

STRUCTURAL GENERAL NOTES

1.0 CRITERIA

1.1 Code: 2006 International Building Code (IBC) as amended by the State of Alaska

1.2 Loads:
 Bridge Floor Live Load: 100 psf
 Flat Roof Snow: 80 psf
 Ground Snow Load (for Drift Calculations) 115 psf
 Dead Loads all applicable
 Wind: 110 mph, Exposure C, lw=1.0
 Seismic: Site Class D, Ie = 1.0
 Ss = 1.21g, Fa = 1.02, Sds = 0.82g
 S1 = 0.48g, Fv = 1.52, Sd1 = 0.48g
 R = 3.0, Ie = 1.0 Cs= 0.27g

1.3 Foundation:
 The foundation was designed for an allowable soil pressure of 2,000 psf based on the anticipation of encountering Type 4 Soils as defined in IBC Table 1804.2 (Sand, Silty Sand, Clayey Sand, Silty Gravel and Clayey Gravel). Contractor shall verify soil conditions during construction.

MATERIALS AND CONSTRUCTION

2.0 EARTHWORK

- 2.1 Excavate in accordance with OSHA and State of Alaska Safety regulations. Compact in-situ material at the limits of excavation with 8 passes of a vibratory plate compactor with a minimum rating of 14,000 pounds. If soft, organic or other undesirable materials are encountered excavate and remove undesirable material and replace with non-frost susceptible, well-graded gravels and sand fill material with maximum particle size of 6 inches. Place fill material in loose lifts not to exceed 8 inches in thickness and compact to 95 percent of modified proctor density prior to placing subsequent fill lifts or base course.
- 2.2 Place base course in single lift of loose thickness no greater than 8 inches. Base course shall meet the requirements of the D1 or C1 grading of Section 703 in the Alaska Department of Transportation and Public Facilities Standard Specifications for Highway Construction, 2004 Edition. Compact base course to 95% of modified proctor density.
- 2.3 Foundation drain shall be placed as indicated and surrounded by washed rock with a minimum of 6 inches of cover by washed rock on all sides. Wash rock shall be cobbles and gravel with no stone smaller than 1/2 inch and no stone greater than 3 inches.
- 2.4 Backfill abutment with non-frost susceptible, well-graded gravels and sand fill material with maximum particle size of 6 inches. Place fill material in loose lifts not to exceed 8 inches in thickness and compact to 95 percent of modified proctor density prior to placing subsequent fill lifts. Re-use existing material to greatest extent possible.

3.0 CONCRETE

- 3.1 Concrete shall be a dense workable mix that when placed is free of excess surface water. Concrete shall have a 28-day strength (fc') of 4,000 psi and be entrained with air. For a maximum aggregate size of 1.5 inches air entrainment shall be 4.5 to 7.5 percent air. For a maximum aggregate size of 3/4 inch air entrainment shall be 5 to 8 percent air. Submit mix design for review and approval.
- 3.2 Concrete Reinforcing shall conform to ASTM A615 Grade 60. Concrete Reinforcing shall be well secured and supported on steel chairs or well cured concrete blocks to provide 3 inches cover when cast against earth and 2 inches of cover at all other edges.
- 3.3 Anchor bolts shall conform to ASTM A307 and be galvanized in accordance with ASTM A153. Bolts shall be set in place prior to concrete placement, tied to reinforcement and/or secured with plywood template nailed to formwork.

4.0 STEEL

- 4.1 Steel shall conform to the following:
 W Shapes ASTM 992 (Fy = 50,000 psi)
 Plate: ASTM A36 (Fy = 36,000 psi)
 HSS (rectangular tubes): ASTM A500 grade B (Fy = 46,000 psi).
 Bolts steel to steel Galvanized ASTM A325
 Bolts, Timber to Steel: Galvanized ASTM A307
 Anchor Bolts: Galvanized ASTM A307
- 4.2 Fabricate and erect steel in accordance with the AISC Code of Standard Practice and Specification for Structural Steel Buildings, latest editions. Tighten ASTM A325 bolts to slip critical condition using turn of the nut method.
- 4.3 Welding shall be in accordance with AWS D1.1 Structural Welding Code. Welders shall be qualified in accordance with AWS D1.1 and submit documentation demonstrating qualification. Welding procedures and welder qualifications shall be submitted for approval.

4.4 All steel shall be hot dip galvanized after fabrication in accordance with ASTM A123. Repair damage to galvanizing or at field welding using zinc alloy sticks. Prior to applying alloy stick, clean surface by vigorously brushing with steel wire brush. Heat steel to 600 degrees F, brush steel a second time, then apply alloy sticks. Spread with wire brush or pallet knife. Top coat with brush applied cold galvanizing paint while steel is still warm.

4.5 Grating shall be galvanized steel grating and meet the requirements of the American's with Disabilities Act (ADA). Install per manufacturer's instructions using clips screwed into supporting steel.

5.0 TIMBER

5.1 Species and Grades: Unless noted otherwise all timber shall be Douglas Fir Select Structural Grade, visually graded in accordance with the Western Woods Products Association, latest grading rules.

All Cedar shall be Alaska Yellow Cedar Select Structural Grade, visually graded in accordance with the Western Woods Products Association, latest grading rules.

5.2 Sheathing shall be plywood sheathing conforming to APA PS1, CC grade, exterior, or better.

5.3 Timber shall be fabricated and joined to create snug tight connections unless noted otherwise. Holes for bolts shall be no greater than the bolt diameter plus 1/8 inch. All bolts with head or nut in contact with timber shall be installed with galvanized washers under the head and nuts. All nailed connections shall be connected using galvanized box nails. All bolts and screws connecting timber shall be galvanized in accordance with ASTM A153.

5.4 All fabricated hangers and connectors noted in the plans are the product of the Simpson Strong-Tie company. Hangers and connectors made by other manufacturer's may be considered for substitution if the hanger or connector has equal or greater load capacity, equal or greater corrosion resistance and be of an appropriate equal configuration. Submit ICBO evaluation report for review and approval with any request for substitution.

5.5 Field treat any cuts, holes or damage to pressure-treated lumber and as indicated on the plans in accordance with the American Wood Preservers Association Standard M4 using copper naphthenate. Apply a minimum of two coats.

ABBREVIATIONS:

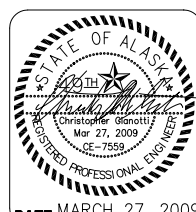
Approx.	Approximate
APA	American Plywood Association
ASTM	American Society of Testing and Materials
CSC	Countersink
(E)	Existing
EA	Each
HORIZ	Horizontal
OSHA	Occupational Safety and Health Administration
PL	Plate
STD	Standard
TRTD	Treated
TYP	Typical

REVISIONS

DESCRIPTION	DWN.	CKD.	APP.

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 www.pnd-anc.com

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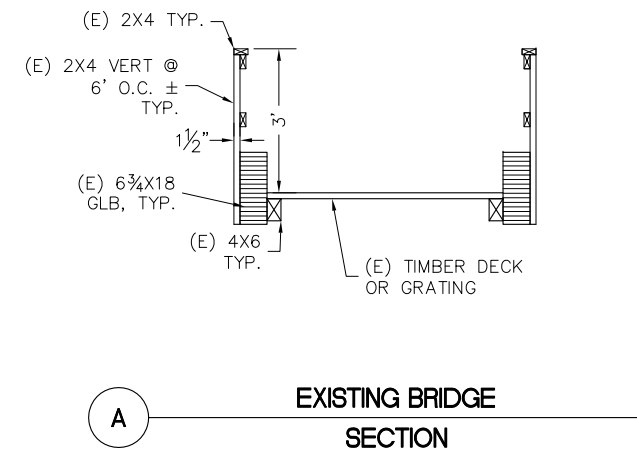
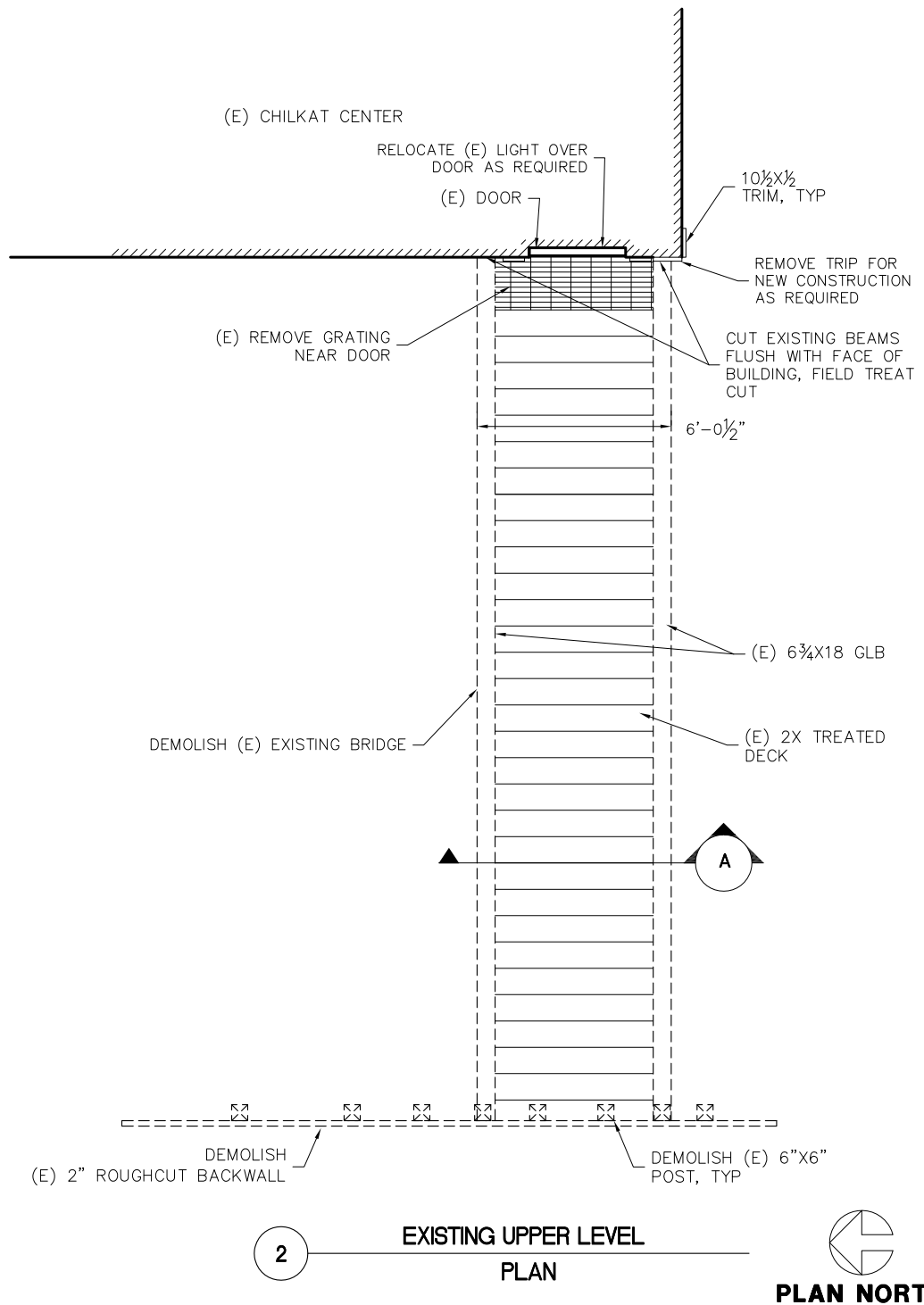
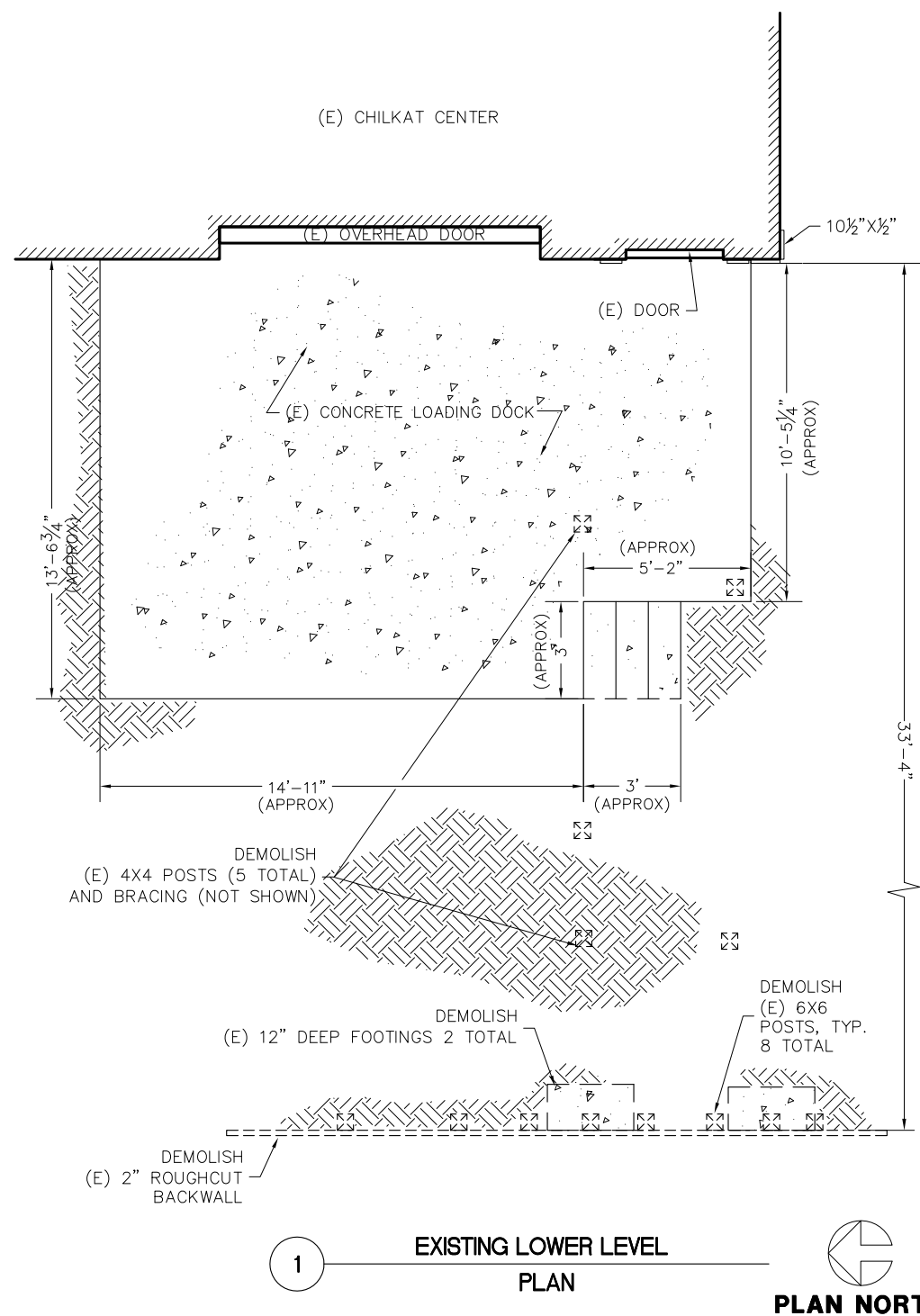


