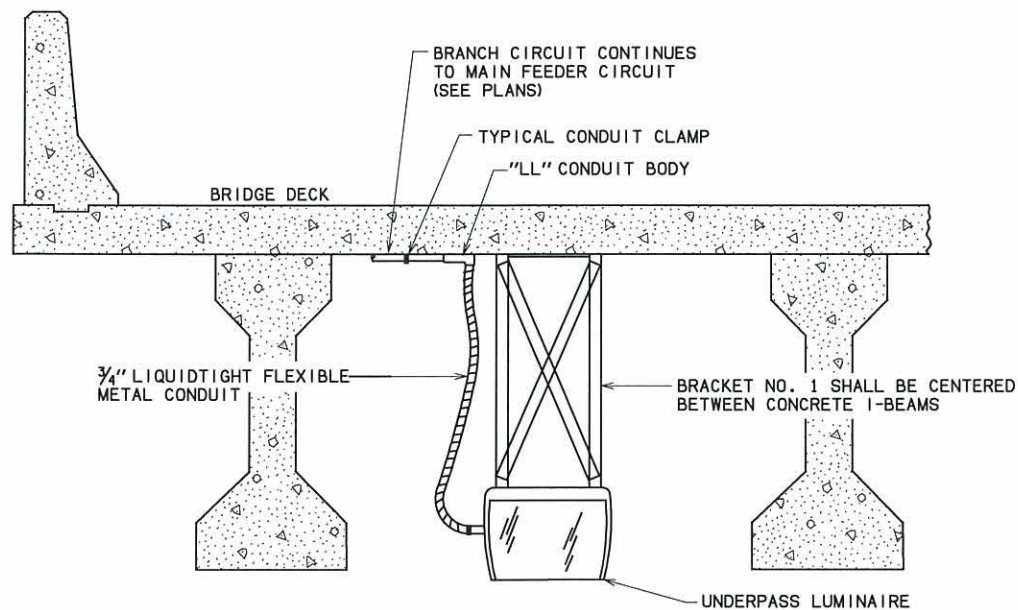
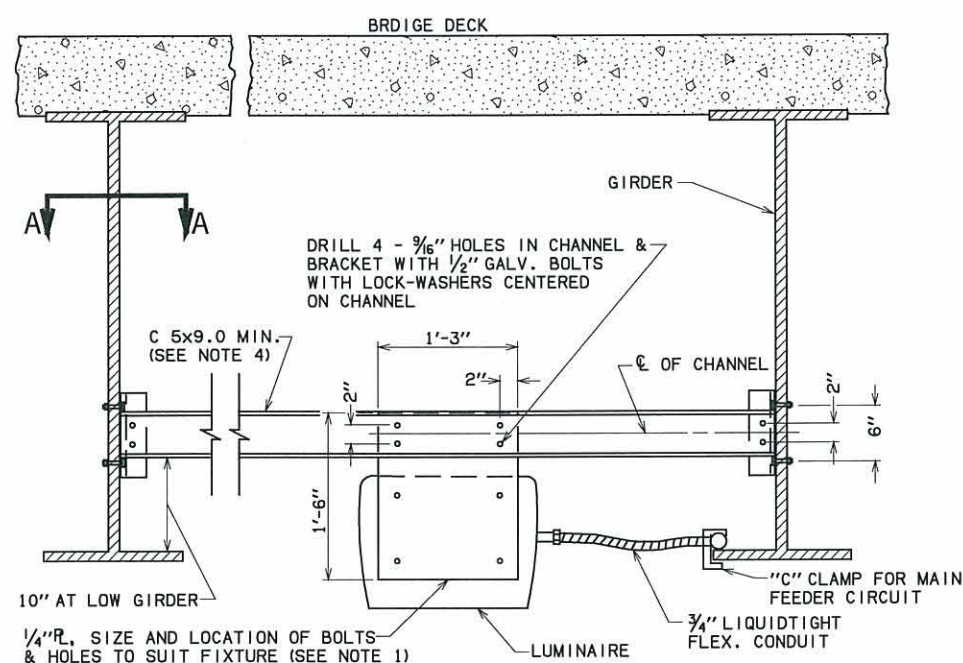


