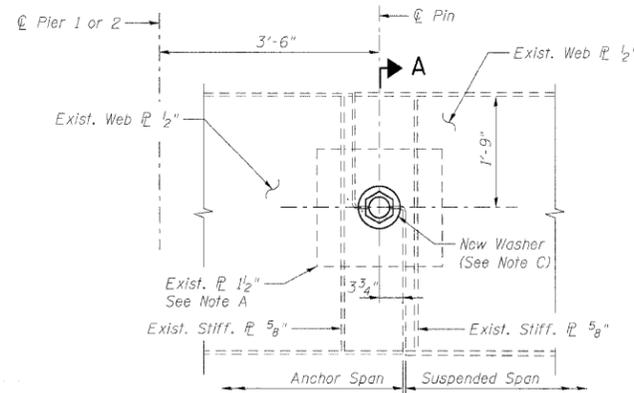
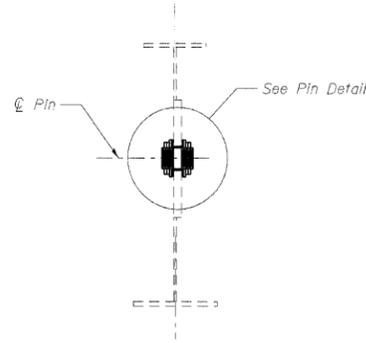


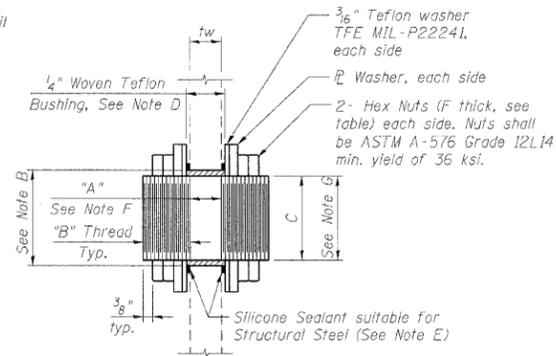
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



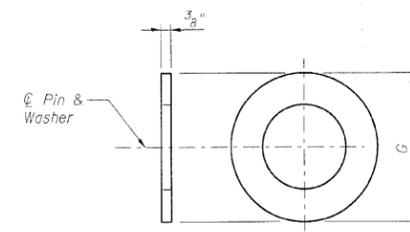
PIN ELEVATION - GIRDERS 1 & 6
(Dimensions and details from exist. plans)



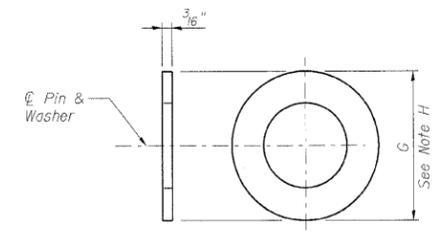
SECTION A-A



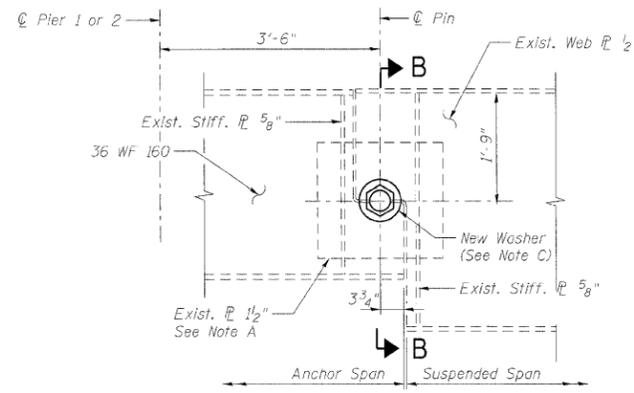
PIN ASSEMBLY DETAIL



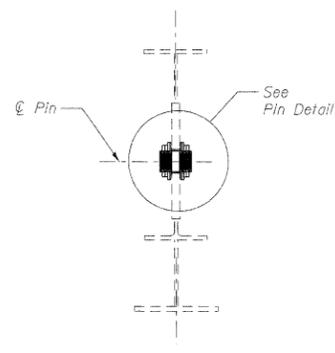
WASHER DETAIL



TEFLON WASHER DETAIL



PIN ELEVATION - INTERIOR GIRDERS 2 THRU 5
(Dimensions and details from exist. plans)



SECTION B-B

Note A:
Existing welds shall be inspected for cracks using liquid dye penetrant or magnetic particle testing. Any cracks that are found shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Clean and paint before installing new Pin Assembly Detail.

