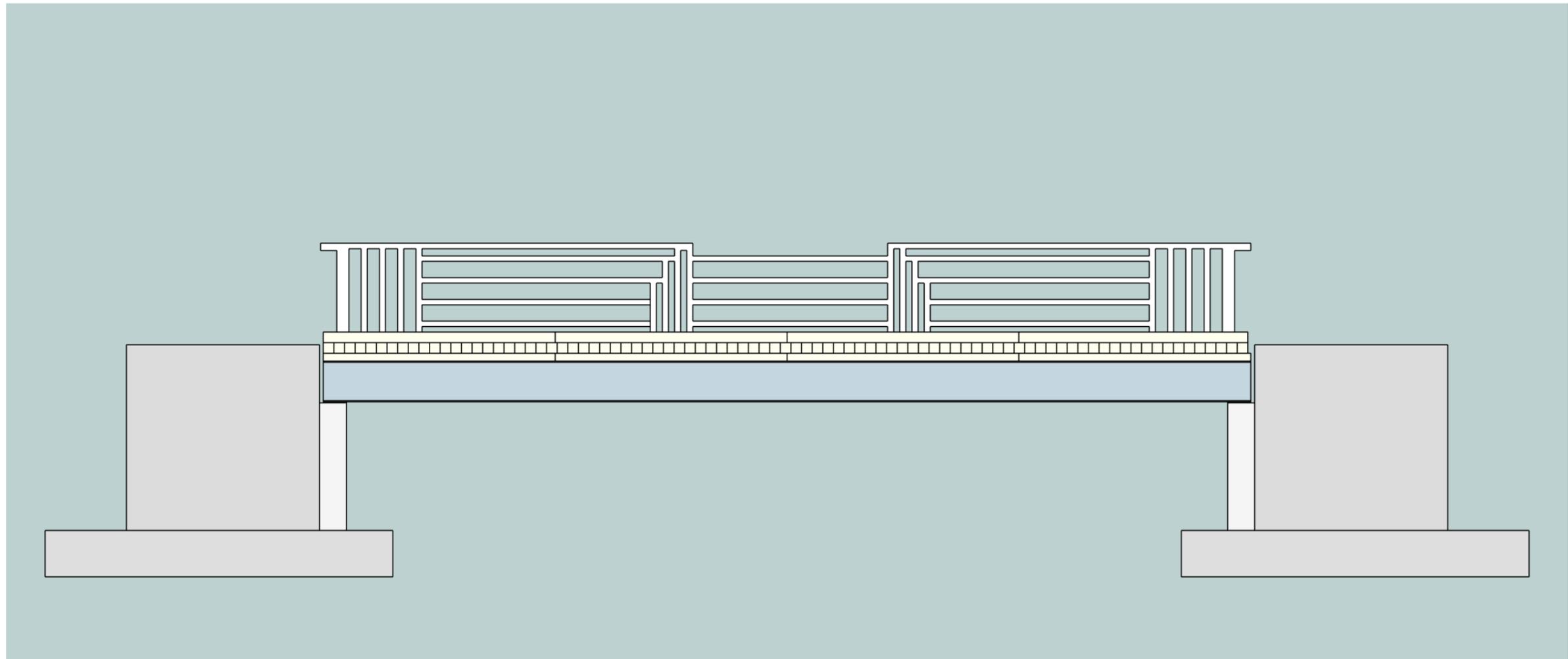
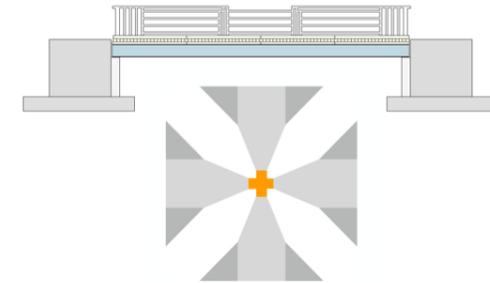


FREEMAN ROAD BRIDGE:
VERMONT
OFFICIAL PROPOSAL

43° 53' 42.09" **N**
-72° 21' 30.06" **W**





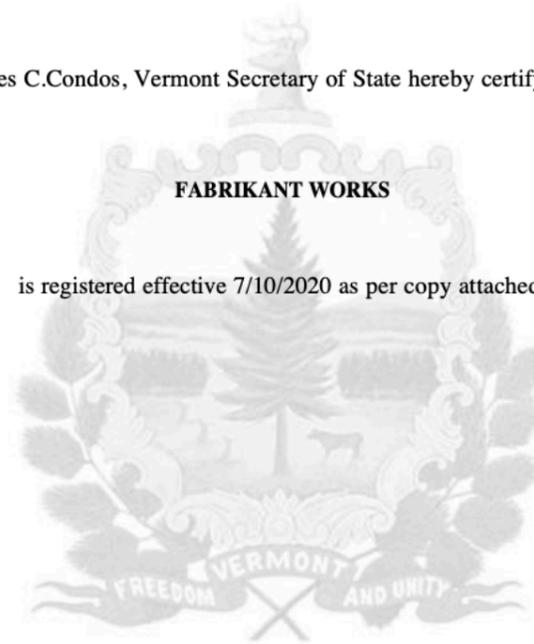
STATE OF VERMONT
OFFICE OF SECRETARY OF STATE

Certificate of Trade Name Registration

I James C. Condos, Vermont Secretary of State hereby certify that

FABRIKANT WORKS

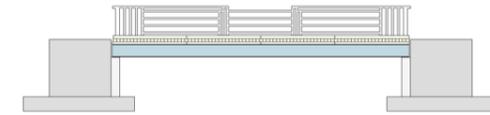
is registered effective 7/10/2020 as per copy attached.



Jul 10, 2020

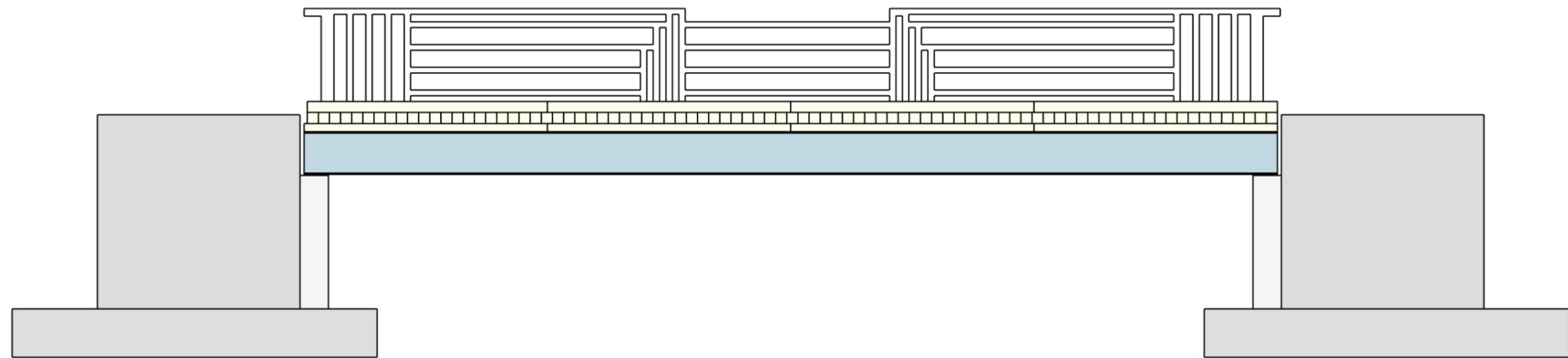
Given under my hand and the seal
of the State of Vermont, at
Montpelier, the State Capital

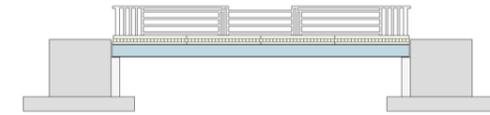
James C. Condos
Vermont Secretary of State



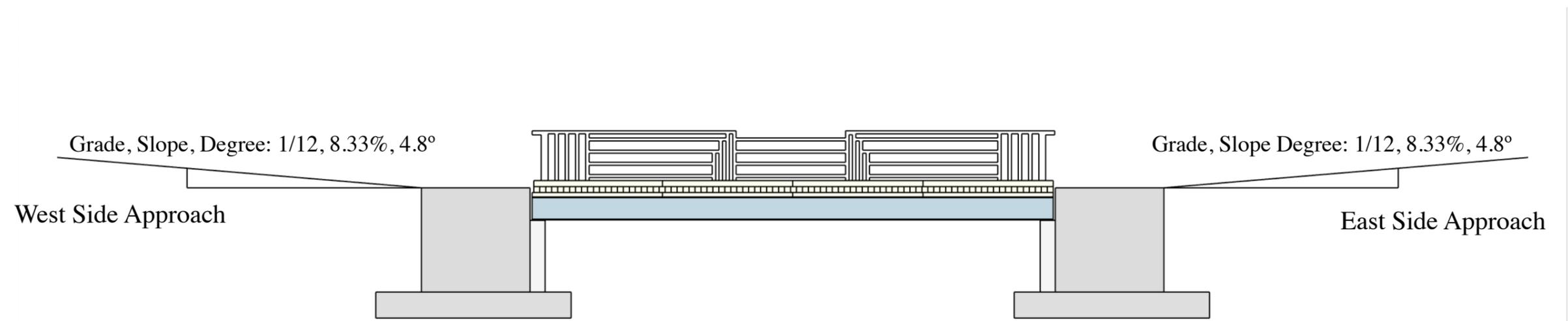
CLEAR SPAN LENGTH OF THE BRIDGE: 38'
TOTAL SPAN LENGTH: 40'
STREAM TO GIRDER HEIGHT 10'

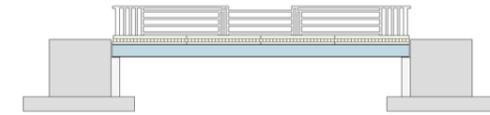
MEASUREMENTS SATISFY STATE OF VERMONT DESIGN FLOOD CRITERION
-BUILT TO WITHSTAND OVER A CENTURY-



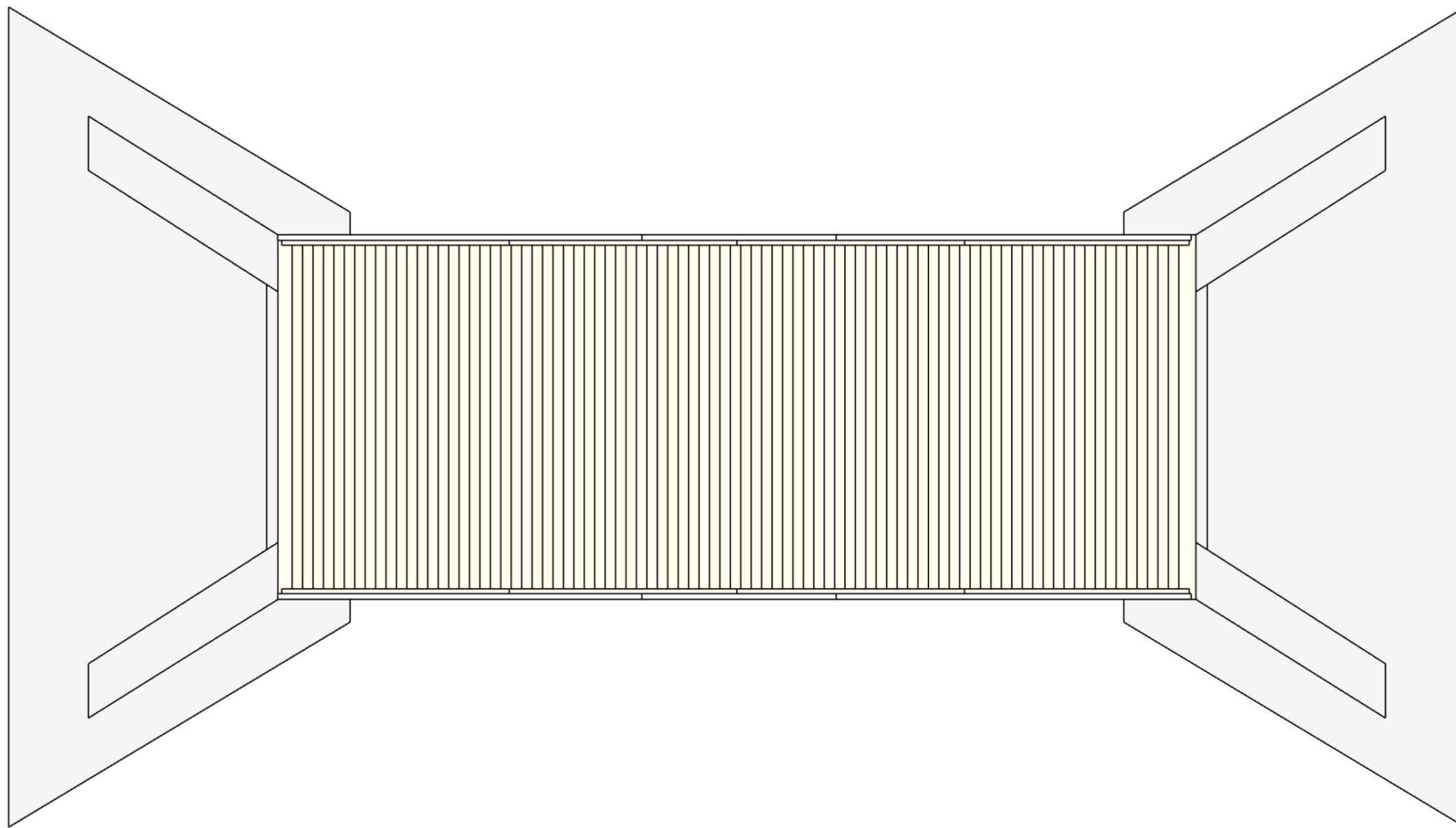


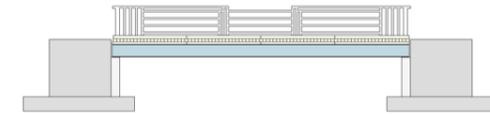
ELEVATION OF MINIMUM GRADE LEVEL FOR BOTH APPROACHES:



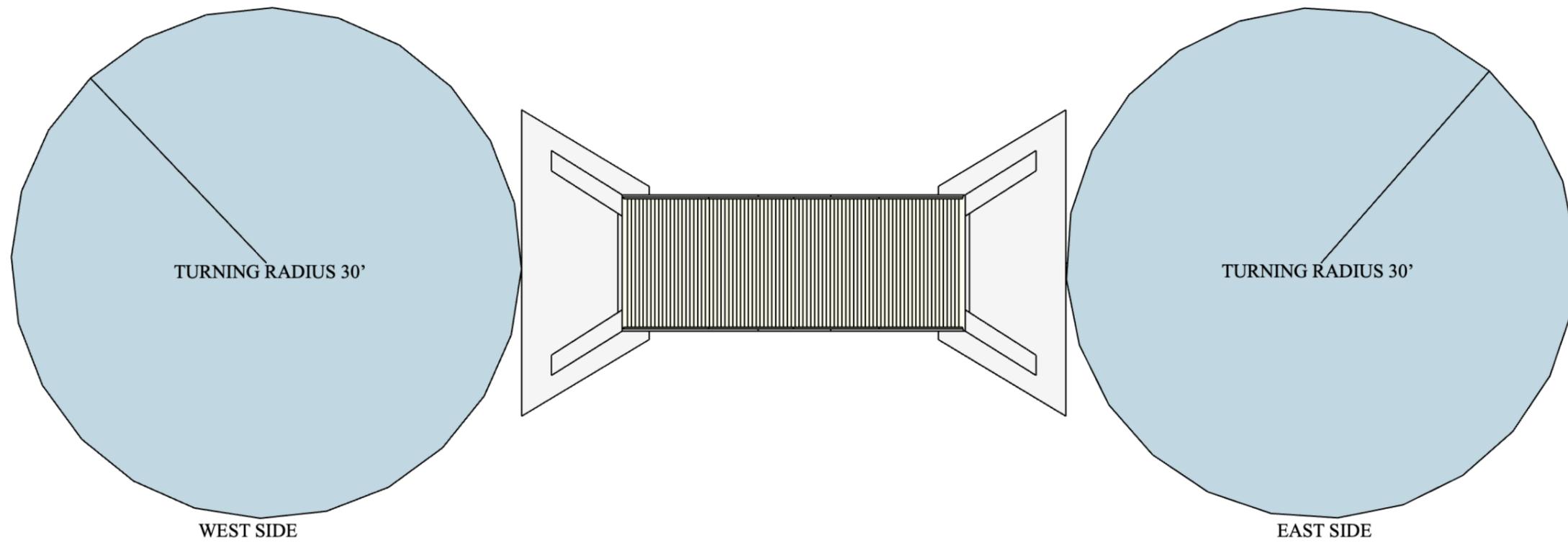


CLEAR SPAN USABLE WIDTH OF BRIDGE CURB TO CURB 15'

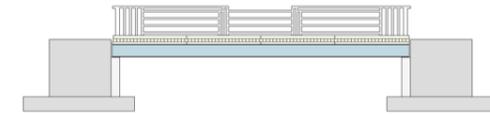




PLAN VIEW OF APPROACH TURNING RADIUS: 30'

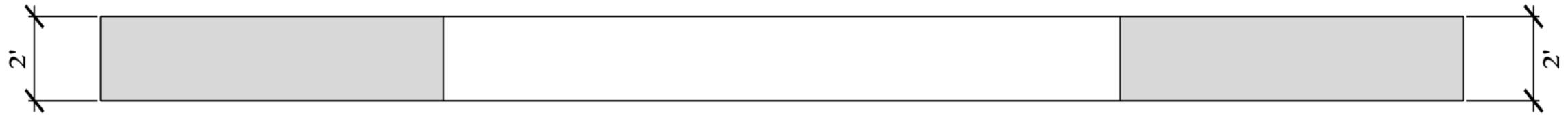


CONCRETE: 5000 PSI FOOTINGS and WALLS- PINNED TO EXISTING LEDGE OR ESTABLISHED ON EXISTING STABLE SOILS
DRAINAGE: BACKFILL OF ALL WALLS CONSISTS OF FREIGHTED 1"(-) CRUSHED STONE MID WAY UP; THEN SAND TO THE TOP OF ALL WALLS

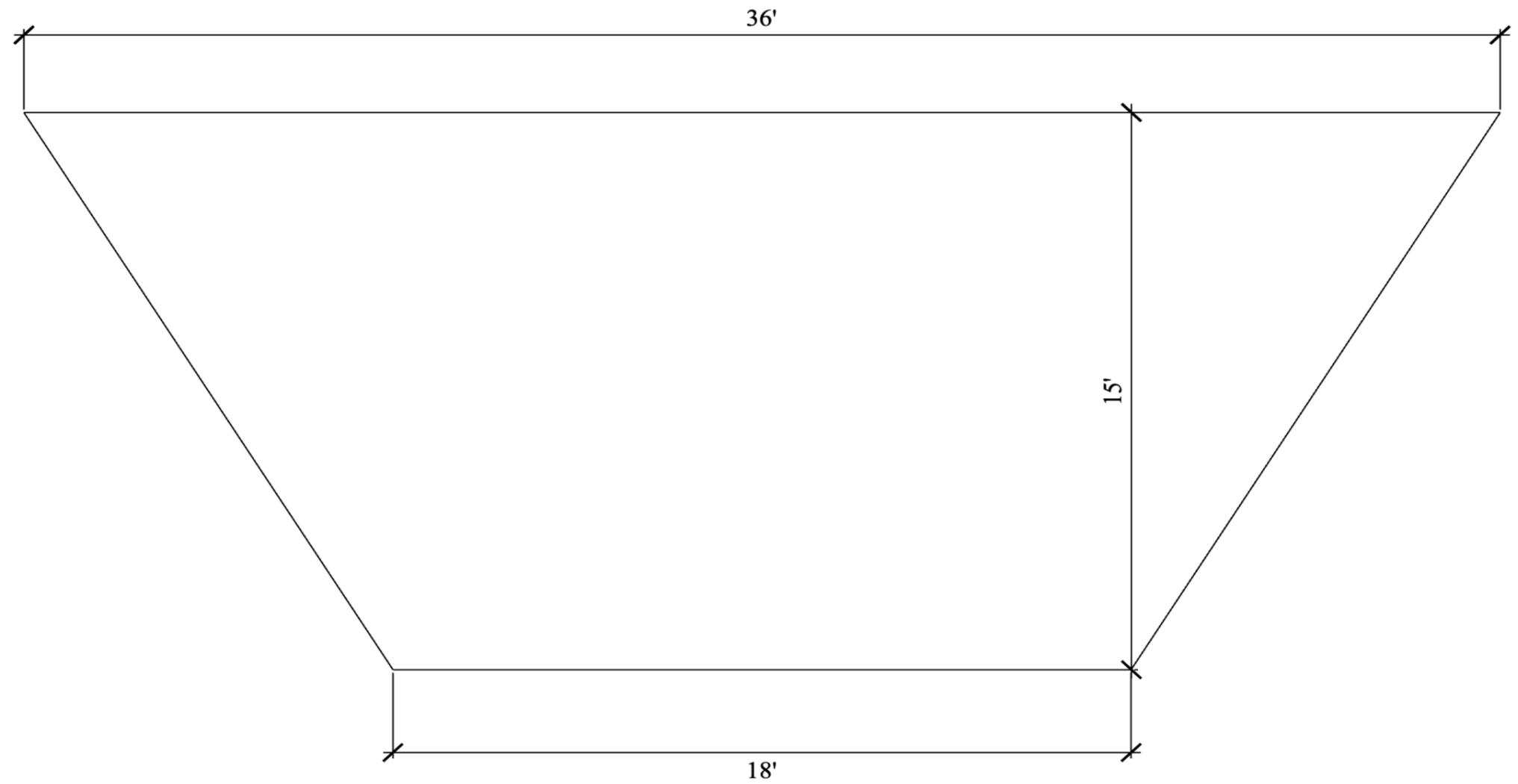


FOOTINGS, 2 HORIZONTAL MATS, 16" O.C. No. 5 EPOXY REBAR GRADE 60
ALL CONCRETE WILL BE ESTABLISHED ON 6"-7" CRUSHED STONE ((FREIGHTED))
FOOTINGS:

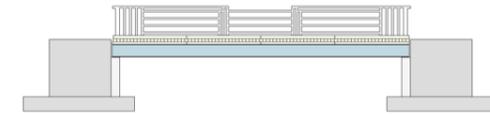
ELEVATION



PLAN

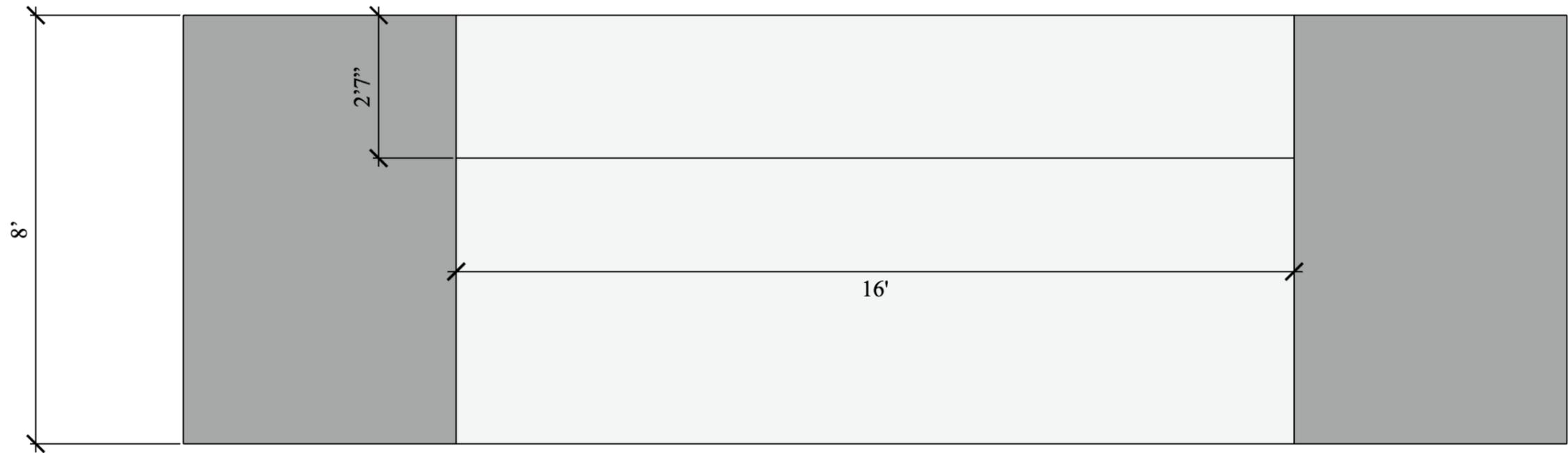


WALLS, 2 VERTICAL MATS 16" O.C. No. 5 EPOXY REBAR GRADE 60

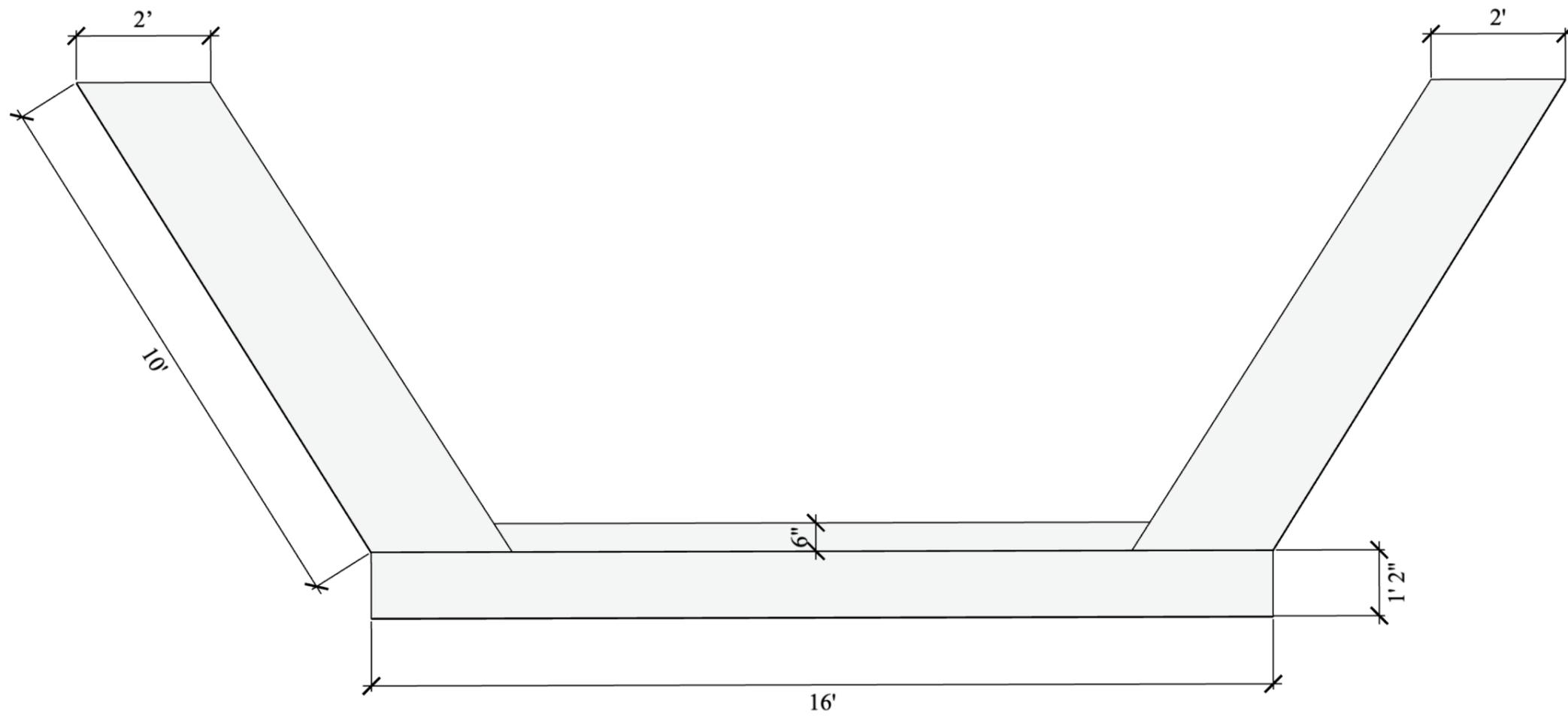


ELEVATION

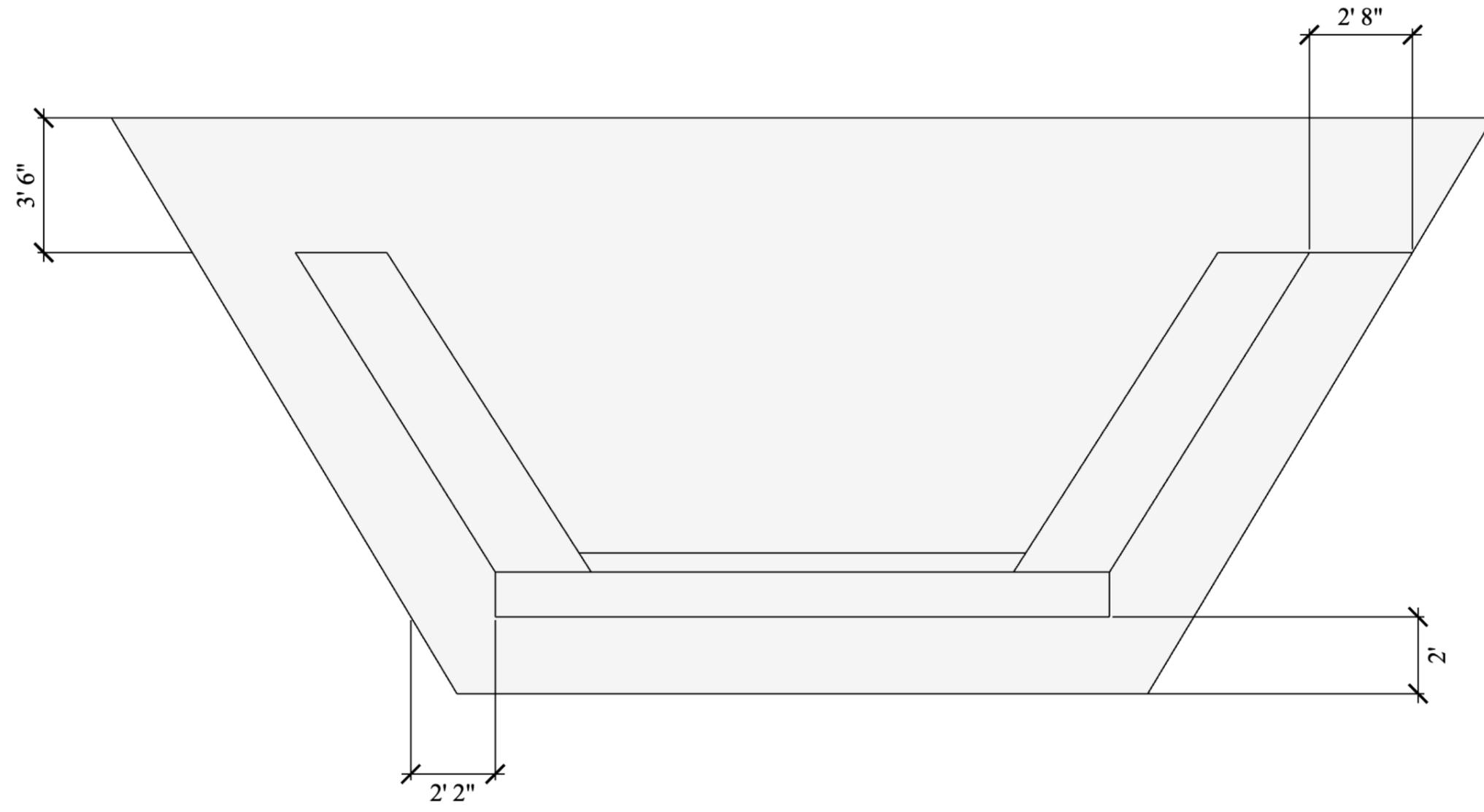
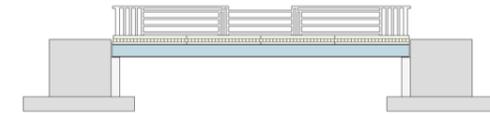
WALL ANGLES 45°



PLAN



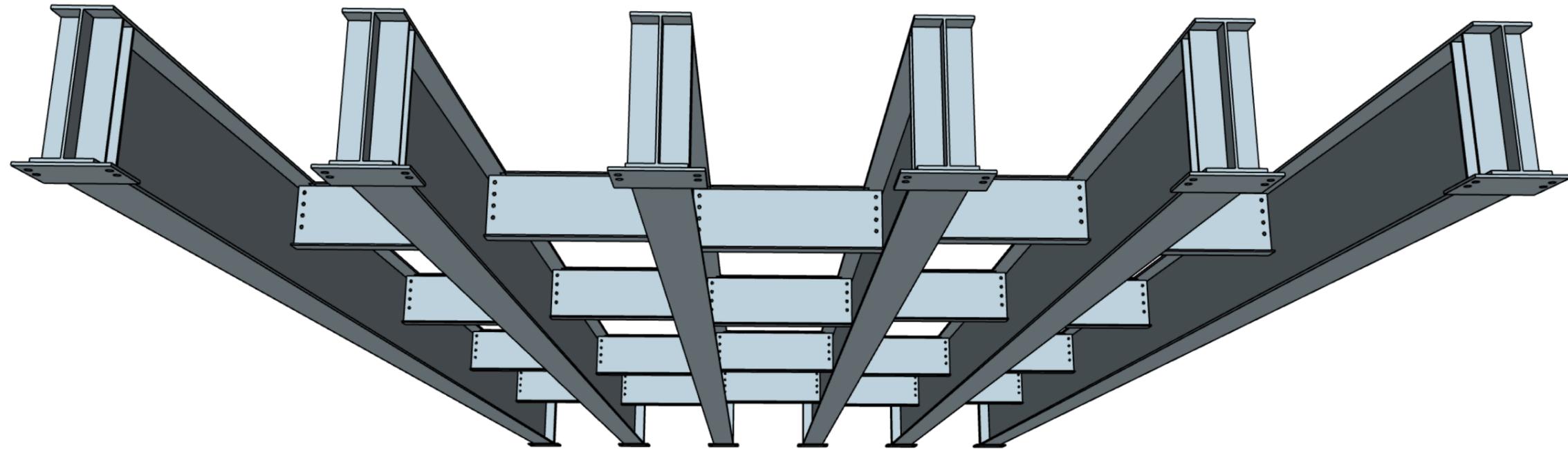
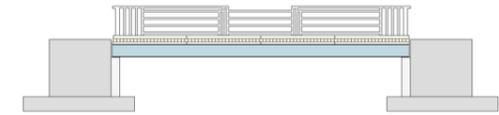
PLAN: DIMENSIONS OF WALL SPACES FROM FOOTINGS



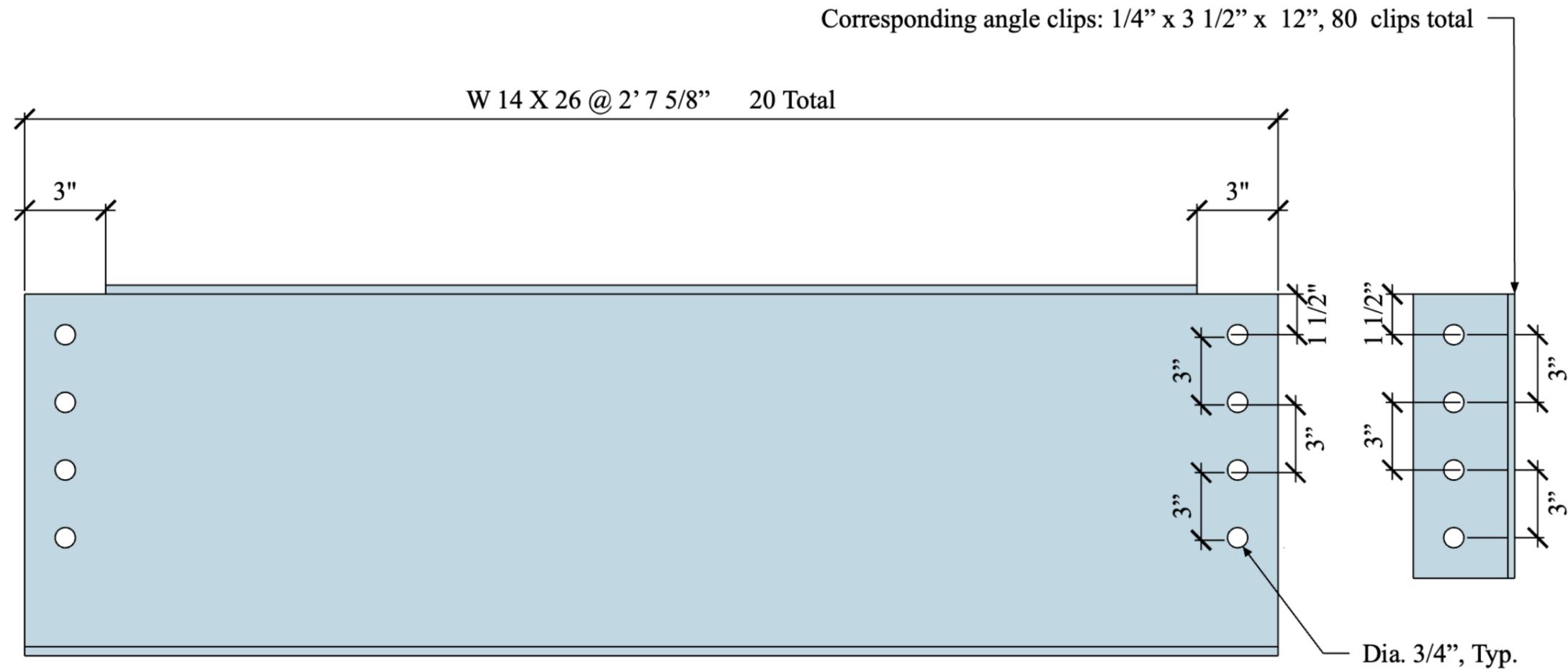
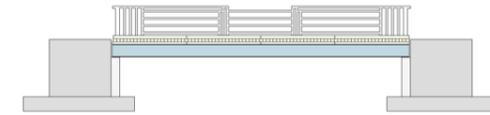
STEEL: STRUCTURAL ALLOY A992, 7850 kg/m^3 , F_y 50 KSI, F_u 65 KSI

ALL COMPONENTS HOT DIPPED GALVANIZED

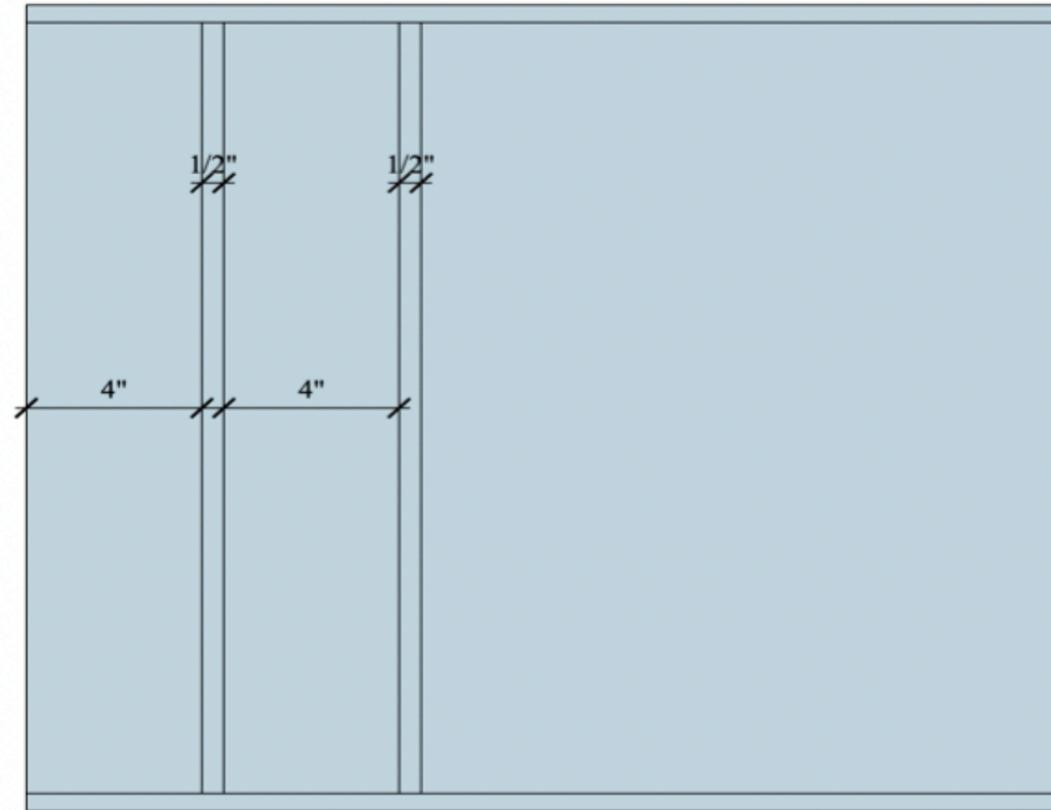
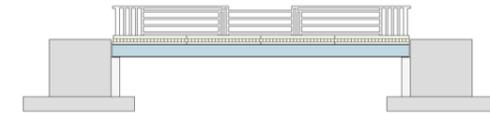
MAIN COMPONENTS: SIX W 21 X 57 GIRDERS AND TWENTY W 14 X 26 DIAPHRAGM BRACES, BOTH CERTIFIED "BUY AMERICA" ARE CONNECTED TO FORM ONE STRUCTURAL SYSTEM WITH GALVANIZED A 325 BOLT CONNECTIONS VIA ANGLE IRON. A 325 GALVANIZED EPOXIED 1' THICK THREADED RODS AND CORRESPONDING NUTS CONNECT BOTTOM GIRDER FLANGES TO BEARING PLATES TO CONCRETE SLEEPERS, BEARING PLATES WILL BE FILLET WELDED TO BOTTOM FLANGES ((CENTERED)) IN SHOP BEFORE HOT DIP GALVANIZATION PROCESS OF COMPONENTS.