CHILKAT CENTER BRIDGE

SHEET TITLE: **GENERAL NOTES**

S100
 SHEET 1 OF 6

P&D PROJECT NO.: 082053.01 DWG. FILE: --- .DWG



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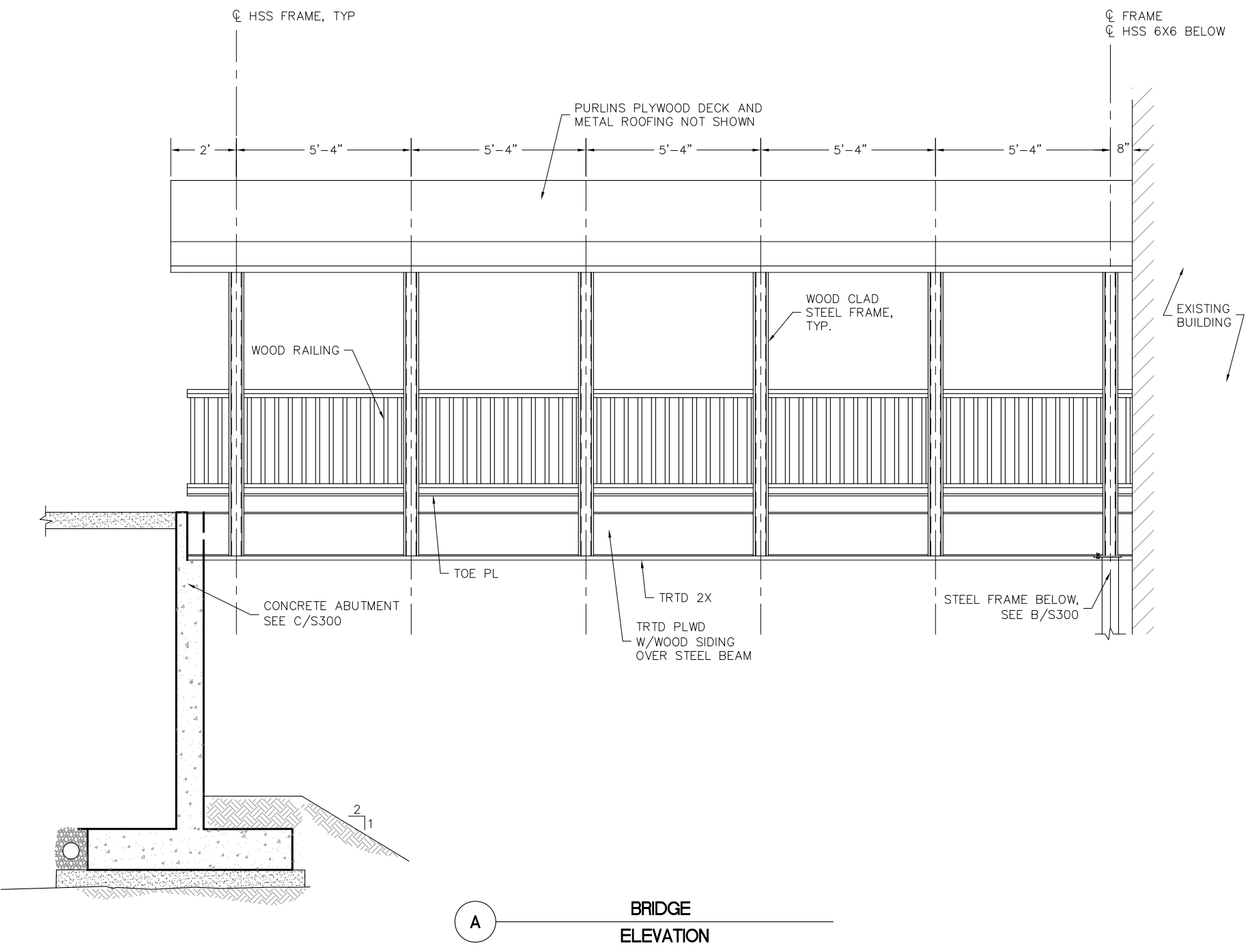
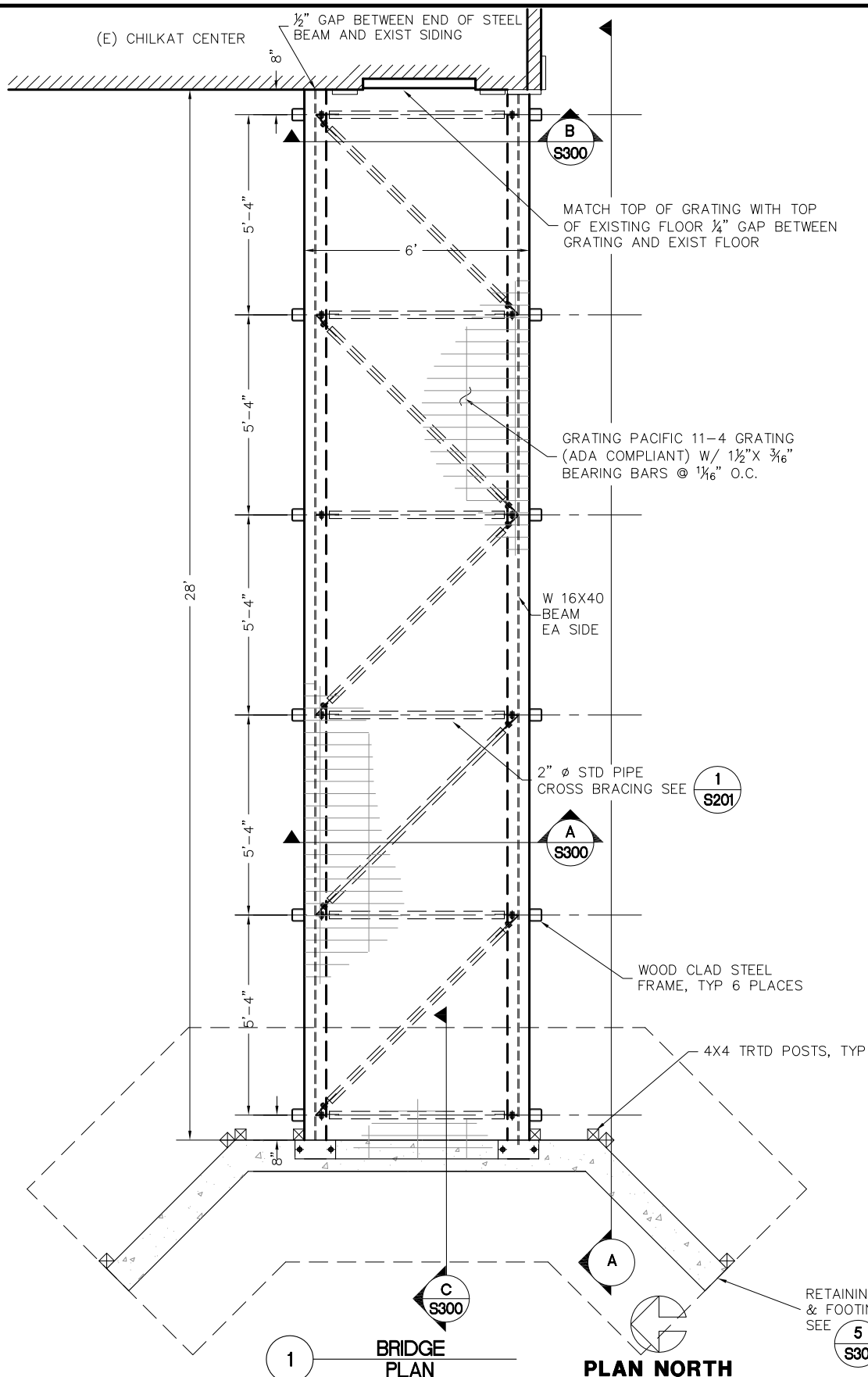


