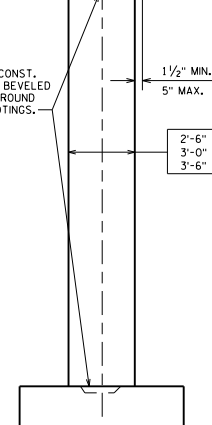
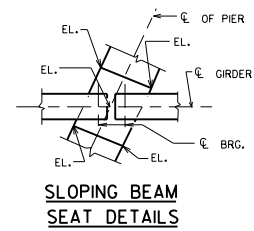


DESIGNER NOTES

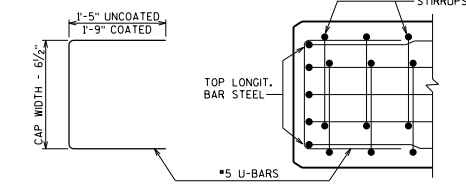
- ALL BAR SPLICES TO BE BASED ON "CLASS C" TENSION LAP SPLICE UNLESS OTHERWISE SHOWN.
- SLOPE TOP OF COLUMNS TO MATCH CAP WHEN THE BOTTOM OF THE CAP IS SLOPED. DETAIL BOTTOM OF CAP REINFORCEMENT TO CLEAR VERTICAL COLUMN REINFORCEMENT.
- CAPS MAY BE MORE THAN 3' WIDER THAN COLUMNS IF THE EXTRA WIDTH IS NECESSARY TO SATISFY THE MINIMUM EDGE DISTANCE CRITERIA ADJACENT TO BEARINGS.
- BEARING SEAT AREAS SHALL BE LEVEL EXCEPT FOR THE TWO CASES LISTED BELOW:
- FOR GIRDERS WITH 1/2" ELASTOMERIC BEARING PADS AND THE GIRDER BOTTOM SLOPES MORE THAN 1/2". ADD THESE TWO VALUES TO DETERMINE THE GIRDER SLOPE:
 - LONGITUDINAL GRADE OF GIRDER (PERCENT)
 - CAMBER EFFECT = 4(RC)/L X 100 (PERCENT), WHERE:
 - RC = RESIDUAL CAMBER (INCHES)
 - L = GIRDER LENGTH (INCHES)
 - WHEN A CAP IS USED FOR CONCRETE SLAB SUPERSTRUCTURES MAKE THE TOP OF THE CAP PARALLEL TO GRADE. SEE STANDARD 18.01.
- BEAM SEATS MAY BE ANGLED TO MATCH SKEW AT THE DESIGN ENGINEER'S DISCRETION.
- SEE STANDARD 12.01 FOR ADDITIONAL REINFORCING STEEL IN BEARING AREA FOR BEAM SEATS OF NON-SLOPED CAPS THAT ARE 4" OR MORE ABOVE LOWEST BEAM SEAT.
- EPOXY COAT BAR STEEL DOWN TO TOP OF FOOTINGS IN ALL PIERS UNDER EXPANSION JOINTS AND ON ALL PIERS AT GRADE SEPARATIONS.
- BAR STEEL REQUIRED FOR BENDING IN PIER CAP SHALL BE DETAILED IN LENGTHS AS REQUIRED FOR CONSTRUCTIBILITY AND BY DESIGN SPECIFICATIONS. MAXIMUM REQUIRED BAR STEEL IN THE TOP OF THE PIER CAP (NEGATIVE MOMENT STEEL) MAY BE DETAILED FULL LENGTH IF A MINOR COST INCREASE.



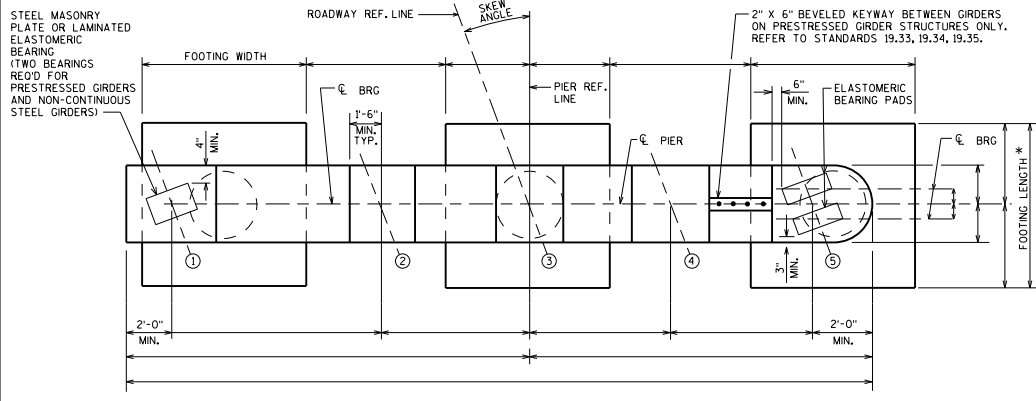
END VIEW

SEE BRIDGE MANUAL 13.4.10 FOR MULTI-COLUMNED PIER DESIGN REGARDING VEHICULAR COLLISION FORCE. THE PIER OPTIONS REPRESENTED ON THIS STANDARD DO NOT MEET THE REQUIREMENTS OF AASHTO LRFD 3.6.5. FOR VEHICULAR COLLISION FORCE.

△ NORMALLY THIS LAP IS OMITTED AND FOOTING DOWELS EXTENDED INTO THE CAP IF THE LAP IS GREATER THAN ONE-HALF THE COLUMN HEIGHT.



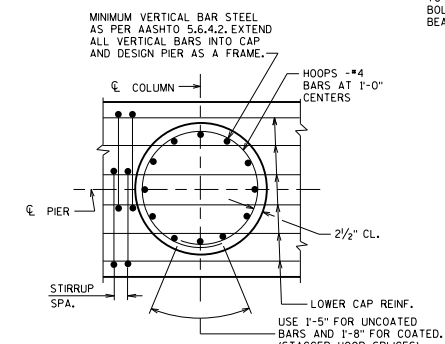
PLAN VIEW SHOWING END OF CAP REIN.



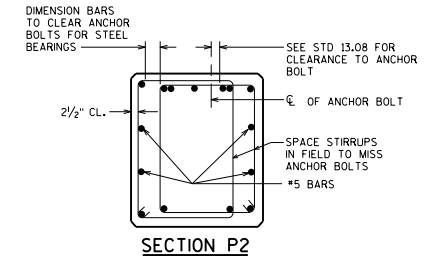
PLAN

SHOWING BOTH SQUARE AND ROUND ENDED CAP

*MAKE ALL FOOTING LENGTHS THE SAME WITHIN A GIVEN PIER.



SECTION P1



SECTION P2

MULTI-COLUMNED PIER

BUREAU OF
STRUCTURES

DATE:
APPROVED: *Laura Shadewald* 7-21