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2000 Bridge Inspection Report **Bridge #2440: Hwy. 65 over the Mississippi River (3rd Ave. Bridge)**

Inspection Date: June 16 & July 31, 2000
Inspected By: Kurt Fuhrman, Rebecca Lane, and Pete Wilson
Reviewed By:
Report Written By: Pete Wilson
Bridge Crew: Spring Lake Park
Access Equipment Used: Reach-all UB-50

Recommendations

- ◆ The poured deck joints (Type "Q" with rubber waterstop) have failed, and the adjacent deck slab & overlay have extensive deterioration (delamination & spalling). These joints should be reconstructed (by contract) and replaced with strip seals (to accommodate expansion & deflection).
- ◆ The spandrel caps located below the poured deck joints have severe spalling and delamination – these should be patched or reconstructed. Some of the spandrel caps and column stubs (mainly those located near the center of the arch spans) have developed severe diagonal shear cracks – these may require reconstruction.
- ◆ The old retaining wall along the east side of the north approach is tipped severely outward (2-1/2" in 1998, noted as 1" in 1992) - this wall should be monitored (several photos in 1998).
- ◆ The pier wall bases (arch spans) have deterioration (severe scale) below the deck drains. While this is not of immediate concern (more aesthetic than structural), a long-term solution should be devised (extensions or spillway). The 1996 underwater inspection found areas of "voiding" on the upstream nose of the footings of Piers #1 & 5 (condition had become worse since the 1991 inspection) - this is due to concrete erosion from the strong current & turbulence. The consultant recommended repairing these areas.
- ◆ Graffiti "artists" are accessing the bridge from the arched openings in Pier #8 (facing SE Main St.) – we should consider grating off these openings.

General Notes

Description: Bridge #2440 carries Hwy. 65 (3rd Ave.) over the Mississippi River in downtown Minneapolis – the bridge also crosses over West River Parkway & SE Main Street. Constructed in 1917, the bridge has 7 open spandrel concrete arch spans, 2 steel multi-beam spans (south approach) and 2 pre-stressed concrete multi-beam spans (north approach). The total bridge length is 1,858 feet. The bridge was extensively remodeled in 1980 - the upper portion of the superstructure was reconstructed (new deck & railings), and the roadway grade was raised 2 feet.

NBI Condition Codes	Superstructure:	4 (poor condition)
	Substructure:	5 (fair condition)
	Bridge Deck:	5 (fair condition)

Arch Spans: Arch Spans #1-5 have three arch ribs with spandrel columns; Arch Spans #6 & 7 have solid arch barrels with spandrel walls. The arch spans form an "S" curve - Arch Span #1 is the longest (236 ft.).

Pier Base & Footings: Original 1917 construction. All 8 Arch piers have a solid concrete pier wall base (rounded noses) - the footings below are rectangular (they rest on bedrock). The pier footings have severe scale/spalling (up to 8" deep) below the deck drains. In 1996, and underwater inspection of the arch pier footings found severe scaling with loose and exposed aggregate (from the waterline to the top of the "footing bell") on all the piers - this appears to have worsened since the 1991 inspection. Piers #1 & 5 had "voids" at the upstream end (extending up to 6-1/2 ft. under the footing) - these appear to be caused by gradual erosion of the concrete by the current.

Pier Walls & Columns: Original 1917 construction. The upper portions of the arch piers are hollow concrete shafts (Arch Piers #1-5 have "columns", Arch Piers #7 & 8 have "Pier Walls" - Arch Pier #6 is the transition). In 1980, the far upper sections of the pier shafts were reconstructed & raised (new roadway slabs above). On Pier #8, the curved section on the east end has severe vertical meandering crack (3/4" wide), with some severe spalling (4" deep with exposed rebar) - the west end has similar cracking, though not as severe.

Arch Ribs (Spans #1-5): Original 1917 construction. The exterior arch edges were patched in 1980, these areas now have map cracking, with some horizontal cracking & delamination. The arch ribs have several areas with honeycombing (poor consolidation) with exposed reinforcement, with some isolated areas of delamination & spall. At Arch Pier #1, the center arch rib has severe scale/spall (up to 1 ft. deep) below the deck drain. The west arch rib has horizontal cracking at some utility support connections (perhaps due to differential deflection).

Arch & Barrels (Spans #6 & 7): Original 1917 construction. The exterior arch barrel edges were patched in 1980, these areas now have map cracking, with some minor delamination. The undersides of the arch barrels have numerous longitudinal cracks (none are severe).

Spandrel Columns (Spans #1-5): The upper portions of spandrel columns were reconstructed in 1980 (they were raised to accommodate the higher roadway grade) - the lower portions are original 1917 construction. The spandrel columns are rigidly connected at the top & bottom, with no allowance for bridge expansion & contraction. Some spandrel columns have cracking & delamination. Many of the short spandrel column stubs (at the center of the arch spans) have diagonal shear cracks (first observed in 1991); some columns stubs have cracked through at the base and shifted slightly (1/4").

Spandrel Caps (Spans #1-5): All spandrel caps were reconstructed in 1980. Some caps (mainly near the center of each arch span) have severe shear cracking above the exterior arch connections (first observed in 1991). The spandrel caps located below poured deck joints have rust stains, leaching, and horizontal cracking/delamination. In some locations, there is severe spalling (up to 12" deep)

along the top edge of the cap (along the bottom of the slab).

Spandrel Walls (Spans #6 & 7): In 1980, the top portions of spandrel walls were reconstructed (raised to accommodate higher roadway grade) - the lower portions are original 1917 construction. The spandrel walls have moderate scale & vertical cracking (some delaminations). Some spandrel walls have horizontal cracking & spalling along the base construction joints - some have shifted slightly (1/4"). The "cap" overhangs (east side only) have some diagonal shear cracking & spalling.

Approach Spans

South Approach (Steel Multi-Beam): The south approach spans have welded steel beams (depth varies from 36" to 56") - they are unpainted weathering steel. The elastomeric expansion bearings at the north end of these spans (south face of Arch Pier #1) have no room for expansion - the bearing area was inadequately designed, and the beams are contacting the pier. As a result, the fixed bearings at the south abutment are damaged (the anchor bolts have been bent to the south, and at least one has broken off).

North Approach (Pre-Stressed Concrete Multi-Beam): The north approach spans have 54" deep pre-stressed concrete beams. The superstructure is in good condition - no problems noted.

Piers: The piers on the approach spans (1 pier on south approach, 1 pier on north approach) are both in good condition (no problems noted).

Abutments: At the South Abutment (steel approach spans), the fixed bearing anchor bolts are all bent over - indicating possible northward movement of the abutment (inclinometer readings were taken in 1991-92). However, it should be noted that the bearings on Arch Pier #1 have no allowance for movement in either direction (the beam ends are contacting the parapet, and the south edges of the bearing pads extend slightly beyond the south edge of the bearing seat).

Retaining Walls: The upper portions of the north approach retaining walls were reconstructed in 1980; the lower portions of the walls are original 1917 construction. The northeast retaining wall is tipped severely outward (towards an adjacent building) - this was evident prior to the 1980 reconstruction and has continued. The lower section (original) is tipped out further (5" near the base, and up to 1 ft at the top). The upper portion of the wall is tipped out 2-1/2" (first noted as 1" in 1992) - this is evidenced above by a gap between the sidewalk and the wingwall, and below by the coping offset (several photos taken in 1998). This movement should be closely monitored! The northwest retaining wall is also tipped out, but only slightly (1/2" at the coping).

Bridge Deck: The entire bridge (arch spans & approach spans) was re-decked in 1980, only the top mat of reinforcement has epoxy rebar. There are 2 lanes each direction - the shoulders are 5'-4" wide. [2000] The deck is estimated to be 3% unsound.

Arch Span Slab: [1980] New 9" deep slab & 2" low slump concrete overlay (slab spans longitudinally between spandrel caps, and across hollow pier walls).

Wearing Surface: [1983/84] Arch span overlay has 2,500 LF of longitudinal cracks, with considerable map cracking. [1983/2000] Extensive concrete patches along poured deck joints - deck requires continual repairs.

Structural Slab: [1997/2000] The underside of slab has some longitudinal leaching cracks (with rust stains & delamination, there is also some deterioration along the centerline construction joint. The slab has significant deterioration along the spandrel caps that are located below the poured deck joints - with water saturation, delamination, and spalling (exposed rebar). Most spalling is directly above the water main in Spans #6 & 7 (there is a gap in the spandrel wall at these locations).

Poured Deck Joints: The arch span slab has numerous transverse poured joints (there are joints at each edge of the pier slabs, and at every 2nd or 3rd spandrel). The joints are Type "Q" (with rubber waterstop cast into deck below hot pour seal). Despite numerous repair attempts by the bridge crew,

the poured joints in the arch spans are leaking (seal material has failed). There is extensive spalling & patching along these joints, and severe slab deterioration below. This joint design simply doesn't accommodate the thermal expansion & contraction of a bridge this length. These joints should be reconstructed (perhaps replaced with strip seals), to prevent further slab & superstructure deterioration.

Approach Span Deck: [1980] New 7" deck & 2" low slump concrete overlay (deck spans transversely between beams). [1983] Overlay in south approach spans has some transverse cracks. [1991/99] Undersides of south approach spans have 200 LF of transverse leaching cracks with 30 SF of delamination.

Strip Seal Joints: [1980] Strip seal joints installed at both abutments, and at each end of arch spans (Arch Piers #1 & 8). As the abutment bearings are fixed bearings, the bridge has only 2 expansion joints (at Arch Pier #1 & 8). [1988] North Abutment strip seal joint is leaking (abutment face stained below) - this may be just due to existing joint gaps at the railings. [1992/96] South Abutment joint has 13 plow straps missing.

Roadway Railing: Code #23 (J-rail with line pipe). [1983/88] J-rail (roadway) has moderate scale, with 600 LF of vertical cracks. [1997] Steel portion of railing has extensive corrosion. [1997] Rail has impact damage at the southeast approach radius (2 sections).

Pedestrian Railing: [1980] Original ornamental steel rail was salvaged and repainted (new concrete posts). [1997] Minor corrosion.

Other Elements:

Channel & Protection: NBI Code #6. The bridge is located just upstream of the Upper St. Anthony Lock & Falls. Arch Span #1 is the main navigation channel (navigation lights mounted on arch). There are concrete protection walls along the channel side of Arch Piers #1 & 2, with "dolphins" upstream of Pier #2 (to direct river traffic away from the upper falls). Arch Piers #3 & 4 are located just downstream of a spillway and are subjected to severe turbulence. Due to the current & turbulence, Mn/DOT does not perform annual scour soundings - we depend solely upon the underwater inspections (5 year intervals). [1996] Underwater inspection found portions of the footings exposed on Piers #2, 5, 6, & 7. [1997] Pier #5 has large accumulation of timber debris along south face (lodged against top of spillway).

Approach Panels: Both approach panels are bituminous. [1997] South approach has longitudinal cracking, with fill patches along the end block (photo).

Signing: [1992] No hazard markers at north end.

Drainage: The deck drains directly into the river. The downspouts located at the arch piers terminate at the arch base, resulting in deterioration of the concrete pier footings below. [1998] Pier #8: there is standing water inside the hollow pier wall (west end).

Slope Paving: [1998] Pier #8: bituminous slopes along pier base are undermined by erosion.

Sidewalk: [1992] West sidewalk has 360 LF of cracks and 9 SF of light spall, East sidewalk has 420 LF of cracks, and is heaved 1" at the north abutment. [1998] Both sidewalks have patching & spalling along the poured deck joints (arch spans).

Sidewalk Stairway: There is a stairway adjacent to the northeast wingwall - this provides access to Main St. below. [1985] Wall exteriors have horizontal cracks (level with landing & top of stair treads).

Deck Lighting: Deck lighting is mounted on the exterior (pedestrian) railing. In 1990, a light pole was blown into the river during a windstorm. A subsequent inspection found severe section loss on the light pole bases (concealed anchor bolt cover). The fallen light pole (along with 2 others which had rusted through at the base) was replaced, the anchor bolt covers were all removed, and the light bases were

sandblasted & painted.

Utilities: There is a 36" diameter water main (with adjacent catwalk) running below the NBL, and a cluster of 30 telephone conduits (4" diameter) running below the SBL. [1985] Concrete pedestal supporting water main damaged (concrete spalled - steel support torn loose). [1997] The telephone conduits have corrosion below the deck joints, and the west arch rib is cracking at some of the utility support connections. [1998] The water main support rollers are corroded below the poured deck joints.

"Snooper" Inspection Notes (southbound & northbound notes are combined).

South Abutment: 10 fixed bearings. [1985] Seat breaking up below 2nd beam from east (1 SF of spall). [1988] Abutment has 3 SF of spall (from fire). [1991/97] All bearing anchor bolts are bent 2" to south, the west fascia bearing has 1 bolt sheared off (related to problems at north end of steel beam spans). [1991/92] Inclinator readings taken. [2000] Graffiti & vagrant debris.

South Approach Span #1 (Steel Multi-Beam, unpainted weathering steel): Over abandoned railroad (tracks removed). Beam depth transitions from 56" to 36" (one beam terminates at header). [1991] Underside of deck has 100 LF of leaching cracks. [1999] Underside of deck has 20 SF of delamination (mostly near the beam transition - over SB Parkway).

South Approach Pier: 9 elastomeric expansion bearings. [1990] Pier has 8 LF of cracks. [1993] Beam #1 web has 3/4" bulge in base at bearing; some of the elastomeric pads are rotating.

South Approach Span #2 (Steel Multi-Beam, unpainted weathering steel): Over West River Parkway. [1991] Underside of deck has 100 LF of leaching cracks. [1999] Underside of deck has 10 SF of delamination.

Arch Pier #1:

South Bearing Area: South face has 9 elastomeric expansion bearings. [1991] Steel beams are contacting & spalling the parapet, elastomeric pads rolling up and beginning to shear. [1992] Pads tipped 1-1/2" in expansion at 60 degrees. [1993] Steel beam sole plates are 1/2" from parapet (some contacting). [1997] 3rd Beam from west is contacting parapet, 4th Beam from west has corner of bearing pad extending over edge of seat. [1999] Beams #6 & 7 are contacting the parapet.

Above Waterline: [1994] North face of pier base has deterioration on both sides of the center arch (photo in 1997). [1999] Severe pigeon debris inside pier. [1999] The center & north walls have severe vertical cracks (1" wide) above the east arch openings (photo), the north wall (west end) has separated 1" along a vertical construction joint.

Below Waterline: [1996] Underwater Inspection: South face has severe scale (6" deep with localized areas up to 1.5 ft. deep) - the repaired areas are severely deteriorated. Upstream end (south face) has a voided area (2.5 ft. deep) located above an exposed section of sheet pile cofferdam. North face has severe scale (up to 1.2 ft deep). North face has a vertical crack (1/16" wide) running from the footing to the top of the pier wall.

Arch Span #1:

East Arch Rib:

Center Arch Rib: [1999] Faces & underside of arch rib (at Arch Pier #1) have severe spalling from the deck drains (up to 1 ft. deep on west face) - photos.

West Arch Rib: [1997] Underside of arch rib (near midspan) has a 10 LF spall (8" wide with exposed rebar); the interior bottom edge has horizontal cracking at utility supports (photo).

Spandrel A (joint): [1999] Spandrel cap has leaching & staining throughout, the south face has 5 SF of severe spall (10" deep), the bottom edge of cap has 20 LF of horizontal cracking & delamination, and the east end of cap has 3 SF of spall.

Spandrel B:

Spandrel C:

Spandrel D (joint): [1997/99] Spandrel cap has leaching & staining throughout. South face of cap has 4 SF of severe spall (10" deep) at the center arch, and 4 SF of delamination at the west arch (photo in 1997). [1998] Center spandrel column has 1/2" gap at base (original 1917 construction joint).

Spandrel E: [1993] Center spandrel column (west side) has 1/2" gap at construction joint. [1998] West end of spandrel cap has diagonal shear crack.

Spandrel F (joint): [1999] Spandrel cap has moderate leaching & staining.

Spandrel G: [1998/99] Spandrel cap has minor vertical shear cracks; north face has cracking & delamination. [1999] East spandrel column has a shear crack. [1993/2000] All 3 spandrel columns have cracked through at the base (1/4" wide) and shifted 1/4".

Spandrel H:

East Arch: [1991/99] Column stub has a severe shear crack, the SE corner has a spall (exposed rebar) - photo in 1999. [1993] Spandrel cap has 8 SF of spall (8" deep) at the NE corner - photo in 1999.

Center Arch: [1994/99] Column stub above center arch has a severe shear crack (shifted 1"); the spandrel cap (north face) has 1 SF spall & 5 SF of delamination.

West Arch: [1993] West spandrel stub has sheared completely through (6" deep spall with exposed rebar). [1994] Spandrel cap end has several shear cracks (photos in 2000).

Spandrel I (joint): [1997/99] Spandrel cap has moderate leaching & staining, west end has a spall.

Spandrel J:

Spandrel K (joint): [1997/99] Spandrel cap has leaching & staining throughout, north face (between west & center arch) has 8 SF of severe spall (10" deep) - photo in 2000.

Spandrel L: [2000] Center arch rib has 30 SF of delamination. [2000] Center column has a vertical crack.

Spandrel M: [1999] East spandrel column (west face) has 10 SF of delamination.

Spandrel N (joint): [1999] Spandrel cap has leaching & staining throughout, the south bottom edge has 10 LF of horizontal cracking & delamination. [1998] West spandrel column has 2 SF of spall (top of arch is also spalling).

Arch Pier #2:

Above Waterline: Deck drains on both faces, shift in arch alignment (to accommodate curve in deck). [1994/98] North face of pier base has 50 SF of spall (up to 8" deep at base of east arch) below the deck drains. [1998] South face has minor spalling below the deck drains.

Below Waterline: [1996] Underwater inspection found severe spalling on the downstream end (north face), and on the upstream nose (up to 6" deep with exposed rebar).

Arch Span #2:

East Arch Rib: [2000] Edges of arch rib have 100 SF of delamination.

Center Arch Rib:

West Arch Rib:

Spandrel A (joint): [1998/99] Spandrel cap has leaching & staining throughout, the north face (above center column) has a 2 SF spall. Cap has vertical cracks and delamination between the center & west arch ribs (photo in 1998), and 10 LF of horizontal cracking & delamination near the water main opening. [1998] West column has 15 SF of delamination; the arch rib below has spalling.

Spandrel B:

Spandrel C:

Spandrel D (joint): [1999/2000] Spandrel cap has leaching & staining throughout, with 5 SF of spall.

Spandrel E:

Spandrel F (joint): [1999] Spandrel cap has minor leaching & staining. [2000] East coping has 4 SF of spall.

Spandrel G:

Spandrel H: [1997] West and center arch spandrel stub & cap have diagonal cracks (photos).

Spandrel I (joint): [1999] Spandrel cap has minor leaching & staining.

Spandrel J:

Spandrel K (joint): [1998/99] Spandrel cap has moderate leaching & staining, with horizontal

cracking/delamination on the bottom (between the arch ribs). [2000] East coping has 4 SF of spall.

Spandrel L: [2000] East arch rib has 8 SF of delamination.

Spandrel M:

Spandrel N (joint): [1998/99] Spandrel cap has leaching & staining throughout, the bottom of cap has cracking between the arch ribs, and the south face (center) has 2 SF of 5" spall. [2000] Underside of slab has deterioration (1 SF spall) along the spandrel cap.

Arch Pier #3:

Above Waterline: Deck drains on north face only. [1994] North face has deterioration below the deck drain downspouts, with a spall at west arch. [1998] Upstream end of pier base has delamination at waterline (photo).

Below Waterline: [1996] Underwater inspection found severe scale (up to 8" deep) on the upstream end at the river bottom.

Arch Span #3: [1997] Underside of slab leaching at C/L construction joint

East Arch Rib: [1993/94] Underside of arch rib has honeycombing (4" deep), with extensive cracking & 70 SF of delamination. [1998] Interior face has severe spalling & delamination (at Arch Pier #3).

Center Arch Rib:

West Arch Rib: [1994] West arch rib has cracking & delamination along both edges; the south half has minor map cracking. [1998] West arch rib has cracking & delamination along the interior bottom edge at most spandrels (total of 500 SF); the top of the west rib is deteriorated in the end bays at the piers.

Spandrel A (joint): [1996/99] Spandrel cap has leaching, staining, and severe map cracking throughout - the west end is spalled. [1997] West arch rib is deteriorated at spandrel column connection (photo). [2000] Center column has vertical crack (with delamination).

Spandrel B:

Spandrel C:

Spandrel D (joint): [1996/99] Spandrel cap has moderate leaching & staining - the west end is spalled. [2000] East coping has 4 SF of spall.

Spandrel E:

Spandrel F (joint): [1999] Spandrel cap has minor leaching & staining. [2000] East coping has 4 SF of spall.

Spandrel G:

Spandrel H:

Spandrel I (joint): [1999] Spandrel cap has minor leaching & staining.

Spandrel J:

Spandrel K (joint): [1998/99] Spandrel cap has minor leaching & staining, with 10 LF of horizontal cracking/delamination, the north face has 4 SF of 6" spall above the west column (photo in 1999).

Spandrel L:

Spandrel M:

Spandrel N (joint): [1998/99] Spandrel cap has leaching & staining throughout, the west end has 2 SF of spall, the north face has 2 severe spalls (6" - 10" deep), the south face (center) has 10 SF of severe spall (10" deep) at the same location as the north face spall - photo in 1998.

Arch Pier #4: No deck drains. [1994] Pier wall base has 30 SF of minor map cracking. [1999] Vertical portion of pier base has extensive delamination.

Arch Span #4:

East Arch Rib: [1994/2000] East arch rib (interior bottom edge) has 100 SF of delamination.

Center Arch Rib:

West Arch Rib: [1994] West arch rib has map cracking on repaired areas - the original construction cold joints have surface cracking. [1998] West arch rib has 300 SF of cracking & delamination along the edges; underside of rib at south construction joint has poor consolidation (2 SF of 6" deep spall).

Spandrel A (joint): [1997/2000] Spandrel cap has leaching & staining throughout, the north face (center) has 15 SF of severe spall (1 ft. deep) – photo in 2000. South face of cap has 5 SF of delamination. [1999] Underside of deck has extensive delamination along the cap (photo). [1997] West column has 10 SF of spall.

Spandrel B:

Spandrel C:

Spandrel D (joint): [1999/2000] Spandrel cap has moderate leaching & staining – west end has cracking.

Spandrel E:

Spandrel F (joint): [1998/99] Spandrel cap has minor leaching & staining, with horizontal cracking & delamination (between arch ribs).

Spandrel G:

Spandrel H:

Spandrel I (joint): [1999] Spandrel cap has minor leaching & staining.

Spandrel J: [1998] West spandrel column has 2 horizontal cracks at base.

Spandrel K (joint): [1998/99] Spandrel cap has moderate leaching & staining, with 10 LF of horizontal cracking & delamination, north face (center) has 10 SF of delamination). [1998] Top of arch has spalling at west spandrel column.

Spandrel L:

Spandrel M: [1999] West column (south face) has 10 SF of delamination.

Spandrel N (joint): [1999] Spandrel cap has leaching & staining throughout, and 10 LF of horizontal cracking & delamination. [2000] Center spandrel column has scale along cold joint (north face).

Arch Pier #5:

Above Waterline: Drains on south face only. [1994/99] Pier wall base (south face) has severe spalling below deck drains. [1997] River channel has a large accumulation of timber debris along south face (lodged against top of spillway).

Below Waterline: [1996] Underwater inspection found heavy scale (up to 3" deep). [1991/96] Underwater inspection found 2 undermining pockets at the upstream end of the footing (one extends 6.5 ft. under the footing).

Arch Span #5: [1996] Underside of deck has 7 longitudinal leaching cracks (with rust stains & water saturation - 3 ft. wide).

East Arch Rib: [1994/2000] East arch rib (east face) has 30 SF of map cracking, with 50 SF of delamination along the bottom edge.

Center Arch Rib:

West Arch Rib: [1994] West arch rib (east face) has 40 SF of map cracking.

Spandrel A (joint): [1996/99] Spandrel cap has leaching & staining throughout, with 15 LF of horizontal cracking & delamination, the cap has 10 SF of 10" deep spall (north face at center), 2 SF of spall (north face at west column), and 4 SF delamination (south face at center column).

Spandrel B:

Spandrel C:

Spandrel D (joint): [1999] Spandrel cap has moderate leaching & staining.

Spandrel E:

Spandrel F (joint): [1999] Spandrel cap has minor leaching & staining.

Spandrel G:

Spandrel H:

Spandrel I (joint): [1999] Spandrel cap has minor leaching & staining, west arch rib has cracking at the conduit support (photo).

Spandrel J:

Spandrel K (joint): [1998/99] Spandrel cap has minor leaching & staining, with 10 LF of horizontal cracking, delamination & spalling (between arch ribs). [1997] West arch rib has 10 SF of longitudinal cracking & delamination.

Spandrel L:

Spandrel M: [1999/2000] East column (south face) has 10 SF of delamination & 2 SF of spall.

Spandrel N (joint): [1999] Spandrel cap has leaching & staining throughout, with 20 LF of horizontal cracking & delamination. [1999] Underside of deck adjacent to cap has extensive delamination (photos). [1999] Center column has horizontal crack at the conduit connection (photo).

Arch Pier #6: Deck drains on south face only, shift in arch alignment (to accommodate curve in deck). [1994/99] South face of pier base has extensive spalling (400 SF) below the deck drains. [1994] West (upstream) end has 25 SF of spall, with map cracking & deterioration. [2000] Center pier wall has scale, spall & delamination.

Arch Span #6 (Barrel Arch): [1998] Underside of arch barrel has numerous longitudinal cracks (various lengths). [1994] Repaired areas on west edge of arch barrel are map cracked. [1996] Minor delamination & spall on west edge of arch barrel. [1999] River Channel has a log jam (island has formed).

Spandrel A (joint): [1994/2000] Spandrel wall has 200 LF of vertical cracks - the north face has moderate scale. [1999/2000] Underside of deck joint (above water main) has 20 SF of spall (exposed rebar); slab edges have deterioration (some spalling) along the entire spandrel cap.

Spandrel B:

Spandrel C:

Spandrel D (joint): [1999] Underside of deck joint (above water main) has 2 SF of spall (exposed rebar).

Spandrel E:

Spandrel F:

Spandrel G (joint): [1998] Cap has spalling on the west end. [1999/2000] Underside of deck joint (above water main) has 6 SF of spall (exposed rebar).

Spandrel H:

Spandrel I:

Spandrel J (joint): [1993] East end of spandrel wall has 12 SF of spall (3" deep with rotten concrete beneath). [1994/99] Spandrel wall has 2 vertical cracks; south face has 20 SF of delamination (along crack). [1999] Underside of deck joint (above water main) has 40 SF of spall (exposed rebar) - photos.

Arch Pier #7:

Above Waterline: Shift in arch alignment (to accommodate curve in deck). [1999/2000] Pier wall has 1/2" wide vertical cracks above all 4 arch openings. [1997] Dam warning sign is severely faded.

Below Waterline: [1996] Underwater inspection found a 1 ft. band of scale at the waterline (2" deep, with localized scale 4" deep).

Arch Span #7 (Barrel Arch): [1994/98] All the spandrel walls have cracking and spalling along the base (horizontal construction joints). [1998] Arch barrel has minor longitudinal cracks at 10 ft. intervals. [1999] Trees along upstream side need trimming.

Spandrel A (joint): [2000] Spandrel wall has 100 LF of vertical cracks (up to 1/2" wide). [1996] West end of cap has a diagonal shear crack. [1999] Underside of deck joint (above water main) has 20 SF of delamination & spall (exposed rebar).

Spandrel B:

Spandrel C:

Spandrel D (joint): [1999] Underside of deck joint (above water main) has 10 SF of spall (exposed rebar). [1999] Spandrel wall (east end, south face) has 4" deep spalling. [1997/99] South face (west end) has cracking and spalling along base (photos).

Spandrel E: [1998] East end of cap has a severe diagonal crack (with spall). [1999] West end of cap has a horizontal crack with spall (photo). [1999] Entire spandrel wall is cracked through at the base (offset by 1/4"); there is a diagonal crack (both faces) near the phone conduit.

Spandrel F: [1998] East cap end has a severe diagonal crack. [1999] Entire spandrel wall is cracked through at the base (offset by 1/4"), with spalling along the base.

Spandrel G (joint): [1998] East cap end has minor scale. [2000] Underside of deck joint (above water main) has 20 SF of water saturation.

Spandrel H: [2000] Both ends of spandrel wall have horizontal cracking at the base.

Spandrel I:

Spandrel J (joint): [1999] Spandrel wall has some vertical cracks, with a 1/4" wide vertical crack below the

water main opening. [1998/2000] Top of spandrel wall has leaching (with rust stains) throughout, with spalling on the west end (adjacent deck slab is deteriorated). [1999/2000] Underside of deck joint (above water main) has 10 SF of spall (exposed rebar); underside of slab has deterioration along entire length of cap.

Arch Pier #8 (North end of Arch Spans):

Above Waterline: [1992] East curved side wall has 25 LF severe vertical crack (3/4" wide) - photos in 1997. [1994/2000] East curved side wall (south face) has 8 SF of spall (4" deep with exposed rebar) - photos in 2000. [1997] West curved sidewall has severe vertical crack (photo). [1997] There are vertical cracks above the pier archways (photo). [1998] Pier wall shaft has cracking at the horizontal cold joints just above the base (water leaking through from inside) - there are severe vertical cracks at the corners. [1993] West (upstream) corner of pier wall base has 40 SF of severe spall & scale (up to 4" deep). [1998] Bituminous slope at downstream end of pier base is undermined from erosion (photo).

Below Waterline: [1996] Underwater inspection found scale along the south face (up to 4" deep).

North Bearing Area: North side has 10 elastomeric bearings (for approach span). [1997] 5 west pads are tilted 1/2" to south, 5 east pads are tilted east.

North Approach Span #1 (Pre-stressed Concrete Beams): [1993] Conduit supports have missing nuts, bolts, and clips.

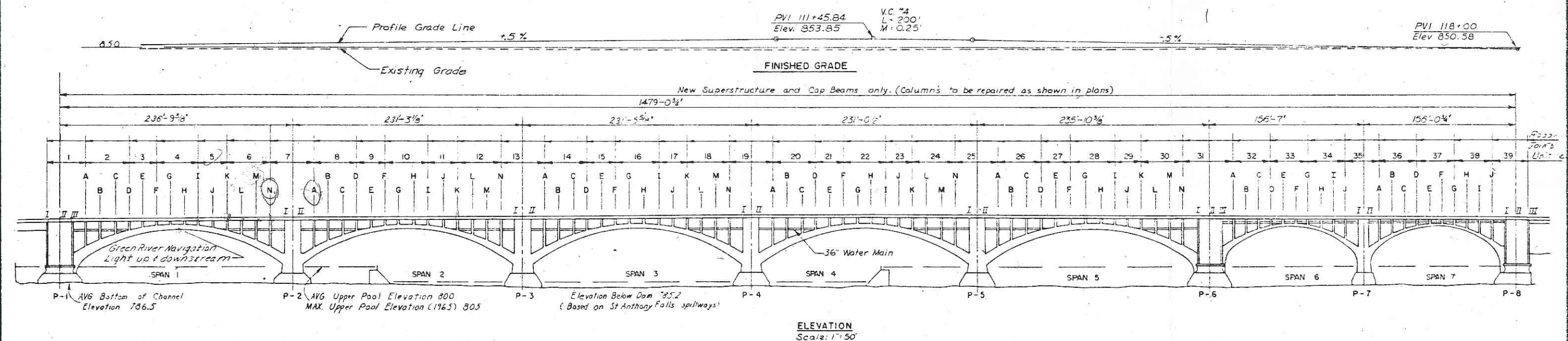
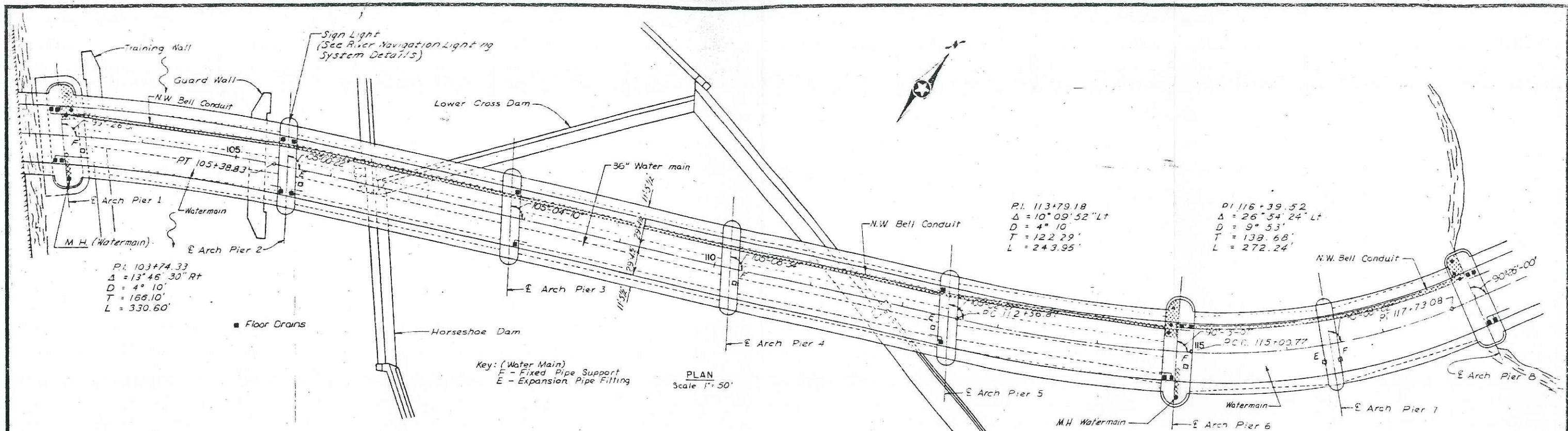
North Approach Pier: 20 elastomeric expansion bearings. [1994] Pads have slight tilt to south.

North Approach Span #2 (Pre-stressed Concrete Beams): [1991] Temporary lighting below deck (supported by 2 x 10) - wire is hanging down. [1994] West wire leading from light is open ended.

North Abutment: 10 fixed bearings. [1994] All bearing anchor bolts are tilted 1/2" to the north. Enclosed pedestrian walkway has been constructed in front of the abutment. [1987] Special surface treatment is scaling off (NW corner). [1990] 20 LF of cracks. **[1992/98] Retaining wall at NE corner (along approach) has 180 SF of spall & 90 SF of delamination - wall is tipping 2-1/2" to east (15 ft north of abutment).**

Previous Snooper Inspections:

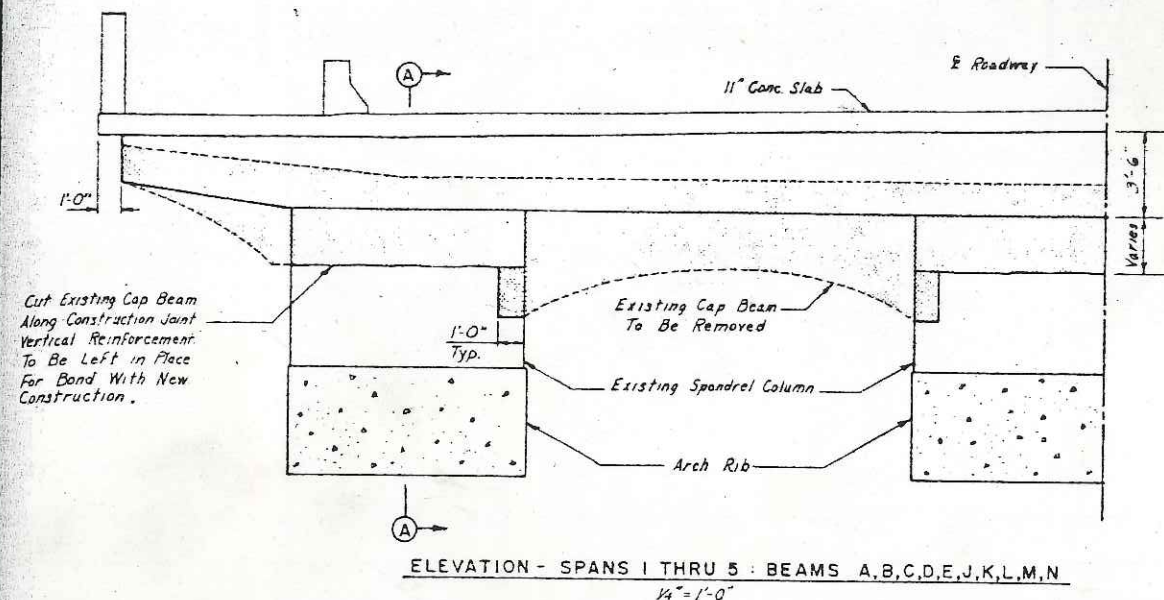
1999	Kurt Fuhrman, Jerry Anderson, Jay Knevel, Pete Wilson
1998	Roger Schultz, Jerry Anderson, Pete Wilson
1997	Roger Schultz, Kurt Fuhrman, Pete Wilson
1996	Roger Schultz, Glen Allman
1995	Roger Schultz, Gerald Bacon, John Peterson
1994	Roger Schultz, Gerald Bacon
1993	Terry Moravec, Tom Waks
1992	Terry Moravec, Chas Martin, Glen Allman
1991	Chas Martin, Jerry Anderson



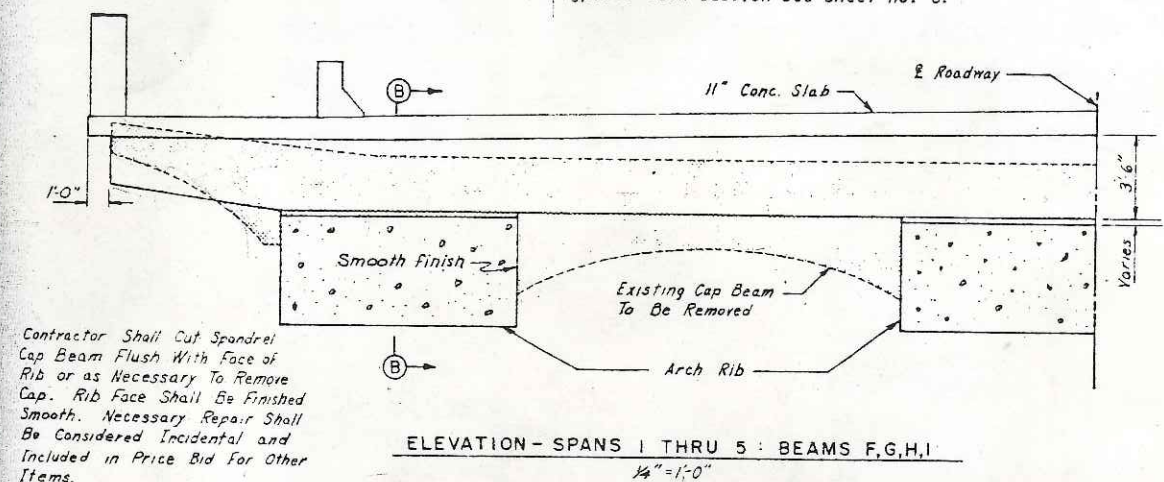
Note: Top of existing arch elevation = 843.35

Note: For roadway joint details see sheet number 49

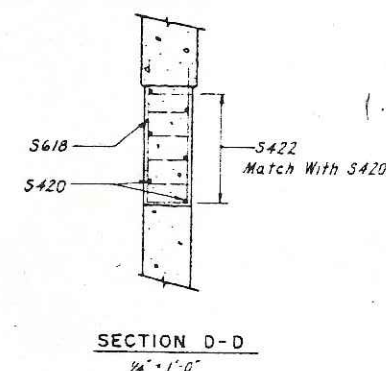
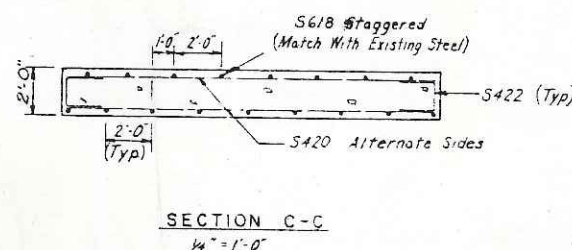
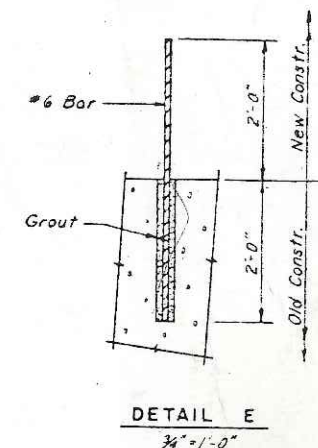
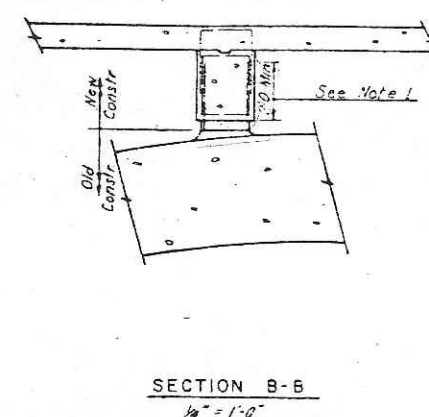
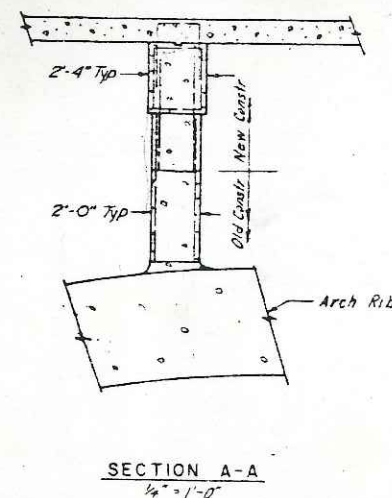
TITLE GENERAL PLAN & ELEVATION		DES	CHK	APPROVED	Bridge No. 2440
ARCH SPANS		CHK	CHK	5-7-75	
Sheet No. 4 of 148 Sheets					



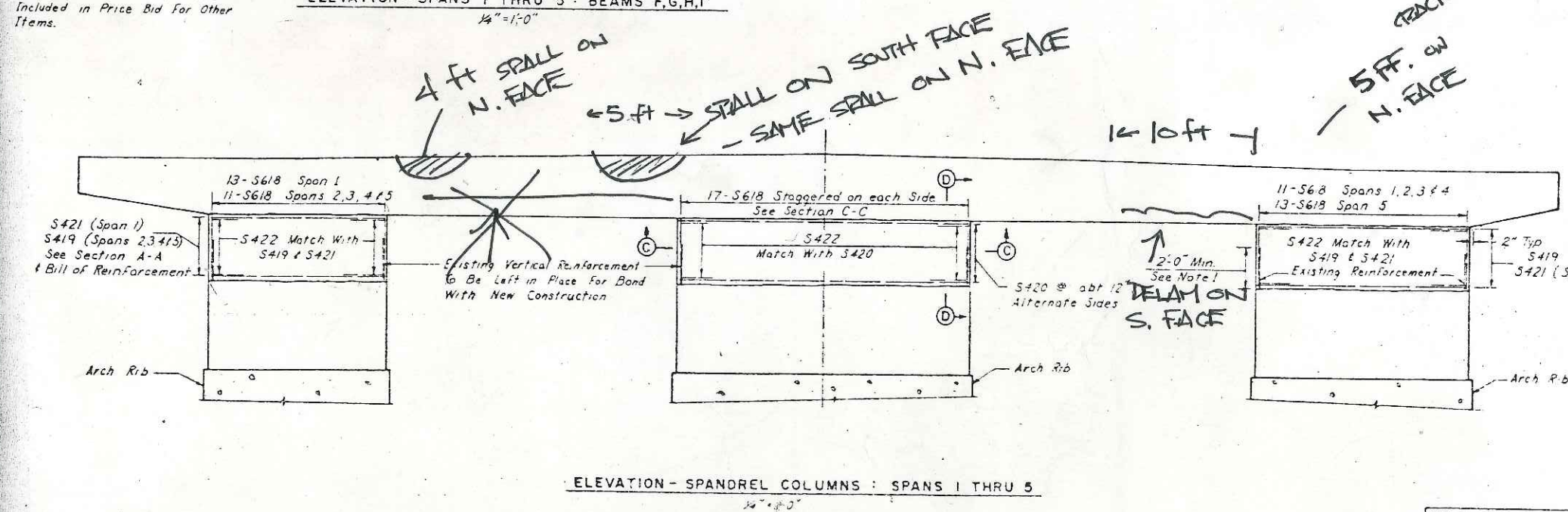
Note: For typical deck section see sheet no. 5.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.

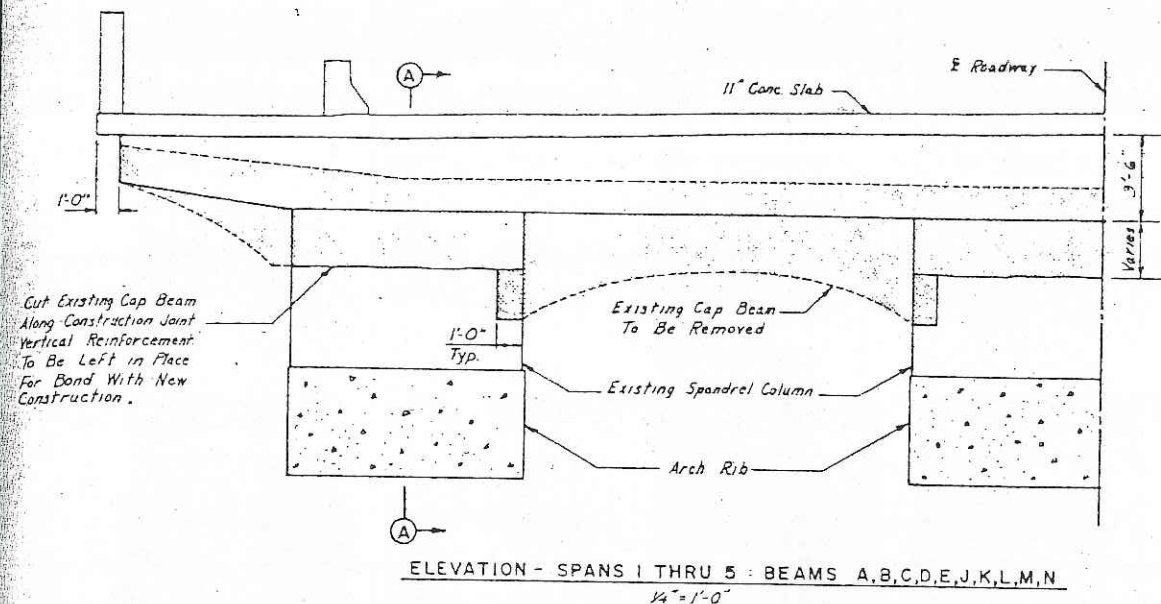


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

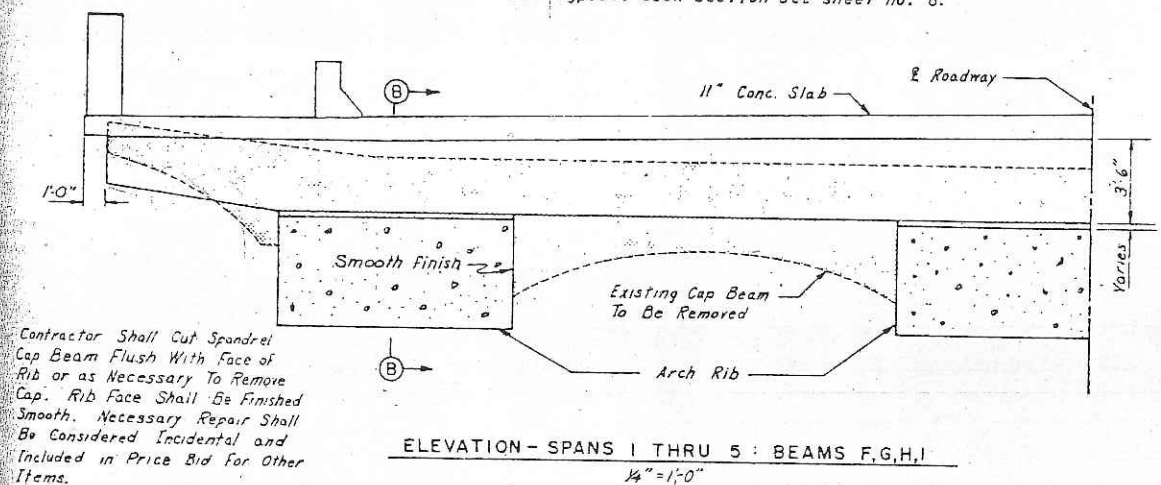


DECK HAS WATER SAT (SOME DELAY)
EXTENDING FROM 8" TO 16" OUT
FROM FACE OF CAP - ENTIRE LENGTH

TITLE	DES. CYS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. S.J.	CHK. A.W.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			

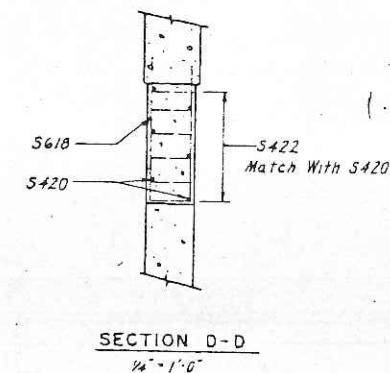
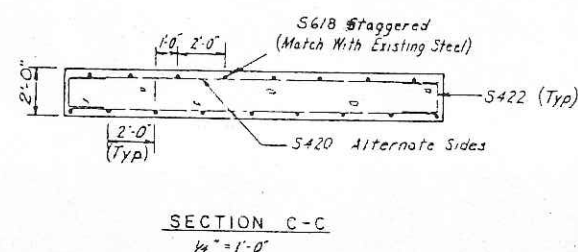
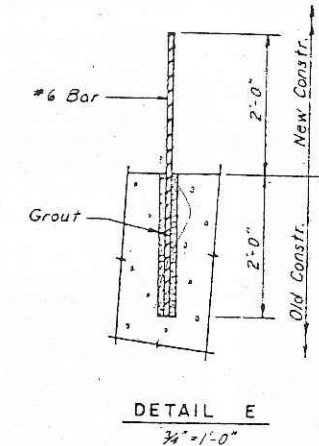
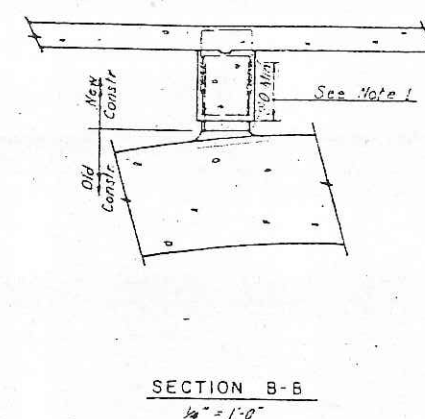
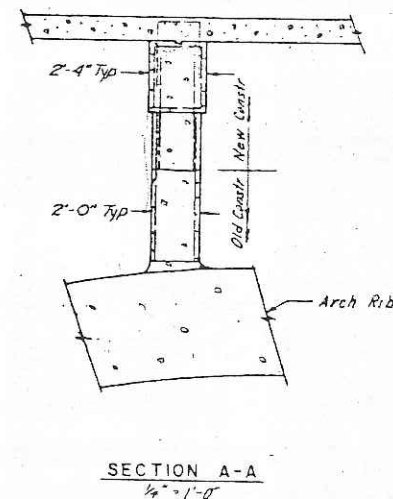
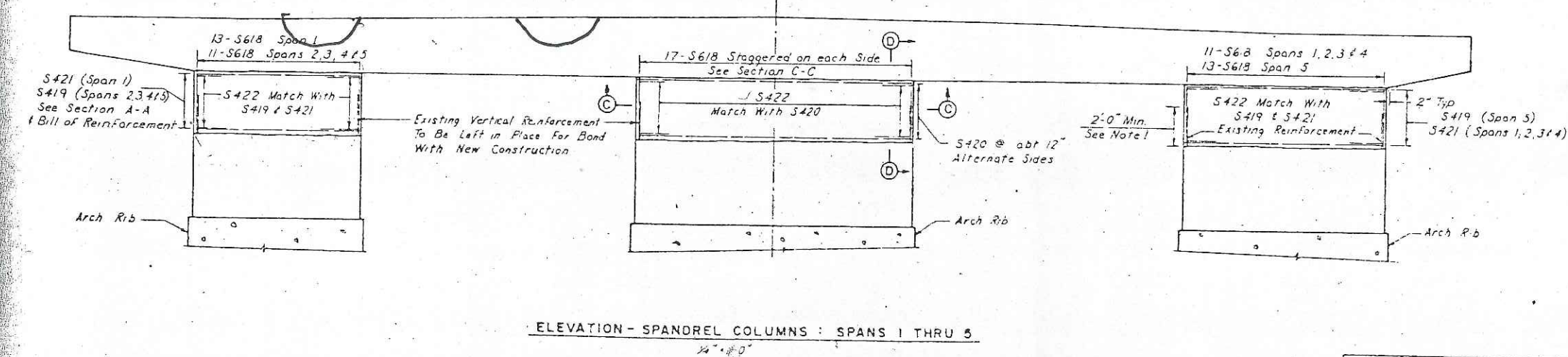


Note: For typical deck section see sheet no. 6.