CHILKAT CENTER BRIDGE

SHEET TITLE:
DEMOLITION PLAN

S101
SHEET 2 OF 6

P&D PROJECT NO. 082053.01 DWG. FILE: --- .DWG



1 BRIDGE PLAN

PLAN NORTH

A BRIDGE ELEVATION

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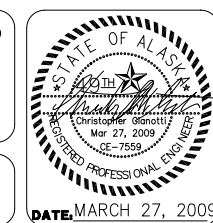
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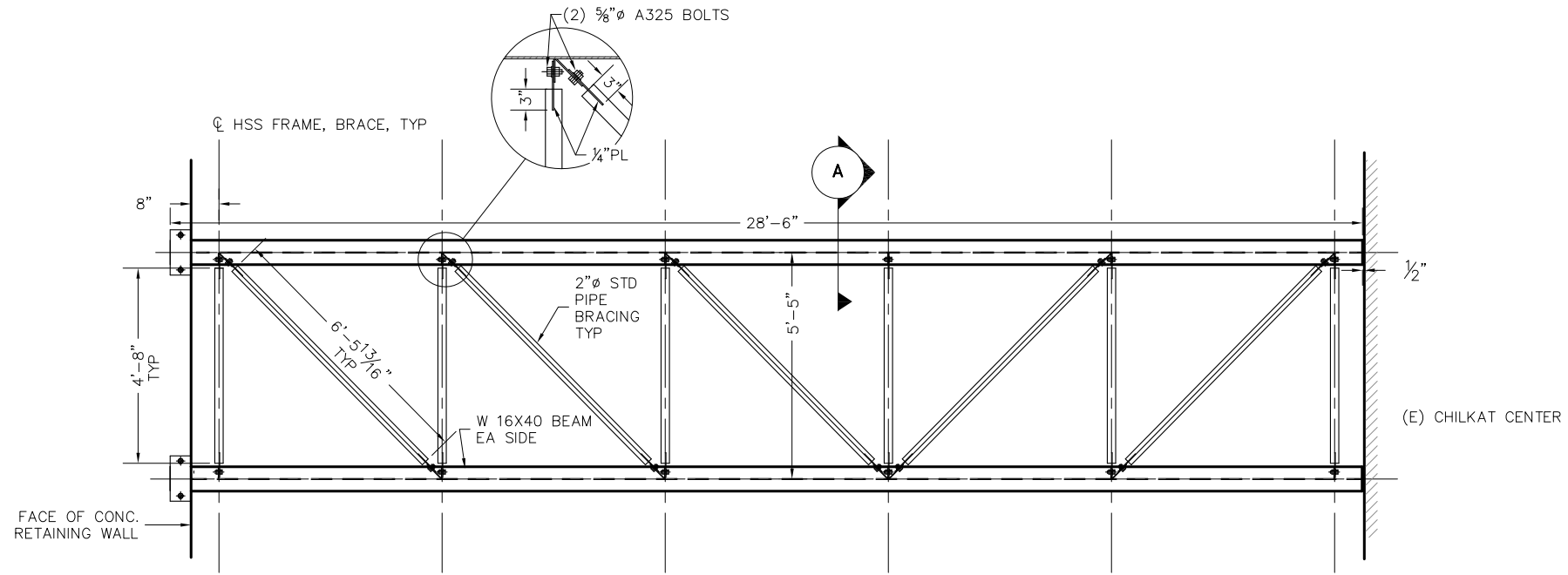
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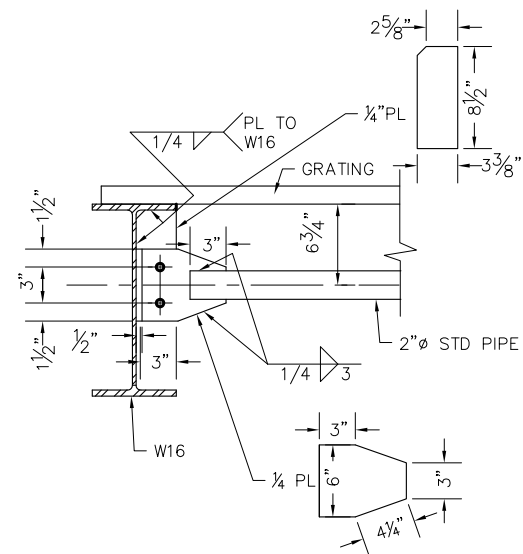
SHEET TITLE:
PLAN & ELEVATION

