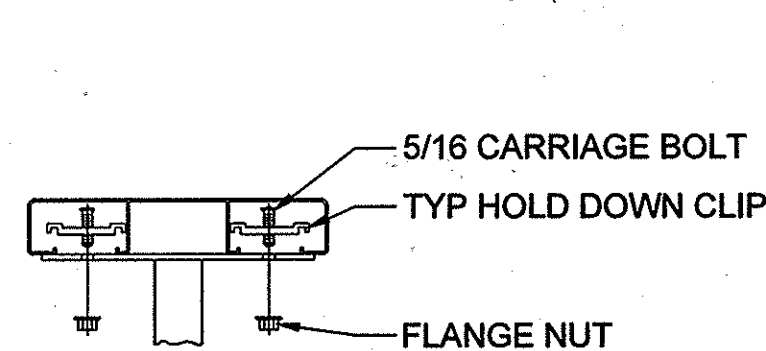
ISOMETRIC VIEW OF BENCH ASSEMBLY
SCALE: NTS
NOTE: SEAT PLANK SHOWN DOTTED FOR CLARITY

MANUFACTURER:
NATIONAL RECREATION SYSTEMS
5120 INVESTMENT DRIVE,
FORT WAYNE, IN 46808
(888) 568-9064
(OR EQUAL)

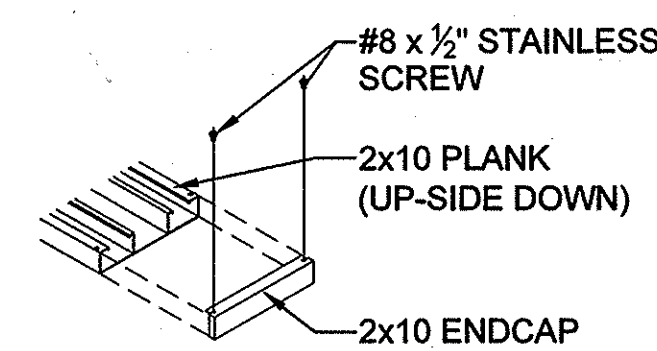
MODEL:
'PE' PERMANENT BENCH W/O BACK, 18' LONG



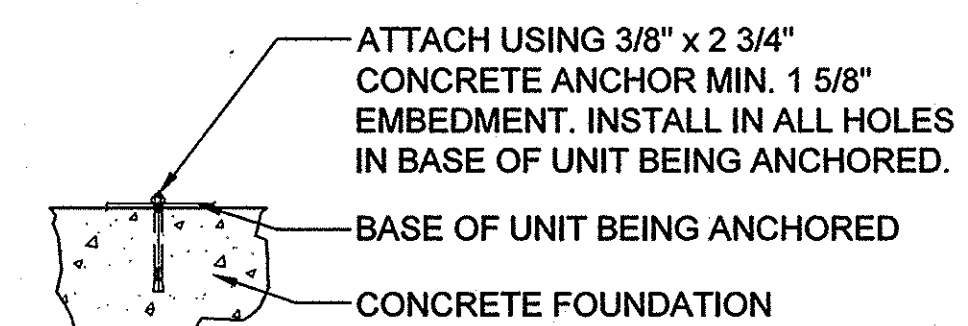
SIDE VIEW OF BENCH ASSEMBLY
SCALE: 1 1/2" = 1' - 0"



TYP. 2x10 PLANK ATTACHMENT
SCALE: NTS



TYP. 2x10 ENDCAP ATTACHMENT
SCALE: NTS



WEDGE ANCHOR DETAIL 2 3/4"
SCALE: NTS

4 Dugout Bench

Scale: As Noted

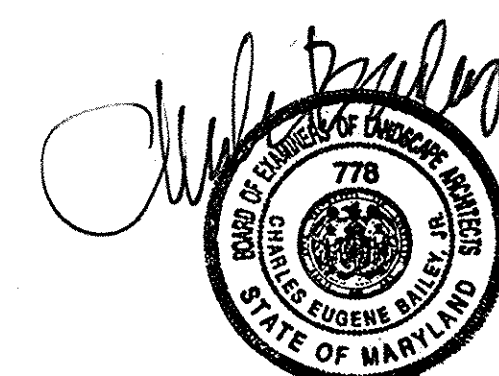
APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6-17-14

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7-28-14

 DIRECTOR
 DATE: 7-28-14

MAHAN RYKIEL ASSOCIATES INC
The Steiff Silver Building, 800 Wyman Park Drive., Suite 100, Baltimore, MD 21211 410.235.6001



REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043



WHITMAN, REQUARDT & ASSOCIATES, LLP
301 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES

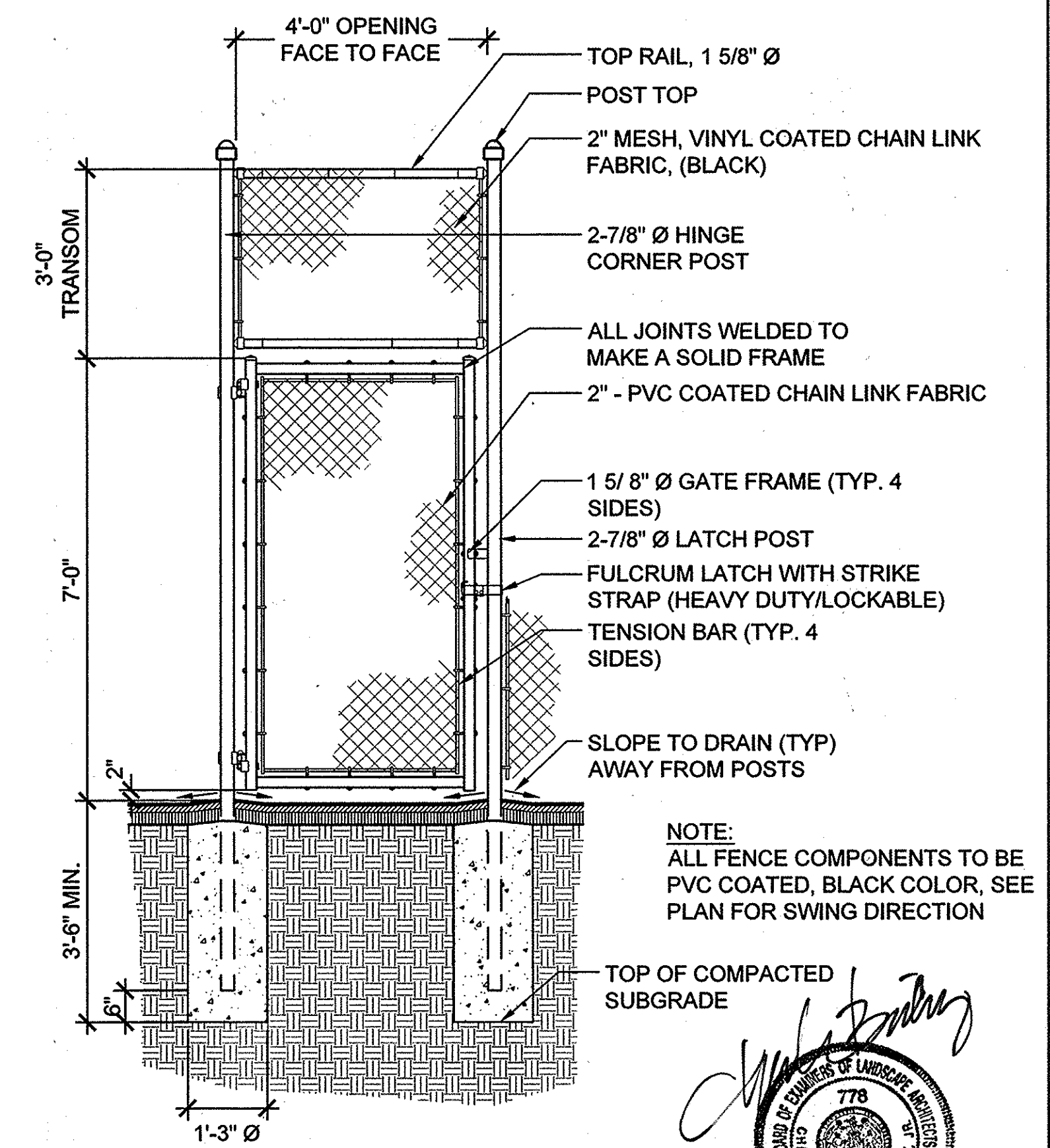
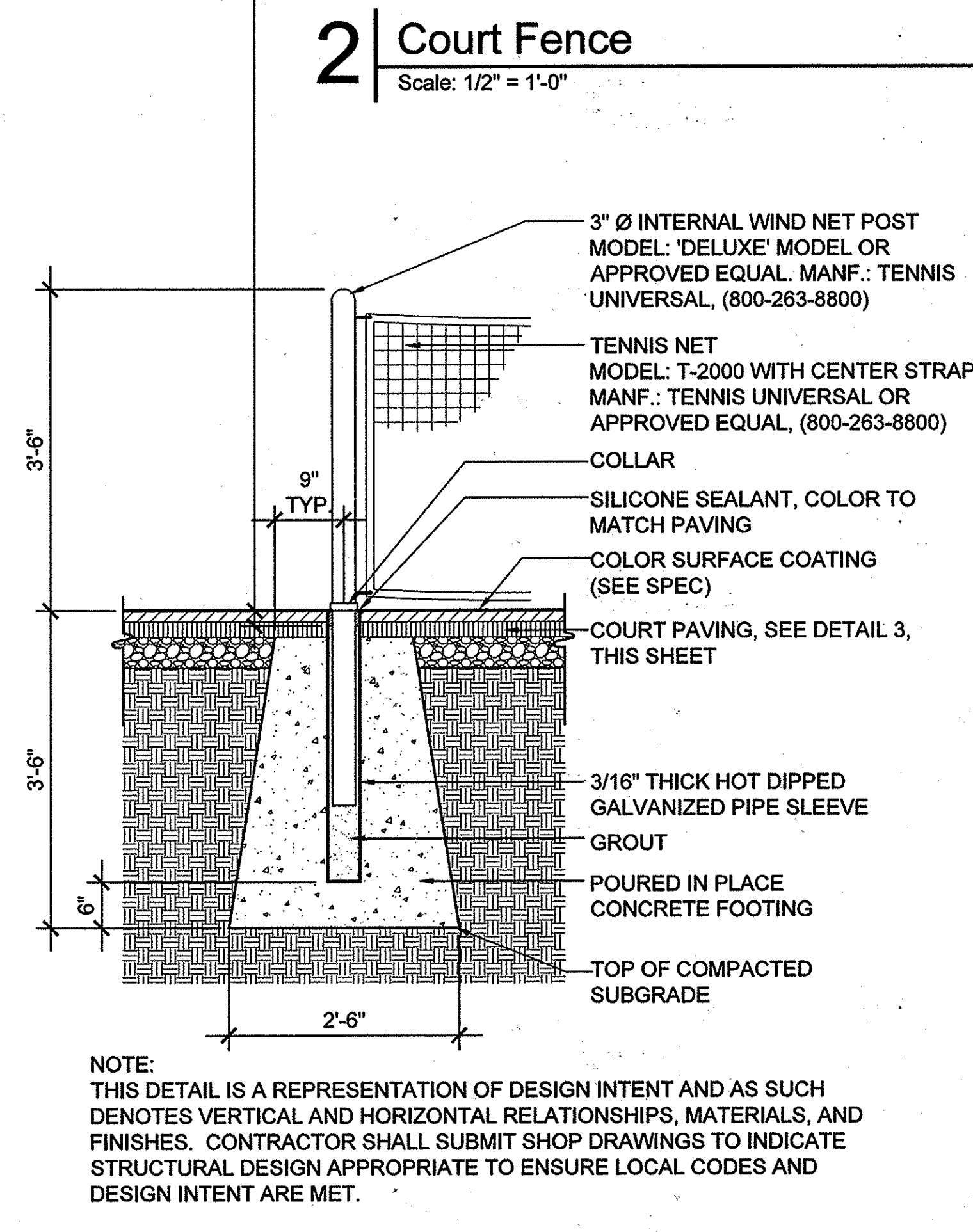
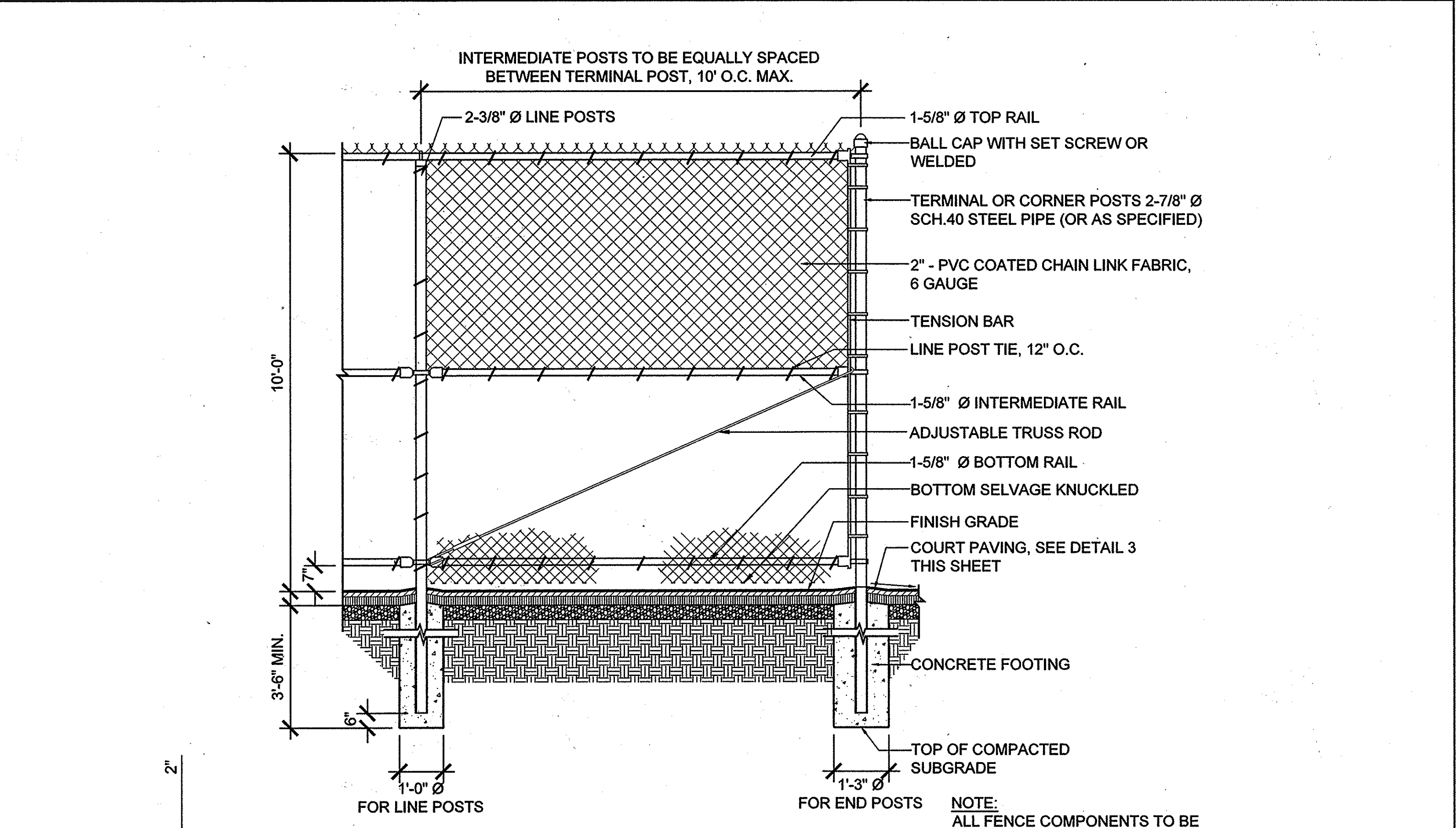
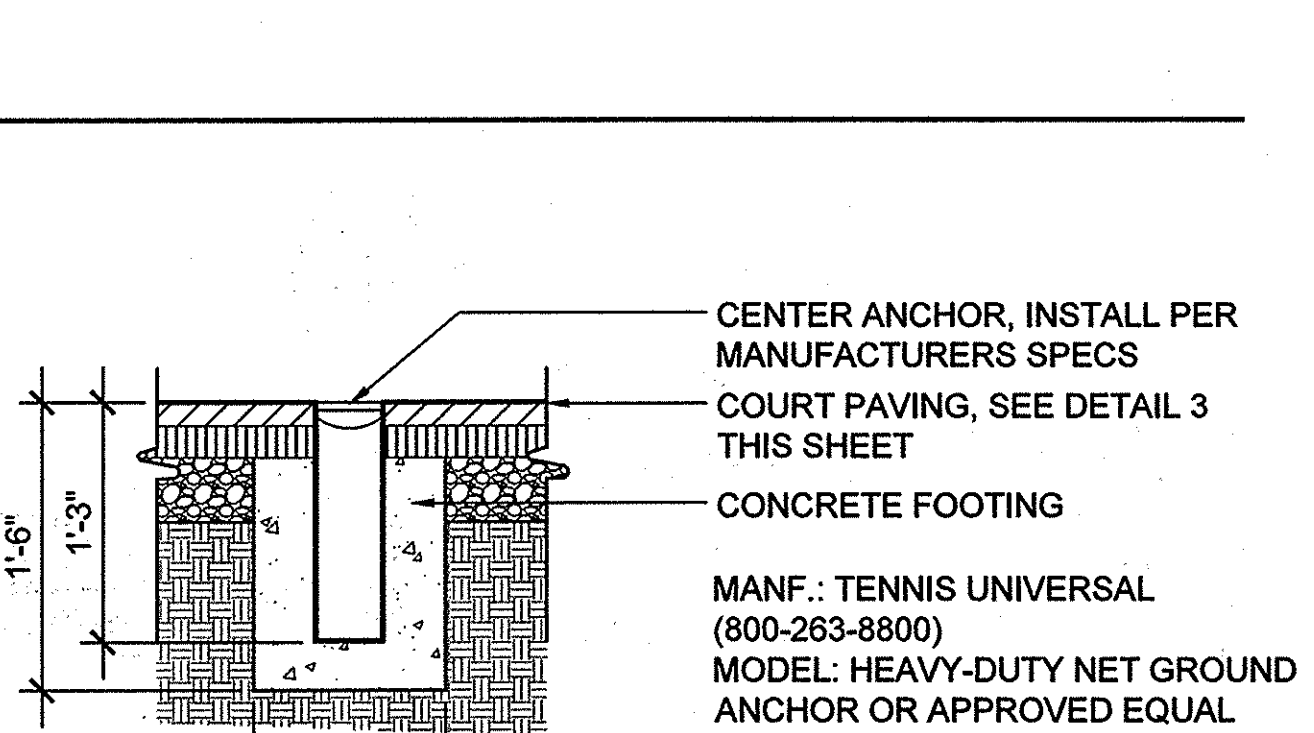
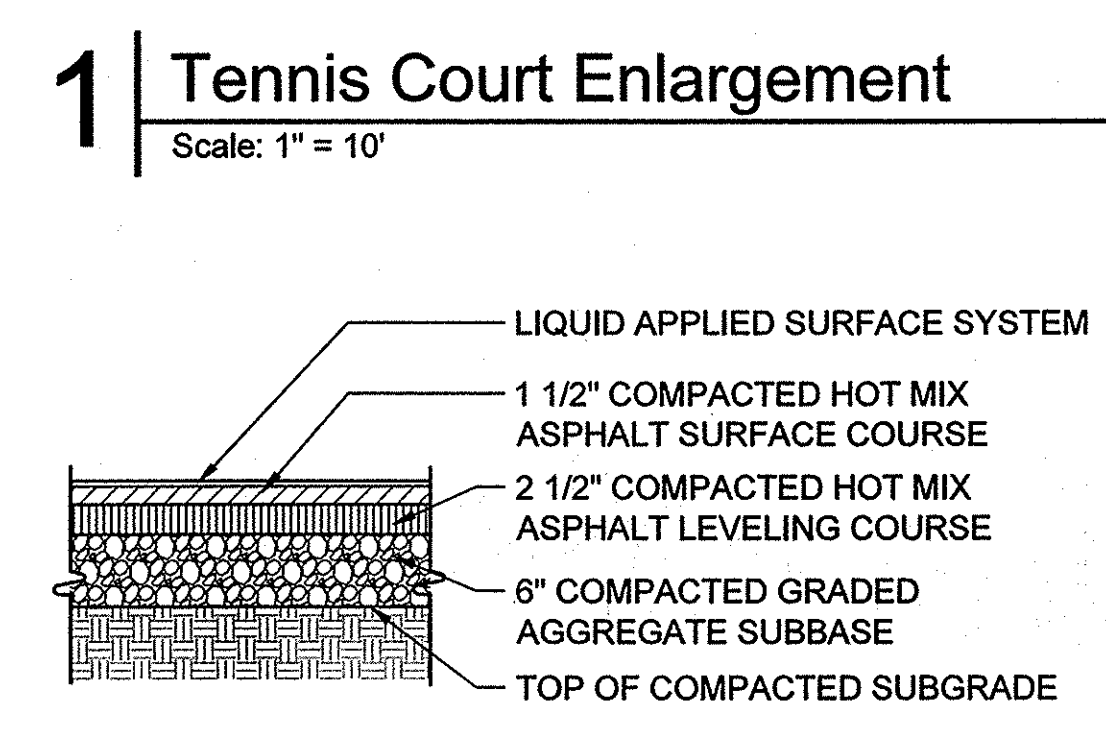
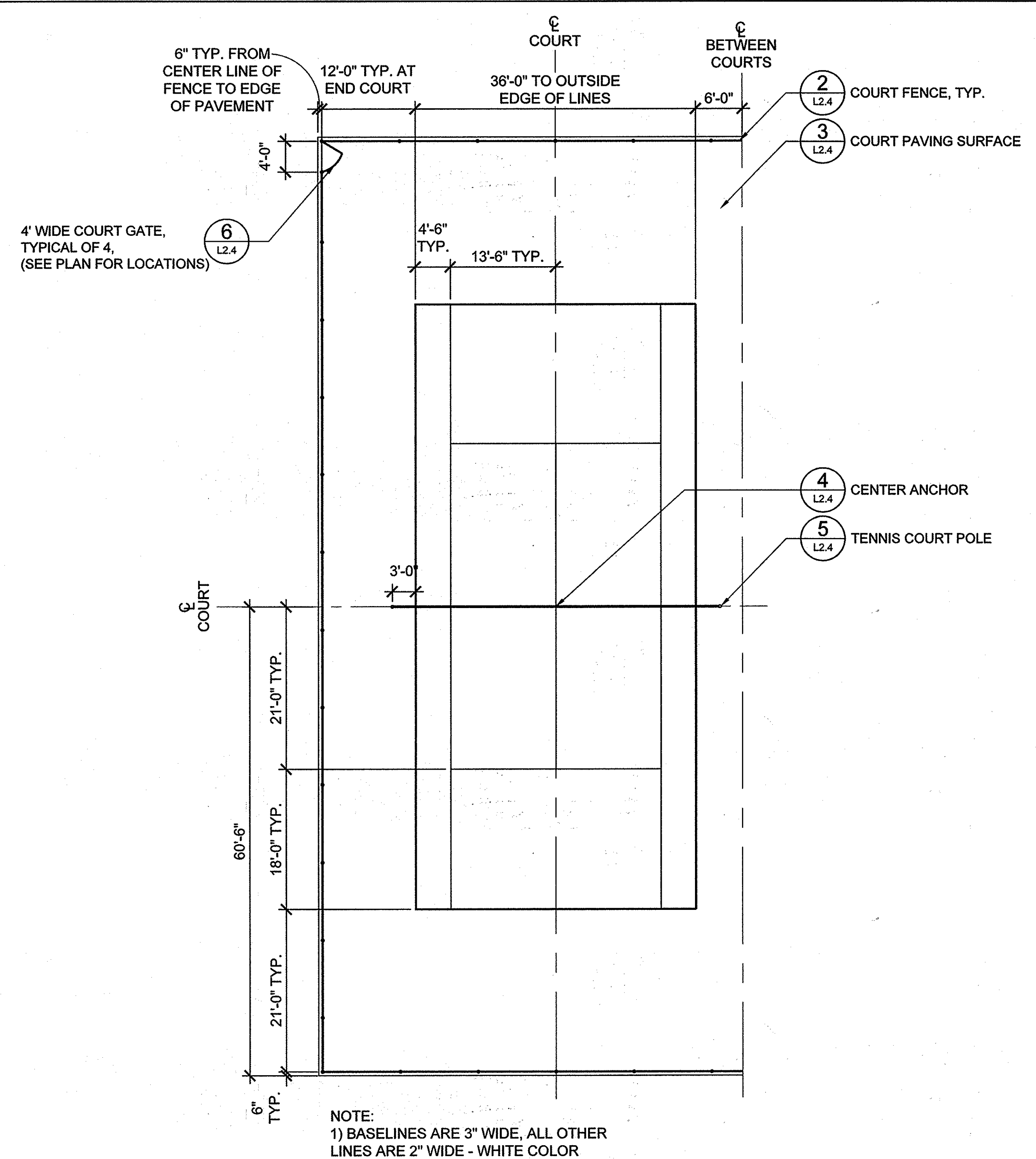
SIGNATURE