5 FT. DELAM ON S. FACE

5 FT SPALL ON S. FACE

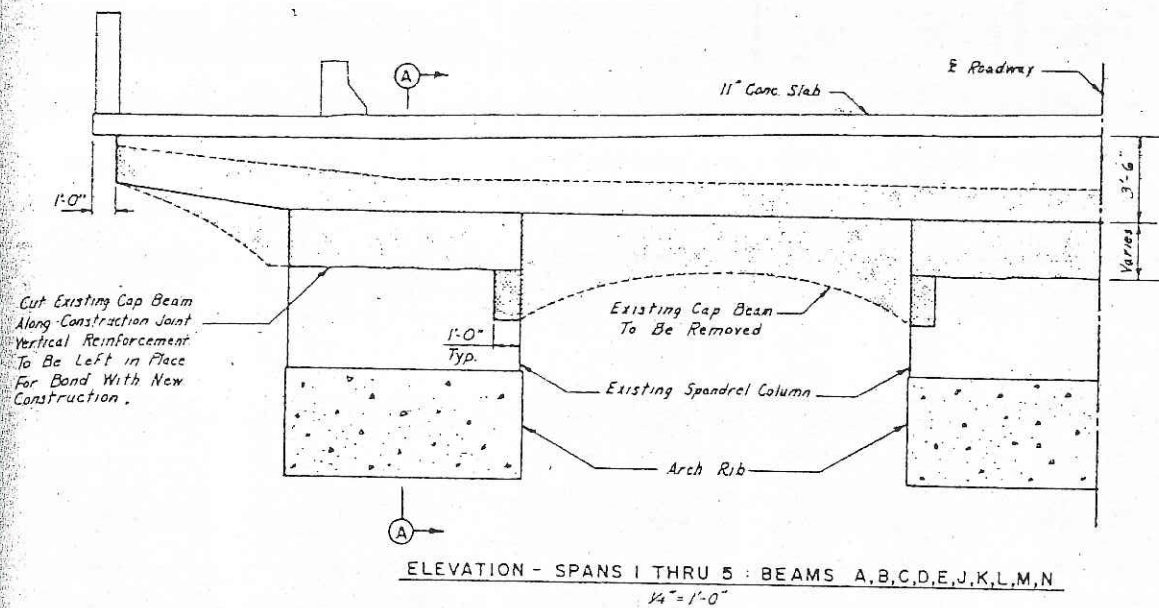


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

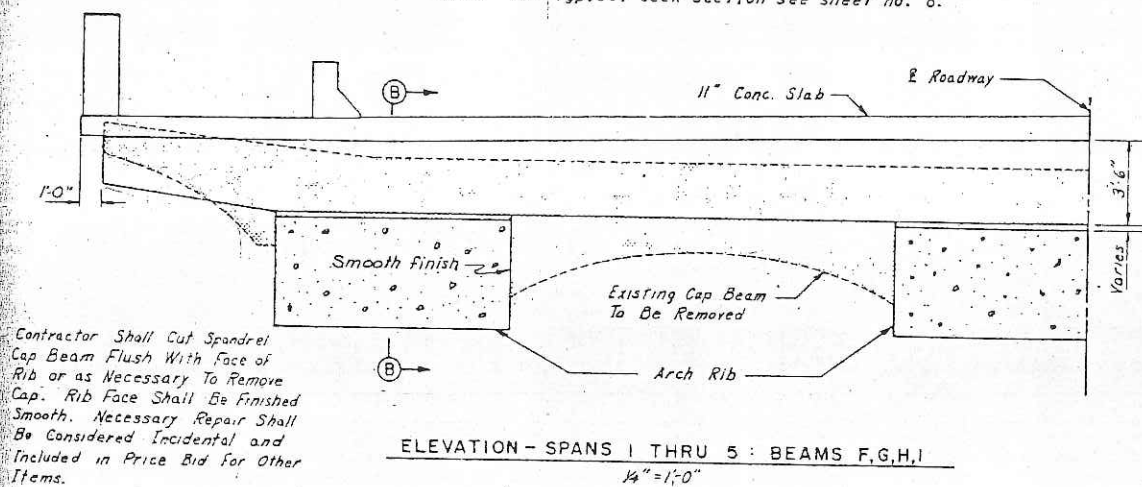
SPAN #1

CAP D

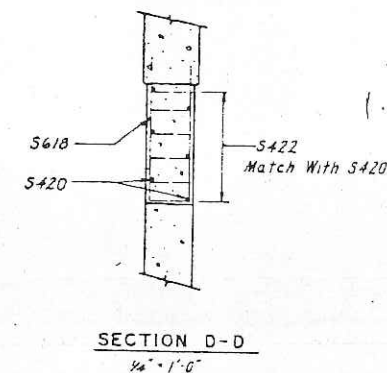
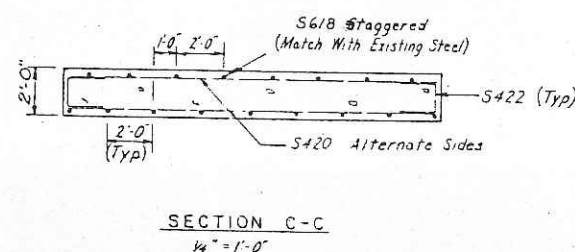
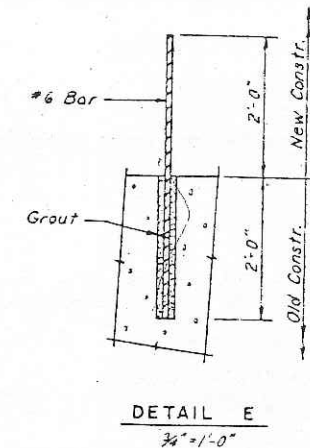
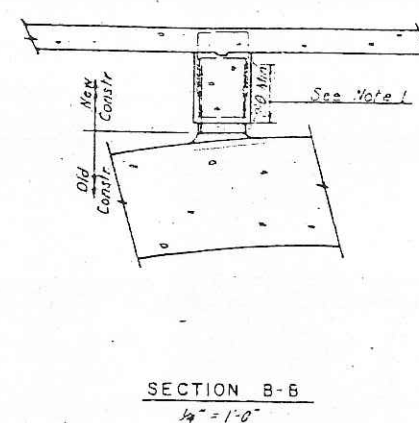
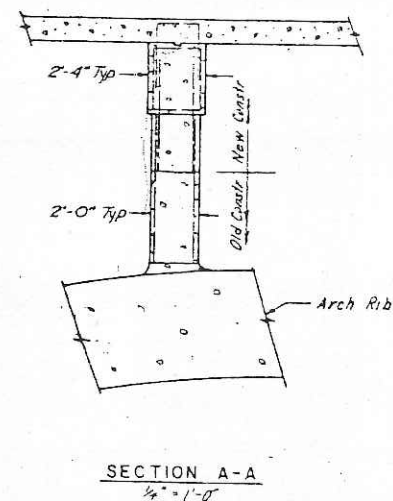
PECK HAS 0'-6" OF WATER SAT. BEHIND CAP FACE



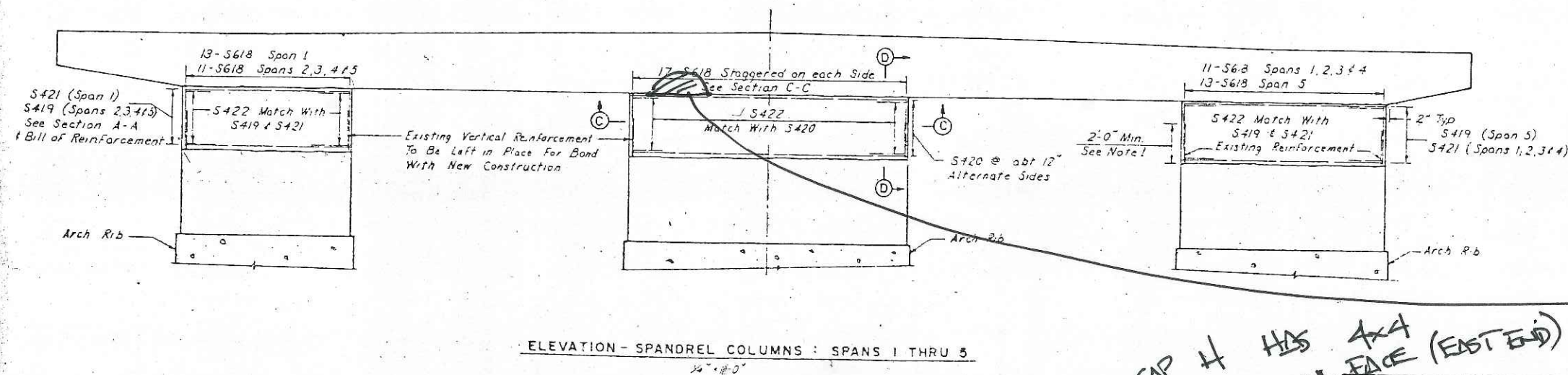
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



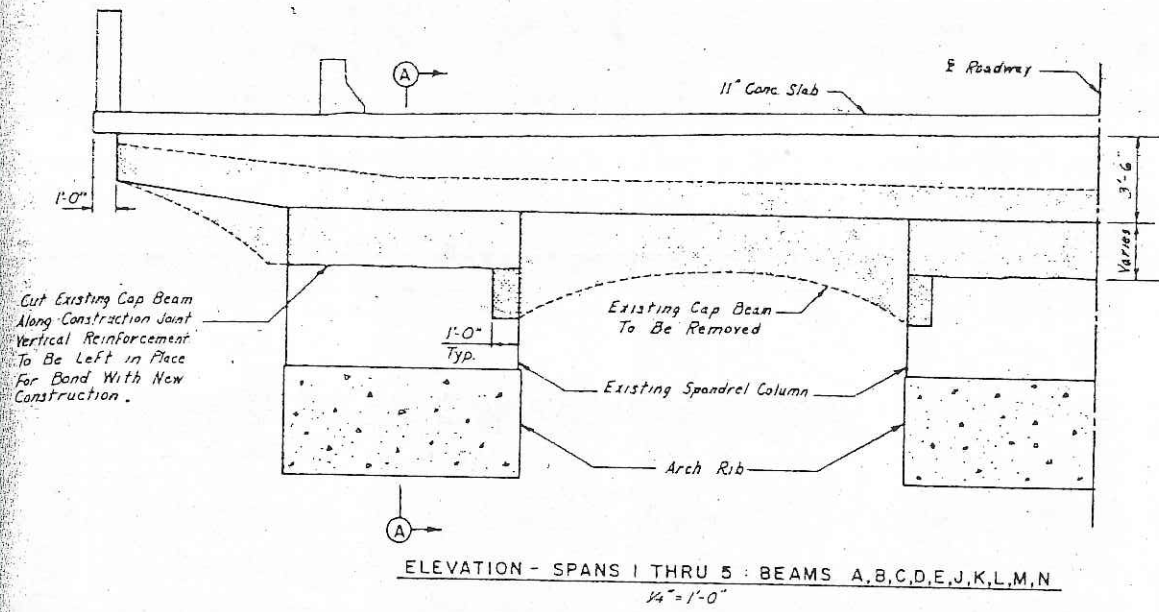
SPAN # 1
CAP F
NO SPALLS
MINOR PECK DETEIORATION

AND CAP H
CAP G HAS 5 LF SPALL
N. FACE
SAME LOCATION
ON BOTH

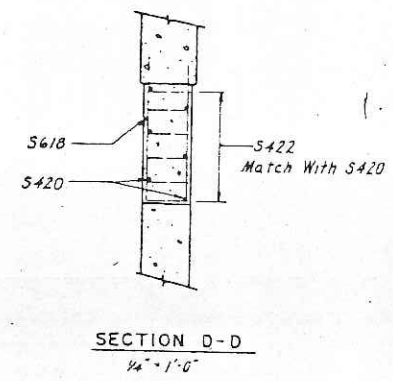
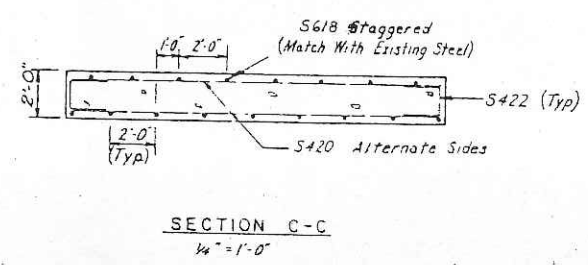
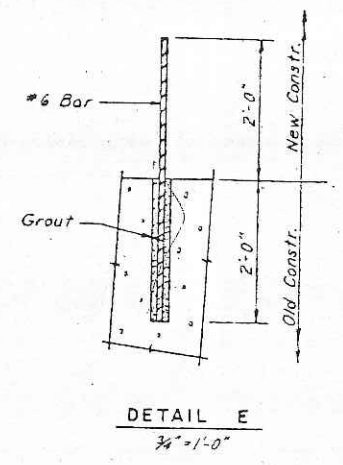
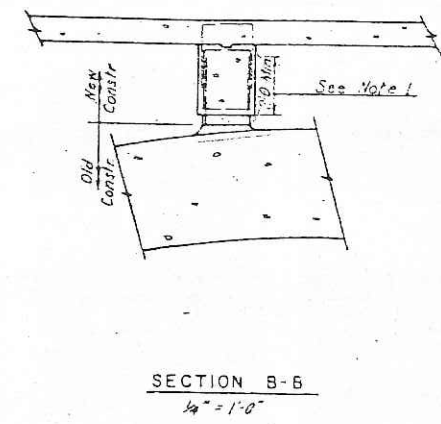
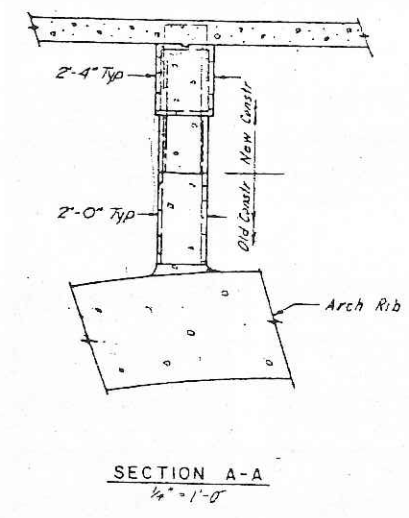
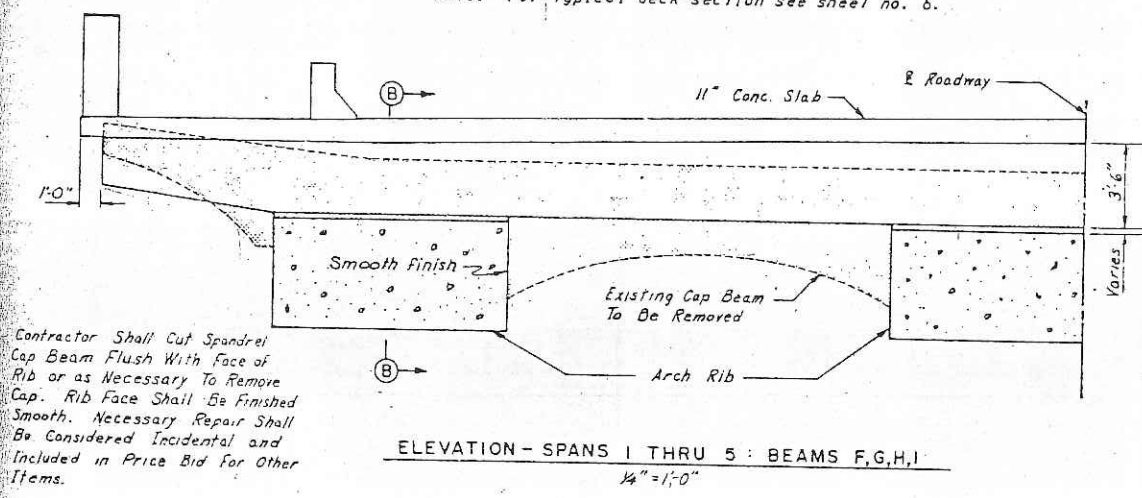
CAP H HAS 4x4
SPALL ON N. FACE (EAST END)

SPANDREL COLUMN DETAILS

DES. C.V.S.	DR. R.L.L.	APPROVED	Bridge No.
CHK. R.V.V.	CHK. A.W.S.	5-7-77	2440
Sheet No. 33 of 148 Sheets			

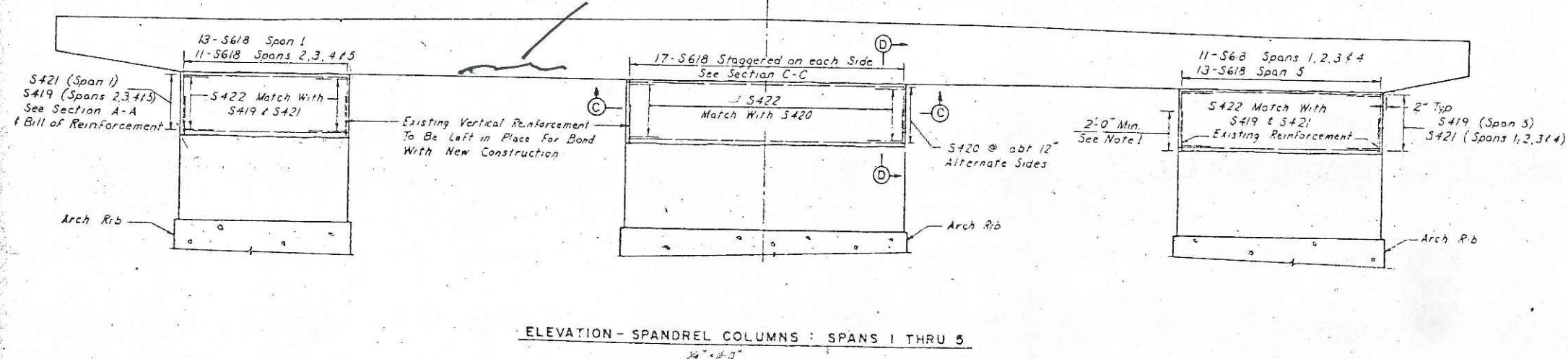


Note: For typical deck section see sheet no. 6.



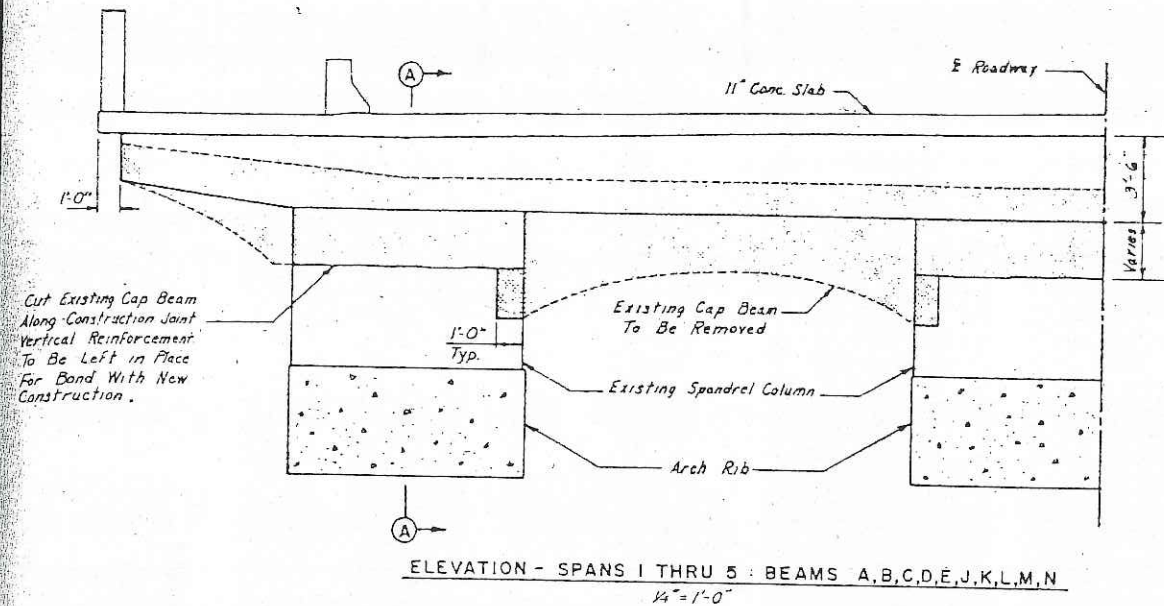
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

N. FACE 10 FT CRACK ABOVE CATWALK



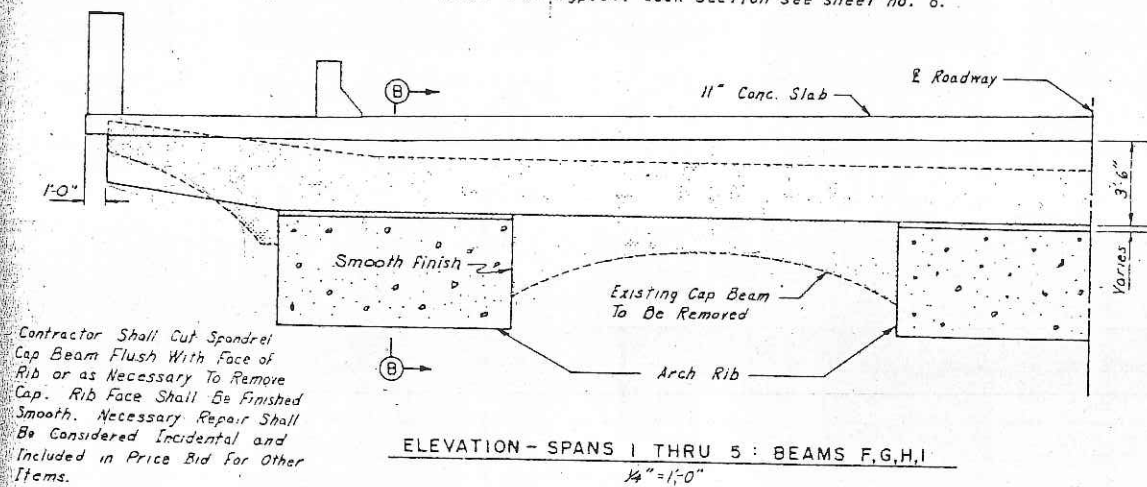
SPAN #1
CAP I
MINOR DECK DET.

TITLE	DES. CWS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. RLL	CHK. AWA	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



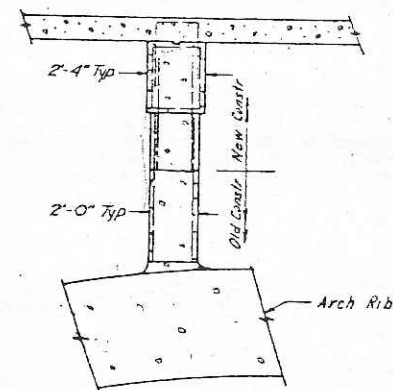
ELEVATION - SPANS 1 THRU 5 : BEAMS A,B,C,D,E,J,K,L,M,N
1/4" = 1'-0"

Note: For typical deck section see sheet no. 6.

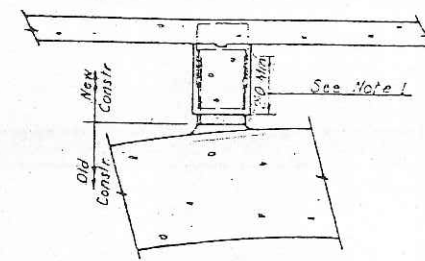


ELEVATION - SPANS 1 THRU 5 : BEAMS F,G,H,I
1/4" = 1'-0"

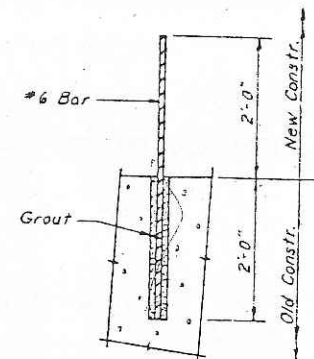
Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



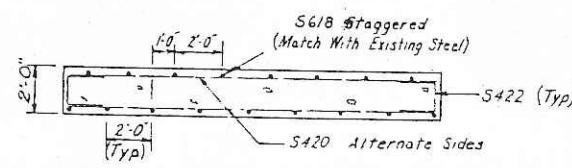
SECTION A-A
1/4" = 1'-0"



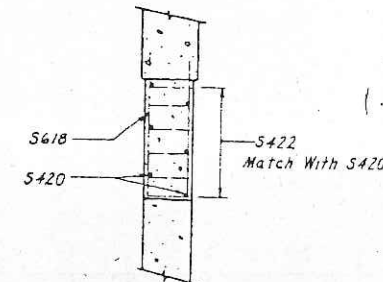
SECTION B-B
1/4" = 1'-0"



DETAIL E
3/8" = 1'-0"



SECTION C-C
1/4" = 1'-0"



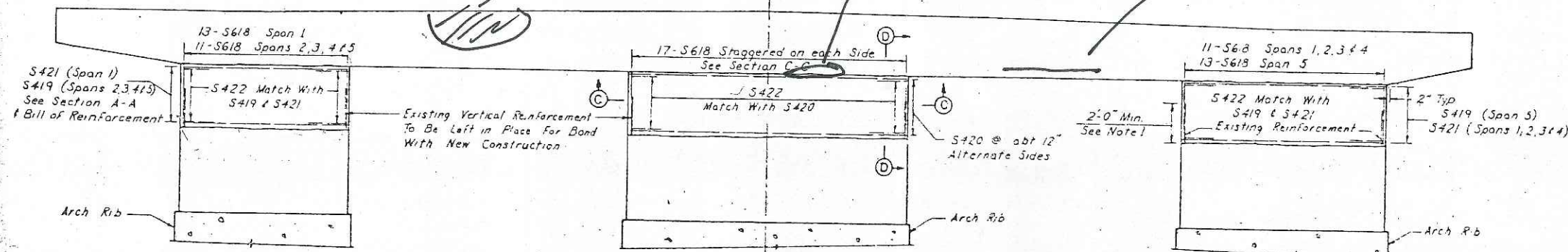
SECTION D-D
1/4" = 1'-0"

Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

6 FT SPALL ON N. FACE

2 FT SPALL ON S. FACE

8 FT CRACK ON S. FACE

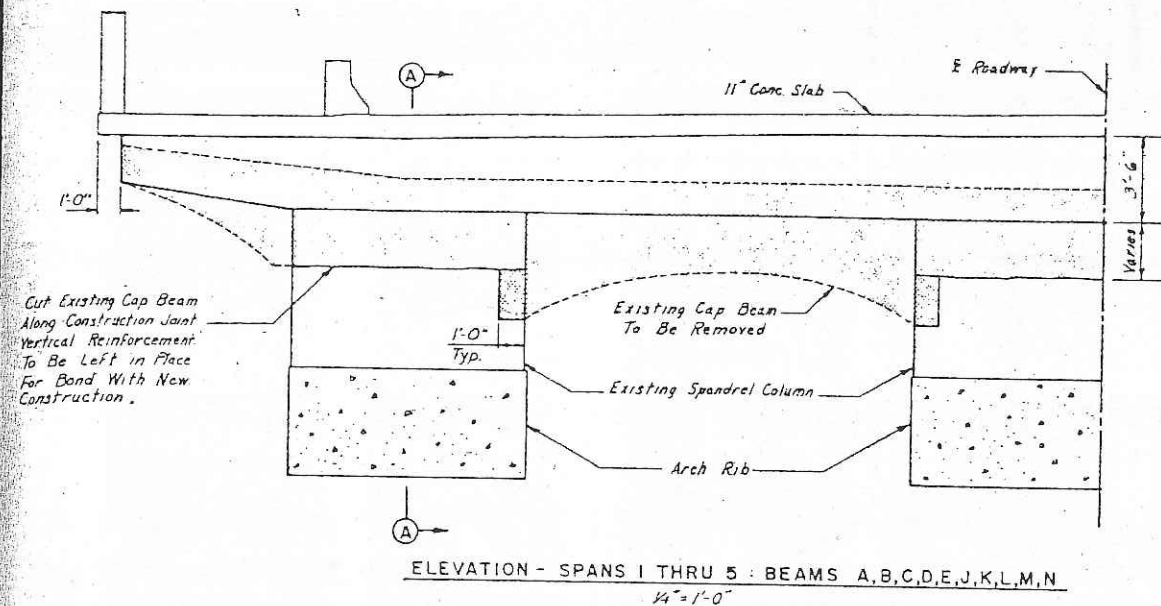


ELEVATION - SPANDREL COLUMNS : SPANS 1 THRU 5
1/4" = 1'-0"

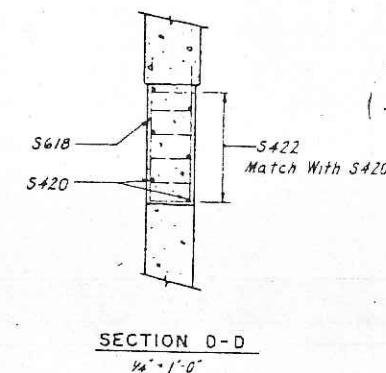
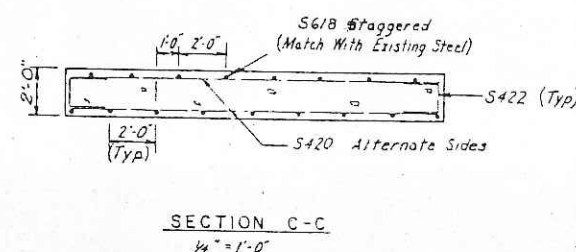
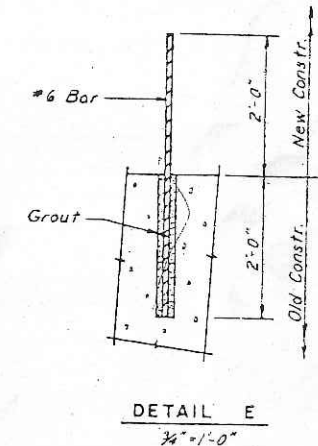
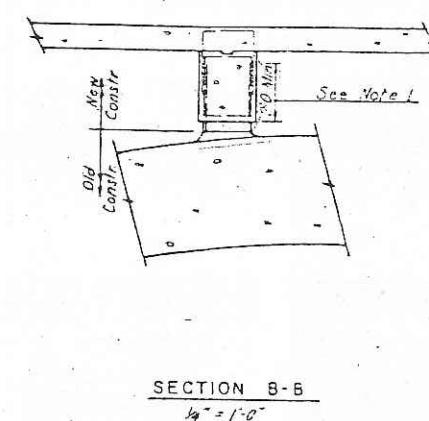
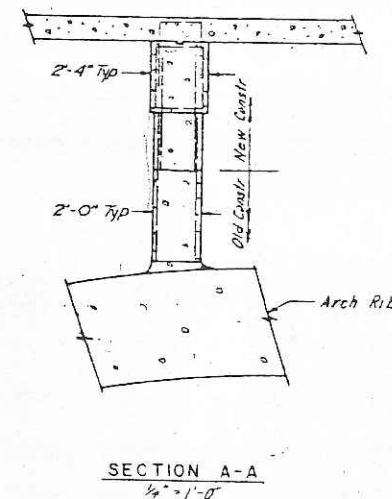
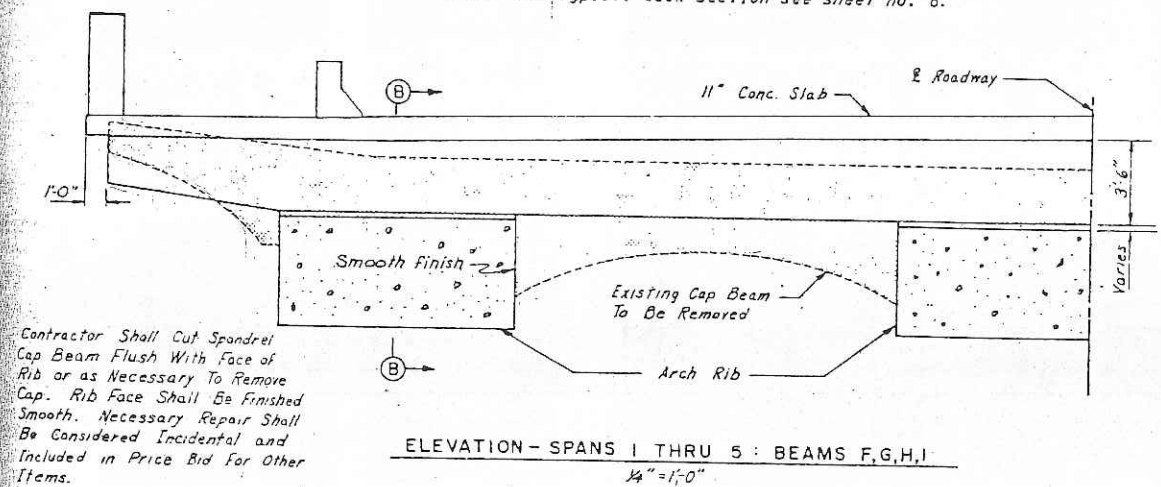
SPAN #1
CAP IC

DECK HAS WATER SAT
0"-12" OUT FROM FACE

TITLE	DES. CWS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.V.	CHK. A.W.	5-1-77	2440
	Sheet No. 33 of 148 Sheets			

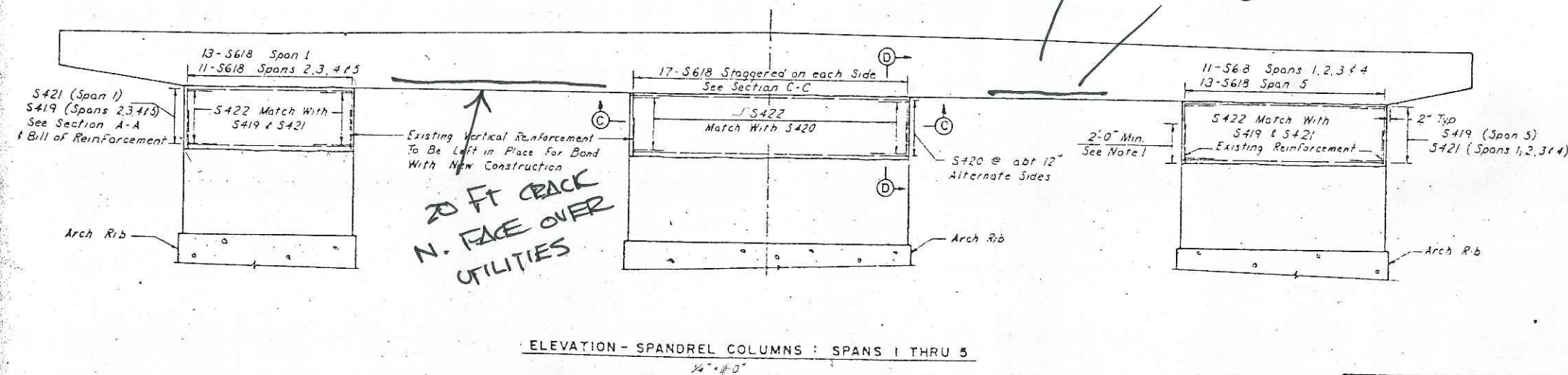


Note: For typical deck section see sheet no. 6.



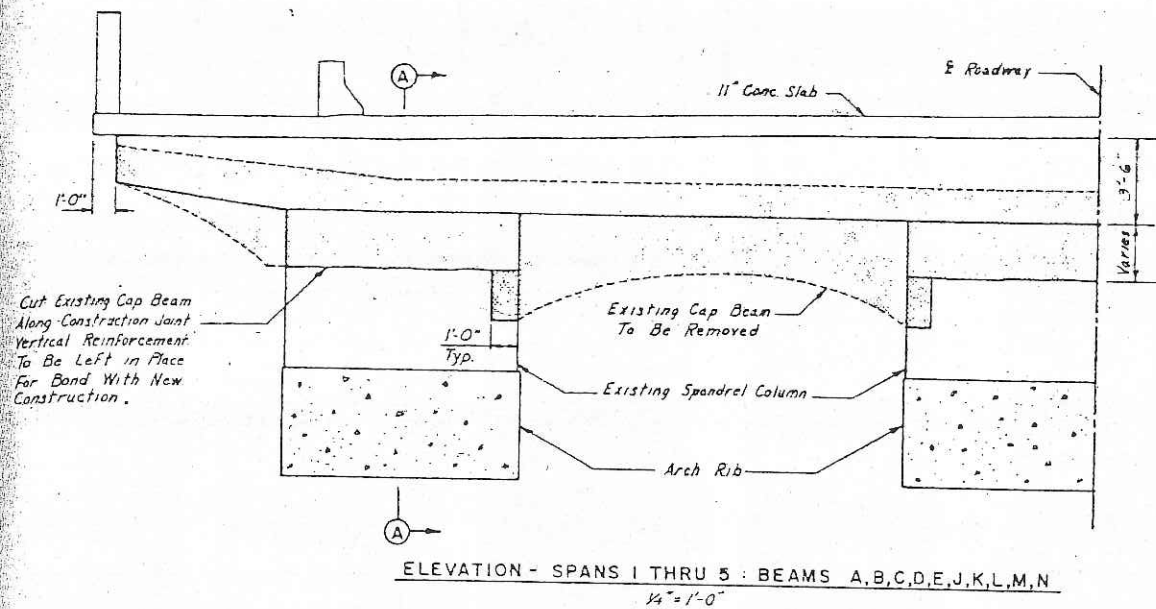
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

5 FT ON N. FACE
10 FT CRACK S. FACE
OVER CATWALK

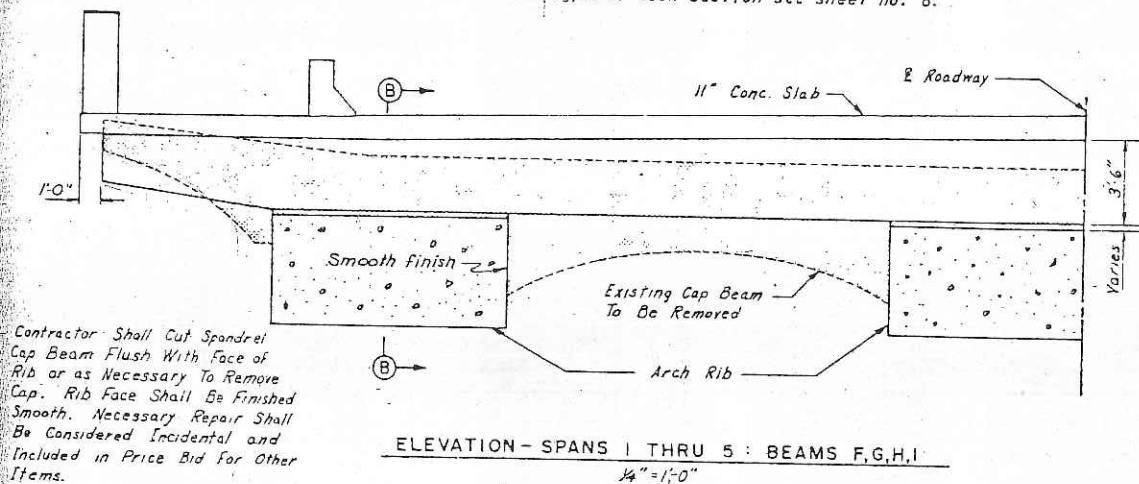


SPAN # 1
CAP N
DECK HAS EXTENSIVE
WATER SAT / DELAM
6" - 24" FROM FACE

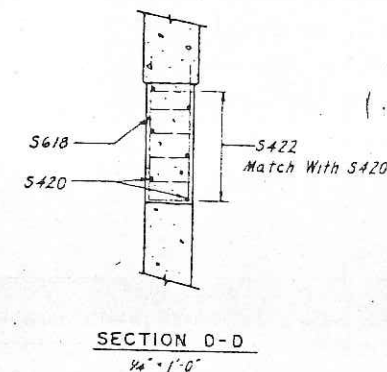
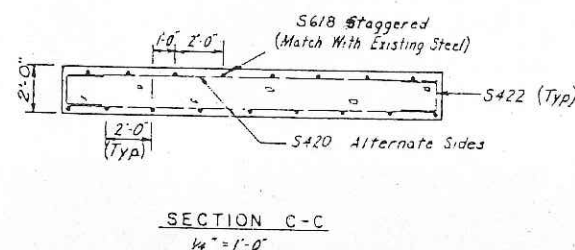
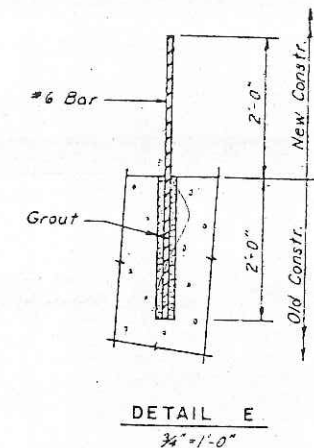
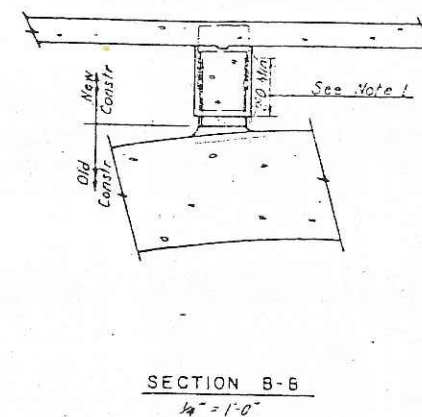
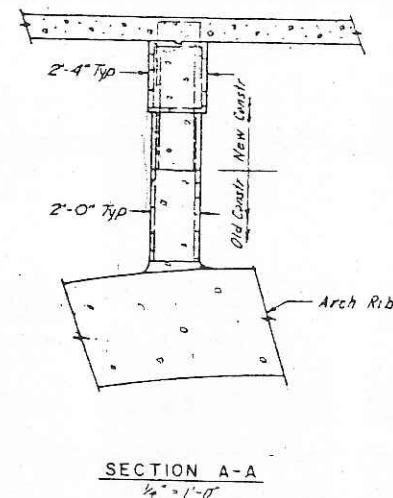
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SPANDREL COLUMN DETAILS	SVS	R/L	ALL	5-7-77	2440
	CHK	R/L	CHK	ALL	
					Sheet No. 33 of 148 Sheets



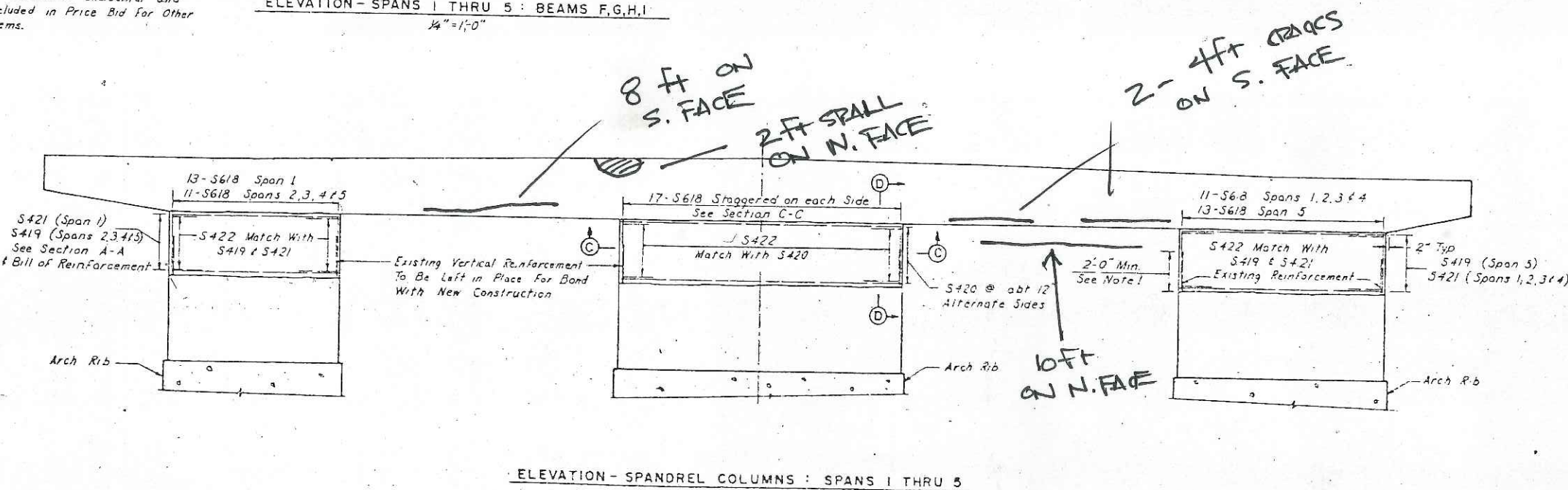
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.

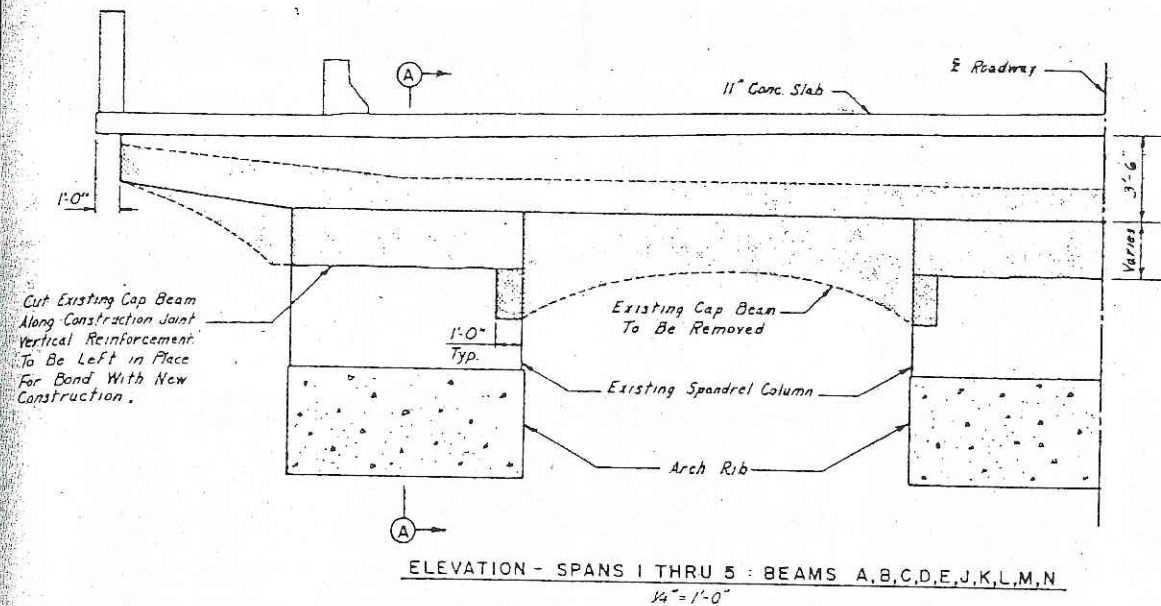


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

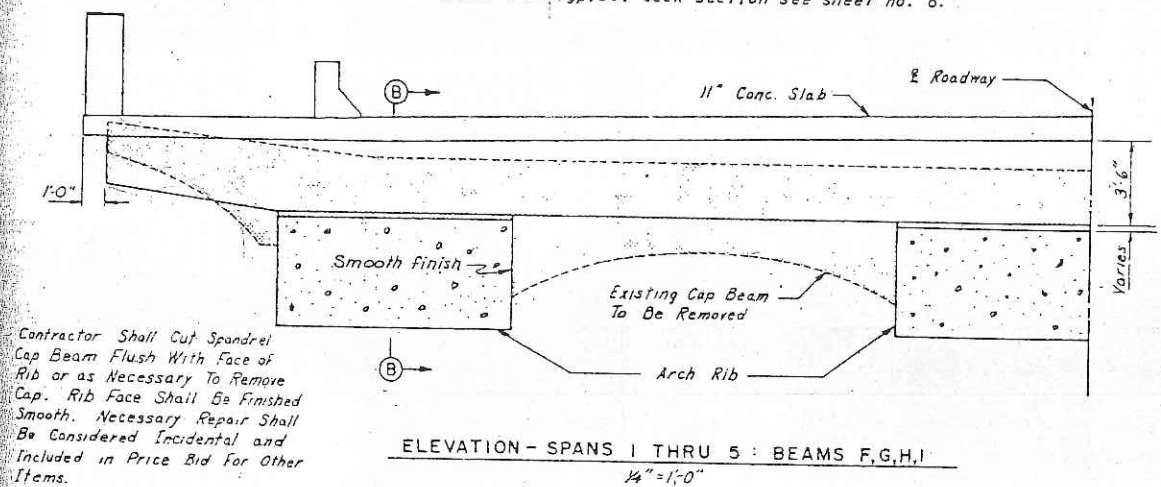


SPAN #2
CAP A
DECK HAS 6"-36"
AREAS OF DELAM/WATER SAT.