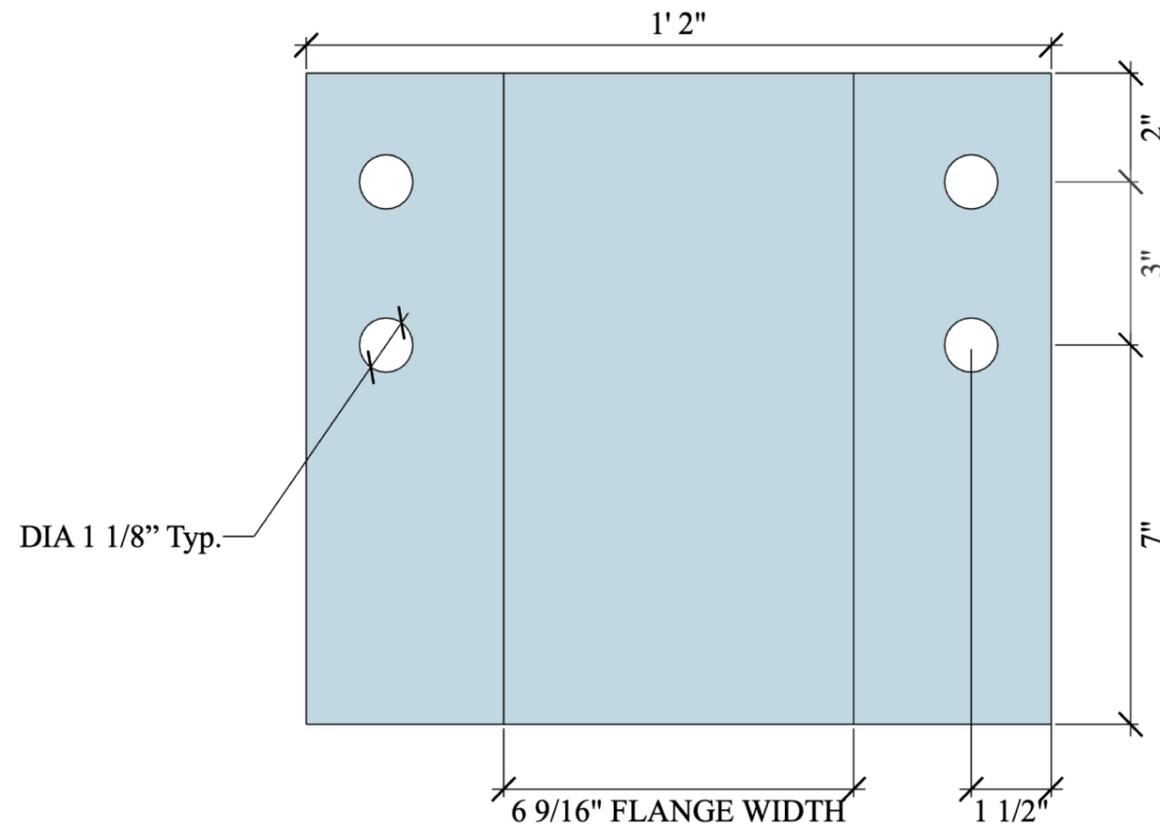
W 14 X 26 DIAPHRAGM BRACE DETAILS, 20 TOTAL:



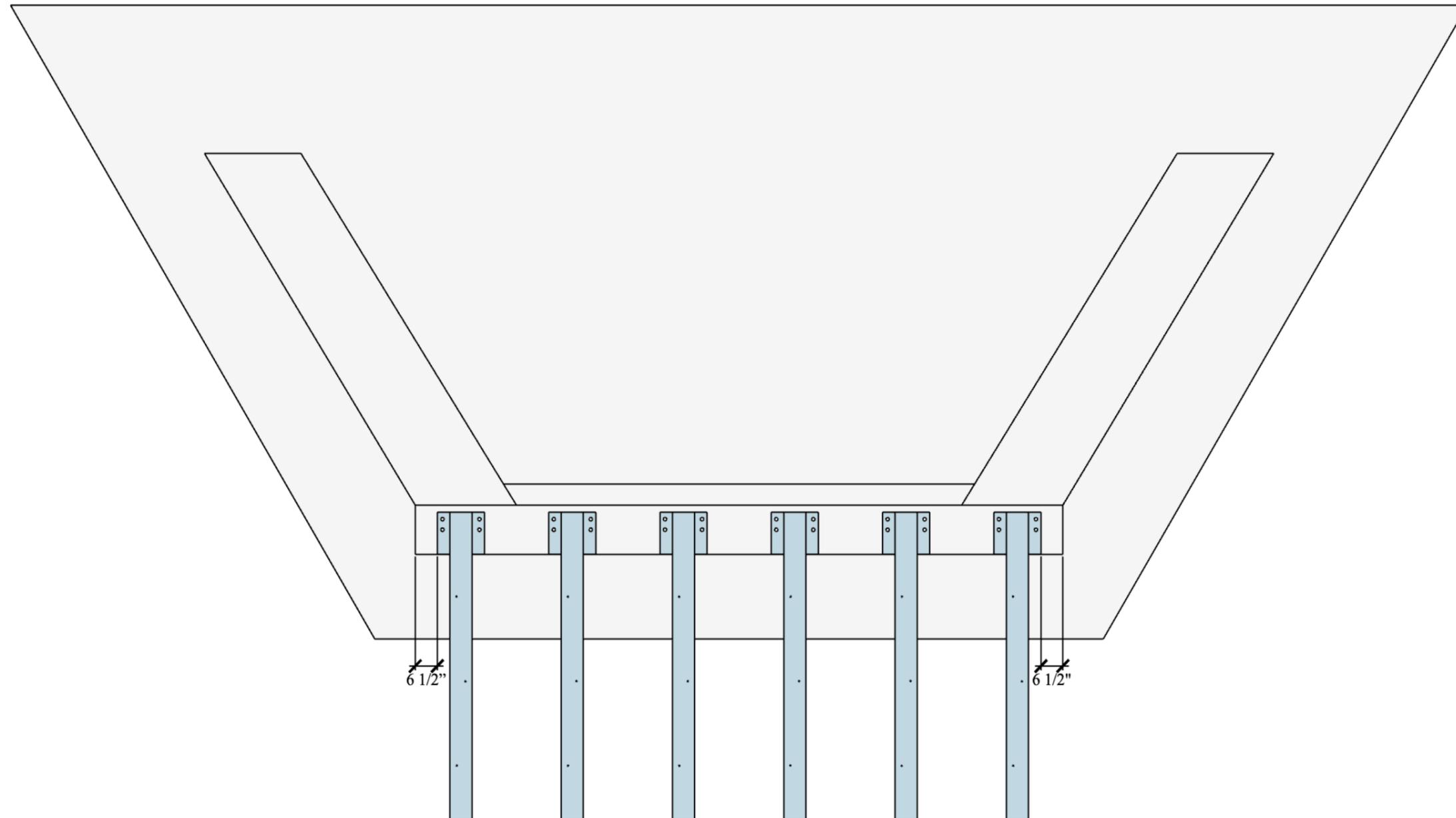
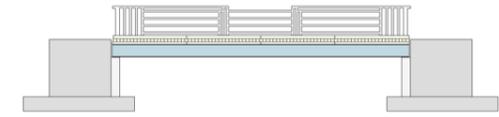
WEB STIFFENERS: 48 TOTAL, FLUSH WITH WEB, TOP AND BOTTOM FLANGE, FILLET WELDS ALL



BEARING PLATES: 12 Total, 1/2" THICK, FILLET WELDED TO BOTTOM GIRDER FLANGES CENTERED ON PLATE, 1" THICK 8" LONG EPOXIED THREADED RODS CONNECT PLATES TO CONCRETE



PLAN: PLATES TO STEEL: ANCHORAGE OF PLATES TO CONCRETE, 5/8" PRE-DRILLS FOR 1/2" DIA CARRIAGE BOLTS FOR NAILERS + CENTERING DIMENSIONS ON CONCRETE SHELF, BEARING SURFACE LENGTH: 1'



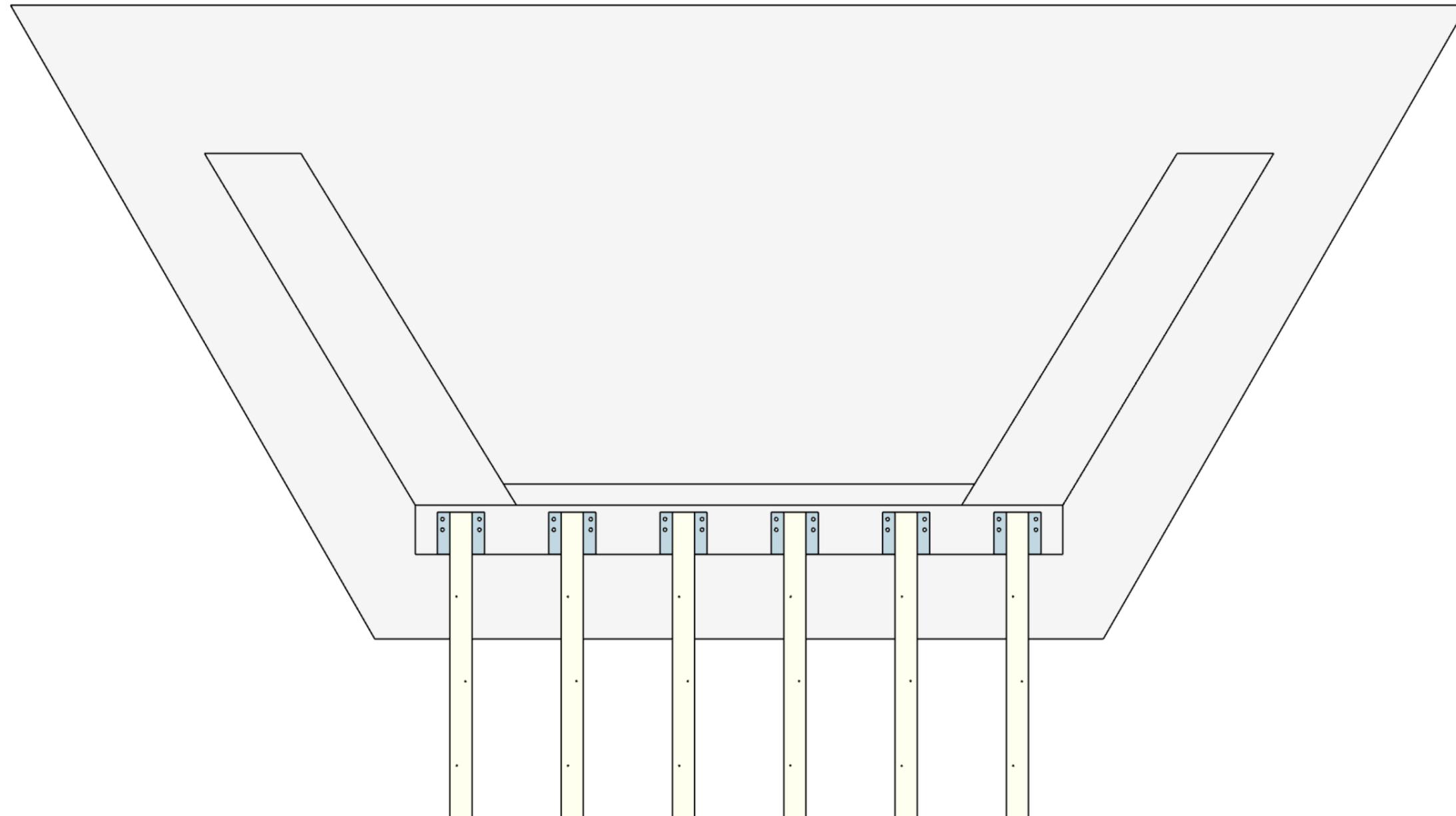
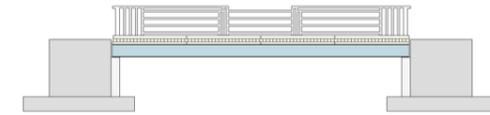
TIMBER: PRESSURE TREATED SOUTHERN YELLOW PINE ALL **No. 1 Structural:**

Bending: Fb 1350 PSI, **Satisfied**

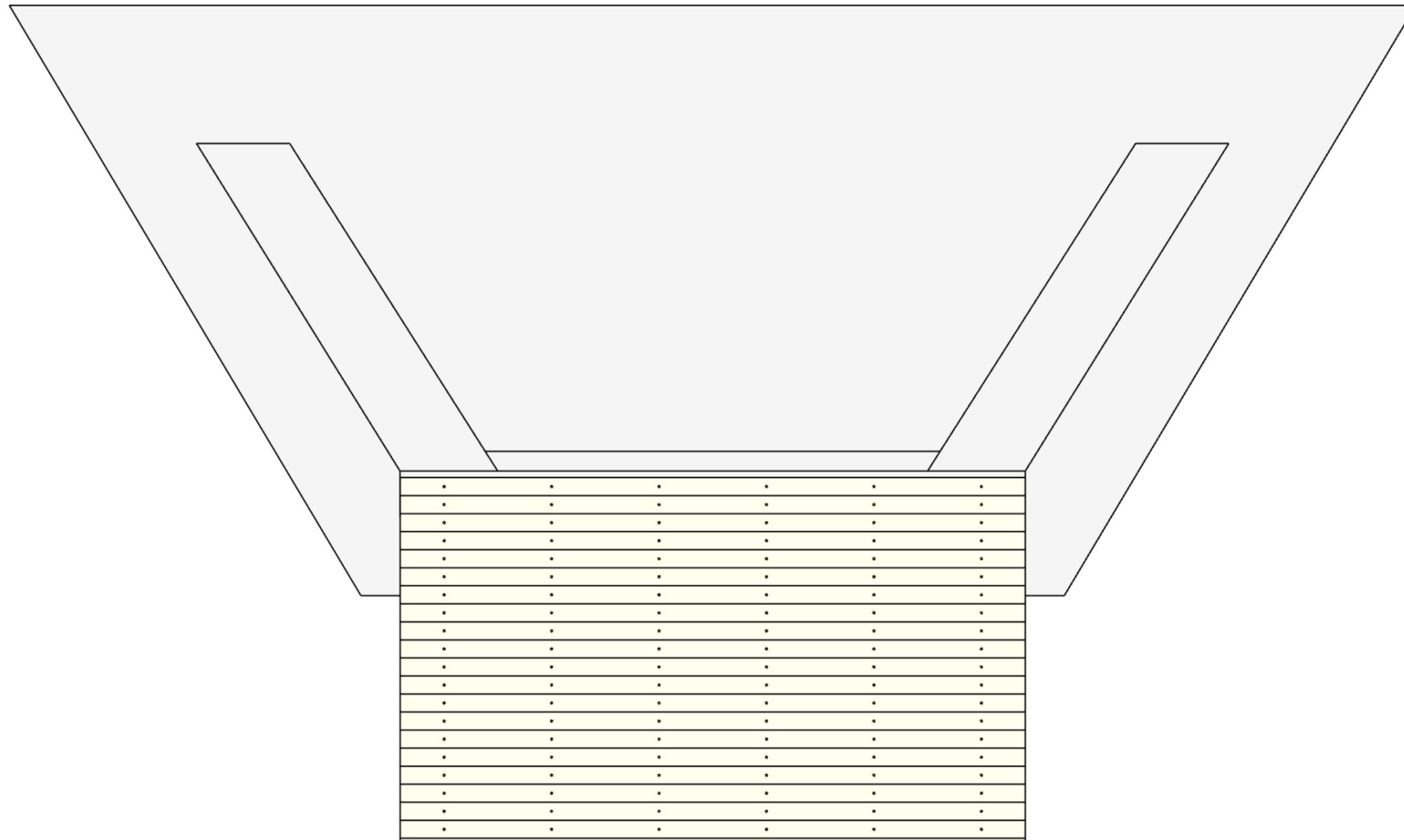
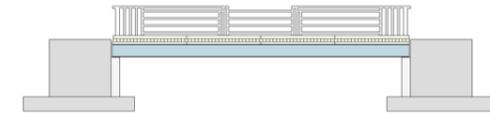
Shear: Fv 175 PSI, **Satisfied**

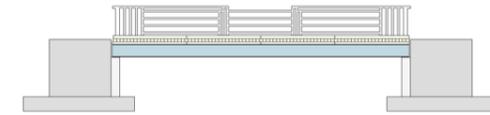
FINAL BOLT SCHEDULE CONFIRMED IN THE FIELD, GENERAL LAYOUT BELOW:

NAILERS: 4" X 6" X 10', 24 TOTAL BOARDS, CENTERED ON TOP OF GIRDER STEEL FLANGE WITH 3/8" PRE-DRILLS SPACED 2' APART. STAINLESS STEEL (18-8 stainless) CARRIAGE BOLTS @ 1/2" DIA. X 5" LONG, STAGGERED OFF TOP GIRDER WEB 2" FROM EDGES CONNECT PT BOARDS TO STEEL GIRDERS.

