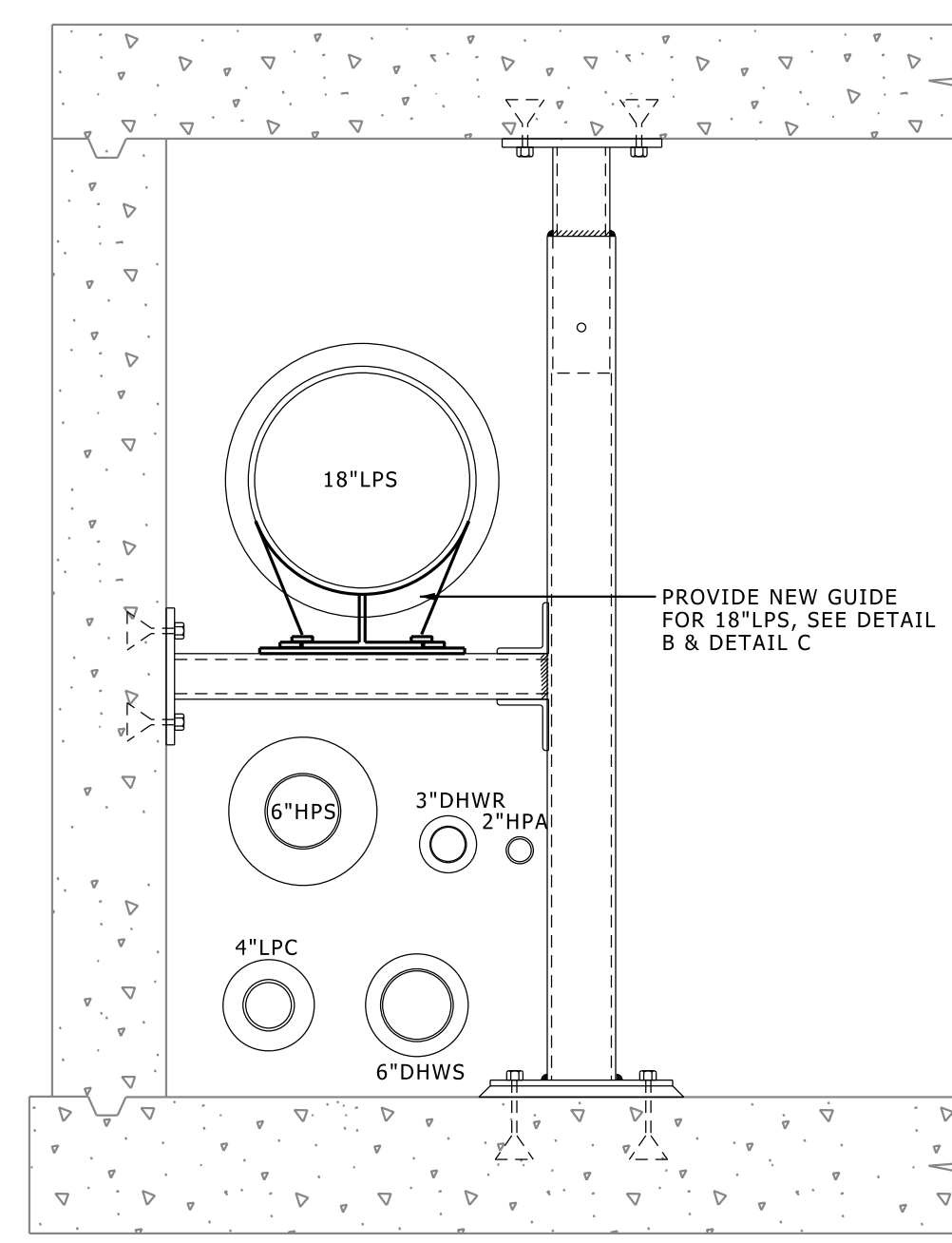
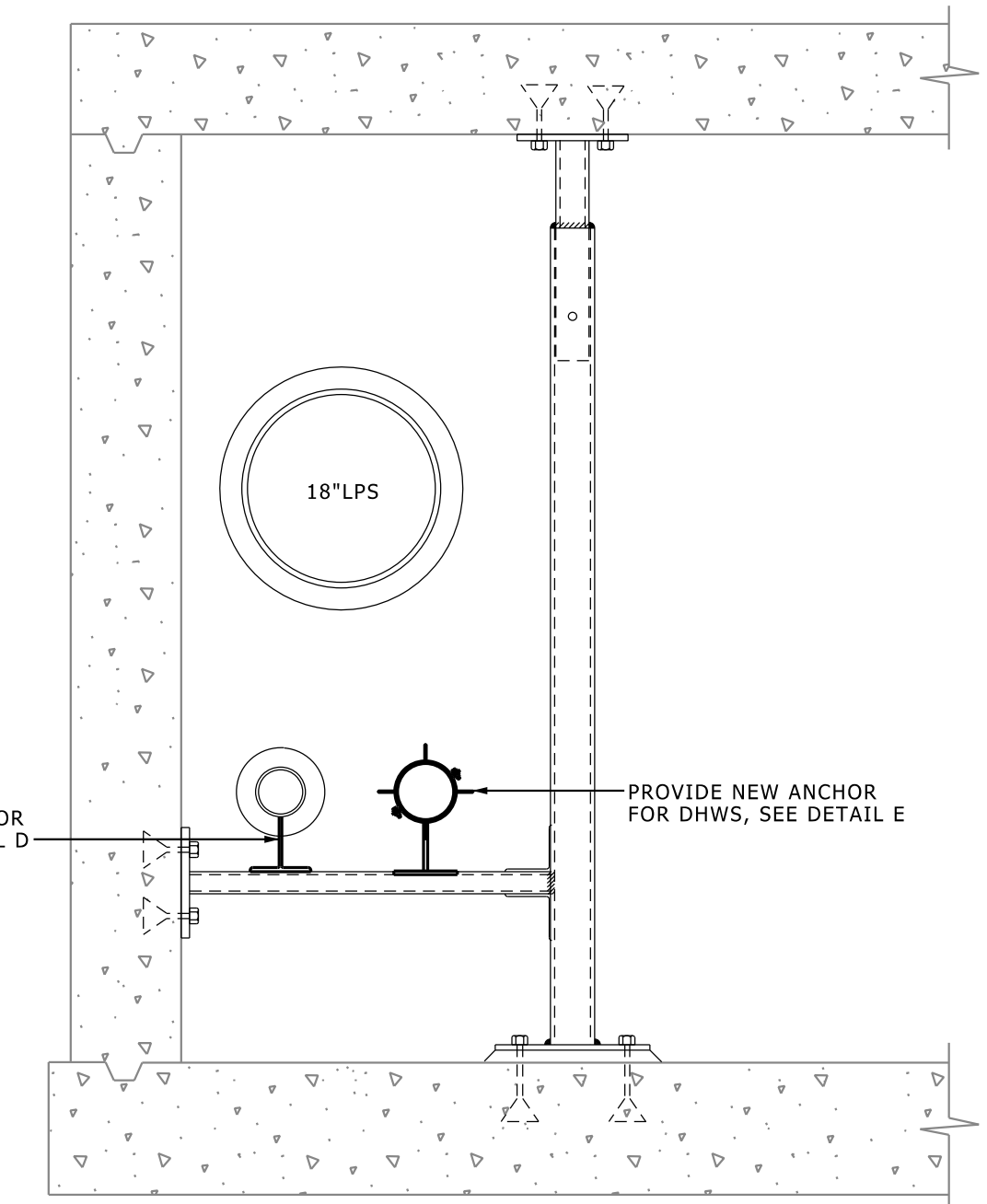


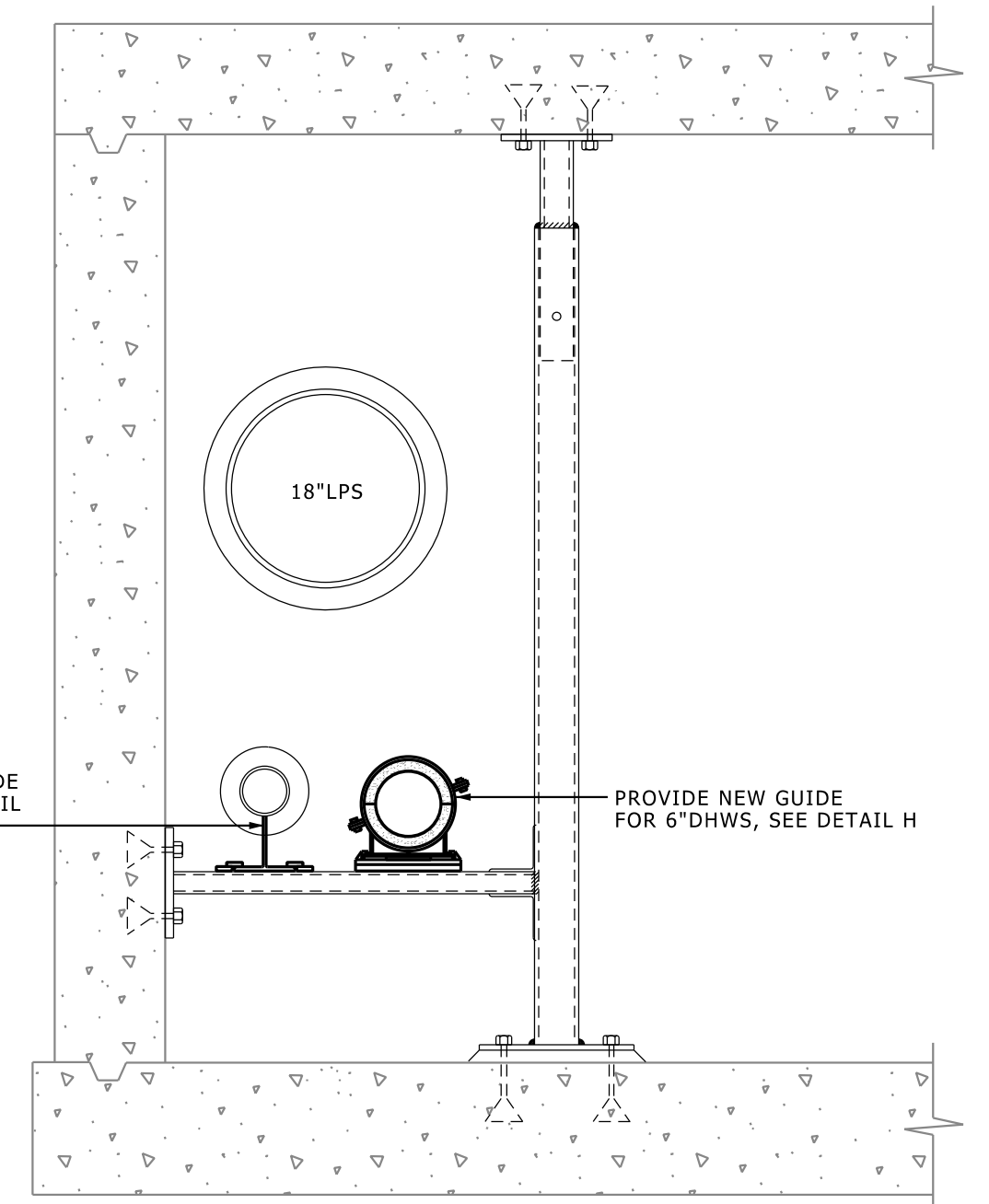
1 14" - 20" LPS & HPS TYPICAL ANCHOR SECTION
SCALE: 3/4" = 1'-0"



