

# WOODHAVEN PARK PHASE 2

## SHERWOOD, OREGON

### PROJECT CONTACTS:

#### OWNER

CITY OF SHERWOOD  
COMMUNITY SERVICES DEPARTMENT  
22560 SW PINE ST.  
SHERWOOD OR. 97140  
PHONE - 503.625.5522

#### PROPERTY INFORMATION

STREET LOCATION: SW SUNSET BLVD. AT SW PINEHURST DR.  
TAX LOT AND MAP NO.: TL 1800 AND TL1900; MAP 2S 1 31 DB  
EXISTING USE: NEIGHBORHOOD PARK  
EXISTING ZONE DESIGNATION: LDR-PUD  
SITE AREA: 6.19 AC.

#### ENGINEER / LANDSCAPE ARCHITECT / SURVEYOR

HARPER HOUF PETERSON RIGHELLIS, INC.  
205 SE SPOKANE STREET, SUITE 200  
PORTLAND, OR. 97202 - 503.221.1131  
BEN AUSTIN, PE PROJECT MANAGER/ENGINEER  
SCOTT BANKER, RLA  
JEFFERY CREEL, RLA  
JOHN CABELL, PLS



VICINITY MAP  
NOT TO SCALE

### SHEET INDEX

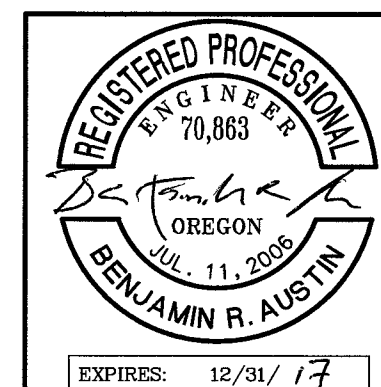
- C1.0 - COVER SHEET
  - C2.0 - EXISTING CONDITIONS
  - C3.0 - OVERALL SITE PLAN
  - C3.1 - PLAYGROUND PLAN
  - C4.0 - GRADING AND PAVING PLAN
  - C4.1 - PEDESTRIAN PATH PROFILE
  - C4.2 - PEDESTRIAN BRIDGE PROFILE
  - C4.3 - BRIDGE DETAILS
  - C4.4 - PARKING LOT GRADING
  - C4.5 - PLAYGROUND GRADING
  - C5.0 - SITE UTILITY PLAN
  - C6.0 - PLAYGROUND DETAIL - STAIRS
  - C6.1 - PLAYGROUND DETAIL - SLIDE
  - C6.2 - PLAYGROUND DETAIL - ROCK WALL
  - C6.3 - ROMTEC PAVILLION DETAIL 1 OF 3
  - C6.4 - ROMTEC PAVILLION DETAIL 2 OF 3
  - C6.5 - ROMTEC PAVILLION DETAIL 3 OF 3
  - C6.6 - STANDARD DETAILS
  - C6.7 - CITY OF SHERWOOD STANDARD DETAILS - 1 OF 3
  - C6.8 - CITY OF SHERWOOD STANDARD DETAILS - 2 OF 3
  - C6.9 - CITY OF SHERWOOD STANDARD DETAILS - 3 OF 3
  - C7.0 - SITE SECURITY AND I.T.
  - L1.0 - OVERALL PARK PLANTING - KEY MAP
  - L1.1 - PARK PLANTING PLAN
  - L1.2 - BUTTERFLY GARDEN AND EAST SIDE PLANTING PLAN
  - L1.3 - CWS STORMWATER SWALE PLANTING PLAN
  - L2.0 - LANDSCAPE DETAILS
  - L2.1 - LANDSCAPE DETAILS
  - L3.0 - IRRIGATION DEMO PLAN
  - L3.1 - IRRIGATION DEMO PLAN
  - L3.2 - IRRIGATION PLAN
  - L3.3 - IRRIGATION PLAN
  - L3.4 - IRRIGATION DETAILS
- 
- EC1 - ESC - COVER SHEET
  - EC3 - ESC - GRADING AND UTILITIES
  - EC2 - ESC - CLEARING AND DEMOLITION
  - EC4 - ESC - DETAILS

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHEETS) SHR13-C1\_0.dwg

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

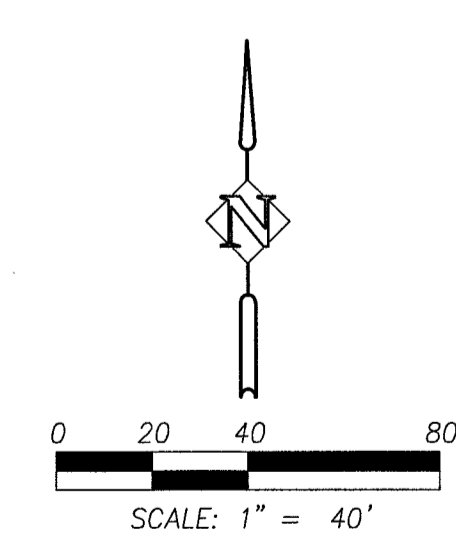
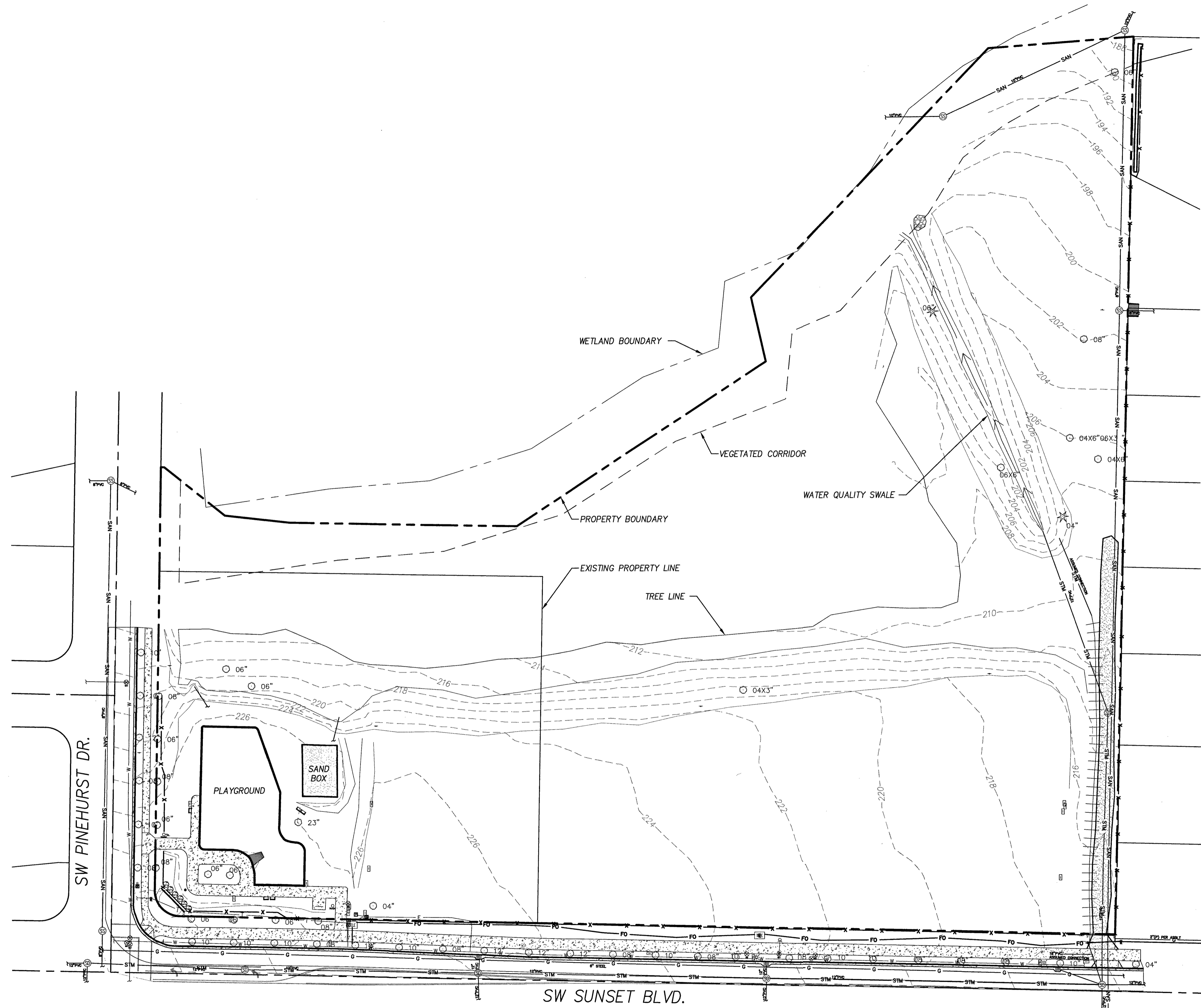


**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

COVER SHEET <b>WOODHAVEN PARK PHASE 2</b> SHERWOOD, OREGON	SHEET NO. <b>C1.0</b>
JOB NO. SHR-13	

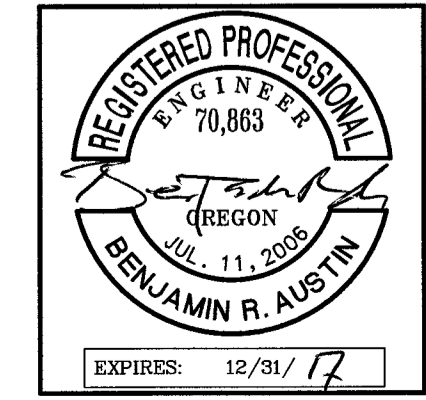
**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR-13-DWG\SSHEET(S)\SHR13-C2\_0.dwg



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



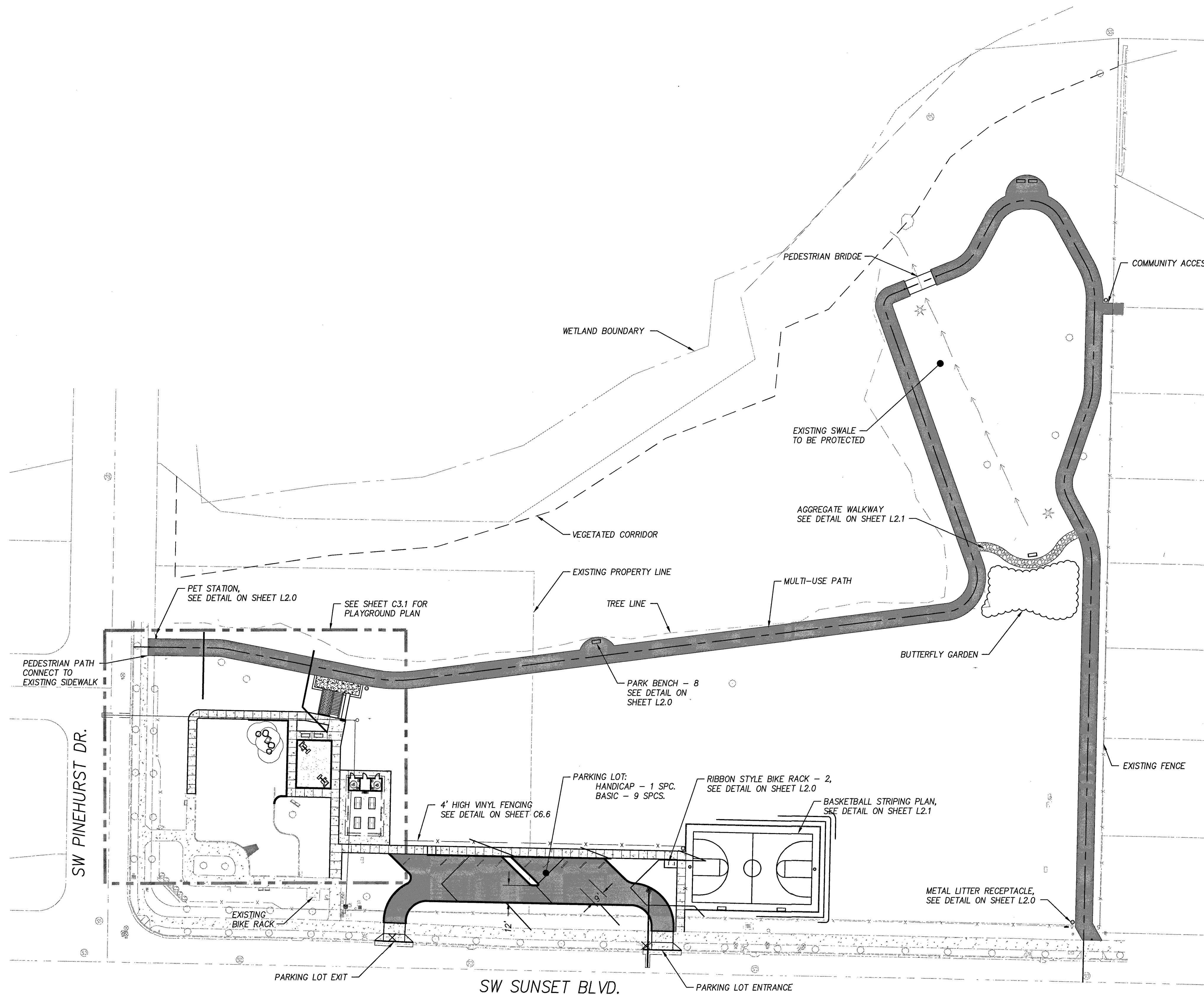
**HHPR** Harper Houf Peterson Righellis Inc.  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

EXISTING CONDITIONS  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

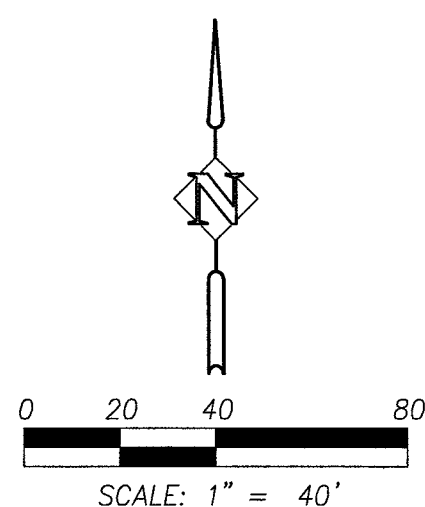
SHEET NO.	<b>C2.0</b>
JOB NO.	SHR-13

**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\DWGS\SHEETS\SHR13-C4\_0.dwg

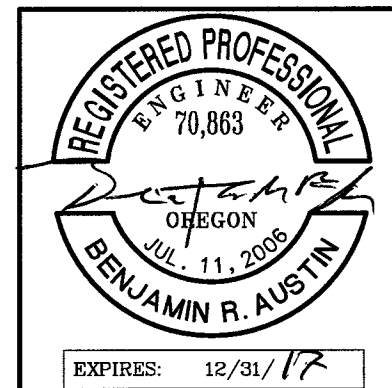


- LEGEND**
- VEGETATED CORRIDOR
  - - - EXISTING TREE LINE
  - METAL LITTER RECEPTACLE
  - PARK BENCH / TABLE
  - ⋮ RIBBON STYLE BIKE RACK
  - ⊙ PET STATION
  - ⊕ PLAYGROUND EQUIPMENT
  - ▬ PEDESTRIAN / PARKING AC
  - ▬ CONCRETE SIDEWALK
  - ▬ AGGREGATE PATH



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

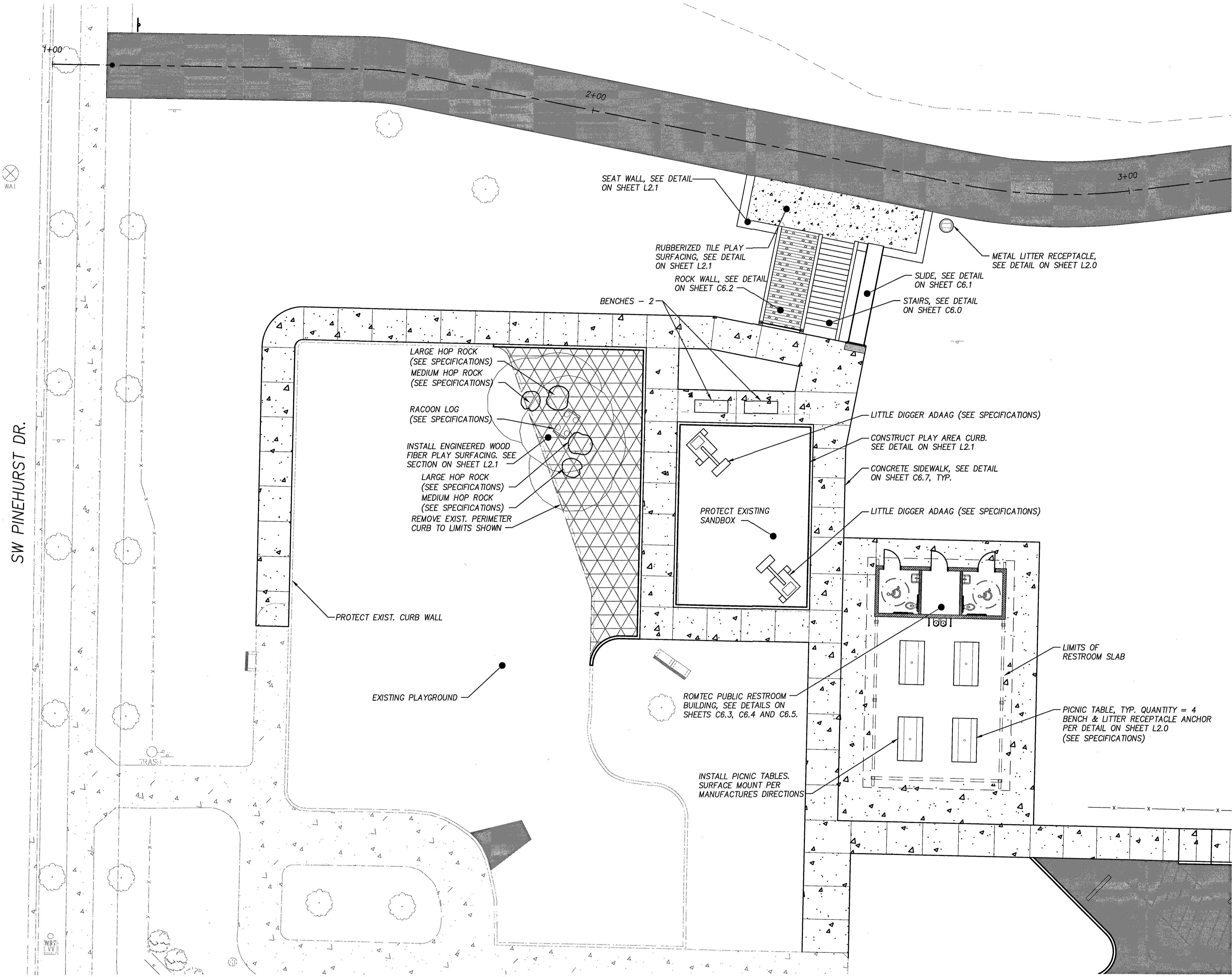
**OVERALL SITE PLAN  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON**

SHEET NO.	<b>C3.0</b>
JOB NO.	SHR-13

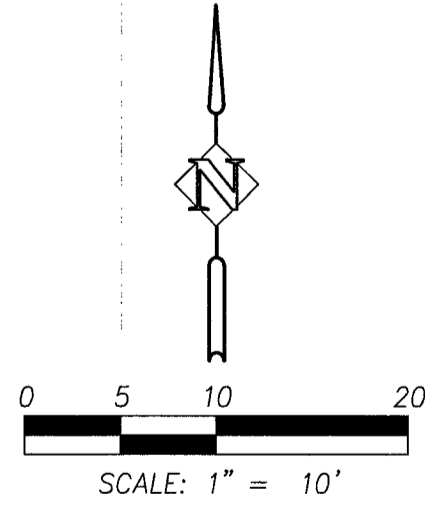
**BID SET**



P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHEETS)\SHR13-C4\_1.dwg



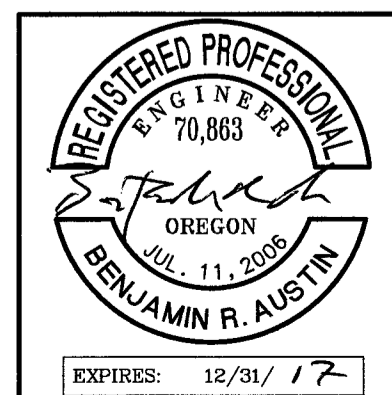
NOTE:  
COORDINATE FINAL ELEVATION OF  
PLAYGROUND EQUIPMENT WITH ENGINEER.



**BID SET**

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



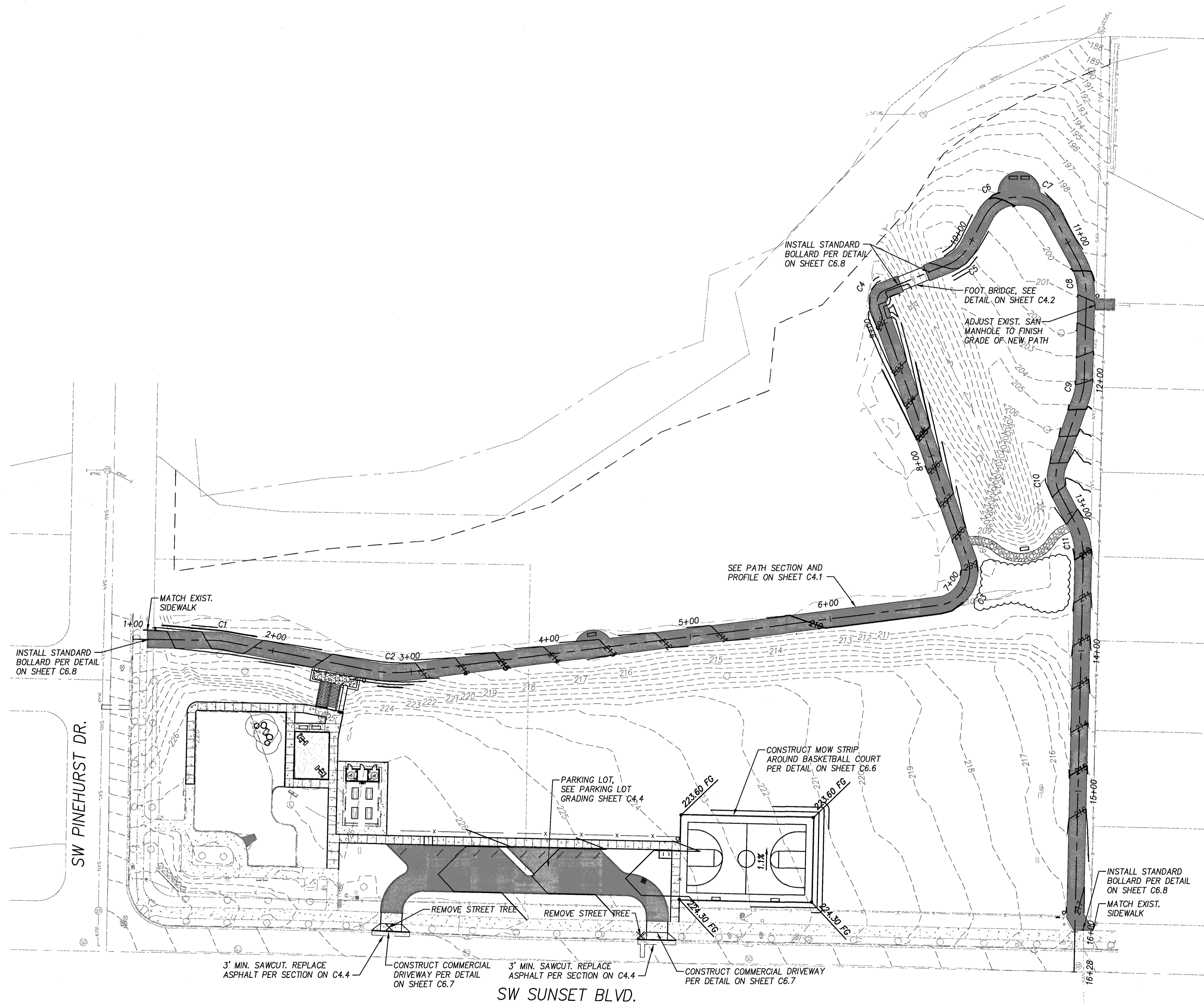
**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

PLAYGROUND PLAN  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON

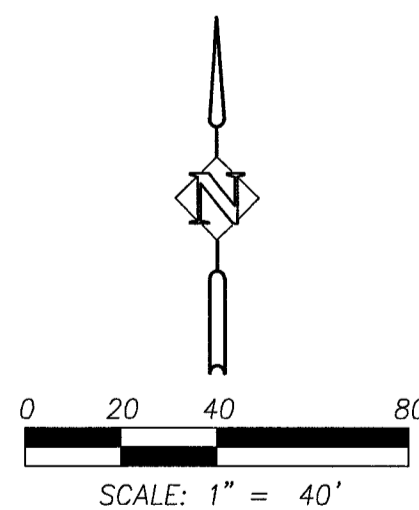
SHEET NO.	C3.1
JOB NO.	SHR-13



P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHEETS)\SHR13-C5\_0.dwg



CURVE DATA			
CURVE #	RADIUS	LENGTH	DELTA
C1	50.00	9.10'	10.4270°
C2	100.00	32.31'	18.5146°
C3	25.00	44.65'	102.3337°
C4	8.00	12.21'	87.4638°
C5	30.00	20.74'	39.6095°
C6	25.00	26.89'	61.6205°
C7	25.00	26.71'	61.2189°
C8	50.00	26.25'	30.0813°
C9	50.00	15.67'	17.9558°
C10	25.00	20.58'	47.1676°
C11	50.00	25.49'	29.2119°

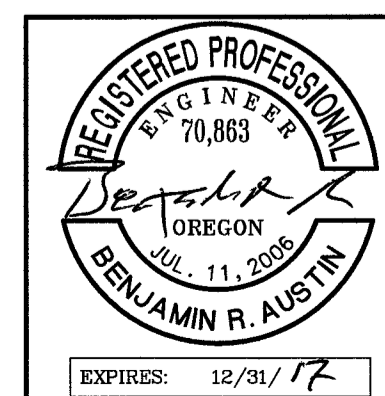


**BID SET**

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

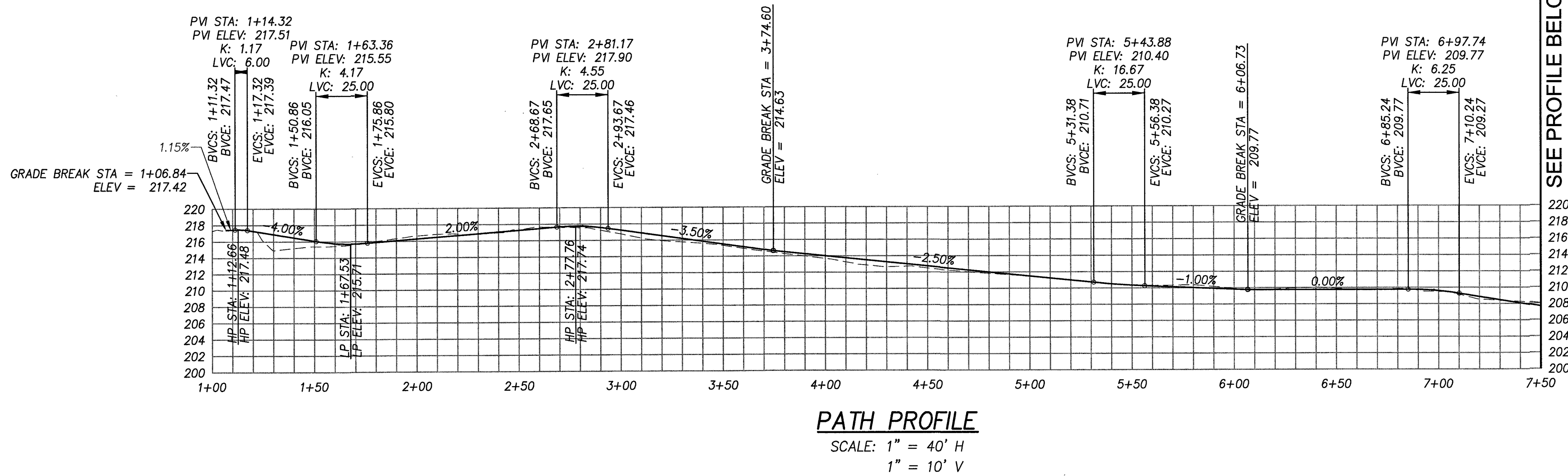


**HHPR**  
**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

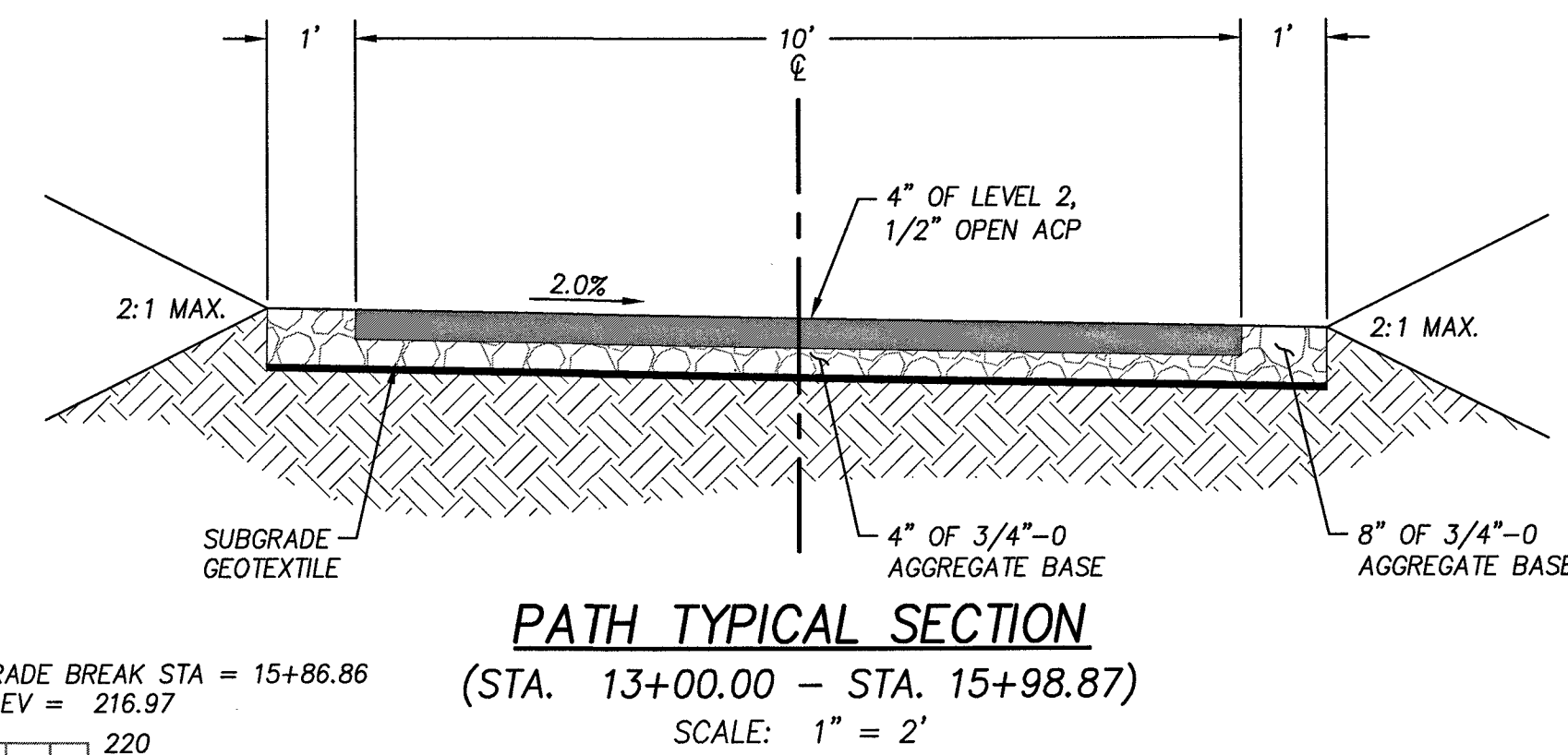
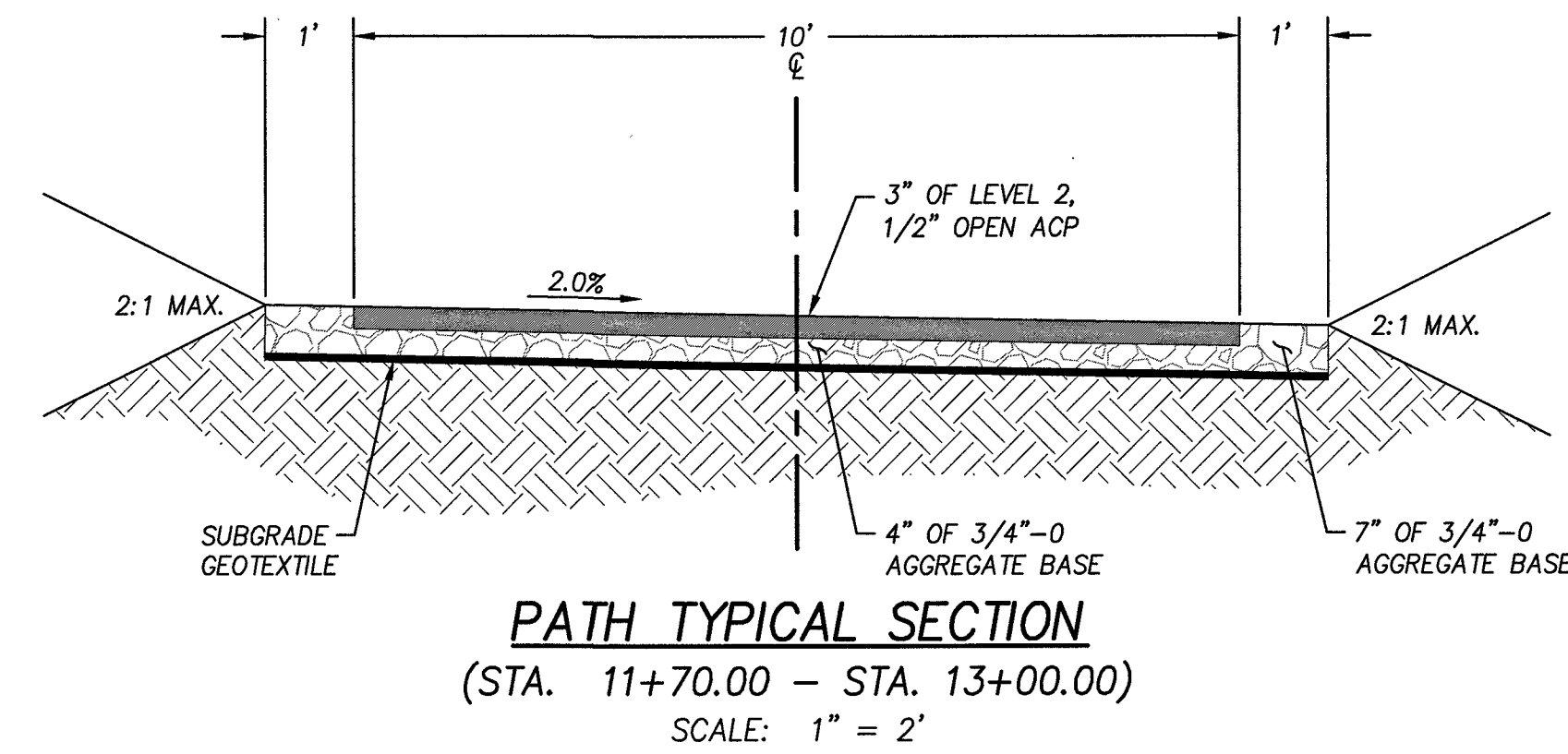
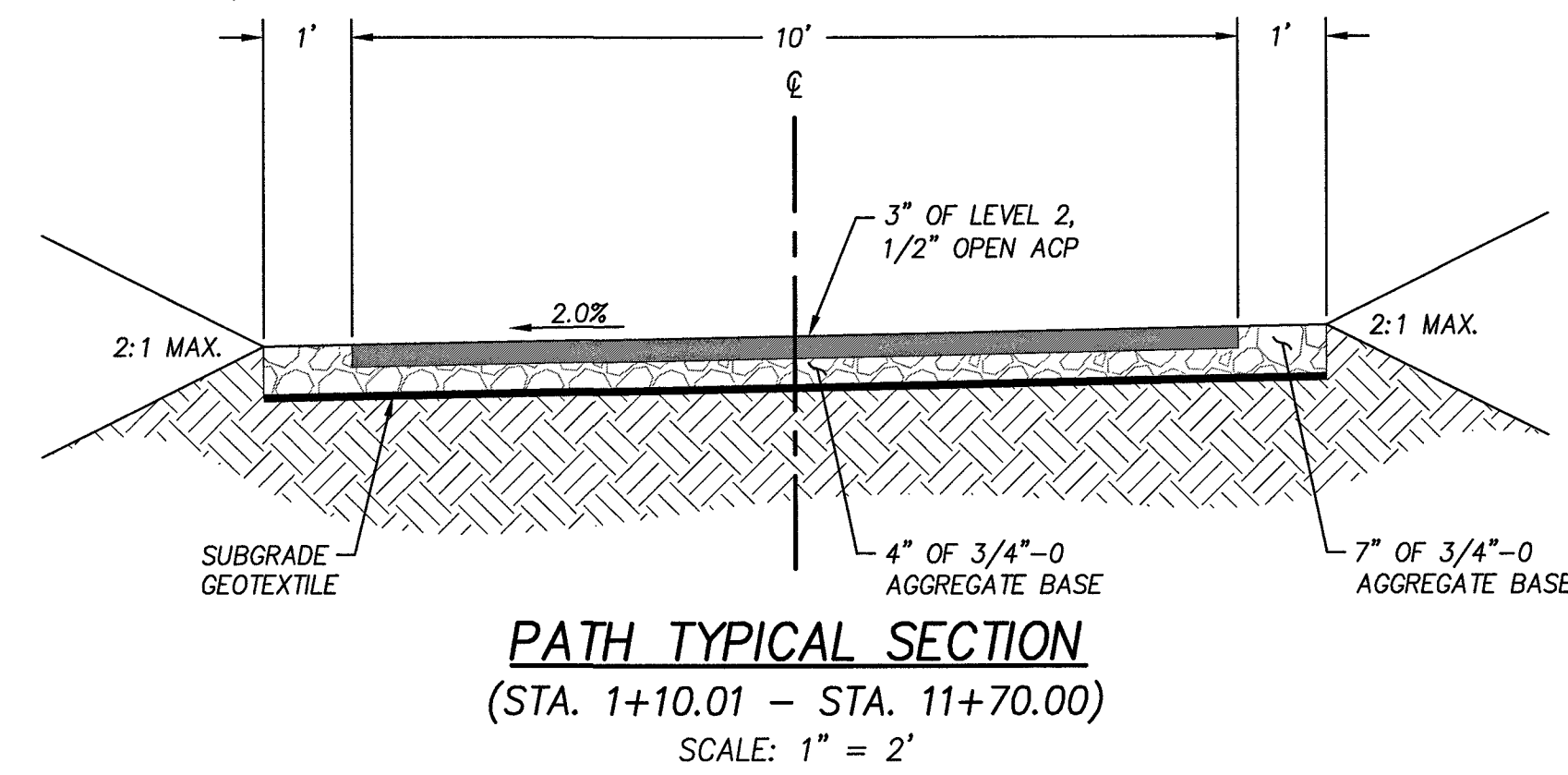
GRADING AND PAVING PLAN  
**WOODHAVEN PARK PHASE 2**  
 SHERWOOD, OREGON

SHEET NO.  
C4.0  
 JOB NO.  
 SHR-13

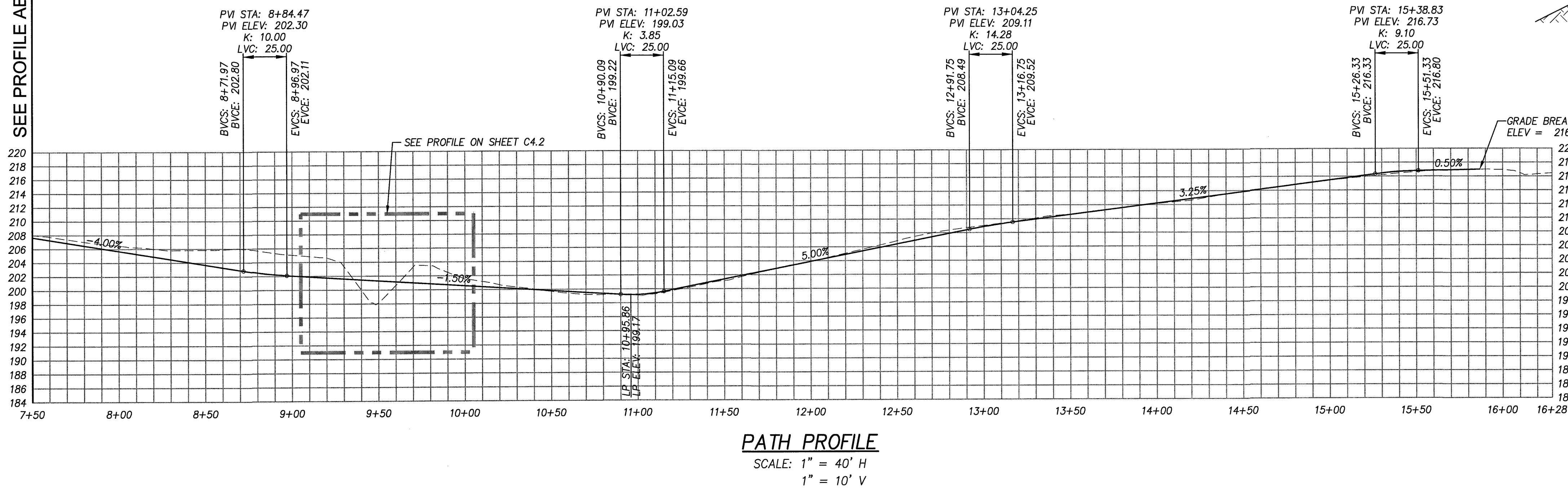
P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SS\SHR13-C4.1.dwg



SEE PROFILE BELOW



SEE PROFILE ABOVE

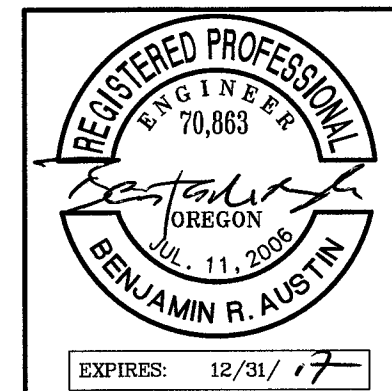


**BID SET**

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

DATE	NO.	DESCRIPTION
REVISIONS		



**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**PEDESTRIAN PATH PROFILE  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON**

SHEET NO.	<b>C4.1</b>
JOB NO.	SHR-13



**GENERAL:**

- THESE STRUCTURAL NOTES SUPPLEMENT THE SPECIFICATIONS. ANY DISCREPANCY FOUND AMONG THE DRAWINGS, SPECIFICATIONS, THESE NOTES, AND ANY SITE CONDITIONS SHALL BE REPORTED IN A TIMELY MANNER TO THE ARCHITECT/ENGINEER DESIGN TEAM, WHO SHALL RESPOND TO ANY DISCREPANCY IN WRITING. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S OWN RISK.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE THE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND CONSTRUCTION METHODS, TECHNIQUES, SEQUENCING, AND SAFETY REQUIRED FOR THE WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL ERECTION BRACING, FORM WORK, AND TEMPORARY SHORING REQUIRED FOR THE WORK.
- THESE NOTES SET MINIMUM STANDARDS FOR CONSTRUCTION. THE DRAWINGS GOVERN OVER THE STRUCTURAL NOTES TO THE EXTENT SHOWN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON DRAWINGS AND IN THE FIELD. COORDINATE LOCATIONS OF OPENINGS THROUGH FLOOR, ROOFS AND WALLS WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL PLANS. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
- DETAILS SHOWN ON THE DRAWINGS ARE INTENDED TO APPLY AT ALL SIMILAR CONDITIONS AND LOCATIONS.
- DO NOT SCALE INFORMATION FROM STRUCTURAL DRAWINGS.
- UNLESS OTHERWISE NOTED, ALL MATERIAL AND DESIGN SPECIFICATIONS CITED HEREIN SHALL CONFORM TO THE MOST RECENTLY ADOPTED SPECIFICATION OR CODE.
- ALL PRODUCTS AND MATERIALS USED BY THE CONTRACTOR SHALL BE APPLIED, PLACED, ERECTED OR INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- ALL FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME TYPE AND CHARACTER AS SHOWN FOR SIMILAR CONDITIONS SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER.

**DESIGN CODE:**

- 2014 OREGON STRUCTURAL SPECIALTY CODE
- ASCE 7-10
- ALL REFERENCE TO OTHER CODES AND STANDARDS (ACI, ASTM, ETC...) SHALL BE PER THE LATEST OR MOST CURRENT EDITION AVAILABLE.
- DESIGN LOADS:
 

PEDESTRIAN BRIDGE DECK (LIVE LOAD).....	100 PSF
WIND .....	120 MPH, EXPOSURE C, Risk CATEGORY II
SEISMIC.....	DESIGN CATEGORY D, SITE CLASS D
	R=6.5, S1=0.419, Sds=0.704, Sd1=0.442

**FOUNDATIONS:**

- MAXIMUM DESIGN SOIL BEARING PRESSURE = 1,500 PSF, ASSUMED
- FOUNDATIONS SHALL BE FOUNDED ON FIRM, UNDISTURBED SOIL OR ON APPROVED STRUCTURAL FILL.
- STRUCTURAL FILL SHALL CONSIST OF CLEAN WELL-GRADED SAND, SAND AND GRAVEL, OR CRUSHED ROCK.
- THE STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8" IN THICKNESS AND THOROUGHLY COMPACTED TO A DENSE, NON-YIELDING STATE.
- STRUCTURAL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS OBTAINED BY ASTM MODIFIED PROCTOR.
- ALL FOUNDATIONS SHALL BE A MINIMUM OF 1'-6" BELOW FINAL GRADES OR 1'-0" BELOW EXISTING GRADE, WHICHEVER IS LOWER.
- ALL DISTURBED SOIL SHALL BE REMOVED BY HAND OPERATION FROM FOUNDATION EXCAVATIONS TO NEAT LINES AND REPLACED WITH ENGINEERED FILL IF NECESSARY.
- PLACEMENT OF ALL FILL SHALL BE OBSERVED AND TESTED FOR RELATIVE COMPACTION BY A QUALIFIED TECHNICIAN AS APPROVED BY THE ENGINEER OF RECORD.

**STRUCTURAL STEEL:**

- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
- ALL FABRICATION, ERECTION AND IDENTIFICATION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECIFICATIONS.
- ALL WELDING SHALL CONFORM TO AWS SPECIFICATIONS. ALL WELDERS SHALL BE CERTIFIED UNDER AWS SPECIFICATIONS.
- WELDS SHALL BE MADE WITH E70 SERIES ELECTRODES UNLESS OTHERWISE NOTED. WELD TESTING AND INSPECTION SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE AWS D1.1 AND AISC.
- ALL BOLTED CONNECTIONS SHALL BE MADE WITH MACHINE BOLTS (M.B.) CONFORMING TO ASTM A307.
- ALL STEEL EXPOSED TO WEATHER, MOISTURE, SOIL, OR AS NOTED SHALL BE HOT DIP GALVANIZED PER ASTM A-123 UNLESS NOTED OTHERWISE IN SPECIFICATIONS.

**GLUE LAMINATED MEMBERS:**

- ALL GLUE LAMINATED TIMBER BEAMS SHALL BE DOUGLAS FIR GRADE 24F-V4 AT ALL SIMPLE SPAN BEAMS AND GRADE 24F-V8 AT ALL CANTILEVER AND CONTINUOUS SPAN BEAMS, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- ALL GLUE LAMINATED TIMBER SHALL BE FABRICATED IN ACCORDANCE WITH AITC 117 MANUFACTURING, USING OF LUMBER AND WATERPROOFING ADHESIVE. EACH MEMBER SHALL BEAR AN AITC IDENTIFICATION MARK AND BE ACCOMPANIED BY AN AITC CERTIFICATE OF CONFORMANCE.
- GLUE LAMINATED TIMBER BEAMS SHALL HAVE CAMBER AS INDICATED ON THE DRAWINGS.
- ALL GLUE LAMINATED MEMBERS SHALL BE NOTCHED, SHAPED AND FINISHED AS PER PLANS AND SPECIFICATIONS.
- SEE SPECIFICATIONS FOR FINISH AND PROTECTION.

**SAWN FRAMING LUMBER:**

- ALL SAWN LUMBER SHALL BE S4S, GRADED IN ACCORDANCE WITH WCLIB RULES #17, OF THE FOLLOWING GRADES:
 

STUD, PLATES, HEADERS, BLOCKING	= DF-L No. 2
2x & 4x BEAMS	= DF-L No. 2
6x BEAMS, POSTS	= DF-L No. 1
- ALL 2x LUMBER SHALL BE S-DRY, U.N.O.
- PROVIDE PRESSURE TREATED (P.T.) LUMBER AT ALL MEMBERS IN CONTACT WITH CONCRETE OR MASONRY.

**PRESSURE TREATED (P.T.) LUMBER:**

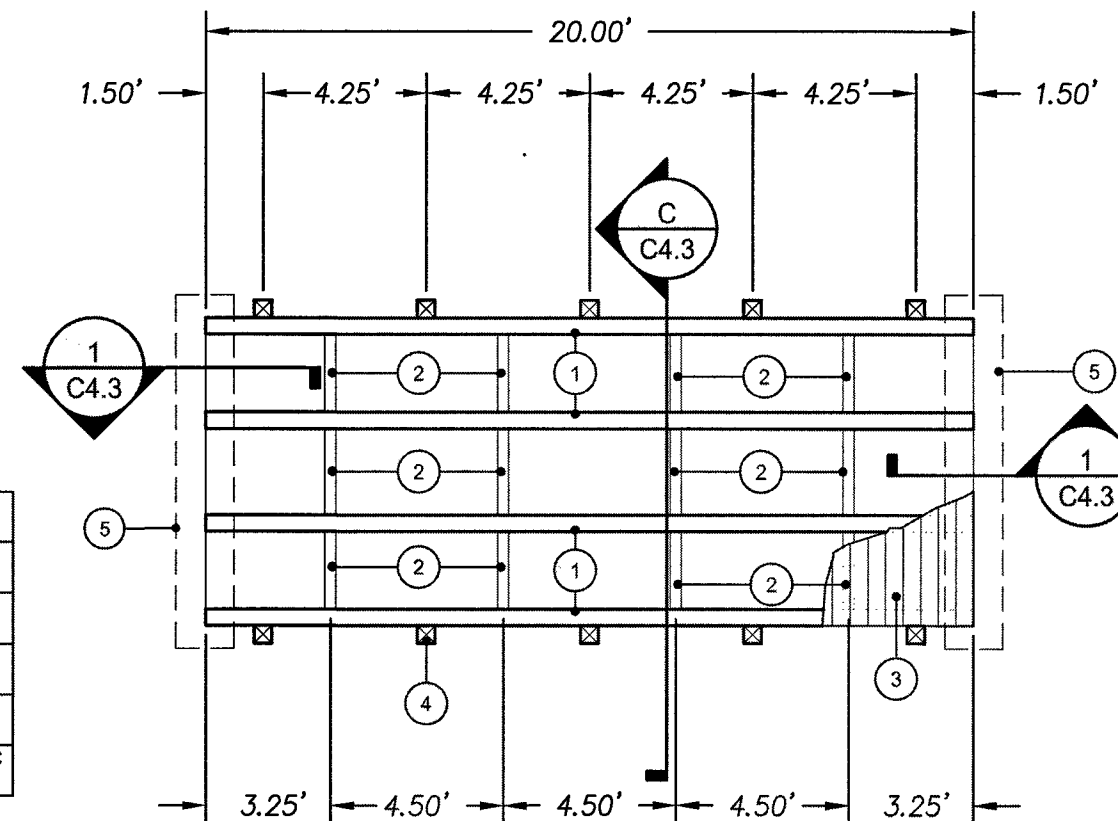
- PROVIDE PRESSURE TREATED (P.T.) LUMBER AT ALL MEMBERS IN CONTACT WITH CONCRETE OR MASONRY.
- PROVIDE PRESSURE TREATED (P.T.) LUMBER AT ALL MEMBERS PERMANENTLY EXPOSED TO OPEN AIR CONDITIONS.
- PRESSURE TREATED LUMBER THAT IS CUT OR BORED SHALL BE TREATED TO RESIST ROT AND DETERIORATION.
- ALL CONNECTORS AND FASTENERS SECURED TO PRESSURE TREATED LUMBER SHALL BE HOT-DIP GALVANIZED.

