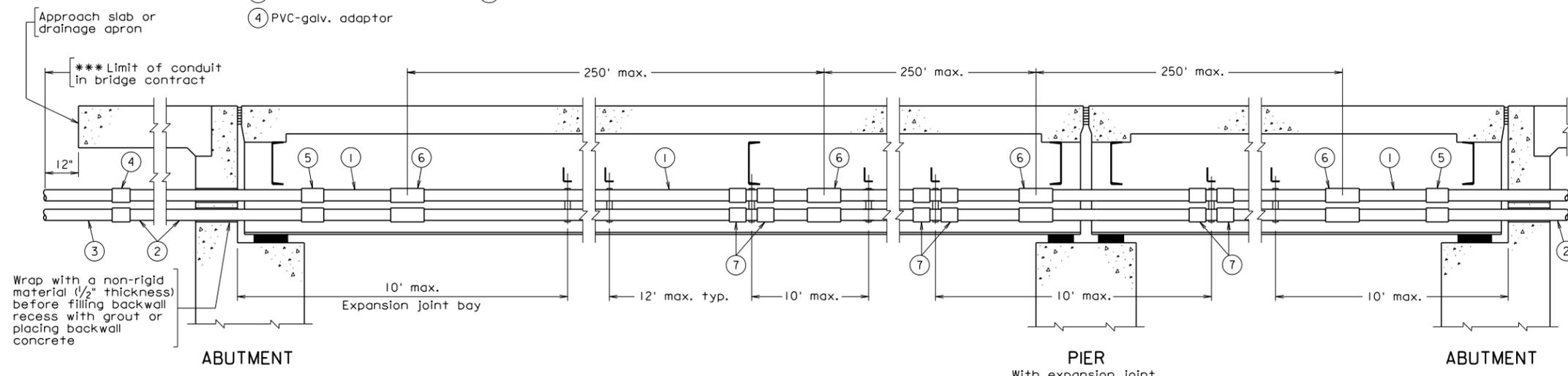


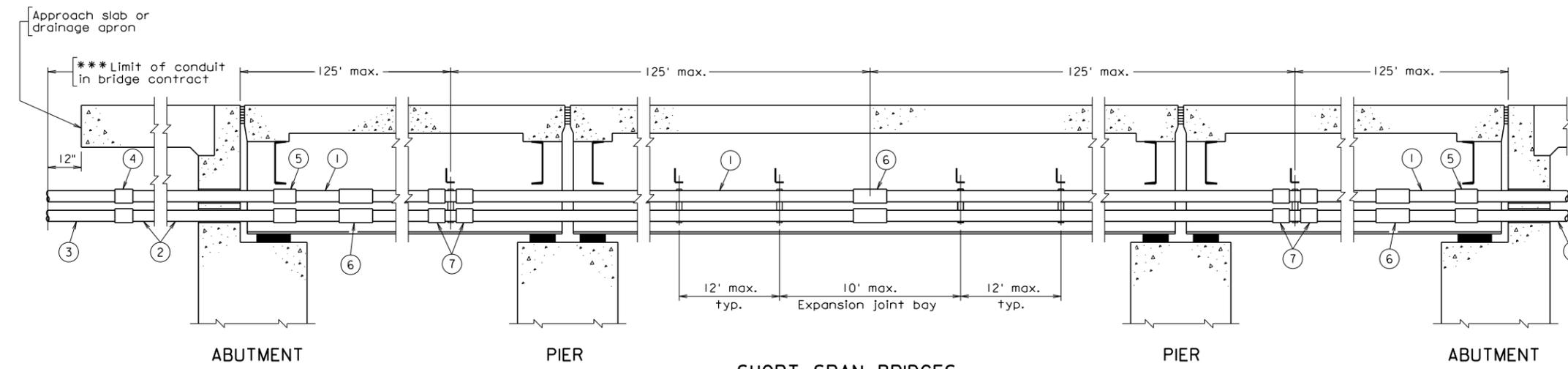
STATE	FEDERAL AID	STATE	SHEET NO.
ROUTE	PROJECT	ROUTE	PROJECT
VA.			