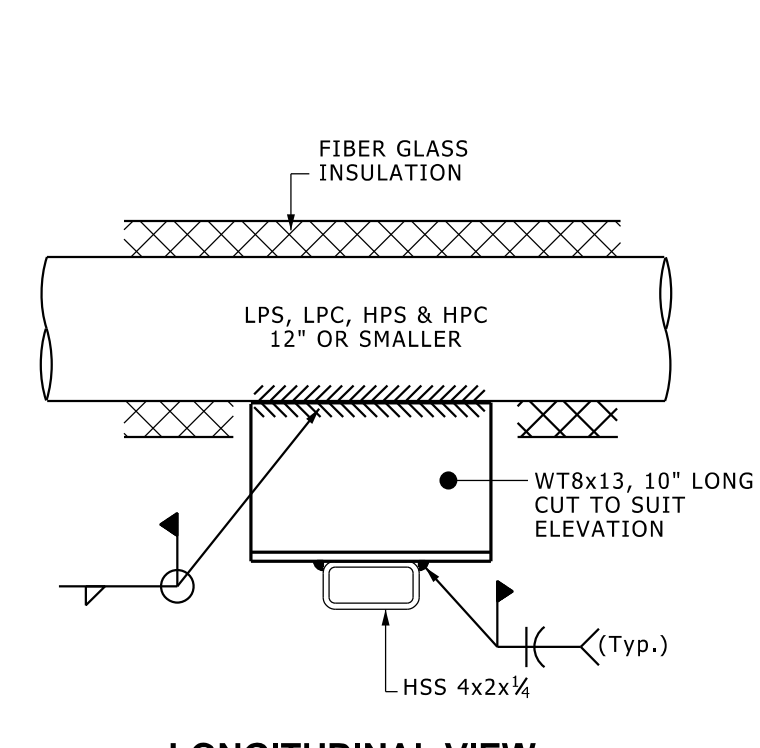
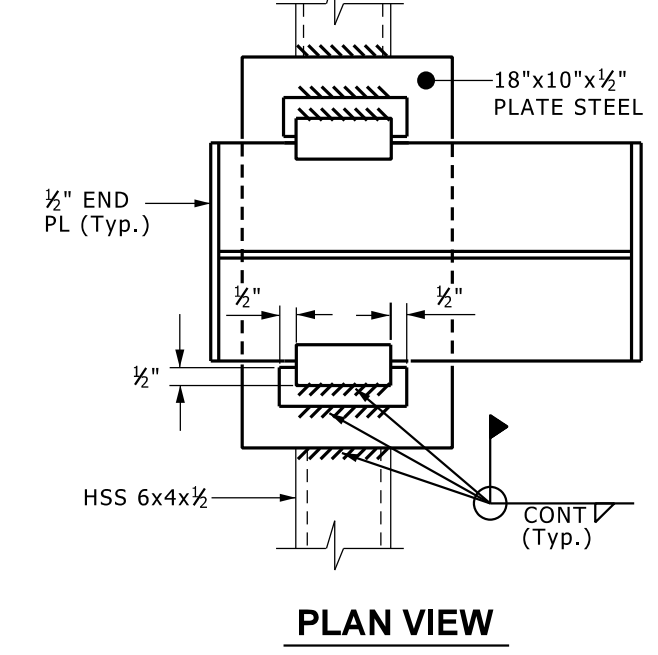
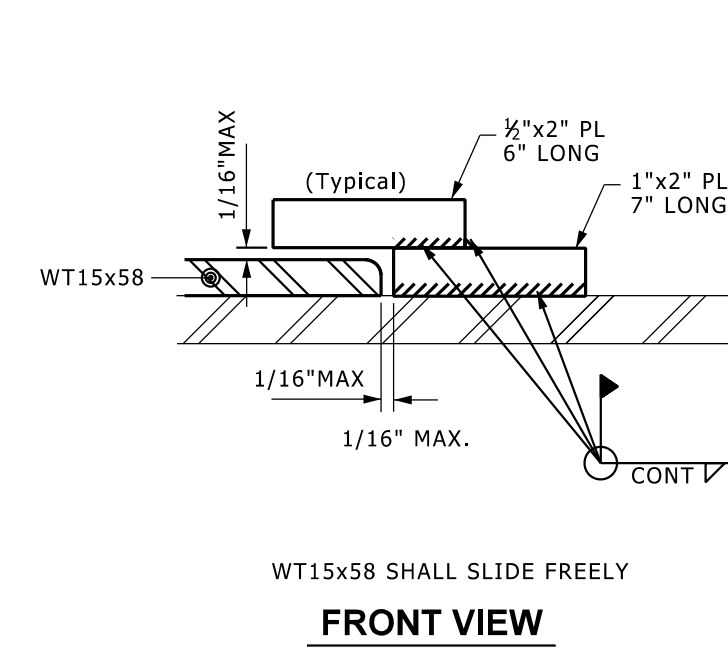
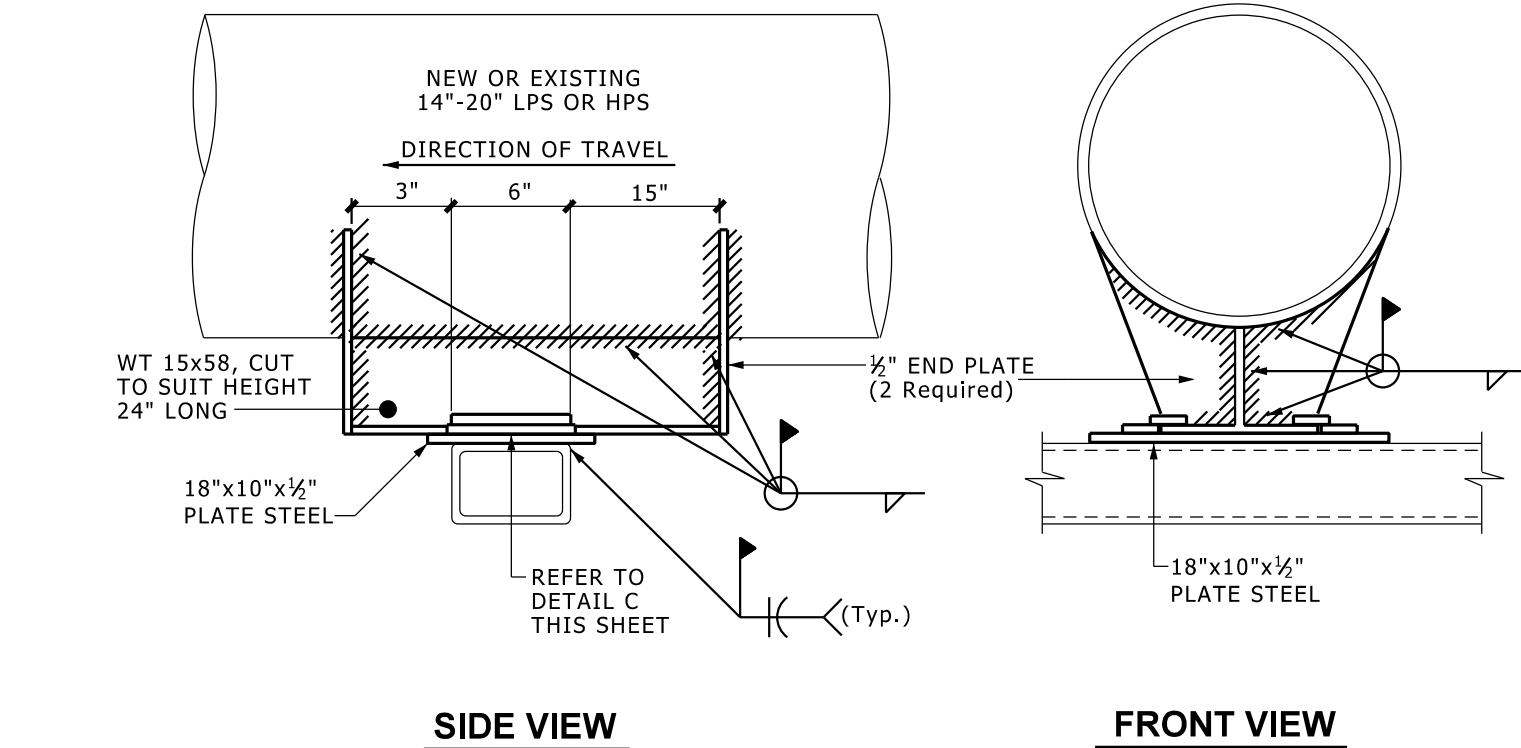
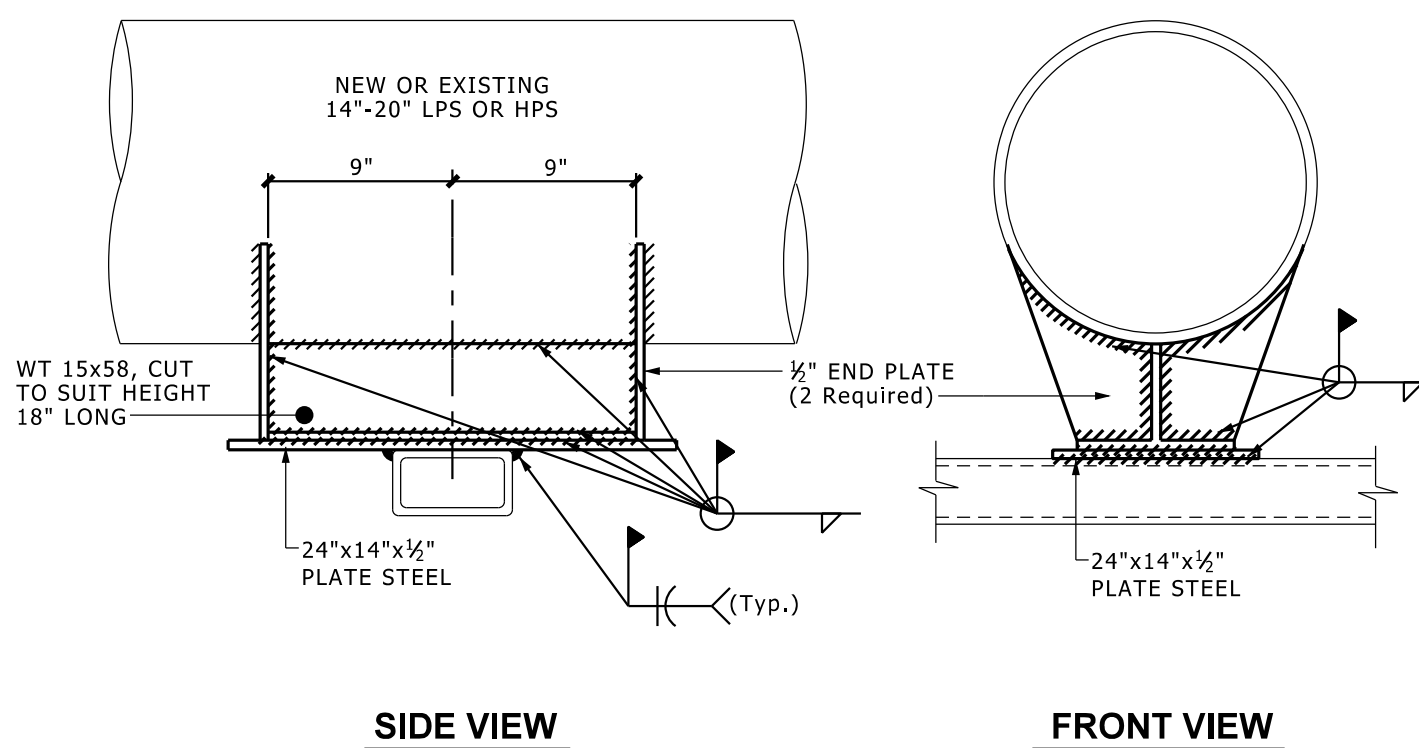
2 14" - 20" LPS & HPS TYPICAL GUIDE SECTION
SCALE: 3/4" = 1'-0"



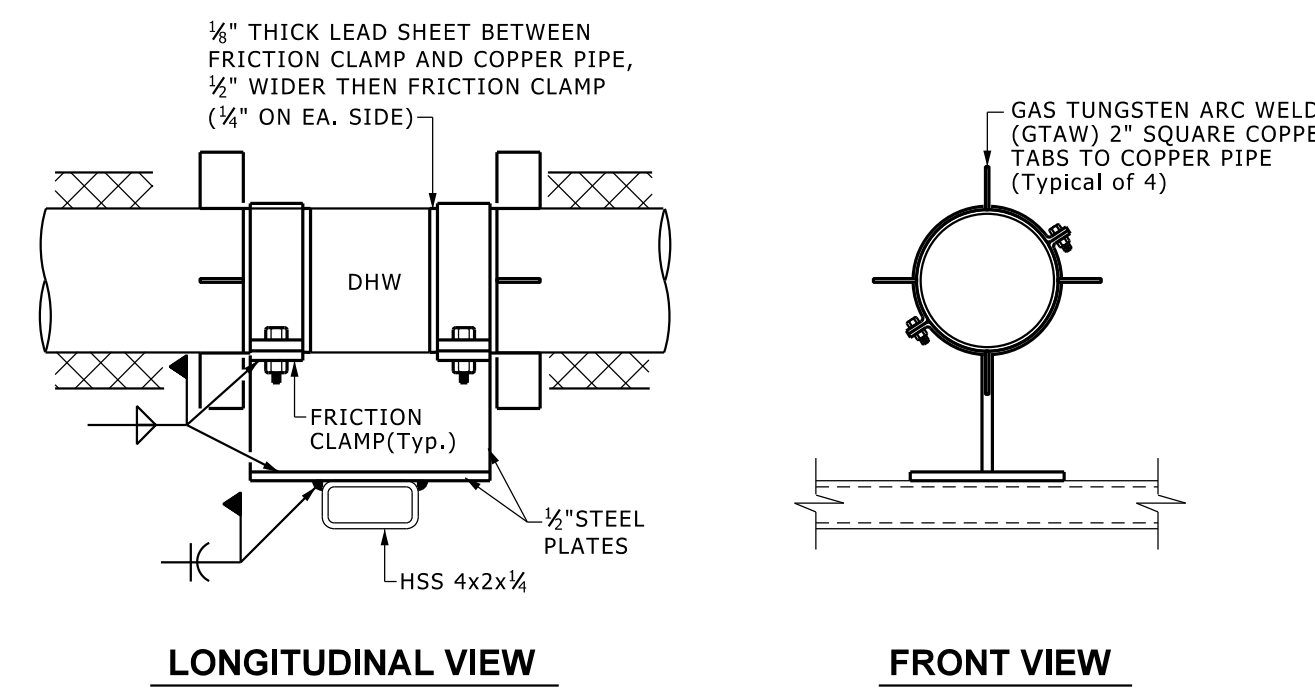
3 12" OR SMALLER PIPING TYPICAL ANCHOR SECTION
SCALE: 3/4" = 1'-0"



4 12" OR SMALLER PIPING TYPICAL GUIDE SECTION
SCALE: 3/4" = 1'-0"



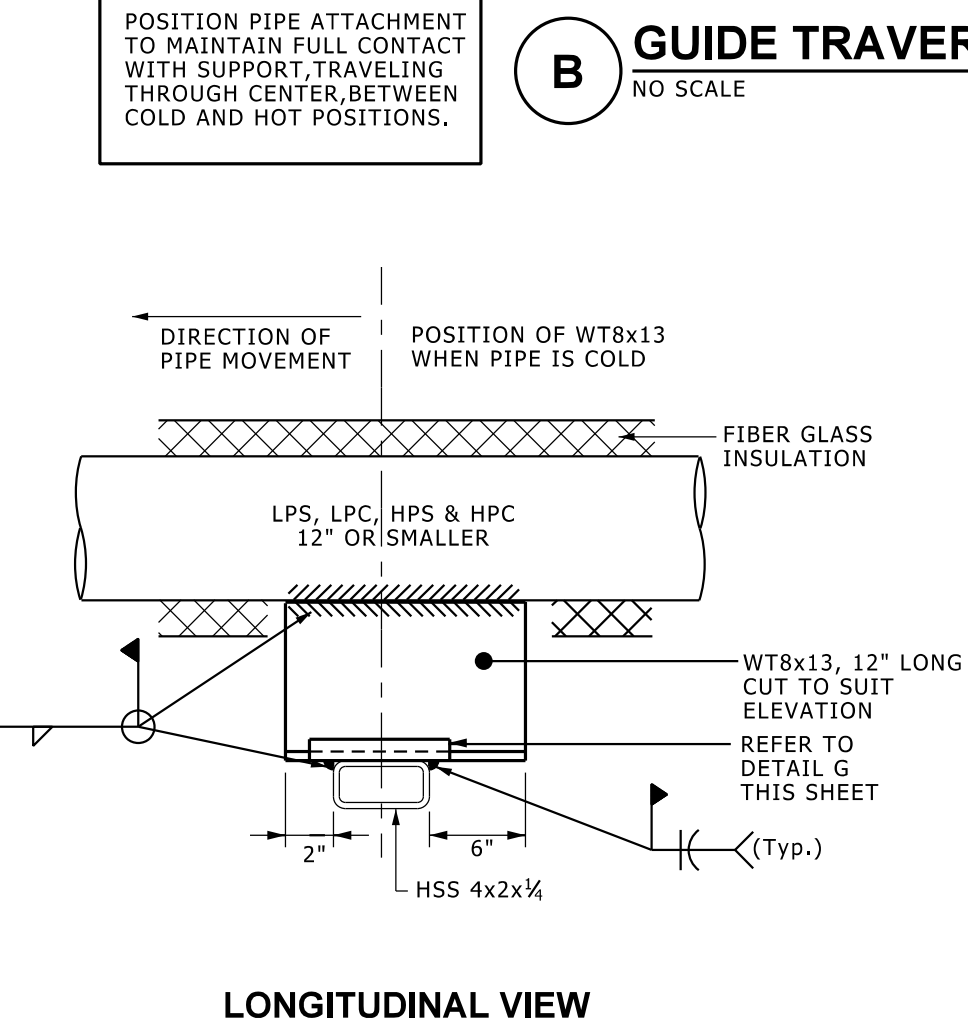
A LPS & HPS ANCHOR DETAIL
NO SCALE



DHW ANCHOR NOTES:
1. PRIOR TO THE COMMENCEMENT OF WELD PROCESS, OBTAIN U OF M REPRESENTATIVE APPROVAL FOR ORIENTATION AND LOCATION OF COMPONENT.
2. BOLTS SHALL BE POSITIONED TO BE ACCESSIBLE FROM AISLEWAY.

E DHW ANCHOR DETAIL
NO SCALE

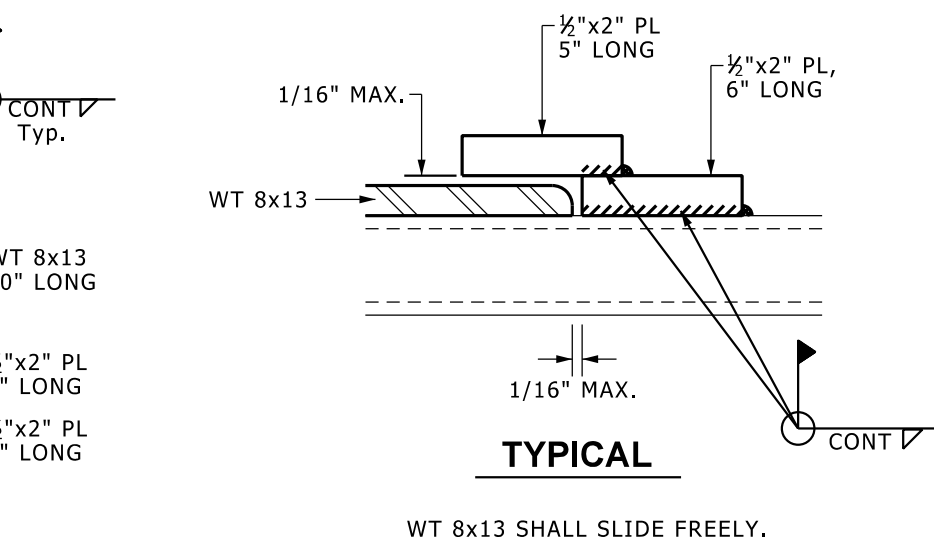
B GUIDE TRAVERSE DETAIL
NO SCALE



POSITION PIPE ATTACHMENT TO MAINTAIN FULL CONTACT WITH SUPPORT TRAVELING THROUGH CENTER, BETWEEN COLD AND HOT POSITIONS.

F GUIDE DETAIL
NO SCALE

C DETAIL FOR GUIDE
NO SCALE

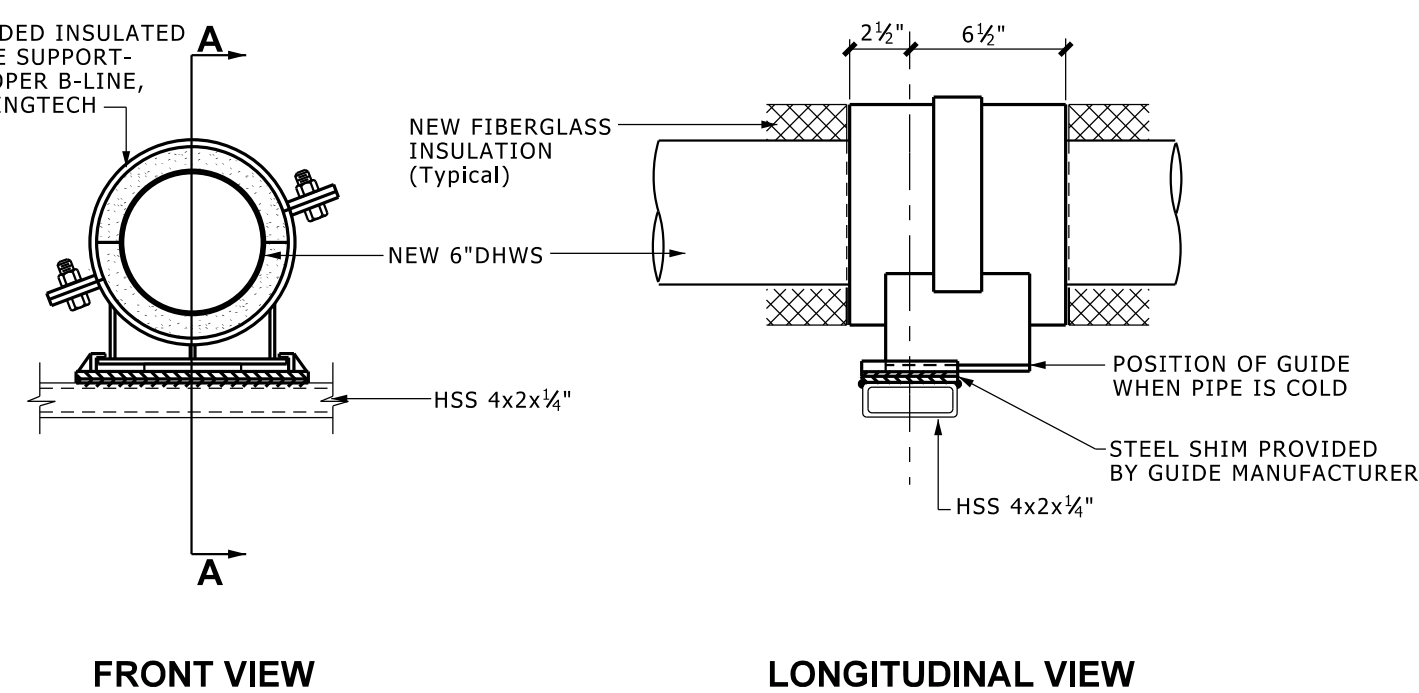


GUIDE INSTALLATION SHALL INSURE GUIDE BEARING SURFACE PARALLEL TO THE CENTERLINE AXIS OF PIPE TO ALLOW FREE MOVEMENT OF EXPANSION JOINT WITHOUT BINDING.

G DETAIL FOR GUIDE
NO SCALE

D ANCHOR DETAIL
NO SCALE

POSITION PIPE ATTACHMENT TO MAINTAIN FULL CONTACT WITH SUPPORT TRAVELING THROUGH CENTER, BETWEEN COLD AND HOT POSITIONS.

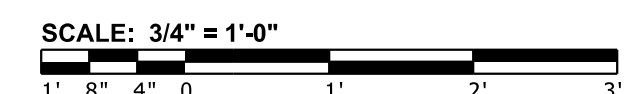


H DHW GUIDE DETAIL
NO SCALE

DHW GUIDE NOTES
1. MANUFACTURER'S STANDARD MODEL B3000 SHALL BE MODIFIED TO SUIT EACH PROJECT.
2. NOTE B3000 BASE DESIGN SHALL BE MODIFIED FOR 1/2" CLEARANCE IN LIEU OF STANDARD 3/4".
3. MANUFACTURER'S STANDARD "B" DIMENSION SHOWN IN CATALOG IS NOT APPLICABLE. CONTRACTOR MAY FIELD MEASURE AND ORDER GUIDES WITH CUSTOM "B" DIMENSION AT EACH LOCATION. THE DRAWINGS ARE PREPARED WITH BOP TO BASE OF GUIDE EQUAL TO ONE INCH PLUS INSULATION THICKNESS, BUT ACTUAL BOP DIMENSION TO FLOOR VARIES. USE STEEL PLATE SHIMS AS DETAILED.
4. PRIOR TO FINAL WELDING OBTAIN U OF M REPRESENTATIVE APPROVAL AT ALL GUIDE INSTALLATIONS.

ALL OF THE DETAILS SHOWN IN THIS SHEET TYPICALLY USED IN EXISTING TUNNELS WHERE ANCHORS, GUIDES AND SLIDES ARE REQUIRED.

Note to Designers:
(1) PREFERRED STEEL SUPPORT DETAILS FOR EXISTING AND NEW TUNNELS ARE SHOWN IN THIS SHEET.
(2) DETAILS NOT INTENDED AS FINALIZED DESIGN. INTENT IS TO SHOW PREFERENCES IN CONSTRUCTION AND REQUIRED DEPTH OF DETAILS TO BE PROVIDED IN BID DOCUMENTS. DESIGN ENGINEER SHALL DETERMINE APPROPRIATE APPLICATION AND ADEQUACY.



Tom Girard
U OF M DESIGN SUPERVISOR
APPROVED BY
AEC - Architecture & Engineering
REPRESENTING
AF/BB PROJECT LEAD
DRAWN BY WPG
CVW/VSM PROJECT LEAD
DESIGNED BY REVIEWED BY

MARK	ISSUED FOR/REVISIONS	DATE
•	New Master	03/20/15
•	Tunnel Group Revision	08/09/12
•	New Master	06/28/07
•	Issued for Review	06/22/07
•	ISSUED FOR REVISIONS	DATE

Tunnels

Tool Kit

University Of Michigan
Ann Arbor , MI

P00009388 9980
U OF M PROJECT NO. BUILDING NO.

Tunnels

Typical Sections and Details for Anchors & Guides New Construction

TK-4A