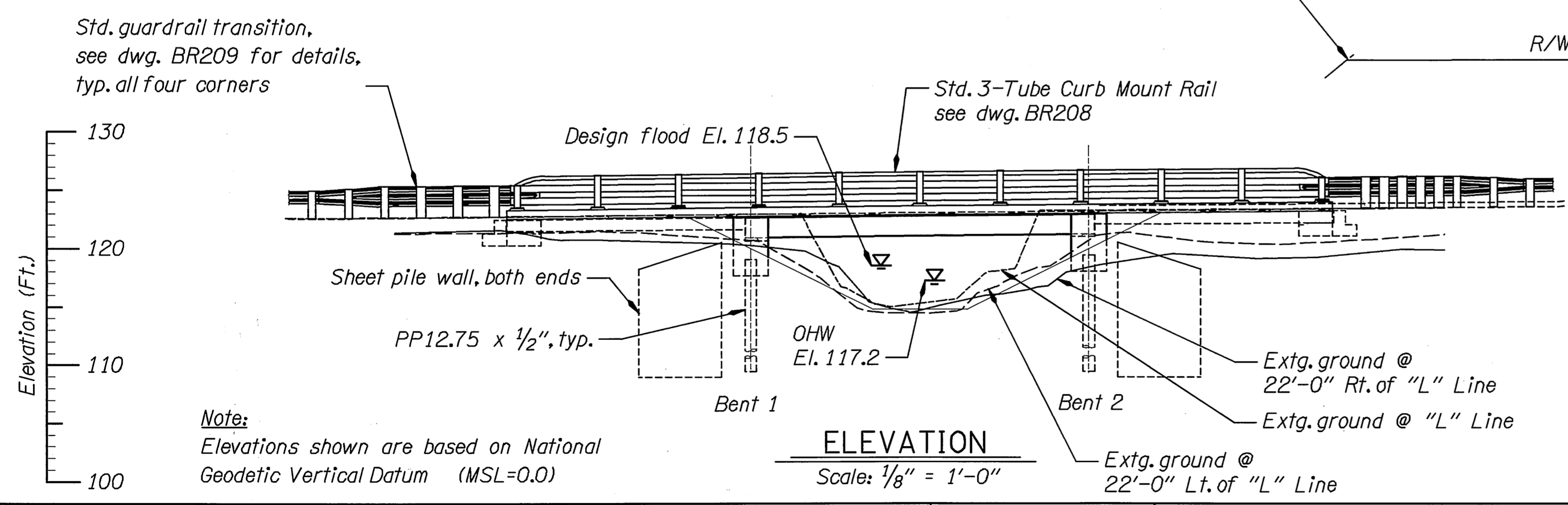


HYDRAULIC DATA					
ITEMS	UNITS	DESIGN FLOOD	BASE FLOOD	ROADWAY OVERTOPPING FLOOD, OR 500 YR	PERMIT CONDITION
DISCHARGE	cf/s	309	344	438	125
FREQUENCY	years	50	100	500	2
HIGH WATER ELEVATION AT UPSTREAM FACE OF BRIDGE	feet	118.1	118.3	118.7	117.2
BACKWATER	feet	-1.1	-1.1	-1.4	N/A
SCOUR ELEVATION	ft	111.7	111.6	111.0	N/A

See shts. GP and GP-2 for bridge riprap protection.

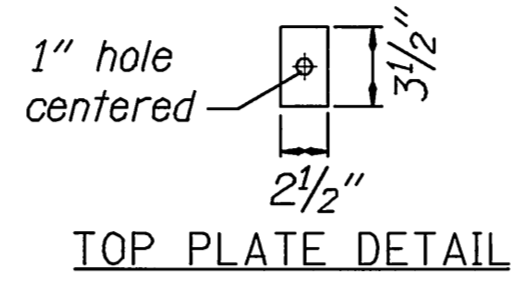
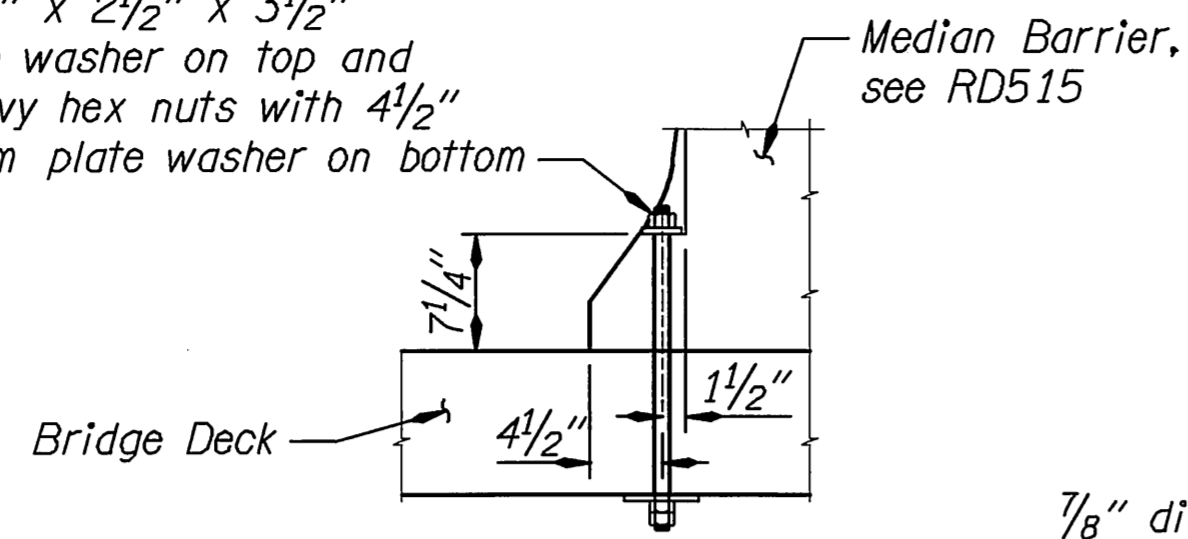


SCALE WARNING

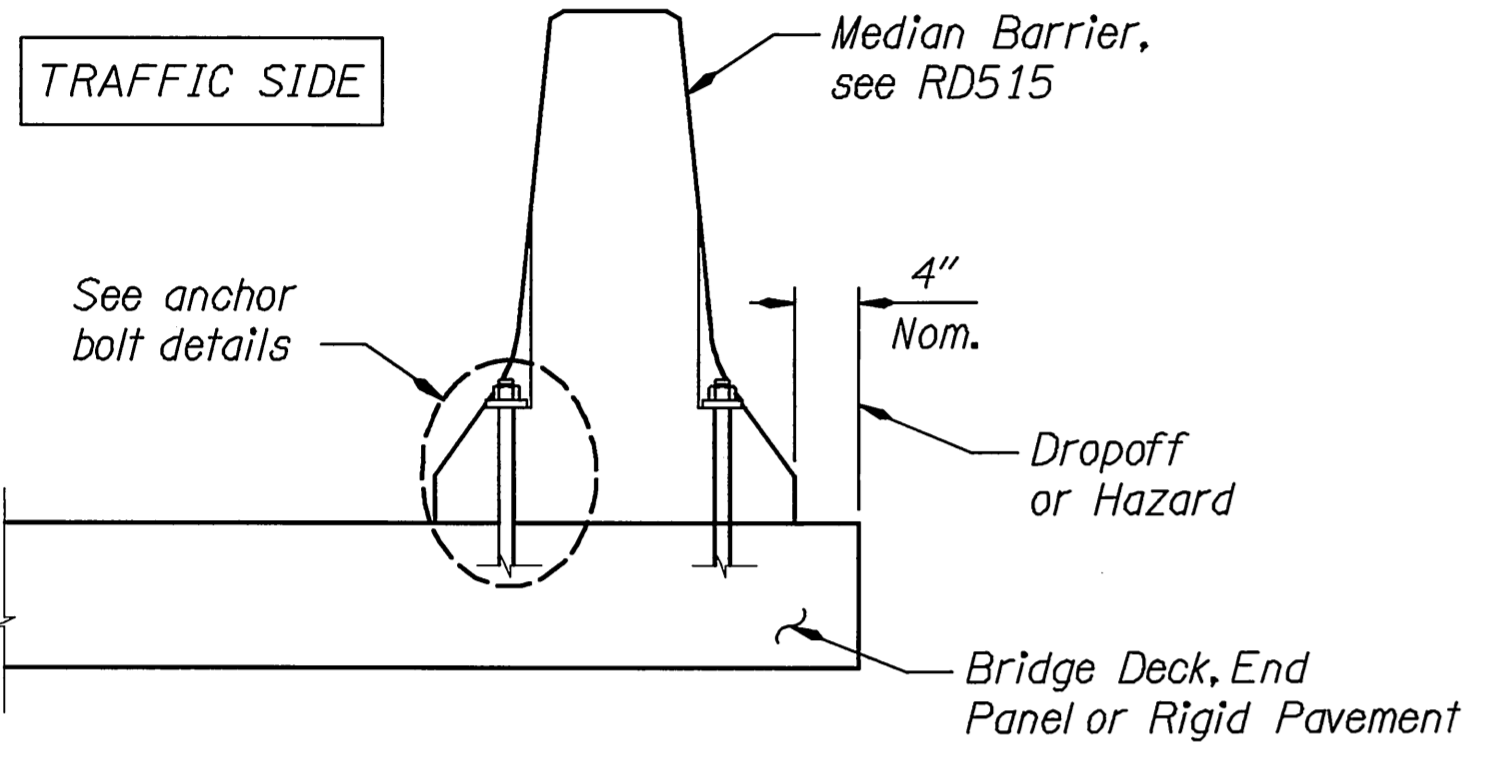
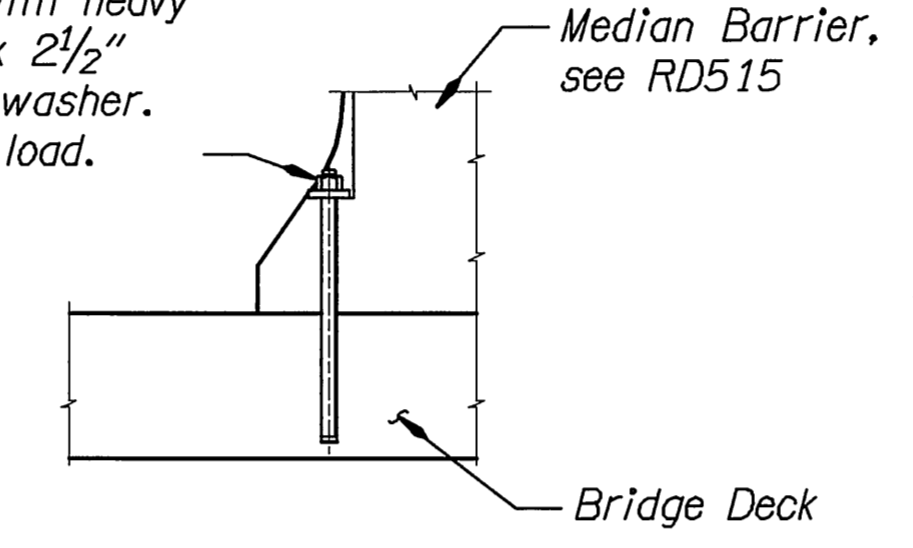
If scale bar doesn't measure one inch then drawing is not to scale

DATE REVISION BY	DRAFTER: Sandra Gish DESIGNER: Ron Blacketer, P.E. CHECKER: Susan E. Kohler, Susan Kocher, P.E. REVIEWER: Al Heyn, Al Heyn, P.E.			STRUCTURE NO. 21189	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET 1 OF 12
				DATE JULY 2010		DRAWING NO. 84070
ACCOMPANIED BY DWGS. 84071 thru 84081, BR208, BR209, BR400, BR415, BR445		REGION 2 TECH CENTER	PLAN AND ELEVATION	CALC. BOOK 6231		

7/8" dia. A307 (A36) anchor bolt through with heavy hex nut & 1/2" x 2 1/2" x 3 1/2" top plate washer on top and 2 - heavy hex nuts with 4 1/2" Sq. bottom plate washer on bottom



7/8" dia. Resin bonded/ concrete anchor with heavy hex nut and 1/2" x 2 1/2" x 3 1/2" top plate washer. 15,000 lb. pullout load.

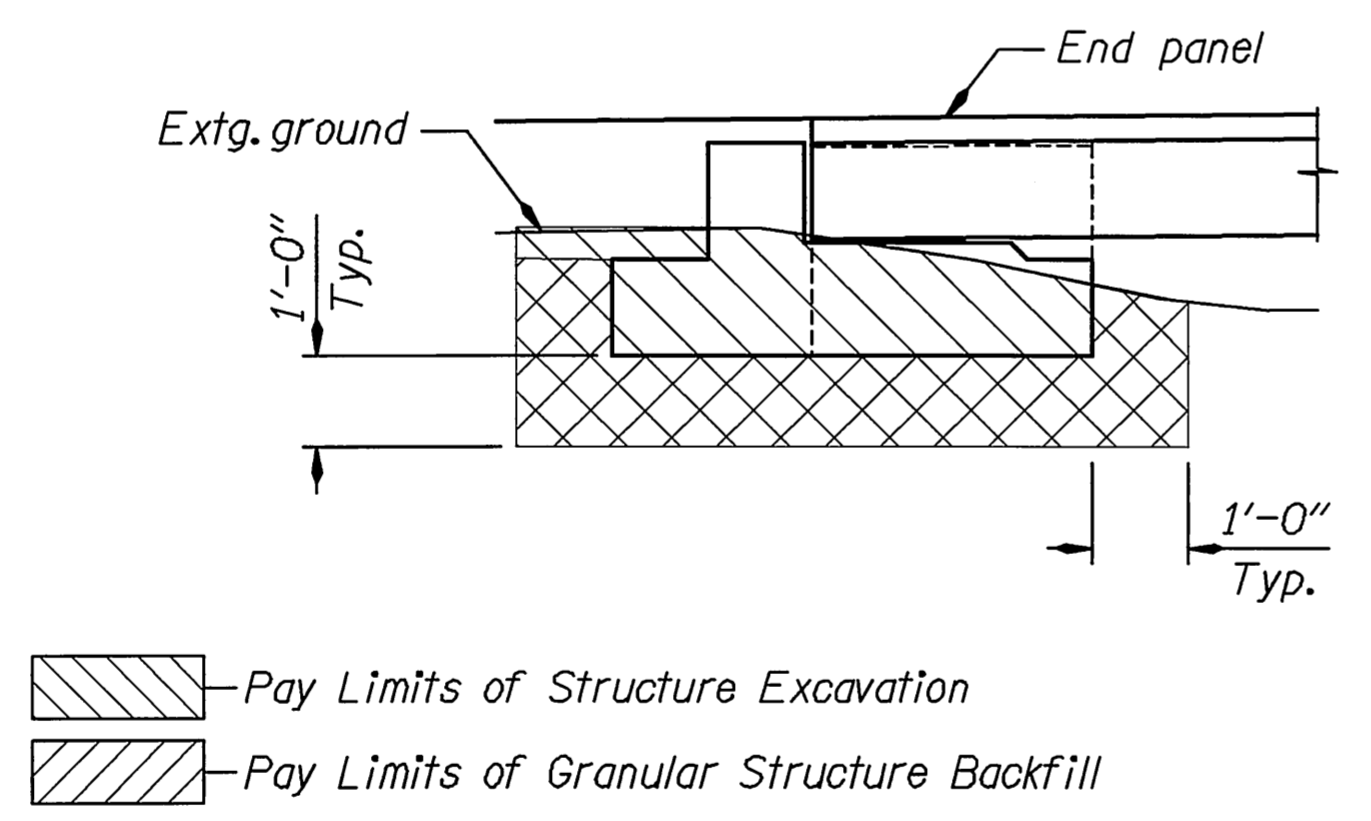
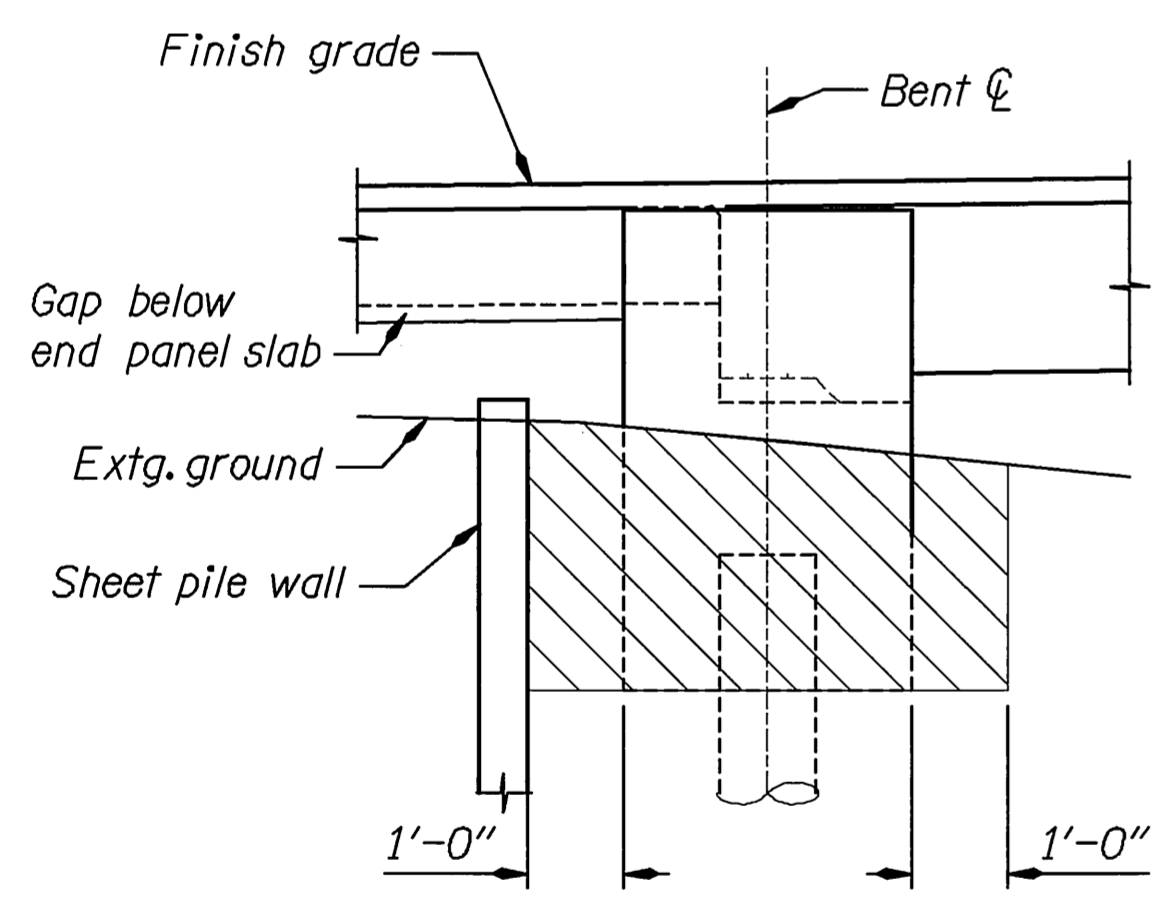


THROUGH BOLTED ANCHOR ON EXISTING STRUCTURE

RESIN BONDED ANCHOR ON PRECAST SLAB

NOTE:
Avoid prestressing strands, reinforcing steel and slab voids when installing barrier anchors. Patch slab surface after removing bolts.