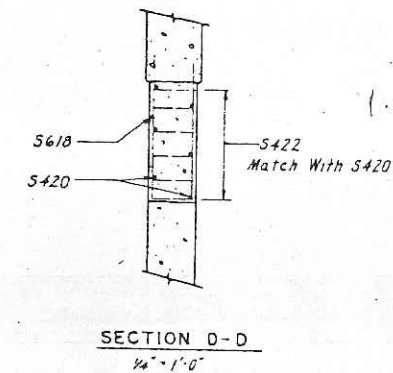
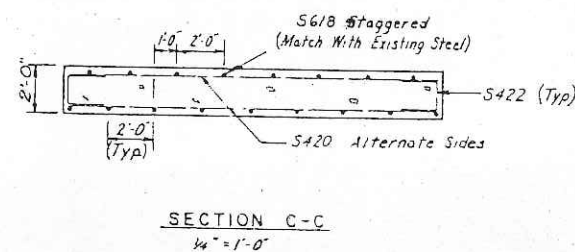
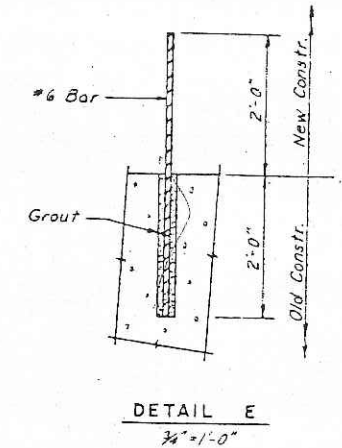
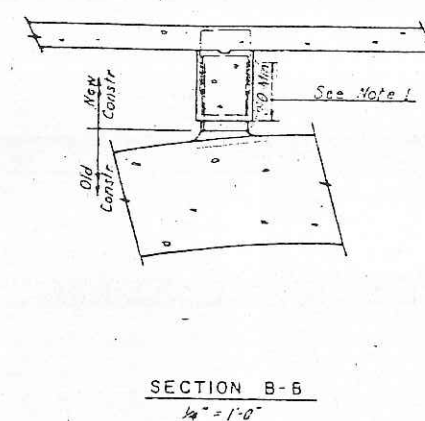
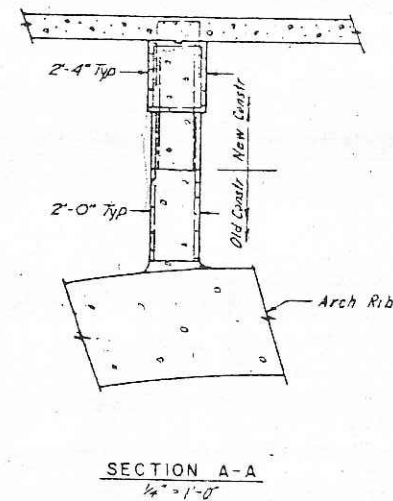
TITLE	DES. CHS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. 9/1	CHK. 2/2	5-7-79	2440
	Sheet No. 33 of 148 Sheets			



Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.

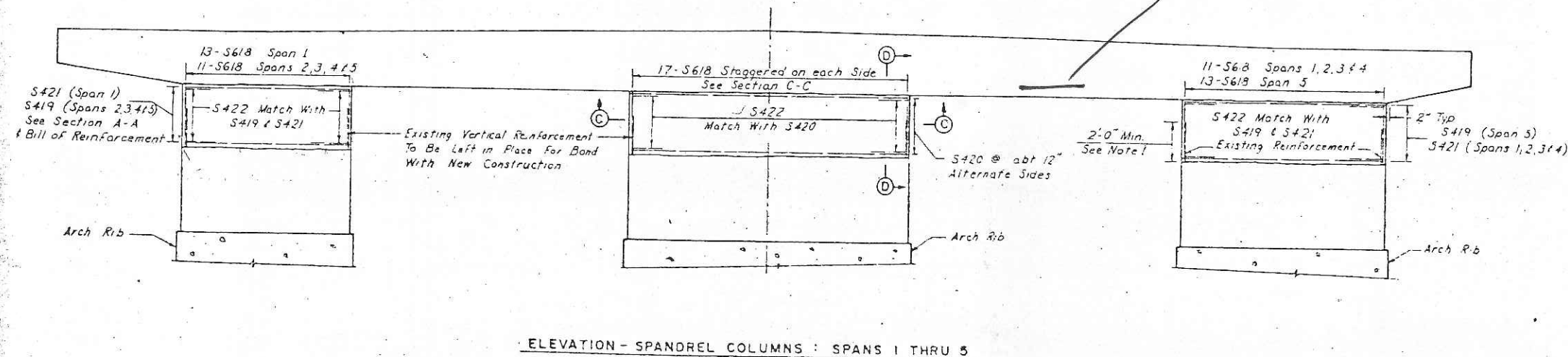


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

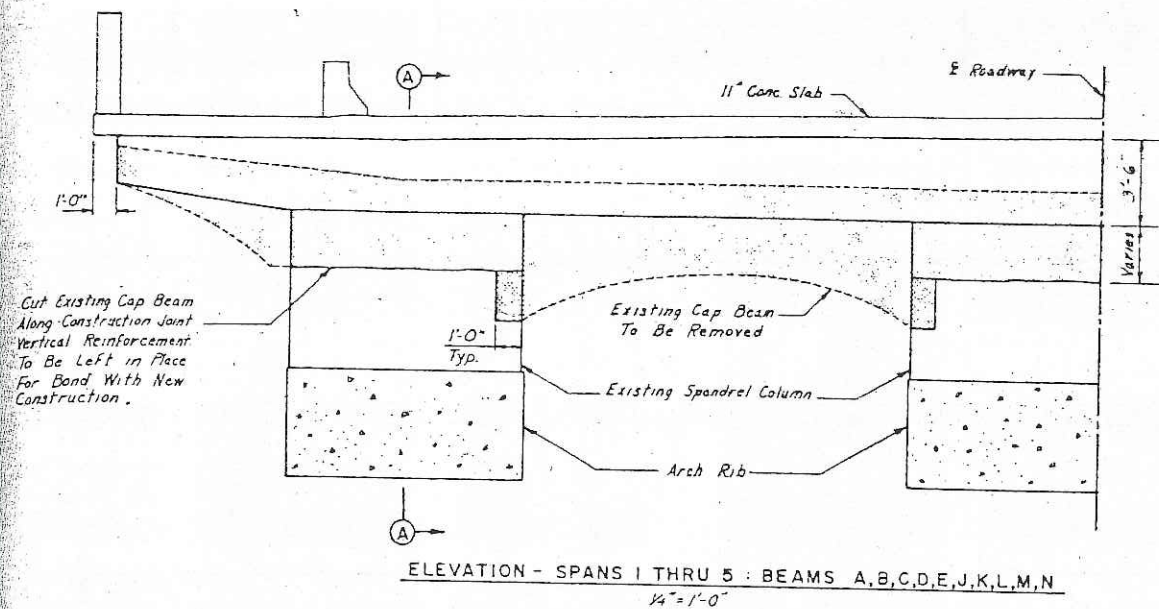
3 FT. BACK ON N. FACE

SPAN #2
CAP D

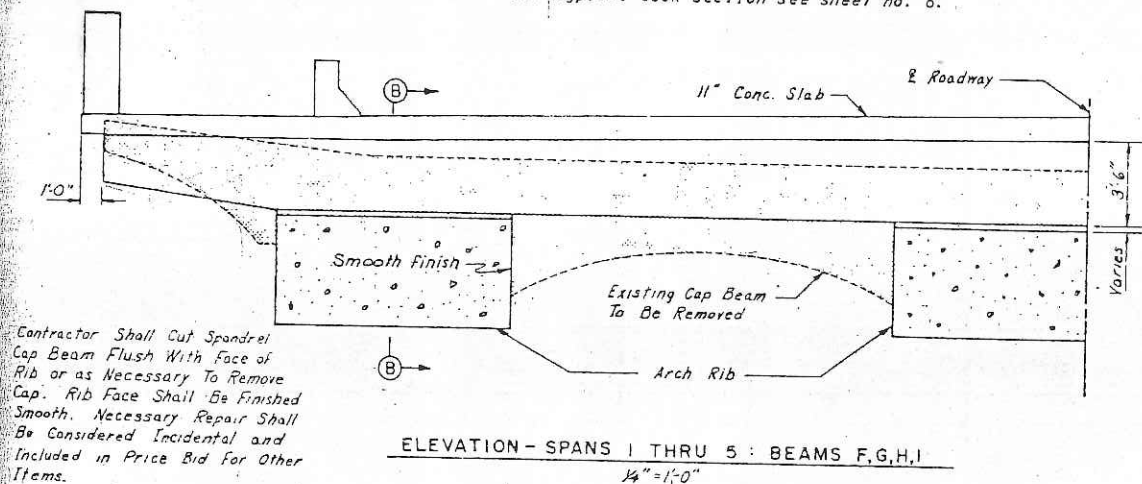
MINOR DECK DELAM



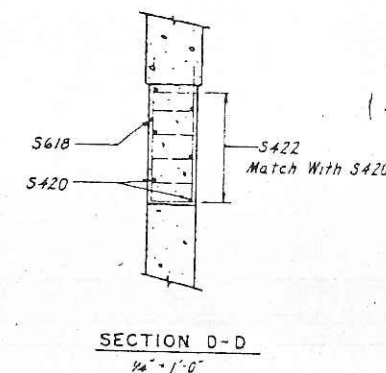
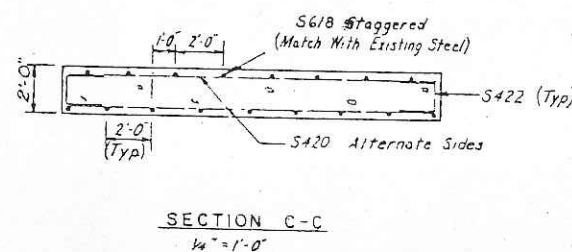
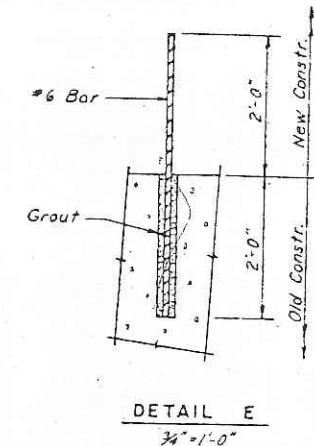
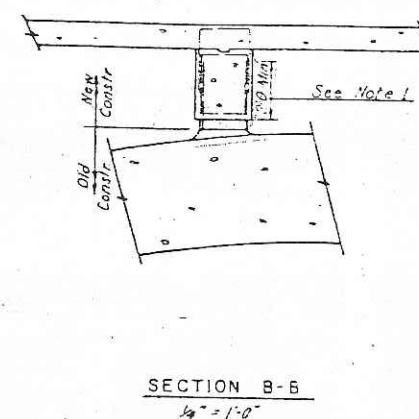
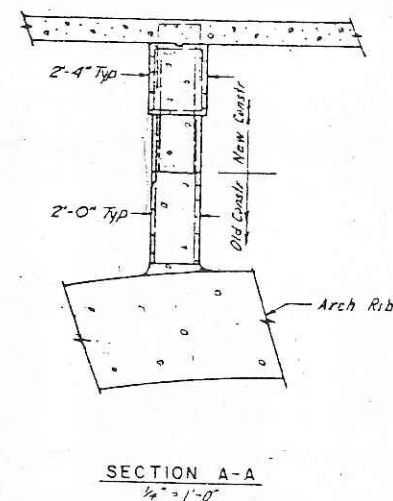
TITLE	DES. C.V.S.	DR. R.L.	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.L.	CHK. R.L.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



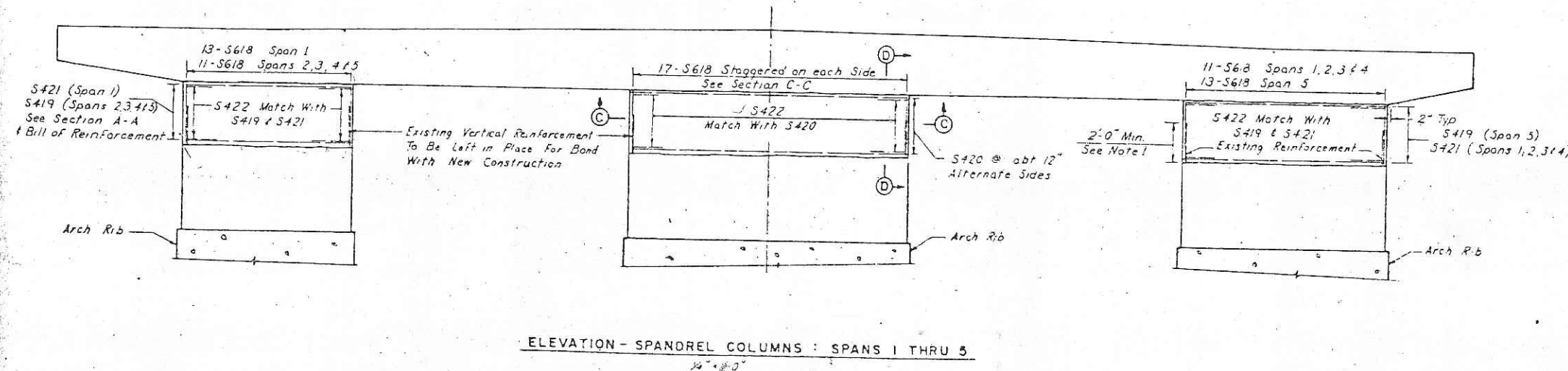
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid for Other Items.

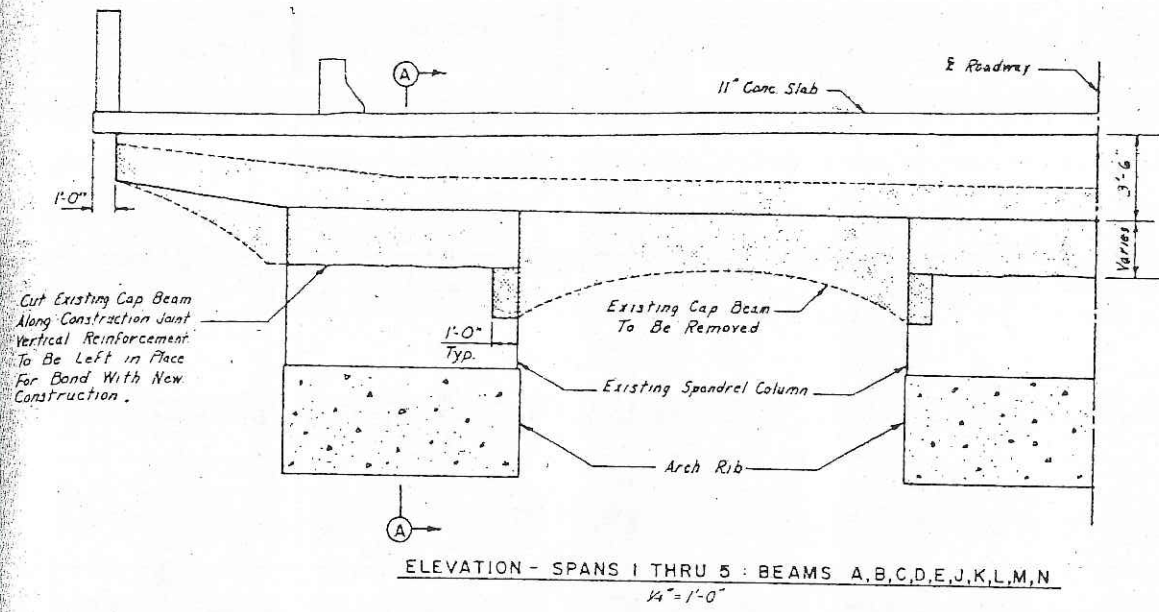


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

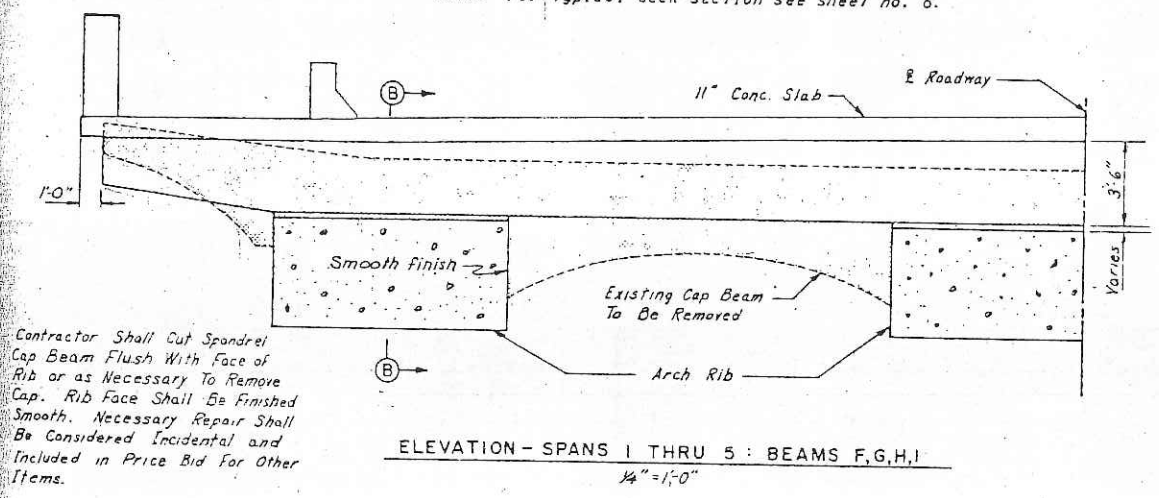


SPAN # 2
CAP F
MINOR PECK DET.

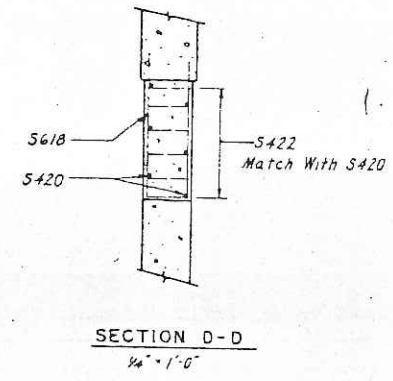
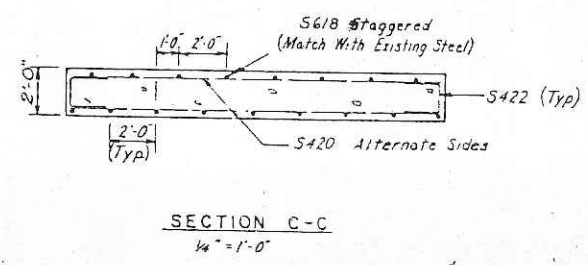
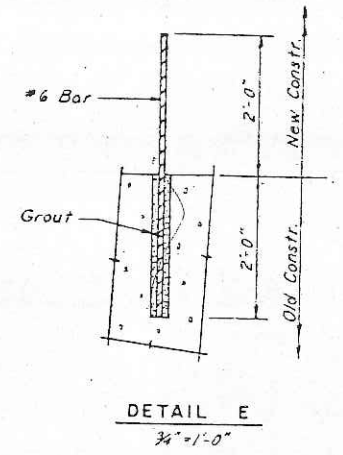
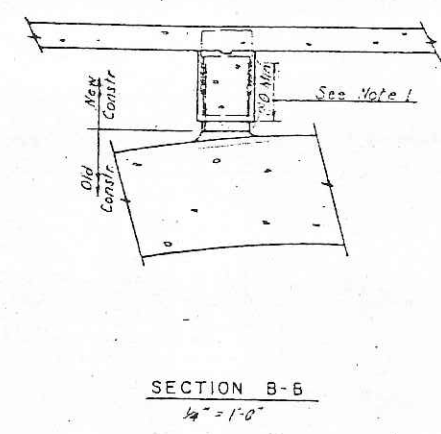
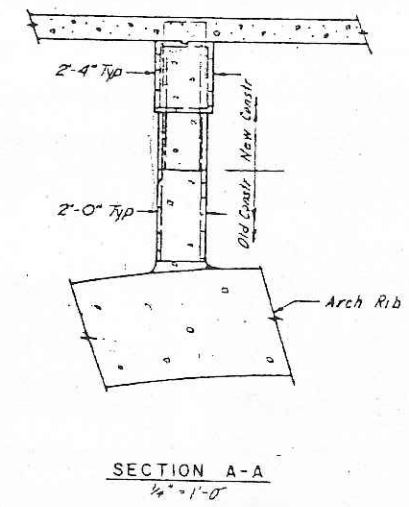
TITLE	DES. CWS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.L.	CHK. A.W.	5-7-27	2440
	Sheet No. 33 of 148 Sheets			



Note: For typical deck section see sheet no. 6.

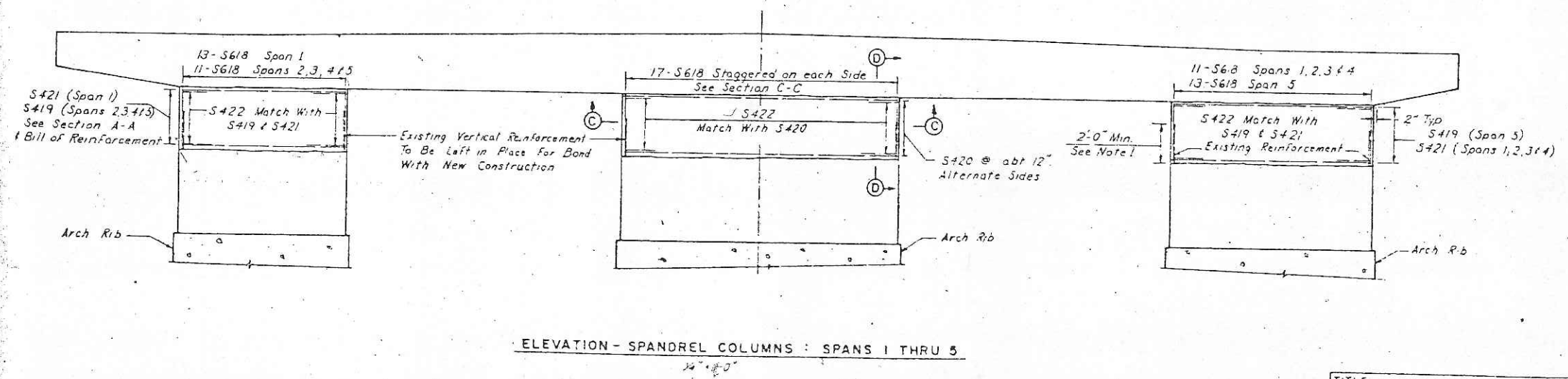


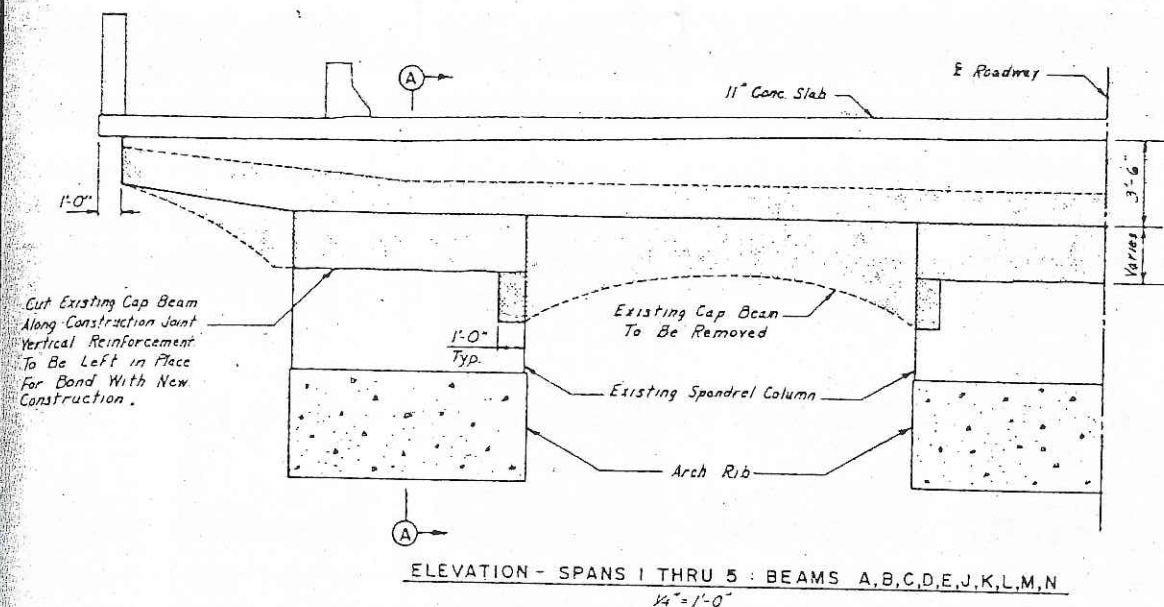
Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



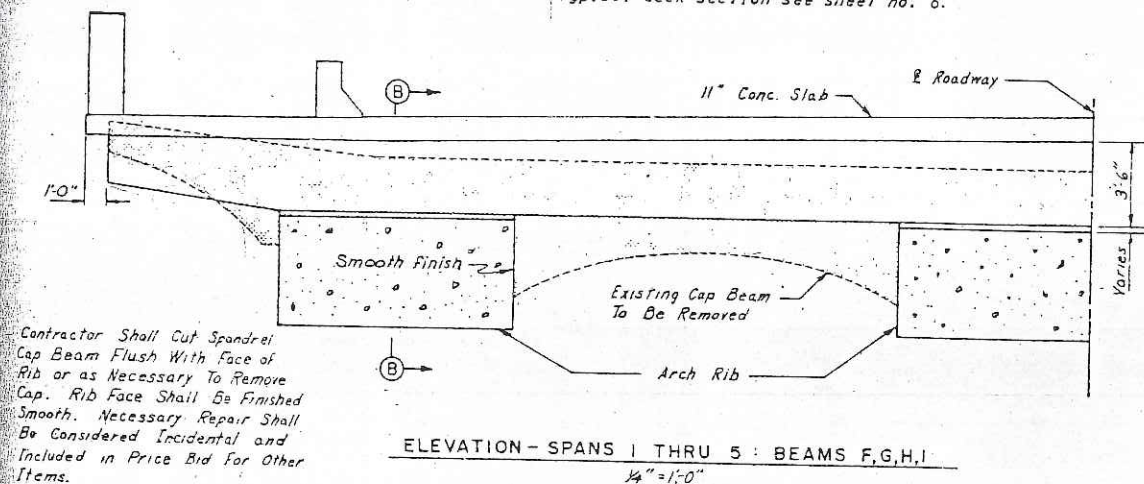
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

SPAN #2
CAP I
MINOR DECK DET.

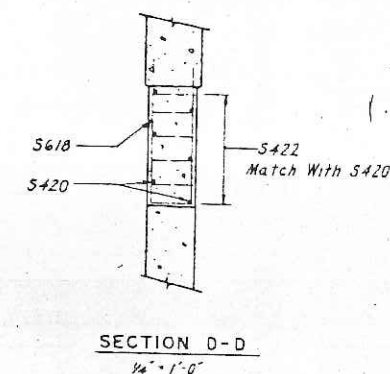
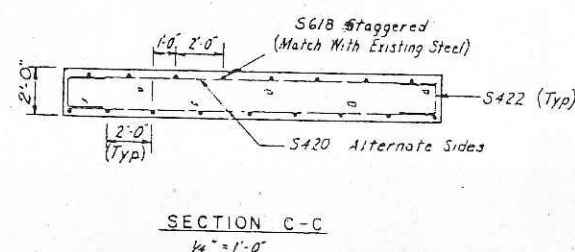
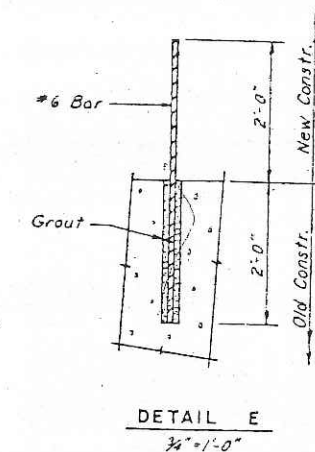
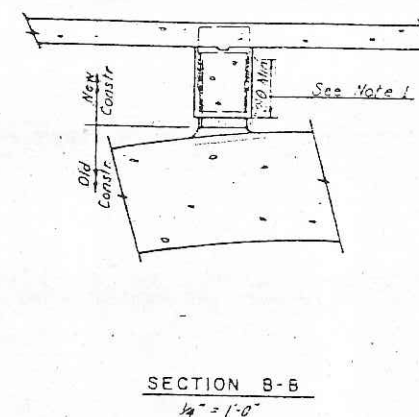
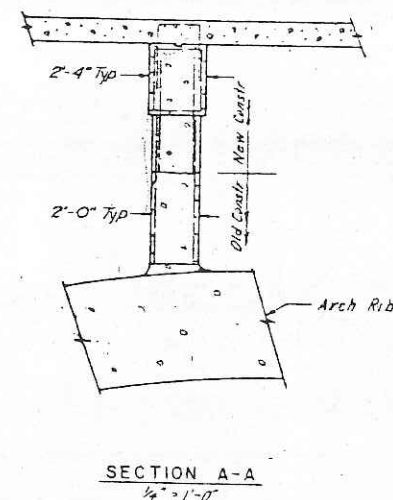




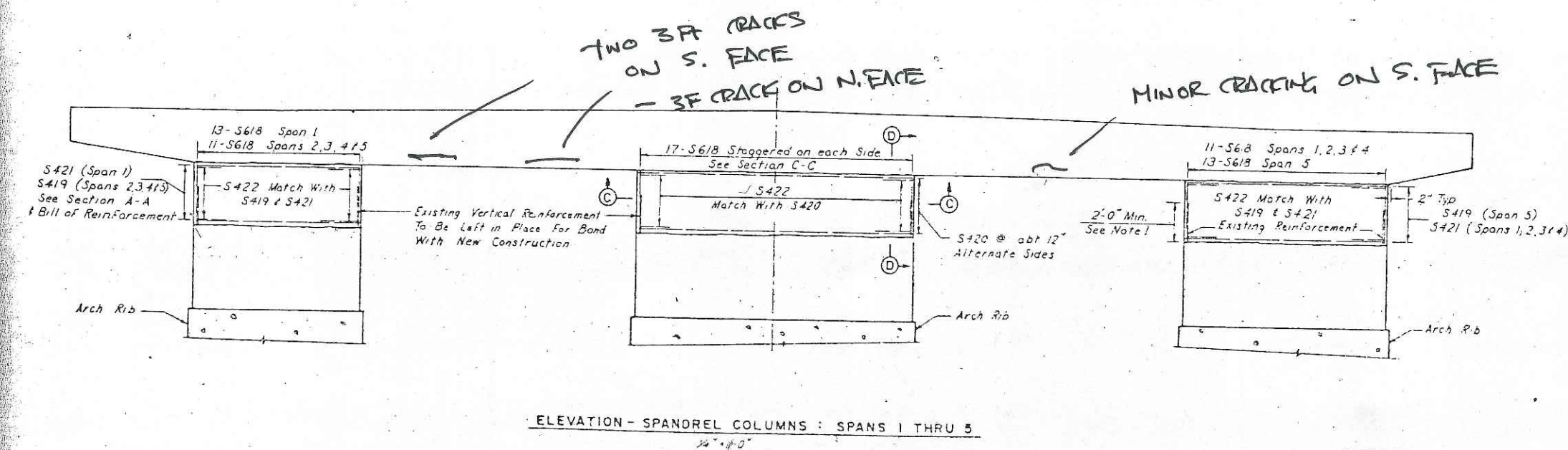
Note: For typical deck section see sheet no. 6.



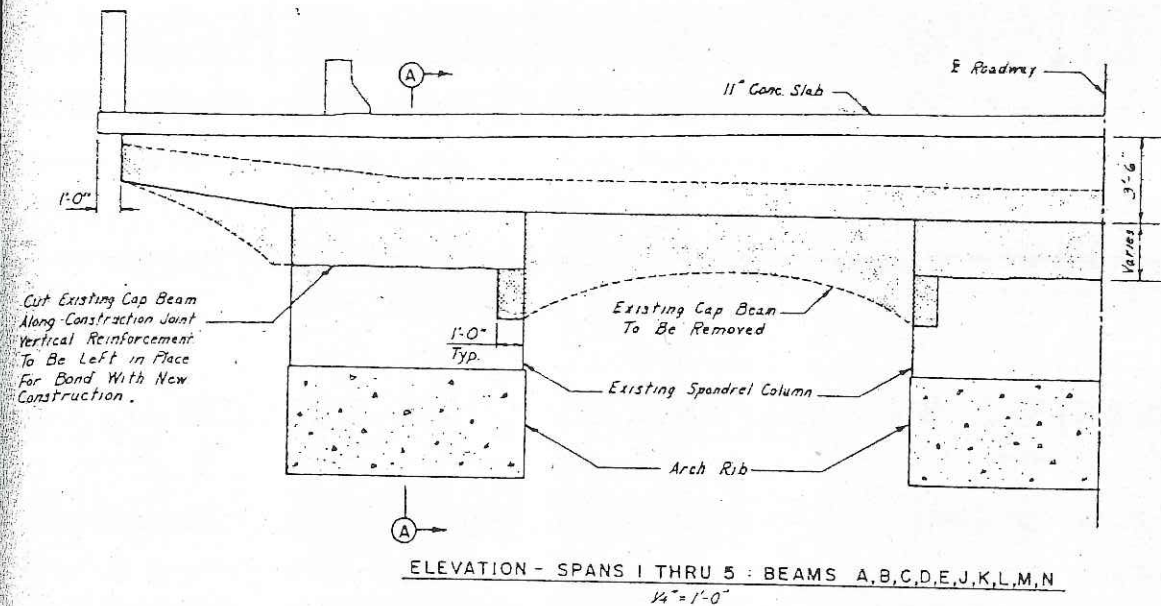
Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

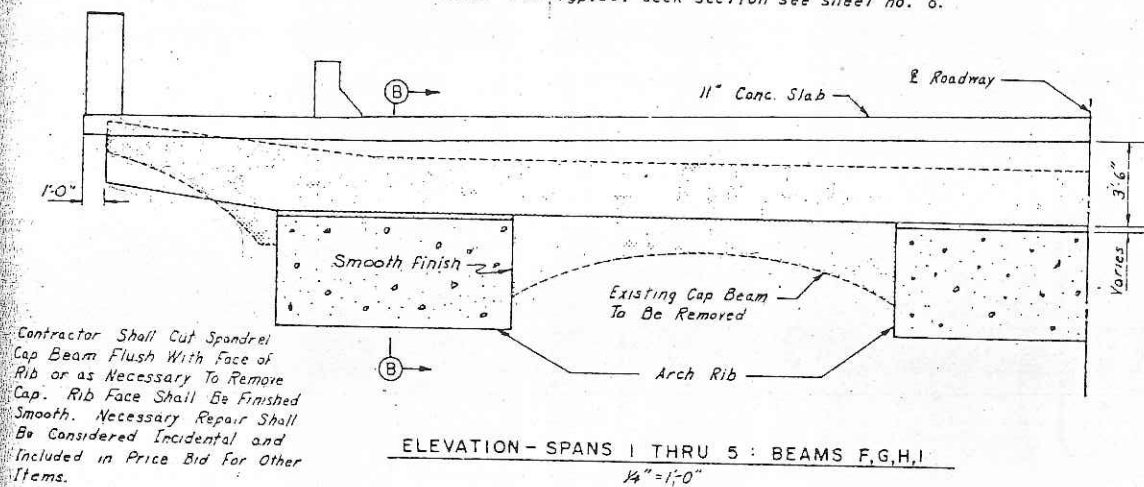


TITLE	DES. C.V.S.	DR. A.L.L.	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.T.	CHK. A.W.S.	5-7-77	2440
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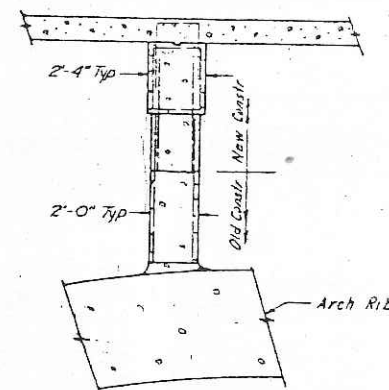
ELEVATION - SPANS 1 THRU 5 : BEAMS A,B,C,D,E,J,K,L,M,N
1/4" = 1'-0"

Note: For typical deck section see sheet no. 6.

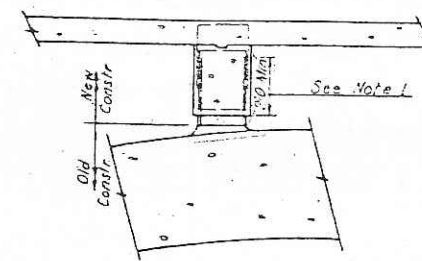


ELEVATION - SPANS 1 THRU 5 : BEAMS F,G,H,I
1/4" = 1'-0"

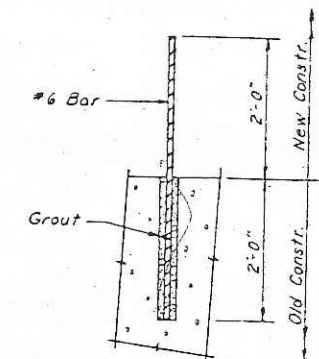
Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



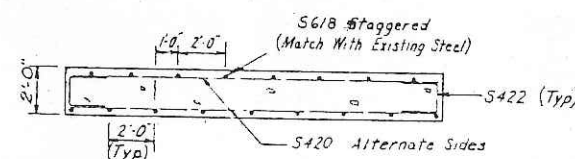
SECTION A-A
1/4" = 1'-0"



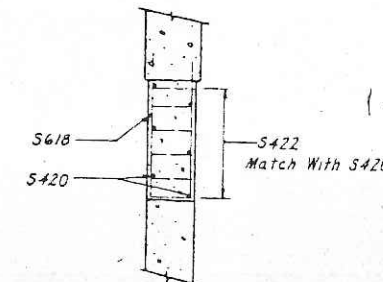
SECTION B-B
1/4" = 1'-0"



DETAIL E
3/4" = 1'-0"

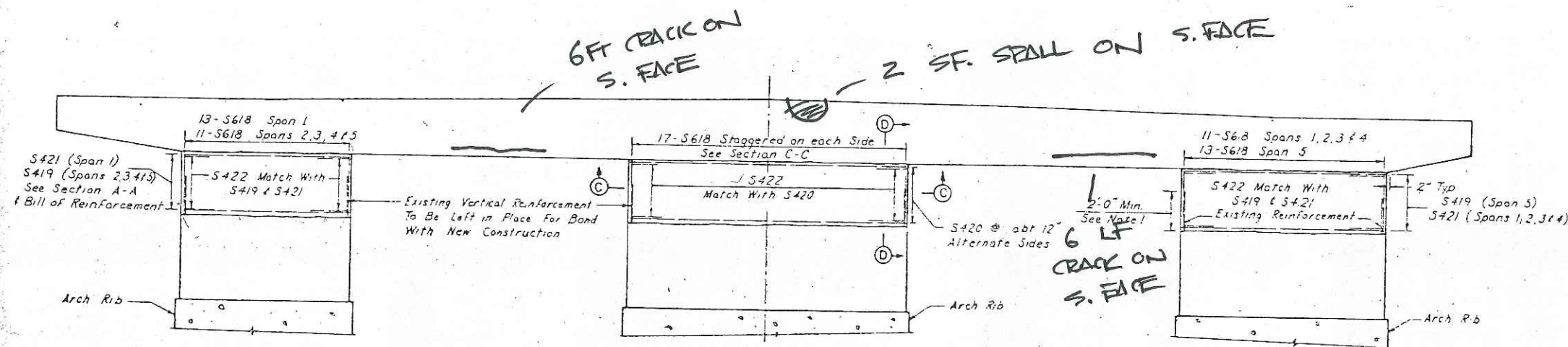


SECTION C-C
1/4" = 1'-0"



SECTION D-D
1/4" = 1'-0"

Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

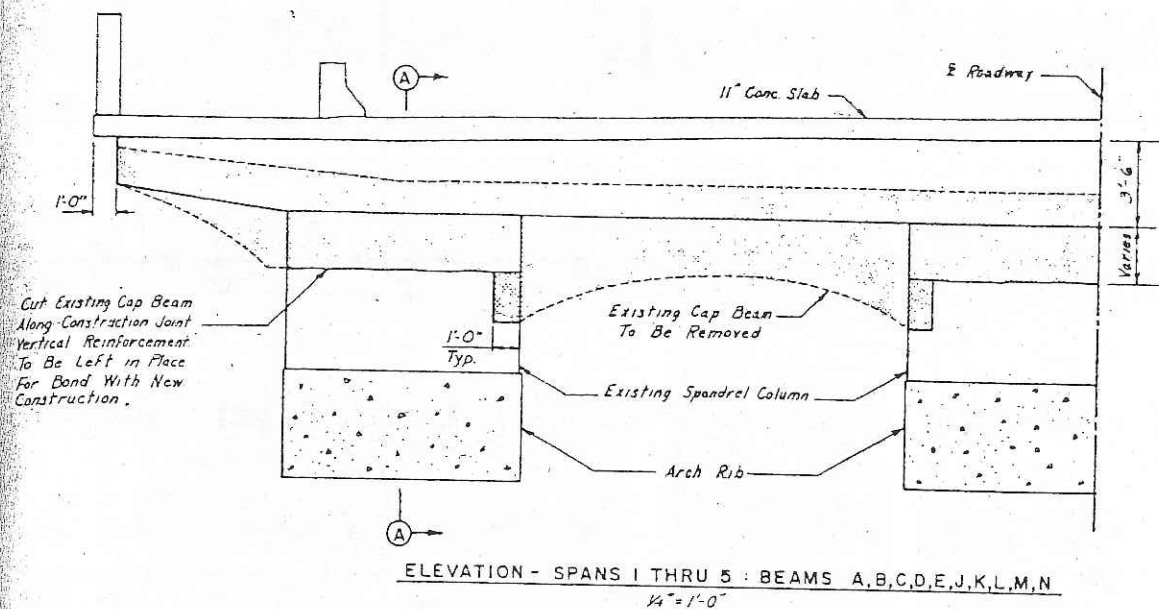


ELEVATION - SPANDREL COLUMNS : SPANS 1 THRU 5
1/4" = 1'-0"

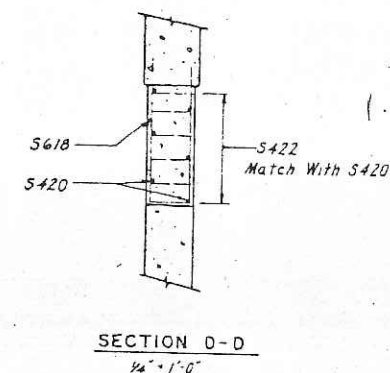
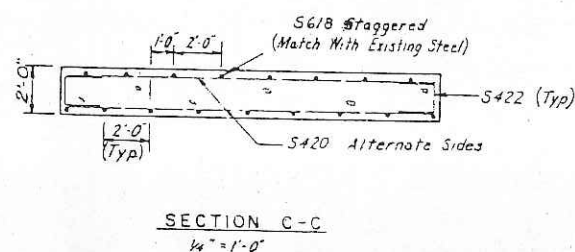
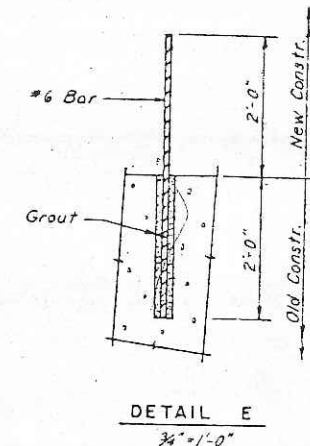
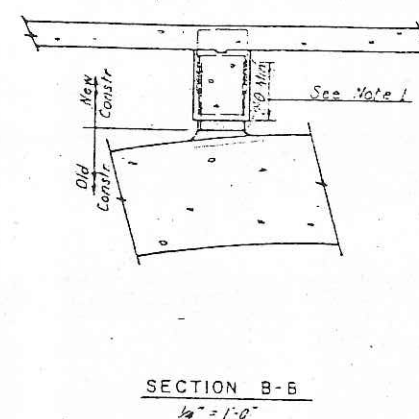
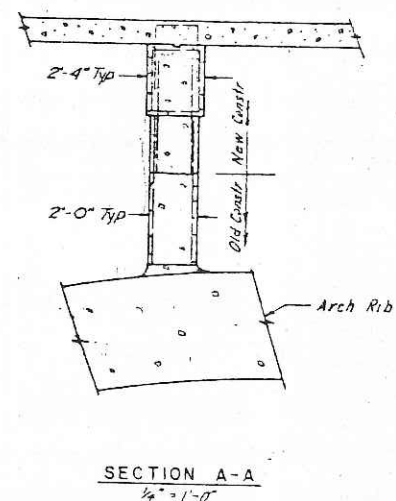
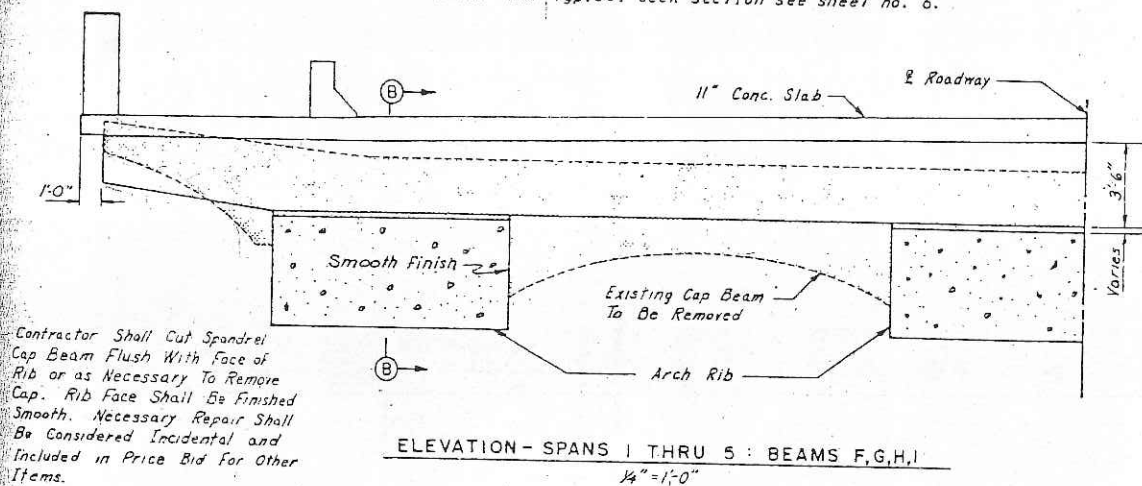
SPAN #2
CAP N

DECK HAS SCATTERED
DELM (WATER SAT SPALL)
6" - 30"

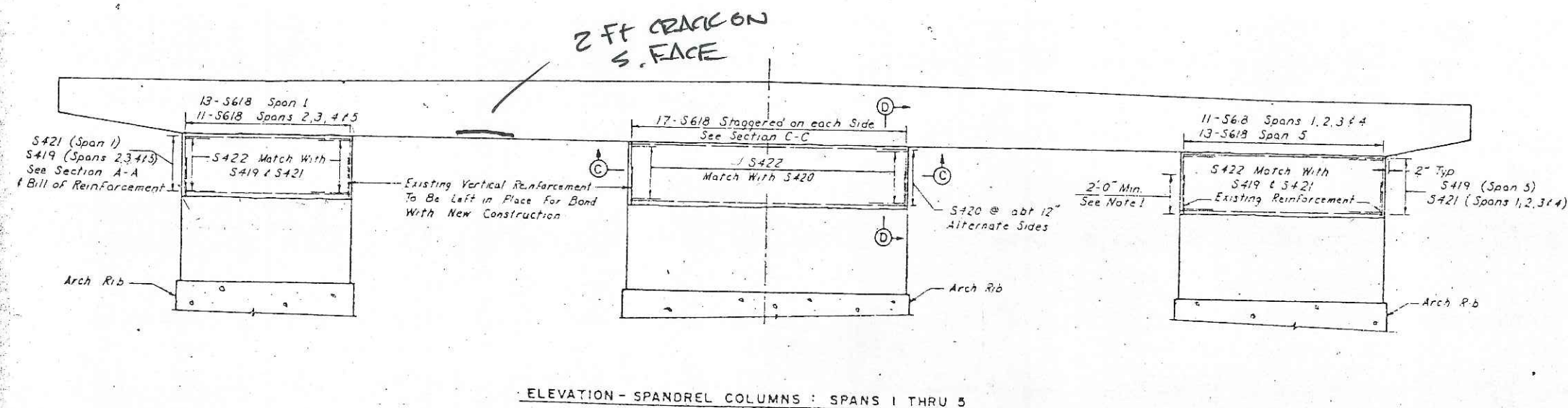
TITLE	DES. CYS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R. J.	CHK. A. M.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



Note: For typical deck section see sheet no. 6.



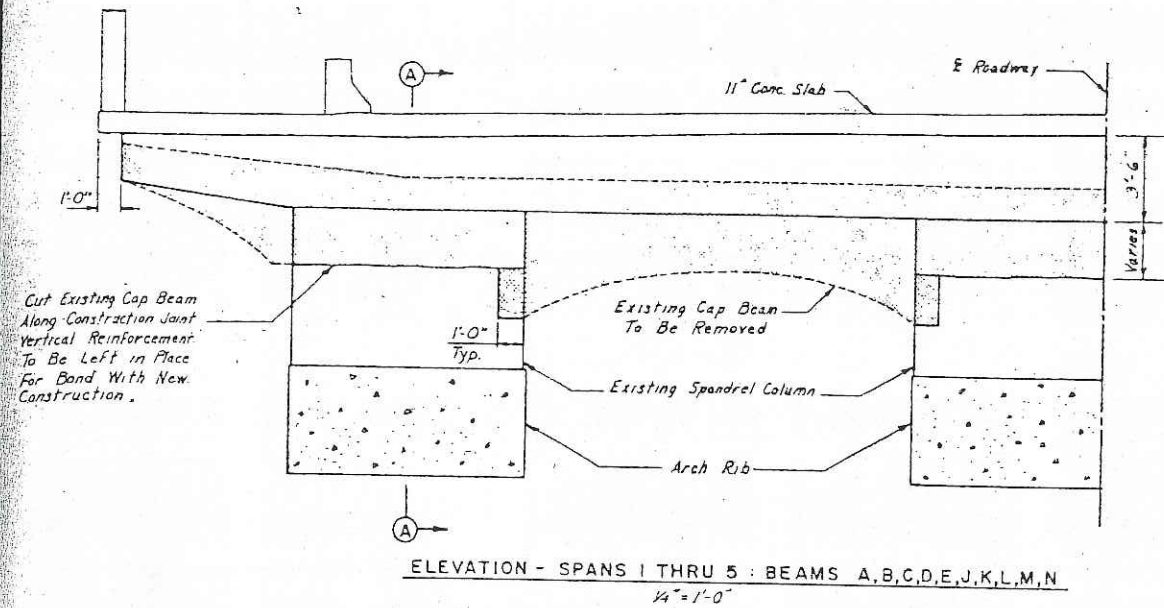
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



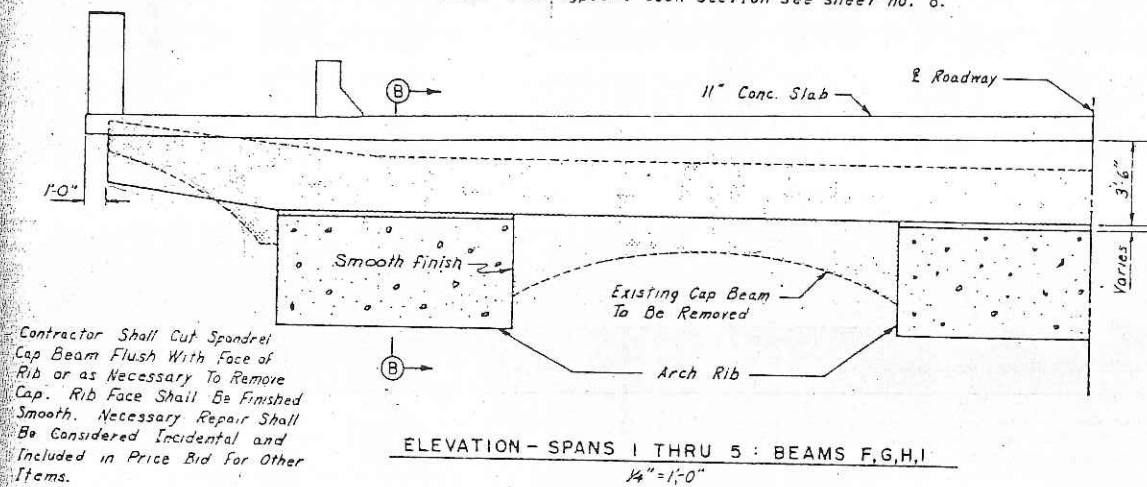
SPAN # 3
CAP A

DECK HAS WATER SAT
+ DELAM 0" - 18"
- SMALL SPALL

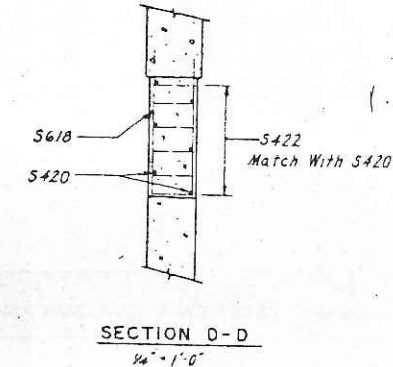
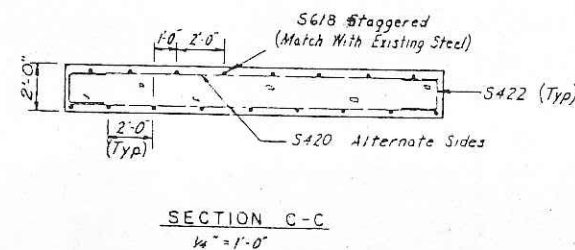
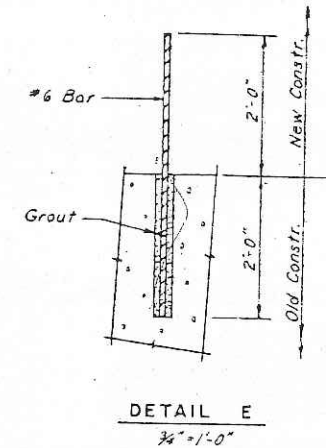
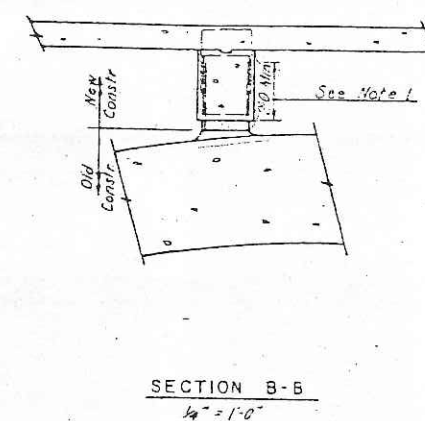
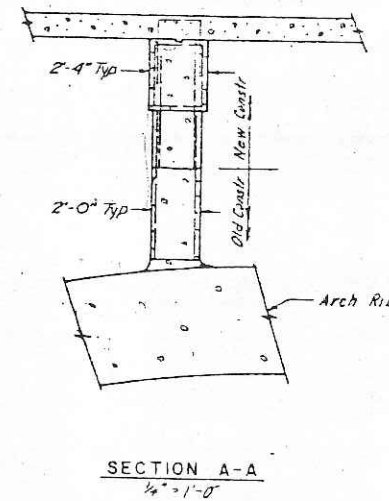
TITLE	DES CWS	DR ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK R/L	CHK A.M.A	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



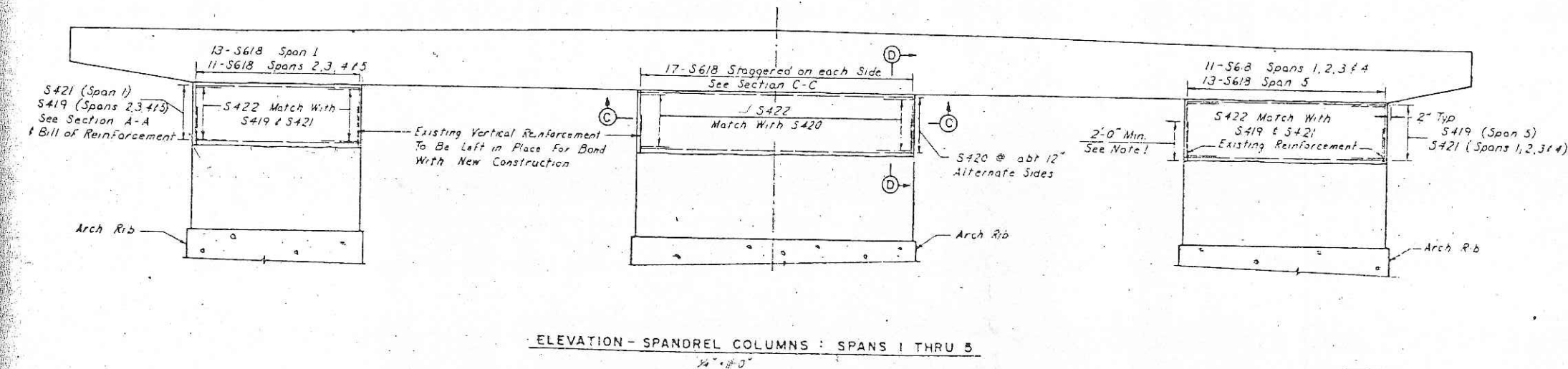
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid for Other Items.

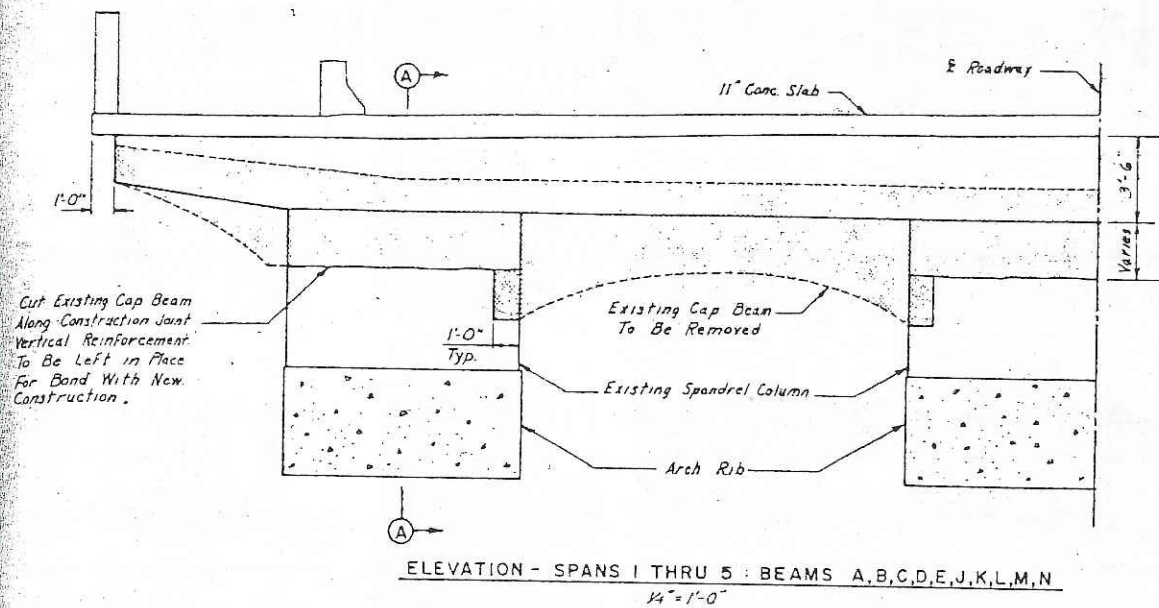


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

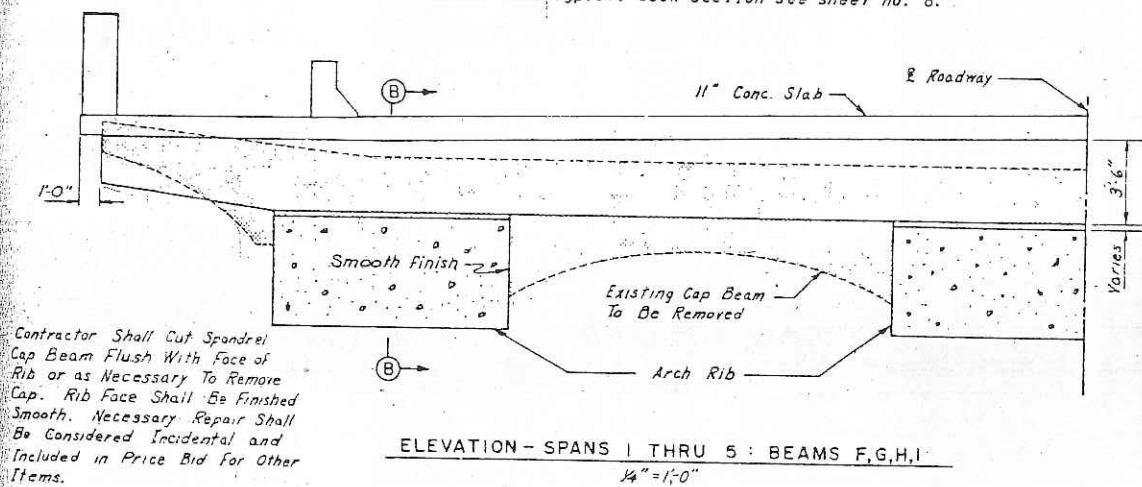


SPAN #3
CAP D
DECK - 0'-6" WATER SAT.

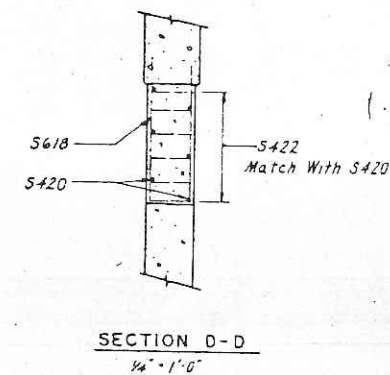
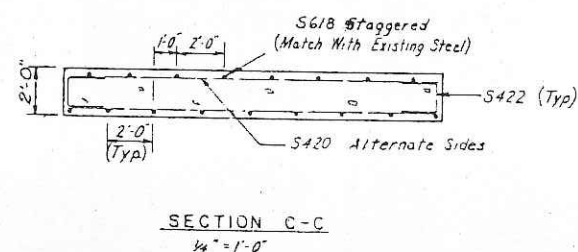
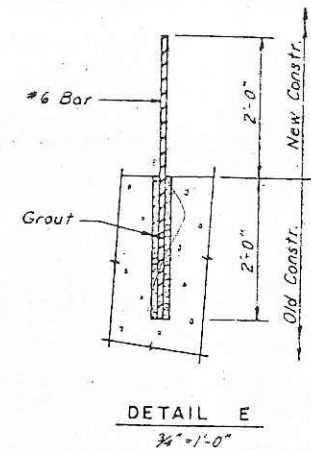
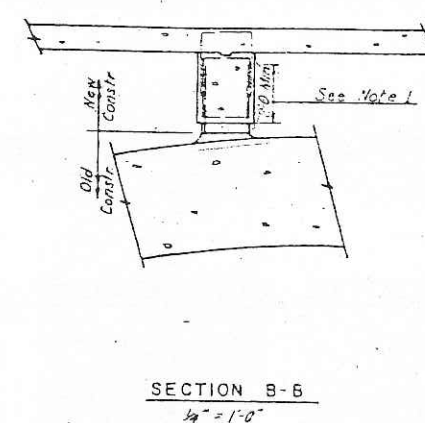
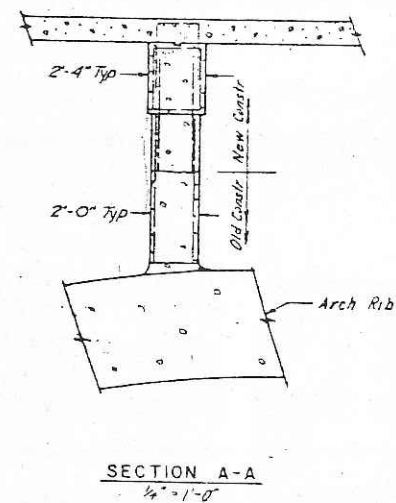
TITLE	DES. C.V.S.	DR. A.L.L.	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. S.V.I.	CHK. A.W.A.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



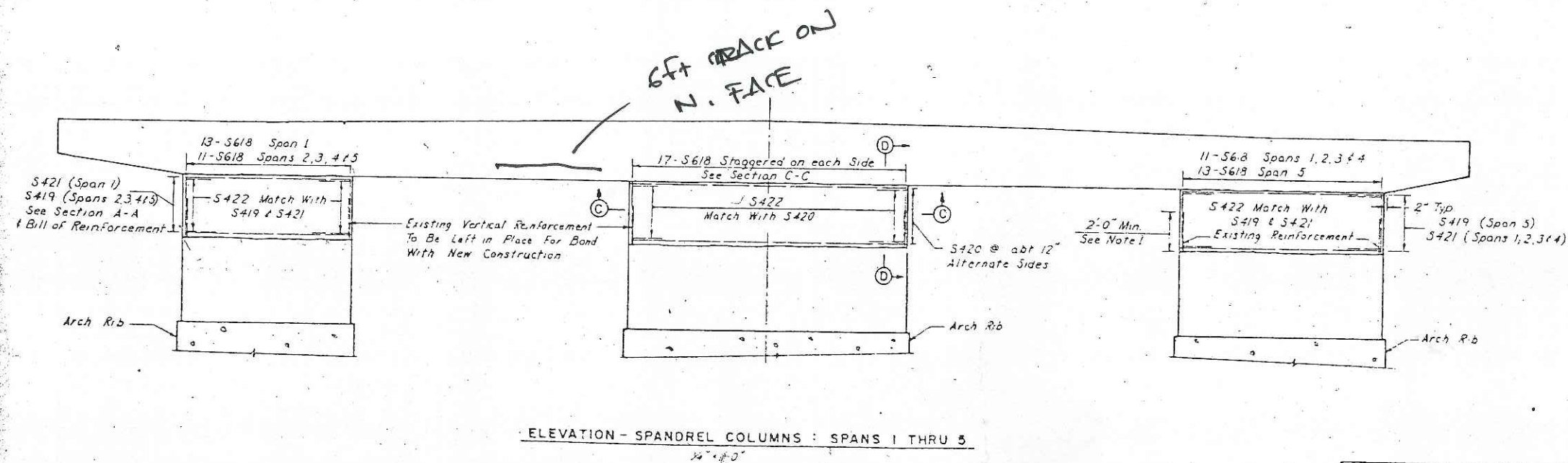
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



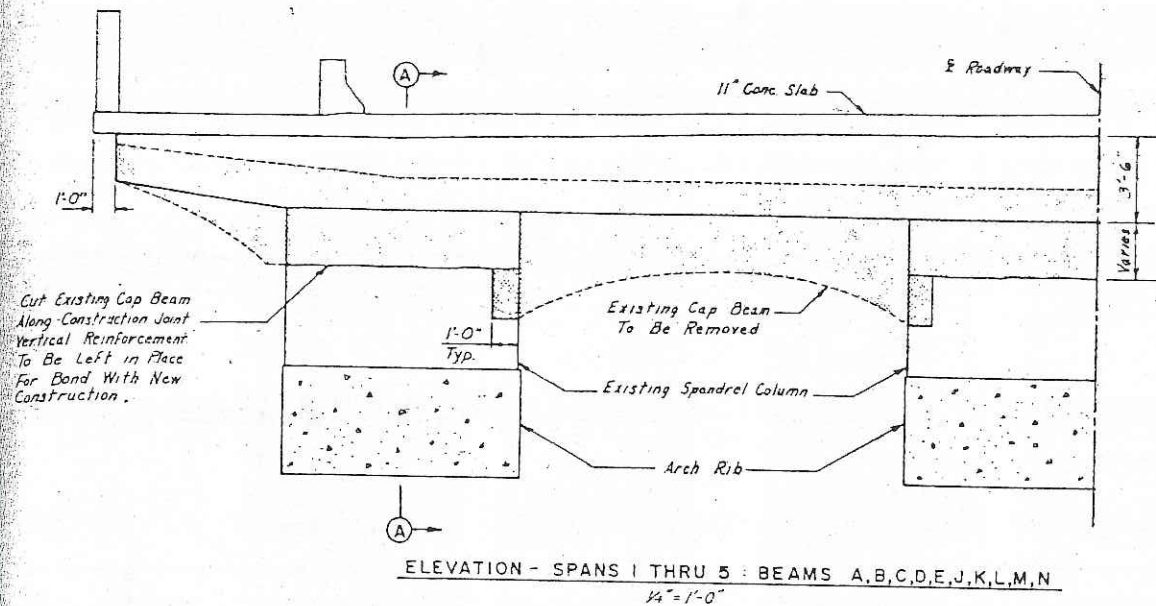
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



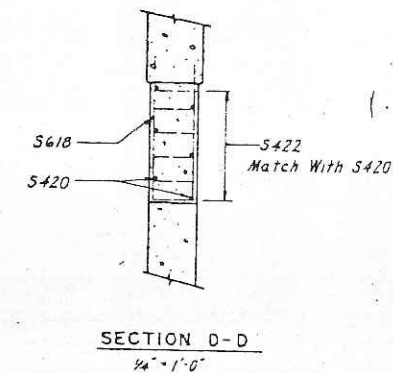
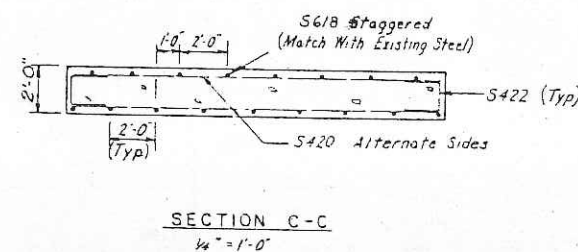
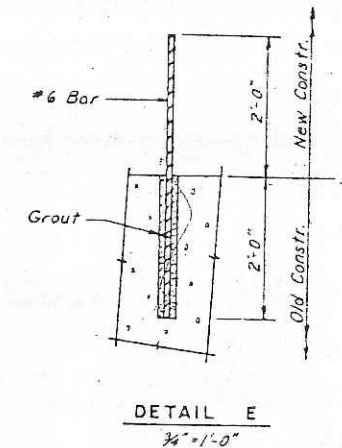
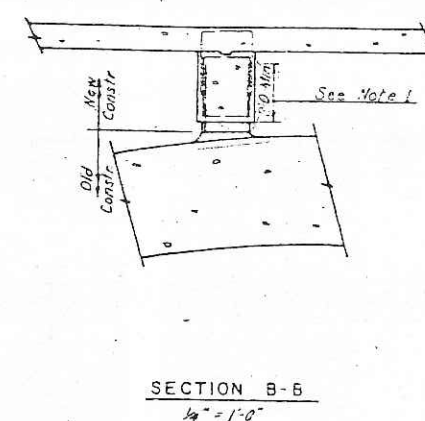
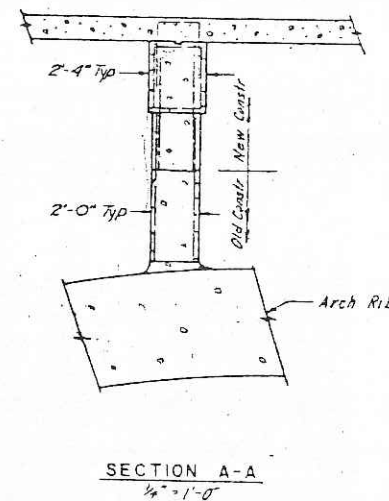
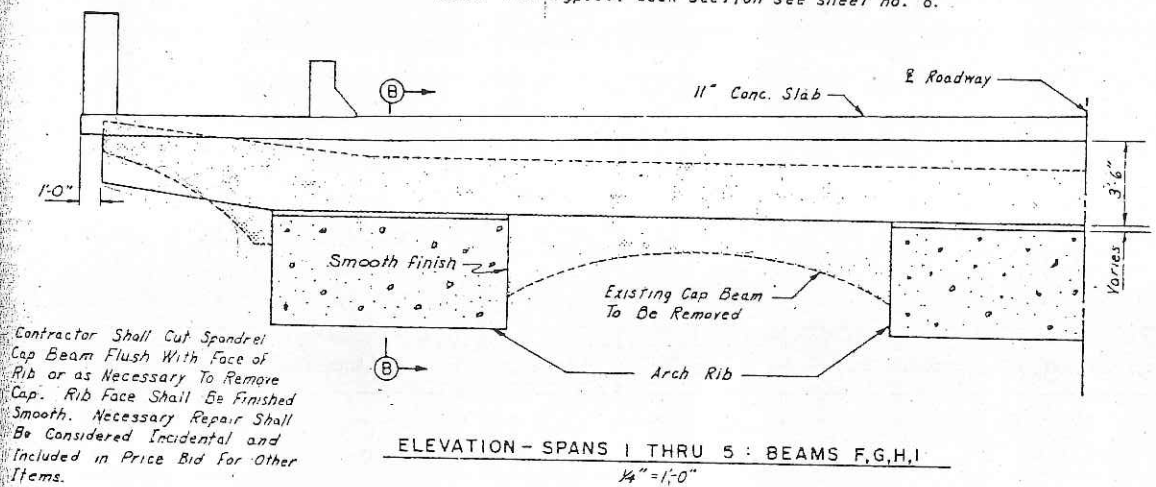
6' BACK ON N. FACE

SPAN # 3
CAP F
DECK - MINOR WATER SAT

TITLE	DES. C.V.S.	DR. A.L.L.	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. S.V.	CHK. A.M.S.	5-8-77	2440
	Sheet No. 33 of 148 Sheets			

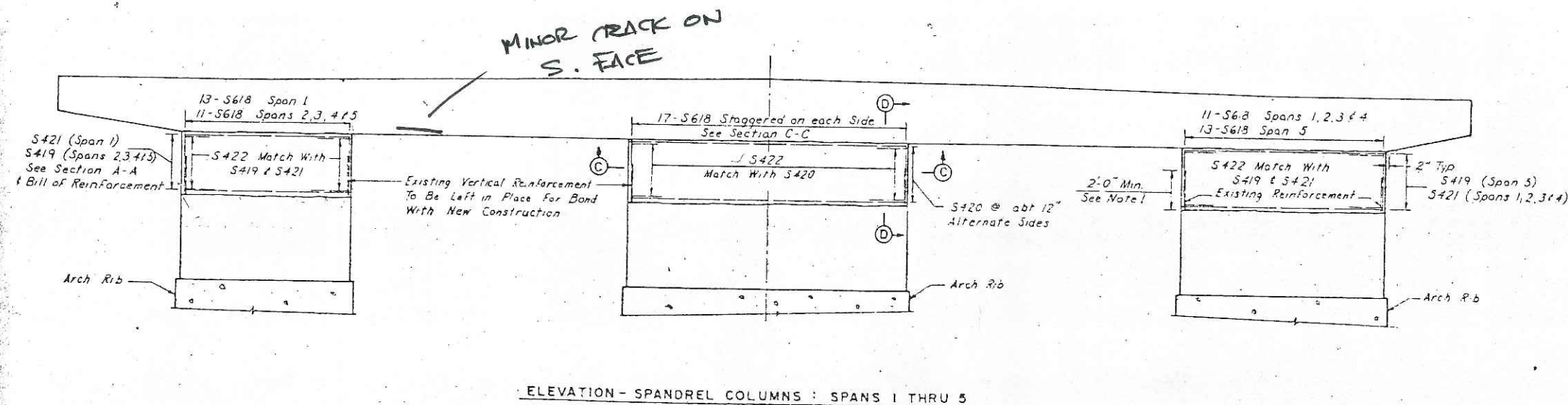


Note: For typical deck section see sheet no. 6.

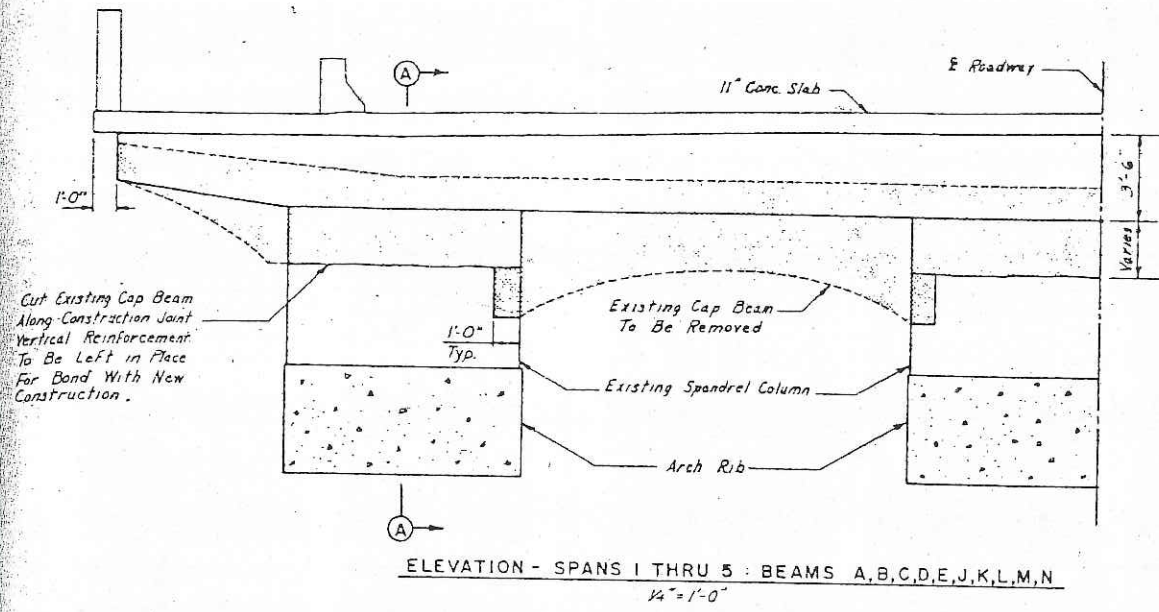


Note 1:
In All Cases Where Less Than 2'-0"
of Existing Reinforcement Can Be
Saved, Contractor Shall Drill And
Grout #6 Bars To Match Existing
Reinforcement. See Detail E.

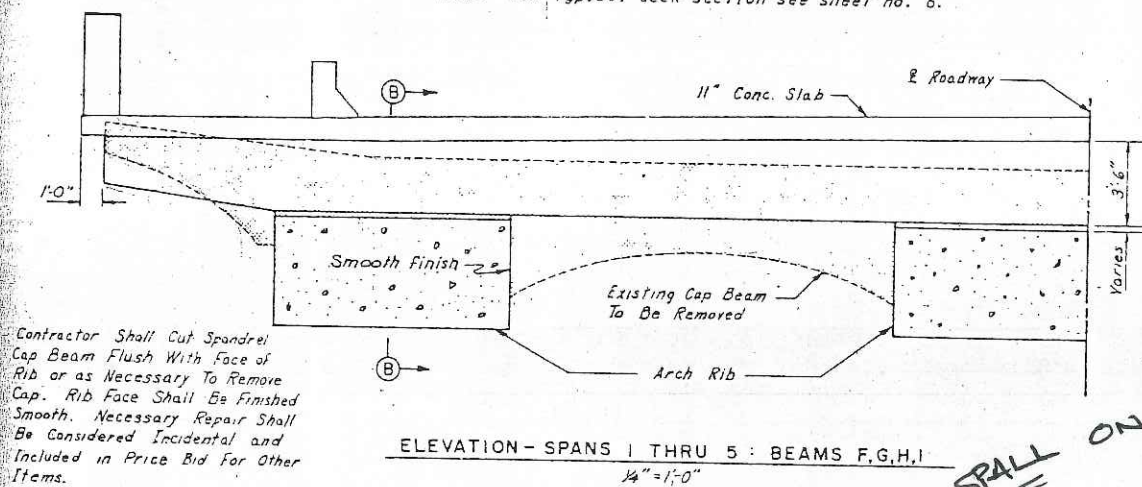
MINOR CRACK ON
S. FACE



SPAN # 3
CAP I
MINOR DECK DET.

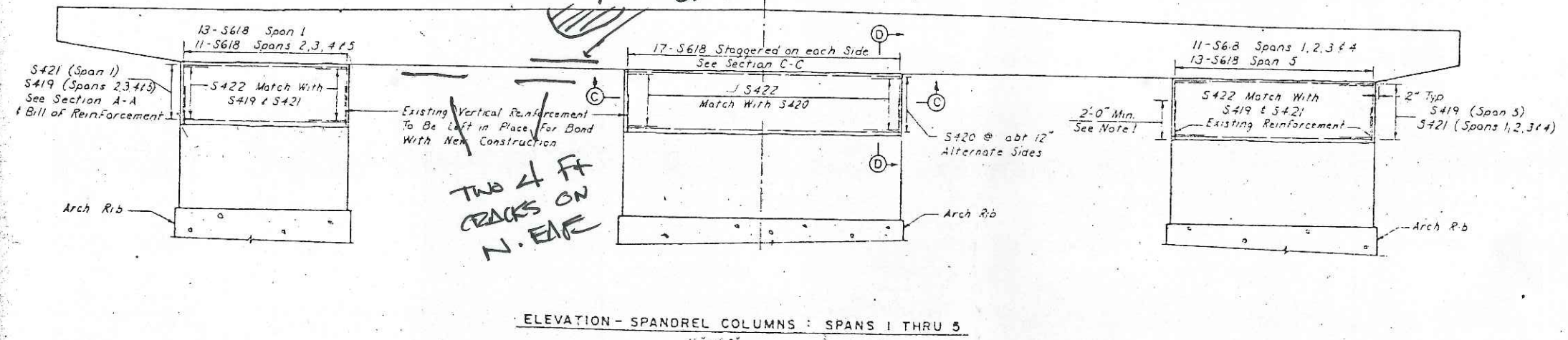


Note: For typical deck section see sheet no. 6.

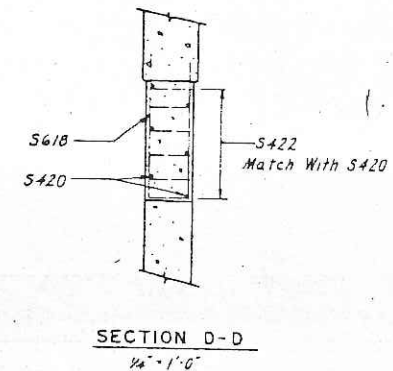
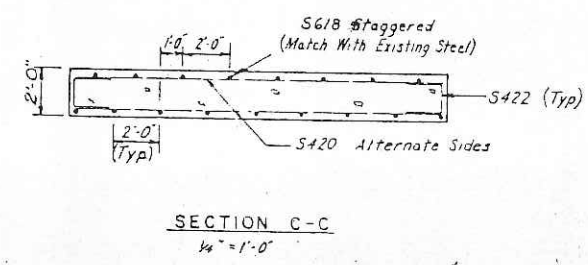
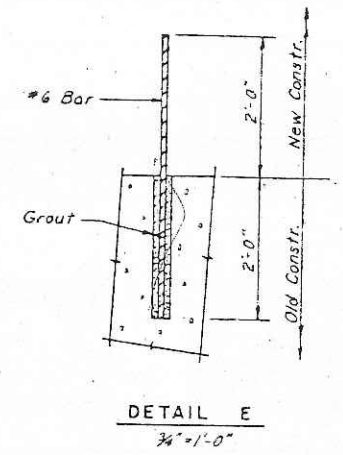
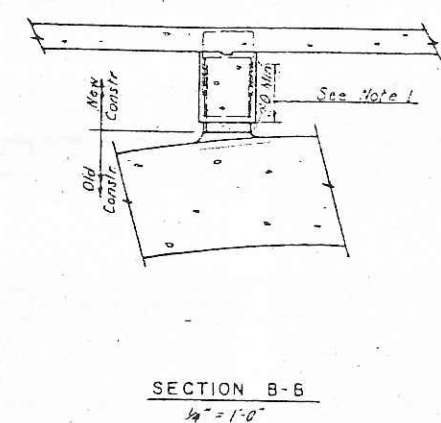
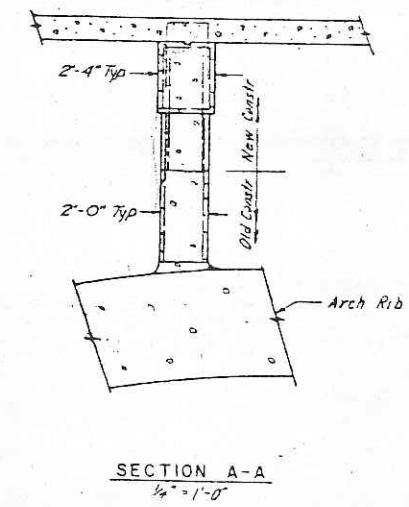


Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.

4 FT SPALL ON N. FACE
4 LF CRACK ON S. FACE

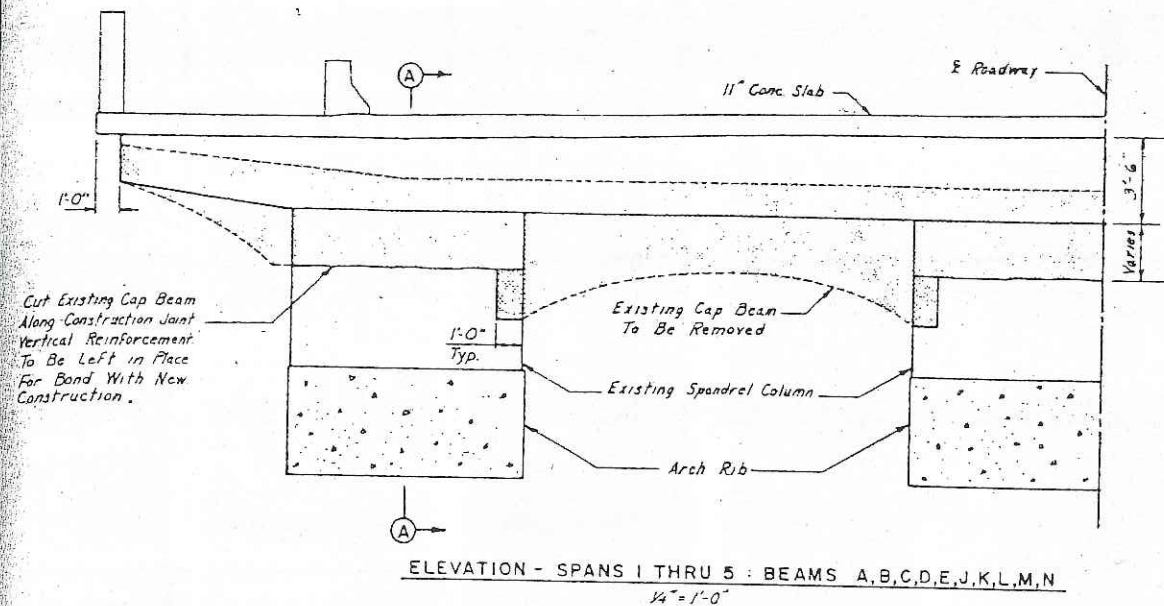


TWO 4 FT CRACKS ON N. FACE



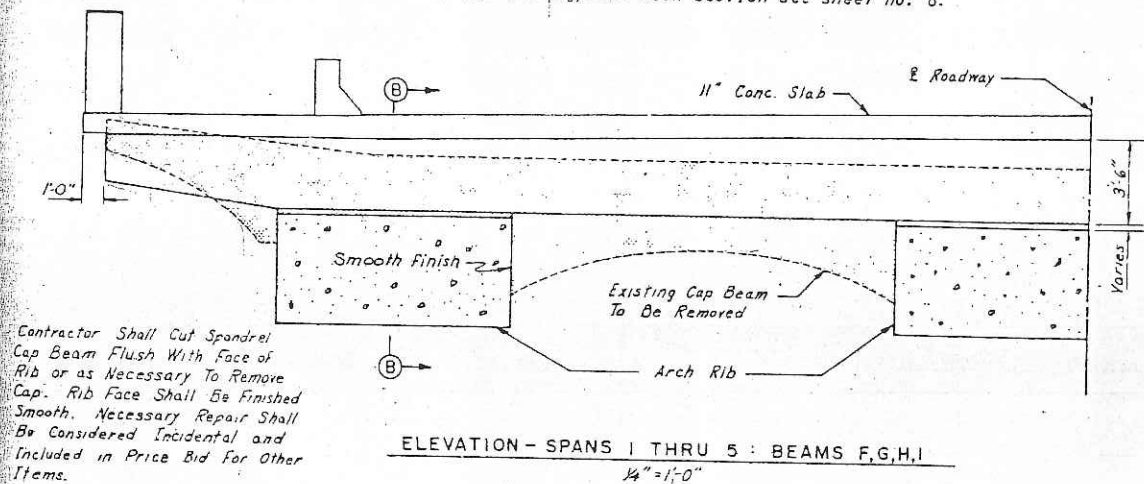
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

SPAN # 3
CAP K
DECK HAS MINOR DET.
SOME DELAM.
↓
ONE AREA



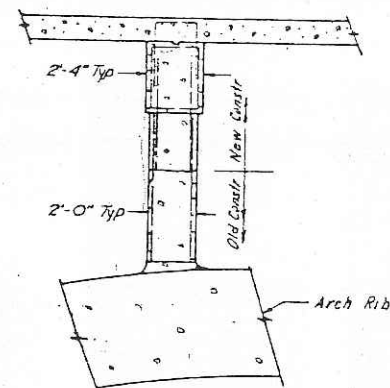
ELEVATION - SPANS 1 THRU 5 : BEAMS A,B,C,D,E,J,K,L,M,N
1/4" = 1'-0"

Note: For typical deck section see sheet no. 6.

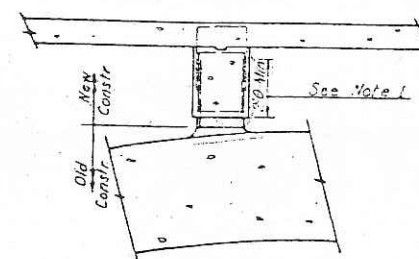


ELEVATION - SPANS 1 THRU 5 : BEAMS F,G,H,I
1/4" = 1'-0"

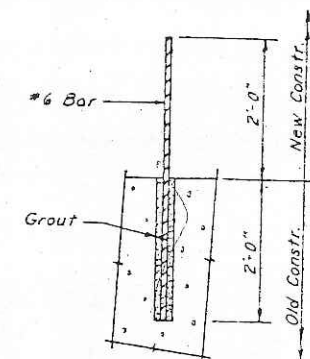
Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



SECTION A-A
1/4" = 1'-0"

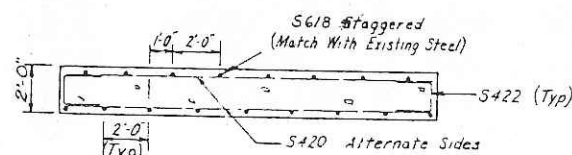


SECTION B-B
1/4" = 1'-0"

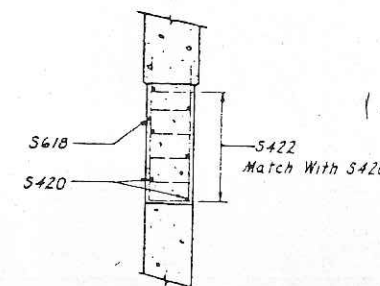


DETAIL E
3/4" = 1'-0"

Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

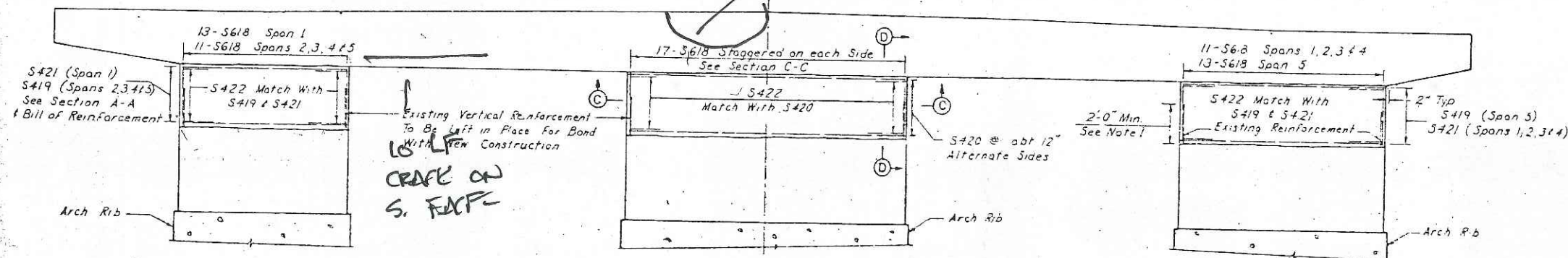


SECTION C-C
1/4" = 1'-0"



SECTION D-D
1/4" = 1'-0"

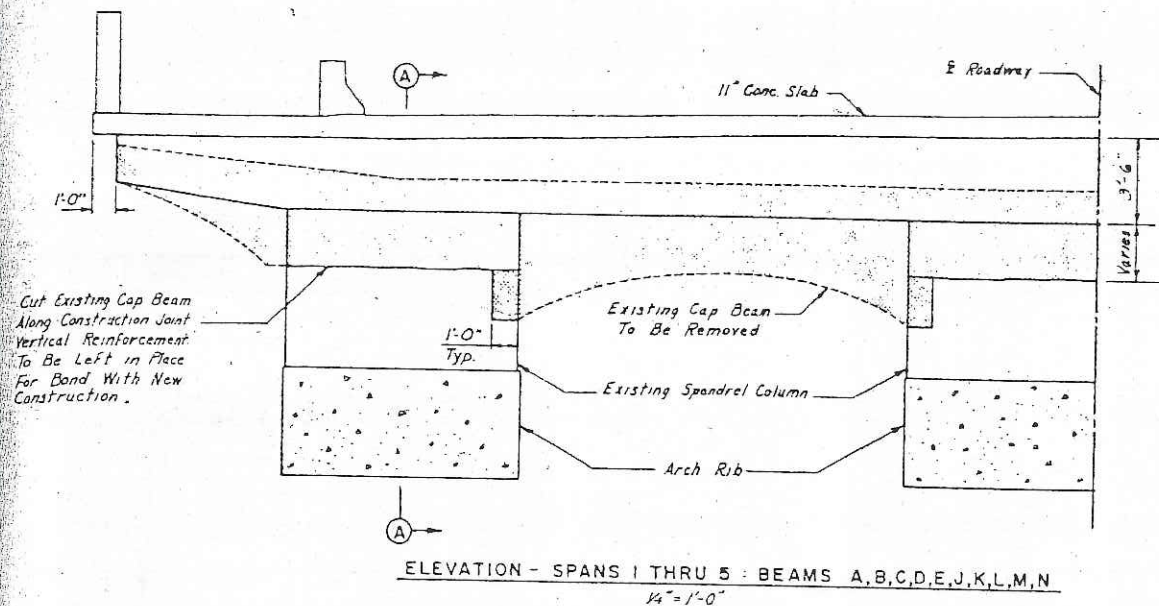
SPALL ON S. FACE
6x2



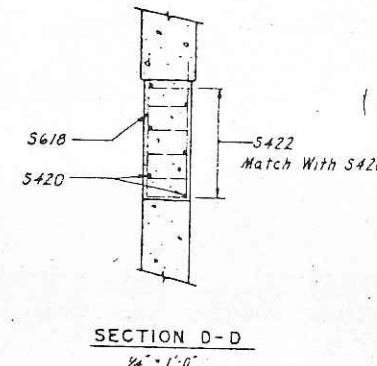
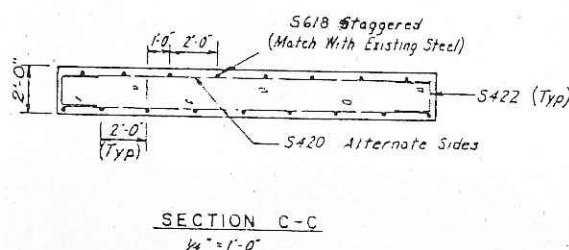
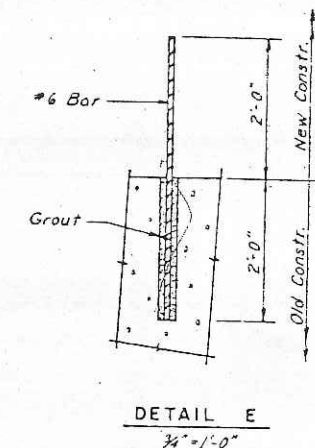
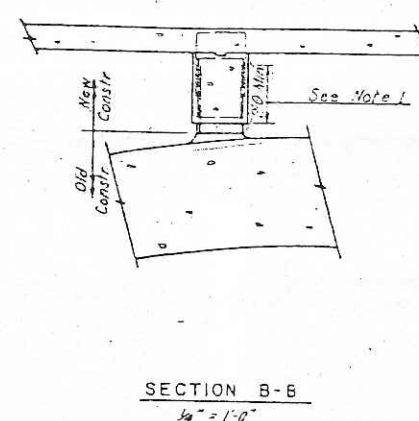
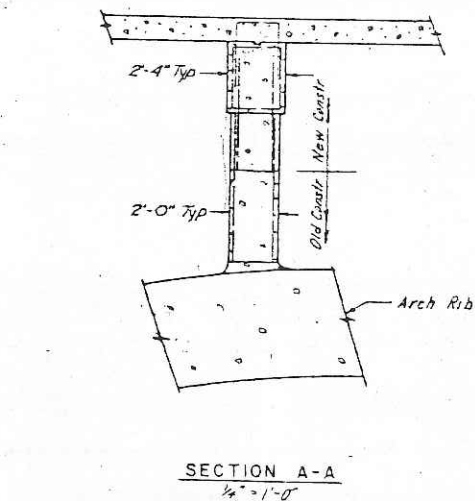
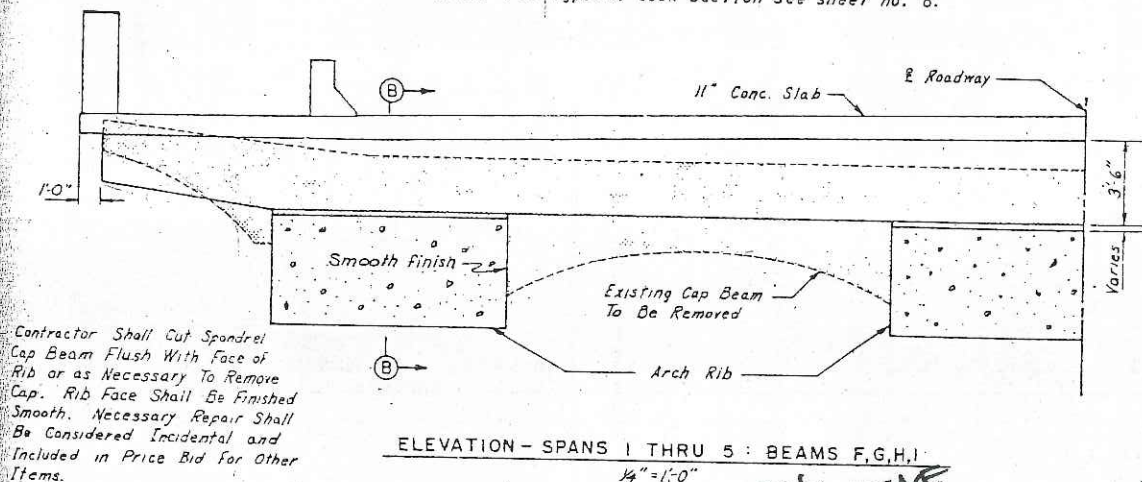
ELEVATION - SPANDREL COLUMNS : SPANS 1 THRU 5
1/4" = 1'-0"

SPAN # 3
CAP N
DECK HAS 20" SECTION
WITH DELTA / WATER SAT
TWO SPALLS

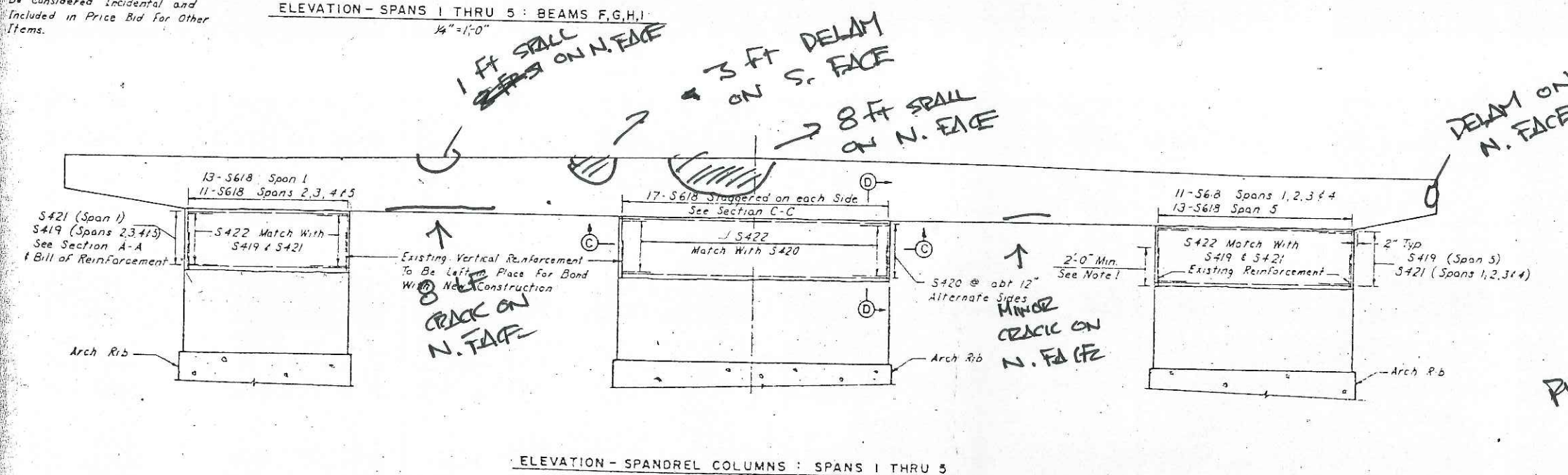
TITLE	DES. SVS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R. J.	CHK. A. W. A.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



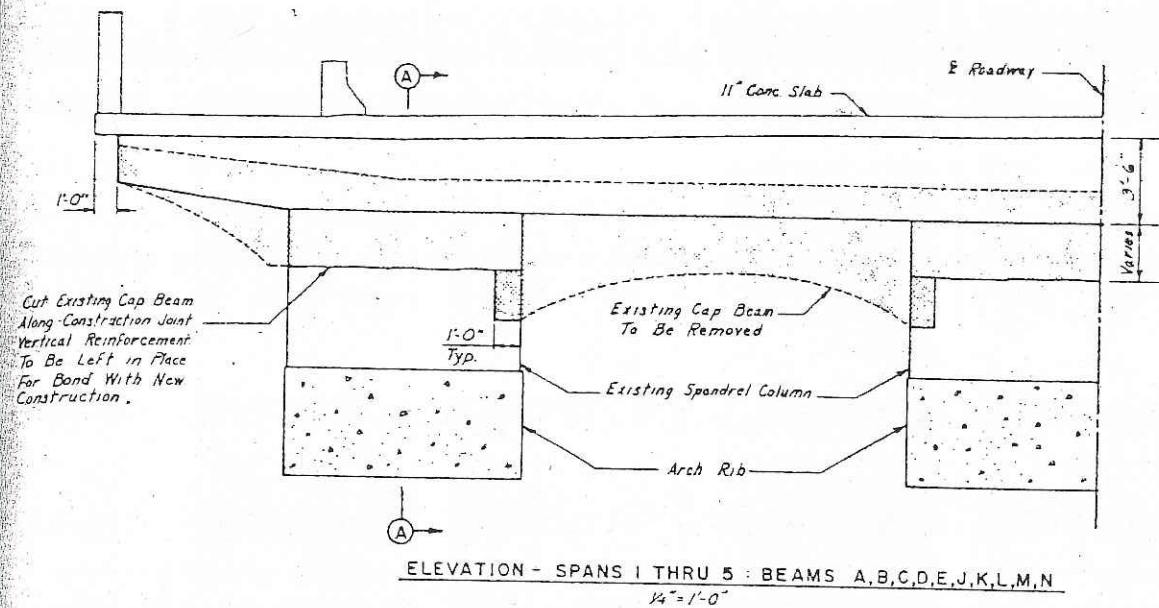
Note: For typical deck section see sheet no. 6.