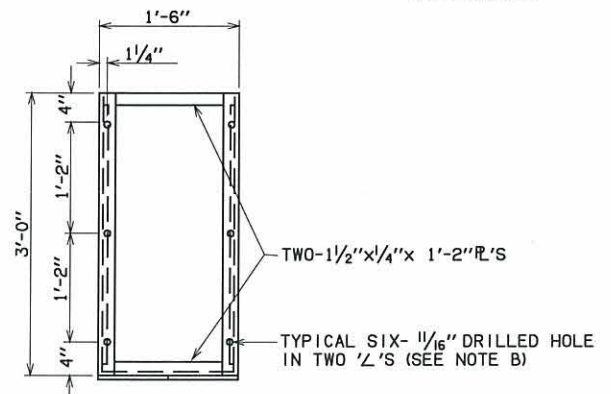
DESCRIPTION	REVISIONS	DATE



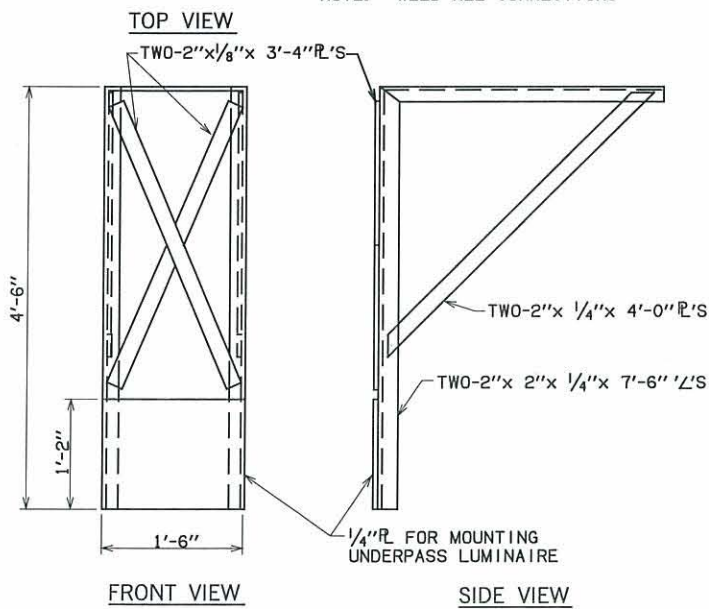
**BRACKET NO. 1 DETAIL**  
(MOUNTING)



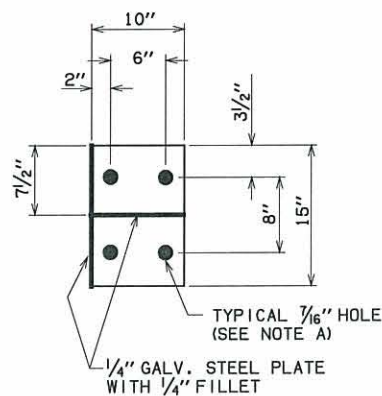
**BRACKET NO. 3 DETAIL**  
(STRUCTURAL AND MOUNTING)



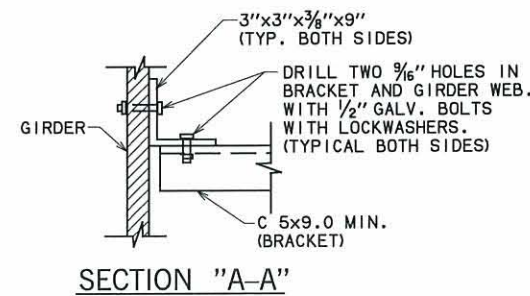
NOTE: WELD ALL CONNECTIONS



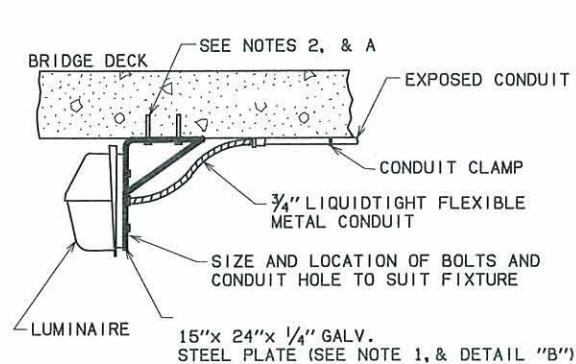
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(STRUCTURAL)



