

FOR INFORMATION ONLY



Submittal Review

item: **Base and Leveling Aggregate for
Synthetic Turf Fields**

submittal no: **409-312123-0**

project: **South Cooper Mountain High School**

atlas project no.: **14016**

date: **September 7, 2016**

by: **Nick Wilson**

Review of submittal is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of this work with that of all other trades; and the satisfactory performance of his work. A submittal review does not alter the Contract Documents or relieve the contractor of any obligation thereunder.

Number of pages this submittal:

Review Status:

☒ No exception taken
☐ Note comments below

☐ Rejected
☐ Submittal incomplete

Action required:

☐ No re-submittal required
☐ Revise and re-submit
☐ Re-submittal not required if corrections are made as noted
☐ Submit missing item(s) noted below
☐ Submit specified item(s) noted below

Comments:

The base and leveling rock are a little out of spec on some sieve sizes but are within acceptable margins, and consistent with sieve analyses of rock successfully used on other projects.

12562 SW
Main St.
No. 210
Tigard, OR
97223

telephone
503.224.5238

e-mail
firstname@
atlas-la.com

SUBMITTAL TRANSMITTAL RECORD

South Cooper Mountain High School


Hoffman Construction Co.
Lic. # 28417
South Cooper Mountain High School
12500 SW 175th Ave.
Beaverton, OR 97007

HCC Job # 5169515

Submittal No.:	
Description:	
For: <input type="checkbox"/> Review <input type="checkbox"/> Information <input type="checkbox"/> Coordination	
Specification Reference:	
Bid Package:	
Supplier/Subcontractor:	
Address:	
Phone:	Contact:

Routing	# Copies	Attention	Date Sent	Date Received	Date Due

Submittal #	Description	Action	Comments
		Review	

R = Reproducible

P = Print

B = Brochure

HCC Comments:

HOFFMAN CONSTRUCTION COMPANY	
This submittal has been reviewed for general conformance with the contract documents. Contractor's review does not relieve the Vendor/Subcontractor of responsibility for compliance with all requirements of the contract, including completeness and accuracy of this submittal.	
08/27/2016	409-312123-0
Date	Submittal #
RobinsonA	
Reviewed By	

DESIGN OPERATIONS:

SUBMITTAL TRANSMITTAL**DATE:**

August 19, 2016

ATTENTION:

Andrew Robinson
Hoffman Construction Company
805 SW Broadway, Suite 2100
Portland, Oregon 97205

PROJECT:

South Cooper Mountain High School

I am sending you the following for approval and use on the above referenced project:

1. Base Aggregate – Baker Rock 1-1/2" – 3/4" Drain Rock – 1 Page.
2. Leveling Aggregate – Baker Rock 1/2"-#4F HMA AGG – 1 Page.
3. Subgrade Geotextile Fabric – TerraTex N06 Non-Woven – 1 Page.

SUBMITTED BY:

Kelly Fitzpatrick

CONTRACT SECTION:

Section 31 21 23

REMARKS:

Samples will be delivered to the jobsite under a separate transmittal.

FIELD WORKSHEET FOR AGGREGATE

E English (E) or Metric (M)

PROJECT NAME (SECTION) SCMHS				REGION #1 Comm. Product				CONTRACT NUMBER	
CONTRACTOR OR SUPPLIER Baker Rock Resources				PROJECT MANAGER Barb Worthington				BID ITEM NUMBER	
SOURCE NAME Farmington Quarry				SOURCE NUMBER 34-080-1				MATERIAL SIZE 1/2" #4F	
TEST NO. QC	DATE 7/28/2016	TIME 8:00	SAMPLED AT Final Belt				TO BE USED IN HMAC AGG		

SIEVE ANALYSIS AASHTO T27/11									FM
SIEVE SIZE	SPECS. LIMITS	MASS 1	MASS 2	MASS 3	MASS 4	TOTAL MASS	% RET	% PASS	CUMULATIVE % RETAINED
						0.0	0.0	100	
						0.0	0.0	100	
						0.0	0.0	100	
						0.0	0.0	100	
3/4	99-100	0.0				155.1	6.2	94	
1/2	90-100	155.1				394.0	15.7	78	
3/8	-	394.0				497.1	19.8	58	
1/4	-	497.1				262.4	10.5	48	
4	40-56	262.4				449.6	17.9	30	
8	24-34	449.6				271.0	10.8	19	
16	-	271.0				135.3	5.4	14	
30	10-16	135.3				89.6	3.6	10	
50	-	89.6				52.8	2.1	8	
100	-	52.8				45.4	1.8	6.2	
200	5.4-7.4	45.4				28.4	1.1		
PAN	---	28.4							
B = INITIAL DRY MASS:		2506	D = MASS AFTER SIEVING:			2380.7			

Does not meet spec 312123, please advise if this is acceptable.

SIEVE SIZE		FRACTURE % METHOD 2 TP-61				ELONGATED PIECES	
LIMITS		FRAC MASS (F)	QUESTIONABLE MASS (Q)	NON FRAC MASS (N)	INDIVIDUAL FRAC %	TEST MASS	ELONG MASS
2	Face					155.1	0.0
1/2"	75-100%					394.0	7.6
3/8"	Roll down					497.1	13.1
1/4"	Roll down					262.4	2.5
#4	75-100%						
1	Face						
#8	75-100%						

SET 176			
1	2	3	Sample
			Clay
			Sand
			S.E.
AVG.		SPEC	N/A
PAN TARE		412.2	
WET MASS & PAN		2982.2	
DRY MASS & PAN		2918.2	
AFTER WASH DRY MASS & PAN		2795.9	

C = AFTER WASH DRY MASS & PAN - PAN

B = DRY MASS & PAN - PAN

A = WET MASS & PAN - PAN

RESULT SPEC

☐ DRY ☒ WET

WAQTC AASHTO T-27/T11

☒ Round ☐ Square ☐ Rectangle Size

Fracture % Method 1	TP-61		
Wood Waste	TM225	0.00%	0.10max%
Cleanness Value	TM 227		
Flat & Elongated	TM 229	1.8%	10.0max%
Fineness Modulus	T 27/T11		
MOISTURE % = ((A-B) / B) X 100		2.6%	
SIEVE LOSS % = ((C-D) / C) X 100		0.1%	0.3max
(N ₁₀ / 1/4") x 100			

REMARKS

LEVELING
AGGREGATE @
SYNTHETIC
TURF

<input checked="" type="checkbox"/> QUALITY CONTROL	<input type="checkbox"/> VERIFICATION	<input type="checkbox"/> INDEPENDENT ASSURANCE	DATE
CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER		COMPANY NAME	SIGNATURE
Patrick Jones #44313		Baker Rock Resources	7/28/2016



TerraTex N06

Nonwoven Geotextile

TerraTex N06 is a nonwoven geotextile made up of polypropylene fibers. These fibers are needed to form a stable and durable network such that the fibers retain their relative position. It is non-biodegradable and resistant to most soil chemicals, acids and alkali with a pH range of 3 to 12. TerraTex N06 is manufactured to meet or exceed the following minimum average roll values:

<u>Property</u>	<u>Test Method</u>	Minimum Average Roll Value <u>English</u>	Minimum Average Roll Value <u>Metric</u>
Weight (Typical)	ASTM D-5261	6 oz/yd ²	203 g/m ²
Grab Tensile	ASTM D-4632	160 lb	0.711 kN
Grab Elongation	ASTM D-4632	50%	50%
Trapezoid Tear	ASTM D-4533	65 lb	0.289 kN
CBR Puncture	ASTM D-6241	410 lb	1.82 kN
Puncture Resistance	ASTM D-4833	90 lb	0.40 kN
Mullen Burst	ASTM D-3786	315 psi	2170 kPa
UV Resistance	ASTM D-4355	70% @ 500 hr	70% @ 500 hr
AOS	ASTM D-4751	70 US Sieve	.212 mm
Permittivity	ASTM D-4491	1.6 sec-1	1.6 sec-1
Water Flow Rate	ASTM D-4491	110 gal/min/ft ²	4480 l/min/m ²

5/2012

***DISCLAIMER:** Descriptions regarding the products described herein are based solely upon information provided by the manufacturer and are provided for informational purposes only. NOTHING CONTAINED HEREIN SHOULD BE CONSTRUED AS CREATING AN EXPRESSED OR IMPLIED WARRANTY, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, EACH OF WHICH IS HEREBY DISCLAIMED. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The final determination as to the suitability of any product of Hanes Geo Components in any particular application rests solely with the user. Hanes Geo Components reserves the right to alter or modify its products and descriptions at any time without notice.

2012-06-01

FOR INFORMATION ONLY



Submittal Review

item: **Synthetic Turf Field Drainage** *submittal no:* **410-334614-0**

project: **South Cooper Mountain High School** *atlas project no.:* **14016**

date: **September 7, 2016**

by: **Nick Wilson**

Review of submittal is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of this work with that of all other trades; and the satisfactory performance of his work. A submittal review does not alter the Contract Documents or relieve the contractor of any obligation thereunder.

Number of pages this submittal:

Review Status:

- | | |
|---|---|
| <input checked="" type="checkbox"/> No exception taken | <input type="checkbox"/> Rejected |
| <input checked="" type="checkbox"/> Note comments below | <input type="checkbox"/> Submittal incomplete |

Action required:

- ☐ No re-submittal required
- ☐ Revise and re-submit
- ☒ Re-submittal not required if corrections are made as noted
- ☐ Submit missing item(s) noted below
- ☐ Submit specified item(s) noted below

Comments:

Note that Flat Pipe is available with or without geotextile wrap. Specs call for NO WRAP. Note that some required pipe sizes are not highlighted. Note that 10d nails have been omitted from this submittal. Alternate geotextile fabric is equivalent to specified item and is acceptable.

12562 SW
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SUBMITTAL TRANSMITTAL RECORD

South Cooper Mountain High School


Hoffman Construction Co.
 Lic. # 28417
 South Cooper Mountain High School
 12500 SW 175th Ave.
 Beaverton, OR 97007

HCC Job # 5169515

Submittal No.:	
Description:	
For: <input type="checkbox"/> Review <input type="checkbox"/> Information <input type="checkbox"/> Coordination	
Specification Reference:	
Bid Package:	
Supplier/Subcontractor:	
Address:	
Phone:	Contact:

Routing	# Copies	Attention	Date Sent	Date Received	Date Due

Submittal #	Description	Action	Comments
		Review	

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HCC Comments:

HOFFMAN CONSTRUCTION COMPANY
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08/27/2016

410-334614-0

Date

Submittal #

RobinsonA

Reviewed By

DESIGN OPERATIONS:



SUBMITTAL #3

SUBMITTAL TRANSMITTAL

DATE:

August 19, 2016

ATTENTION:

Andrew Robinson
Hoffman Construction Company
805 SW Broadway, Suite 2100
Portland, Oregon 97205

PROJECT:

South Cooper Mountain High School

I am sending you the following for approval and use on the above referenced project:

1. Pipe & Fittings – HD Supply Waterworks – 10 Pages.
2. Trench Backfill – Baker Rock $\frac{3}{4}$ " - #4 Drain Rock – 1 Page.
3. Geotextile @ Trench Sides & Bottom – TerraTex N04.5 – 1 Page.

SUBMITTED BY:

Kelly Fitzpatrick

CONTRACT SECTION:

Section 33 46 14

REMARKS:



MATERIAL SUBMITTAL PACKAGE FOR

SO COOPER MT HS BALL FIELD

CONTRACTOR

BENCHMARK CONTRACTING

CONTACT: KELLY FITZPATRICK
(503) 649-8762

PROVIDED BY:

HD SUPPLY WATERWORKS
LAKE OSWEGO, OR
(503) 620-9123
FAX: (503) 684-7213
GERALD EVANS

ADS N-12® ST IB PIPE (per ASTM F2648) SPECIFICATION

Scope

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 ST IB pipe (per ASTM F2648) for use in gravity-flow land drainage applications.

Pipe Requirements

ADS N-12 ST IB pipe (per ASTM F2648) shall have a smooth interior and annular exterior corrugations.

- 4- through 60-inch (100 to 1500 mm) shall meet ASTM F2648.
- Manning's "n" value for use in design shall be 0.012.

Joint Performance

Pipe shall be joined using a bell & spigot joint meeting ASTM F2648. The joint shall be soil-tight and gaskets, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

Fittings

Fittings shall conform to ASTM F 2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the soil-tight joint performance requirements of ASTM F 2306.

Material Properties

Material for pipe production shall be an engineered compound of virgin and recycled high density polyethylene conforming with the minimum requirements of cell classification 424420C (ESCR Test Condition B) for 4- through 10-inch (100 to 250 mm) diameters, and 435420C (ESCR Test Condition B) for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The design engineer shall verify compatibility with overall system including structural, hydraulic, material and installation requirements for a given application.

Installation

Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot. (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted), or Class 2 (minimum 90% SPD) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.02. Contact your local ADS representative or visit our website at www.ads-pipe.com for a copy of the latest installation guidelines.

Pipe Dimensions

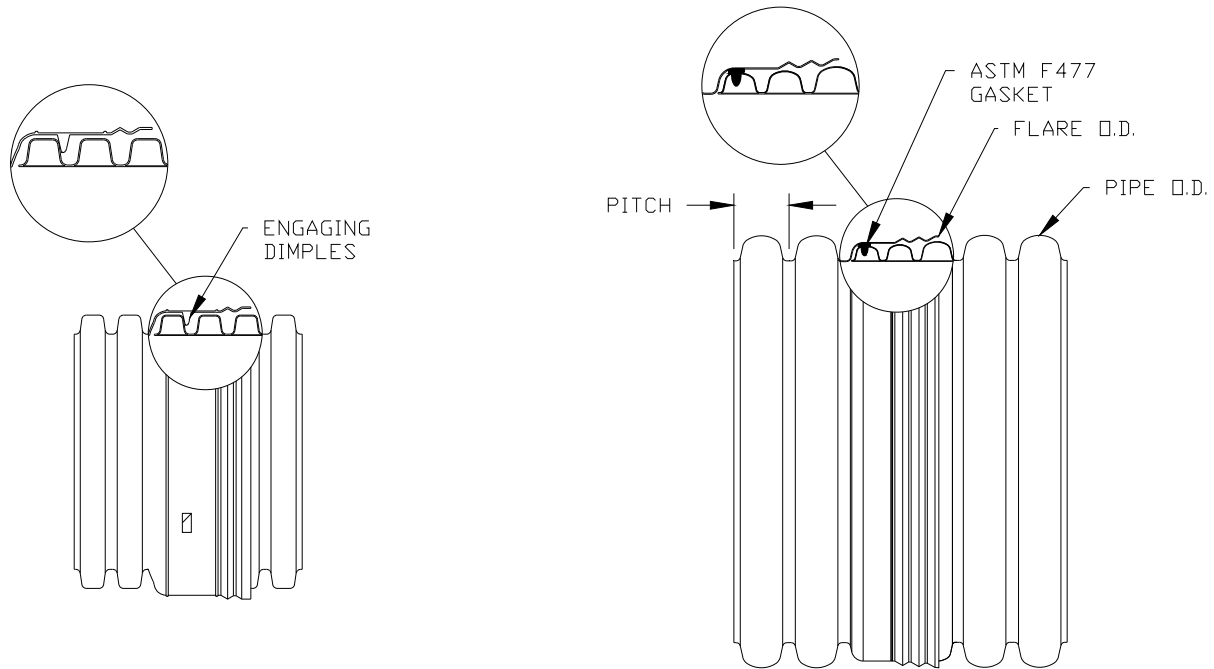
Nominal Diameter, in (mm)													
Pipe I.D. in (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	60 (1500)
Pipe O.D.** in (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	22 (559)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)
Perforations	All diameters available with or without perforations.												

*Check with sales representative for availability by region.

**Pipe O.D. values are provided for reference purposes only, values stated for 12- through 60-inch are ± 1 inch. Contact a sales representative for exact values.

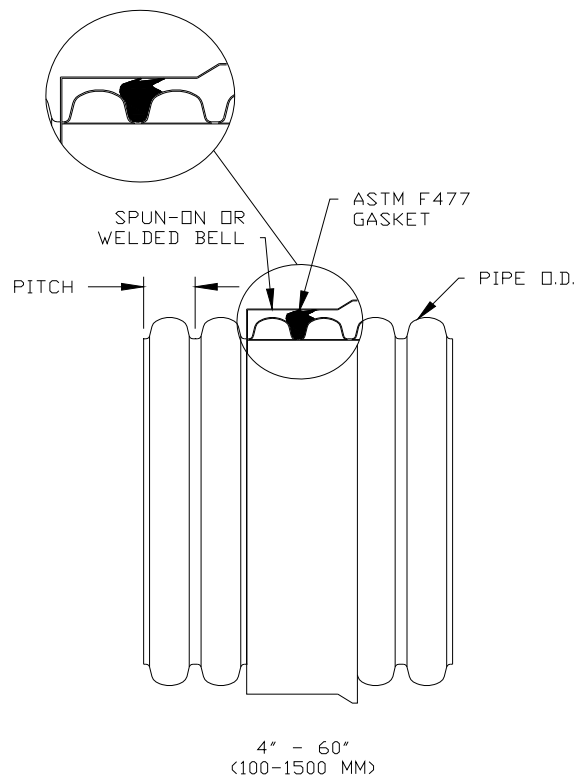
N-12® ST IB (per ASTM F2648) JOINT SYSTEM

(Joint configuration & availability subject to change without notice. Product detail may differ slightly from actual product appearance.)



4" - 10"
(100-250 MM)

12" - 60"
(300-1500 MM)



4" - 60"
(100-1500 MM)



TECHNICAL NOTE

Dual Wall HDPE Perforation Patterns

TN 1.01
December 2011

Introduction

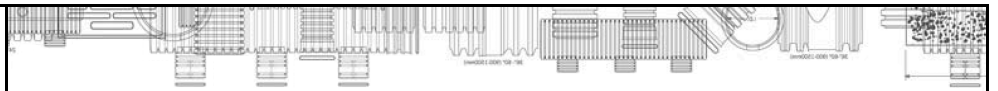
Perforated pipe plays an integral role in many applications of HDPE pipe. Generally, perforated pipe is used to accelerate the removal of subsurface water in soils or to allow storm water to percolate into the soil. Currently, two classifications of perforations are specified in the AASHTO material specifications for HDPE pipe: Class I, and Class II. Class I perforations are commonly used in combination storm/underdrain systems while Class II incorporates subsurface drainage and detention/retention systems. Both classes are explained in more detail in the AASHTO materials specifications (M294 and M252). AASHTO M252 covers pipe diameters 3- through 10-inch (75 - 250 mm) while M294 covers 12-inch through 60-inch (300 - 1500 mm).

Standard Perforation Patterns

AASHTO Class II Perforation

The following terminology for perforations is derived from the applicable AASHTO specification. Differences between the specifications are covered in the table below. Class II perforations shall be located in the outside valleys of the corrugations, be circular and/or slotted and evenly spaced around the circumference and length of the pipe. The perforations shall be located in the outside valleys of the corrugations. The water inlet area shall be no less than 0.945 in²/ft (20 cm²/m) for pipe diameters 4- through 10-inch (100 - 250mm), 1.42 in²/ft (30 cm²/m) for pipe diameters 12- through 18-inch (300 - 450 mm) and 1.89 in²/ft (40 cm²/m) for pipe diameters larger than and equal to 24 inches (600 mm). Table 1 below represents ADS standard perforation patterns for AASHTO Class II.

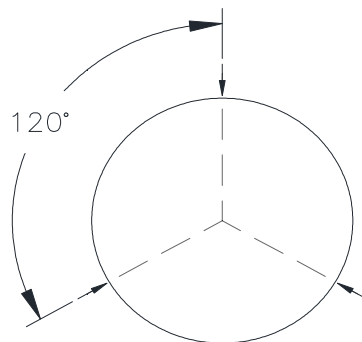
Nominal I.D.		Perforation Type	Maximum Slot Length or Diameter		Maximum Slot Width		Minimum Inlet Area	
in	mm		in	mm	in	mm	in ² /ft	cm ² /m
4	100	Slot	0.875	22	0.125	3	1.0	21
6	150	Slot	0.875	22	0.125	3	1.0	21
8	200	Slot	1.18	30	0.125	3	1.0	21
10	250	Slot	1.18	30	0.125	3	1.0	21
12	300	Circular	0.313	8	-	-	1.5	32
15	375	Circular	0.313	8	-	-	1.5	32
18	450	Circular	0.313	8	-	-	1.5	32
24	600	Circular	0.313	8	-	-	2.0	42
30	750	Circular	0.375	9.5	-	-	2.0	42
36	900	Circular	0.375	9.5	-	-	2.0	42
42	1050	Circular	0.375	9.5	-	-	2.0	42
48	1200	Circular	0.375	9.5	-	-	2.0	42
54	1350	Circular	0.375	9.5	-	-	2.0	42
60	1500	Circular	0.375	9.5	-	-	2.0	42

**Figure 1****AASHTO Class II Perforation Patterns**

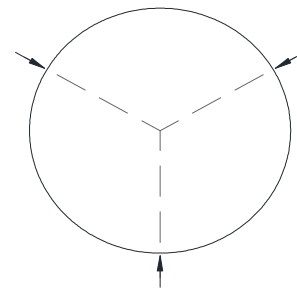
Note: Actual pattern may vary by region, however all patterns meet the AASHTO and ASTM minimum requirements for the open inlet area.

4" – 10"
PIPE DIAMETERS

4-6-8 & 10

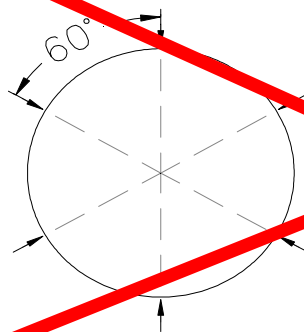


3 AT 120°

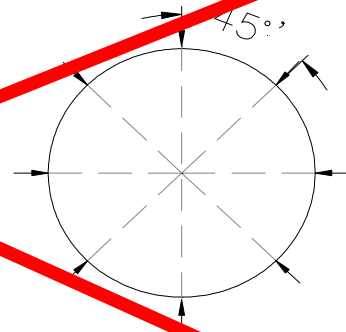


ROTATED
EVERY VALLEY

12" – 18"
PIPE DIAMETERS



** NUMBER OF HOLES AROUND
CIRCUMFERENCE VARIES BASED ON
DIAMETER AND REGION **



** NUMBER OF HOLES AROUND
CIRCUMFERENCE VARIES BASED ON
DIAMETER AND REGION **

AdvanEDGE® Pipe

The advanced panel pipe for rapid-response drainage

ADS AdvanEDGE panel pipe provides the dimensional stability and field-proven structural strength for quick, effective subsurface drainage. It consists of a perforated panel-shaped plastic core wrapped with geotextile for soil filtration. The distinguishing performance feature of panel pipe is its ability to rapidly collect and remove water. Compared to 4" round pipe with an equal length of 12", panel pipe has twice the soil contact area and will drain a given quantity of water in about 60% of the time. Its slim 1.5" profile permits a narrow trench and faster installation.

AdvanEDGE is truly a pipe. It's not round, of course, but its panel-shaped core fully encloses the waterway. Lateral pillars maintain the core opening, resulting in a series of oval-shaped channels providing superior strength and relatively few projections into the waterway. The design of the invert permits significantly higher flow velocity at lower head.

An effective solution for a wide range of applications:

- Highway edge drains
- Athletic turf drainage
- Building foundations and retaining walls
- Waste management curtain drains



Features:

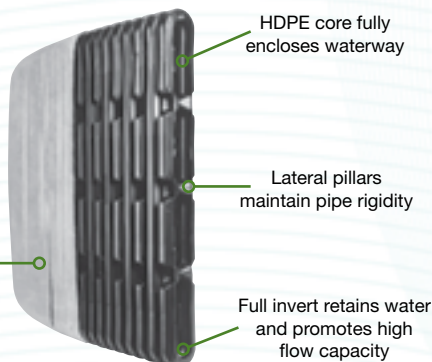
- 12" and 18" (300 and 450 mm) oblong dimensions available
- 100 ft and 500 ft lengths available
- Fast installation times
- Manufactured from high density polyethylene resin

Benefits:

- Invert design permits significantly higher flow velocity at lower head
- Structural superiority confirmed by state field performance tests of edge drains
- Higher flow capacity compared to various geocomposites
- Slim-line design allows for narrow trench installation, easily cut in with high-speed trenching equipment
- Long-term durability of HDPE

AdvanEDGE is designed to provide significantly higher flow and structural strength

Geotextile acts as a soil filter only, not as a structural member



HDPE core fully encloses waterway

Lateral pillars maintain pipe rigidity

Full invert retains water and promotes high flow capacity

ADS AdvanEDGE Pipe Specifications

Scope

This specification describes 12" and 18" (300 and 450 mm) ADS AdvanEDGE oblong corrugated pipe for use in subsurface drainage applications.

Pipe Requirements

ADS AdvanEDGE shall meet ASTM D7001 and have outside dimensions of 1.5" wide by 13" tall or 1.5" wide by 18" tall. AdvanEDGE shall have internal bracing adjoining each long wall to prevent crushing under typical loading. AdvanEDGE shall be made available with or without external geotextile wrap.

Material Properties

All pipe and fittings shall be made of polyethylene with a minimum cell classification of 424420C as defined and described in ASTM D3350.

Use 100d nails per specs and secure every 4'

AdvanEDGE Perforations

Nominal Pipe Size, in. (mm)	12 (300)	18 (450)
Slot Length (Avg), in. (mm)	1.125 (29)	1.125 (29)
Slot Width (Avg), in. (mm)	0.125 (3.2)	0.15 (4)
Water Inlet Area (Approx), in ² /ft	15	20

All Values provided are for reference purposes only.

AdvanEDGE Geotextile Wrap

Fabric Properties	Test Method	Minimum Average Roll Values
Grab Tensile Strength (lbs.) (weakest principle direction)	ASTM D4632	120
Grab Elongation (%) (weakest principle direction)	ASTM D4633	60
Trapezoidal Tear (lbs.) (weakest principle direction)	ASTM D4533	40
Puncture (lbs.)	ASTM D3786	30
Permittivity	ASTM D4491	0.7
AOS (U.S. Sieve Size)	ASTM D4751	60
U.V. Resistance	ASTM D4355	70

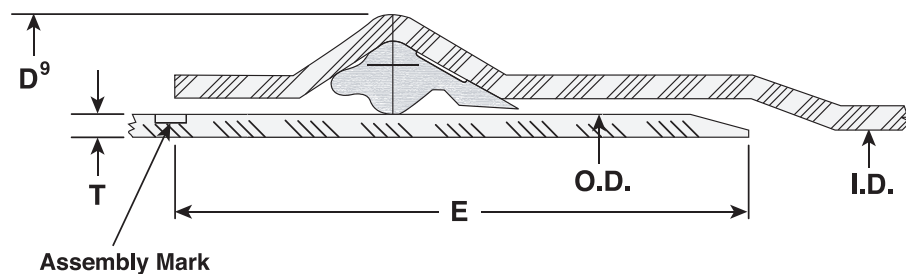


ADS "Terms and Conditions of Sale" are available on the ADS website, www.ads-pipe.com
Advanced Drainage Systems, the Green Stripe and AdvanEDGE are registered trademarks of Advanced Drainage Systems, Inc.
© 2006 Advanced Drainage Systems, Inc. (2713)
10598/0407

GRAVITY SEWER

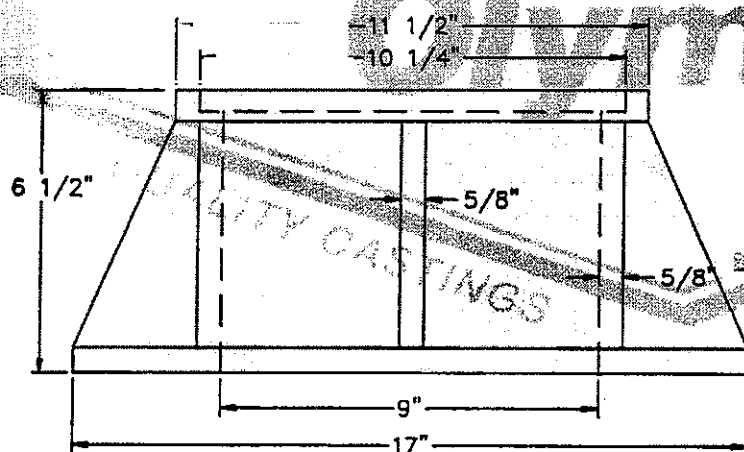
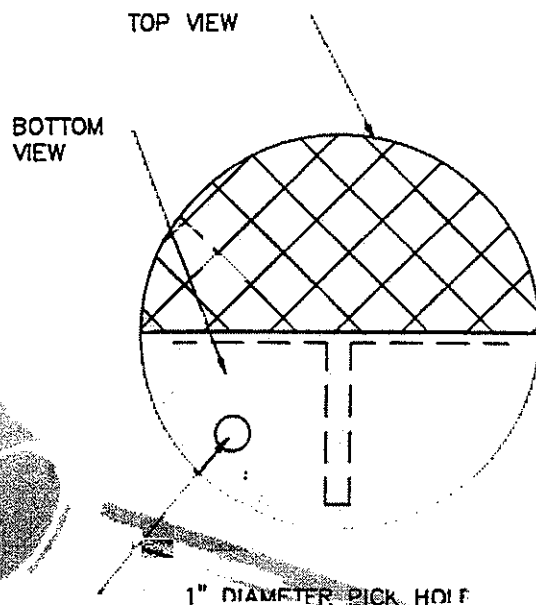
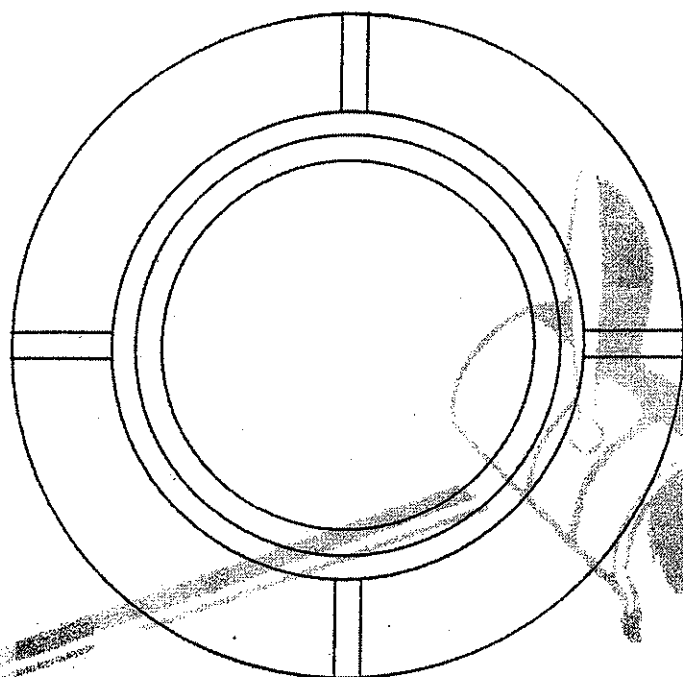
SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D (IN)	APPROX. WEIGHT (LBS/FT)
SDR 35 (PS46) ASTM D3034						
4	4.215	3.975	0.120	3.50	4.695	1.05
6	6.275	5.915	0.180	4.25	6.995	2.36
8	8.400	7.920	0.240	4.75	9.360	4.24
10	10.500	9.900	0.300	6.00	11.700	6.64
12	12.500	11.780	0.360	6.25	13.940	9.50
15	15.300	14.426	0.437	7.25	17.048	14.19
SDR 26 (PS115) ASTM D3034						
4	4.215	3.891	0.162	3.50	4.863	1.40
6	6.275	5.793	0.241	4.25	7.239	3.11
8	8.400	7.754	0.323	4.75	9.692	5.63
10	10.500	9.692	0.404	6.00	12.116	8.84
12	12.500	11.538	0.481	6.25	14.424	12.56
15	15.300	14.124	0.588	7.25	17.652	18.90
PS46, ASTM F679						
18	18.701	17.629	0.499	8.00	20.845	21.43
21	22.047	20.785	0.588	9.50	24.575	29.88
24	24.803	23.381	0.661	9.60	27.647	38.96
27	27.953	26.351	0.745	10.10	31.157	49.47
30 CIOD	32.000	30.194	0.855	16.75	35.612	64.18
36 CIOD	38.300	36.042	1.021	19.02	42.816	93.00
42 CIOD	44.500	41.948	1.187	22.43	49.604	—
48 CIOD	50.800	47.888	1.355	24.78	56.624	—
PS115, ASTM F679						
18	18.701	17.261	0.671	8.00	24.581	28.49
21	22.047	20.349	0.791	9.50	25.445	—
24	24.803	22.891	0.889	9.60	28.627	—
27	27.953	25.799	1.002	10.10	32.261	—
30 CIOD	32.000	29.070	1.148	16.75	36.348	—
36 CIOD	38.300	35.464	1.373	19.02	45.438	—
42 CIOD	44.500	41.072	1.596	22.43	51.356	—
48 CIOD	50.800	46.886	1.822	24.78	58.628	—

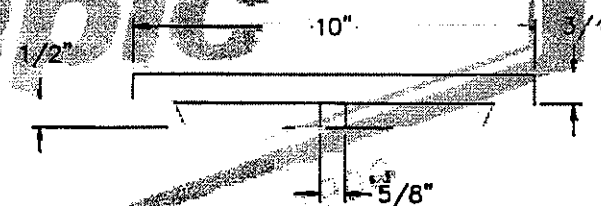


I.D. : Inside Diameter
 O.D. : Outside Diameter
 T. : Wall Thickness
 D⁹ : Bell Outside Diameter
 E : Distance between Assembly Mark to
 the end of spigot.

Product Standard: ASTM 3034 (4"–15")
 ASTM F679 (18"–48")
 Pipe Compound: ASTM D1784 Cells Class 12454 or 12364
 Gasket: ASTM F477
 Integral Bell Joint: ASTM D3212
 Pipe Stiffness: ASTM D2412 $F/\Delta Y = 46 \text{ PSI}$ or 115 PSI
 Pipe Length: 14 ~~or 20 ft~~ laying length
 Installation: ASTM D 2321
 JM Eagle™ Installation Guide



FRAME



COVER

M1018 C/O COVER

REF# OF017

NOTES:

- MATERIAL: CAST IRON, ASTM A-48, CL 30

OLYMPIC FOUNDRY, INC.9" x 6 1/2" CLEAN-OUT
FRAME AND COVERAPPROX. WEIGHT: FRAME - 64 LBS.,
COVER - 18 LBS.

RATING - H20

PART NO. M1018

FIELD WORKSHEET FOR AGGREGATE

E English (E) or Metric (M)

PROJECT NAME (SECTION) SCMHS				CONTRACT NUMBER	
CONTRACTOR OR SUPPLIER Baker Rock Resources			PROJECT MANAGER Benchmark Contracting		BID ITEM NUMBER
SOURCE NAME Farmington Quarry			SOURCE NUMBER 34-080-1		MATERIAL SIZE 3/4"-#4
TEST NO. QC	DATE 3/23/2016	TIME 7:25	SAMPLED AT Final Belt		TO BE USED IN

SIEVE SIZE	SIEVE SPECS. LIMITS	SIEVE ANALYSIS AASHTO T27/11							FM
		MASS 1	MASS 2	MASS 3	MASS 4	TOTAL MASS	% RET	% PASS	CUMULATIVE % RETAINED
						0.0	0.0	100	
						0.0	0.0	100	
						0.0	0.0	100	
						0.0	0.0	100	
						0.0	0.0	100	
1		0.0	0.0			0.0	0.0	100	
3/4		75.8	41.4			117.2	2.1	98	
1/2		880.4	1389.3			2269.7	40.1	58	
3/8		781.9	879.8			1661.7	29.4	28	
1/4		760.5	648.1			1408.6	24.9	4	
4		52.8	45.2			98.0	1.7	2	
8		0.0	15.6			15.6	0.3	2	
40		0.0	6.3			6.3	0.1	1	
200		0.0	13.8			13.8	0.2	1.2	
PAN		0.0	21.0			21.0	0.4		

B = INITIAL DRY MASS: 5653.4 D = MASS AFTER SIEVING: 5611.9

SIEVE SIZE	SIEVE SPECS. LIMITS	FRACTURE % METHOD 2 TP-61				ELONGATED PIECES	
		FRAC MASS (F)	QUESTIONABLE MASS (Q)	NON FRAC MASS (N)	INDIVIDUAL FRAC %	TEST MASS	ELONG MASS

SE T 176			
1	2	3	Sample
			Clay
			Sand
			S.E.
AVG.		SPEC	N/A
PAN TARE			1224.8
WET MASS & PAN			6991.4
DRY MASS & PAN			6878.2
AFTER WASH DRY MASS & PAN			6838.0

C = AFTER WASH DRY MASS & PAN - PAN

B = DRY MASS & PAN - PAN

A = WET MASS & PAN - PAN

RESULT SPEC

☐ DRY ☒ WET

WAQTC AASHTO T-27/T11

☒ Round ☐ Square ☐ Rectangle Size

Fracture % Method 1	TP- 61		
Wood Waste	TM225		
Cleanness Value	TM 227		
Flat & Elongated	TM 229		
Fineness Modulus	T 27/T11		
MOISTURE % = ((A-B) / B) X 100	2.0%		
SIEVE LOSS % = ((C-D) / C) X 100	0.0%	0.0-0.3	
(N#10 / 1/4") x 100			

REMARKS

TRENCH
BACKFILL @
FRENCH
DRAIN.

<input checked="" type="checkbox"/> QUALITY CONTROL	<input type="checkbox"/> VERIFICATION	<input type="checkbox"/> INDEPENDENT ASSURANCE
CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER Dave Berovic #43124	COMPANY NAME BRR	SIGNATURE Dave Berovic DATE 3/23/2016



815 Buxton Street | Winston Salem, NC | 27101

PH: 888.239.4539 | FAX: 336.747.1652

www.HanesGeo.com

Specs call for Mirafi 140N,
please confirm this is
acceptable.

TerraTex® N04.5

TerraTex® N04.5 is a nonwoven geotextile made up of polypropylene fibers. These fibers are needed to form a stable and durable network such that the fibers retain their relative position. It is non-biodegradable and resistant to most soil chemicals, acids, and alkali with a pH range of 3 to 12. TerraTex® N04.5 is manufactured to meet or exceed the following minimum average roll values:

Unless noted otherwise, all values are minimum average roll values (MARV).

PROPERTY	TEST METHOD	ENGLISH	METRIC
Weight (Typical) ¹	ASTM D5261	4.2 oz/yd ²	142 g/m ²
Grab Tensile	ASTM D4632	120 lbs	0.533 kN
Grab Elongation	ASTM D4632	50 %	50 %
Trapezoid Tear	ASTM D4533	50 lbs	0.222 kN
CBR Puncture	ASTM D6241	340 lbs	1.51 kN
Permittivity ¹	ASTM D4491	1.70 sec ⁻¹	1.70 sec ⁻¹
Water Flow Rate ¹	ASTM D4491	120 gpm/ft ²	4,885 Lpm/m ²
AOS ^{1, 2}	ASTM D4751	70 US Std. Sieve	0.212 mm
UV Resistance	ASTM D4355	70 % @ 500 hrs	70 % @ 500 hrs

¹ At the time of manufacturing. Handling, storage, and shipping may change these properties.

² Value represents maximum average roll value.

DISCLAIMER: Descriptions regarding the products described herein are based solely upon information provided by the manufacturer and are provided for informational purposes only. NOTHING CONTAINED HEREIN SHOULD BE CONSTRUED AS CREATING AN EXPRESSED OR IMPLIED WARRANTY, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, EACH OF WHICH IS HEREBY DISCLAIMED. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The final determination as to the suitability of any product of Hanes Geo Components in any particular application rests solely with the user. Hanes Geo Components reserves the right to alter or modify its products and descriptions at any time without notice.

FOR INFORMATION ONLY



Submittal Review

item: **Synthetic Turf Shop Drawings**

submittal no: **490-321823.29-1**

project: **South Cooper Mountain High School**

atlas project no.: **14016**

date: **November 3, 2016**

by: **Nick Wilson**

Review of submittal is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of this work with that of all other trades; and the satisfactory performance of his work. A submittal review does not alter the Contract Documents or relieve the contractor of any obligation thereunder.

Number of pages this submittal:

Review Status:

- ☒ No exception taken
☐ Note comments below

- ☐ Rejected
☐ Submittal incomplete

Action required:

- ☒ No re-submittal required
☐ Revise and re-submit
☐ Re-submittal not required if corrections are made as noted
☐ Submit missing item(s) noted below
☐ Submit specified item(s) noted below

Comments:

12562 SW
Main St.
No. 210
Tigard, OR
97223

telephone
503.224.5238

e-mail
firstname@
atlas-la.com

FOR INFORMATION ONLY

SUBMITTAL TRANSMITTAL RECORD

South Cooper Mountain High School



Hoffman Construction Co.
Lic. # 28417
South Cooper Mountain High School
12500 SW 175th Ave.
Beaverton, OR 97007

HCC Job # 5169515

Submittal No.:
Description:
For: <input type="checkbox"/> Review <input type="checkbox"/> Information <input type="checkbox"/> Coordination
Specification Reference:
Bid Package:
Supplier/Subcontractor:
Address:
Phone: Contact:

Routing	# Copies	Attention	Date Sent	Date Received	Date Due

Submittal #	Description	Action	Comments
		Review	

R = Reproducible

P = Print

B = Brochure

HCC Comments:

HOFFMAN CONSTRUCTION COMPANY	
This submittal has been reviewed for general conformance with the contract documents. Contractor's review does not relieve the Vendor/Subcontractor of responsibility for compliance with all requirements of the contract, including completeness and accuracy of this submittal.	
10/26/2016	490-321823.29-1
Date	Submittal #
RobinsonA	
Reviewed By	

DESIGN OPERATIONS:

SOUTH COOPER MOUNTAIN HIGH SCHOOL BASEBALL FIELD BEAVERTON , OR



DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=60' TOTAL PERIMETER: 1499 ft.
TOTAL FIELD AREA:	141,151 sq. ft.
TURF MANUF'D:	155,340 sq.ft.
EXTRA TURF:	10.1 %



A Tarkett Sports Company

**SOUTH COOPER MOUNTAIN HIGH SCHOOL
BASEBALL FIELD
BEAVERTON, OR**

DATE: OCTOBER 24, 2016	ISSUE: SUBMITTAL	SHEET: 1/6 PRESENTATION
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APPROVED BY:
SIGNATURE:
PRINTED NAME:
TITLE:
DATE:



CONCEPTUAL DRAWINGS ONLY: DRAWINGS ARE INTENDED ONLY TO BE A GRAPHIC RENDERING FOR PURPOSES OF PRELIMINARY PRESENTATION;
ALL DISTANCES AND MEASUREMENTS ARE APPROXIMATE IN NATURE AND SUBJECT TO FIELD VERIFICATION.



SPORT COLORS:

	BASEBALL COMPLETE COLOR NAME: WHITE PANTONE COLOR NUMBER: WHITE
	SOCCER COMPLETE COLOR NAME: CANARY YELLOW PANTONE COLOR NUMBER: 136C

LEGEND:

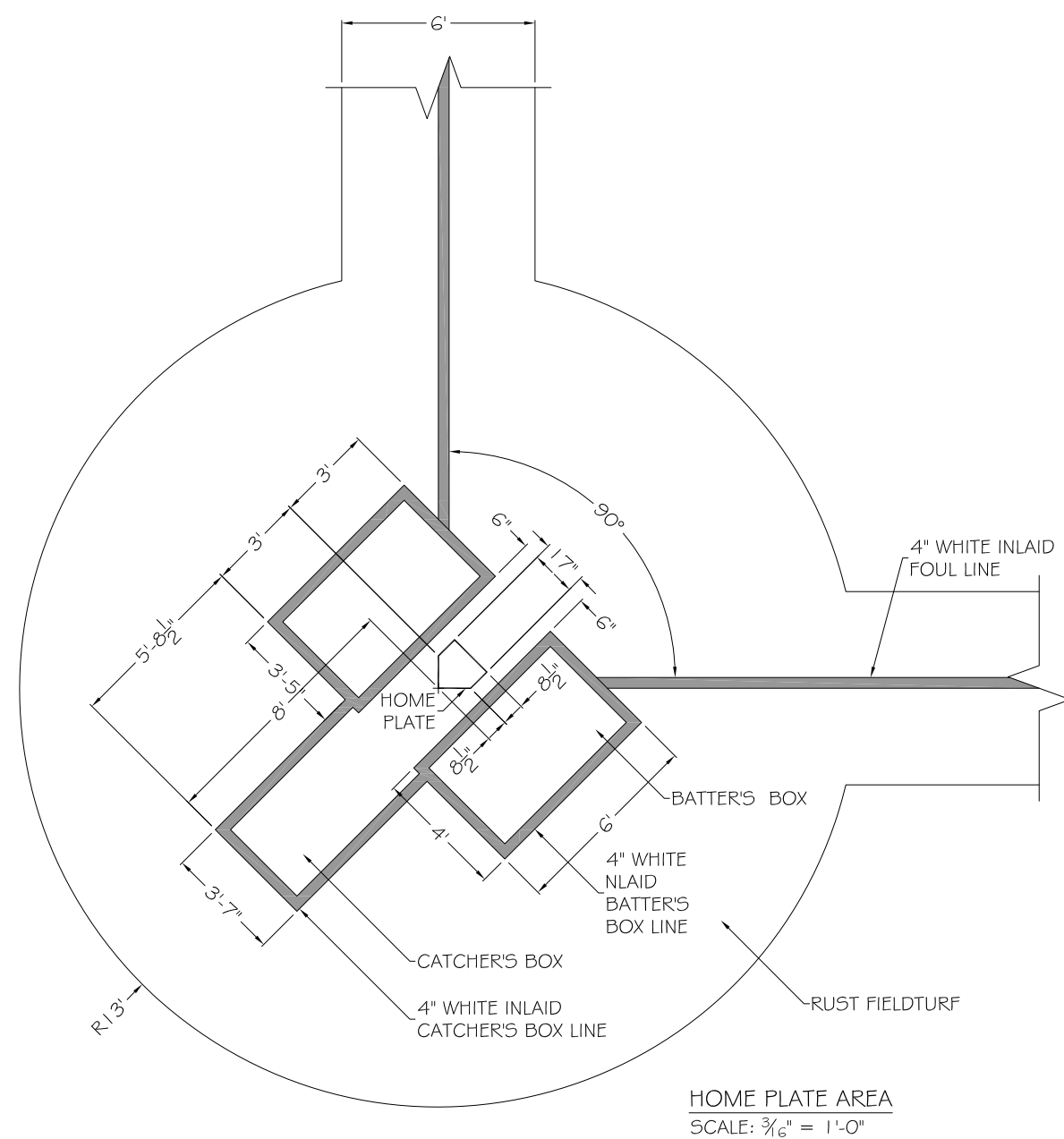
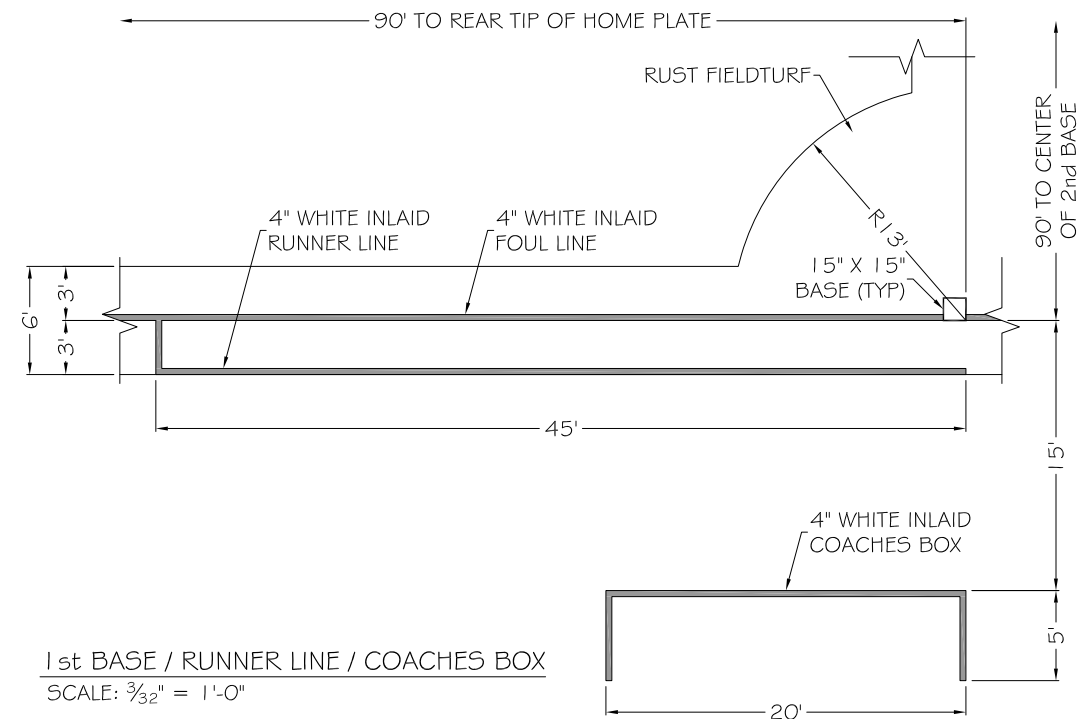
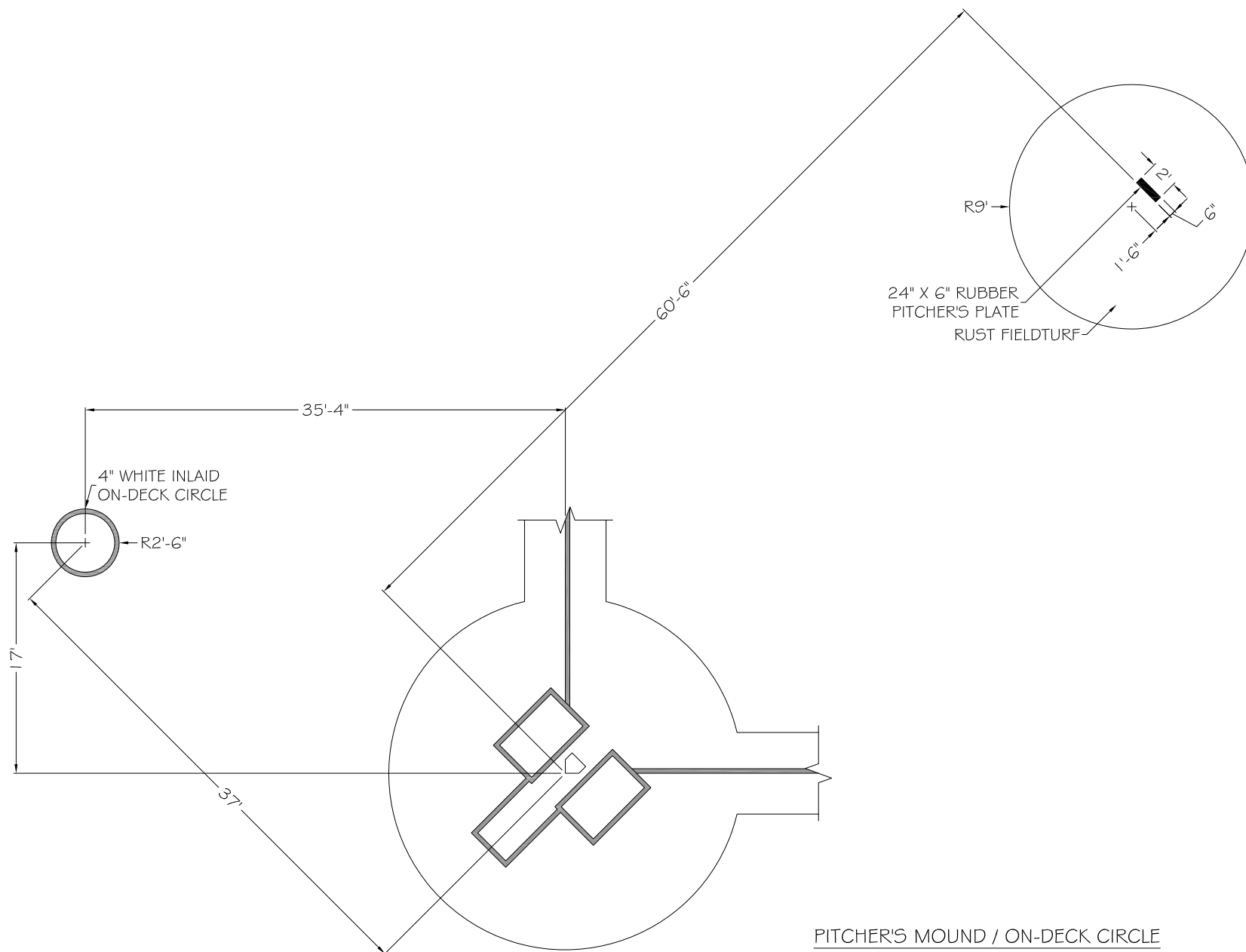
	GREEN FIELDTURF 129,850 sq.ft.
	RUST FIELDTURF 11,301 sq.ft.
	TOTAL FIELDTURF 141,151 sq.ft.

FIELD LAYOUT NOTES (sports are in order of dominance):

1. SOCCER MARKINGS ARE 4" YELLOW NFHS STANDARDS.
2. BASEBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.

ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

NFHS STANDARDS



LEGEND:



SOUTH COOPER MOUNTAIN HIGH SCHOOL
BASEBALL FIELD
BEAVERTON, OR



FieldTurf
A Tarkett Sports Company

DRAWN BY: D. H.

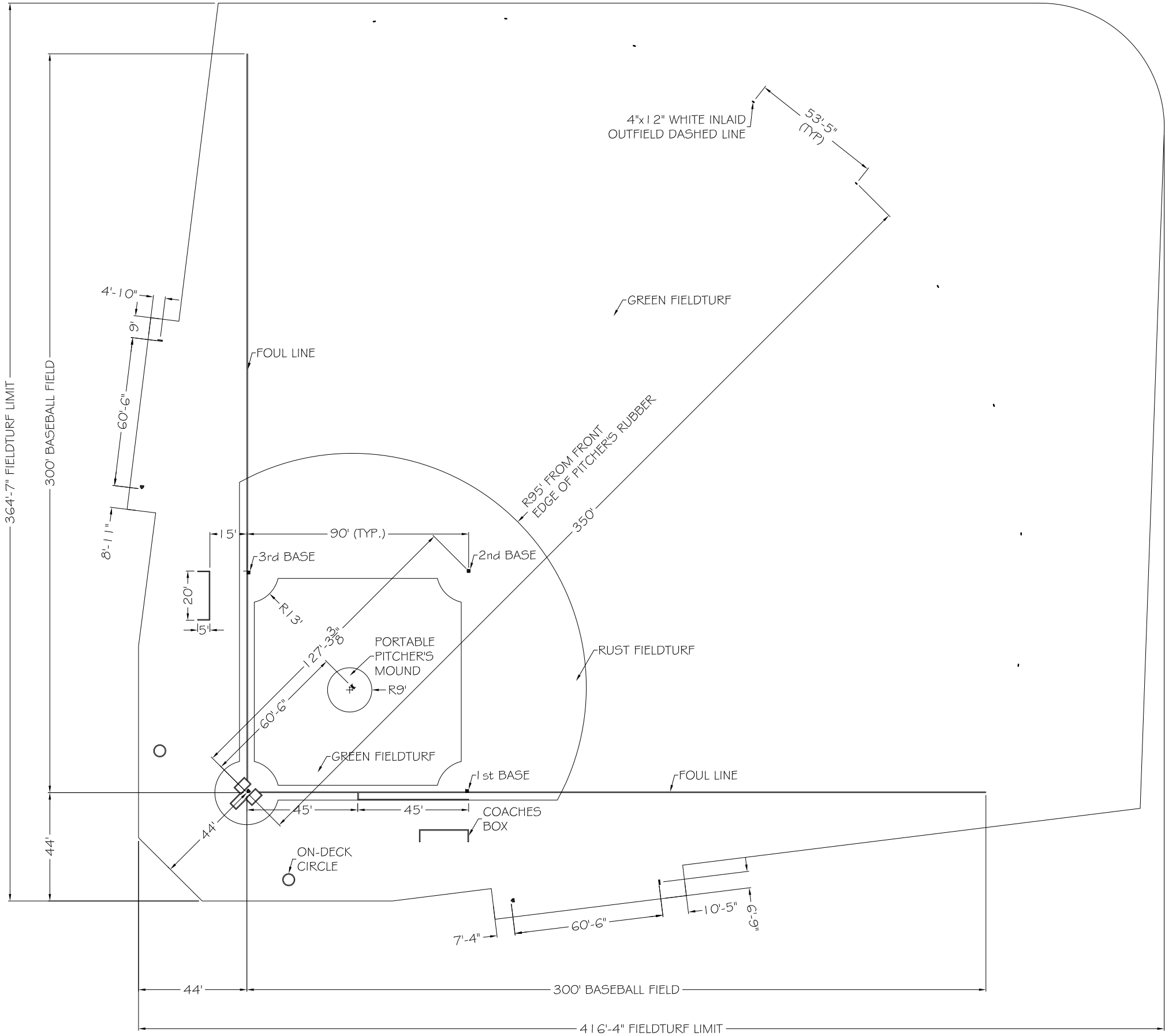
CHECKED BY: J. B.

SCALE: AS SHOWN

DATE: SEPTEMBER 12, 2016	ISSUE: SUBMITTAL	SHEET: 4/6 BASEBALL MARKINGS - B
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Scale is only accurate when this drawing is printed on 11" X 17" paper.



BASEBALL FIELD LAYOUT
SCALE: 1" = 45'-0"

BASEBALL LAYOUT NOTES:
ALL MARKINGS ARE 4" WHITE INLAID TURF.
PLEASE REFER TO BASEBALL MARKINGS-B FOR DETAILS.

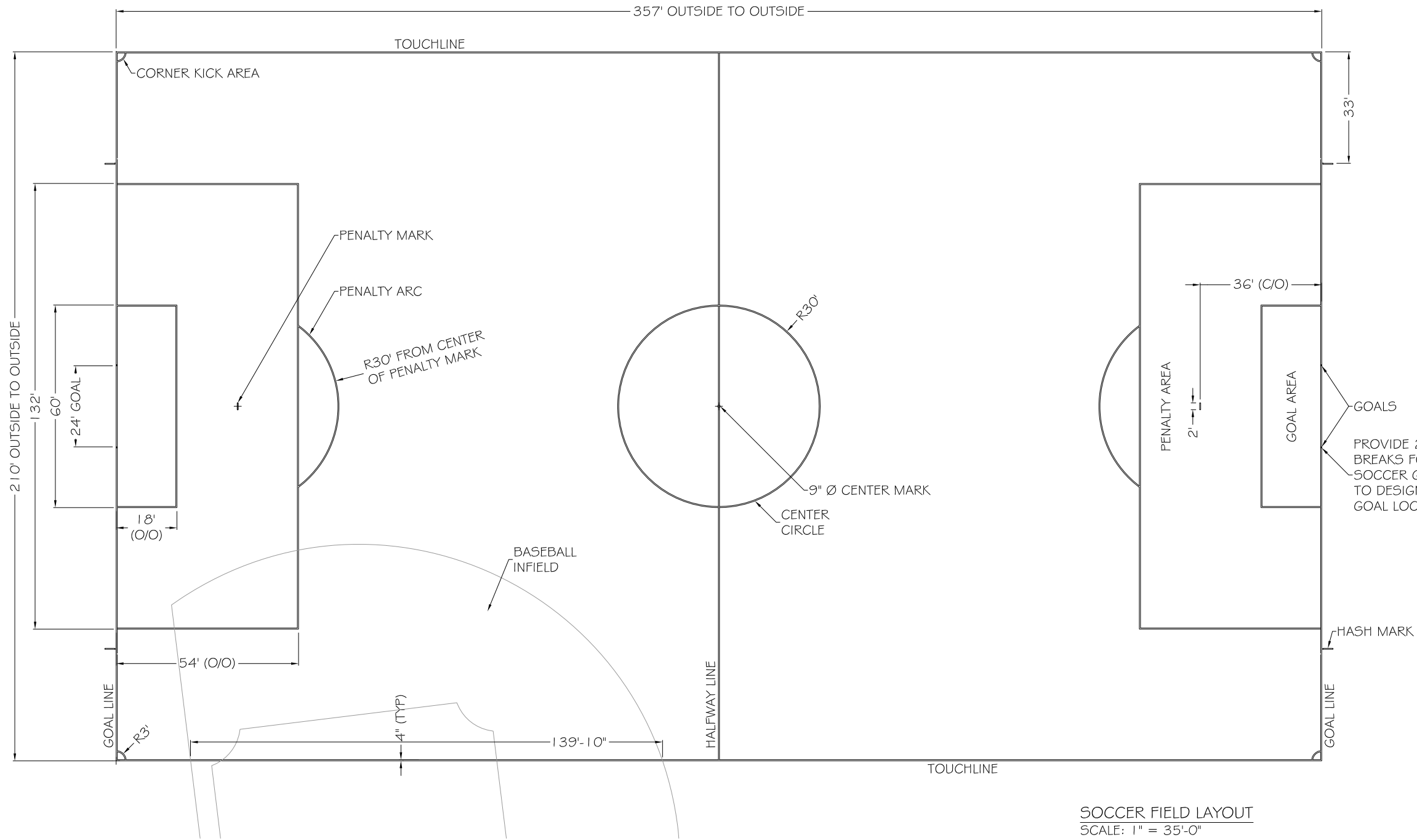
NFHS STANDARDS

SOUTH COOPER MOUNTAIN HIGH SCHOOL
BASEBALL FIELD
BEAVERTON, OR

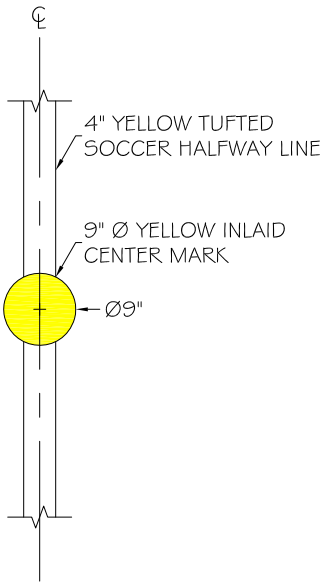
DATE: OCTOBER 24, 2016	ISSUE: SUBMITTAL	SHEET: 3/6 BASEBALL MARKINGS - A
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FieldTurf
A Tarkett Sports Company

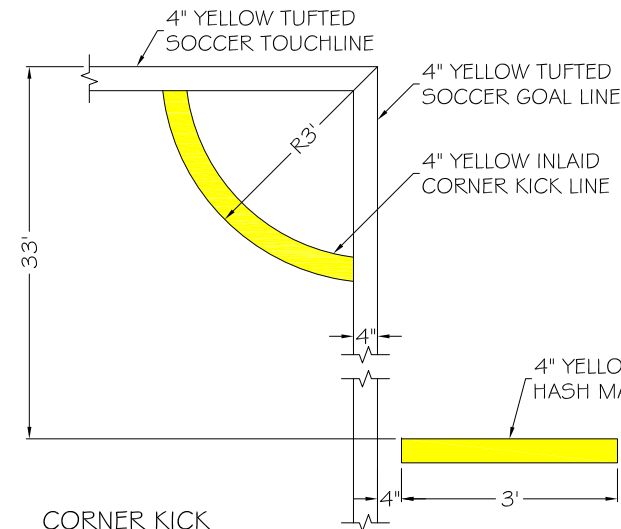
DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN



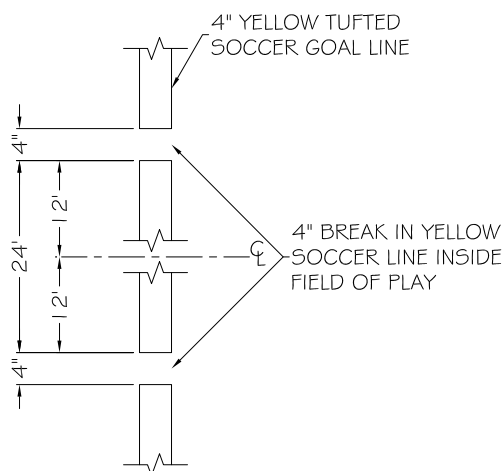
SOCCER FIELD LAYOUT
SCALE: 1" = 35'-0"



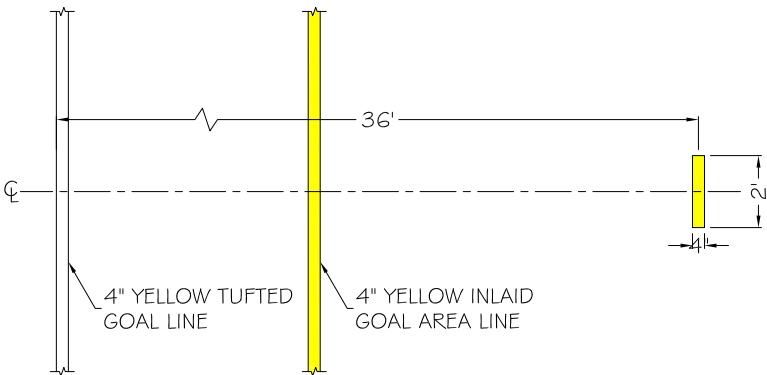
CENTER MARK
SCALE: 1/2" = 1'-0"



CORNER KICK
SCALE: 3/8" = 1'-0"



GOAL LOCATION
SCALE: 1/2" = 1'-0"



PENALTY MARK
SCALE: 3/16" = 1'-0"

LEGEND:

- TUFTED YELLOW LINE (INDICATED ON DETAILS ONLY)
- INLAID YELLOW LINE (INDICATED ON DETAILS ONLY)

SOCCER LAYOUT NOTES:

TOUCHLINES, GOAL LINES, AND HALFWAY LINE ARE TUFTED YELLOW LINES.

THE SOCCER GOAL AREA, PENALTY AREA, PENALTY MARK, PENALTY ARC, MIDFIELD CIRCLE, CENTER MARK, CORNER KICK LINE AND HASH MARK ARE TO BE YELLOW INLAID TURF.

LINES PASSING THROUGH BASEBALL INFIELD ARE INLAID.

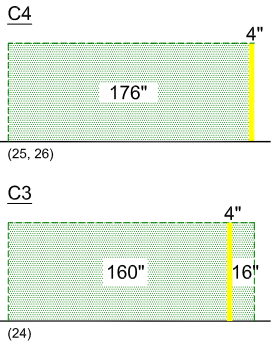
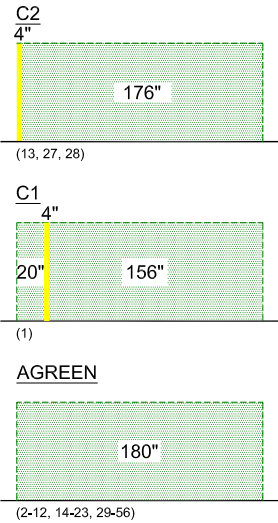
NFHS STANDARDS

SOUTH COOPER MOUNTAIN HIGH SCHOOL
BASEBALL FIELD
BEAVERTON, OR



DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

ROLL LEGEND:



INSTALLATIONS NOTES:

- ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
- FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
- ROLLS #1 & #24 HAVE THE SOCCER GOAL LINES.
- ROLLS #26 TO #28 HAVE THE SOCCER TOUCHLINES.
- THE INSTALLATION OF THE ROLLS SHOULD START FROM THE HALFWAY LINE (ROLL #1).
- USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.



SOUTH COOPER MOUNTAIN HIGH SCHOOL
BASEBALL FIELD
BEAVERTON , OR



A Tarkett Sports Company

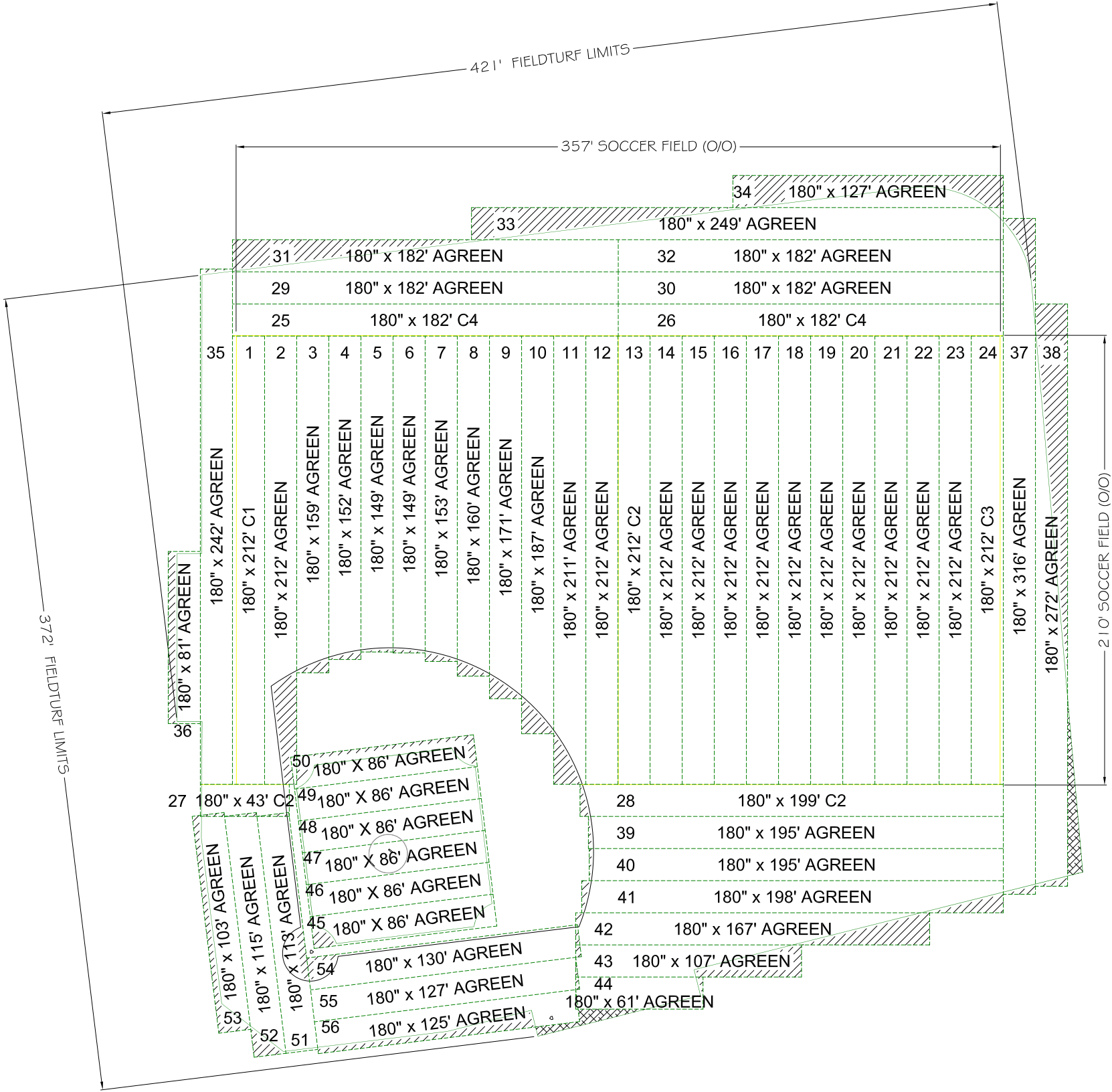
DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=60'
FIELD AREA:	129,850 sq. ft.
TURF MANUF'D:	141,660 sq.ft.
EXTRA TURF:	9.1 %

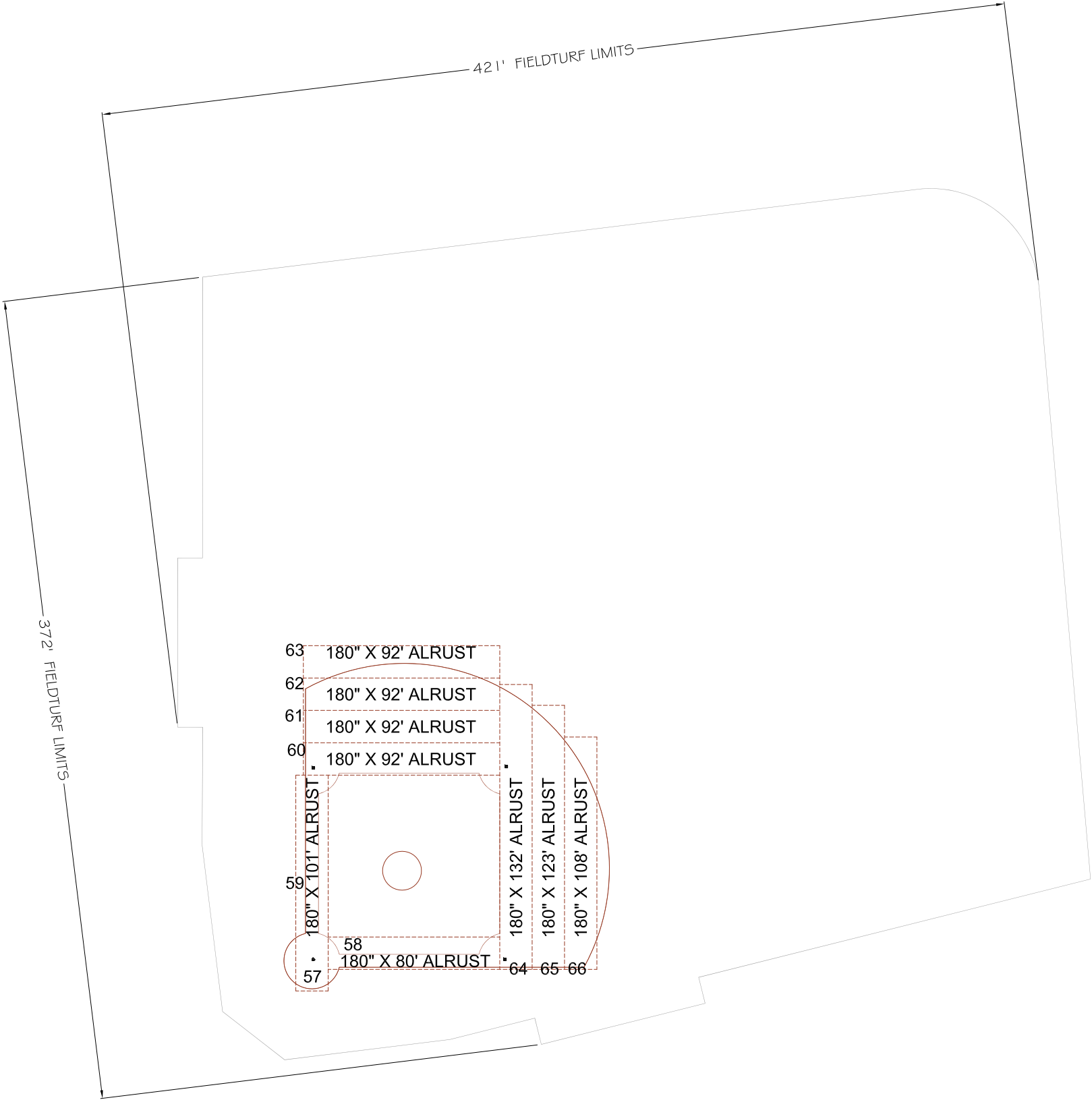
Scale is only accurate when this drawing is printed on 11" X 17" paper.

SHEET: 5/6 ROLL LAYOUT

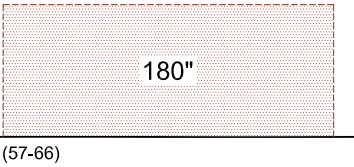
ISSUE: SUBMITTAL

DATE: SEPTEMBER 12, 2016





ALRUST



INSTALLATIONS NOTES:

- ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
- FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
- THE INSTALLATION OF THE ROLLS SHOULD START FROM (ROLL #57).
- USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.



SOUTH COOPER MOUNTAIN HIGH SCHOOL
BASEBALL FIELD
BEAVERTON , OR



DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=60'
FIELD AREA:	11,301 sq. ft.
TURF MANUFD:	13,680 sq.ft.
EXTRA TURF:	21.1 %

SOUTH COOPER MOUNTAIN HIGH SCHOOL

FOOTBALL FIELD

BEAVERTON , OR



APPROVED BY:
SIGNATURE:
PRINTED NAME:
TITLE:
DATE:

SPORT COLORS:

<div></div>	FOOTBALL COMPLETE COLOR NAME: WHITE PANTONE COLOR NUMBER: WHITE
<div></div>	SOCCER COMPLETE COLOR NAME: CANARY YELLOW PANTONE COLOR NUMBER: 136C
<div></div>	BOYS LACROSSE COMPLETE COLOR NAME: REFLEX BLUE PANTONE COLOR NUMBER: 287C
<div></div>	GIRL'S LACROSSE COMPLETE COLOR NAME: RED PANTONE COLOR NUMBER: 185C

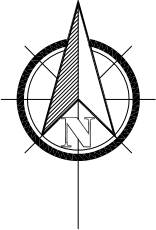
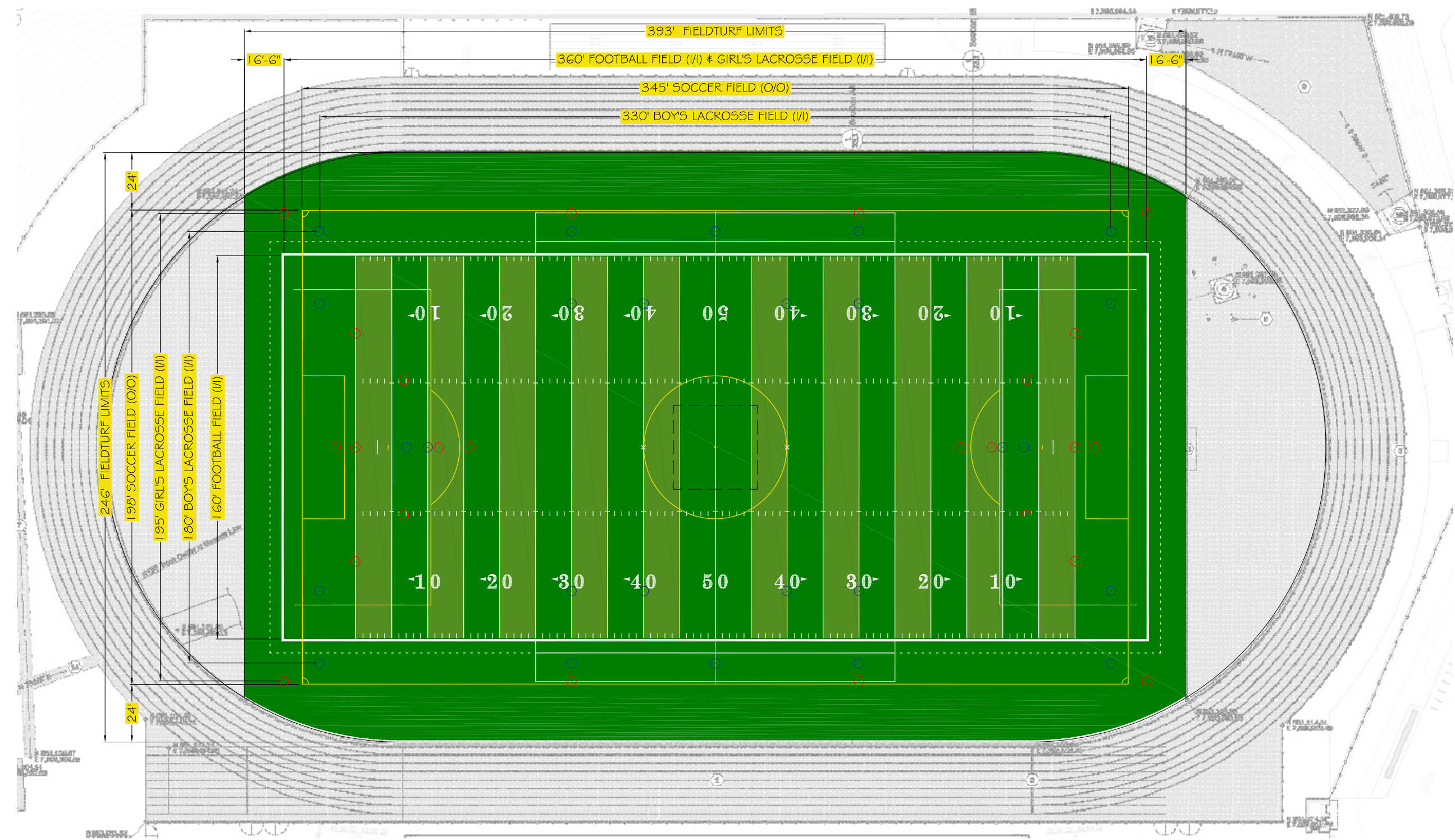
LEGEND:

<div></div>	GREEN FIELDTURF 95,134 sq.ft.
-------------	----------------------------------

NOTE:

THE 35'X35' RECTANGLE IN CENTER FIELD IS FOR LOGO PLACEMENT.

final approval needed on logo selection 21 days before field to be on site



FTHD-1

DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=45'
TOTAL FIELD AREA:	95,134 sq. ft.
TOTAL PERIMETER:	1,218 ft.

**FieldTurf**
A Tarkett Sports Company

**SOUTH COOPER MOUNTAIN HIGH SCHOOL
FOOTBALL FIELD
BEAVERTON , OR**

DATE: OCTOBER 24, 2016	ISSUE: SUBMITTAL	SHEET: 1/6 FIELD LAYOUT
------------------------	------------------	-------------------------

FIELD LAYOUT NOTES (sports are in order of dominance):

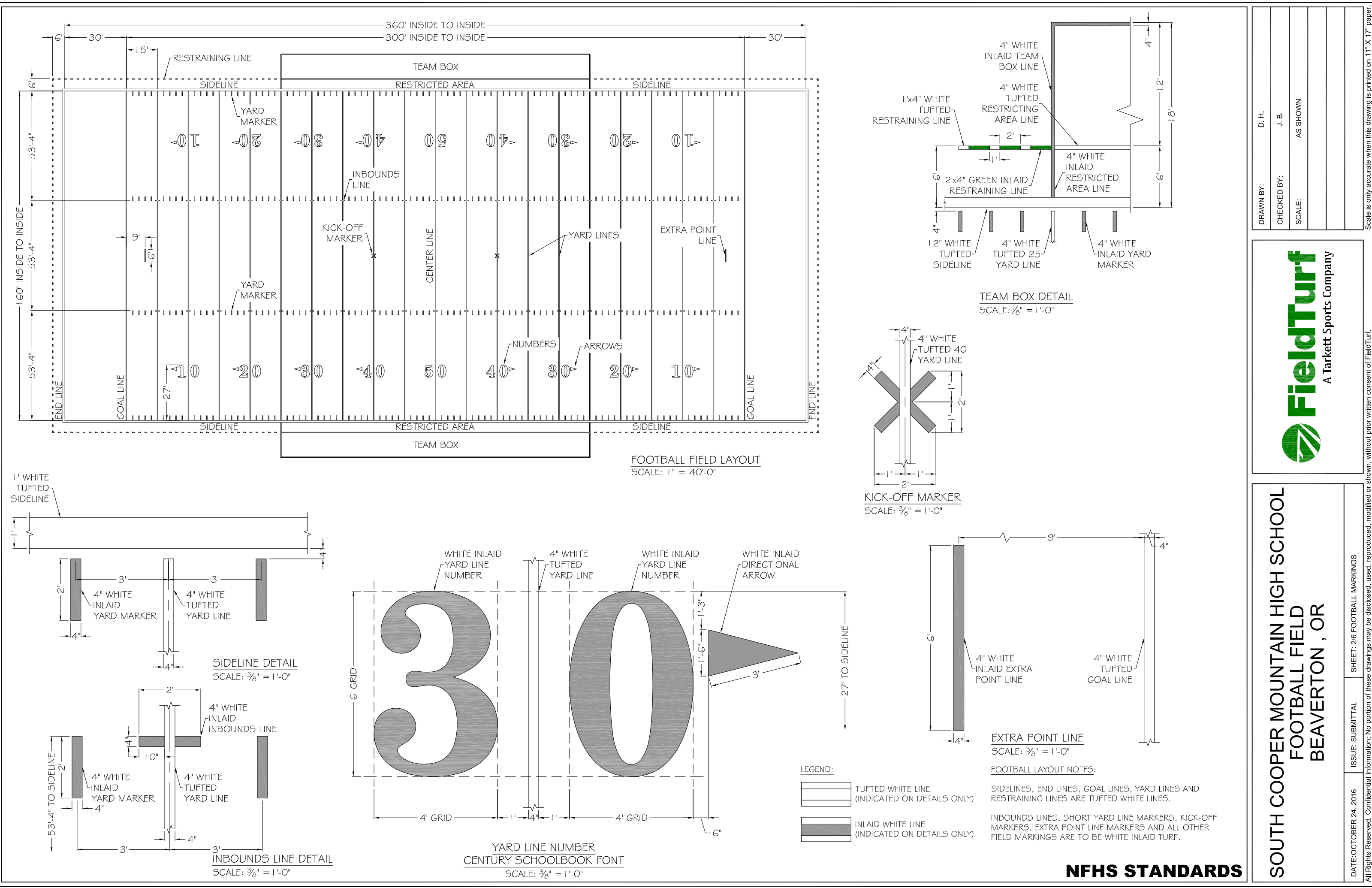
1. FOOTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.
2. SOCCER MARKINGS ARE 4" YELLOW NFHS STANDARDS.
3. BOYS LACROSSE MARKINGS ARE 4" REFLEX BLUE NFHS STANDARDS.
4. GIRL'S LACROSSE MARKINGS ARE 4" RED NFHS STANDARDS.

FIELD DOMINANCY IS ONLY WITHIN THE FOOTBALL FIELD OF PLAY

COLOR DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID BOYS AND GIRL'S LACROSSE TICK MARKS.

ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

NFHS STANDARDS



DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

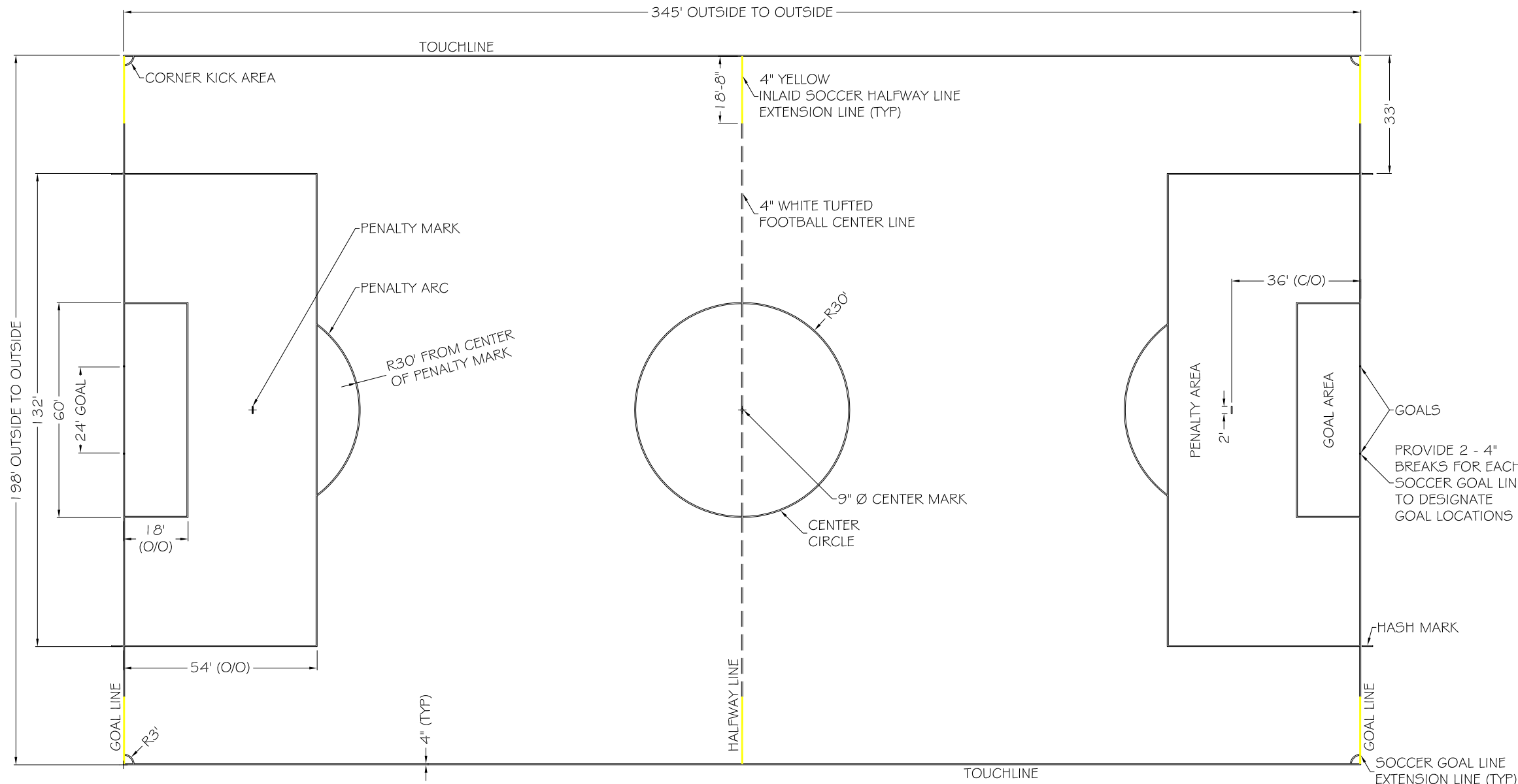
**FieldTurf**
A Tarkett Sports Company

SOUTH COOPER MOUNTAIN HIGH SCHOOL
FOOTBALL FIELD
BEAVERTON , OR

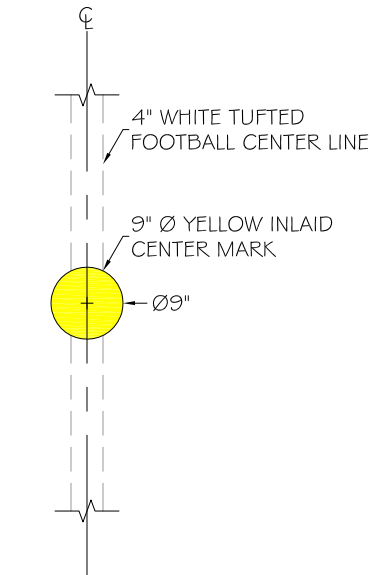
DATE:OCTOBER 24, 2016	ISSUE: SUBMITTAL	SHEET: 2/6 FOOTBALL MARKINGS
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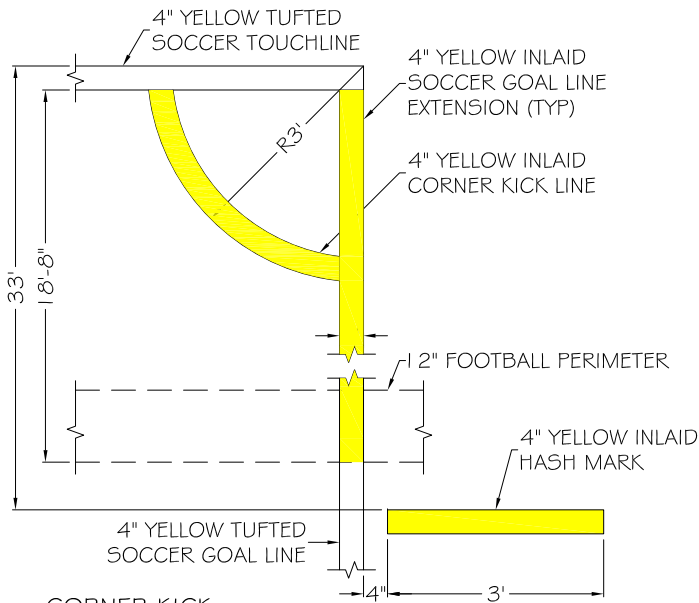
NFHS STANDARDS



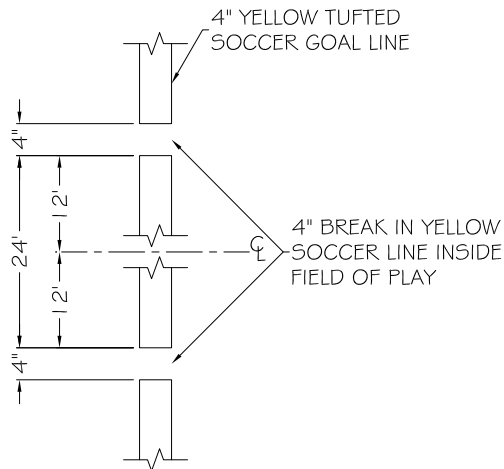
SOCCER FIELD LAYOUT
SCALE: 1" = 35'-0"



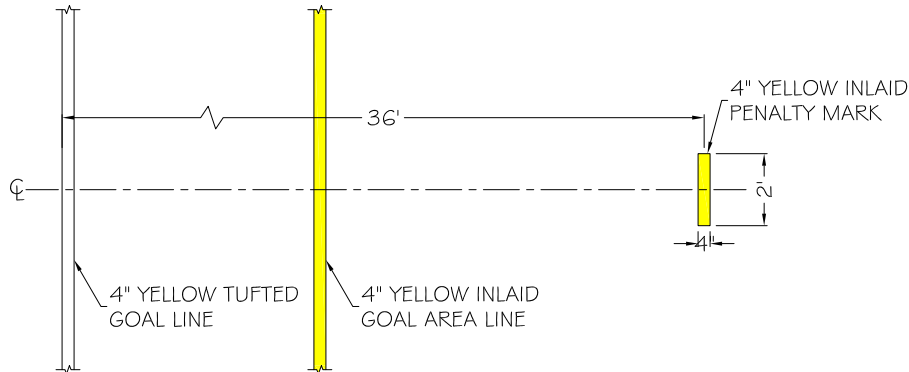
CENTER MARK
SCALE: 1/2" = 1'-0"



CORNER KICK
SCALE: 3/8" = 1'-0"



GOAL LOCATION
SCALE: 1/2" = 1'-0"



PENALTY MARK
SCALE: 3/16" = 1'-0"

LEGEND:

- TUFTED YELLOW LINE (INDICATED ON DETAILS ONLY)
- INLAID YELLOW LINE (INDICATED ON DETAILS ONLY)

SOCCER LAYOUT NOTES:

TOUCHLINES AND GOAL LINES ARE TUFTED YELLOW LINES.

THE SOCCER GOAL AREA, PENALTY AREA, PENALTY MARK, PENALTY ARC, MIDFIELD CIRCLE, CENTER MARK, CORNER KICK LINE, HASH MARK AND EXTENSION LINES ARE TO BE YELLOW INLAID TURF.

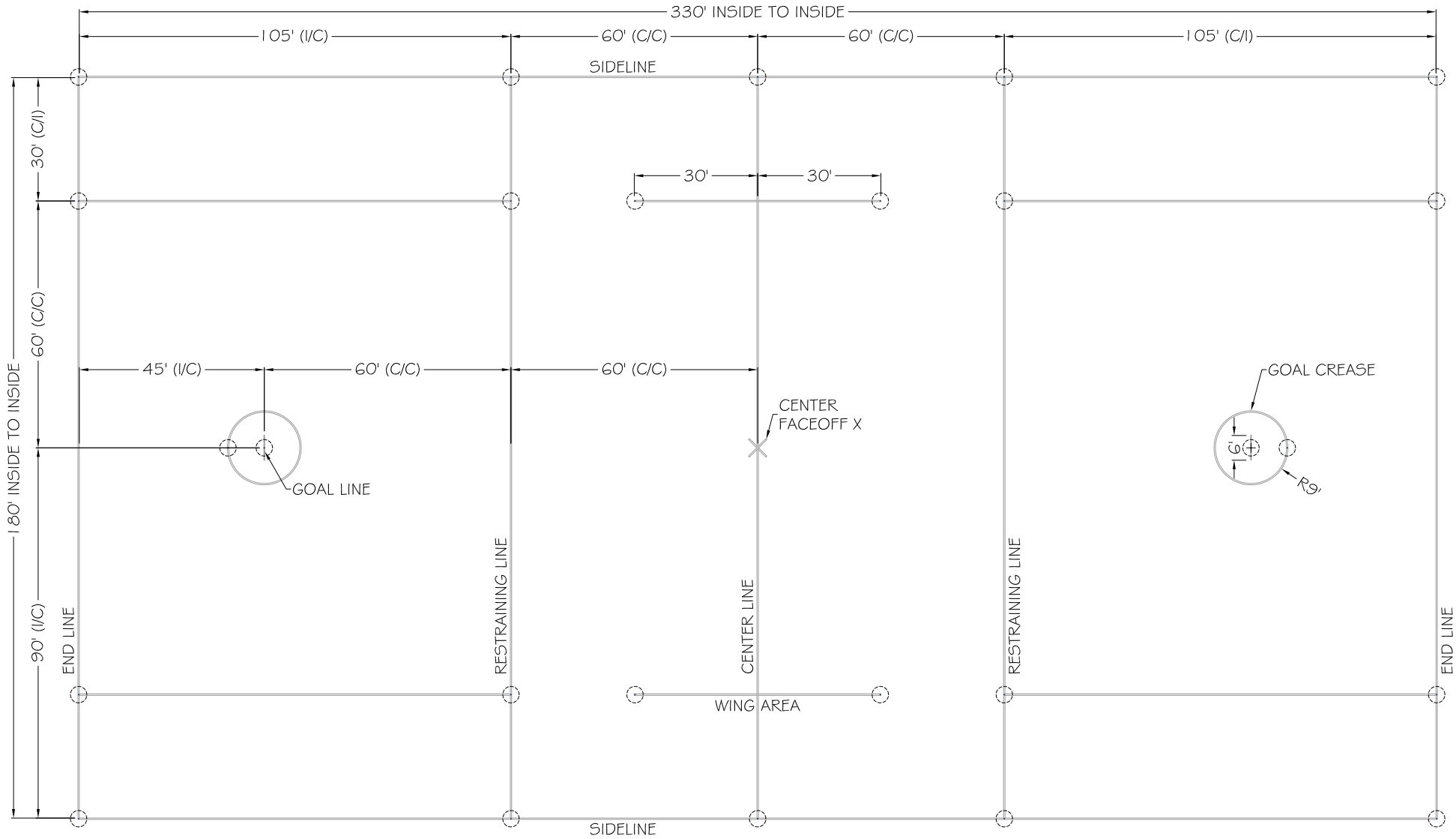
USE THE FOOTBALL 4" WHITE TUFTED CENTER LINE AS THE SOCCER HALFWAY LINE.

NFHS STANDARDS

SOUTH COOPER MOUNTAIN HIGH SCHOOL
FOOTBALL FIELD
BEAVERTON , OR



DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN



BOYS LACROSSE FIELD LAYOUT
SCALE: 1" = 35'-0"

LEGEND:

 INLAID REFLEX BLUE LINE
(INDICATED ON DETAILS ONLY)

BOYS LACROSSE LAYOUT NOTES:

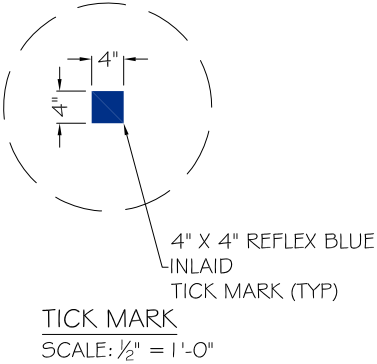
DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

USE THE FOOTBALL 4" WHITE TUFTED CENTER LINE AND 30 YARD LINES FOR THE BOYS LACROSSE CENTER LINE AND RESTRAINING LINES


ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE SHALL BE 2" WIDE.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

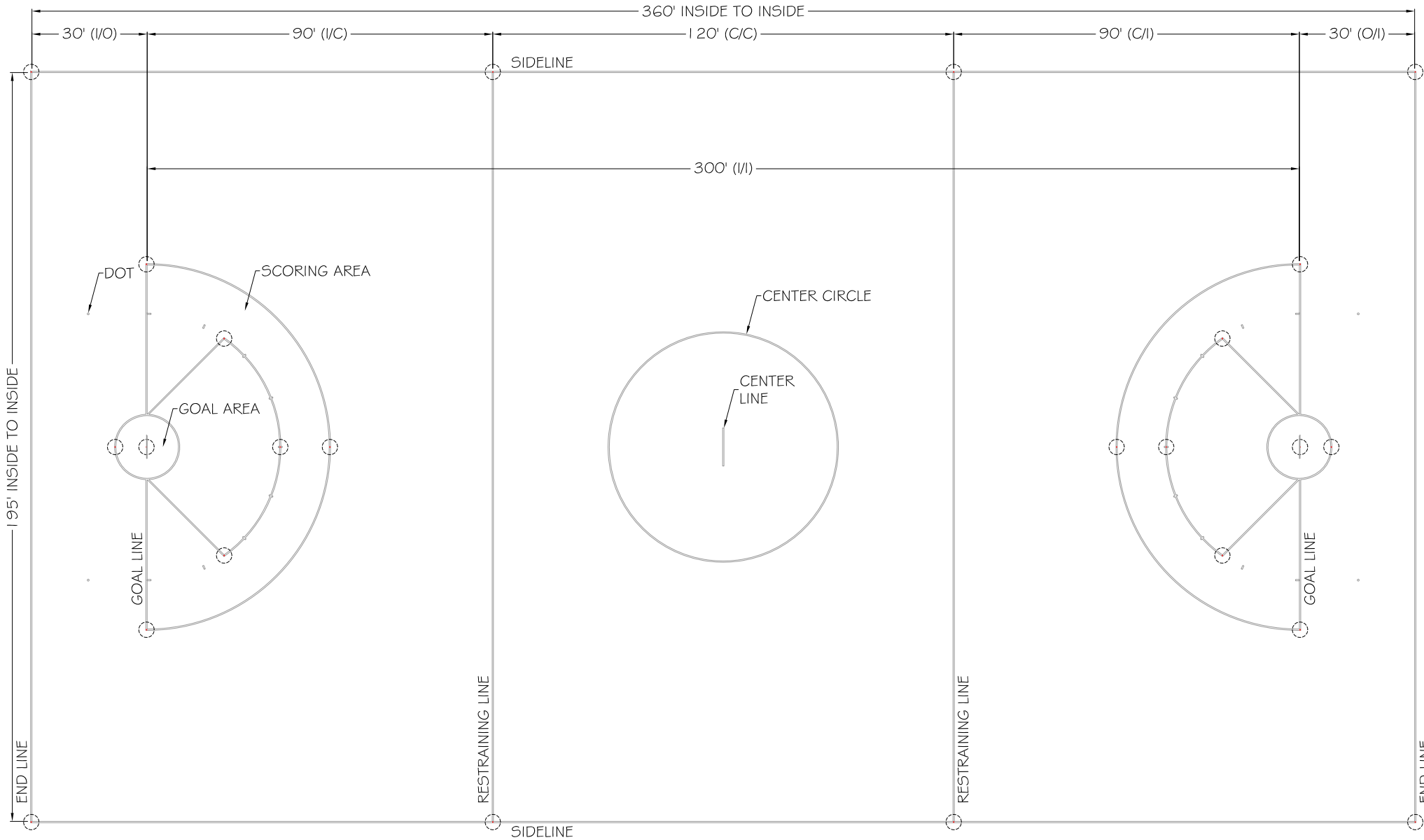
NFHS STANDARDS



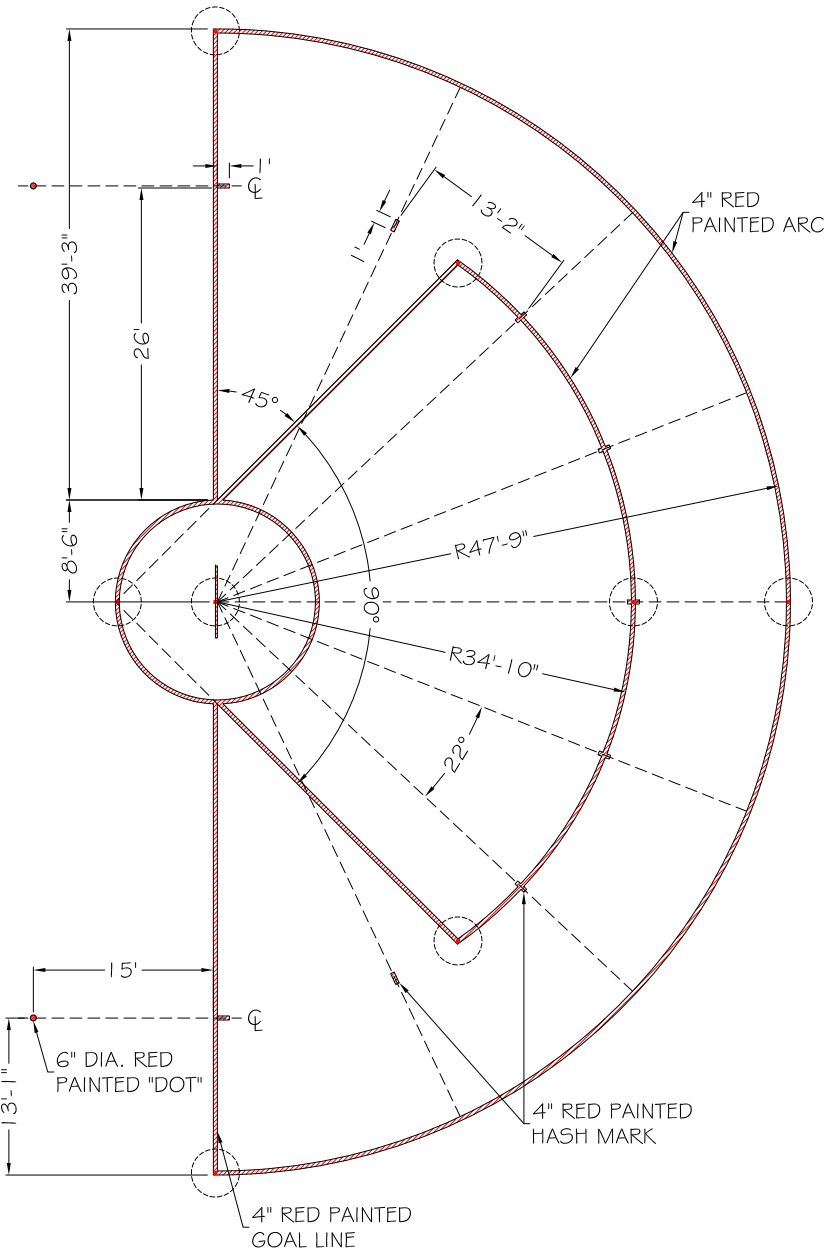
DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

**FieldTurf**
A Tarkett Sports Company

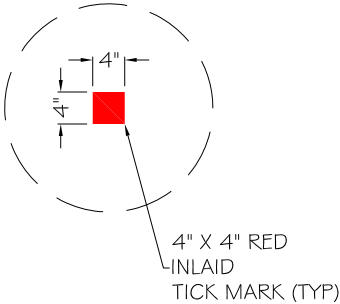
SOUTH COOPER MOUNTAIN HIGH SCHOOL FOOTBALL FIELD BEAVERTON , OR			SHEET: 4/6 BOYS LACROSSE MARKINGS
DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL		



GIRL'S LACROSSE FIELD LAYOUT
SCALE: 1" = 35'-0"



SCORING AREA
SCALE: 1/16" = 1'-0"



TICK MARK
SCALE: 1/2" = 1'-0"

LEGEND:

- INLAID RED LINE (INDICATED ON DETAILS ONLY)
- PAINTED RED LINE (INDICATED ON DETAILS ONLY)

GIRL'S LACROSSE LAYOUT NOTES:

DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

USE THE FOOTBALL 4" WHITE TUFTED END LINES AND 30 YARD LINES FOR THE GIRL'S LACROSSE END LINES AND RESTRAINING LINES.

ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE SHALL BE 2" WIDE.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

NFHS STANDARDS

SOUTH COOPER MOUNTAIN HIGH SCHOOL
FOOTBALL FIELD
BEAVERTON , OR

FieldTurf
A Tarkett Sports Company

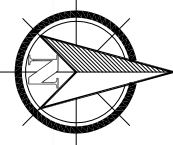
DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 5/6 GIRL'S LACROSSE MARKINGS
DRAWN BY: D. H.		
CHECKED BY: J. B.		
SCALE: AS SHOWN		

Scale is only accurate when this drawing is printed on 11" X 17" paper.

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SOUTH COOPER MOUNTAIN HIGH SCHOOL MULTI FIELD BEAVERTON , OR



[illegible]

DRAWN BY:	M. K. / V. B.
CHECKED BY:	J. B.
SCALE:	1"=55'
TOTAL FIELD AREA:	176,504 sq. ft.
TOTAL PERIMETER:	2,141 ft.

Scale is only accurate when this drawing is printed on 11" X 17" paper.

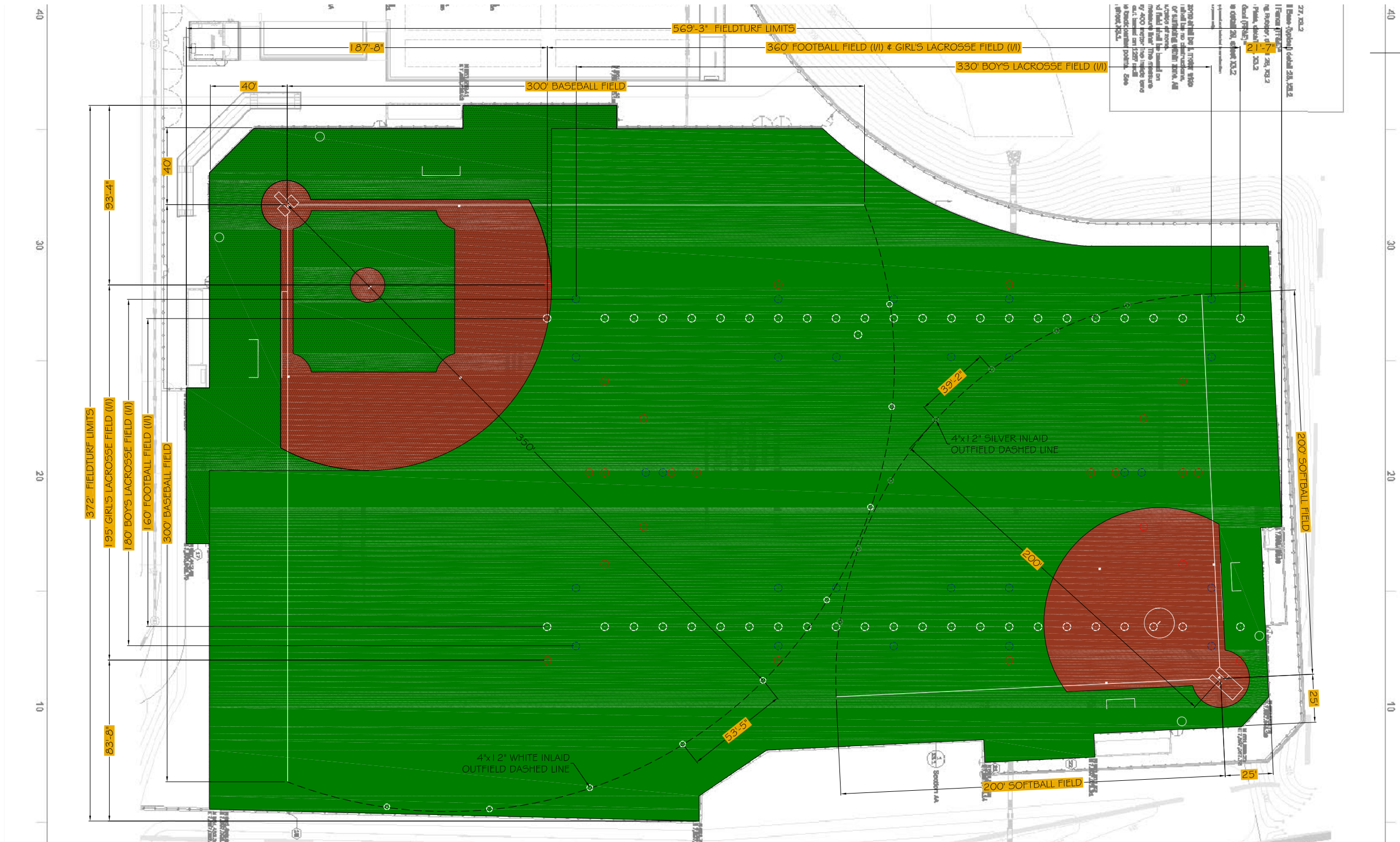


A Tarkett Sports Company




SOUTH COOPER MOUNTAIN HIGH SCHOOL - MULTI FIELD BEAVERTON, OR



DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 1/10 FIELD LAYOUT
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

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APPROVED BY:
SIGNATURE:
PRINTED NAME:
TITLE:
DATE:

	FOOTBALL (TICK MARKS) / BASEBALL / SOFTBALL COMPLETE COLOR NAME: WHITE PANTONE COLOR NUMBER: WHITE
	BOYS LACROSSE (TICK MARKS) COMPLETE COLOR NAME: REFLEX BLUE PANTONE COLOR NUMBER: 287C
	GIRL'S LACROSSE (TICK MARKS) COMPLETE COLOR NAME: RED PANTONE COLOR NUMBER: 185C

	GREEN FIELDTURF (FTHD-57) 137,003 sq.ft.
	RUST FIELDTURF (FTHD-57) 8,166 sq.ft.
	TOTAL FIELDTURF (FTHD-57) 145,169 sq.ft.

	GREEN FIELDTURF (FTHD-2) 20,034 sq.ft.
	RUST FIELDTURF (FTHD-2) 11,301 sq.ft.
	TOTAL FIELDTURF (FTHD-2) 31,335 sq.ft.

TOTAL FIELDTURF
176,504 sq.ft.

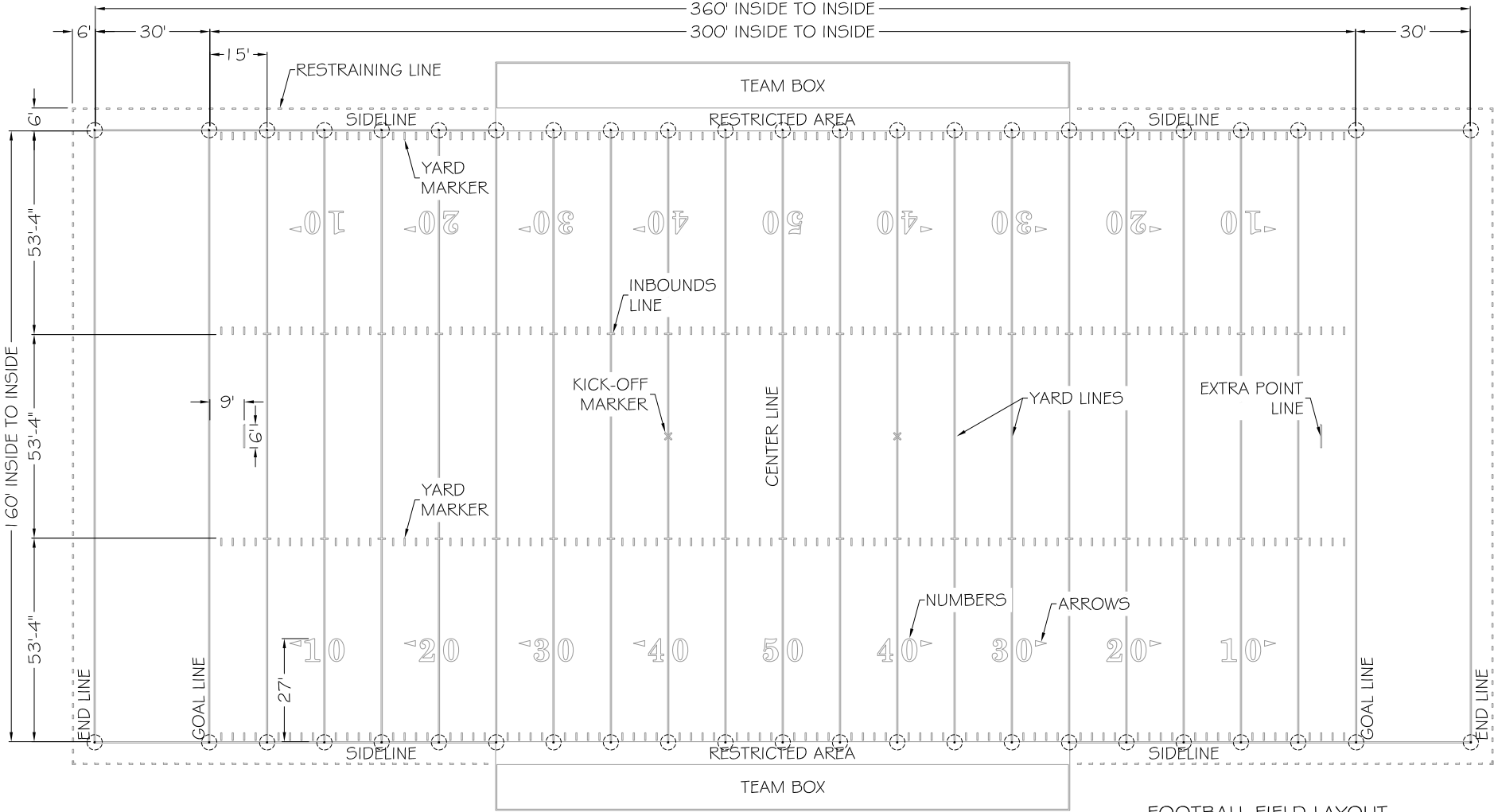
1. FOOTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.
2. BOYS LACROSSE MARKINGS ARE 4" REFLEX BLUE NFHS STANDARDS.
3. GIRLS LACROSSE MARKINGS ARE 4" RED NFHS STANDARDS.
4. BASEBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.
5. SOFTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.

COLOR DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID FOOTBALL/LACROSSE TICK MARKS.

ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

NFHS STANDARDS

CONCEPTUAL DRAWINGS ONLY: DRAWINGS ARE INTENDED ONLY TO BE A GRAPHIC RENDERING FOR PURPOSES OF PRELIMINARY PRESENTATION; ALL DISTANCES AND MEASUREMENTS ARE APPROXIMATE IN NATURE AND SUBJECT TO FIELD VERIFICATION.



FOOTBALL FIELD LAYOUT
SCALE: 1" = 40'-0"

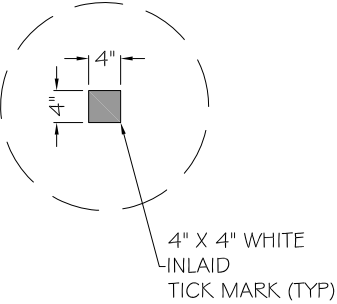
LEGEND:

 INLAID WHITE LINE
(INDICATED ON DETAILS ONLY)

FOOTBALL LAYOUT NOTES:

DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

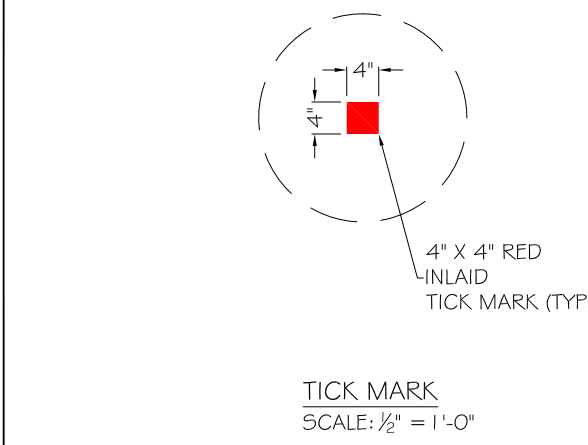
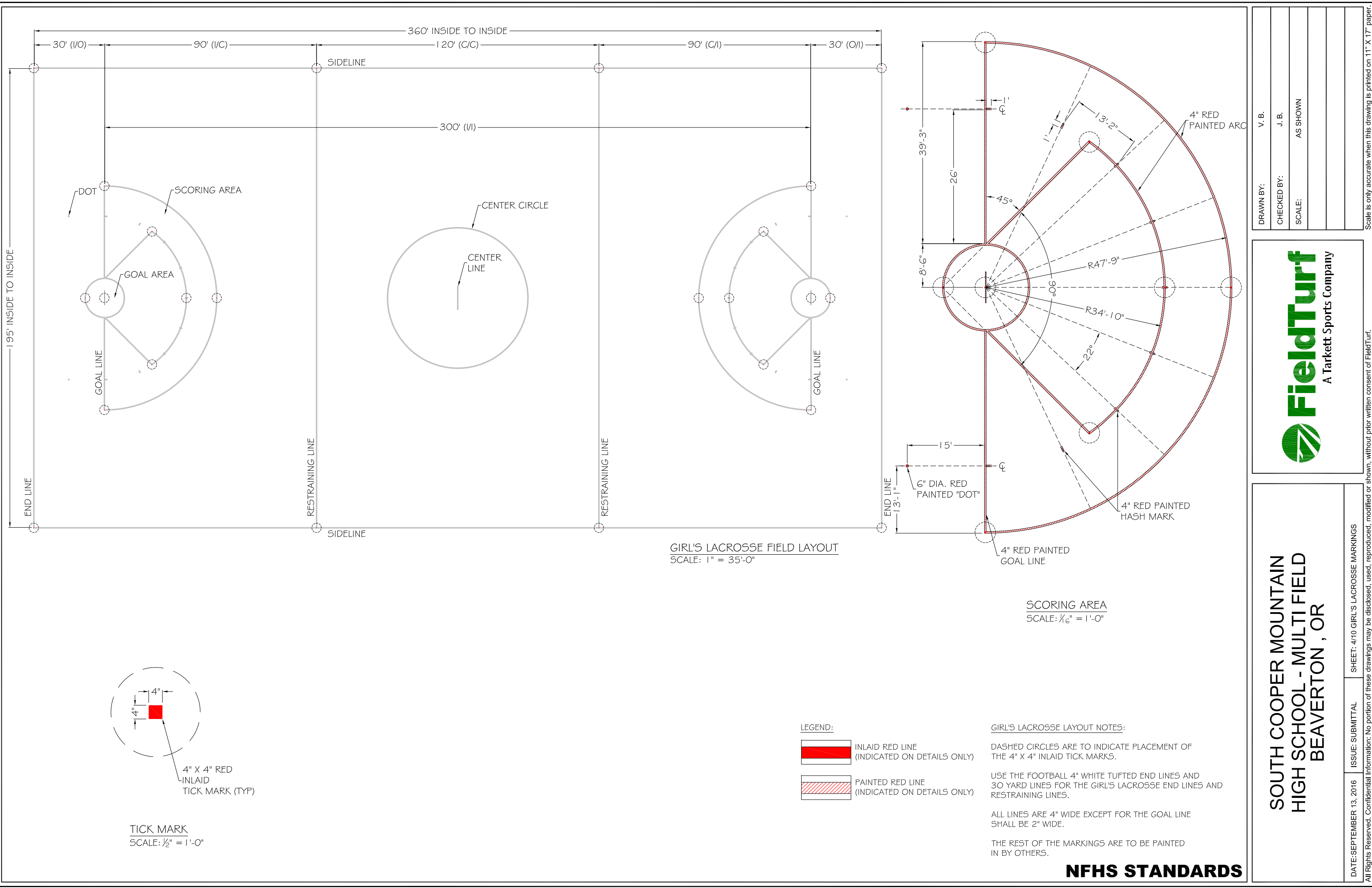


TICK MARK
SCALE: 1/2" = 1'-0"

SOUTH COOPER MOUNTAIN
HIGH SCHOOL - MULTI FIELD
BEAVERTON , OR



DRAWN BY:	V. B.
CHECKED BY:	J. B.
SCALE:	AS SHOWN



GIRL'S LACROSSE FIELD LAYOUT
SCALE: 1" = 35'-0"

- LEGEND:**
- INLAID RED LINE (INDICATED ON DETAILS ONLY)
 - PAINTED RED LINE (INDICATED ON DETAILS ONLY)

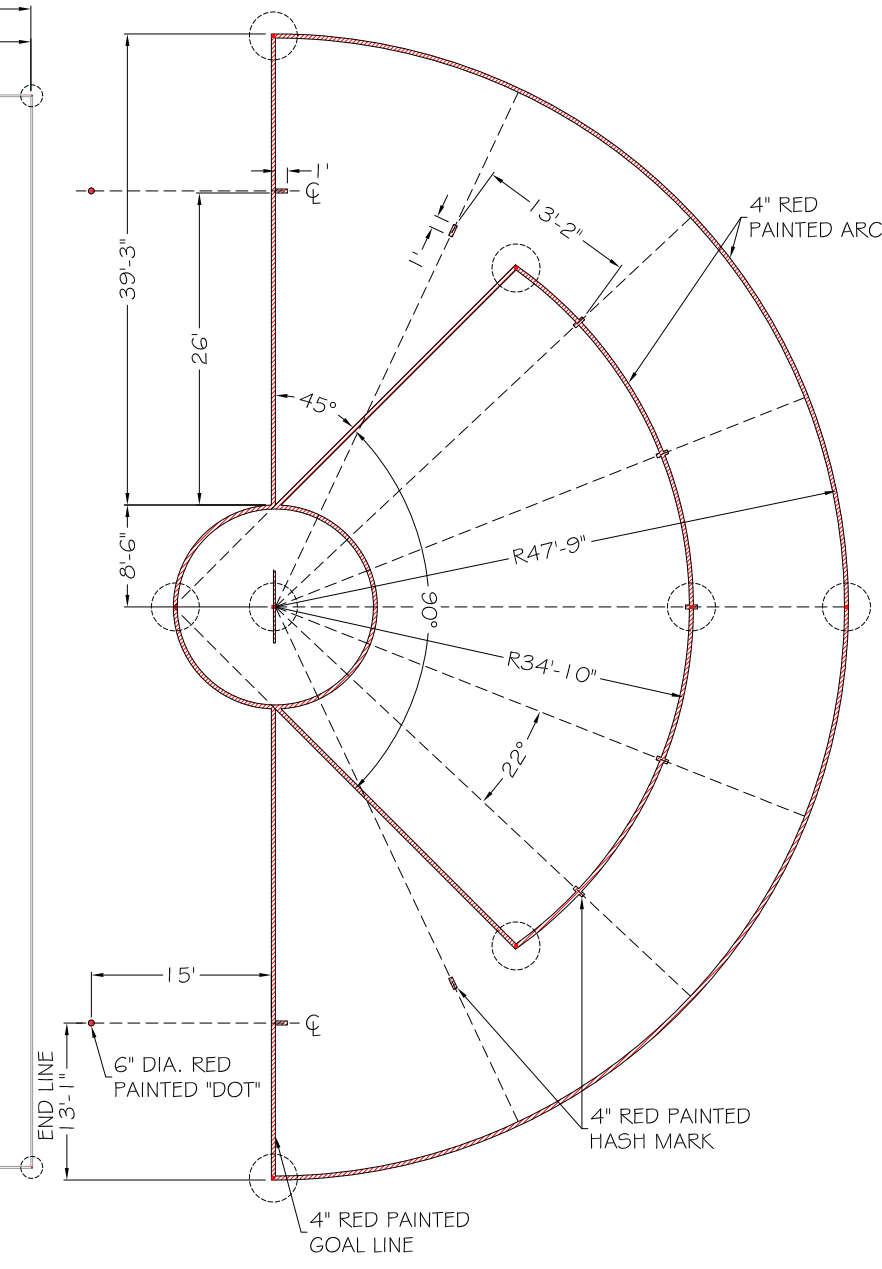
GIRL'S LACROSSE LAYOUT NOTES:

DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

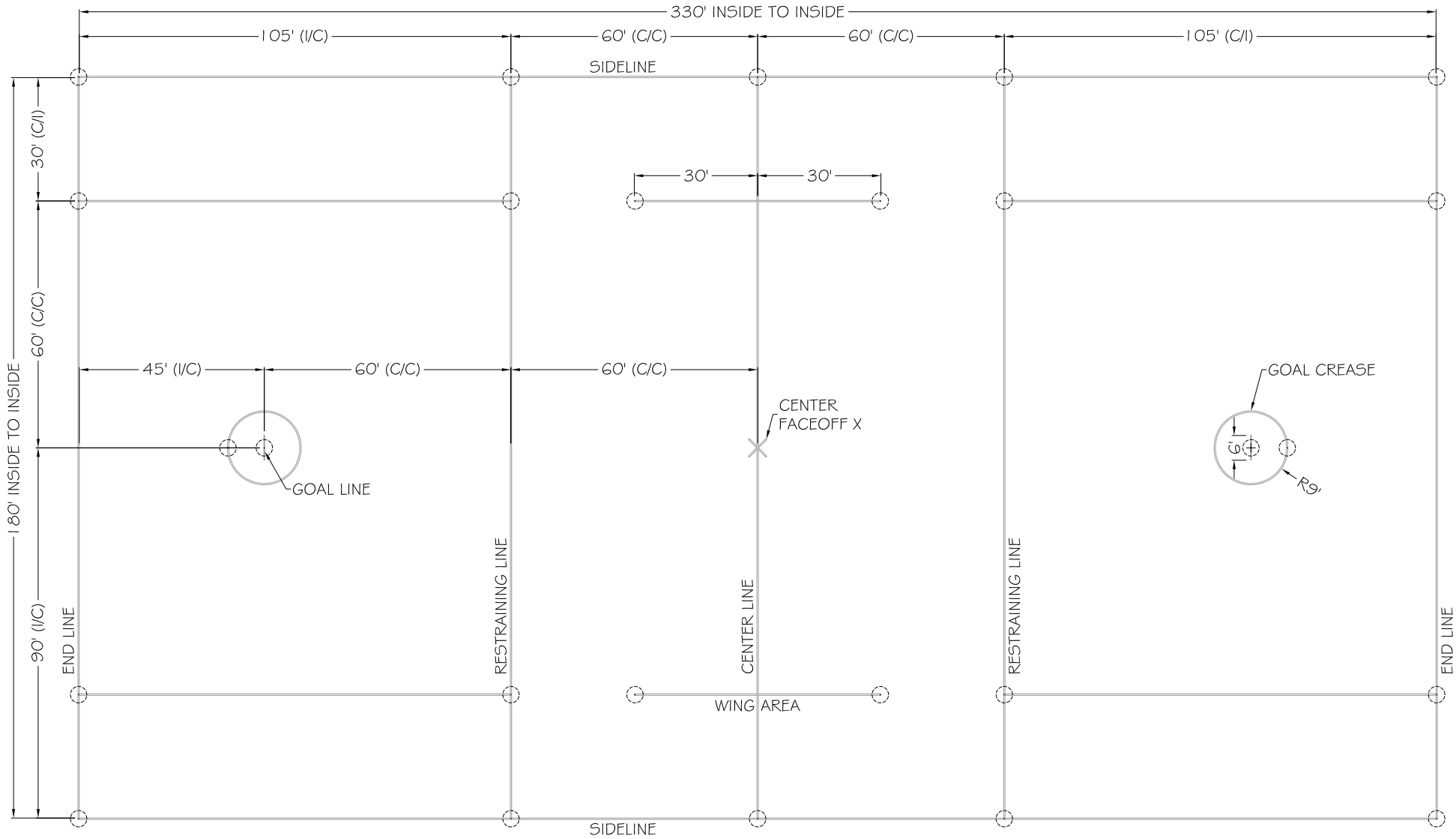
USE THE FOOTBALL 4" WHITE TUFTED END LINES AND 30 YARD LINES FOR THE GIRL'S LACROSSE END LINES AND RESTRAINING LINES.

ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE SHALL BE 2" WIDE.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.



DATE: SEPTEMBER 13, 2016		ISSUE: SUBMITTAL	SHEET: 4/10 GIRL'S LACROSSE MARKINGS
SOUTH COOPER MOUNTAIN HIGH SCHOOL - MULTI FIELD BEAVERTON , OR		FieldTurf A Tarkett Sports Company	
DRAWN BY: V. B.		CHECKED BY: J. B.	SCALE: AS SHOWN
Scale is only accurate when this drawing is printed on 11" X 17" paper.			



BOYS LACROSSE FIELD LAYOUT
SCALE: 1" = 35'-0"

LEGEND:



INLAID REFLEX BLUE LINE
(INDICATED ON DETAILS ONLY)

BOYS LACROSSE LAYOUT NOTES:

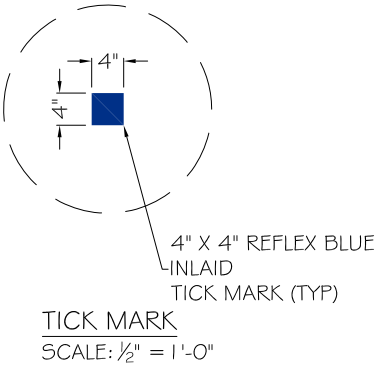
DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

USE THE FOOTBALL 4" WHITE TUFTED CENTER LINE AND 30 YARD LINES FOR THE BOYS LACROSSE CENTER LINE AND RESTRAINING LINES

ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE SHALL BE 2" WIDE.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

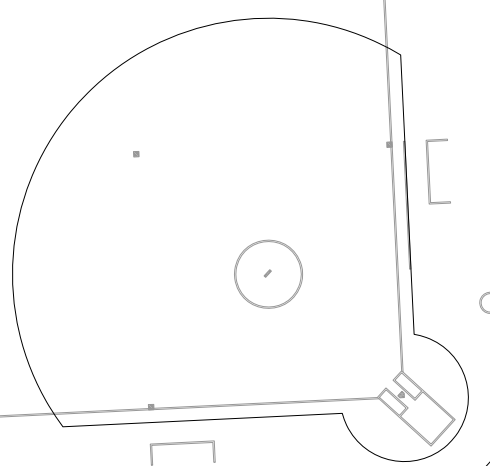
NFHS STANDARDS



DRAWN BY:	V. B.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

**FieldTurf**
A Tarkett Sports Company

SOUTH COOPER MOUNTAIN HIGH SCHOOL - MULTI FIELD BEAVERTON , OR			SHEET: 3/10 BOY'S LACROSSE MARKINGS
DATE:SEPTEMBER 13, 2016	ISSUE: SUBMITTAL		



PLEASE REFER TO BASEBALL MARKINGS-B FOR DETAILS.

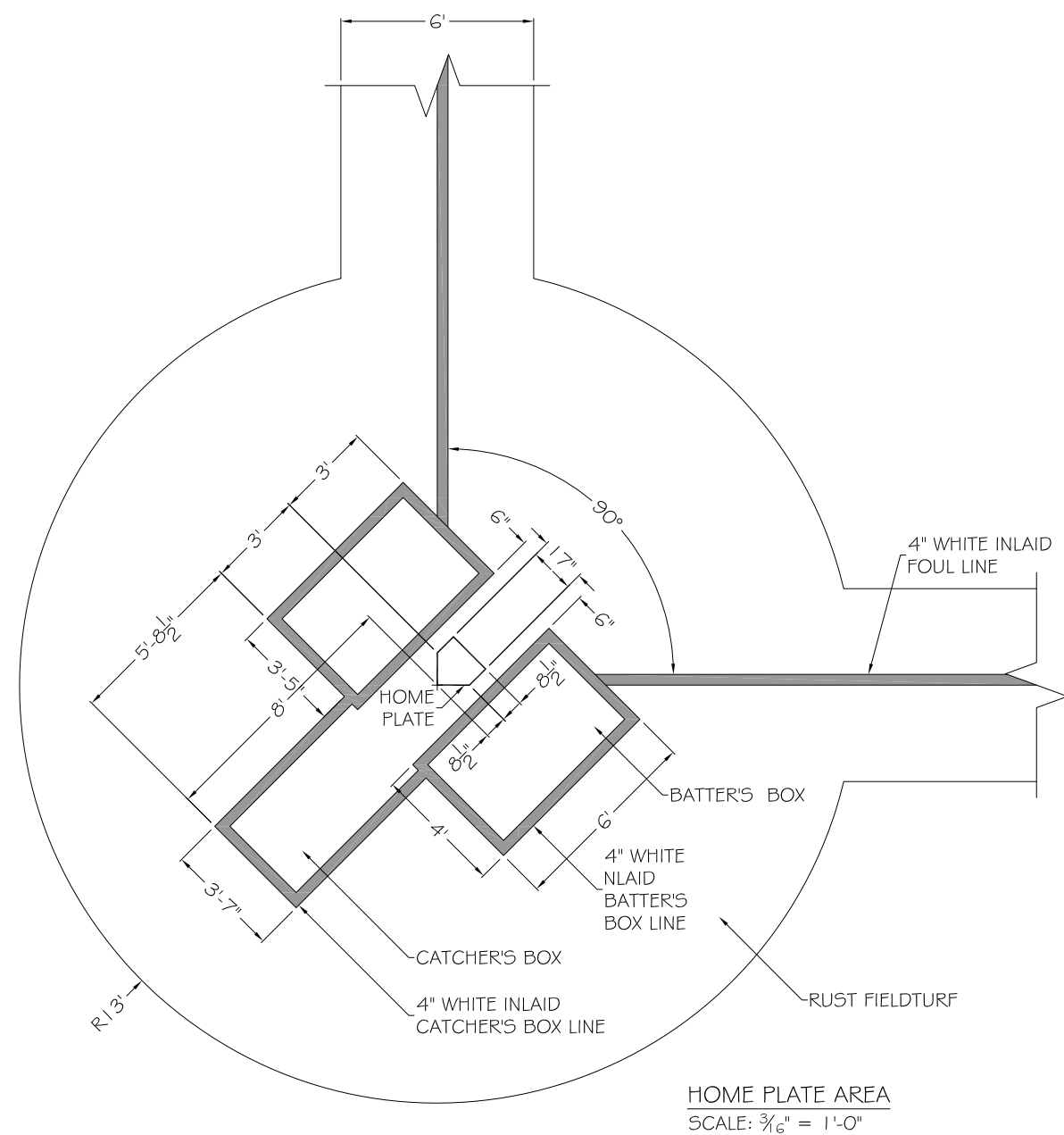
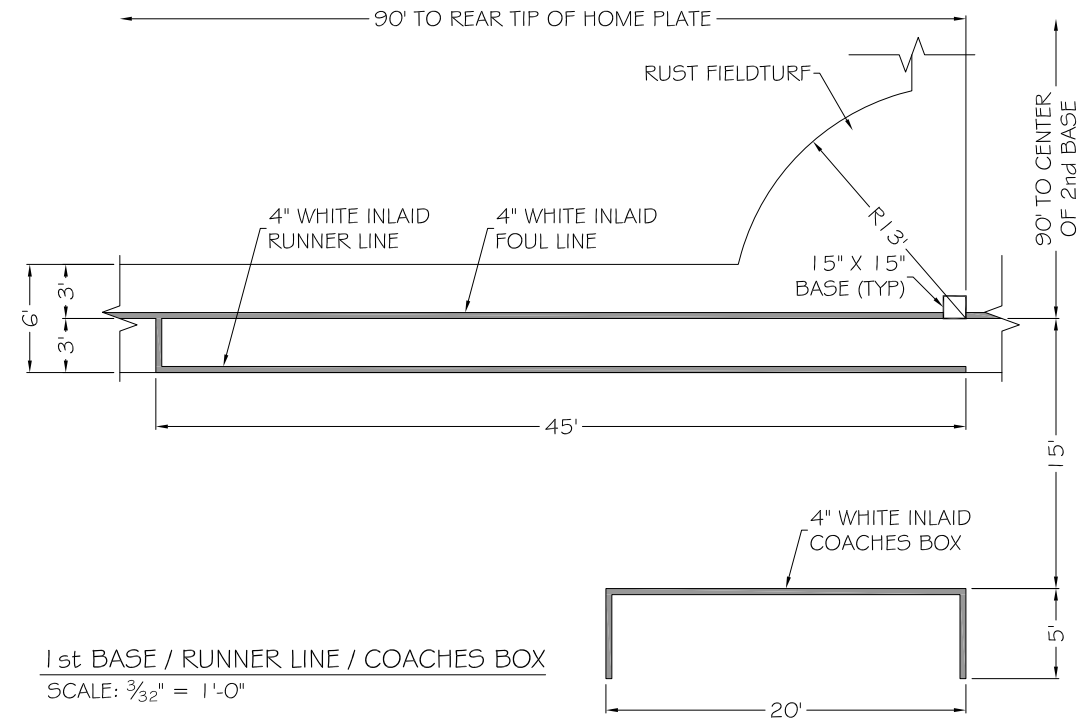
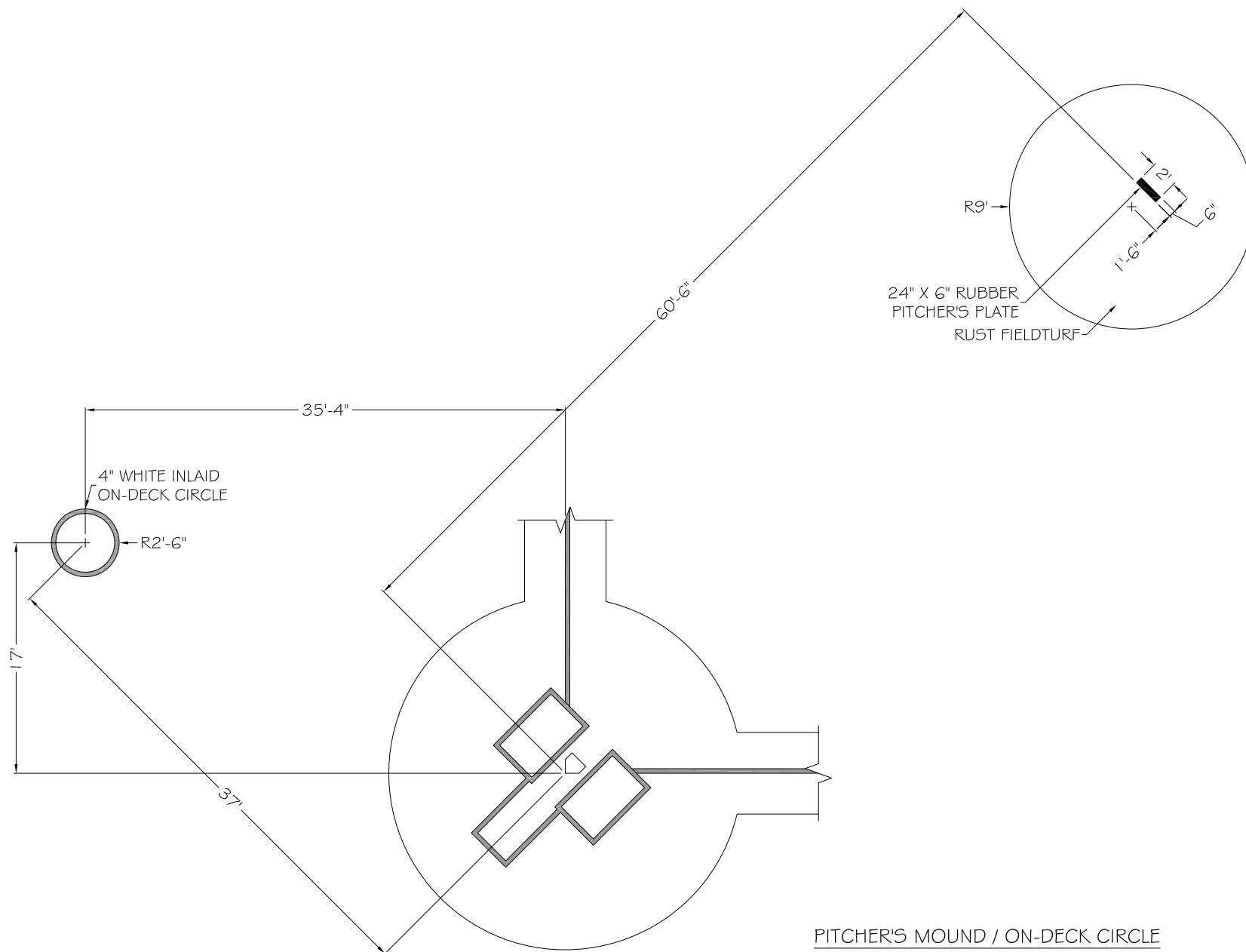
NFHS STANDARDS



A Tarkett Sports Company

DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 5/10 BASEBALL MARKINGS - A
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Scale is only accurate when this drawing is printed on 11" X 17" paper.



LEGEND:



SOUTH COOPER MOUNTAIN
HIGH SCHOOL - MULTI FIELD
BEAVERTON , OR



FieldTurf
A Tarkett Sports Company

DRAWN BY: V. B.

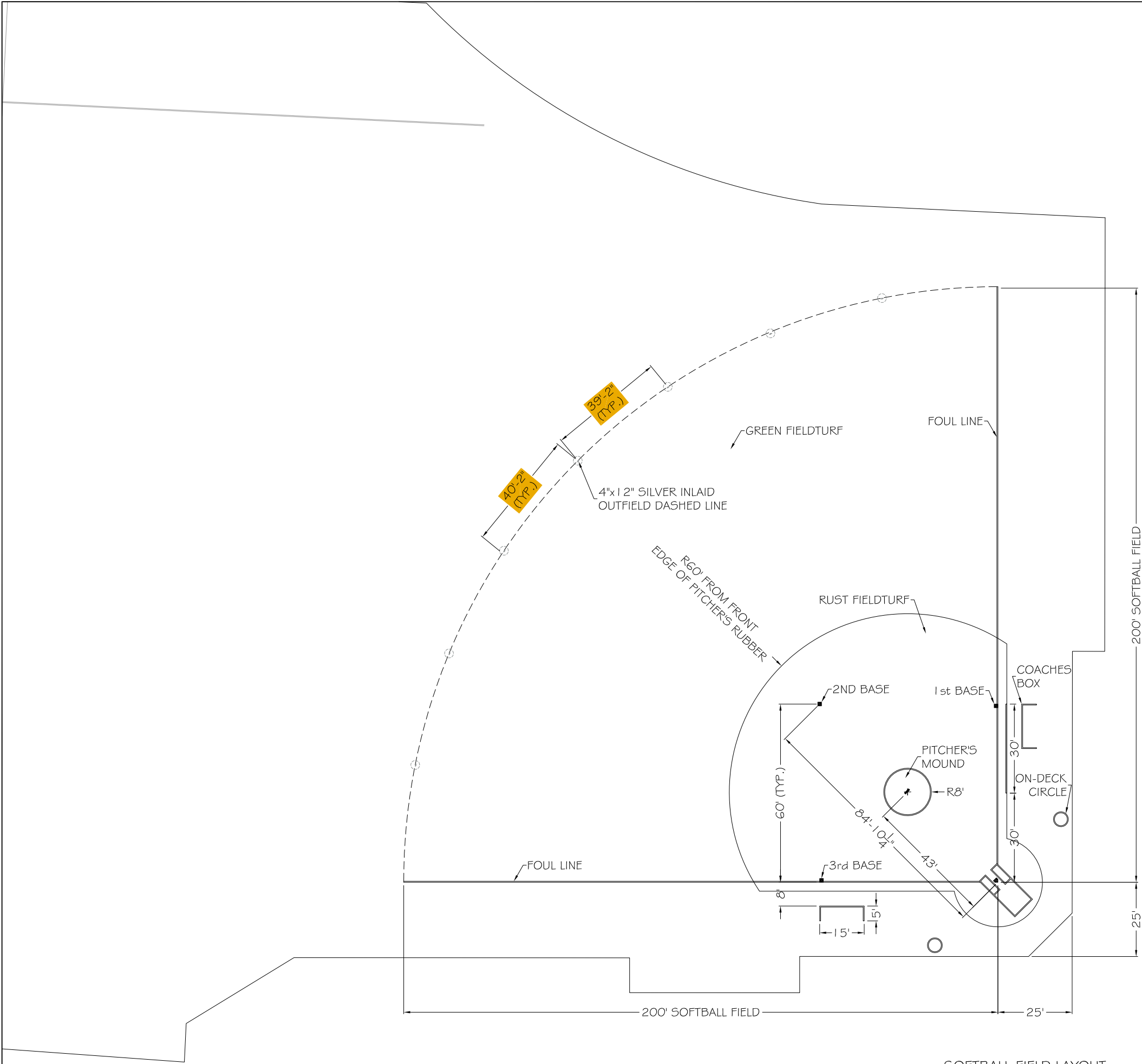
CHECKED BY: J. B.

SCALE: AS SHOWN

DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 6/10 BASEBALL MARKINGS - B
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SOFTBALL FIELD LAYOUT
SCALE: 1" = 35'-0"

SOFTBALL LAYOUT NOTES:
ALL MARKINGS ARE 4" WHITE INLAID TURF.
OUTFIELD MARKERS TO BE SILVER INLAID TURF.
PLEASE REFER TO SOFTBALL MARKINGS-B FOR DETAILS.

NFHS STANDARDS

**FieldTurf**
A Tarkett Sports Company

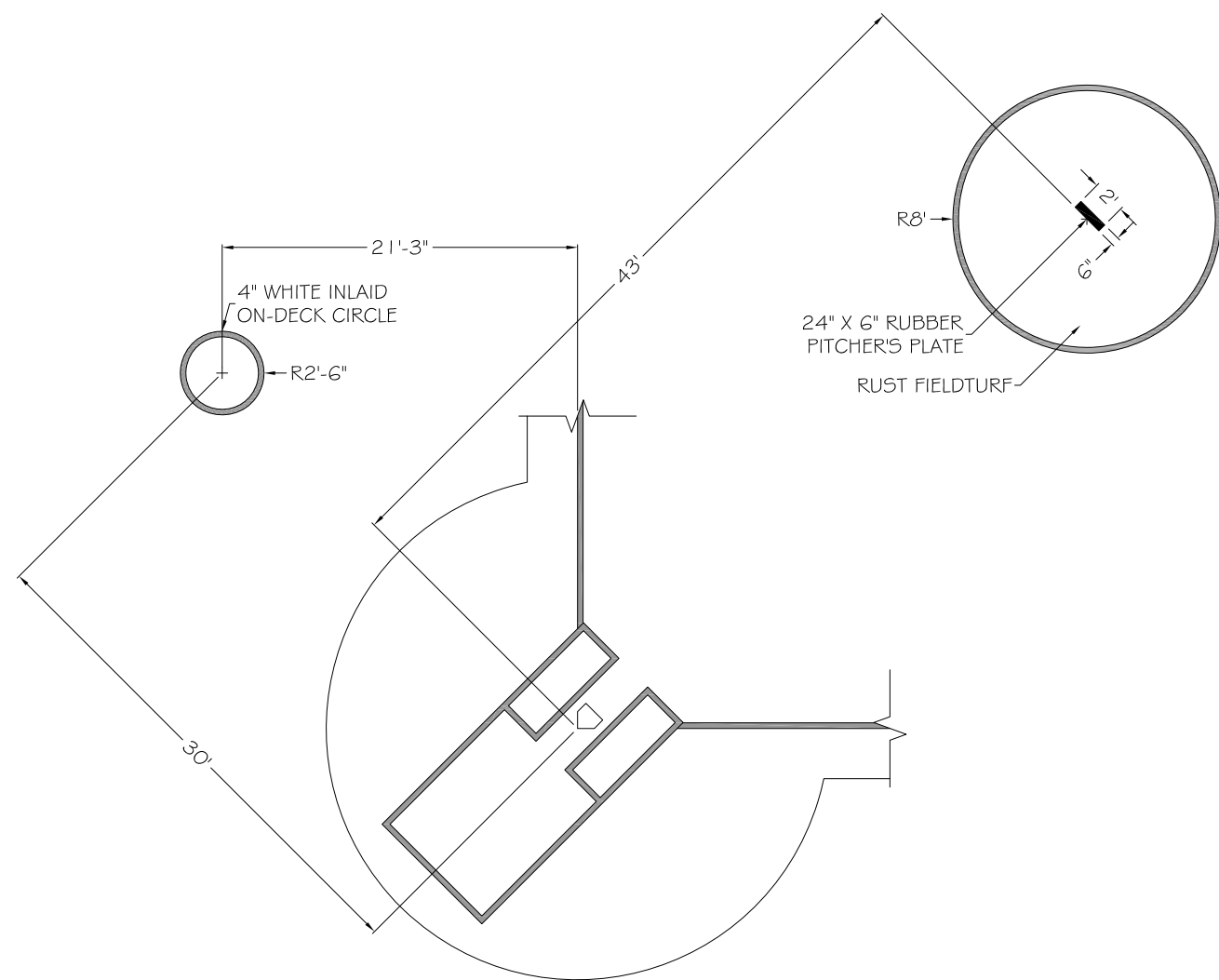
SOUTH COOPER MOUNTAIN
HIGH SCHOOL - MULTI FIELD
BEAVERTON , OR

DATE: SEPTEMBER 13, 2016

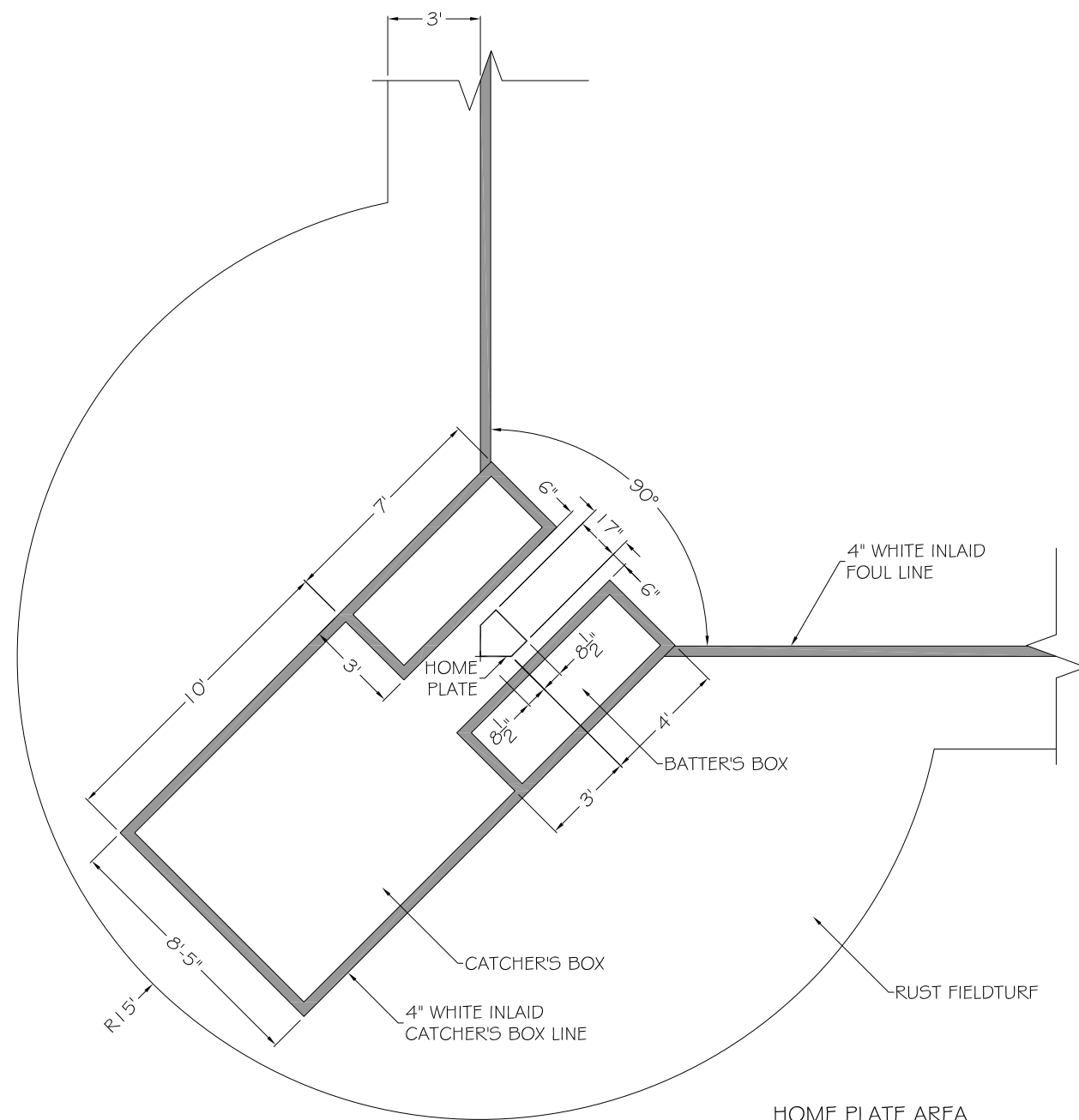
ISSUE: SUBMITTAL

SHEET: 7/10 SOFTBALL MARKINGS - A

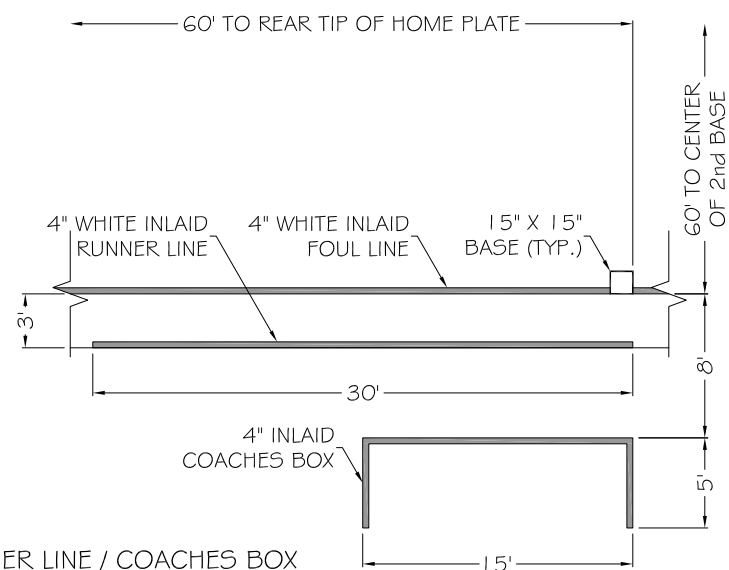
DRAWN BY:	V. B.
CHECKED BY:	J. B.
SCALE:	AS SHOWN



PITCHER'S MOUND / ON-DECK CIRCLE
SCALE: $\frac{3}{32}" = 1'-0"$



HOME PLATE AREA
SCALE: $\frac{3}{16}" = 1'-0"$



1st BASE / RUNNER LINE / COACHES BOX
SCALE: $\frac{3}{32}" = 1'-0"$

LEGEND:



FieldTurf
A Tarkett Sports Company

**SOUTH COOPER MOUNTAIN
HIGH SCHOOL - MULTI FIELD
BEAVERTON, OR**

DRAWN BY: V. B.

CHECKED BY: J. B.

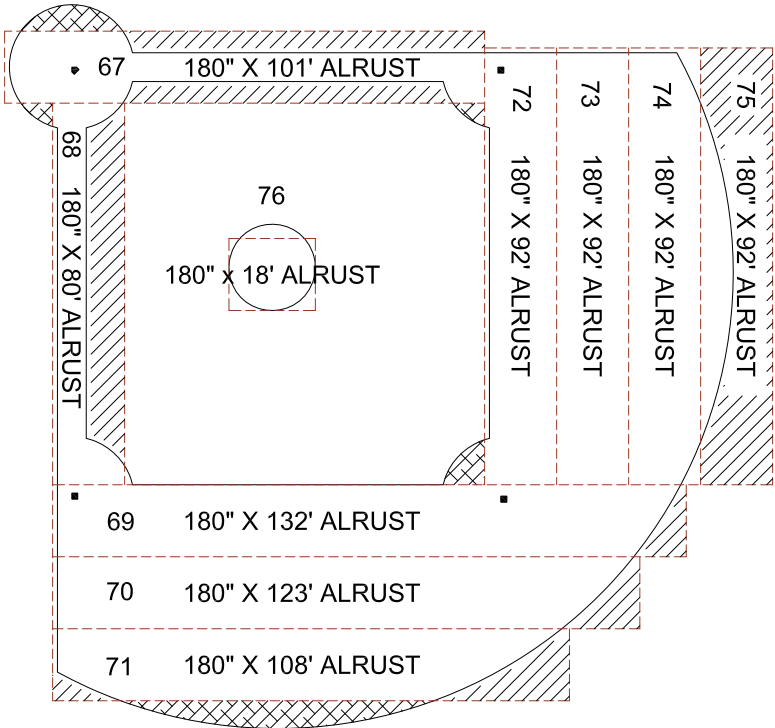
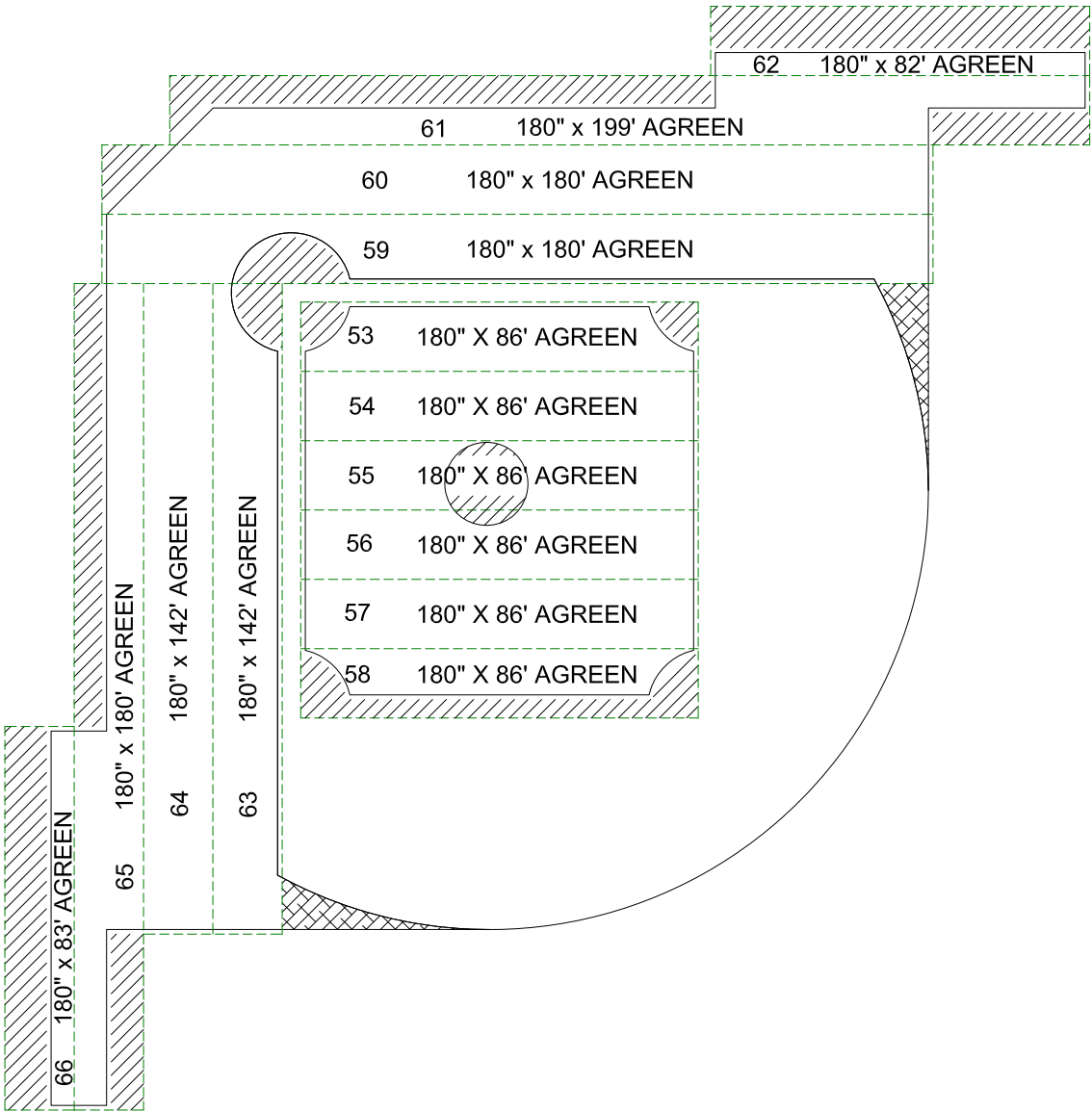
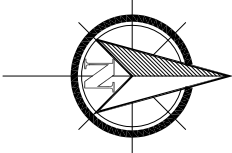
SCALE: AS SHOWN

DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 8/10 SOFTBALL MARKINGS - B
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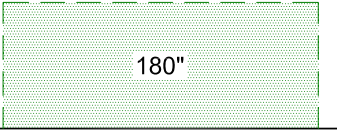
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Scale is only accurate when this drawing is printed on 11" X 17" paper.

NFHS STANDARDS

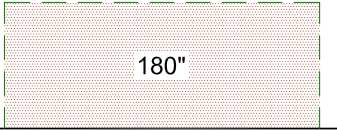


AGREEN



(53-66)

ALRUST



(67-76)

INSTALLATIONS NOTES:

1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
3. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.

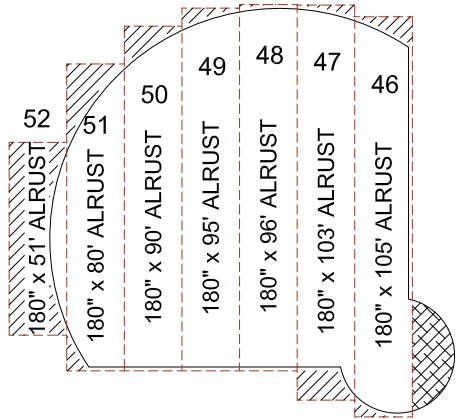
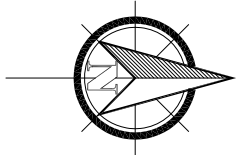
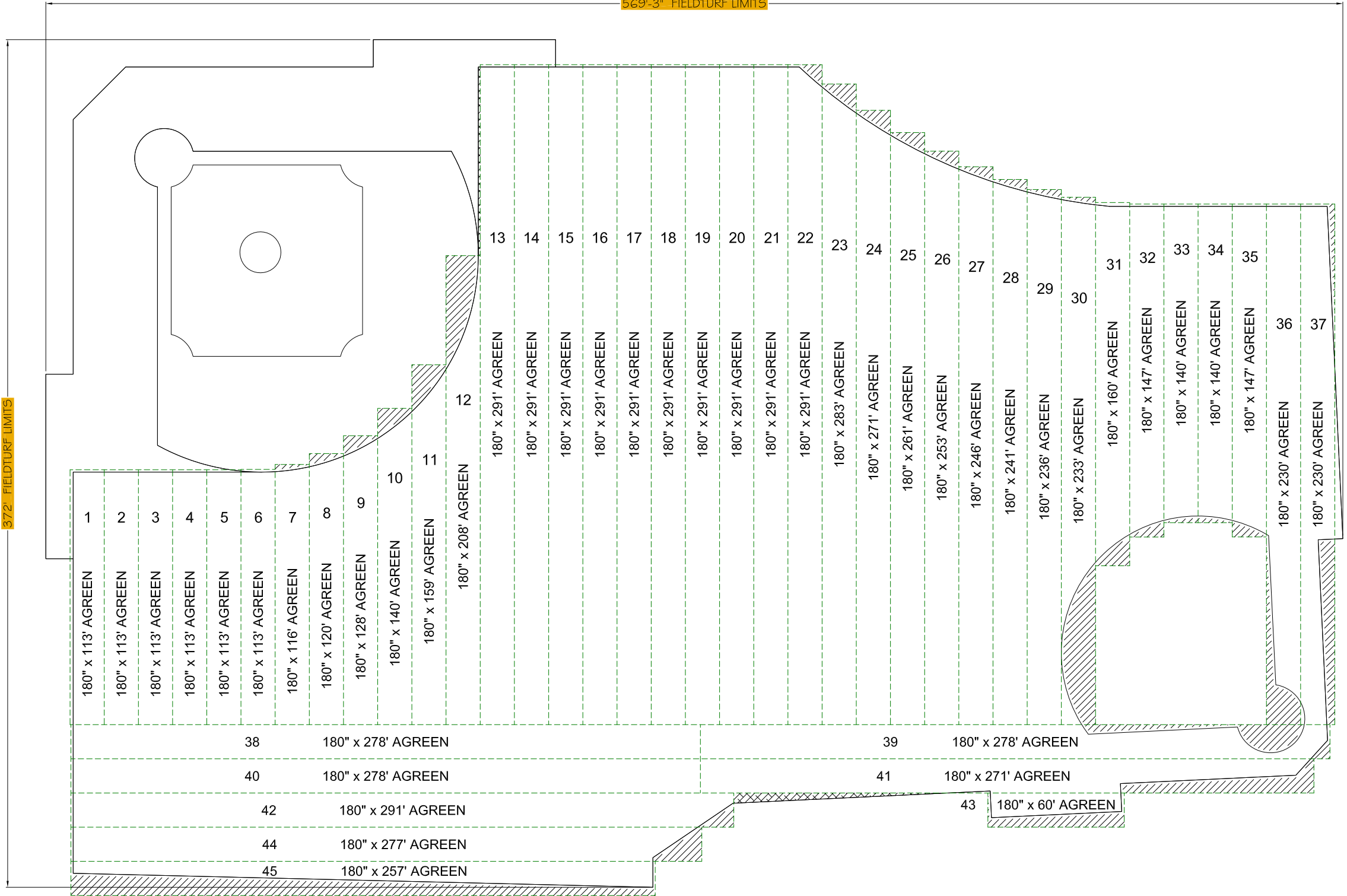


SOUTH COOPER MOUNTAIN
HIGH SCHOOL - MULTI FIELD
BEAVERTON , OR

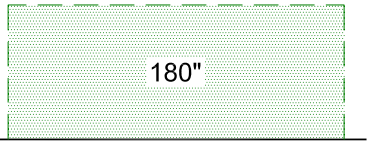


A Tarkett Sports Company

DRAWN BY:	M. K. / V. B.
CHECKED BY:	J. B.
SCALE:	1"=40'
FIELD AREA:	31,335 sq. ft.
TURF MANUFD:	39,510 sq.ft.
EXTRA TURF:	26.1 %

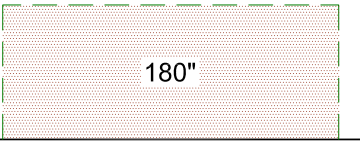


AGREEN



(1-45)

ALRUST



(46-52)

INSTALLATIONS NOTES:

1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
3. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.



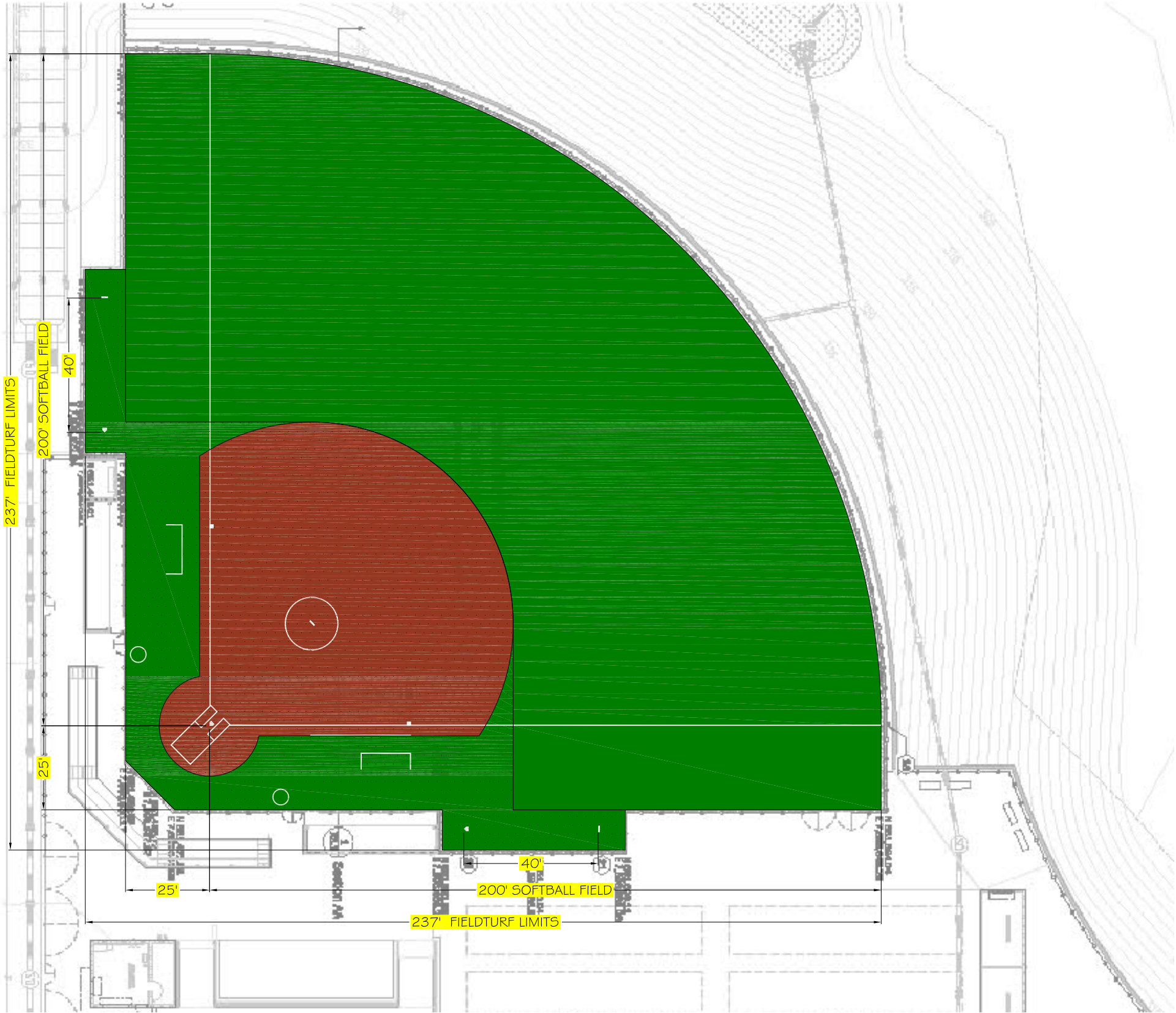
SOUTH COOPER MOUNTAIN
HIGH SCHOOL - MULTI FIELD
BEAVERTON , OR



DRAWN BY:	M. K. / V. B.
CHECKED BY:	J. B.
SCALE:	1"=50'
FIELD AREA:	145,169 sq. ft.
TURF MANUFD:	154,305 sq.ft.
EXTRA TURF:	6.3 %

SOUTH COOPER MOUNTAIN HIGH SCHOOL SOFTBALL FIELD BEAVERTON , OR





FIELD LAYOUT NOTES (sports are in order of dominance):

1. SOFTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.

ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

LEGEND:

	GREEN FIELDTURF (FTHD-57) 29,497sq.ft.
	GREEN FIELDTURF (FTHD-2) 5,581 sq.ft.
	RUST FIELDTURF (FTHD-2) 8,166 sq.ft.
	TOTAL FIELDTURF (FTHD-2) 12,797 sq.ft.
	TOTAL FIELDTURF 43,251 sq.ft.