S200
SHEET
3 OF 6

P&D PROJECT NO.: 082053.01 DWG. FILE: --- .DWG



1 BRIDGE CROSS BRACING PLAN



A BRACE TO W16 CONNECTION SECTION

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DATE: MARCH 27, 2009

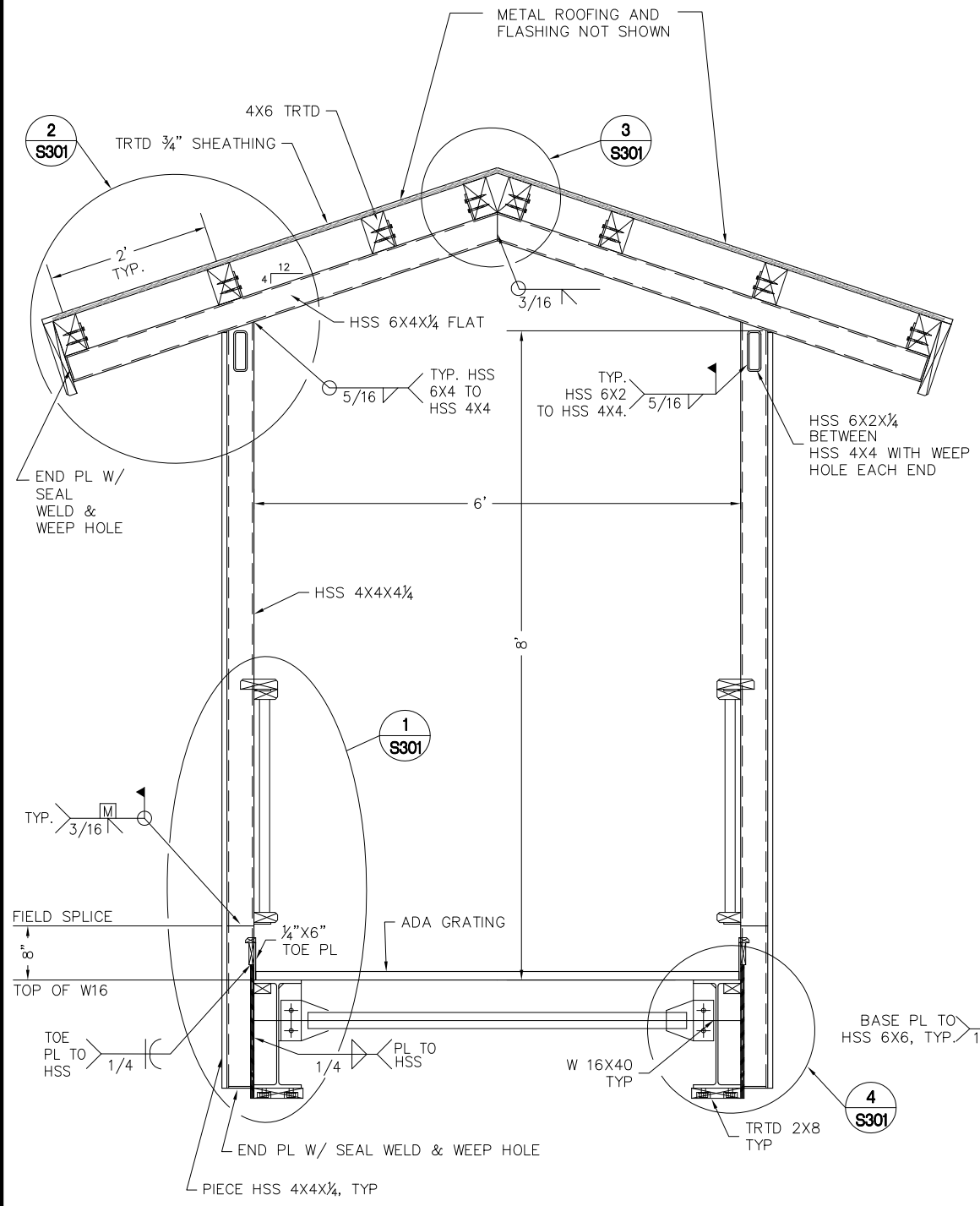
CHILKAT CENTER BRIDGE