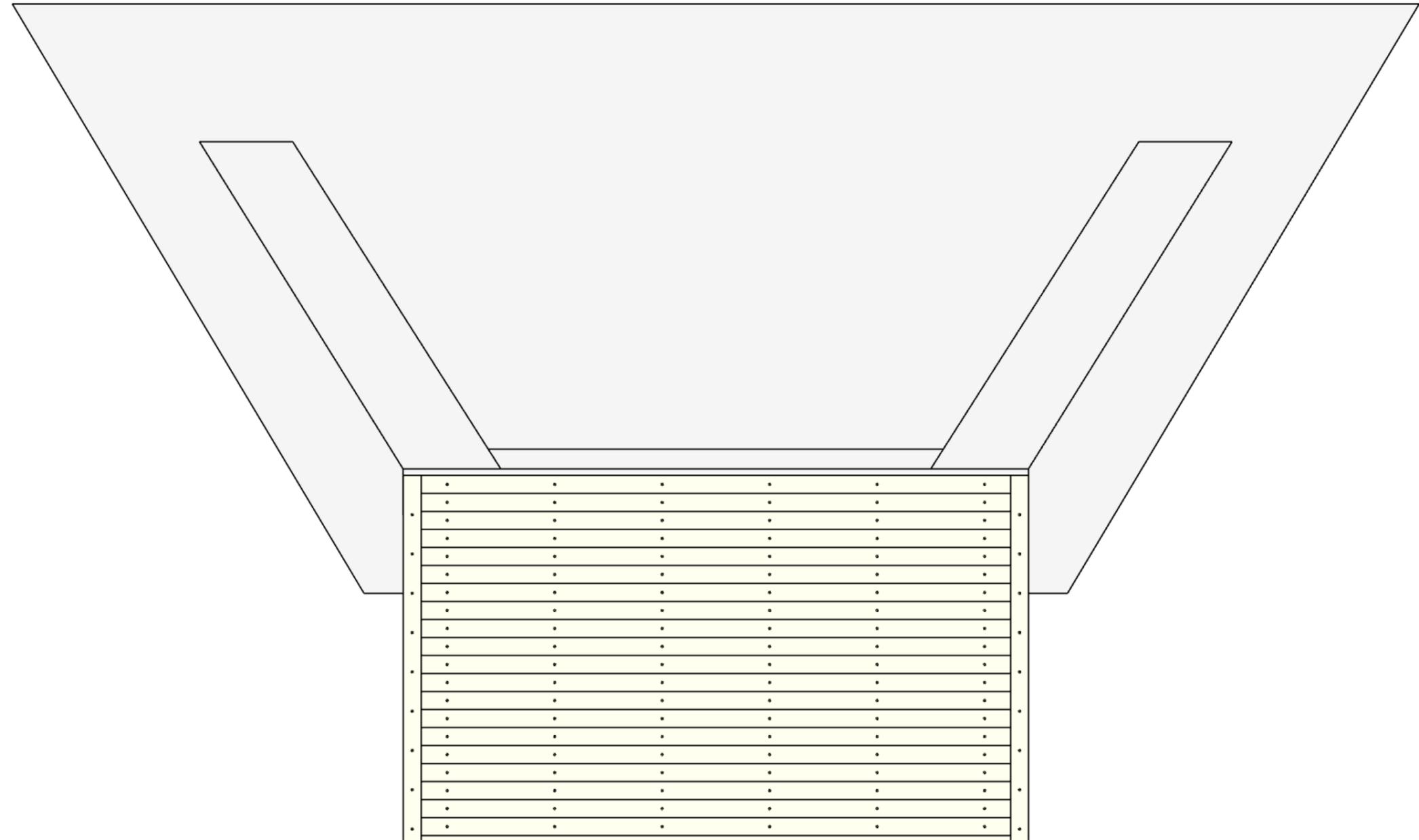


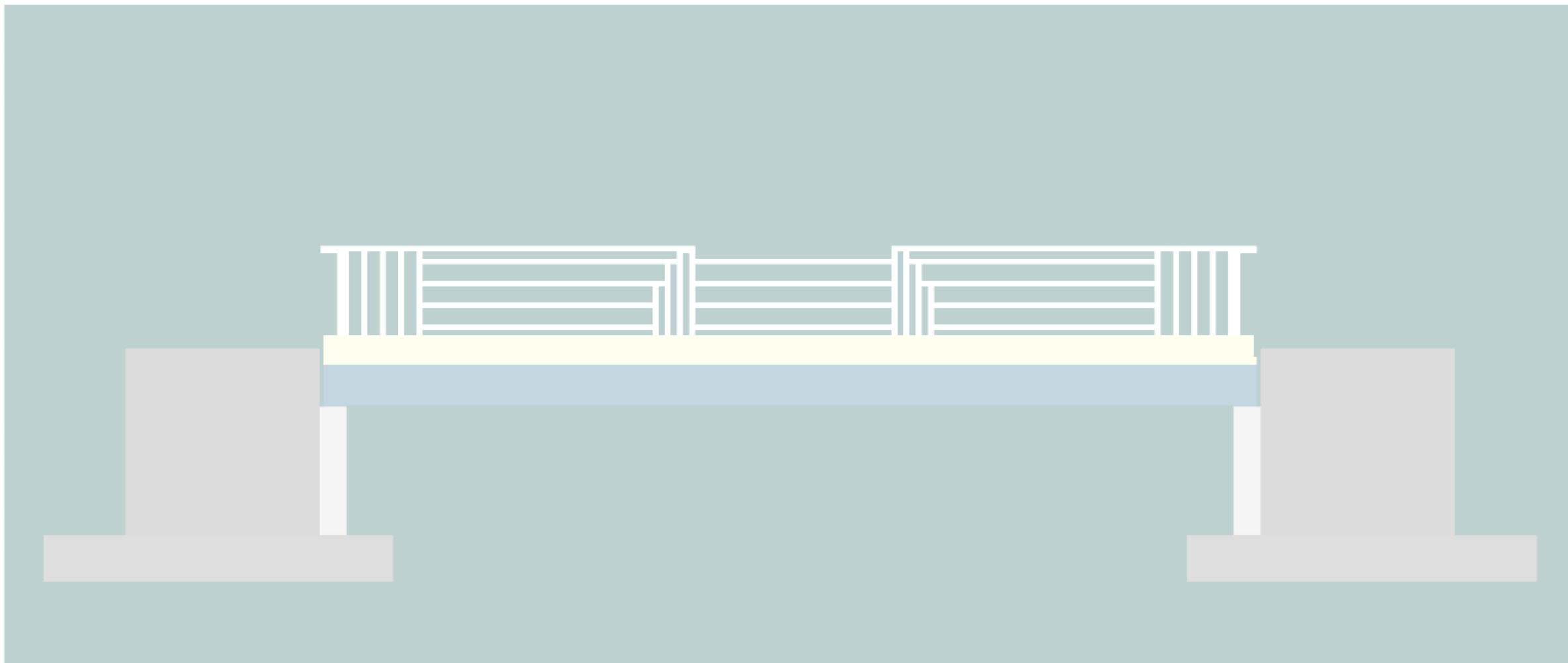
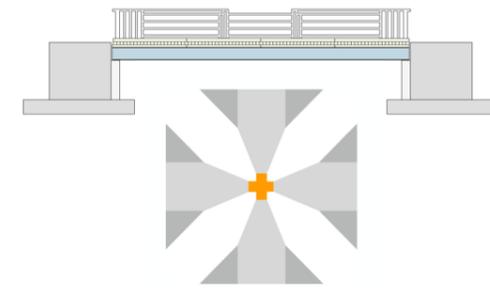
DECKING 88 TOTAL BOARDS 6" X 6" X 16' w/HOT DIPPED GALVANIZED HEX-HEAD LAG BOLTS @ 3/4" DIA. 8" LONG, DRILLED INTO 5/8" PRE-DRILLS CENTERED DIRECTLY ABOVE GIRDER WEBS, 13.5" O.C. FROM DECK EDGES AND 2' 9" O.C. BETWEEN GIRDER CENTERS: CONNECTS DECK TO NAILERS, 6 CONNECTIONS PER BOARD, HEX HEAD FINISHED 1/16" BELOW FLUSH DECK LEVEL.





CURBING: 8 TOTAL BOARDS 6" X 6" X 10' w/HOT DIPPED GALVANIZED HEX-HEAD LAG BOLTS @ 3/4" DIA. 10" LONG, DRILLED INTO 5/8" PRE-DRILLS CENTERED ON CURBING AND SPACED ≈ 1' APART, 9 PER BOARD FLUSH WITH 6" X 6" ENDS OF PT DECK, CONNECT CURBING TO DECKING, HEX HEAD FINISHED 1/16" BELOW FLUSH CURB LEVEL.





THANK YOU