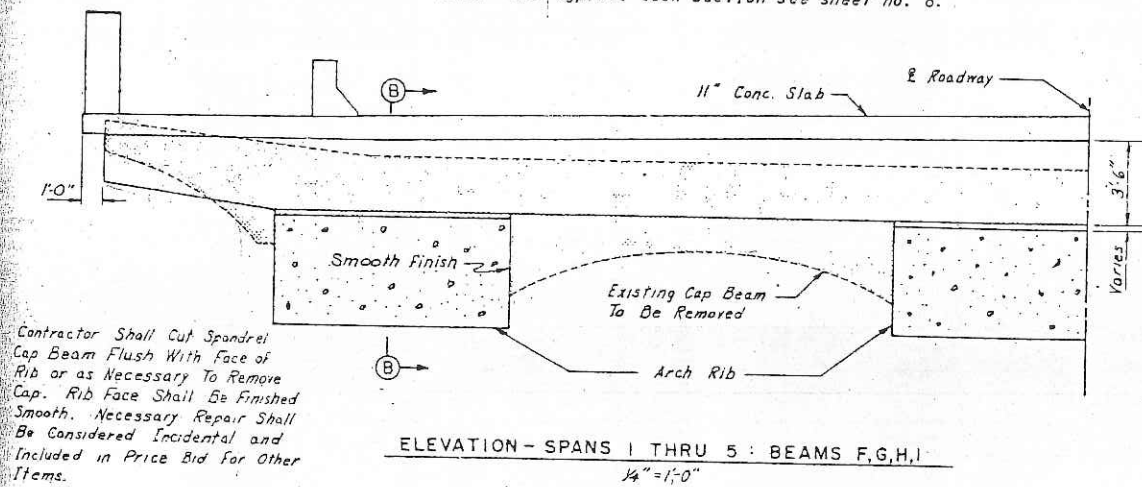
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



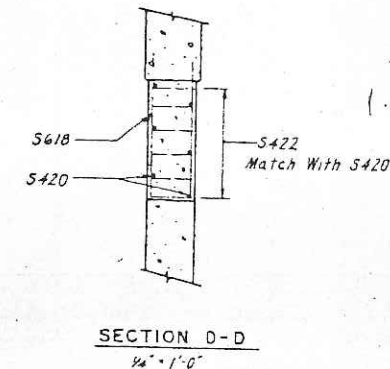
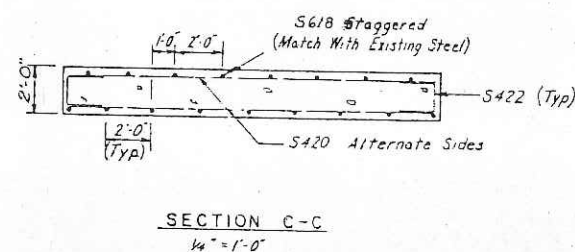
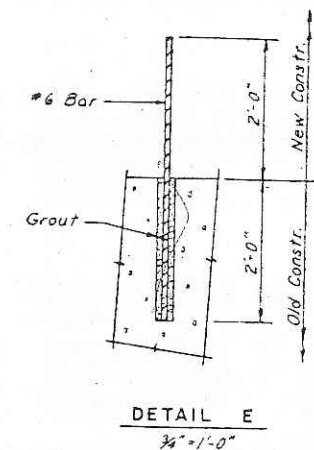
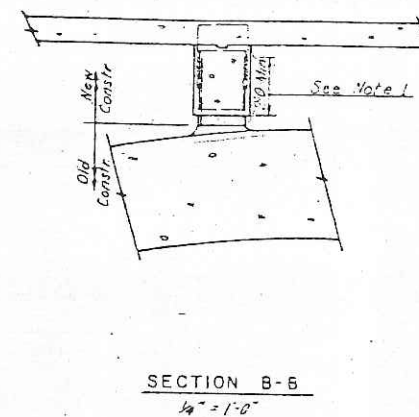
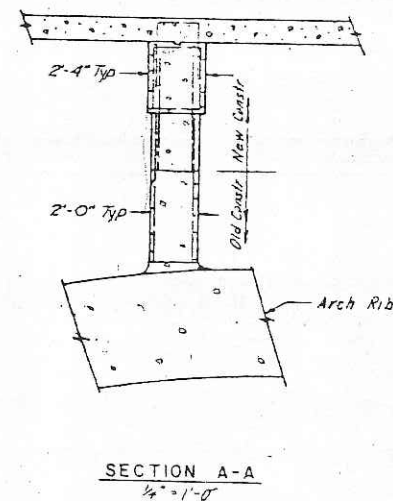
TITLE	DES. C.V.S.	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.T.	CHK. A.M.A.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



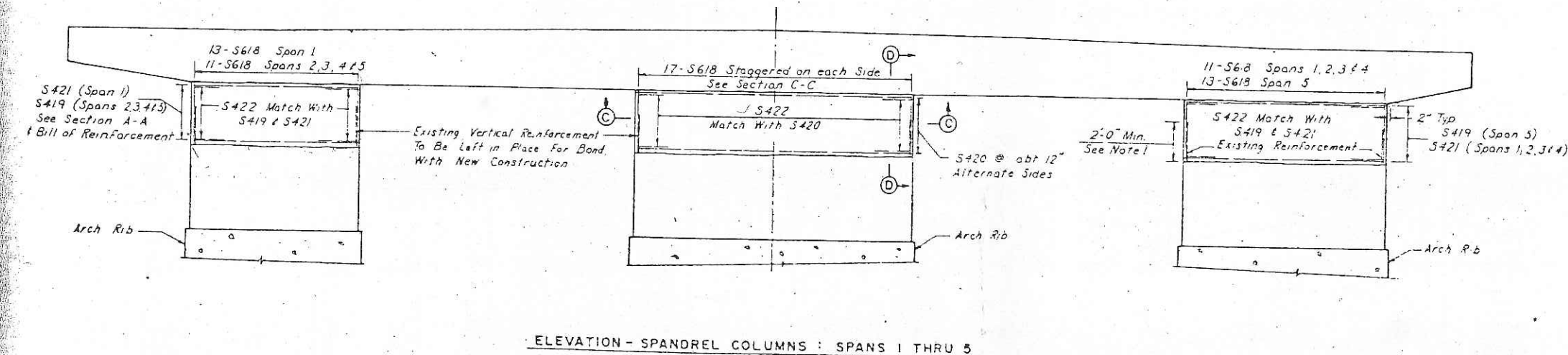
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



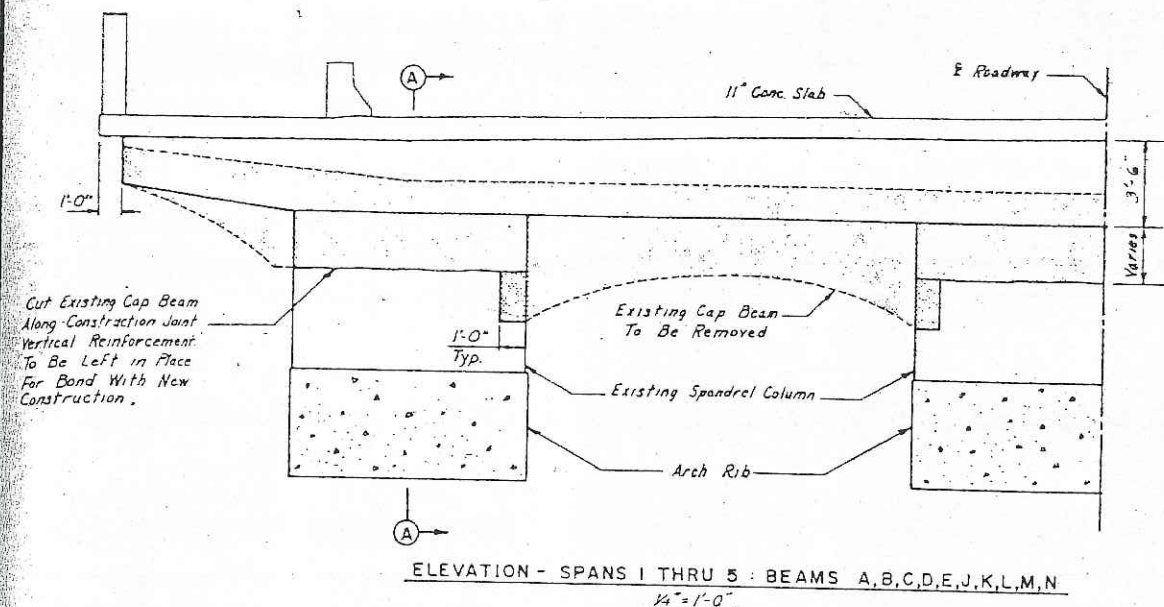
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



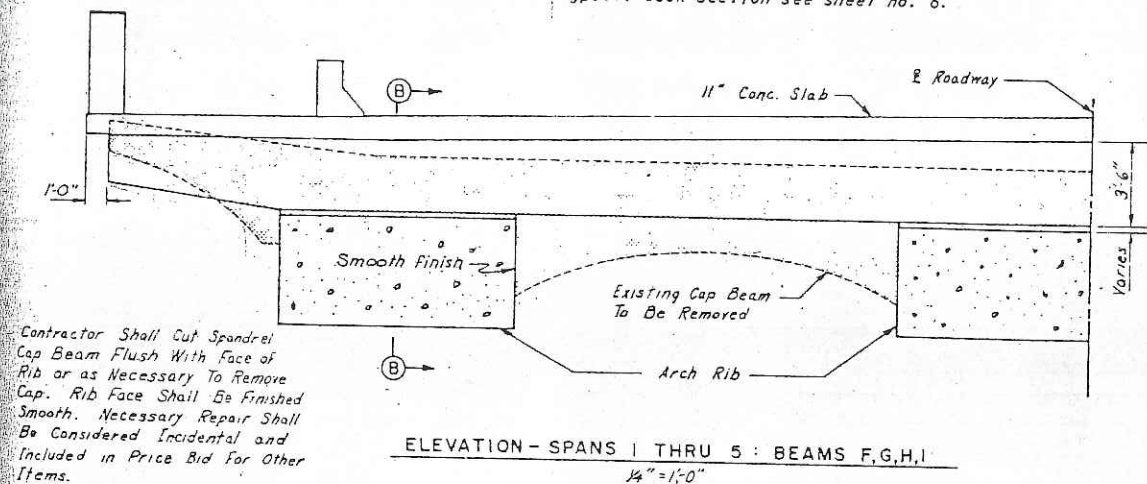
SPAN #4
CAP D

MINOR WATER SAT
8"

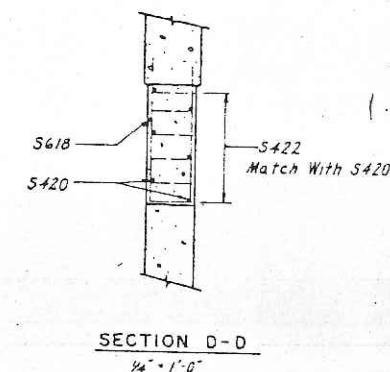
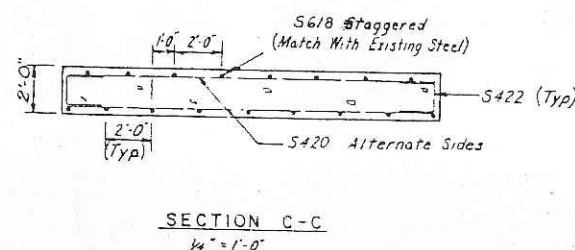
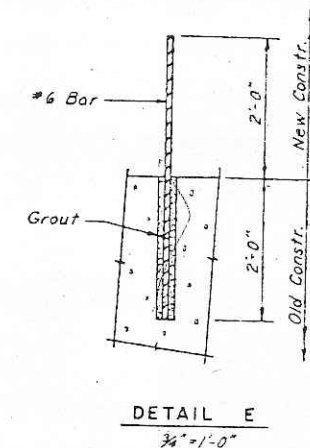
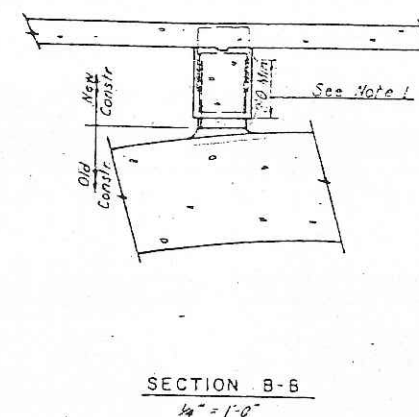
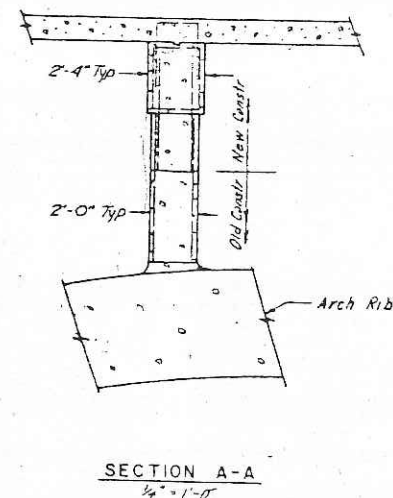
TITLE	DES. C.V.S.	DR. R.L.L.	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.V.	CHK. A.W.A.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



Note: For typical deck section see sheet no. 6.



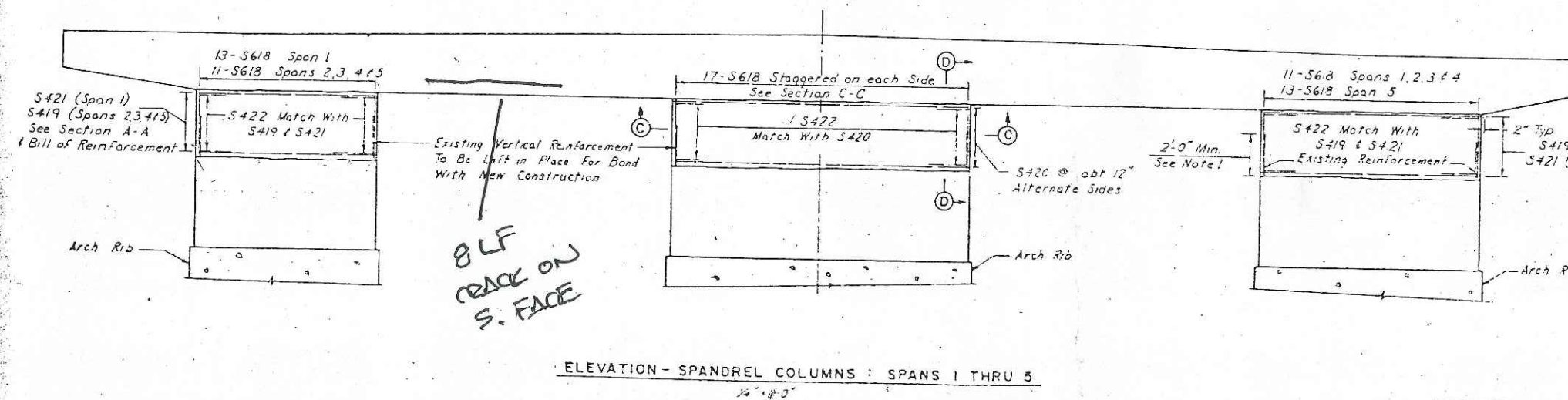
Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



Note 1:
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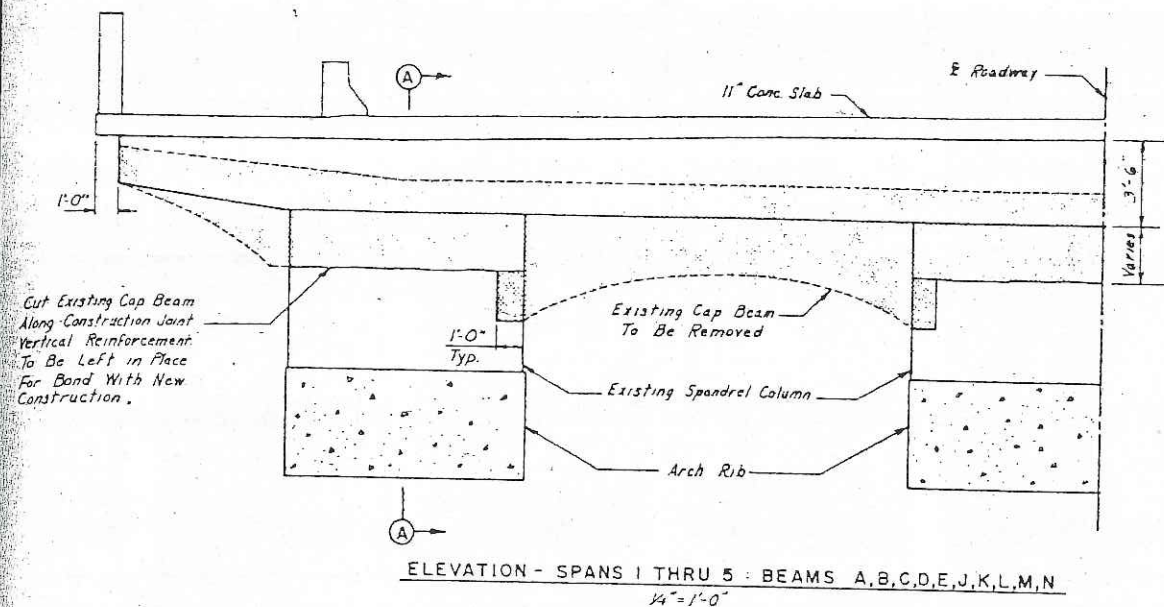
SPAN #4
CAP F

DECK MINOR - MODERATE
WATER SAT

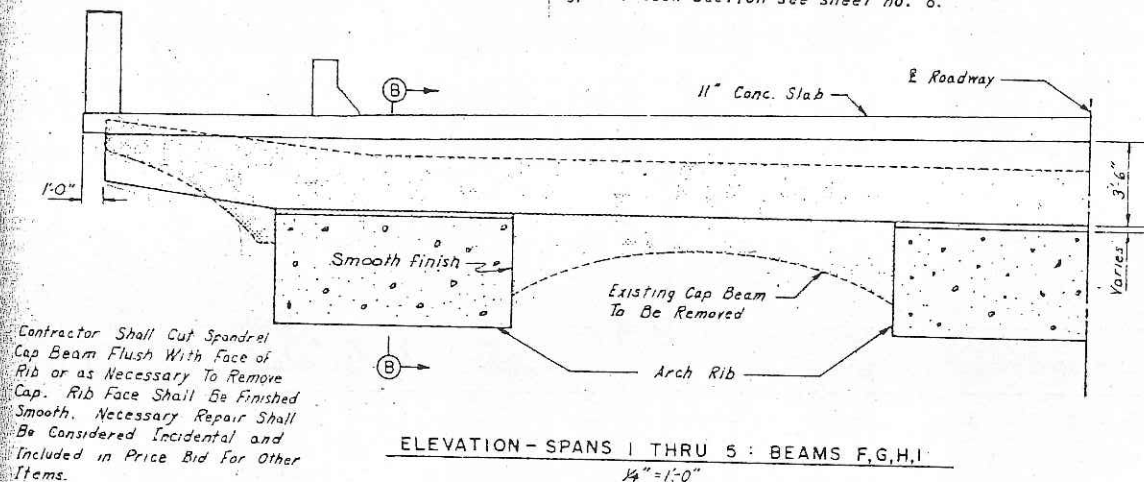


8 LF
BACK ON
S. FACE

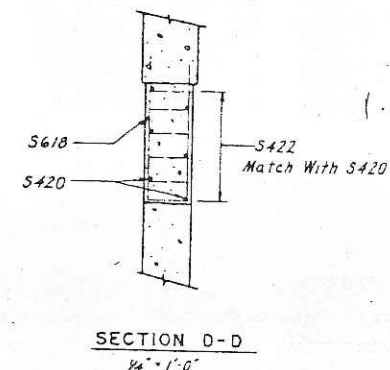
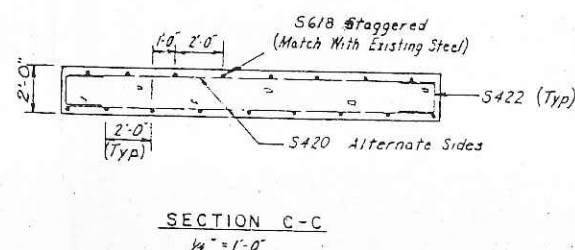
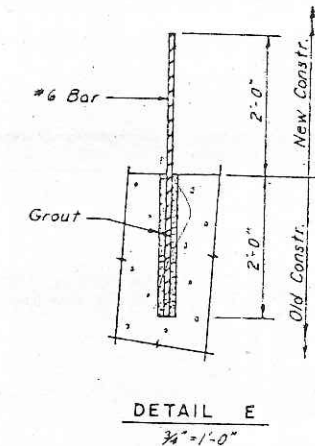
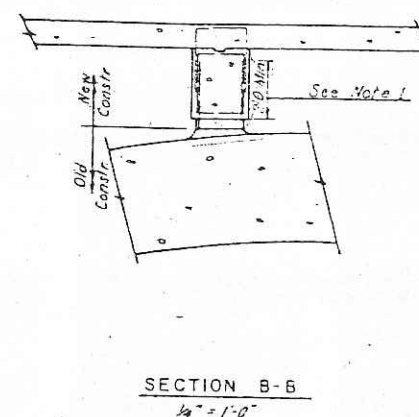
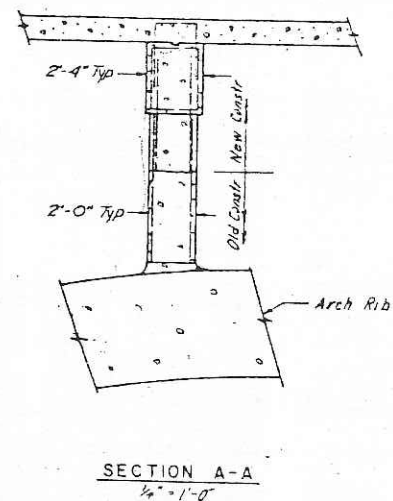
TITLE	DES. C.V.S.	DR. A.L.L.	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.T.	CHK. A.W.S.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



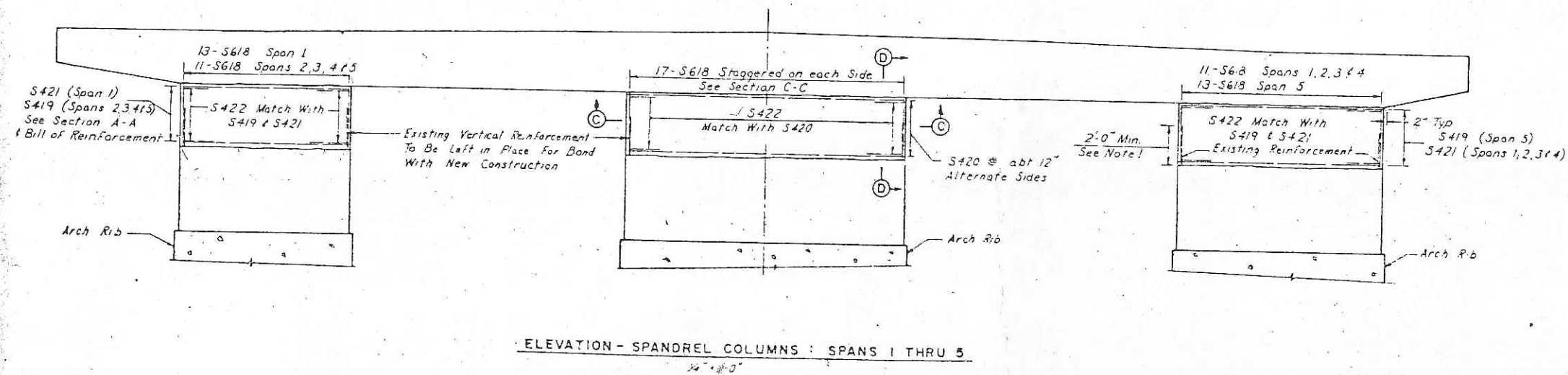
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.

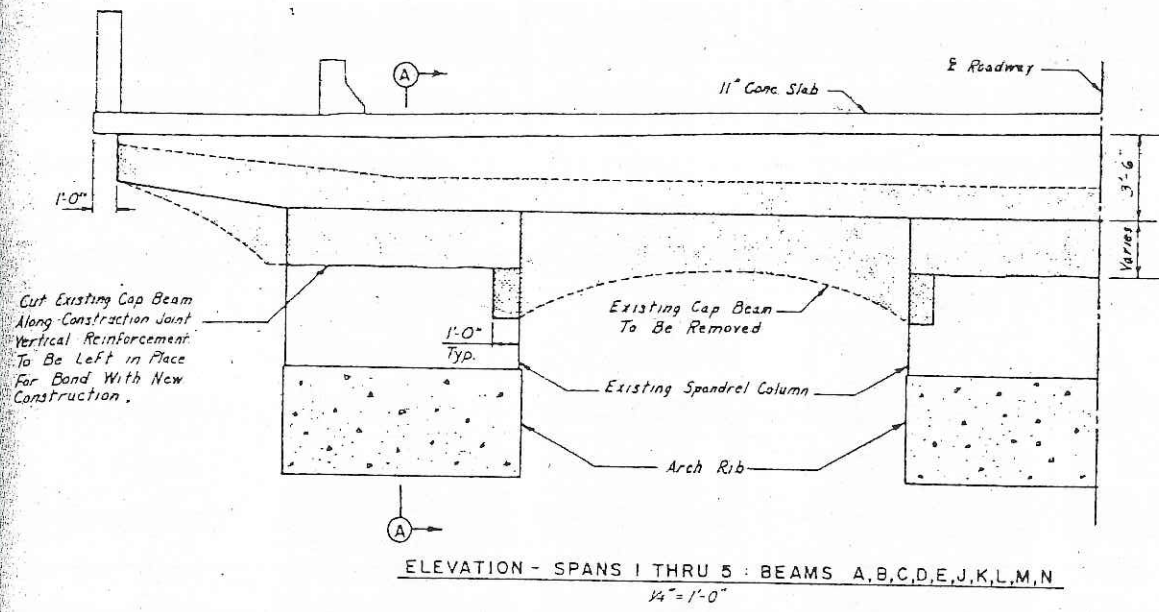


Note 1:
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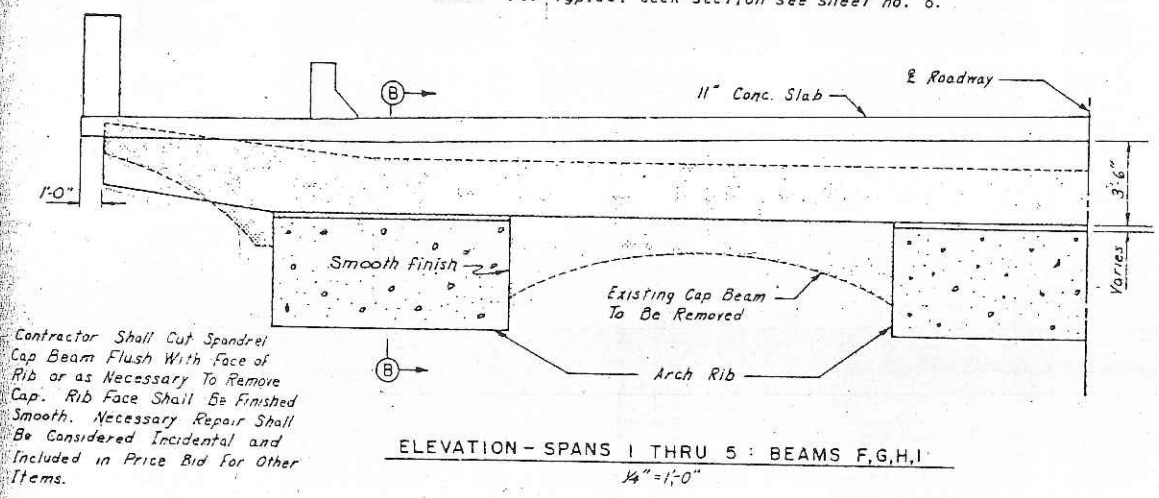


SPAN #4
CAP I
DECK HAS MINOR
WATER SAT
- SOME DELAM

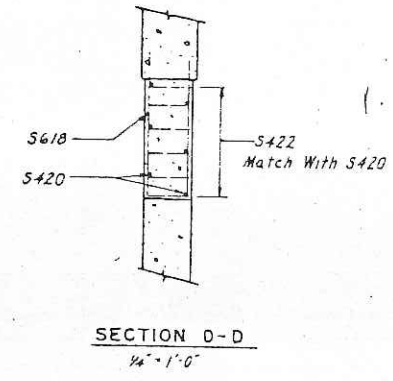
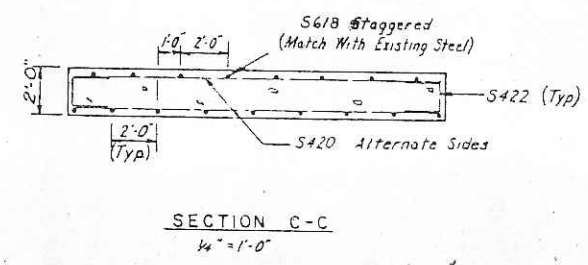
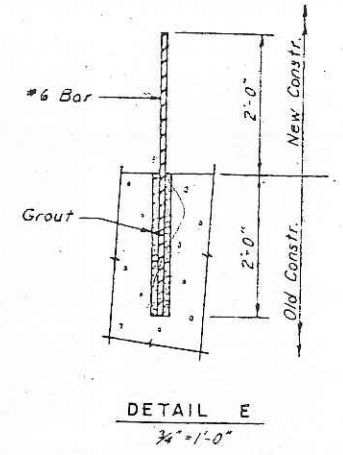
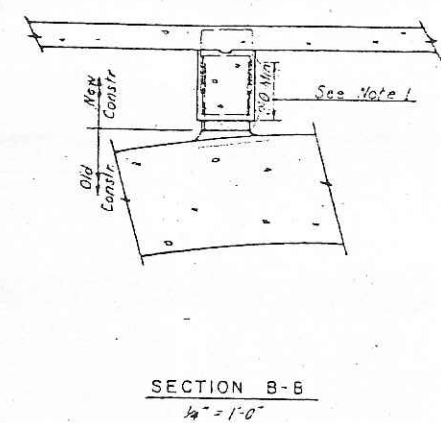
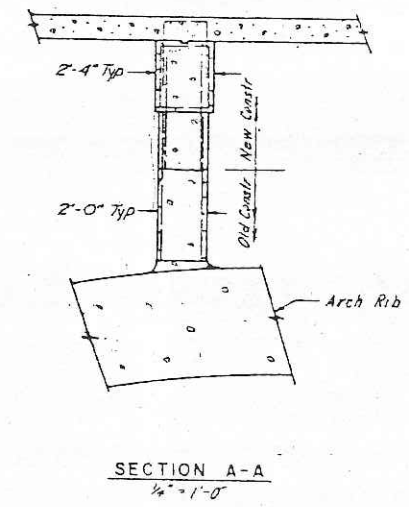
TITLE	DES. SVS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R. J.	CHK. A. W.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



Note: For typical deck section see sheet no. 6.

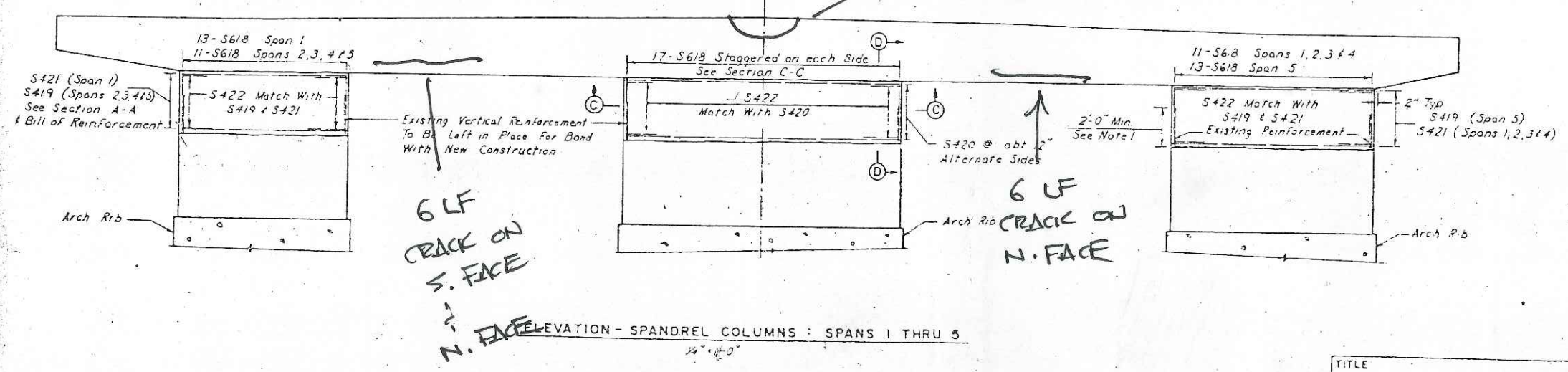


Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid for Other Items.



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4 LF SPALL / DELAM ON N. FACE



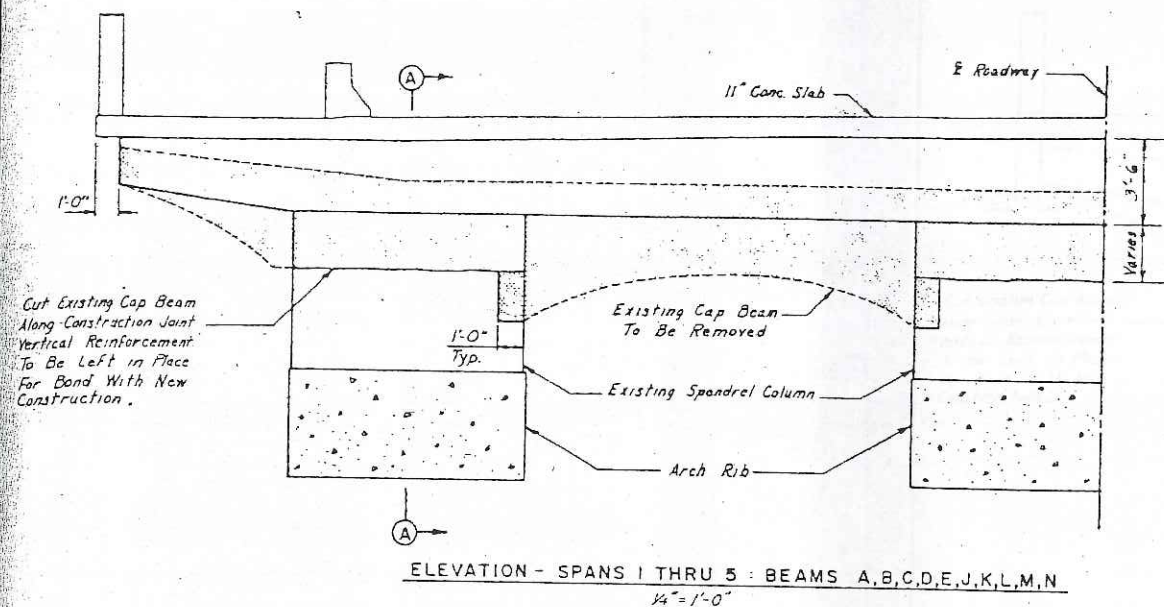
6 LF CRACK ON S. FACE
N. FACE

6 LF CRACK ON N. FACE

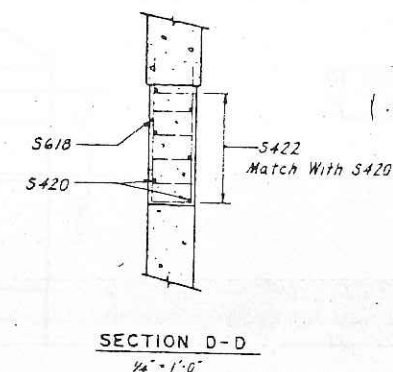
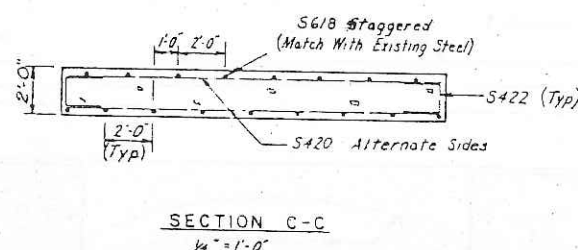
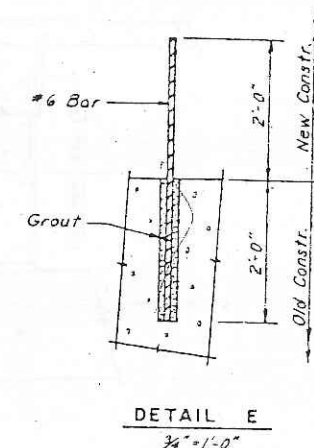
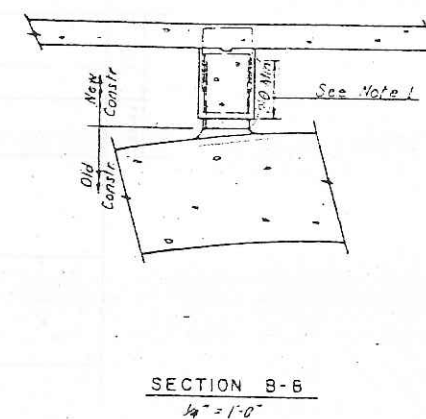
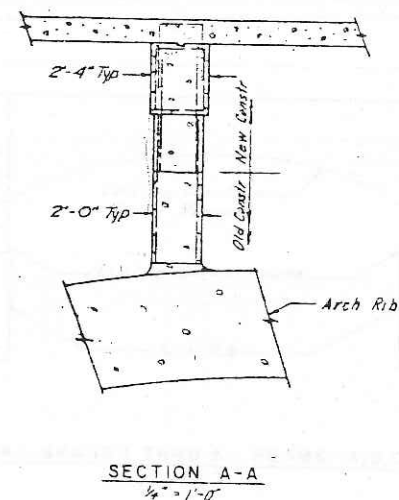
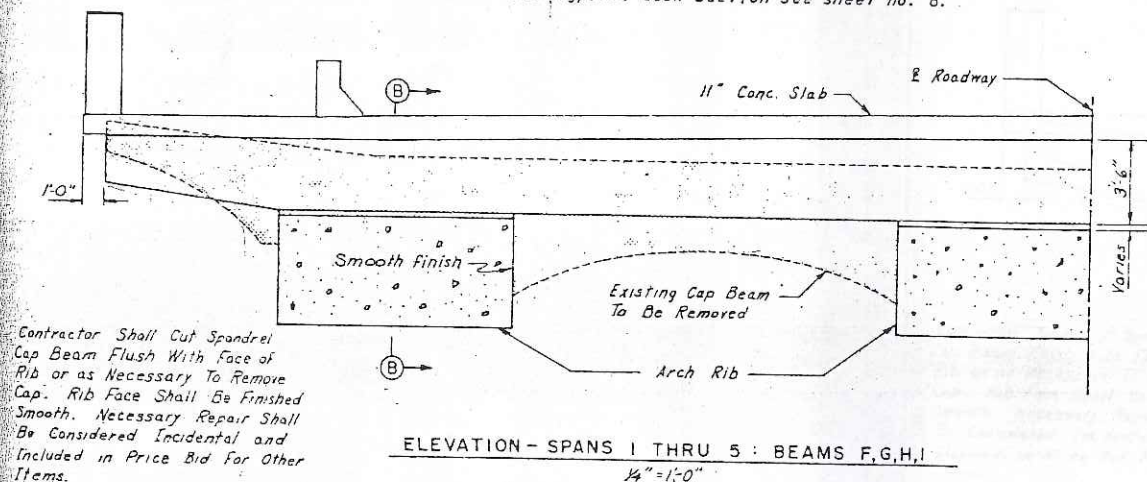
SPAN #4
CAP K

DECK 6-24" WATER SAT.
ONE DELAM

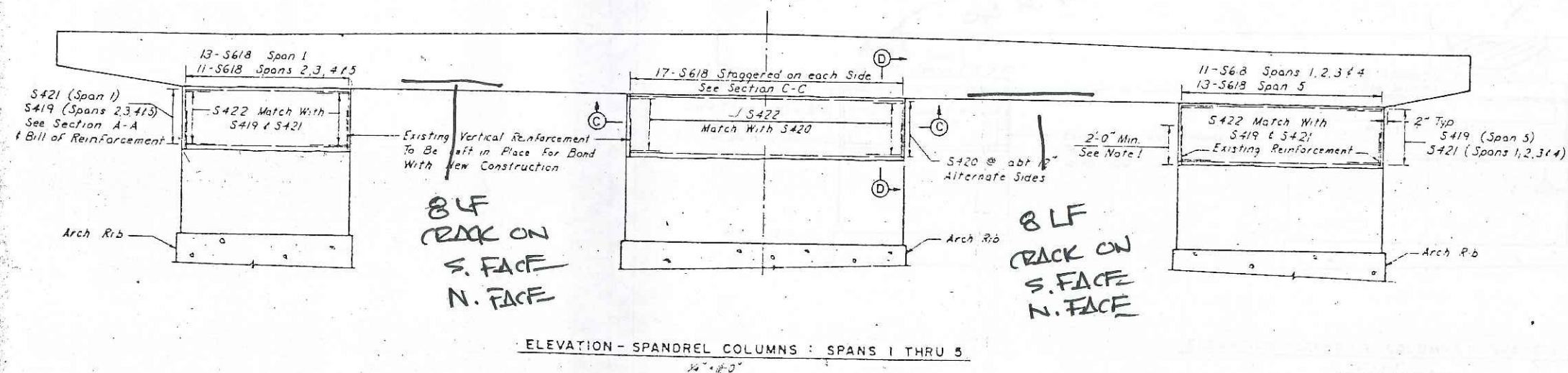
TITLE	DES. CWS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R/L	CHK. S/H	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



Notes: For typical deck section see sheet no. 6.



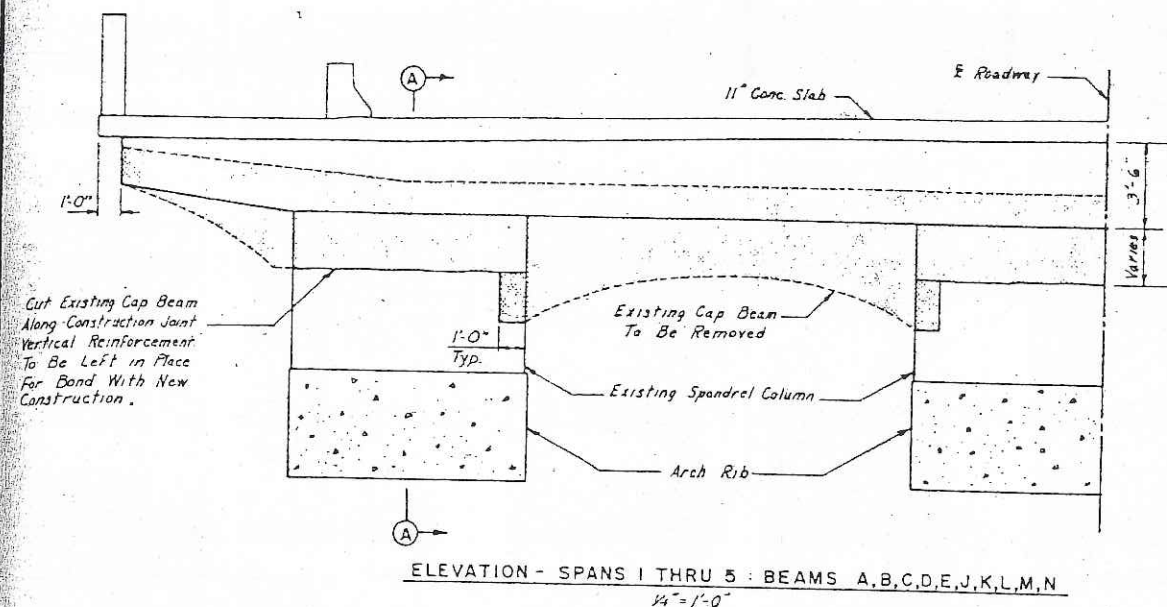
Note 1:
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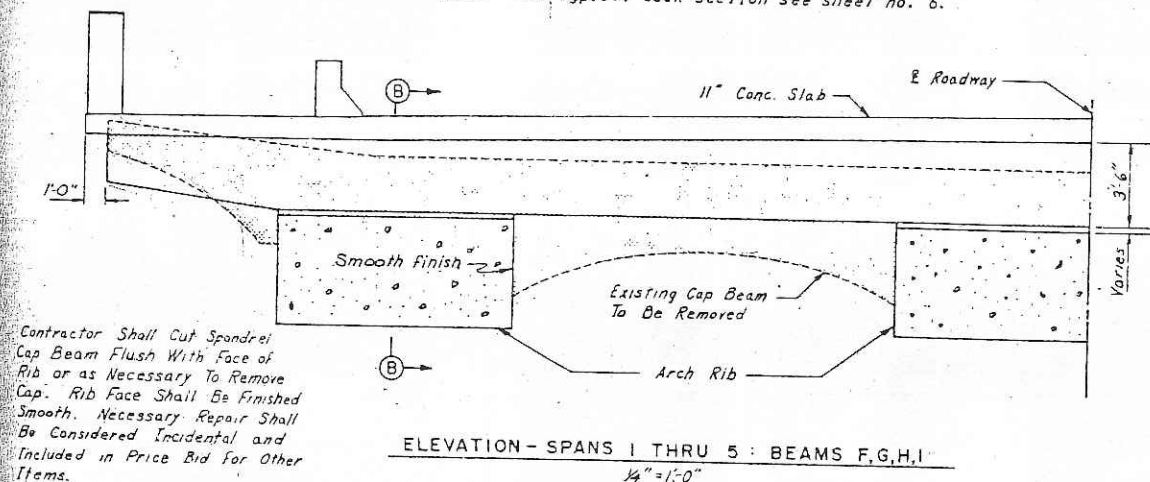
SPAN #4
CAP N

DECK HAS 10"-24" OF
WATER SAT
SEVERAL DELAMS

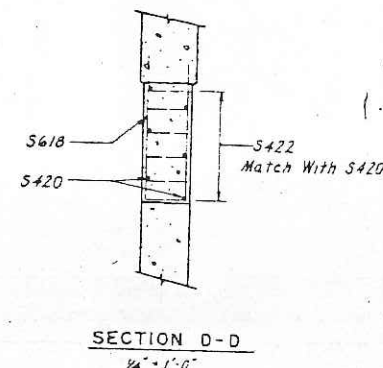
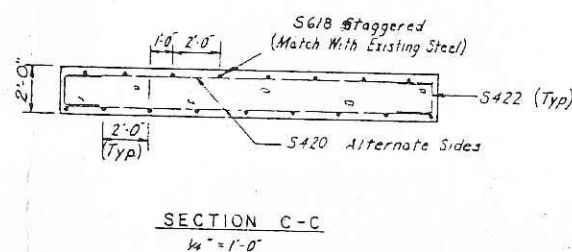
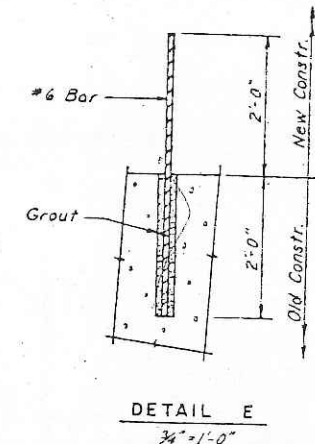
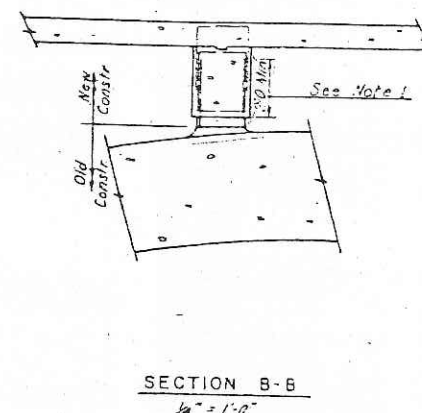
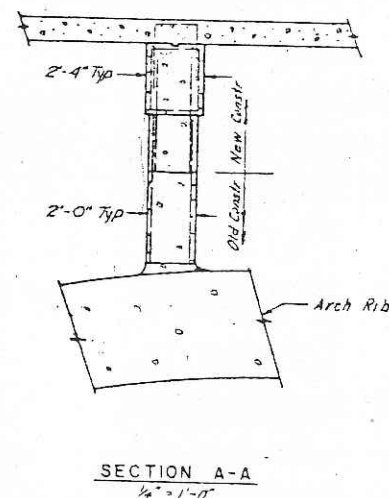
TITLE	DES	CVS	DR	ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK	REV	CHK	AWA	5-7-79	2440
Sheet No. 33 of 148 Sheets						



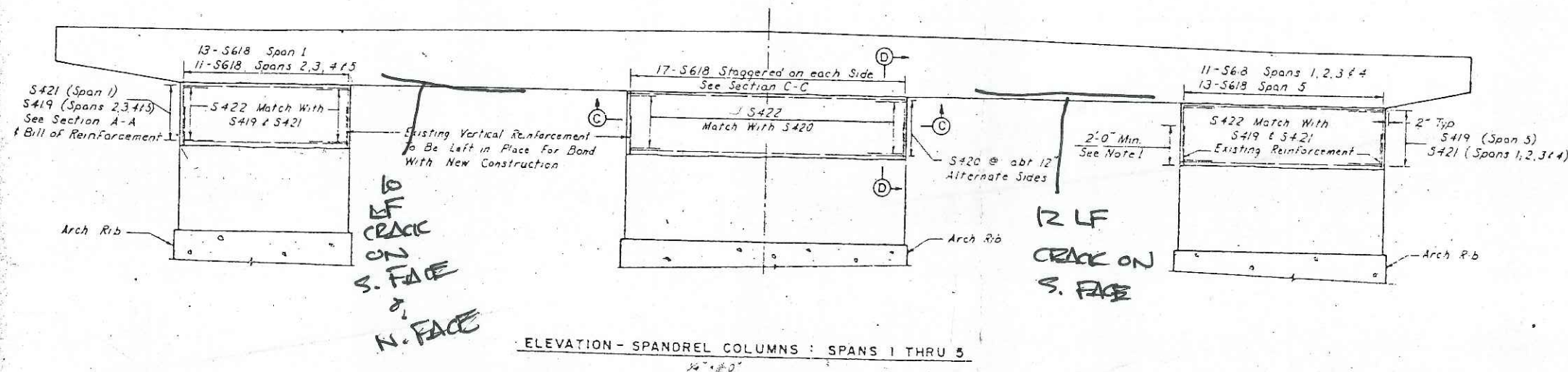
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.

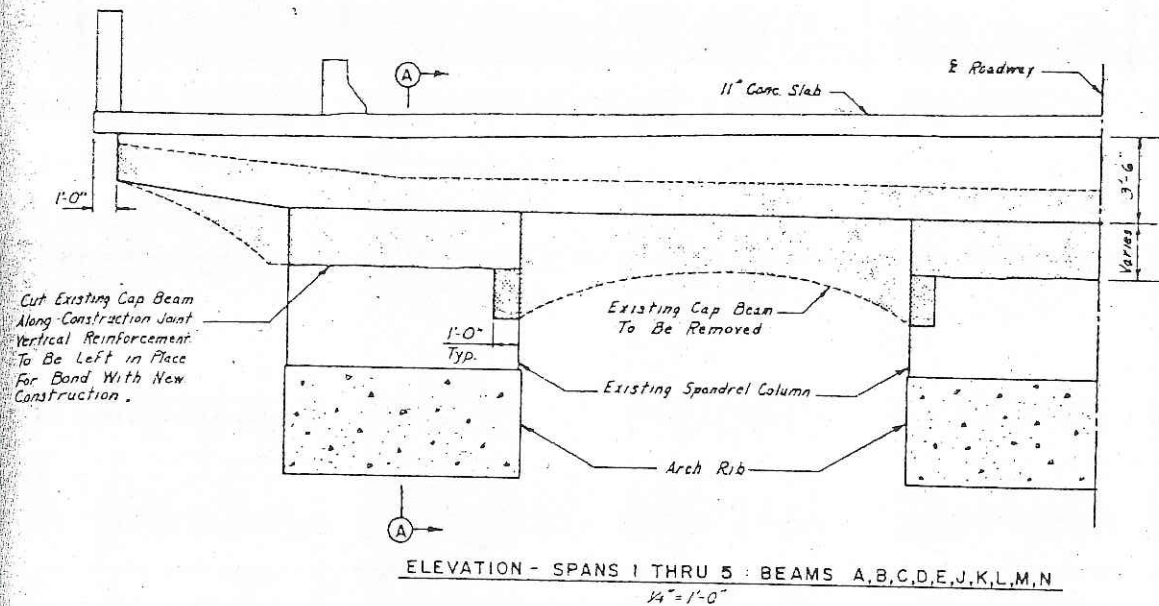


Note 1:
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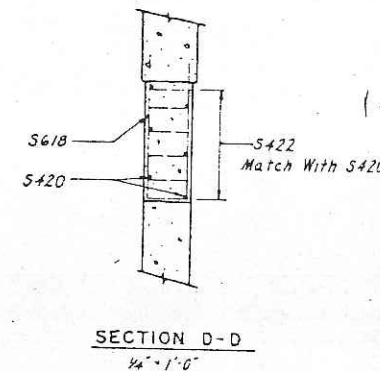
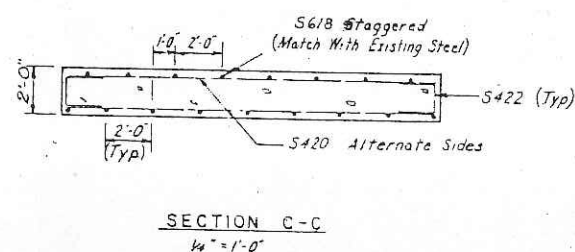
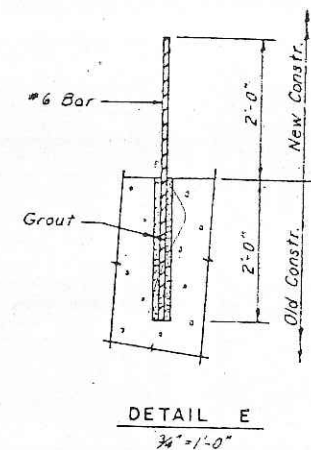
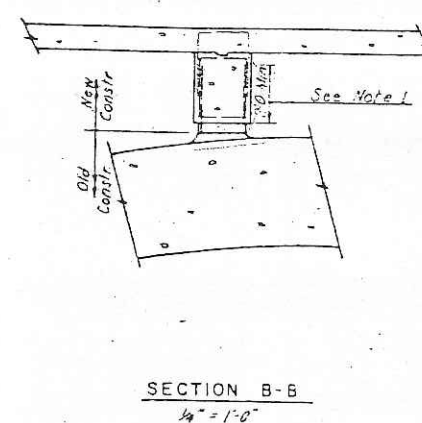
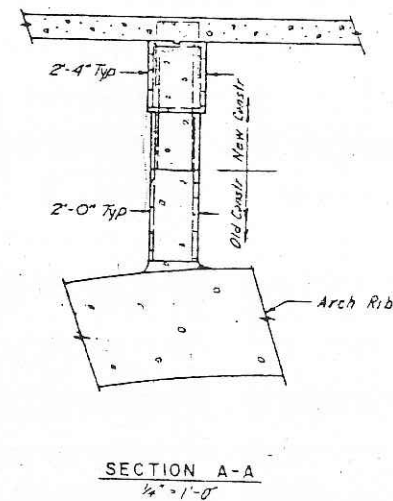
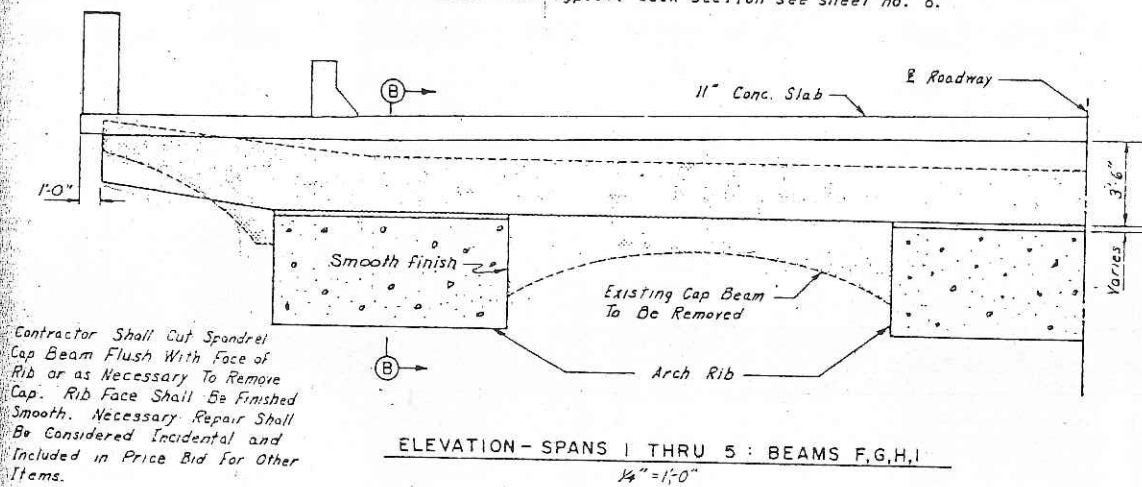


SPAN #5
CAP N
DECK HAS 12"-30" WATER SAT
EXTENSIVE DELAMINATIONS

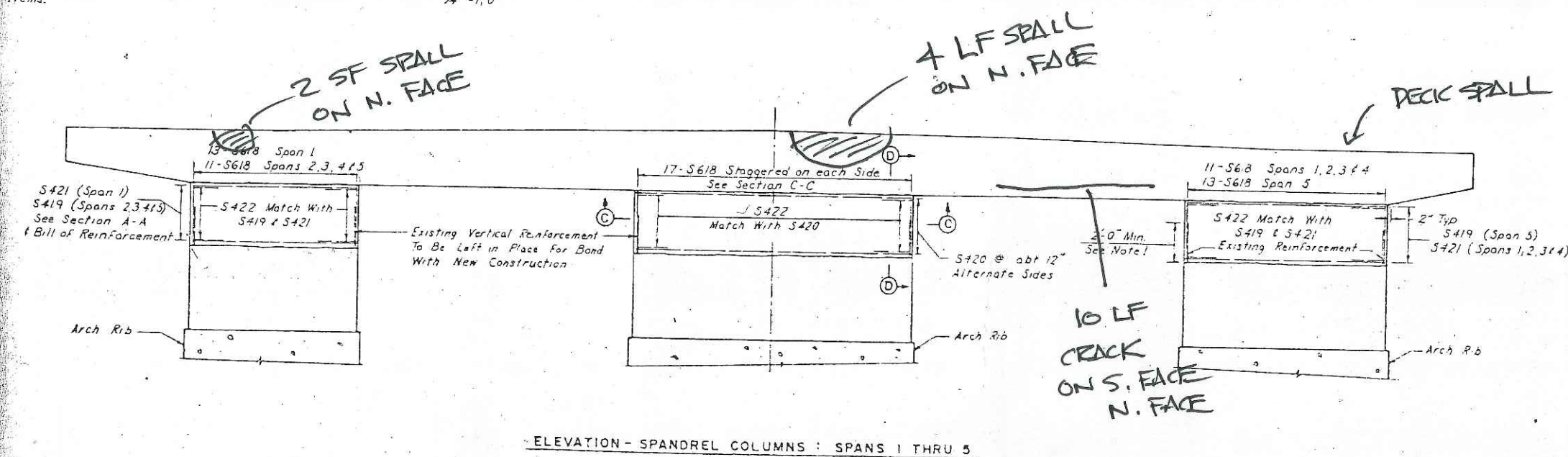
TITLE	DES. C.V.S.	DR. R.L.	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.V.	CHK. A.W.J.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			

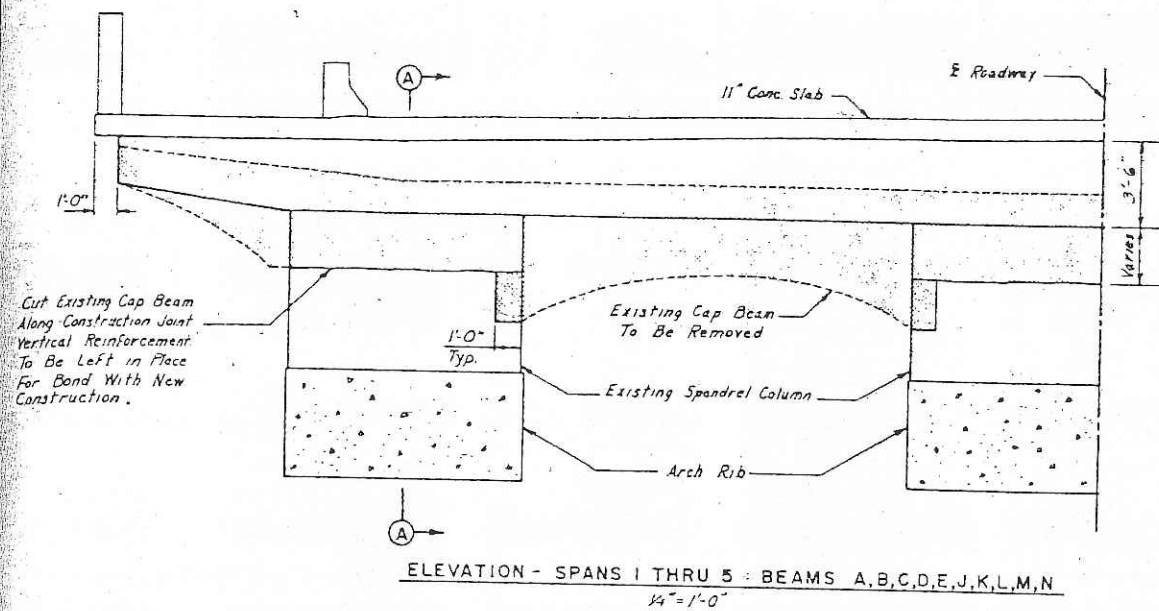


Note: For typical deck section see sheet no. 6.

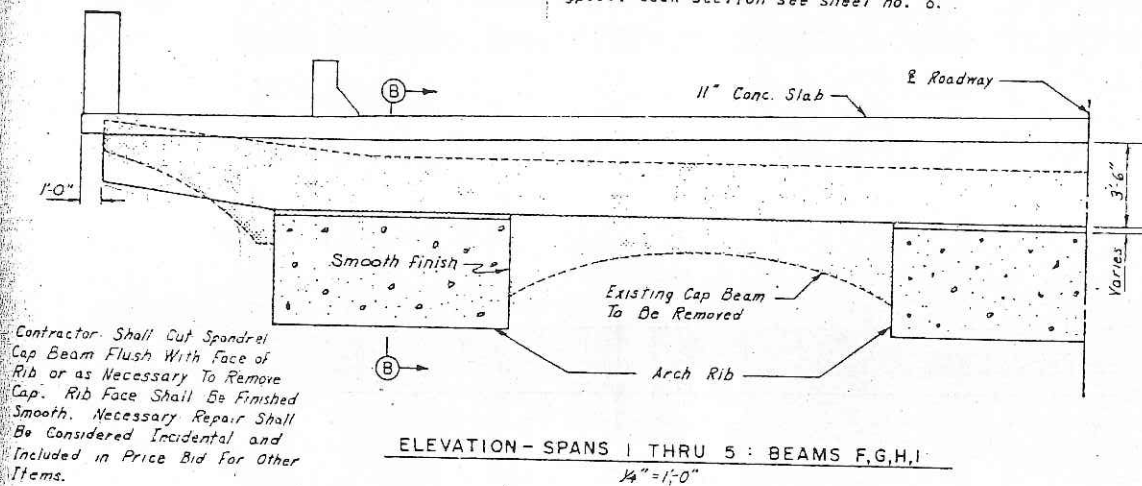


Note 1:
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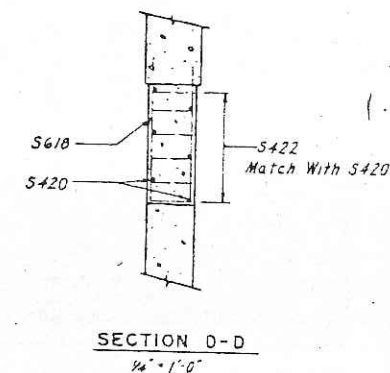
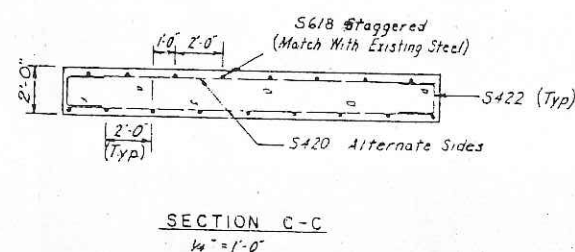
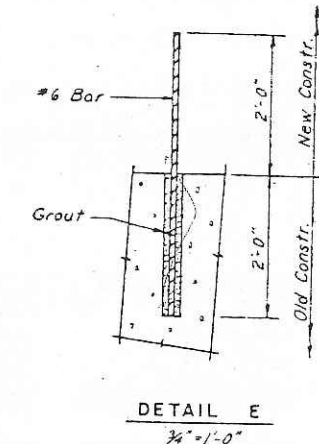
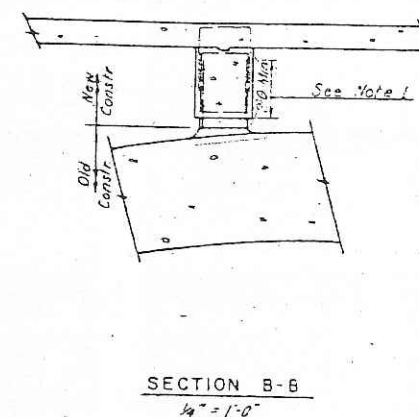
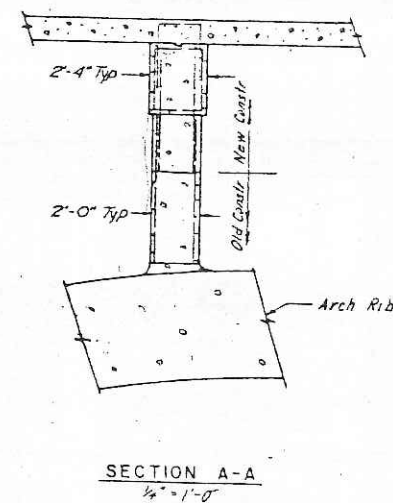




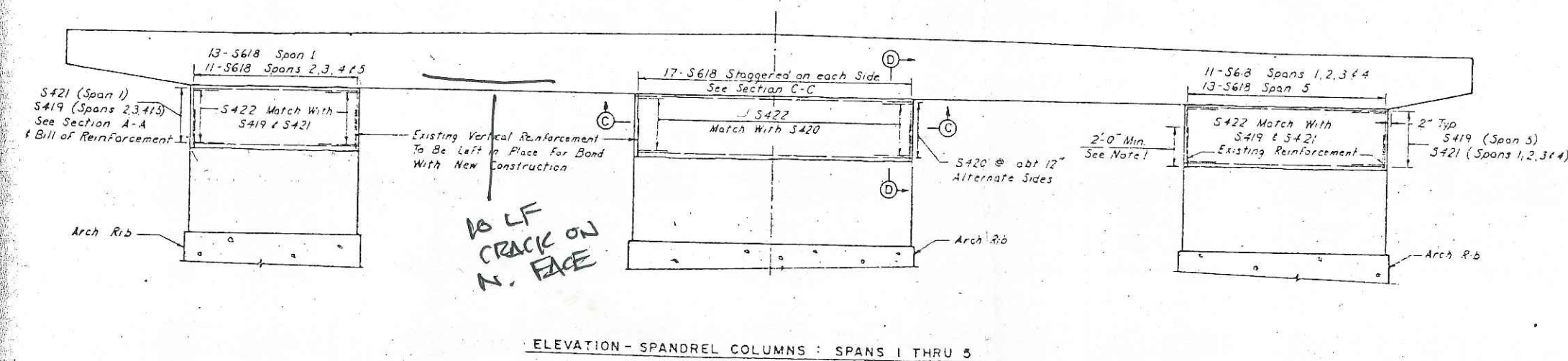
Note: For typical deck section see sheet no. 6.



Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



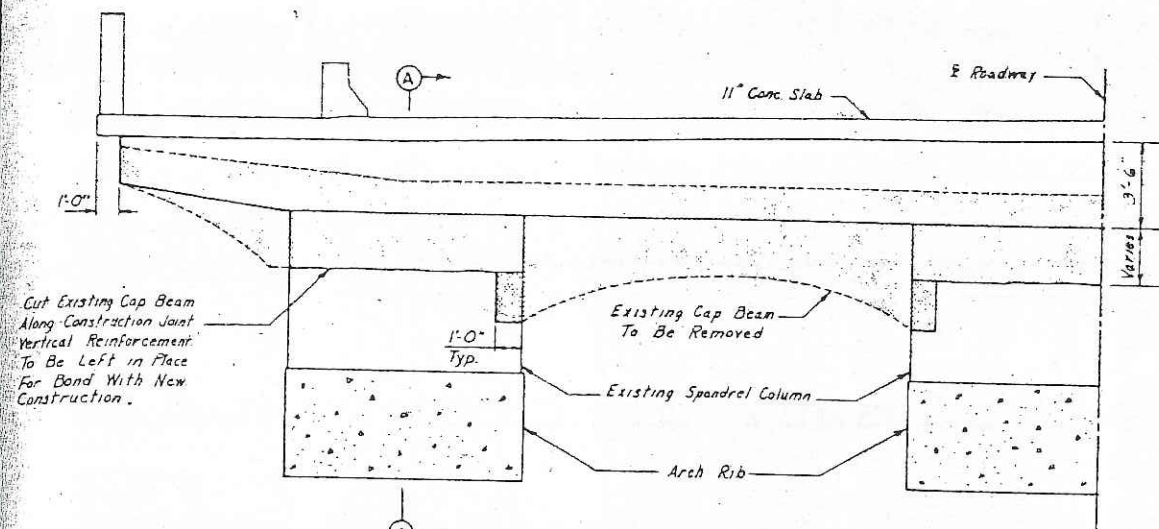
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



10 LF CRACK ON N. FACE

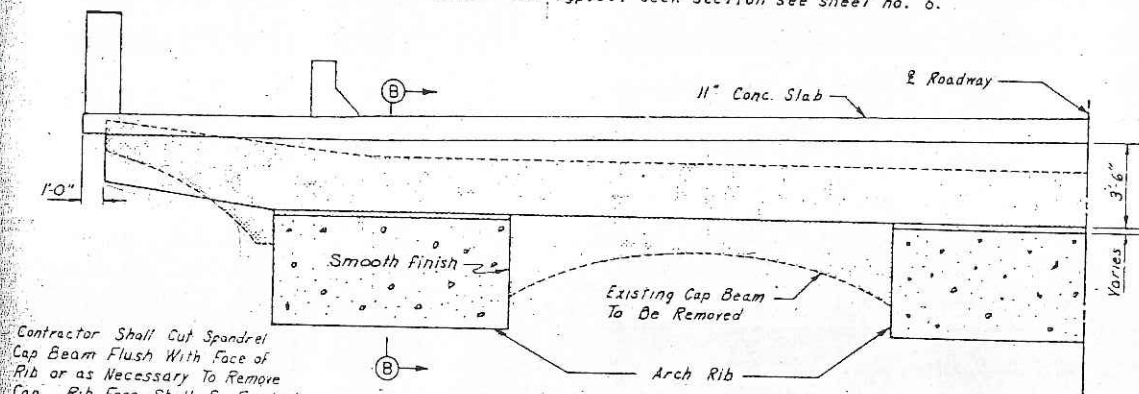
SPAN # 5
CAP D
DECK HAS 6" - 20"
WATER SAT.
SEVERAL DELAYS

TITLE	DES. CHS	DR. ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. R.V.	CHK. A.W.A.	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



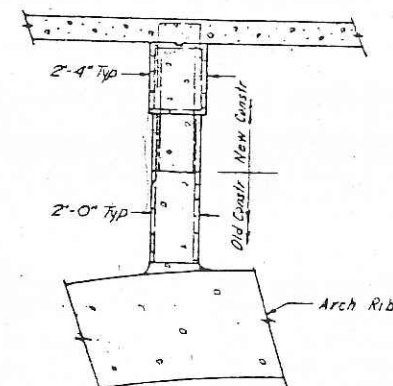
ELEVATION - SPANS 1 THRU 5 : BEAMS A,B,C,D,E,J,K,L,M,N
1/4" = 1'-0"

Note: For typical deck section see sheet no. 6.

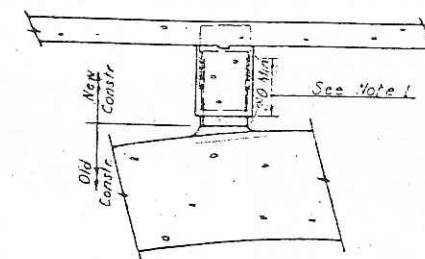


ELEVATION - SPANS 1 THRU 5 : BEAMS F,G,H,I
1/4" = 1'-0"

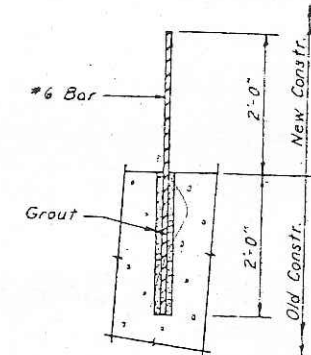
Contractor Shall Cut Spandrel Cap Beam Flush With Face of Rib or as Necessary To Remove Cap. Rib Face Shall Be Finished Smooth. Necessary Repair Shall Be Considered Incidental and Included in Price Bid For Other Items.



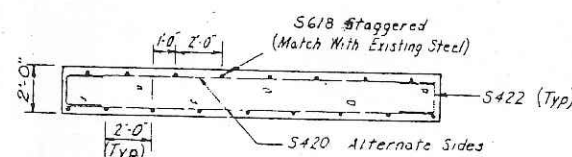
SECTION A-A
1/4" = 1'-0"



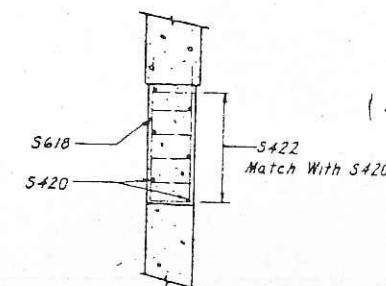
SECTION B-B
1/4" = 1'-0"



DETAIL E
3/4" = 1'-0"

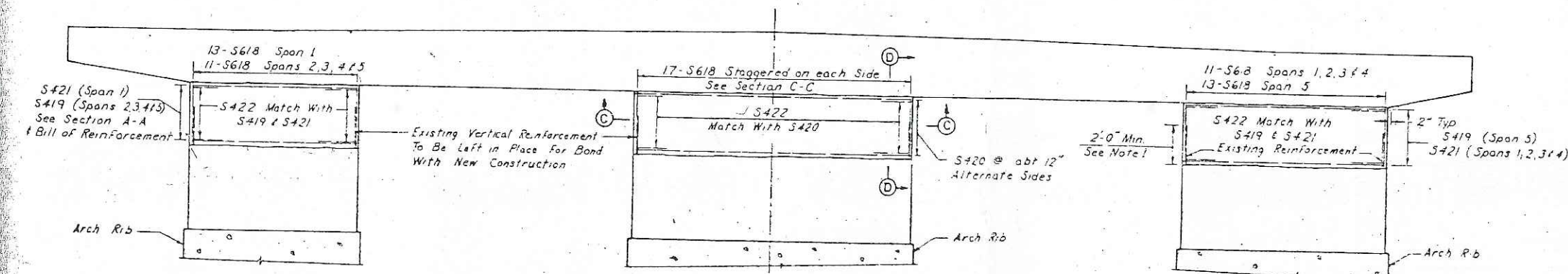


SECTION C-C
1/4" = 1'-0"



SECTION D-D
1/4" = 1'-0"

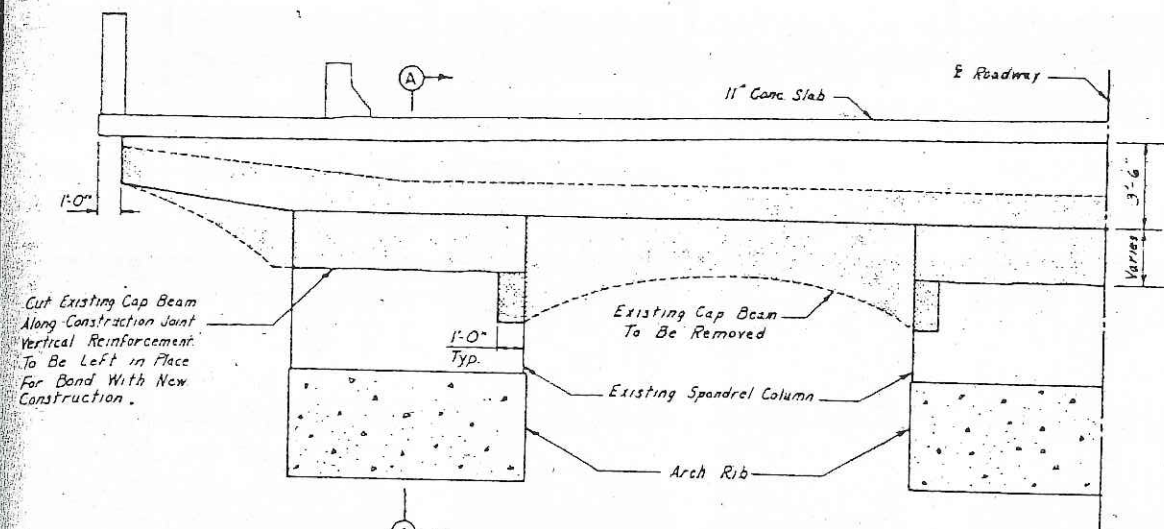
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



ELEVATION - SPANDREL COLUMNS : SPANS 1 THRU 5
1/4" = 1'-0"

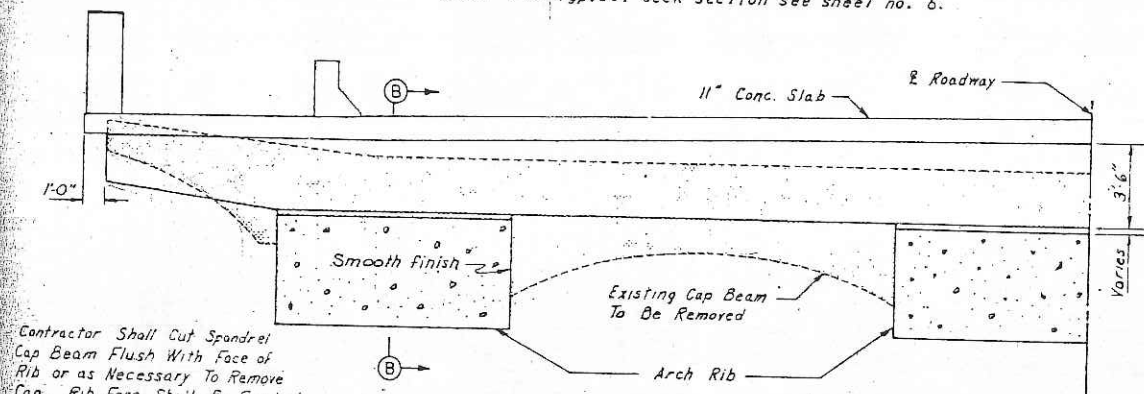
SPAN #5
CAP F
MINOR DECK DET.

TITLE	DES CYS	DR ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK 3/1	CHK AWA	5-7-77	2440
	Sheet No. 33 of 148 Sheets			

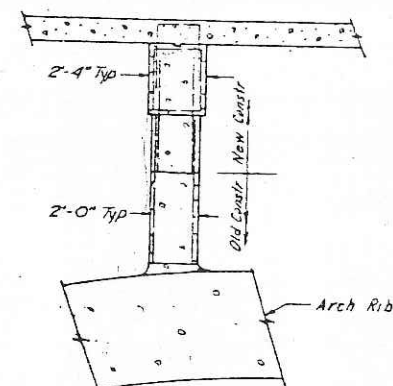


ELEVATION - SPANS 1 THRU 5 : BEAMS A,B,C,D,E,J,K,L,M,N
1/4" = 1'-0"

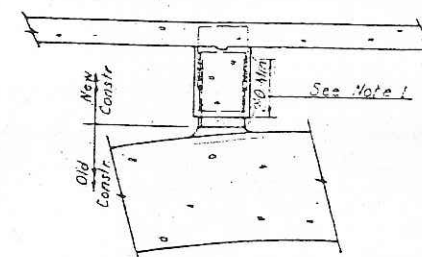
Note: For typical deck section see sheet no. 6.



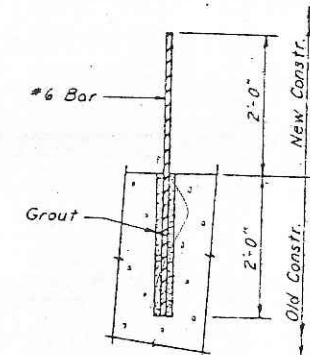
ELEVATION - SPANS 1 THRU 5 : BEAMS F,G,H,I
1/4" = 1'-0"



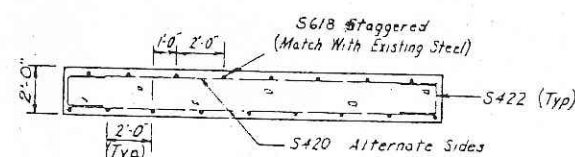
SECTION A-A
1/4" = 1'-0"



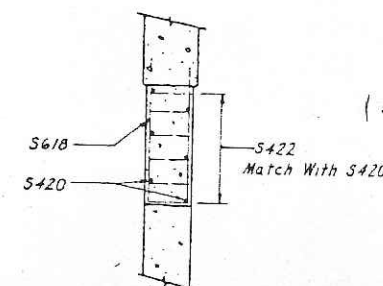
SECTION B-B
1/4" = 1'-0"



DETAIL E
3/4" = 1'-0"

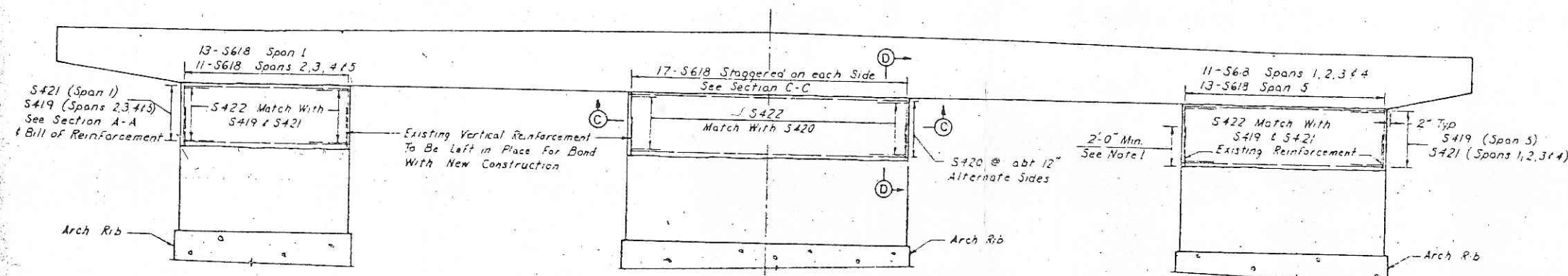


SECTION C-C
1/4" = 1'-0"



SECTION D-D
1/4" = 1'-0"

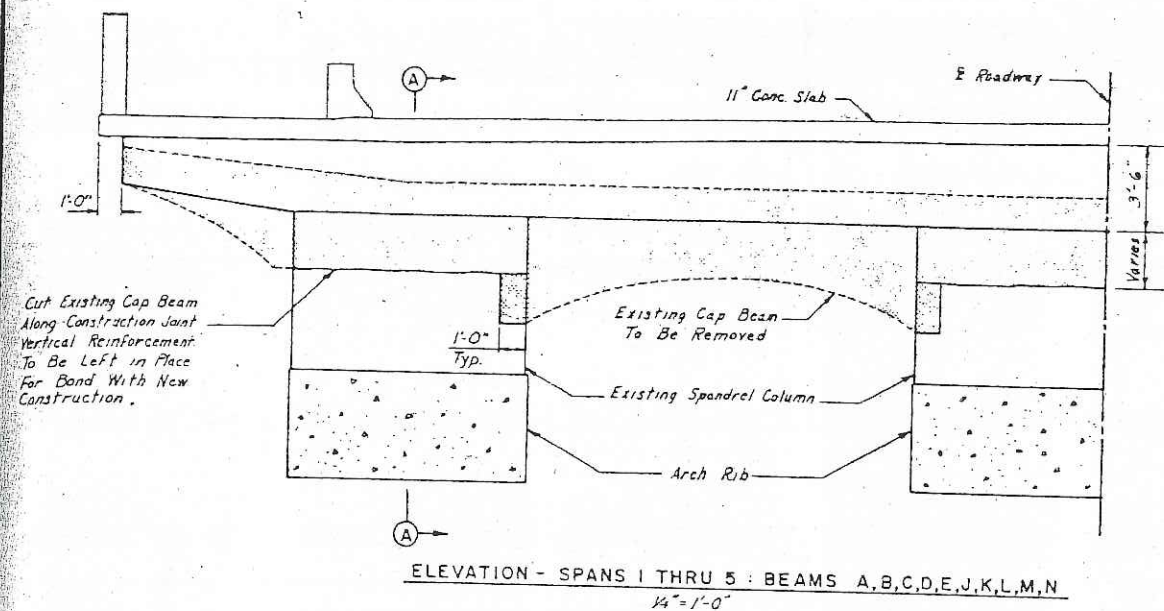
Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



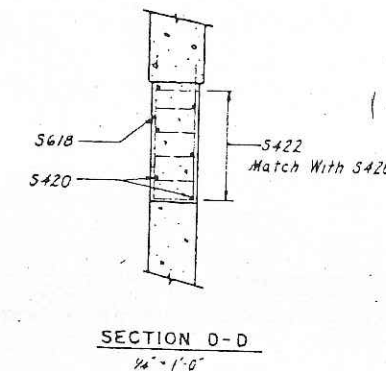
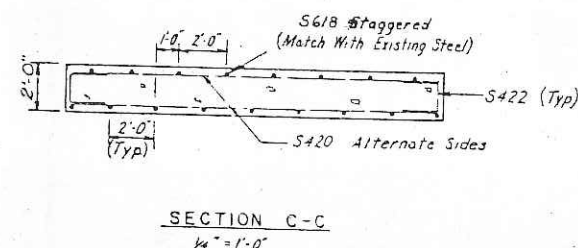
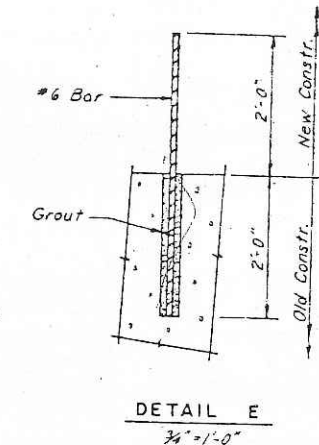
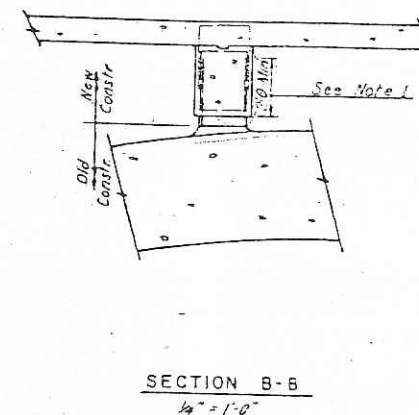
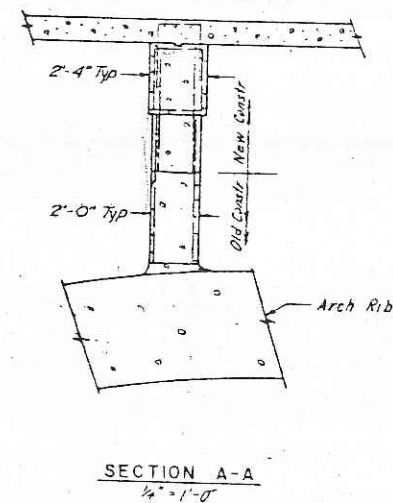
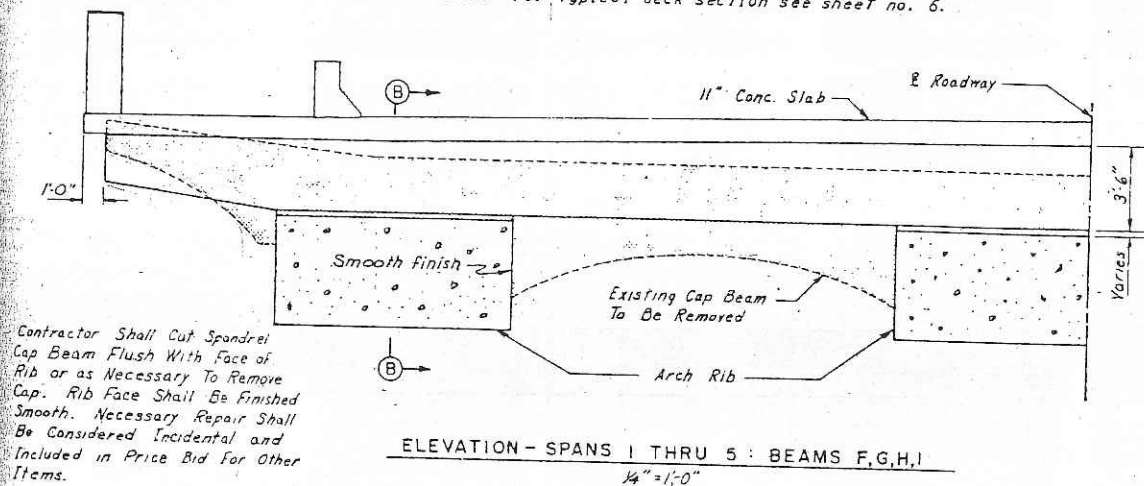
ELEVATION - SPANDREL COLUMNS : SPANS 1 THRU 5
1/4" = 1'-0"

SPAN # 5
CAP I
DECK HAS 6" WATER SAT
SOME SMALL DELAYS

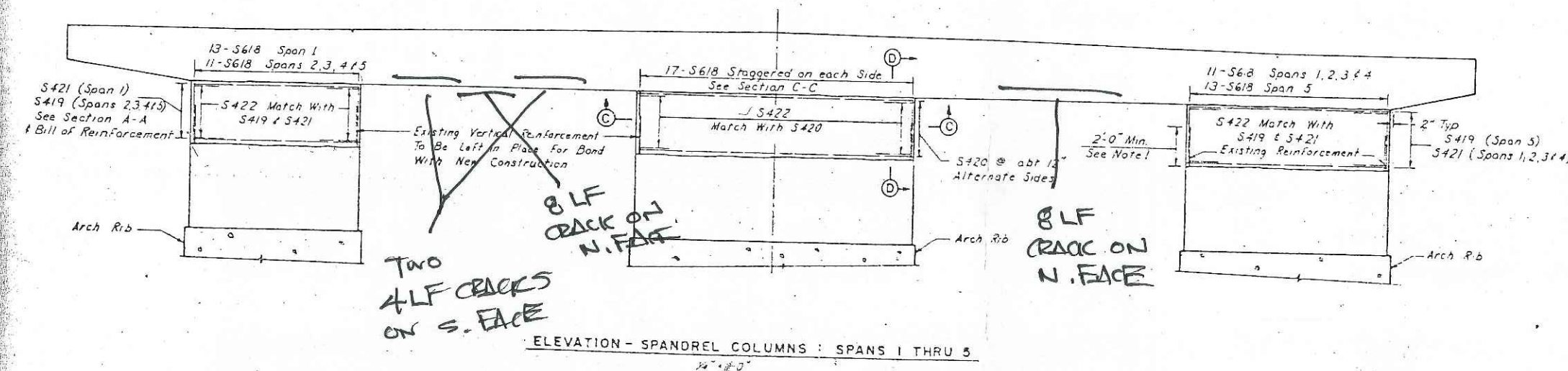
TITLE	DES CWS	DR ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK R/I	CHK AWA	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



Note: For typical deck section see sheet no. 6.

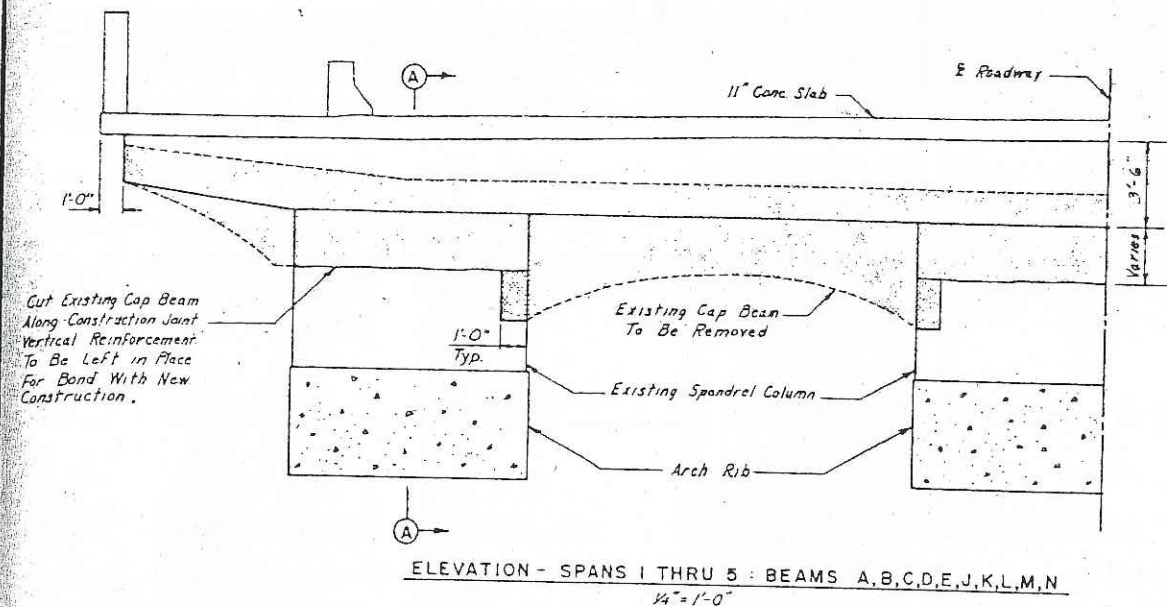


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.

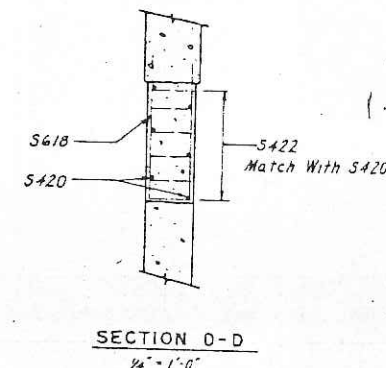
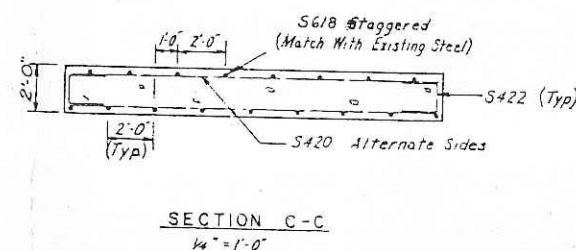
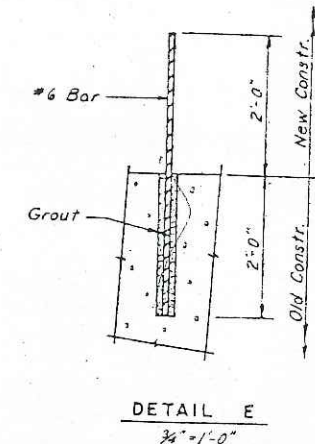
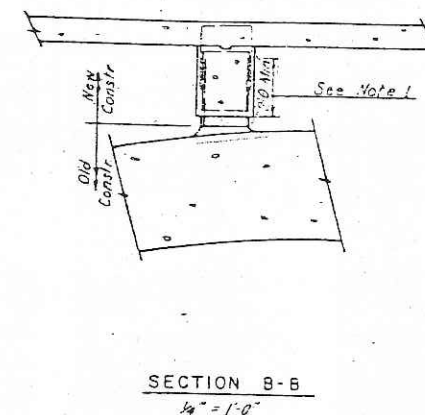
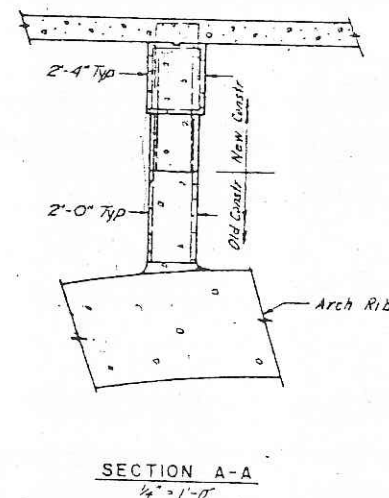
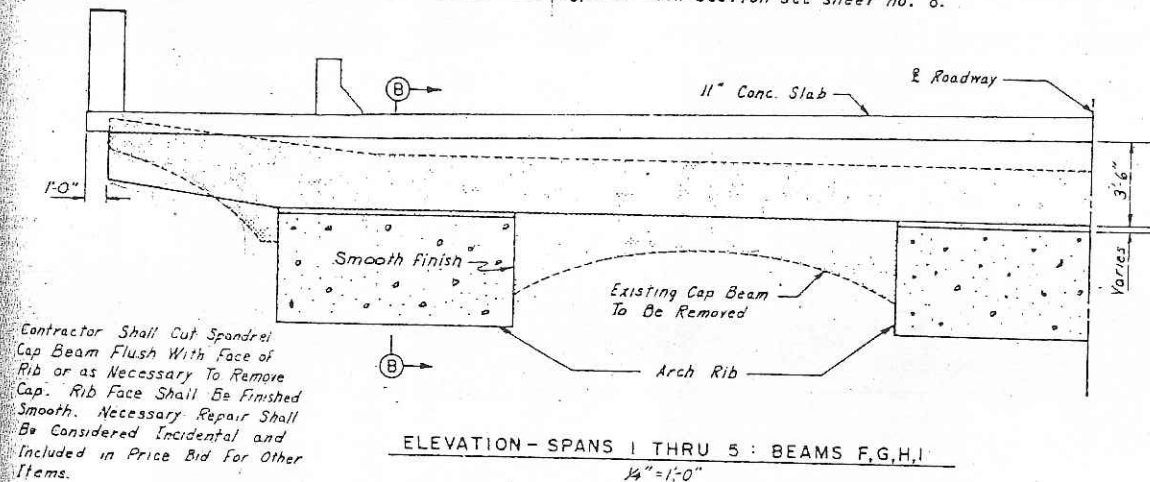


SPAN # 5
CAP K
DECK HAS
6-12" WATER SAT
SOME DELAYS

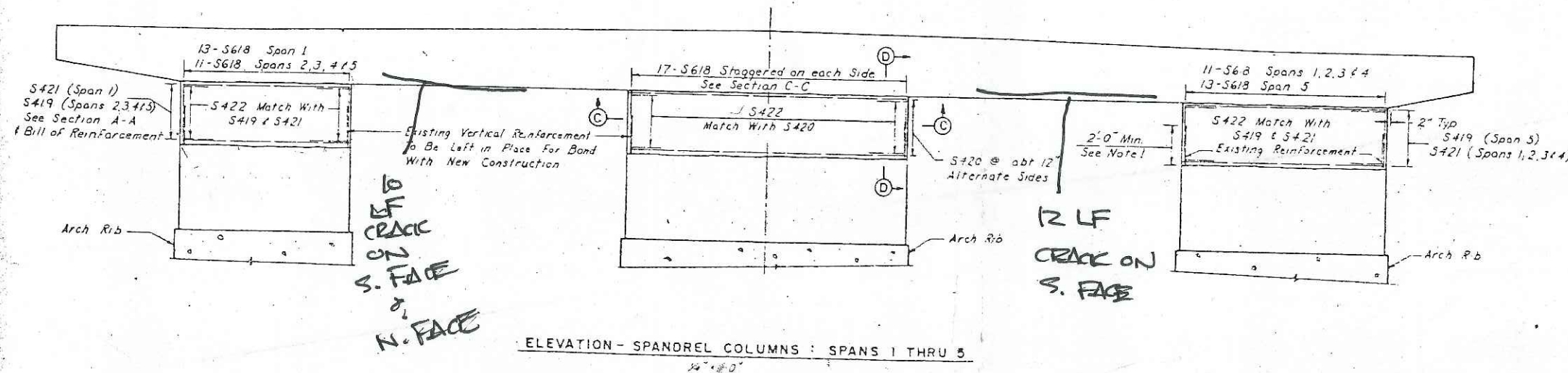
TITLE	DES CWS	DR ALL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK R/L	CHK AWA	5-7-77	2440
	Sheet No. 33 of 148 Sheets			



Note: For typical deck section see sheet no. 6.

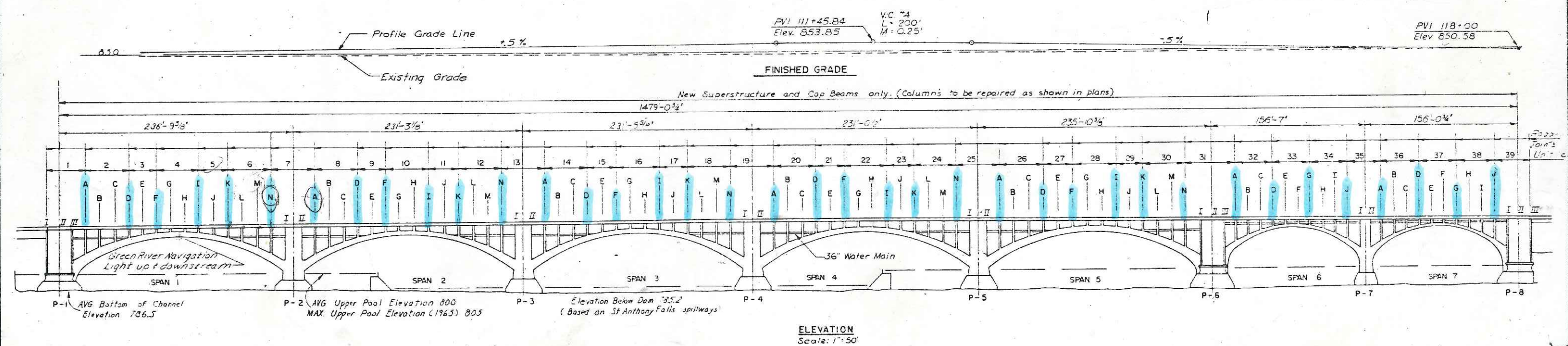
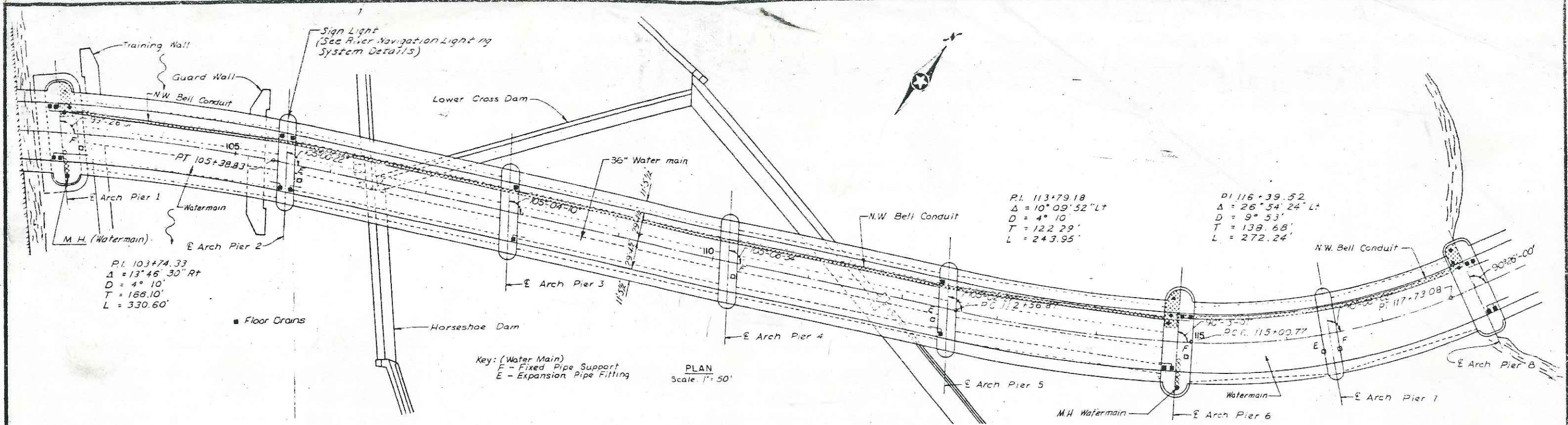


Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



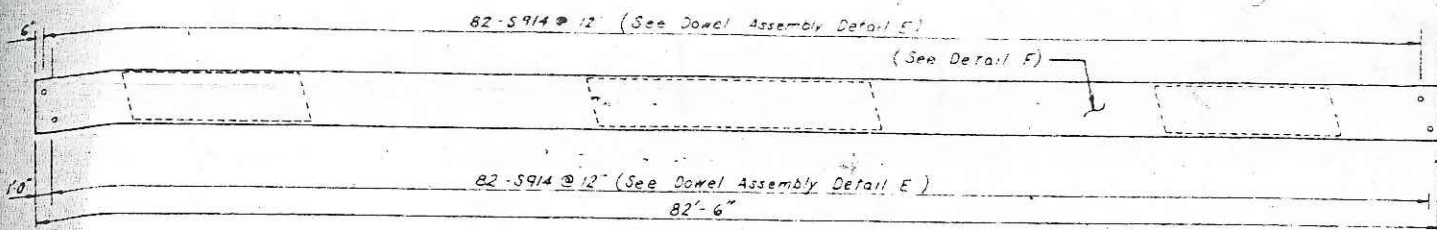
SPAN #5
CAP N
DECK HAS 12"-30" WATER SAT
EXTENSIVE DELAMINATIONS

TITLE	DES. CYS	DR. REL	APPROVED	Bridge No.
SPANDREL COLUMN DETAILS	CHK. REL	CHK. CWS	5-7-77	2440
			Sheet No. 33 of 148 Sheets	



Note: Top of existing arch elevation = 845.3'

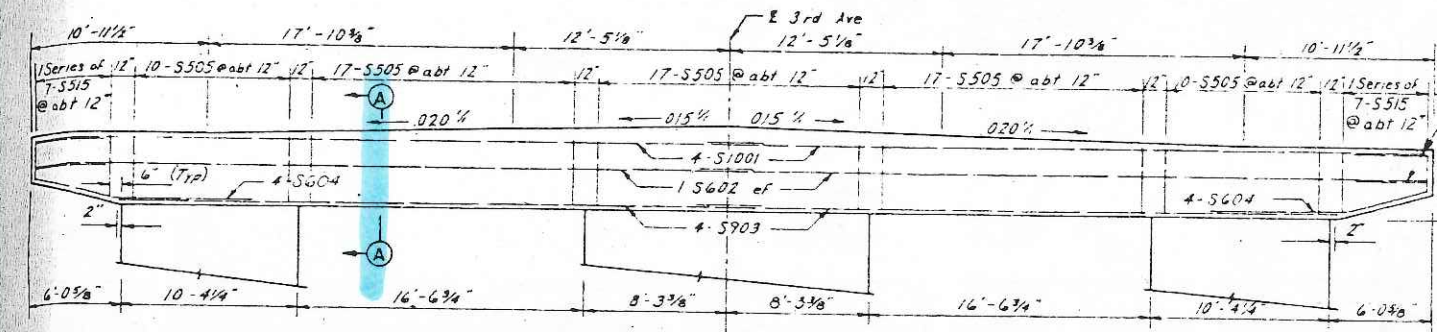
Note: For roadway joint details see sheet number 47



PLAN - EXPANSION CAP BEAMS: SPANS 2, 3 & 4

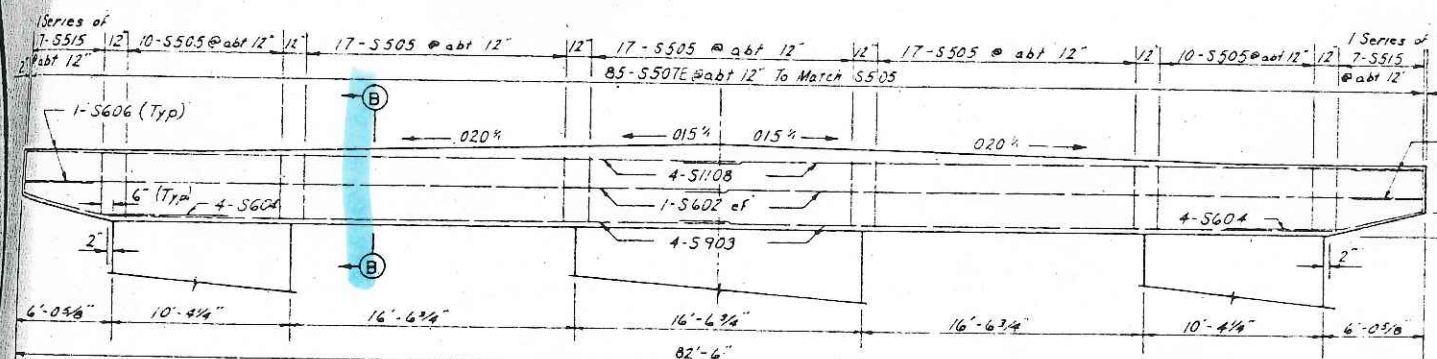
Vert $\frac{3}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Dimensions must be verified
in the field.



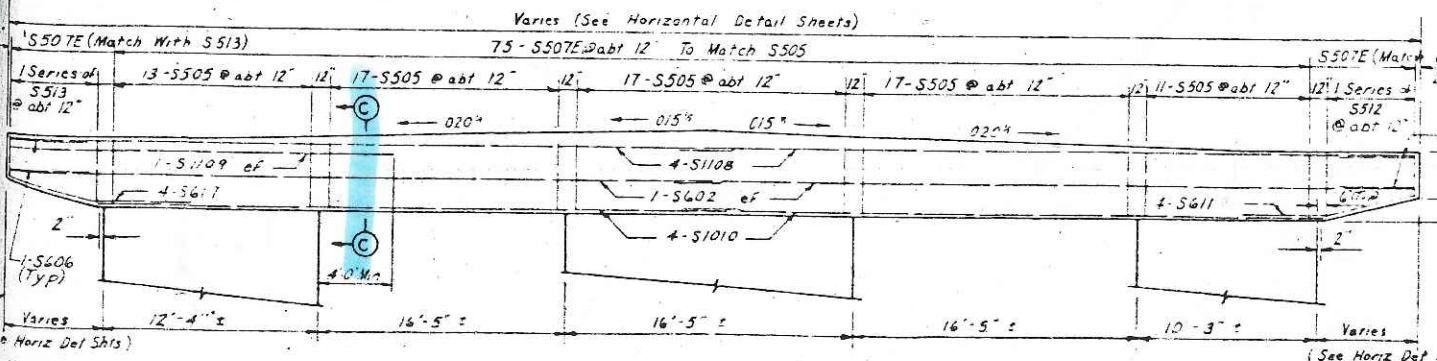
ELEVATION - EXPANSION CAP BEAMS: SPANS 2, 3, 4

Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"



ELEVATION - FIXED CAP BEAMS: SPANS 2, 3, 4

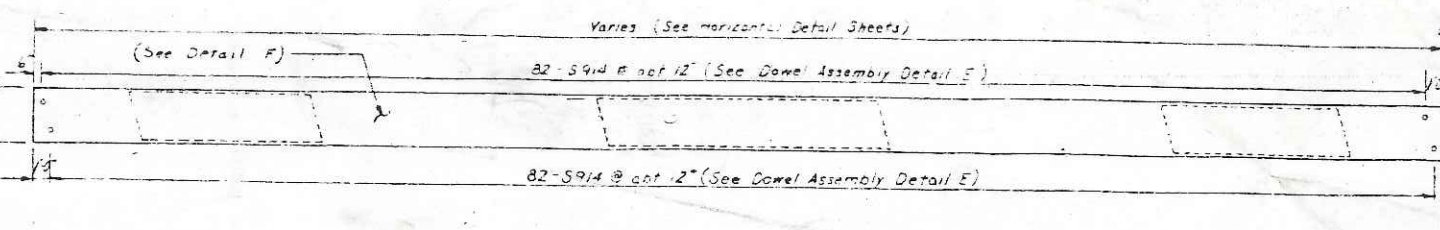
Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"



ELEVATION - FIXED CAP BEAMS: SPAN 1 & 5

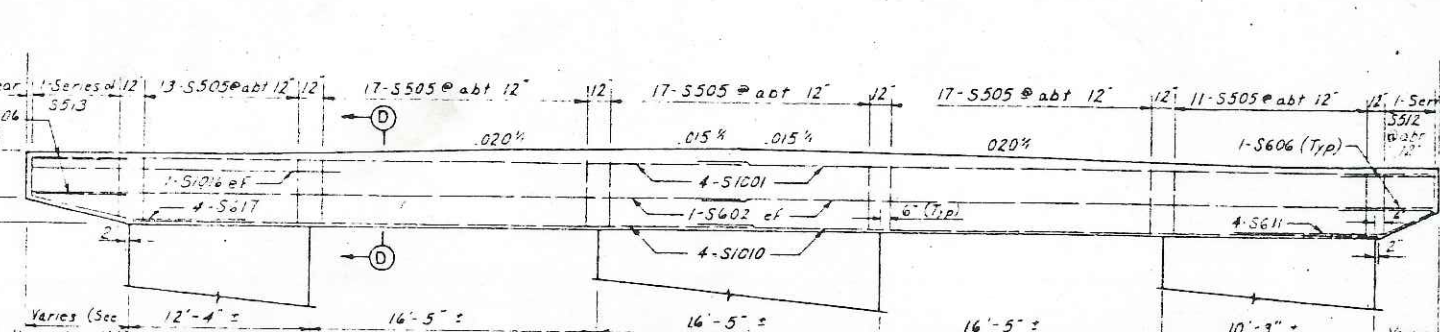
Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Note
S1109 bars to be located on North
Face (upstream side) of cap beam in
Span 1 & on South Face (downstream
side) of cap beam in Span 5



PLAN - EXPANSION CAP BEAMS: SPANS 1 & 5

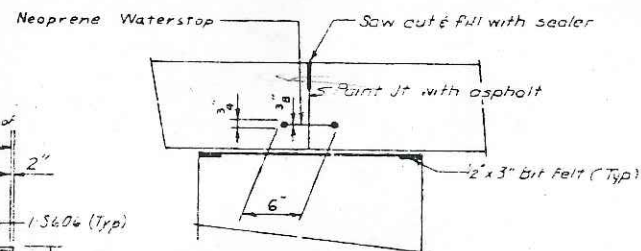
Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"



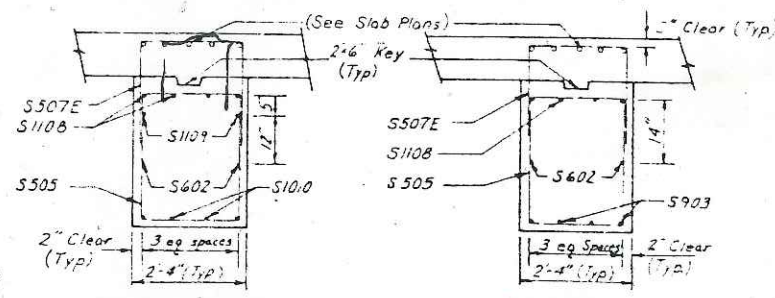
ELEVATION - EXPANSION CAP BEAMS: SPAN 1 & 5

Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Note
S1016 bars to be located on North
Face (upstream side) of cap beam in
Span 1 & on South Face (downstream
side) of cap beam in Span 5

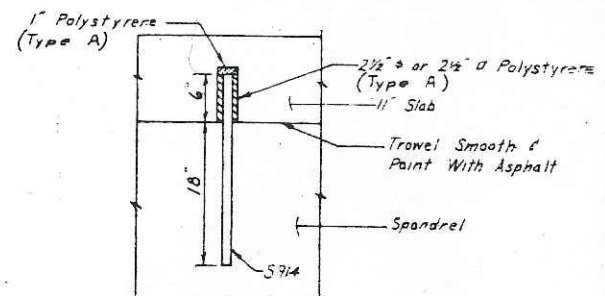


DETAIL F
No Scale

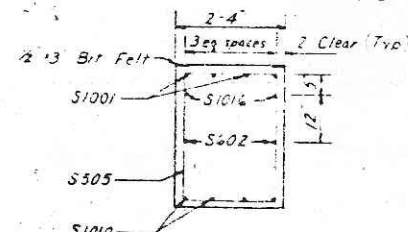


SECTION C-C
 $\frac{1}{2}$ " = 1'-0"

SECTION B-B
 $\frac{1}{2}$ " = 1'-0"



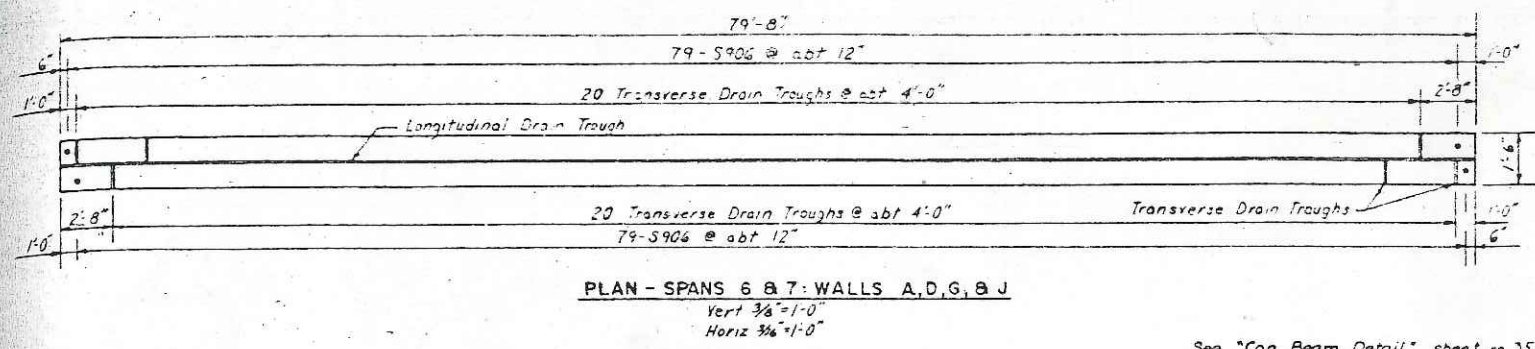
SHEAR DOWEL ASSEMBLY - DETAIL E
1" = 1'-0"



SECTION D-D
 $\frac{1}{2}$ " = 1'-0"

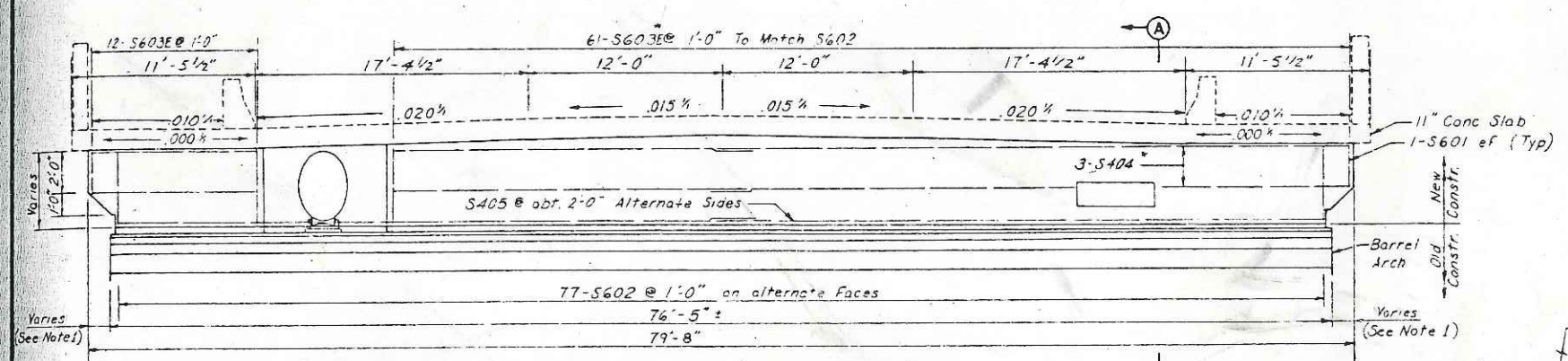
SECTION A-A
 $\frac{1}{2}$ " = 1'-0"

TITLE:	DES:	CHK:	DR:	APPROVED:	Bridge No:
CAP BEAM DETAILS	CHK:	CHK:	CHK:	5-7-70	2440
	Sheet No. 35 of 148 Sheets				



See "Cap Beam Detail" sheet no 35 for drain trough detail.

Note: For typical deck section see sheet no. 6.



Remove Approx Top 2'-0" of Existing Walls at all Fixed Joints Except Walls E & F - Remove To Stool Elevation.

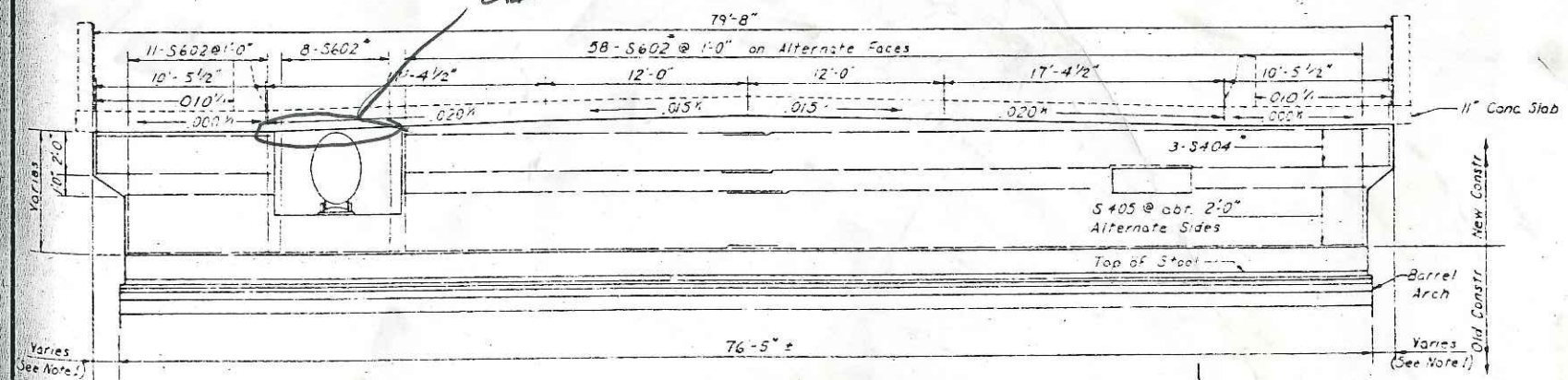
ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

Vert 1/4"=1'-0"
 Horiz 3/16"=1'-0"

Note: See "Water Main Details - Sheet 1 of 2" for additional details.

* Cut or bend bars in field as required to clear utilities.

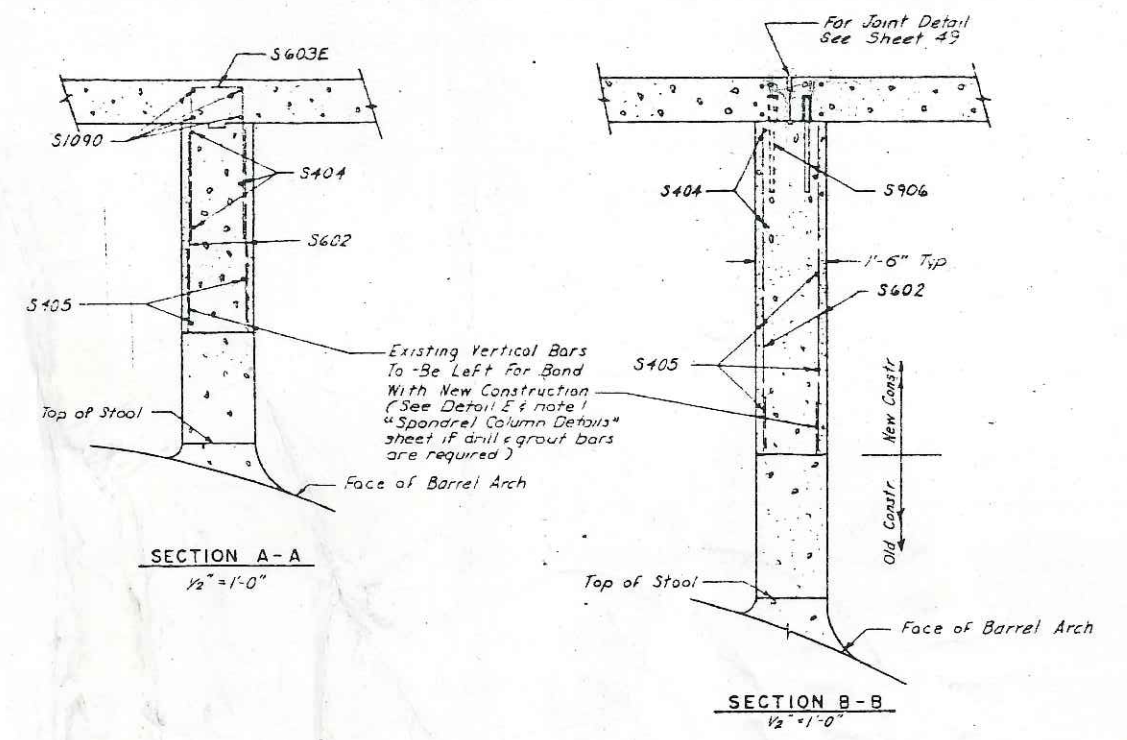
SPALL ON DECK



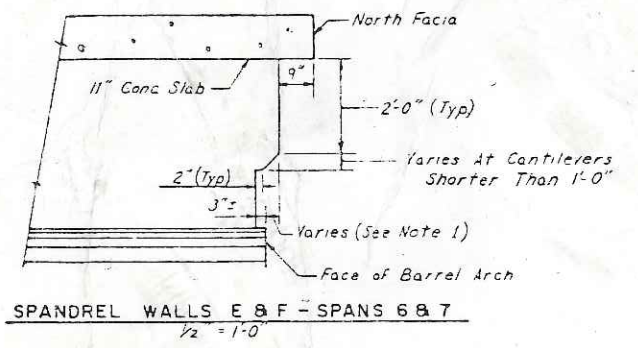
Remove Top 3'-0" of Existing Walls at all Expansion Joints. Remove Walls D & G To Stool Elevation.

ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

Vert 1/4"=1'-0"
 Horiz 3/16"=1'-0"



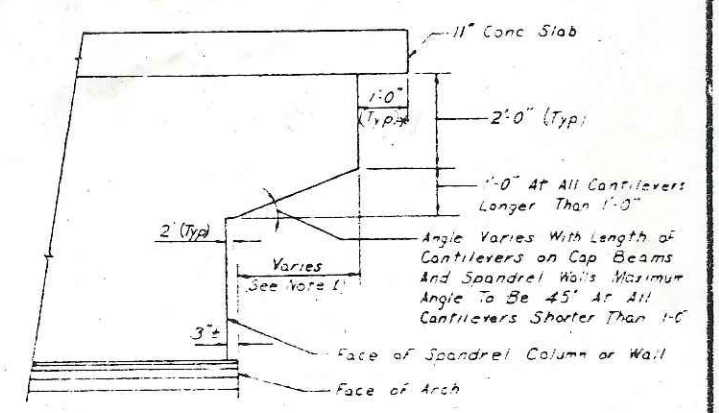
Existing Vertical Bars To Be Left for Bond With New Construction (See Detail E & note 1 "Spandrel Column Details" sheet if drilled grout bars are required)



Note 1: See "Horizontal Geometry Details" sheets for length of cantilevers

* Typical unless otherwise noted.

UP TO 36" OF WATER SAFE SEVERAL DELAYS

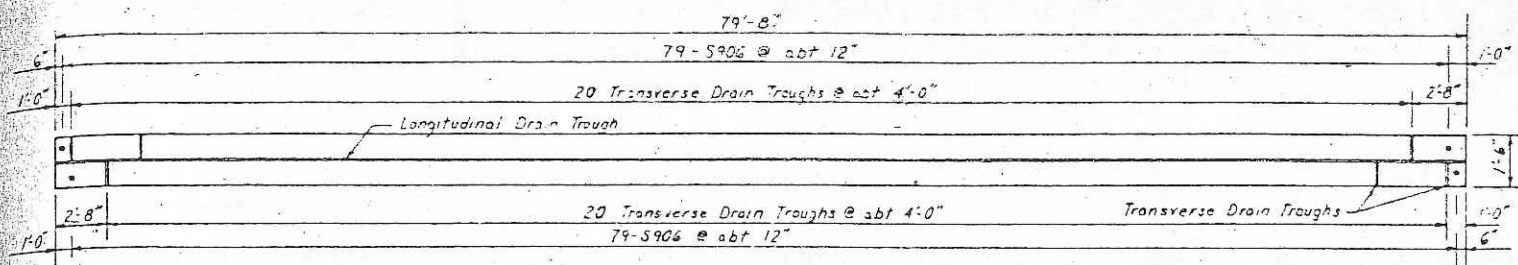


Angle Varies With Length of Cantilevers on Cap Beams And Spandrel Walls Maximum Angle To Be 45° At All Cantilevers Shorter Than 1'-0"

Note: For additional reinforcement in walls over conduit system opening see "Arch Pier 1 Sheet 2 of 2"

SPAN #6
 CAP A

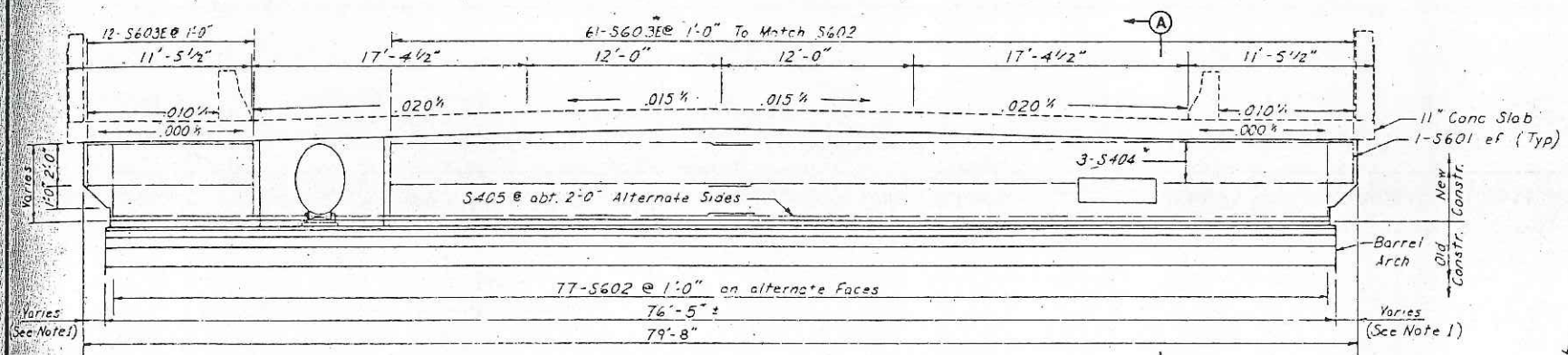
TITLE	DES	CHK	CR	APPROVED	Bridge No.
SPANDREL WALL DETAILS	CHK 4-1-79	CHK 4-1-79	5-7-79		2440
	Sheet No. 34 of 148 Sheets				



PLAN - SPANS 6 & 7: WALLS A, D, G, & J
Vert 3/4"=1'-0"
Horiz 3/4"=1'-0"

See "Cap Beam Detail" sheet no 35
For drain trough detail.

Note: For typical deck section see sheet no. 6.

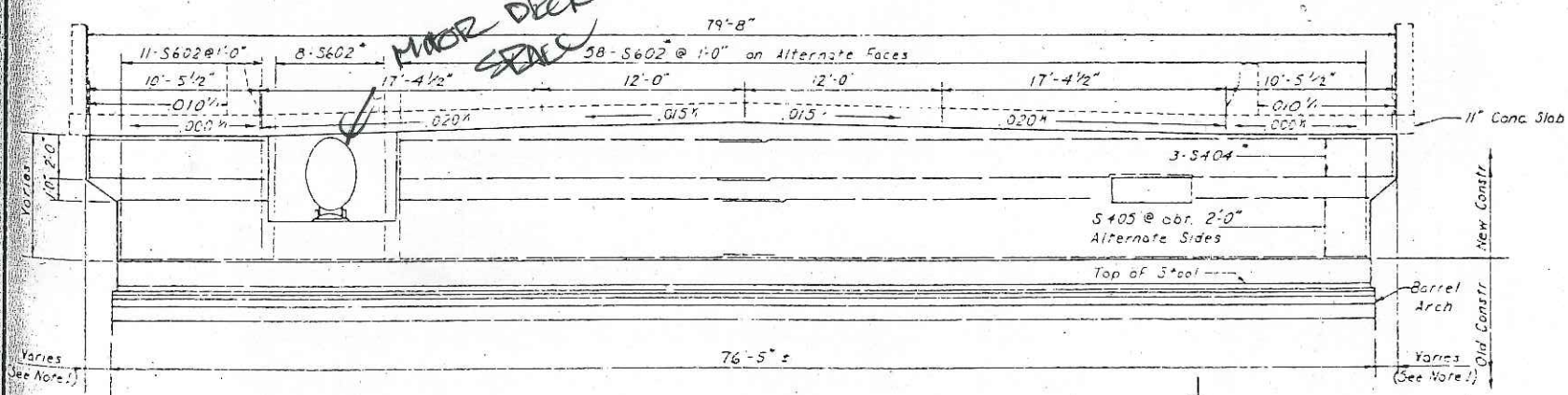


ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I
Vert 3/4"=1'-0"
Horiz 3/4"=1'-0"

Remove Approx Top 2'-0" of Existing
Walls at all Fixed Joints
Except Walls E & F - Remove
To Stool Elevation.

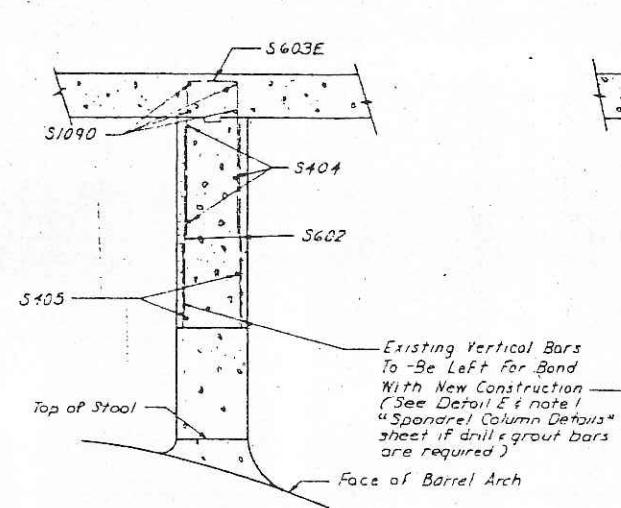
Note: See "Water Main Details - Sheet 1
of 2" for additional details.

* Cut or bend bars in field
as required to clear utilities.

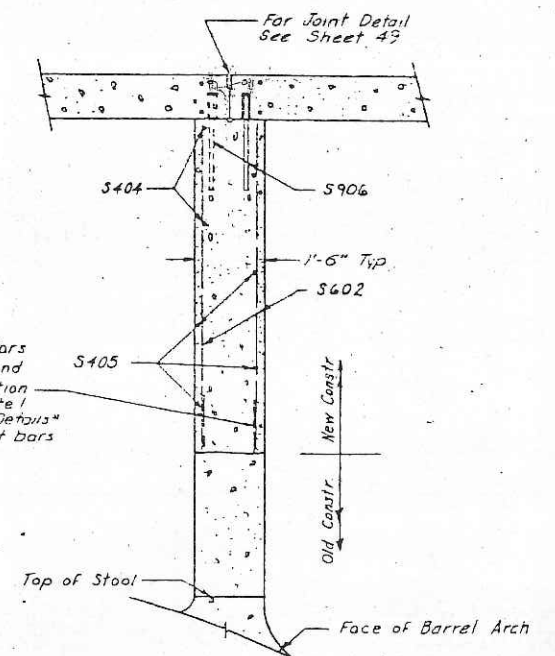


ELEVATION - SPANS 6 & 7: WALLS A, D, G & J
Vert 3/4"=1'-0"
Horiz 3/4"=1'-0"

Remove Top 3'-0" of Existing
Walls at all Expansion Joints.
Remove Walls D & G To Stool
Elevation



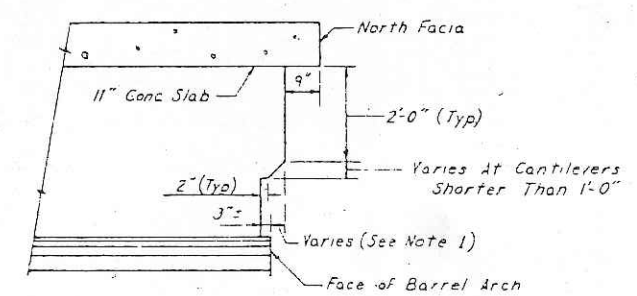
SECTION A-A
1/2"=1'-0"



SECTION B-B
1/2"=1'-0"

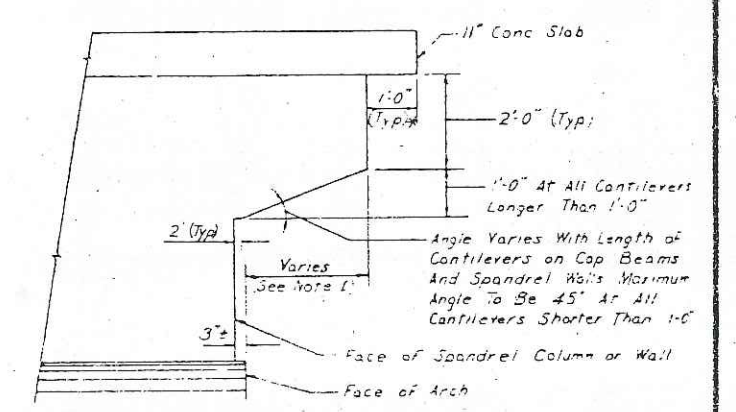
Note 1:
See "Horizontal Geometry Details" sheets
for length of cantilevers

* Typical unless otherwise
noted.



SPANDREL WALLS E & F - SPANS 6 & 7
1/2"=1'-0"

DECK
12" - WATER SAT

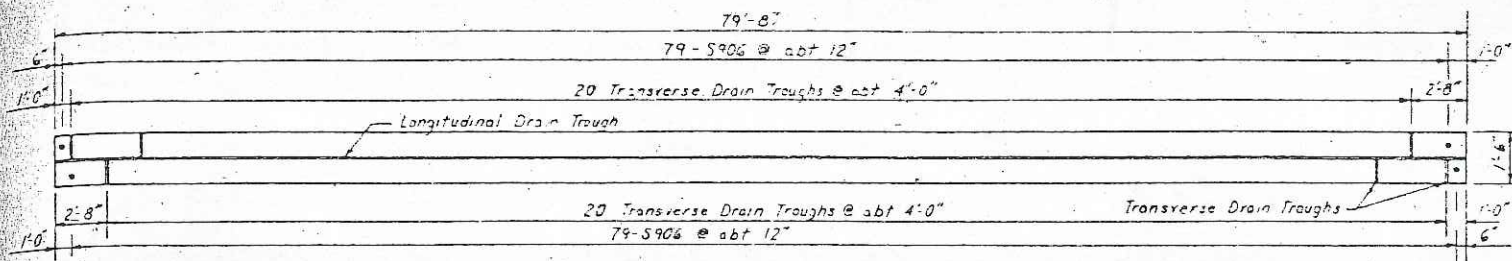


TYPICAL SPANDREL WALL DETAIL
1/2"=1'-0"

Note: For additional reinforcement in walls
over conduit system opening see "Arch Pier 1
Sheet 2 of 2"

SPAN # 6
CAP D

TITLE	DES. BY	CR. BY	APPROVED	Bridge No.
	CHK. BY	CHK. BY	5-7-79	
SPANDREL WALL DETAILS				2440
Sheet No. 34 of 148 Sheets				

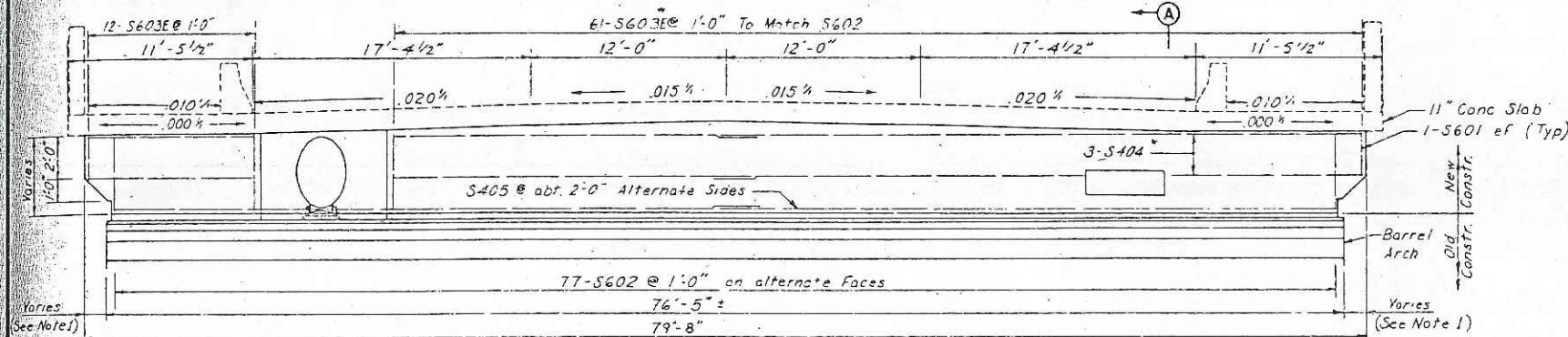


PLAN - SPANS 6 & 7: WALLS A, D, G, & J

Vert $\frac{3}{4}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

See "Cap Beam Detail" sheet no 35
For drain trough detail.

Note: For typical deck section see sheet no. 6.



ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

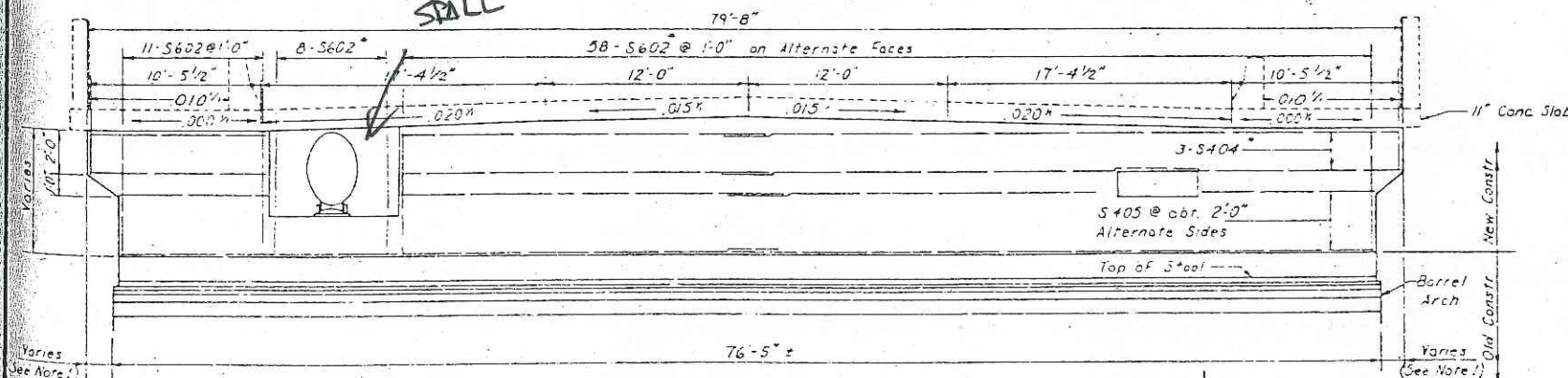
Vert $\frac{3}{4}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

Remove Approx Top 2'-0" of Existing
Walls at all Fixed Joints
Except Walls E & F - Remove
To Stool Elevation.

Note: See "Water Main Details - Sheet 1
of 2" for additional details.

* Cut or bend bars in field
as required to clear utilities.

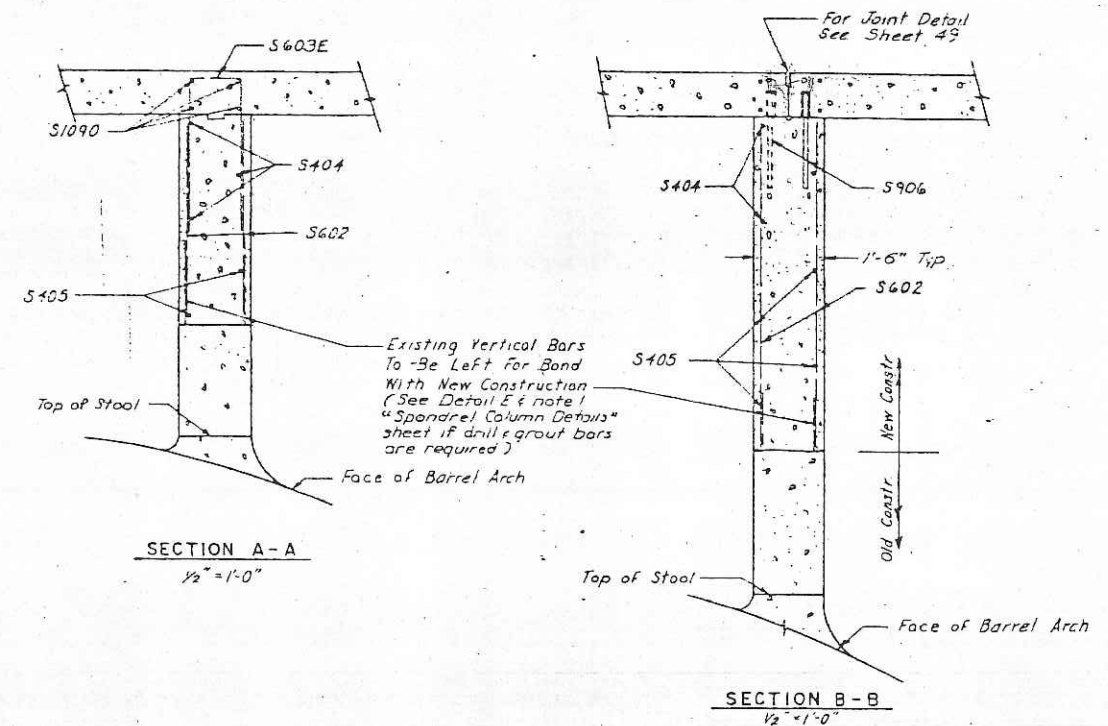
MINOR
SPALL



ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

Vert $\frac{3}{4}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

Remove Top 3'-0" of Existing
Walls at all Expansion Joints.
Remove Walls D & G To Stool
Elevation

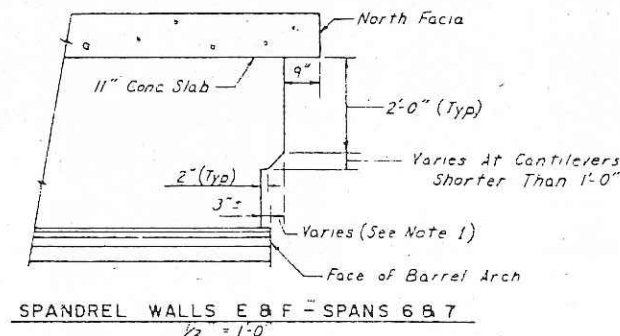


SECTION A-A

$\frac{1}{2}$ " = 1'-0"

SECTION B-B

$\frac{1}{2}$ " = 1'-0"

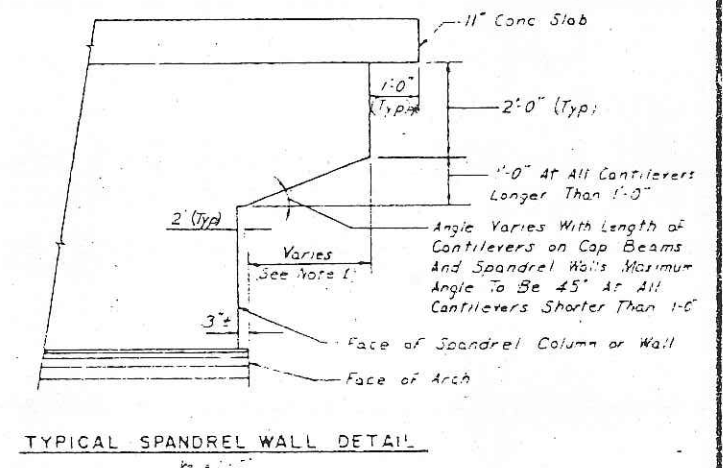


SPANDREL WALLS E & F - SPANS 6 & 7

$\frac{1}{2}$ " = 1'-0"

Note 1:
See "Horizontal Geometry Details" sheets
for length of cantilevers

* Typical unless otherwise
noted.



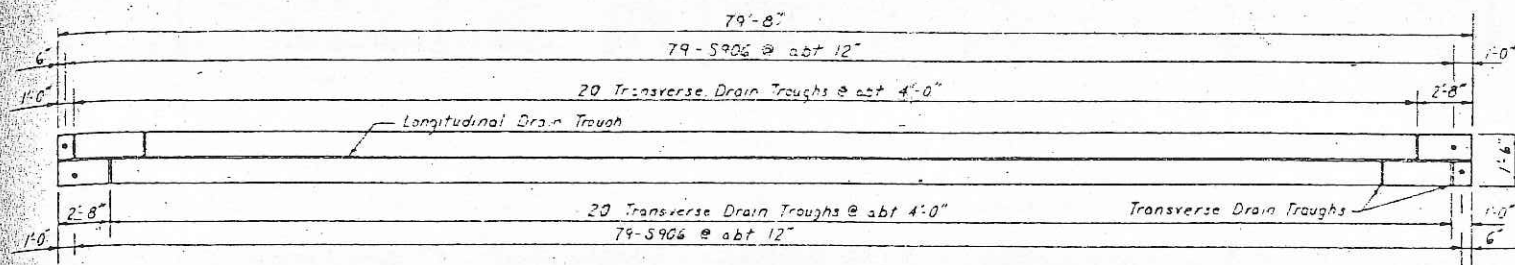
TYPICAL SPANDREL WALL DETAIL

$\frac{1}{2}$ " = 1'-0"

SPAN #6
CAP 4
DECK 12" W.S
SOME DELAM

Note:
For additional reinforcement in walls
over conduit system opening see "Arch Plan 1
Sheet 2 of 2"

TITLE	DES. NO.	CR. NO.	APPROVED	Bridge No.
SPANDREL WALL DETAILS	CHK. NO.	CHK. NO.	5-7-79	2440
			Sheet No. 34 of 148 Sheets	

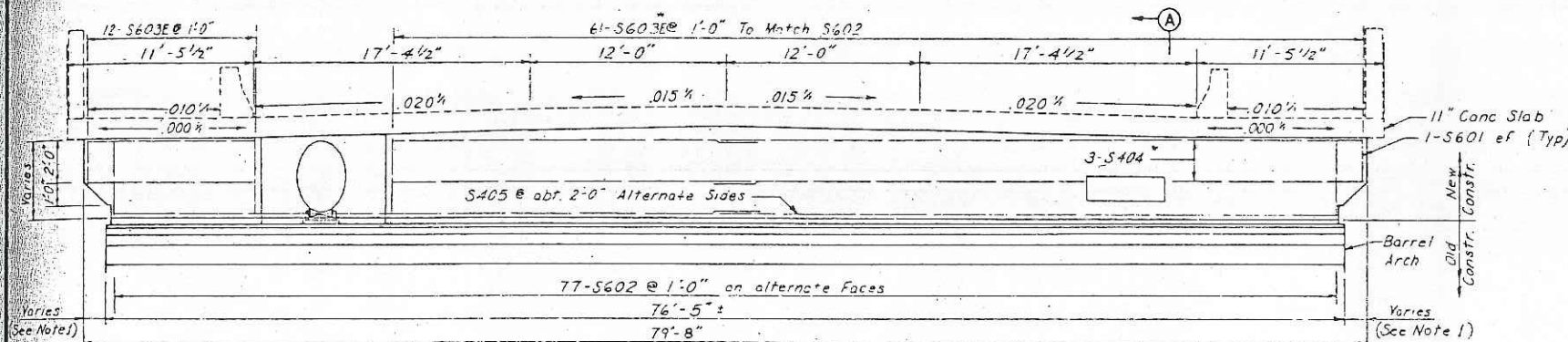


PLAN - SPANS 6 & 7: WALLS A, D, G, & J

Vert $\frac{3}{4}$ "=1'-0"
Horiz $\frac{3}{4}$ "=1'-0"

See "Cap Beam Detail" sheet no 35
for drain trough detail.