Note B:
Bore diameter for bushing in existing webs and reinforcement plates shall correspond to bushing manufacturer's allowable tolerances for proper functioning. Hole diameter may be adjusted to allow use of stock bushings. Prime before installing Pin.

Note C:
Inside face of new washer plates shall receive first field coat in shop. The primer shall pass the M.E.K. Rub Test before the first field coat is applied.

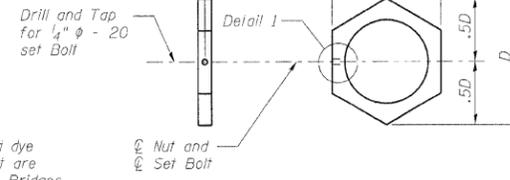
Note D:
Actual bushing thickness per manufacturer's specifications, 1/4" is approximate. Bushings shall be self lubricating filament wound epoxy matrix backed Duralon Bearing, metal backed Fiber Glide Bearing or equivalent. No primer or grease shall be allowed on bushings. Bushings shall be suitable for dynamic loads of 20,000 psi.

Note E:
Apply 3/8" bead to face of the web reinforcing plates approximately 1/2" turn from bushing immediately before installing new washer plates. Place sealant around nuts after installation. Sealant shall be suitable for prolonged exterior exposure without losing flexibility or adhesion to painted steel surfaces. Proposed products shall be subject to Department's acceptance based on documented testing or other evidence.

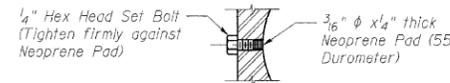
* Note F:
Body of Pin dimension "A" shall be based on measured thickness of captured plates (including paint), plus 1/2". $A = tw + 1.125"$

Note G:
Nominal Pin diameter (diameter tolerances subject to Specifications of Teflon Bushing Manufacturer and shall be approved by the Engineer). Pin shall be ASTM A276, UNS 21800 (Nitronic 60 (Stainless Steel) or equal) (No step at threads) 12 threads per inch.

Note H:
Outside diameter of Washer shall be, $G = E + 1/2"$.



HEX NUT DETAIL

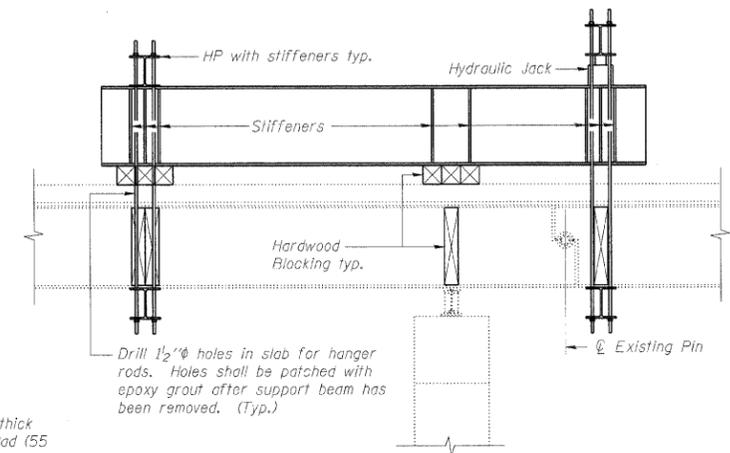


DETAIL 1

Set Bolts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

| Dimension | Length (in.) | |
|-----------|--------------|-------------|
| | Girders 1-6 | Girders 7-8 |
| A * | 2 5/8 | 2 1/2 |
| B | 1 1/8 | 1 7/8 |
| C | 4 1/4 | 4 |
| D | 7 1/8 | 7 1/4 |
| E | 6 5/8 | 6 1/4 |
| F | 3/4 | 3/4 |
| G | 8 1/8 | 7 3/4 |