BLANDAIR REGIONAL PARK - PHASE 2

Hardscape Details

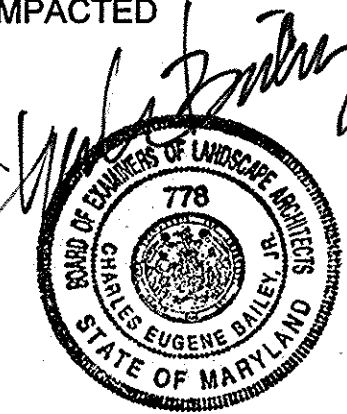
Drawing No. **L2.4**

Scale: AS SHOWN
Date: 03/31/2014 Sheet: 33 of 41
Des: CB/NS Drawn: CO Check: CB



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE 6-17-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] DATE 7-28-14
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] DATE 7-28-14
 DIRECTOR

MAHAN RYKIEL
ASSOCIATES INC.
The Steiff Silver Building, 800 Wyman Park Drive.,
Suite 100, Baltimore, MD 21211 410.235.6001



REVISIONS

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043



WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

BLANDAIR REGIONAL PARK - PHASE 2

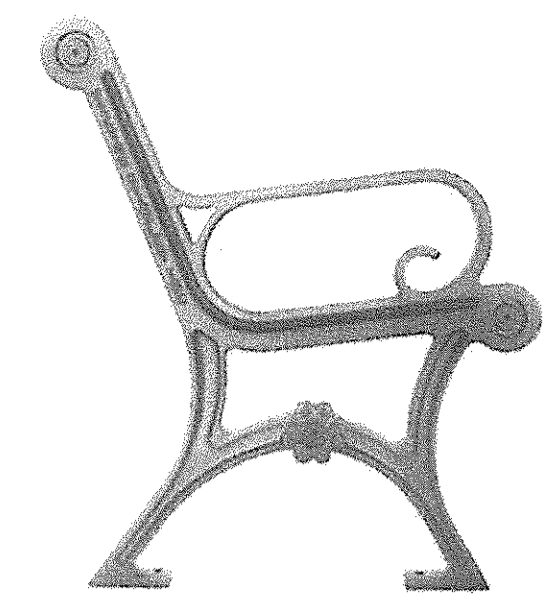
Hardscape Details

Drawing No.

L2.5

Scale: AS SHOWN
Date: 03/31/2014 Sheet 34 of 41
Des: CB/NS Drawn: CO Check: CB

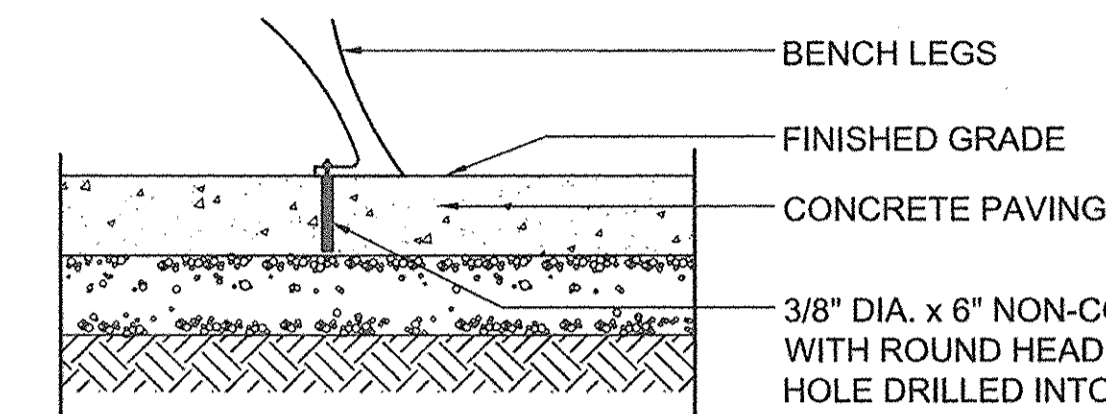
NOTE:
SUBMIT ALL SITE FURNISHING
PRODUCT DATA FOR APPROVAL.



MANUFACTURER INFORMATION:
Victor Stanley, Inc.
P.O. Drawer 330
Dunkirk, MD 20754
1-800-368-2573
www.victorstanley.com

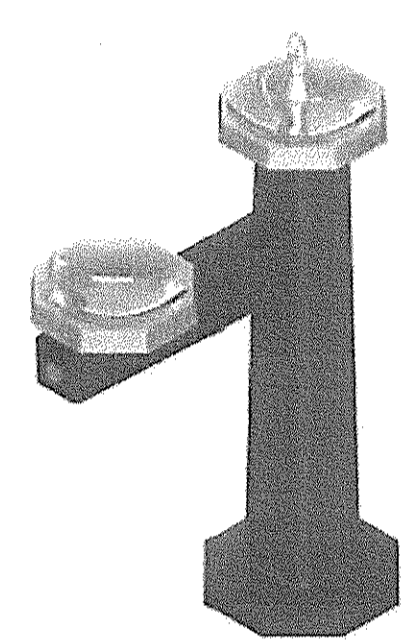
Classic Series by Victor Stanley
6' Bench
Casting #196 with 2nd Site System
Frame Color: Bronze
Recycled Plastic Slats, Color: Maple

Total Benches: Nine (9)



3/8" DIA. x 6" NON-CORROSIVE SLEEVE ANCHOR WITH ROUND HEAD. PLACE THROUGH 3/8" DIA. HOLE DRILLED INTO PAVING USING A CARBIDE BIT. MARK PAVEMENT THROUGH HOLE AND REMOVE BENCH TO DRILL. REPLACE BENCH AND FASTEN ANCHOR SNUG AGAINST SITE FURNITURE.

1 Bench
NTS

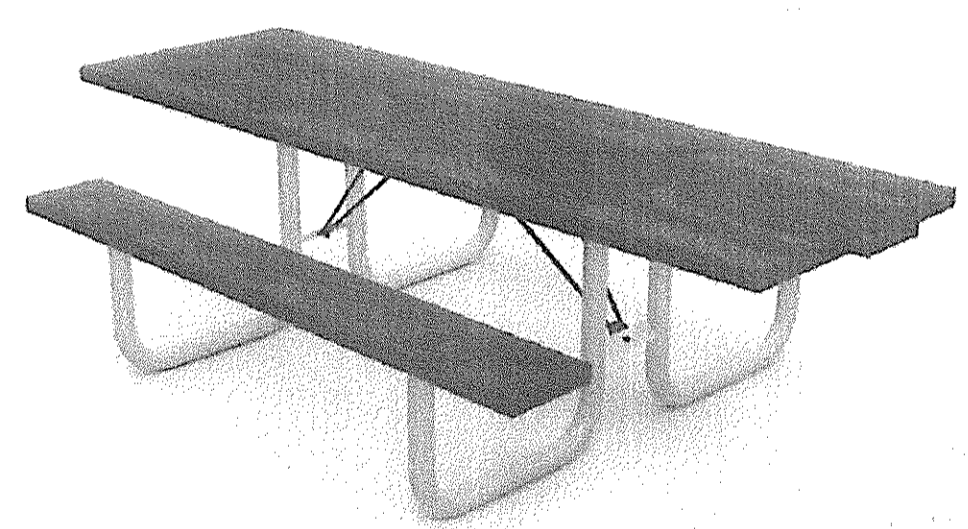


MANUFACTURER INFORMATION:
Murdock Manufacturing
15125 Proctor Avenue
City of Industry, CA 91746
1-800-453-7465
www.murdockmfg.com

Model M-43B by Murdock
Pedestal mount with bi-level bowls,
cast iron pedestal, cast brass bowl
Color: **BROWN**
JF2: jug filler
Submit shop drawing for approval.

Total drinking fountains: Three (3)

3 Drinking Fountain
NTS



VENDOR INFORMATION:
Playground Specialists, Inc.
11700 Whites Lane
Thurmont, MD 21788
1-800-385-0075
www.playspecva.com/

Model ZZXX1405 by Playworld Systems
8' accessible park table
Eco-Armor tops and frames
Top color: green, Frame color: brown

Total Quantity: Eleven (11)

5 Picnic Table
NTS

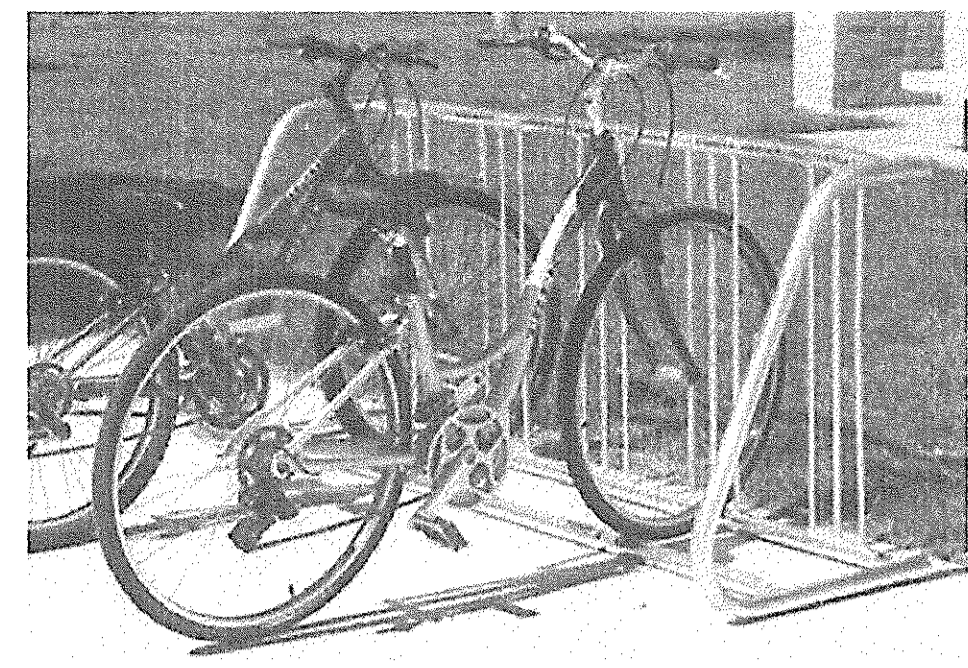


MANUFACTURER INFORMATION:
KNAACK, Crystal Lake, Illinois Facility
420 East Terna Cotta Avenue
Crystal Lake, IL 60014
1-800-456-7865
www.knaack.com

Model 91 STORAGEMASTER Chest with Ramp
Height: 46"
Width: 30"
Length: 72"
Weight: 409 lbs.
Cubic Feet: 57.5

Total Quantity: Two (2)

7 Jock Box
NTS

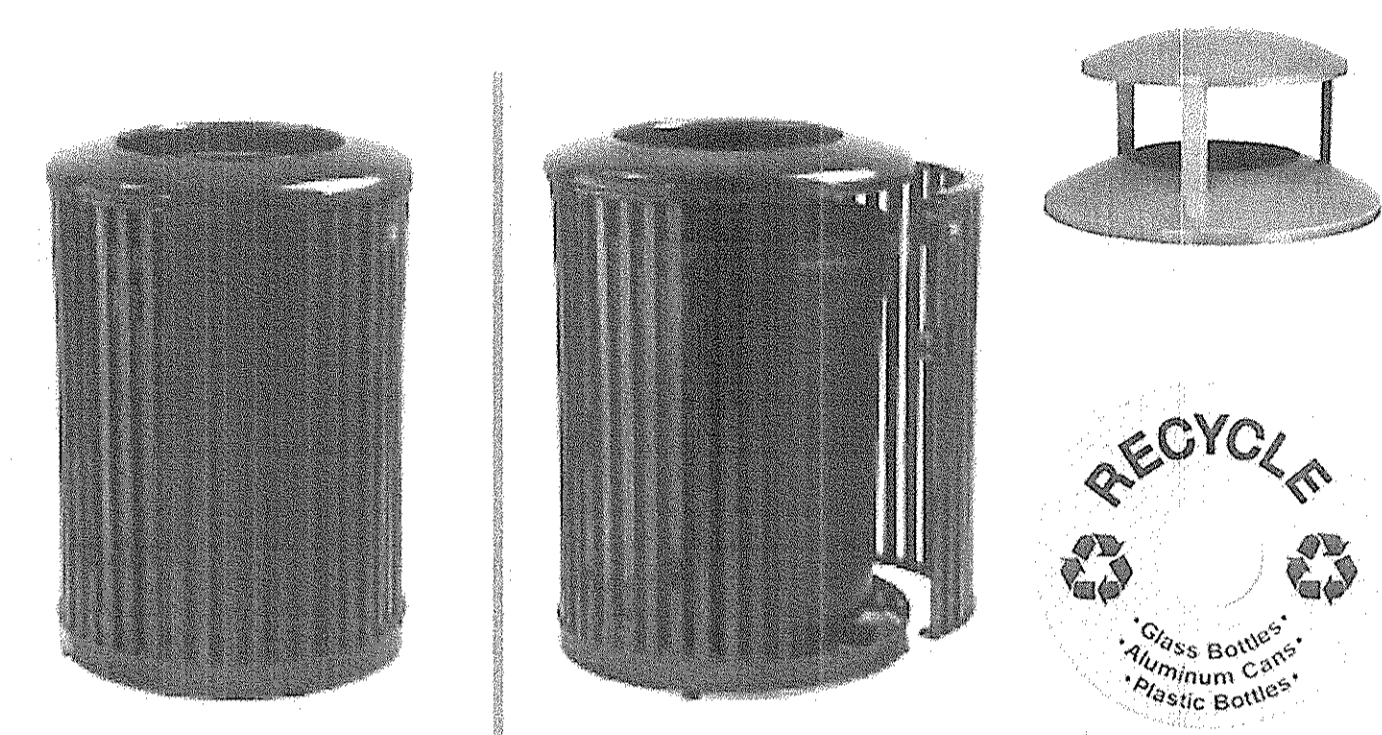


MANUFACTURER INFORMATION:
Pilot Rock / R.J. Thomas Manufacturing Co., Inc.
PO Box 946
5648 Hwy. 59 South
Cherokee, Iowa 51015
1-800-762-5002
www.pilotrock.com