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BRIDGE CROSS BRACING PLAN

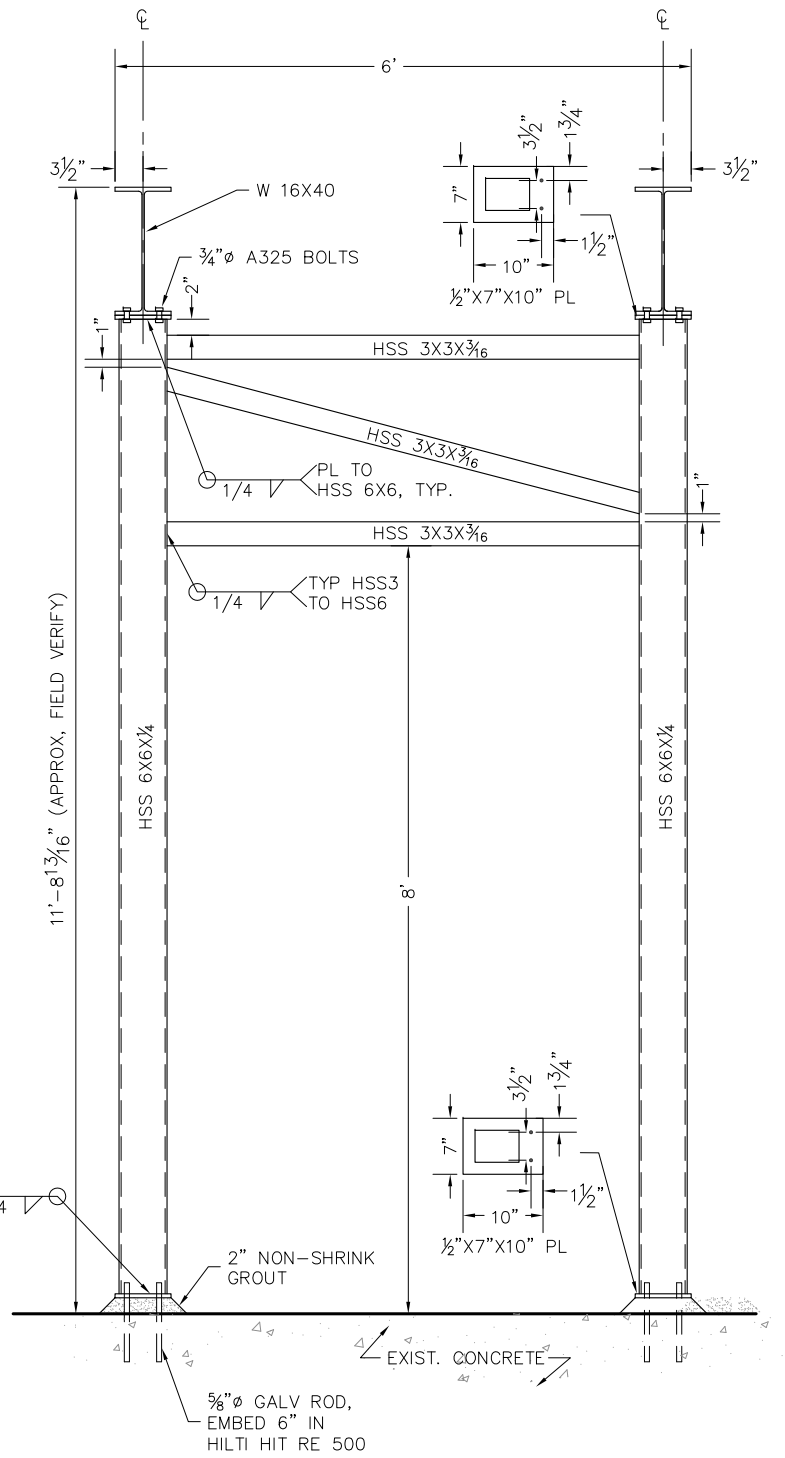
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4 OF 6

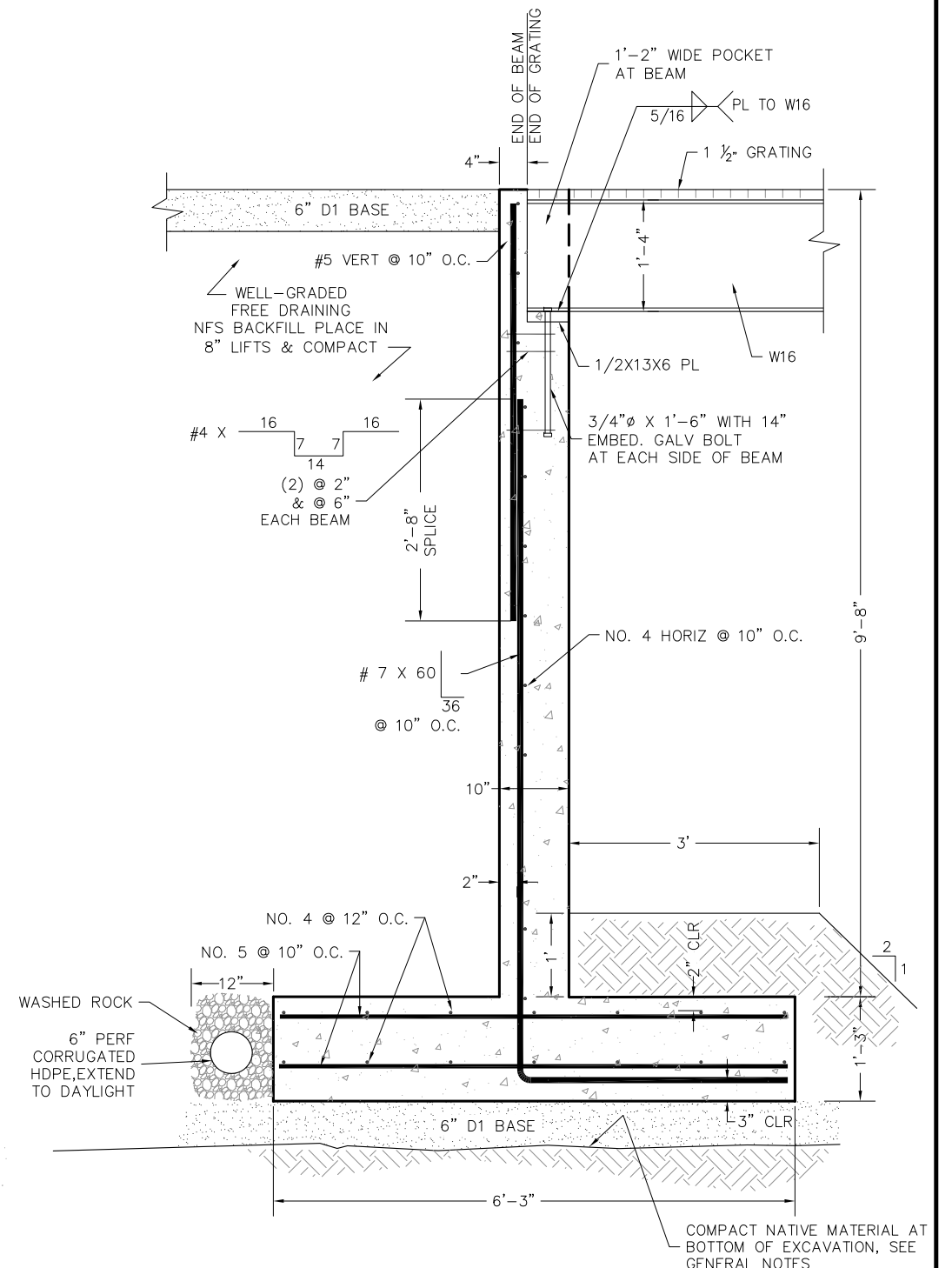
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A BRIDGE TYPICAL SECTION