**SCREWS:**

- MINIMUM FRAMING SCREWS SHALL CONFORM TO AISI SPECIFICATIONS & IBC / OSSC.
- ALL SCREW ATTACHMENTS SHALL PENETRATE MATERIAL 3 THREADS MINIMUM.

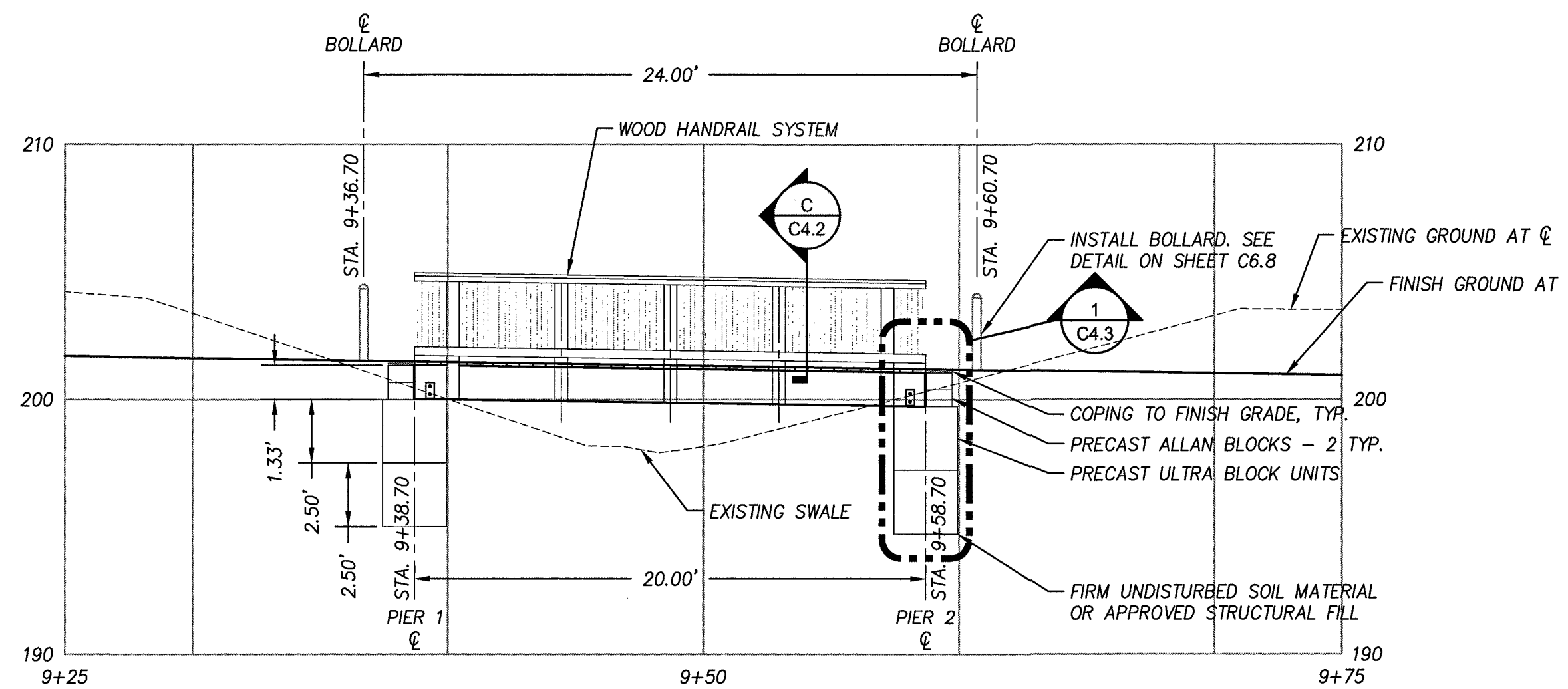
**NAILS & FASTENERS:**

- NAILING INDICATED ON PLANS AND DETAILS ARE "COMMON" NAILS. MINIMUM FRAMING NAILING SHALL CONFORM TO 2009 IBC TABLE 2304.9.1. SEE DETAILS FOR ADDITIONAL TYPICAL NAILING REQUIREMENTS. SUBSTITUTION OF NAILS OTHER THAN "COMMON" IS NOT PERMITTED WITHOUT PRIOR APPROVAL.
- POWER DRIVEN NAILS OTHER THAN "COMMON" IS NOT PERMITTED WITHOUT PRIOR APPROVAL.
- ALL BOLTED CONNECTIONS SHALL BE MADE WITH MACHINE BOLTS (M.B.) CONFORMING TO ASTM A307. ALL BOLTS AND LAGS SHALL BE INSTALLED WITH STANDARD WROUGHT WASHERS, UNLESS NOTED OTHERWISE.
- JOIST HANGERS, HOLD-DOWNS, AND OTHER FRAMING ACCESSORIES ARE REFERRED TO ON PLANS BY PARTICULAR TYPE AS MANUFACTURED BY SIMPSON COMPANY. ALL HARDWARE IS TO BE FASTENED PER MANUFACTURER'S SPECIFICATIONS, U.N.O.
- SILLS AT WALLS SHALL BE BOLTED TO CONCRETE WITH SIMPSON TITEN HD 1/2" (4" CONG. EMBED) WITH 1/4" x 3" x 3" GALVANIZED PLATE WASHER BETWEEN SILL PLATE AND NUT AT 4'-0" O.C. MAXIMUM WITHIN 1'-0" OF SILL PLATE ENDS, CORNERS OR SPLICES, UNLESS DETAILED OTHERWISE.

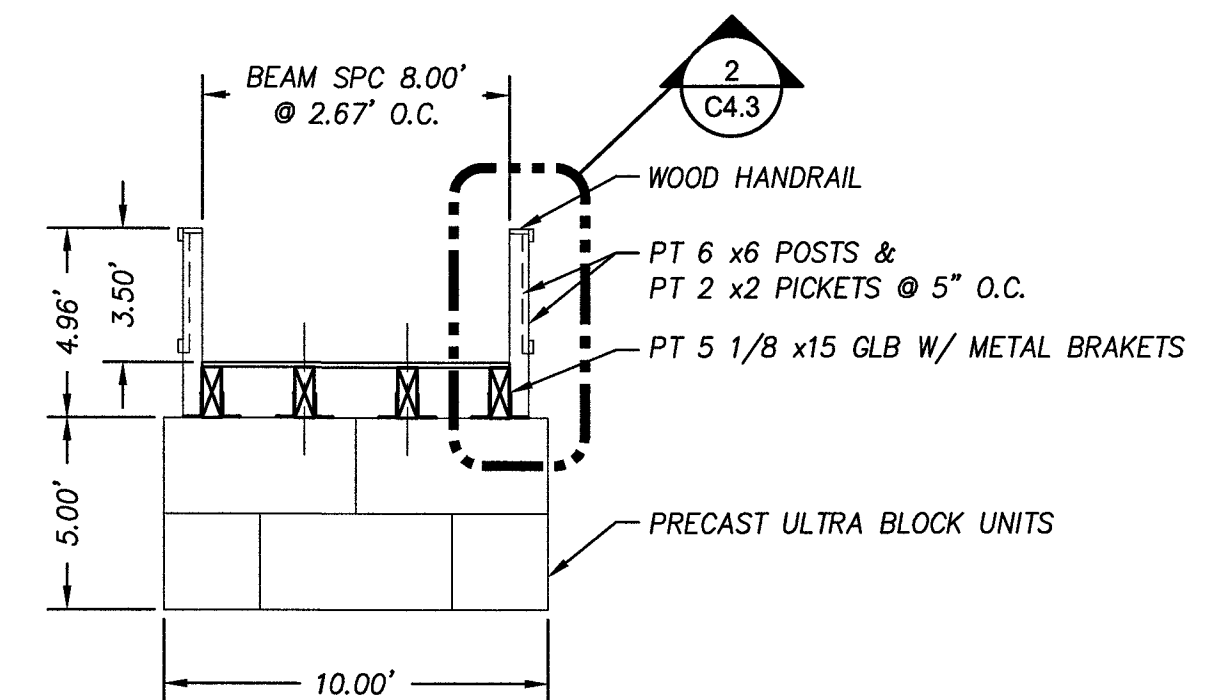


KEYNOTES	
1	P.T. 5 1/8 x 15 GLB
2	P.T. 4 x 12 BLOCK
3	P.T. 2 x 6 SPACED DECKING
4	P.T. 6 x 6 HANDRAIL POSTS
5	2'-6" x 10'-0" PRECAST CONG FOUNDATIONS

**BRIDGE PLAN**  
SCALE: 1" = 5'-0"



**PEDESTRIAN BRIDGE PROFILE**  
SCALE: 1" = 5'-0"

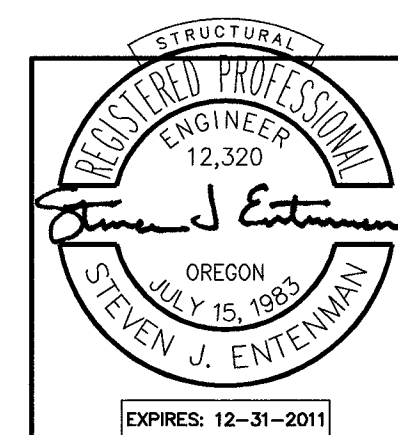


**BRIDGE TYPICAL SECTION**  
SCALE: 1" = 5'-0"

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SSHEETS\SHR13-C5\_3.dwg

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

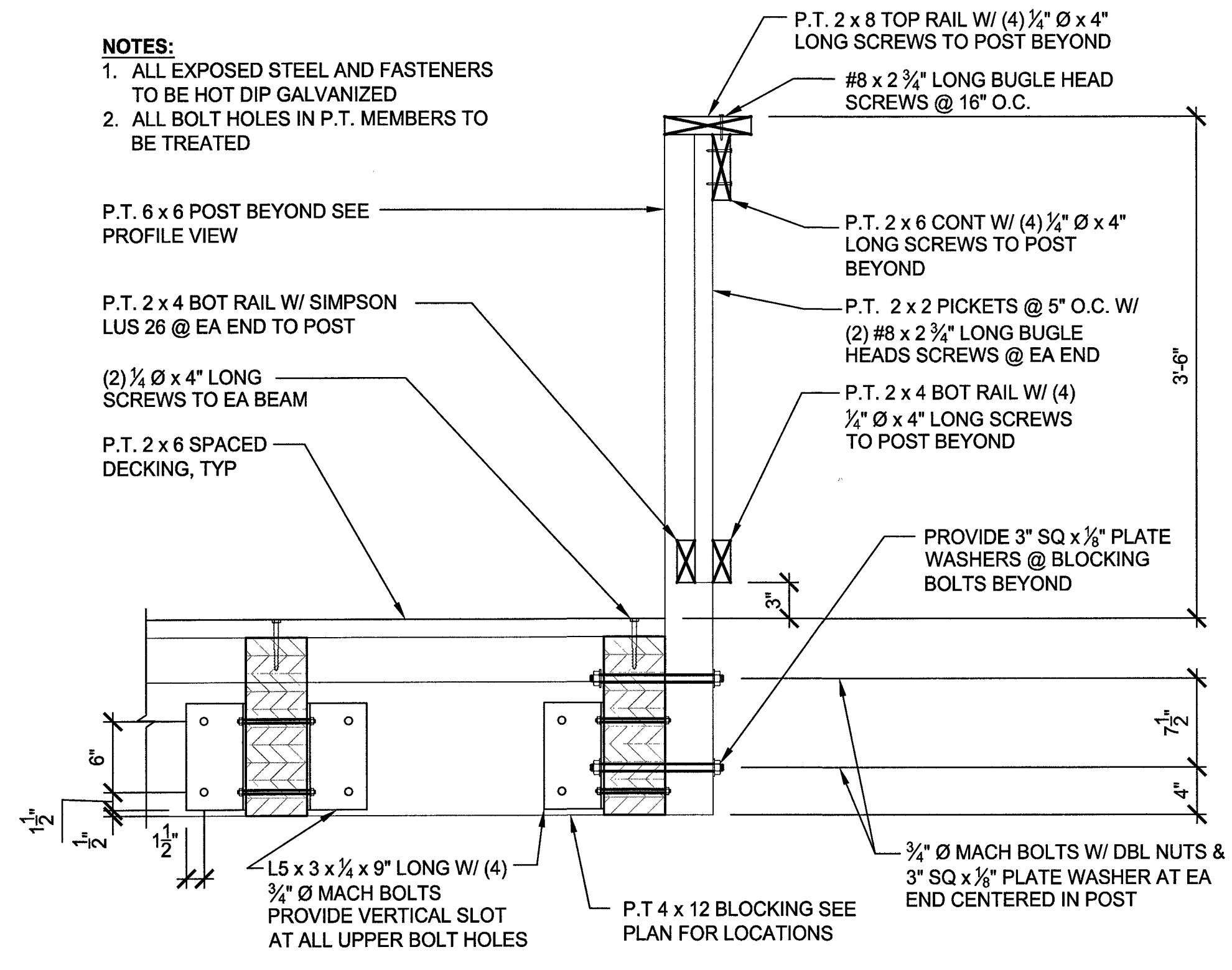


**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

<p>PEDESTRIAN BRIDGE PROFILE WOODHAVEN PARK PHASE 2 SHERWOOD, OREGON</p>	<p>SHEET NO. <b>C4.2</b> JOB NO. SHR-13</p>
--	---

**BID SET**

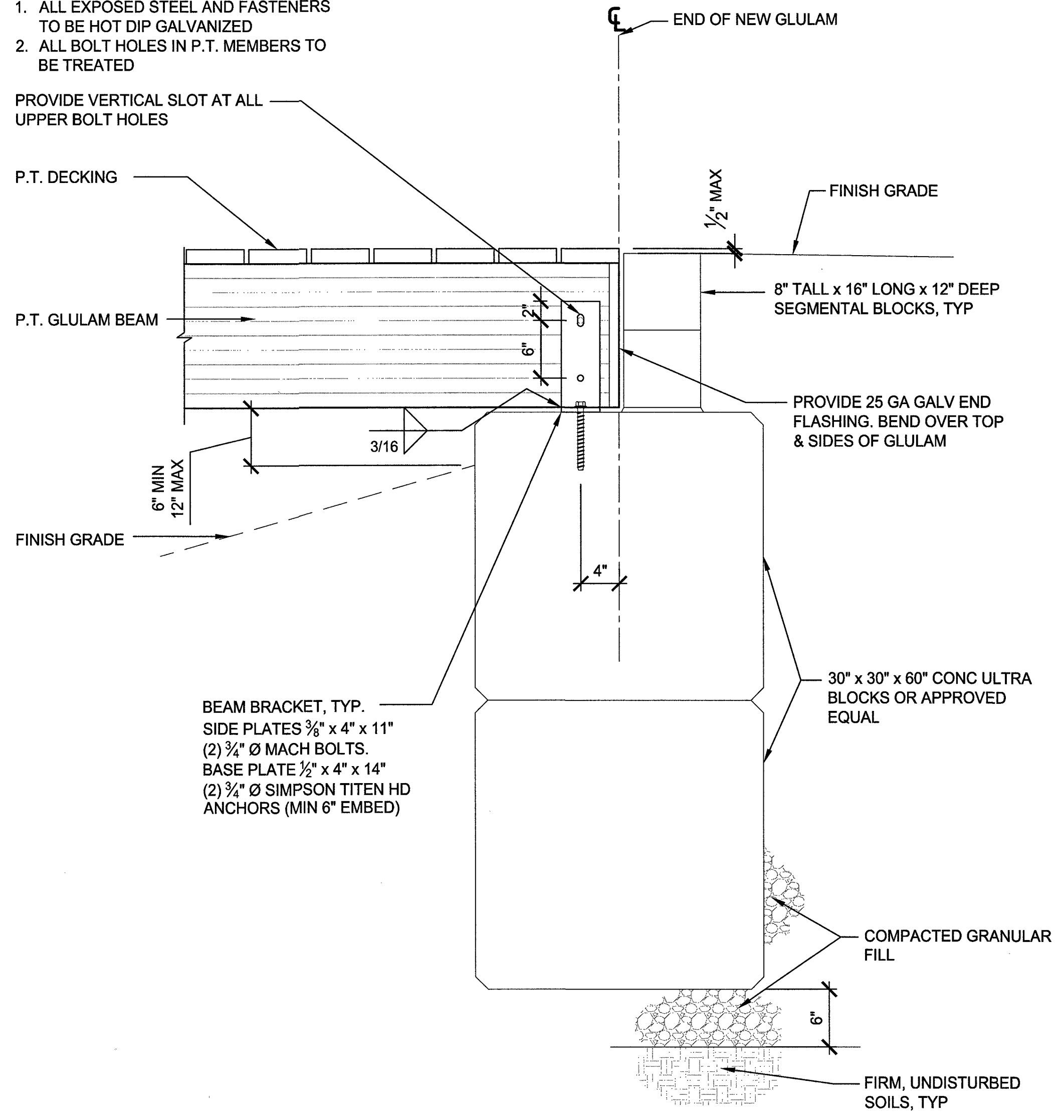
P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S)SHEETS\SHR13-C5\_3.dwg



**NOTES:**  
 1. ALL EXPOSED STEEL AND FASTENERS TO BE HOT DIP GALVANIZED  
 2. ALL BOLT HOLES IN P.T. MEMBERS TO BE TREATED

**1**  
**DETAIL**  
 C4.3 SCALE: 1" = 1'-0"

**NOTES:**  
 1. ALL EXPOSED STEEL AND FASTENERS TO BE HOT DIP GALVANIZED  
 2. ALL BOLT HOLES IN P.T. MEMBERS TO BE TREATED



**2**  
**DETAIL**  
 C4.3 SCALE: 1" = 1'-0"

DESIGNED:	BRA	
DRAWN:	TDF	
CHECKED:	BRA	
DATE:	APRIL 2016	
DATE	NO.	DESCRIPTION
R E V I S I O N S		



**HHPR**  
**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

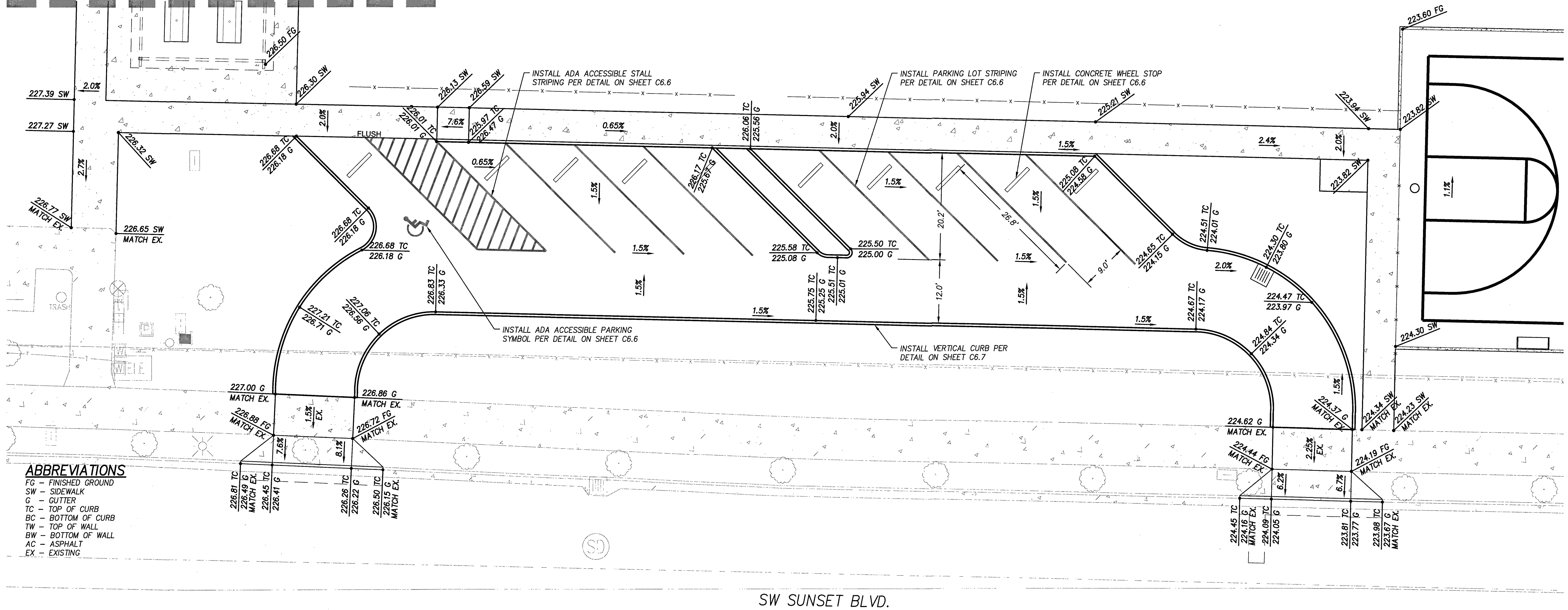
**BRIDGE DETAILS**  
**WOODHAVEN PARK PHASE 2**  
**SHERWOOD, OREGON**

SHEET NO.  
**C4.3**  
 JOB NO.  
 SHR-13

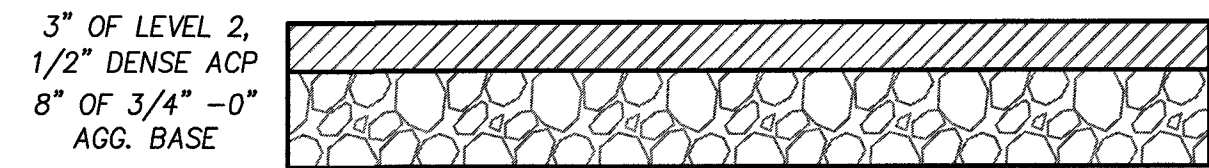
**BID SET**



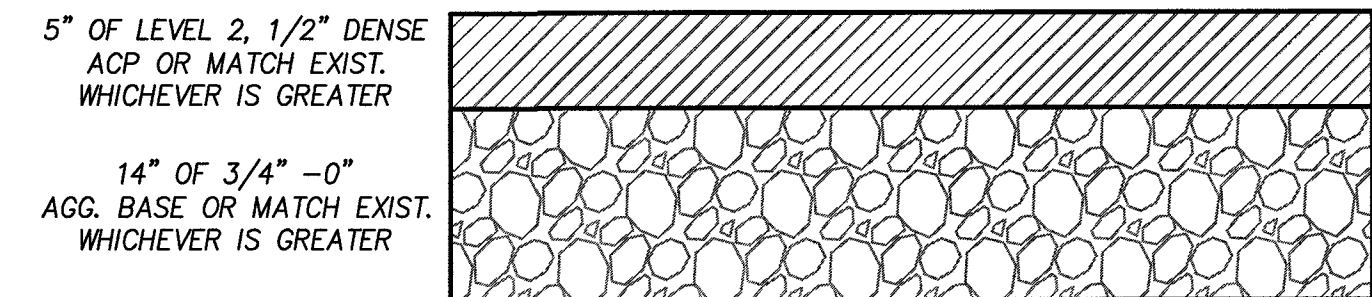
SEE SHEET C4.5 FOR PLAYGROUND GRADING



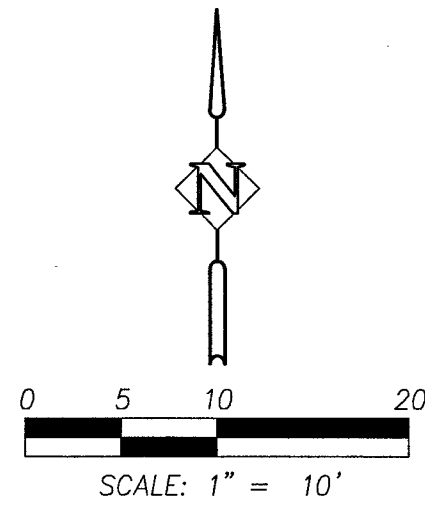
- ABBREVIATIONS**
- FG - FINISHED GROUND
  - SW - SIDEWALK
  - C - GUTTER
  - TC - TOP OF CURB
  - BC - BOTTOM OF CURB
  - TW - TOP OF WALL
  - BW - BOTTOM OF WALL
  - AC - ASPHALT
  - EX - EXISTING



**PARKING LOT PAVEMENT SECTION**  
N.T.S.



**PUBLIC STREET PAVEMENT SECTION**  
N.T.S.



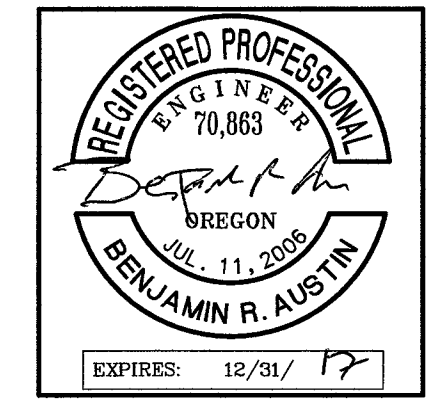
**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S)\SHEETS\SHR13-C5\_2.dwg

DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

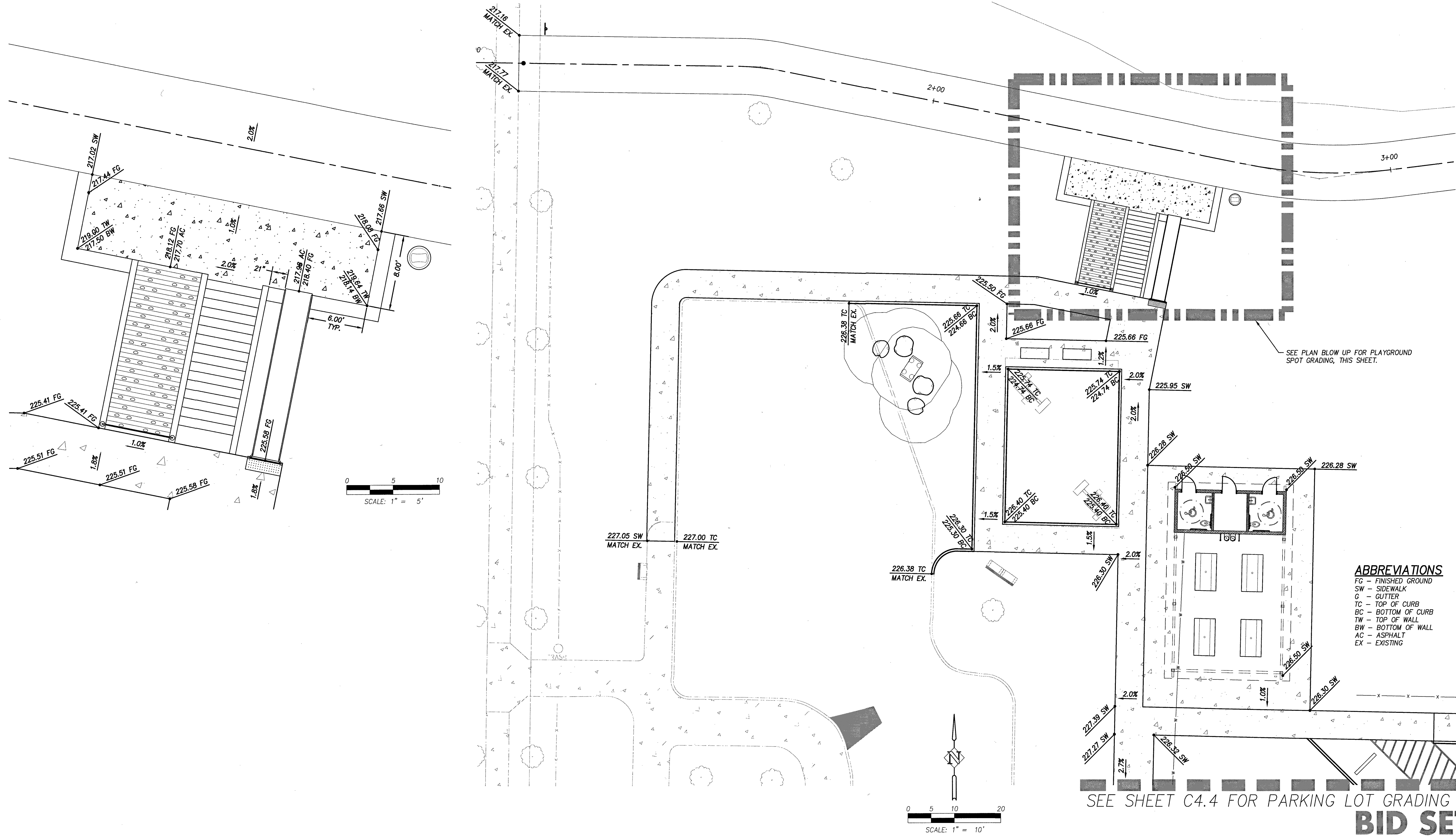


**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

PARKING LOT GRADING  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON

SHEET NO.  
**C4.4**  
JOB NO.  
SHR-13

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SS\SHR13-C5 4.dwg

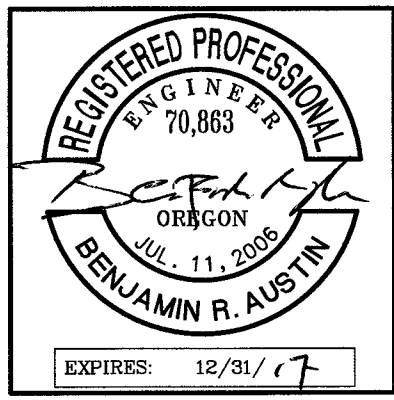


**ABBREVIATIONS**  
 FG - FINISHED GROUND  
 SW - SIDEWALK  
 G - GUTTER  
 TC - TOP OF CURB  
 BC - BOTTOM OF CURB  
 TW - TOP OF WALL  
 BW - BOTTOM OF WALL  
 AC - ASPHALT  
 EX - EXISTING

DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

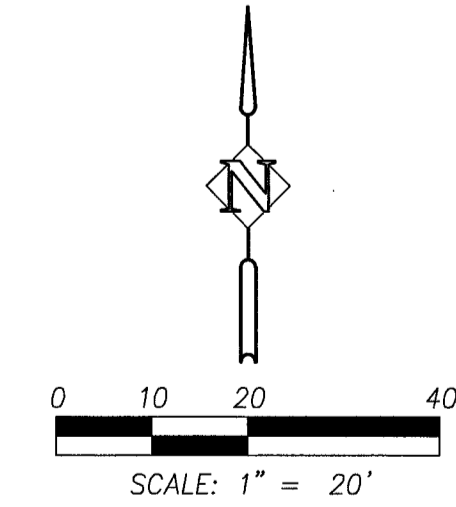
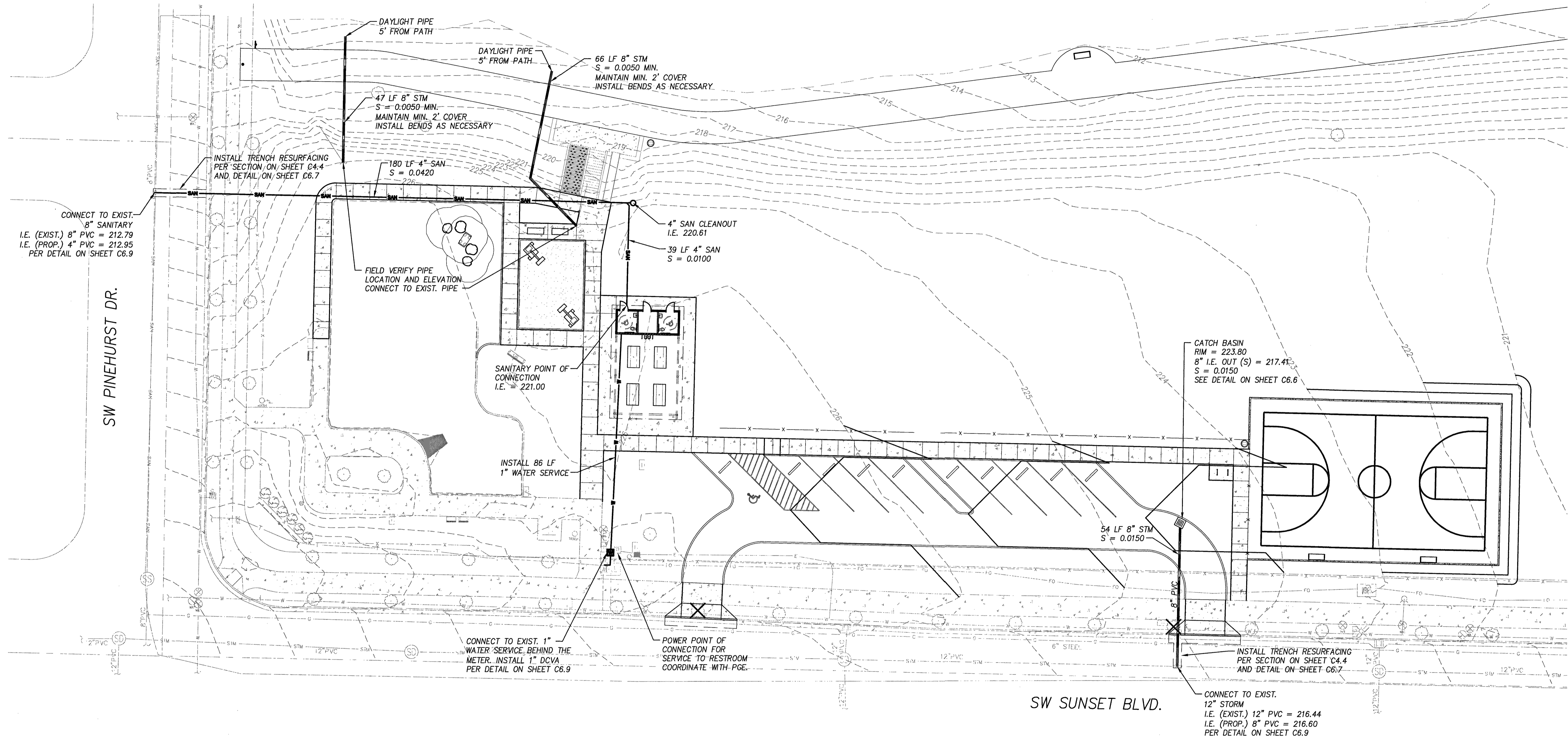


**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**PLAYGROUND GRADING**  
**WOODHAVEN PARK PHASE 2**  
**SHERWOOD, OREGON**

SHEET NO.	<b>C4.5</b>
JOB NO.	SHR-13





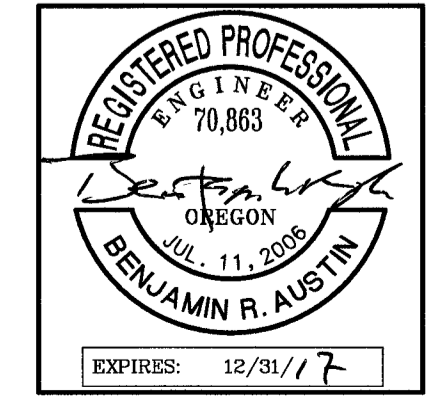
**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHEETS)\SHR13-C6\_0.dwg

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

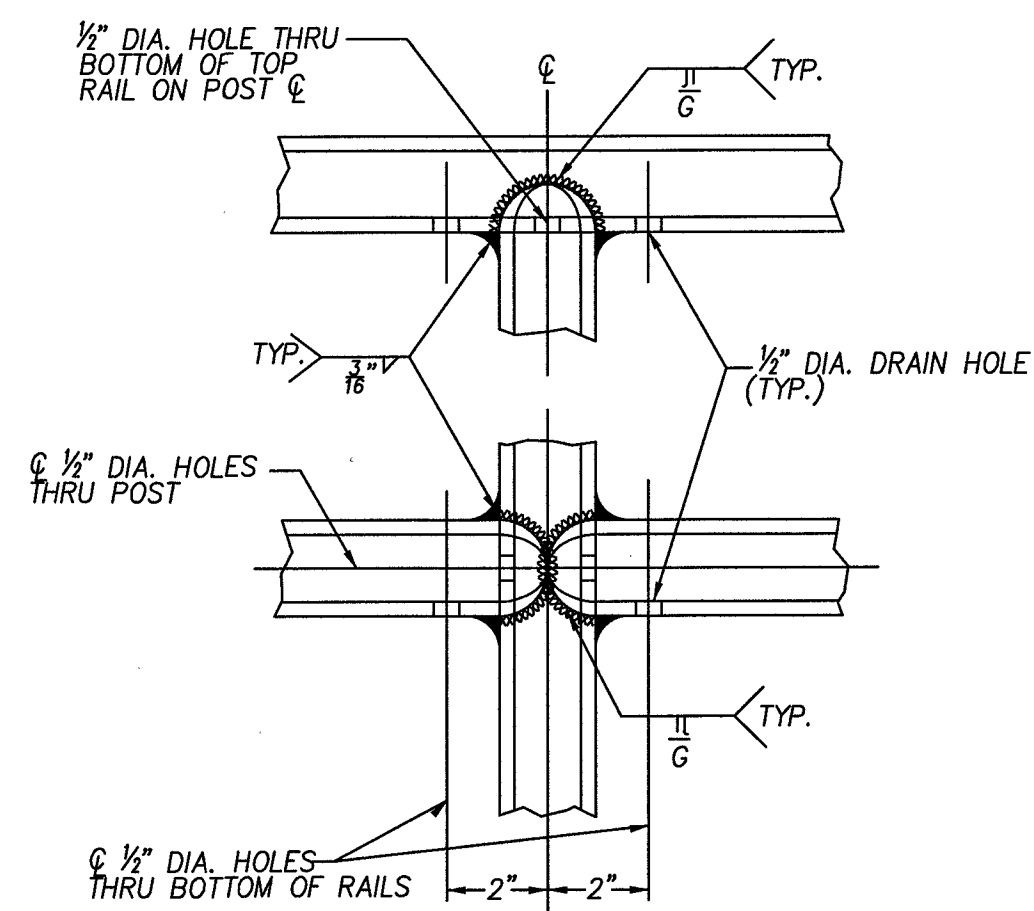
DATE	NO.	DESCRIPTION
R E V I S I O N S		



**HHPR** Harper Houf Peterson Righellis Inc.  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

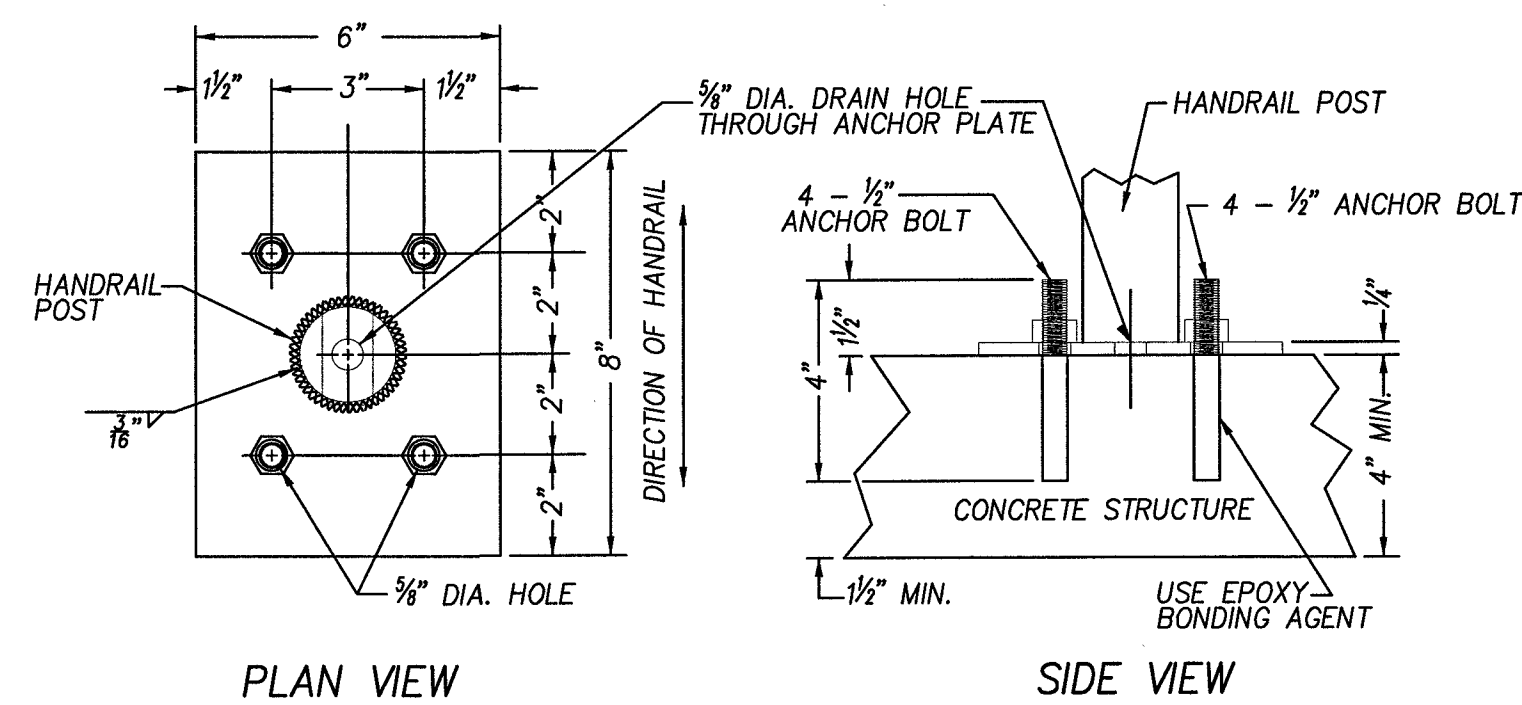
SITE UTILITY PLAN  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

SHEET NO.  
**C5.0**  
 JOB NO.  
 SHR-13



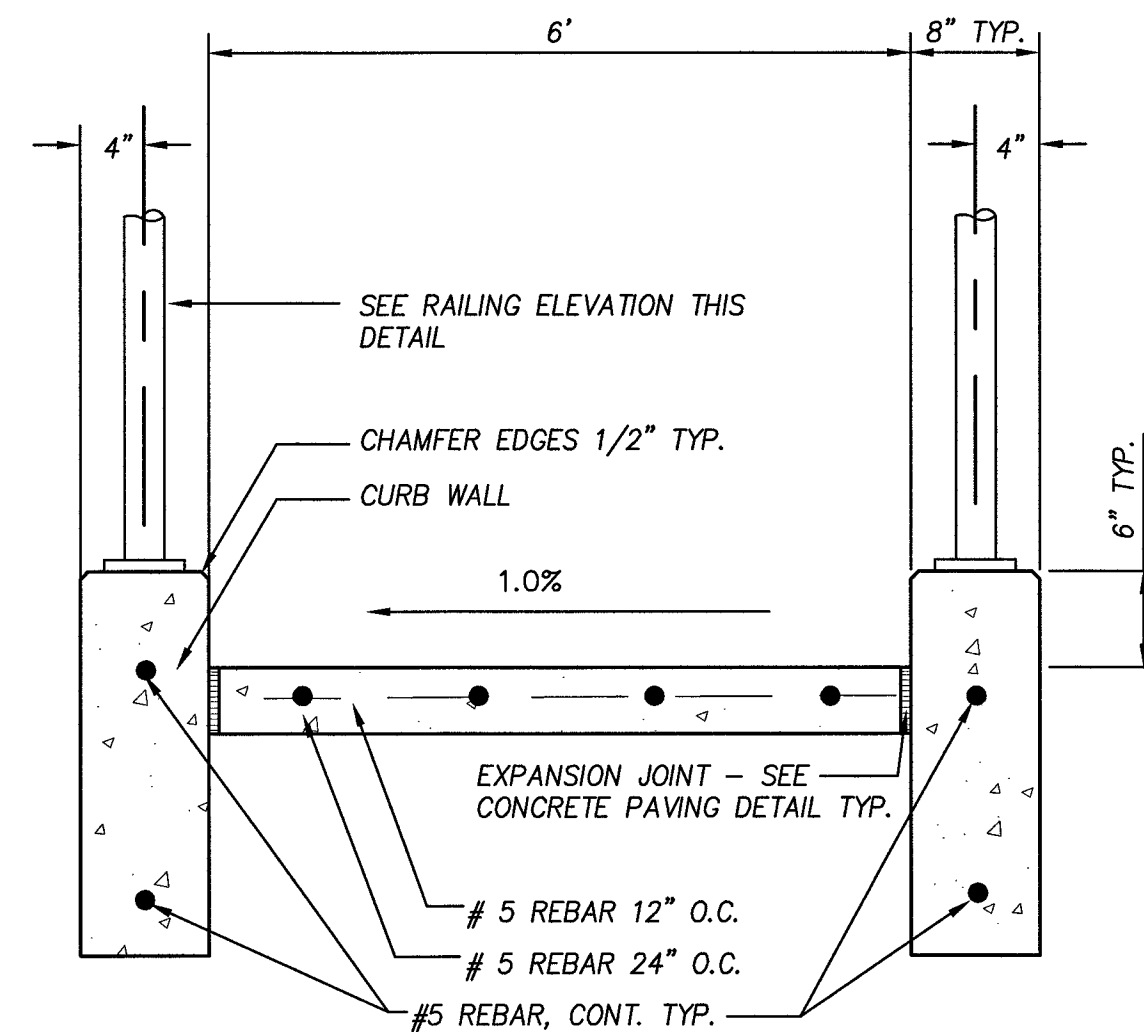
**WELD DETAILS FOR STEEL PIPE**

N.T.S.

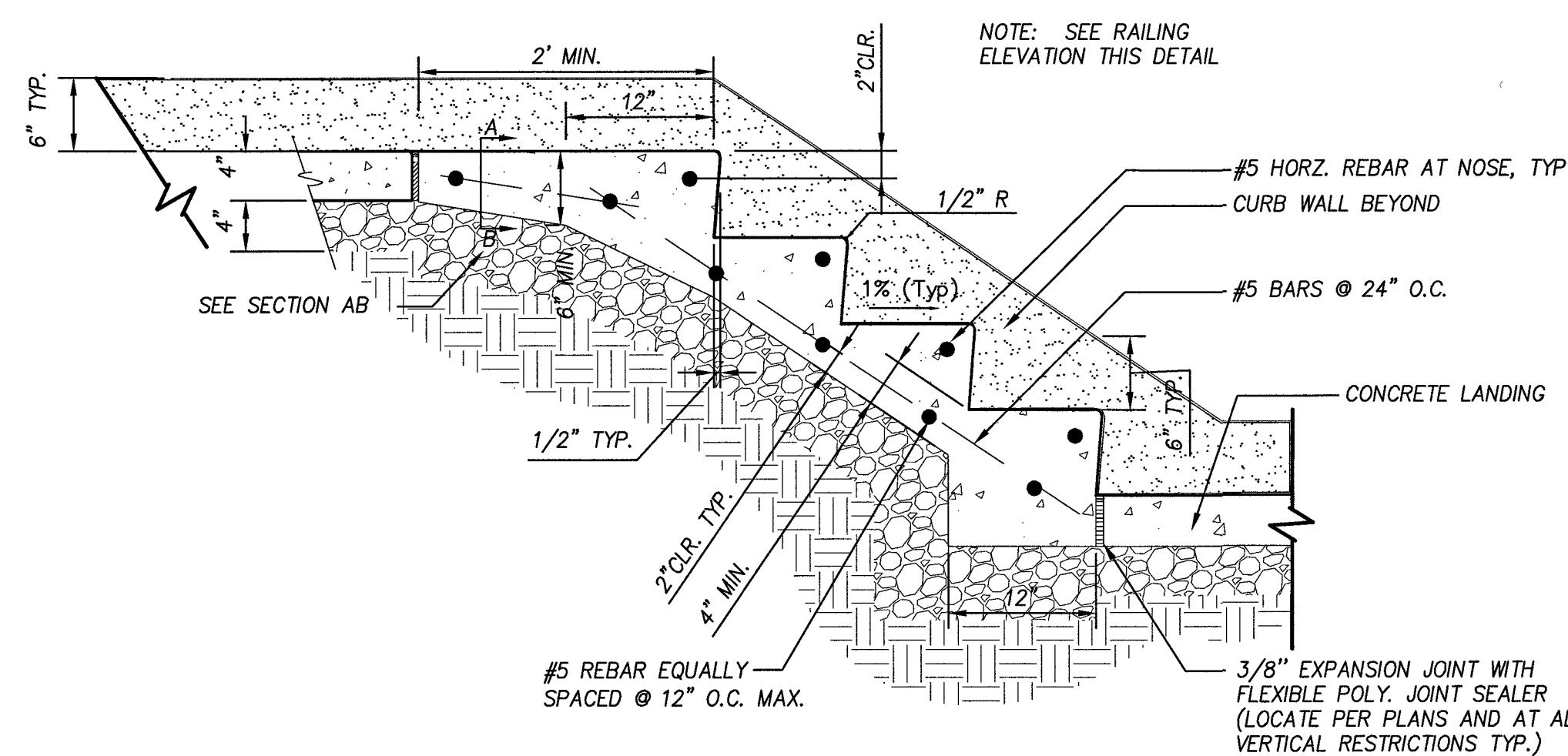


**WELD DETAILS FOR STEEL PIPE**

N.T.S.

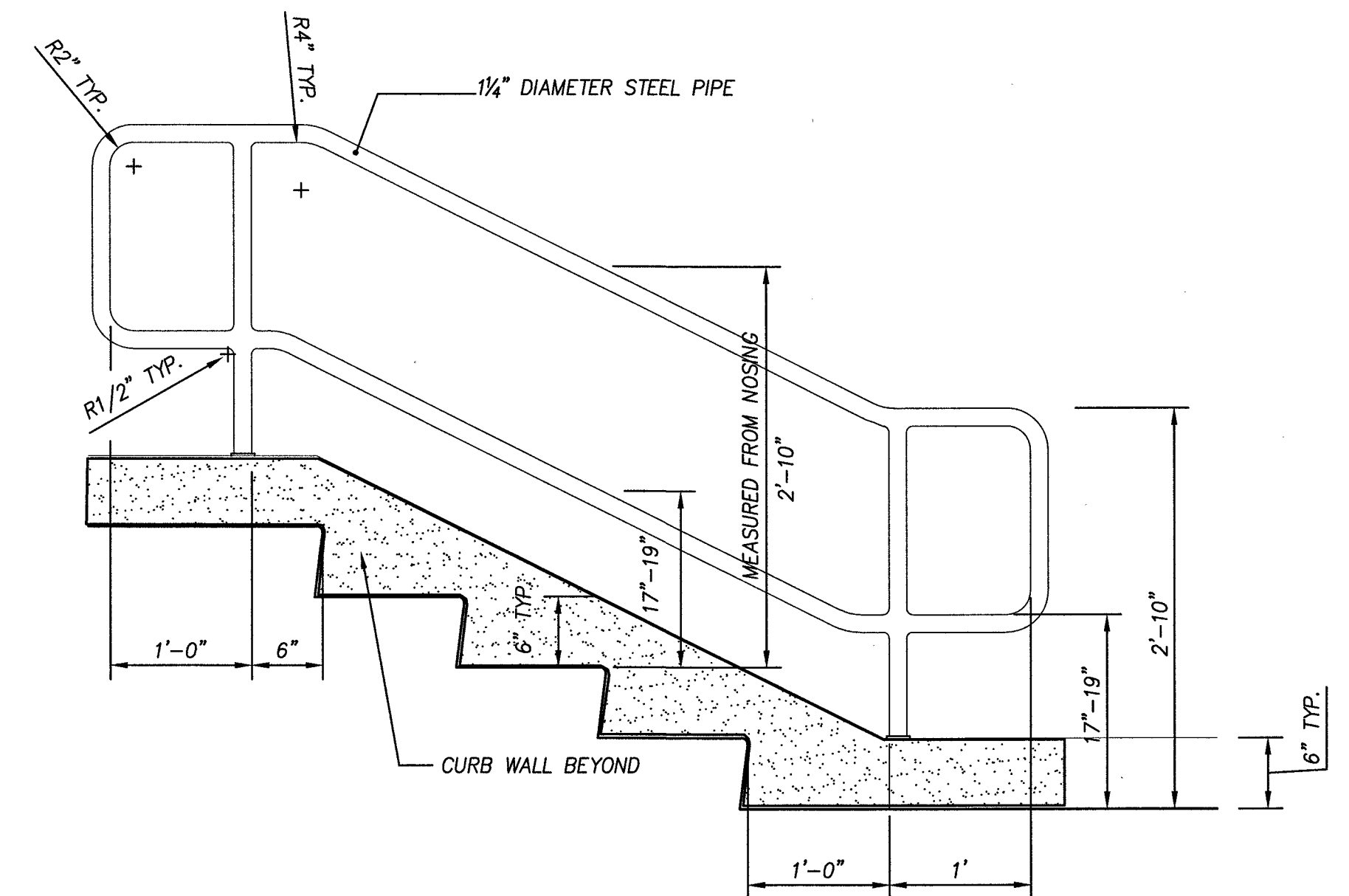


**SECTION AB**



**SECTION**

- NOTES:**
- (1) ALL PIPE SHALL BE SCH.40 STEEL PIPE.
  - (2) GRIND ALL WELDED JOINTS SMOOTH.
  - (3) HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION.
  - (4) PIPE SHALL FOLLOW ALIGNMENT OF STAIR NOSINGS.
  - (5) PROVIDE SHOP DRAWINGS BEFORE FABRICATION.
  - (6) SEE ANCHOR PLATE DETAIL FOR POST CONNECTION TO CONCRETE.
  - (7) STEPS IN FLIGHT MUST HAVE UNIFORM TREAD RUNS AND UNIFORM RISER HEIGHTS.
  - (8) TREADS SHALL BE 11" MIN, 12" MAX. RISERS SHALL BE 5" MIN, 7" MAX.
  - (9) LANDINGS BETWEEN FLIGHTS OF STEPS MUST HAVE SAME WIDTH AS STEPS AND A MIN LENGTH OF 4'-0".
  - (10) FLIGHTS OF 4 OR MORE STEPS SHALL HAVE HANDRAILS ON BOTH SIDES.
  - (11) HANDRAILS SHALL BE CONTINUOUS ACROSS LANDINGS BETWEEN FLIGHTS OF STEPS.
  - (12) TREAD SLOPES OUTWARD AT 1%.
  - (13) STEP WIDTH SHALL MATCH WIDTH OF EXISTING WALK, BUT SHALL BE NO LESS THAN 2'-6" WIDE.
  - (14) HANDRAILS SHALL NOT ROTATE IN THEIR FITTINGS.
  - (15) STAIR NOSING AND TREADS SHALL HAVE A SLIP RESISTANT SURFACE.
  - (16) STAIRS AND HANDRAILS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE 2009 OREGON STRUCTURAL SPECIALTY CODE.