Model BR205SS/CA by Pilot Rock
Single-sided Bike Rack (Holds 5 Bikes)
Finish / Color: Galvanized
Anchor to concrete with heavy duty kit #ANC2-4 provided by manufacturer

Total Bike Racks: Three (3)

2 Bike Rack
NTS



MANUFACTURER INFORMATION:
Victor Stanley, Inc.
P.O. Drawer 330
Dunkirk, MD 20754
1-800-368-2573
www.victorstanley.com

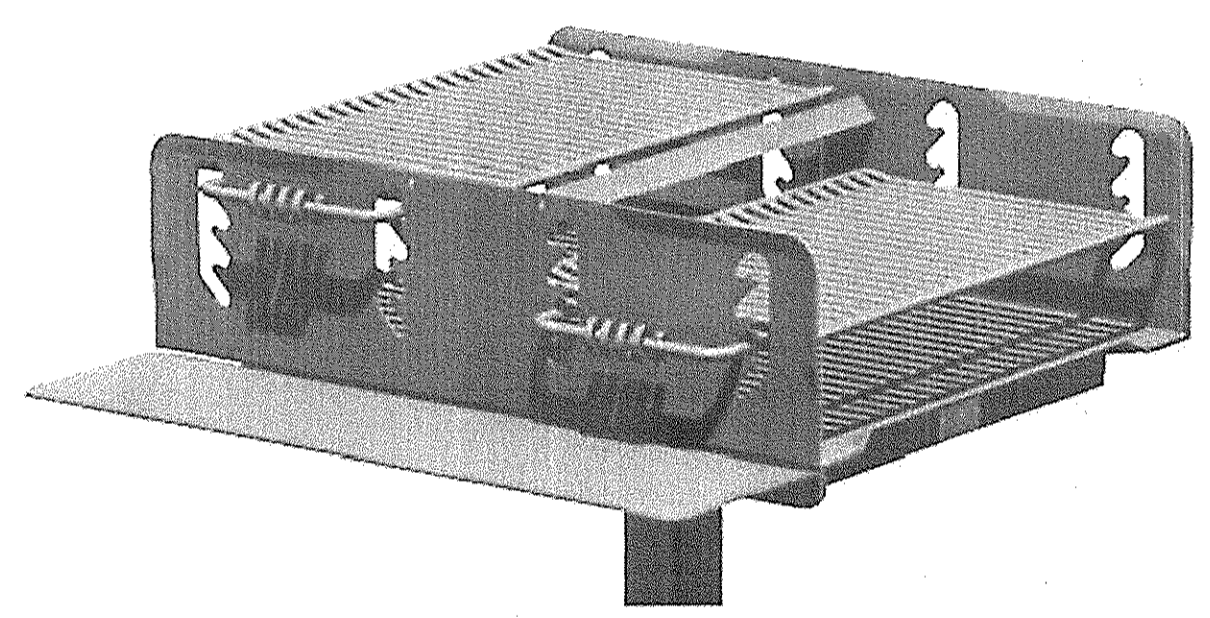
Steelsites Series Model NSDC-45 by Victor Stanley
45-gallon capacity side-door litter/recycling receptacle
Black plastic liner, four leveling feet, bottom recessed pedestal
(Anchor per manufacturer's recommendations)

Trash receptacle color: bronze
Recycling receptacle color: blue

Trash and recycling receptacles to receive rain bonnet lid. Rain bonnet lid to be riveted or welded in place. Adjust "RECYCLE" decals as necessary. Submit product data for review.

Total trash receptacles: Twelve (12)
Total recycling receptacles: Twelve (12)

4 Trash / Recycling Receptacle
NTS



MANUFACTURER INFORMATION:
Pilot Rock / R.J. Thomas Manufacturing Co., Inc.
PO Box 946
5648 Hwy. 59 South
Cherokee, Iowa 51015
1-800-762-5002
www.pilotrock.com

Model P-1000/S B7 by Pilot Rock
In-ground mounting option with one standard shelf
Mount per manufacturer's recommendation(Confirm with Structural dwgs.)

Total Quantity: One (1)

6 Grill
NTS



MANUFACTURER INFORMATION:
LandscapeForms, Inc.
431 Lawndale Ave.
Kalamazoo, MI 49048
269.381.3455 fax
800.430.6209 phone

Mingle series, backed seating
Surface mounted per manufacturer's spec
Catena style table-top: Metallic Bronze Color
Altair Soltice Umbrella, 84"x87" Table Mount
Perforated Panels, Metallic Bronze Color

Total Quantity: One (1) 3-seat unit (handicap accessible)
Two (2) 4-seat unit

8 Table and Umbrella
NTS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] DATE 6-17-14
[Signature] DATE 7-28-14
[Signature] DATE 7-28-14

MAHAN RYKIEL ASSOCIATES INC.
The Stieff Silver Building, 800 Wyman Park Drive., Suite 100, Baltimore, MD 21211 410.235.6001

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD 21043



WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

BLANDAIR REGIONAL PARK - PHASE 2

Hardscape Details

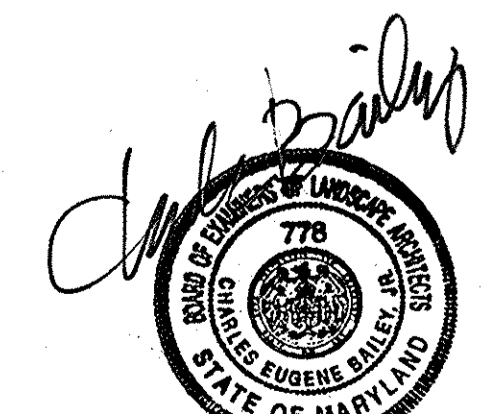
Drawing No.

L2.6

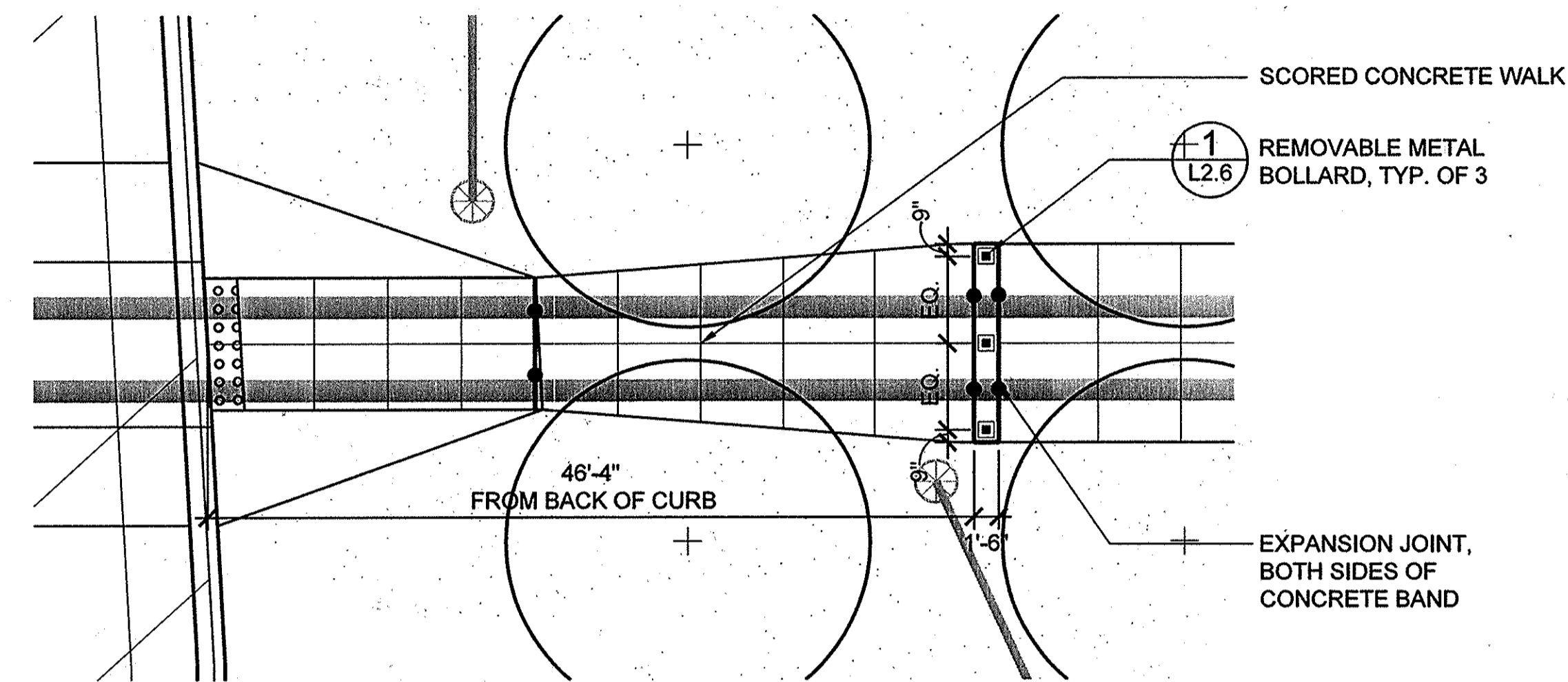
Scale: AS SHOWN

Date: 03/31/2014 Sheet 35 of 41

Dep: CB/NS Drawn: CO Check: CB

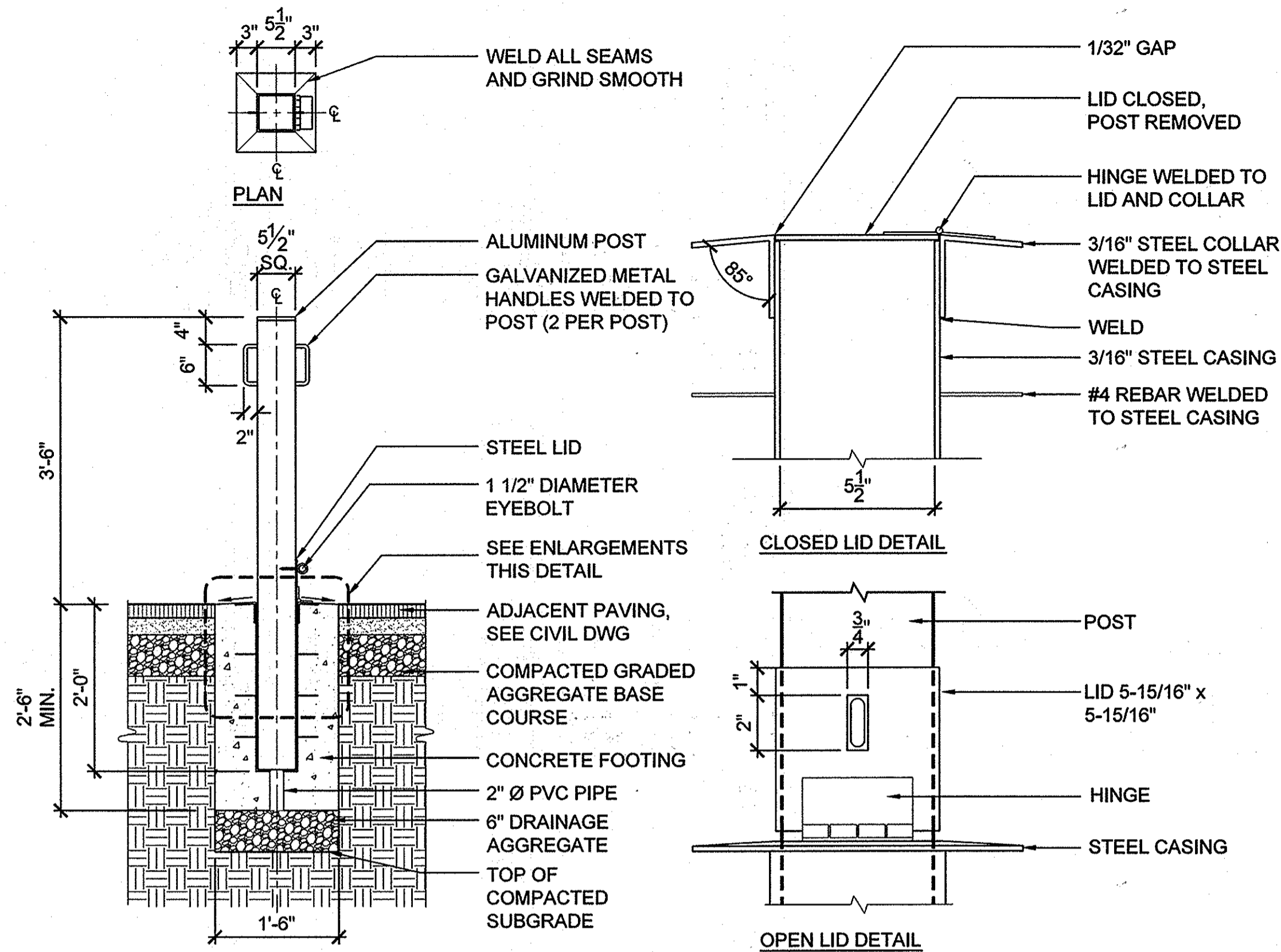


MAHAN RYKIEL ASSOCIATES INC
The Steiff Silver Building, 800 Wyman Park Drive., Suite 100, Baltimore, MD 21211 410.235.6001



2 Removable Metal Bollard Plan Enlargement

Scale: 1/8" = 1' - 0"



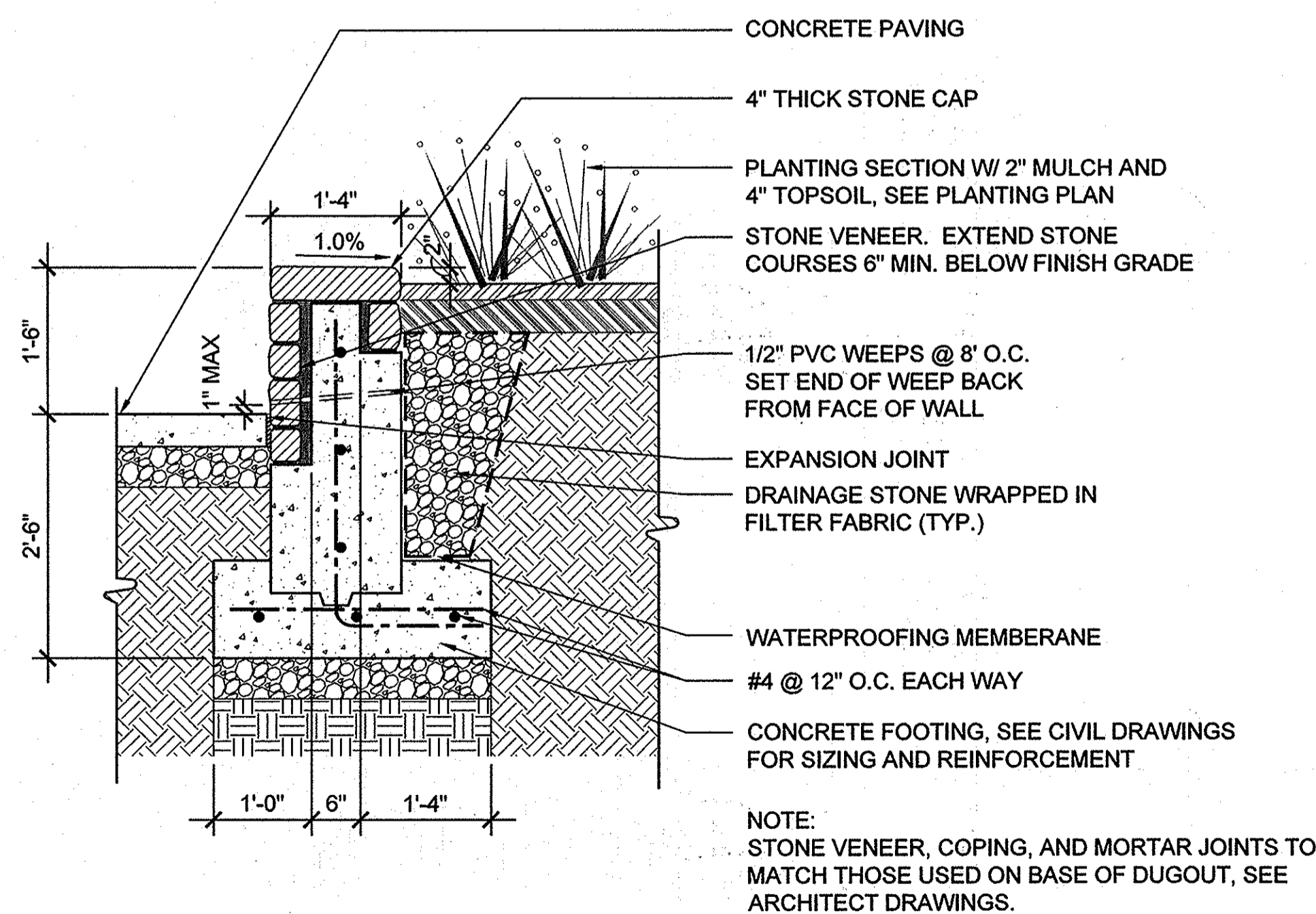
SECTION

NOTE:

- ORIENT HANDLES PARALLEL TO DIRECTION OF PATHWAY
- GRIND ALL EXPOSED SURFACES SMOOTH AND FREE FROM BURRS. PAINT ALL EXPOSED SURFACES WITH 2 COATS 'GLIDDEN GLID GUARD' ALKYD INDUSTRIAL ENAMEL OR APPROVED EQUAL. COLOR TO MATCH BENCH FRAME (BROWN), PROVIDE A SAMPLE FOR APPROVAL.
- CONTRACTOR TO SUBMIT SHOP DWGS. FOR REVIEW PRIOR TO FABRICATION.