B BRIDGE SUPPORT AT BUILDING TYPICAL SECTION



C RETAINING WALL TYPICAL SECTION

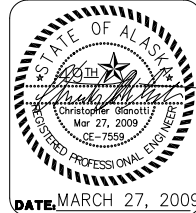
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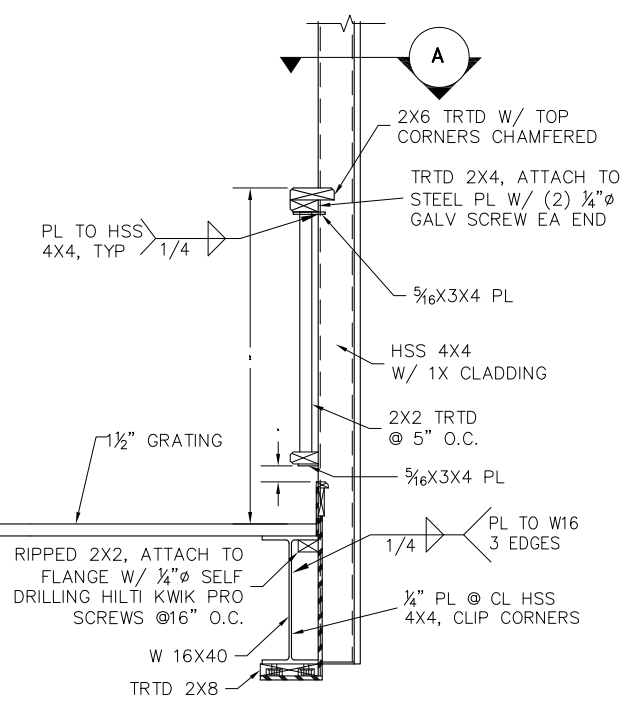


CHILKAT CENTER BRIDGE

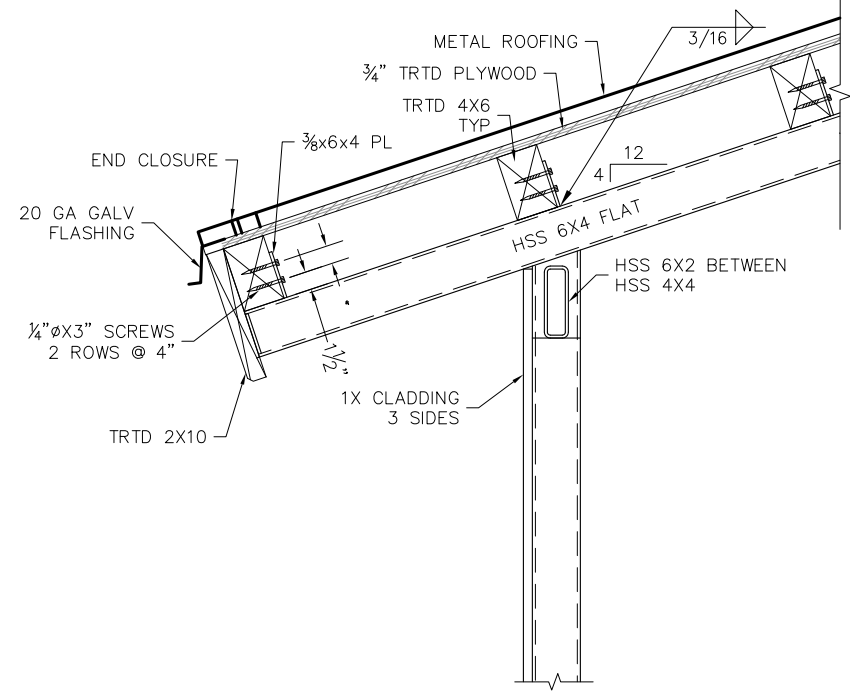
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TYPICAL SECTIONS