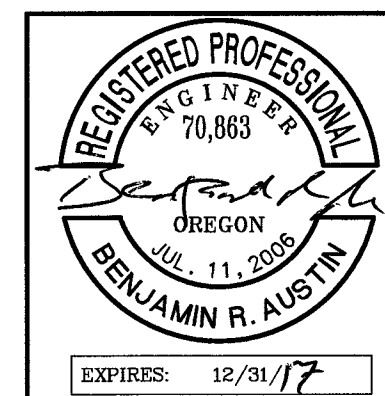
**HANDRAIL ELEVATION**

**STAIR AND HANDRAIL DETAIL**

N.T.S.

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S)SHEETS\SHR13-C4 PLAYGROUND DETS.dwg

DESIGNED:	BRA	
DRAWN:	TDF	
CHECKED:	BRA	
DATE:	APRIL 2016	
R E V I S I O N S		
DATE	NO.	DESCRIPTION



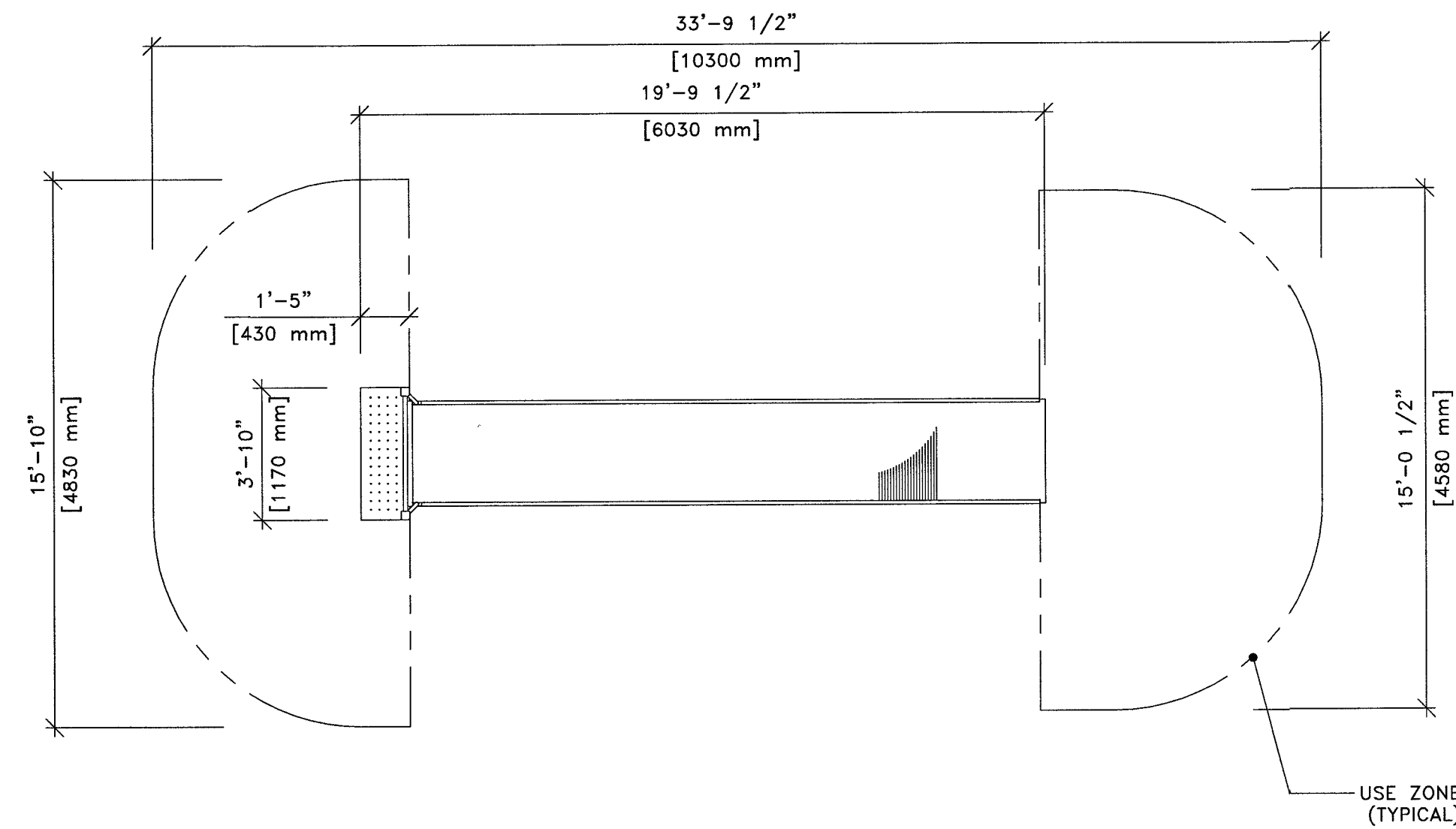
**HHPR** Harper Houf Peterson Righellis Inc.  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**PLAYGROUND DETAIL - STAIRS**  
**WOODHAVEN PARK PHASE 2**  
 SHERWOOD, OREGON

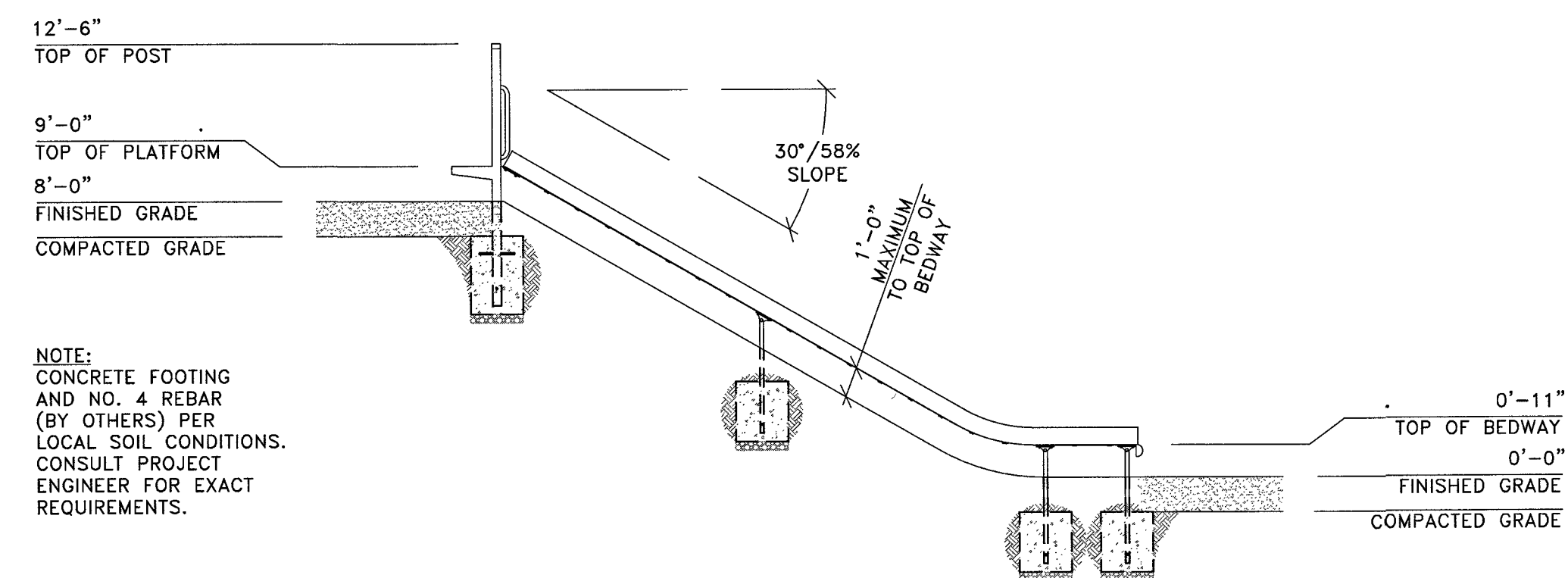
SHEET NO.  
**C6.0**  
 JOB NO.  
 SHR-13

**BID SET**





PLAN VIEW



NOTE:  
CONCRETE FOOTING  
AND NO. 4 REBAR  
(BY OTHERS) PER  
LOCAL SOIL CONDITIONS.  
CONSULT PROJECT  
ENGINEER FOR EXACT  
REQUIREMENTS.

SIDE ELEVATION

This drawing reveals the copyrighted intellectual property of Columbia Cascade Company. Not for use by others without our express, written authorization.  
Authorization for use is hereby granted to architects, landscape architects and similar design professionals solely for the purpose of specifying TimberForm products.

**COLUMBIA CASCADE COMPANY**  
Makers of TimberForm®, PipeLine®, RePlay®, TimberForm®-2, InterPlay®, CycLoops® and CycLocker® Products.

Title:  
TIMBERFORM  
MODEL NO. 1643-91-EMB  
EMBANKMENT WIDE SLIDE CHUTE  
(STAINLESS STEEL BEDWAY, 6" RAILS)

Scale: 1/4" = 1'-0"  
Drawn by: Ian 01-21-13  
Ck'd by:

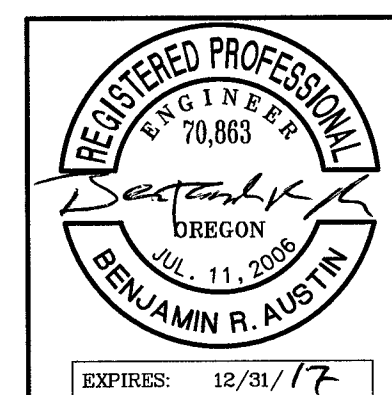
1300 S.W. Sixth Avenue, Suite 310 Telephone 503/223-1157  
Portland, Oregon 97201-3464 Facsimile 503/223-4530  
U.S.A.  
WWW.TIMBERFORM.COM

Drawing No. W-1643-91-EMB  
Sheet 1 of 1

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SSHEETS\SHR13-C4\_PLAYGROUND\_DETS.dwg

DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

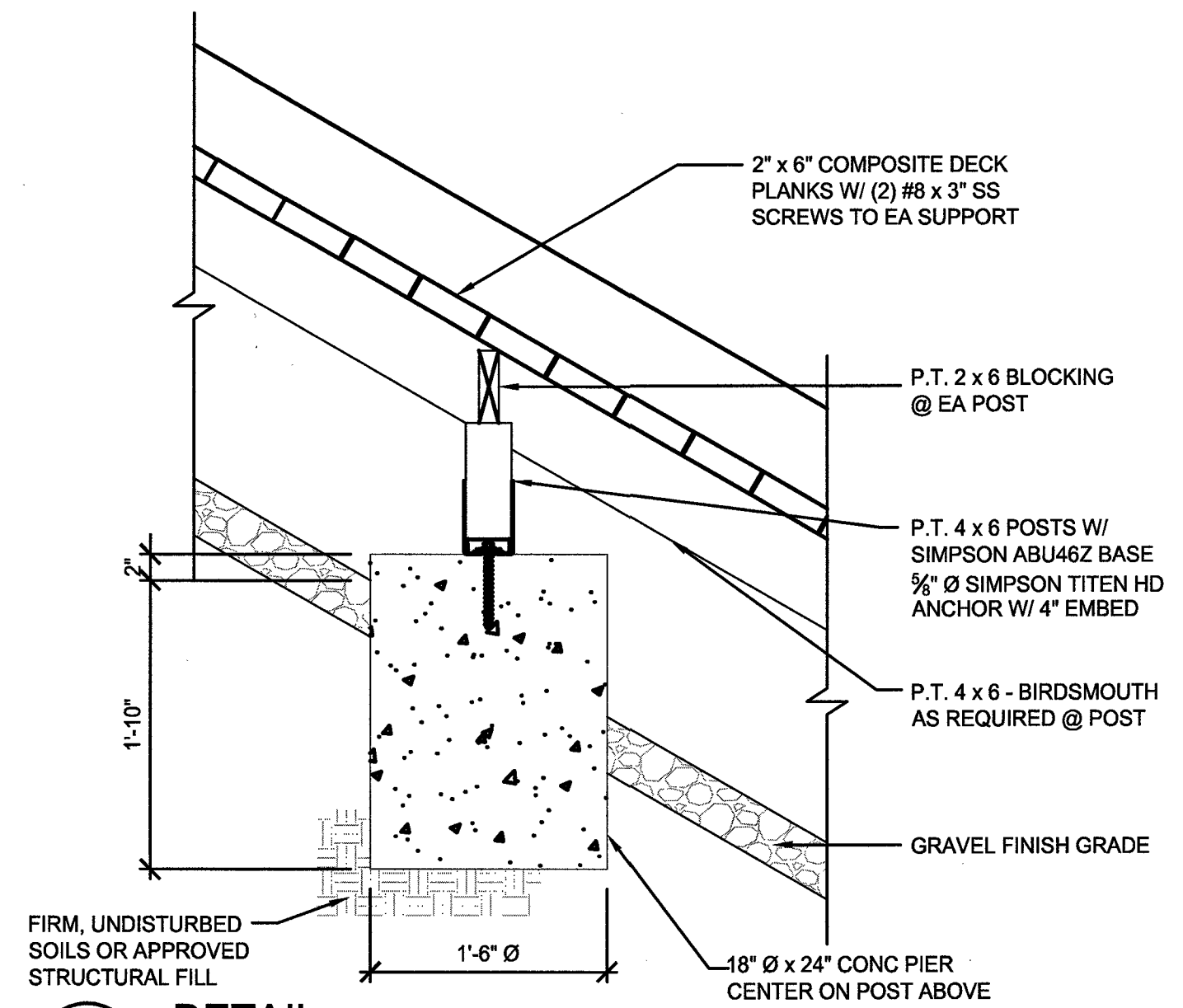


**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

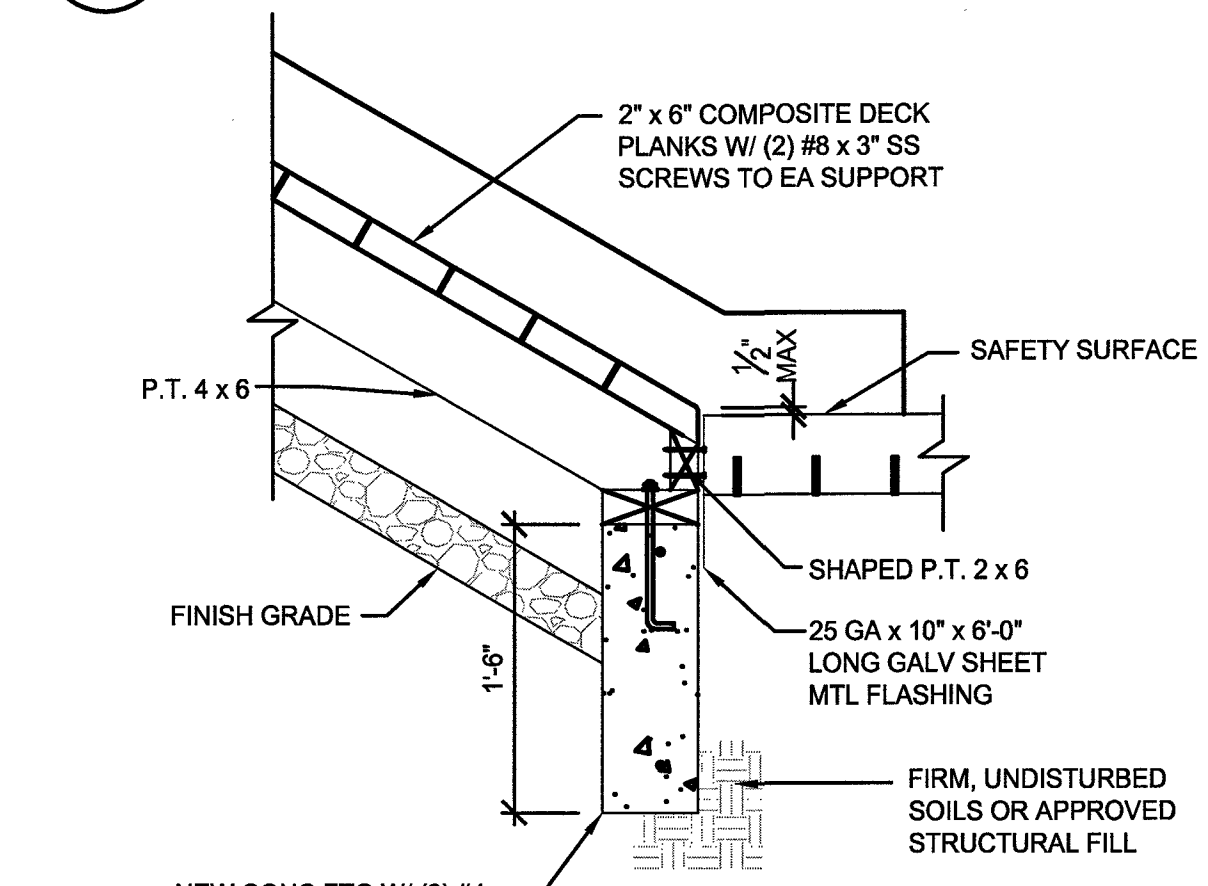
**PLAYGROUND DETAIL - SLIDE  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON**

SHEET NO.  
**C6.1**  
JOB NO.  
SHR-13

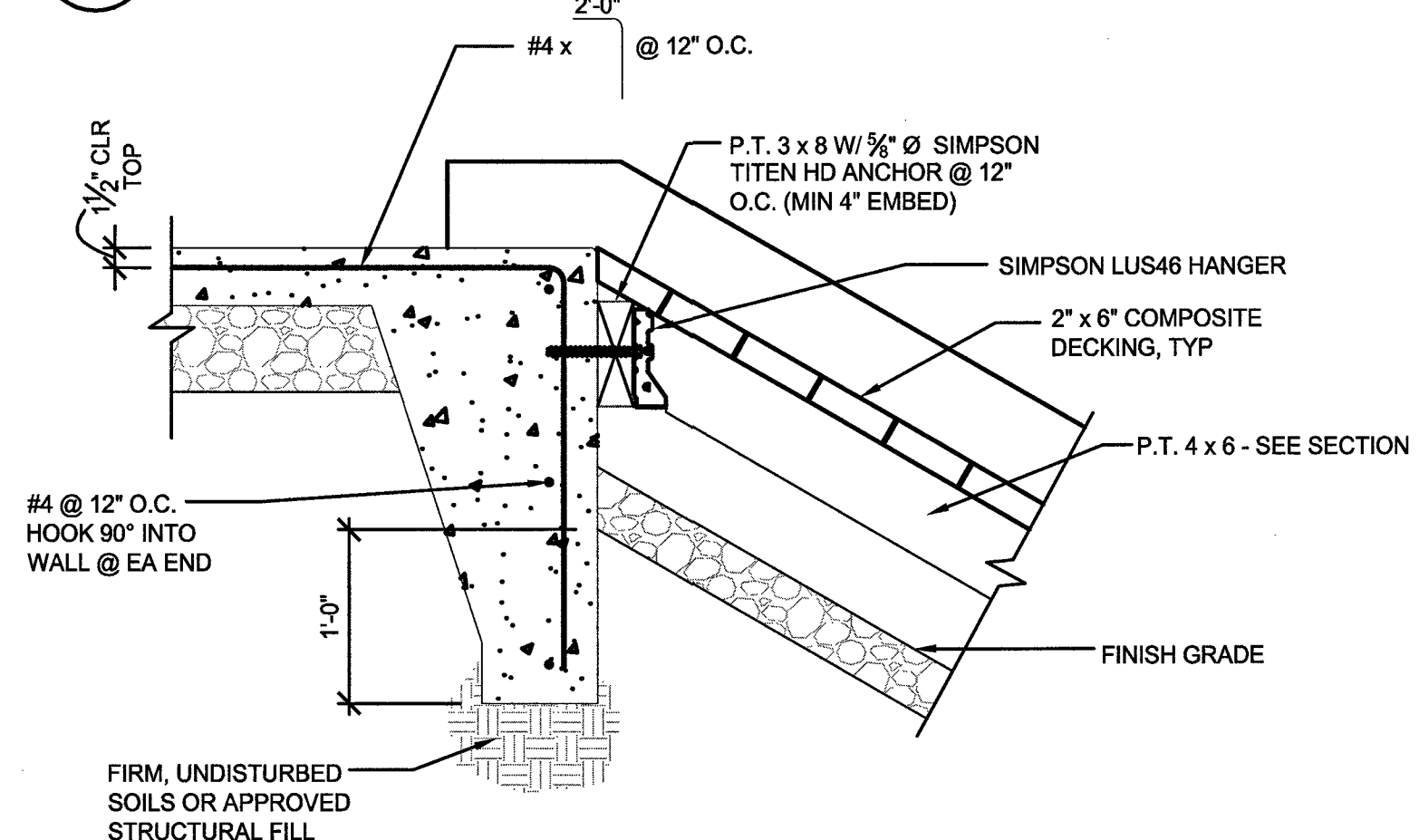
**BID SET**



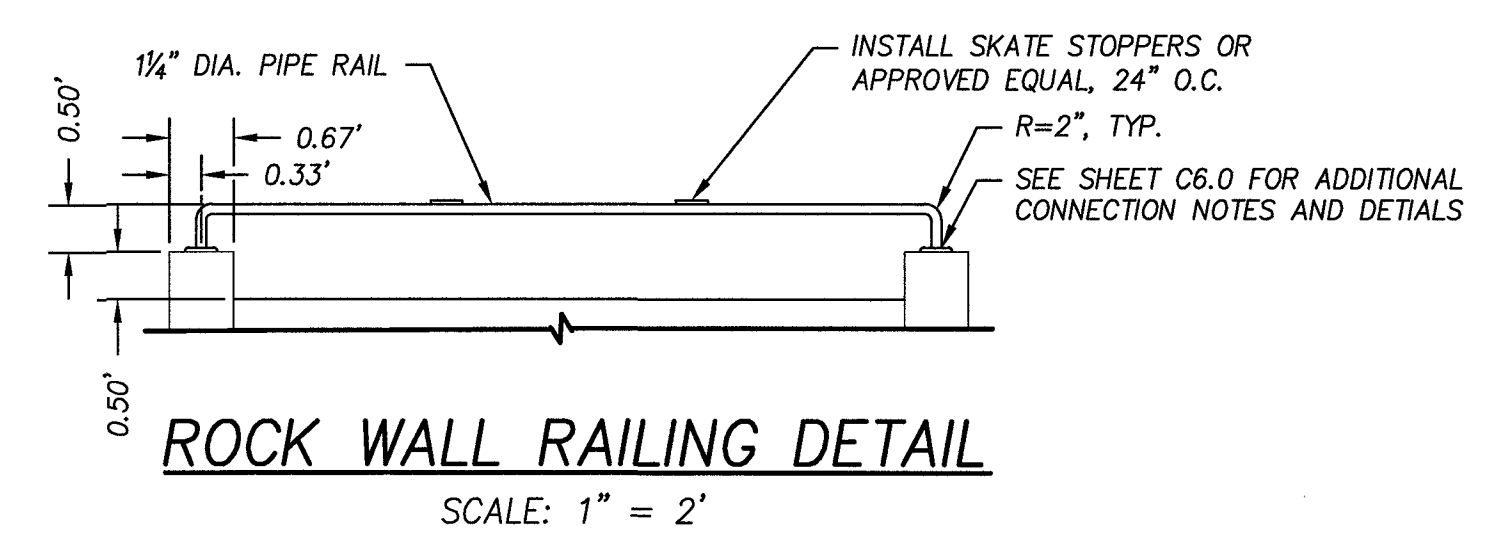
**1**  
DETAIL  
SCALE: 1" = 1'-0"



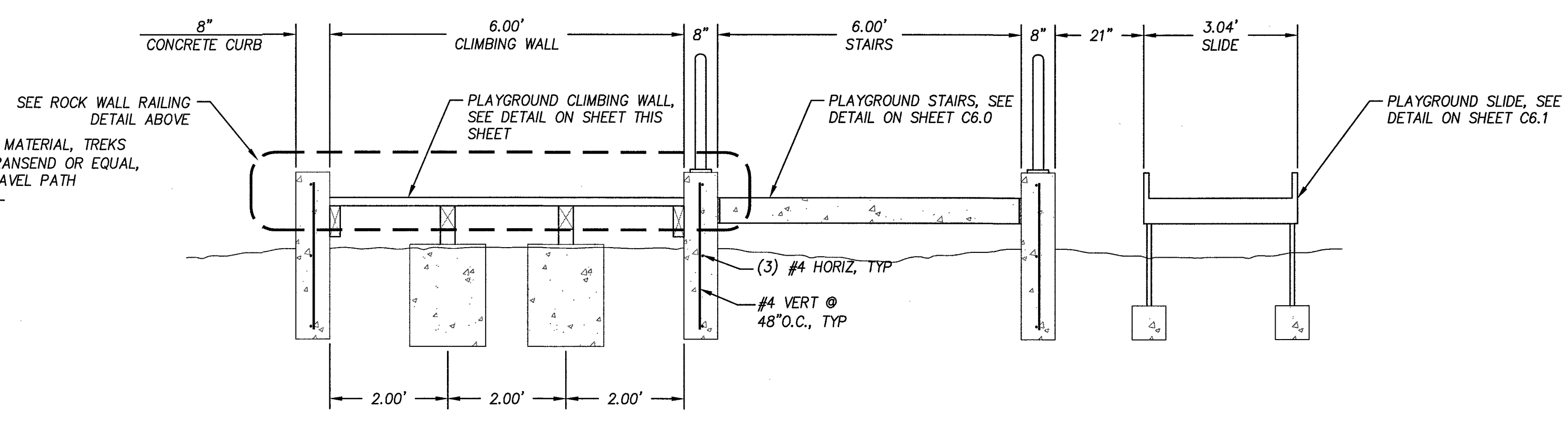
**2**  
DETAIL  
SCALE: 1" = 1'-0"



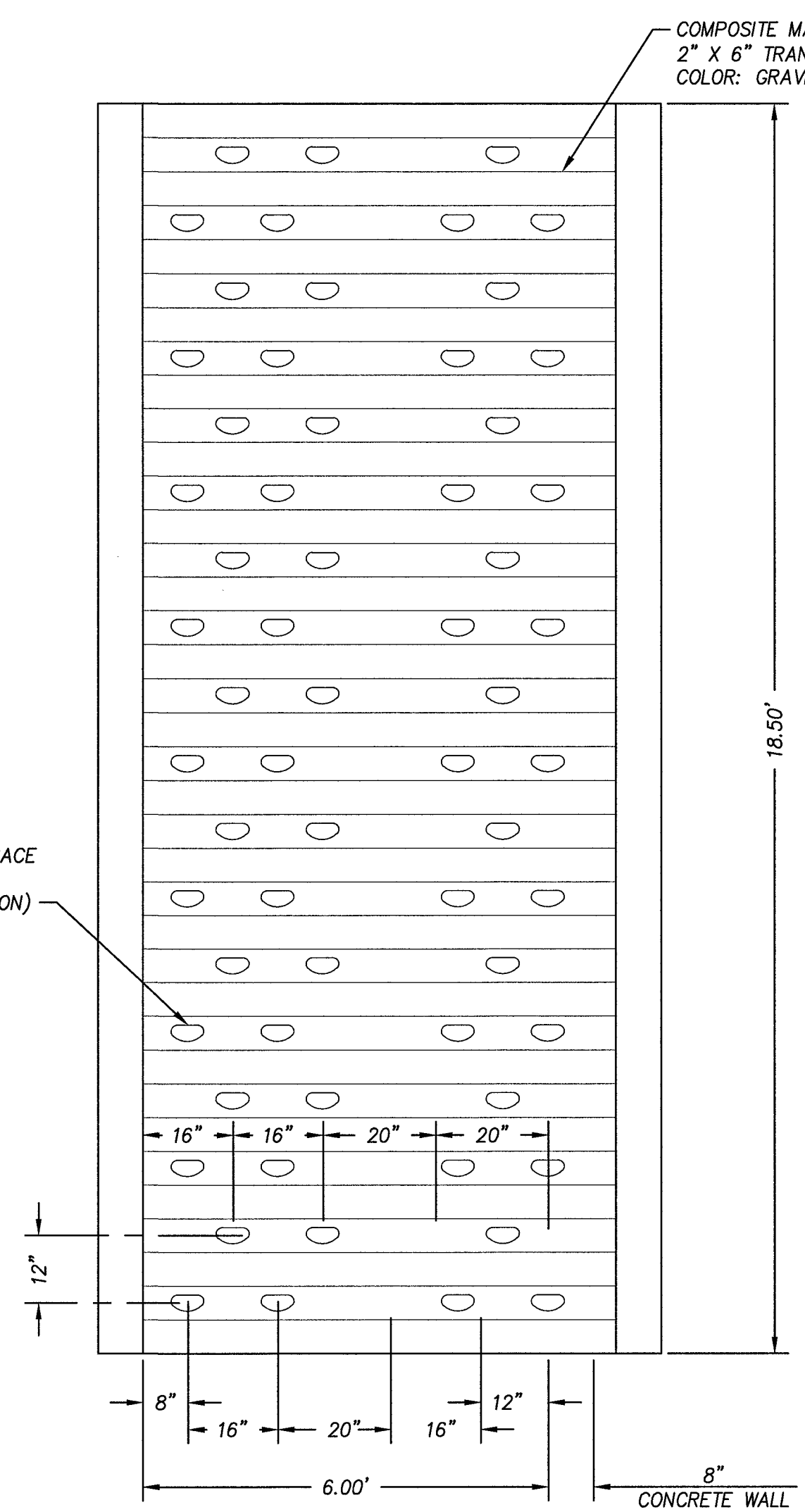
**3**  
DETAIL  
SCALE: 1" = 1'-0"



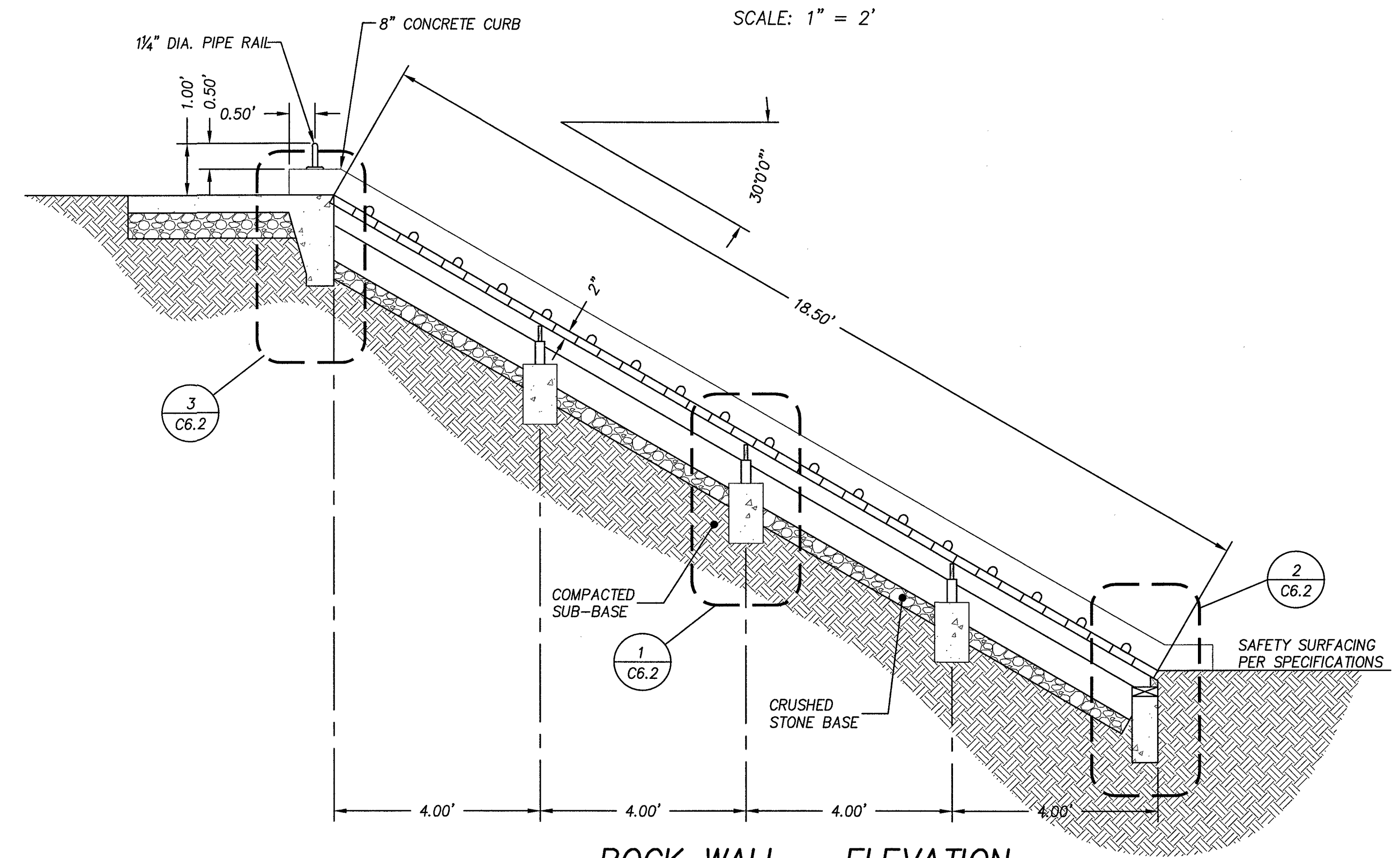
**ROCK WALL RAILING DETAIL**  
SCALE: 1" = 2'



**PLAYGROUND SECTION**  
SCALE: 1" = 2'



**CLIMBING WALL - PLAN**  
SCALE: 1" = 2'



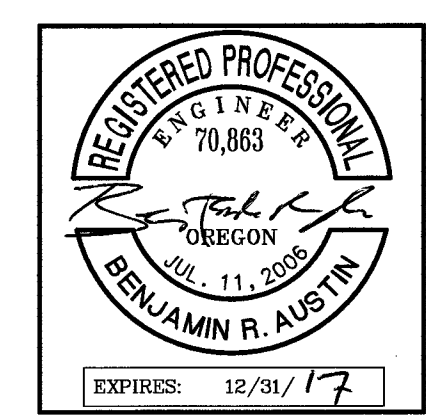
**ROCK WALL - ELEVATION**  
SCALE: 1" = 2'

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHETS)\SHR13-C4 PLAYGROUND DETS.dwg

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

DATE	NO.	DESCRIPTION
REVISIONS		



**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**PLAYGROUND DETAIL - ROCK WALL**  
**WOODHAVEN PARK PHASE 2**  
SHERWOOD, OREGON

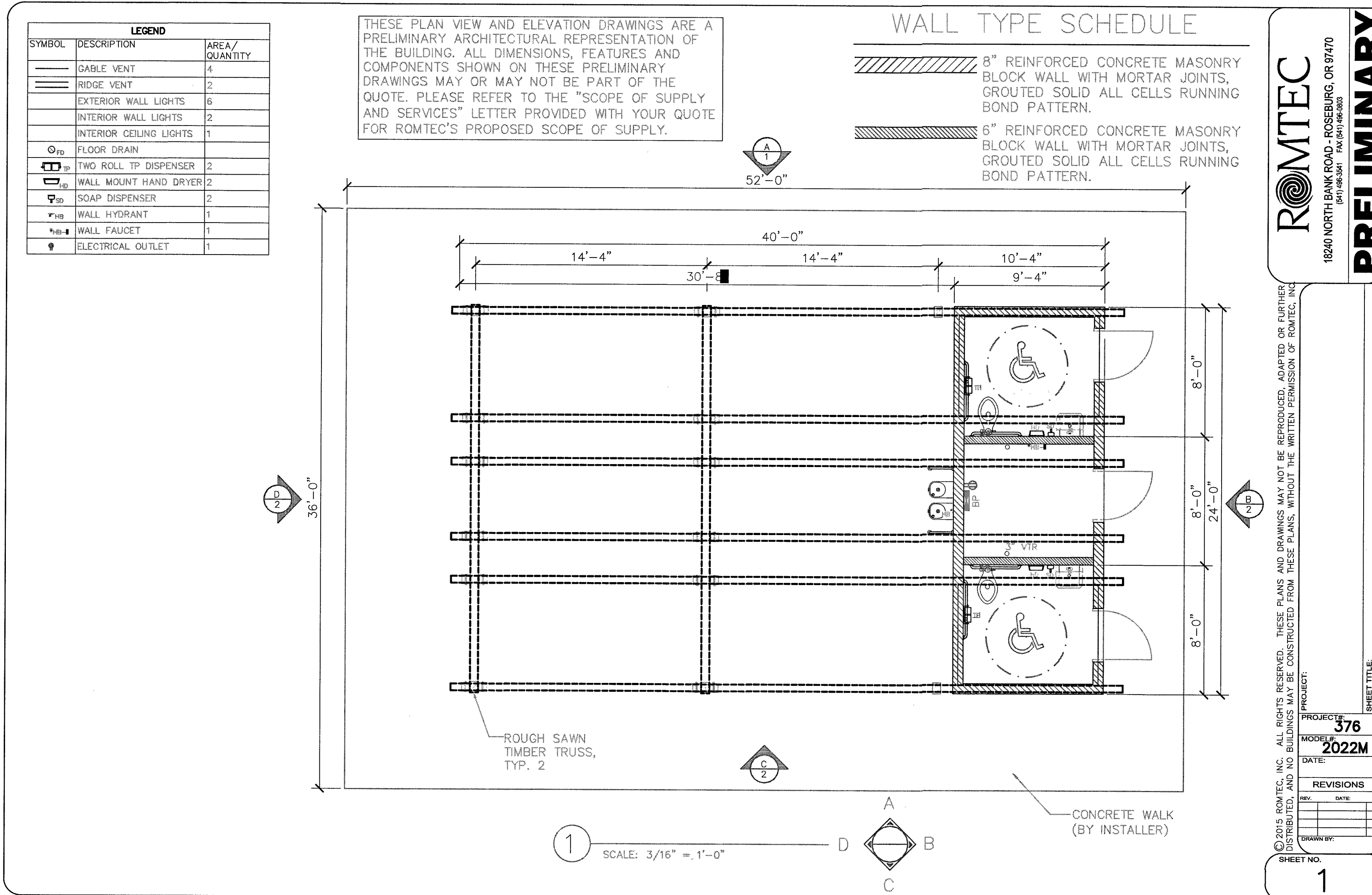
**BID SET**

SHEET NO.  
**C6.2**

JOB NO.  
SHR-13



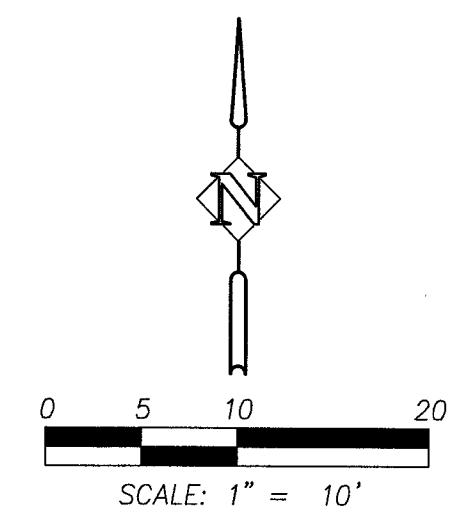
P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S\SHR13-C4-ROMTEC.dwg



**ROMTEC**  
 18240 NORTH BANK ROAD - ROSEBURG, OR 97470  
 (503) 685-8888 FAX (503) 685-8883

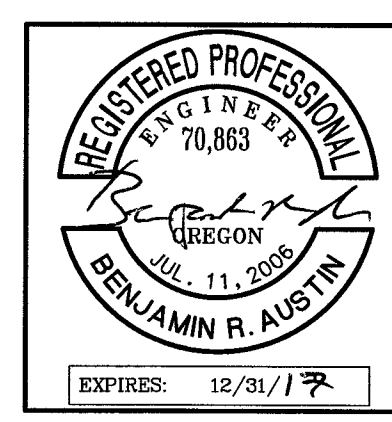
**PRELIMINARY**

© 2015 ROMTEC, INC. ALL RIGHTS RESERVED. THESE PLANS AND DRAWINGS MAY NOT BE REPRODUCED, ADAPTED OR FURTHER DISTRIBUTED, AND NO BUILDINGS MAY BE CONSTRUCTED FROM THESE PLANS, WITHOUT THE WRITTEN PERMISSION OF ROMTEC, INC.



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



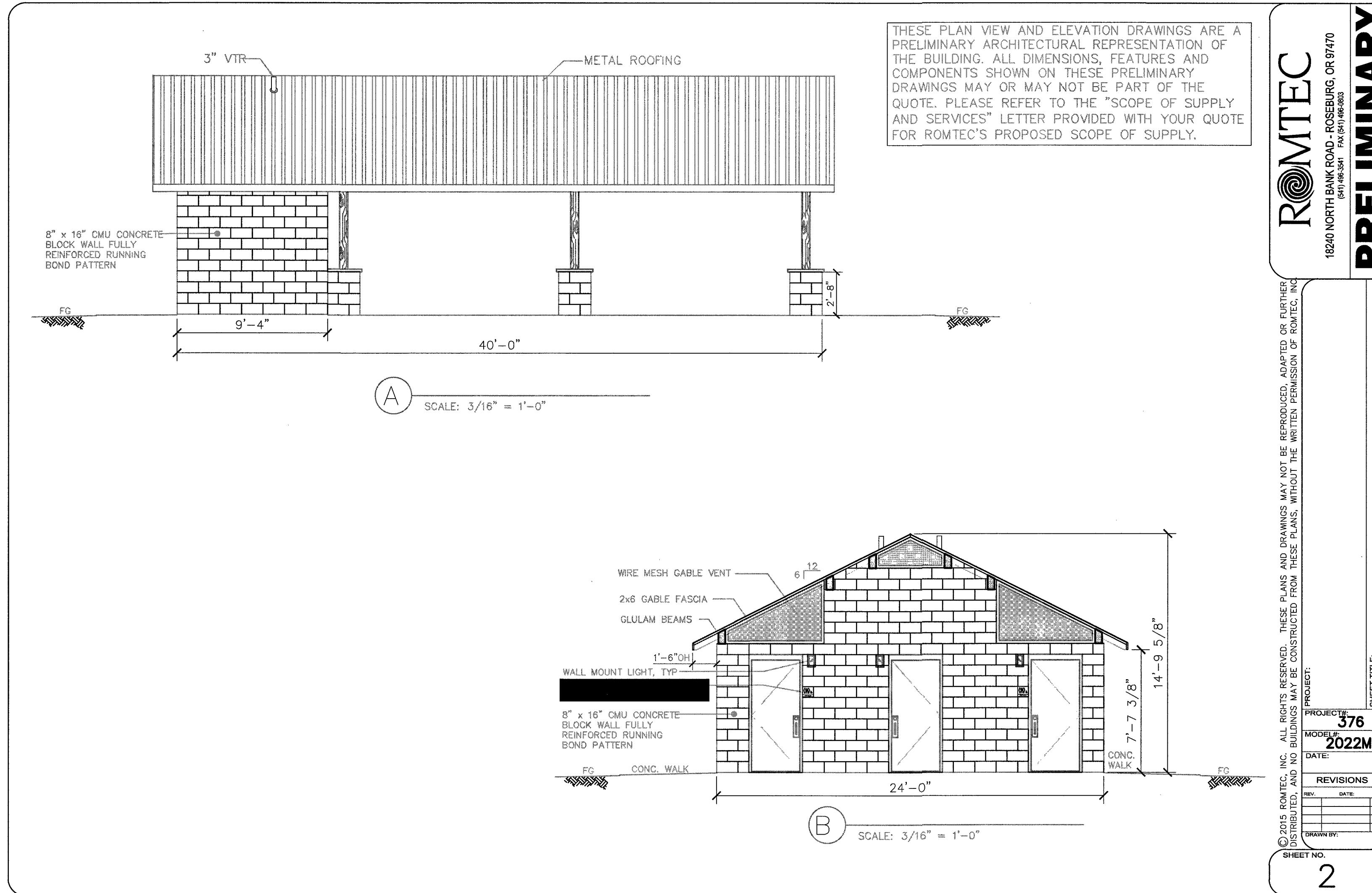
**HHPR** Harper Houf Peterson Righellis Inc.  
 ENGINEERS+PLANNERS  
 LANDSCAPE ARCHITECTS+SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

ROMTEC PAVILLION DETAIL 1 OF 3  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

SHEET NO. C6.3  
 JOB NO. SHR-13

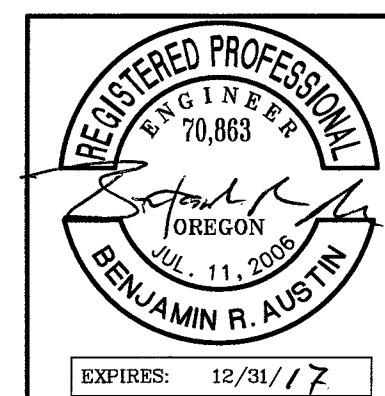
**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHEETS)\SHR13-C4 ROMTEC.dwg



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

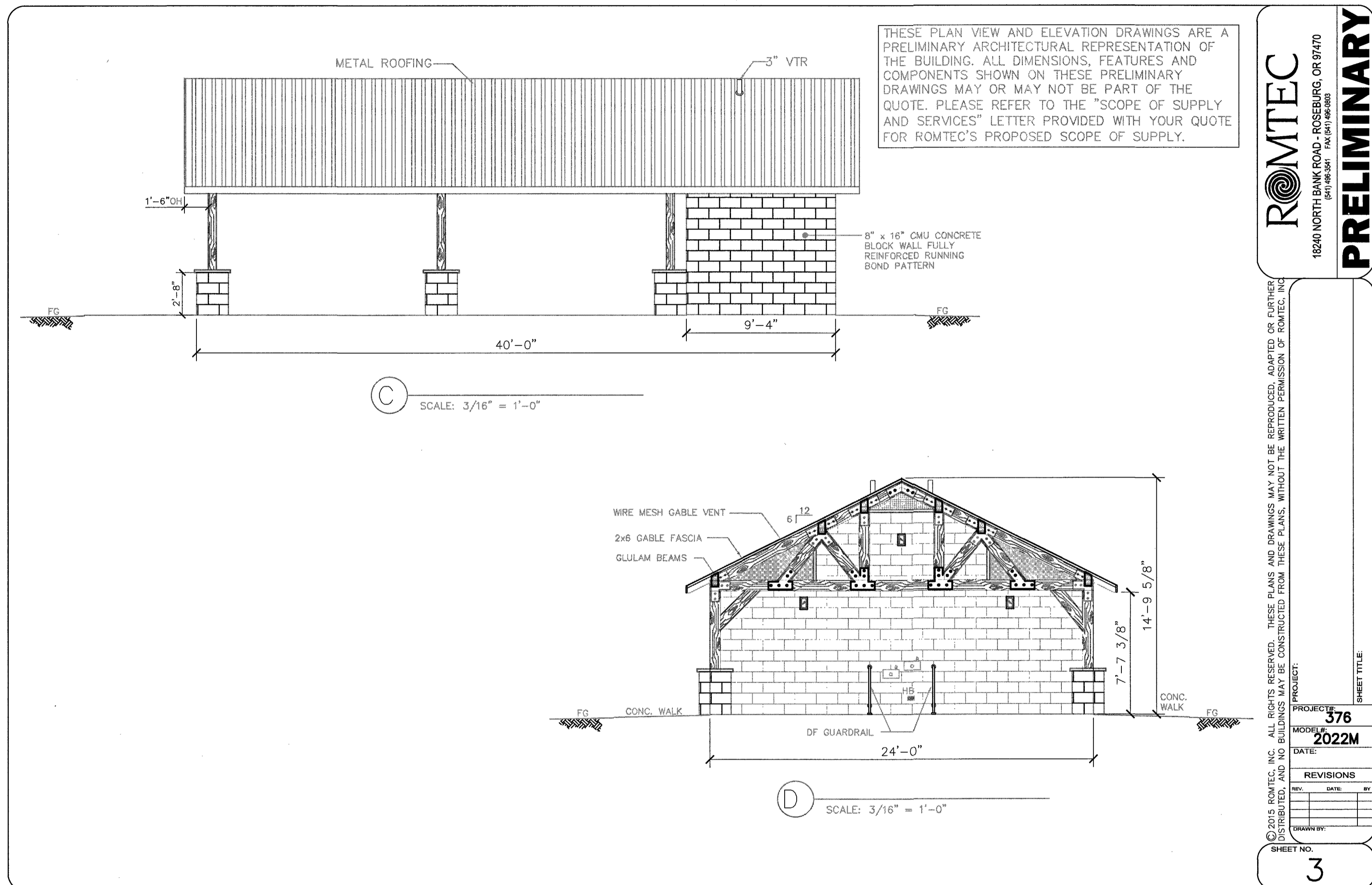
ROMTEC PAVILLION DETAIL 2 OF 3  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON

SHEET NO. C6.4  
JOB NO. SHR-13

**BID SET**



P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SHEETS\SHR13-C4 ROMTEC.dwg



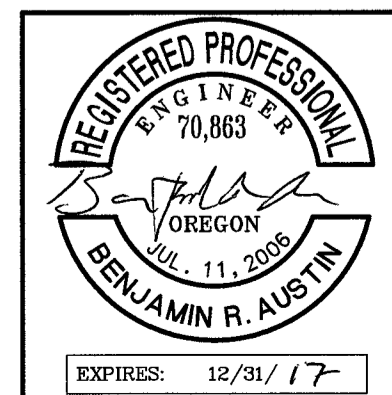
**ROMTEC**  
18240 NORTH BANK ROAD - ROSEBURG, OR 97470  
(503) 666-3361 FAX (503) 666-6660