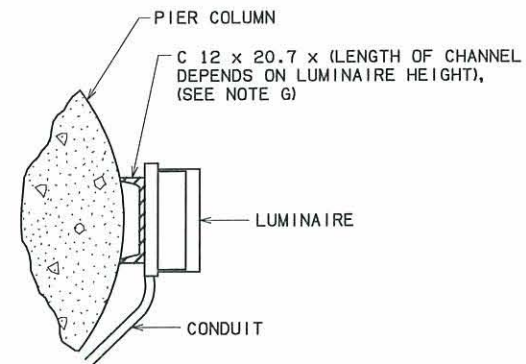
**DETAIL "B"**



**SECTION "A-A"**



**BRACKET NO. 2 DETAILS**  
(STRUCTURAL AND MOUNTING)



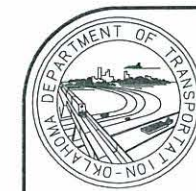
**BRACKET NO. 4 DETAIL**  
(STRUCTURAL AND MOUNTING)

**MATERIAL SPECIFICATIONS**

- EXPANSION BOLTS - 4 REQUIRED - 4 SLUG - IN COMPOUND ANCHORS, 3 UNIT THREADED SET WITH 3/8" x 3" LONG BOLT AND FLAT WASHER, MIN. REQUIREMENTS - TENSILE LOAD OR PULLOUT 2,200 LBS, SHEAR 3,300 LBS.
- EXPANSION BOLTS - 6 REQUIRED - 5/8" x 3 1/2" LONG BOLT ANCHOR UNIT COMPLETE WITH FLAT WASHER AND HEX. NUT MIN. REQUIREMENTS - TENSILE LOAD OF PULL OUT 6,300 LBS, SHEAR 10,000 LBS.
- EXPANSION BOLTS SHALL BE SIMILAR TO EITHER A STAR, RAWL, RED HEAD OR OTHER APPROVED BRAND WITH EQUIVALENT STRENGTH.
- ALL STRUCTURAL STEEL SHALL BE A-36 (AASHTO M-183).
- ALL STRUCTURAL STEEL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A-153 (AASHTO M-111).
- ALL HARDWARE THAT IS REQUIRED TO FASTEN THE LUMINAIRE TO THE BRACKET AND THE BRACKET TO THE BRIDGE SHALL BE EITHER GALVANIZED OR STAINLESS STEEL.
- EXPANSION BOLTS - MINIMUM OF 3 REQUIRED 3/4" x 6" WITH A MINIMUM PULL-OUT LOAD OF 2,200 LBS. SHALL BE USED TO MOUNT THE UNDERPASS LUMINAIRE AND CHANNEL TO THE PIER COLUMN.
- THE BRANCH CIRCUIT CONDUCTORS INSTALLED FOR UNDERPASS LIGHTING SHALL BE STRANDED OR SOLID NO. 10 AWG, TYPE THW OR THWN, 75 DEG. CELSIUS, 600 VOLT, UNLESS OTHERWISE SPECIFIED. AN ALTERNATE TYPE INSULATION MAY BE USED IF APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- ALL EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL, UNLESS OTHERWISE SPECIFIED.

**GENERAL NOTES**

- BRACKET DIMENSIONS MAY VARY, WITH APPROVAL OF THE ENGINEER, TO ACCOMMODATE THE APPROVED LUMINAIRE.
- THE CONTRACTOR SHALL NOT DRILL THROUGH REINFORCING STEEL, IF STEEL IS ENCOUNTERED WHEN DRILLING HOLES IN CONCRETE, THE CONTRACTOR SHALL ADJUST LOCATION FOR BOLTS AND FILL ORIGINAL HOLE WITH GROUT.
- THE CONTRACTOR SHALL NOT DRILL HOLES IN ANY PRE-STRESSED CONCRETE BEAM.
- THE BRACKET MAY NOT ALWAYS BE PLACED AT 90 DEG. TO THE GIRDERS THE CONTRACTOR IS TO DETERMINE THE LENGTH OF THE CHANNEL. THE SIZE OF THE CHANNEL MAY CHANGE WITH THE APPROVAL OF THE ENGINEER.
- FOR ADDITIONAL CONDUIT CONSTRUCTION DETAILS, SEE STANDARD CCD1-1-(LATEST REVISION).
- FOR ADDITIONAL UNDERPASS LUMINAIRE MOUNTING DETAILS, SEE STANDARD UPD1-1-(LATEST REVISION).
- THE COST OF ALL BRACKETS AND ATTACHING HARDWARE ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR "UNDERPASS LUMINAIRE".
- FOR UNDERPASS LUMINAIRE BRACKET LOCATIONS AND SPACING INFORMATION, SEE PLANS.



APPROVED BY TRAFFIC ENGINEER *Thad Smith* DATE: 8/15/10

TRAFFIC STANDARD  
TYPICAL UNDERPASS LUMINAIRE  
BRACKET DETAILS