- ① 4" Ø FRE duct
- ② 4" Ø galv. steel duct
- ③ 4" Ø PVC-B duct
- ④ PVC-galv. adaptor
- ⑤ Galv.-FRE adaptor
- ⑥ FRE exp. joint
- ⑦ FRE lock ring

***Limit of telephone conduit in bridge contract when approach slabs or drainage aprons are not used shall be the extension of the conduit a minimum of one foot behind back of backwall



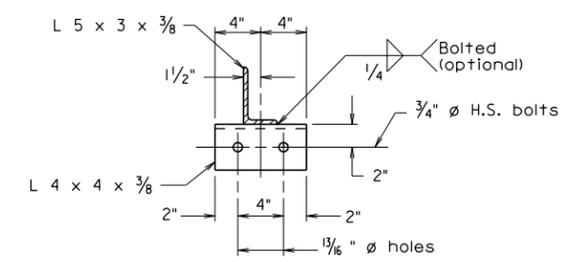
LONG SPAN AND CONTINUOUS BRIDGES



SHORT SPAN BRIDGES

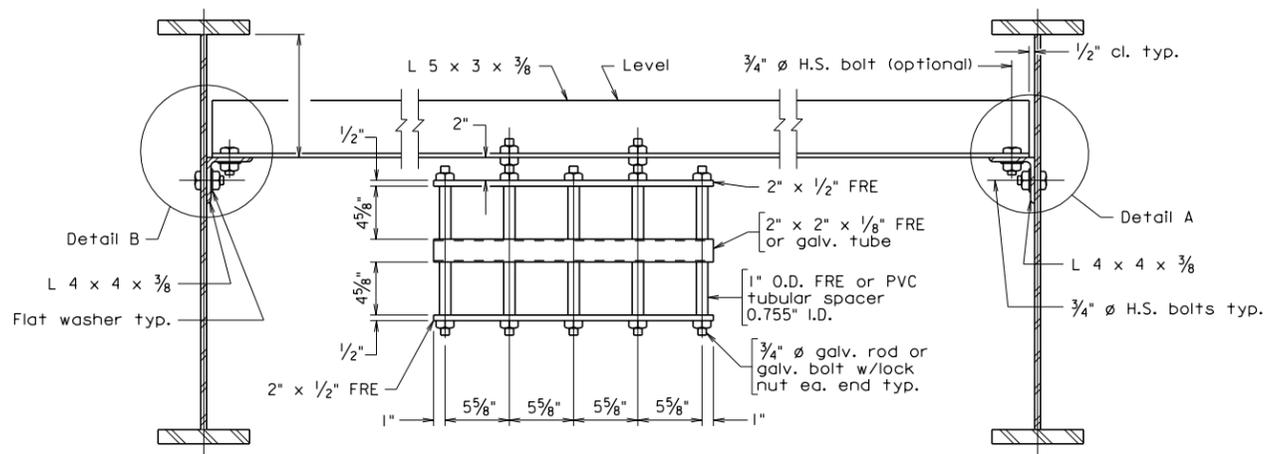
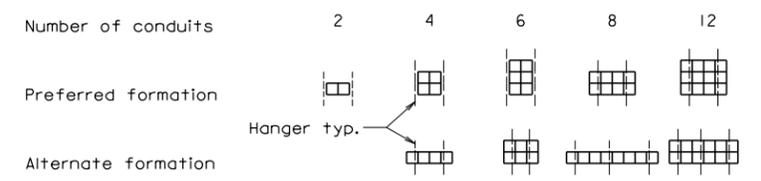
Notes:

- Glass fiber reinforced epoxy (FRE) duct shall comply with ASTM D2310 and ASTM D2996, and shall be RTRP-IIAD-III, except as modified herein.
- Inside diameter shall be 4.00" minimum, wall thickness shall be 0.060" minimum.
- Duct performance shall not be impaired by exposure to ultraviolet radiation. Duct shall have fire resistance which equals or exceeds requirements of U.L. 651 - Section 17.
- Joints shall be positive locking (threaded bell and spigot, adhesive bonded bell and spigot, or driven tapered bell and spigot).
- Expansion joints shall be sliding sleeve type, with or without o-rings, with provision for minimum of 6" expansion travel.
- Lock rings shall be split FRE duct, minimum of 3" long, .025" minimum thickness, glued in place after installation of conduit system.
- Threaded couplings shall be used on steel conduit.
- Steel fittings and rods shall be galvanized in accordance with ASTM A153. When the supporting angles to which the rods are attached are weathering steel, a neoprene or vinyl washer shall be placed between the angle surface (on both sides) and the nut/washer to isolate the contact between the two surfaces.
- Structural steel for angles shall be the same as that for the beams/girders. If the beams/girders are painted, the angles shall be galvanized in accordance with ASTM A123.
- If the angle is galvanized, the H.S. bolts shall be ASTM A325 galvanized. If the angle is not painted (unpainted weathering steel), the H.S. bolts shall be ASTM A325, Type 3.
- For all spans (or expansion lengths) in excess of 250', provide an expansion joint dedicated solely to deck expansion. Additional expansion joints shall be provided as noted to accommodate differential expansion between steel and FRE.
- Hanger details shown are designed to support as many as 12 conduits. Dead Loads: Cables: 8.5 lbs./ft. per conduit, Conduit: 0.8 lbs./ft.
- Under ground installation of PVC-B duct shall be in accordance with Road and Bridge Standards EC1-1 except the minimum spacing between ducts shall be 3/4".
- Payment - Telephone Conduit System shall be paid for on a lump sum basis, wherein no measurement shall be made, and shall be paid for at the contract lump sum price. Price shall include furnishing and installing conduit, supporting angles, connections, all related parts/attachments and miscellaneous hardware; all as detailed on the Telephone Conduit System drawing included herein and within the pay limits shown thereon. Such price shall be full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.



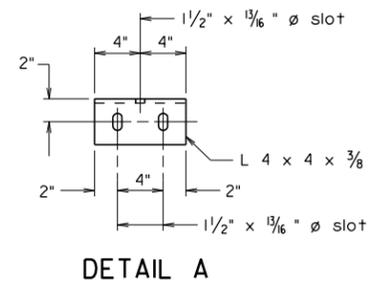
DETAIL B

CONDUIT FORMATIONS



TYPICAL SUPPORT DETAIL

Use Detail A at one end and Detail B at the other end



DETAIL A

BTC-5 08-07-2012

Sealed and Signed by:
Julius F.J. Volgyi Jr.
Lic. No. 010487
On the date of
Aug. 7, 2012

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION STRUCTURE AND BRIDGE DIVISION					
TELEPHONE CONDUIT SYSTEM					
G. Henderson					
No.	Description	Date	Designed: S&B...DIV	Date	Plan No.
			Drawn: ...S&B...DIV		BTC-5
			Checked: S&B...DIV		
Revisions					

TELEPHONE CONDUIT SYSTEM

FRE CONDUIT STEEL BEAM/GIRDER SPANS

NOTES TO DESIGNER:

Standard is for use with: FRE conduit
Steel beam/girder spans

Show conduit formation on transverse section sheet and indicate number of conduits (e.g. 4 -4" ϕ telephone conduits). Show dimension from bottom of top flange (top of web) to support angle at the beam/girder the dimension is set on transverse section sheet. When setting the dimension allow for a minimum of 1" (2" to 3" preferred) clearance to diaphragms, cross frames etc. Normally the critical clearances are at the ends of spans (at supports). Indicate location of centerline of telephone conduits on framing plan (e.g., centerline of 4 - 4" ϕ telephone conduits). Do not show hanger spacing on framing plan.

Utilities shall be placed in the exterior bays of the bridge if possible.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

TYPICAL SUPPORT DETAIL:

Enter dimension from bottom of top flange to L 5 x 3 x $\frac{3}{8}$ support. This must agree with dimension set on transverse section sheet.