**PRELIMINARY**

PROJECT: 376  
MODEL: 2022M  
DATE: \_\_\_\_\_  
REVISIONS  
REV. DATE BY  
DRAWN BY: \_\_\_\_\_  
SHEET NO. 3

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016

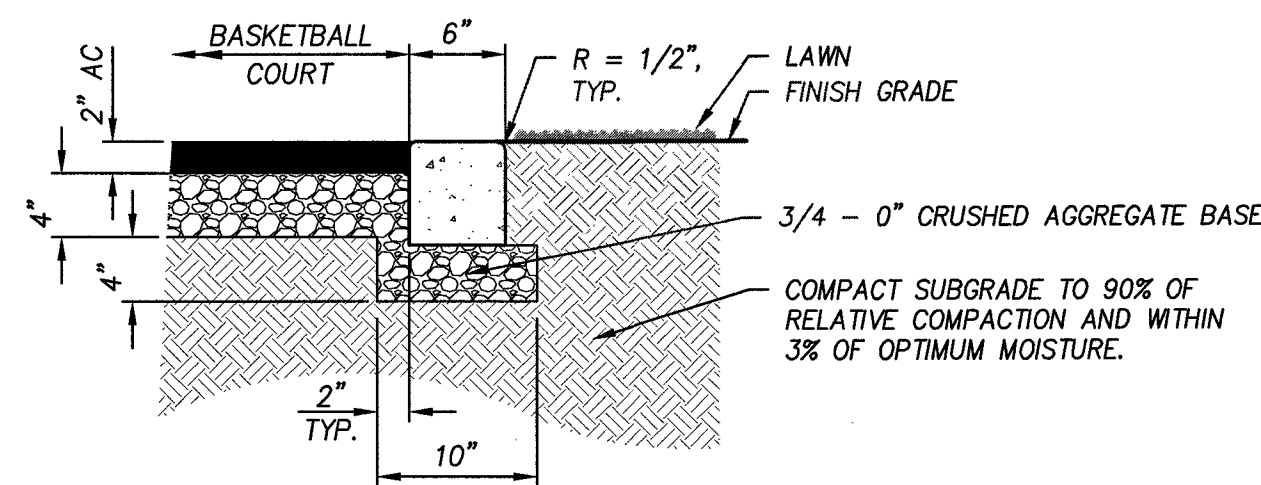


**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**ROMTEC PAVILLION DETAIL 3 OF 3**  
**WOODHAVEN PARK PHASE 2**  
SHERWOOD, OREGON

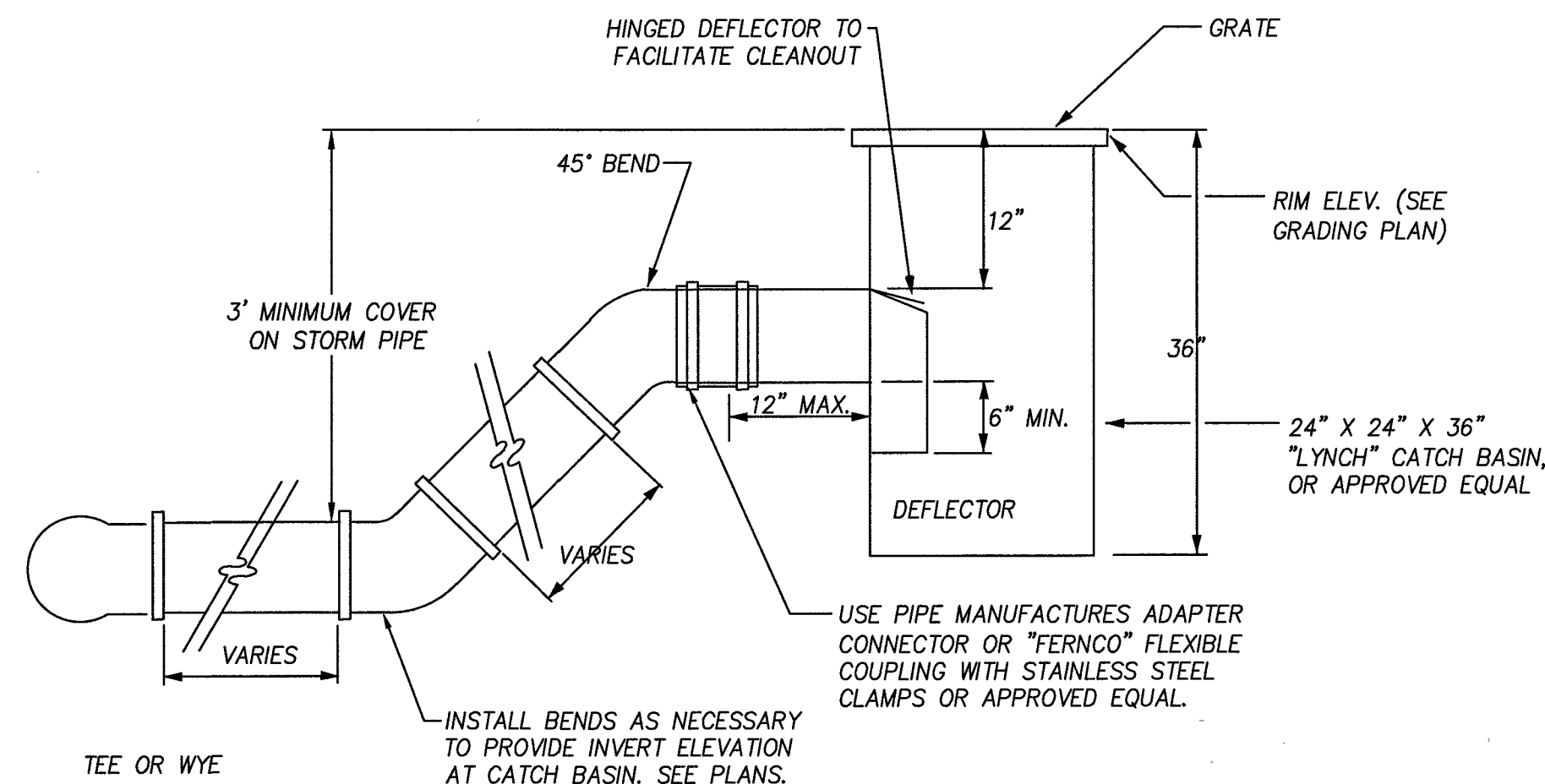
SHEET NO. **C6.5**  
JOB NO. SHR-13

**BID SET**

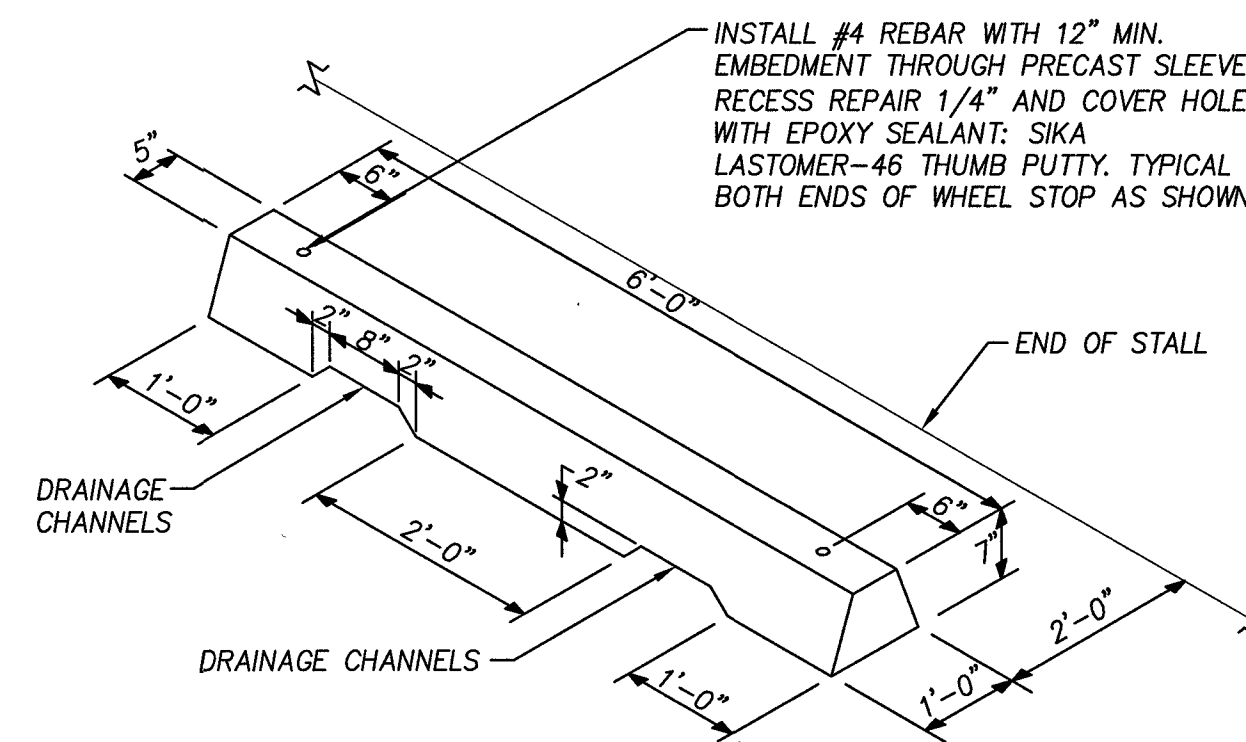


- NOTE:**
1. PROVIDE WEAKENED PLANE JOINTS 1" DEEP AT 5'-0" O.C.
  2. PROVIDE EXPANSION JOINTS AT 10'-0" INTERVALS AND WHERE JOINS CONCRETE WALK.
  3. BROOM FINISH

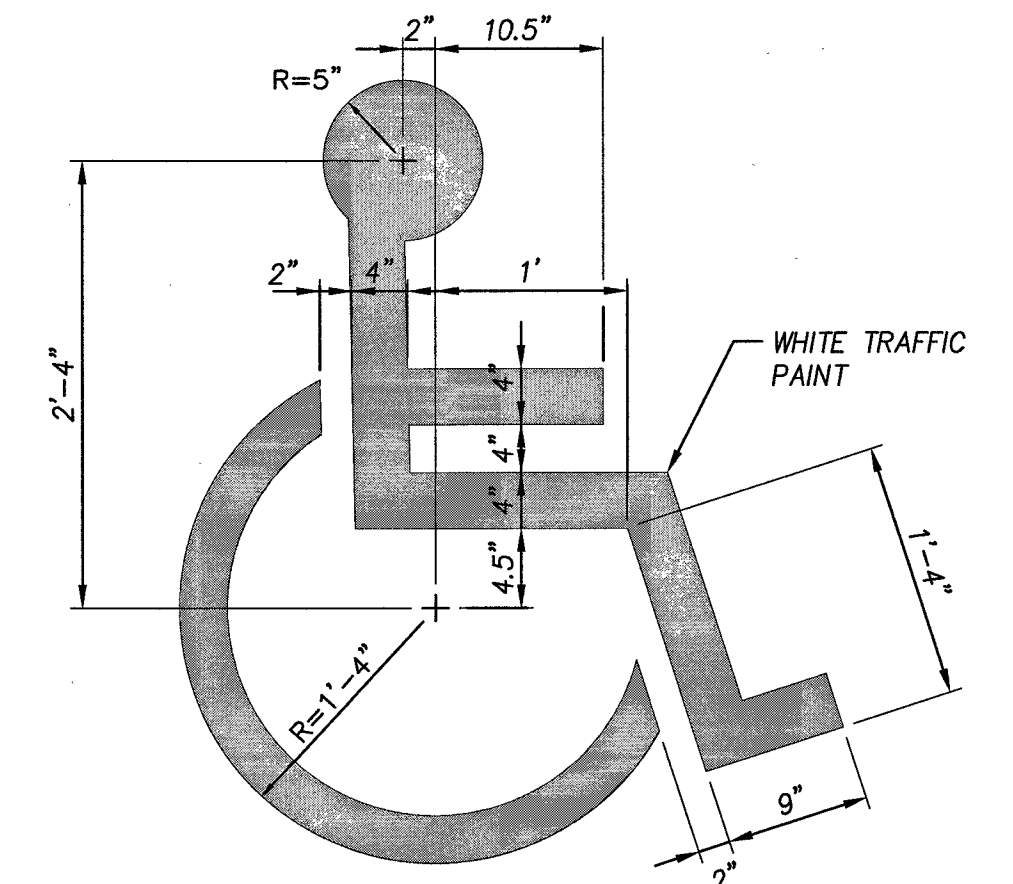
**CONCRETE MOW STRIP**  
N.T.S.



**CATCH BASIN - LYNCH**  
N.T.S.



**PRECAST CONCRETE WHEEL STOP**  
N.T.S.



- NOTES:**
1. SYMBOL AND PAINT SHALL MEET CURRENT A.D.A. ACCESSIBILITY GUIDELINE REQUIREMENTS.
  2. SYMBOL SHALL HAVE A BLUE BACKGROUND MEETING CURRENT A.D.A. ACCESSIBILITY GUIDELINE REQUIREMENTS.

**ACCESSIBLE PARKING SYMBOL**  
N.T.S.

**TYPE CL-6**  
For runs of fence of 20' or less, omit truss rod and install lower brace rail in alternate position at End and Corner Posts.

**TYPE CL-6R**  
\* See general note 8

**TYPES CL-4 & CL-5**

**TYPES CL-4R & CL-5R**

**GATES**  
\* See general note 8

TYPE	D min. (in)	D <sub>1</sub> min. (in)	F nom. (in)
CL-4	30	24	48
CL-5	36	36	60

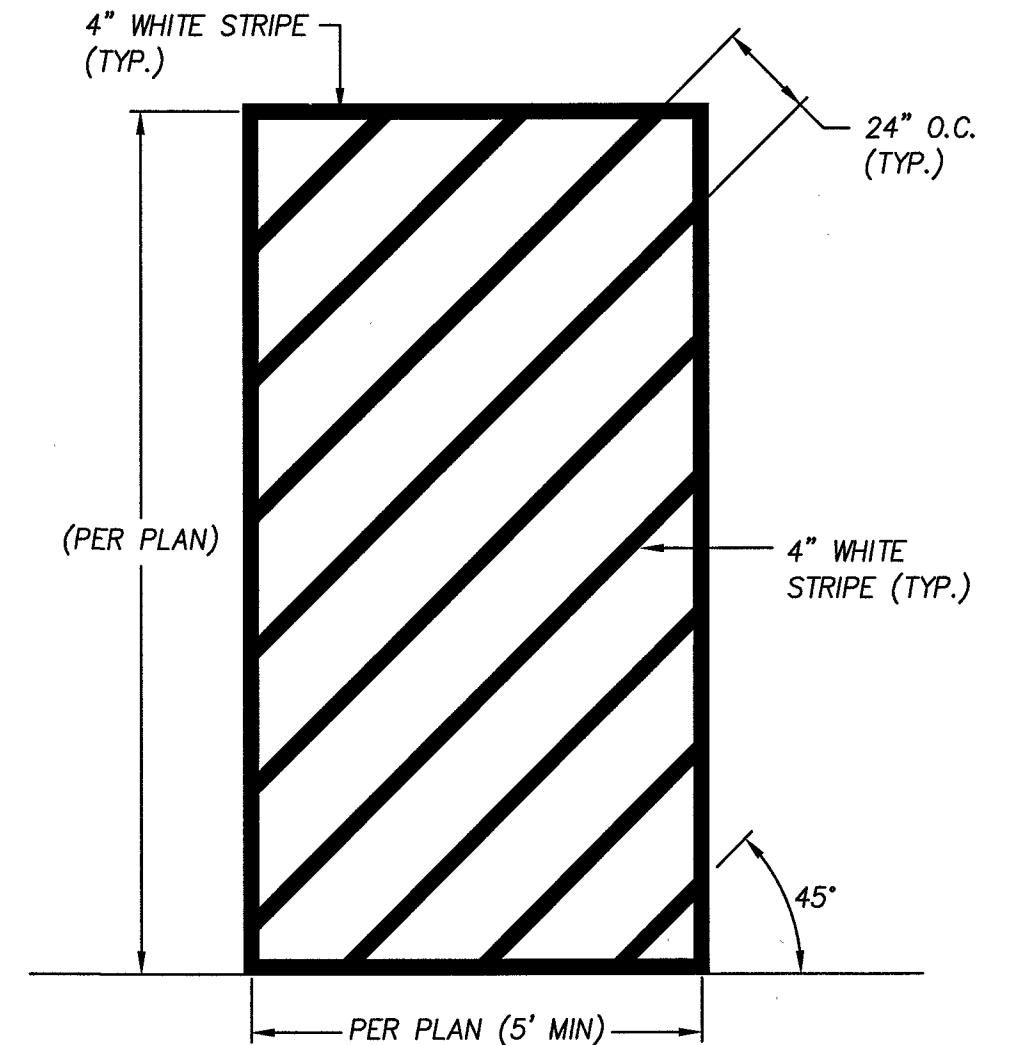
**TABLE 1**

TYPE	MEMBER				GATE OPENING (ft)		GATE POSTS	
	BRACE AND TOP RAILS		LINE POSTS		SINGLE GATE		DOUBLE GATE	
CL-4 & CL-4R	1 1/2"	1 1/2"	1 1/2"	1 1/2"	6	12	2 1/2"	2 1/2"
CL-5 & CL-5R	1 1/2"	1 1/2"	1 1/2"	1 1/2"	7	13	4	3 1/2"
CL-6 & CL-6R	1 1/2"	2"	2"	2"	14	18	6"	6"

**GENERAL NOTES FOR ALL DETAILS:**

1. Do not use top rail where fence can be struck by an errant vehicle.
2. Fittings shown are illustrative of use and not specific as to design.
3. Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for a single gate installation of the wider gate width.
4. For cross sectional dimensions of members, see Table 1.
5. Posts and rails with sections not shown that meet the requirements of AASHTO M181 are acceptable alternates. See ODOT's QPL for acceptable alternates.
6. All concrete shall be commercial grade concrete.
7. All chain link fabric top and bottom selvage shall be knuckled finish.
8. Chain link fabric for the fence to be installed with pickets shall be 9 gauge wire woven in 3/4" by 5/8" diamond mesh.

**OREGON STANDARD DRAWINGS**  
CHAIN LINK FENCE  
2015



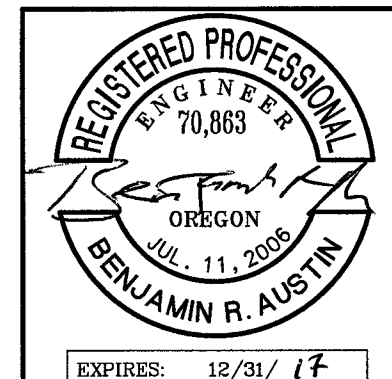
- STRIPING NOTES:**
- ALL PARKING LOT STRIPING SHALL BE PAINT.
- TRAFFIC MARKING PAINT SHALL BE INDUSTRY STANDARD: ASSHTO M-248, TYPE 3F
- ACCEPTABLE TRAFFIC PAINTS:  
FULLER O'BRIEN: TRAFFIC LINE PAINT, 382-12  
GENERAL: TRU-TEST SUPREME ZONE MARKING PAINT, 1010 WHITE AND 1012 YELLOW  
PPG INDUSTRIES: PITTSBURG TRAFFIC AND ZONE MARKING PAINT 22 LINE, WHITE AND YELLOW  
RODDA: TRAFFIC PAINT, WHITE 671 AND YELLOW 670  
SHERWIN WILLIAMS: WHITE B29 W1 AND YELLOW B29 Y2

**ACCESSIBLE STALL STRIPING**  
N.T.S.

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR-13-DWG(S)\SHEET(S) SHR-13-C-DETAILS.dwg

DATE	NO.	DESCRIPTION

DESIGNED: BRA  
DRAWN: TDF  
CHECKED: BRA  
DATE: APRIL 2016



**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

STANDARD DETAILS  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON

SHEET NO.  
**C6.6**  
JOB NO.  
SHR-13

**BID SET**



P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SHEETS\SHR13-C-DETAILS.dwg

**STANDARD VERTICAL CURB**

FACE OF CURB  
WIDTH OF STREET  
1" RADIUS  
2" RADIUS  
AC PAVEMENT  
BASE COURSE

**NOTES:**

- VERTICAL CURB TO BE USED AT MEDIANS AND MEDIAN PLANTING STRIPS, OR IN REPLACEMENT OF DAMAGED EXISTING VERTICAL CURBS.
- FOR DESIGN SPEEDS GREATER THAN 40 MPH, USE STANDARD CURB AND GUTTER (SEE STD DET RD-22).
- CONCRETE SHALL BE COMMERCIAL MIX, MIN. COMPRESSIVE STRENGTH OF 3300 PSI AT 28 DAYS.
- EXPANSION JOINTS:
  - TO BE PROVIDED:
    - AT EACH POINT OF TANGENCY OF THE CURB.
    - AT EACH COLD JOINT.
    - AT EACH SIDE OF INLET STRUCTURES.
    - AT EACH END OF DRIVEWAYS.
    - AT LOCATIONS NECESSARY TO LIMIT SPACING TO 49 FEET.
  - MATERIAL TO BE PRE-MOLDED, ASPHALT IMPREGNATED, NON-EXTRUDING, WITH A THICKNESS OF 1/2 INCH.
- CONTRACTION JOINTS:
  - SPACING TO BE NOT MORE THAN 15 FEET.
  - THE DEPTH OF THE JOINT SHALL BE AT LEAST 1 1/2".
- BASE ROCK: 3/4"-0", COMPACTED TO 95% MAX DENSITY. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURE OR 4" IN DEPTH, WHICHEVER IS GREATER.

STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD VERTICAL CURB	RD-21
SCALE	DATE
N.T.S.	JUL'09

**SIDEWALK WITH PLANTER STRIP (FOR ALL NEW CONSTRUCTION)**

5' PLANTER STRIP  
SLOPE TO STREET 2%  
6" TO 8" SIDEWALK  
R/W  
1" MAX  
13'-1" MAX  
4" AC  
SEE NOTE 5  
STERILIZE AND COMPACT SUBGRADE  
4" OF 3/4"-0" BASE ROCK  
COMPACTED TO 90% MAX DENSITY

**CURB-TIGHT SIDEWALK (TO BE USED WITH VARIANCE ONLY)**

6" TO 8" SIDEWALK  
SLOPE TO STREET 2% MAX  
12'-1" MAX  
4" AC  
SEE NOTE 5  
4" OF 3/4"-0" BASE ROCK  
COMPACTED TO 90% MAX DENSITY

**NOTES:**

- CONCRETE SHALL BE COMMERCIAL MIX, MIN. COMPRESSIVE STRENGTH OF 3300 PSI @ 28 DAYS, WITH A SLUMP RANGE OF 12" MIN. TO 3" MAX.
- SIDEWALK PANELS TO BE SQUARE (5' LONG x 5' WIDE TYP.).
- EXPANSION JOINTS TO BE PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, CURB RAMPS, AND/OR POINTS OF TANGENCY IN CURB AS SHOWN ON THE STANDARD DRAWINGS FOR SIDEWALK RAMPS, AND AT SPACING NOT TO EXCEED 45'.
- FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT THE SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MINIMUM 1/2" RADIUS.
- SIDEWALKS SHALL HAVE A MINIMUM THICKNESS OF 4". IF MOUNTABLE CURB IS USED, OR IF SIDEWALK IS INTENDED AS PORTION OF A RESIDENTIAL DRIVEWAY IT SHALL HAVE A 6" MINIMUM THICKNESS, COMMERCIAL 5".
- CONCRETE SHALL HAVE A BROOM FINISH, ALL JOINTS SHALL BE EDGED WITH 3" SHINE.
- WIDTH OF PLANTER STRIP AND SIDEWALK IS MEASURED FROM FACE OF CURB.
- IF DRAIN BLOCKOUTS IN CURBS ARE APPROVED, THEY SHALL BE EXTENDED PERPENDICULAR TO CURB TO 1" PAST BACK OF SIDEWALK WITH A 3" DIAMETER ADS PIPE. CONTRACTION JOINT SHALL BE PLACED OVER PIPE.

STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD SIDEWALK DETAIL	RD-26
SCALE	DATE
N.T.S.	JUL'09

**STANDARD COMMERCIAL DRIVEWAY DETAIL**

SIDEWALK WITH PLANTER STRIP (STANDARD)  
15' MIN - 40' MAX DRIVEWAY  
EXPANSION JOINT  
6" SIDEWALK  
6" x 6" x 10 GA MESH  
VARIES  
SCORING INTERVAL 5" TYP.  
3/4" DEEP SCORING REQUIRED  
6" MIN  
FACE OF CURB  
1/2" EXPOSURE  
USE EXIST EXPANSION JOINT OR SAWCUT AND PLACE COLD JOINT (TYP.)

**SECTION A-A**

SLOPE VARIES 1:12 (8.33%) MAX.  
CURB & SIDEWALK BEYOND  
6" SIDEWALK  
PRIVATE DRIVEWAY  
SLOPE 2% MAX  
1/2" LIP  
4" OF 3/4"-0" BASE ROCK  
6" x 6" x 10 GA MESH EMBEDDED 1/2" FROM BASE

**SECTION B-B**

6" SIDEWALK  
PRIVATE DRIVEWAY  
SLOPE 2% MAX  
1/2" LIP  
4" OF 3/4"-0" BASE ROCK  
6" x 6" x 10 GA MESH EMBEDDED 1/2" FROM BASE

**NOTES:**

- CONCRETE SHALL HAVE 8" MINIMUM DEPTH AND A COMPRESSIVE STRENGTH OF 4000 PSI @ 28 DAYS.
- CURB JOINT SHALL BE A TROWELED JOINT WITH A MINIMUM 1/2" RADIUS ALONG BACK OF CURB.
- EXPANSION JOINTS SHALL BE 1/2" PRE-MOLDED ASPHALT IMPREGNATED MATERIAL, CEDAR OR EQUIVALENT EXTENDING FROM TOP OF BASE TO FINISHED GRADE.
- CONCRETE SHALL HAVE A BROOM FINISH AND EDGE ALL JOINTS.
- WEEDHOLES ARE NOT TO BE PLACED IN WINDS.
- IF CURBING IS BEING REMOVED TO INSTALL DRIVEWAY AND GUTTER SHOULD BECOME SEPARATED FROM THE DRIVING SURFACE IN EXCESS OF 1/2", THEN THE GUTTER SHALL ALSO BE REMOVED AND REPLACED.
- WINGS OF THE COMMERCIAL DRIVEWAY WHICH ARE A PORTION OF THE SIDEWALK SHALL NOT EXCEED A SLOPE OF 8.33% (1:12).
- DOT STANDARD DRAWINGS FOR COMMERCIAL DRIVEWAYS MAY BE USED WHEN PRE-APPROVED BY CITY ENGINEER.
- SLOPE OF THE DRIVEWAY MAY BE AWAY FROM THE CURB WHEN PRE-APPROVED BY THE CITY ENGINEER.

STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD COMMERCIAL DRIVEWAY DETAIL	RD-42
SCALE	DATE
N.T.S.	JUL'09

**ASPHALT PAVEMENT TRENCH RESTORATION**

NEW EDGE LINE  
SEE NOTE 6  
TACK COAT CUT EDGES  
SEAL SURFACE OVER JOINT WITH TACK MATERIAL AND SAND  
T-CUT WIDTH VARIES (5" - 12")  
SEE NOTES 2 & 3  
EXISTING AC  
EXISTING BASE ROCK  
COMPACTED 3/4"-0" AGGREGATE BASE, CDF OR AS DIRECTED  
EDGE LINE OF EXISTING PATCH, CURB OR EDGE OF STREET  
IF <3" REPLACE SURFACE SEE NOTE 5  
IF <3" REPLACE SURFACE SEE NOTE 6  
COMPACTED TRENCH BACKFILL

**CROSS-SECTION**

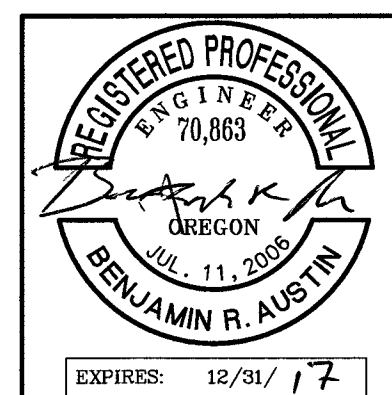
**NOTES:**

- THIS DRAWING APPLIES TO TRENCH CUTS AND OTHER KINDS OF STREET CUTS.
- SEE STD DET RD-20 FOR TYPICAL STREET PAVEMENT SECTION.
- T-CUT ASPHALT 6" FOR TRENCHES 12" WIDE OR LESS, ELSE T-CUT IS 12" MINIMUM FOR TRENCHES WIDER THAN 12".
- ON ALL NON-LOCAL STREETS, WIDTH OF T-CUT SHALL BE A MINIMUM OF 3'. ON ALL LOCAL STREETS, WIDTH OF T-CUT SHALL BE A MINIMUM OF 12" PLUS THE TRENCH WIDTH.
- IF NEW EDGE OF PAVEMENT IS LESS THAN 3' FROM ANOTHER PATCH, CURB OR EDGE OF STREET, REPLACE THE PAVEMENT IN BETWEEN.
- IF MORE THAN ONE EXISTING PATCH EDGE IS WITHIN THE 3' ZONE, REMOVE PAVEMENT TO THE FAR EDGE OF THE PRE-EXISTING PATCH.
- NEW EDGE OF PAVEMENT (EDGE LINE) SHALL NOT BE IN A WHEEL PATH. WIDTH OF T-CUT SHALL BE WIDENED WHERE NECESSARY TO MOVE THE EDGE LINE OUT OF THE WHEEL PATH AND EITHER: (A) TO LOCATION THAT IS 6" FROM THE NEAREST LINE OR (B) TO THE LOCATION REQUIRED BY NOTE 3 OR 4 ABOVE AS APPLICABLE, WHICHEVER IS NEAREST OF (A) OR (B).

STANDARD DRAWING TITLE	DRAWING NUMBER
ASPHALT PAVEMENT TRENCH RESTORATION	RD-45
SCALE	DATE
N.T.S.	JUL'09

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



**HHP** Harper Houf Peterson Righellis Inc.

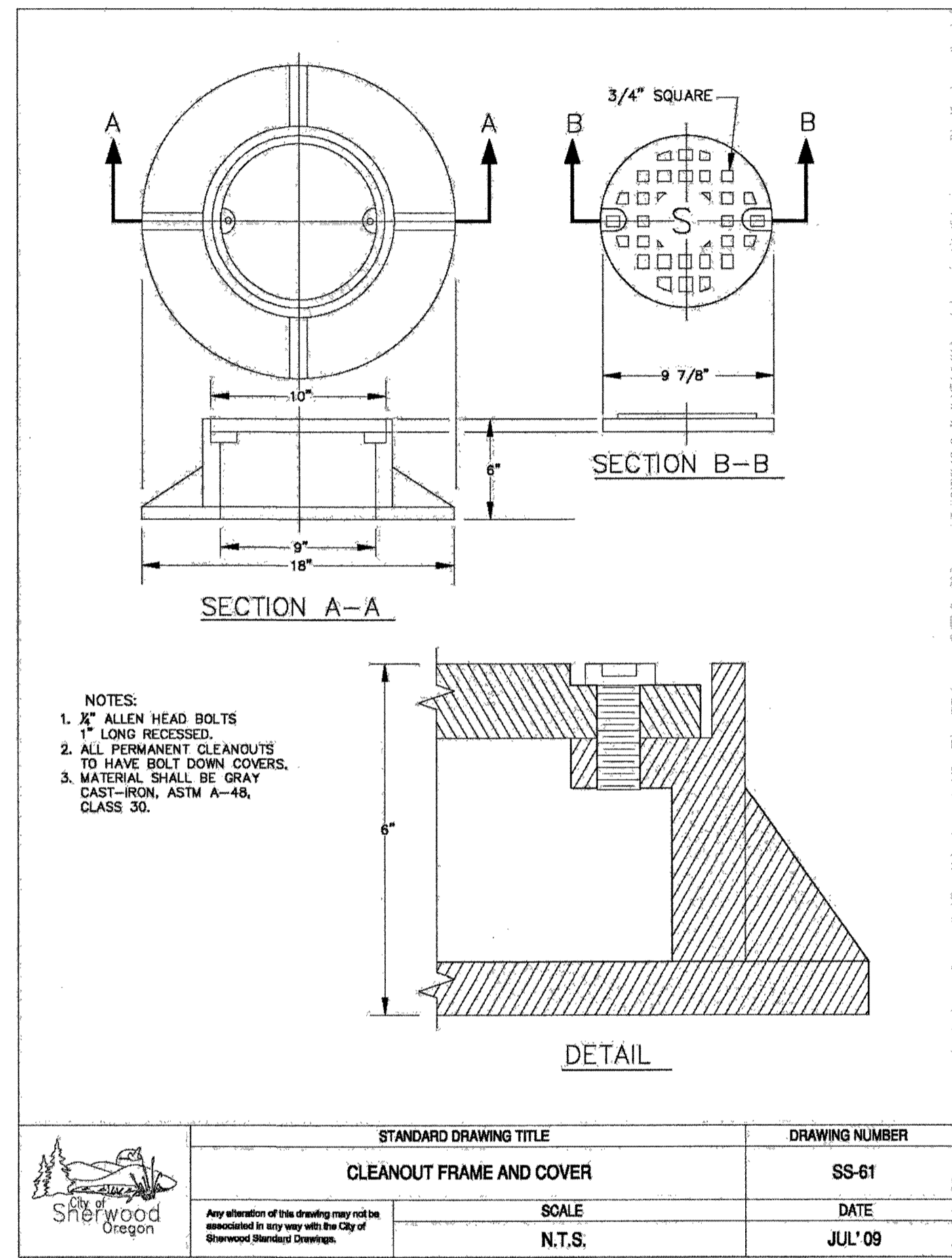
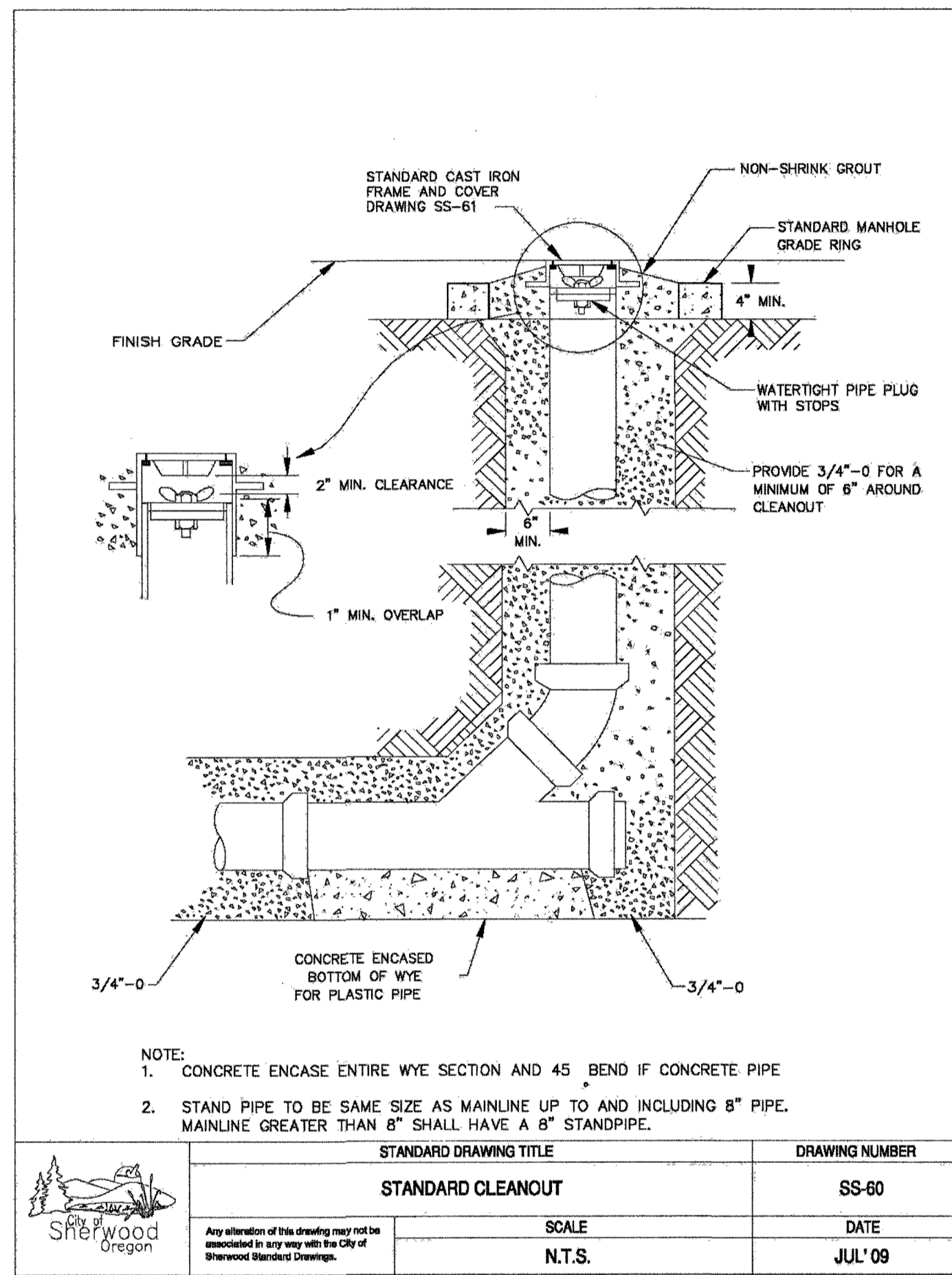
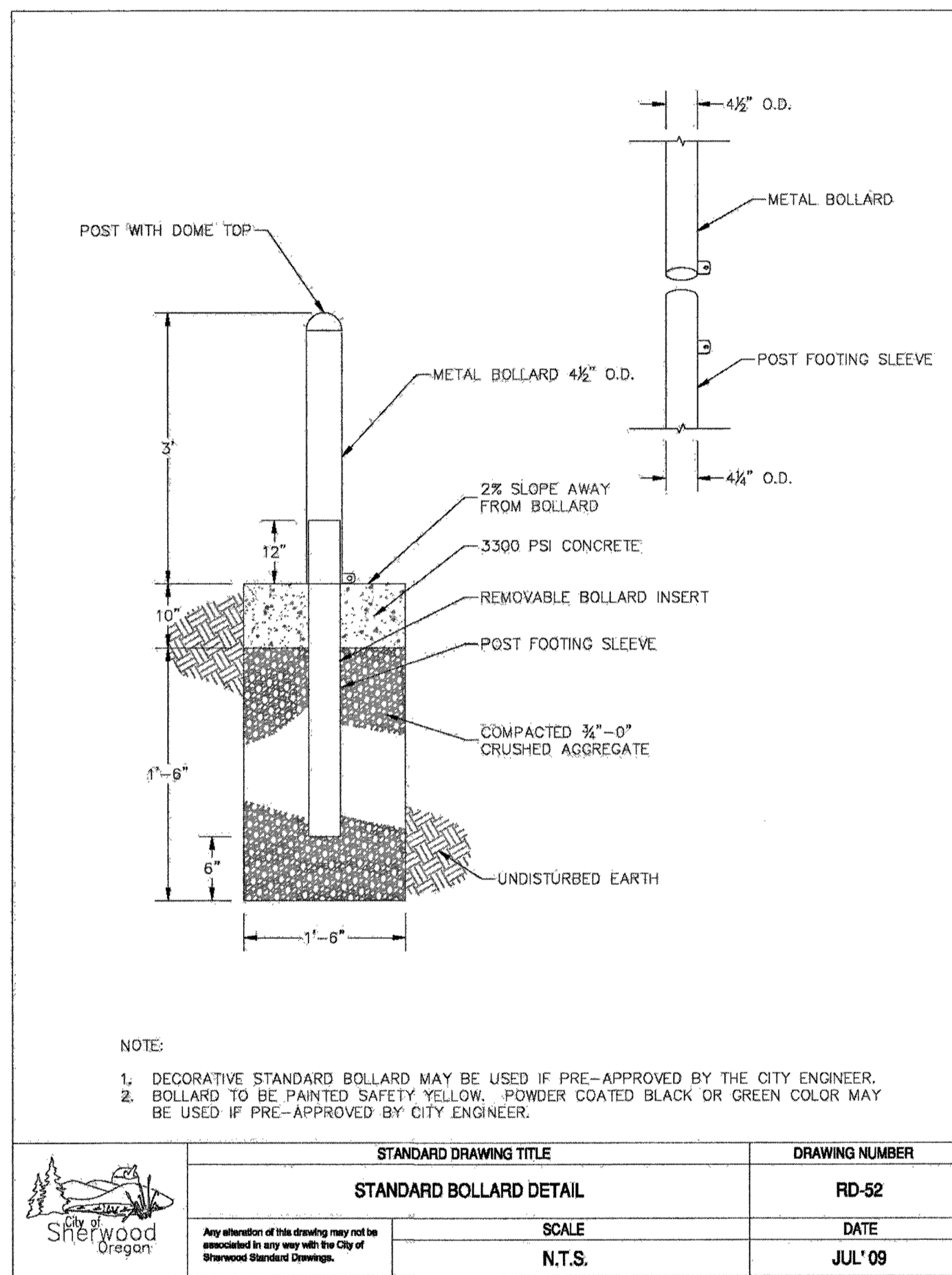
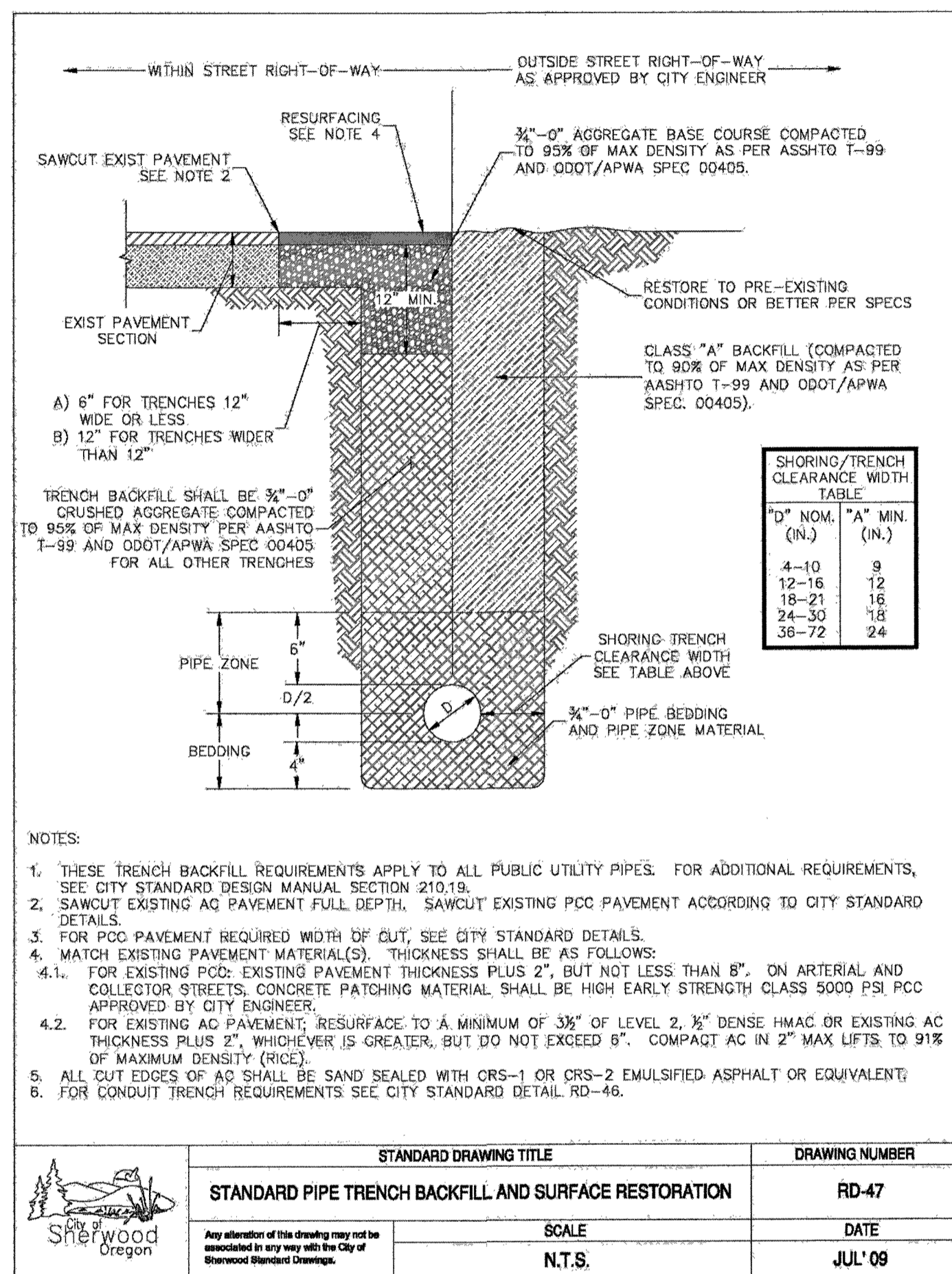
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS

205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

CITY OF SHERWOOD STANDARD DETAILS - 1 OF 3  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON

**BID SET**

SHEET NO.  
**C6.7**  
JOB NO.  
SHR-13



STANDARD DRAWING TITLE		DRAWING NUMBER
STANDARD PIPE TRENCH BACKFILL AND SURFACE RESTORATION		RD-47
SCALE	DATE	
N.T.S.	JUL'09	

STANDARD DRAWING TITLE		DRAWING NUMBER
STANDARD BOLLARD DETAIL		RD-52
SCALE	DATE	
N.T.S.	JUL'09	

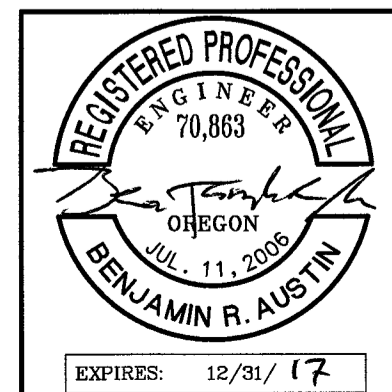
STANDARD DRAWING TITLE		DRAWING NUMBER
STANDARD CLEANOUT		SS-60
SCALE	DATE	
N.T.S.	JUL'09	

STANDARD DRAWING TITLE		DRAWING NUMBER
CLEANOUT FRAME AND COVER		SS-61
SCALE	DATE	
N.T.S.	JUL'09	

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S)\SHEETS\SHR13-C-DETAILS.dwg

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hpr.com fax: 503.221.1171

**CITY OF SHERWOOD STANDARD DETAILS - 2 OF 3**  
**WOODHAVEN PARK PHASE 2**  
 SHERWOOD, OREGON

SHEET NO.  
**C6.8**  
 JOB NO.  
 SHR-13

**BID SET**



P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S)SHEETS\SHR13-C-DETAILS.dwg

1. PVC HUB SHALL CONFORM TO ASTM 3034, SDR 35 DRIVE INTO CENTER OF RUBBER SLEEVE AFTER SLEEVE IS PLACED IN HOLE.

2. STAINLESS STEEL BAND SECURES UPPER HALF OF RUBBER SLEEVE TO THE PVC HUB. STAINLESS STEEL BAND SHALL BE 300 SERIES, 1/4" BAND WIDTH, CADMIUM PLATED, CARBON STEEL, AND ATTACHED WITH HEX HEAD SLOTTED SCREW.

3. COMPLETE RUBBER SLEEVE INCLUDES A MOLDED SEGMENT THAT HOLDS IT IN PLACE.

1. ALL INSERTA-TEE HOLES SHALL BE MACHINE DRILLED AND CORED.  
 2. INSERTA-TEE ARE ALLOWED IN NEWLY CONSTRUCTED SEWER MAINS 12" AND LARGER INSIDE DIAMETER (I.D.).  
 3. SEWER MAIN SHALL BE TWO SIZES (NOMINAL I.D.) LARGER THAN THE INSERTA-TEE.  
 4. HOST PIPE SHALL BE MINIMUM .35" WALL THICKNESS.

STANDARD DRAWING TITLE	DRAWING NUMBER
INSERTA-TEE	SS-63
SCALE	DATE
N.T.S.	JUL'09

TACK ALL EXPOSED MATERIAL PATCH AC TO GREATER OF 3" THICKNESS OR EXISTING

6" MIN. W + 12" MIN. 8" MIN. EXISTING AC

EXISTING BASE ROCK 3/4" - 0 CRUSHED ROCK

PIPE ZONE BEDDING

NOTE:  
 1. TEE CUT TO BE DONE AFTER EXCAVATION AND BACKFILL OF TRENCH.  
 2. SEE STD. DRAWING SS-69 FOR BEDDING, PIPE ZONE, AND TRENCH BACKFILL.

STANDARD DRAWING TITLE	DRAWING NUMBER
T-CUT ASPHALT DETAILS	SS-70
SCALE	DATE
N.T.S.	JUL'09

1'-9" 1'-3 1/2" 10 1/4" METER SIDE CUSTOMER SIDE

PLAN

CARSON METER BOX L SERIES 1419 (OR EQUAL)

1419-6X 24" MIN. 18" 1419-18

1" FEBCO MODEL 805-Y DOUBLE CHECK VALVE ASSEMBLY (OR EQUAL)

1" UNION EACH SIDE 6" MIN. 6" MIN. CRUSHED ROCK BASE

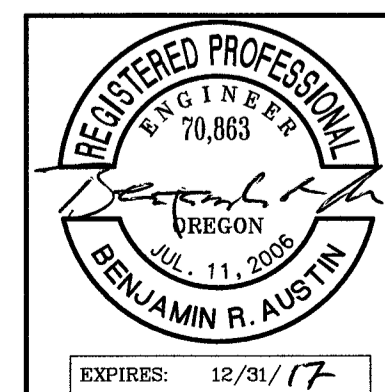
PROFILE

NOTE:  
 INSTALLATION SHOWN IS ONLY A SUGGESTION. THE DISTANCE FROM BOTTOM OF DEVICE TO FINISH GRADE, FREEZE PROTECTION, AND CLEARANCE FOR TESTING & REPAIR ARE THE MAJOR CONSIDERATIONS FOR INSTALLATION. PLUGS TO BE INSTALLED IN TEST COCKS OF BELOW GROUND INSTALLATIONS (NO DISSIMILAR METALS).  
 IF ADEQUATE FREEZE PROTECTION IS PROVIDED, THE 24" MIN CLEARANCE MAY BE REDUCED.

STANDARD DRAWING TITLE	DRAWING NUMBER
1" DOUBLE CHECK ASSEMBLY	W-72
SCALE	DATE
N.T.S.	JUL'09

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



**HHPR** Harper Houf Peterson Righellis Inc.

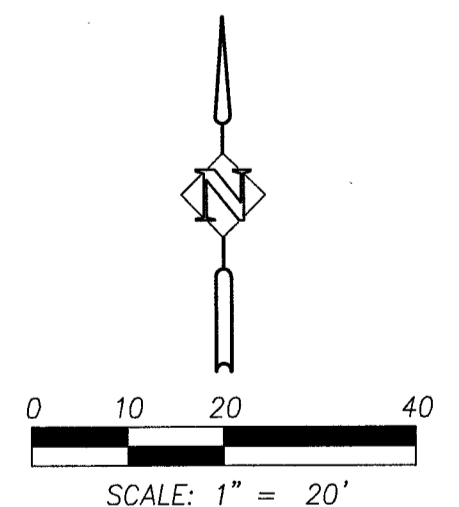
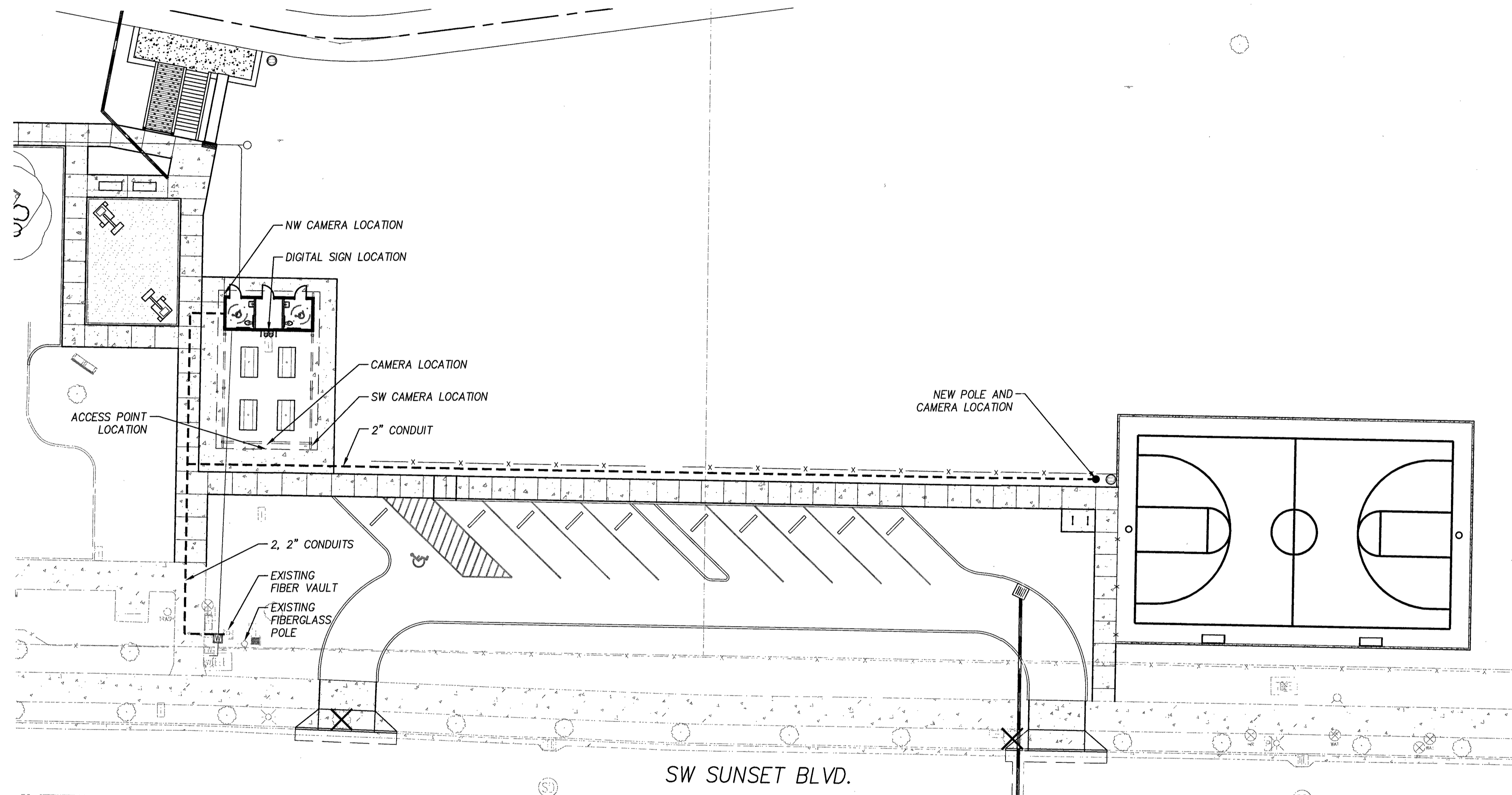
ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS

205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

CITY OF SHERWOOD STANDARD DETAILS - 3 OF 3  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

**BID SET**

SHEET NO.  
**C6.9**  
 JOB NO.  
 SHR-13

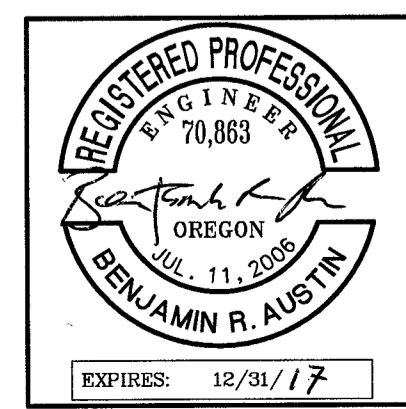


P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SHEETS\SHR13-C7\_0.dwg

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	TDF
CHECKED:	BRA
DATE:	APRIL 2016



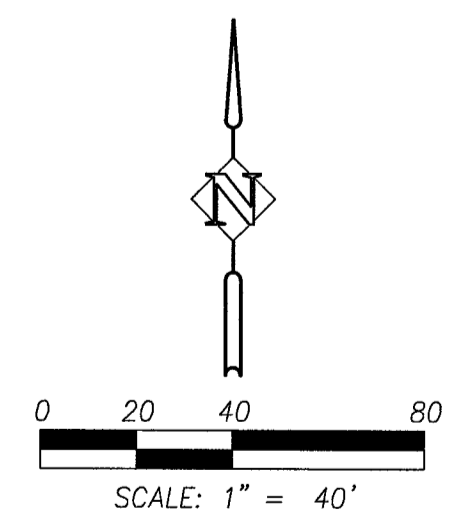
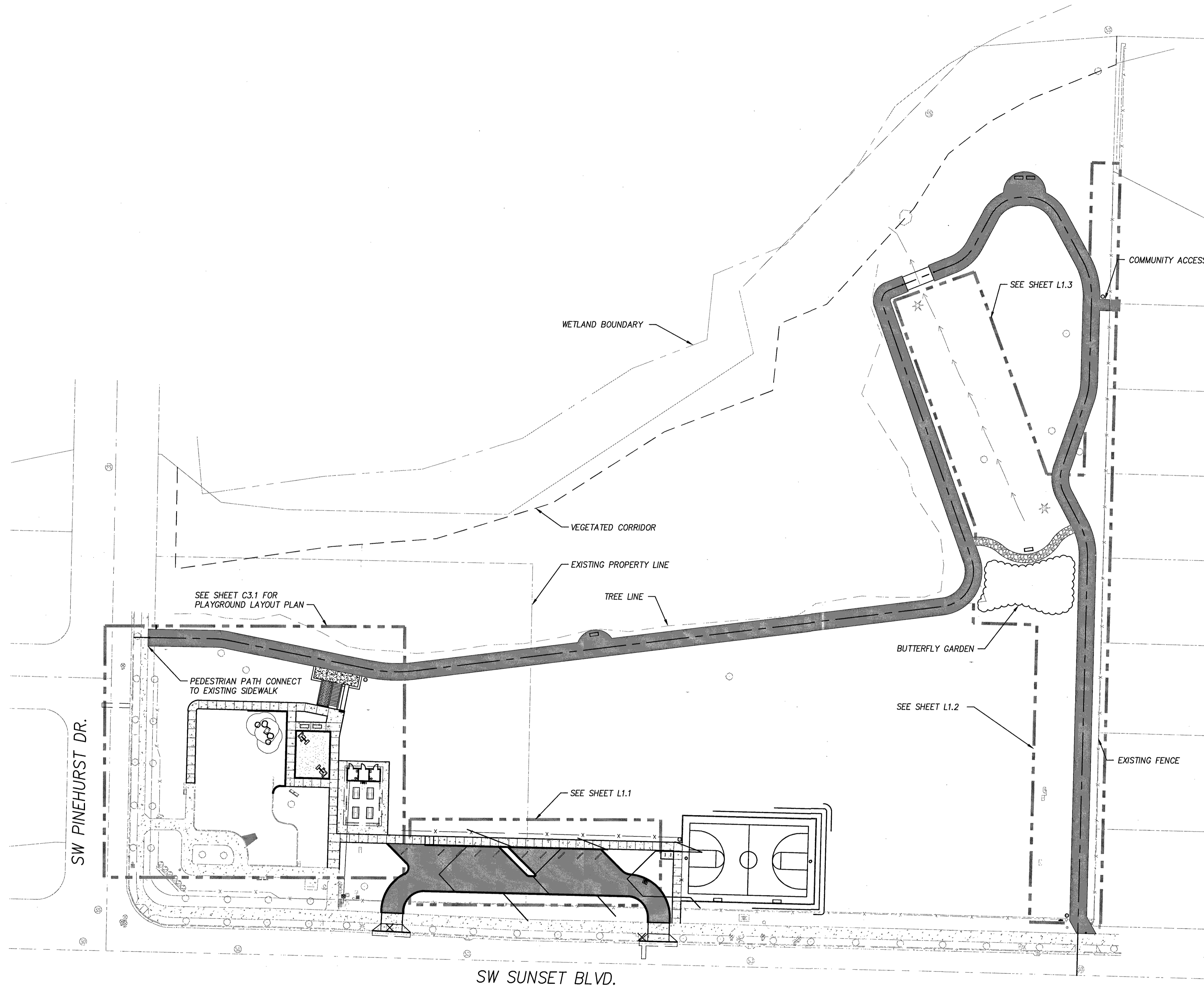
**HHPR** Harper Houf Peterson Righellis Inc.  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**SITE SECURITY AND I.T.  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON**

SHEET NO. <b>C7.0</b>
JOB NO. SHR-13

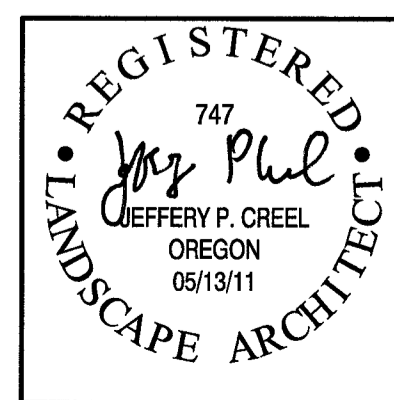
**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHEETS)\SHR13-L1\_0.dwg



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	SWB / JPC
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016



**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**OVERALL PARK PLANTING - KEY MAP**  
**WOODHAVEN PARK PHASE 2**  
 SHERWOOD, OREGON

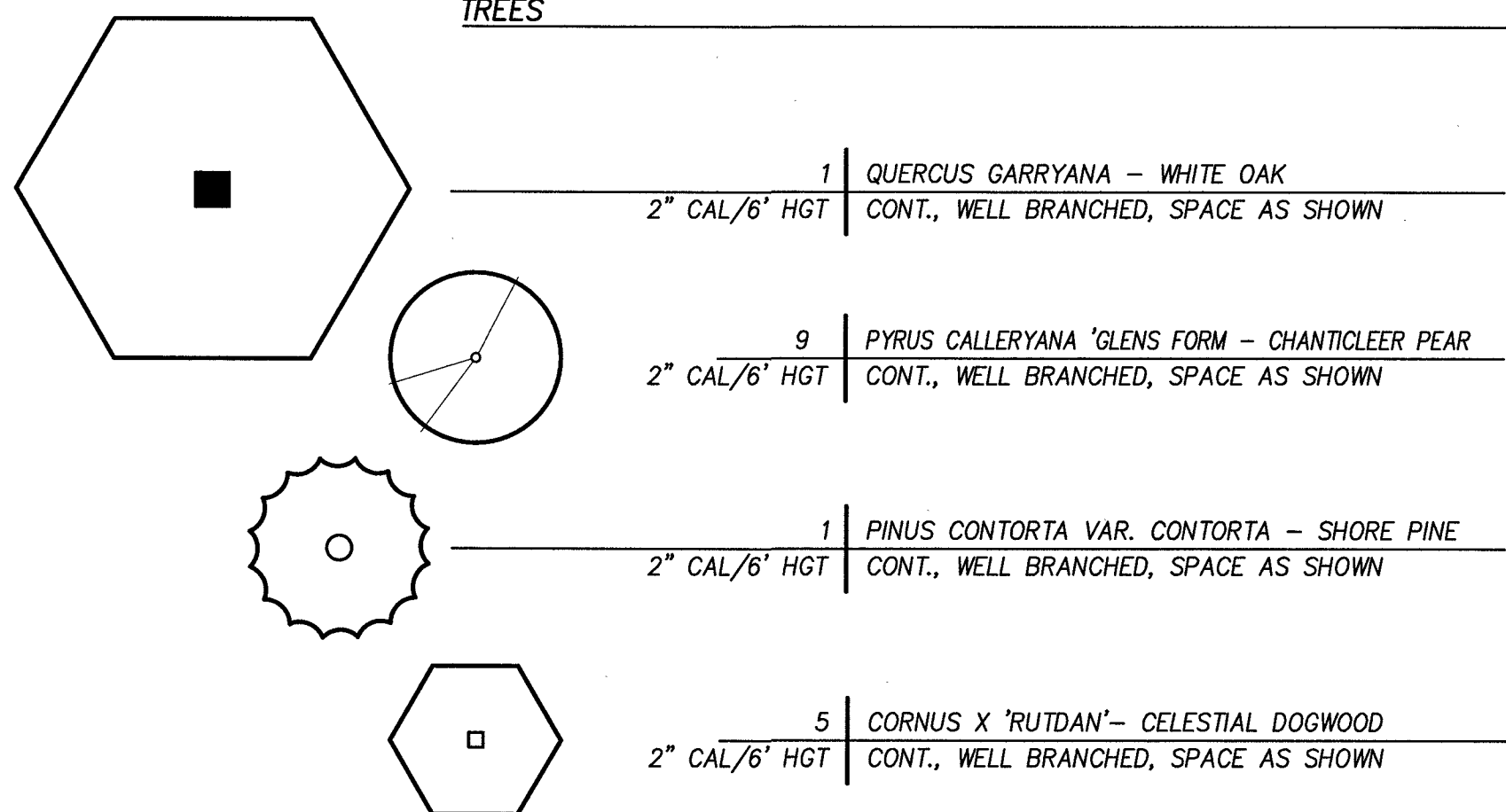
SHEET NO.  
**L1.0**  
 JOB NO.  
 SHR-13

**BID SET**



**PLANT SCHEDULE**

**TREES**



- 1 | QUERCUS GARRYANA - WHITE OAK  
2" CAL/6' HGT | CONT., WELL BRANCHED, SPACE AS SHOWN
- 9 | PYRUS CALLERYANA 'GLENS FORM - CHANTICLEER PEAR  
2" CAL/6' HGT | CONT., WELL BRANCHED, SPACE AS SHOWN
- 1 | PINUS CONTORTA VAR. CONTORTA - SHORE PINE  
2" CAL/6' HGT | CONT., WELL BRANCHED, SPACE AS SHOWN
- 5 | CORNUS X 'RUTDAN'- CELESTIAL DOGWOOD  
2" CAL/6' HGT | CONT., WELL BRANCHED, SPACE AS SHOWN

**SHRUBS**

- 18 | MAHONIA AQUIFOLIUM 'COMPACTA' - COMPACT OREGON GRAPE  
1 GAL | CONT., WELL BRANCHED, SPACE AS SHOWN
- 6 | RIBES SANGUINEUM- RED FLOWERING CURRENT  
1 GAL | CONT., WELL BRANCHED, SPACE AS SHOWN
- 6 | ROSA WOODSII - WOODS ROSE  
1 GAL | CONT., WELL BRANCHED, SPACE AS SHOWN

**GROUND COVER**

- 110 | ARCTOSTAPHYLOS  
4" POTS | FULL PLANTS, 30" O.C.

**SEEDING**

PERMANENT SEEDING		LBS OF PLS / ACRE
BROMUS CARINATUS / CALIFORNIA BROME		32.68
ELYMUS GLAUCUS / BLUE WILDRYE		13.07
FESTUCA RUBRA VAR. 'RUBRA' / NATIVE RED FESCUE		13.07
LUPINUS RIVULARIS / STREAMBANK LUPINE		6.54
<b>TOTAL</b>		<b>65.36</b>

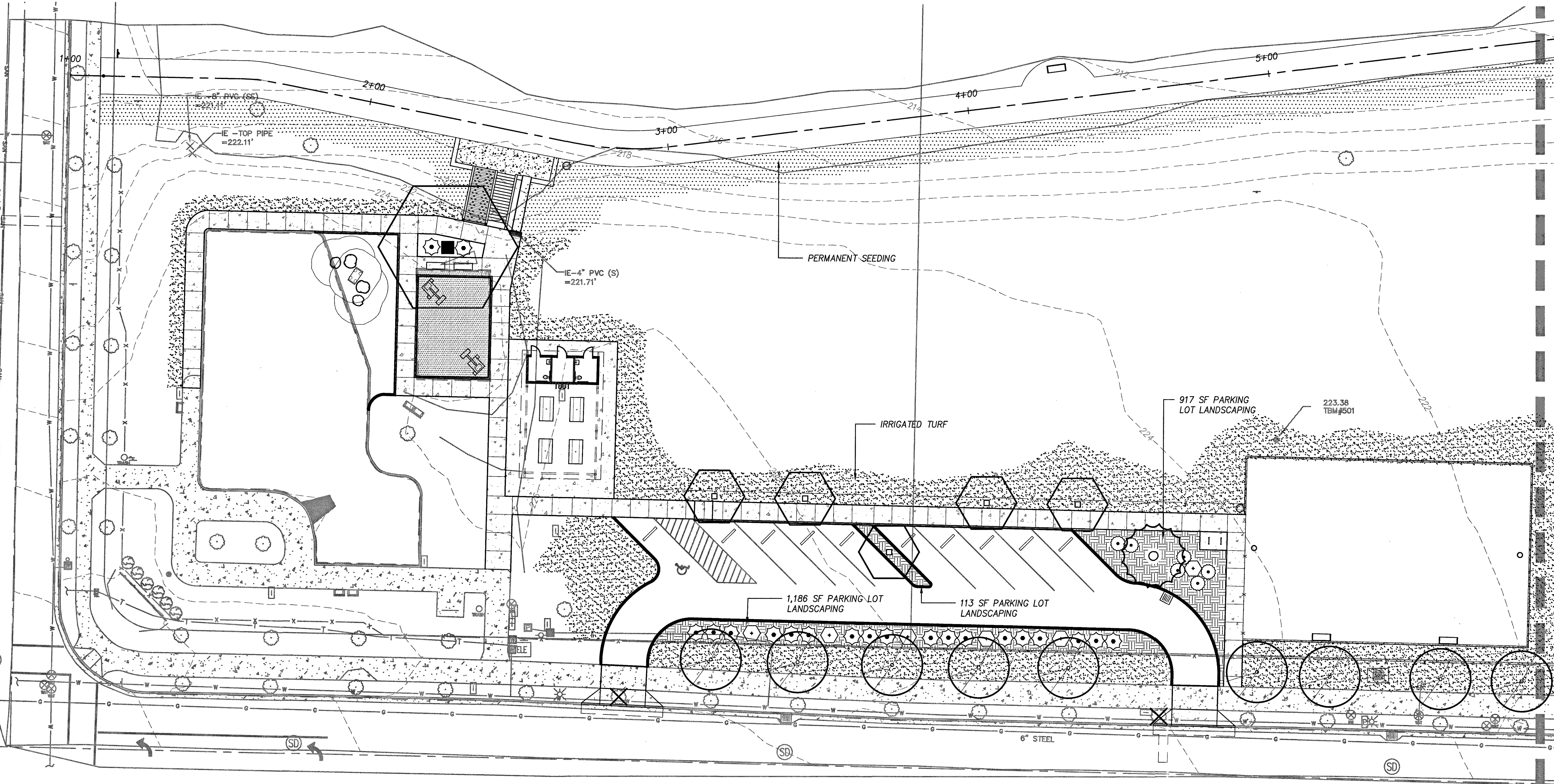
IRRIGATED TURF		LBS OF PLS / ACRE
FESTUCA RUBRA SPP. FALLAZ VAR. WINDWARD / WINWARD CHEWINGS FESCUE		13.15
FESTUCA RUBRA COMMUTATA VAR. GARNET / GARNET CREEPING FESCUE		12.42
LOLIUM PERENNE 'BLAZER4' / BLAZER 4 PERENNIAL RYEGRASS		37.27
LOLIUM PERENNE 'EXPRESS II' / EXPRESS II PERENNIAL RYEGRASS		37.27
<b>TOTAL</b>		<b>100.11</b>

**GENERAL PLANTING NOTES**

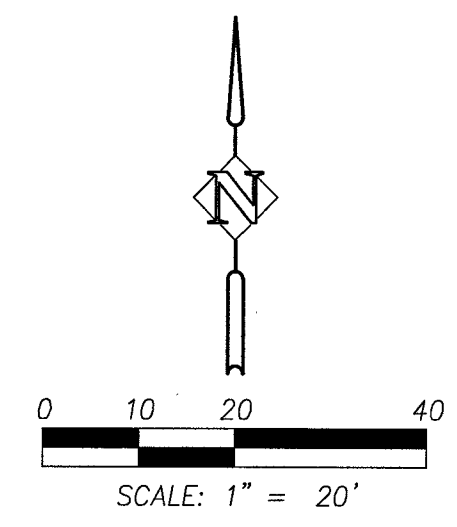
- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF SHERWOOD STANDARDS AND THE OREGON UNIFORM BUILDING CODES.
- INSTALL EROSION CONTROL SYSTEMS IN ACCORDANCE WITH CITY OF SHERWOOD STANDARDS PRIOR TO SITE WORK AND LANDSCAPE INSTALLATION.
- MARK AND PROTECT ALL UTILITIES, SITE FEATURES, AND VEGETATION TO REMAIN IN PLACE.
- REMOVE EXISTING PLANTING BED SOILS AND REPLACE AND/OR AMEND SOILS IN BEDS IN ACCORDANCE WITH LANDSCAPE PLANS AND SPECIFICATIONS.
- LANDSCAPE INSTALLATION SHALL INCLUDE PROVISION OF AN AUTOMATIC IRRIGATION SYSTEM DESIGNED TO COMPLIMENT A LANDSCAPE PLANTING PLAN FOR BEDS IN THE PLANS MEETING LOCAL AND STATE BUILDING CODES.
- PLANT MATERIAL INSTALLED SHALL CONFORM IN SIZE AND GRADE TO THE "AMERICAN STANDARD FOR NURSERY STOCK" CURRENT EDITION.
- THE QUANTITIES OF PLANT MATERIALS SHALL BE AS DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFIED SPACING OR LOCATION ON THE PLAN. MATERIAL QUANTITIES SHOWN ON PLAN ARE FOR CONTRACTOR CONVENIENCE ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INSTALLATION. SURPLUS OR SHORTAGES OF PLANT QUANTITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- LANDSCAPE CONTRACTOR SHALL WATER PLANTINGS FOR THE DURATION OF 365 DAY WARRANTY PERIOD AFTER INSTALLATION AND GUARANTEE ALL PLANTINGS TO BE ALIVE AND IN SATISFACTORY HEALTH.

**PARKING LOT LANDSCAPING REQUIREMENTS**

- 45 SF / SPACE = 450 SF REQUIRED  
2,216 SF PROVIDED
- 1 SMALL TREE / 2 SPACES = 5 TREES REQUIRED  
5% EVERGREEN  
6 PROVIDED
- 2 SHRUBS / SPACE = 20 SHRUBS REQUIRED  
30 PROVIDED
- GC REMAINDER
- ISLANDS REQUIRED  
1 ISLAND / 10 SPACES



MATCHLINE - SEE SHEET L1.2



**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S)\SHEETS\SHR13-L2\_0.dwg

DESIGNED:	SWB / JPC
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016

DATE	NO.	DESCRIPTION
REVISIONS		



**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.thpr.com fax: 503.221.1171

**PARK PLANTING PLAN  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON**

SHEET NO.	<b>L1.1</b>
JOB NO.	SHR-13



**PLANT SCHEDULE**

**TREES**

	5	5	PYRUS CALLERYANA 'GLENS FORM - CHANTICLEER PEAR CONT., WELL BRANCHED, SPACE AS SHOWN
	7	7	RHAMNUS PURSHIANA - CASCARA CONT., WELL BRANCHED, SPACE AS SHOWN
	2	2	PRUNUS EMARGINATA - BITTER CHERRY CONT., WELL BRANCHED, SPACE AS SHOWN
	1	1	QUERCUS GARRYANA - WHITE OAK CONT., WELL BRANCHED, SPACE AS SHOWN
	1	1	PINUS CONTORTA VAR. CONTORTA - SHORE PINE CONT., WELL BRANCHED, SPACE AS SHOWN

**SHRUBS**

	17	1	RIBES SANGUINEUM - RED FLOWERING CURRENT CONT., WELL BRANCHED, SPACE AS SHOWN
	50	1	CEANOTHUS THYRSIFLORUS - BLUE BLOSSOM CONT., WELL BRANCHED, SPACE AS SHOWN
	7	1	HOLODISCUS DISCOLOR - OCEAN SPRAY CONT., WELL BRANCHED, SPACE AS SHOWN
	79	1	MAHONIA AQUIFOLIUM - OREGON GRAPE CONT., WELL BRANCHED, SPACE AS SHOWN
	3	1	SAMBUCUS CAERULEA - BLUE ELDERBERRY CONT., WELL BRANCHED, SPACE AS SHOWN
	19	1	SPIRAEA DOUGLASII - DOUGLAS SPIREA CONT., WELL BRANCHED, SPACE AS SHOWN

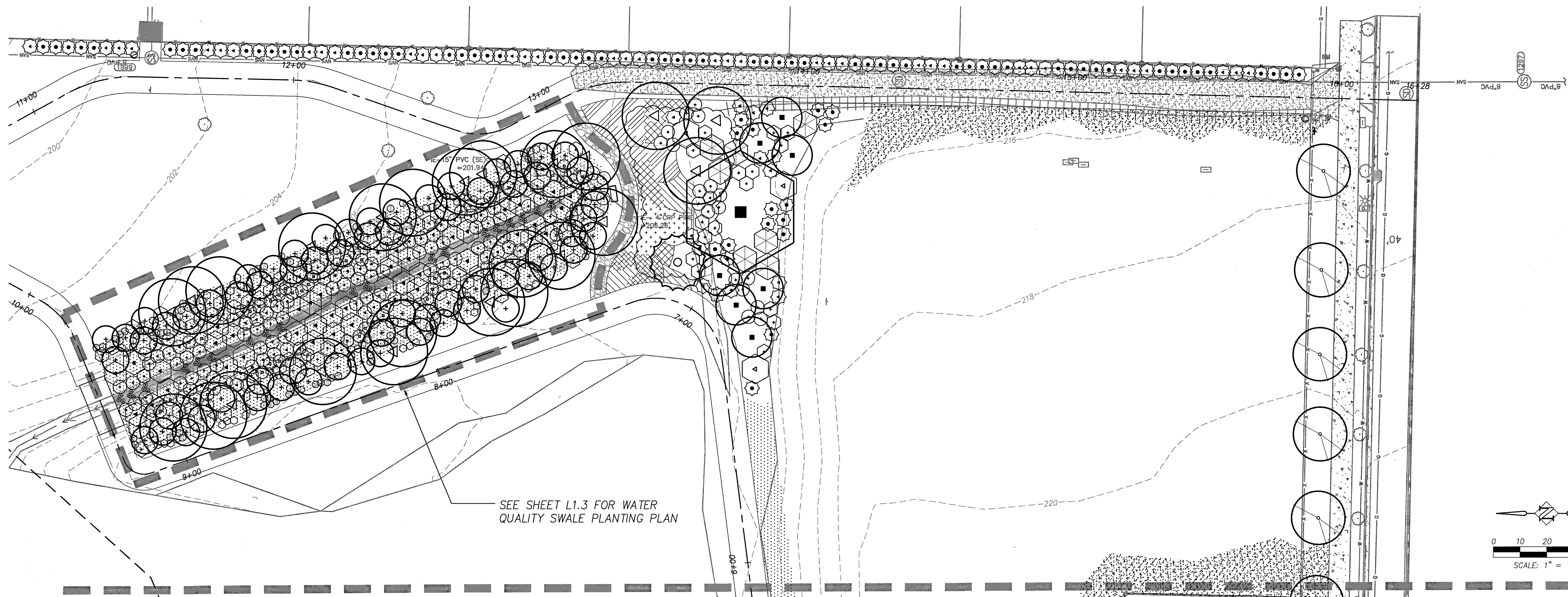
**WILDFLOWERS**

	257 SF	4" POTS	ASCLEPIAS TUBEROSA - BUTTERFLY WEED FULL PLANTS, 18" O.C.
	318 SF	4" POTS	MIMULUS CARDINALIS - SCARLET MONKEYFLOWER FULL PLANTS, 24" O.C.
	324 SF	4" POTS	ANTENNARIA DIOICA - PAINTED LADY FULL PLANTS, 18" O.C.
	370 SF	4" POTS	LUPINUS RIVULARIS - STREAMBANK LUPINE FULL PLANTS, 18" O.C.
	166 SF	4" POTS	ECHINACEA PURPUREA - PURPLE CONEFLOWER FULL PLANTS, 12" O.C.

**SEEDING**

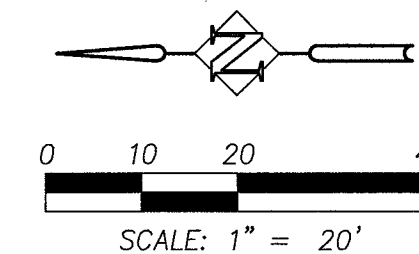
	PERMANENT SEEDING	LBS OF PLS / ACRE
	BROMUS CARINATUS / CALIFORNIA BROME	32.68
	ELYMUS GLAUCUS / BLUE WILDRYE	13.07
	FESTUCA RUBRA VAR. 'RUBRA' / NATIVE RED FESCUE	13.07
	LUPINUS RIVULARIS / STREAMBANK LUPINE	6.54
	<b>TOTAL</b>	<b>65.36</b>
	IRRIGATED TURF	LBS OF PLS / ACRE
	FESTUCA RUBRA SPP. FALLAZ VAR. WINDWARD / WINWARD CHEWINGS FESCUE	13.15
	FESTUCA RUBRA COMMUTATA VAR. GARNET / GARNET CREEPING FESCUE	12.42
	LOLIUM PERENNE 'BLAZER' / BLAZER 4 PERENNIAL RYEGRASS	37.27
	LOLIUM PERENNE 'EXPRESS II' / EXPRESS II PERENNIAL RYEGRASS	37.27
	<b>TOTAL</b>	<b>100.11</b>

SEE SHEET L1.1 FOR GENERAL PLANTING NOTES



SEE SHEET L1.3 FOR WATER QUALITY SWALE PLANTING PLAN

MATCHLINE - SEE SHEET L1.1



**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SHEETS\SHR13-12\_0.dwg

DESIGNED:	SWB / JPC						
DRAWN:	HHPR						
CHECKED:	BRA						
DATE:	APRIL 2016						
<table border="1"> <thead> <tr> <th>DATE</th> <th>NO.</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">REVISIONS</td> </tr> </tbody> </table>		DATE	NO.	DESCRIPTION	REVISIONS		
DATE	NO.	DESCRIPTION					
REVISIONS							

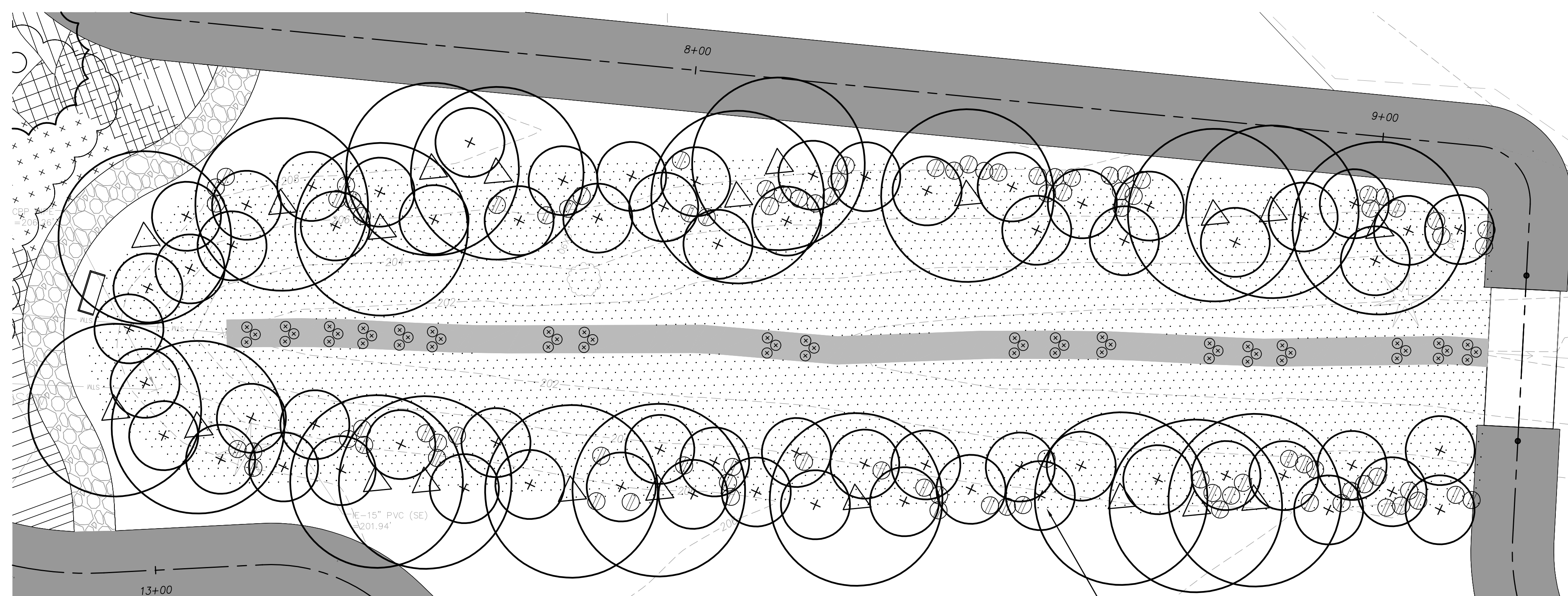


**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

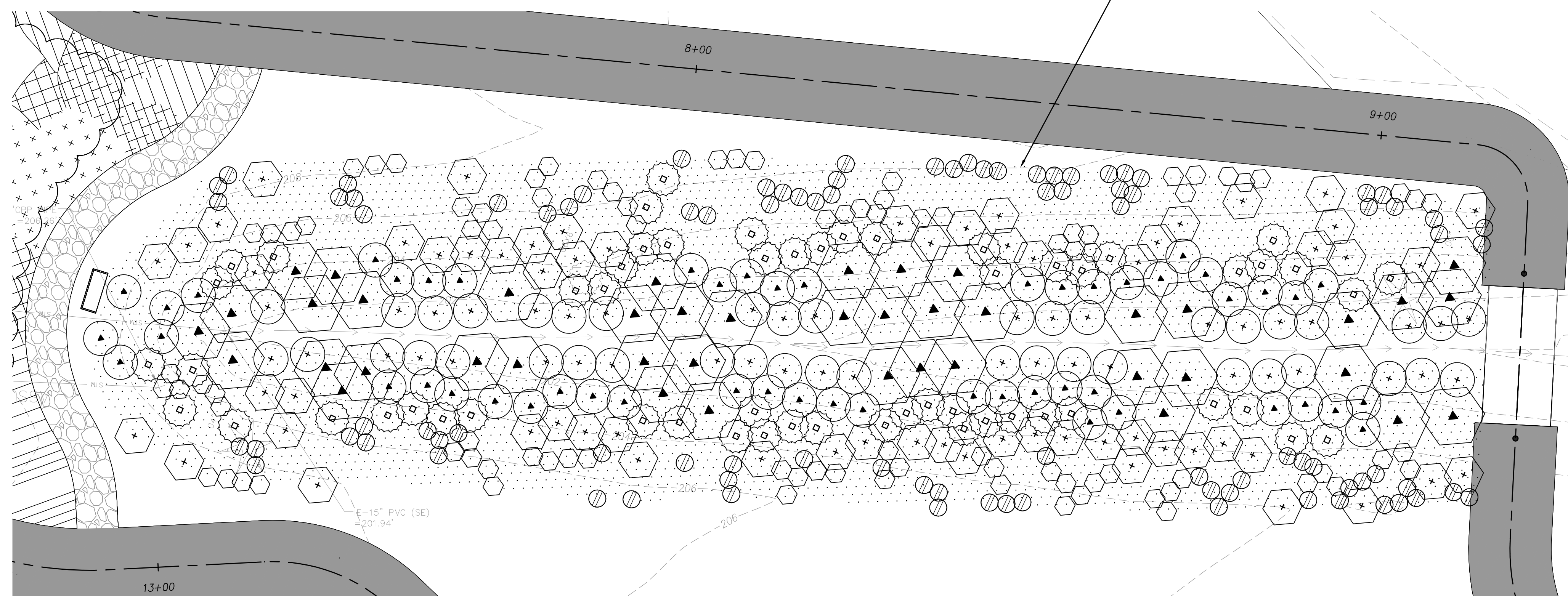
BUTTERFLY GARDEN AND EAST SIDE PLANTING PLAN  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

SHEET NO.  
**L1.2**  
 JOB NO.  
 SHR-13





TREE PLANTING PLAN



SHRUB PLANTING PLAN

PLANT SCHEDULE

TREES

+	66	ACER CIRCINATUM- VINE MAPLE
	2 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
△	21	PRUNUS EMARGINATA - BITTER CHERRY
	2 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN

SHRUBS

▲	43	CONRUS SERICEA - RED-OZIER DOGWOOD
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
◇	62	RIBES SANGUINEUM- RED FLOWERING CURRENT
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
●	43	SPIRAEA DOUGLASII - DOUGLAS SPIREA
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
⊖	91	POLYSTICHUM MUNITUM- SWORD FERN
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
⊙	56	ROSA NUTKANA- NOOTKA ROSE
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
○	89	SYMPHORICARPOS ALBUS- SNOWBERRY
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
⊙	51	LONICERA INVOLUCRATA- BLACK TWIN BERRY
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN
⊗	57	CAMISSIA QUAMASH - CAMAS
	1 GAL	CONT., WELL BRANCHED, SPACE AS SHOWN

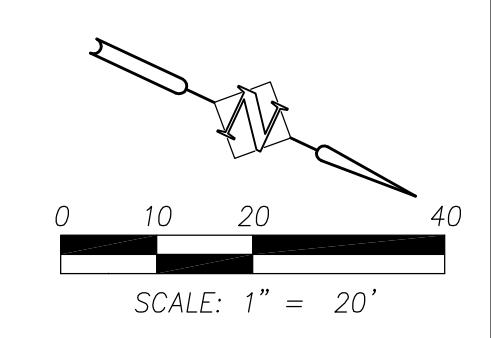
WATER QUALITY EMERGENTS - 730 SF

	WATER QUALITY EMERGENTS - 1"x 6" PLUGS @ 6 PLUGS PER SF PLANT IN GROUPS OF 6	
	CAREX OBNUPTA / SLOUGH SEDGE	2,190
	JUNCUS PATENS / SPREADING RUSH	2,190

SEEDING

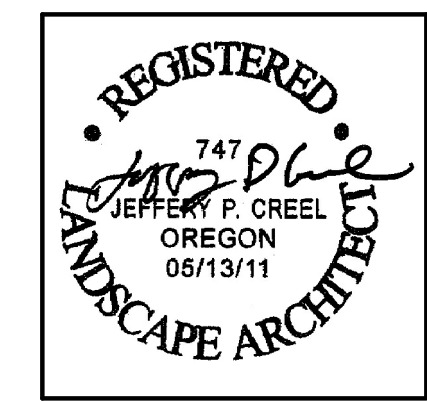
	WATER QUALITY SEEDING	LBS OF PLS / ACRE
	BROMUS CARINATUS / CALIFORNIA BROME	32.68
	ELYMUS GLAUCUS / BLUE WILDRYE	13.07
	FESTUCA RUBRA VAR. 'RUBRA' / NATIVE RED FESCUE	13.07
	LUPINUS RIVULARIS / STREAMBANK LUPINE	6.54
	TOTAL	65.36

SEE SHEET L1.1 FOR GENERAL PLANTING NOTES



BID SET

DESIGNED:	SWB / JPC						
DRAWN:	HHPR						
CHECKED:	BRA						
DATE:	APRIL 2016						
<table border="1"> <thead> <tr> <th>DATE</th> <th>NO.</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">R E V I S I O N S</td> </tr> </tbody> </table>		DATE	NO.	DESCRIPTION	R E V I S I O N S		
DATE	NO.	DESCRIPTION					
R E V I S I O N S							



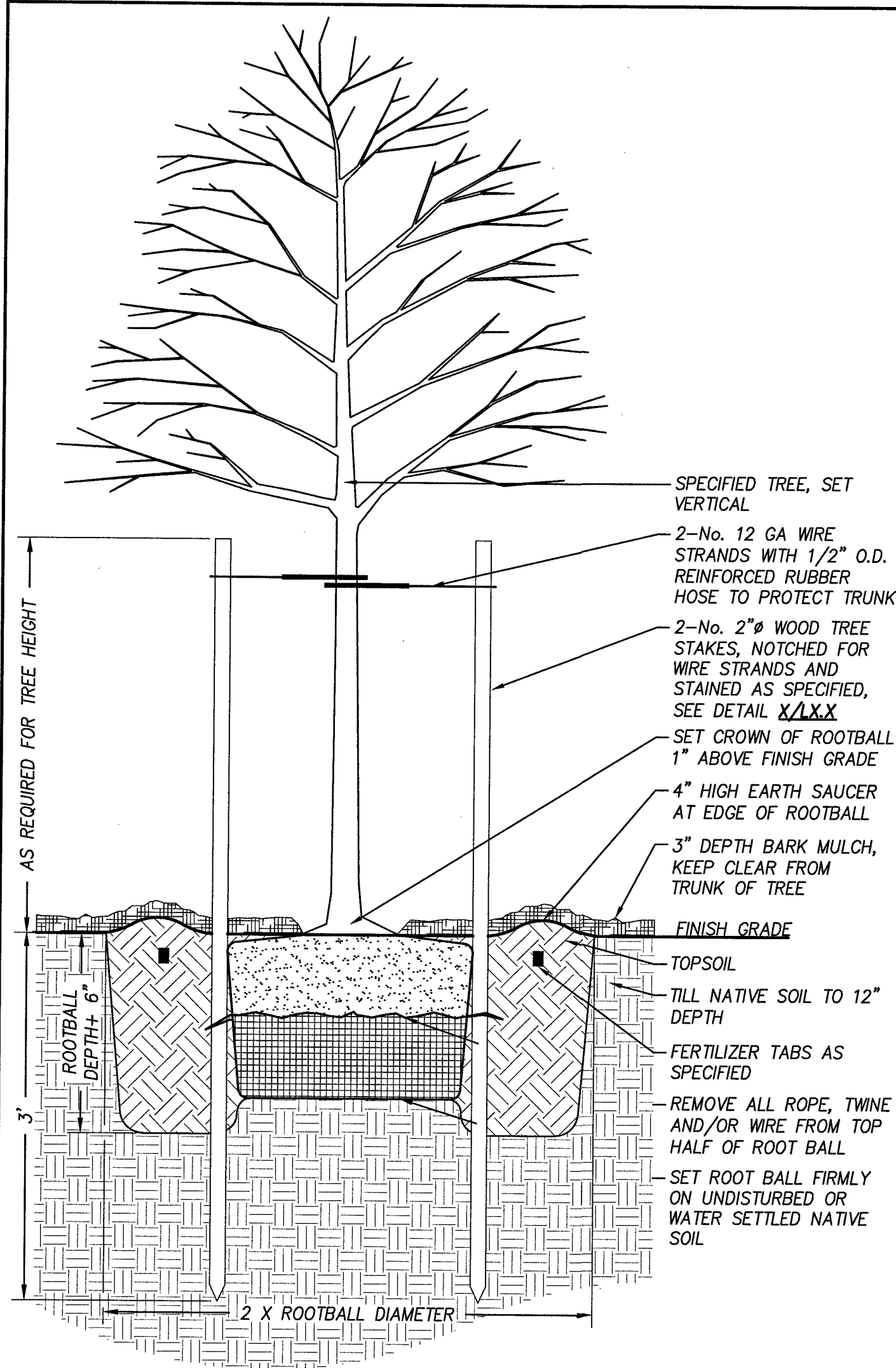
**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

CWS STORMWATER SWALE PLANTING PLAN  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON

SHEET NO.	L1.3
JOB NO.	SHR-13

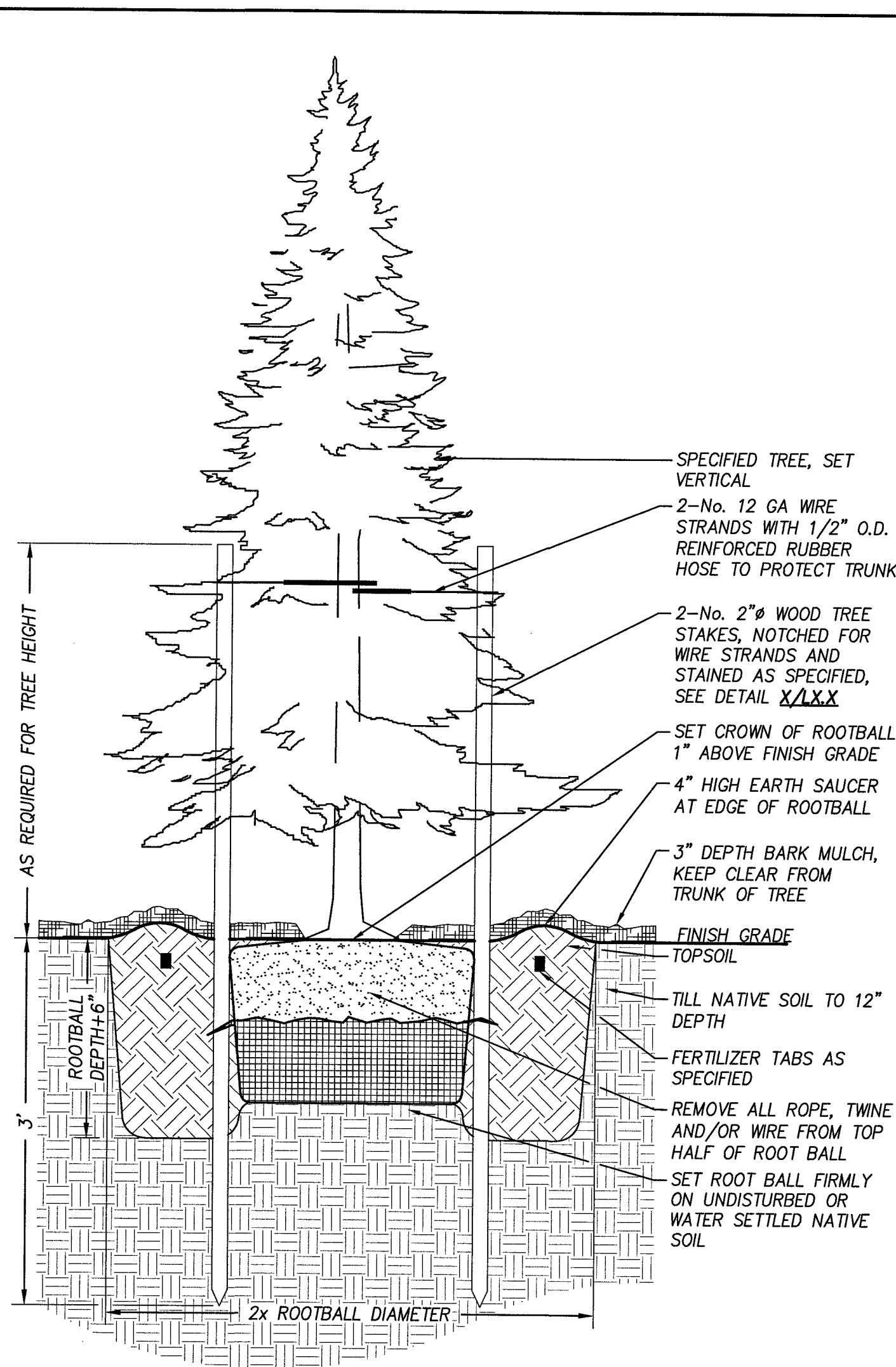
P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SSHEETS\SHR13-L2.dwg





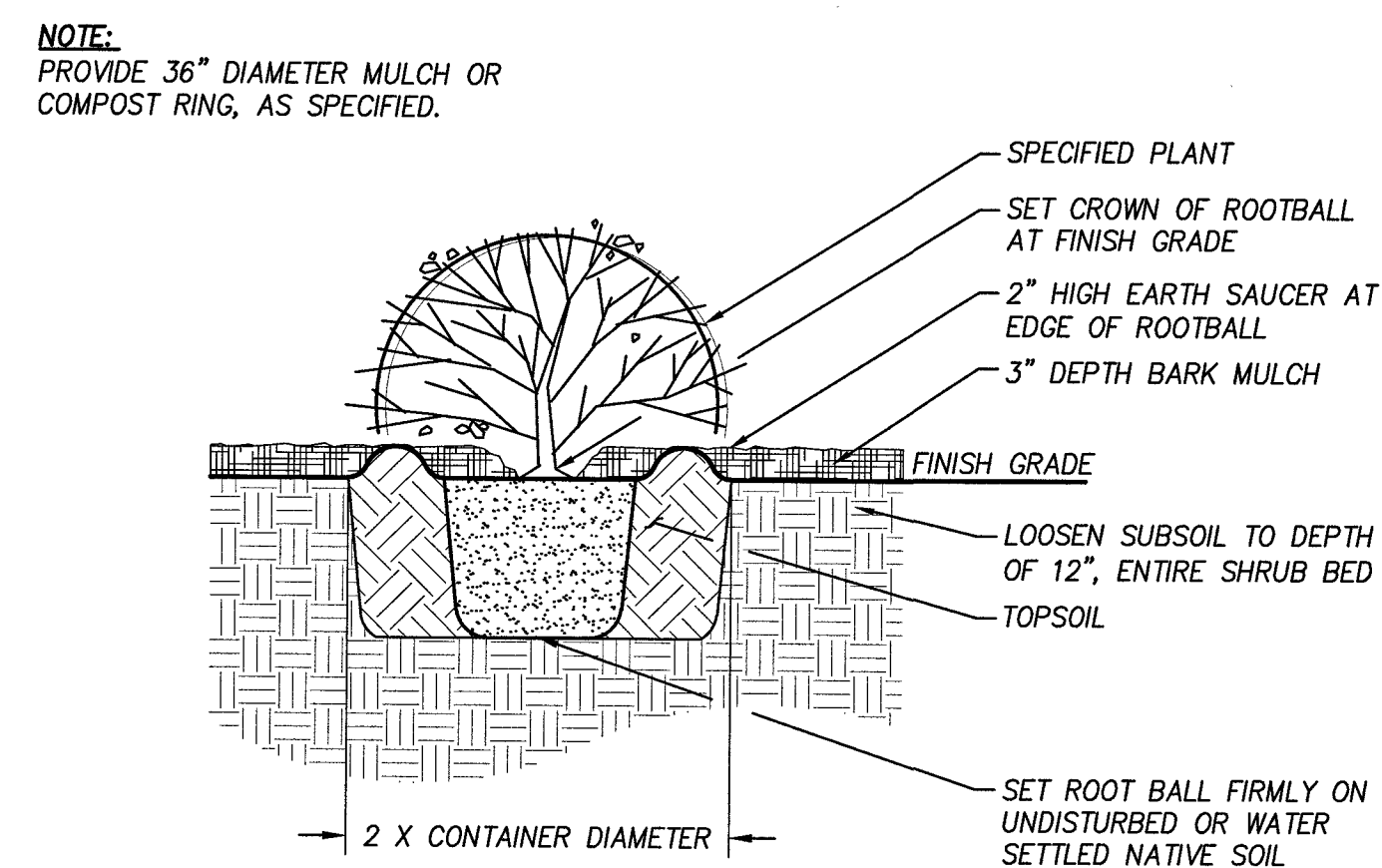
**DECIDUOUS TREE PLANTING**

Section NOT TO SCALE



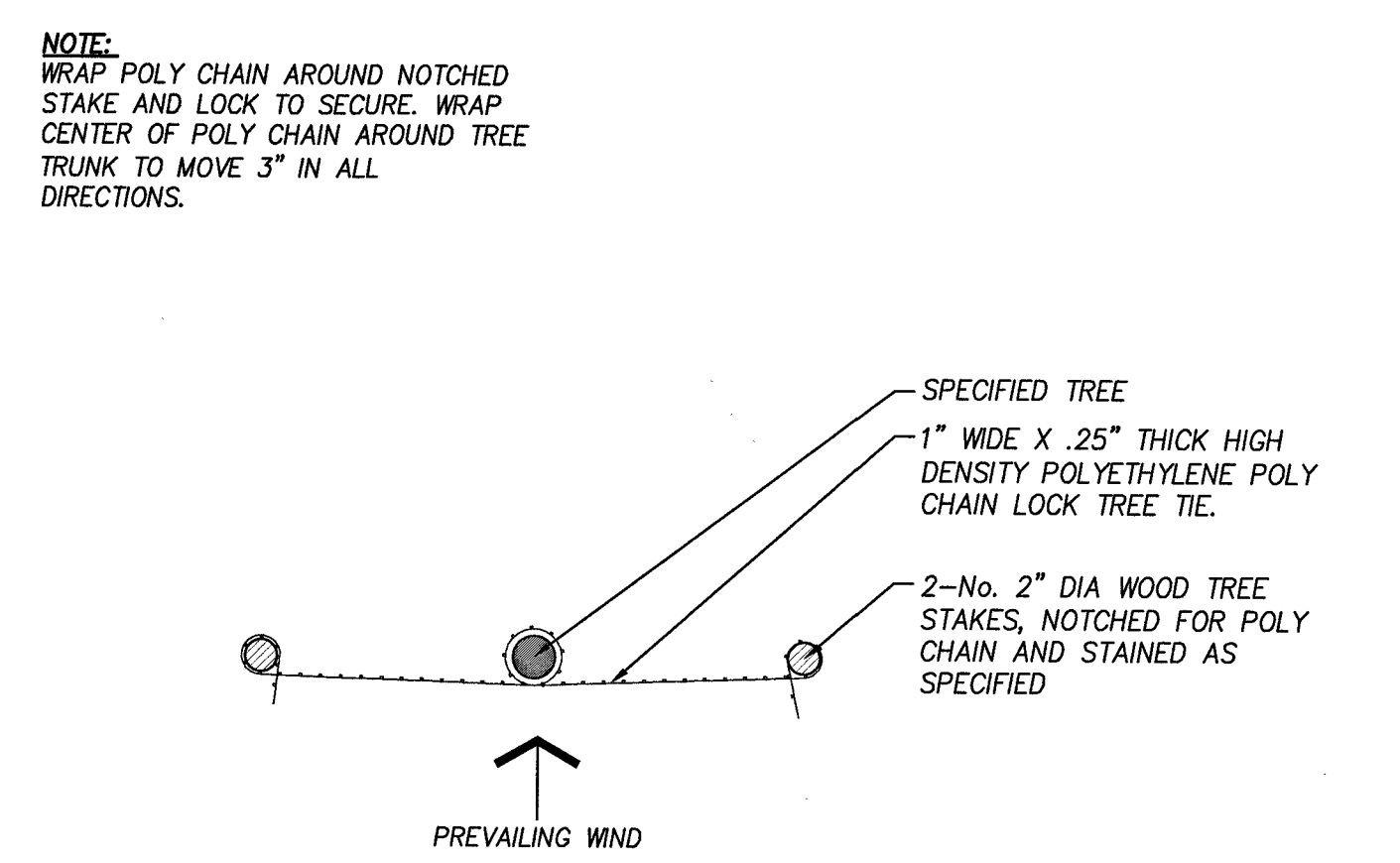
**CONIFER TREE PLANTING**

Section NOT TO SCALE



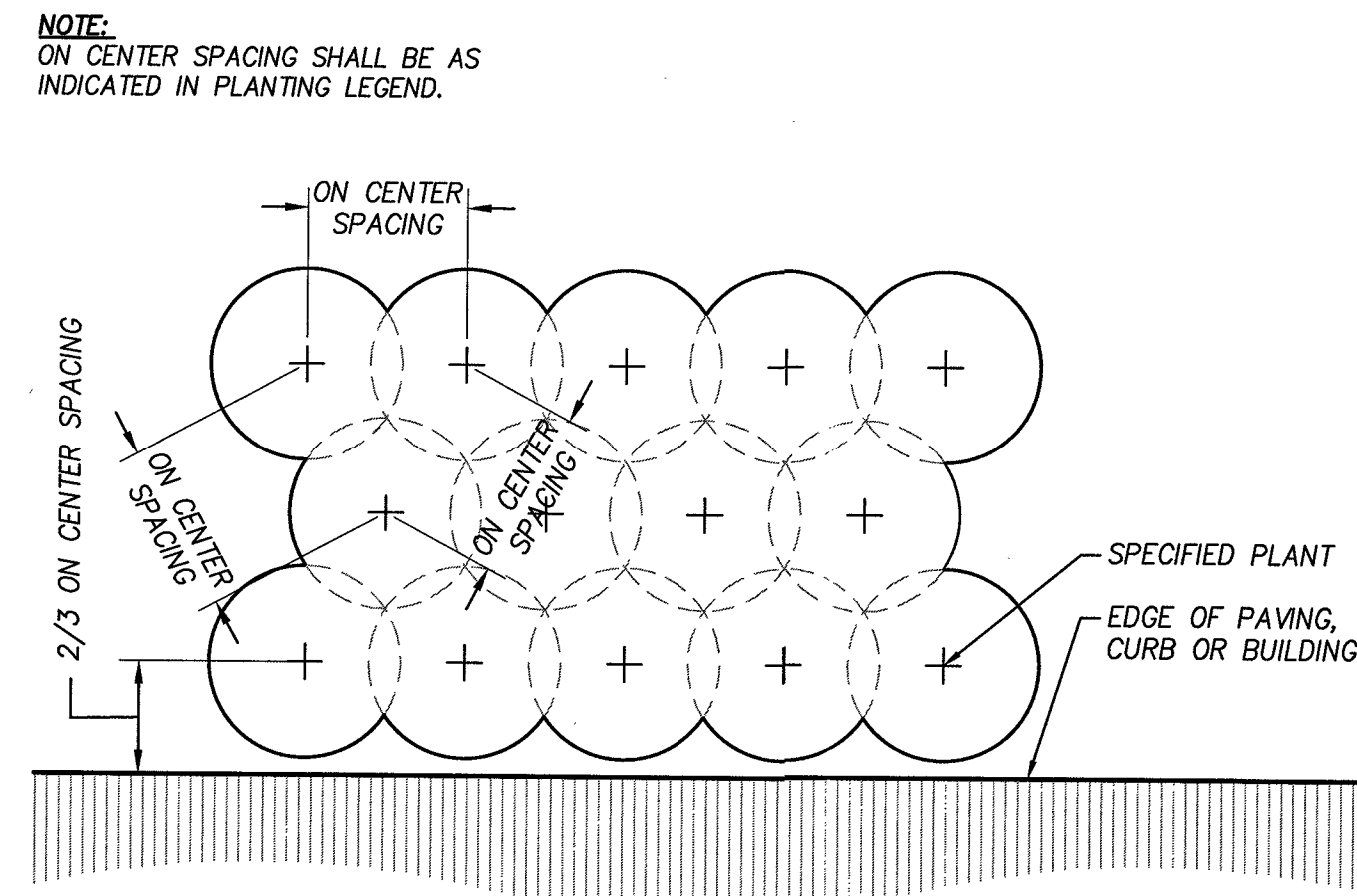
**SHRUB PLANTING**

Section NOT TO SCALE



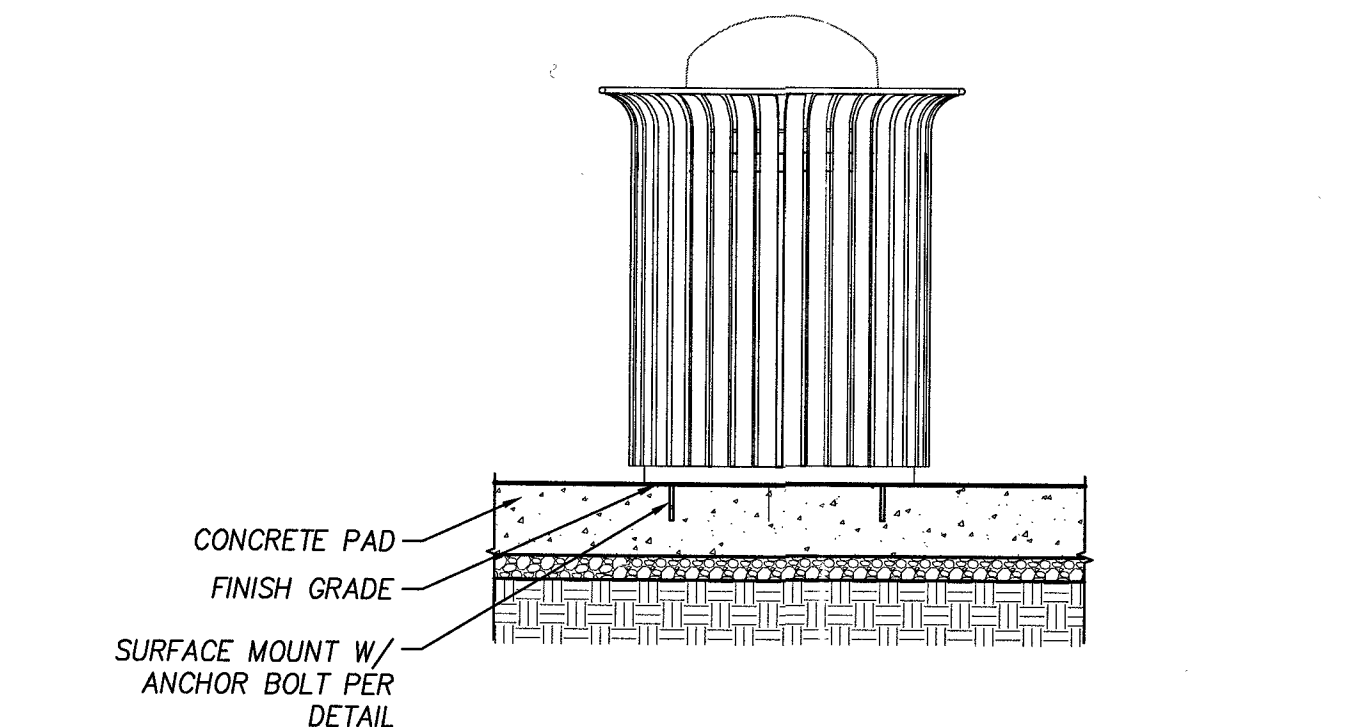
**TREE STAKING**

Section NOT TO SCALE



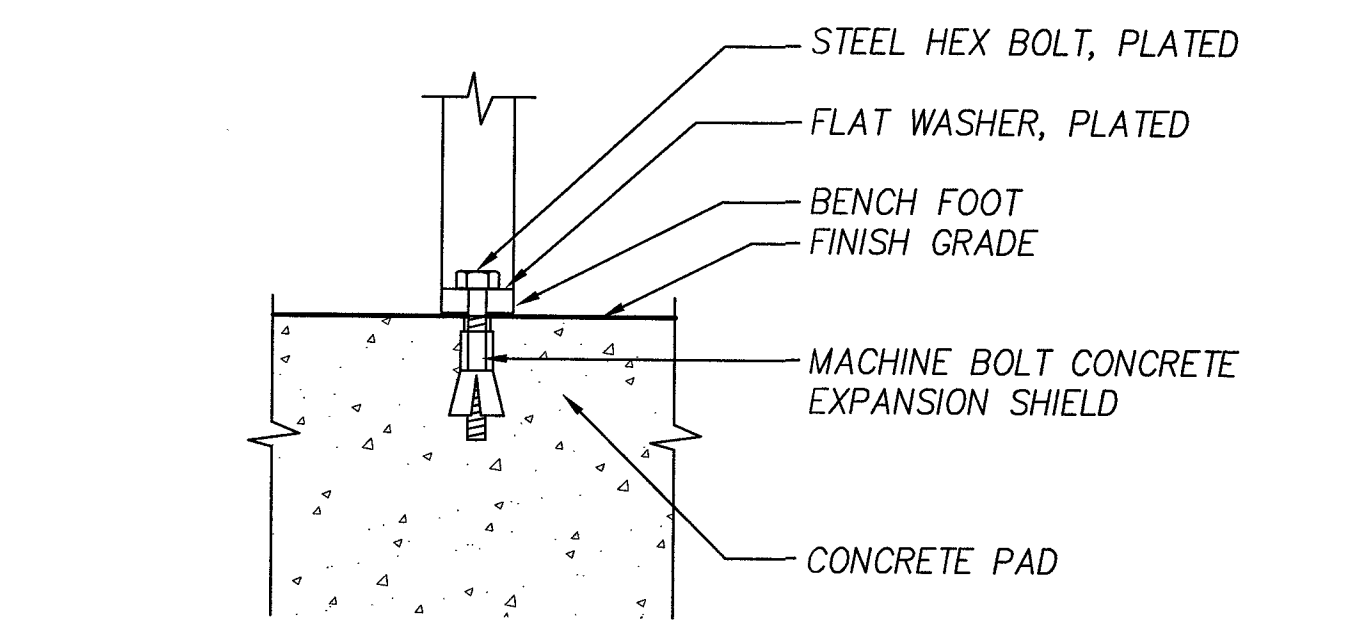
**TRIANGULAR SPACING**

Section NOT TO SCALE



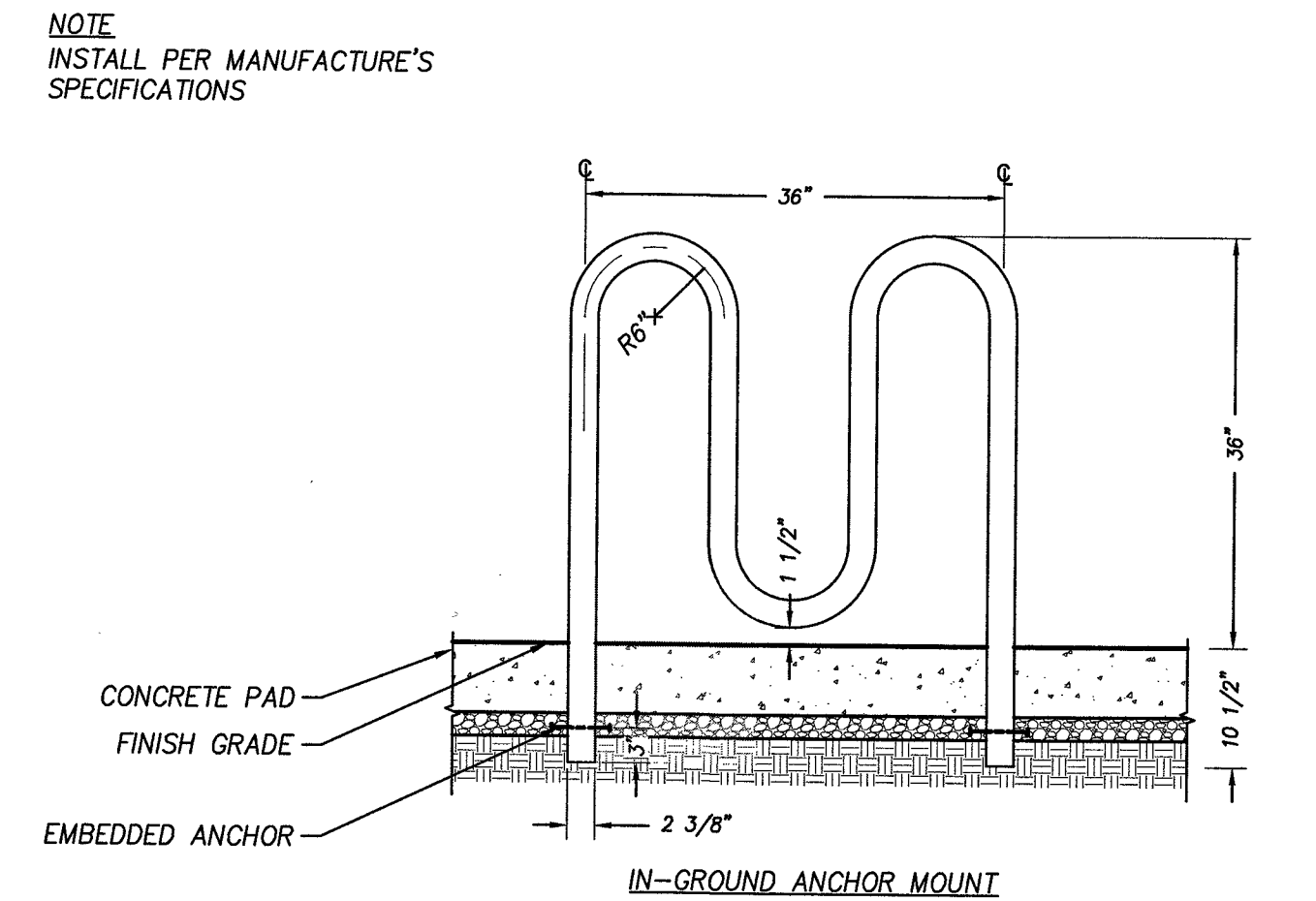
**METAL LITTER RECEPTACLE**

Section SCALE: 3/4"=1'-0"



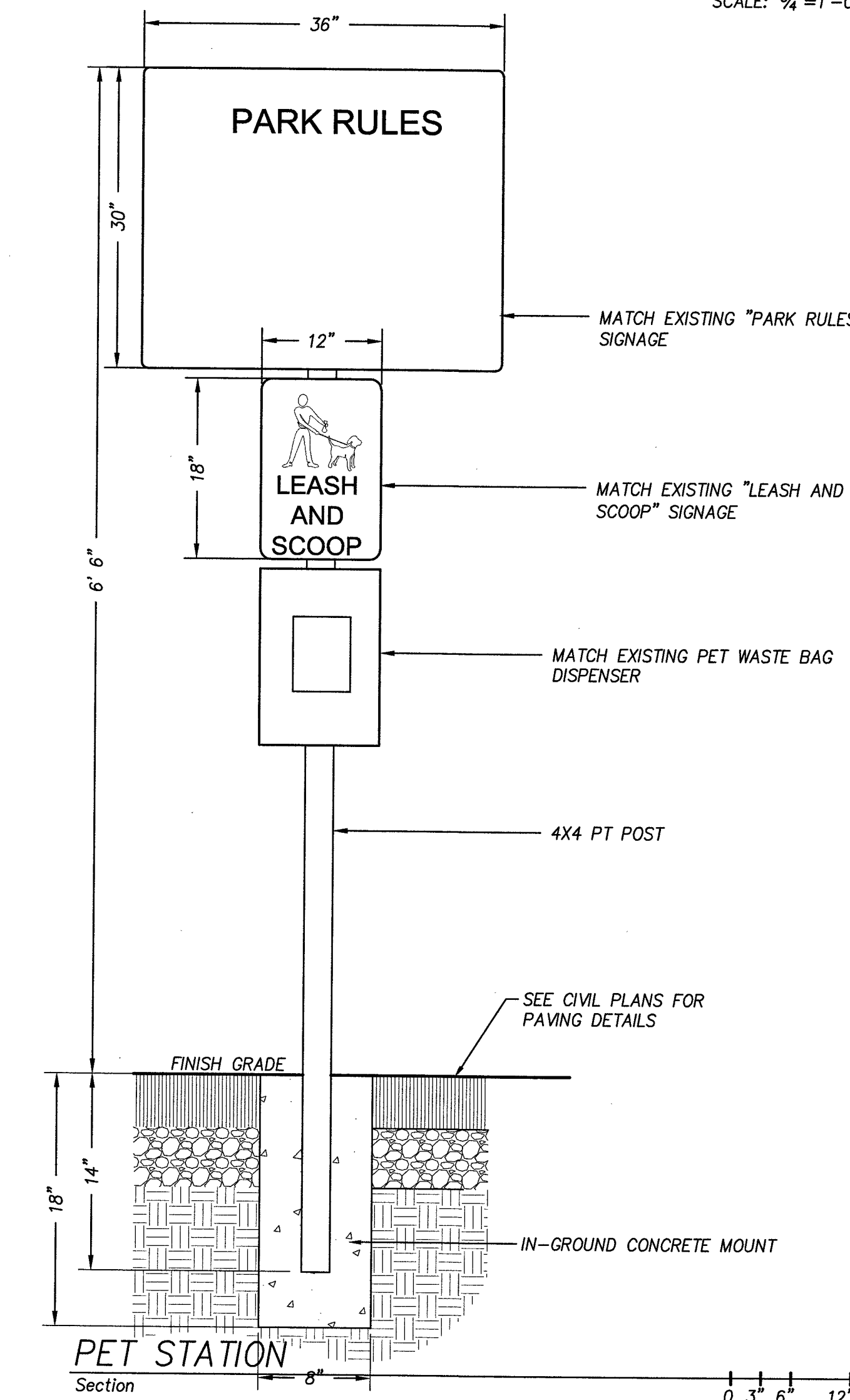
**BENCH & LITTER RECEPTACLE ANCHOR**

Section SCALE: 3"=1'-0"



**RIBBON STYLE BIKE RACK**

Section SCALE: 3/4"=1'-0"



**PET STATION**

Section

P:\SHR City of Sherwood\SHR-13 (Woodhaven Park)\SHR13-DWG\SHR13-SHEETS\SHR13-L1.dwg

DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	SWB / JPC
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016

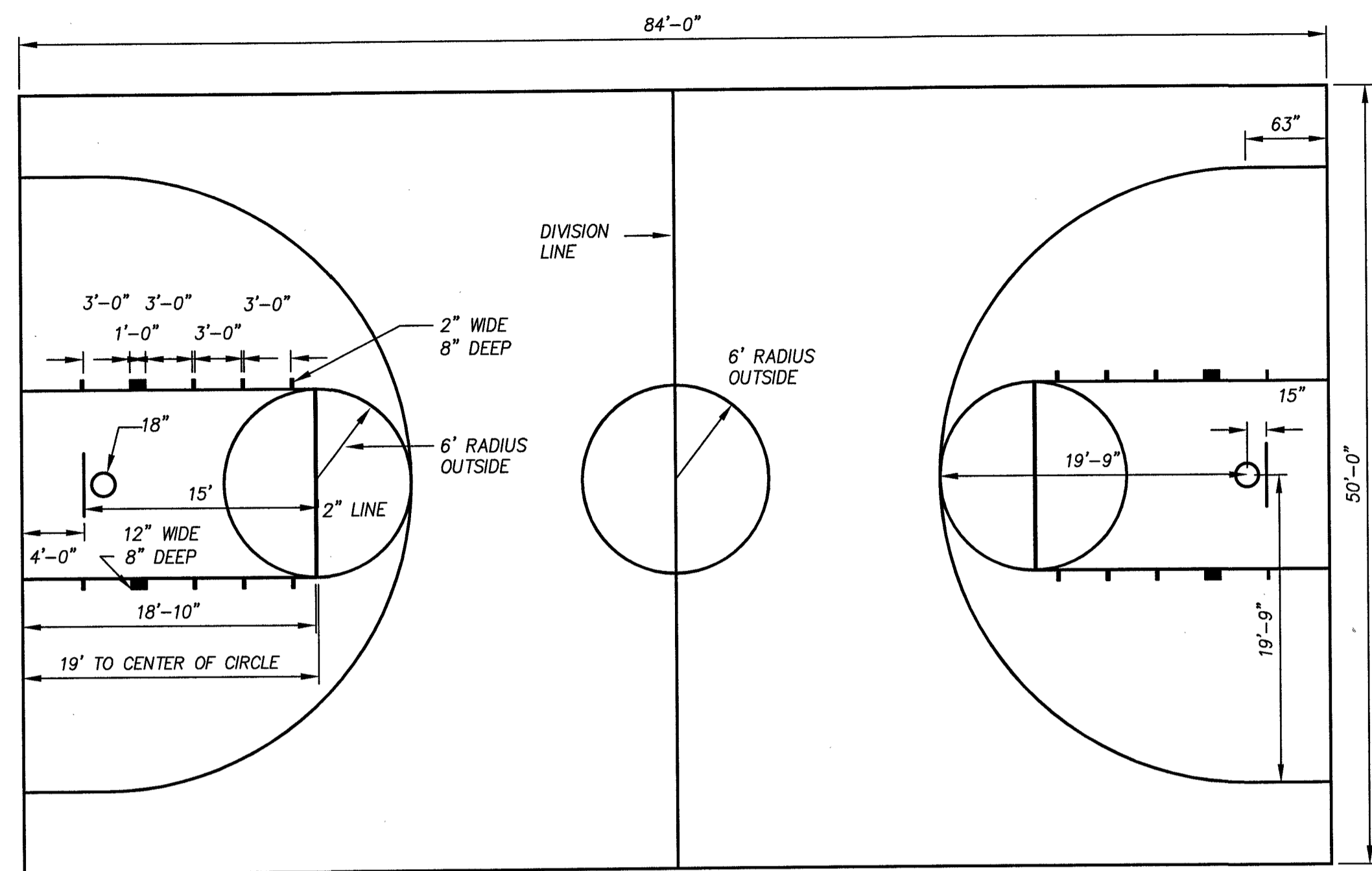


**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**LANDSCAPE DETAILS**  
**WOODHAVEN PARK PHASE 2**  
**SHERWOOD, OREGON**

SHEET NO.  
**L2.0**  
 JOB NO.  
 SHR-13

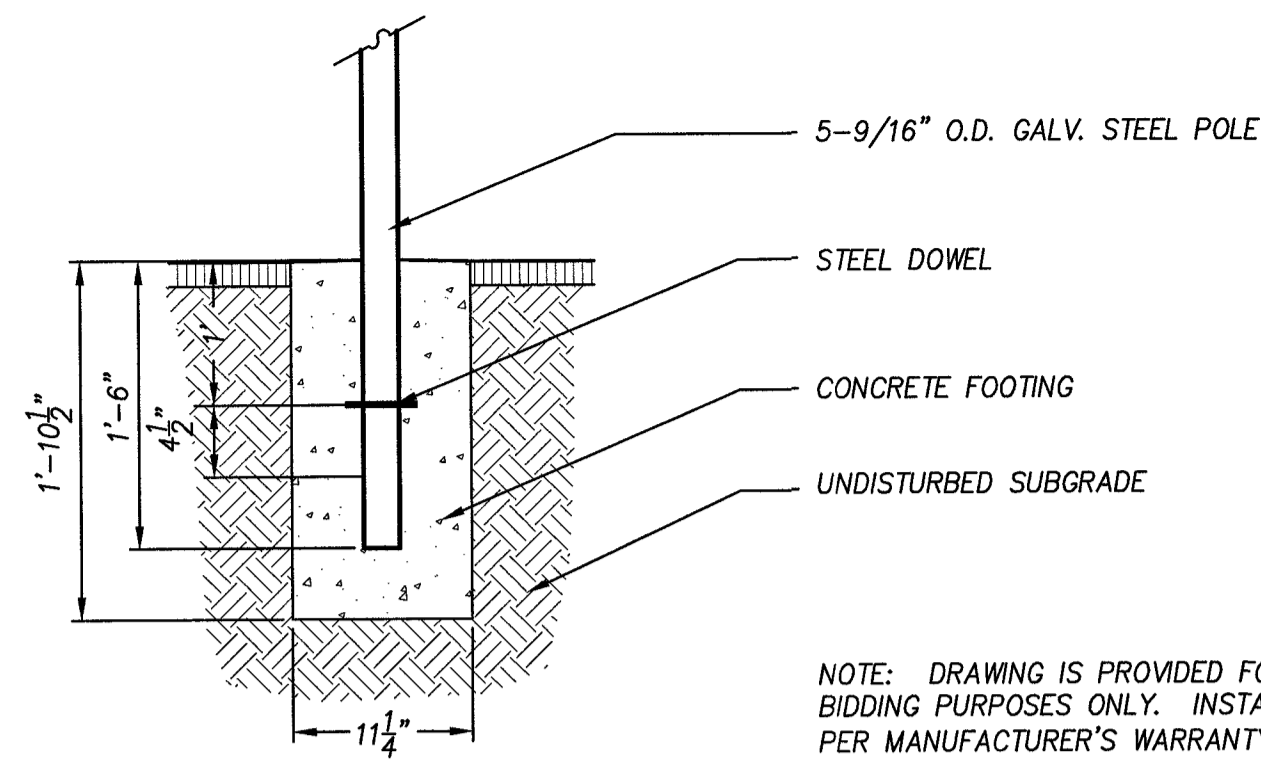
BID SET



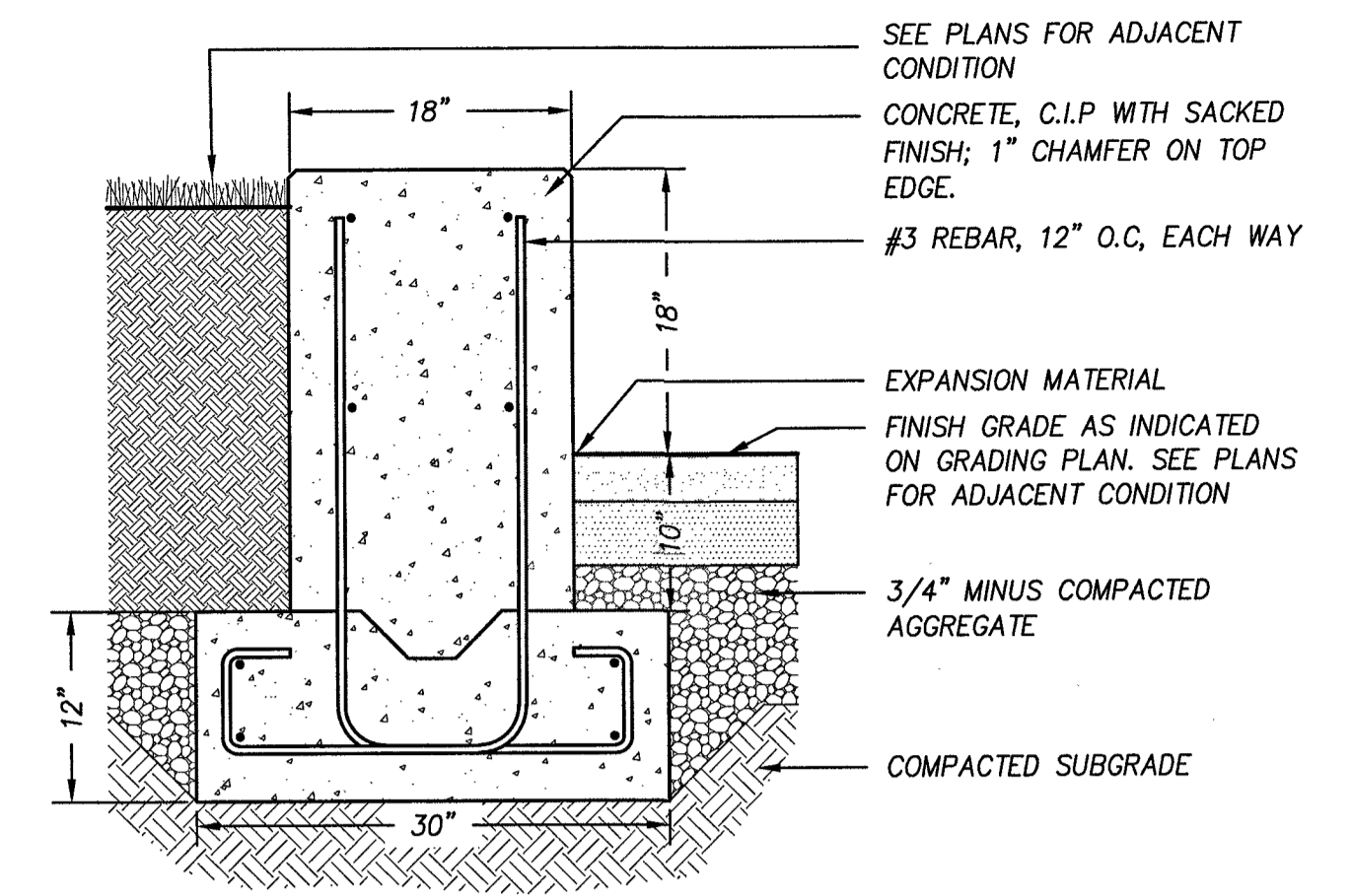
- NOTES**
- ALL LINES SHALL BE 2" WIDE (NEUTRAL ZONES EXCLUDED) END LINES SHALL BE A MINIMUM OF 2" IN WIDTH.
  - THE COLOR OF THE LANE-SPACE MARKS AND NEUTRAL-ZONE MARKS SHALL CONTRAST WITH THE COLOR OF THE LANE BOUNDARY LINES.
  - THE THREE-POINT LINE SHALL BE THE SAME COLOR AS THE FREE-THROW LANE LINE AND SEMICIRCLE

MINIMUM OF 3 FEET OF UNOBSTRUCTED SPACE OUTSIDE.

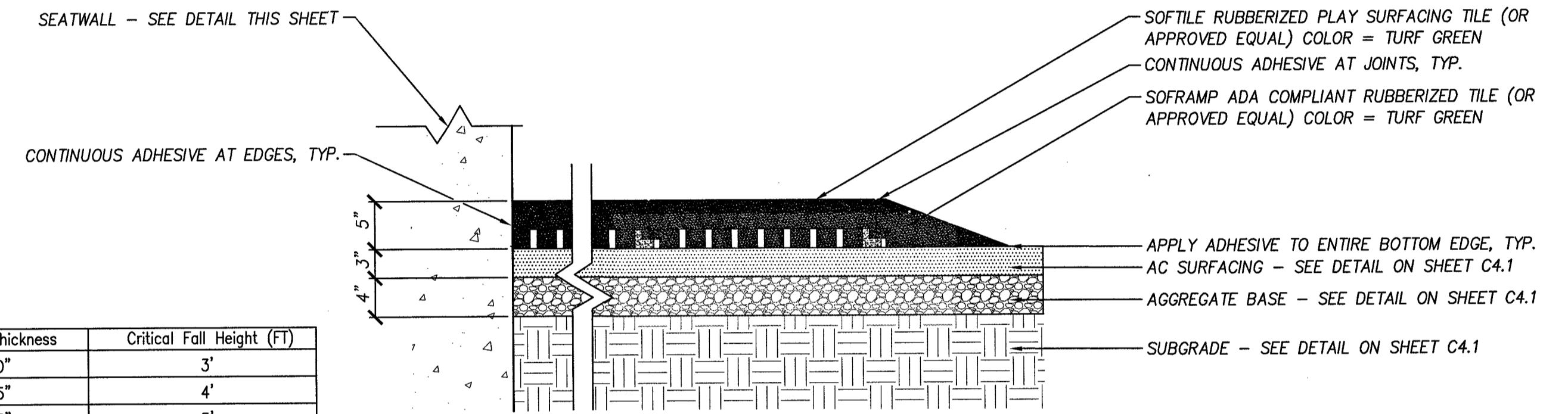
**BASKETBALL STRIPING PLAN**



**BASKETBALL POLE MOUNTING**

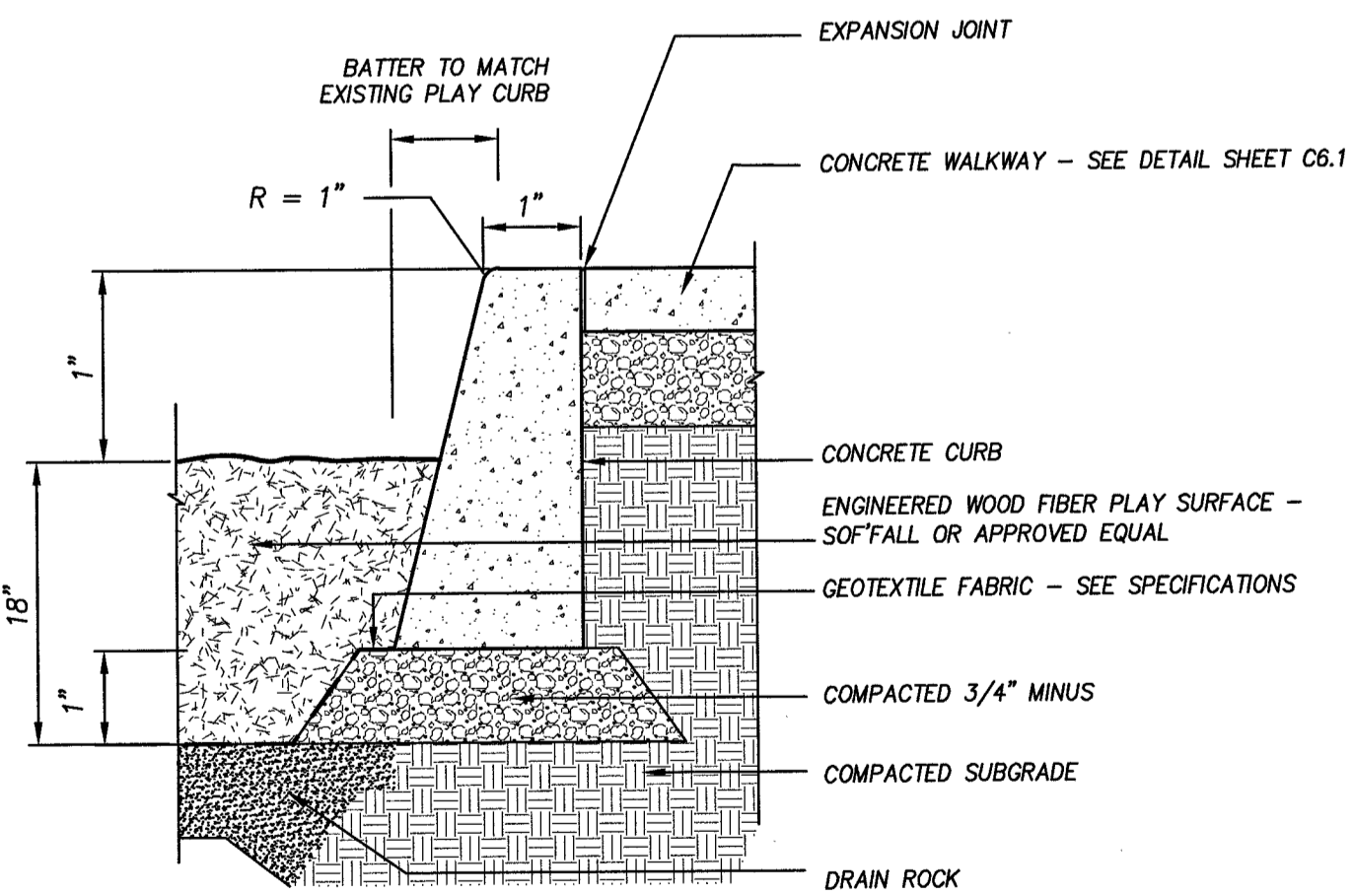


**SEAT WALL**

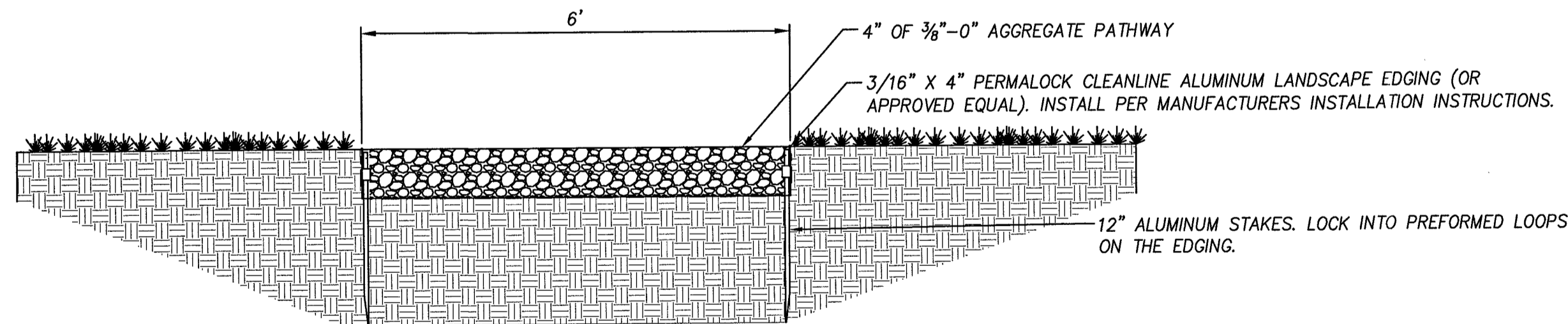


SofTILE Thickness	Critical Fall Height (FT)
2.00"	3'
2.25"	4'
2.75"	5'
3.25"	6'
3.75"	7'
4.25"	8'
4.75"	9'
5.00"	10'

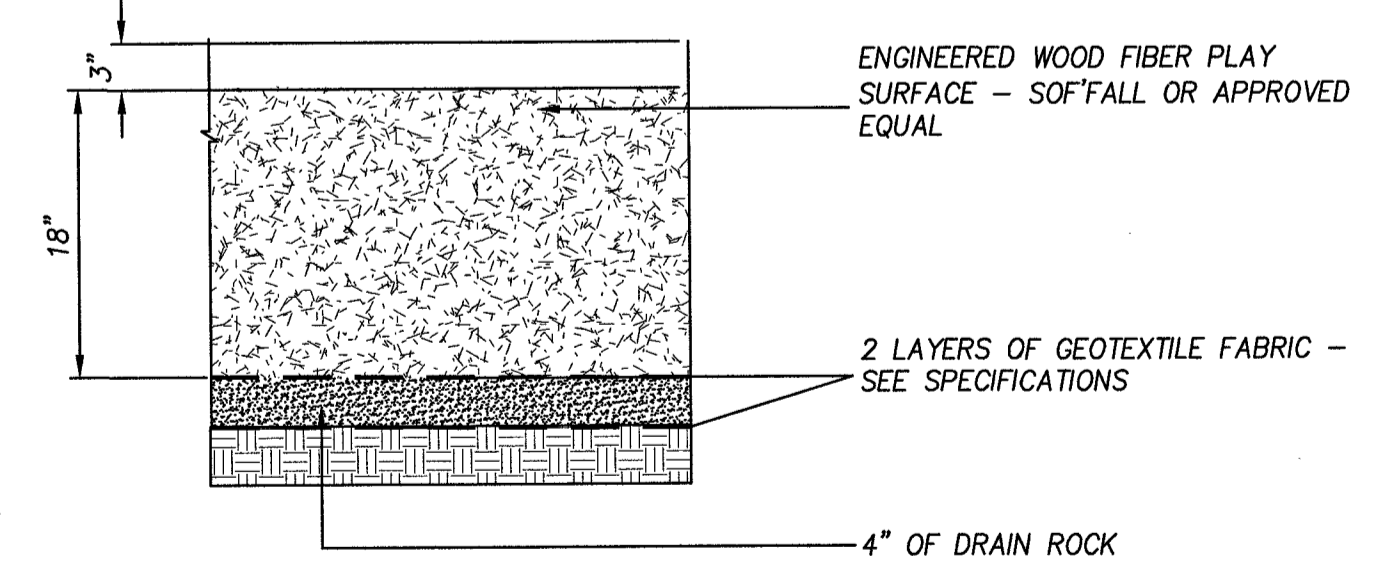
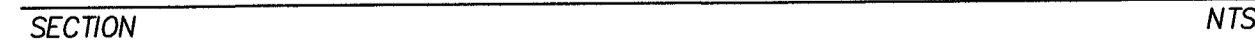
**RUBBERIZED TILE PLAY SURFACING**



**PLAY AREA CURB**



**AGGREGATE WALKWAY**



**ENGINEERED WOOD FIBER PLAY SURFACING**



DATE	NO.	DESCRIPTION	DESIGNED:	DRAWN:	CHECKED:	DATE:
			SWB / JPC	HHPR	BRA	APRIL 2016
REVISIONS						



**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

LANDSCAPE DETAILS  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

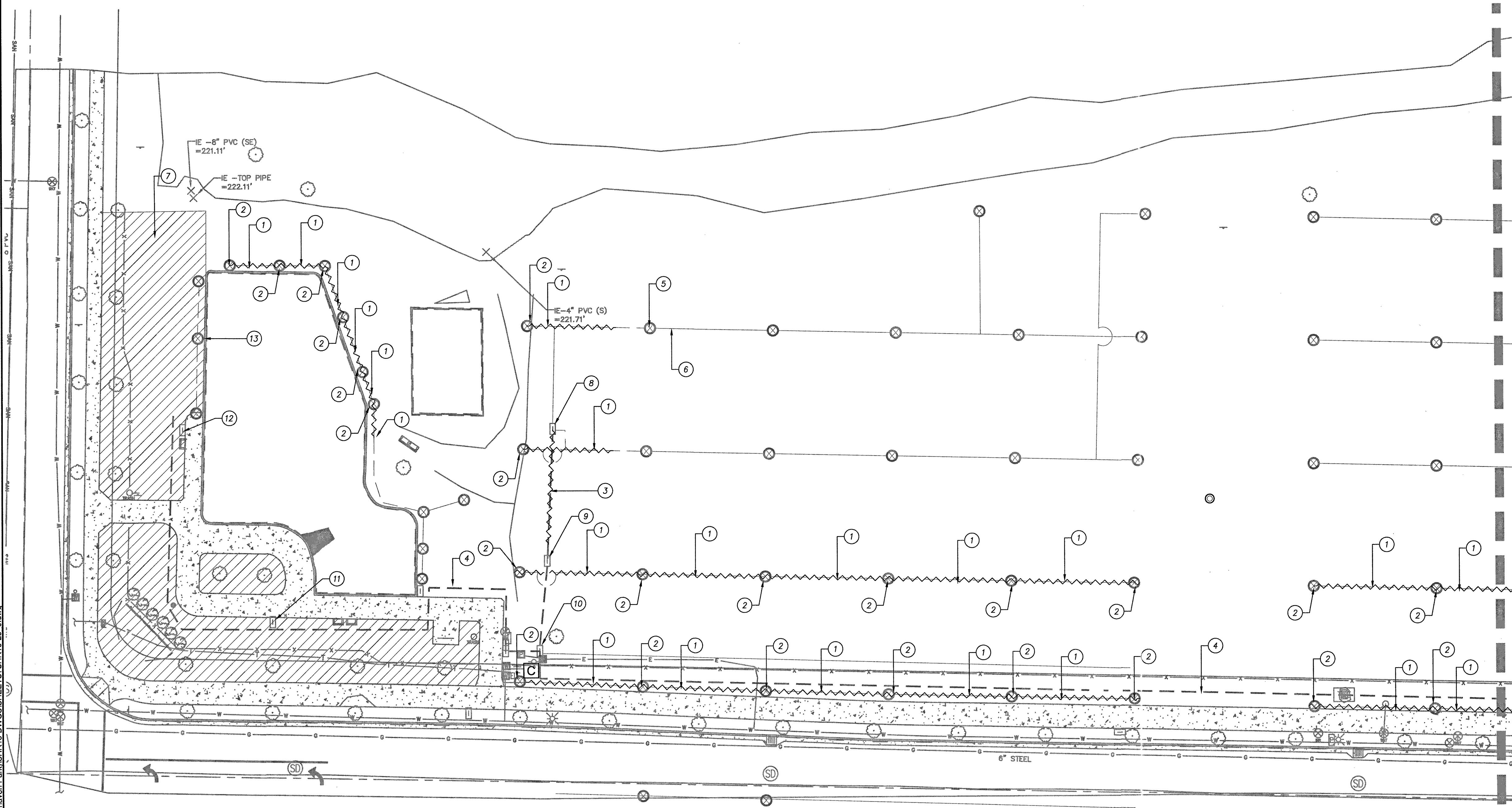
**BID SET**

SHEET NO.  
**L2.1**  
 JOB NO.  
 SHR-13

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(S)\SHEETS\SHR13-L1\_4.dwg



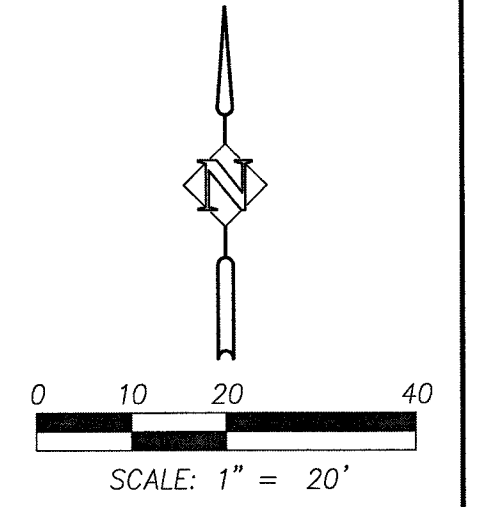
P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\DWG(S)\SHEETS\SHR13-L3\_0.dwg



**IRRIGATION DEMO NOTES**

1. REMOVE EXISTING IRRIGATION LATERAL LINE. CAP LINE.
2. REMOVE EXISTING IRRIGATION HEAD. RETURN TO OWNER.
3. REMOVE EXISTING IRRIGATION MAINLINE. CAP MAINLINE DOWNSTREAM OF VALVES.
4. EXISTING IRRIGATION 2" MAINLINE TO REMAIN, TYP. VERIFY EXACT LOCATION IN FIELD.
5. EXISTING IRRIGATION HEAD TO REMAIN, TYP. VERIFY EXACT LOCATIONS IN FIELD.
6. EXISTING IRRIGATION LATERALS TO REMAIN, TYP. VERIFY EXACT LOCATION IN FIELD.
7. EXISTING IRRIGATION ZONES TO REMAIN, TYP.
8. EXISTING REMOTE CONTROL VALVES 1B AND 2B. REMOVE AND RETURN TO OWNER.
9. EXISTING REMOTE CONTROL VALVES 3B AND 4B. PROTECT IN PLACE.
10. EXISTING REMOTE CONTROL VALVE 1A. PROTECT IN PLACE.
11. EXISTING REMOTE CONTROL VALVES 3A, 4A AND 5A. PROTECT IN PLACE.
12. EXISTING REMOTE CONTROL VALVE 2A. PROTECT IN PLACE.
13. RELOCATE HEADS AND LATERAL LINES TO ACCOMMODATE NEW SIDEWALK. SEE L3.2

MATCHLINE - SEE SHEET L3.1



SW SUNSET BLVD.

DESIGNED: SWB / JPC		
DRAWN: HHPR		
CHECKED: BRA		
DATE: APRIL 2016		
DATE	NO.	DESCRIPTION
R E V I S I O N S		



**HHPR** Harper Houf Peterson Righellis Inc.  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

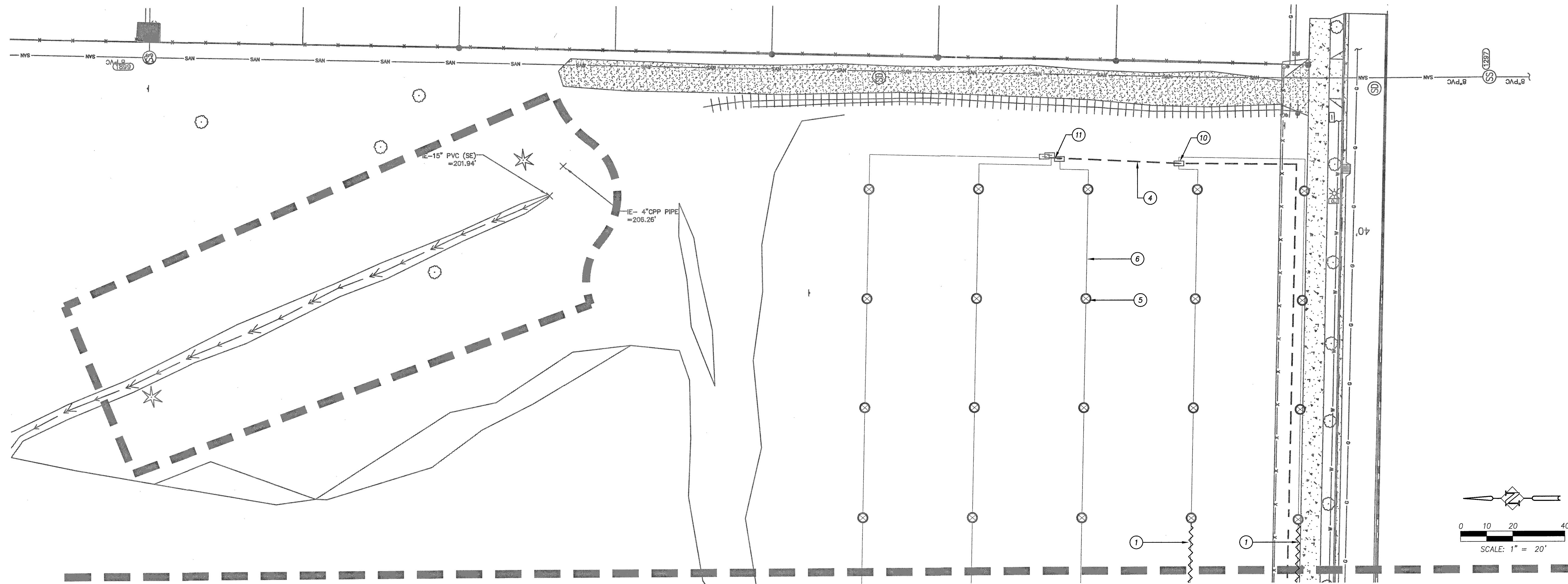
IRRIGATION DEMO PLAN  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

SHEET NO.	<b>L3.0</b>
JOB NO.	

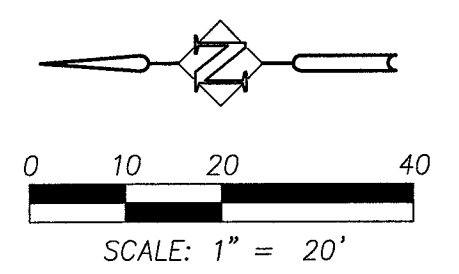
**BID SET**

**IRRIGATION DEMO NOTES**

1. REMOVE EXISTING IRRIGATION LATERAL LINE. CAP LINE.
2. REMOVE EXISTING IRRIGATION HEAD. RETURN TO OWNER.
3. REMOVE EXISTING IRRIGATION MAINLINE. CAP MAINLINE DOWNSTREAM OF VALVES.
4. EXISTING IRRIGATION 2" MAINLINE TO REMAIN, TYP. VERIFY EXACT LOCATION IN FIELD.
5. EXISTING IRRIGATION HEAD TO REMAIN, TYP. VERIFY EXACT LOCATIONS IN FIELD.
6. EXISTING IRRIGATION LATERALS TO REMAIN, TYP. VERIFY EXACT LOCATION IN FIELD.
9. EXISTING IRRIGATION ZONES TO REMAIN, TYP.
10. EXISTING REMOTE CONTROL VALVES 7B, 8B AND 9B. PROTECT IN PLACE.
11. EXISTING REMOTE CONTROL VALVES 5B AND 6B. PROTECT IN PLACE.



MATCHLINE - SEE SHEET L3.0



**BID SET**

P:\SHR (City of Sherwood)\SHR-13 Woodhaven Park\SHR13-DWG\SHEETS\SHR13-L3.dwg

DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	SWB / JPC
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016



**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**IRRIGATION DEMO PLAN  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON**

SHEET NO.  
**L3.1**  
 JOB NO.  
 SHR-13



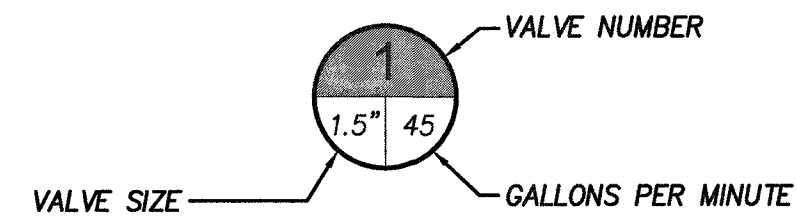
**IRRIGATION LEGEND**

**EQUIPMENT**

SYMBOL	DESCRIPTION	DETAIL
Ⓢ	CONTROLLER - CALSENSE MODEL ET2000e-24	SEE SHEET L3.4
⊗	BALL VALVE - NIBCO T-560 OR APPROVED EQUAL.	SEE SHEET L3.4
⊕	REMOTE CONTROL VALVE - RAINBIRD PEB OR APPVD EQ, SIZE AS SHOWN REMOTE CONTROL VALVE	SEE SHEET L3.4
⊙	QUICK COUPLER - RAINBIRD 44 LRC OR APPROVED EQUAL	SEE SHEET L3.4
---	SLEEVING - 4" SLEEVE FOR PIPES < 2", 6" SLEEVE FOR PIPES 2.5"-4"	SEE SHEET L3.4

---	MAINLINE - 2" SCH. 40 PVC	SEE SHEET L3.4
---	LATERAL LINE - 3/4", CLASS 200 PVC	SEE SHEET L3.4
---	LATERAL LINE - 1", 1.25" & 1.5" CLASS 200 PVC	SEE SHEET L3.4
---	LATERAL LINE - SIZE AS INDICATED, CLASS 200 PVC	SEE SHEET L3.4

**VALVE ZONE KEY**



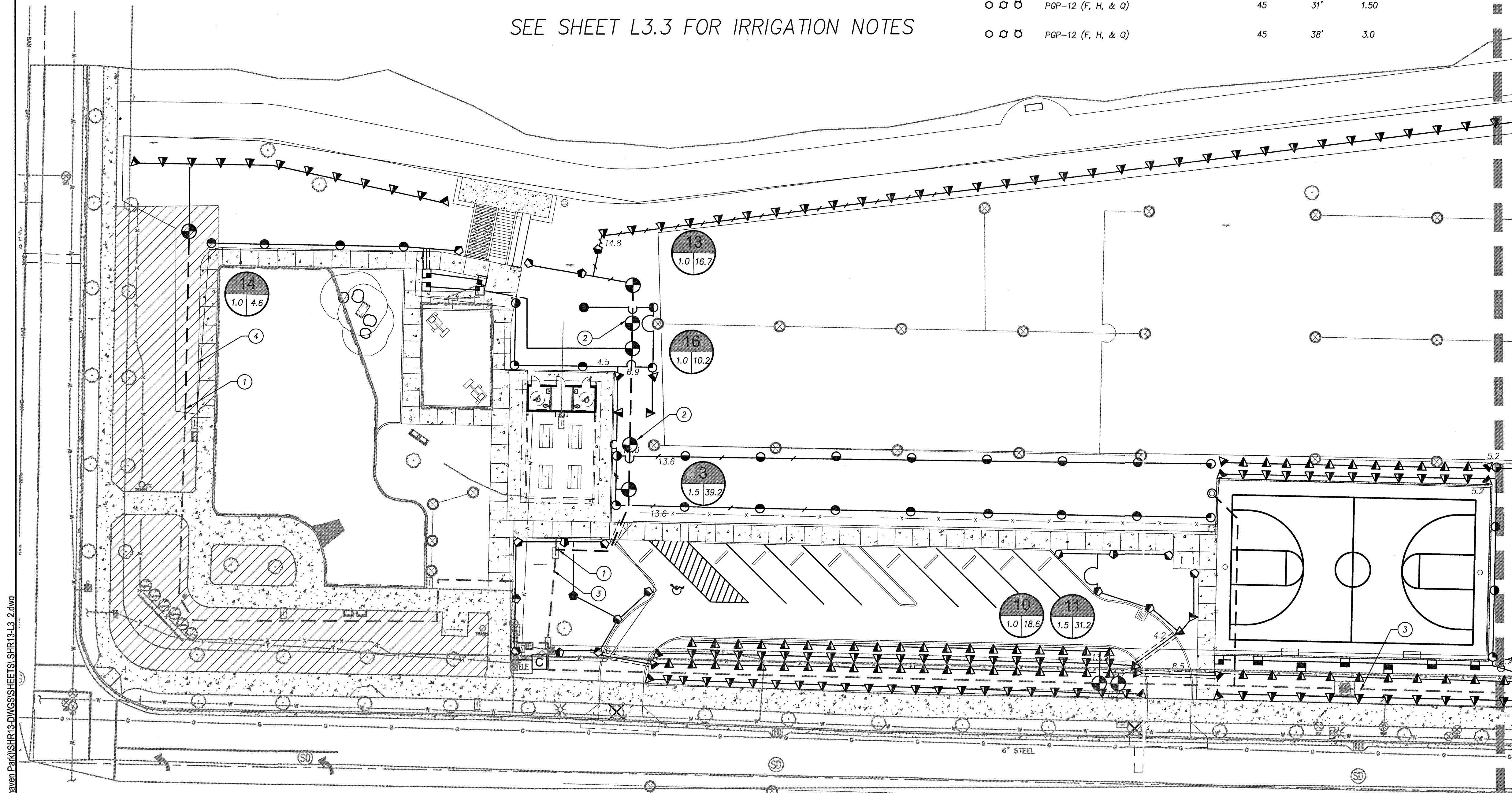
SEE SHEET L3.3 FOR IRRIGATION NOTES

**HEAD SCHEDULE**

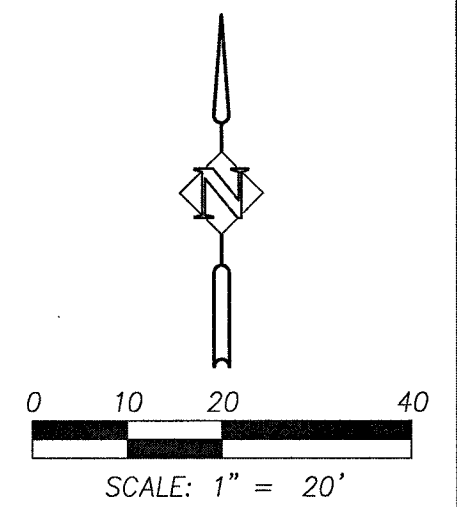
SYMBOL	DESCRIPTION	PSI	RADIUS	GPM
<b>HUNTER MPR40 HEADS W/ MP ROTATOR NOZZLES</b>				
⊠	MPSS530, MPLCS515 & MPRCS515	30	5X30', 5'X15'	.44, .22
▼	MP1000 (360, 180, 90)	30	8'-15'	.75, .37, .19
⬢	MP2000 (360, 180, 90)	30	13'-21'	1.47, .74, .40
⊙	MP3000 (360, 180, 90)	30	22'-30'	3.64, 1.82, .86
<b>HUNTER PGP ULTRA ROTORS W/ BLUE STANDRAD NOZZLES</b>				
⊙	PGP-12 (F, H, & Q)	45	31'	1.50
⊙	PGP-12 (F, H, & Q)	45	38'	3.0

**IRRIGATION CONSTRUCTION NOTES**

1. LOCATE AND EXTEND EXISTING IRRIGATION MAINLINE AND COMMON WIRE TO SERVE NEW ZONES. CONNECT CONTROL WIRES FROM CONTROLLER TO NEW REMOTE CONTROL VALVES.
2. REPLACE EXISTING REMOTE CONTROL VALVE. CONNECT EXISTING IRRIGATION ZONE TO NEW VALVE.
3. APPROXIMATE LOCATION OF EXISTING IRRIGATION. VERIFY EXACT LOCATION IN FIELD.
4. ADJUST EXISTING IRRIGATION ZONE TO ACCOMMODATE NEW WALKWAY. PROVIDE NEW HEADS, NOZZLES AND LATERAL LINE AS NEEDED TO ADJUST THE IRRIGATION ZONE TO ACHIEVE FULL COVERAGE IN EXISTING LAWN AREAS.



MATCHLINE - SEE SHEET L3.3



**BID SET**

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SSHEETS\SHR13-L3.2.dwg

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	SWB / JPC
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016



SW SUNSET BLVD.

**Harper Houf Peterson Righellis Inc.**

ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

IRRIGATION PLAN  
**WOODHAVEN PARK PHASE 2**  
SHERWOOD, OREGON

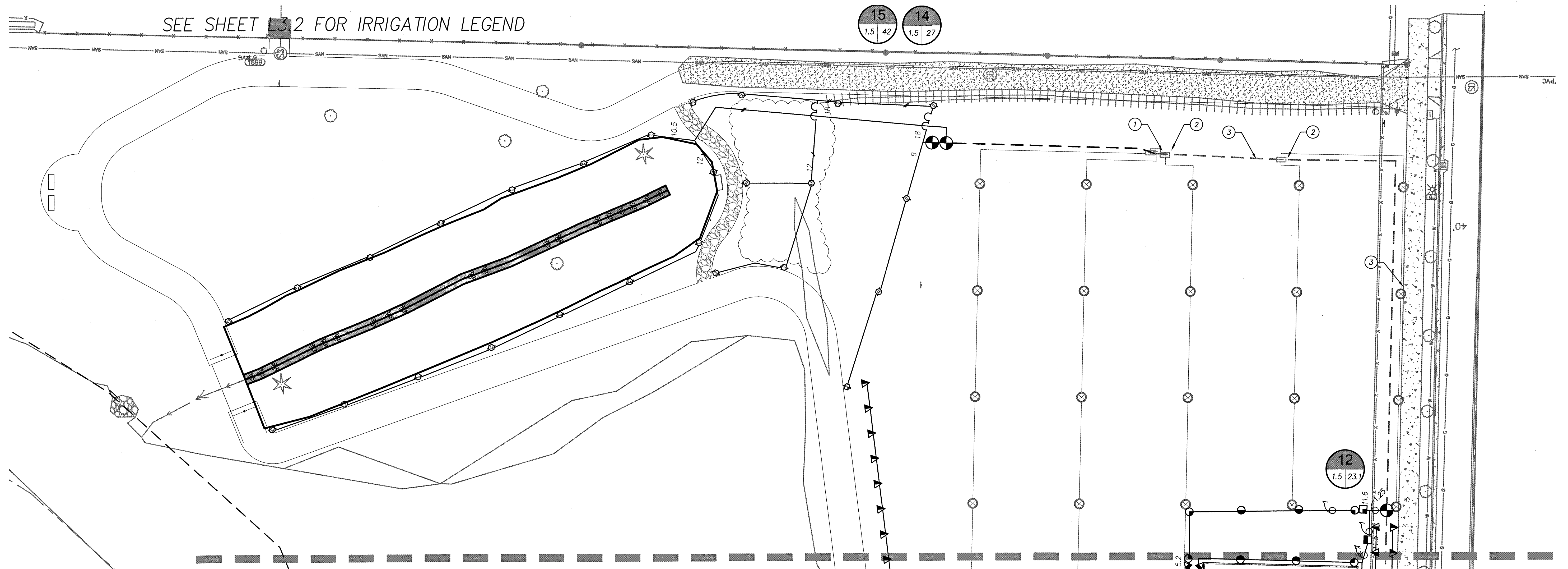
SHEET NO.	<b>L3.2</b>
JOB NO.	SHR-13

**IRRIGATION NOTES**

1. THE CONTRACTOR SHALL INSPECT THE SITE AND VERIFY CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
2. IRRIGATION PLANS ARE SCHEMATIC REPRESENTATIONS ONLY. PLACE LINES IN A COMMON TRENCH WHENEVER POSSIBLE. FIELD ADJUST LINES TO AVOID CONFLICT WITH UTILITIES.
3. IRRIGATION IS COORDINATED WITH THE PLANTING PLAN AND SITE IMPROVEMENTS AND IS DESIGNED WITH TRIANGULAR SPACING GIVING HEAD TO HEAD COVERAGE. COORDINATE IRRIGATION HEAD LAYOUT WITH NEW PLANT MATERIALS. LOCATE SPRAY HEADS 30" FROM BASE OF TREE. DO NOT ALTER HEAD LOCATION, PIPE LAYOUT, OR VALVE LOCATION WITHOUT WRITTEN APPROVAL FROM THE CONSTRUCTION MANAGER. NOTIFY OWNER'S REPRESENTATIVE IF DISCREPANCIES OCCUR BETWEEN THE PLANS AND FIELD CONDITIONS.
4. ALL COMPONENTS OF IRRIGATION SYSTEM SHALL BE INSTALLED AND PROPERLY ADJUSTED TO PROVIDE ADEQUATE COVERAGE AND MINIMIZATION OF OVER SPRAY ONTO WALKS, BUILDINGS, PARKING AREAS, ETC.
5. ALL PIPE SIZES INDICATED ARE MINIMUMS. CONTRACTOR MAY NOT DECREASE PIPE SIZE. LARGER PIPE SIZES MAY BE USED AT NO ADDITIONAL COST TO OWNER.
6. INSTALL ALL IRRIGATION PIPE AND CONTROL WIRES IN MINIMUM 4" PVC SLEEVE BELOW ALL PAVED SURFACES UNLESS OTHERWISE INDICATED ON THE PLANS. INSTALL SLEEVES PRIOR TO PLACEMENT OF PAVEMENTS AND PAVEMENT SUB-BASE.
7. COORDINATE IRRIGATION POINTS OF CONNECTION AND LOCATION OF AUTOMATIC CONTROL VALVES WITH PROJECT MANAGER. COORDINATE ALL WORK WITH OTHER TRADES, I.E. ELECTRICAL, MASONRY, ETC.
8. CONTRACTOR TO PROGRAM AUTOMATIC CONTROLLER TO ALLOW FOR THE EQUIVALENT OF 1" OF WATER PER WEEK, OR PER SITE AND PLANTING NEEDS FOR BEST PLANT HEALTH.
9. ALL PIPES SHALL BE TRENCHED. PROVIDE POSITIVE DRAINAGE OF MAINLINE. PLACE MANUAL DRAIN AT LOW POINTS IN MAINLINE. IDENTIFY LOCATIONS ON AS-BUILTS.
10. USE 45° ELLS INSTEAD OF 90° ELLS ON ALL MAINLINES 2-1/2" AND LARGER. INSTALL CONCRETE THRUST BLOCKS AT ALL MAINLINE CHANGES IN DIRECTION. POUR MINIMUM OF 1 CUBIC FOOT OF CONCRETE ON UNDISTURBED SOIL. WRAP PIPE IN PLASTIC WRAP PRIOR TO COVERING WITH CONCRETE.
11. CONTRACTOR TO INSTALL CONTROLLER AND ACCESSORIES AS REQUIRED. CONTRACTOR TO FURNISH CONTROL WIRES FROM VALVES TO CONTROLLER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING 110 VOLT SERVICE FROM BUILDING AND CONNECTION TO CONTROLLER SERVICE.
12. INSTALL ONE (1) ADDITIONAL RED CONTROL WIRE AND ONE (1) ADDITIONAL WHITE CONTROL WIRE FROM CONTROLLER TO END OF MAINLINE.

**IRRIGATION CONSTRUCTION NOTES**

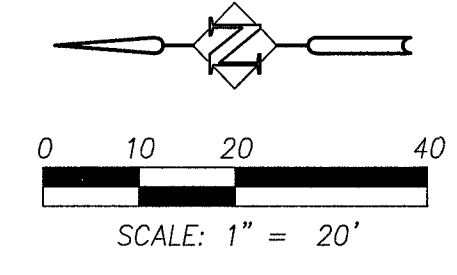
1. LOCATE AND EXTEND EXISTING IRRIGATION MAINLINE TO SERVE NEW ZONES. CONNECT NEW COMMON & CONTROL WIRES FROM CONTROLLER TO NEW REMOTE CONTROL VALVES.
2. CONNECT EXISTING REMOTE CONTROL VALVES TO NEW CONTROLLER.
3. APPROXIMATE LOCATION OF EXISTING IRRIGATION. VERIFY EXACT LOCATION IN FIELD.
4. CONNECT NEW REMOTE CONTROL VALVE TO EXISTING MAINLINE AND NEW CONTROLLER.



SEE SHEET L3.2 FOR IRRIGATION LEGEND

MATCHLINE - SEE SHEET L3.2

**BID SET**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	SWB / JPC
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016



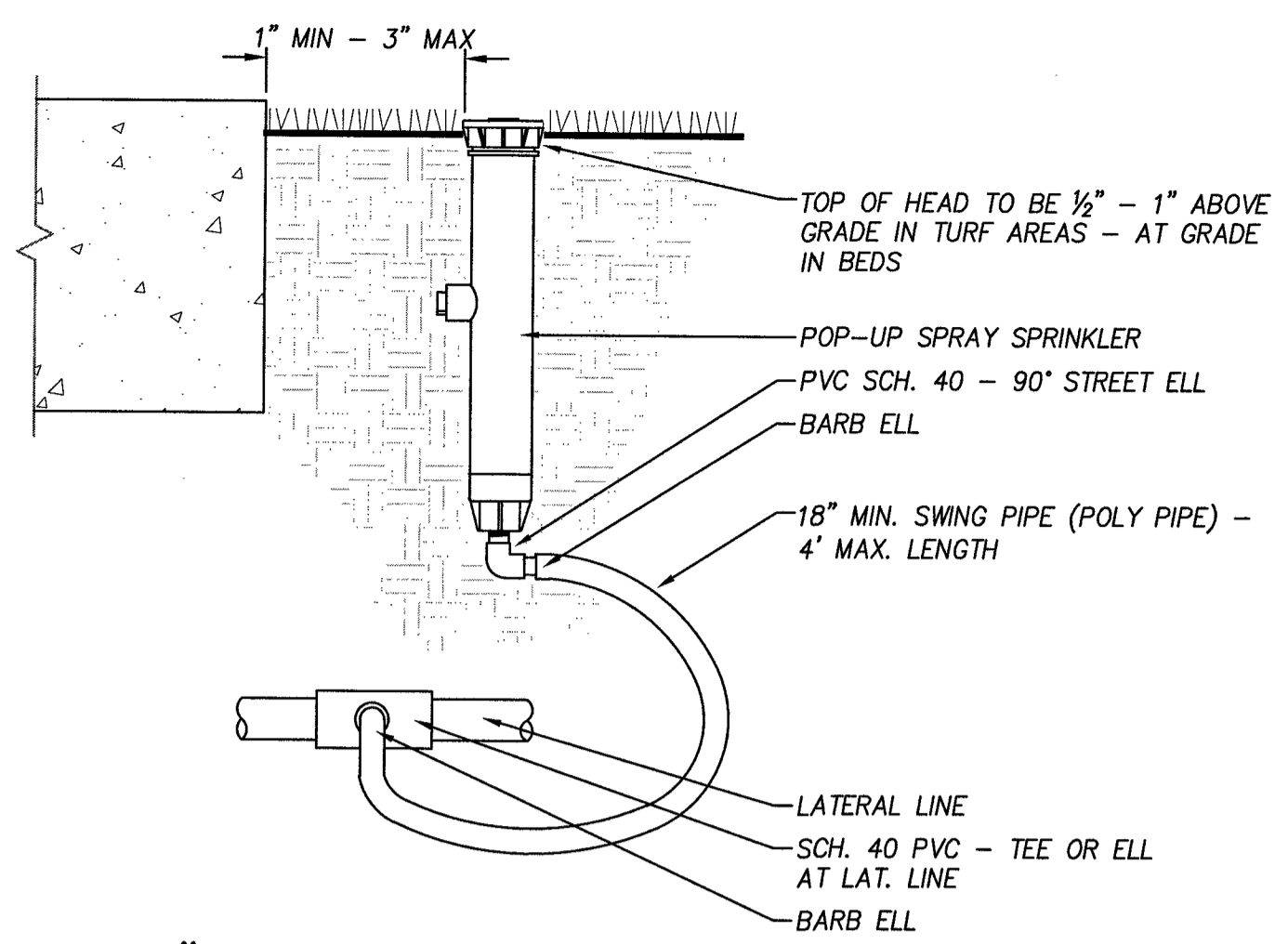
**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hpr.com fax: 503.221.1171

IRRIGATION PLAN  
 WOODHAVEN PARK PHASE 2  
 SHERWOOD, OREGON

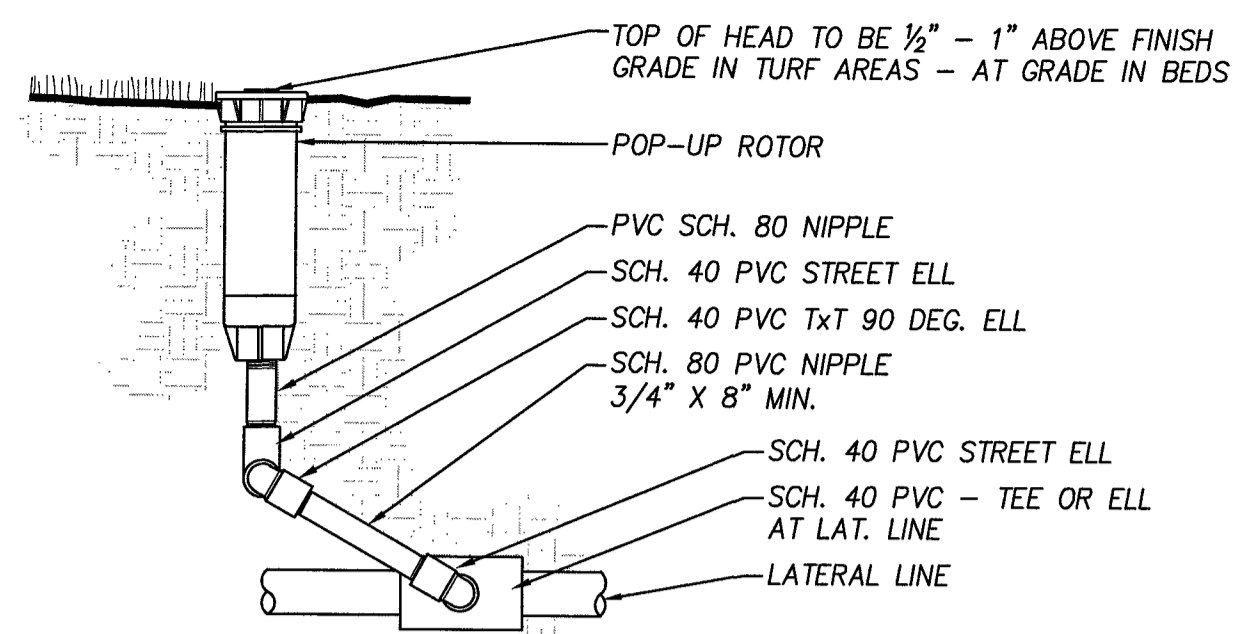
SHEET NO.	<b>L3.3</b>
JOB NO.	SHR-13

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SHEETS\SHR13-L3\_2.dwg

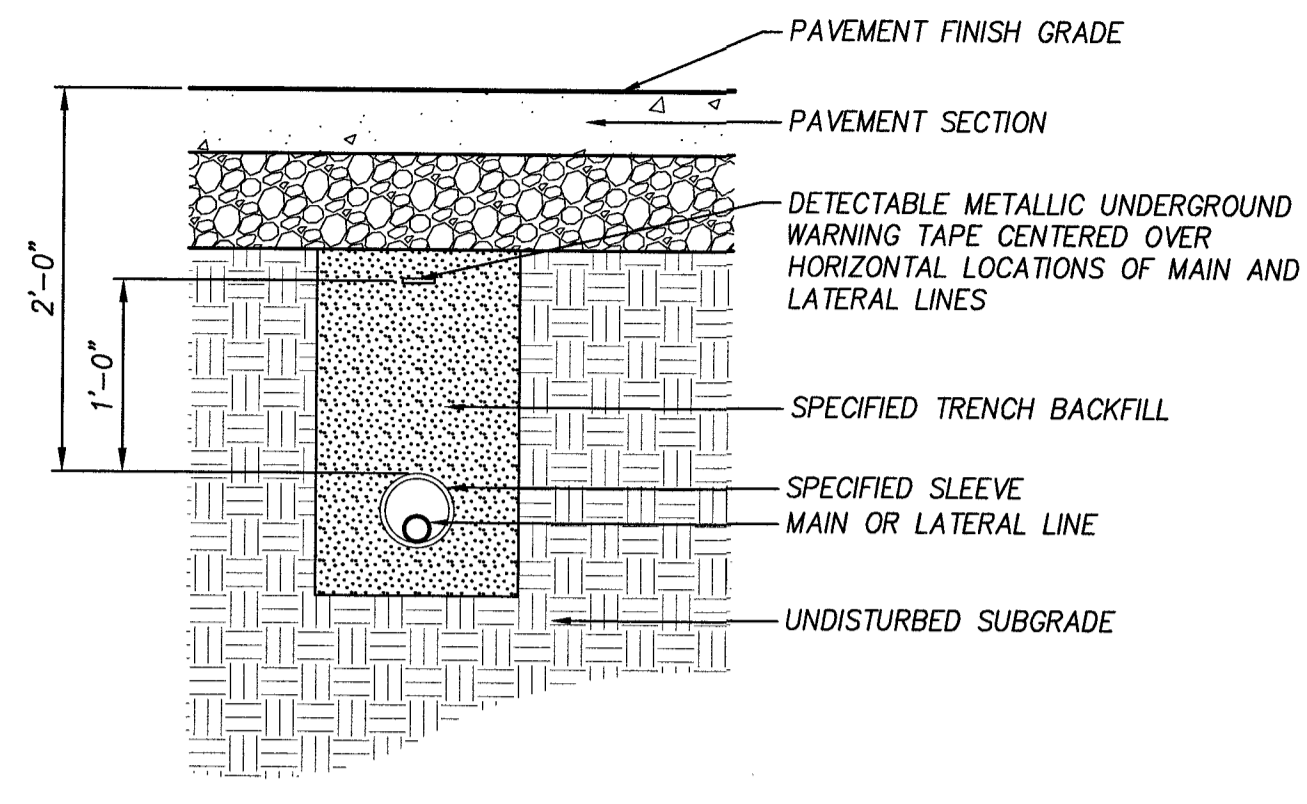




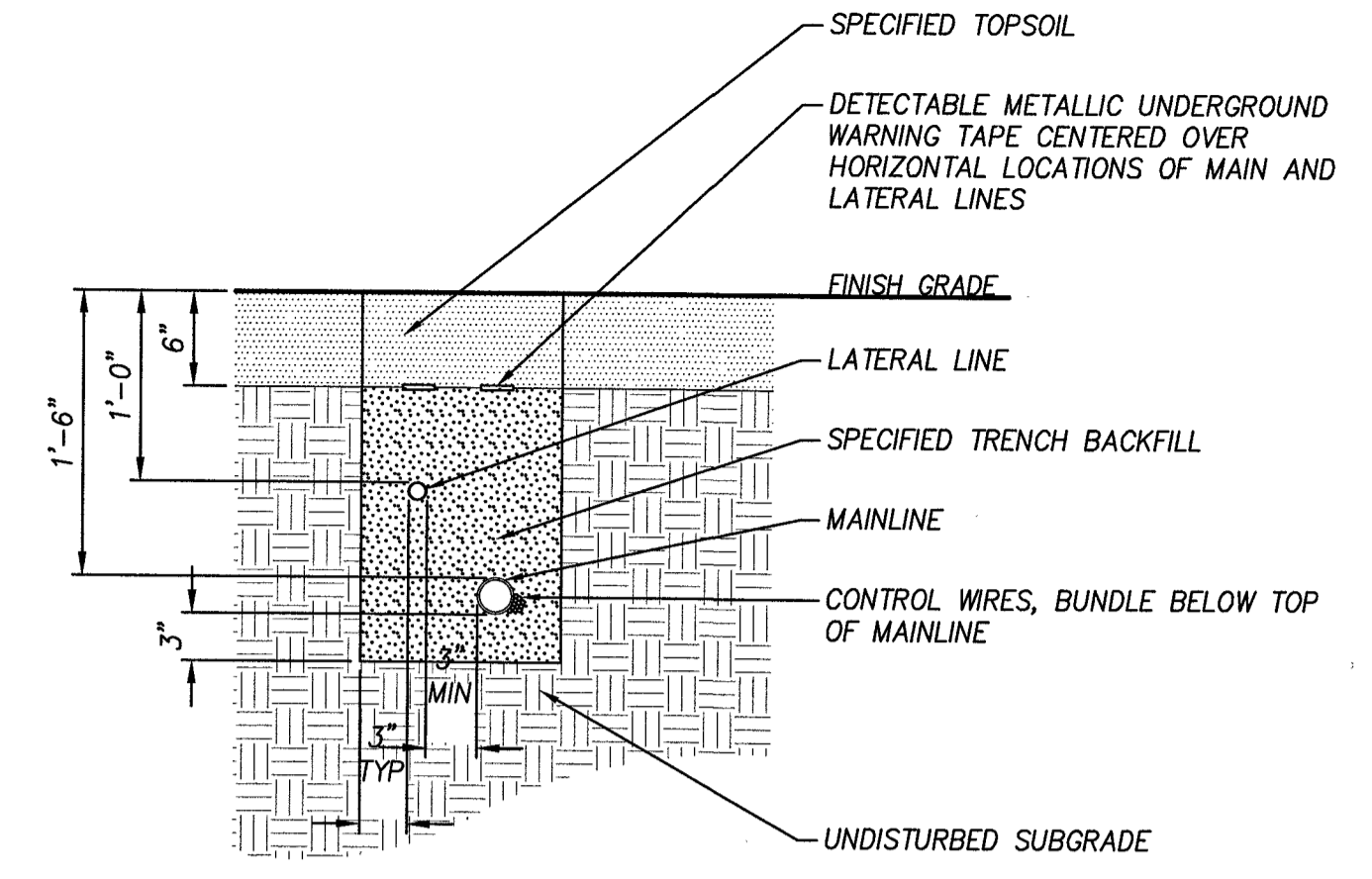
**12" POP-UP SPRAY SPRINKLER**  
Section  
NOT TO SCALE



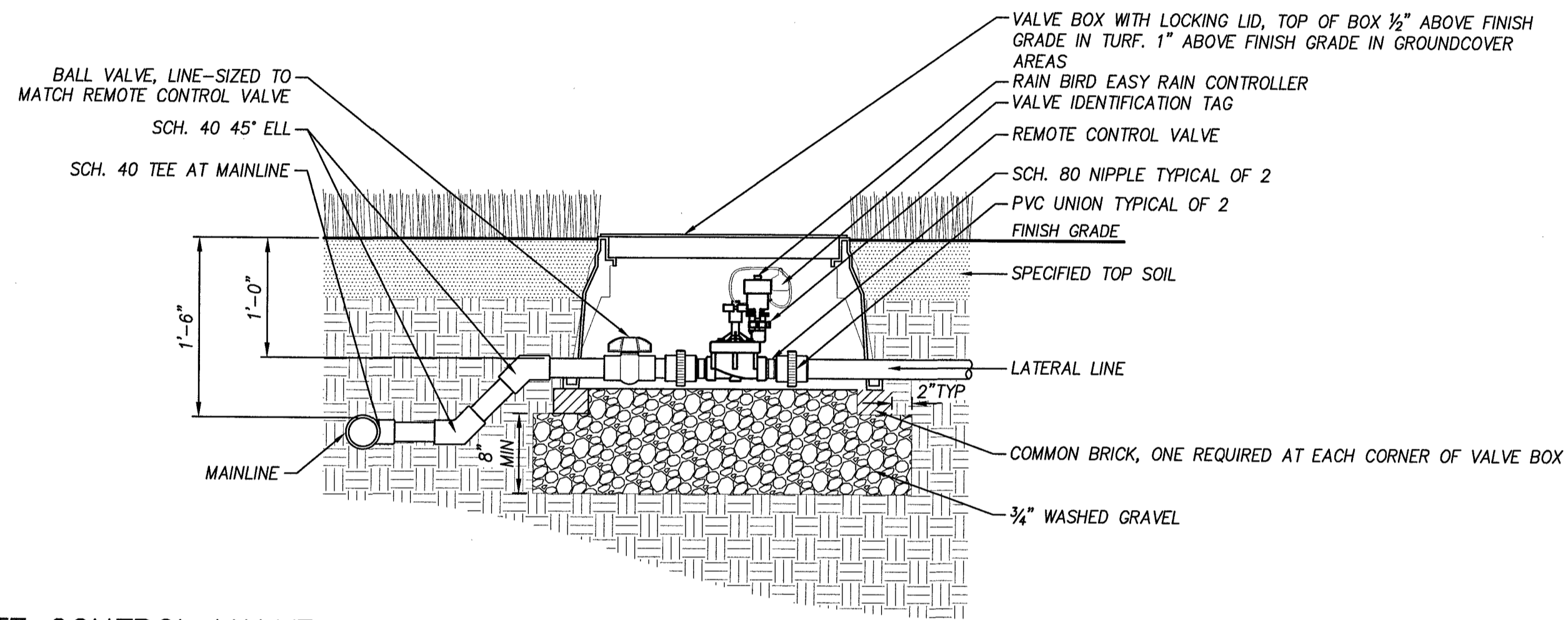
**ROTOR - SWING JOINT ASSEMBLY**  
Section  
NOT TO SCALE



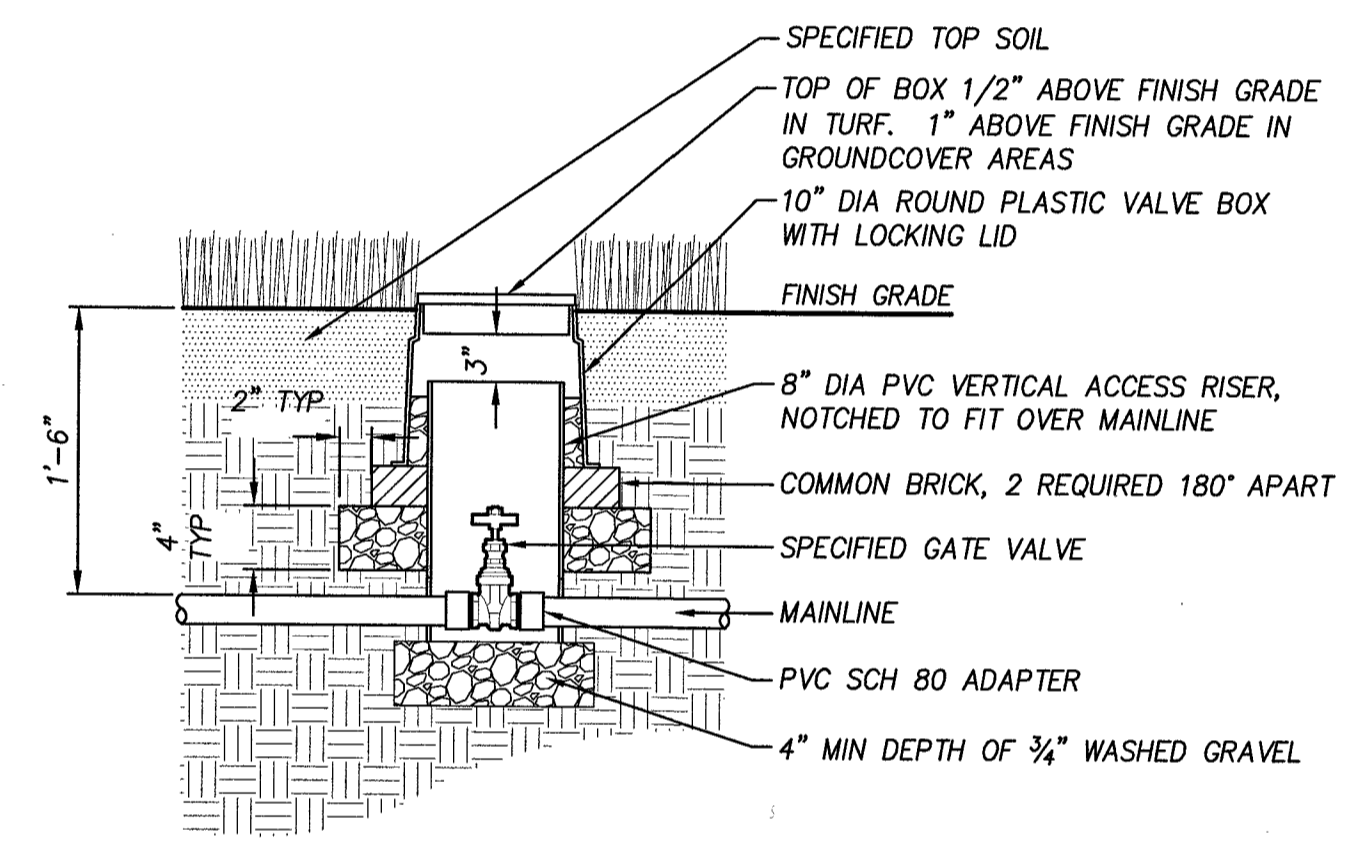
**SLEEVING**  
Section  
NOT TO SCALE



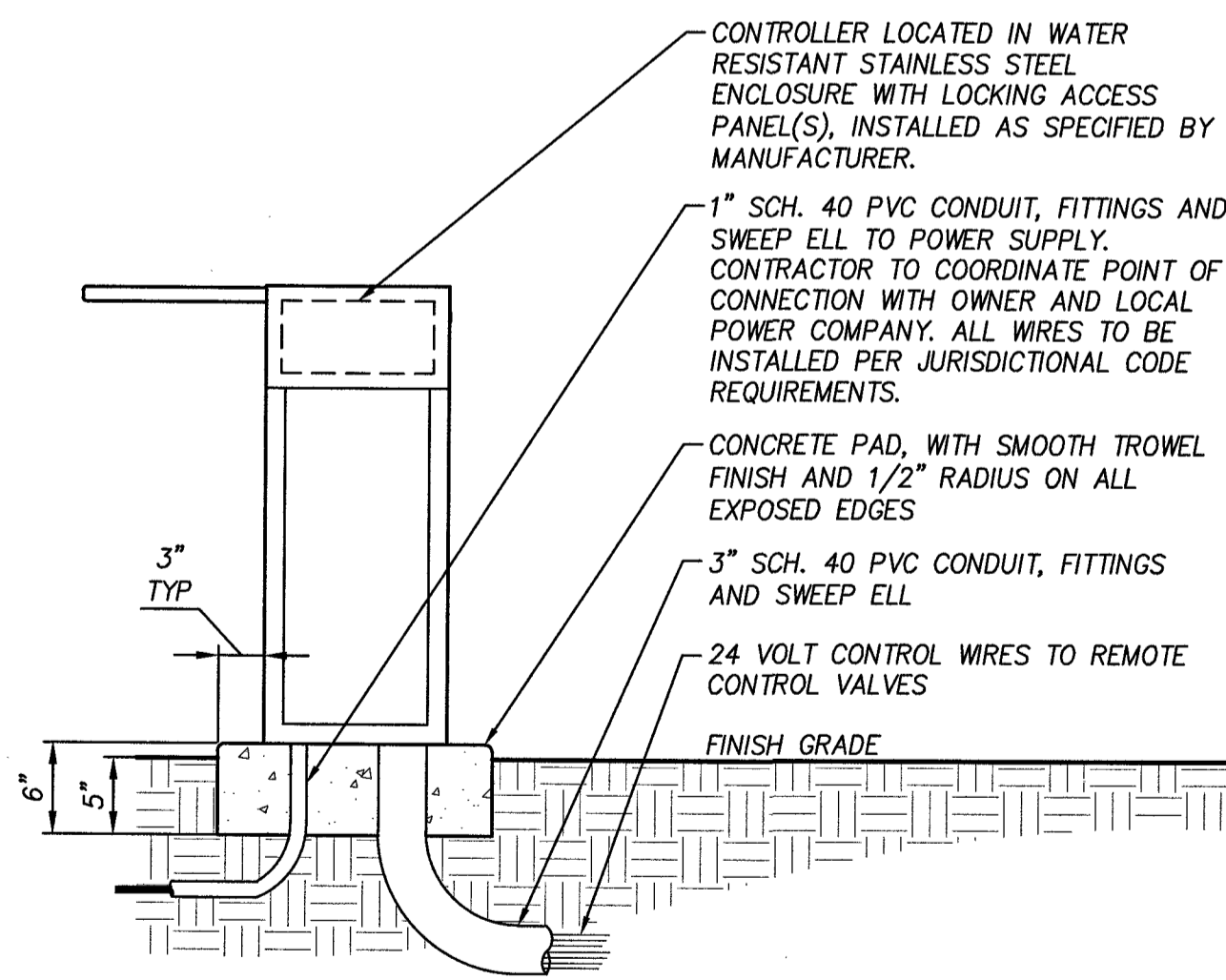
**TYPICAL TRENCHING**  
Section  
NOT TO SCALE



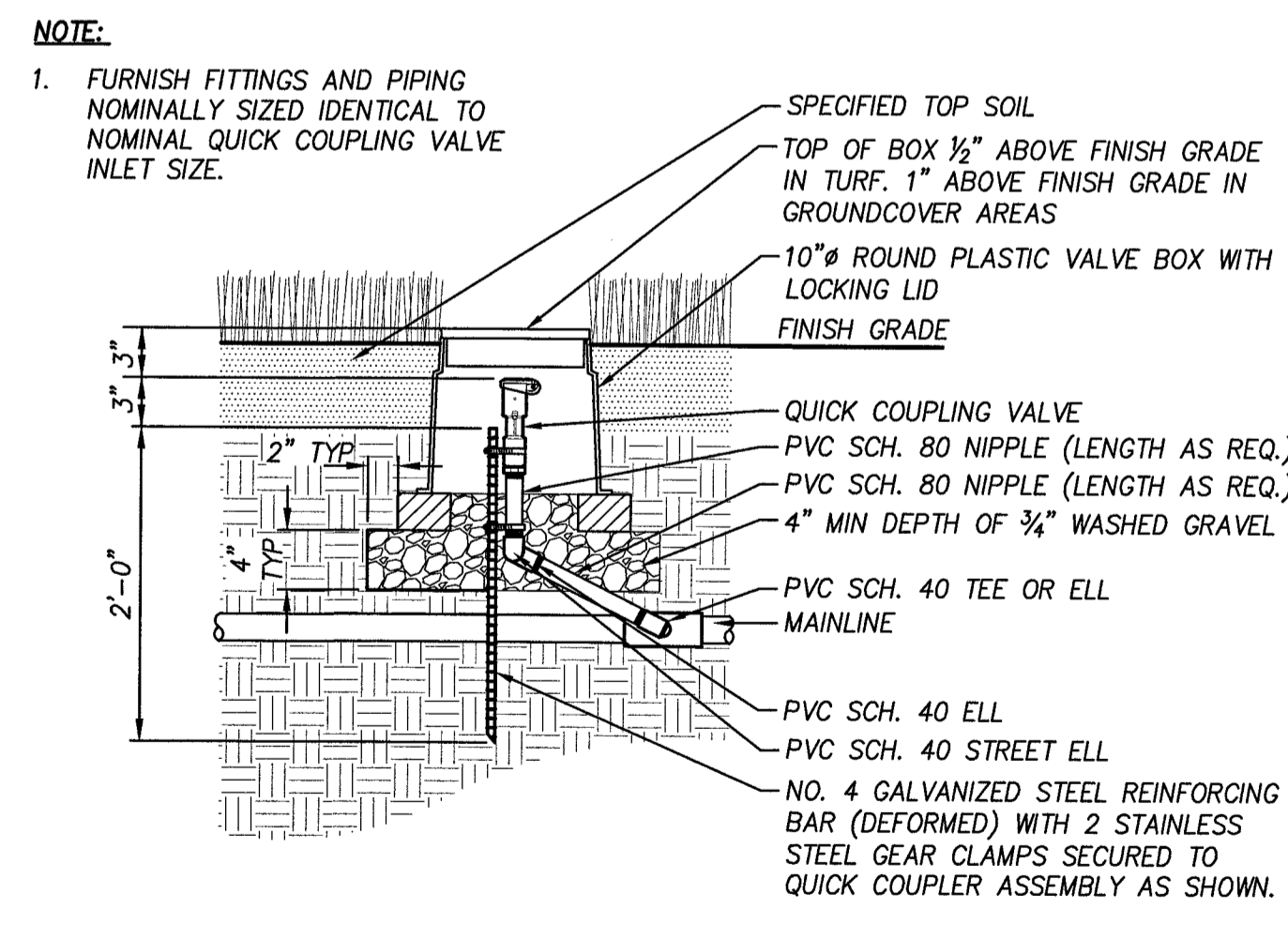
**REMOTE CONTROL VALVE**  
Section  
NOT TO SCALE



**ISOLATION VALVE**  
Section  
NOT TO SCALE



**CONTROLLER**  
Section  
NOT TO SCALE



**QUICK COUPLER**  
Section  
NOT TO SCALE

**NOTE:**

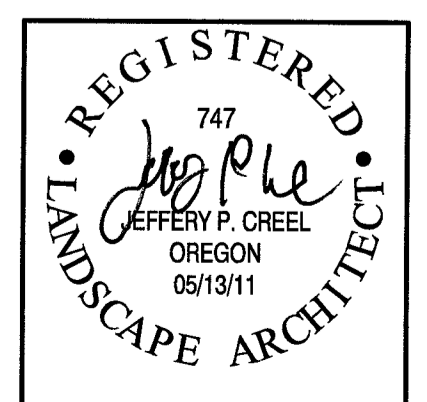
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\DWGS\SHEETS\SHR13.L3.2.dwg

DESIGNED:	SWB / JPC
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016

DATE	NO.	DESCRIPTION
R E V I S I O N S		



**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

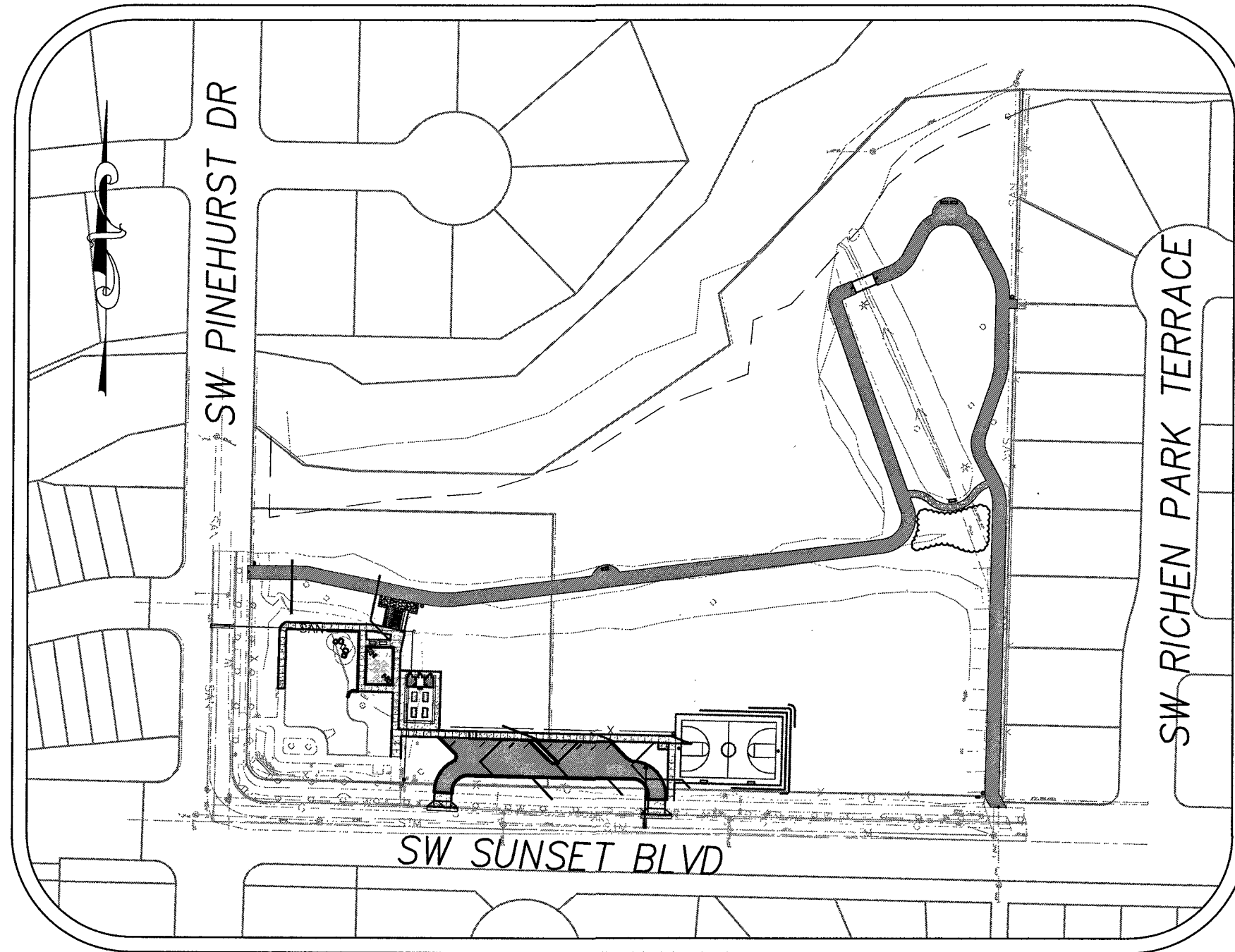
**BID SET**

IRRIGATION DETAILS  
**WOODHAVEN PARK PHASE 2**  
SHERWOOD, OREGON

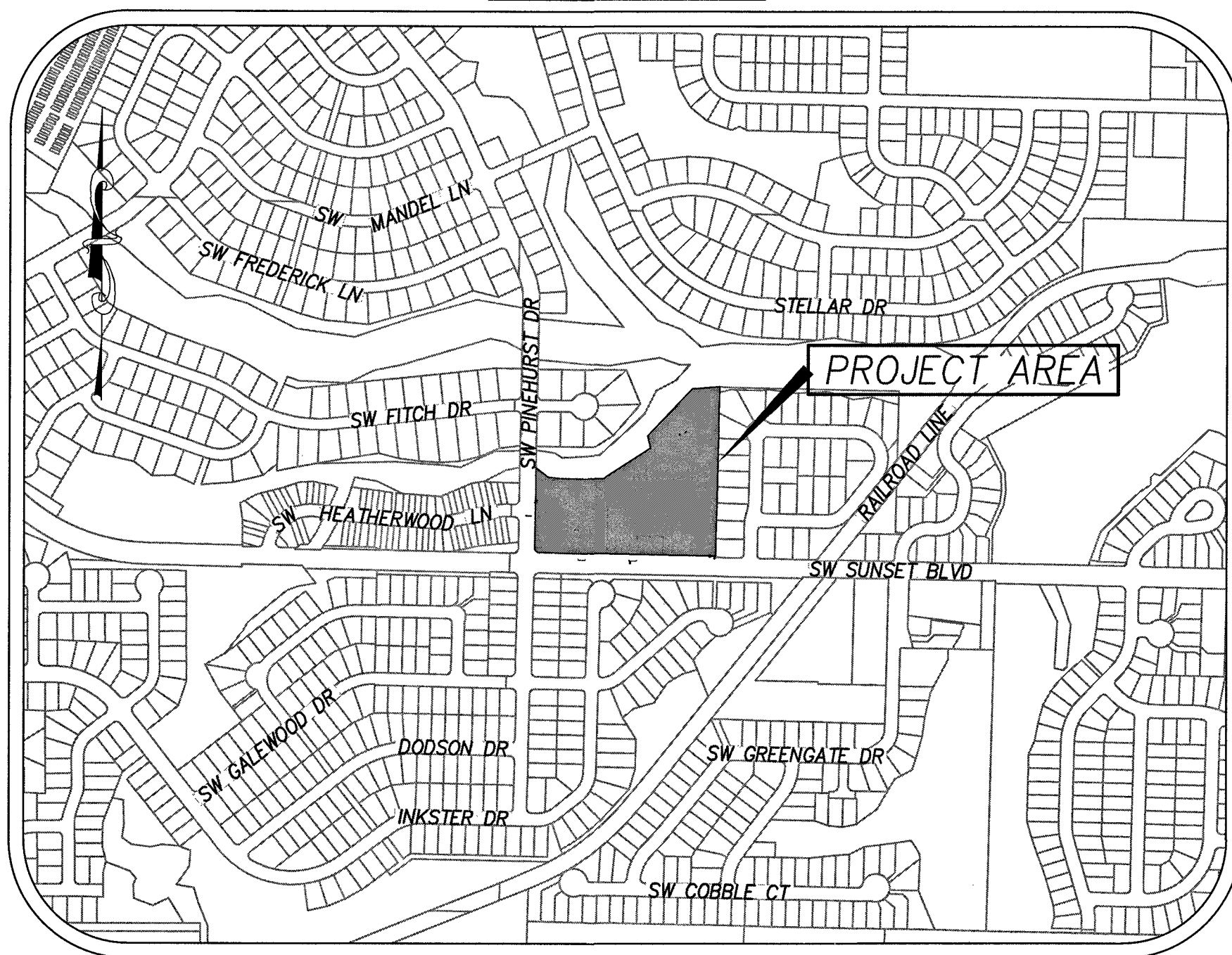
SHEET NO. <b>L3.4</b>	JOB NO. SHR-13
--------------------------	-------------------



# WOODHAVEN PARK PHASE 2 EROSION AND SEDIMENT CONTROL PLAN



**SITE MAP** NOT TO SCALE



**VICINITY MAP** NOT TO SCALE

**PROJECT LOCATION:**

WOODHAVEN PARK  
SHERWOOD, OR 97140  
WASHINGTON COUNTY, OREGON  
LATITUDE = N45-20-59, LONGITUDE = W122-51-20

**ATTENTION EXCAVATORS:**

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

DATE	NO.	DESCRIPTION
R E V I S I O N S		

**DEVELOPER**

DEVELOPER/COMPANY: CITY OF SHERWOOD  
CONTACT: KRISTEN SWITZER COMMUNITY SERVICES DIRECTOR  
ADDRESS: 22560 SW PINE STREET  
SHERWOOD, OR 97140  
PHONE: 503-625-4210  
EMAIL: SWITZERK@SHERWOODOREGON.GOV

**PLANNING / ENGINEERING / SURVEYING FIRM**

ENGINEERING FIRM: HARPER HOUF PETERSON RIGHELLIS INC.  
CONTACT: BEN AUSTIN  
ADDRESS: 205 SE SPOKANE STREET STE 200  
PORTLAND, OREGON 97202  
PHONE: 503-221-1131  
EMAIL: BEN@HHPR.COM

**NARRATIVE DESCRIPTIONS**

**EXISTING SITE CONDITIONS**

\* PARTIALLY DEVELOPED PARK

**DEVELOPED CONDITIONS**

\* COMMUNITY PARK

**NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE**

- \* CLEARING (WEEK 1 - 3)
- \* MASS GRADING (WEEK 3 - 6)
- \* UTILITY INSTALLATION (WEEK 3 - 6)
- \* SITE CONSTRUCTION (WEEK 6 - 10)
- \* FINAL STABILIZATION (WEEK 10 - 12)

TOTAL SITE AREA = 6.19 ACRES

TOTAL DISTURBED AREA = 1.0 ACRES

**SITE SOIL CLASSIFICATION:**  
PREDOMINATELY QUATAMA LOAM.

THESE SOILS HAVE A LOW SUSCEPTIBILITY TO EROSION. EROSION CONTROL MEASURES WILL BE INSTALLED BEFORE CONSTRUCTION BEGINS.

**RECEIVING WATER BODIES:**

CEDAR CREEK

**PROPERTY DESCRIPTION:**

STREET LOCATION: SW SUNSET BLVD. AT SW PINEHURST DR.  
TAX LOT AND MAP NO.: TL 1800 AND TL1900; MAP 2S 1 31 DB  
EXISTING USE: NEIGHBORHOOD PARK  
EXISTING ZONE DESIGNATION: LDR-PUD  
SITE AREA: 6.19 AC.

**PERMITTEE'S SITE INSPECTOR:**

COMPANY/AGENCY: CITY OF SHERWOOD  
CONTACT: ANDREW STIRLING  
PHONE: 503-925-2307  
E-MAIL: STIRLINGA@SHERWOODOREGON.COM  
DESCRIPTION OF EXPERIENCE: 5 YEARS OF CONSTRUCTION AND EROSION AND SEDIMENT CONTROL INSPECTION

**SHEET INDEX**

**EROSION AND SEDIMENT CONTROL PLANS**

- EC1 ESC - COVER SHEET
- EC2 ESC - CLEARING AND DEMOLITION
- EC3 ESC - GRADING AND UTILITY
- EC4 ESC - DETAILS

**STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:**

1. All permit registrants must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit.
2. The ESCP measures shown on this plan are minimum requirements for anticipated site conditions. During the construction period, upgrade these measures as needed to comply with all applicable local, state, and federal erosion and sediment control regulations.
3. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent.
4. Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion.
5. Identify, mark, and protect (by fencing off or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas.
6. Preserve existing vegetation when practical and re-vegetate open areas. Re-vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used.
7. Erosion and sediment control measures including perimeter sediment control must be in place before vegetation is disturbed and must remain in place and be maintained, repaired, and promptly implemented following procedures established for the duration of construction, including protection for active storm drain inlets and catch basins and appropriate non-stormwater pollution controls.
8. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. Direct all wash water into a pit or leak-proof container. Handle wash water as waste, concrete discharge to water of the state is prohibited.
9. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses and for all roadways including gravel roadways.
10. Establish material and waste storage areas, and other non-stormwater controls.
11. Prevent tracking of sediment onto public or private roads using BMP's such as: graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMP's must be in place prior to land-disturbing activities.
12. When trucking saturated soils from the site, either use water-tight trucks or drain loads on site.
13. Use BMP's to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations.
14. Implement the following BMP's when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies.
15. Use water, soil-binding agent or other dust control technique as needed to avoid wind-blown soil.
16. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time-release fertilizers within any riparian zone.
17. If a stormwater treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain plan approval before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications.
18. At the end of each workday soil stockpiles must be stabilized or covered, or other BMP's must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters.
19. Construction activities must avoid or minimize excavation and creation of bare ground during wet weather October 01 - May 31.
20. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal.
21. Other sediment barriers (such as retention basins): remove sediment before it reaches two inches depth above ground height, and before BMP removal.
22. Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project.
23. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in-stream clean up of sediment shall be performed according to the Oregon Division of State Lands required timeframe.
24. The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments.
25. Provide permanent erosion control measures on all exposed areas. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. However, do remove all temporary erosion control measures as exposed areas become stabilized, unless doing so conflicts with local requirements. Properly dispose of construction materials and waste, including sediment retained by temporary BMP's.
26. If vegetative seed mixes are specified, seeding must take place no later than September 1; the type and percentages of seed in the mix must be identified on the plans.
27. All pumping of sediment laden water shall be discharged over an undisturbed, preferably vegetated area, and through a sediment control BMP i.e. (filter bag).
28. All exposed soils must be covered during the wet weather period, October 01 - May 31.
29. If waters of the state is within the project site or within 50 feet of the project boundary, maintain the existing natural buffer within the 50-foot zone for the duration of the permit coverage, or maintain less than the entire existing natural buffer and provide additional erosion and sediment control BMP's.

- \* HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS.
- \* ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-CN PERMIT REQUIREMENTS.
- \* INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-CN PERMIT REQUIREMENTS.
- \* RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION.

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200-CN PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200-CN PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200-CN PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

**BMP MATRIX FOR CONSTRUCTION PHASES**  
REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

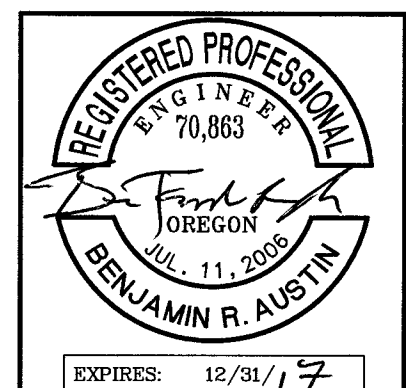
	CLEARING	MASS GRADING	UTILITY INSTALLATION	SITE CONSTRUCTION	FINAL STABILIZATION	WET WEATHER (OCT. 1 - MAY 31ST)
<b>EROSION PREVENTION</b>						
PRESERVE NATURAL VEGETATION	X	X	X	X	X	X
GROUND COVER	X	X	X	X	X	X
HYDRAULIC APPLICATIONS						
PLASTIC SHEETING	X	X	X	X		X
MATTING						
DUST CONTROL	X	X	X	X		
TEMPORARY/PERMANENT SEEDING BUFFER ZONE	X	X	X	X	X	X
OTHER:						
<b>SEDIMENT CONTROL</b>						
SEDIMENT FENCE (PERIMETER)	X	X	X	X		X
SEDIMENT FENCE (INTERIOR)						
STRAW MATS						
FILTER BARRIERS						
INLET PROTECTION	X	X	X	X		X
DEWATERING						
SEDIMENT TRAP						
NATURAL BUFFER ENCROACHMENT	*X	*X	*X	*X	*X	*X
OTHER:						
<b>RUN OFF CONTROL</b>						
CONSTRUCTION ENTRANCE	X	X	X	X		X
PIPE SLOPE DRAIN						
OUTLET PROTECTION						
SURFACE ROUGHENING						
CHECK DAMS	X	X	X	X	X	X
OTHER:						
<b>POLLUTION PREVENTION</b>						
PROPER STORAGE	X	X	X	X		X
HAZ WASTE MGMT	X	X	X	X		X
SPILL KIT ON-SITE	X	X	X	X		X
CONCRETE WASHOUT AREA	X	X	X	X		X
OTHER:						

\* SIGNIFIES ADDITIONAL BMP'S REQUIRED FOR WORK WITHIN 50' OF WATER OF THE STATE.  
\*\* SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

**RATIONALE STATEMENT**

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INSPECTION FREQUENCY:		INITIAL <i>BSA</i>
SITE CONDITION	MINIMUM FREQUENCY	
1. ACTIVE PERIOD	WEEKLY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING.	
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	AT LEAST ONCE EVERY MONTH, REGARDLESS OF WHETHER STORMWATER RUNOFF IS OCCURRING.	
3. INACTIVE PERIODS GREATER THAN FOURTEEN (14) CONSECUTIVE CALENDAR DAYS.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.	
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	ONCE EVERY MONTH.	
5. PERIODS DURING WHICH DISCHARGE IS UNLIKELY DUE TO FROZEN CONDITIONS.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.	
	MONTHLY, RESUME MONITORING IMMEDIATELY UPON MELT, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.	



**HHPR**  
Harper  
Houf Peterson  
Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE SPOKANE STREET, SUITE 200, PORTLAND, OR 97202  
PHONE: 503.221.1131 WWW.HHPR.COM FAX: 503.221.1171

ESC - COVER SHEET  
WOODHAVEN PARK PHASE 2  
SHERWOOD, OREGON

SHEET NO.  
**EC1**  
JOB NO.  
SHR-13

P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG\SHEETS\SHR13-1200-C-CV.R.dwg







**GRADING, STREET AND UTILITY EROSION AND SEDIMENT CONSTRUCTION NOTES:**

- SEED USED FOR TEMPORARY OR PERMANENT SEEDING SHALL BE COMPOSED OF ONE OF THE FOLLOWING MIXTURES, UNLESS OTHERWISE AUTHORIZED:
  - VEGETATED CORRIDOR AREAS REQUIRE NATIVE SEED MIXES. SEE RESTORATION PLAN FOR APPROPRIATE SEED MIX.
  - DWARF GRASS MIX (MIN. 100 LB./AC.)
    - DWARF PERENNIAL RYEGRASS (80% BY WEIGHT)
    - CREeping RED FESCUE (20% BY WEIGHT)
  - STANDARD HEIGHT GRASS MIX (MIN. 100LB./AC.)
    - ANNUAL RYEGRASS (40% BY WEIGHT)
    - TURF-TYPE FESCUE (60% BY WEIGHT)
- SLOPE TO RECEIVE TEMPORARY OR PERMANENT SEEDING SHALL HAVE THE SURFACE ROUGHENED BY MEANS OF TRACK-WALKING OR THE USE OF OTHER APPROVED IMPLEMENTS. SURFACE ROUGHENING IMPROVES SEED BEDDING AND REDUCES RUN-OFF VELOCITY.
- LONG TERM SLOPE STABILIZATION MEASURES SHALL INCLUDE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER VIA SEEDING WITH APPROVED MIX AND APPLICATION RATE.
- TEMPORARY SLOPE STABILIZATION MEASURES SHALL INCLUDE: COVERING EXPOSED SOIL WITH PLASTIC SHEETING, STRAW MULCHING, WOOD CHIPS, OR OTHER APPROVED MEASURES.
- STOCKPILED SOIL OR STRIPPINGS SHALL BE PLACED IN A STABLE LOCATION AND CONFIGURATION. DURING "WET WEATHER" PERIODS, STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING OR STRAW MULCH. SEDIMENT FENCE IS REQUIRED AROUND THE PERIMETER OF THE STOCKPILE.
- EXPOSED CUT OR FILL AREAS SHALL BE STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS OR MATS, MID-SLOPE SEDIMENT FENCES OR WATTLES, OR OTHER APPROPRIATE MEASURES. SLOPES EXCEEDING 25% MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES.
- AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCHING, OR OTHER APPROVED MEASURES.
- CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- ACTIVE INLETS TO STORM WATER SYSTEMS SHALL BE PROTECTED THROUGH THE USE OF APPROVED INLET PROTECTION MEASURES. ALL INLET PROTECTION MEASURES ARE TO BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED.
- SATURATED MATERIALS THAT ARE HAULED OFF-SITE MUST BE TRANSPORTED IN WATER-TIGHT TRUCKS TO ELIMINATE SPILLAGE OF SEDIMENT AND SEDIMENT-LADEN WATER.
- AN AREA SHALL BE PROVIDED FOR THE WASHING OUT OF CONCRETE TRUCKS IN A LOCATION THAT DOES NOT PROVIDE RUN-OFF THAT CAN ENTER THE STORM WATER SYSTEM. IF THE CONCRETE WASH-OUT AREA CAN NOT BE CONSTRUCTED GREATER THAN 50' FROM ANY DISCHARGE POINT, SECONDARY MEASURES SUCH AS BERMS OR TEMPORARY SETTLING PITS MAY BE REQUIRED. THE WASH-OUT SHALL BE LOCATED WITHIN SIX FEET OF TRUCK ACCESS AND BE CLEANED WHEN IT REACHES 50% OF THE CAPACITY.
- SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE TRANSFERRED TO THE STORM WATER SYSTEM. SWEEPINGS SHALL BE PICKED UP AND DISPOSED IN THE TRASH.
- AVOID PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUN-OFF INTO THE STORM WATER SYSTEM.
- USE BMPs SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.
- COVER CATCH BASINS, MANHOLES, AND OTHER DISCHARGE POINTS WHEN APPLYING SEAL COAT, TACK COAT, ETC. TO PREVENT INTRODUCING THESE MATERIALS TO THE STORM WATER SYSTEM.

**EROSION AND SEDIMENT CONTROL BMP IMPLEMENTATION:**

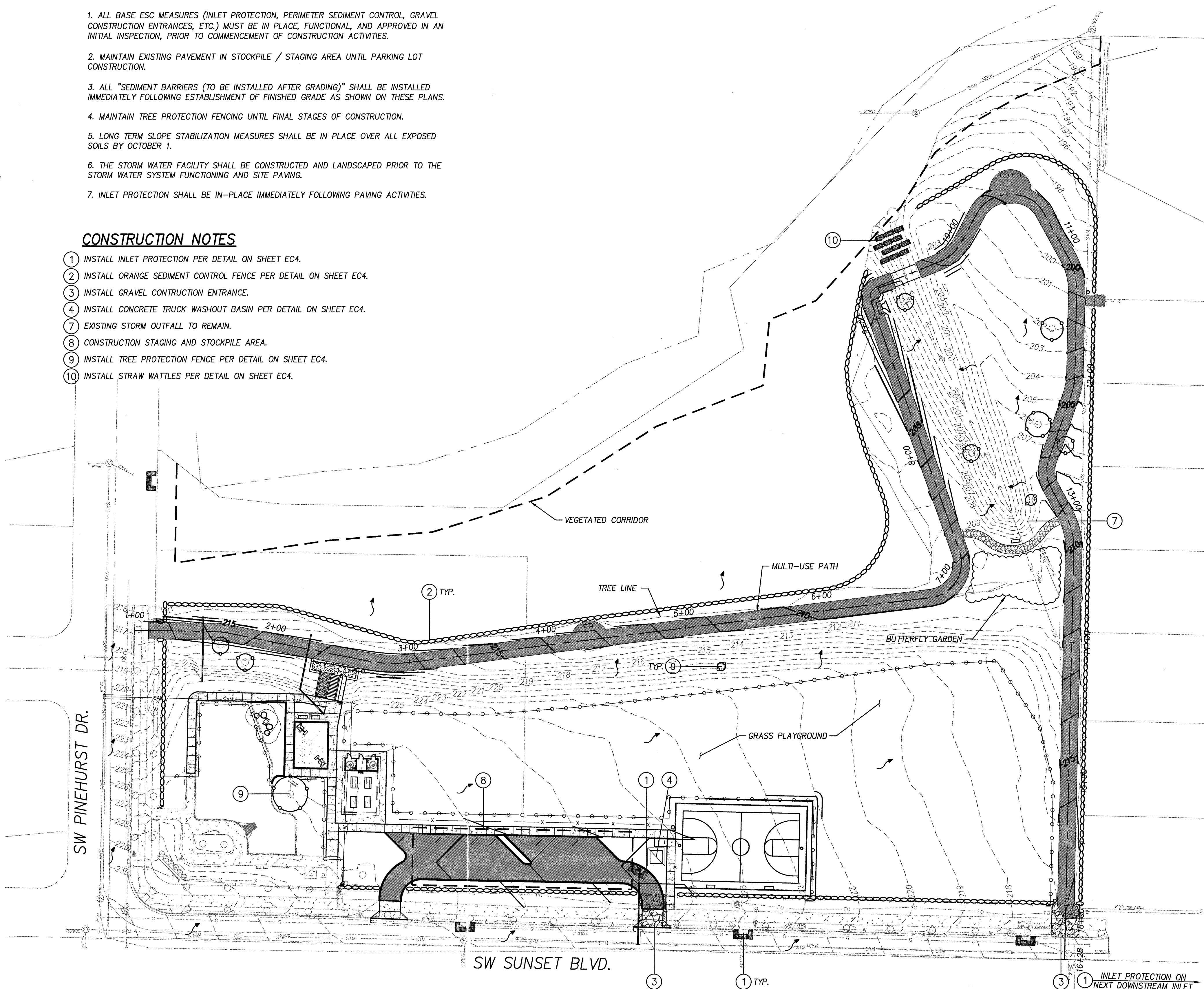
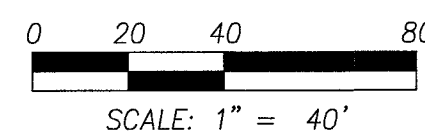
- ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- MAINTAIN EXISTING PAVEMENT IN STOCKPILE / STAGING AREA UNTIL PARKING LOT CONSTRUCTION.
- ALL "SEDIMENT BARRIERS (TO BE INSTALLED AFTER GRADING)" SHALL BE INSTALLED IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINISHED GRADE AS SHOWN ON THESE PLANS.
- MAINTAIN TREE PROTECTION FENCING UNTIL FINAL STAGES OF CONSTRUCTION.
- LONG TERM SLOPE STABILIZATION MEASURES SHALL BE IN PLACE OVER ALL EXPOSED SOILS BY OCTOBER 1.
- THE STORM WATER FACILITY SHALL BE CONSTRUCTED AND LANDSCAPED PRIOR TO THE STORM WATER SYSTEM FUNCTIONING AND SITE PAVING.
- INLET PROTECTION SHALL BE IN-PLACE IMMEDIATELY FOLLOWING PAVING ACTIVITIES.

**CONSTRUCTION NOTES**

- INSTALL INLET PROTECTION PER DETAIL ON SHEET EC4.
- INSTALL ORANGE SEDIMENT CONTROL FENCE PER DETAIL ON SHEET EC4.
- INSTALL GRAVEL CONSTRUCTION ENTRANCE.
- INSTALL CONCRETE TRUCK WASHOUT BASIN PER DETAIL ON SHEET EC4.
- EXISTING STORM OUTFALL TO REMAIN.
- CONSTRUCTION STAGING AND STOCKPILE AREA.
- INSTALL TREE PROTECTION FENCE PER DETAIL ON SHEET EC4.
- INSTALL STRAW WATTLES PER DETAIL ON SHEET EC4.

**LEGEND**

- EXISTING GROUND CONTOUR MAJOR / MINOR -140
- FINISHED GRADE CONTOUR MAJOR -150
- FINISHED GRADE CONTOUR MINOR -151
- TREE PROTECTION FENCE ○-○-○-○
- STOCKPILE AREA - - - - -
- ORANGE SEDIMENT CONTROL FENCE ●-●-●-●
- VEGETATIVE CORRIDOR - - - - -
- INLET PROTECTION [ ]
- FLOW ARROW →
- CONCRETE WASH AREA [ ]
- CONSTRUCTION ENTRANCE [ ]

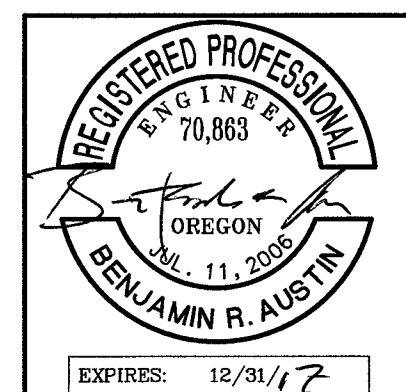


P:\SHR (City of Sherwood)\SHR-13 (Woodhaven Park)\SHR13-DWG(SHEETS)\SHR13-200-C. CLEARING AND DEMO.dwg

DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	BRA
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016

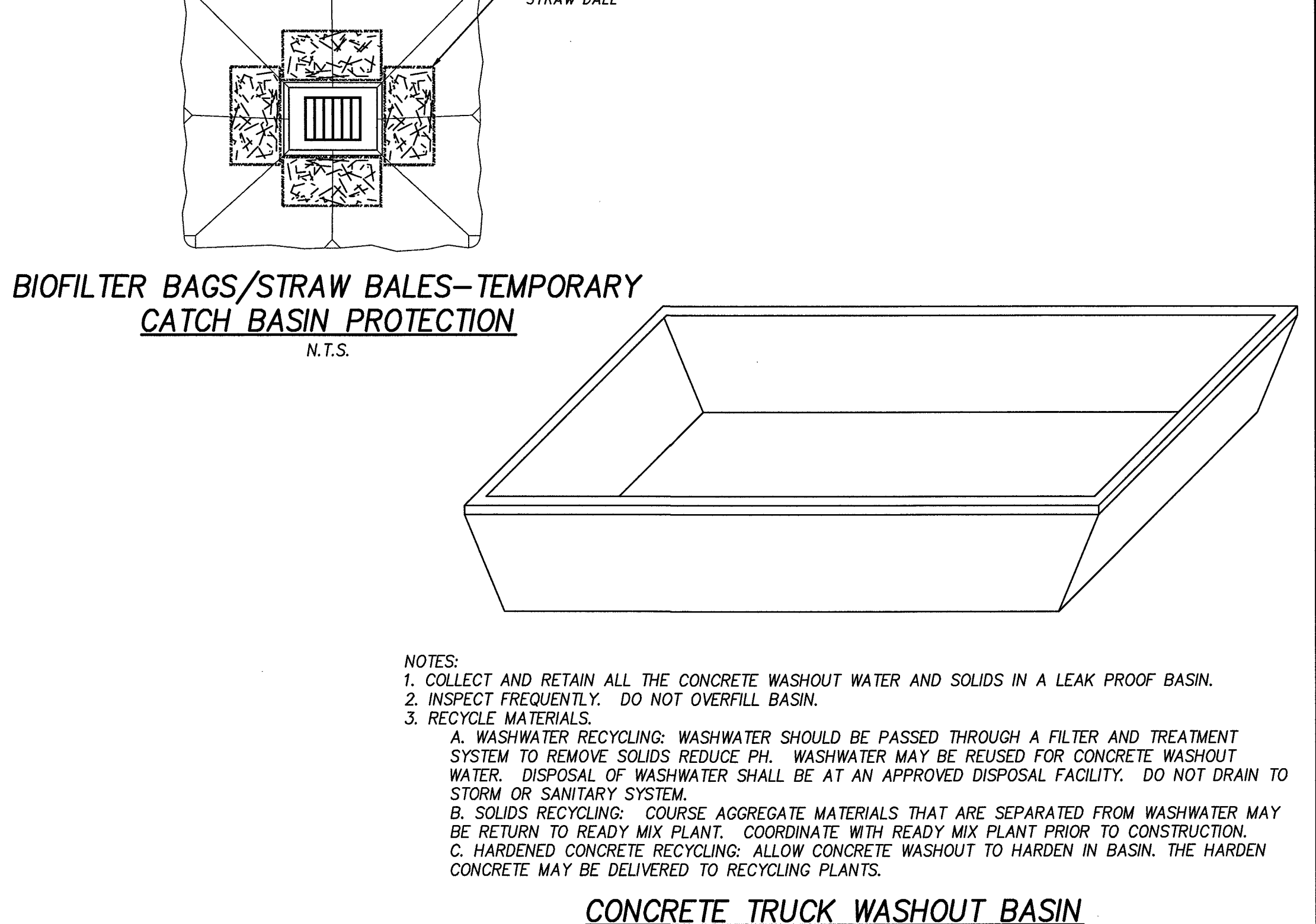
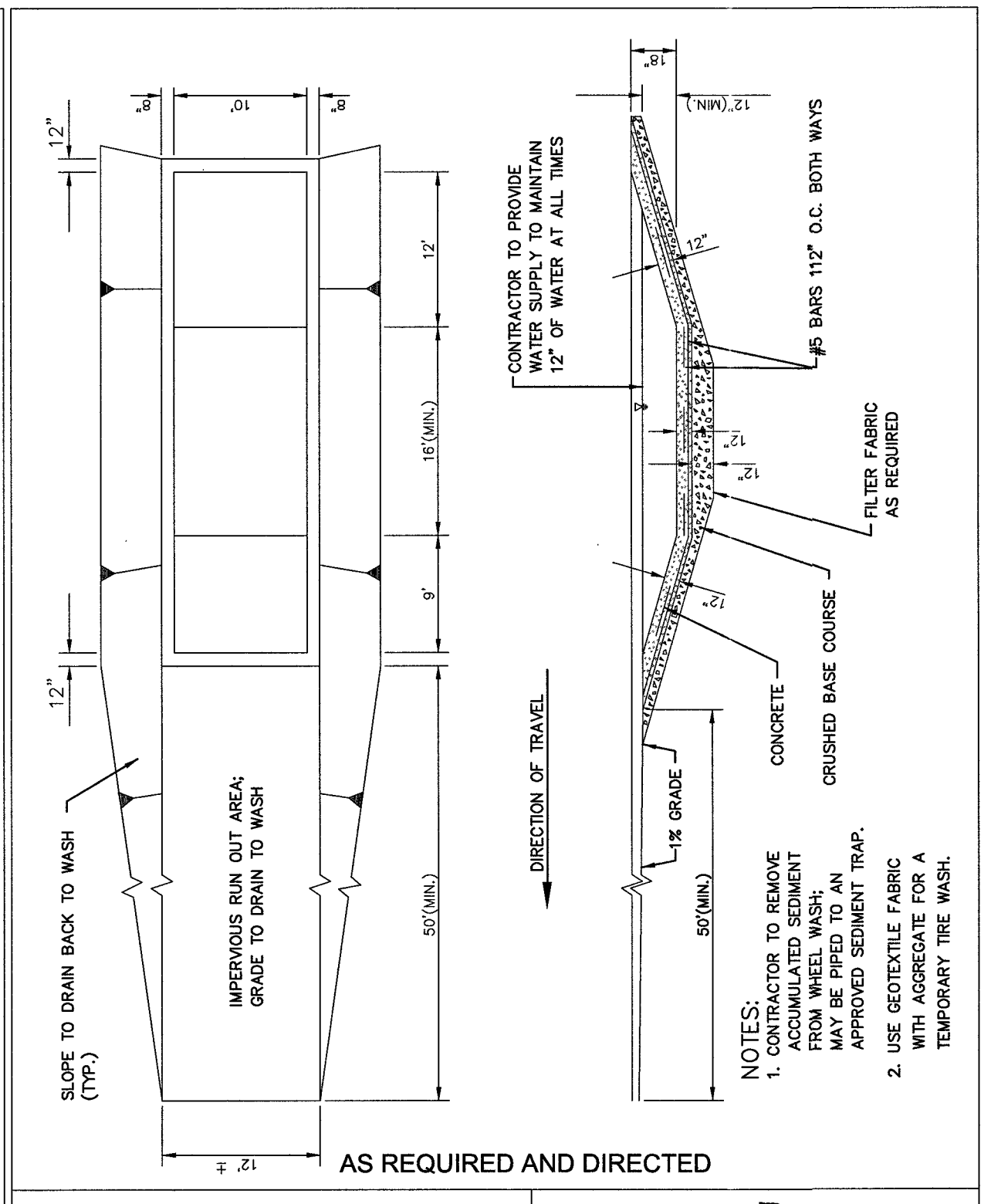
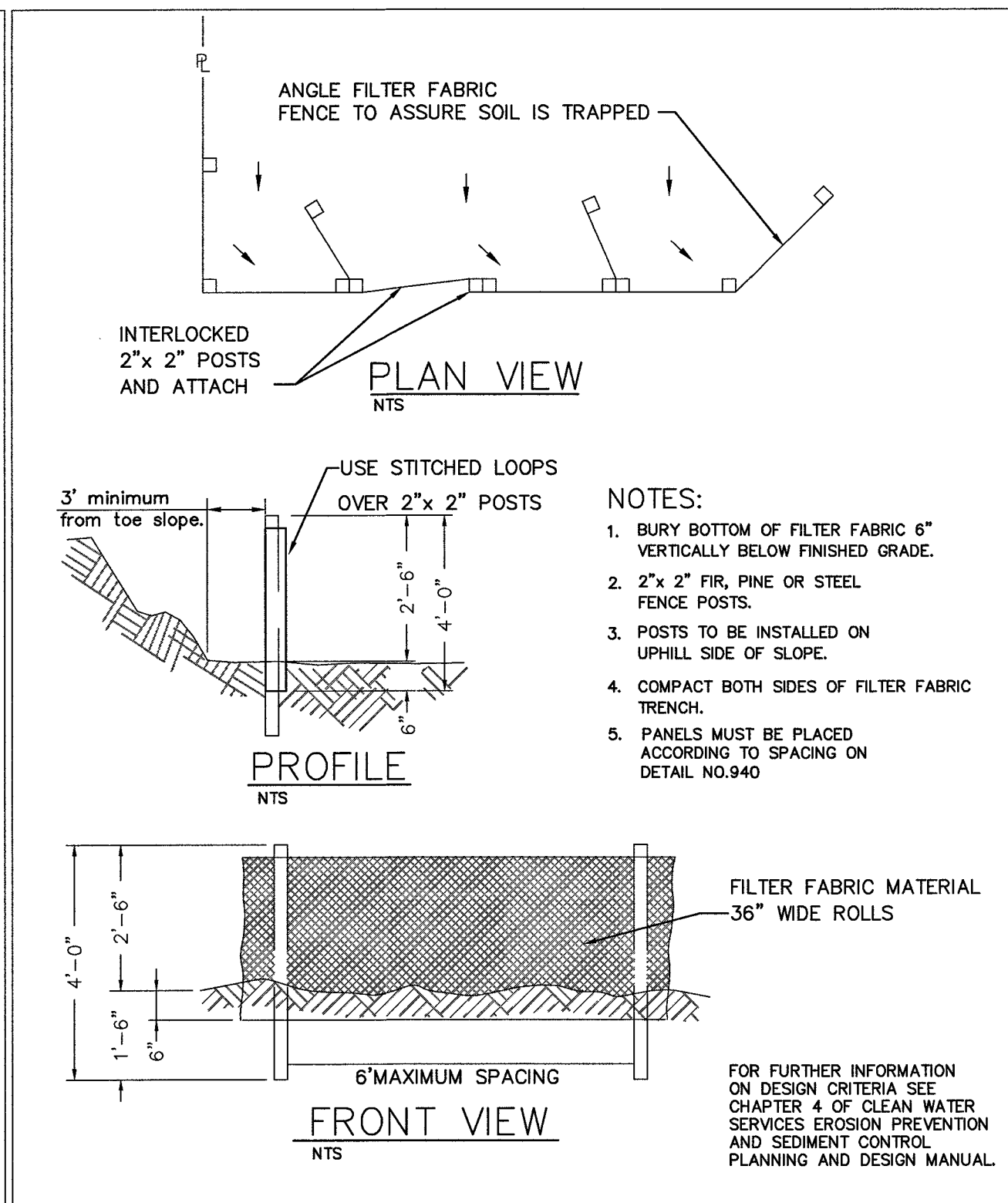
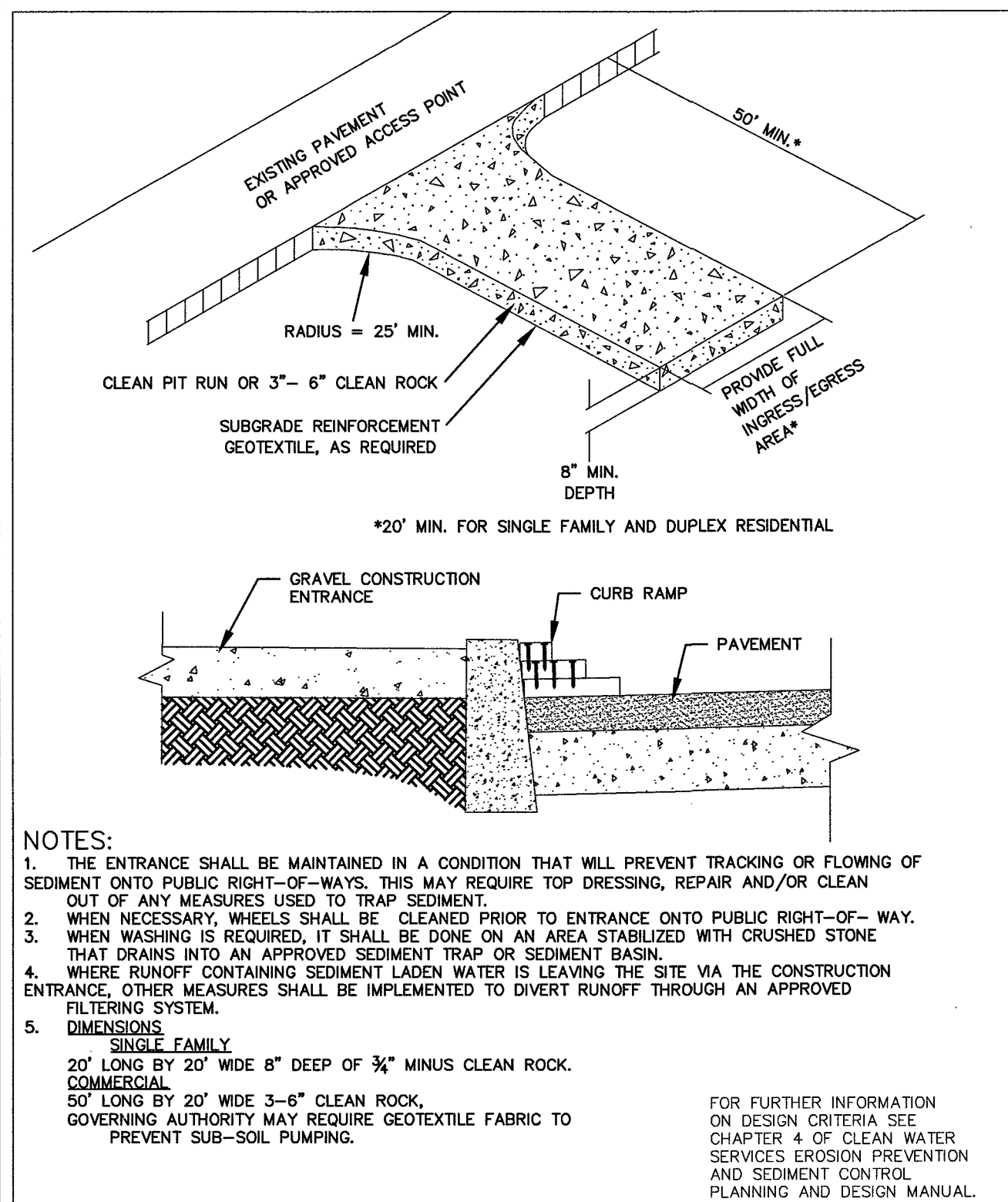


**Harper Houf Peterson Righellis Inc.**  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 205 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**ESC - GRADING AND UTILITIES**  
**WOODHAVEN PARK PHASE 2**  
 SHERWOOD, OREGON

SHEET NO. **EC3**  
 JOB NO. SHR-13



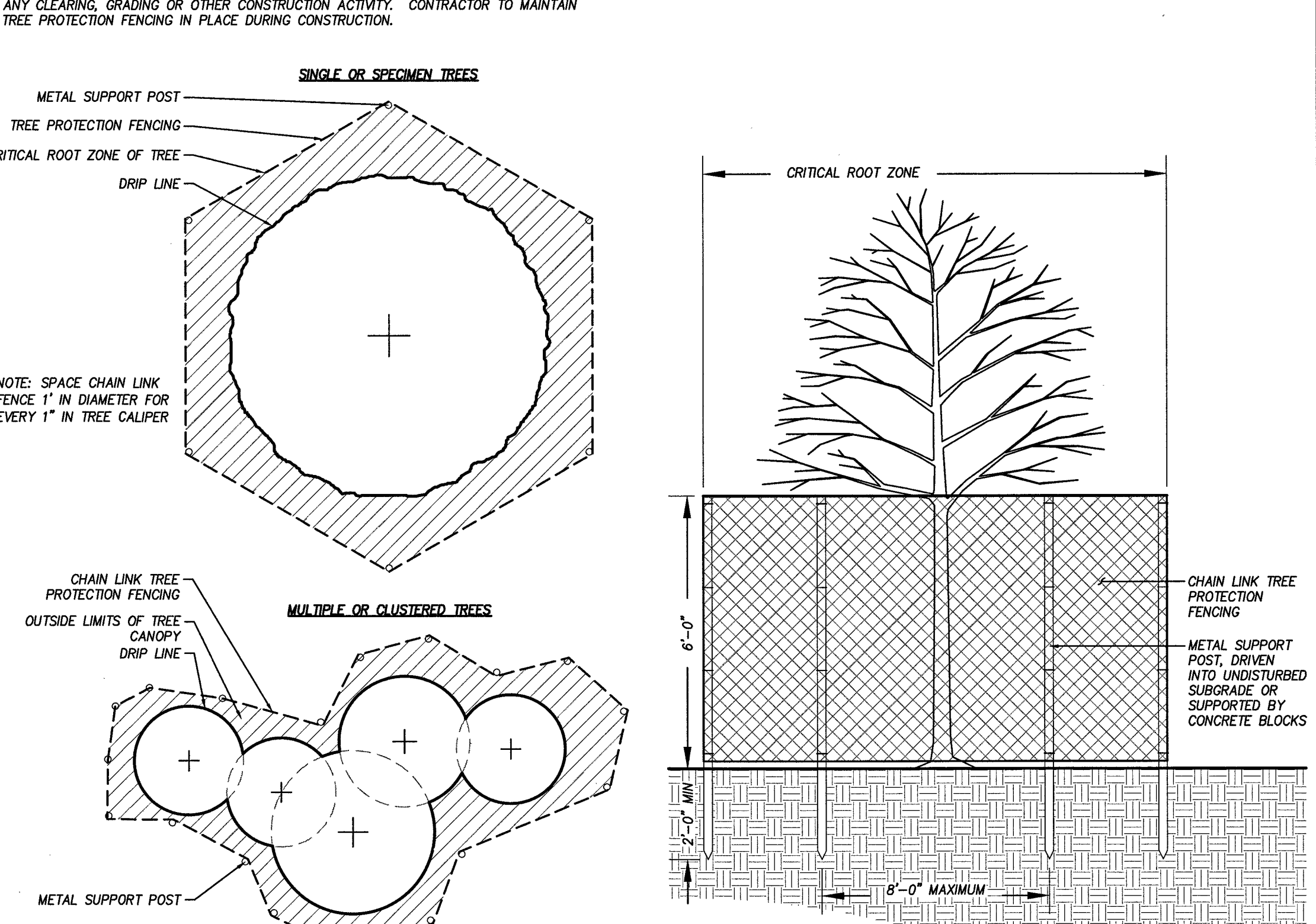
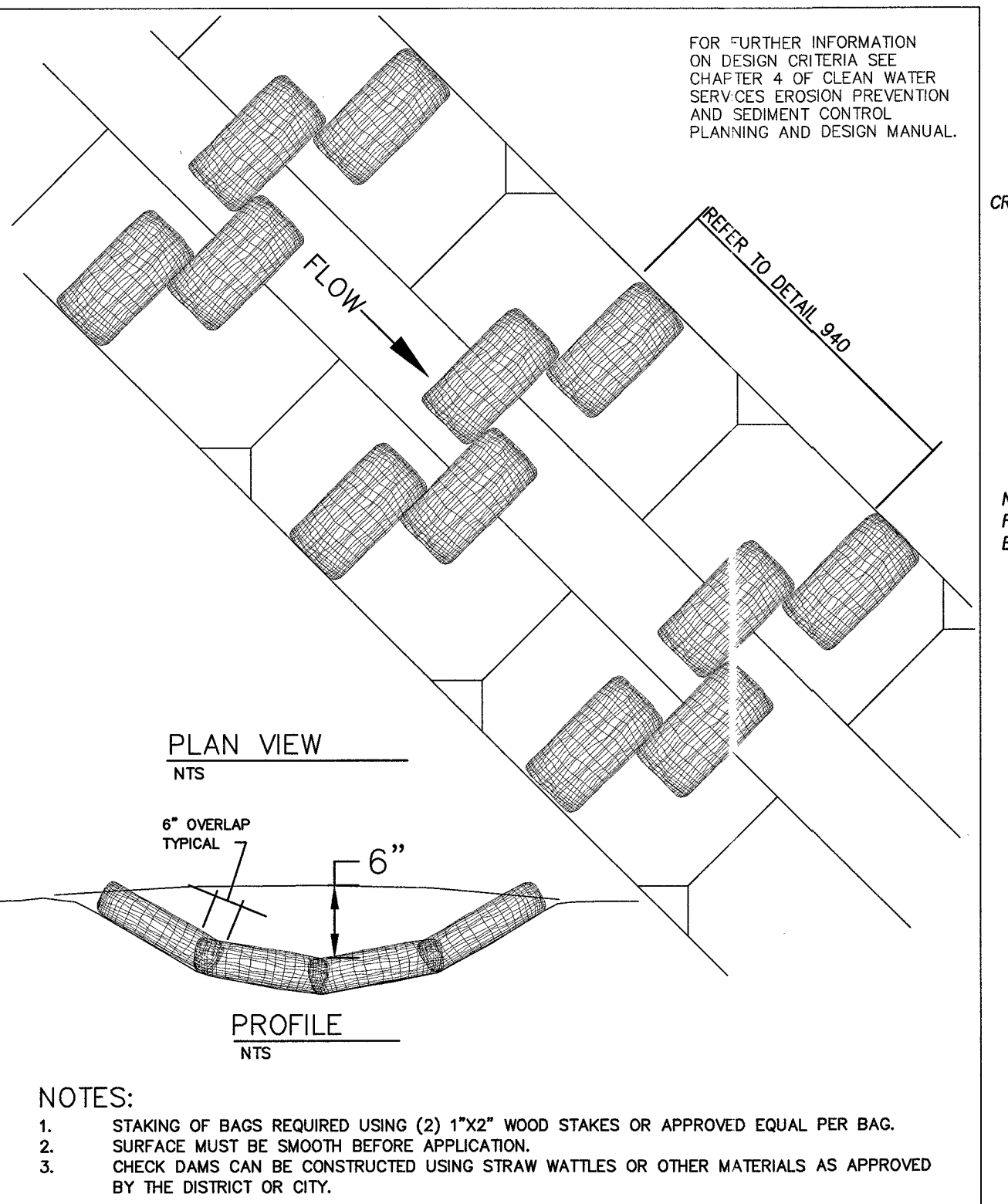
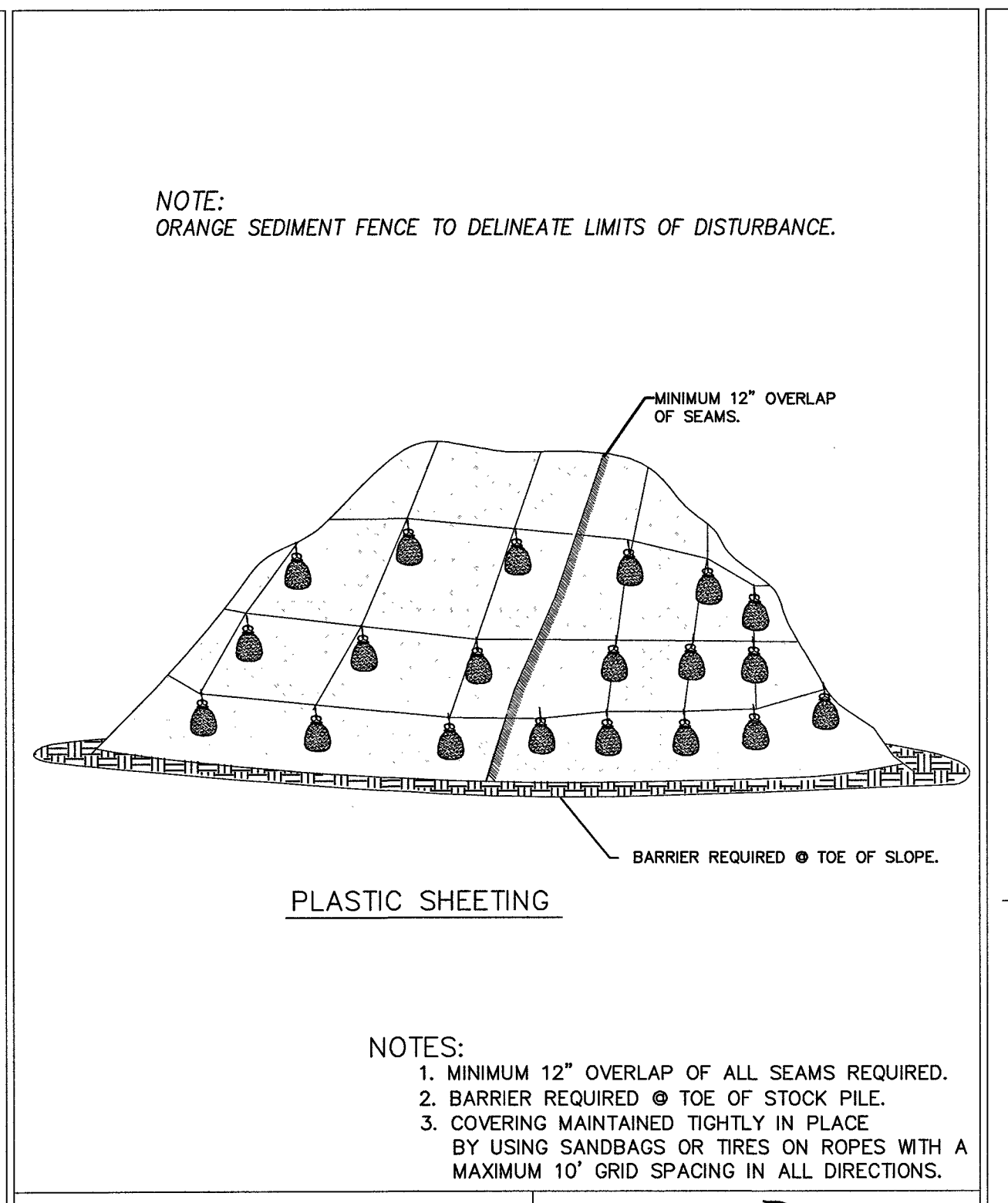
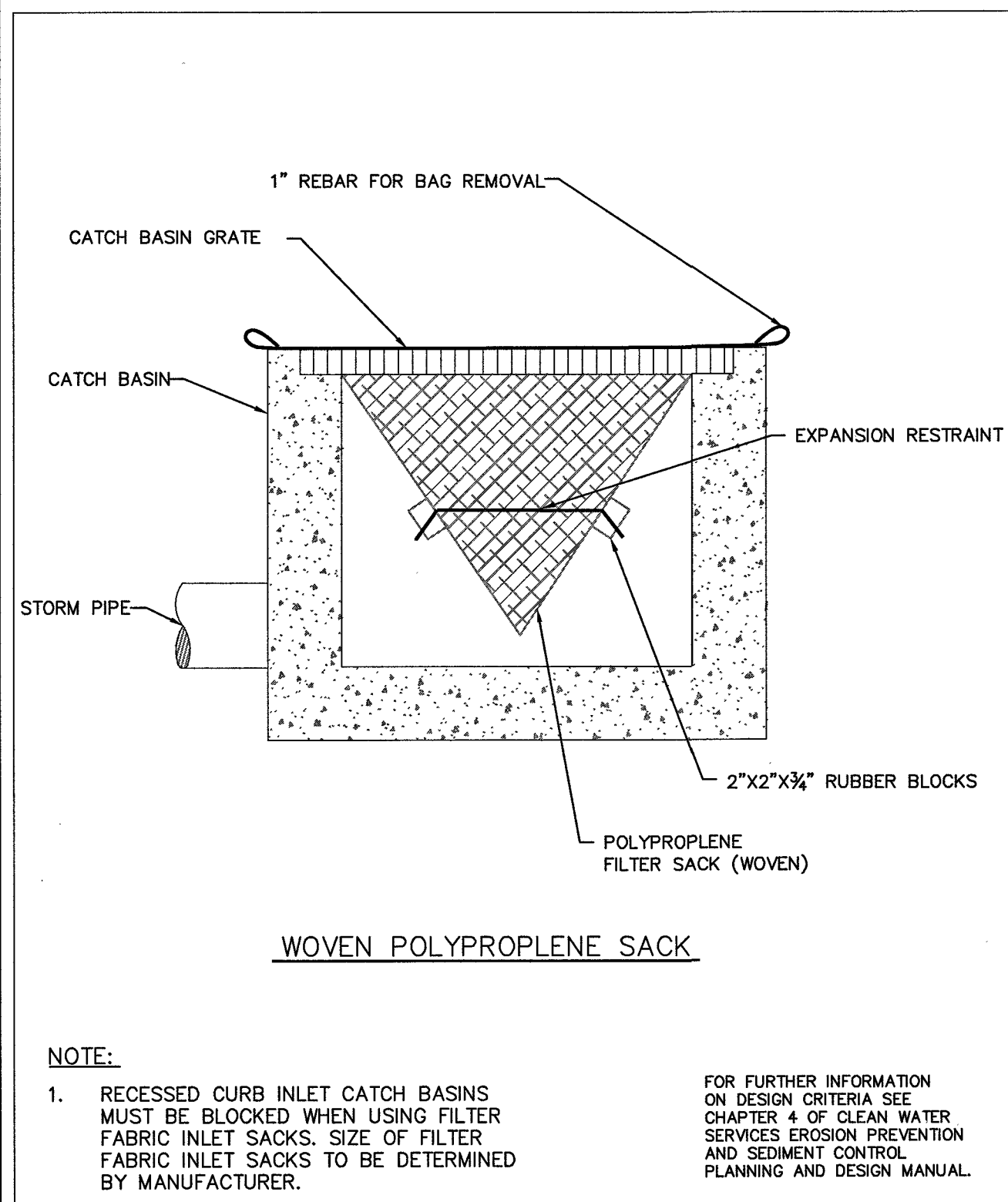


**CleanWater Services**  
Our commitment is clear.

**CleanWater Services**  
Our commitment is clear.

**CleanWater Services**  
Our commitment is clear.

**CleanWater Services**  
Our commitment is clear.



**CleanWater Services**  
Our commitment is clear.

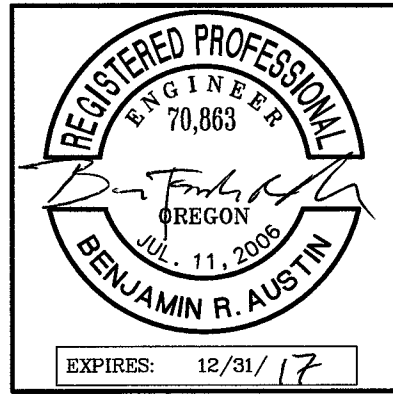
**CleanWater Services**  
Our commitment is clear.

**CleanWater Services**  
Our commitment is clear.

**CleanWater Services**  
Our commitment is clear.

DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	BRA
DRAWN:	HHPR
CHECKED:	BRA
DATE:	APRIL 2016



**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
205 SE Spokane Street, Suite 200, Portland, OR 97202  
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

**ESC - DETAILS**  
**WOODHAVEN PARK PHASE 2**  
**SHERWOOD, OREGON**

SHEET NO.  
**EC4**  
JOB NO.  
SHR-13

P:\SHR (City of Sherwood)\SHR-13\Woodhaven Park\SHR-13-DWG\SUS\SHEETS\SHR-13-1200-C-DETAILS.dwg