S300
SHEET 5 OF 6

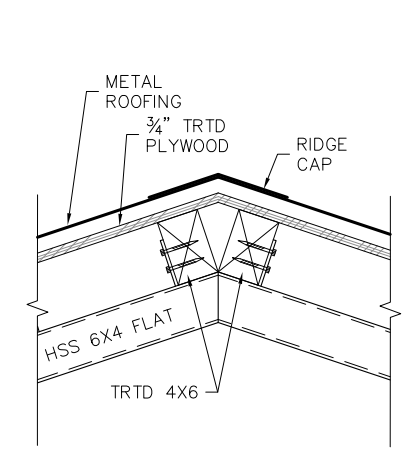
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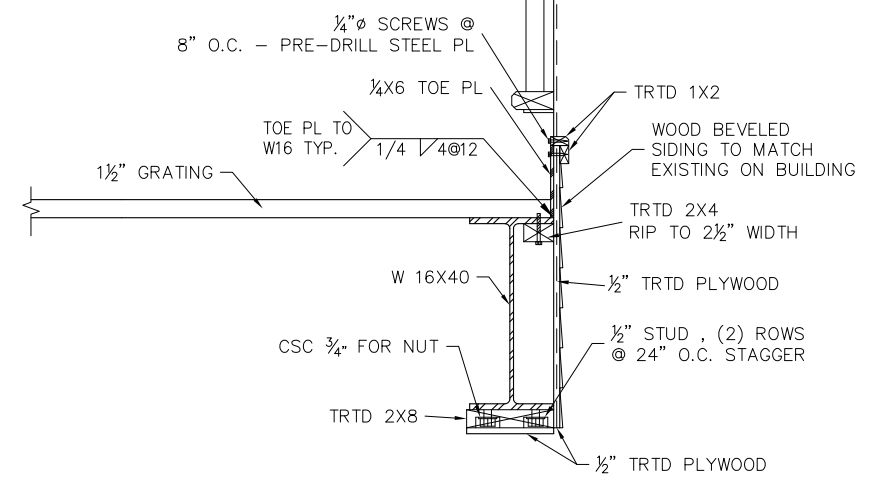
1 RAIL DETAIL



2 ROOF EAVE DETAIL

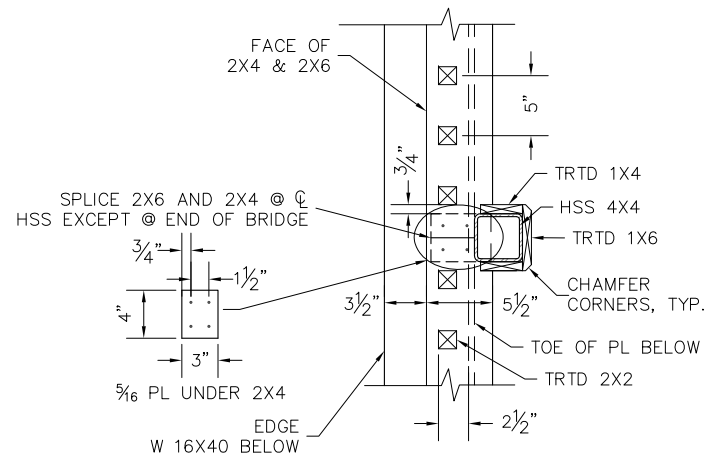


3 ROOF RIDGE DETAIL

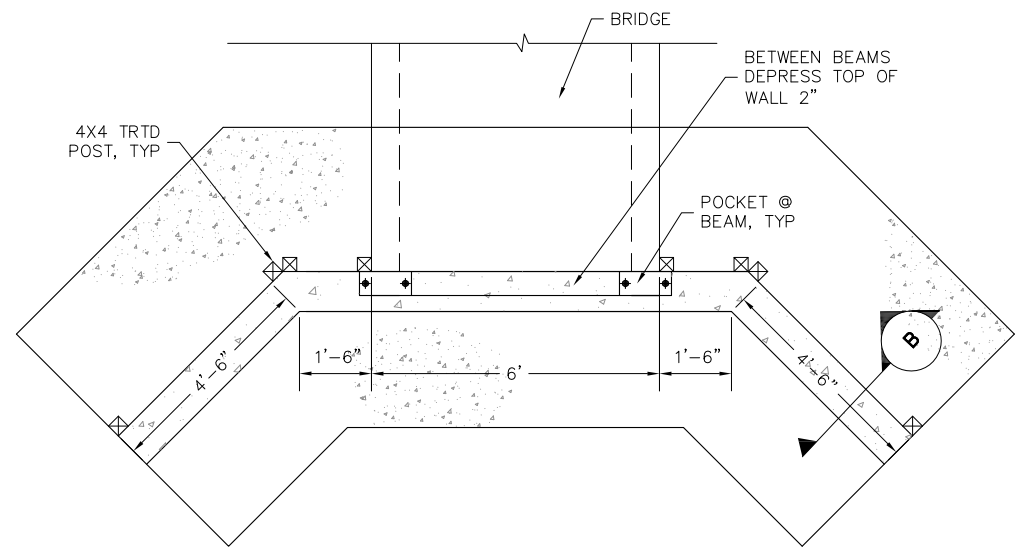


4 BEAM CLADDING DETAIL

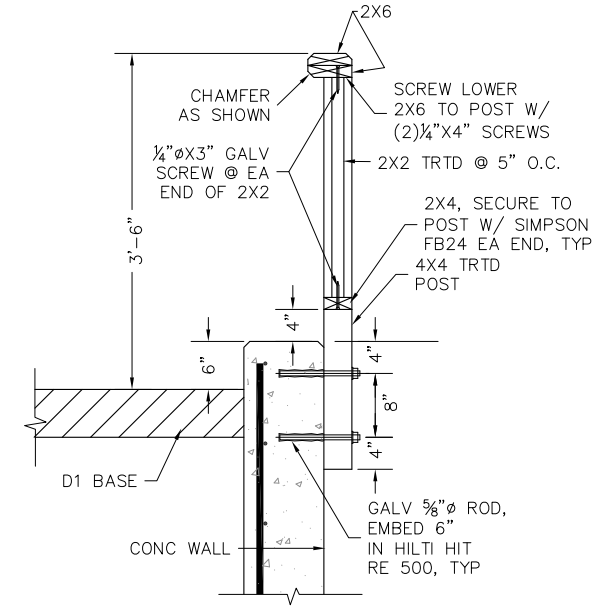
NOTE:
 SECURE WOOD TO STEEL WITH NO. 10 GALV SELF DRILLING HILTI KWIK-PRO SCREWS W/PFHUC @ 8" O.C., TYP. UNLESS NOTED OTHERWISE. COUNTERSINK AND PLUG.



A POST CLADDING/RAIL SECTION



5 RETAINING WALL DETAIL



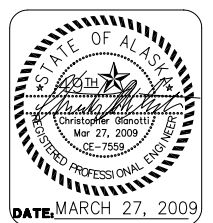
B RAIL ON WALL SECTION

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CHILKAT CENTER BRIDGE

SHEET TITLE: **DETAILS**

S301
 SHEET 6 OF 6

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