



**PRECAST DECK PANEL PLAN - AT&T CONDUIT HANGER INSERT LAYOUT**

**GENERAL NOTES**

**General Construction Hanger and Conduit Notes:**

- Six AT&T ducts shall be placed between girders seven and eight. They shall be four inch PVC conduits inclusive of (2) 3600 Pair copper cables (5.92plf each), (12) 1/4" innerduct cables (0.26plf each), and (12) Fiber cables (0.356plf each)
  - The ducts shall be supported into the bottom of the deck, at 10'-5" intervals, unless shown otherwise on the plans. Support Hanger material shall be manufactured using 316 stainless steel and fiberglass components as specified below.
  - Material Specifications required at each Standard Support Hanger:
    - Fiberglass Items
      - Flat Bars 1/2" x 2"
      - Round Tube 1" O.D., 0.105" wall
      - Square Tube 2" x 2" x 1/4"
    - Fiberglass reinforced with polyester resin for better weathering. Resin shall contain u.v. Inhibitor. Fiberglass is made with continuous strand mat and uni-directional raving, gray in color.
    - Tensile strength (ASTM D 638) 30,000 psi
    - Modules (ASTM D 638) 23E6psi
    - Flexural strength (ASTM D 790) 30,000 psi
    - Compressive Strength (ASTM D 695) 20,000 psi
    - Compressive Modules 14E6 psi
    - Yield Shear Strength 2000 psi
    - Barcol Hardness 50
    - Dielectric strength (ASTM D 149) 200 VPM Min.
- Stainless Steel Hardware Items
- Threaded Rod (ASTM/ASME B1.1) ( ASTM A307 Grade ) Tensile strength 60,000 psi
  - Hexnut (ANSI/AMSE 18.2.2) 316 Stainless Steel (ASTM F594)

- Flatwasher (ANSI/AMSE 18.2.1) 316 Stainless Steel (ASTM F436)
  - Lockwasher (ANSI/AMSE 18.2.2) 316 Stainless Steel (ASTM F594)
  - Stranding Clamps (1-Bolt & 3-Bolt) 1/4 x 1.5 (316 Stainless steel)
  - Stranding Wire: Cable 1/4" Dia. (7 x 19 Steel Aircraft) (304 Stainless steel)
  - Bracing: Adjustable Hanger attachment brackets (Angle 2.5 x 2.5 x 0.25 (315 Stainless Steel)
- The Conduit joints shall be positive locking adhesive bonded bell and spigot.
  - The Conduit expansion joints shall be sliding sleeves with a provision for eight inches of travel.
  - The Bridge Abutments must have a block out or be sleeved to allow the PVC conduit to pass through. After the conduit is placed through the abutment, the opening is sealed up with a state approved sealant.
  - Place one concrete loop insert and two adjustable inserts per support location for the future support system. The Hangers will be installed at a later date.
  - Type and location of precast inserts for the AT&T hangers shall be coordinated with AT&T. The cost is included with the Precast Concrete Deck Panels.
  - NO PART OF THE CONDUIT SUPPORT HANGER CAN EXTEND BELOW THE BRIDGE DECK GIRDERS. EXTENDED RODS MAY NEED TO BE ALTERED.
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|-------------------------------------|-----------------|
| 10. 4" PVC Conduits                 | 3277 lbs        |
| 3600 Pair Copper Cables             | 3233 lbs        |
| Fiber Cables                        | 1167 lbs        |
| 1/4" ID                             | 865 lbs         |
| Hanger Type Supports                | 601 lbs         |
| Misc. Inserts, Joints               | 177 lbs         |
| <b>Total being placed on bridge</b> | <b>9326 lbs</b> |

**TOTAL UNIFORM LOADS PER HANGING SUPPORTS**

ITEM	Quantity	Unit Wt. lbs/each	Unit Wt. lbs/ft	Total Wt. lbs
4" PVC Conduits	6	2.00	12.00	3276.96
3600 Pair Copper Cables	2	5.92	11.84	3233.27
Fiber Cables	12	0.36	4.27	1166.60
1/4" ID	12	0.26	3.17	865.12
Loop Type Concrete Insert*	30	1.50	N/A	45.00
Adjustable Type Concrete Inserts	52	1.50	N/A	78.00
Hanging Type Support	26	23.10	N/A	600.60
Double Expansion Joints	6	4.00	N/A	24.00
Single Expansion Joints w/out Ring	12	3.00	N/A	36.00
Sum (lbs)	N/A	N/A	N/A	9326
			Sum (plf)	34.15

\*Required as shown in Detail "A" and Section "B-B"

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