TEMPORARY CONC. BARRIER DETAILS



EXCAVATION PAY LIMITS

GENERAL NOTES:
Provide all materials and perform all work according to the 2008 Oregon Standard Specifications for Construction and Project Special Provisions.

Bridge is designed in accordance with the 2007 edition of the AASHTO LRFD Bridge Design Specifications including 2008 interim revisions with an allowance of 40 psf for present wearing surface and 25 psf for future wearing surface and the following Live Loads:

Service and Strength I Limit State:
* HL-93: Design truck (or trucks per LRFD 3.6.1.3) or the design tandems and the design lane load.

Strength II Limit State:
* ODOT Type STP-5BW Permit Truck
* ODOT Type STP-4E Permit Truck

Seismic design is performed in accordance with the "AASHTO LRFD Bridge Design Specifications" ("AASHTO Guide Specifications for LRFD Seismic Bridge Design") as modified by the "ODOT Bridge Design & Drafting Manual" for 500- and 1000-year criteria. The Horizontal Peak Ground Acceleration Coefficients (PGA) for the 500-year (Serviceable) and 1000-year (No Collapse) return periods are 0.24g and 0.39g respectively, based on 2002 USGS Seismic Hazard Maps. The bridge site is defined as a Site Class C with Site Factor (Fpga) of 1.16 (500-year) and 1.00 (1000-year).

Provide reinforcing steel according to ASTM Specification A706, or AASHTO M31 (ASTM A615) Grade 60 except where labeled specifically in the plans. Provide Field bent bars according to ASTM Specification A706. Use the following splice lengths (unless shown otherwise):

Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
Splice Length	Uncoated 1'-0"	1'-4"	1'-8"	2'-0"	2'-8"	3'-6"	4'-4"	5'-7"	6'-9"	Not Permitted	

Increase lap splice length by 40% where more than 12 inches of concrete is cast below reinforcing steel.

Splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

Provide all construction joints with roughened surface in accordance to 00540.43(a), or as directed by the Engineer.

Design law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center.

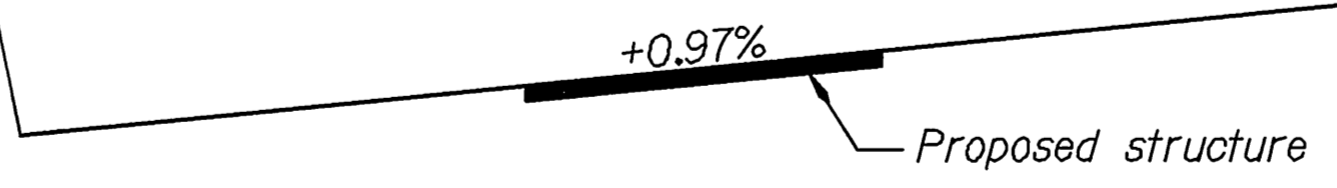
Place bars 2" clear of the nearest face of concrete (unless shown otherwise).

Provide Class 4000 -1/2", 1" or 3/4" concrete for precast reinforced concrete pile caps, sleeper slabs and shear lugs.

Provide High Early Strength grout per the QPL for all grouting procedures.

"L" 579+75.82
El. 122.95

"L" 579+88.23
El. 124.05

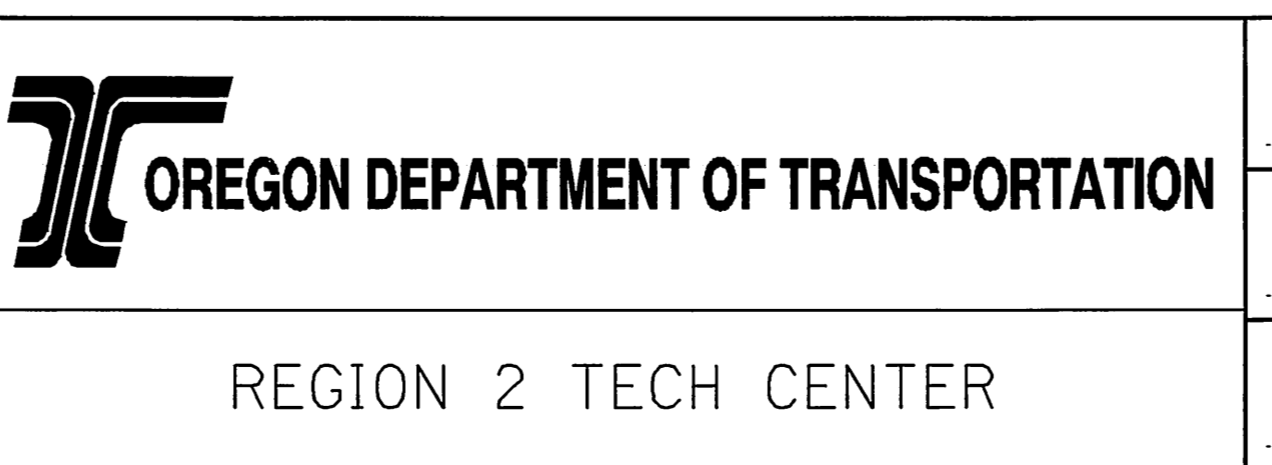


"L" GRADE LINE DIAGRAM

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See dwg. 84070

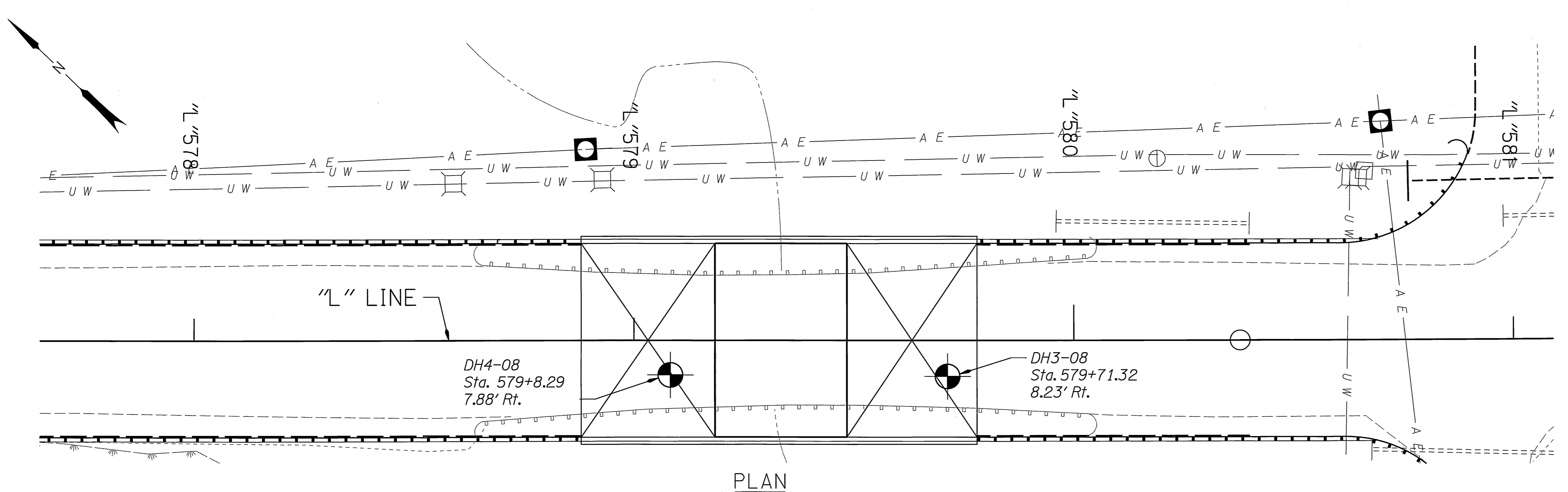
DRAFTER: Sandra Gish
DESIGNER: Ron Blacketer, P.E.
CHECKER: Susan E. Kocher, P.E.
REVIEWER: Al Heyn, P.E.



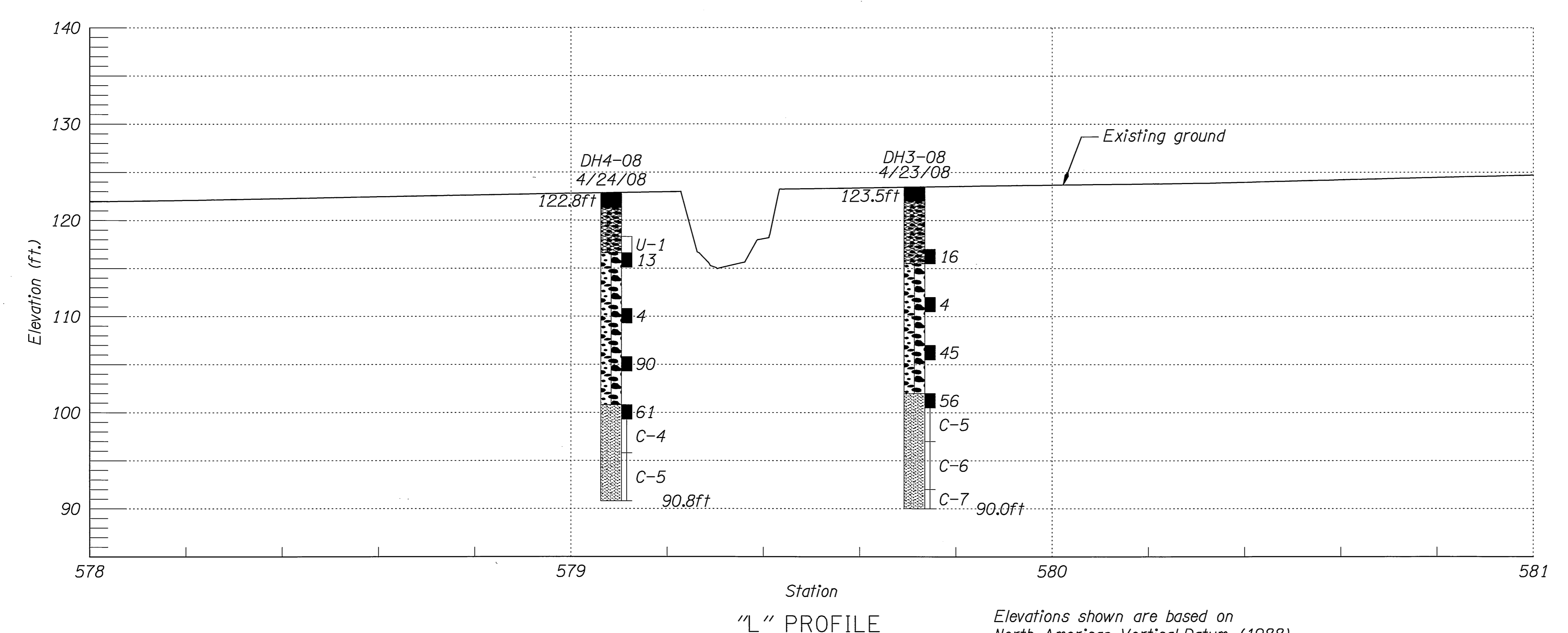
STRUCTURE NO. 21189
DATE JULY 2010
CALC. BOOK 6231

JOHNSON CREEK, HWY 47 AT MP 3.26
OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT
SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.
GENERAL NOTES AND GRADELINE DIAGRAM

SHEET 2 OF 12
DRAWING NO. 84071



- Unit Description**
- Asphalt Concrete and Aggregate Base (Fill)
 - Sandy SILT with some gravel to sandy GRAVEL with some silt, MH to GW-GM, grey and brown, nonplastic to medium plasticity, wet, medium dense, gravel to 2" diameter (Fill)
 - Sandy SILT to sandy silty GRAVEL, MH to GW-GM to GM, grey and orange brown, nonplastic to medium plasticity, wet, medium stiff and loose to very dense, gravel and cobbles to 6" diameter (Alluvium)
 - SANDSTONE, grey and light grey, moderately weathered, R0, dark grey clay laminations, grading to Sandy SILTSTONE, grey, moderately weathered to fresh, R1 (Bedrock)



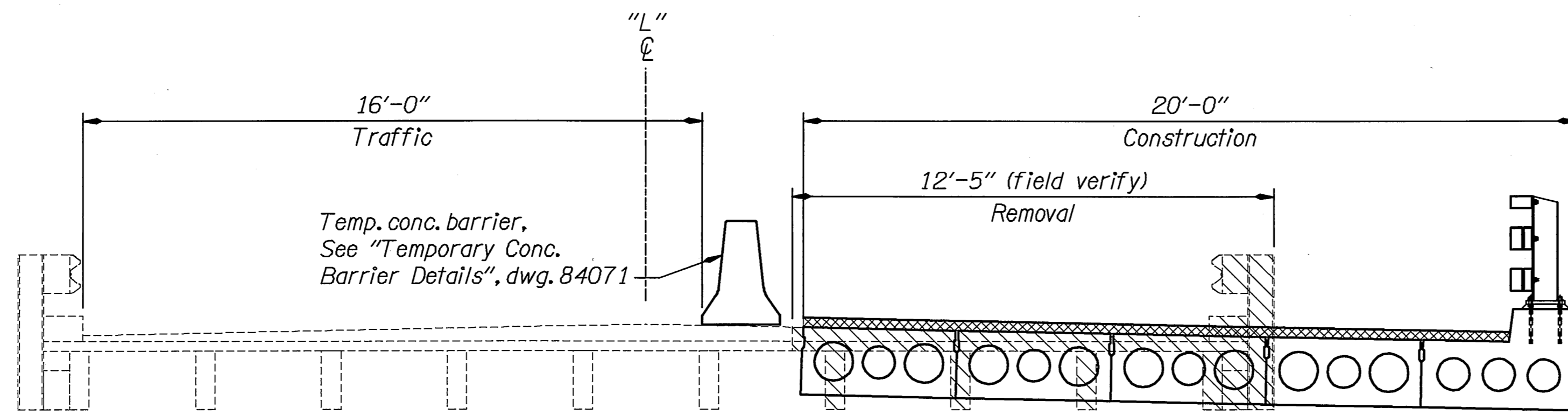
- Legend**
- 24 ■ = Standard Penetration Test - N Value
 - C-1 ▤ = Core Sample
 - U-1 □ = Undisturbed Sample

DH3-08			
Core	% Rec.	Hardness	R.Q.D.
C5	100	R1	74
C6	100	R1	90
C7	100	R1	67

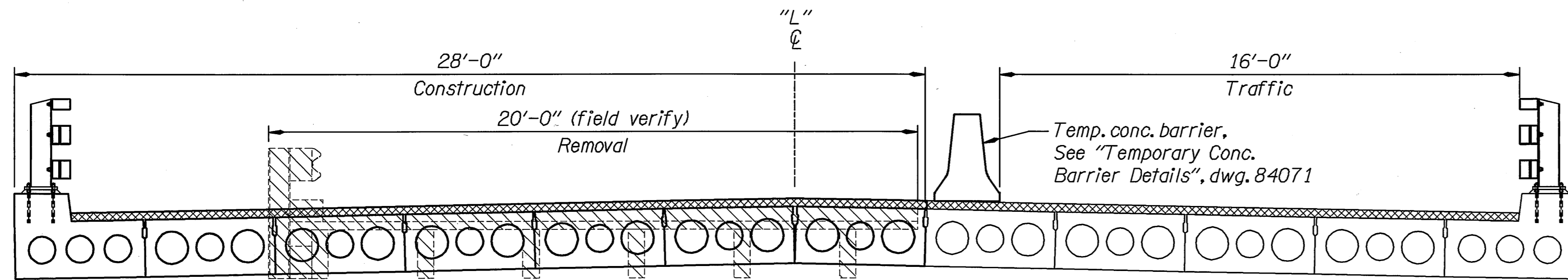
DH4-08			
Core	% Rec.	Hardness	R.Q.D.
C4	100	R1	52
C5	100	R1	86

Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.

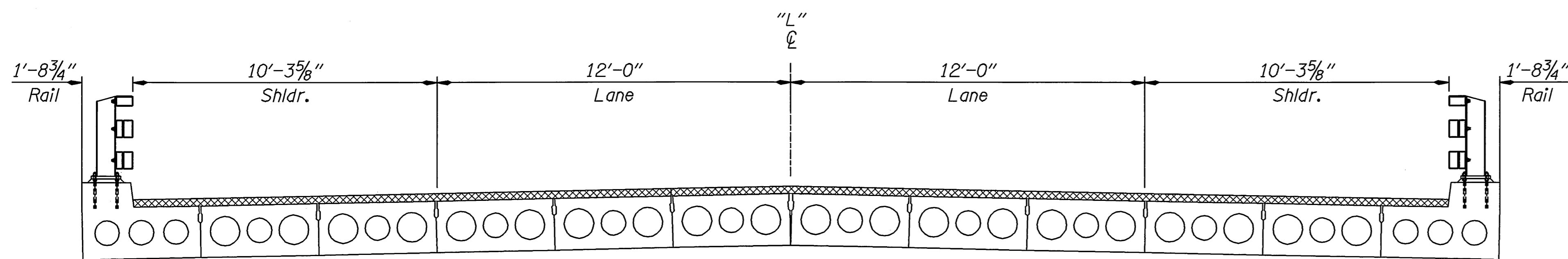
▲	DATE	REVISION	BY	DRAFTER: Michael Skelton	 OREGON DEPARTMENT OF TRANSPORTATION	STRUCTURE NO. 21189	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET 3 OF 12
				DESIGNER: Michael Tardif		DATE JULY 2010		DRAWING NO.
ACCOMPANIED BY DWGS. See dwg. 84070				CHECKER: ---	REGION 2 TECH CENTER	CALC. BOOK ---	FOUNDATION DATA	84072
				REVIEWER: Dustin Haas		EXPIRES: 11-30-2010		



STAGE II



STAGE III



FINAL CONFIGURATION

CONSTRUCTION SEQUENCE

STAGE I: Pile Installation

1. Place temporary traffic control devices and reduce traffic to a single lane.
2. Excavate at Pile Cap locations in the closed lane. Performing these steps simultaneously at both ends of the structure would be preferred.
3. Drive the specified Pipe Pile and Sheet Pile, cut and cap the Pipe Pile at the finished elevations, tie the location of each Pipe Pile with survey to ensure that the voids in the precast cap are cast in the correct location.
4. Backfill, compact, and replace the wearing surface on the first half of the ditch according to Sheet 2C.
5. Move the single lane of traffic to that location.
6. Continue excavating the ditch on the second half of the road and drive the Pipe Pile and Sheet Pile at that location, cut and cap the Pipe Pile, tie the location of each Pipe Pile with survey to ensure that the voids in the precast cap are cast in the correct location.
7. Backfill, compact, and replace the wearing surface on the second half of the ditch according to Sheet 2C.
8. Remove the temporary traffic control devices and reopen both lanes to traffic.
9. Perform the previous construction steps at both ends of the proposed structure.
10. Fabricate the precast caps per the pipe pile survey data, and have them available for the "in-water" work.

STAGES II & III: Bridge Replacement

1. Return during the "In-water" work period.
2. Place temporary traffic barriers and reduce traffic to a single lane in the westbound lane.
3. Remove the first half of the existing bridge structure in the eastbound lane, utilize temporary shoring as required.
4. Excavate and expose the previously driven pipe pile in preparation for placement of the precast pile cap.
5. Perform channel reconstruction and place required riprap, provide temporary bracing for the sheet pile wall as required, do not use the pipe pile for the temporary bracing of the sheet pile wall.
6. Place the first half of the pile cap and verify its position, to ensure proper clearance for placement of the bridge slabs, prior to grouting the cap. Refer to Temporary Traffic Control Plans and Specifications.
7. Brace and grout the pile cap per the drawings and specifications. Repeat at opposite end of structure.
8. Place the first half of the precast Bridge Slabs per the drawings.
9. Place the first half of the precast End Panel Sleeper Slab per the drawings.
10. Place the first half of the precast End Panel Slabs per the drawings.
11. The installation of the Bridge Rail and Shear Lugs should be coordinated with the placement of the precast slabs to prevent delays in opening the first half of the bridge to traffic.
12. Perform the required grouting of the first half of the bridge.
13. Install wearing surface and move the single lane of traffic to the first half of the bridge.
14. Install second run of concrete barrier for weekend traffic.
15. Perform steps 3 thru 12 for the second half of the bridge structure.
16. Complete the wearing surface and reopen both lanes to traffic.

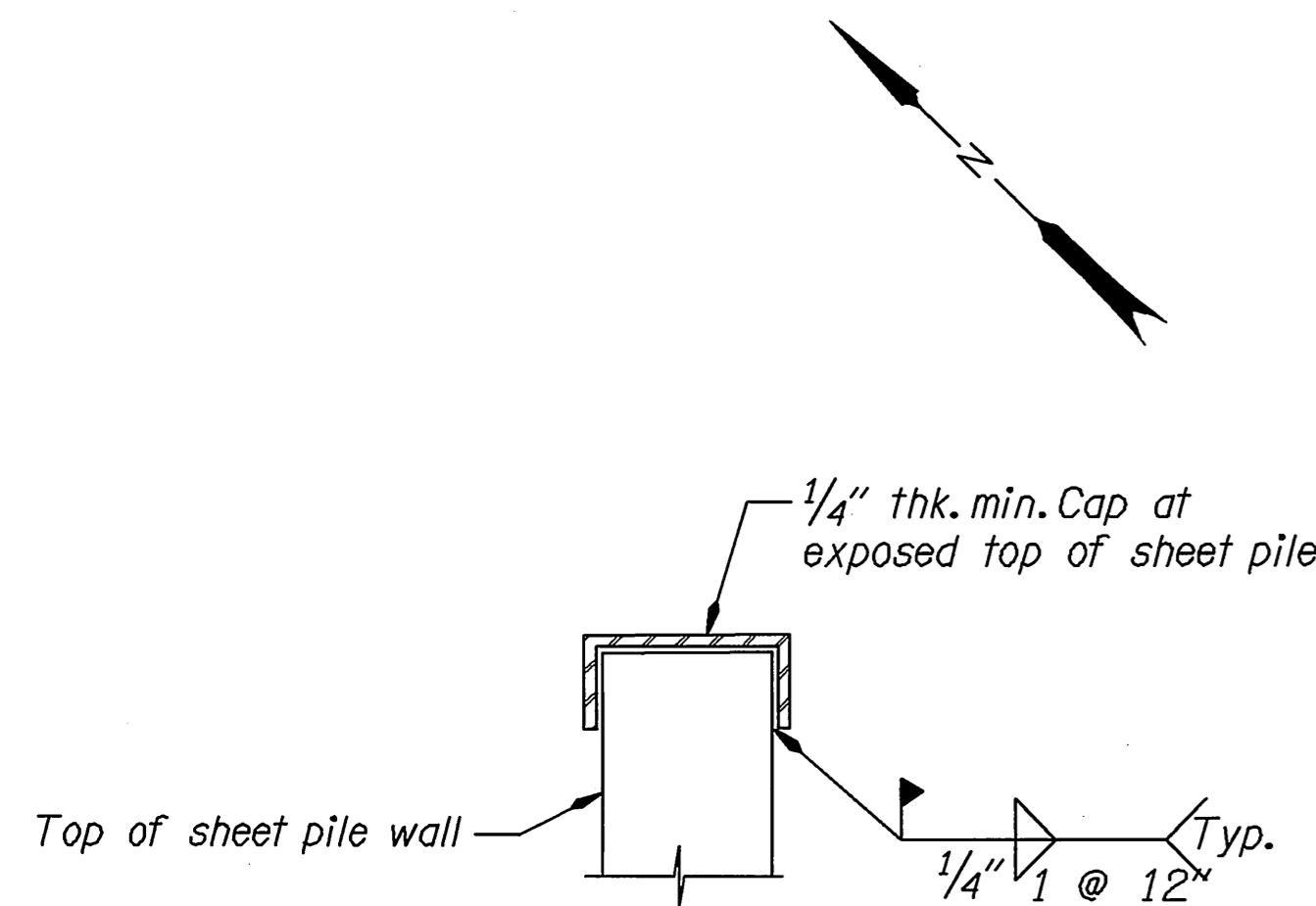
SHORING NOTES:

Provide all shoring as required for construction. The contractor shall determine the actual location, design and limits of all shoring. The locations and limits shown are only provided to alert the contractor that shoring is anticipated.

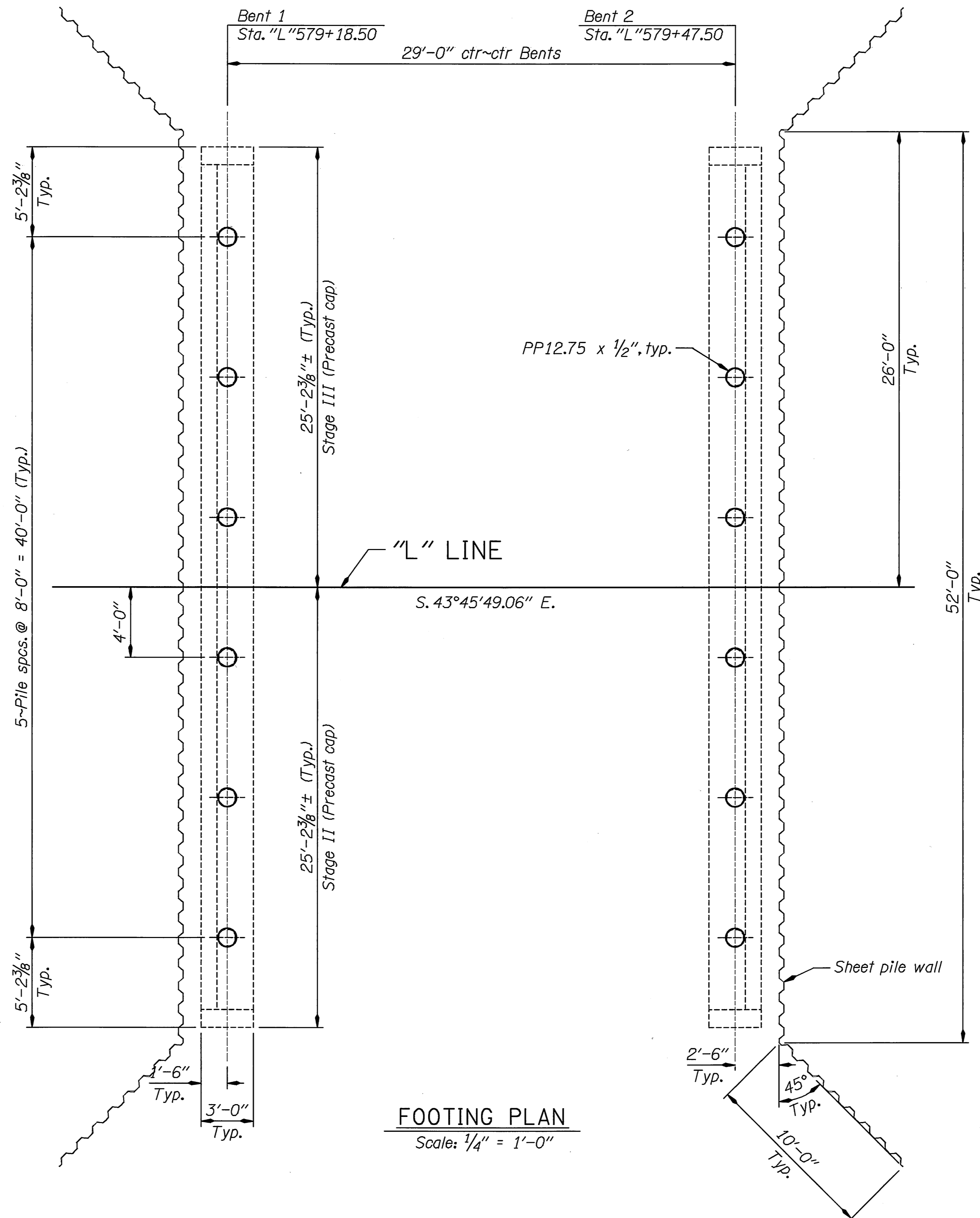
NOTE:

Alternate construction sequences or changes to the above construction sequence must be approved by the Project Manager.

▲	DATE	REVISION	BY	DRAFTER: Sandra Gish			STRUCTURE NO.	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET
				DESIGNER: Ron Blacketer, P.E.			21189		4
				CHECKER: Susan E. Kocher, P.E.			DATE	CONSTRUCTION SEQUENCE	DRAWING NO.
				REVIEWER: Al Heyn, P.E.			JULY 2010		
ACCOMPANIED BY DWGS. See dwg. 84070						REGION 2 TECH CENTER	CALC. BOOK		
							6231		



SHEET PILE CAP DETAIL
No Scale



FOOTING PLAN
Scale: 1/4" = 1'-0"

PILING NOTES:
All piling shall be PP 12.75 x 0.5" ASTM A252 Grade 3 steel with a minimum yield strength of 45 ksi.

A nominal pile resistance of 400 kips should be demonstrated during pile driving by use of a wave equation analysis. To avoid damage to the piles during installation, driving stresses should not exceed 90-percent of the yield strength of the steel.

Pile tip elevations for minimum pile penetration shall be 96.8 ft. for Bent 1 and 98.0 ft. for Bent 2.

Furnish sheet piles made from ASTM A572 steel with a minimum yield strength of 50 ksi and the following geometric properties:

- Minimum thickness of 0.25 inches
- Maximum section height of 12 inches
- Minimum elastic section modulus of 6 in³/ft.

Drive Sheet Pile to a minimum tip elevation of 107.0 ft.

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

DATE	REVISION	BY	DRAFTER: Sandra Gish			STRUCTURE NO. 21189	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET 5 OF 12
			DESIGNER: Ron Blacketer, P.E.			DATE JULY 2010		DRAWING NO.
ACCOMPANIED BY DWGS. See dwg. 84070			CHECKER: Susan E. Kocher, P.E. Susan Kocher, P.E.	REVIEWER: Al Heyn, P.E. Al Heyn, P.E.	REGION 2 TECH CENTER	CALC. BOOK 6231	FOOTING PLAN	84074

SALVAGE SLAB TABLE

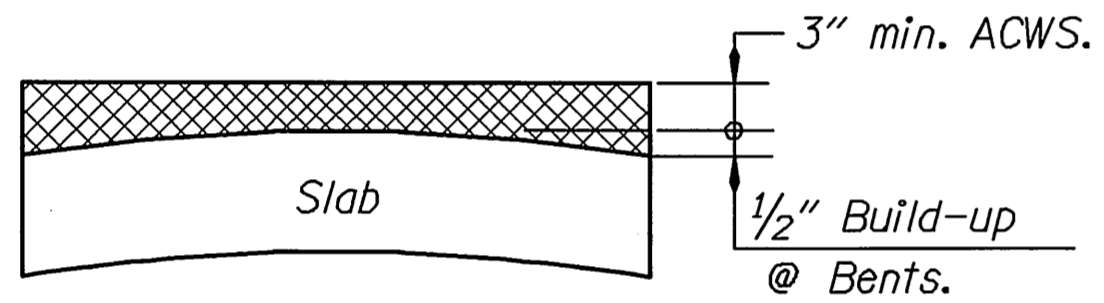
Mark	Length
A	30'-0"
B	30'-0"
17B*	29'-11 1/8"
17C*	29'-11 1/8"
17D*	29'-11 1/2"
17E*	29'-11 1/2"
17F*	29'-11 1/2"
17G*	29'-11 1/2"
17H*	30'-0"
17J*	30'-0"
B	30'-0"
A	30'-0"

*Salvaged

NOTE:

Deck elevations shown are finish grade at top of AC wearing surface on centerline of structure and gutter line at centerline of bent.

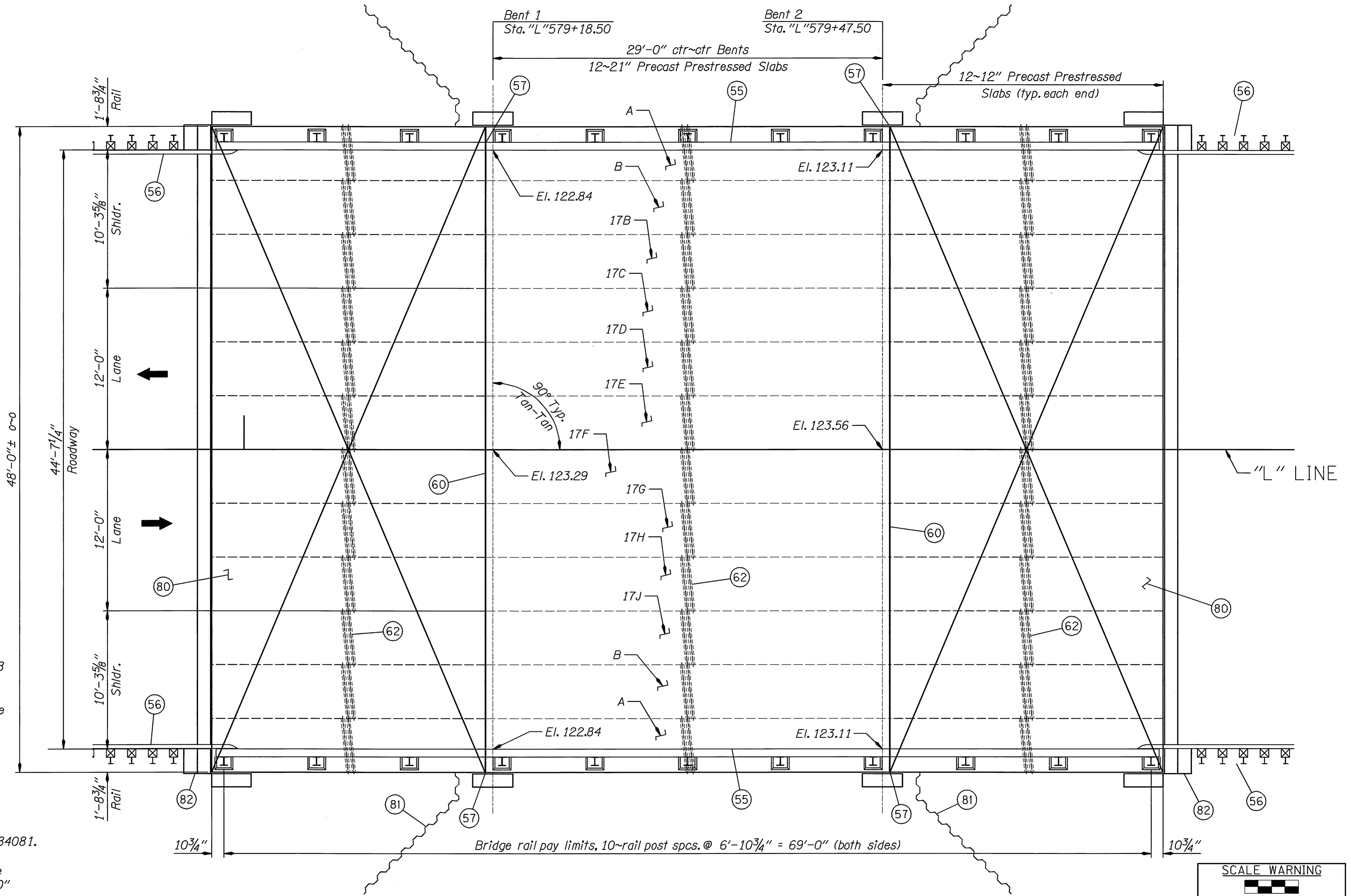
Min. ACWS----- 3"
 Anticipated camber @ 3 mos.----- 3/4"
 Downward due to ACWS----- 1/4"
 Wearing surface thickness @ Bents--- 3 1/2"



ACWS BUILD - UP DETAIL

DETAIL REFERENCE NUMBERS:

- (55) Standard 3 Tube Curb Mount Rail, see dwg. BR208 for details.
- (56) Std. 3 Tube Curb Mount Rail guardrail transition, see dwg. BR209 for details.
- (57) Provide rail splice per BR208 at joint.
- (60) Deck expansion joint, see Detail "A", dwg. 84078.
- (62) Tie Rod Hole Locations.
- (80) Precast End Panel Slabs at bridge ends, see dwg. 84081.
- (81) Const. sheet pile wall. Cut exposed top of sheet pile wall to match finish grade. Cut sheet pile wall 1'-0" below end panel slab bottom.
- (82) Const. sleeper slab, see dwg. 84081.



DECK PLAN

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

SCALE WARNING
 If scale bar doesn't measure one inch then drawing is not to scale

DATE	REVISION	BY	DRAFTER: Sandra Gish	REGISTERED PROFESSIONAL ENGINEER 72562PE Ronald M Blacketer MEMBER 13, 2007 DONALD MERLE BLACKETER RENEWS: 12-31-2011	OREGON DEPARTMENT OF TRANSPORTATION	STRUCTURE NO. 21189	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET 6 OF 12
			DESIGNER: Ron Blacketer, P.E.			DATE JULY 2010		DRAWING NO. 84075
ACCOMPANIED BY DWGS. See dwg. 84070			CHECKER: Susan E. Koehler Susan Koehler, P.E.	REGION 2 TECH CENTER	CALC. BOOK 6231	DECK PLAN		
			REVIEWER: Al Heyn Al Heyn, P.E.					

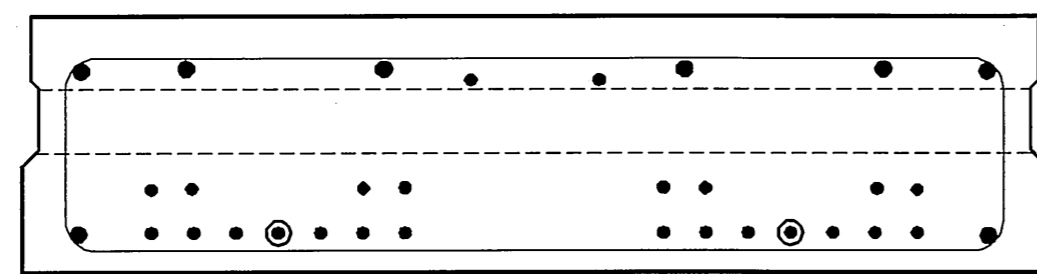
12" PRECAST PRESTRESSED SLAB(S)

Slab No.	No. Slabs Required	Span No.	Horizontal Length 0-0 at slab ϕ , ft. (after Shortening)	Skew Angle		Total Strand	Debonded Strands	Distance "Yc" to c.g. strand at midspan, in.	Distance "Yu" to c.g.s. at midspan subtracting top strand, in.	CONCRETE CLASS psi	Min. Concrete Strength Req'd by Design Loading, psi	Minimum Concrete Strength at Transfer of Prestress, psi	Estimated Initial Strand Stress Loss, ksi	Estimated Midspan Deflection					Estimated Shortening 2 weeks after Transfer of Prestress
				Back	Ahead									Upward at Transfer of Prestress	Upward 3 months after transfer of Prestress (No SIDL)	Upward 5 years after transfer of prestress (No SIDL)	Instantaneous Downward Due to SIDL	Downward Due to SIDL	
12"	24	EP	20.3	0	0	16	2	3.78	2.99	5000	5000	4000	10.2	0.1875"	0.375"	0.0025"	0.0625"	0.25"	0.125"

21" PRECAST PRESTRESSED SLAB(S)

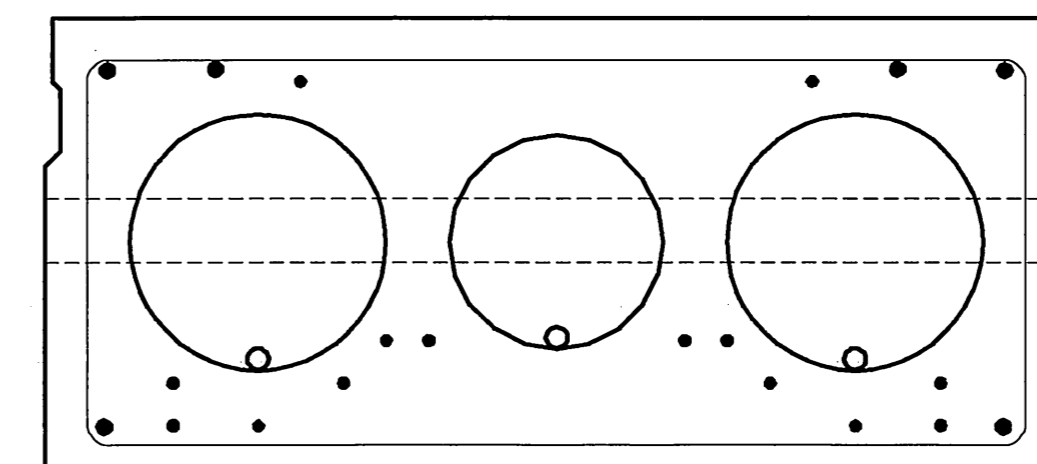
Slab No.	No. Slabs Required	Span No.	Horizontal Length 0-0 at slab ϕ , ft. (after Shortening)	Skew Angle		Total Strand	Debonded Strands	Distance "Yc" to c.g. strand at midspan, in.	Distance "Yu" to c.g.s. at midspan subtracting top strand, in.	CONCRETE CLASS psi	Min. Concrete Strength Req'd by Design Loading, psi	Minimum Concrete Strength at Transfer of Prestress, psi	Estimated Initial Strand Stress Loss, ksi	Estimated Midspan Deflection					Estimated Shortening 2 weeks after Transfer of Prestress
				Back	Ahead									Upward at Transfer of Prestress	Upward 3 months after transfer of Prestress (No SIDL)	Upward 5 years after transfer of prestress (No SIDL)	Instantaneous Downward Due to SIDL	Downward Due to SIDL	
B	2	-	30	0	0	14	-	3.90	2.99	6000	6000	4500	15.5	0.75"	1.5"	1.40"	0.24"	0.26"	0.375"
A	2	-	30	0	0	14	-	3.90	2.99	6000	6000	4500	13.7	0.75"	0.80"	1.32"	0.25"	0.28"	0.375"

Refer to structure no.6510 shop drawings for salvaged slab construction and strand pattern details.



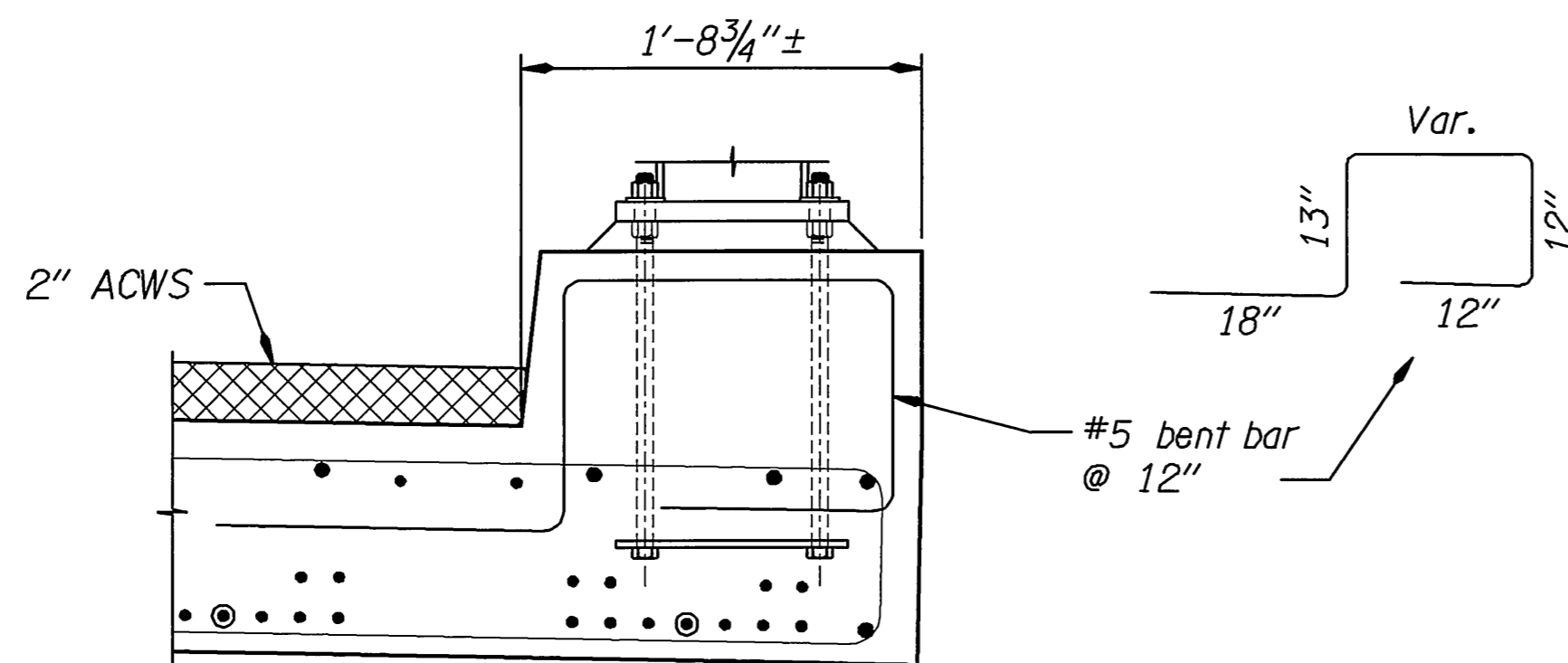
TYPICAL 12" SLAB SECTION

No Scale



TYPICAL 21" SLAB (B) SECTION

No Scale



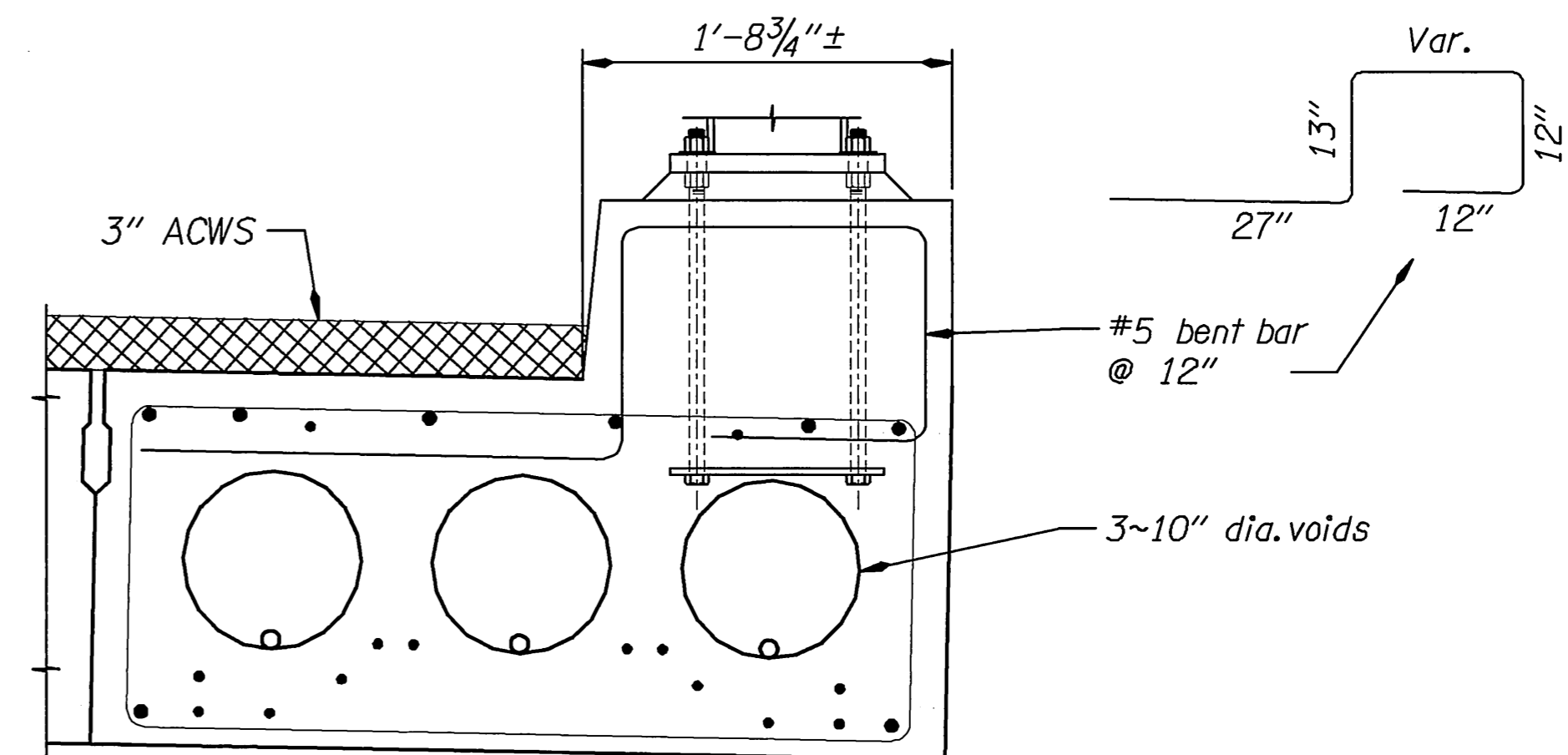
12" SLAB WITH CURB DETAIL

Scale: 1" = 1'-0"

NOTE:
For rail and curb details not shown, see dwg. BR208.

NOTE:
High strength tie rods shall be ASTM A449. Use heavy hexagon nuts conforming to ASTM A563. Hot dip galvanize bolts, tie rods, nuts, washers and Plates after fabrication. Tighten tie rods to a minimum tension of 39.25 kips using mechanically galvanized load indicator washers conforming to ASTM F959. See dwg. BR445 for additional tie rod details.

For prestressed slab details not shown, see dwgs. BR400, BR415 and BR445.



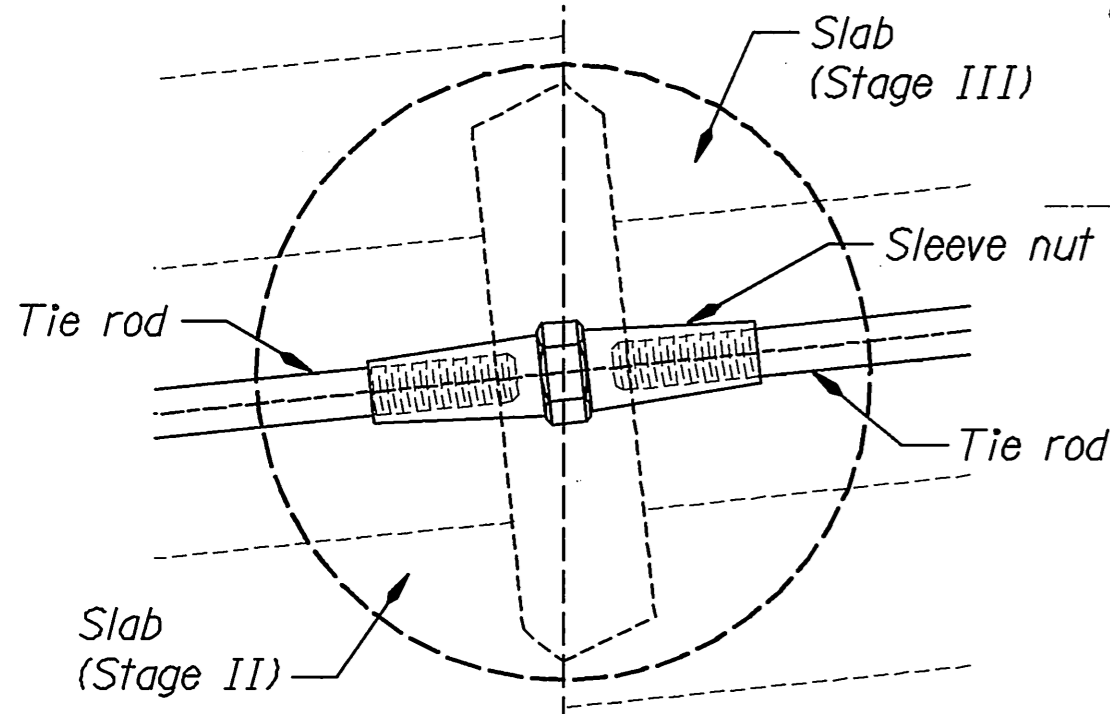
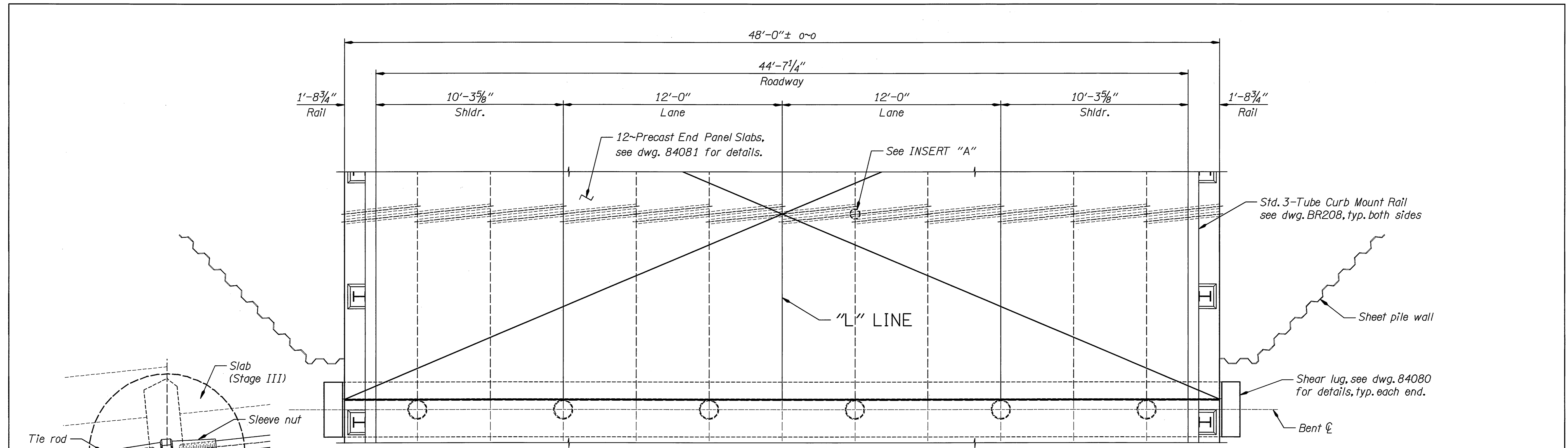
21" SLAB (A) WITH CURB DETAIL

Scale: 1" = 1'-0"

NOTE:
For rail and curb details not shown, see dwg. BR208.

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

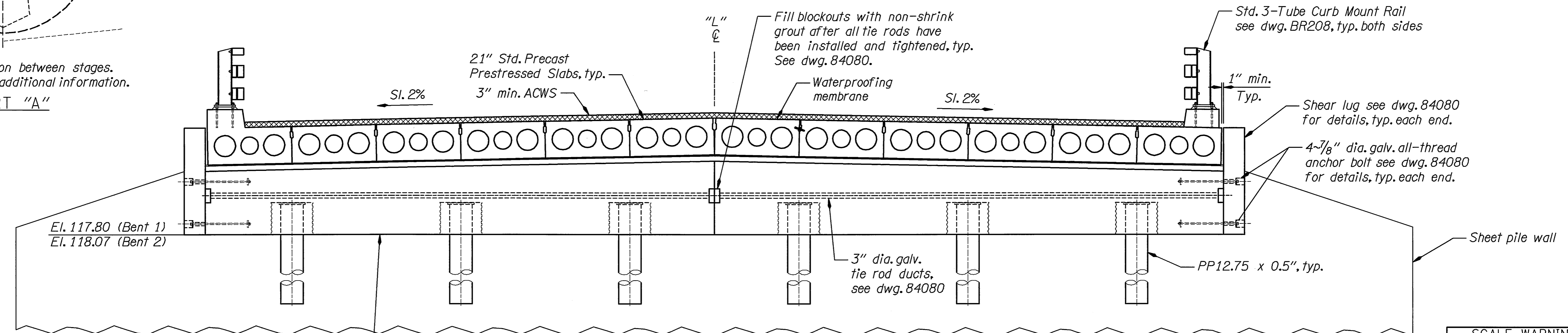
DATE	REVISION	BY	DRAFTER: Sandra Gish		STRUCTURE NO. 21189	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET 7 OF 12
			DESIGNER: Ron Blacketer, P.E.		DATE: JULY 2010		DRAWING NO. 84076
ACCOMPANIED BY DWGS. See dwg. 84070			CHECKER: Susan E. Kocher, P.E.		CALC. BOOK 6231	SLAB DETAILS	
			REVIEWER: Al Heyn, P.E.		REGION 2 TECH CENTER		



Tie rod connection between stages.
See BR445 for additional information.

INSERT "A"

BENT 1 PLAN (BENT 2 SIMILAR) (Looking back on station)
Scale: 3/16" = 1'-0"

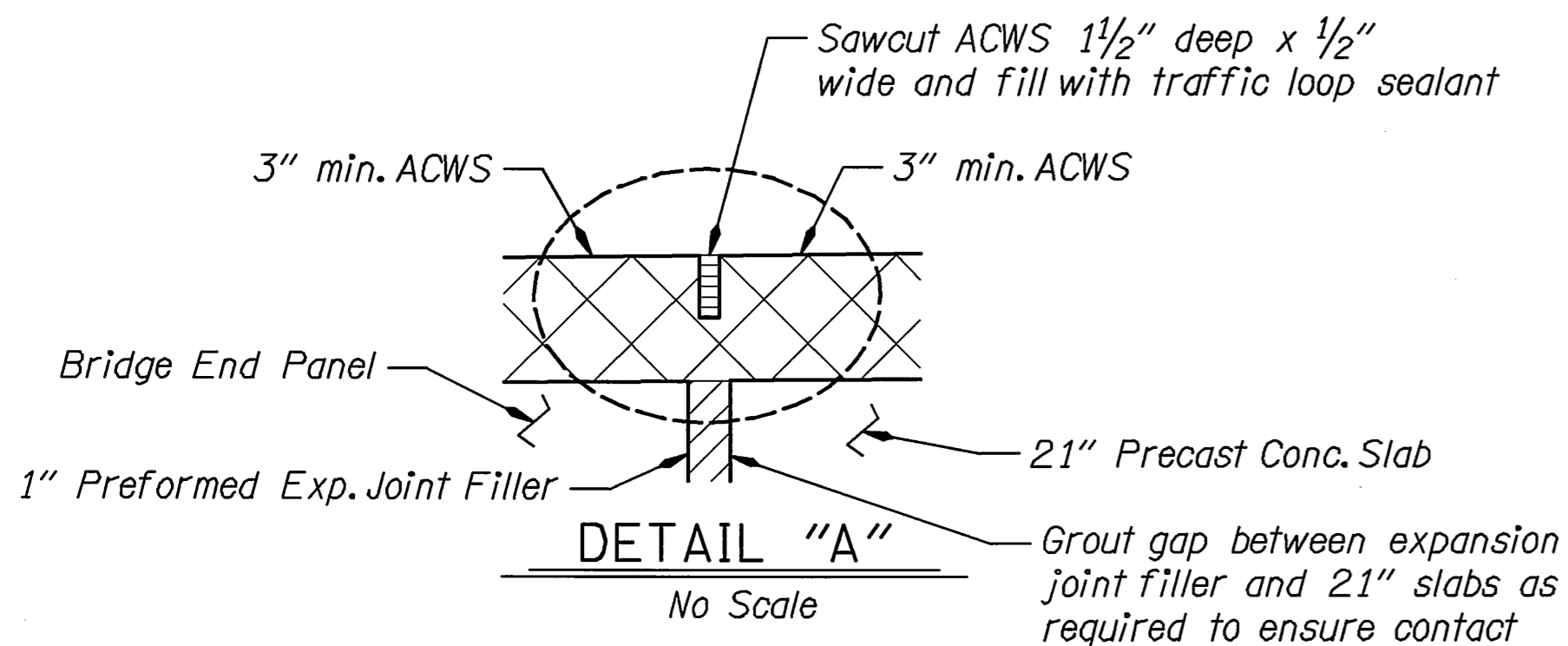


For pile cap reinforcement,
see dwgs. 84078 and 84079

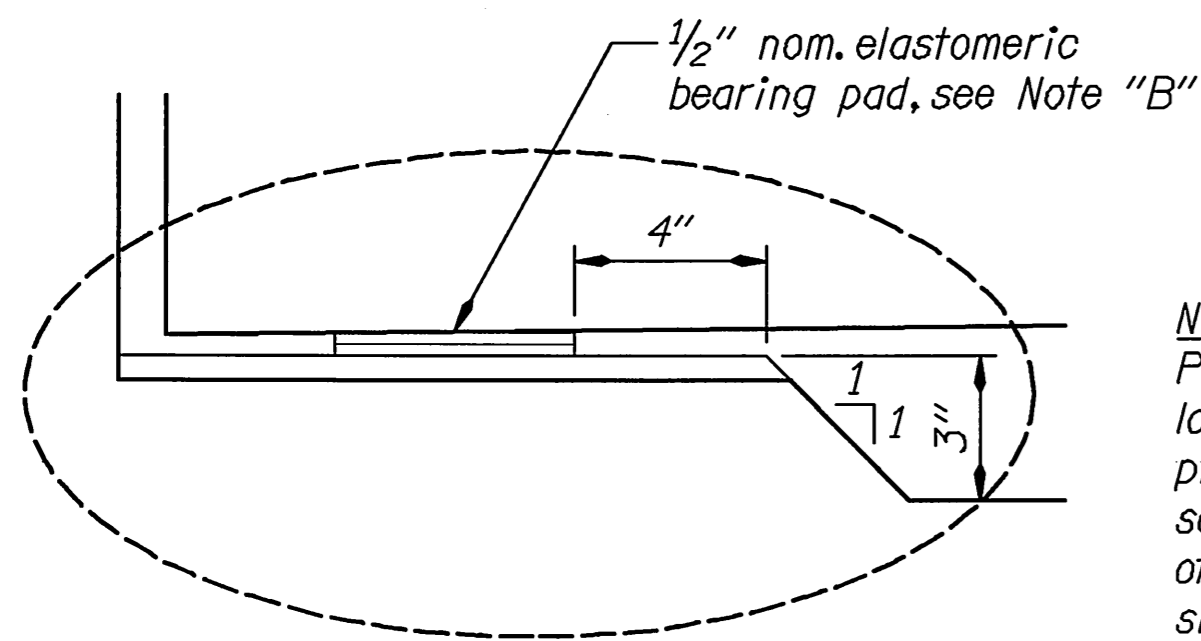
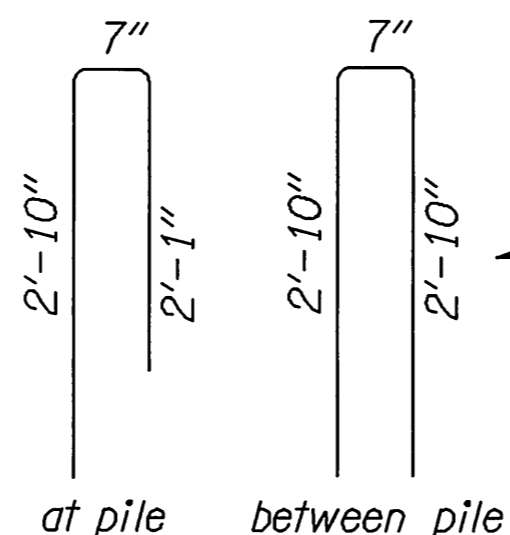
BENT 1 ELEVATION (BENT 2 SIMILAR) (Looking back on station)
Scale: 3/16" = 1'-0"

SCALE WARNING
If scale bar doesn't
measure one inch then
drawing is not to scale

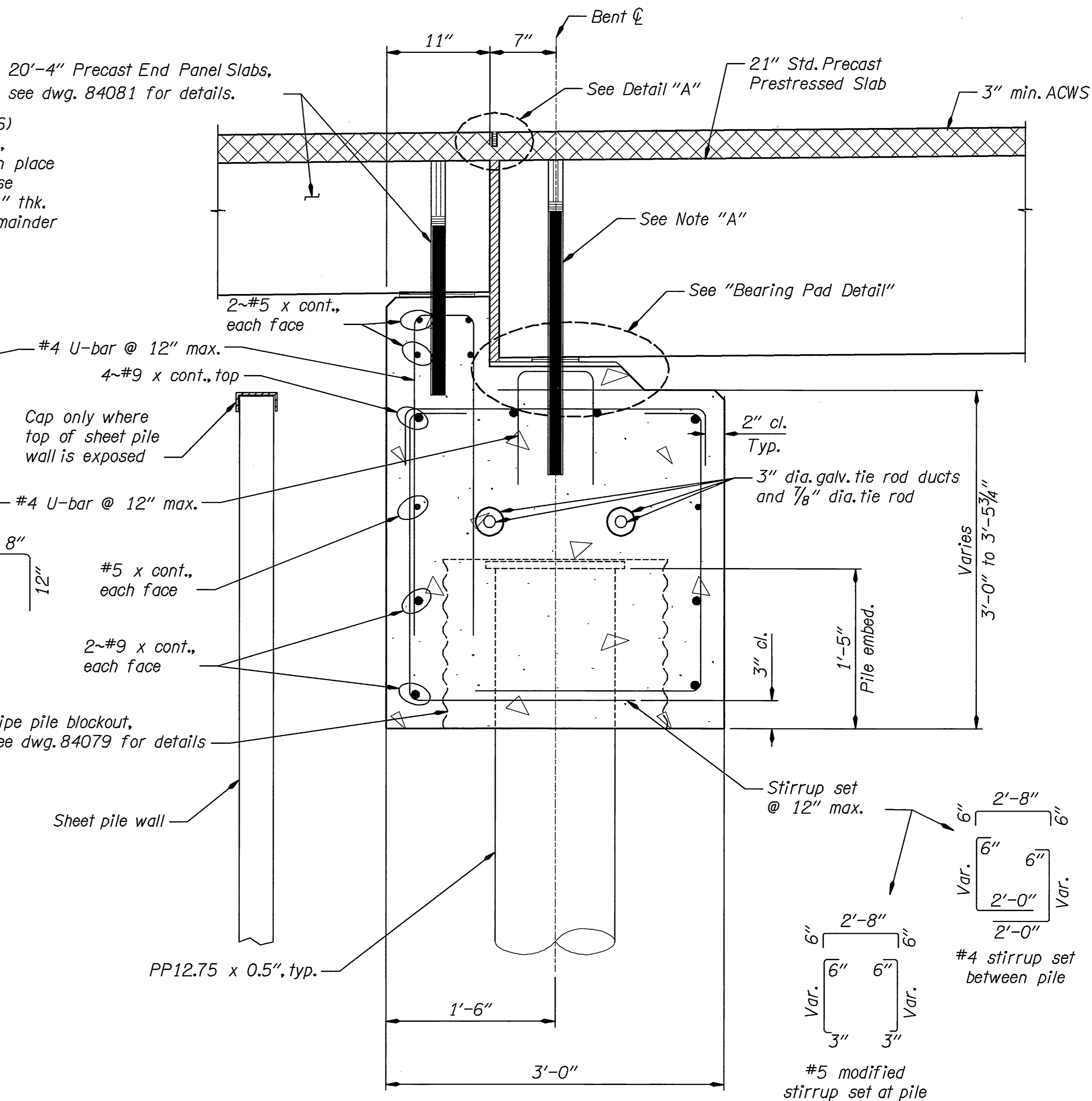
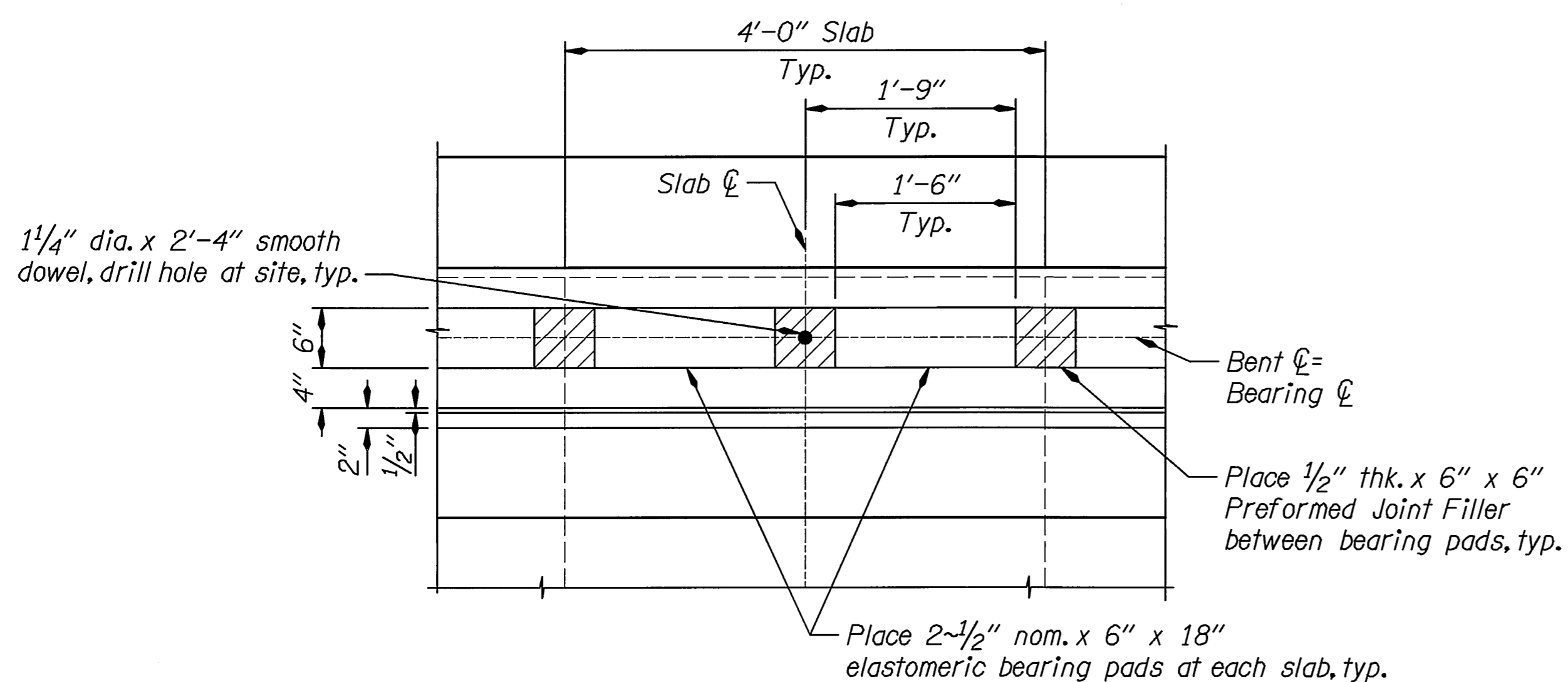
	DATE	REVISION	BY	DRAFTER: Sandra Gish			STRUCTURE NO.	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET
				DESIGNER: Ron Blacketer, P.E.			21189		8
ACCOMPANIED BY DWGS. See dwg. 84070				CHECKER: Susan E. Kocher, P.E.	REGION 2 TECH CENTER	OREGON DEPARTMENT OF TRANSPORTATION	DATE	BENT 1 PLAN & ELEVATION (BENT 2 SIMILAR)	OF
			REVIEWER: Al Heyn, P.E.	JULY 2010			12		
				REVIEWER: Al Heyn, P.E.	RENEWS: 12-31-2011		CALC. BOOK	DRAWING NO.	84077
							6231		



NOTE "A"
1 1/4" dia. x 2'-4" long smooth dowel (A36) at each end of slab. Drill a 1 1/2" dia. hole, 12" deep, into pile cap after slabs are in place and tie rod ends have been tightened. Use non-impact rotary drill. Place 2" dia. x 1" thk. polystyrene plug on top of dowel. Fill remainder of hole with non-shrink grout.



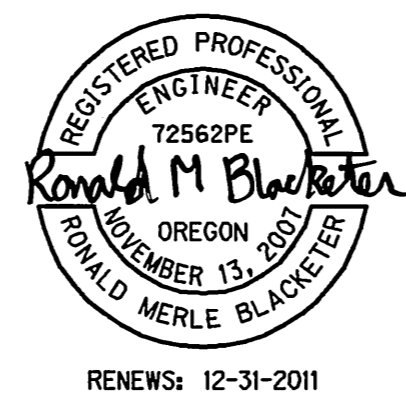
NOTE "B"
Place 1/2" grout layer at Bent cap at bearing locations. Place elastomeric bearing pads and prestressed slabs before 1/2" grout is fully set to insure uniform bearing across full width of slab. If uniform bearing is not achieved, lift slab, remove grout and repeat procedure. Any excess grout protruding above bottom of bearing pads shall be removed immediately after placing slab.



SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

DATE	REVISION	BY
ACCOMPANIED BY DWGS. See dwg. 84070		
DRAFTER:	Sandra Gish	
DESIGNER:	Ron Blacketer, P.E.	
CHECKER:	Susan E. Kocher, P.E.	
REVIEWER:	Al Heyn, P.E.	



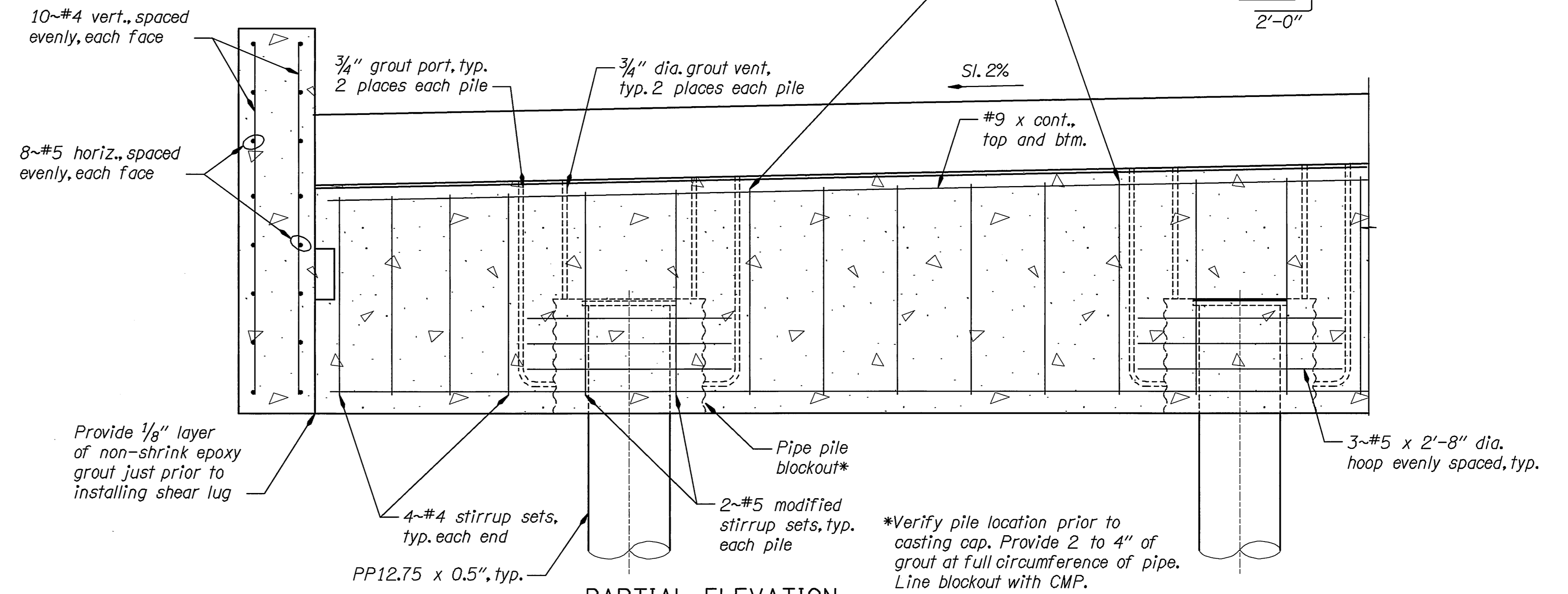
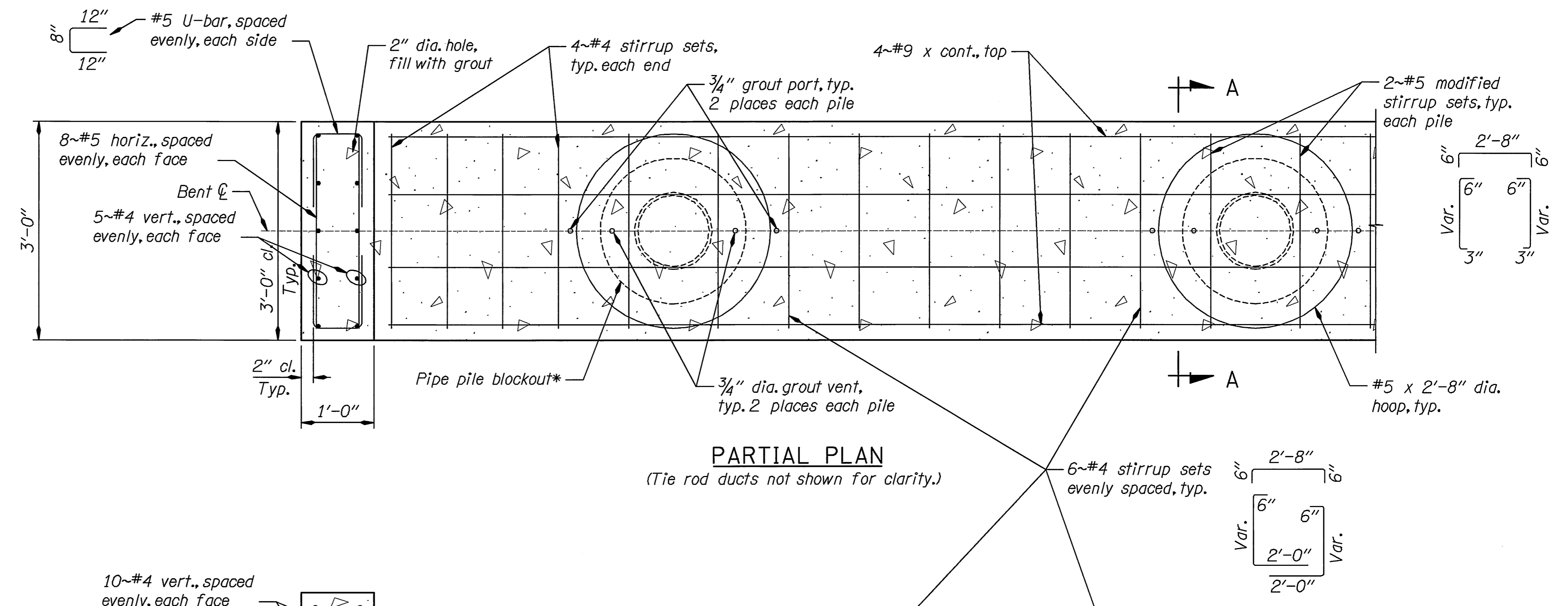
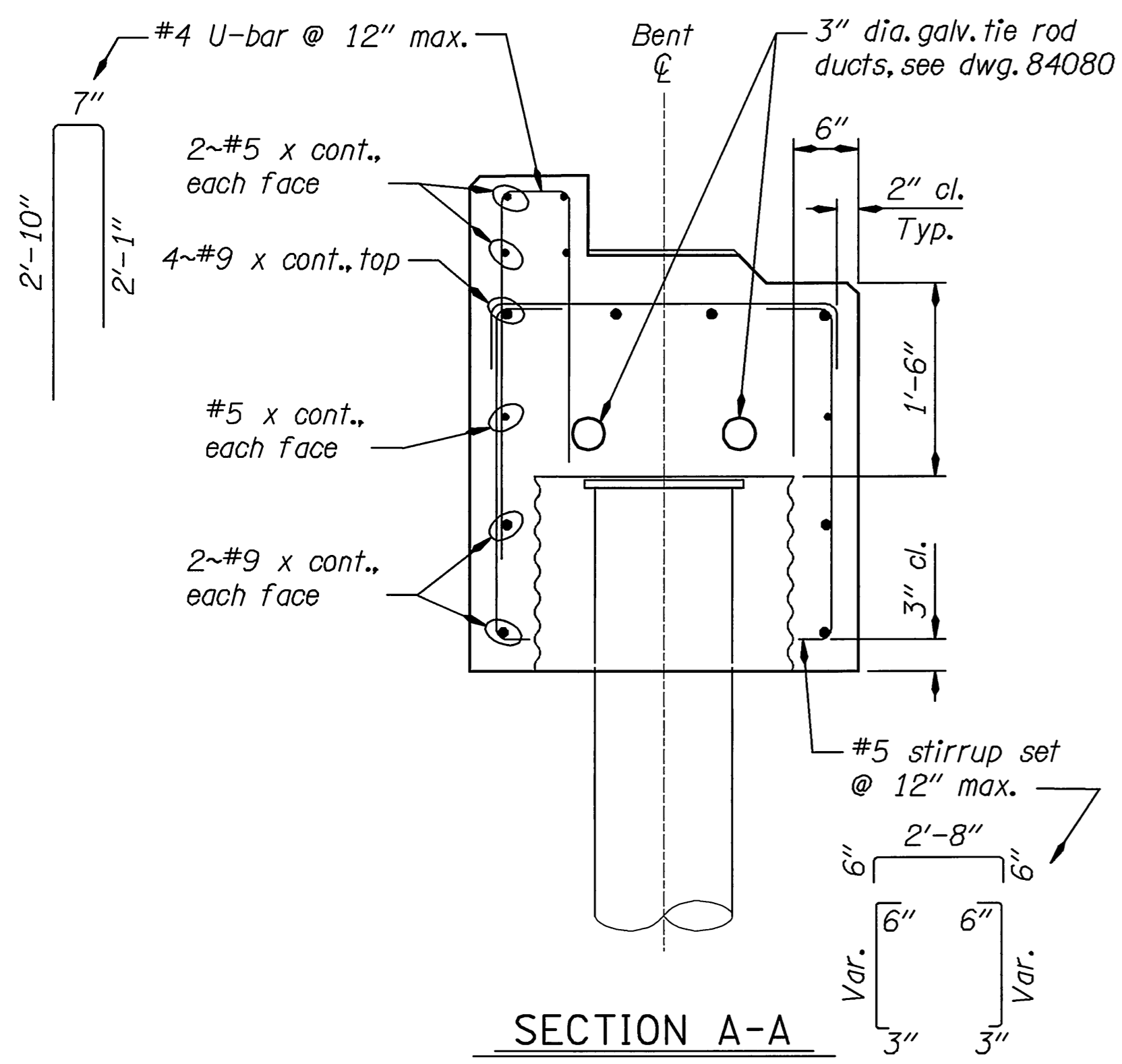
REGION 2 TECH CENTER

STRUCTURE NO.	21189
DATE	JULY 2010
CALC. BOOK	6231

JOHNSON CREEK, HWY 47 AT MP 3.26
OR26: VOLMER CREEK BRIDGE &
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BENT 1 SECTION (BENT 2 SIMILAR)

SHEET	9
OF	12
DRAWING NO.	84078



NOTES
 Contractor shall use precasting of concrete pile caps, shear lug and/or other accelerated construction techniques to achieve staged bridge construction and removal in one in-water working season.

Contractor shall use the details in these plans to assemble these components. The details shall be provided to the precast yard for use in fabrication.

See dwg. 84065 for reinforcing and details not shown. Alternate details may be used if submitted and approved by the Engineer per specifications. Contractor shall provide materials and connections that will meet the design criteria listed in these plans and the specifications.

Precast fabricator to provide lifting gooks at each cap segment.

See the project General Notes, dwg. 84058, for additional notes.

Submit all working drawings and products per specifications.

Contractor shall install piles within allowable tolerances.

See dwg. 84080 for cap splice detail.

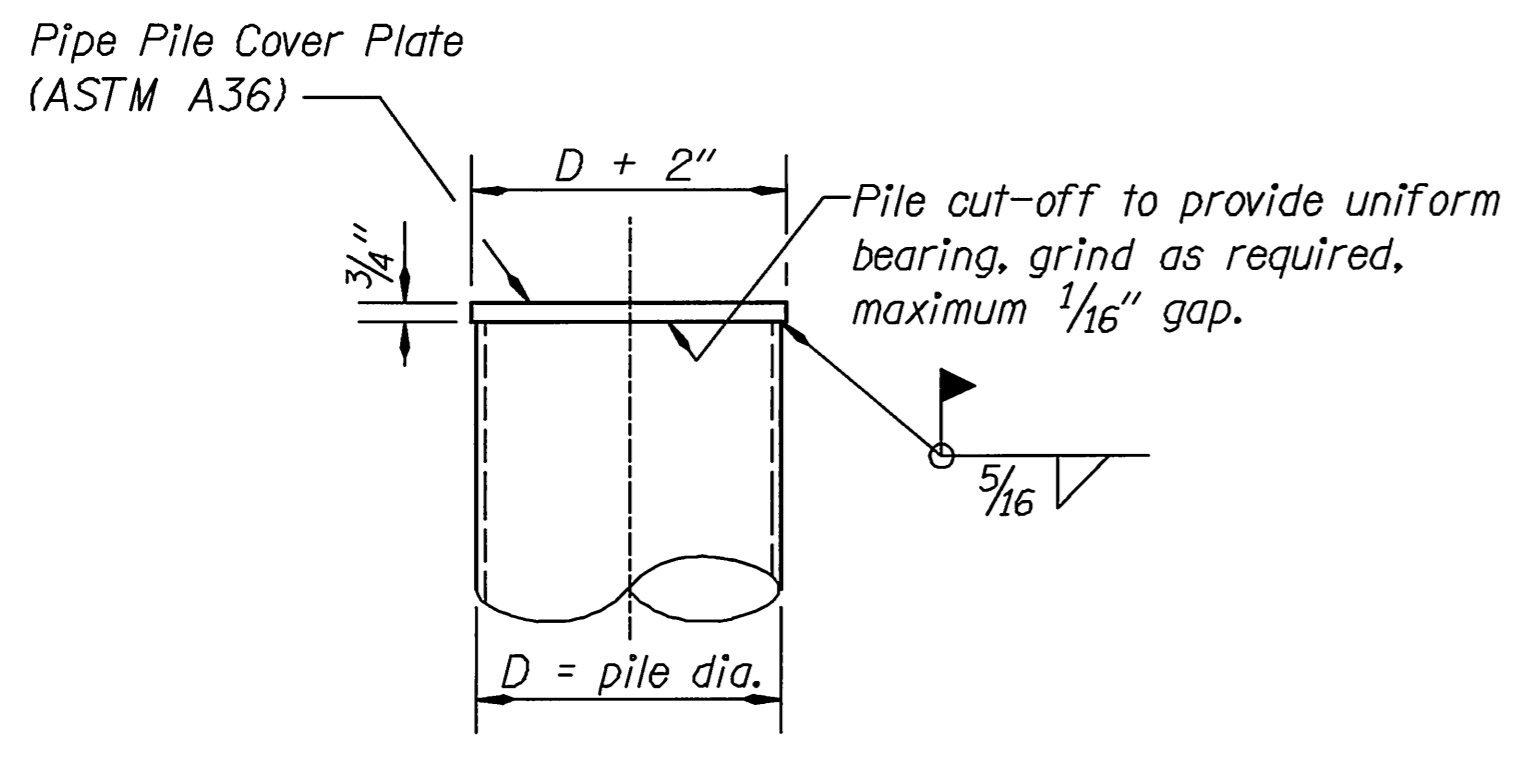
Provide High Early Strength grout per the QPL for all grouting procedures.

PRECAST PILE CAP DETAILS (Looking back on station)
 Scale: 1" = 1'-0"

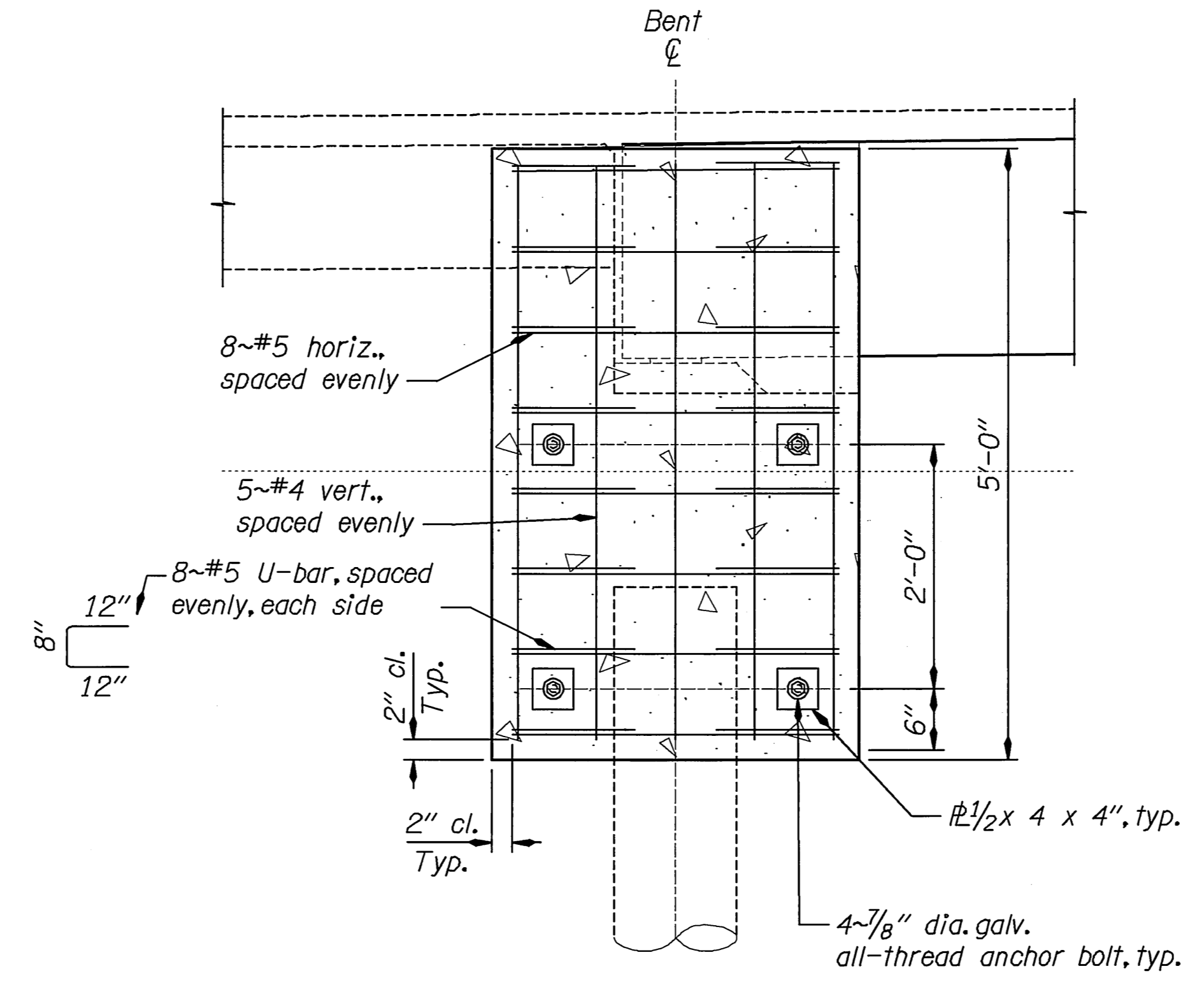
*Verify pile location prior to casting cap. Provide 2 to 4" of grout at full circumference of pipe. Line blockout with CMP.

SCALE WARNING
 If scale bar doesn't measure one inch then drawing is not to scale

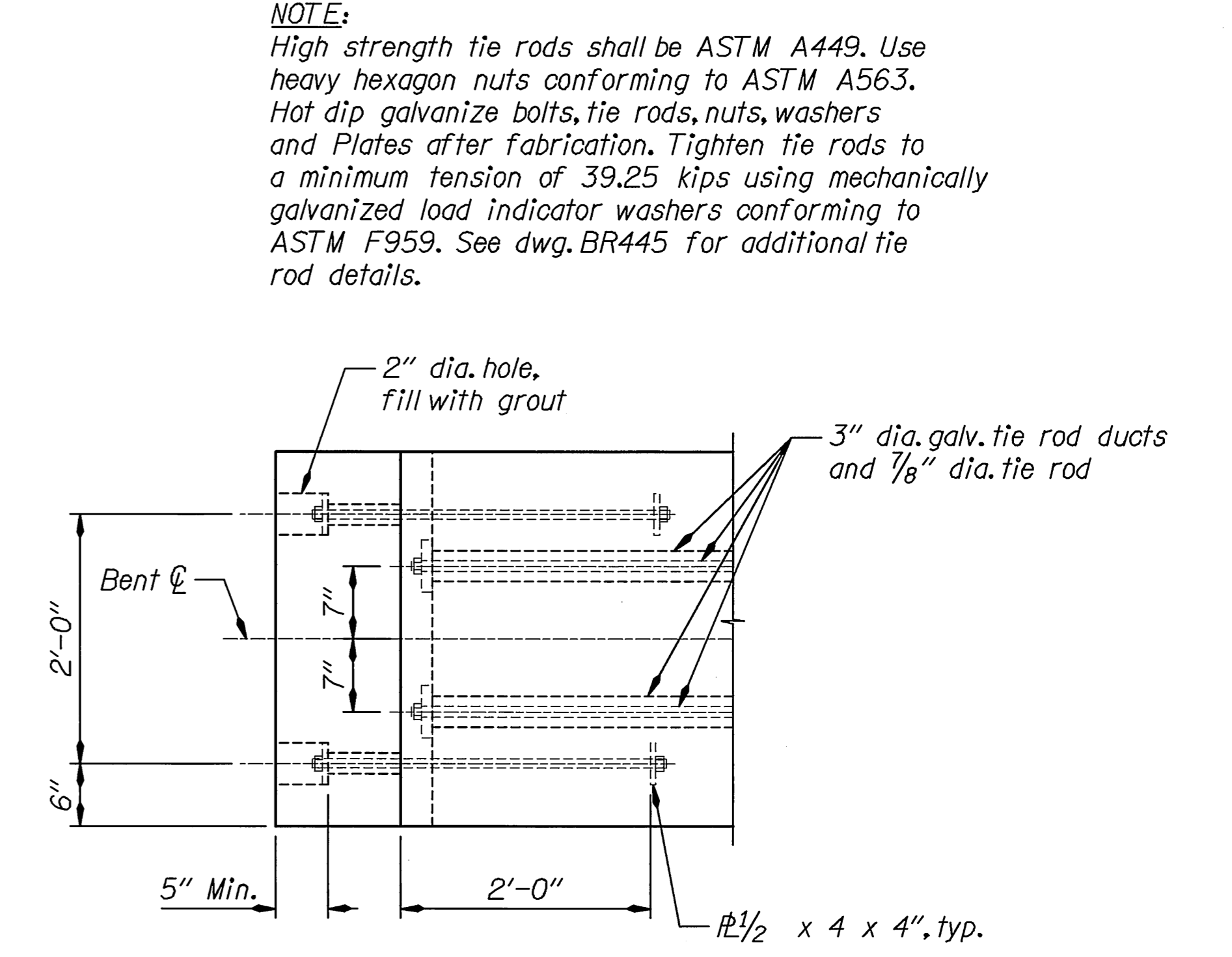
DATE	REVISION	BY	DRAFTER: Sandra Gish	REGISTERED PROFESSIONAL ENGINEER 72562PE Ronald M Blacketer OREGON REGISTERED PROFESSIONAL ENGINEER NOVEMBER 13, 2007 RONALD MERLE BLACKETER RENEWS: 12-31-2011	STRUCTURE NO. 21189	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET 10 OF 12
			DESIGNER: Ron Blacketer, P.E.				
ACCOMPANIED BY DWGS. See dwg. 84070			CHECKER: Susan E. Kocher, P.E. Susan Kocher, P.E.	OREGON DEPARTMENT OF TRANSPORTATION	CALC. BOOK 6231	PILE CAP DETAILS	DRAWING NO. 84079
			REVIEWER: Al Heyn, P.E. Al Heyn, P.E.				



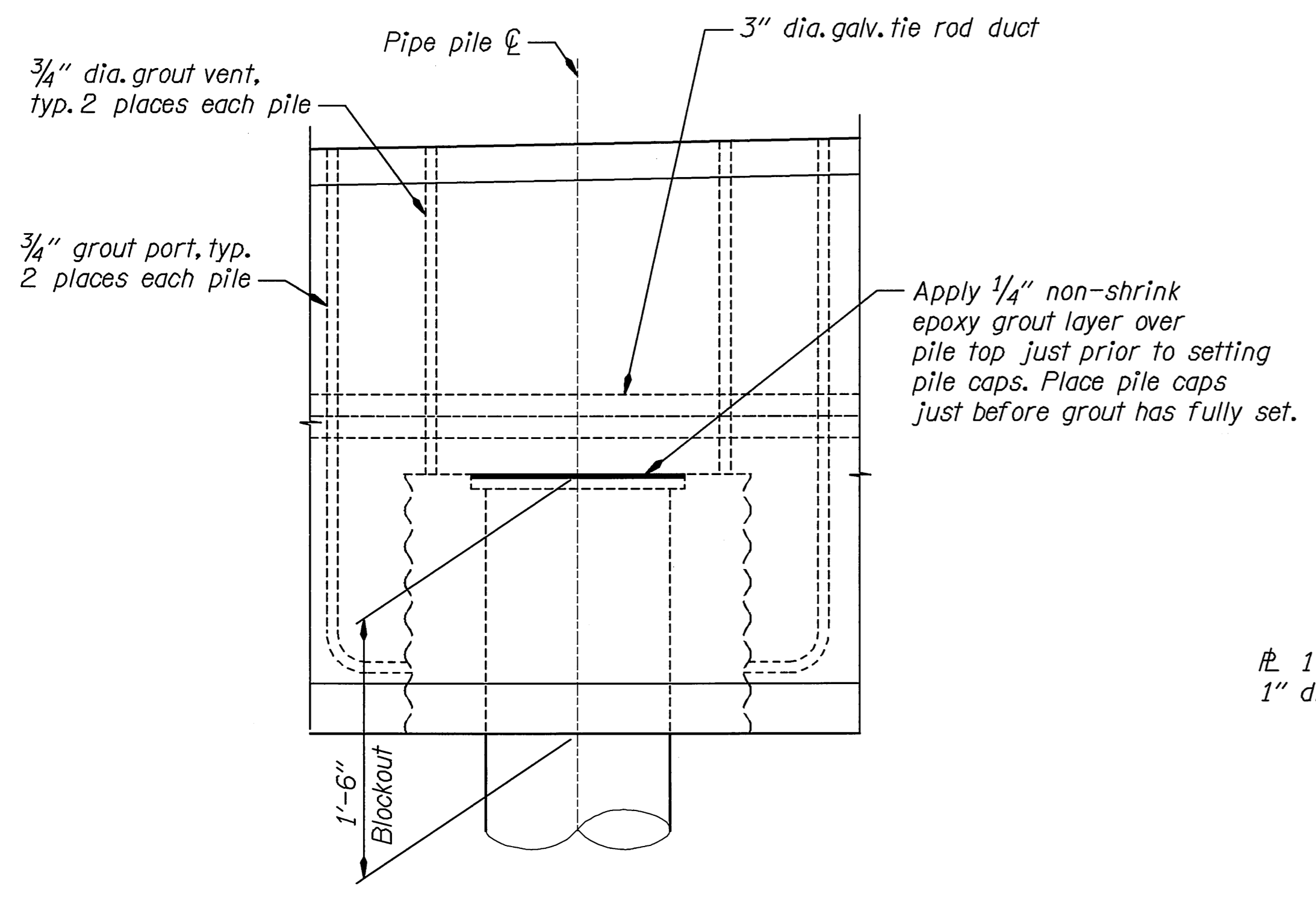
PIPE PILE DETAIL
(Closed End)
No Scale



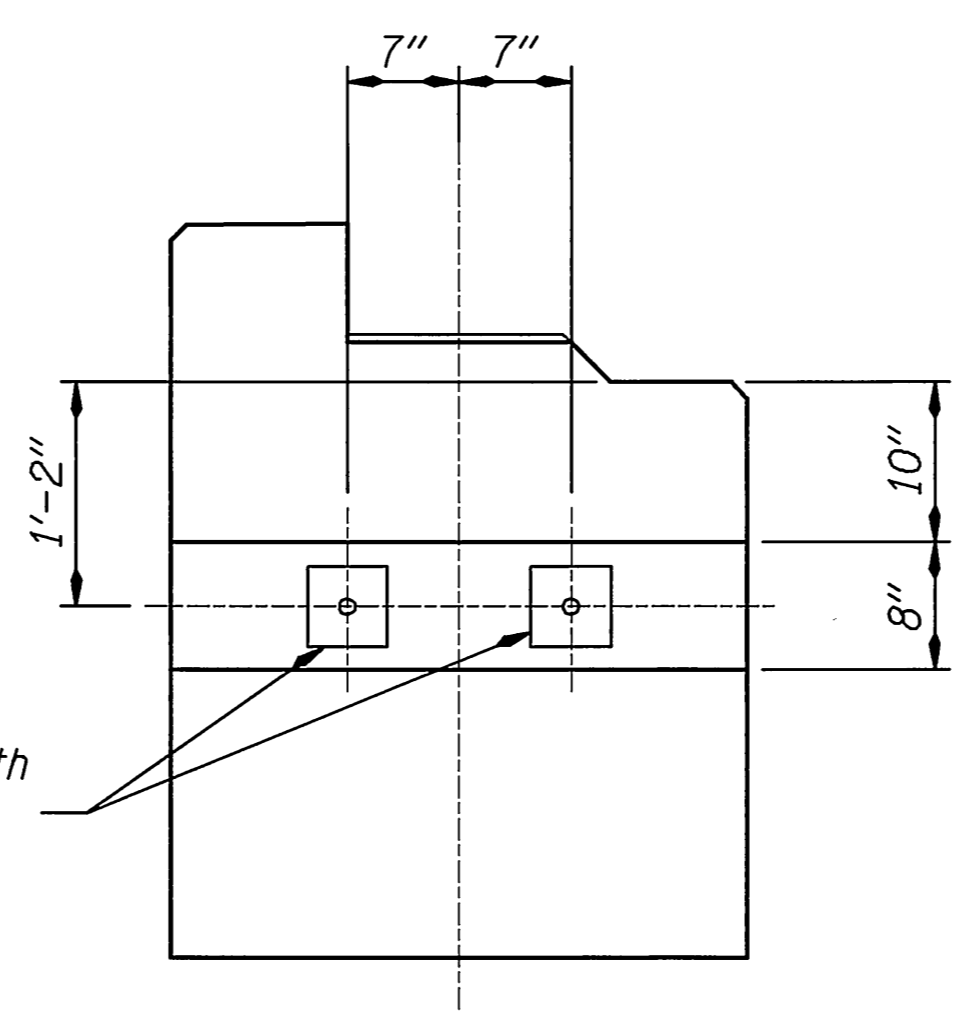
SHEAR LUG ELEVATION
Scale: 1" = 1'-0"



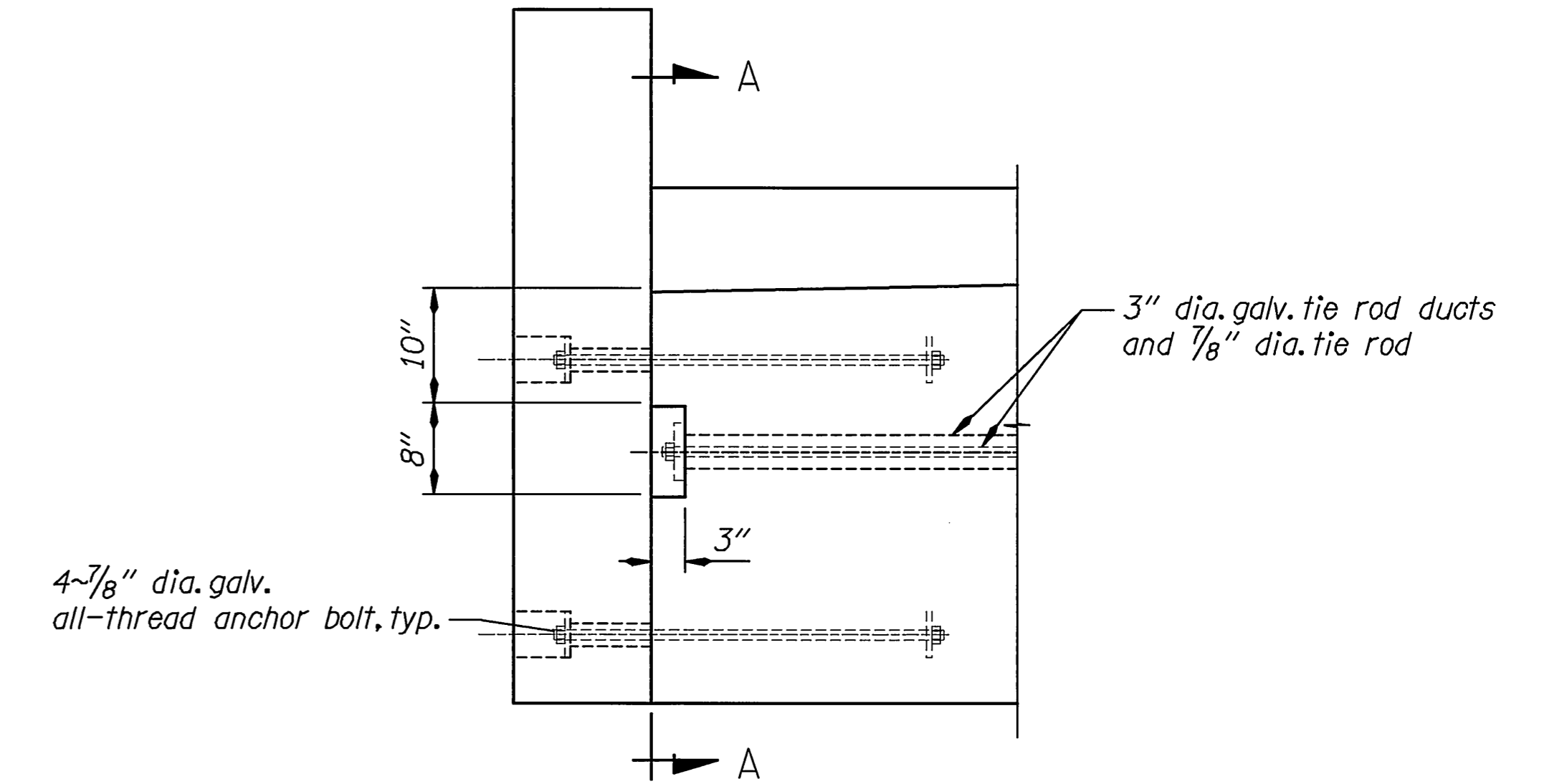
PLAN



PILE TOP CONNECTION DETAIL
Scale: 1 1/2" = 1'-0"