1 Removable Metal Bollard

Scale: 3/4" = 1' - 0"



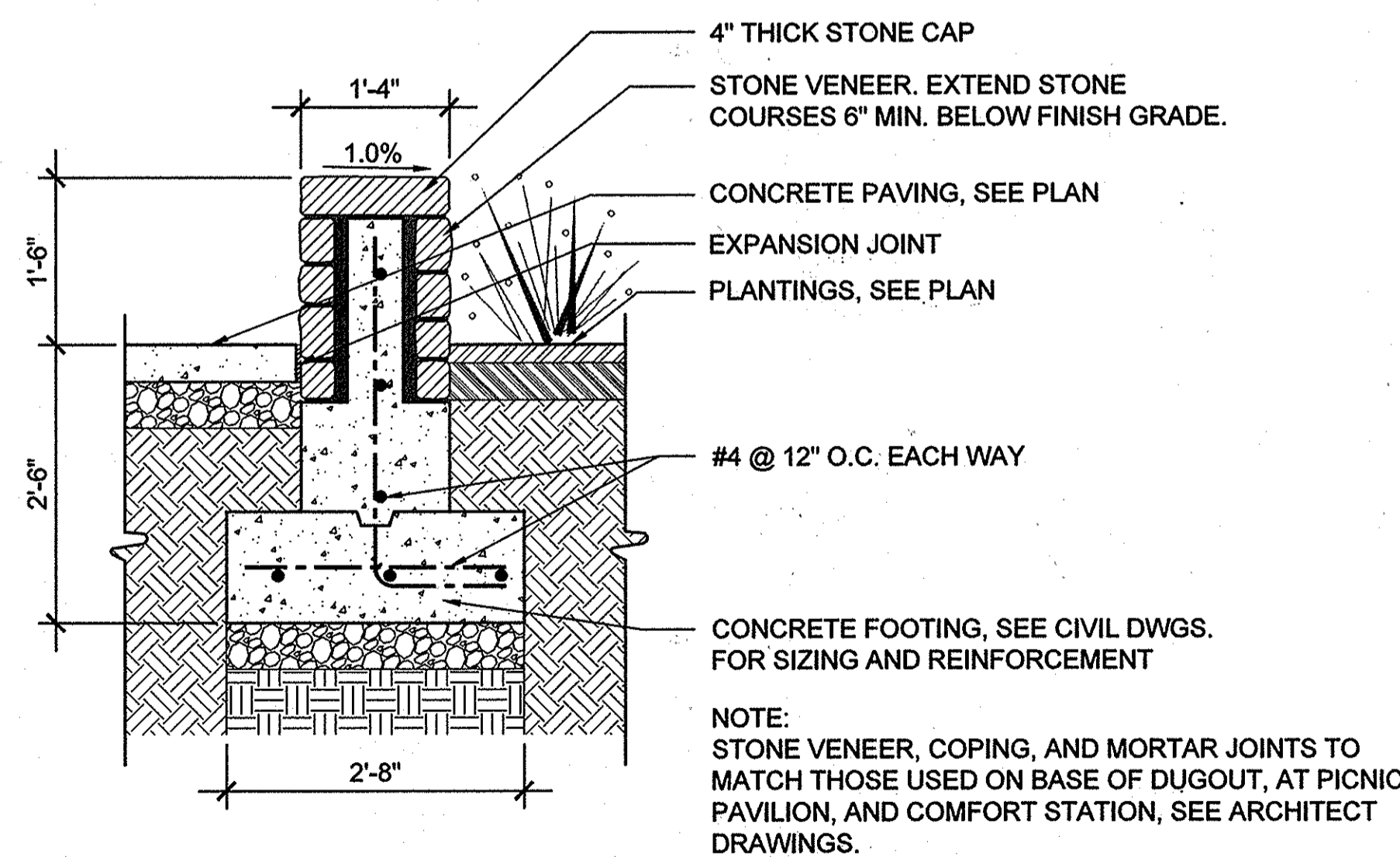
NOTE:
STONE VENEER, COPING, AND MORTAR JOINTS TO MATCH THOSE USED ON BASE OF DUGOUT, SEE ARCHITECT DRAWINGS.

3 Stone Planter Wall

Scale: 3/4" = 1' - 0"

4 Stone Seat Wall

Scale: 3/4" = 1' - 0"

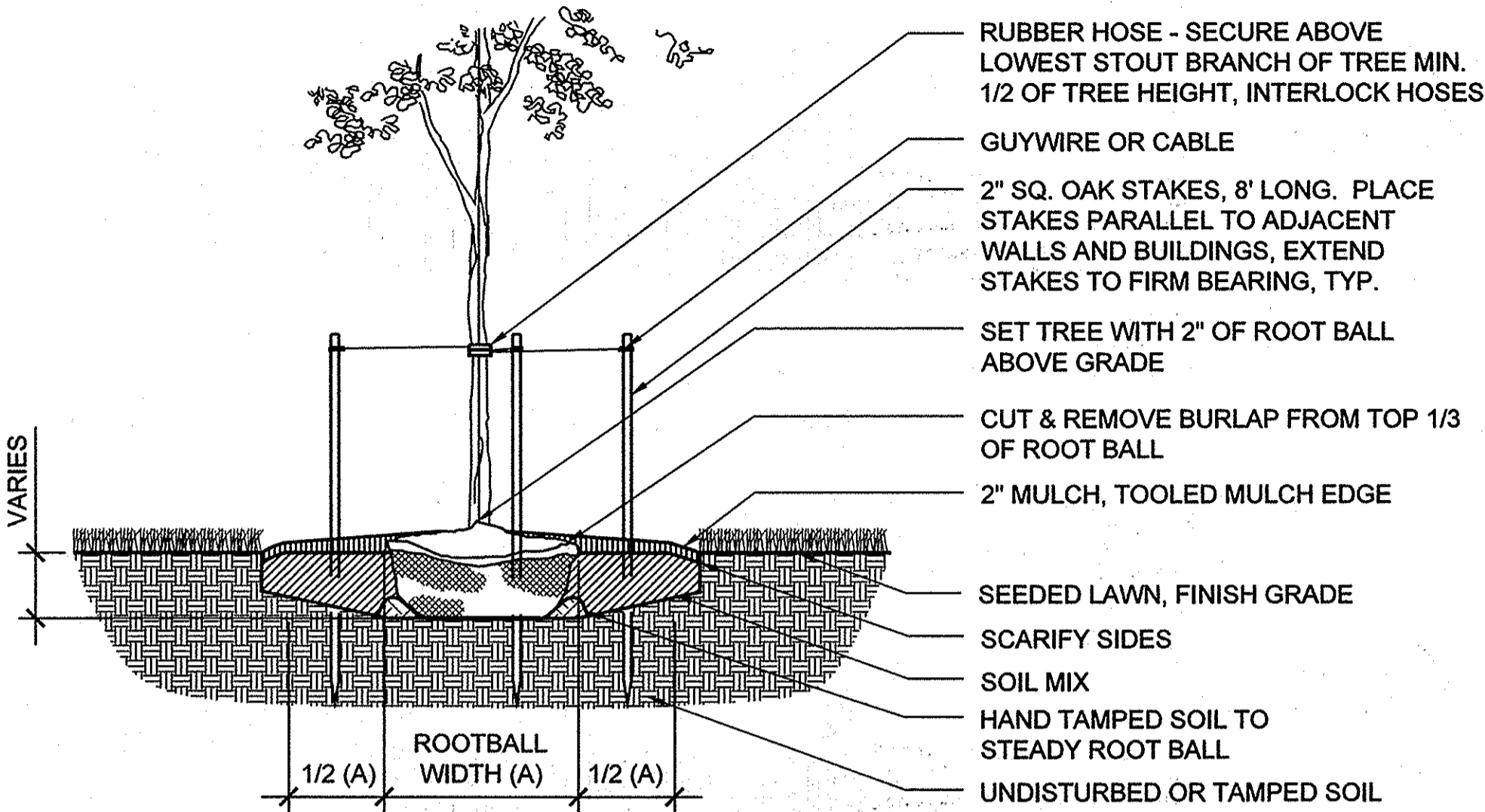
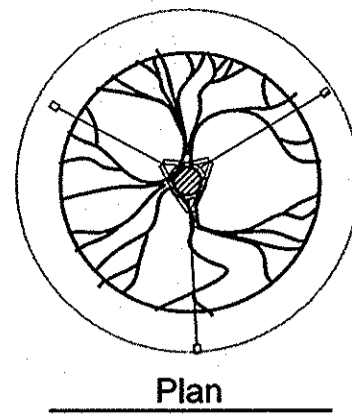


NOTE:
STONE VENEER, COPING, AND MORTAR JOINTS TO MATCH THOSE USED ON BASE OF DUGOUT, AT PICNIC PAVILION, AND COMFORT STATION, SEE ARCHITECT DRAWINGS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Egan</i>	6-17-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Ketola</i>	7-28-14
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>David J. Sauer</i>	7-28-14
DIRECTOR	DATE

Notes:

- DO NOT CUT CENTRAL LEADER.
- FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
- DO NOT PLACE MULCH AGAINST TRUNK.
- TREES TO HAVE SINGLE LEADER.
- CUT AND REMOVE TOP HALF OF WIRE BASKETS.

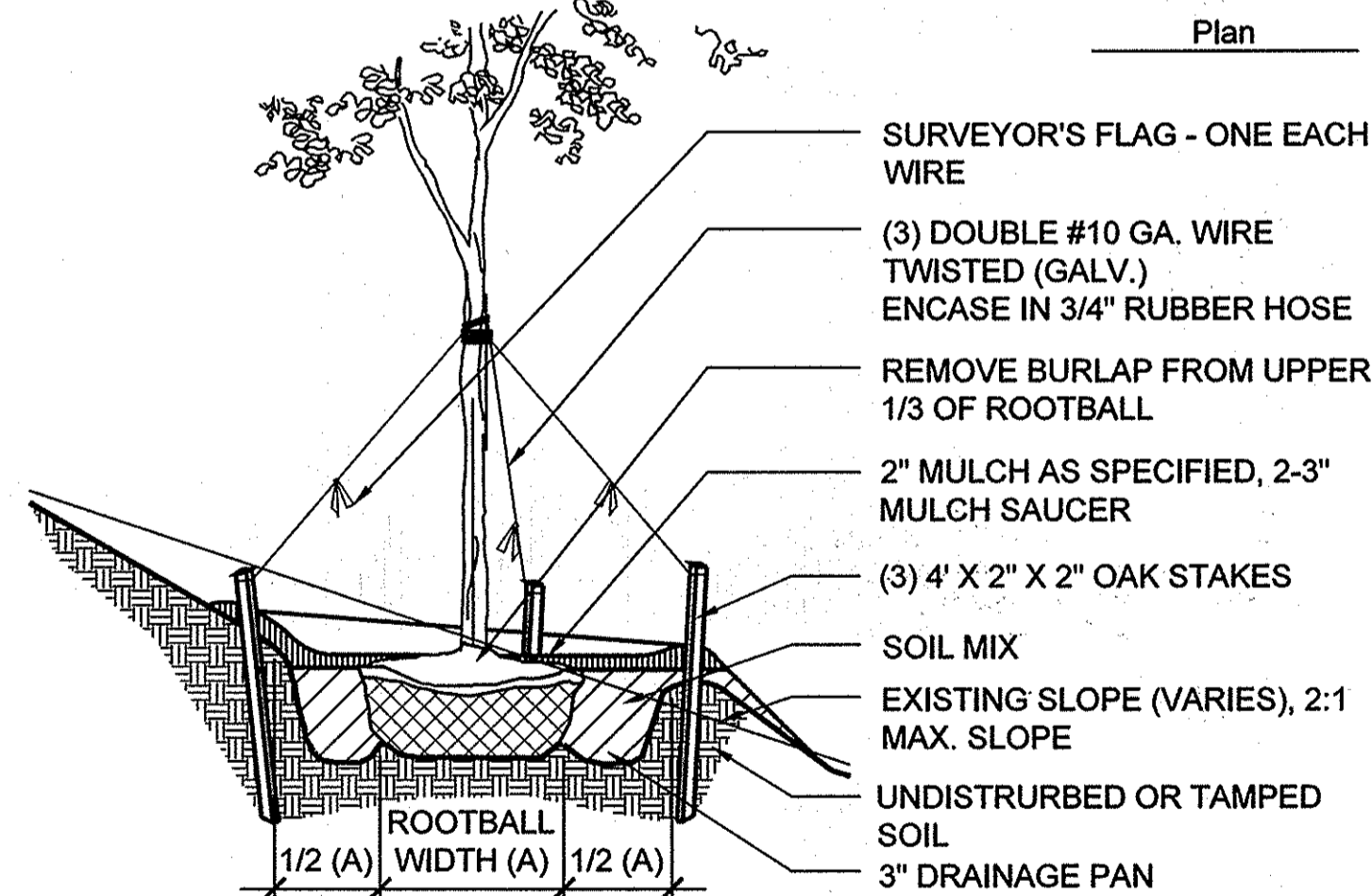
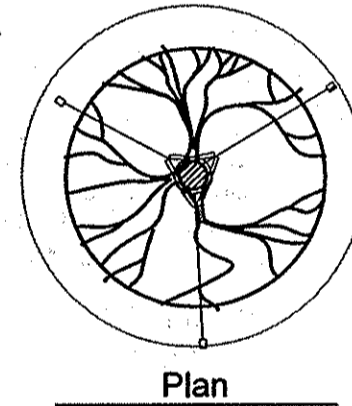


1 Typical Deciduous Tree Planting

Scale: 1/2" = 1'-0"

Notes:

- NEVER CUT CENTRAL LEADER.
- NEVER MULCH AGAINST TRUNK.
- SET TREE WITH 1/8 OF ROOT BALL ABOVE GRADE.
- STAKES, WIRES, AND HOSES SHALL BE REMOVED AFTER ONE YEAR.
- SCARIFY SUBSOIL AND SIDES OF TREE PIT TO A MIN. OF 4" DEPTH.
- TREES UNDER 2-1/2" CAL.: 10" x 2" x 2" STAKES SET VERTICAL, MIN. TWO FEET INTO COMPACTED SUBGRADE.
- TREES TO HAVE SINGLE LEADER.
- CUT AND REMOVE TOP HALF OF WIRE BASKETS.

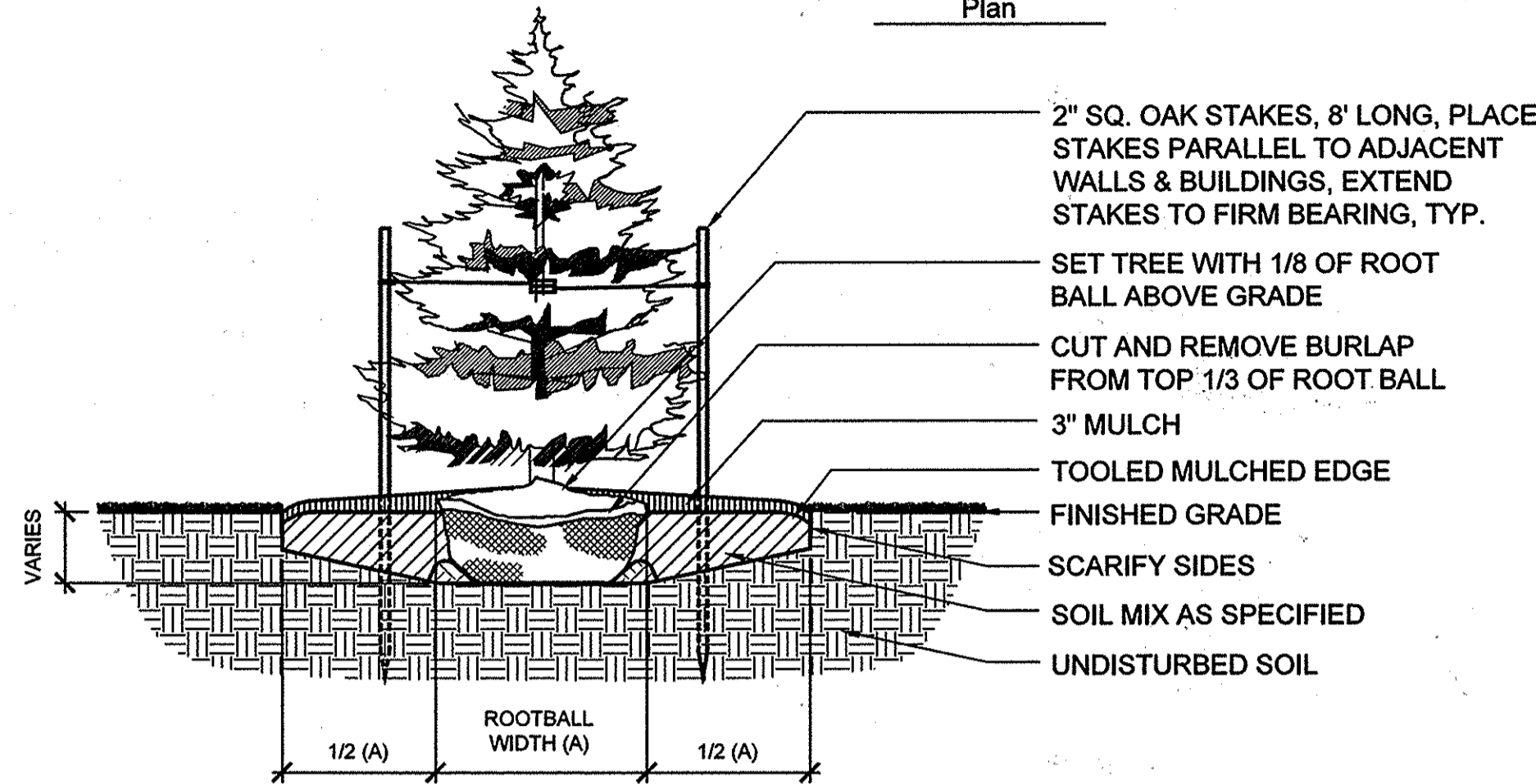
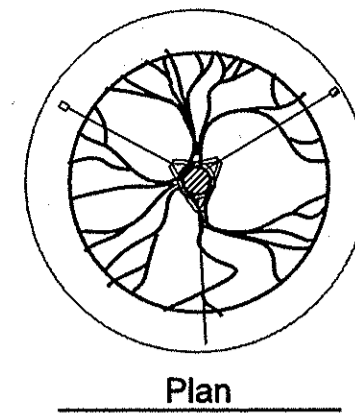


4 Typical Deciduous Tree Planting on Slope

Scale: 1/2" = 1'-0"

Notes:

- NEVER CUT CENTRAL LEADER.
- FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
- TREES TO HAVE SINGLE LEADER.
- CUT AND REMOVE TOP HALF OF WIRE BASKETS.
- DO NOT PLACE MULCH AGAINST TRUNK.