SPORT COLORS:

	SOFTBALL COMPLETE COLOR NAME: WHITE PANTONE COLOR NUMBER: WHITE
--	---

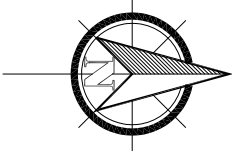
APPROVED BY:

SIGNATURE:

PRINTED NAME:

TITLE:

DATE:



FTHD-57
FTHD-2



SOUTH COOPER MOUNTAIN HIGH SCHOOL
SOFTBALL FIELD
BEAVERTON , OR

DATE: SEPTEMBER 12, 2016

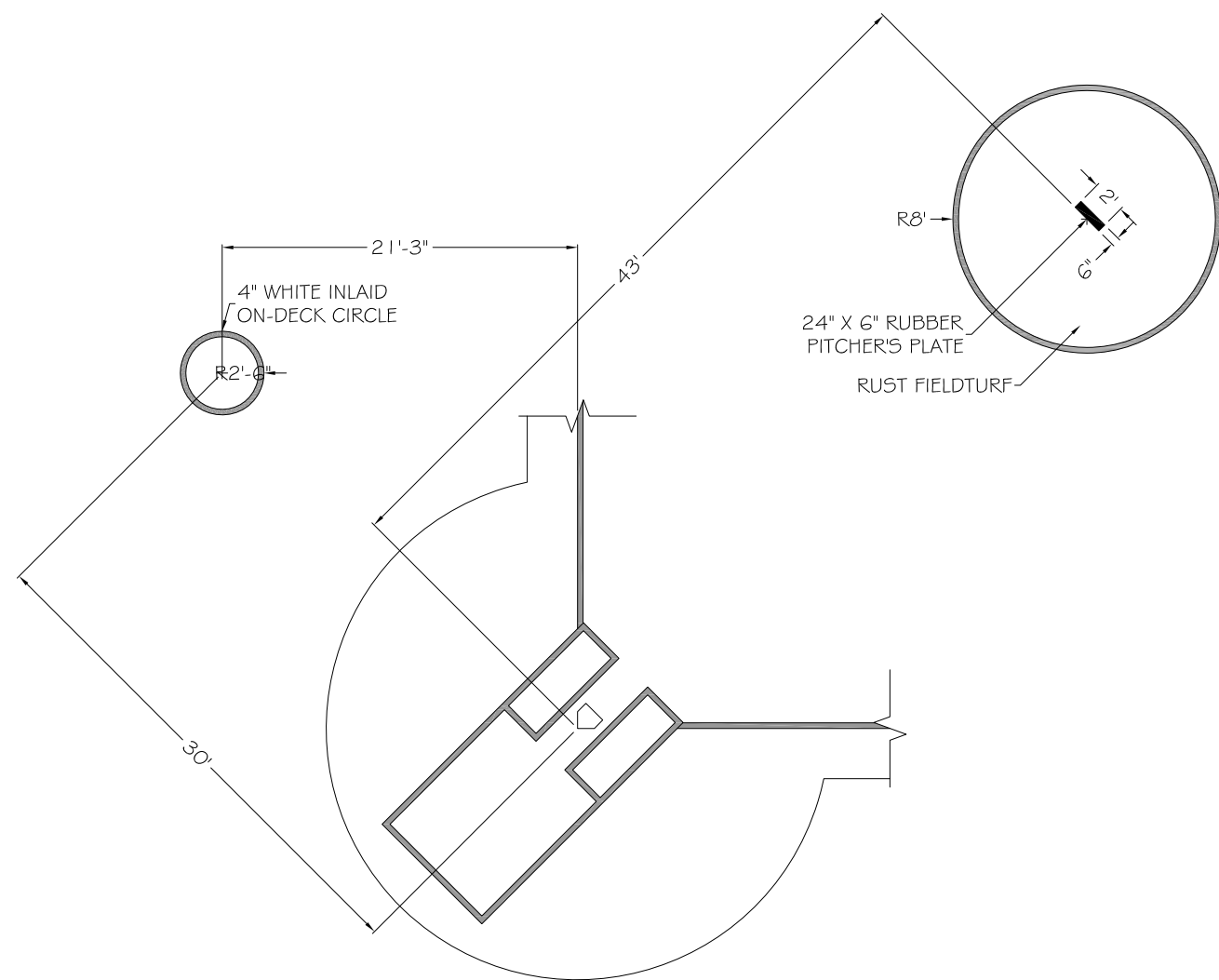
ISSUE: SUBMITTAL

SHEET: 1/5 PRESENTATION

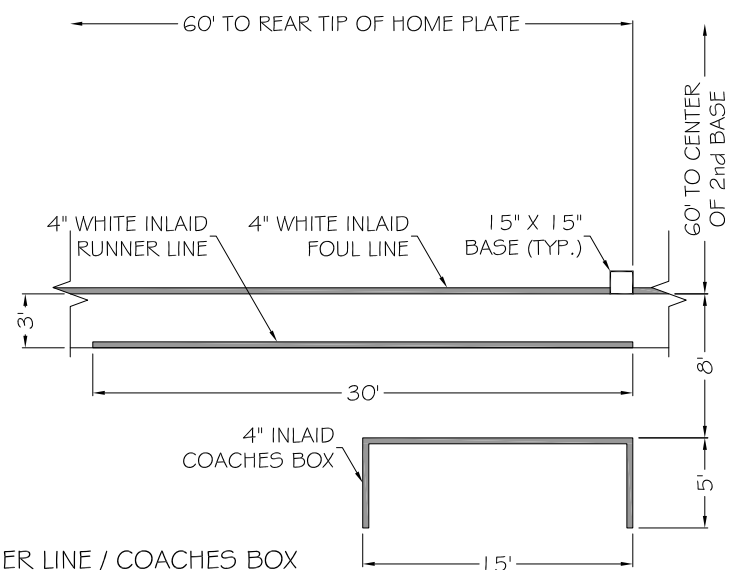
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DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=35'
TOTAL FIELD AREA:	43,251 sq.ft.
TURF MANUFD:	49,320 sq.ft.
EXTRA TURF:	14 %

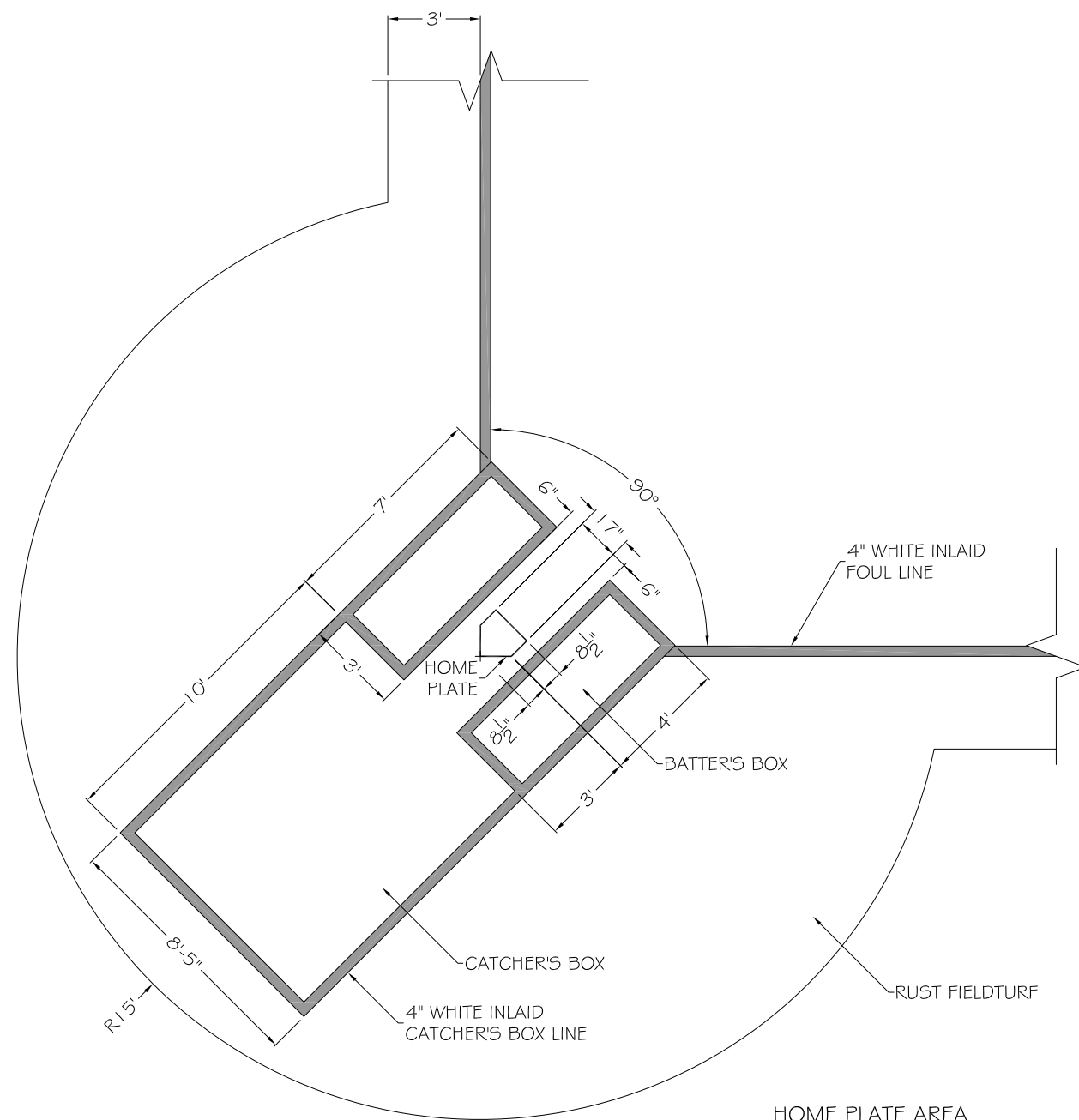
Scale is only accurate when this drawing is printed on 11" X 17" paper.



PITCHER'S MOUND / ON-DECK CIRCLE
SCALE: $\frac{3}{32}" = 1'-0"$



1st BASE / RUNNER LINE / COACHES BOX
SCALE: $\frac{3}{32}" = 1'-0"$



HOME PLATE AREA
SCALE: $\frac{3}{16}" = 1'-0"$

LEGEND:



SOUTH COOPER MOUNTAIN HIGH SCHOOL
SOFTBALL FIELD
BEAVERTON , OR



DRAWN BY: D. H.

CHECKED BY: J. B.

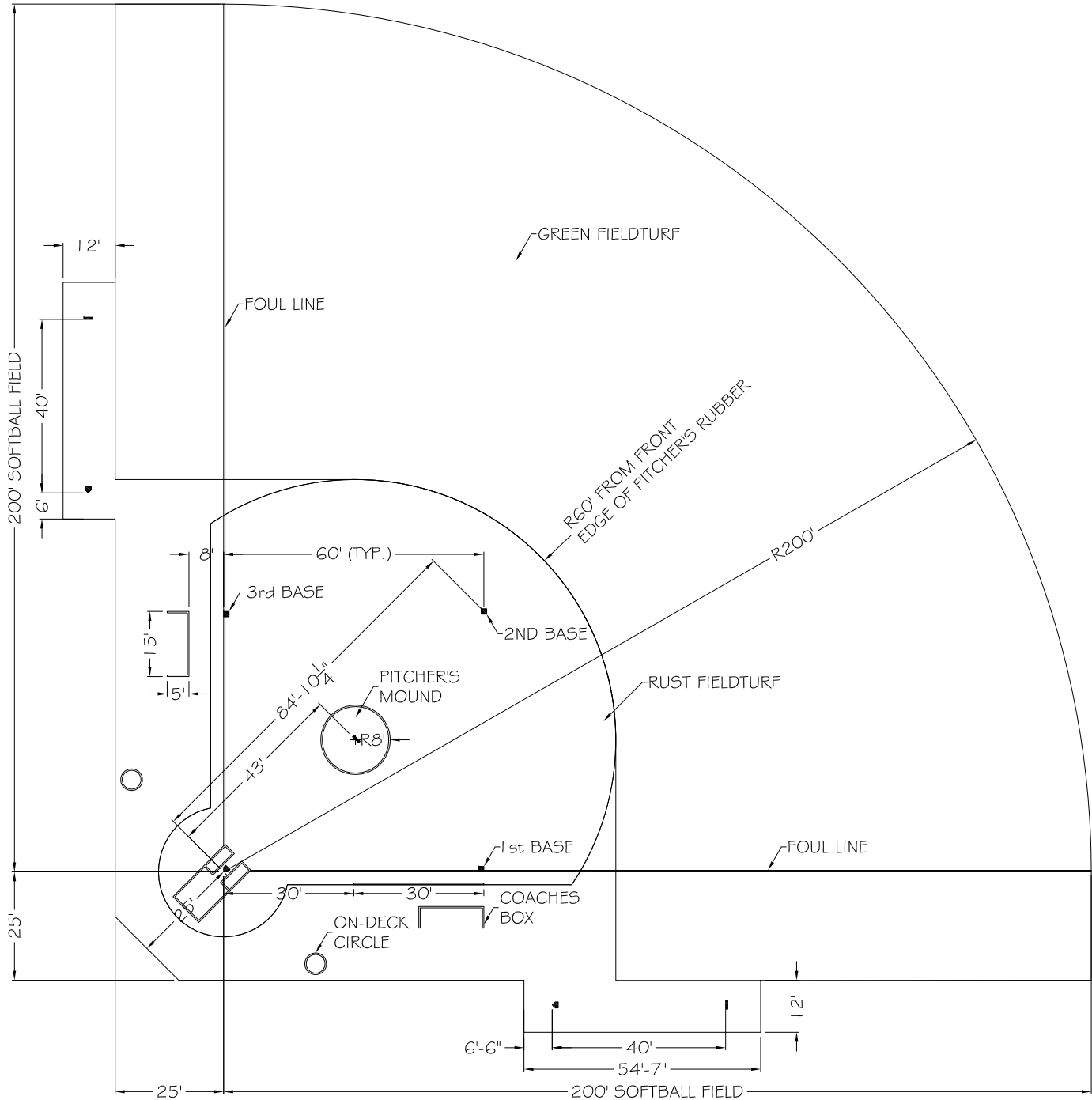
SCALE: AS SHOWN

DATE: SEPTEMBER 12, 2016	ISSUE: SUBMITTAL	SHEET: 3/5 SOFTBALL MARKINGS - B
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Scale is only accurate when this drawing is printed on 11" X 17" paper.

NFHS STANDARDS



SOFTBALL FIELD LAYOUT
SCALE: 1" = 35'-0"

SOFTBALL LAYOUT NOTES:
ALL MARKINGS ARE 4" WHITE INLAID TURF.
PLEASE REFER TO SOFTBALL MARKINGS-B FOR DETAILS.

NFHS STANDARDS

**FieldTurf**
A Tarkett Sports Company

SOUTH COOPER MOUNTAIN HIGH SCHOOL
SOFTBALL FIELD
BEAVERTON , OR

DATE: SEPTEMBER 12, 2016

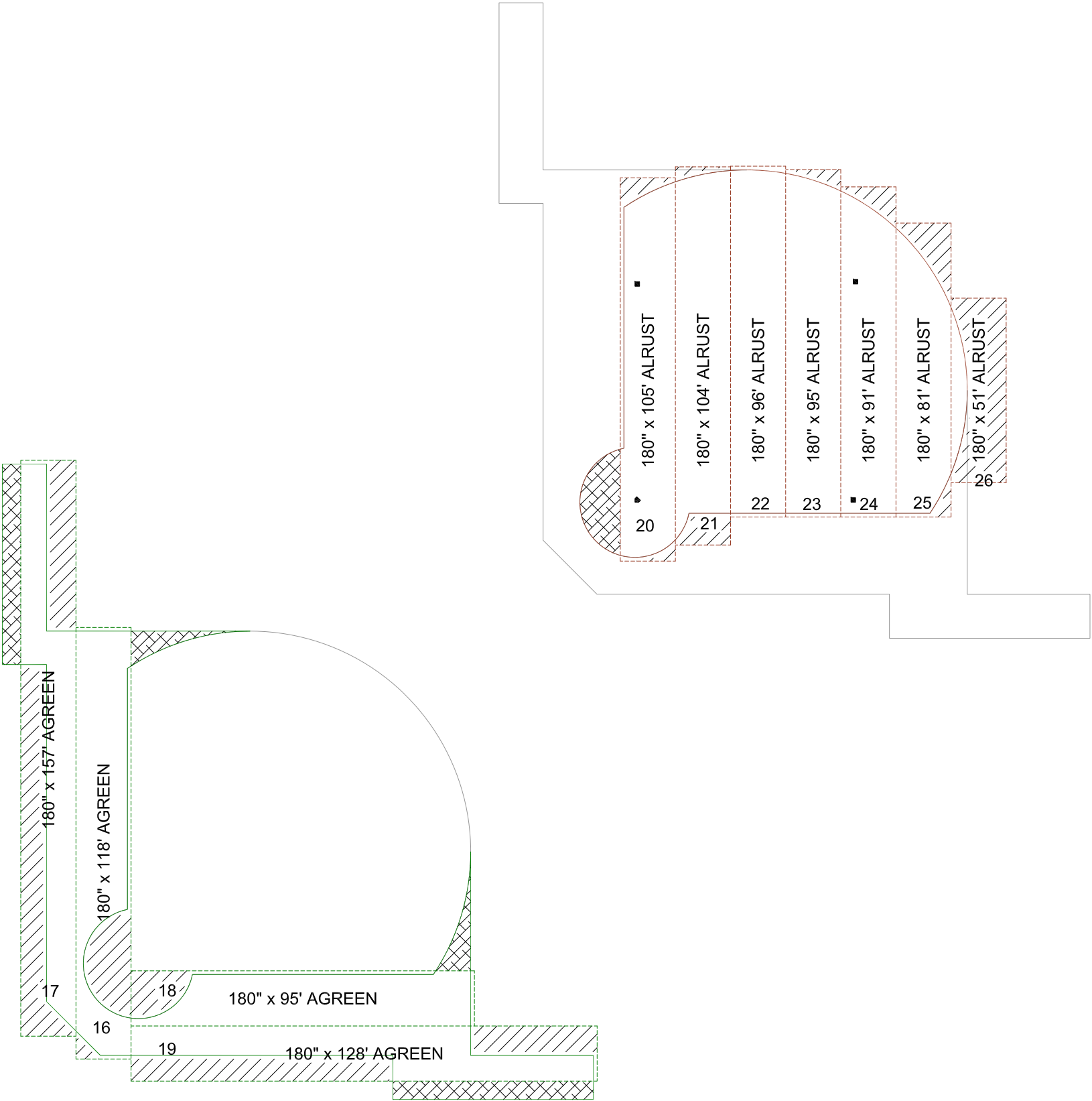
ISSUE: SUBMITTAL

SHEET: 2/5 SOFTBALL MARKINGS - A

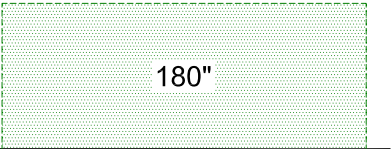
DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

Scale is only accurate when this drawing is printed on 11" X 17" paper.

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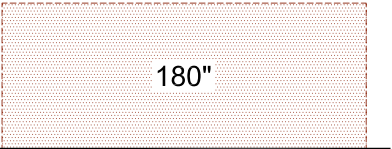


AGREEN



(16-19)

ALRUST



(20-26)

INSTALLATIONS NOTES:

1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
3. THE INSTALLATION OF THE ROLLS SHOULD START FROM (ROLL #16).
4. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.

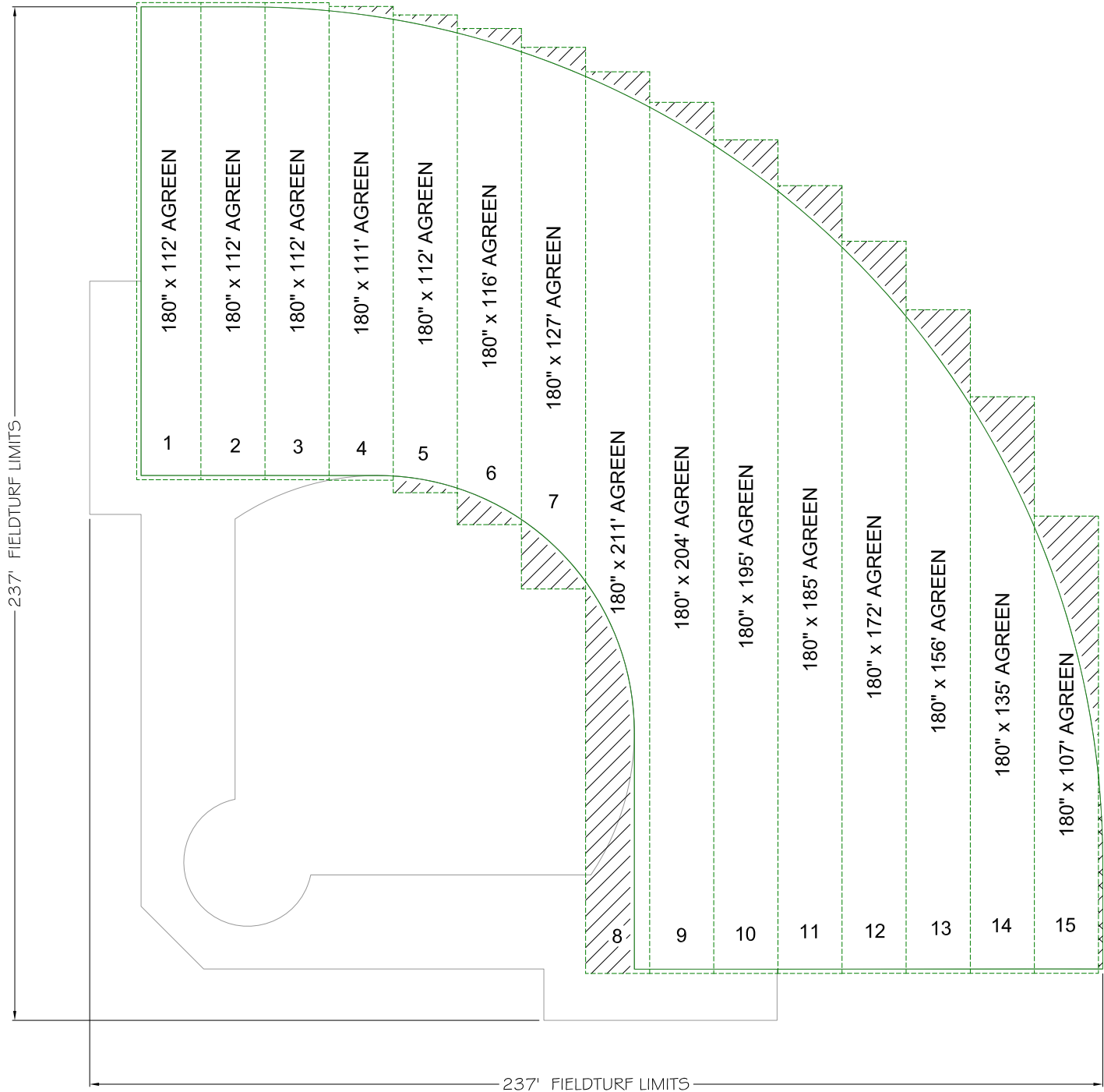


SOUTH COOPER MOUNTAIN HIGH SCHOOL
SOFTBALL FIELD
BEAVERTON , OR

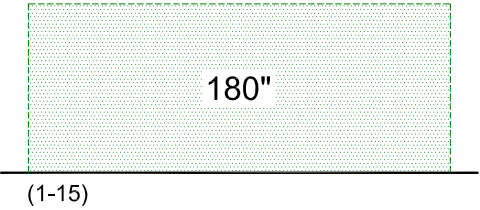


DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=35'
FIELD AREA:	13,754 sq.ft.
TURF MANUFD:	16,815 sq.ft.
EXTRA TURF:	22.3 %

Scale is only accurate when this drawing is printed on 11" X 17" paper.



AGREEN



INSTALLATIONS NOTES:

- 1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
- 2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
- 3. THE INSTALLATION OF THE ROLLS SHOULD START FROM (ROLL #1).
- 4. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.



SOUTH COOPER MOUNTAIN HIGH SCHOOL
SOFTBALL FIELD
BEAVERTON , OR

DATE: SEPTEMBER 12, 2016 ISSUE: SUBMITTAL SHEET: 4/5 ROLL LAYOUT

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DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=35'
FIELD AREA:	29,497 sq.ft.
TURF MANUFD:	32,505 sq.ft.
EXTRA TURF:	10.2 %

Scale is only accurate when this drawing is printed on 11" X 17" paper.