Note: For typical deck section see sheet no. 6.



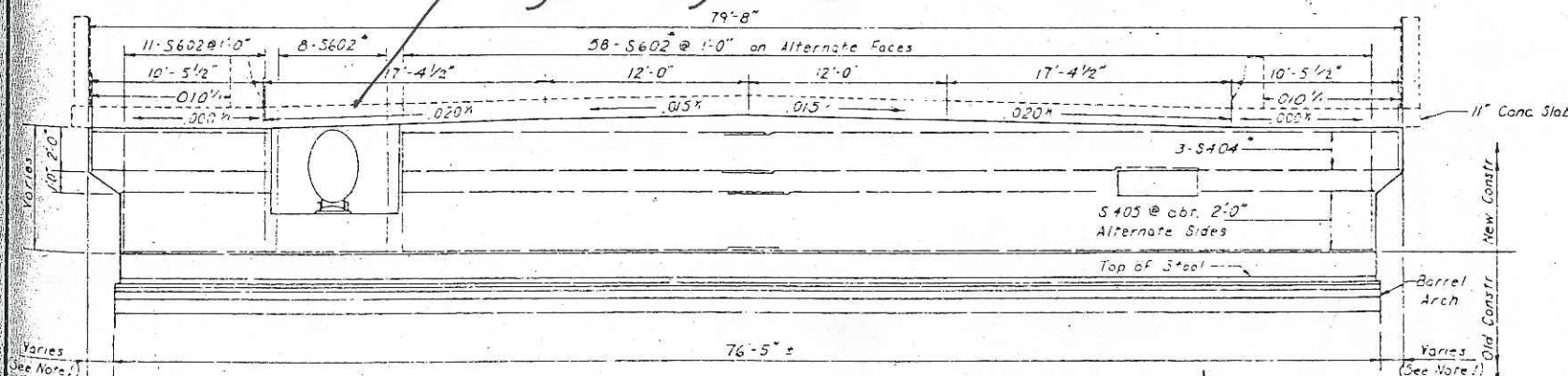
ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

Vert $\frac{1}{4}$ "=1'-0"
Horiz $\frac{3}{4}$ "=1'-0"

Remove Approx Top 2'-0" of Existing
Walls at all Fixed Joints
Except Walls E & F - Remove
To Stool Elevation.

* Cut or bend bars in field
as required to clear utilities.

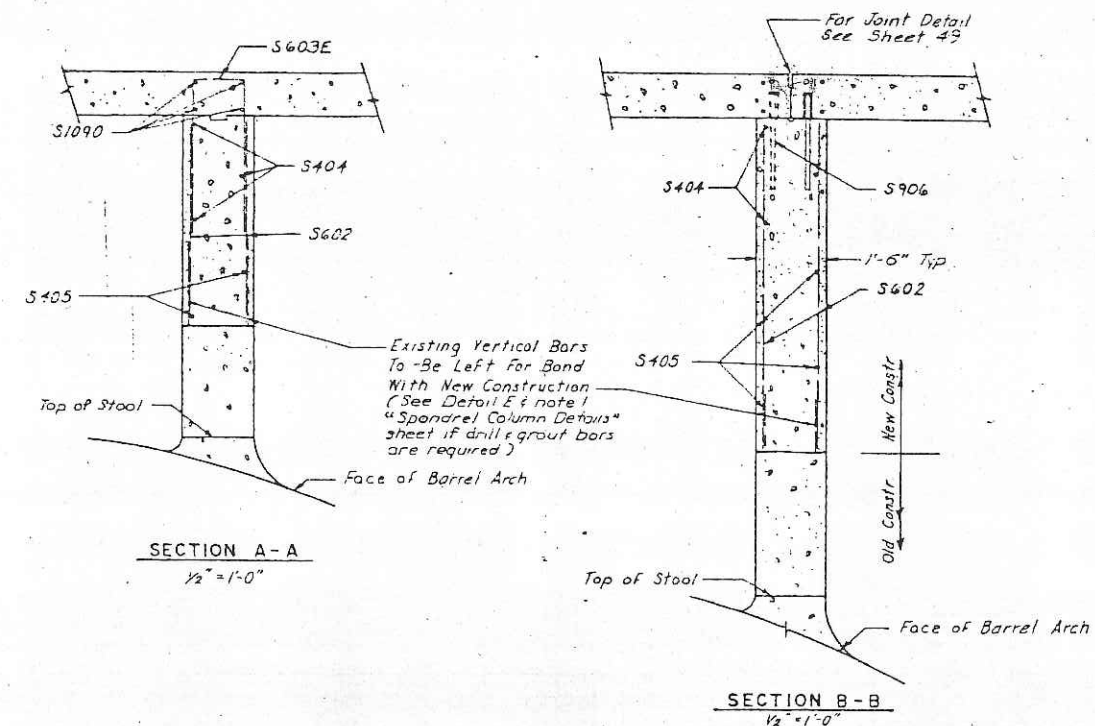
Handwritten: H&E SPALL / PERAM 3 FT FROM CAP FACE



ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

Vert $\frac{1}{4}$ "=1'-0"
Horiz $\frac{3}{4}$ "=1'-0"

Remove Top 3'-0" of Existing
Walls at all Expansion Joints.
Remove Walls D & G To Stool
Elevation

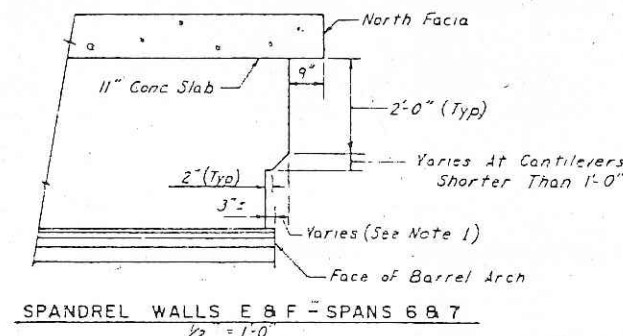


SECTION A-A

$\frac{1}{2}$ "=1'-0"

SECTION B-B

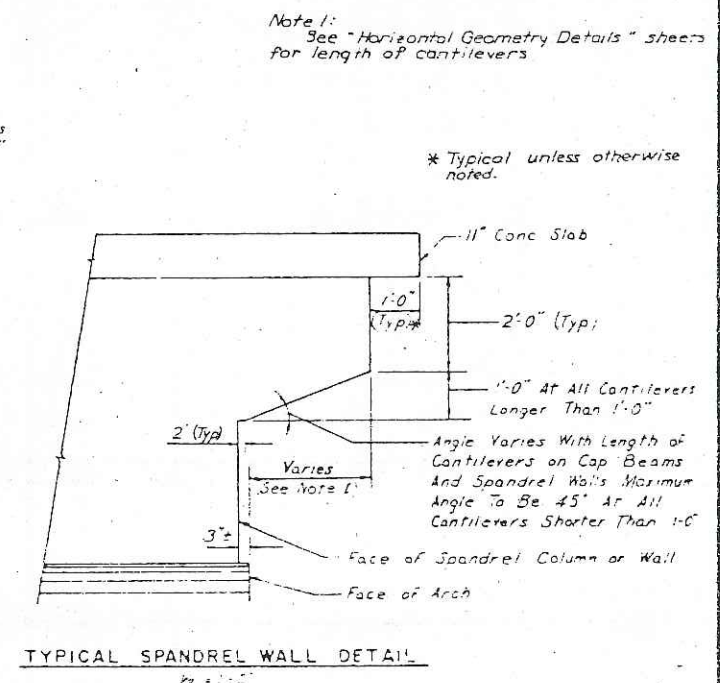
$\frac{1}{2}$ "=1'-0"



SPANDREL WALLS E & F - SPANS 6 & 7

Handwritten: SPAN # 6
CAP J
NUMEROUS DETAILS
@ 24"

Note: For additional reinforcement in walls
over conduit system opening see "Arch Pier 1
Sheet 2 of 2"



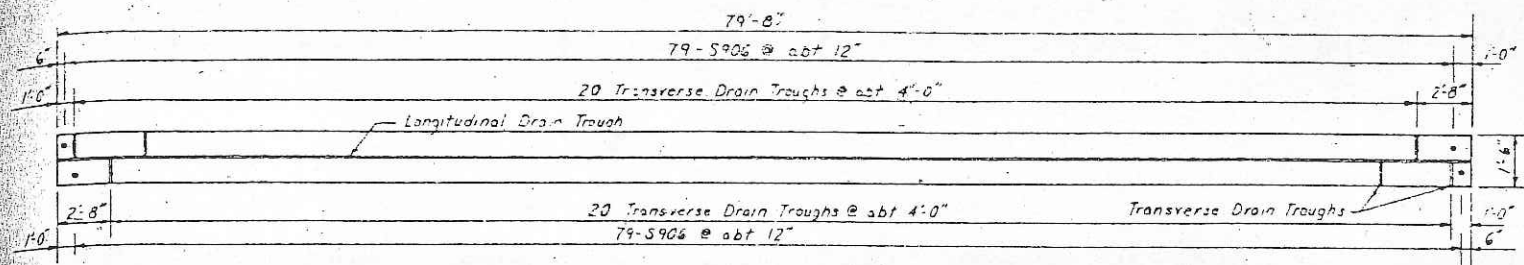
TYPICAL SPANDREL WALL DETAIL

$\frac{1}{2}$ "=1'-0"

Note 1:
See "Horizontal Geometry Details" sheets
for length of cantilevers.

* Typical unless otherwise
noted.

TITLE	DES. ALL	CR. ALL	APPROVED	Bridge No.
SPANDREL WALL DETAILS	CHK. ALL	CHK. ALL	5-7-79	2440
	Sheet No. 34 of 148 Sheets			

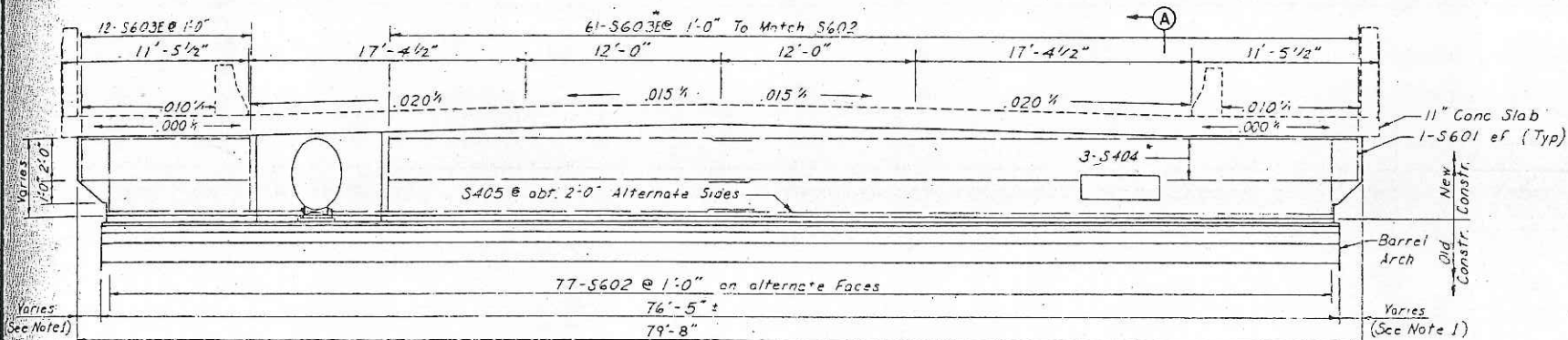


PLAN - SPANS 6 & 7: WALLS A, D, G, & J

Vert $\frac{3}{8}'' = 1'-0''$
Horiz $\frac{3}{16}'' = 1'-0''$

See "Cap Beam Detail," sheet no 35
for drain trough detail.

Note: For typical deck section see sheet no. 6.



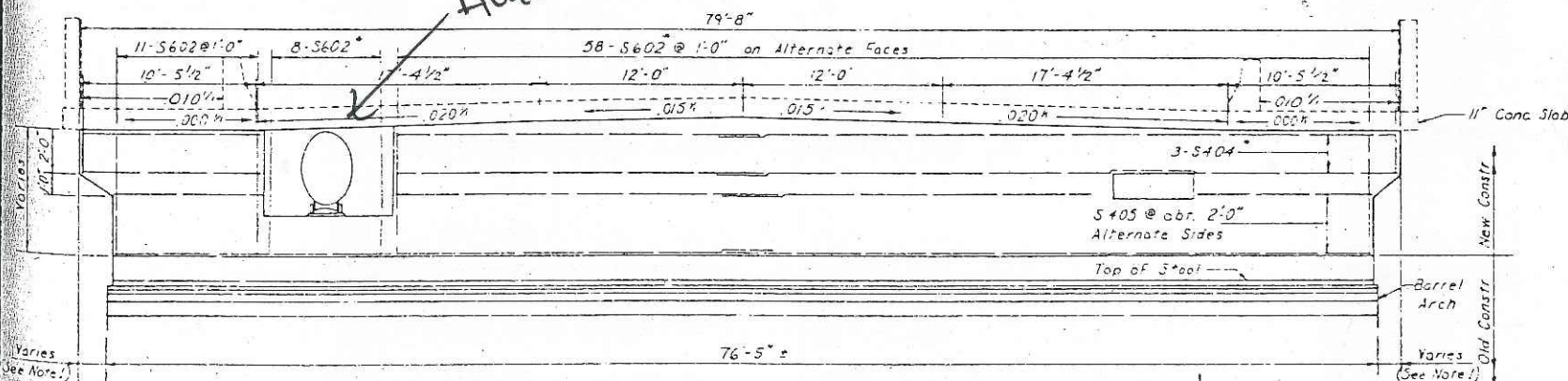
ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

Vert $\frac{1}{4}'' = 1'-0''$
Horiz $\frac{3}{16}'' = 1'-0''$

Remove Approx Top 2'-0" of Existing
Walls at all Fixed Joints
Except Walls E & F - Remove
To Stool Elevation.

Note: See "Water Main Details - Sheet 1
of 2" for additional details.

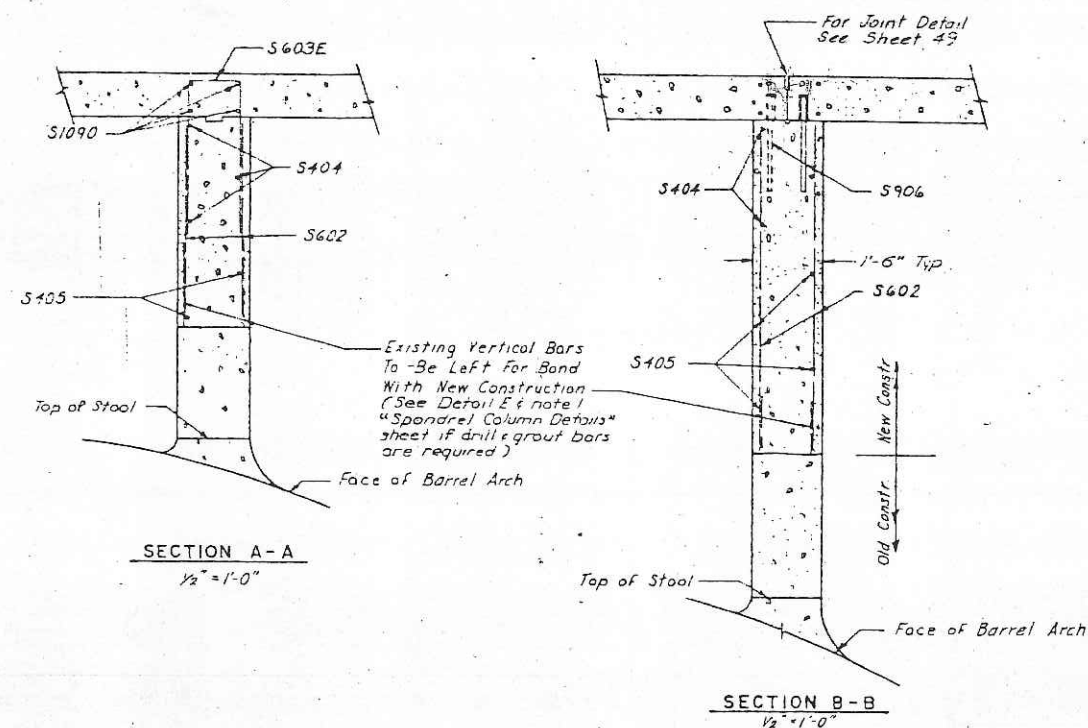
* Cut or bend bars in field
as required to clear utilities.



ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

Vert $\frac{1}{4}'' = 1'-0''$
Horiz $\frac{3}{16}'' = 1'-0''$

Remove Top 3'-0" of Existing
Walls at all Expansion Joints.
Remove Walls D & G To Stool
Elevation

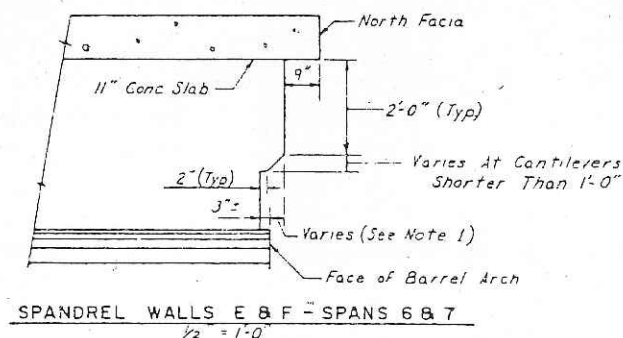


SECTION A-A

$\frac{1}{2}'' = 1'-0''$

SECTION B-B

$\frac{1}{2}'' = 1'-0''$

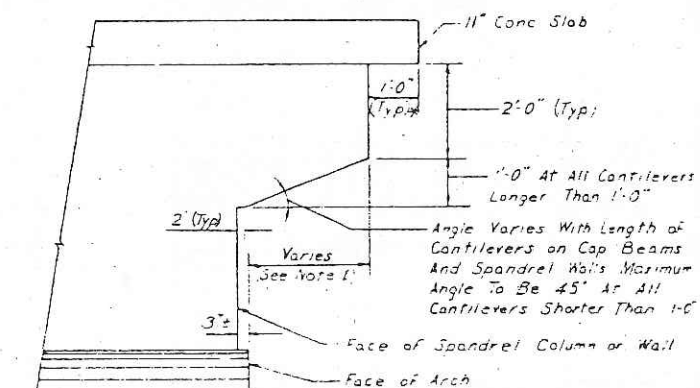


SPANDREL WALLS E & F - SPANS 6 & 7

$\frac{1}{2}'' = 1'-0''$

Note 1:
See "Horizontal Geometry Details" sheets
for length of cantilevers

* Typical unless otherwise
noted.



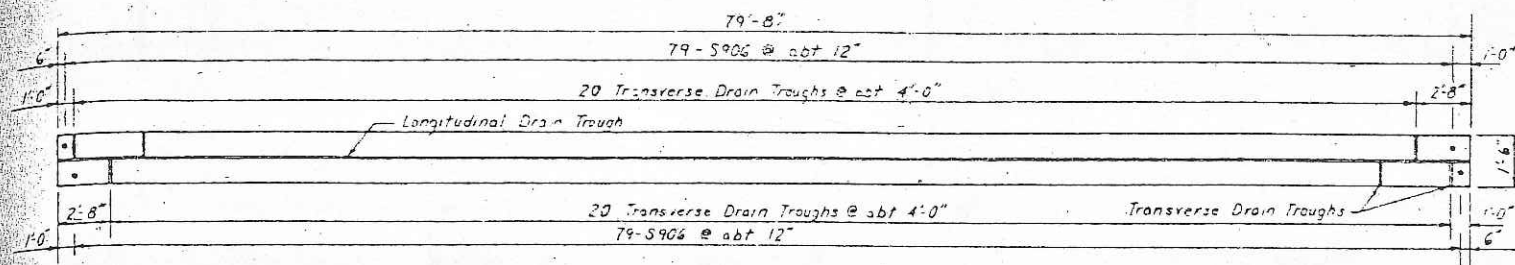
TYPICAL SPANDREL WALL DETAIL

$\frac{1}{2}'' = 1'-0''$

Note: For additional reinforcement in walls
over conduit system opening see "Arch Pier 1
Sheet 2 of 2"

SPAN #7
CAP A
SEVERAL DETAILS
@ 12"

TITLE	DES. ALL	OR. ALL	APPROVED	Bridge No.
SPANDREL WALL DETAILS	CHK. J. J.	CHK. J. J.	5-7-77	2440
	Sheet No. 34 of 148 Sheets			

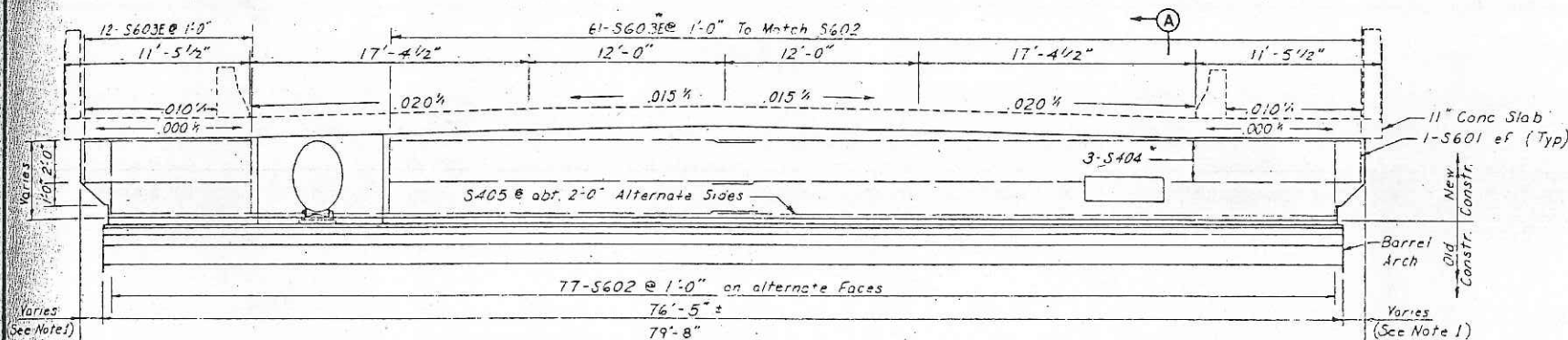


PLAN - SPANS 6 & 7: WALLS A, D, G, & J

Vert $\frac{3}{8}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

See "Cap Beam Detail," sheet no 35
for drain trough detail.

Note: For typical deck section see sheet no. 6.



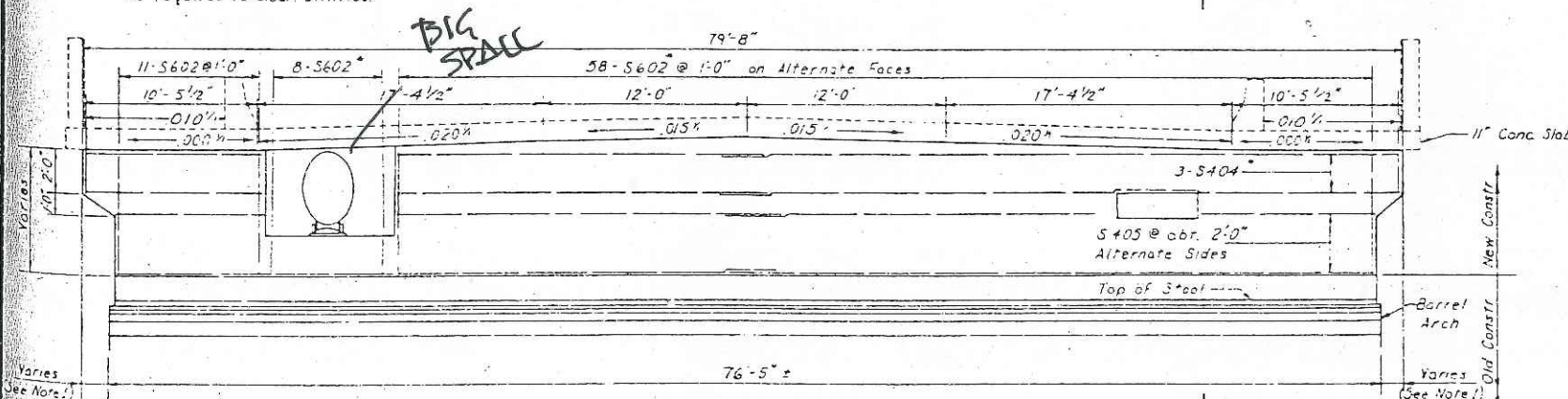
ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

Vert $\frac{3}{8}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Remove Approx Top 2'-0" of Existing
Walls at all Fixed Joints
Except Walls E & F - Remove
To Stool Elevation.

Note: See "Water Main Details - Sheet 1
of 2" for additional details.

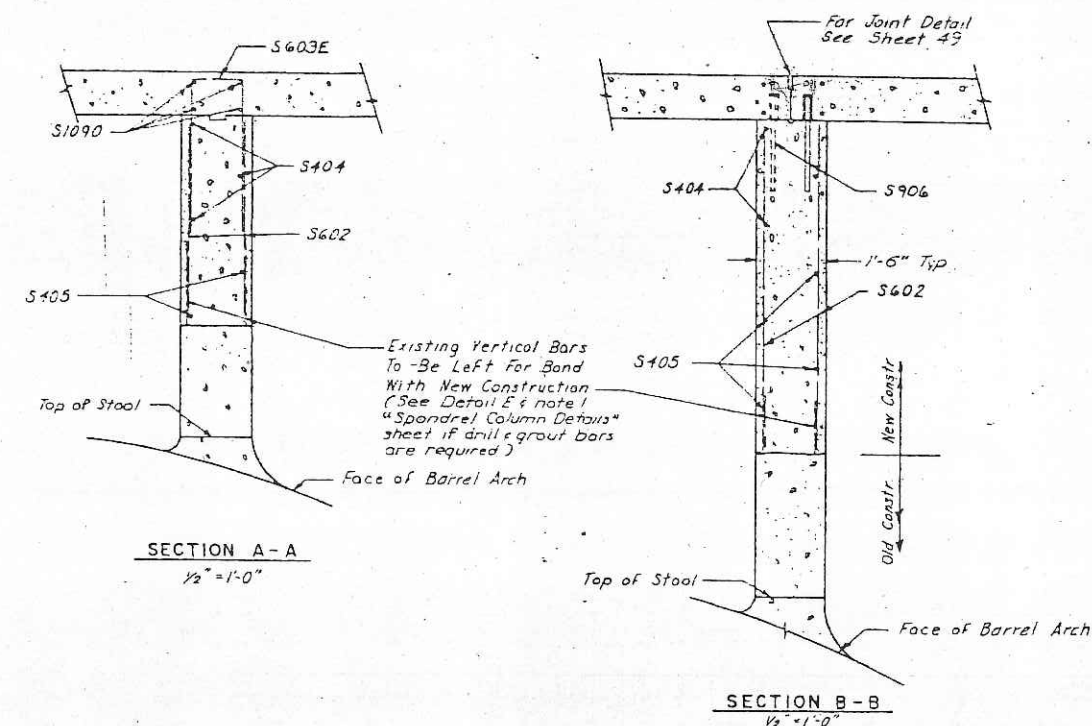
* Cut or bend bars in field
as required to clear utilities.



ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

Vert $\frac{3}{8}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Remove Top 3'-0" of Existing
Walls at all Expansion Joints.
Remove Walls D & G To Stool
Elevation



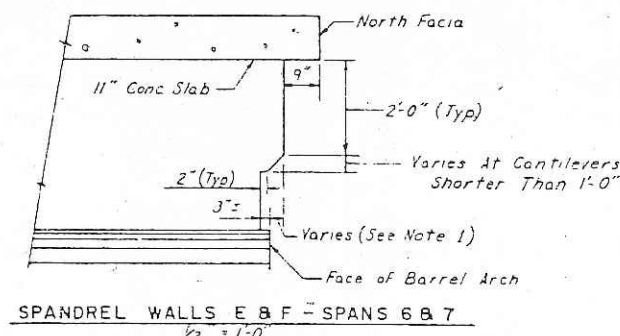
SECTION A-A

$\frac{1}{2}$ " = 1'-0"

SECTION B-B

$\frac{1}{2}$ " = 1'-0"

Existing Vertical Bars
To Be Left For Bond
With New Construction
(See "Detail E" note /
"Spandrel Column Details"
sheet if drill/grout bars
are required)

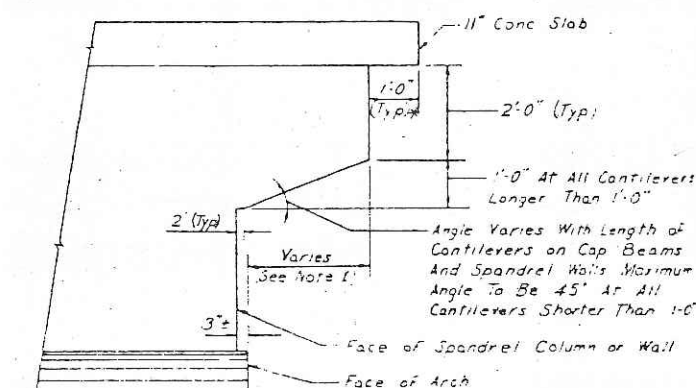


SPANDREL WALLS E & F - SPANS 6 & 7

$\frac{1}{2}$ " = 1'-0"

Note 1:
See "Horizontal Geometry Details" sheets
for length of cantilevers

* Typical unless otherwise
noted.

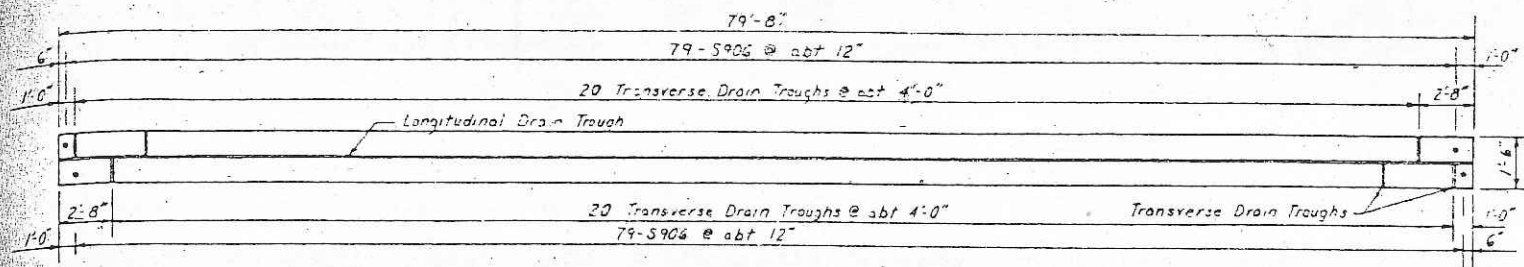


TYPICAL SPANDREL WALL DETAIL

$\frac{1}{2}$ " = 1'-0"

Note: For additional reinforcement in walls
over conduit system opening see "Arch Pier 1
Sheet 2 of 2"

TITLE	DES. DATE	DR. REV.	APPROVED	Bridge No.
SPANDREL WALL DETAILS	CHK 12/74	CHK 12/74	5-7-79	2440
	Sheet No. 34 of 148 Sheets			

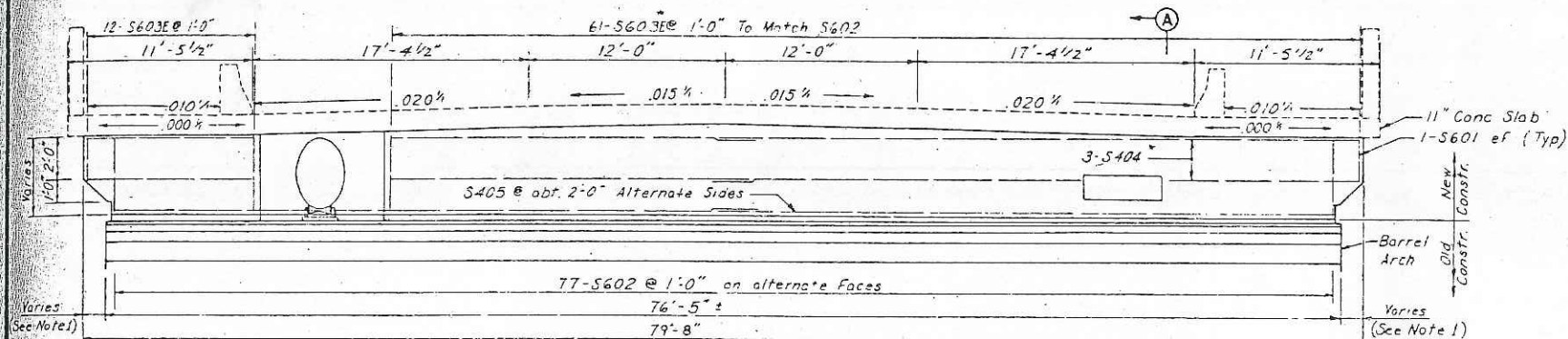


PLAN - SPANS 6 & 7: WALLS A, D, G, & J

Vert $\frac{3}{4}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

See "Cap Beam Detail" sheet no 35
For drain trough detail.

Note: For typical deck section see sheet no. 6.



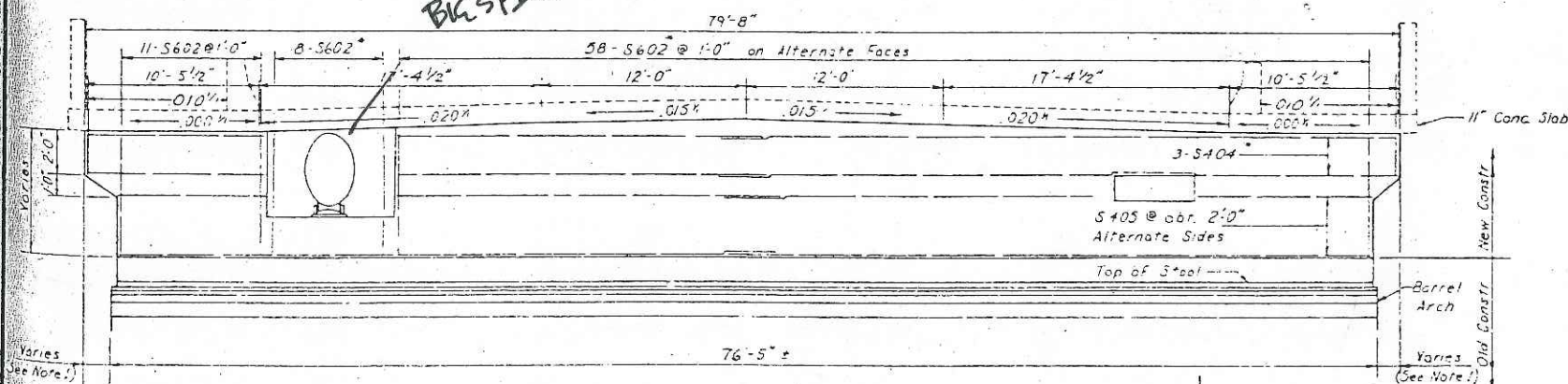
ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

Vert $\frac{3}{4}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

Remove Approx Top 2'-0" of Existing
Walls at all Fixed Joints
Except Walls E & F - Remove
To Stool Elevation.

Note: See "Water Main Details" - Sheet 1
of 2" for additional details.

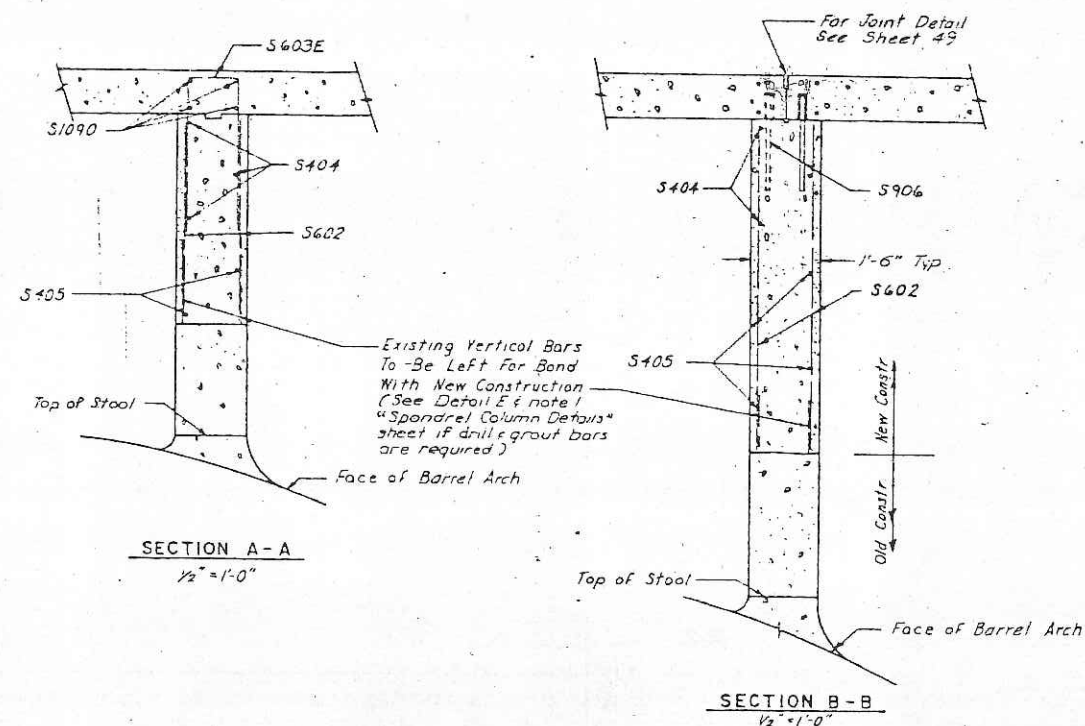
* Cut or bend bars in field
as required to clear utilities.



ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

Vert $\frac{3}{4}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

Remove Top 3'-0" of Existing
Walls at all Expansion Joints.
Remove Walls D & G To Stool
Elevation

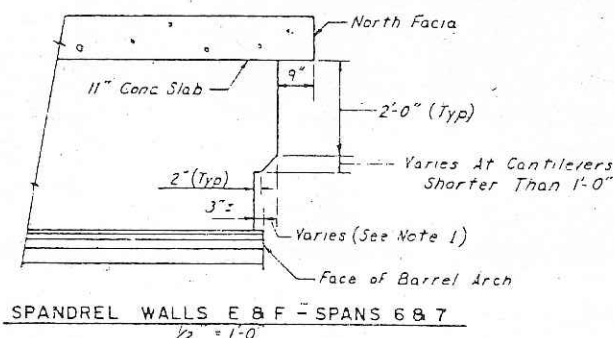


SECTION A-A

$\frac{1}{2}$ " = 1'-0"

SECTION B-B

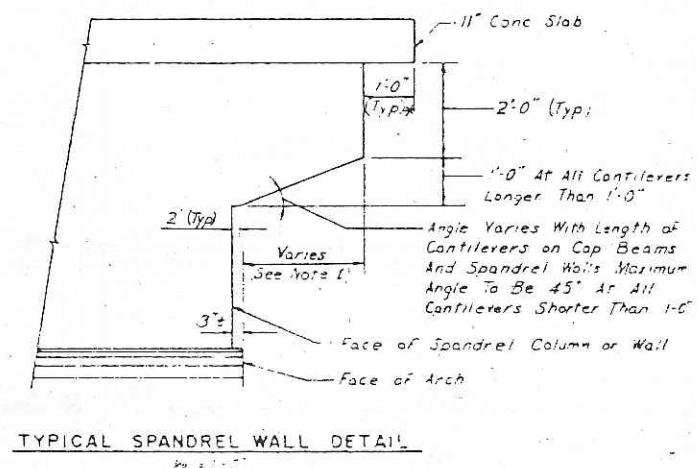
$\frac{1}{2}$ " = 1'-0"



SPANDREL WALLS E & F - SPANS 6 & 7

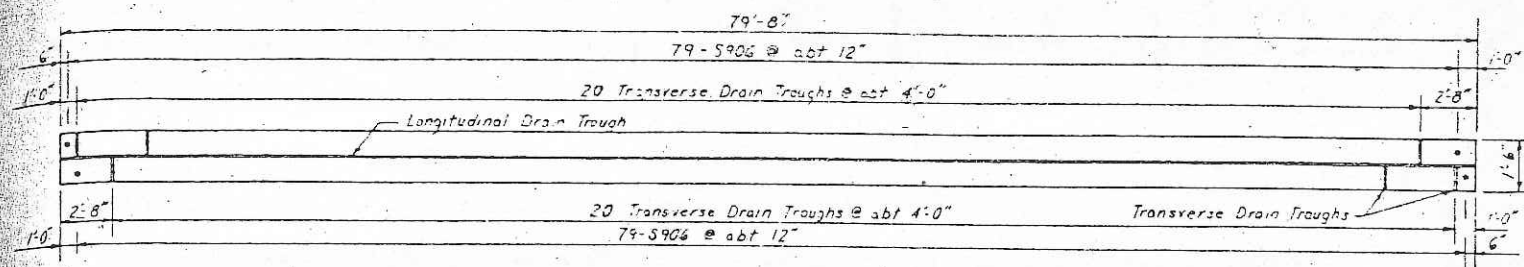
SPAN #7
CAP G
SOME MINOR SPALL
DELAYS
- 12-18-94

Note: For additional reinforcement in walls
over conduit system opening see "Arch Pier 1
Sheet 2 of 2"



TYPICAL SPANDREL WALL DETAIL

TITLE	DES. NO.	CR. NO.	APPROVED	Bridge No.
SPANDREL WALL DETAILS	CHK. NO.	CHK. NO.	5-7-79	2440
	Sheet No. 34 of 148 Sheets			

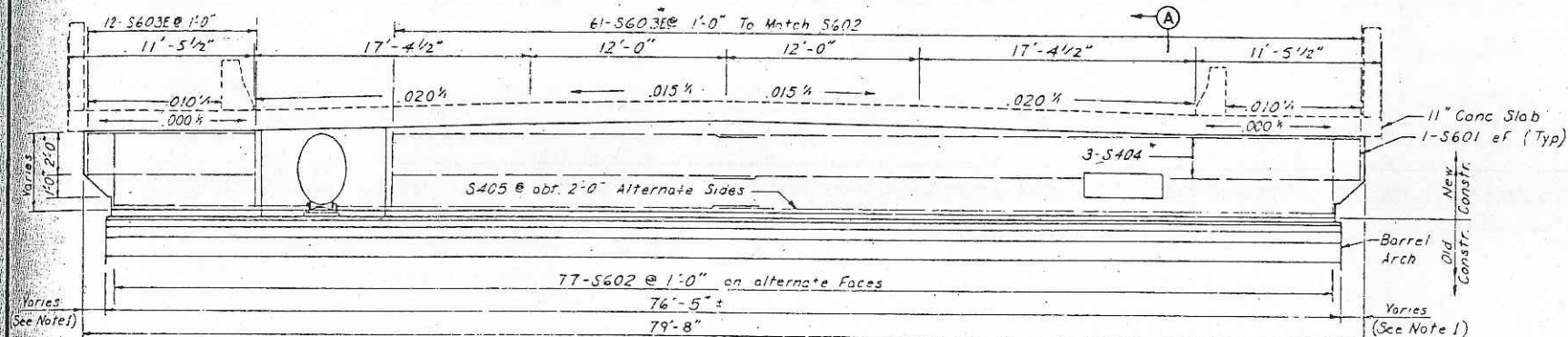


PLAN - SPANS 6 & 7: WALLS A, D, G, & J

Vert $\frac{3}{8}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

See "Cap Beam Detail" sheet no 35
for drain trough detail.

Note: For typical deck section see sheet no. 6.



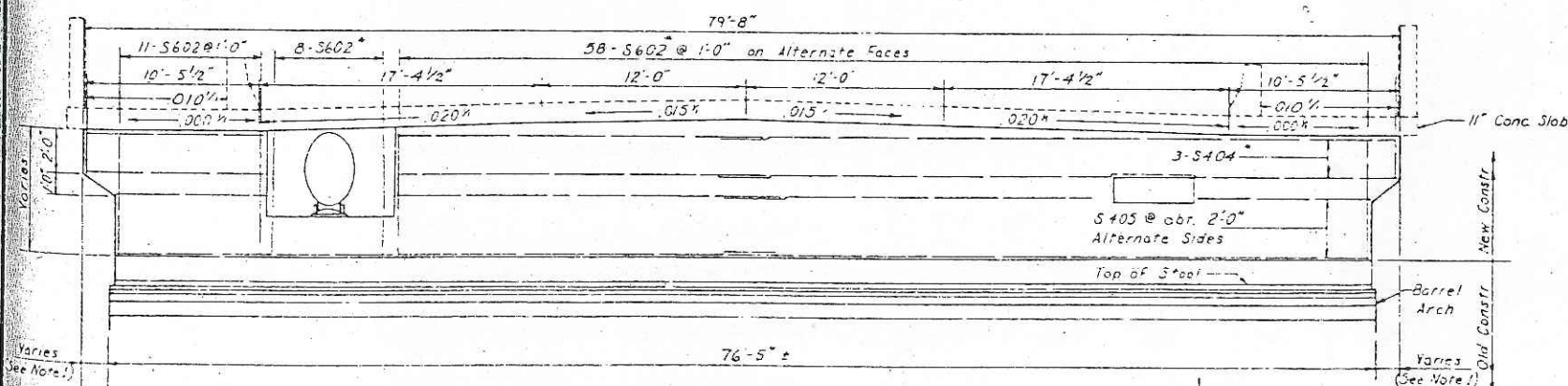
ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

Vert $\frac{3}{8}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

Remove Approx Top 2'-0" of Existing
Walls at all Fixed Joints
Except Walls E & F - Remove
To Stool Elevation.

Note: See "Water Main Details - Sheet 1
of 2" for additional details.

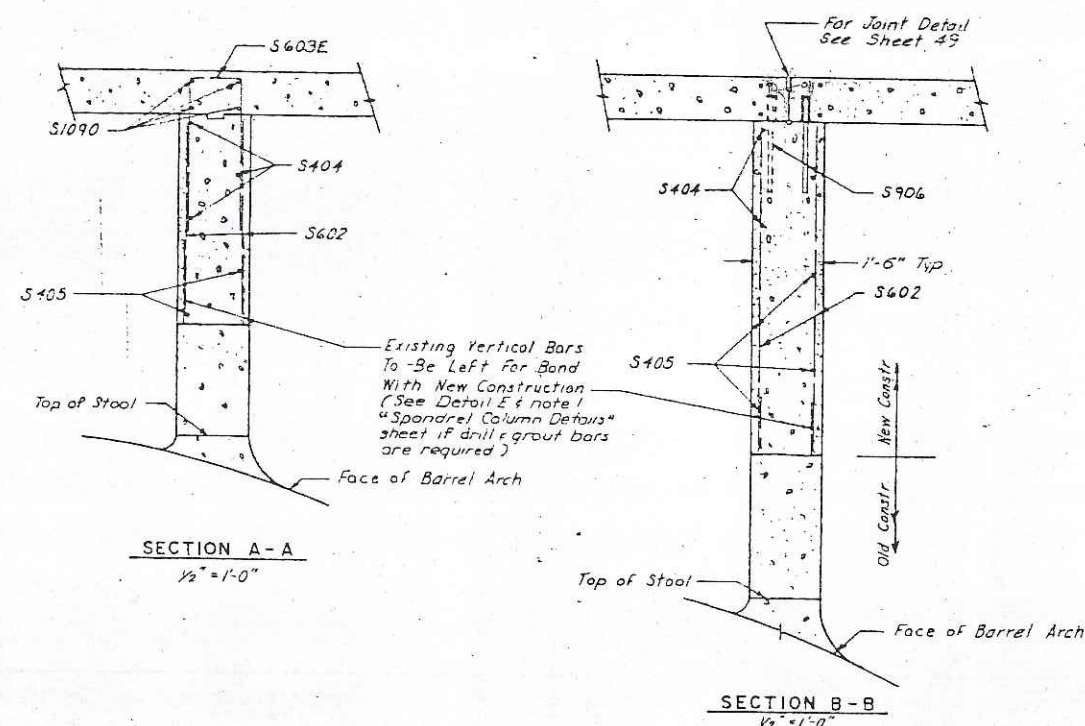
* Cut or bend bars in field
as required to clear utilities.



ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

Vert $\frac{3}{8}$ " = 1'-0"
Horiz $\frac{3}{8}$ " = 1'-0"

Remove Top 3'-0" of Existing
Walls at all Expansion Joints.
Remove Walls D & G To Stool
Elevation

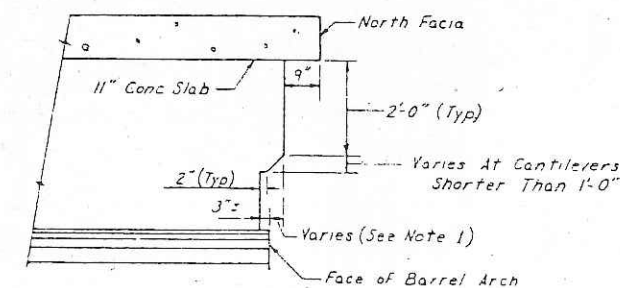


SECTION A-A

$\frac{1}{2}$ " = 1'-0"

SECTION B-B

$\frac{1}{2}$ " = 1'-0"

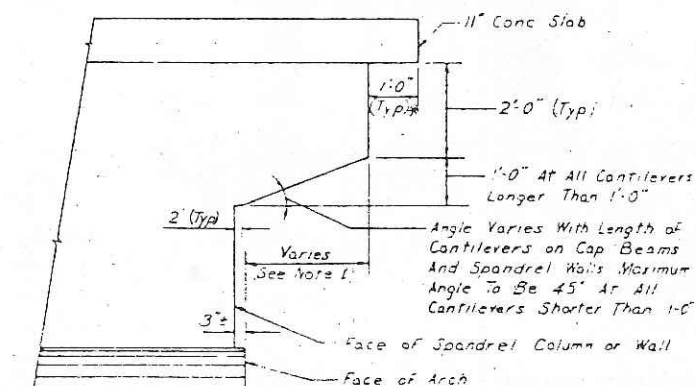


SPANDREL WALLS E & F - SPANS 6 & 7

$\frac{1}{2}$ " = 1'-0"

Note 1:
See "Horizontal Geometry Details" sheets
for length of cantilevers

* Typical unless otherwise
noted.



TYPICAL SPANDREL WALL DETAIL

$\frac{1}{2}$ " = 1'-0"

Note:
For additional reinforcement in walls
over conduit system opening see "Arch Pier 1
Sheet 2 of 2"

SPAN #7
CAP J
12" DECK DET

TITLE	DES. NO.	CR. NO.	APPROVED	Bridge No.
SPANDREL WALL DETAILS	CHK. 1111	CHK. 1112	5-7-77	2440
	Sheet No. 34 of 148 Sheets			