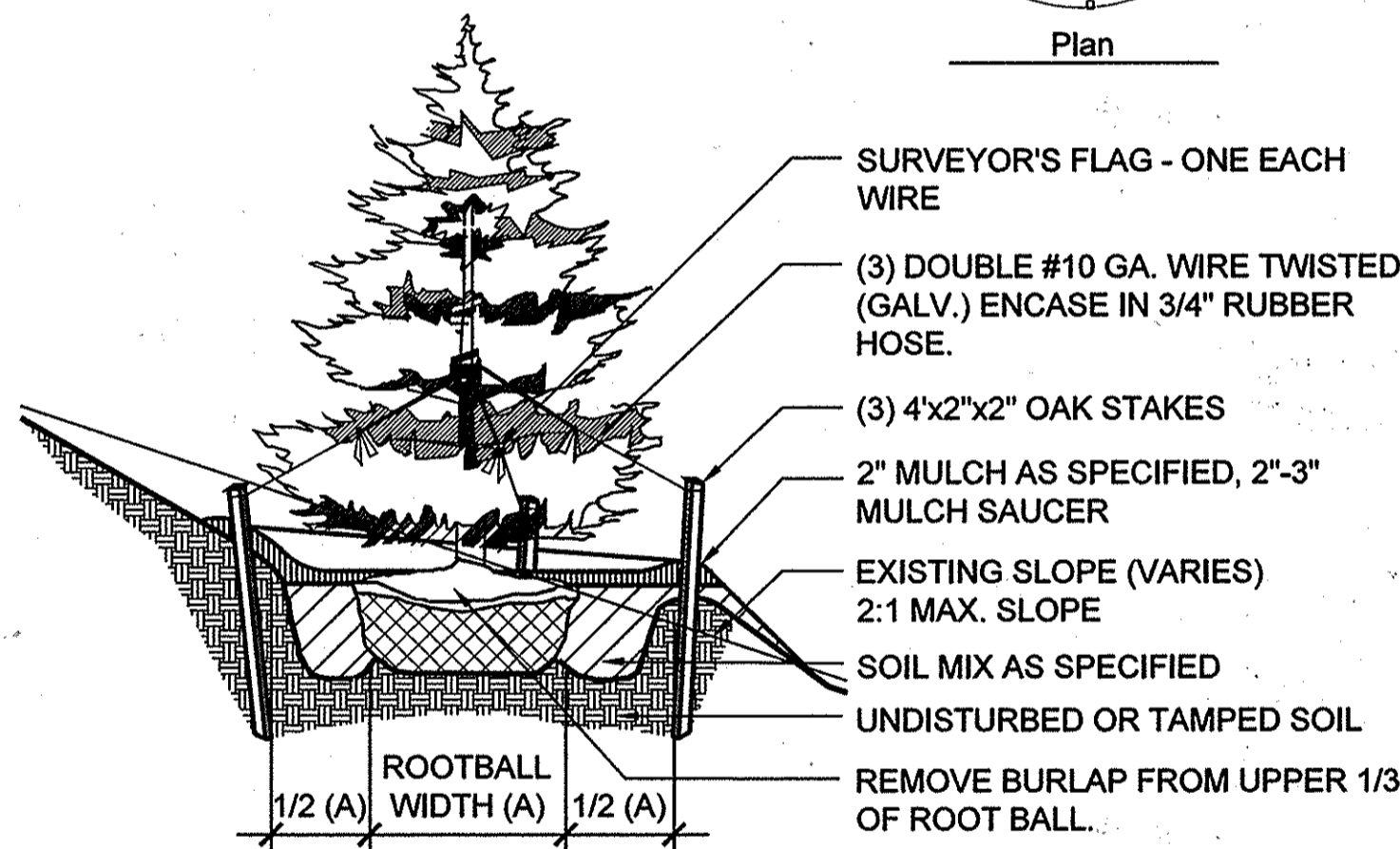
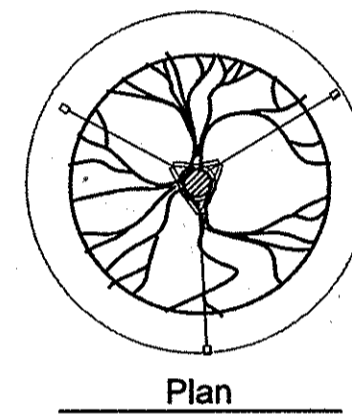


2 Typical Evergreen Tree Planting

Scale: 1/2" = 1'-0"

Notes:

- NEVER CUT CENTRAL LEADER.
- FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
- DO NOT PLACE MULCH AGAINST TRUNK.
- TREES TO HAVE SINGLE LEADER.
- CUT AND REMOVE TOP HALF OF WIRE BASKETS.



5 Typical Evergreen Tree Planting on Slope

Scale: 1/2" = 1'-0"

SEQUENCE OF CONSTRUCTION (GENERAL), REFER TO SPECIFICATIONS

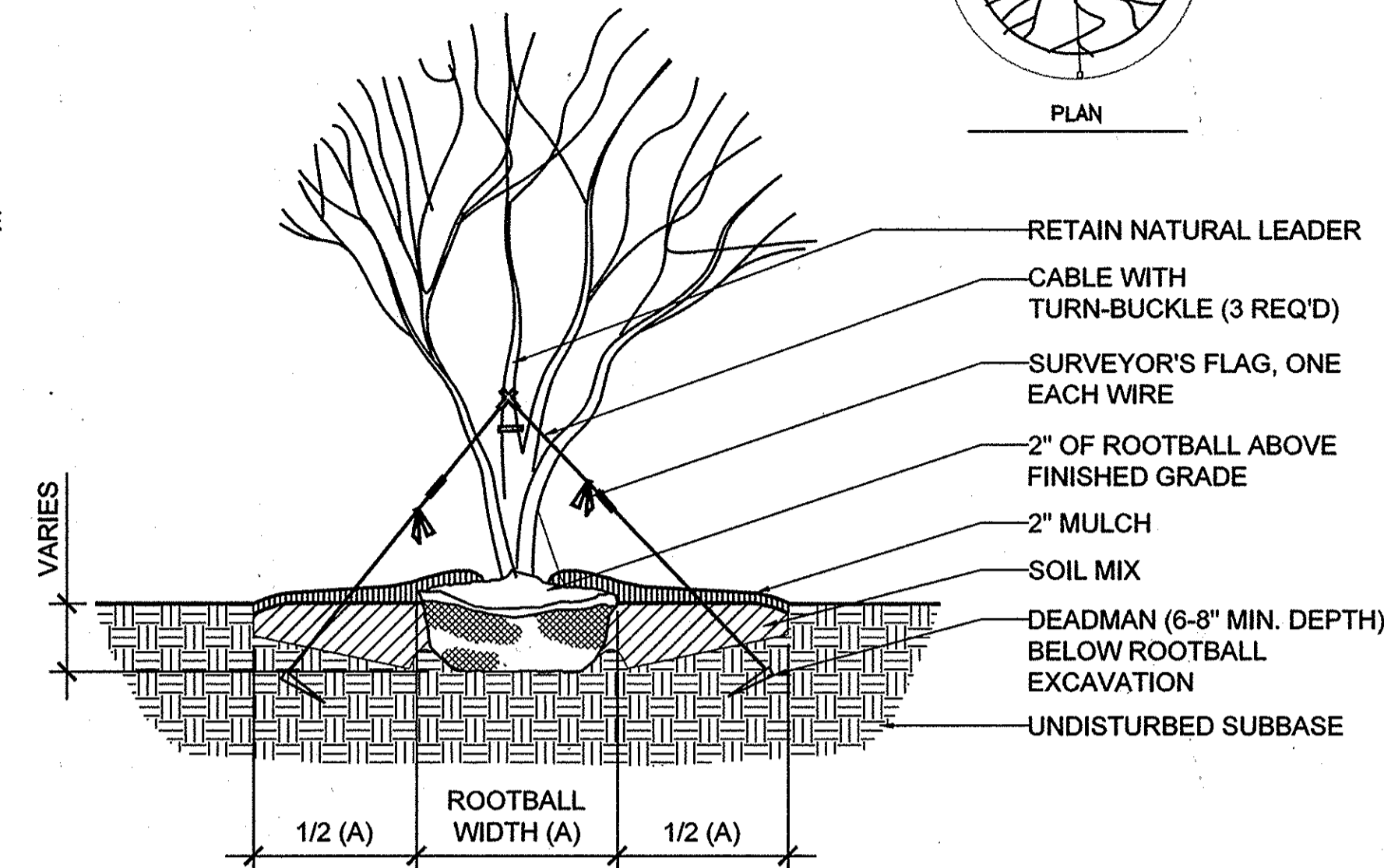
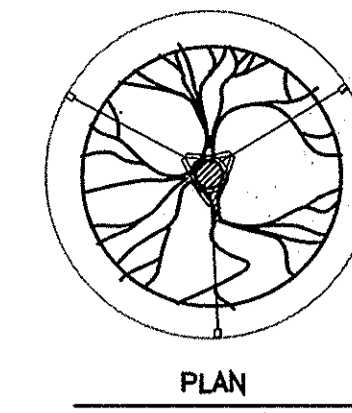
- STAKE OUT PLANT/BED LOCATIONS.
- CUT EDGE OF PLANT BED.
- TILL SOIL AND APPLY AMENDMENTS TO ENTIRE PLANTING AREA.
- APPLY PRE-EMERGENT HERBICIDE (TWO WEEKS PRIOR TO PLANTING).
- INSTALL PLANTS.
- INSTALL FERTILIZER TABLETS IN EACH PLANT PIT.
- PLACE BACKFILL.
- WATER EACH INDIVIDUAL PLANT THOROUGHLY.
- PLACE MULCH OVER ENTIRE PLANT BED.
- WATER ENTIRE PLANT BED THOROUGHLY.

7 Typical Shrub Planting

Scale: 1" = 1'-0"

Notes:

- FOR B&B TREES, REMOVE TOP 1/3 OF BALL WRAP.
- CUT WIRE BASKET IN AT LEAST FOUR LOCATIONS CIRCLING ROOTBALL.
- DO NOT PLACE MULCH AGAINST TRUNK.

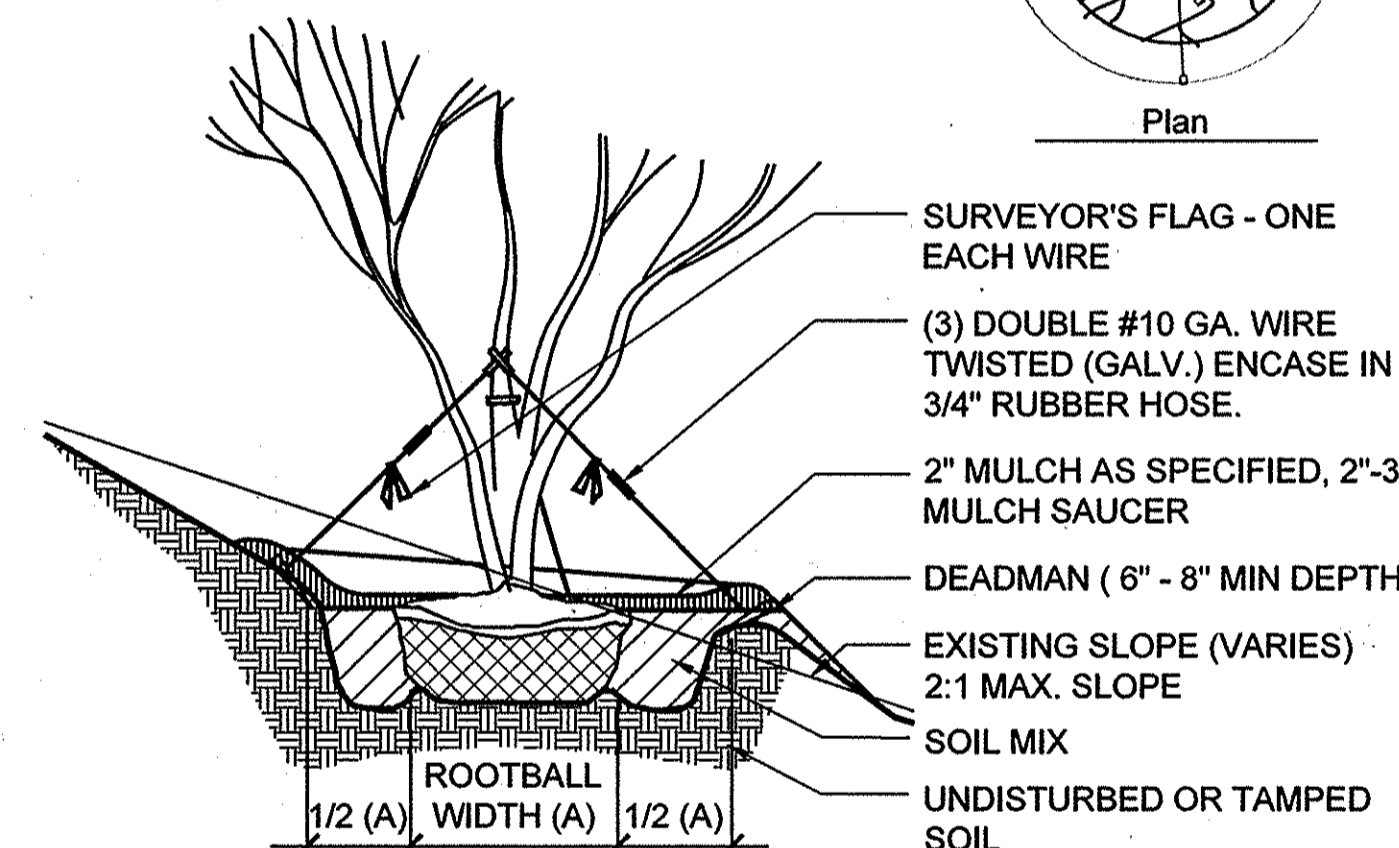
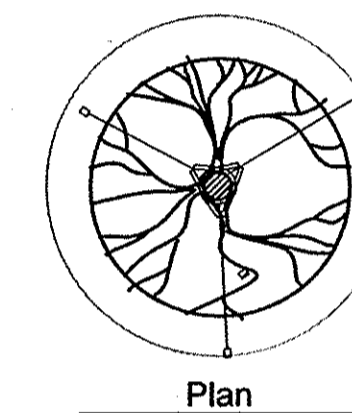


3 Typical Flowering Tree Planting

Scale: 1/2" = 1'-0"

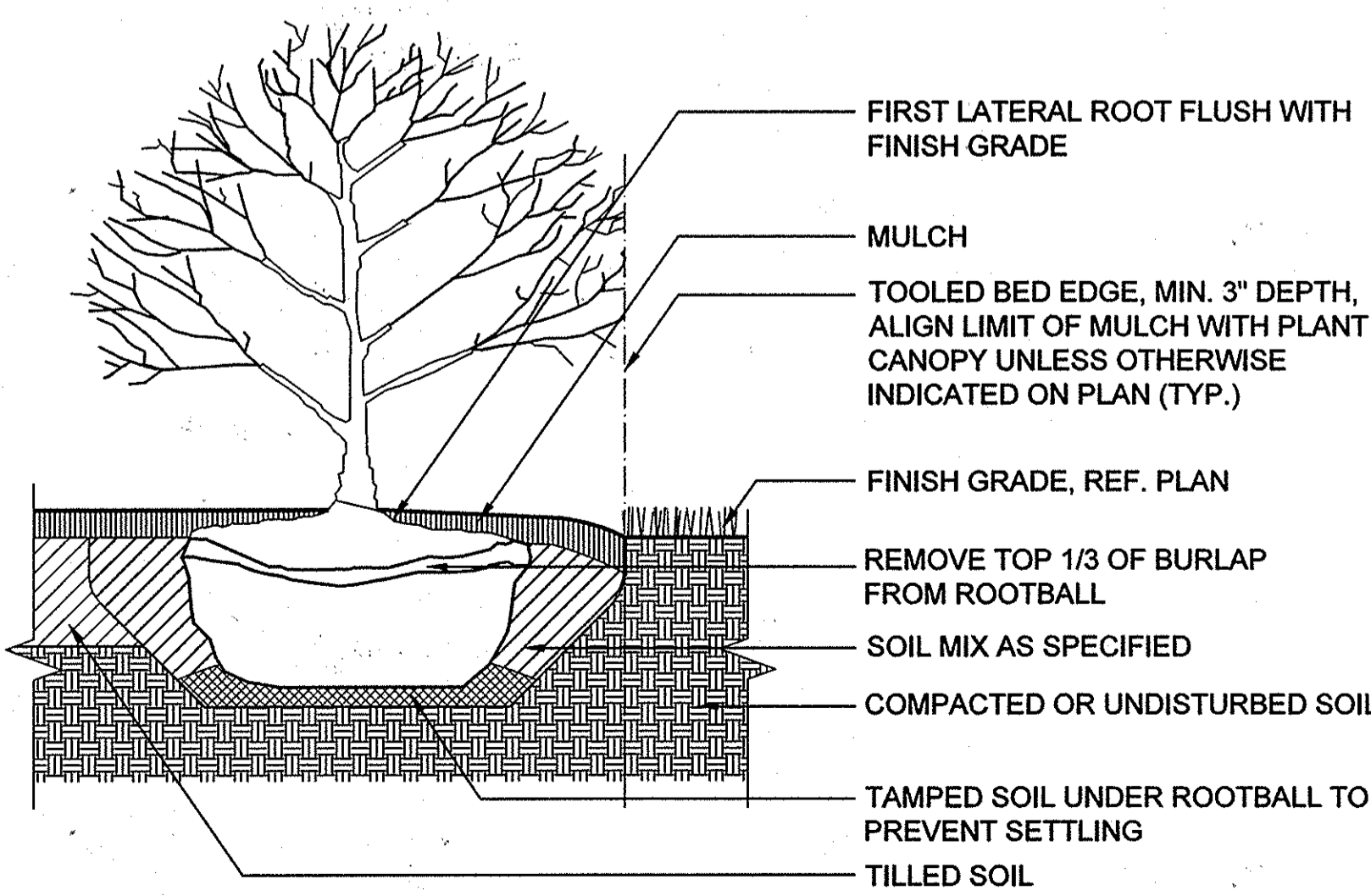
Notes:

- FOR B&B TREES, REMOVE TOP 1/3 OF BALL WRAP.
- CUT WIRE BASKET IN AT LEAST FOUR LOCATIONS CIRCLING ROOTBALL.
- DO NOT PLACE MULCH AGAINST TRUNK.



6 Typical Flowering Tree Planting on Slope

Scale: 1/2" = 1'-0"



APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i>	DATE 6-17-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
<i>[Signature]</i>	DATE 7-28-14
CHIEF, DIVISION OF LAND DEVELOPMENT	
<i>[Signature]</i>	DATE 7-28-14
DIRECTOR	

MAHAN RYKIEL
ASSOCIATES INC.
The Steiff Silver Building, 800 Wyman Park Drive.,
Suite 100, Baltimore, MD 21211 410.235.6001

REVISIONS	

HOWARD COUNTY

DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043



WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

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. 19376
EXPIRATION DATE: 09/22/2015

BLANDAIR REGIONAL PARK - PHASE 2

Planting Details		
Drawing No. L3.1		
Scale: AS SHOWN		
Date: 03/31/2014	Sheet 36 of 41	
Des: CB/NS	Drawn: CO	Check: CB

REVISIONS	

SCHEDULE A PERIMETER LANDSCAPE EDGE			
CATEGORY	ADJACENT TO PERIMETER AND ROADWAYS		
	P-1	P-2	P-3
Perimeter			
Perimeter/Frontage Designation Landscape Type	C	C	C
Linear Feet of Roadway Frontage/Perimeter	660	1000	1050
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	Yes 660	Yes 410	Yes 110
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No
Subtotal (linear feet of perimeter - credits)	0	590	940
Number of Plants Required			
Shade Trees	1:40=0	1:40=15	1:40=24
Evergreen Trees	1:20=0	1:20=30	1:20=47
Shrubs	-	-	-
Number of Plants Provided			
Shade Trees	0	15	24
Evergreen Trees	0	30	47
Other Trees (2:1 Substitution)	-	-	-
Shrubs (10:1 Substitution)	-	-	-
Describe Plant Substitution Credits Below if needed			

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
Number of parking spaces	150
Number of trees required (1 TREE: 20 SPACES)	8
Number of trees provided	
Shade Trees	8
Other Trees (2:1 Substitution)	-

At the time of plant installation, all shrubs and trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from the approved Landscape Plan may result in denial or delay in the final release of the landscape plan until such time as all required materials are planted and/or revisions are made to the applicable plans.

The owner, tenants, and/or their agents shall be responsible for maintenance of the required landscaping including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.

This plan has been prepared in accordance with Section 16.124 of the Howard County Code and Landscape Manual with 47 shade trees, ornamental trees, 22 evergreen trees and shrubs.

Developer's/Owner's Landscape 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 Landscape Manual. I/we further certify that upon completion a Letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

A. Paul DeLeon
Developer's/Owner's Name

HOWARD COUNTY

DEPARTMENT OF
RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF
PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

WR&A

WHITMAN, REQUARDT
& ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

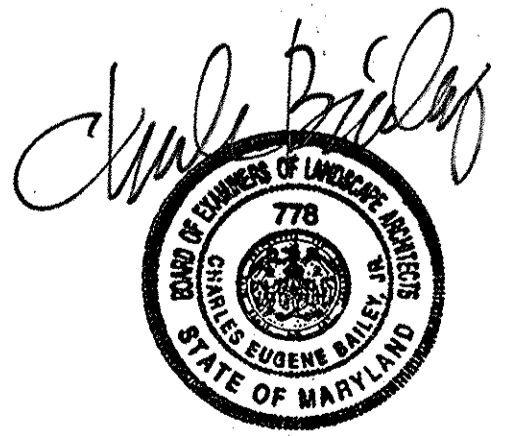
ZONING: RC-DEO

ELECTION DISTRICT 3/7

GRAPHIC SCALES

SIGNATURE

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. 23399
EXPIRATION DATE: 08/25/2014



**BLANDAIR REGIONAL
PARK - PHASE 2**

Plant Schedules

Drawing No. **L3.2**

Scale: AS SHOWN
Date: 03/31/2014 Sheet 37 of 41
Des: CB/NS Drawn: CO Check: CB

MAHAN RYKIEL
ASSOCIATES INC
The Stieff Silver Building, 800 Wyman Park Drive.,
Suite 100, Baltimore, MD 21211 410.235.6001

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Ed Ellis 6-17-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Neil Schindler 7-28-14
CHIEF, DIVISION OF LAND DEVELOPMENT
Kevin J. Savaris 7-28-14
DIRECTOR

PHASE 2 FCP TABLES
This sheet Phase 2 only

Phase 2 Forest to be Retained
No additional Retention for Phase 2

Phase 2 Forest to be Cleared
No additional Clearing for Phase 2

REVISIONS	

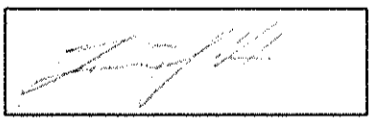
HOWARD COUNTY
DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043

WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
TAX MAP 36, GRID 5, PARCEL 3,72
ZONING: RC-DEO
ELECTION DISTRICT 3/7

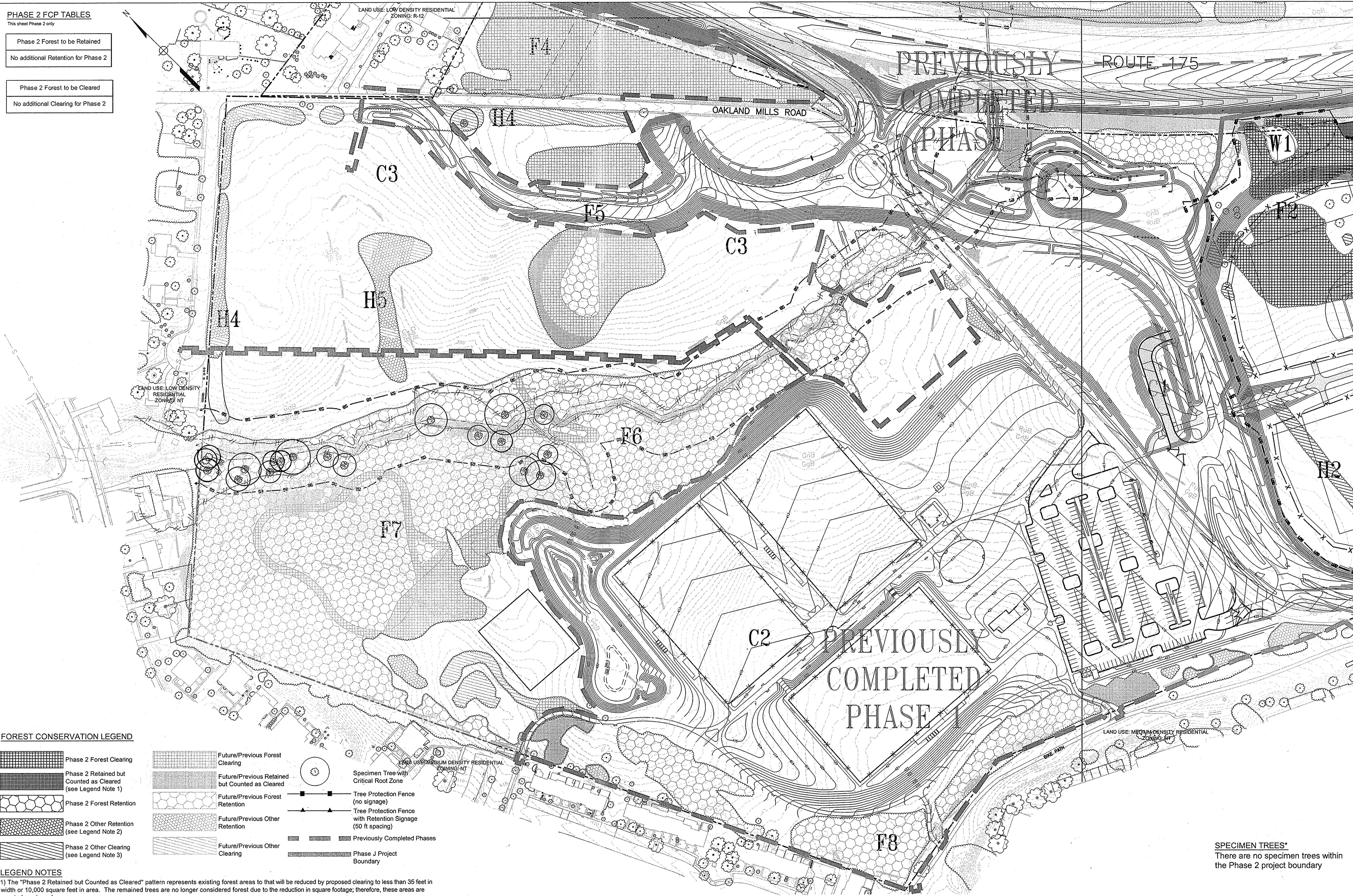
GRAPHIC SCALES
0 50' 100' 200'
SCALE: 1" = 100'

SIGNATURE

TIMOTHY R. HESS 2/27/14
MD DNR QUALIFIED PROFESSIONAL DATE


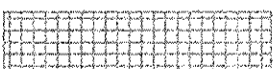




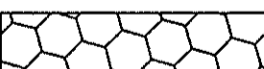
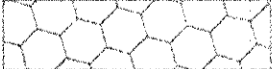

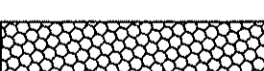
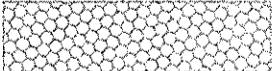




BLANDAIR REGIONAL PARK - PHASE 2

FOREST CONSERVATION PLAN
Drawing No. **F2.1**

Scale: 1" = 100'
Date: 03/31/2014 Sheet 38 of 41
Des: TRH Drawn: TRH Check: ATD



FOREST CONSERVATION LEGEND

 Phase 2 Forest Clearing	 Future/Previous Forest Clearing	 Specimen Tree with Critical Root Zone
 Phase 2 Retained but Counted as Cleared (see Legend Note 1)	 Future/Previous Retained but Counted as Cleared	 Tree Protection Fence (no signage)
 Phase 2 Forest Retention	 Future/Previous Forest Retention	 Tree Protection Fence with Retention Signage (50 ft spacing)
 Phase 2 Other Retention (see Legend Note 2)	 Future/Previous Other Retention	 Previously Completed Phases
 Phase 2 Other Clearing (see Legend Note 3)	 Future/Previous Other Clearing	 Phase J Project Boundary

LEGEND NOTES
1) The "Phase 2 Retained but Counted as Cleared" pattern represents existing forest areas to that will be reduced by proposed clearing to less than 35 feet in width or 10,000 square feet in area. The retained trees are no longer considered forest due to the reduction in square footage; therefore, these areas are counted as cleared.
2) The "Phase 2 Other Retention" pattern represents existing tree areas (non-forest) less than 35 feet in width or 10,000 square feet in area that will be retained. These areas are not counted as cleared, nor are they counted as retained.
3) The "Phase 2 Other Clearing" pattern represents existing tree areas (non-forest) less than 35 feet in width or 10,000 square feet in area that will be cleared.

SPECIMEN TREES*
There are no specimen trees within the Phase 2 project boundary

SOILS TABLE

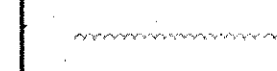
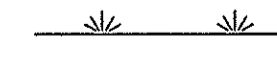
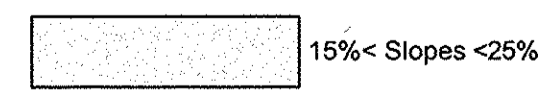

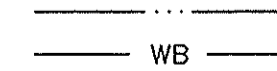


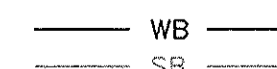
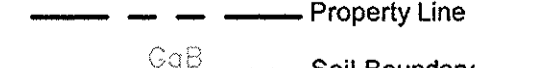

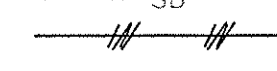
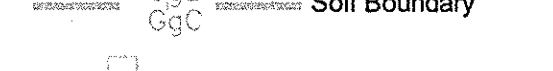





SOIL MAP UNIT	SOIL NAME	ERODIBLE*	HYDRIC
GgB	Glenelg loam, 3-8% slopes	No	No
GgC	Glenelg loam, 8-15% slopes	No	No
GhB	Glenelg-Urban land complex, 0-8% slopes	No	No
GnB	Glenville-Balle silt loams, 0-8% slopes	Yes	Partial ¹
GoB	Glenville-Codonus silt loams, 0-8% slopes	Yes	No
GuB	Glenville-Urban land-Udorthents complex, 0-8% slopes	Partial ²	No
MaC	Manor loam, 8-15% slopes	No	No
RuB	Russell and Beltsville soils, 2-5% slopes	Partial ²	No


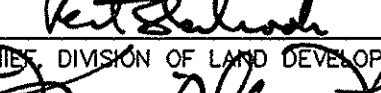
* Erodible soils have a K value greater than 0.35
¹ Only the Balle component of the Glenville-Balle soil type is hydric
² Only the Glenville and Beltsville components of soil types GuB and RuB are erodible.

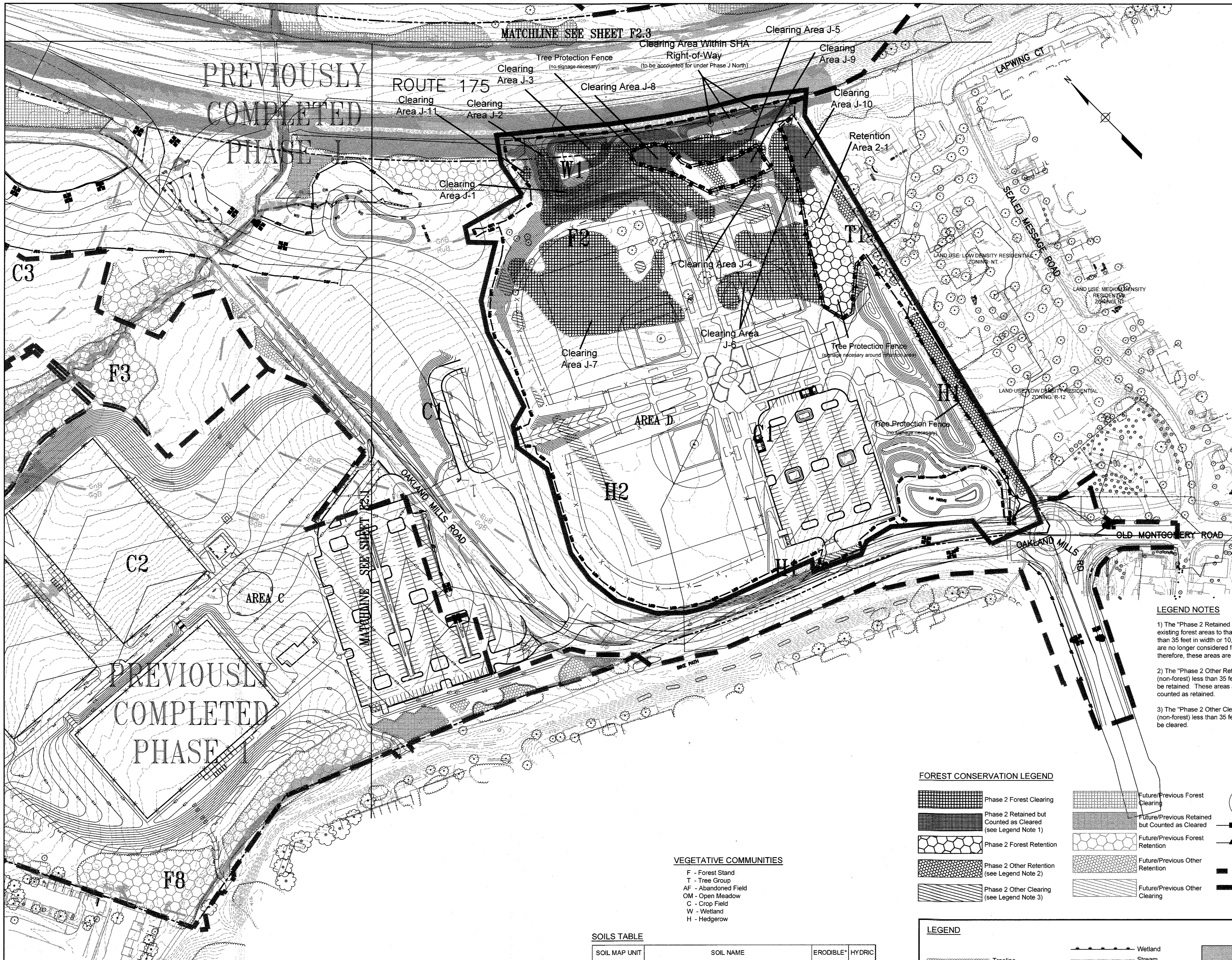
VEGETATIVE COMMUNITIES

- F - Forest Stand
- T - Tree Group
- AF - Abandoned Field
- OM - Open Meadow
- C - Crop Field
- W - Wetland
- H - Hedgerow

LEGEND

 Treeline	 Wetland	 15% < Slopes < 25%
 Shrubline	 Stream	 Slopes > 25%
 Individual Trees/Shrubs	 WB - Wetland Buffer	 Property Line
 Existing Reforestation Plantings	 SB - Stream Buffer	 Soil Boundary
 Gravel Path/Driveway	 Floodplain Line	 Existing Structure
	 Grass Trail	
	 LOD - Limit of Disturbance	

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 6-17-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 7-28-14
DIRECTOR DATE



PHASE 2 FCP TABLES
This sheet Phase 2 only

Phase 2 Forest to be Cleared	
Area 1	35,967.9 SF
Area 2**	558.5 SF
Area 3**	3,747.4 SF
Area 4	904.1 SF
Area 5*	7,778.7 SF
Area 6	32,323.8 SF
Area 7	50,933.7 SF
Area 8	3,396.7 SF
Area 9	3,180.5 SF
Area 10	6,698.3 SF
Area 11	588.0 SF
Total	146,055.6 SF / 3.35 Acres

* - Includes Some Offsite Clearing
** - All Offsite Clearing

Phase 2 Forest to be Retained	
Area 1	17,005.4 SF
Total	17,005.4 SF / 0.39 Acres

SHA RIGHT-OF-WAY CLEARING

Due to minor adjustments in the limit of disturbance 2 individual trees and 1,191 sq. ft. of hedgerow will be cleared in the SHA Right-of-Way that is not accounted for under this FCP. Phase J North is currently under review and proposing mitigation for similar impacts associated with that phase. The roadside tree clearing not covered in this Phase 2 FCP clearing will be included in that mitigation effort in the Landscape Plans associated with Phase J North.

REVISIONS	
REVISOR	DATE
REVISED SITE DEVELOPMENT PLAN	10/26/16

HOWARD COUNTY
DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21046

DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLCOTT CITY, MD 21043



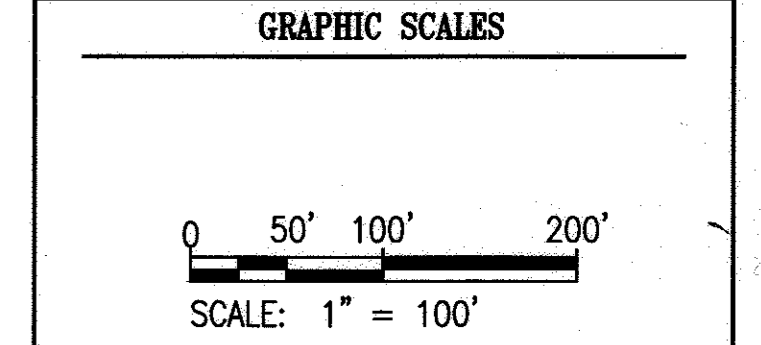
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21201
Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY

TAX MAP 36, GRID 5, PARCEL 3,72

ZONING: RC-DEO

ELECTION DISTRICT 3/7



SIGNATURE

Timothy R. Hess

TIMOTHY R. HESS DATE
MD DNR QUALIFIED PROFESSIONAL

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. 18376
EXPIRATION DATE: 09/22/2017

BLANDAIR REGIONAL PARK - PHASE 2

FOREST CONSERVATION PLAN
Drawing No. **F2.2**

Scale: 1" = 100'
Date: 03/24/16 Sheet 39 of 41
Des: TRH Drawn: TRH Check: ATD

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Clark 1-16-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Walter Lewis 1-11-17
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Nathan J. ... 1-11-17
DIRECTOR DATE

VEGETATIVE COMMUNITIES

F - Forest Stand
T - Tree Group
AF - Abandoned Field
OM - Open Meadow
C - Crop Field
W - Wetland
H - Hedgerow

SOILS TABLE

SOIL MAP UNIT	SOIL NAME	ERODIBLE*	HYDRIC
GgB	Glenelg loam, 3-8% slopes	No	No
GpC	Glenelg loam, 8-15% slopes	No	No
GhB	Glenelg-Urban land complex, 0-8% slopes	No	No
GnB	Glenville-Baile silt loams, 0-8% slopes	Yes	Partial†
GoB	Glenville-Codorus silt loams, 0-8% slopes	Yes	No
GuB	Glenville-Urban land-Udorthens complex, 0-8% slopes	Partial†	No
MaC	Manor loam, 8-15% slopes	No	No
RuB	Russett and Beltsville soils, 2-5% slopes	Partial†	No

* Erodible soils have a K value greater than 0.35
† Only the Baile component of the Glenville-Baile soil type is hydric
‡ Only the Glenville and Beltsville components of soil types GuB and RuB are erodible.

FOREST CONSERVATION LEGEND

	Phase 2 Forest Clearing		Future/Previous Forest Clearing		Specimen Tree with Critical Root Zone
	Phase 2 Retained but Counted as Cleared (see Legend Note 1)		Future/Previous Retained but Counted as Cleared		Tree Protection Fence (no signage)
	Phase 2 Forest Retention		Future/Previous Forest Retention		Tree Protection Fence with Retention Signage (50 ft spacing)
	Phase 2 Other Retention (see Legend Note 2)		Future/Previous Other Retention		Previously Completed Phases
	Phase 2 Other Clearing (see Legend Note 3)		Future/Previous Other Clearing		Phase J Project Boundary

LEGEND

	Treeline		Wetland		15% < Slopes < 25%
	Shrubline		Stream		Slopes > 25%
	Individual Trees/Shrubs		Wetland Buffer		Property Line
	Reforestation Plantings		Stream Buffer		Soil Boundary
	Gravel Path/Driveway		Grass Trail		Existing Structure



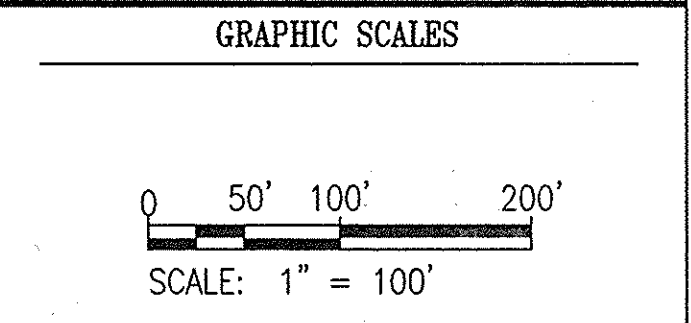
REVISIONS	

HOWARD COUNTY
 DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 COLUMBIA, MD 21046

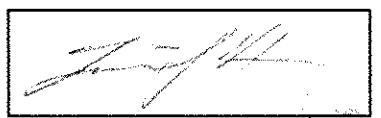
DEPARTMENT OF PUBLIC WORKS
 9250 BENDIX ROAD
 ELLICOTT CITY, MD 21043

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 Phone: 410-235-3450 Fax: 410-243-5716

PROPERTY
 TAX MAP 36, GRID 5, PARCEL 3.72
 ZONING: RC-DEO
 ELECTION DISTRICT 3/7


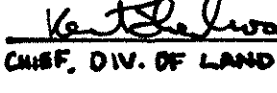


SIGNATURE



TIMOTHY R. HESS
 MD DNR QUALIFIED PROFESSIONAL

2/27/14
 DATE

APPROVED: DEPT. OF PLANNING AND ZONING
 6-17-14
 CHIEF, DEVELOPMENT ENG. DIV.
 7-28-14
 CHIEF, DIV. OF LAND DEVELOPMENT

DIRECTOR

BLANDAIR REGIONAL PARK - PHASE 2

FOREST CONSERVATION PLAN
 Drawing No. **F2.3**

Scale: 1" = 100'
 Date: 03/31/2014 Sheet 40 of 41
 Des: TRH Drawn: TRH Check: ATD

SOILS TABLE

SOIL MAP UNIT	SOIL NAME	ERODIBLE*	HYDRIC
GgB	Glenville loam, 3-8% slopes	No	No
GgC	Glenville loam, 8-15% slopes	No	No
GnB	Glenville-Baile silt loams, 0-8% slopes	No	No
GnD	Glenville-Baile silt loams, 0-8% slopes	Yes	Partial†
GsB	Glenville-Codorus silt loams, 0-8% slopes	Yes	No
GsD	Glenville-Urban land/Libbarts complex, 0-8% slopes	Partial†	No
MnC	Manor loam, 8-15% slopes	No	No
RuB	Russell and Bettsville soils, 2-6% slopes	Partial†	No

*Erodible soils have a factor value greater than 0.35.
 †Only the BtC component of soil type Glenville-Baile silt loams is hydric.
 ‡Only the A1C component of this soil type is erodible.

SPECIMEN TREES*
 *This sheet only. See Sheet 04 of 04 for complete list.

Label	Common Name	Scientific Name	DBH	Condition	Stand	Save or Remove
T36	Red Maple	Acer rubrum	44.7"	Poor	10	S
T37	White Oak	Quercus alba	34.0"	Good	10	S
T38	Red Maple	Acer rubrum	30.0"	Poor	10	S
T39	White Oak	Quercus alba	32.5"	Fair	10	S
T40	White Oak	Quercus alba	30.5"	Good	10	S
T41	Black Cherry	Prunus serotina	28.5"	Poor	10	S

PHASE 2 FCP TABLES
 This sheet Phase 2 only

Label	Common Name	Scientific Name	DBH	Condition	Stand	Save or Remove
T41	Red Maple	Acer rubrum	30.7"	Fair	12	S
T42	Red Maple	Acer rubrum	34.5"	Poor	12	S
T43	Red Maple	Acer rubrum	34.5"	Fair	12	S
T44	Red Maple	Acer rubrum	30.0"	Fair	12	S
T45	Red Maple	Acer rubrum	36.0"	Fair	12	S
T46	Tulip Poplar	Liriodendron tulipifera	35.5"	Good	12	S
T47	Tulip Poplar	Liriodendron tulipifera	35.5"	Good	12	S
T48	Tulip Poplar	Liriodendron tulipifera	38.5"	Good	12	S
T49	Tulip Poplar	Liriodendron tulipifera	37.5"	Good	12	S
T72	Tulip Poplar	Liriodendron tulipifera	32.5"	Good	12	S
T101	Tulip Poplar	Liriodendron tulipifera	33.5"	Good	12	S
T102	Tulip Poplar	Liriodendron tulipifera	33.5"	Good	12	S
T103	Tulip Poplar	Liriodendron tulipifera	34.8"	Good	12	S
T104	Tulip Poplar	Liriodendron tulipifera	35.2"	Good	12	S

VEGETATIVE COMMUNITIES

F - Forest Stand
 T - Tree Group
 AF - Abandoned Field
 OM - Open Meadow
 C - Crop Field
 W - Wetland
 H - Hedgerow

Phase 2 Forest to be Retained
 No additional Retention for Phase 2

Phase 2 Forest to be Cleared
 No additional Clearing for Phase 2

FOREST CONSERVATION LEGEND

- Phase 2 Forest Clearing
- Phase 2 Retained but Counted as Cleared (see Legend Note 1)
- Phase 2 Forest Retention
- Phase 2 Other Retention (see Legend Note 2)
- Phase 2 Other Clearing (see Legend Note 3)
- Future/Previous Forest Clearing
- Future/Previous Retained but Counted as Cleared
- Future/Previous Forest Retention
- Future/Previous Other Retention
- Future/Previous Other Clearing
- Tree Protection Fence (no signage)
- Tree Protection Fence with Retention Signage (50 ft spacing)

LEGEND

- Treeline
- Shrubline
- Individual Trees/Shrubs
- Reforestation Plantings
- Specimen Tree
- Gravel Path/Driveway
- Wetland
- Stream
- Wetland Buffer
- Stream Buffer
- Floodplain Line
- Grass Trail
- 15% < Slopes < 25%
- Slopes > 25%
- Property Line
- Soil Boundary
- LOD - Limit of Disturbance

FILENAME: N:\45039-005\CADD\GEN\GENERAL\F23.DWG PLOT DATE: 4/1/2014 10:20:20 AM PANE SETUP: WGA-PDF COLOR: PLOT STYLE: WGA_PLOT.ctb PAPER: SIZE: 0x0

CONSTRUCTION PERIOD PROTECTION PROGRAM

- PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL LOCATE THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD
- PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES, BLAZE ORANGE FENCING SHALL BE INSTALLED AS PER DETAIL THIS SHEET ALONG ALL LIMITS OF DISTURBANCE ADJACENT TO WOODLANDS AND AS INDICATED ON FOREST CONSERVATION PLAN SHEETS FCP02 THROUGH FCP06.
- PROTECTIVE SIGNAGE SHALL BE INSTALLED AS PER DETAIL THIS SHEET AND AS INDICATION ON FOREST CONSERVATION PLAN SHEETS FCP02 THROUGH FCP06.
- TREES TO BE REMOVED SHALL BE TAKEN OUT WITHOUT DAMAGING PROTECTED TREES.
- ALL EQUIPMENT AND MACHINERY SHALL BE KEPT INSIDE THE BLAZE ORANGE FENCING AND WITHIN THE LOD.
- ANY TYPE OF DISTURBANCE BEYOND THE LOD IS STRICTLY PROHIBITED.
- PLACEMENT OF EXCAVATED/BACKFILL MATERIAL AND STORAGE OF EQUIPMENT/MACHINERY SHALL BE AVOIDED WITHIN THE CRITICAL ROOT ZONE AREAS OF SPECIMEN TREES IN ORDER TO MINIMIZE SOIL COMPACTION IN THESE SENSITIVE AREAS.
- ROOT PRUNING AS PER DETAIL THIS SHEET SHALL BE UTILIZED FOR PROTECTION OF SPECIMEN TREES IN AREAS WHERE SPECIMEN TREE CRITICAL ROOT ZONES ARE LOCATED INSIDE THE LOD.
- QUALIFIED PROFESSIONAL(S) RESPONSIBLE FOR MONITORING FOREST CONSERVATION REQUIREMENTS AND PERFORMING ANY NECESSARY CONSTRUCTION PERIOD MANAGEMENT SHALL VISIT THE PROJECT SITE ON TWO OCCASIONS:
 - THE FIRST VISIT SHALL VERIFY PROPER INSTALLATION OF PROTECTIVE DEVICES AND COMPLETION OF OTHER PROTECTIVE MEASURES AND SHALL OCCUR BEFORE ANY CONSTRUCTION BEGINS.
 - THE SECOND VISIT SHALL VERIFY CONTINUED COMPLIANCE WITH THE FOREST CONSERVATION PLAN AND ACCESS THE NEED FOR ADDITIONAL PROTECTIVE MEASURES TO MAINTAIN THE HEALTH OF THE RETENTION AREAS. THIS VISIT WILL OCCUR DURING THE CONSTRUCTION PERIOD.

POST-CONSTRUCTION PERIOD PROTECTION PROGRAM

A POST CONSTRUCTION PROTECTION PROGRAM IS REQUIRED TO GIVE THE FOREST RESOURCES SAVED OR PLANTED AS PART OF THE DEVELOPMENT PROPOSAL A HIGH PROBABILITY OF ACHIEVING THE SURVIVAL RATES REQUIRED FOR RELEASE OF SURETY, AS WELL AS LONG-TERM SURVIVAL. THE POST-CONSTRUCTION PROTECTION PROGRAM PERIOD SHALL BE FOR A MINIMUM OF TWO GROWING SEASONS, AS SPECIFIED IN THE HOWARD COUNTY FOREST CONSERVATION MANUAL.

PRESERVATION REQUIREMENTS

THE AREAS FOR FOREST RETENTION, REFORESTATION OR AFFORESTATION BY AN APPROVED FOREST CONSERVATION PLAN MUST BE PERMANENTLY PROTECTED AND RECORDED AS EITHER NON-DEVELOPABLE OPEN SPACE OR AS CONSERVATION EASEMENTS.

FOREST CONSERVATION WORKSHEET
VERSION 1.0
(Enter in Yellow Cells)

NET TRACT AREA:

A. Total tract area.....	=	309.21
B. Area within 100 year floodplain.....	=	3.40
C. Area to remain in agricultural production.....	=	0.00
D. Net tract area.....	=	305.81

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

E. Afforestation Threshold.....	15% x D =	45.87
F. Conservation Threshold.....	20% x D =	61.16

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain).....	=	108.52
H. Area of forest above afforestation threshold.....	=	62.65
I. Area of forest above conservation threshold.....	=	47.36

BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation.....	=	70.63
K. Clearing permitted without mitigation.....	=	37.89

PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared.....	=	45.33	Phase 1-2 clearing = 10.12 acres. The remaining acreage is future estimated clearing.
M. Total area of forest to be retained.....	=	63.19	Phase 1-2 retention = 3.61 acres. The remaining acreage is future estimated retention.

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold.....	=	11.33
O. Reforestation for clearing below conservation threshold.....	=	0.00
P. Credit for retention above conservation threshold.....	=	2.03
R. Total reforestation required.....	=	9.30
S. Total afforestation required.....	=	0.00
T. Total reforestation and afforestation required.....	=	9.30

PHASE 2 FOREST CONSERVATION TABLE

Total Forest Cleared	130,407.3 SF / 3.00 Acres
Total Forest Retained	31,357.5 SF / 0.72 Acres
Total Other Clearing	19,804.5 SF / 0.45 Acres
Total Other Retention	12,760.7 SF / 0.29 Acres
Total Forest to be Protected by Conservation Easement	31,357.5 SF / 0.72 Acres

PHASE 5 FOREST CONSERVATION TABLE

Total Forest Cleared	SF / Acres
Total Forest Retained	SF / Acres
Total Other Clearing	SF / Acres
Total Other Retention	SF / Acres
Total Forest to be Protected by Conservation Easement	SF / Acres

OVERALL FOREST CONSERVATION TABLE

Total Forest Cleared	440,873.1 SF / 10.12 Acres
Total Forest Retained	157,404.7 SF / 3.61 Acres
Total Other Clearing	143,272.2 SF / 3.29 Acres
Total Other Retention	19,442.6 SF / 0.45 Acres
Total Forest to be Protected by Conservation Easement	157,404.7 SF / 3.61 Acres

PHASE 3 FOREST CONSERVATION TABLE

Total Forest Cleared	SF / Acres
Total Forest Retained	SF / Acres
Total Other Clearing	SF / Acres
Total Other Retention	SF / Acres
Total Forest to be Protected by Conservation Easement	SF / Acres

PHASE 6 FOREST CONSERVATION TABLE

Total Forest Cleared	SF / Acres
Total Forest Retained	SF / Acres
Total Other Clearing	SF / Acres
Total Other Retention	SF / Acres
Total Forest to be Protected by Conservation Easement	SF / Acres

PHASE 4 FOREST CONSERVATION TABLE

Total Forest Cleared	SF / Acres
Total Forest Retained	SF / Acres
Total Other Clearing	SF / Acres
Total Other Retention	SF / Acres
Total Forest to be Protected by Conservation Easement	SF / Acres

PHASE 7 FOREST CONSERVATION TABLE

Total Forest Cleared	SF / Acres
Total Forest Retained	SF / Acres
Total Other Clearing	SF / Acres
Total Other Retention	SF / Acres
Total Forest to be Protected by Conservation Easement	SF / Acres

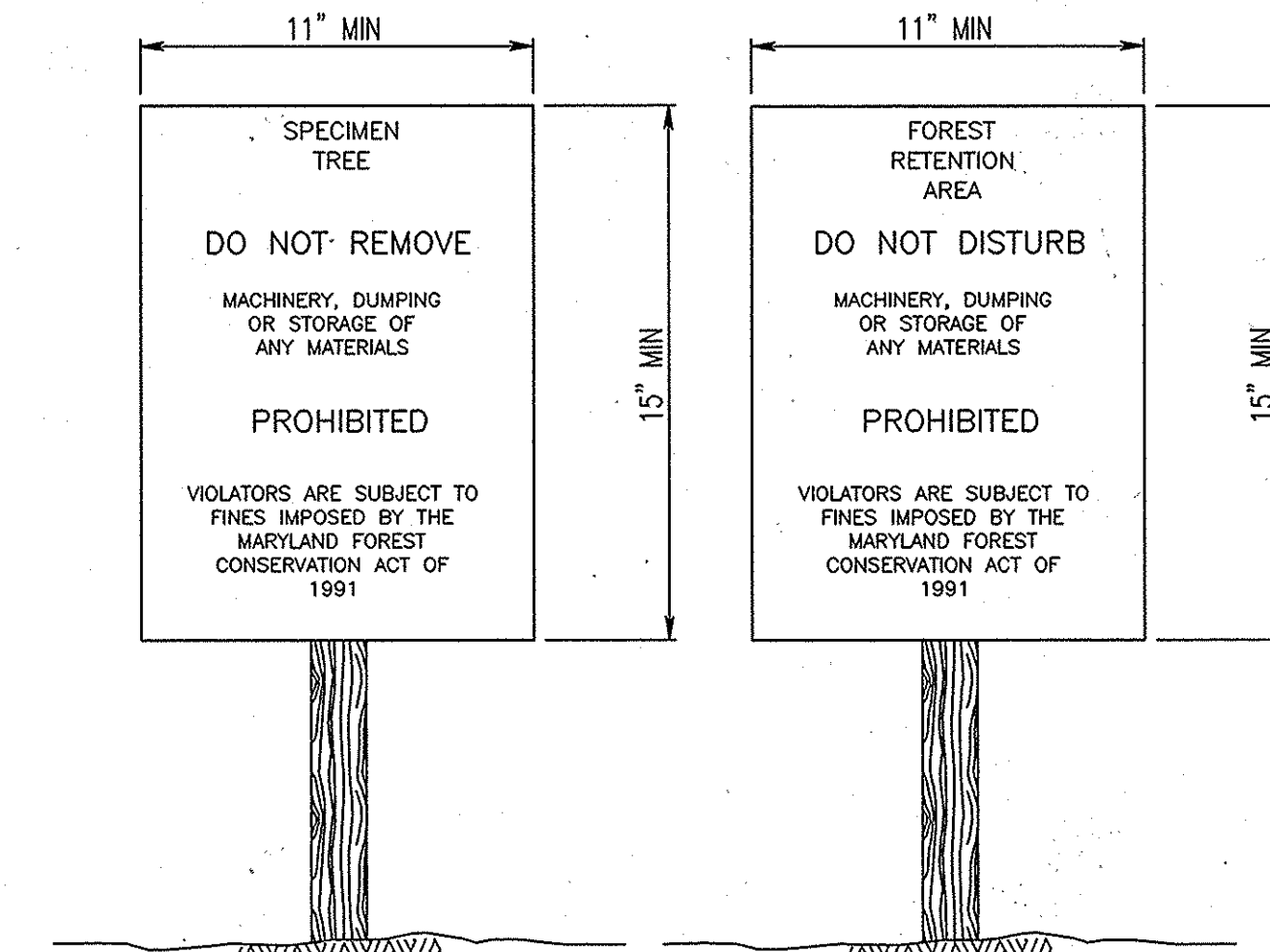
PHASE 1 FOREST CONSERVATION TABLE

Total Forest Cleared	125,176.3 SF / 2.87 Acres
Total Forest Retained	84,750.4 SF / 1.94 Acres
Total Other Clearing	50,244.6 SF / 1.15 Acres
Total Other Retention	4,561.8 SF / 0.10 Acres
Total Forest to be Protected by Conservation Easement	84,750.4 SF / 1.94 Acres

PHASE J FOREST CONSERVATION TABLE

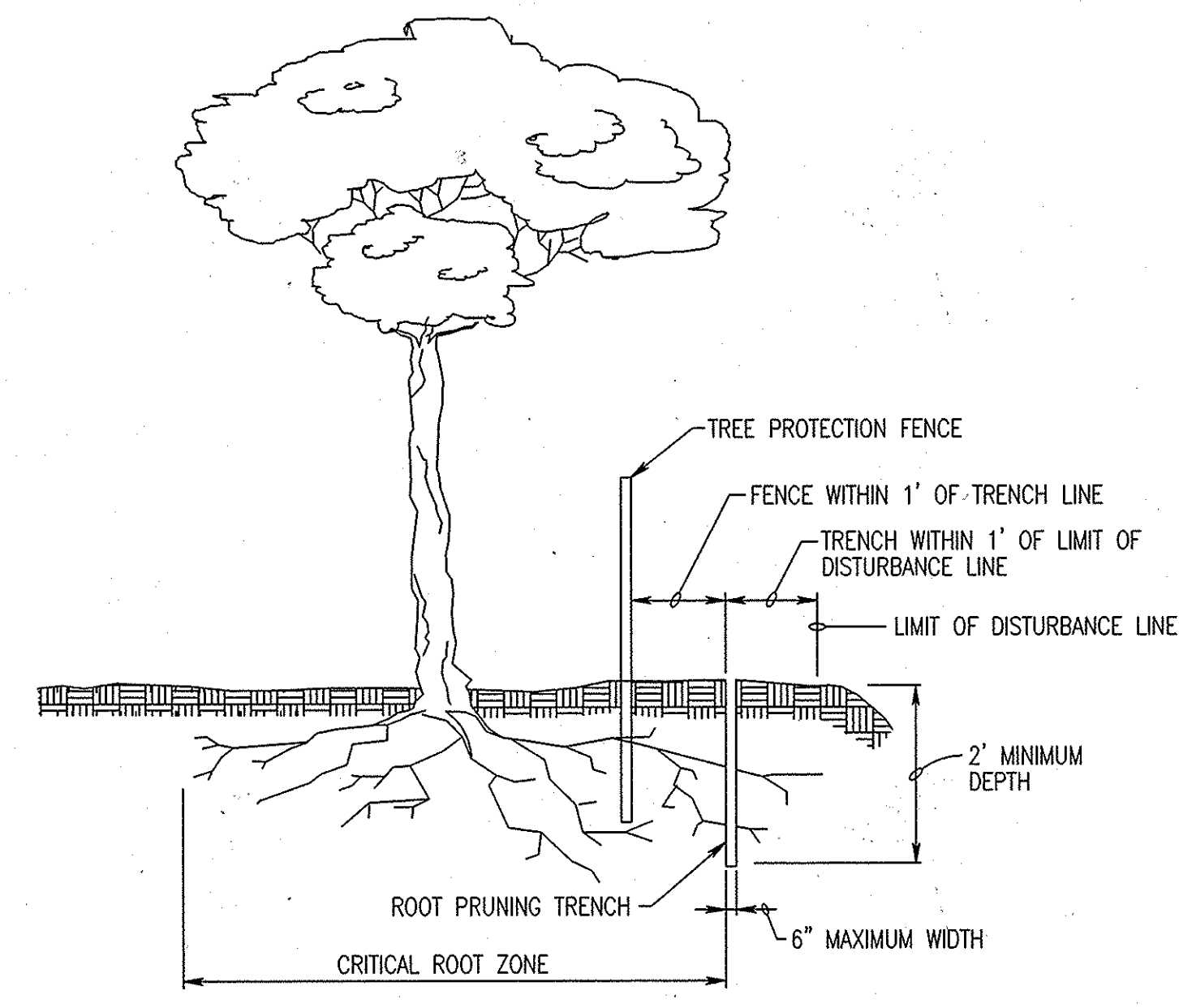
Total Forest Cleared	165,288.6 SF / 4.26 Acres
Total Forest Retained	41,296.8 SF / 0.95 Acres
Total Other Clearing	73,223.1 SF / 1.68 Acres
Total Other Retention	2,120.1 SF / 0.23 Acres
Total Forest to be Protected by Conservation Easement	41,296.8 SF / 0.95 Acres

PREVIOUS PHASES



- NOTES:
- BOTTOM OF SIGN TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
 - SIGNS TO BE PLACED APPROXIMATELY 50' APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
 - ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.

CONSTRUCTION SIGNS
NO SCALE



- NOTES:
- RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREAS TO BE STAKED AND FLAGGED PRIOR TO TRENCHING.
 - EXACT LOCATION OF TRENCH SHALL BE IDENTIFIED.
 - TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR OTHER HIGH ORGANIC SOIL.
 - ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

SPECIMEN TREE TABLE

Label	Common Name	Scientific Name	DBH	Condition	Stand	Save or Remove
T1	Tulip Poplar	Liriodendron tulipifera	44.0"	Fair	offsite	S
T2	White Oak	Quercus alba	34.5"	Fair	1	S
T3	White Oak	Quercus alba	36.2"	Fair	1	S
T4	White Oak	Quercus alba	32.5"	Fair	1	S
T5	Black Oak	Quercus velutina	32.4"	Good	1	S
T6	Tulip Poplar	Liriodendron tulipifera	35.0"	Good	1	S
T7	Tulip Poplar	Liriodendron tulipifera	31.9"	Excellent	1	S
T8	Tulip Poplar	Liriodendron tulipifera	32.0"	Good	1	S
T9	Tulip Poplar	Liriodendron tulipifera	42.1"	Fair	1	S
T10	Tulip Poplar	Liriodendron tulipifera	32.0"	Excellent	1	S
T11	White Oak	Quercus alba	37.6"	Good	1	S
T12	Tulip Poplar	Liriodendron tulipifera	34.9"	Good	1	S
T13	White Oak	Quercus alba	32.5"	Good	1	S
T14	White Oak	Quercus alba	30.7"	Excellent	1	S
T15	Black Oak	Quercus velutina	44.0"	Poor	offsite	S
T16	Tulip Poplar	Liriodendron tulipifera	36.4"	Good	1	S
T17	White Oak	Quercus alba	35.3"	Fair	offsite	S
T18	Tulip Poplar	Liriodendron tulipifera	33.5"	Good	1	S
T19	Black Oak	Quercus velutina	38.3"	Poor/Dead	1	S
T20	Tulip Poplar	Liriodendron tulipifera	43.1"	Good	1	S
T21	Tulip Poplar	Liriodendron tulipifera	31.0	Good	1	S
T22	Northern Red Oak	Quercus rubra	38.5"	Good	offsite	S
T23	Black Oak	Quercus velutina	36.3"	Fair	1	S
T24	White Oak	Quercus alba	33.0"	Good	1	S
T25	Tulip Poplar	Liriodendron tulipifera	30.5"	Fair	1	S
T26	Tulip Poplar	Liriodendron tulipifera	31.3"	Good	1	S
T27	Tulip Poplar	Liriodendron tulipifera	30.3"	Good	1	S
T28	Tulip Poplar	Liriodendron tulipifera	45.2"	Good	6	S
T29	Tulip Poplar	Liriodendron tulipifera	36.4"	Good	6	S
T30	Tulip Poplar	Liriodendron tulipifera	38.8"	Fair	6	S
T31	Black Cherry	Prunus serotina	35.8"	Fair	6	S
T32	Tulip Poplar	Liriodendron tulipifera	38.0"	Excellent	1	S
T33	Tulip Poplar	Liriodendron tulipifera	33.8"	Good	1	S
T34	Tulip Poplar	Liriodendron tulipifera	34.0"	Fair	1	S
T35	White Oak	Quercus alba	31.8"	Poor	1	S
T36	Red Maple	Acer rubrum	44.7"	Poor	10	S
T37	White Oak	Quercus alba	34.0"	Good	10	S
T38	Tulip Poplar	Liriodendron tulipifera	33.0"	Good	6	S
T39	Tulip Poplar	Liriodendron tulipifera	33.5"	Good	6	S
T40	Red Maple	Acer rubrum	43.5"	Fair	13	S
T41	Red Maple	Acer rubrum	30.7"	Fair	12	S
T42	Red Maple	Acer rubrum	34.5"	Poor	12	S
T43	Pin Oak	Quercus palustris	34.5"	Fair	12	S
T44	Red Maple	Acer rubrum	39.0"	Fair	12	S
T45	Red Maple	Acer rubrum	36.0"	Fair	12	S
T46	Tulip Poplar	Liriodendron tulipifera	35.3"	Good	12	S
T47	Tulip Poplar	Liriodendron tulipifera	35.3"	Good	12	S
T48	Tulip Poplar	Liriodendron tulipifera	38.9"	Good	12	S
T49	Tulip Poplar	Liriodendron tulipifera	37.2"	Good	12	S
T50	Tulip Poplar	Liriodendron tulipifera	34.5"	Excellent	offsite	S
T51	Tulip Poplar	Liriodendron tulipifera	32.4"	Good	1	S
T52	Tulip Poplar	Liriodendron tulipifera	31.4"	Fair	offsite	S

SPECIMEN TREE TABLE CONT'D

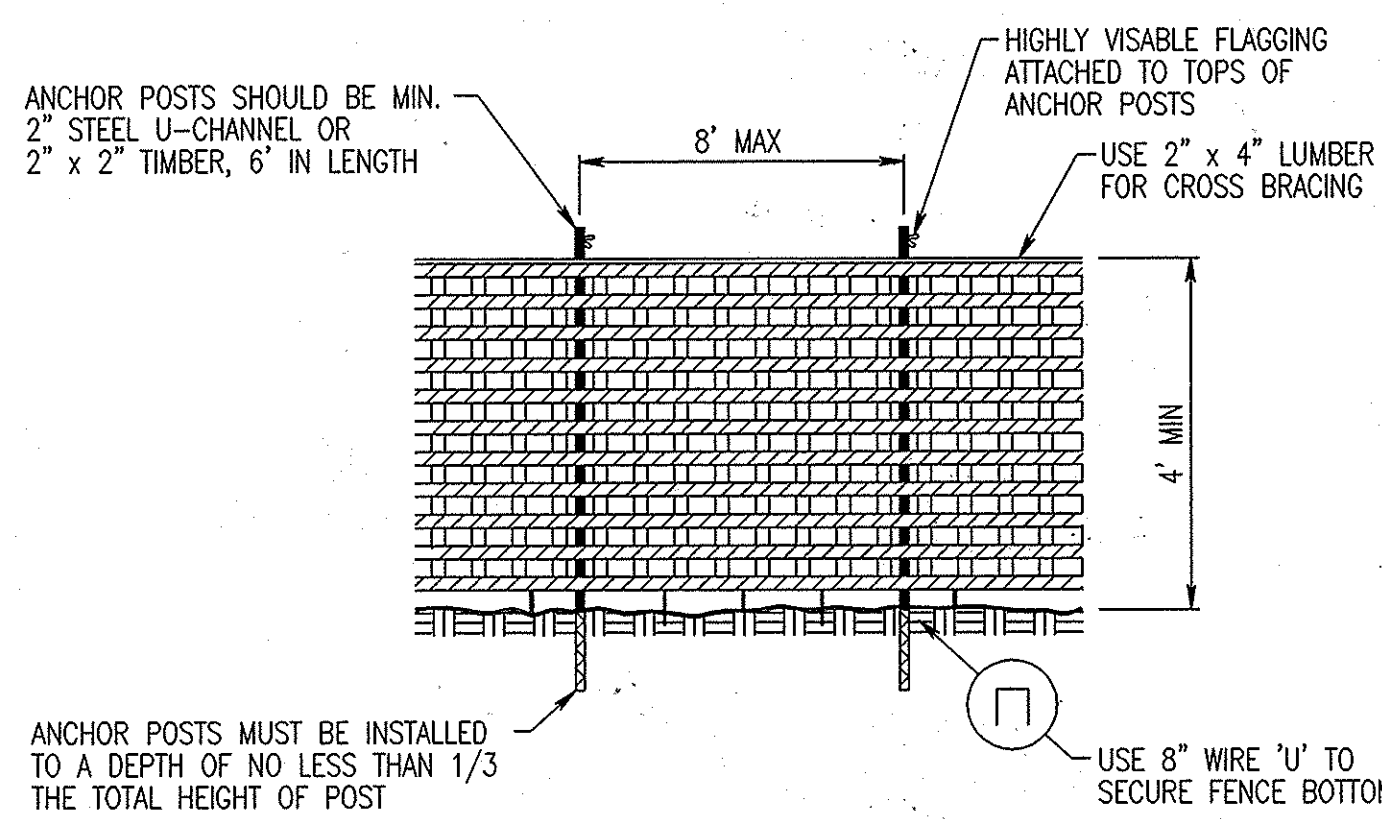
Label	Common Name	Scientific Name	DBH	Condition	Stand	Save or Remove
T53	Black Oak	Liriodendron tulipifera	30.9"	Good	1	S
T54	Black Oak	Quercus velutina	32.3"	Fair	1	S
T55	White Oak	Quercus alba	32.4"	Fair	offsite	S
T56	Tulip Poplar	Liriodendron tulipifera	30.5"	Good	1	S
T57	Tulip Poplar	Liriodendron tulipifera	30.0"	Excellent	offsite	S
T58	Tulip Poplar	Liriodendron tulipifera	31.2"	Good	offsite	S
T59	Tulip Poplar	Liriodendron tulipifera	31.5"	Good	1	S
T60	Tulip Poplar	Liriodendron tulipifera	31.5"	Good	offsite	S
T61	Black Oak	Quercus velutina	33.5"	Good	1	S
T62	White Oak	Quercus alba	35.5"	Fair	offsite	S
T63	White Oak	Quercus alba	30.5"	Fair	offsite	S
T64	Tulip Poplar	Liriodendron tulipifera	35.8"	Fair	offsite	S
T65	Black Cherry	Prunus serotina	47.0"	Fair	11	S
T66	Red Maple	Acer rubrum	30.0"	Poor	10	S
T67	White Oak	Quercus alba	32.3"	Fair	10	S
T68	White Oak	Quercus alba	30.5"	Good	10	S
T69	Black Cherry	Prunus serotina	39.3"	Poor	10	S
T70	Silver Maple	Acer saccharinum	46.5"	Fair	T2	S
T71	Red Maple	Acer rubrum	30.4"	Fair	13	S
T72	Tulip Poplar	Liriodendron tulipifera	32.5"	Good	12	S
T73	Tulip Poplar	Liriodendron tulipifera	43.3"	Poor	1	S
T74	Tulip Poplar	Liriodendron tulipifera	40.5"	Good	offsite	S
T75	Tulip Poplar	Liriodendron tulipifera	33.0"	Good	offsite	S
T76	Black Cherry	Prunus serotina	34.4"	Fair	10	S
T77	Tulip Poplar	Liriodendron tulipifera	30.2"	Fair	1	S
T78	Tulip Poplar	Liriodendron tulipifera	34.0"	Good	1	S
T79	Tulip Poplar	Liriodendron tulipifera	32.5"	Good	1	S
T80	Tulip Poplar	Liriodendron tulipifera	34.6"	Good	1	S
T81	Tulip Poplar	Liriodendron tulipifera	36.0"	Fair	1	S
T82	Tulip Poplar	Liriodendron tulipifera	33.5"	Good	1	S
T83	White Oak	Quercus alba	30.5"	Good	1	S
T84	White Oak	Quercus alba	30.4"	Fair	1	S
T85	Red Maple	Acer rubrum	31.0"	Fair	H4	R
T86	Pitch Pine	Pinus rigida	25.5"	Good	6	S
T87	Pitch Pine	Pinus rigida	24.8"	Good	6	S
T88	Pitch Pine	Pinus rigida	25.3"	Good	6	S
T89	Pitch Pine	Pinus rigida	26.7"	Good	6	S
T90	Pitch Pine	Pinus rigida	24.4"	Good	6	S
T91	Pitch Pine	Pinus rigida	23.5"	Good	6	S
T92	Pitch Pine	Pinus rigida	23.0"	Good	6	S
T93	Pitch Pine	Pinus rigida	24.0"	Good	6	S
T94	Pitch Pine	Pinus rigida	25.5"	Good	6	S
T95	Pitch Pine	Pinus rigida	23.0"	Good	6	S
T96	Pitch Pine	Pinus rigida	24.0"	Good	6	S
T97	Pitch Pine	Pinus rigida	22.0"	Good	6	S
T98	Pitch Pine	Pinus rigida	22.2"	Good	6	S
T101	Tulip Poplar	Liriodendron tulipifera	35.9"	Good	12	S
T102	Tulip Poplar	Liriodendron tulipifera	30.3"	Good	12	S
T103	Tulip Poplar	Liriodendron tulipifera	34.8"	Good	12	S
T104	Tulip Poplar	Liriodendron tulipifera	35.2"	Good	12	S
T105	Red Maple	Acer rubrum	34.4"	Fair	10	S
T106	Red Maple	Acer rubrum	30.1"	Good	10	S

*stand "offsite" means tree is located within the first 100 ft beyond the property line

APPROVED: DEPARTMENT OF PLANNING AND ZONING

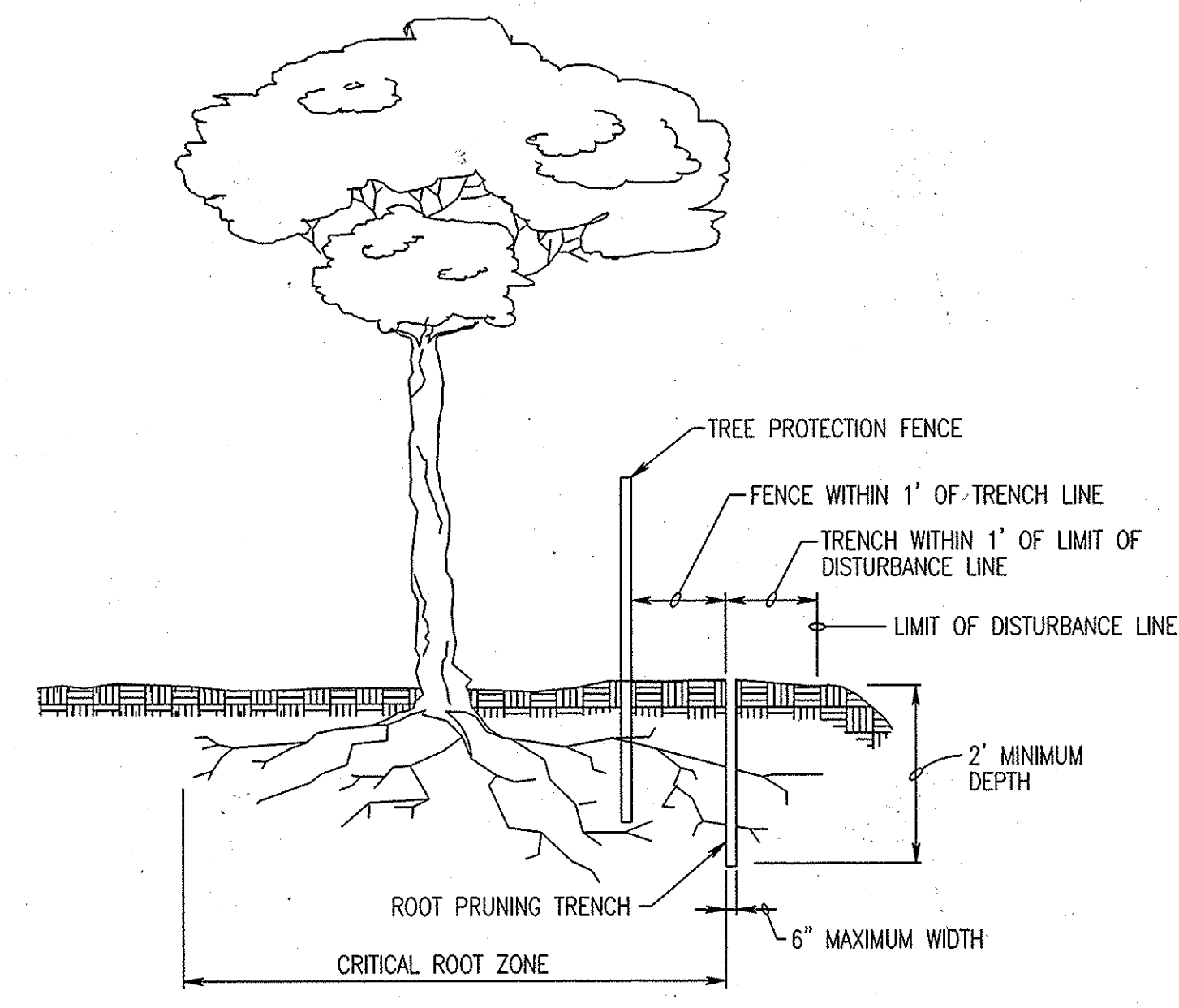
Chief, Development Engineering Division DATE: 6-17-14
 Chief, Division of Land Development DATE: 7-28-14
 Director DATE: 7-28-14

PLASTIC MESH TREE PROTECTION FENCE
NO SCALE



- NOTES:
- BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE, ONLY.
 - BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 - PROTECTION SIGNAGE IS REQUIRED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

ROOT PRUNING
NO SCALE



- NOTES:
- RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREAS TO BE STAKED AND FLAGGED PRIOR TO TRENCHING.
 - EXACT LOCATION OF TRENCH SHALL BE IDENTIFIED.
 - TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR OTHER HIGH ORGANIC SOIL.
 - ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

REVISIONS