SECTION A-A






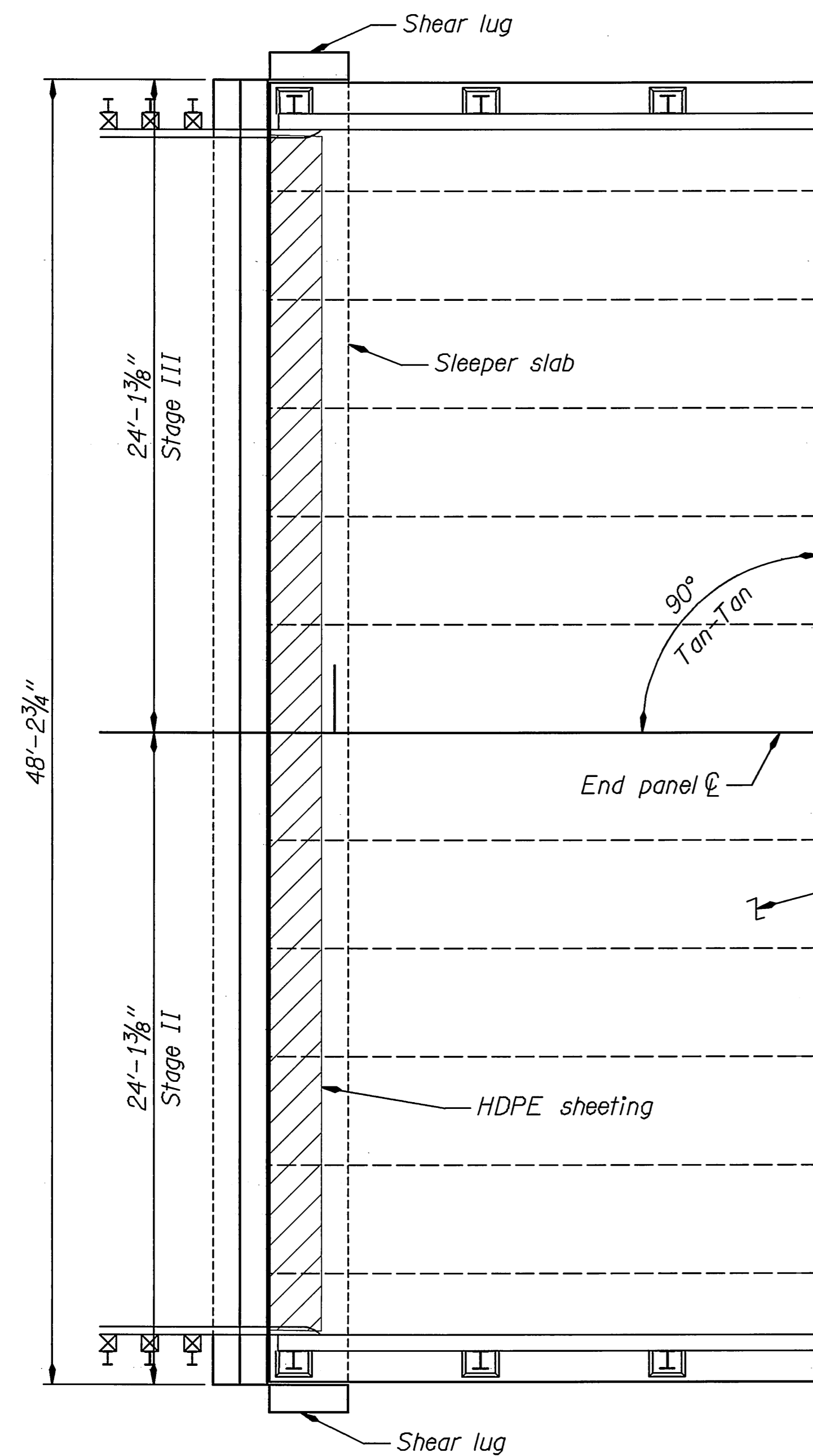
ELEVATION

PRECAST PILE CAP END DETAILS
Scale: 1 1/2" = 1'-0"

NOTE:
High strength tie rods shall be ASTM A449. Use heavy hexagon nuts conforming to ASTM A563. Hot dip galvanize bolts, tie rods, nuts, washers and Plates after fabrication. Tighten tie rods to a minimum tension of 39.25 kips using mechanically galvanized load indicator washers conforming to ASTM F959. See dwg. BR445 for additional tie rod details.

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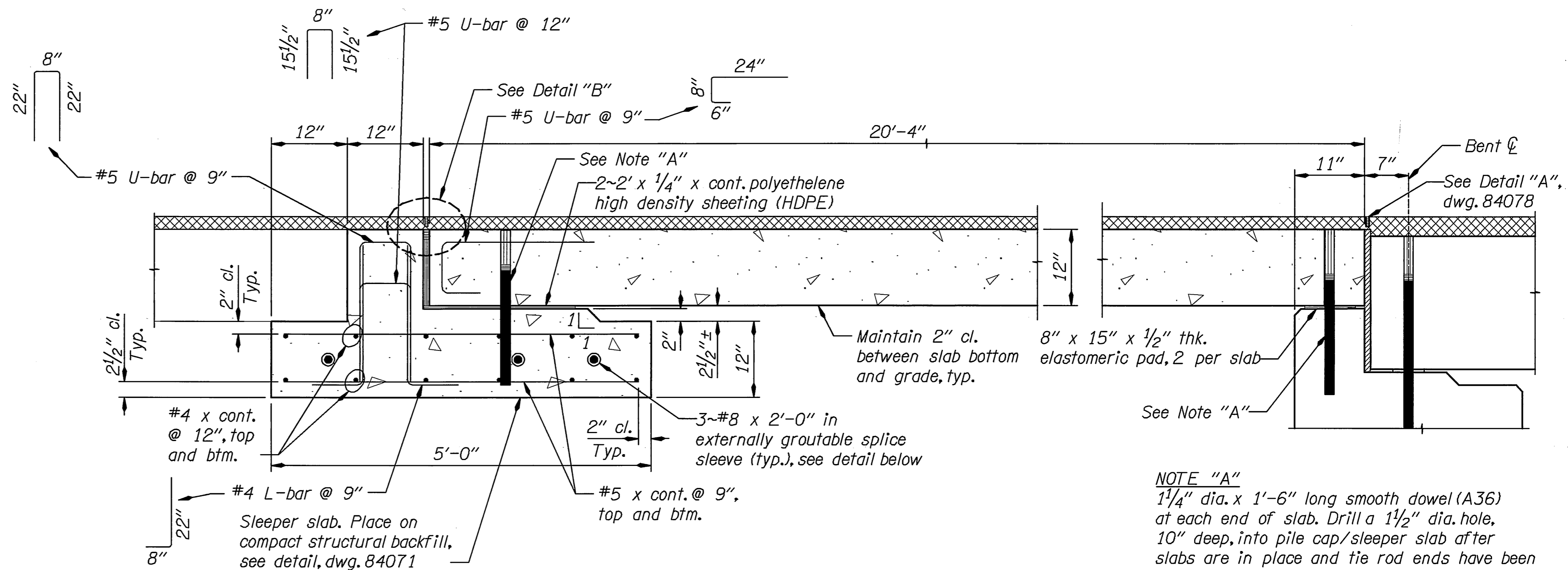
DATE	REVISION	BY	DRAFTER: Sandra Gish			STRUCTURE NO. 21189	JOHNSON CREEK, HWY 47 AT MP 3.26 OR26: VOLMER CREEK BRIDGE & JOHNSON CREEK BRIDGE PROJECT SUNSET HIGHWAY (M.P. 3.26) CLATSOP CO.	SHEET 11 OF 12
			DESIGNER: Ron Blacketer, P.E.			DATE JULY 2010		DRAWING NO.
ACCOMPANIED BY DWGS. See dwg. 84070			CHECKER: Susan E. Kocher, P.E.		REGION 2 TECH CENTER	CALC. BOOK 6231	PILE CAP DETAILS CONT.	84080
			REVIEWER: Al Heyn, P.E.					



NOTE:
Cross-slope of sleeper slab to match cross-slope of adjacent bent cap.

END PANEL AND SLEEPER SLAB PLAN

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

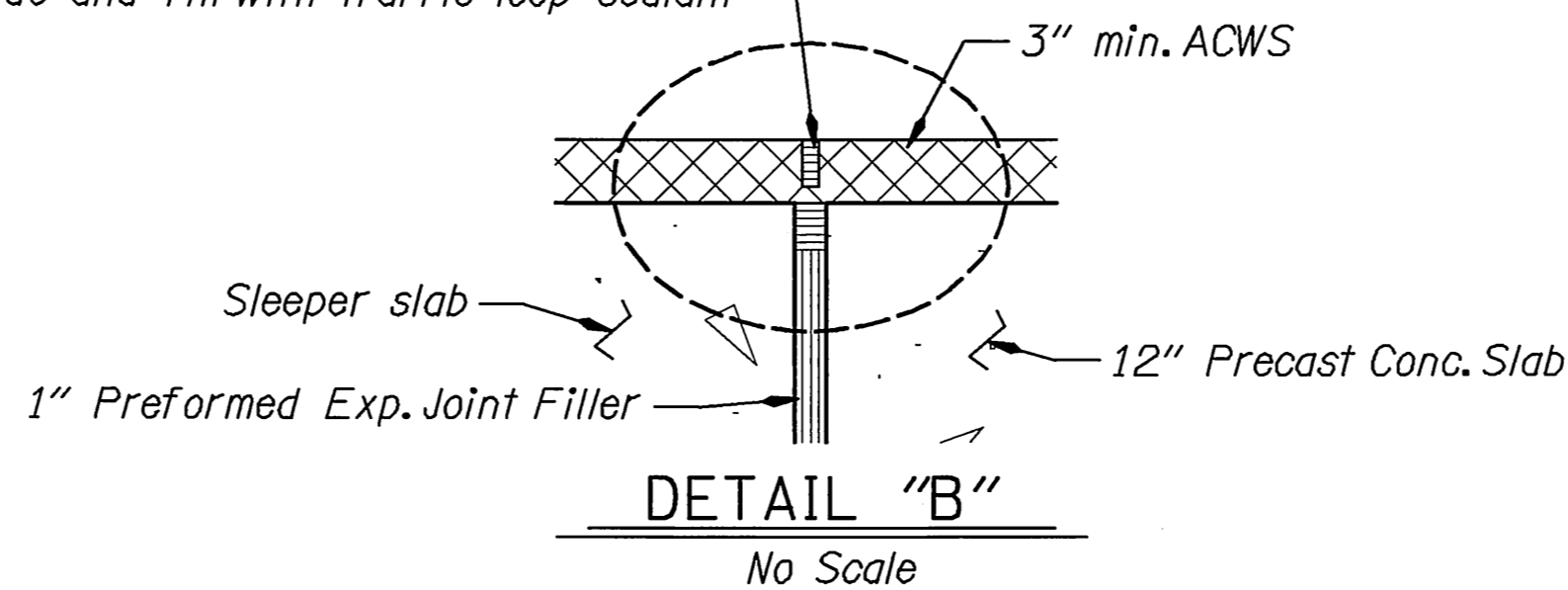


END PANEL AND SLEEPER SLAB SECTION

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

NOTE "A"
1 1/4" dia. x 1'-6" long smooth dowel (A36) at each end of slab. Drill a 1 1/2" dia. hole, 10" deep, into pile cap/sleeper slab after slabs are in place and tie rod ends have been tightened. Use non-impact rotary drill. Place 2" dia. x 1" thk. polystyrene plug on top of dowel. Fill remainder of hole with non-shrink grout.

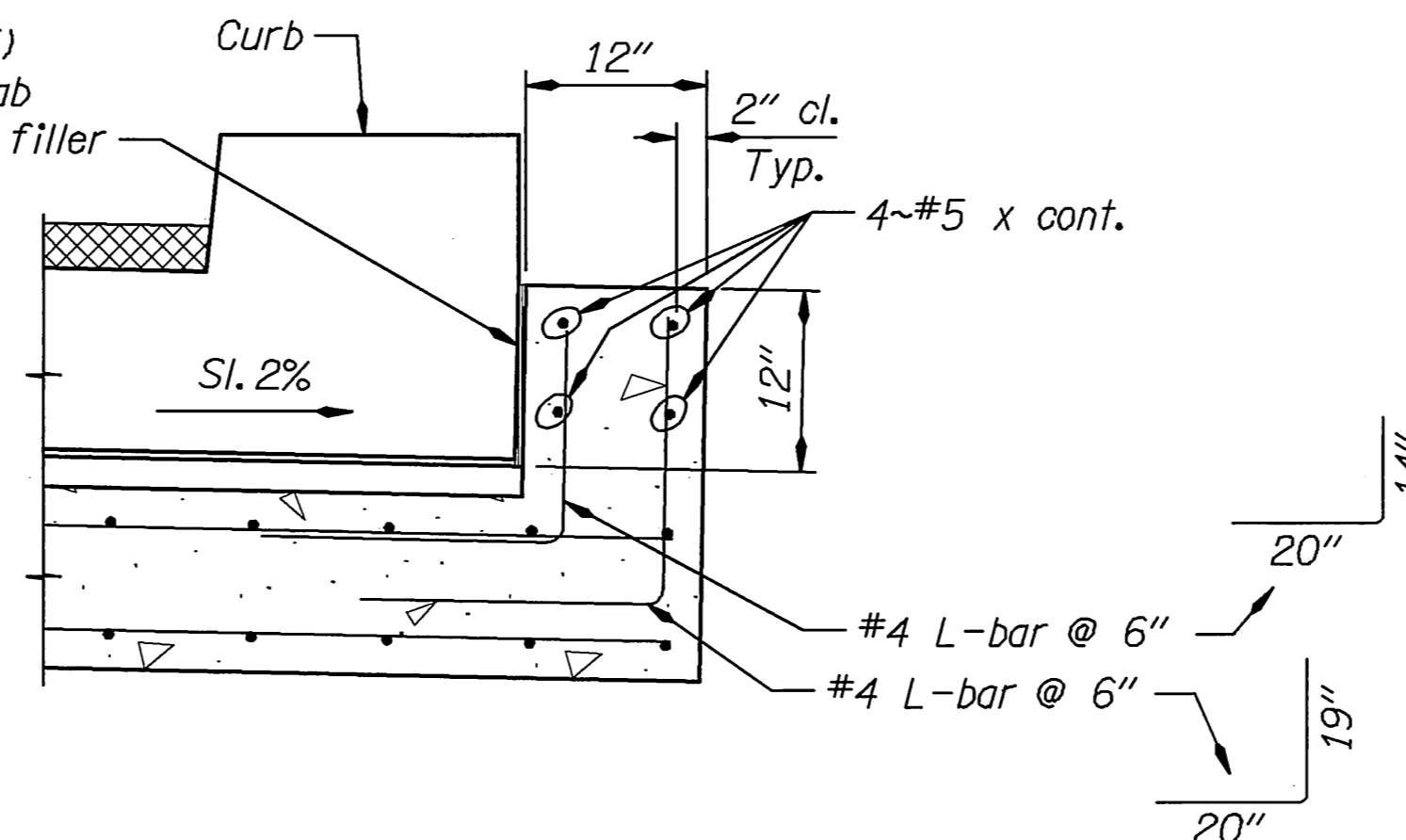
Sawcut ACWS 1 1/2" deep x 1/2" wide and fill with traffic loop sealant



DETAIL "B"

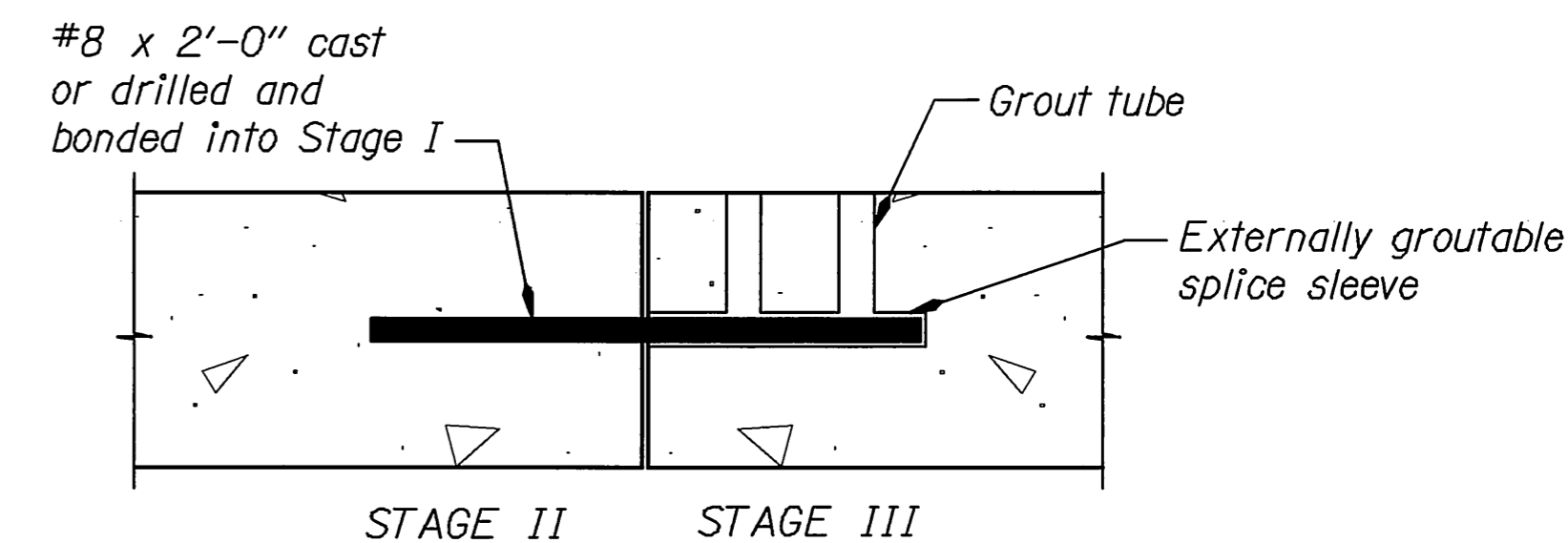
No Scale

Place 1/4" polyethelene (HDPE) sheeting against end panel slab and 1/2" preformed exp. joint filler



TYP. SHEAR LUG SECTION

No Scale



GROUTABLE SPLICE SLEEVE DETAIL

No Scale

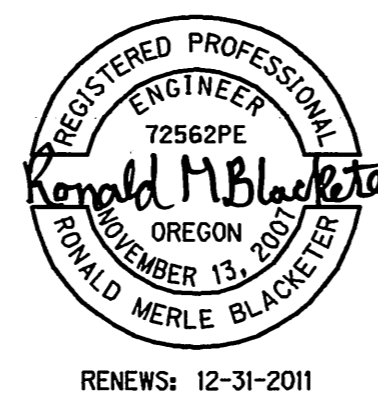
NOTE:
See dwg. BR400 for details not shown.

SCALE WARNING

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DATE	REVISION	BY
		DRAFTER: Sandra Gish
		DESIGNER: Ron Blacketer, P.E.
		CHECKER: Susan E. Kocher, Susan Kocher, P.E.
		REVIEWER: Al Heyn, Al Heyn, P.E.

ACCOMPANIED BY DWGS. See dwg. 84070



REGION 2 TECH CENTER

STRUCTURE NO. 21189
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END PANEL AND SLEEPER SLAB DETAILS

SHEET 12 OF 12
DRAWING NO. 84081