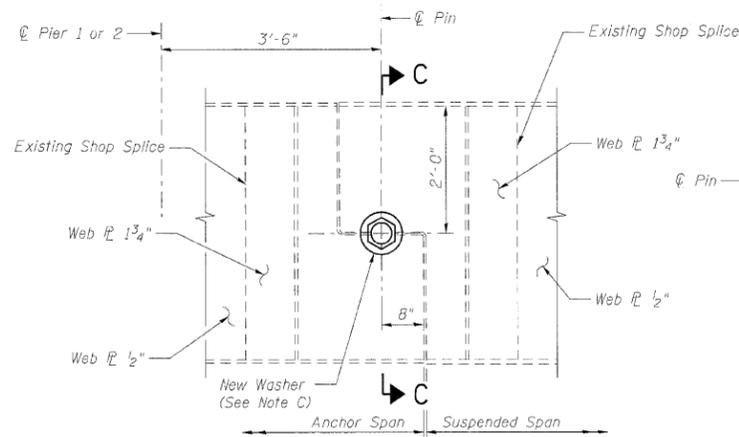
* Dimension "A" shall be increased in case of any misalignment between anchor span and suspended span web planes.



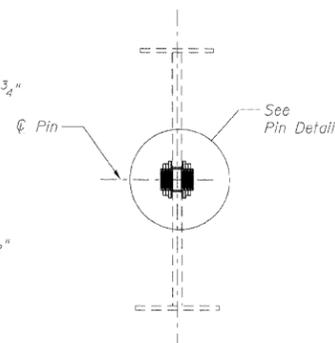
**LONGITUDINAL SECTION
SUGGESTED TEMPORARY BEAM SUPPORT SYSTEM**

Notes:

- All new structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
- The contractor shall provide support and/or shoring systems for the beam in the area of existing pin replacement. The support and/or shoring systems shall be approved by the Engineer. Such approval will not relieve the Contractor of responsibility for the safety of the structure. See Special Provisions for "Temporary Support System."
- The inorganic zinc primer/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Light Grey, Munsell No. 10Y 7/L. See Special Provision "Cleaning and Painting Metal Structures".
- Existing structural steel shall be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included with Pin Replacement.
- All existing steel surfaces behind washers shall be cleaned and primed before installation of new washers. Cost included with Pin Replacement.
- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The Pins and Washers shall conform to the minimum Charpy V-Notch Toughness of 25 ft.-lbs. at 40° F.
- The Pins, Washers, Bushings, Nuts and Silicone Sealant are the items included in Pin Replacement.
- For existing pin removal, grind existing welds and ream holes to fit proposed bushing.



PIN ELEVATION - 1985 WIDENING GIRDERS
Girders 7 & 8
(Dimensions and details from exist. plans)



SECTION C-C

MAXIMUM REACTIONS AT PIN

| R (Dead load) | (K) | 48.2 |
|----------------------------|-----|-------|
| R (Superimposed Dead Load) | (K) | 13.8 |
| R (Live load) | (K) | 58.0 |
| Imp. | (K) | 13.5 |
| R (Total) | (K) | 133.5 |

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|--------------------------|------|-------|
| Temporary Support System | Each | 16 |
| Pin Replacement | Each | 16 |

| | |
|------------|-----|
| DESIGNED - | AAV |
| CHECKED - | KMP |
| DRAWN - | RMG |
| CHECKED - | AAV |

benesch

alfred benesch & company
Engineers • Surveyors • Planners
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 119050

| SHEET NO. 8 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|--------------------|---------------------------|---------------------|--------------|-----------|
| | 290 | 355 | 22(1, 1-1, 2&3)RS-7 | DUPAGE | 546 |
| 12 SHEETS | CONTRACT NO. 60G51 | | | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | | |