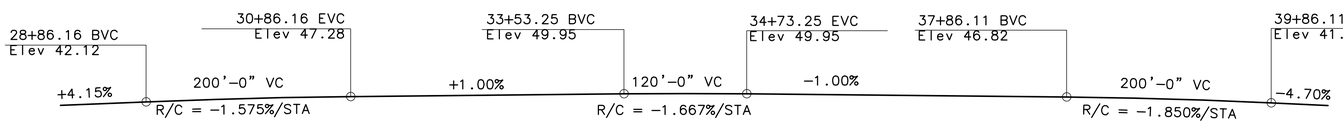
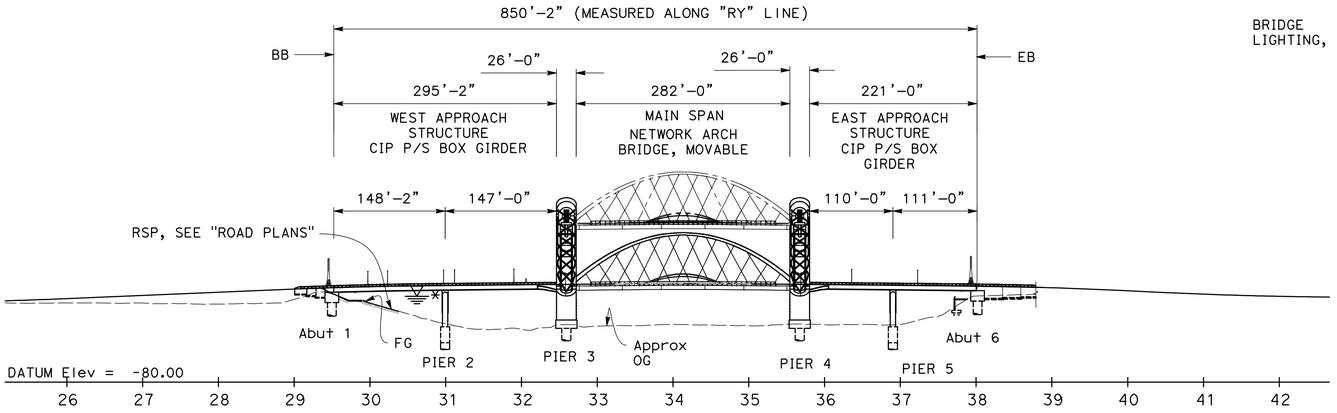


PROFILE GRADE

NO SCALE

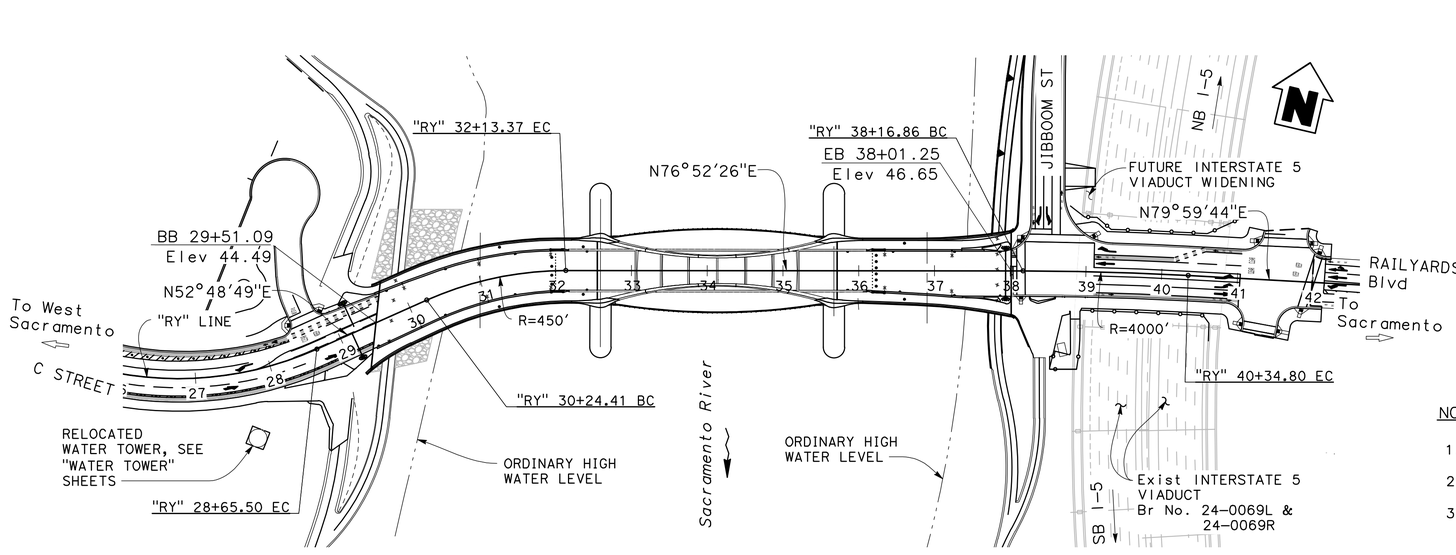


DEVELOPED ELEVATION

1" = 100'

NOTE:

* - 200 YEAR WATER SURFACE ELEVATION = 33.0

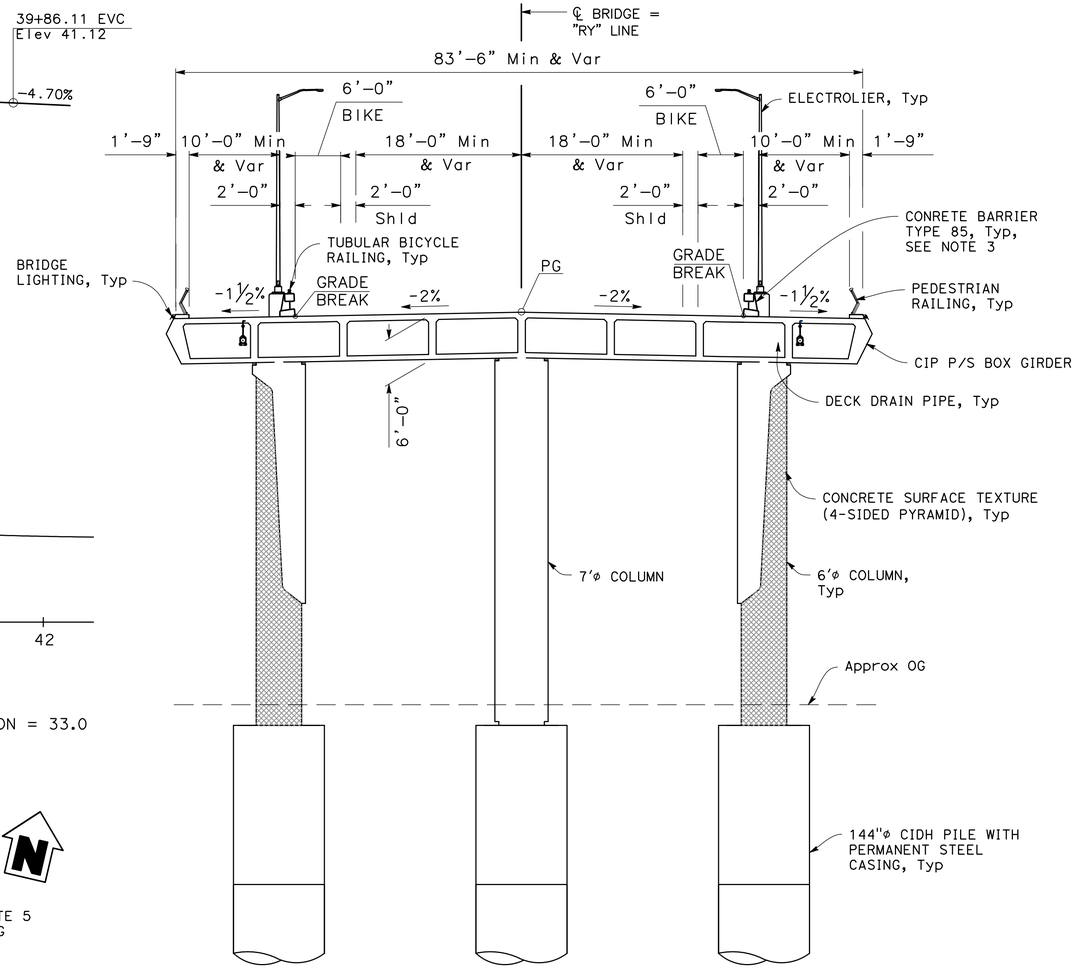


PLAN

1" = 100'

CURVE DATA

R = 450.00'	R = 4000.00'
△ = 24°03'37"	△ = 03°07'18"
T = 95.90'	T = 109.00'
L = 188.97'	L = 217.94'



TYPICAL SECTION

1" = 10'

NOTES:

1. For "GENERAL NOTES" and "INDEX TO PLANS", see "INDEX TO PLANS" sheet.
2. For "PILE DATA TABLE", "HYDROLOGIC SUMMARY" and "SCOUR DATA TABLE", see "FOUNDATION PLAN" sheet.
3. Barrier transitions from Concrete Barrier Type 85 (Mod) to a CA ST-75 (Mod) Bridge Rail. See "BRIDGE BARRIER KEY MAP" and "BARRIER TRANSITION DETAILS" sheets for details.
4. For Pier 3, Pier 4, and Movable Span details, see "MAIN SPAN" plans.

(NOT FOR CONSTRUCTION)

S-1

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:37 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

GENERAL PLAN

T15136000

SHEET 243 — OF — 648

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 2017 edition with California Amendments updated December 2023.

Standard Plans and Specifications 2024 Edition with Revised Standard Plans, January 2024.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 2.0 dated April 2019.

DEAD LOAD:
Includes 35 psf for future wearing surface.

LIVE LOADING:
HL93 and permit design load and 90 psf pedestrian loading where applicable.

SEISMIC LOADING:
Soil Profile: Vs30 = 180 m/s (590 ft/s)
Moment Magnitude: 6.67
Peak Ground Acceleration: 0.32g
See ARS Design Curve

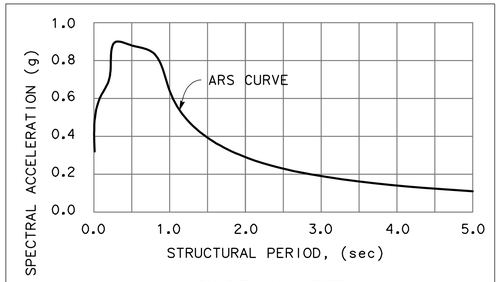
CONCRETE:
fy = 60 ksi unless otherwise noted
fy = 80 ksi for Main Bent Cap Reinforcement
f'c = 3.6 ksi unless otherwise noted in CONCRETE STRENGTH AND TYPE LIMITS
n = 8
See prestressing notes on "WEST APPROACH GIRDER LAYOUT" and "EAST APPROACH GIRDER LAYOUT" sheet.

PILES:
See PILE DATA TABLE on "FOUNDATION PLAN" sheet.

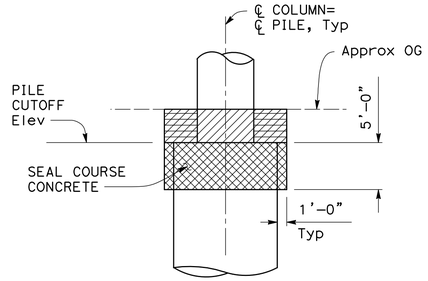
STRUCTURAL STEEL:
Permanent Steel Casing: API 5L, Grade X52, PLS1 or ASTM A252, Grade 3

STAINLESS STEEL PLATES, PIPES, BOLTS, NUTS AND WASHERS: Fy=30 ksi min
STAINLESS STEEL ROPE MESH: Fy = 42 ksi

VESSEL COLLISION:
Hopper Barge Impact Force: 1500 kips



ARS DESIGN CURVE
(5% Damping)



Structure Excavation (TYPE A)
Seal Course Concrete
Structure Backfill *

* Structure Backfill at Pier 2 and 5 paid for as Structure Excavation (Type A)

PIER 2 AND 5

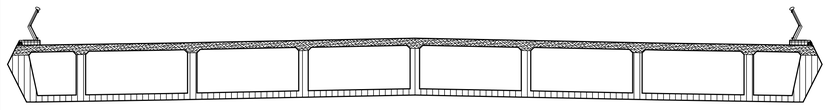
STRUCTURE EXCAVATION, TYPE A
NO SCALE

INDEX TO PLANS

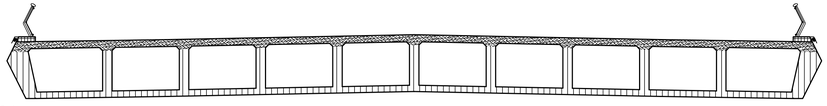
S-1 GENERAL PLAN
S-2 INDEX TO PLANS
S-3 STRUCTURE PLAN No. 1
S-4 STRUCTURE PLAN No. 2
S-5 DEMOLITION PLAN KEYMAP
S-6 DEMOLITION PLAN - Br No. 22C-0154
S-7 DEMOLITION DETAILS - Br No. 22C-0154
S-8 DEMOLITION PLAN - Br No. 24C-0364L
S-9 DEMOLITION DETAILS - Br No. 24C-0364L
S-10 DEMOLITION PLAN - Br No. 24C-0364R
S-11 DEMOLITION DETAILS - Br No. 24C-0364R
S-12 DEMOLITION PLAN - Br No. 24-0069R/L
S-13 DEMOLITION PLAN - Br No. 24C-0006
S-14 DEMOLITION DETAILS - Br No. 24C-0006
S-15 WEST APPROACH DECK CONTOURS
S-16 EAST APPROACH DECK CONTOURS
S-17 FOUNDATION PLAN
S-18 ABUTMENT 1 LAYOUT
S-19 ABUTMENT 6 LAYOUT
S-20 ABUTMENT PILE CAP
S-21 ABUTMENT DETAILS No. 1
S-22 ABUTMENT DETAILS No. 2
S-23 ABUTMENT DRAINAGE DETAILS
S-24 PIER 2 & 5 LAYOUT
S-25 PIER 2 & 5 DETAILS
S-26 PIER 2 BENT CAP LAYOUT
S-27 PIER 5 BENT CAP LAYOUT
S-28 PIER 2 & 5 BENT CAP DETAILS
S-29 PIER 2 & 5 PILE DETAILS
S-30 PIER 3 & 4 PIER WALL DETAILS No. 1
S-31 PIER 3 & 4 PIER WALL DETAILS No. 2
S-32 WEST APPROACH TYPICAL SECTION

INDEX TO PLANS Cont.

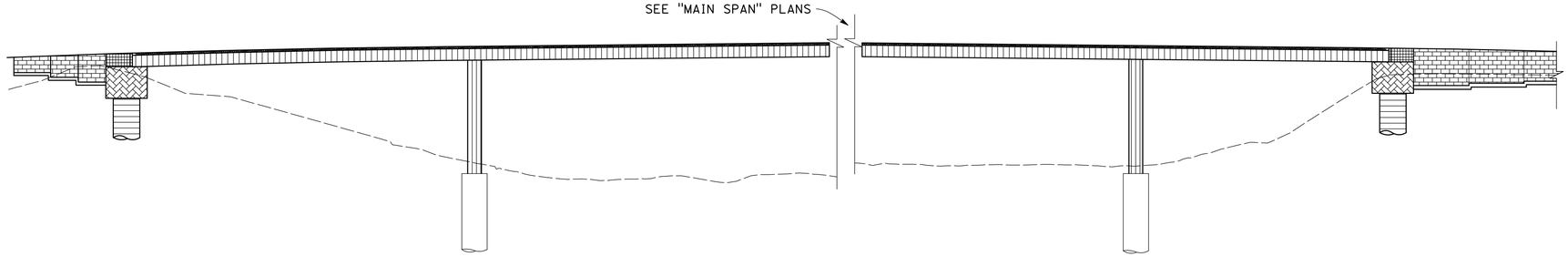
S-33 EAST APPROACH TYPICAL SECTION
S-34 WEST APPROACH GIRDER LAYOUT
S-35 EAST APPROACH GIRDER LAYOUT
S-36 WEST APPROACH GIRDER REINFORCEMENT DETAILS No. 1
S-37 WEST APPROACH GIRDER REINFORCEMENT DETAILS No. 2
S-38 EAST APPROACH GIRDER REINFORCEMENT DETAILS
S-39 DECK DRAINAGE LAYOUT
S-40 DECK DRAINAGE DETAILS
S-41 EXTERIOR GIRDER ARCHITECTURAL FLARE LAYOUT
S-42 EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 1
S-43 EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 2
S-44 EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 3
S-45 EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 4
S-46 JOINT ARMOR FOR PEDESTRIAN WALKWAYS
S-47 BRIDGE BARRIER KEY MAP
S-48 CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 1
S-49 CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 2
S-50 CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 3
S-51 CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 4
S-52 CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 5
S-53 BARRIER TRANSITION DETAILS No. 1
S-54 BARRIER TRANSITION DETAILS No. 2
S-55 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 1
S-56 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 2
S-57 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 3
S-58 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 4
S-59 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 5
S-60 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 6
S-61 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 7
S-62 CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 8
S-63 PEDESTRIAN RAILING DETAILS No. 1
S-64 PEDESTRIAN RAILING DETAILS No. 2
S-65 PEDESTRIAN RAILING DETAILS No. 3
S-66 TRAFFIC BARRIER BOLLARD LAYOUT
S-67 TRAFFIC BARRIER BOLLARD DETAILS
S-68 PRECAST CONCRETE BAT HABITAT DETAILS No. 1
S-69 PRECAST CONCRETE BAT HABITAT DETAILS No. 2
S-70 PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT LAYOUT
S-71 PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 1
S-72 PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 2
S-73 PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 3
S-74 BRIDGE LIGHTING LAYOUT
S-75 ARCHITECTURAL TREATMENT DETAILS No. 1
S-76 ARCHITECTURAL TREATMENT DETAILS No. 2
S-77 LOG OF TEST BORINGS PLAN
S-78 LOG OF TEST BORINGS PROFILE



WEST APPROACH STRUCTURE



EAST APPROACH STRUCTURE



Structural Concrete, Bridge (polymer fiber) (f'c = 6.0 ksi @ 28 days)
Structural Concrete, Bridge (f'c = 3.6 ksi @ 28 days)
Structural Concrete, Bridge (f'c = 6.0 ksi @ 28 days)
Structural Concrete, Bridge (f'c = 4.0 ksi @ 28 days)
Structural Concrete, Retaining Wall see "RETAINING WALL" Plans
CIDH Concrete Pile (f'c = 3.6 ksi @ 28 days)
CIDH Concrete Pile (f'c = 4.5 ksi @ 28 days)

CONCRETE STRENGTH AND TYPE LIMITS
NO SCALE

(NOT FOR CONSTRUCTION)

S-2

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:37 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE HORIZ. AS NOTED VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

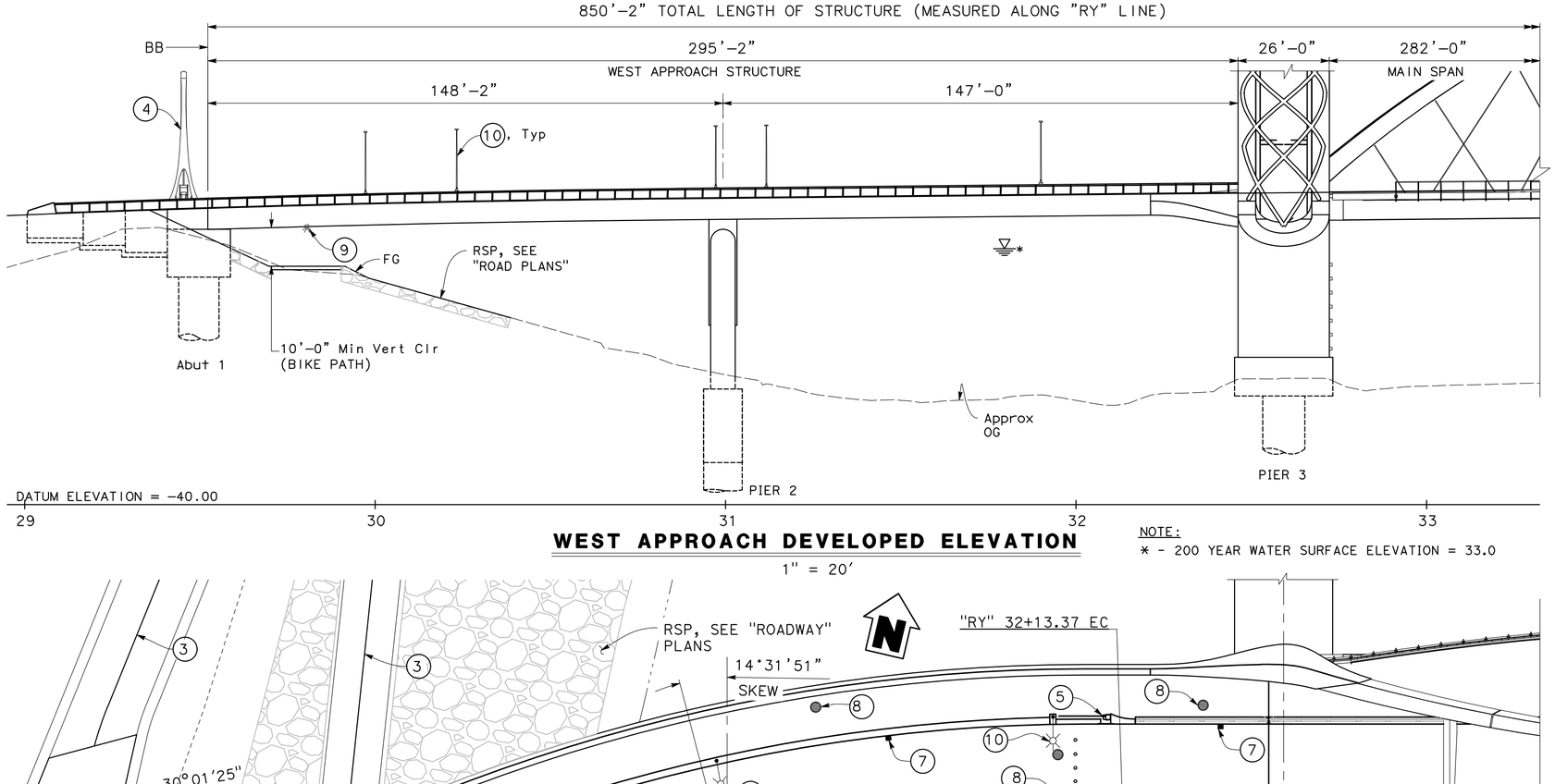
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

INDEX TO PLANS

T15136000

SHEET 244 — OF — 648



WEST APPROACH DEVELOPED ELEVATION

1" = 20'

NOTE:
* - 200 YEAR WATER SURFACE ELEVATION = 33.0

WEST APPROACH PLAN

1" = 20'

CURVE DATA

R = 450.00'
Δ = 24°03'37"
T = 95.90'
L = 188.97'

NOTES:

1. Bridge Number Plaque
2. Indicates Retaining Wall
3. Indicates Bike Path
4. Indicates Precast Concrete Traffic Warning Gate Monument and Traffic Warning Gate
5. Indicates Pedestrian Warning Gate
6. Indicates Traffic Barrier Bollards
7. Indicates Deck Drain
8. Indicates Manhole w/ Custom Cover
9. Indicates Soffit Lighting
10. Indicates Electrolier

Indicates Point of Minimum Vertical Clearance

(NOT FOR CONSTRUCTION)

S-3

DATE PLOTTED => 3-Nov-25
TIME PLOTTED => 1:38 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

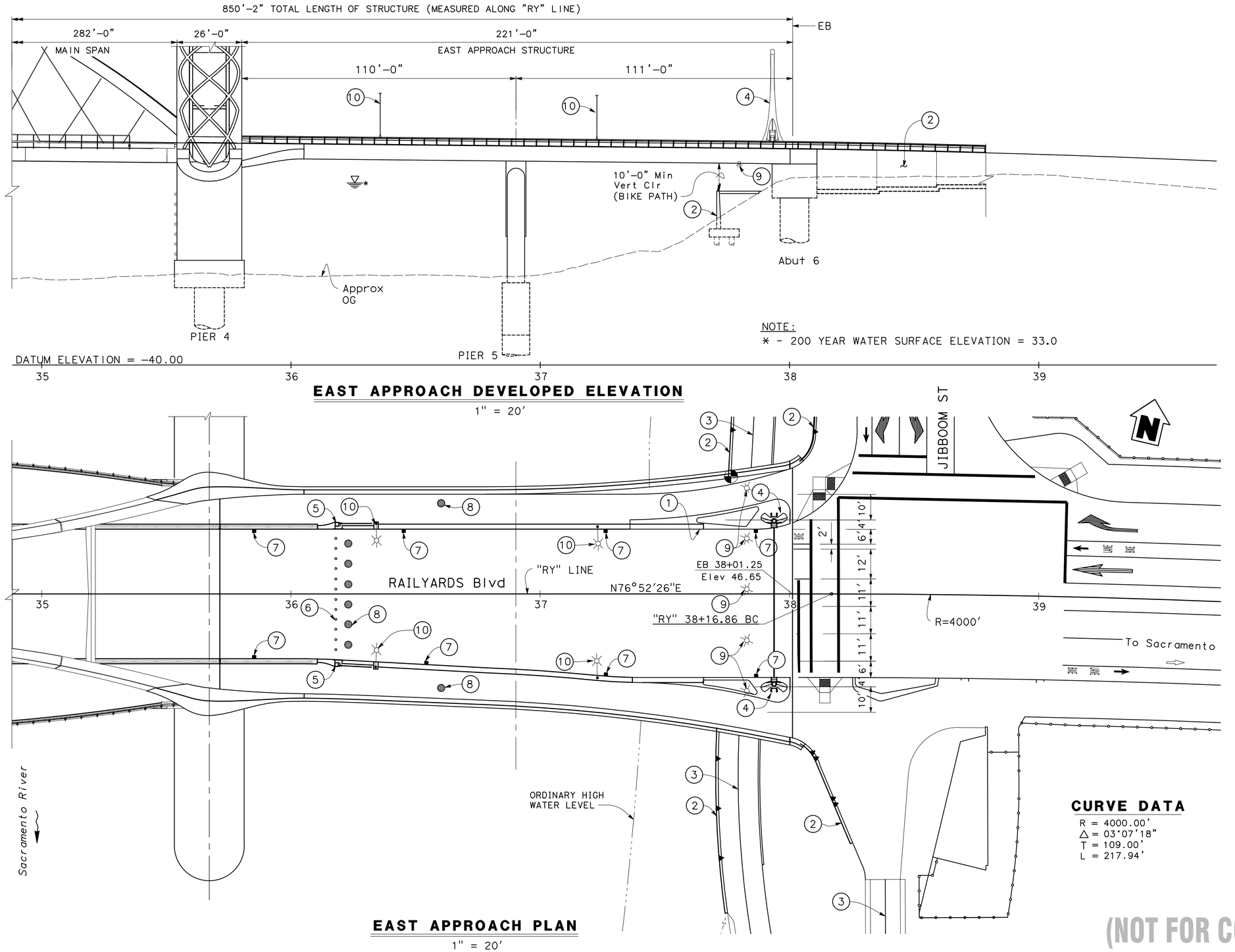
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

STRUCTURE PLAN No. 1

T15136000

SHEET 245 — OF — 648



CURVE DATA

R = 4000.00'
Δ = 03°07'18"
T = 109.00'
L = 217.94'

NOTES:

1. Bridge Number Plaque
2. Indicates Retaining Wall
3. Indicates Bike Path
4. Indicates Precast Concrete Traffic Warning Gate Monument and Traffic Warning Gate
5. Indicates Pedestrian Warning Gate
6. Indicates Traffic Barrier Bollards
7. Indicates Deck Drain
8. Indicates Manhole w/ Custom Cover
9. Indicates Soffit Lighting
10. Indicates Electrolier
- Indicates Point of Minimum Vertical Clearance

(NOT FOR CONSTRUCTION)

S-4

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:38 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

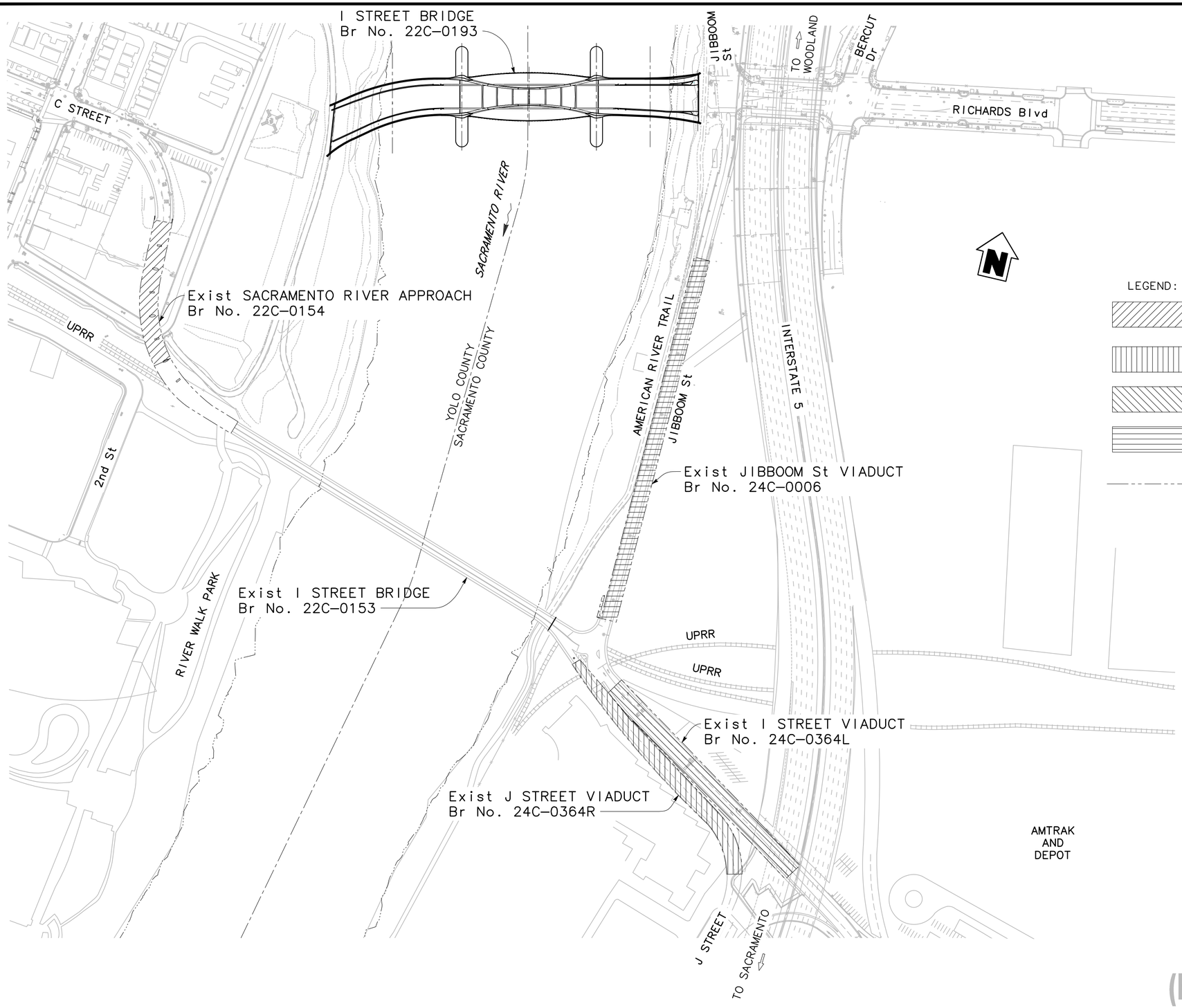
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

STRUCTURE PLAN No. 2

T15136000

SHEET 246 OF 648



LEGEND:

- INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION A SEE "DEMOLITION PLAN Br No. 22C-0154" SHEET
- INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION B SEE "DEMOLITION PLAN Br No. 24C-0364R" SHEET
- INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION C SEE "DEMOLITION PLAN Br No. 24C-0364L" SHEET
- INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION D SEE "DEMOLITION PLAN Br No. 24C-0006" SHEET
- EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-5

REVISIONS

NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-27

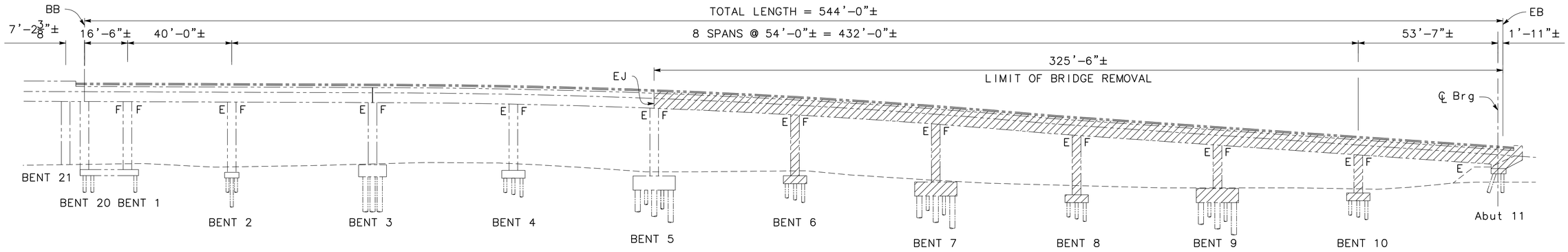
CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DEMOLITION PLAN
KEYMAP

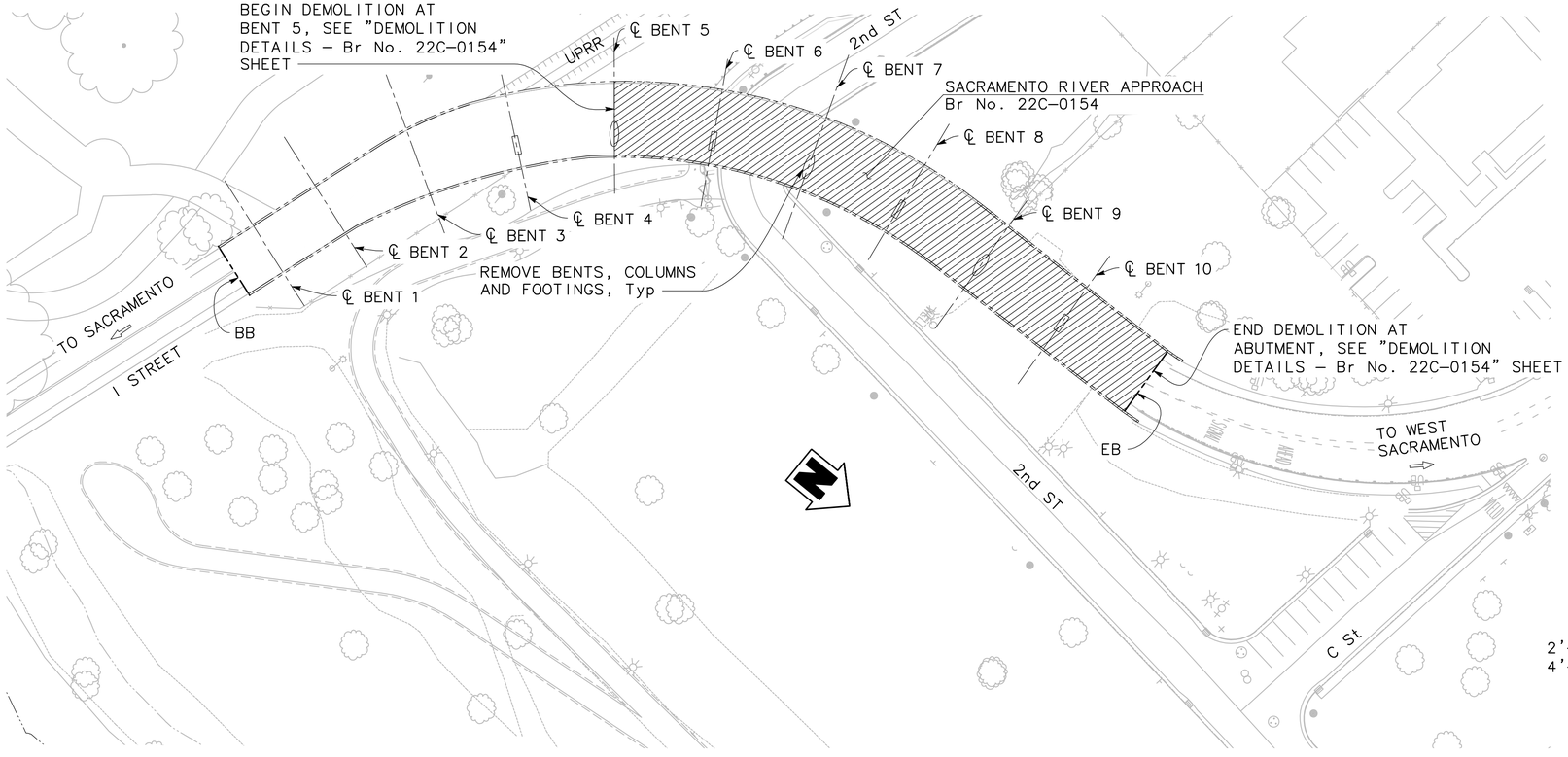
T15136000

SHEET 247 OF 648



BRIDGE REMOVAL DEVELOPED ELEVATION Br No. 22C-0154

1" = 20'



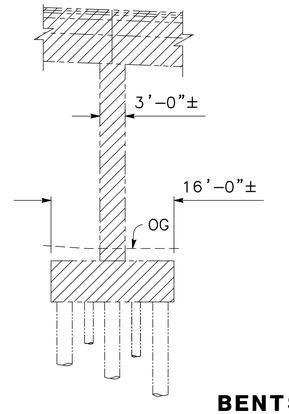
BRIDGE REMOVAL PLAN Br No. 22C-0154

1" = 40'

LEGEND:

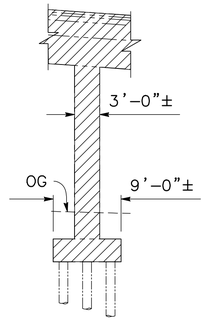
INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION A

EXISTING STRUCTURE



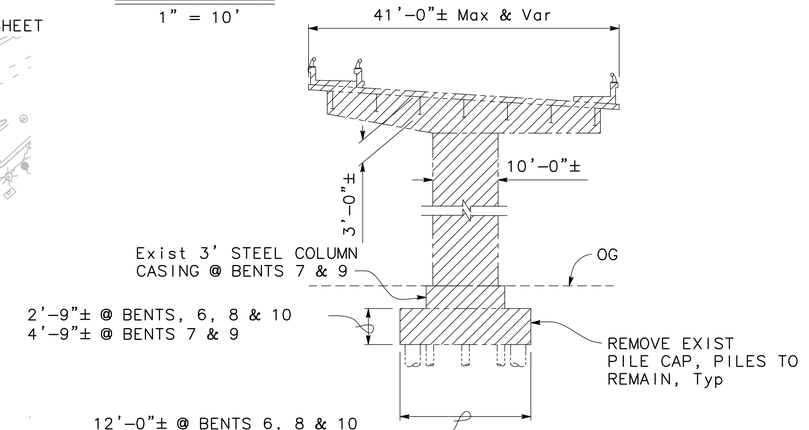
BENTS 7 & 9 ELEVATION

1" = 10'



BENTS 6, 8 & THROUGH 10 ELEVATION

1" = 10'



BENTS 4 THROUGH 10

BRIDGE REMOVAL TYPICAL SECTION - Br No. 22C-0154

1" = 10'

(NOT FOR CONSTRUCTION)

S-6

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

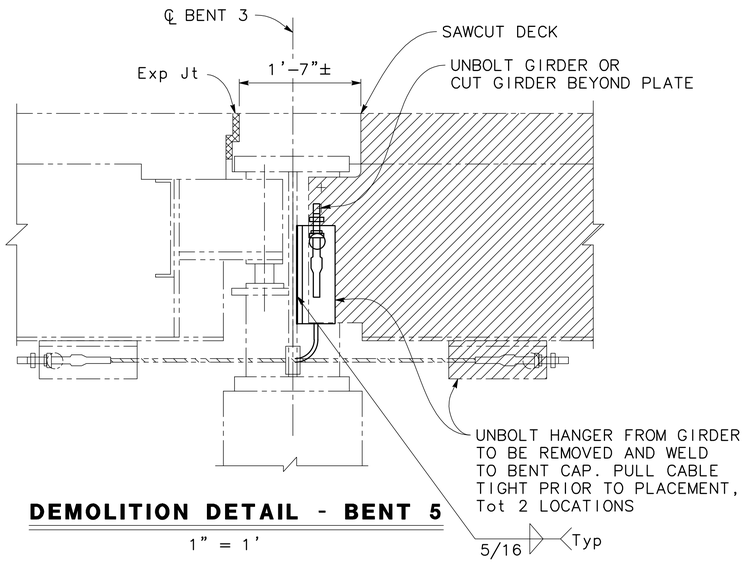
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9-30-27
CHECKED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DEMOLITION PLAN
Br No. 22C-0154

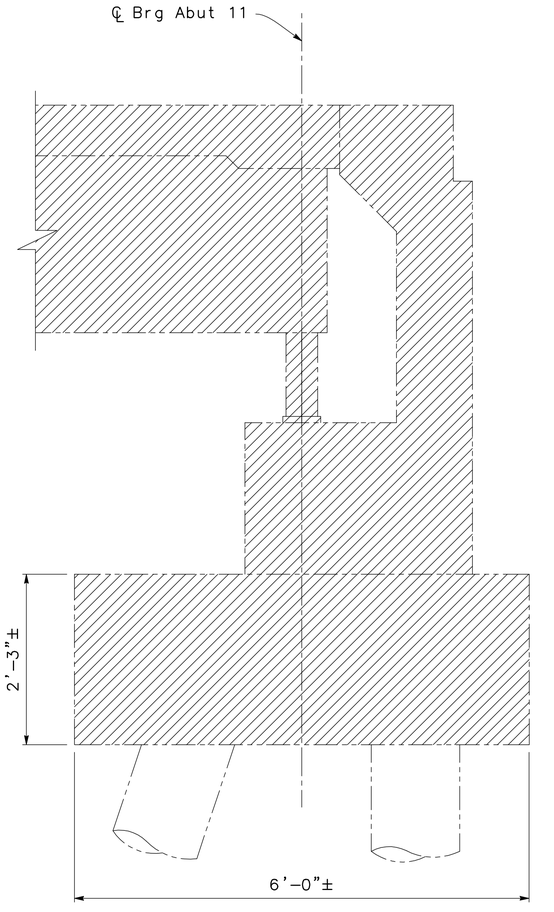
T15136000

SHEET 248 OF 648



DEMOLITION DETAIL - BENT 5

1" = 1'



DEMOLITION DETAIL - ABUTMENT 11

1" = 1'

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION A

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-7

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

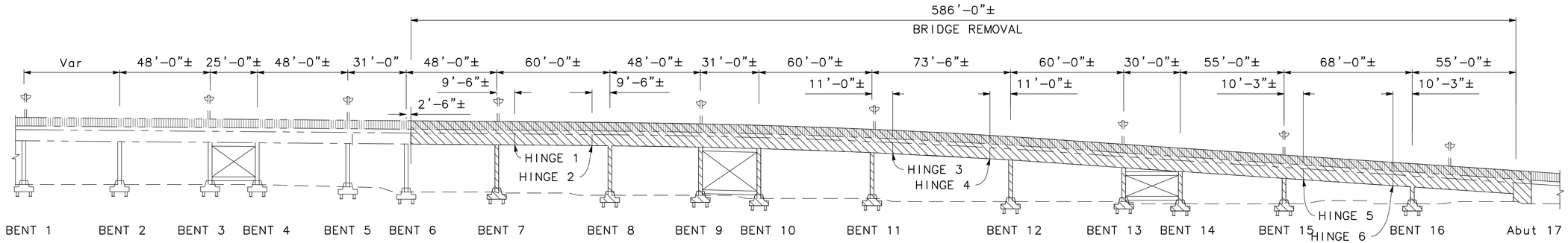
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9-30-27
CHECKED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
DEMOLITION DETAILS
Br No. 22C-0154

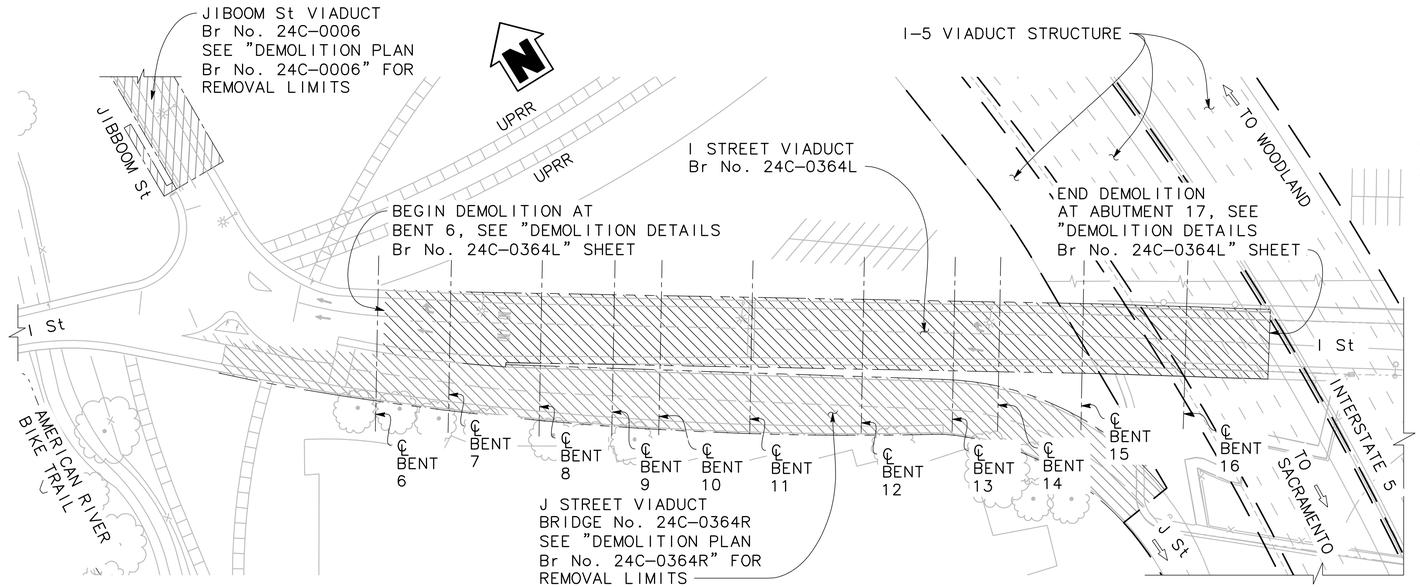
T15136000

SHEET 249 OF 648



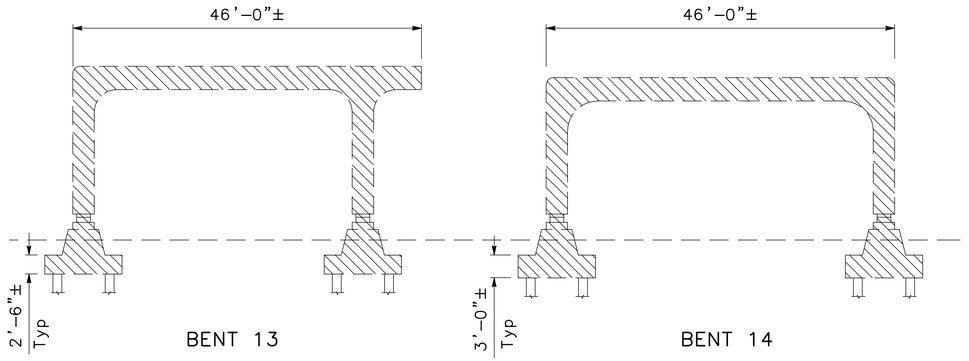
BRIDGE REMOVAL DEVELOPED ELEVATION
Br No. 24C-0364L

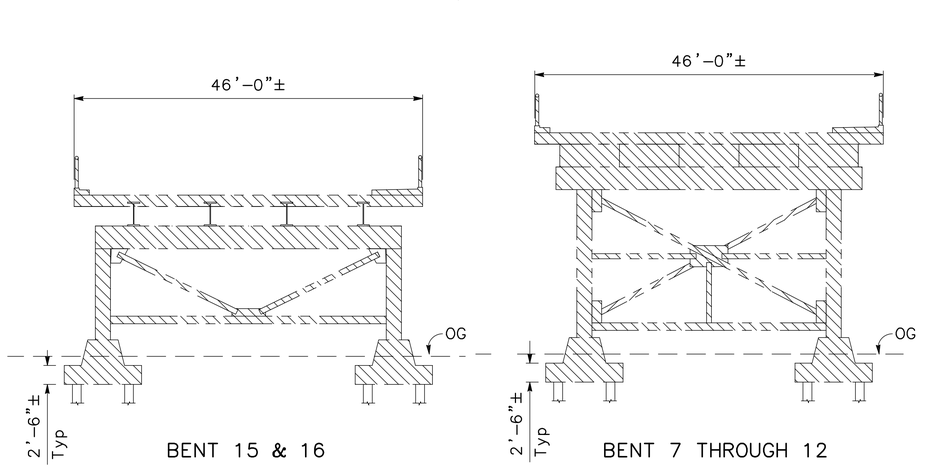
1" = 30'



BRIDGE REMOVAL PLAN
Br No. 24C-0364L

1" = 50'





BRIDGE REMOVAL TYPICAL SECTION
Br No. 24C-0364L

1" = 10'

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION C

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-8

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-27

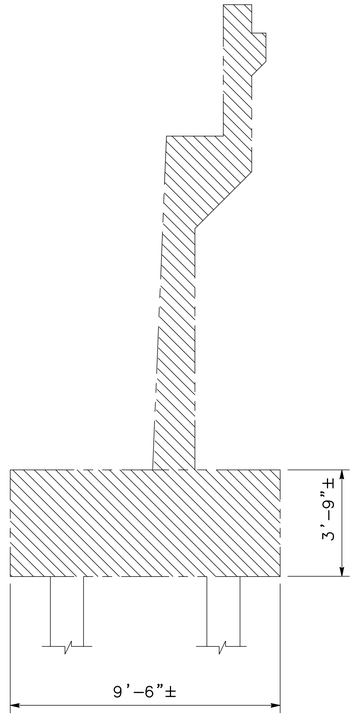
CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DEMOLITION PLAN
Br No. 24C-0364L

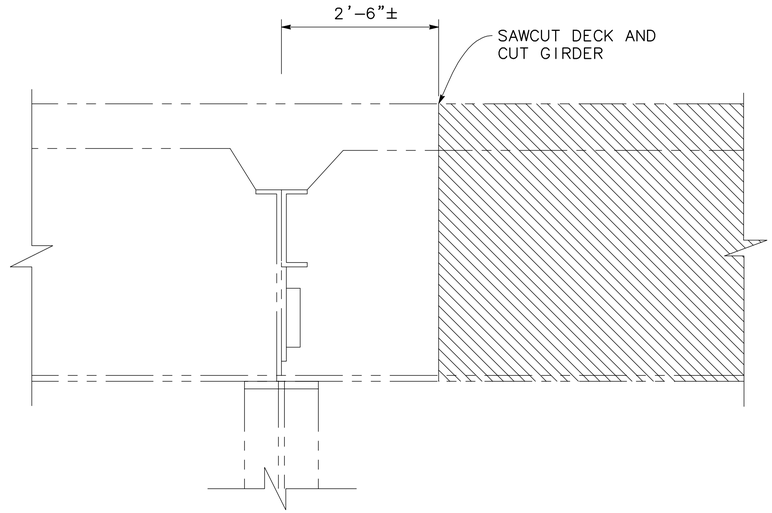
T15136000

SHEET 250 — OF — 648



DEMOLITION DETAIL - ABUTMENT 17

NO SCALE



DEMOLITION DETAIL - BENT 6

NO SCALE

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION C

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-9

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-27

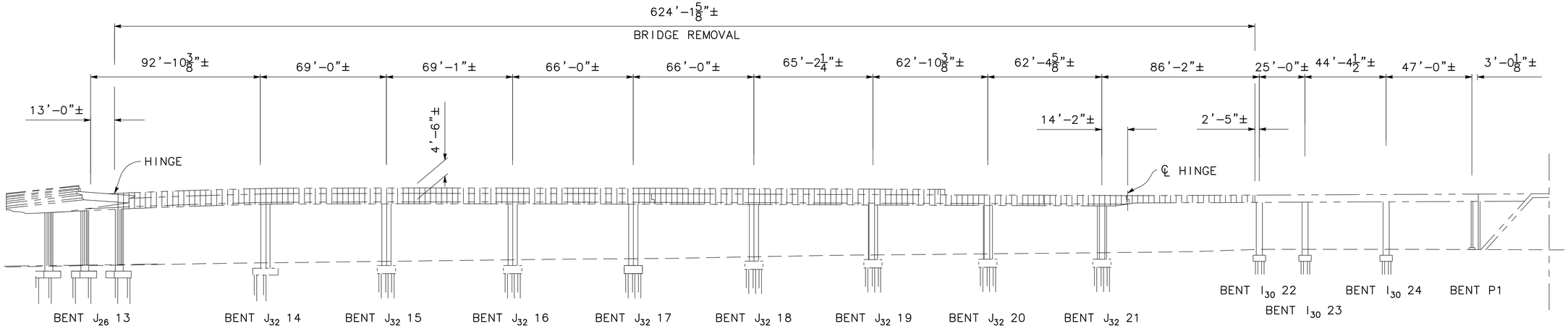
CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DEMOLITION DETAILS
Br No. 24C-0364L

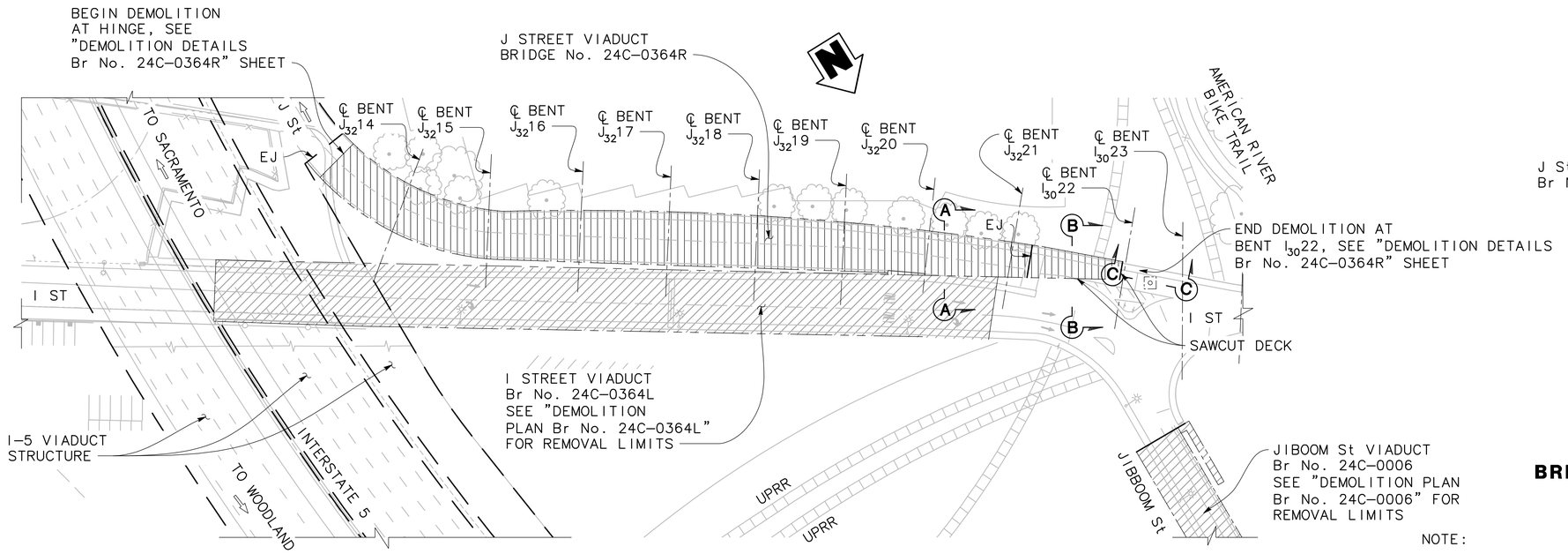
T15136000

SHEET 251 OF 648



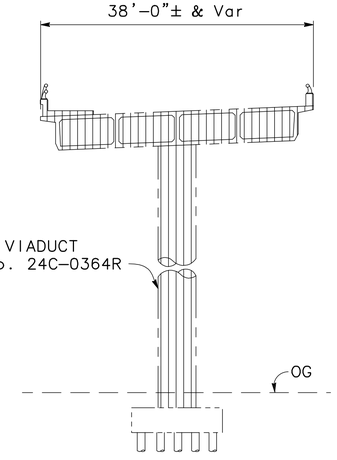
BRIDGE REMOVAL DEVELOPED ELEVATION
Br No. 24C-0364R

1" = 30'



BRIDGE REMOVAL PLAN
Br No. 24C-0364R

1" = 50'



BENT J_{32}14 THROUGH J_{32}21

BRIDGE REMOVAL TYPICAL SECTION
Br No. 24C-0364R

1" = 10'

NOTE:

For SECTION A-A, SECTION B-B and SECTION C-C, see "DEMOLITION DETAILS No. 1 – Br No. 24C-0364R" sheet.

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION B

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-10

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

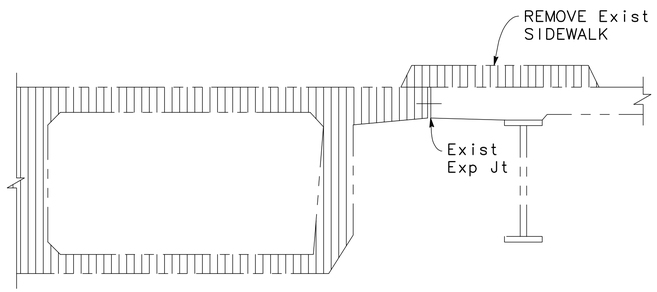
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9-30-27
CHECKED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DEMOLITION PLAN
Br No. 24C-0364R

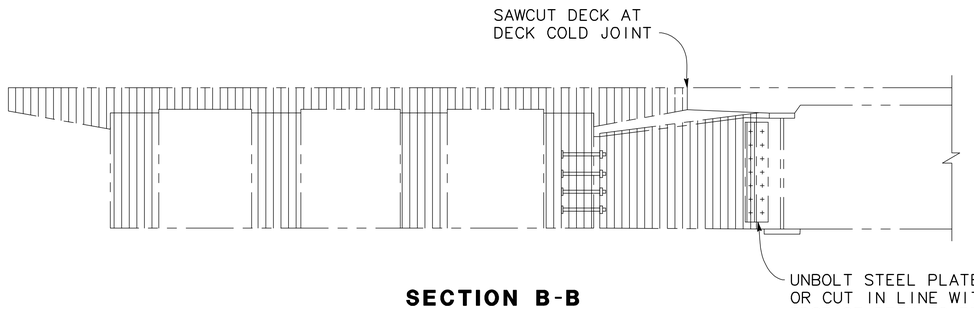
T15136000

SHEET 252 — OF — 648



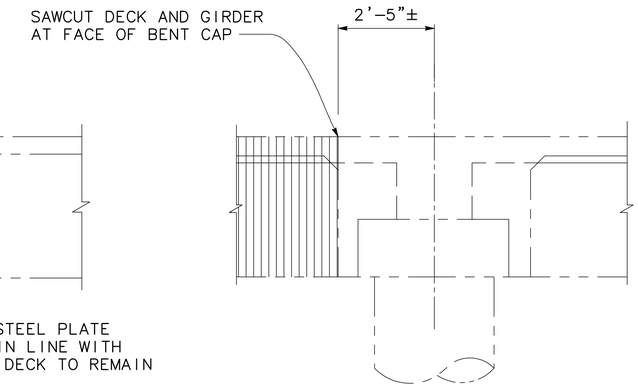
SECTION A-A

NO SCALE



SECTION B-B

NO SCALE



SECTION C-C

NO SCALE

NOTE:

For location of SECTION A–A, SECTION B–B and SECTION C–C, see "DEMOLITION PLAN – Br No. 24C–0364R" sheet.

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION B

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-11

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9–30–27
CHECKED BY: V. SHERBY R.C.E. 80646 DATE 3–31–27

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6–30–26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DEMOLITION DETAILS
Br No. 24C-0364R

T15136000

SHEET 253 OF 648

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5		248	556

REGISTERED CIVIL ENGINEER DATE

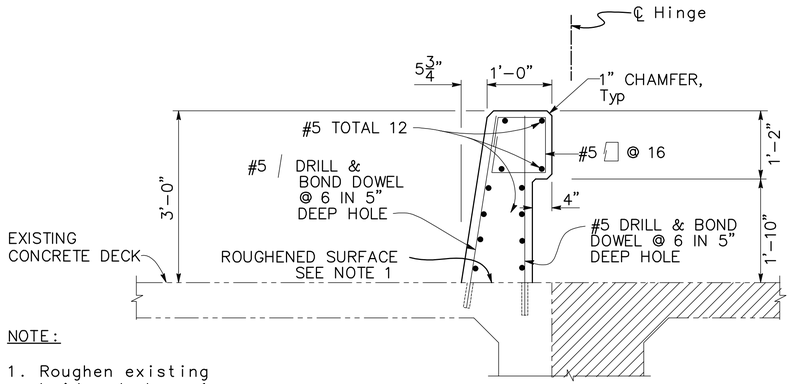
PLANS APPROVAL DATE

JASON BRADFORD HICKEY No. S 5783 Exp. 6-30-26 STRUCTURAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS
915 I STREET
SACRAMENTO, CA 95814

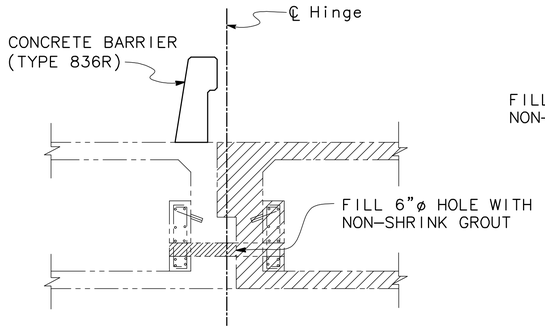
MARK THOMAS
701 UNIVERSITY AVE., SUITE 200
SACRAMENTO, CA 95825



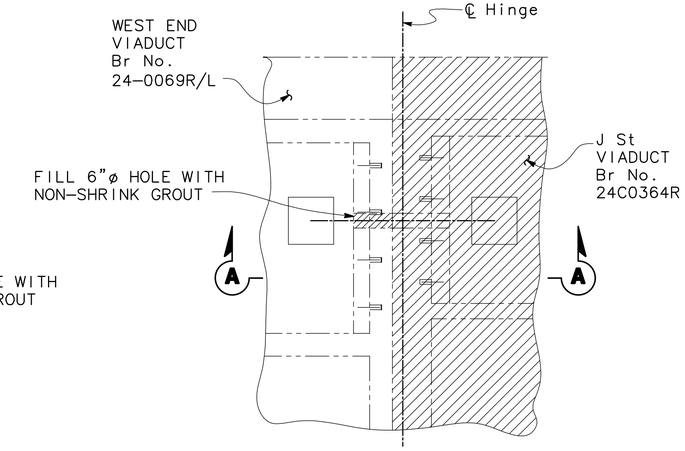
NOTE:

1. Roughen existing bridge deck surface before casting new concrete against existing concrete.

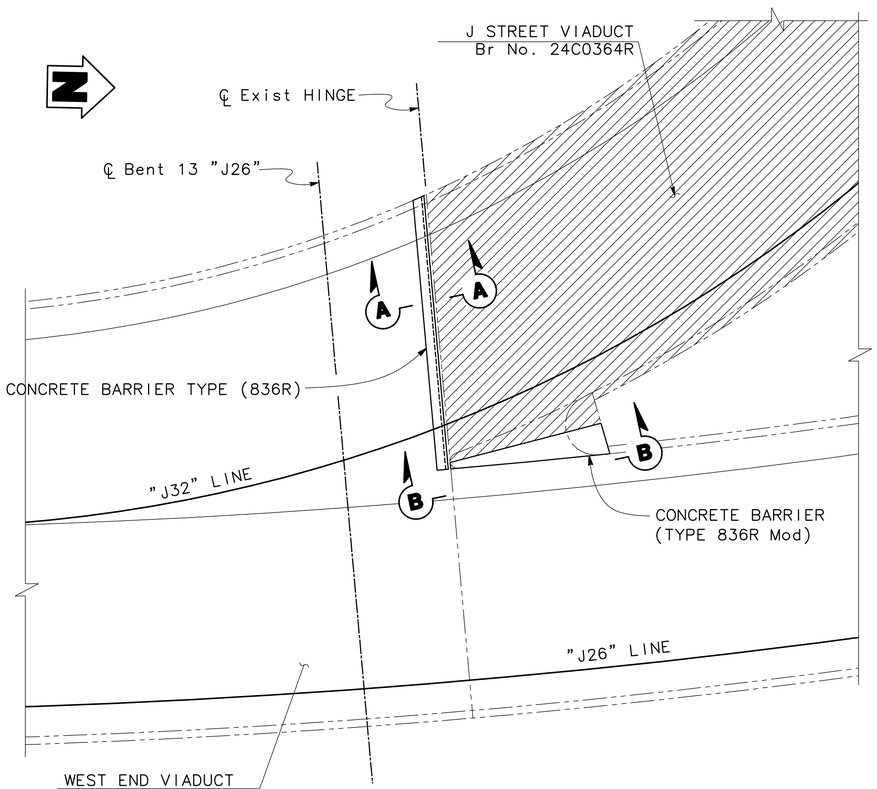
CONCRETE BARRIER (TYPE 836R)
NO SCALE



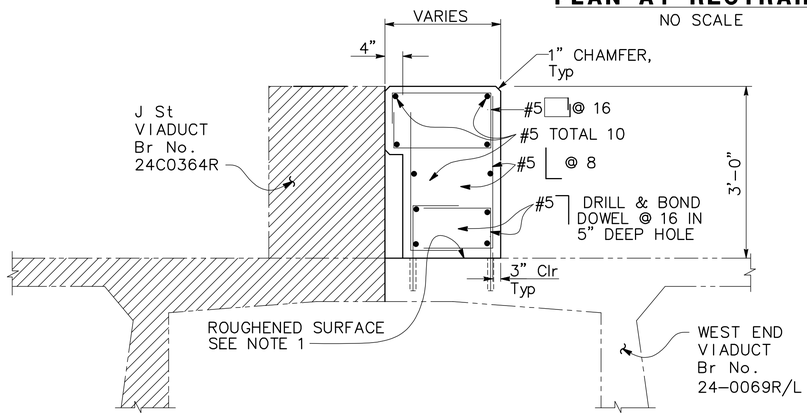
SECTION A-A
NO SCALE



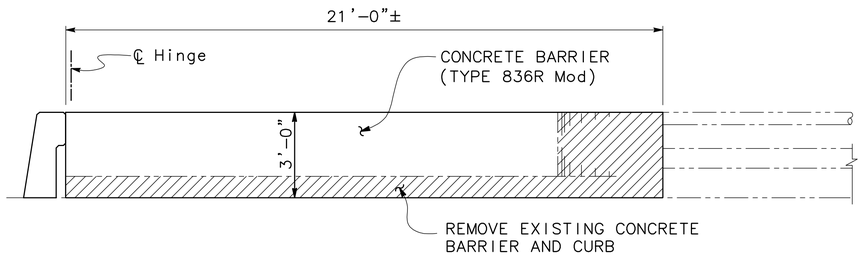
PLAN AT RESTRAINER
NO SCALE



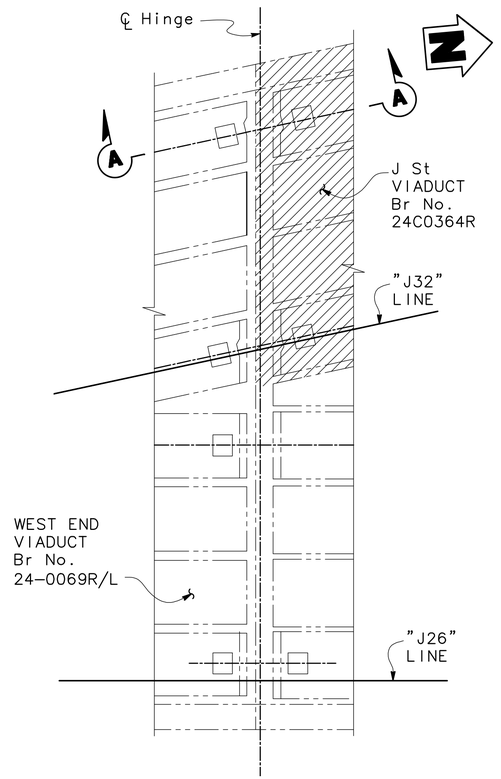
PLAN
SCALE: 1" = 10'



CONCRETE BARRIER (TYPE 836R MOD)
NO SCALE



VIEW B-B
NO SCALE



HINGE LAYOUT
NO SCALE

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION B

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-12

DESIGN OVERSIGHT		DESIGN	BY M. MOORE	CHECKED V. SHERBY	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
SIGN OFF DATE		DETAILS	BY J. DOTY	CHECKED M. MOORE	
		QUANTITIES	BY X	CHECKED X	

JASON BRADFORD HICKEY
PROJECT ENGINEER

BRIDGE No. 24-0069R/L
POST MILE X

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DEMOLITION PLAN Br No. 24-0069 R/L

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REVISION 12/10/2024)

DATE PLOTTED => 11/3/2025 TIME PLOTTED => 1:45 PM
FILE => S-12_Demo_Br No_24-0069RL_Plan.dwg USERNAME => JDOTY

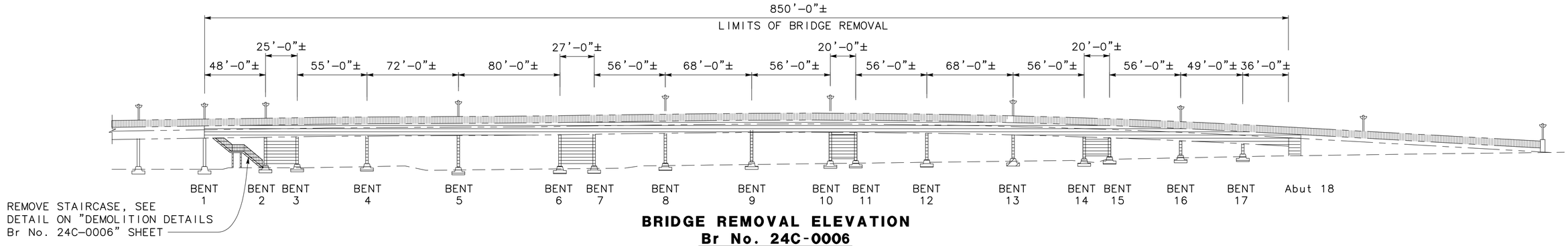
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PROJECT NUMBER & PHASE:

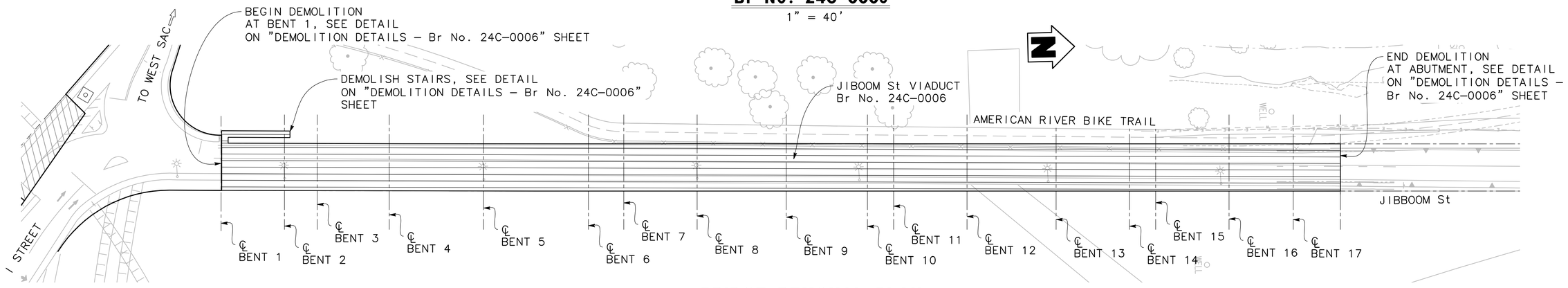
COUNTY/ROUTE/ZONE: Sac/05/02
CONTRACT No.:

DISREGARD PRINTS BEARING EARLIER REVISION DATES

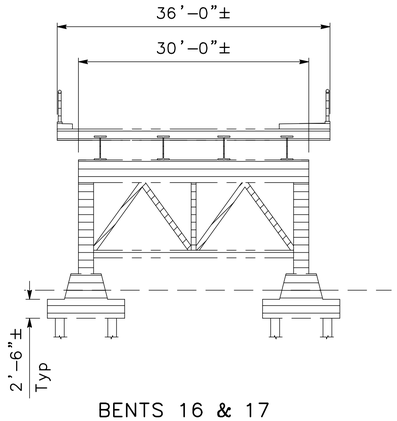
REVISION DATES					SHEET	OF
10/21/25					254	648



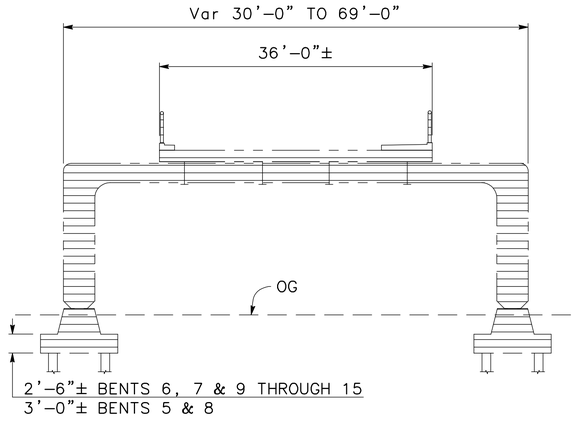
BRIDGE REMOVAL ELEVATION
Br No. 24C-0006
1" = 40'



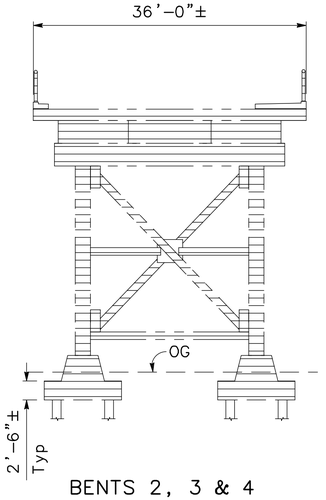
BRIDGE REMOVAL PLAN
Br No. 24C-0006
1" = 40'



BENTS 16 & 17



BENTS 5 THROUGH 15



BENTS 2, 3 & 4

BRIDGE REMOVAL TYPICAL SECTION
Br No. 24C-0006
NO SCALE

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (POTION), LOCATION D

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-13

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-27

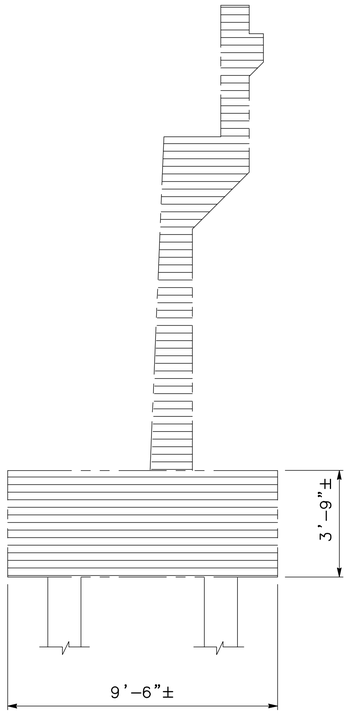
CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
DEMOLITION PLAN
Br No. 24C-0006

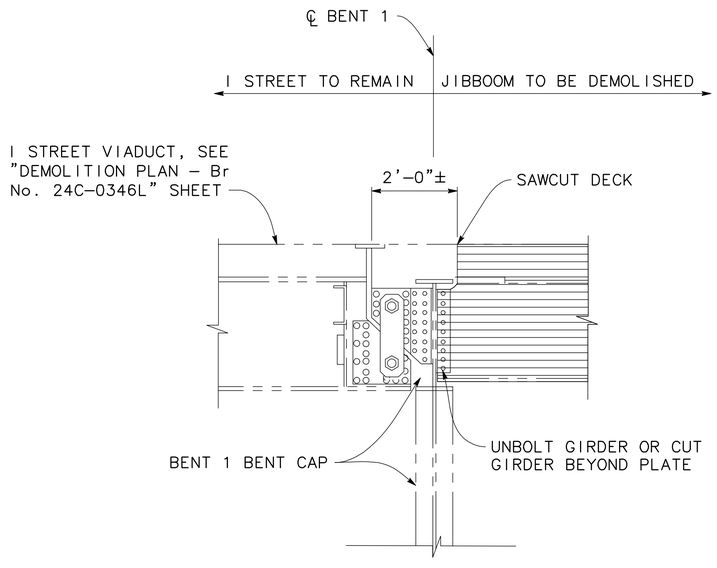
T15136000

SHEET 255 OF 648



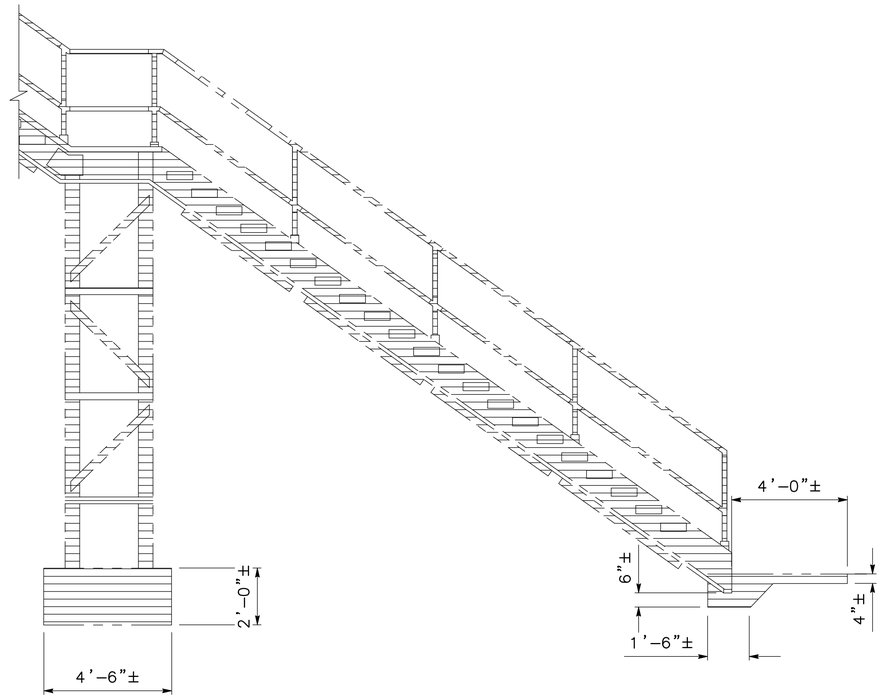
DEMOLITION DETAIL - ABUTMENT 18

NO SCALE



DEMOLITION DETAIL - BENT 1

NO SCALE



DEMOLITION DETAIL - STAIRCASE

NO SCALE

LEGEND:

INDICATES LIMIT OF BRIDGE REMOVAL (PORTION), LOCATION D

EXISTING STRUCTURE

(NOT FOR CONSTRUCTION)

S-14

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-27

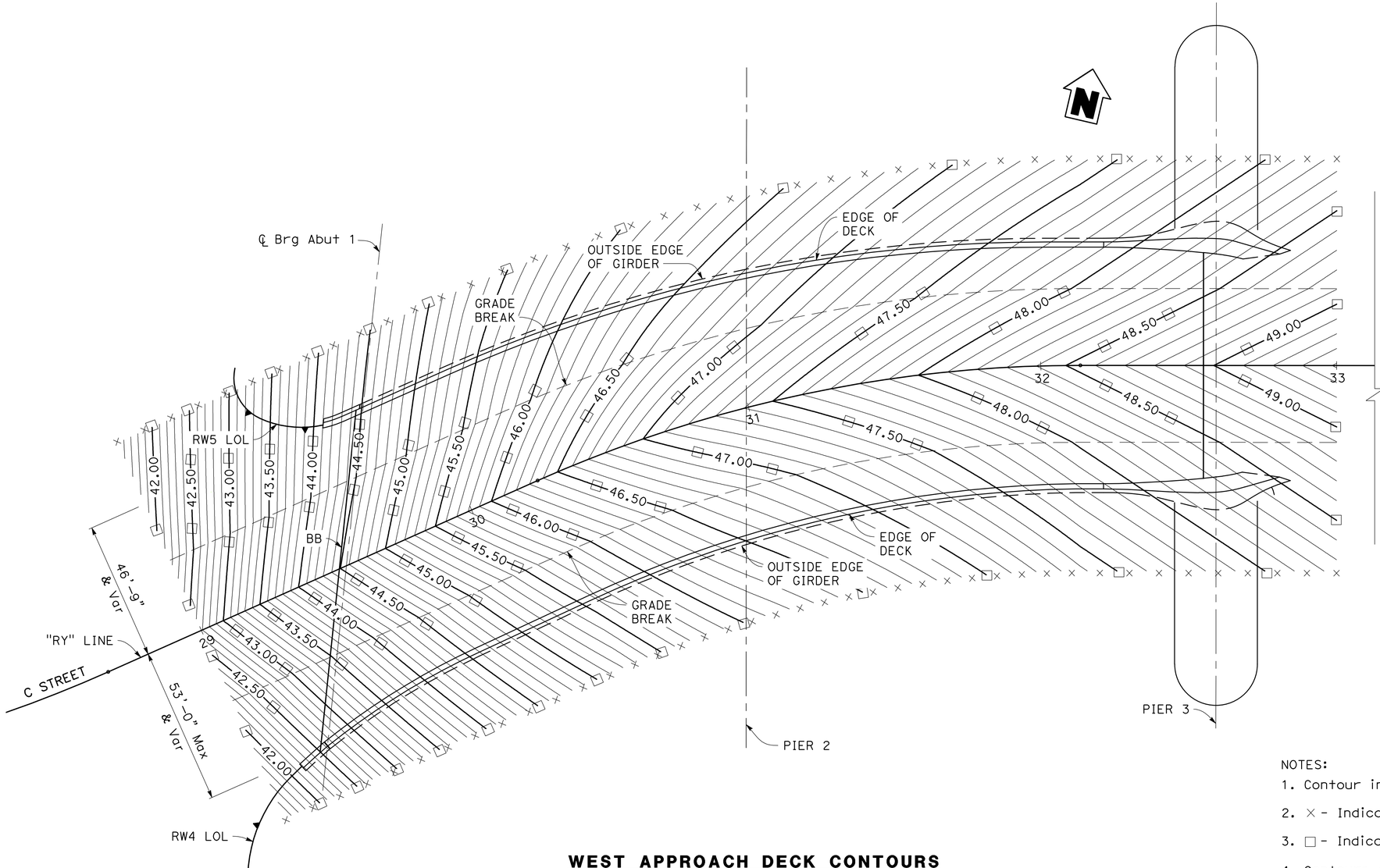
CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
DEMOLITION DETAILS
Br No. 24C-0006

T15136000

SHEET 256 — OF — 648



WEST APPROACH DECK CONTOURS

1" = 20'

NOTES:

1. Contour interval is 0.1 feet.
2. × - Indicates 10 foot intervals.
3. □ - Indicates 0.50 foot contour.
4. Contours do not include camber.

(NOT FOR CONSTRUCTION)

S-15

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:47 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

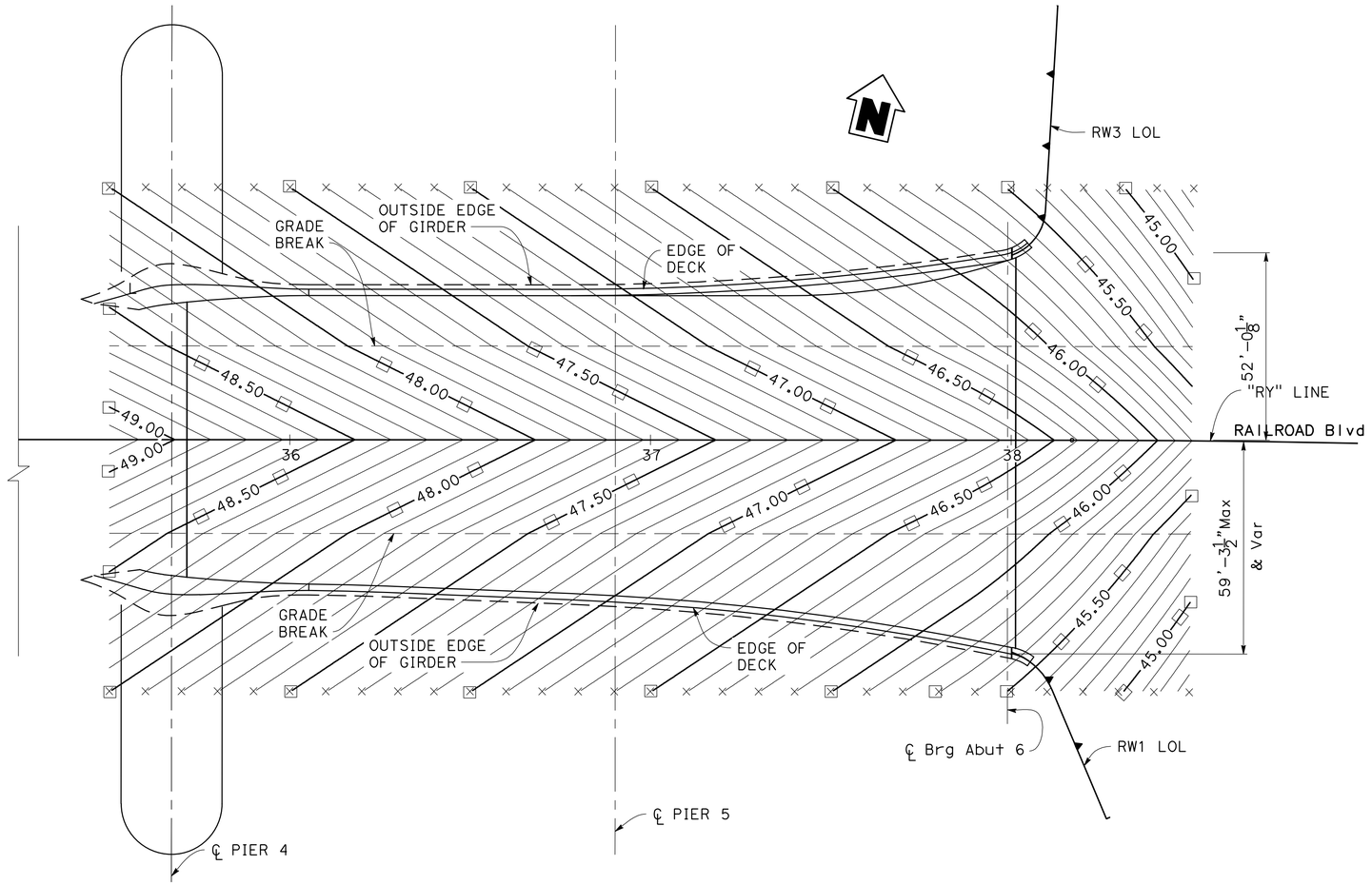
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
WEST APPROACH
DECK CONTOURS

T15136000

SHEET 257 — OF — 648



EAST APPROACH DECK CONTOURS

1" = 20'

NOTES:

1. Contour interval is 0.1 feet.
2. × - Indicates 10 foot intervals.
3. □ - Indicates 0.50 foot contour.
4. Contours do not include camber.

(NOT FOR CONSTRUCTION)

S-16

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:48 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

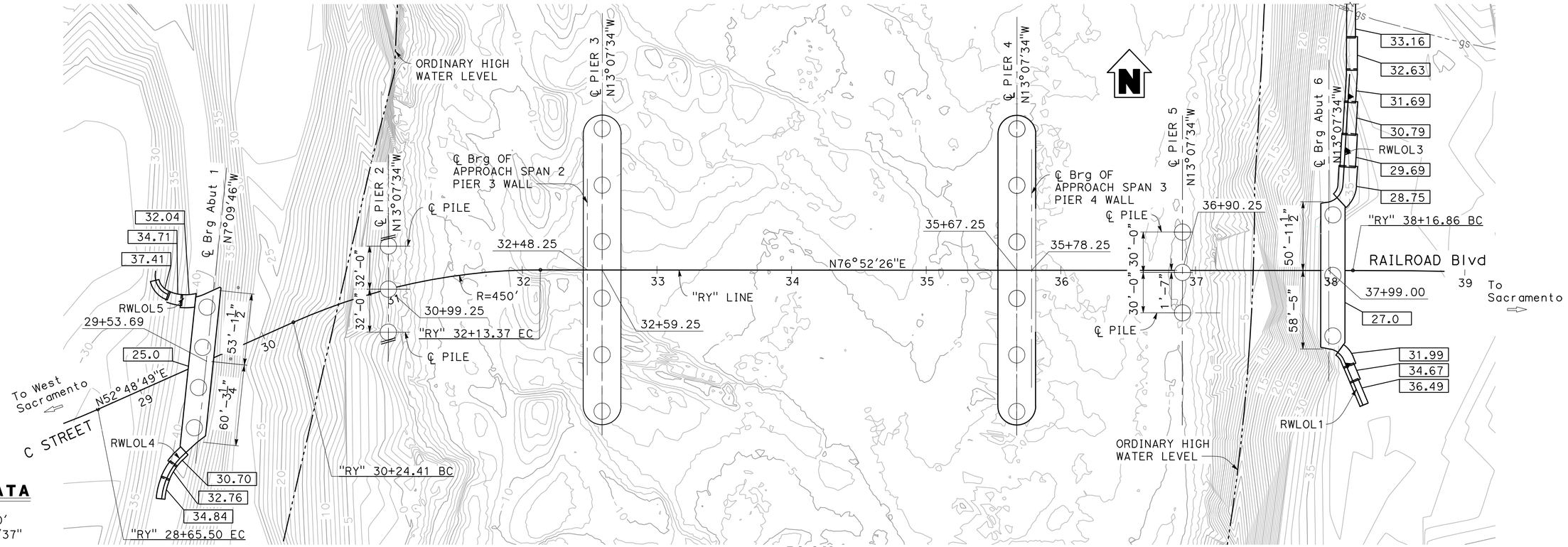
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
EAST APPROACH
DECK CONTOURS

T15136000

SHEET 258 — OF — 648



PLAN
1" = 40'

CURVE DATA

R = 450.00'
Δ = 24°03'37"
T = 95.90'
L = 188.97'

PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)	Cut-Off Elevation (ft)
		Compression	Tension			
Abut 1	144" CIDH	4,734	0	-96 (a), -66 (c), -125 (d)	-127	25.25
PIER 2	144" CIDH	5,976	0	-197 (a), -97 (d)	-199	-7.0
PIER 5	144" CIDH	5,976	0	-197 (a), -97 (d)	-199	-7.0
Abut 6	144" CIDH	5,148	0	-108 (a), -100 (c), -123 (d)	-125	27.25

NOTES:
1. Design tip elevations are controlled by (a) Compression, (b) Tension, (c) Settlement, (d) Lateral Load.
2. Do not raise specified tip elevation.
3. For pile data for Piers 3 and 4, see "MAIN SPAN" plans.

BENCHMARK AND DATUM

MONUMENT	COORDINATES		ELEVATION	DESCRIPTION/LOCATION
	NORTH	EAST		
297-B2E	1976613.9	6703175.1	37.81	U.S. DEPT OF INTERIOR GEOLOGICAL SURVEY BRASS CAP STAMPED "GAGING STATION"

SCOUR DATA TABLE

Location	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Abut 1	N/A	0
PIER 2	-13	12
PIER 5	-13	12
Abut 6	N/A	0

NOTE: For scour data for Piers 3 and 4, see "MAIN SPAN" plans.

LEGEND:
- Indicates Bottom of Footing Elevation (feet)
- Indicates 144" Cast-in-drilled-hole Pile

HYDROLOGIC SUMMARY

Drainage Area: 23,500 Square Miles

Frequency (Years)	50	100	200
Discharge (Cubic Foot per Sec)	105,500	108,000	110,300
Water Surface (Elevation at Bridge)	31.9	32.5	33.0

Flood plain data is based upon information available when the plans were prepared and is shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.

(NOT FOR CONSTRUCTION)

S-17

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE HORIZ. AS NOTED VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

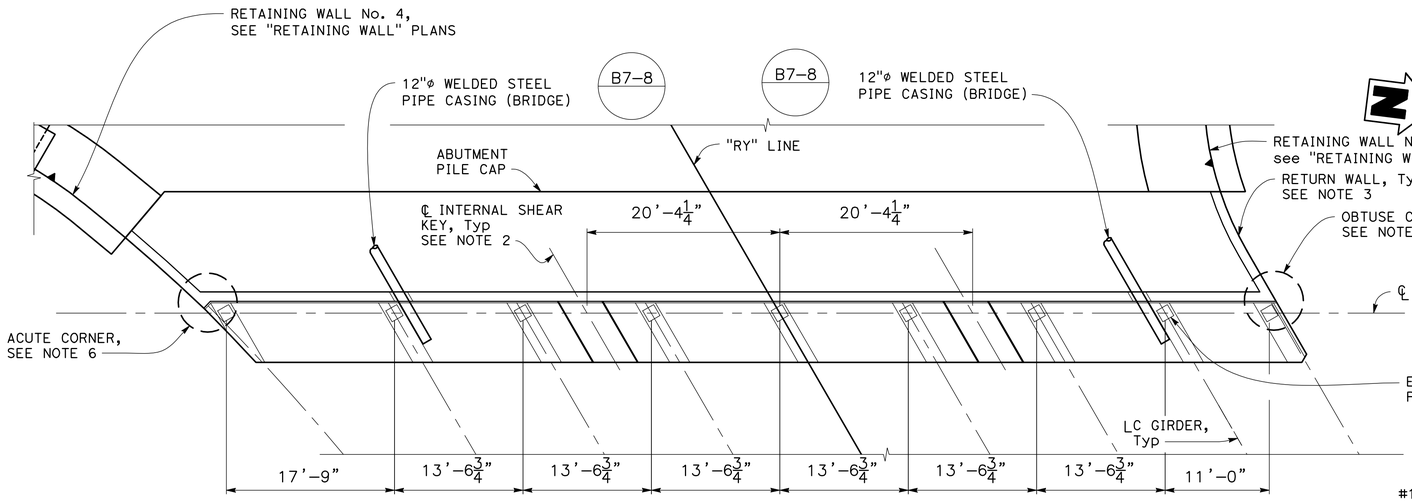
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
FOUNDATION PLAN

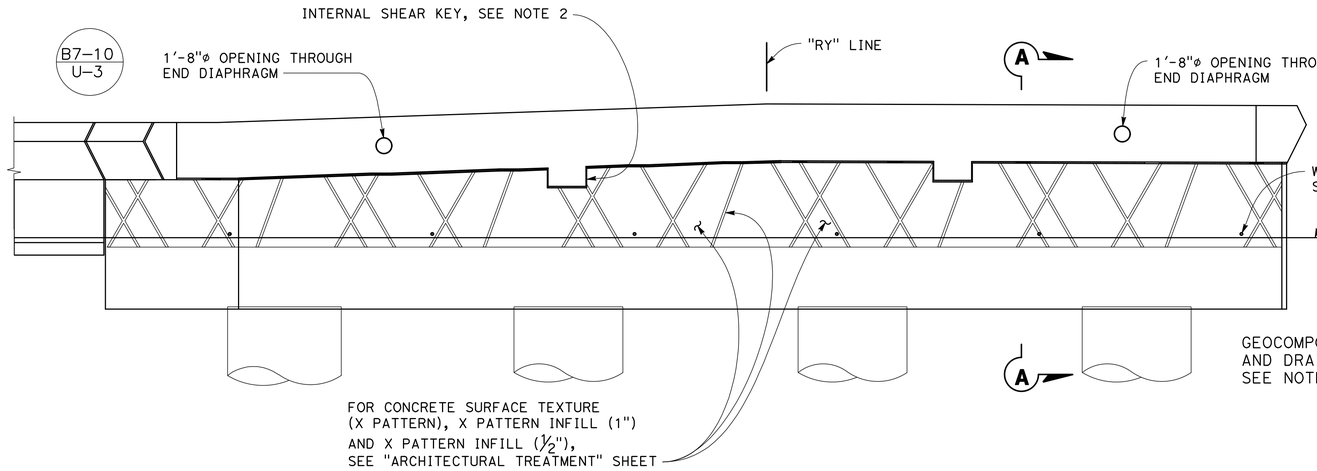
T15136000

SHEET 259 — OF — 648

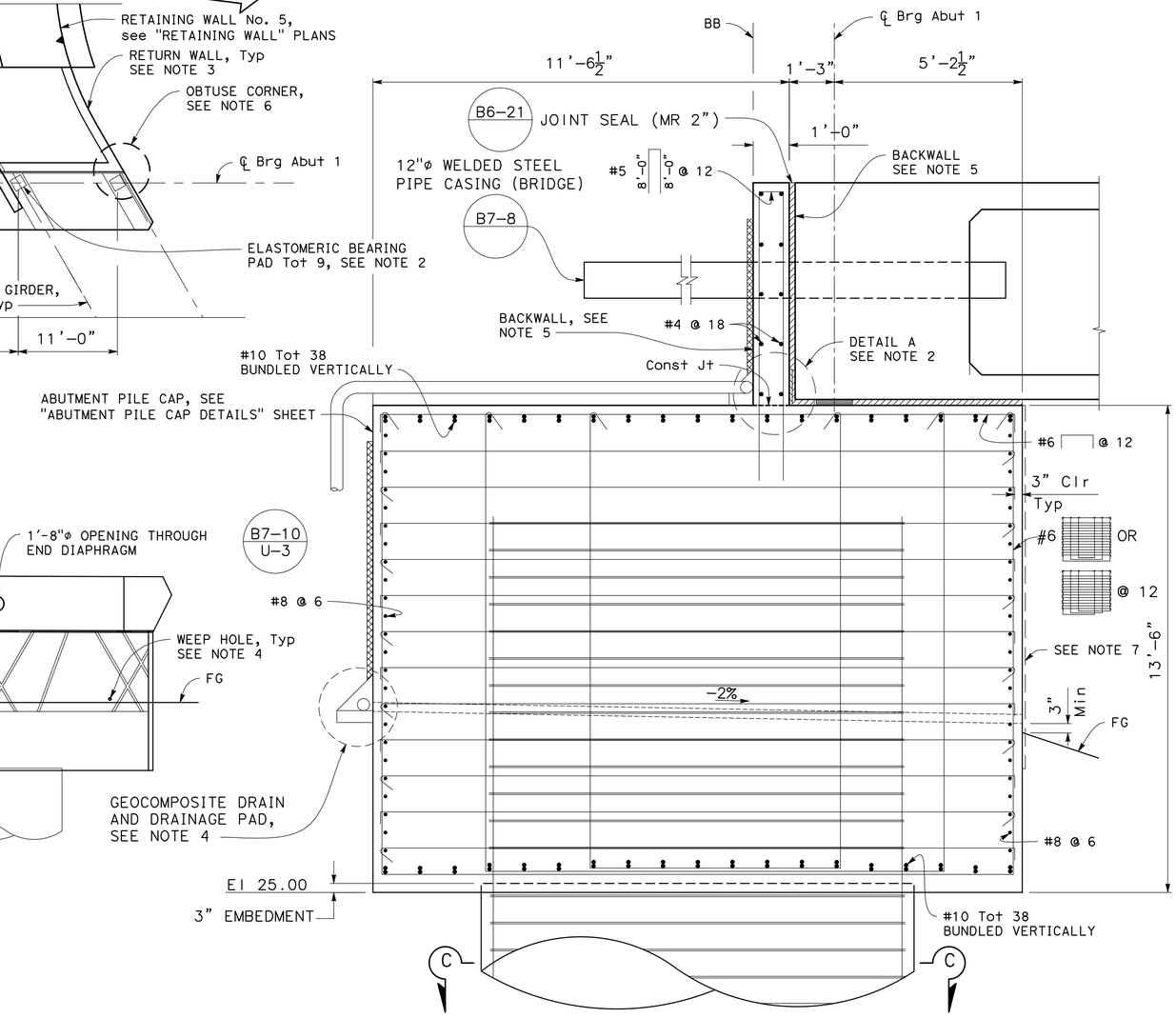
TIME PLOTTED => 1:51 PM
DATE PLOTTED => 3-Nov-25
USERNAME => JDOTY



PLAN
⅛" = 1'-0"



ELEVATION
⅛" = 1'-0"



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

NOTES:
1. For "SECTION C–C", see "ABUTMENT PILE CAP" sheet.
2. For "DETAIL A", internal shear key and bearing pad details, see "ABUTMENT DETAILS No. 1" sheet.
3. For return wall details, see "ABUTMENT DETAILS No. 2" sheet.
4. For drainage details, see "ABUTMENT DRAINAGE DETAILS" sheet.
5. Place backwall after prestressing is complete.
6. For acute and obtuse corner details, see "WEST APPROACH GIRDER REINFORCEMENT DETAILS No. 2" sheet.
7. For concrete surface texture (X Pattern), X Pattern Infill(1") and X Pattern Infill (½"), see "ARCHITECTURAL TREATMENT" sheet.

(NOT FOR CONSTRUCTION)

S-18

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

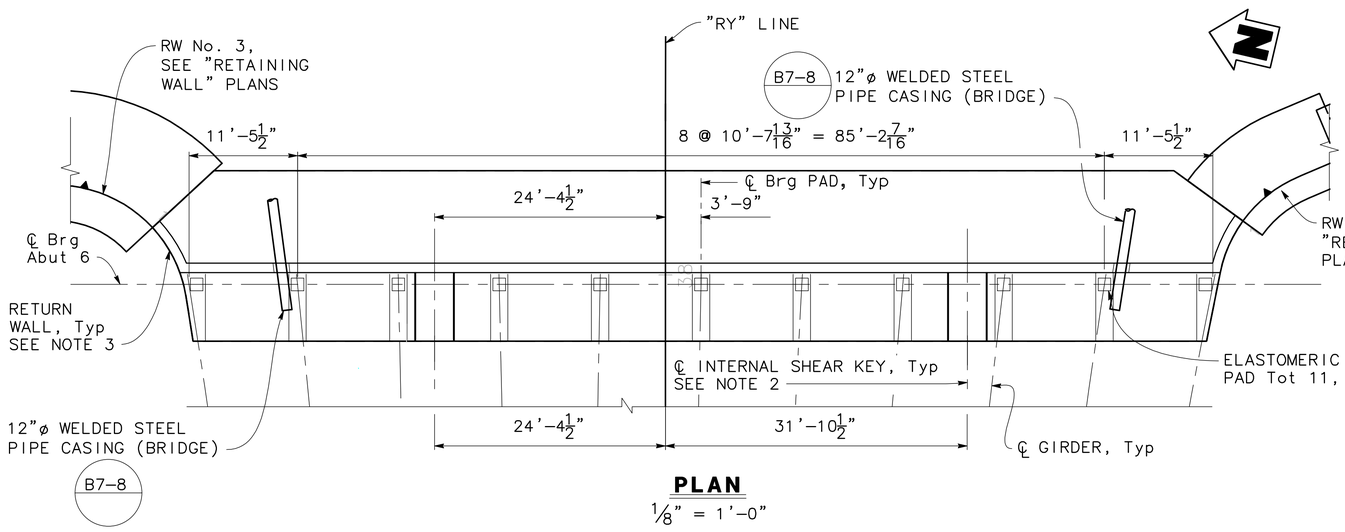
I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER

ABUTMENT 1 LAYOUT

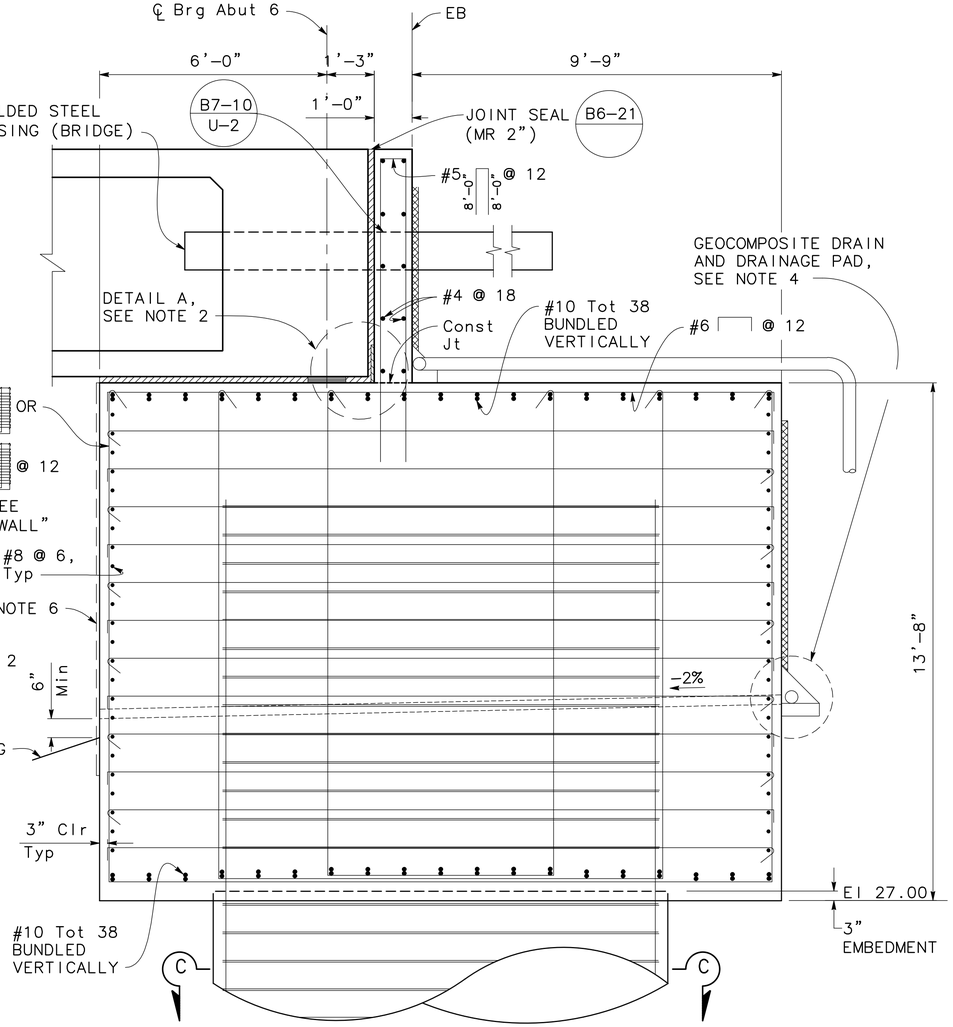
T15136000

SHEET 260 OF 648

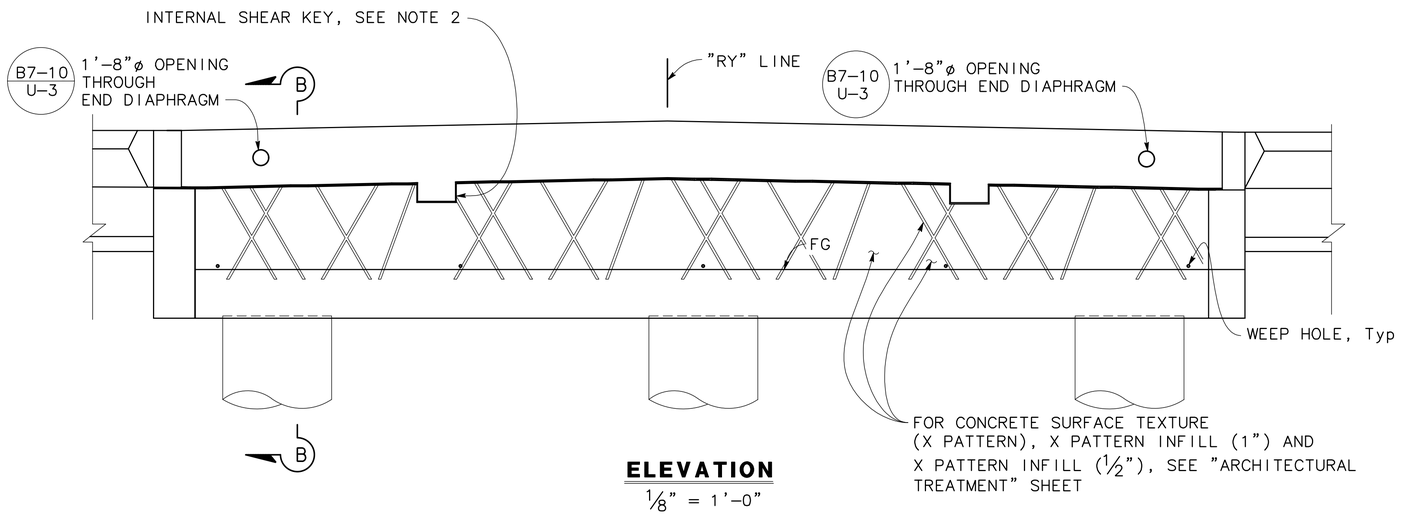
DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:52 PM



PLAN
1/8" = 1'-0"



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



ELEVATION
1/8" = 1'-0"

NOTES:

1. For 'SECTION C-C', see "ABUTMENT PILE CAP" sheet.
2. For 'DETAIL A', internal shear key and bearing pad details, see "ABUTMENT DETAILS No. 1" sheet.
3. For return wall details, see "ABUTMENT DETAILS No. 2" sheet.
4. For drainage details, see "ABUTMENT DRAINAGE DETAILS" sheet.
5. Place backwall after prestressing is complete.
6. For concrete surface texture (X Pattern), X Pattern Infill (1") and X Pattern Infill (½"), see "ARCHITECTURAL TREATMENT" sheet.

(NOT FOR CONSTRUCTION)

S-19

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:53 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25
CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

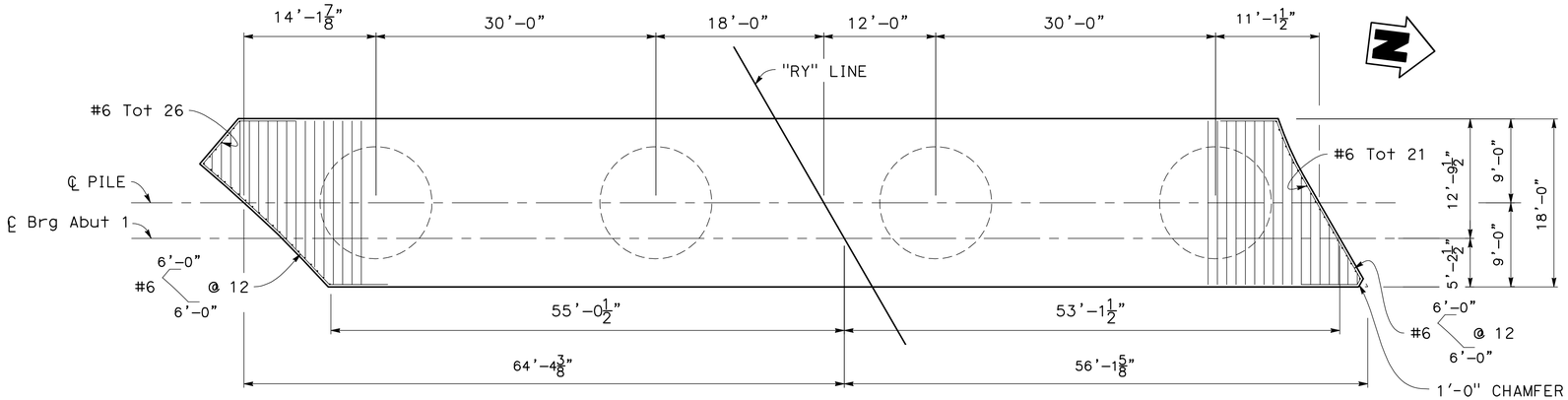
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

ABUTMENT 6 LAYOUT

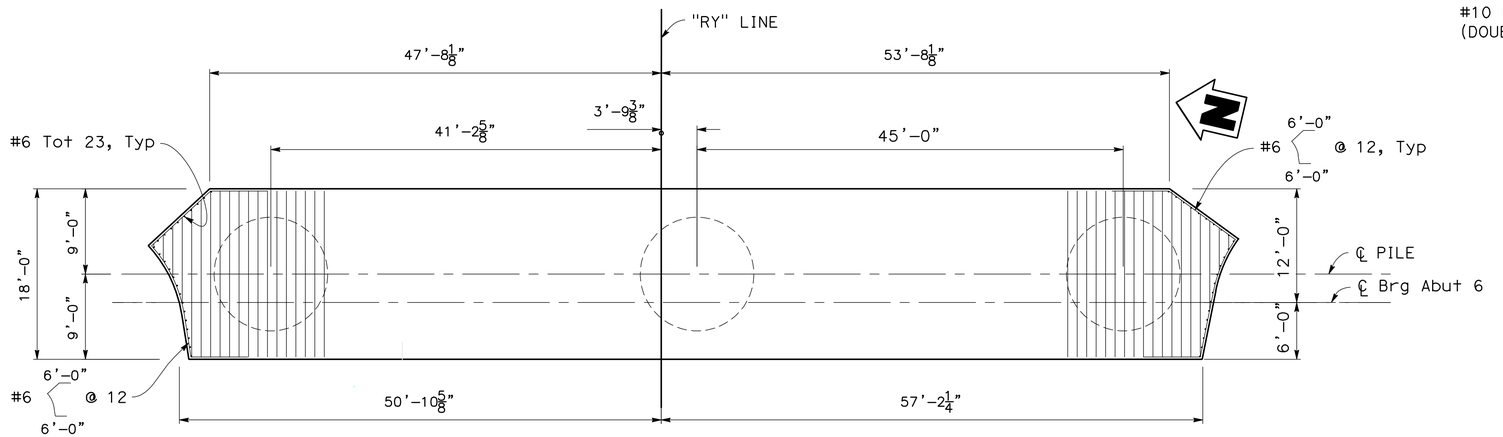
T15136000

SHEET 261 — OF — 648



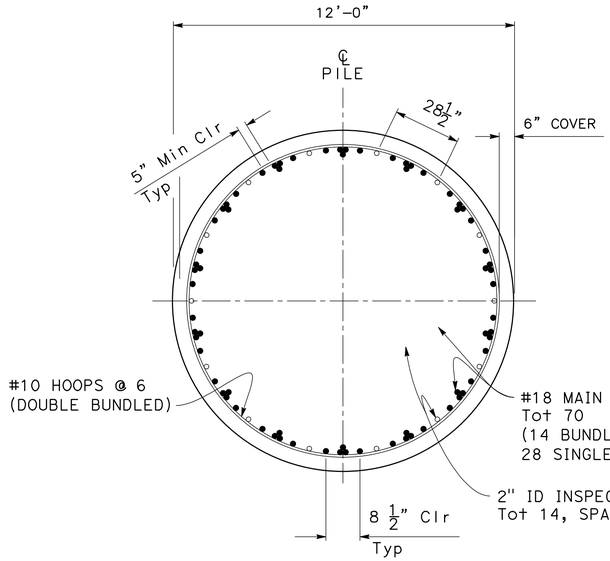
ABUTMENT 1 PILE CAP

1/8" = 1'-0"



ABUTMENT 6 PILE CAP

1/8" = 1'-0"



SECTION C-C

3/8" = 1'-0"

(NOT FOR CONSTRUCTION)

S-20

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:53 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

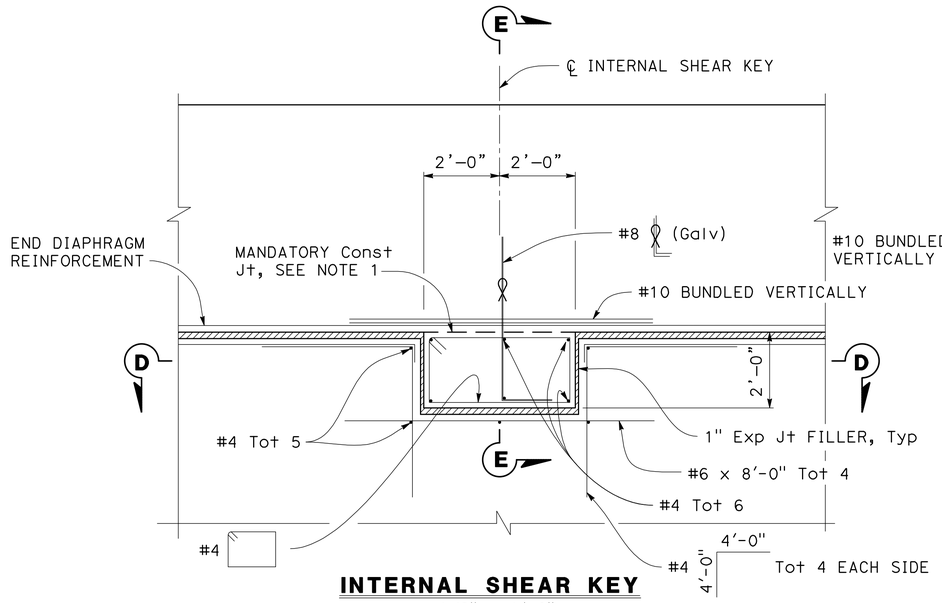
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

ABUTMENT PILE CAP

T15136000

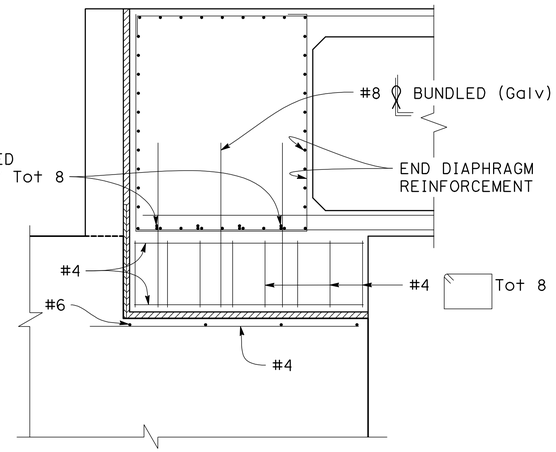
SHEET 262 OF 648



INTERNAL SHEAR KEY

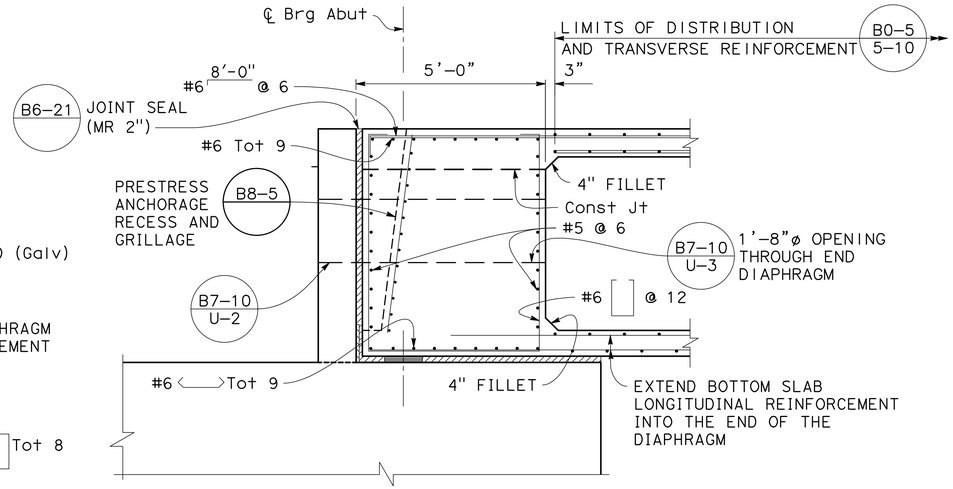
1/2" = 1'-0"

Note: Abut 1 shown, Abut 6 similar.



SECTION E-E

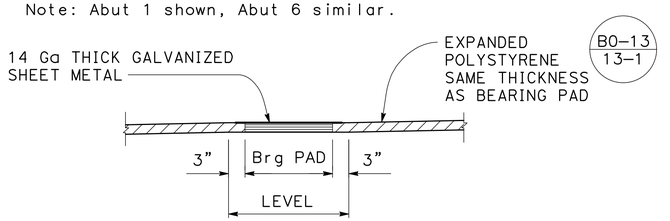
1/2" = 1'-0"



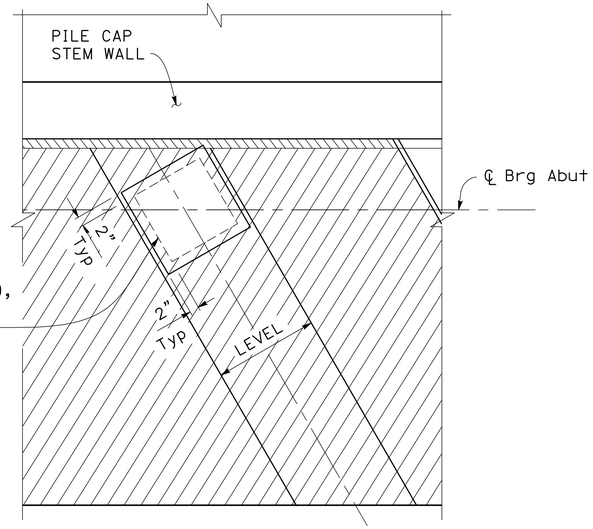
END DIAPHRAGM SECTION

1/2" = 1'-0"

Note: Abut 1 shown, Abut 6 similar.



ELEVATION

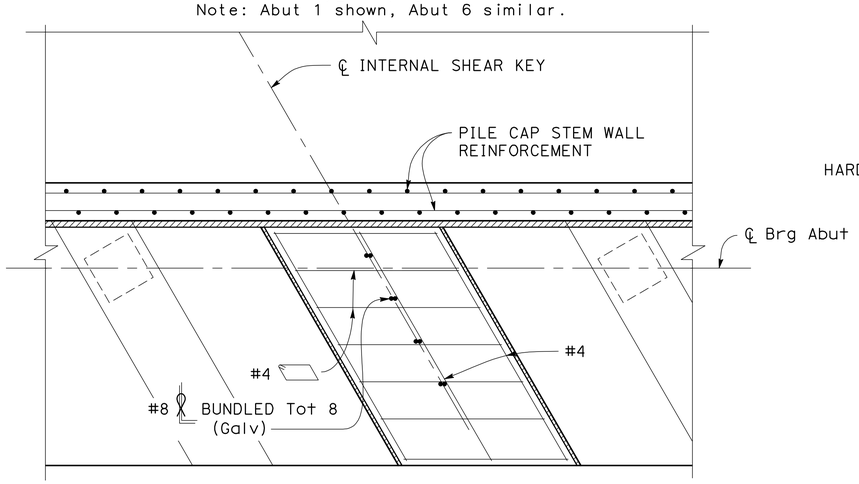


PLAN

BEARING PAD DETAIL

3/4" = 1'-0"

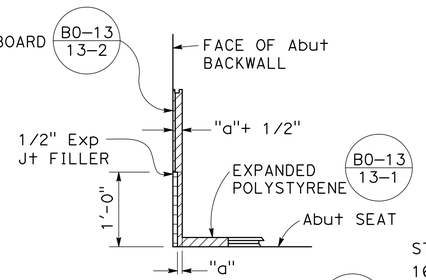
Note: Abut 1 shown, Abut 6 similar.



SECTION D-D

1/2" = 1'-0"

Note: Abut 1 shown, Abut 6 similar.



NOTES:

1. For "a" dimension, see B6-21
2. Detail at Abut 1 shown, detail at Abut 6 similar.

DETAIL A

NO SCALE

NOTES:

1. Mandatory construction joint shall be smooth finished and lined with 15 pound building paper.
2. Not all rebar shown for clarity.

(NOT FOR CONSTRUCTION)

S-21

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

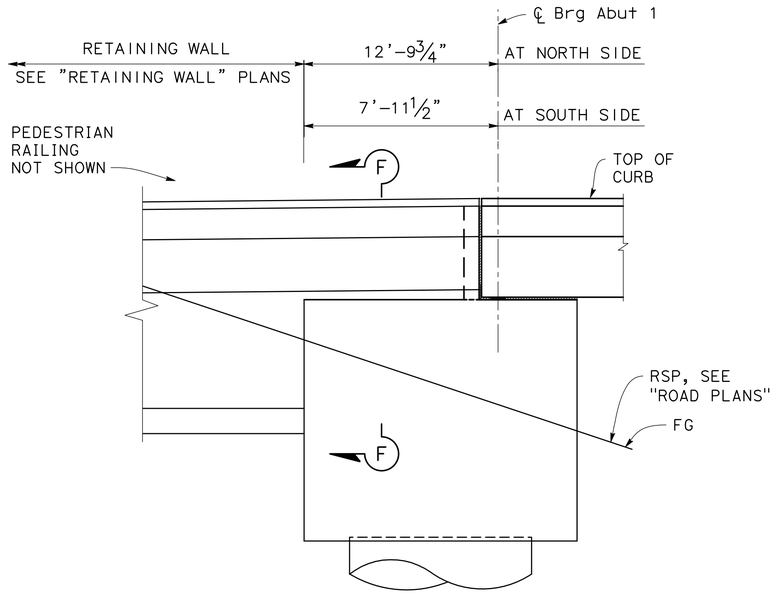
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

ABUTMENT DETAILS No. 1

T15136000

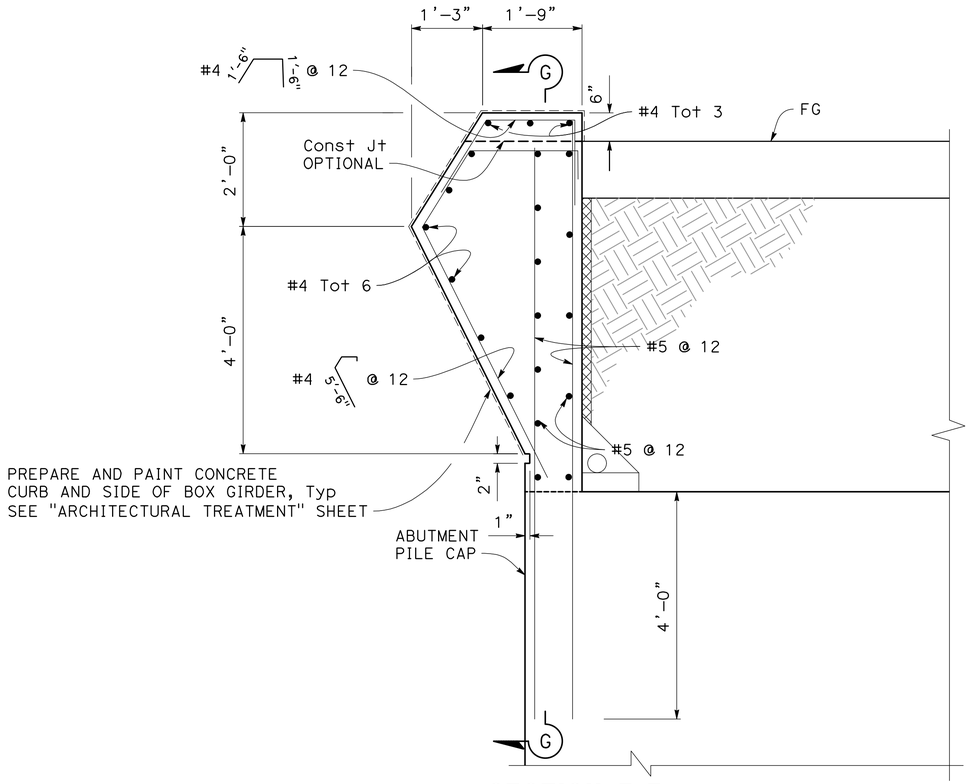
SHEET 263 — OF — 648

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:54 PM



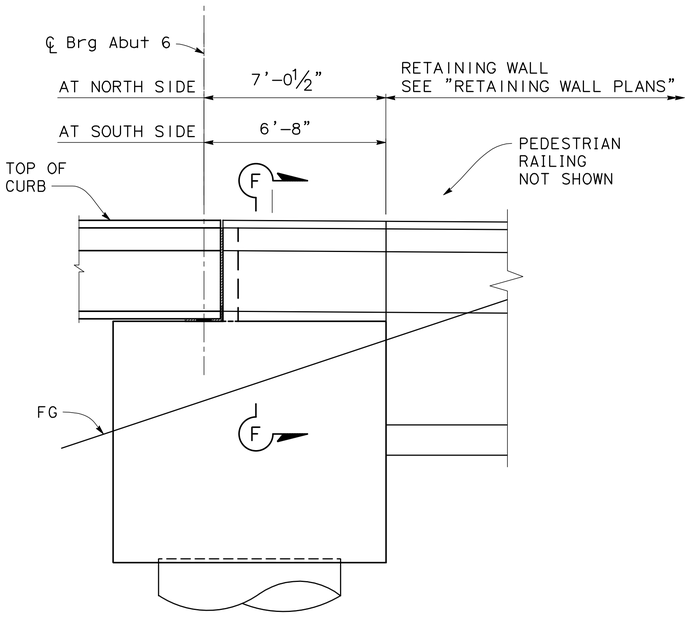
ABUTMENT 1 RETURN WALL

1" = 5'



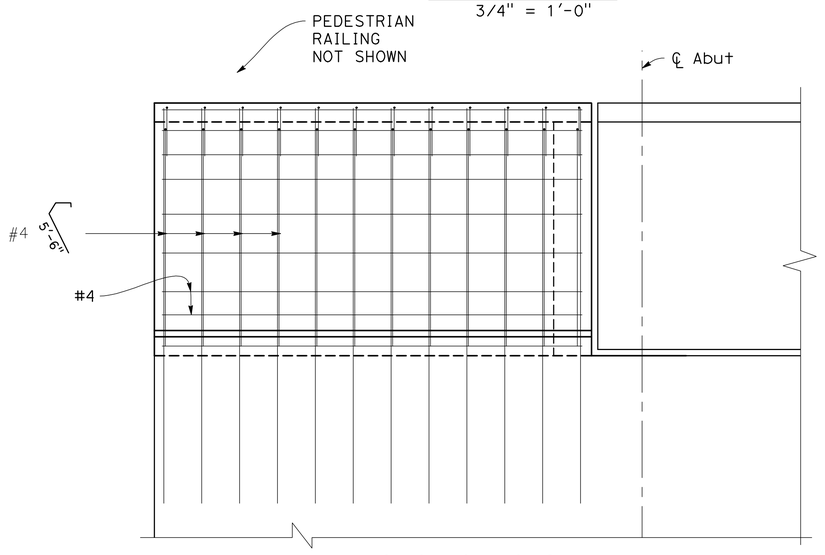
SECTION F-F

3/4" = 1'-0"



ABUTMENT 6 RETURN WALL

1" = 5'



SECTION G-G

3/4" = 1'-0"

(NOT FOR CONSTRUCTION)

S-22

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:55 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

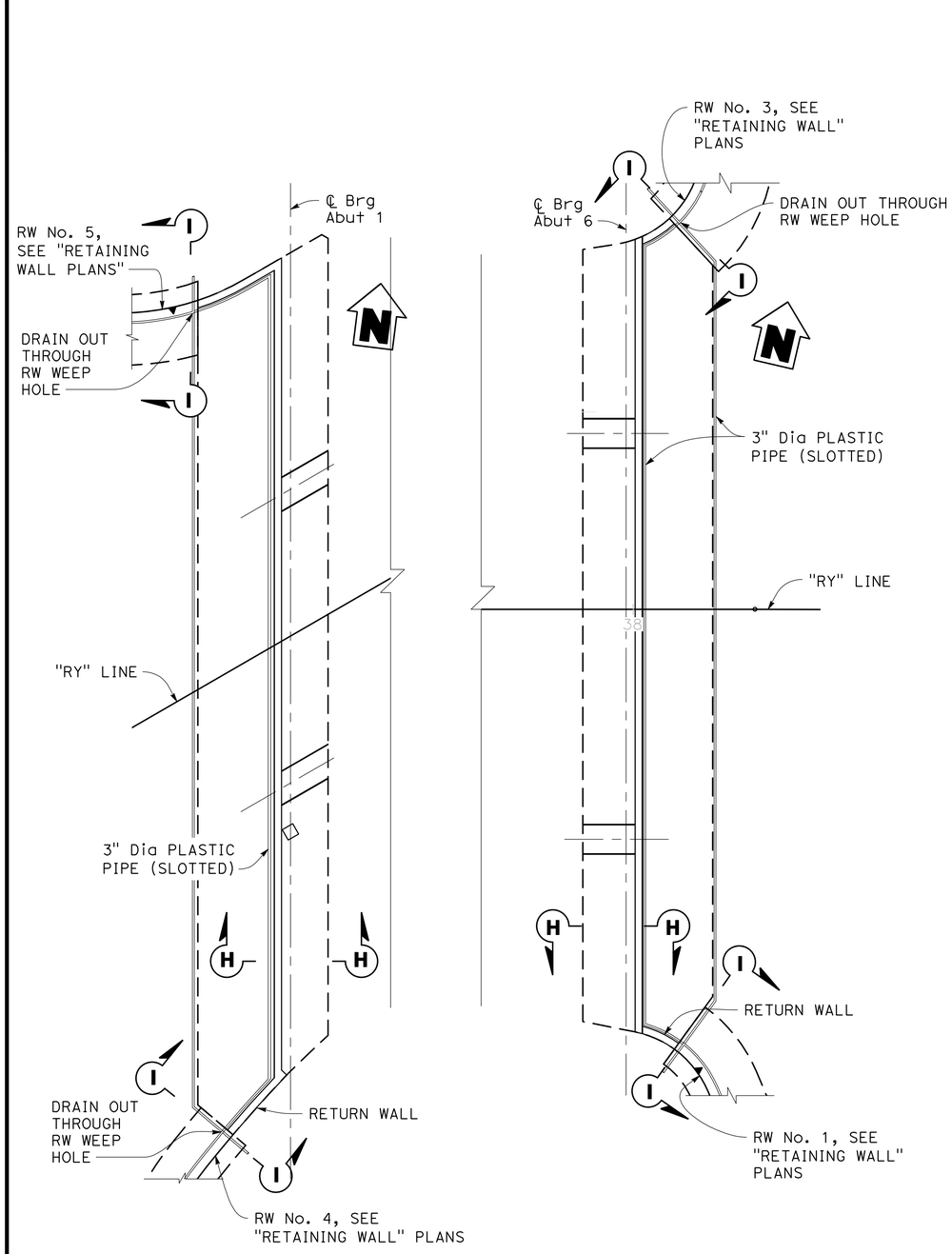
MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

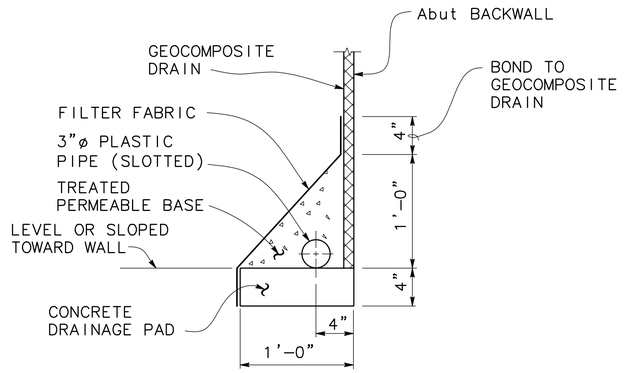
ABUTMENT DETAILS No. 2

T15136000

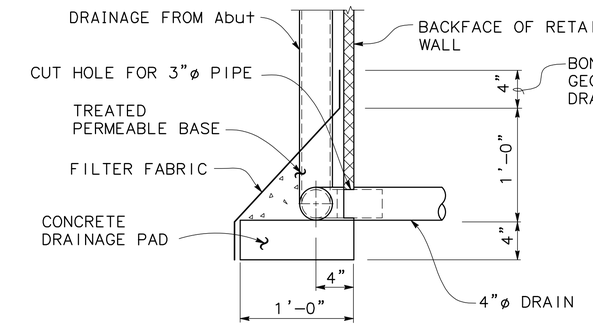
SHEET 264 — OF — 648



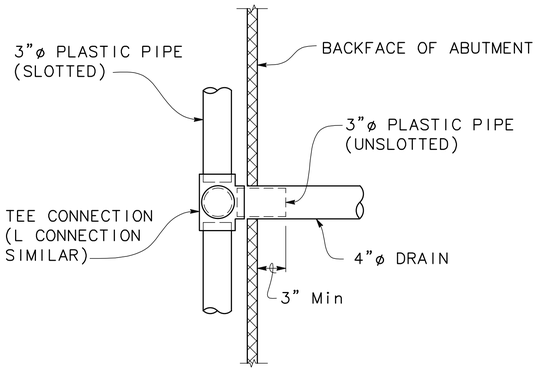
PLAN
1" = 10'



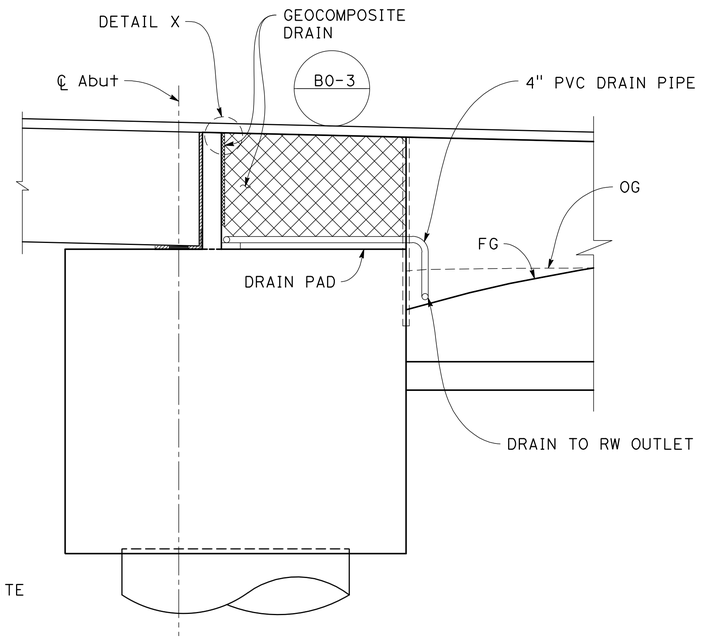
SECTION H-H
1 1/2" = 1'-0"



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



PART PLAN
1 1/2" = 1'-0"

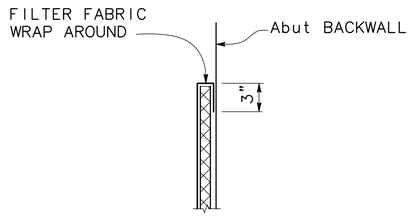


NOTE: Abutment 6 shown, Abutment 1 similar

RETURN WALL ELEVATION
1/2" = 1'-0"

NOTES:

1. 4" drains to be located at sag points and 25' maximum center to center.
2. Geocomposite drain, cement treated permeable base, and 3"ø slotted plastic pipe continuous behind abutment. Cap ends of pipe. Provide "Tee" connection at each 4"ø drain.
3. For drainage details at the Retaining Walls, see "RETAINING WALL" sheets.



DETAIL X
1 1/2" = 1'-0"

(NOT FOR CONSTRUCTION)

S-23

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:56 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25
CHECKED BY: H. YANG R.C.E. 92971 DATE 12-31-25

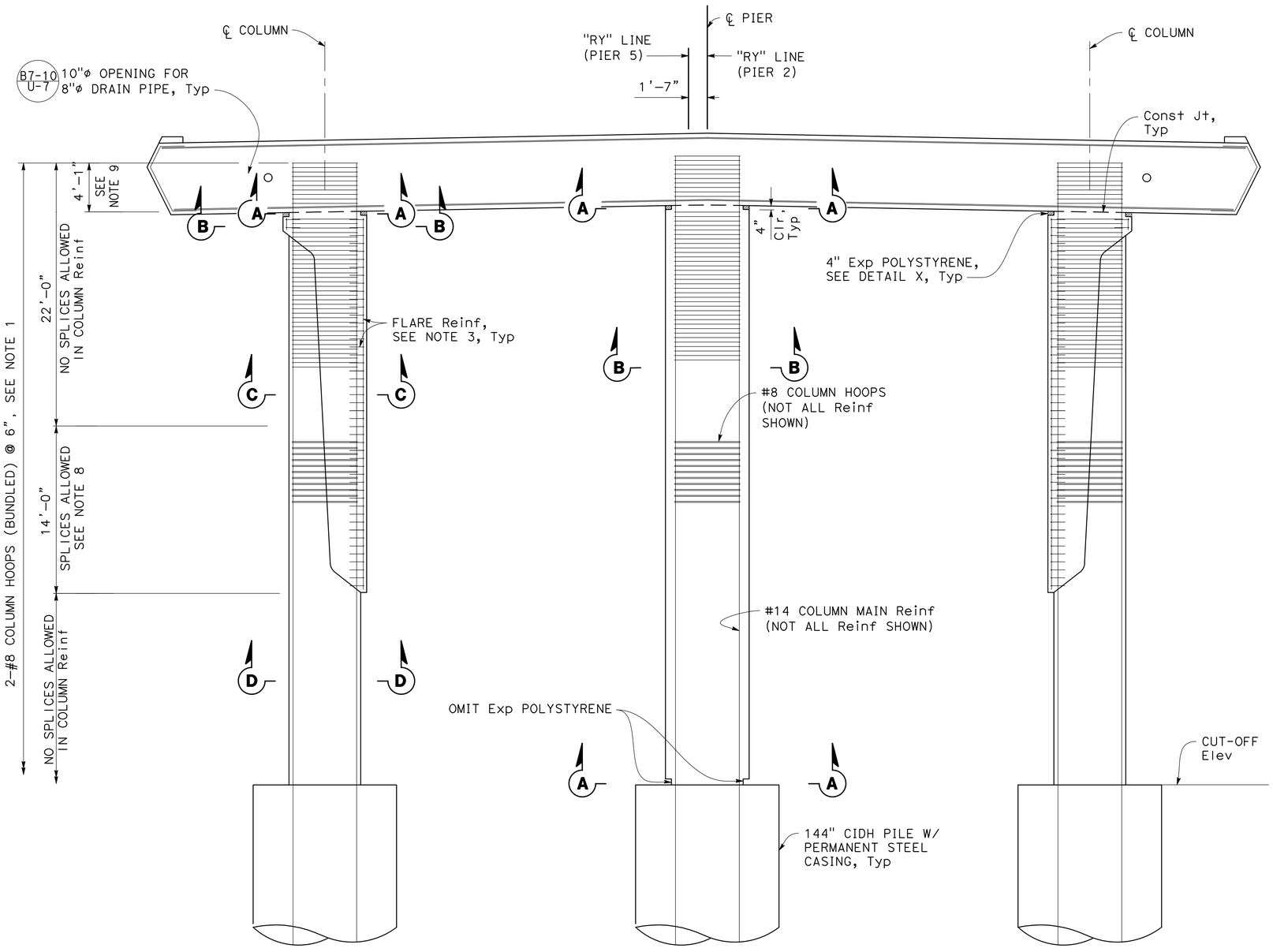
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER

ABUTMENT DRAINAGE DETAILS

T15136000

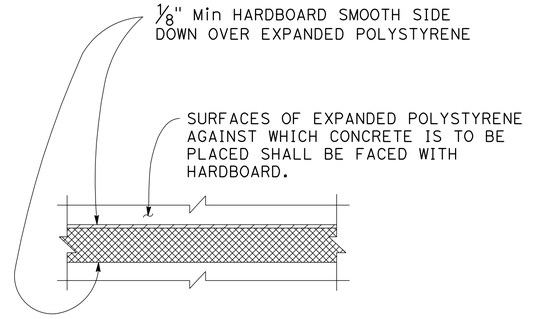
SHEET 265 OF 648



Note: Pier 2 shown, Pier 5 similar.

ELEVATION

1" = 5'-0"



DETAIL X

NO SCALE

NOTES:

1. All hoops must be "Ultimate Butt" spliced.
2. See "PIER 2 & 5 PIER DETAILS" sheet for Column Flare Details.
3. See "PIER 2 & 5 PIER DETAILS" sheet for Column Flare Reinforcement. Stop flare reinforcement below bent cap and above pile.
4. Place stirrup reinforcement normal to and splice along centerline of column.
5. For Sections "A-A", "B-B", "C-C" and "D-D", see "PIER 2 & 5 PIER DETAILS" sheet.
6. Place flare tie reinforcement horizontally and space vertically along column.
7. For pile details, see "PIER 2 & 5 PILE DETAILS" sheet.
8. Only staggered ultimate Butt Splices are allowed in column main reinforcement in this zone.
9. Adjust stirrups around bent cap main reinforcement.

(NOT FOR CONSTRUCTION)

S-24

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:57 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-25

CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

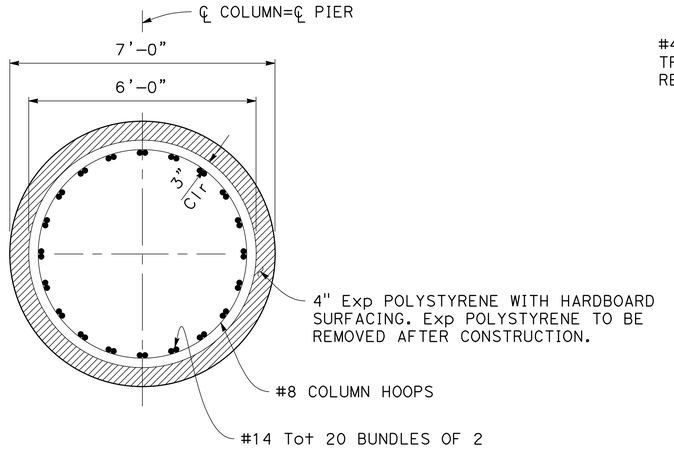
MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER

PIER 2 & 5 LAYOUT

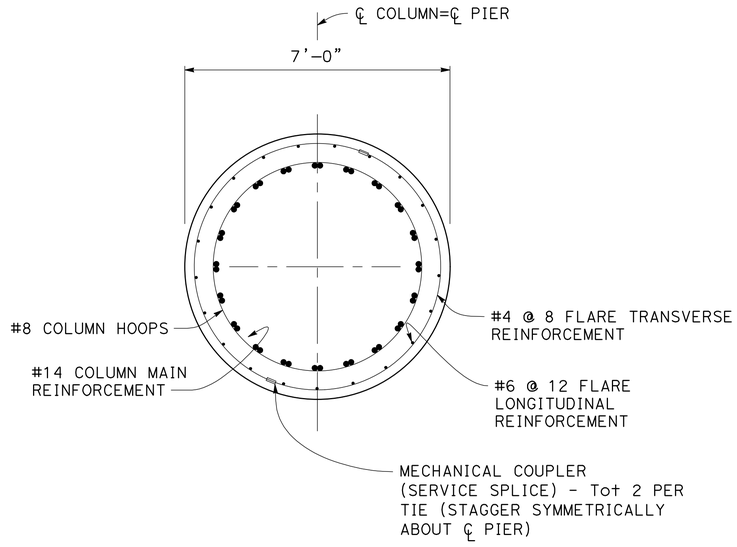
T15136000

SHEET 266 OF 648



SECTION A-A

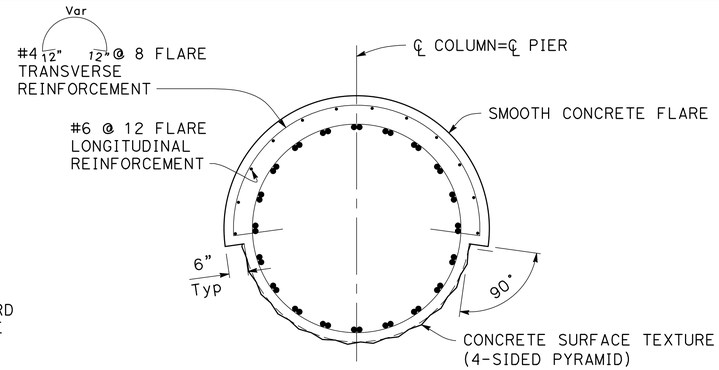
1/2" = 1'-0"



NOTE: For information not shown, see "SECTION A-A".

SECTION B-B

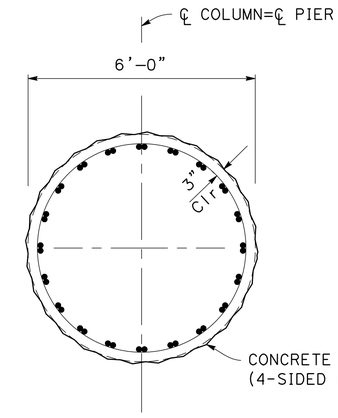
1/2" = 1'-0"



NOTE: For information not shown, see "SECTION A-A".

SECTION C-C

1/2" = 1'-0"



NOTE: For information not shown, see "SECTION A-A".

SECTION D-D

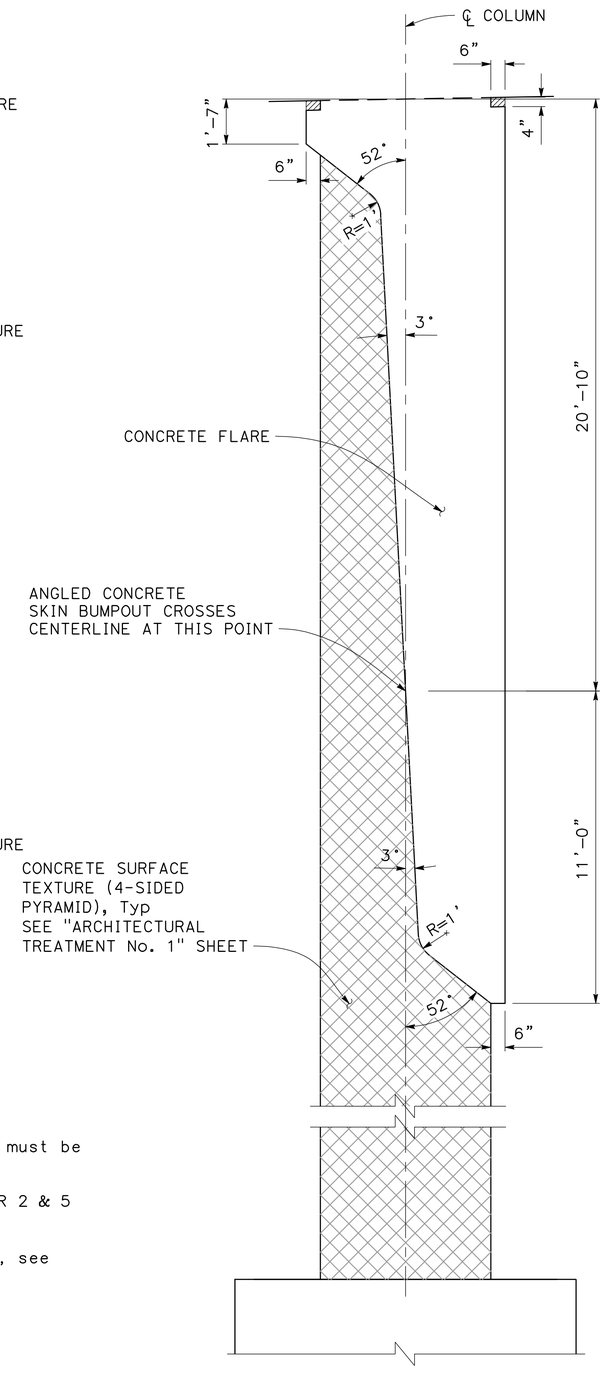
1/2" = 1'-0"

NOTES:

1. All hoops must be "Ultimate Butt" spliced.
2. Stop flare reinforcement below bent cap.
3. Place stirrup reinforcement normal to and splice along centerline of column.
4. Flare tie reinforcement must be service spliced. Splices must be staggered both within each tie and adjacent ties.
5. For locations of Section A-A, B-B, C-C and D-D, see "PIER 2 & 5 LAYOUT" sheet.
6. For 'CONCRETE SURFACE TEXTURE (4-SIDED PYRAMID) DETAILS', see "ARCHITECTURAL TREATMENT No. 1" sheet.

LEGEND:

4" expanded polystyrene to be removed after construction



COLUMN FLARE GEOMETRY

3/8" = 1'-0"

(NOT FOR CONSTRUCTION)

S-25

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:58 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-25

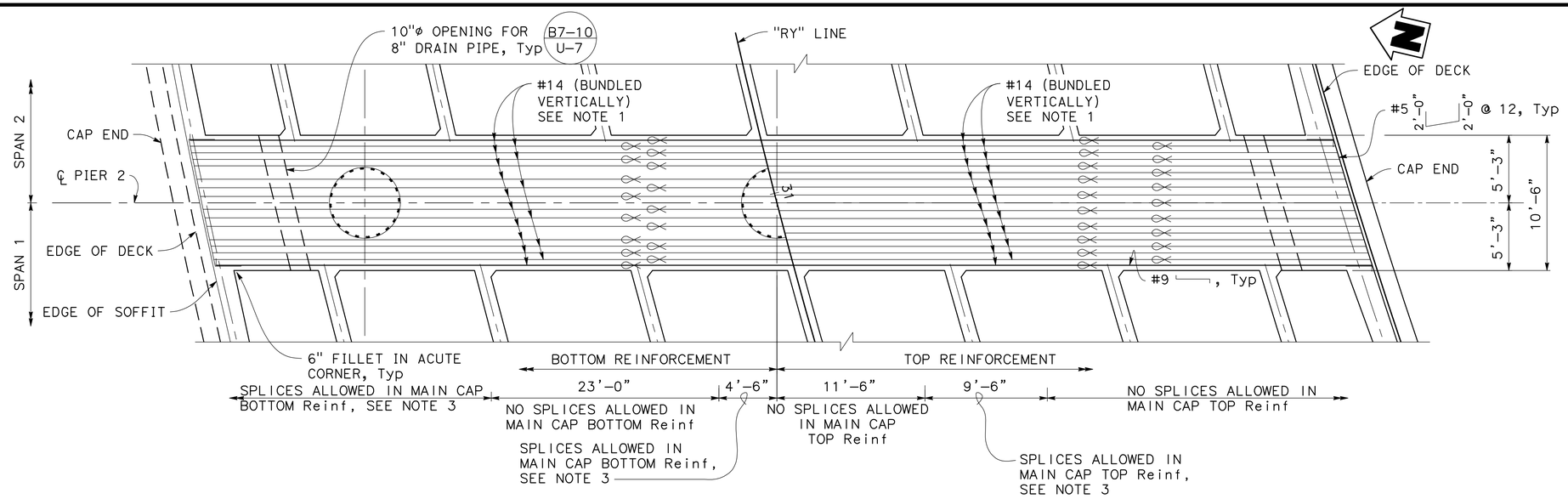
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PIER 2 & 5
PIER DETAILS

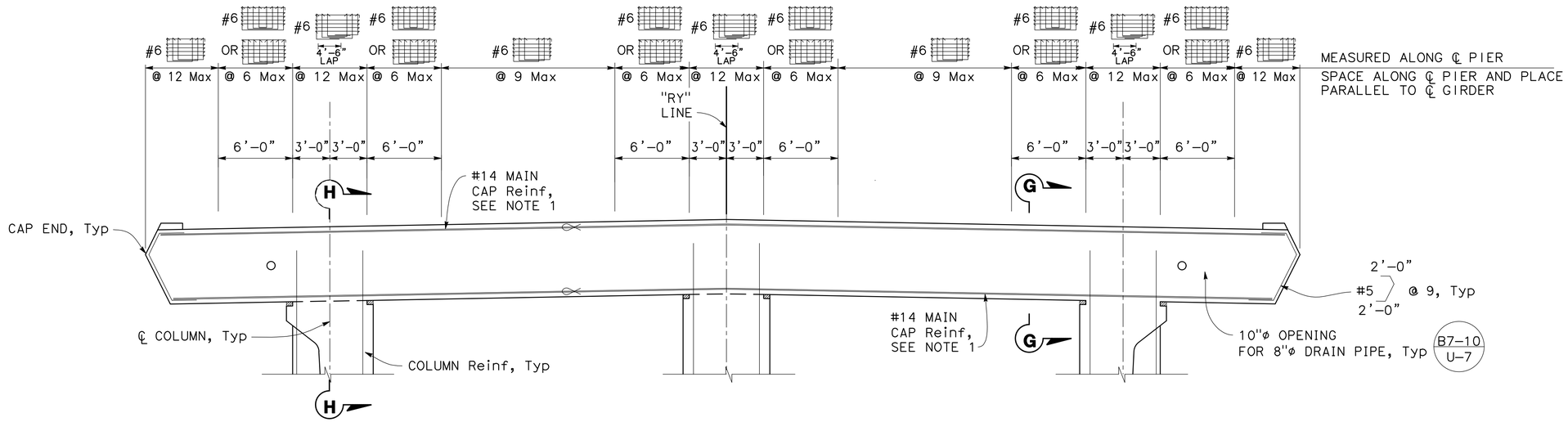
T15136000

SHEET 267 OF 648



PLAN OF BENT CAP (PIER 2)

1" = 5'-0"



ELEVATION OF BENT CAP (PIER 2)

1" = 5'-0"

NOTES:

1. Main cap reinforcement to be grade 80.
2. For Sections G–G and H–H, see "PIER 2 & 5 BENT CAP DETAILS No. 5" sheet.
3. Only staggered Ultimate Butt Splices or Ultimate Splice Couplers are allowed in main bent cap reinforcement in this zone.

(NOT FOR CONSTRUCTION)

S-26

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:58 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

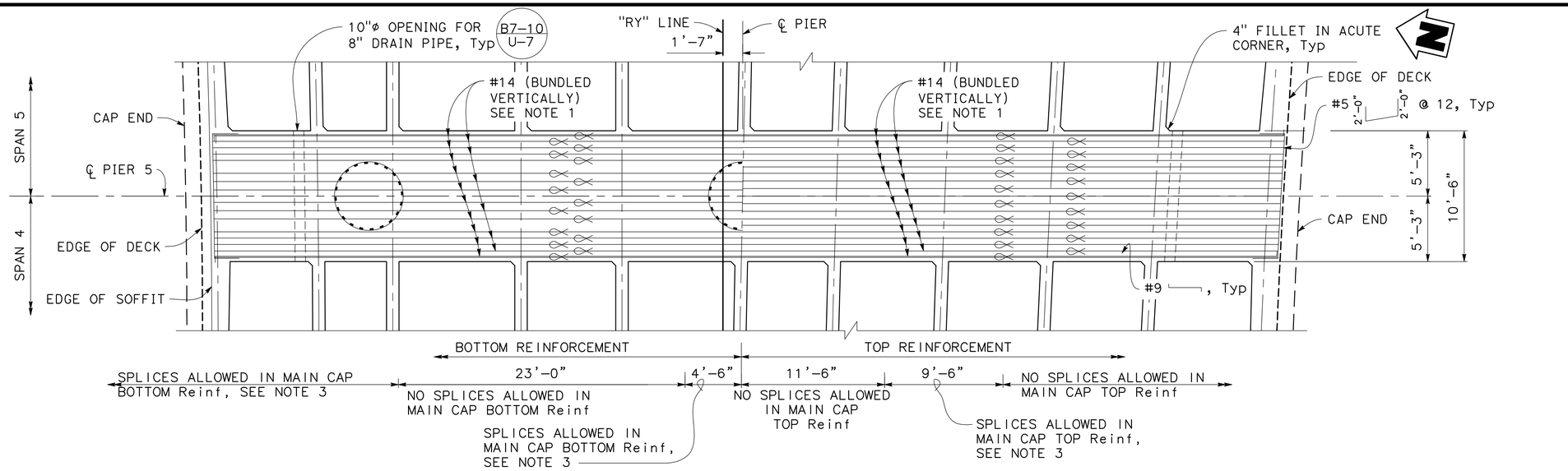
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9-30-25
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PIER 2
BENT CAP LAYOUT

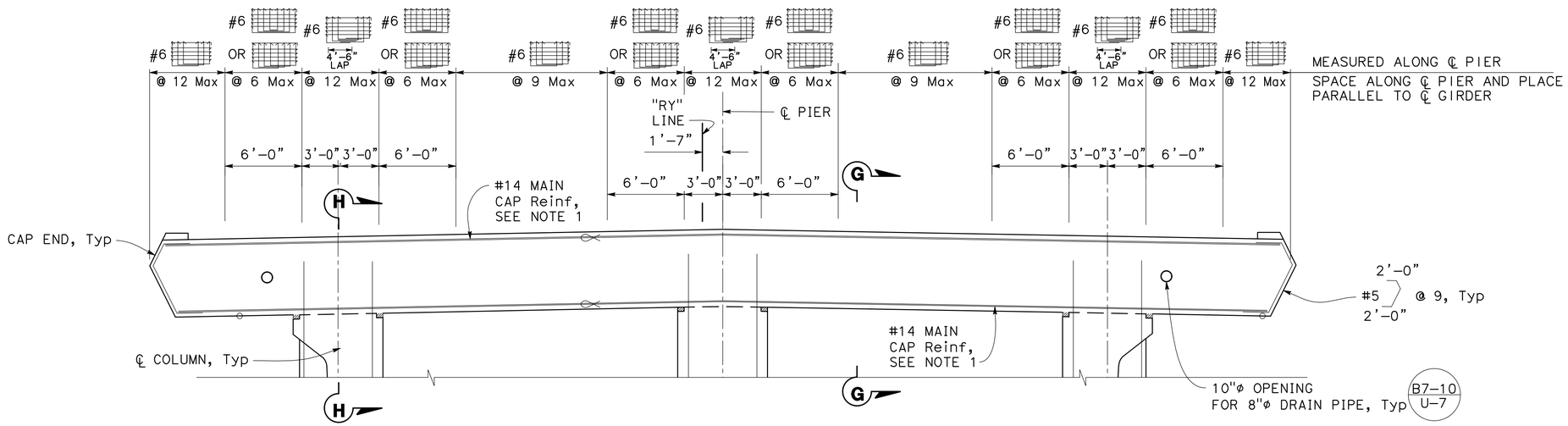
T15136000

SHEET 268 — OF — 648



PLAN OF BENT CAP (PIER 5)

1" = 5'-0"



ELEVATION OF BENT CAP (PIER 5)

1" = 5'-0"

NOTES:

1. Main cap reinforcement to be grade 80.
2. For Sections G–G and H–H, see "PIER 2 & 5 BENT CAP DETAILS No. 5" sheet.
3. Only staggered Ultimate Butt Splices or Ultimate Splice Couplers are allowed in main bent cap reinforcement in this zone.

(NOT FOR CONSTRUCTION)

S-27

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:59 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

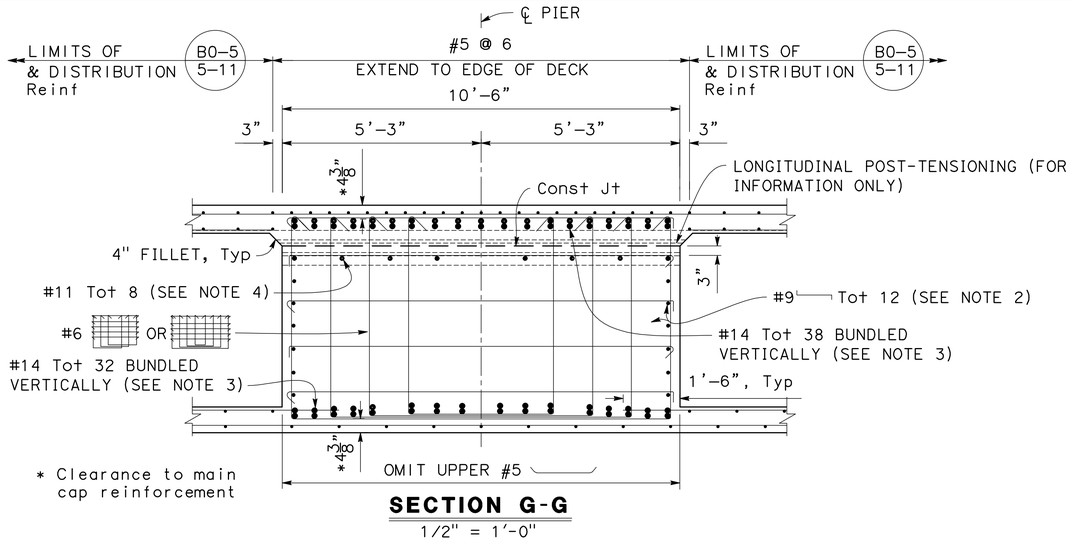
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9-30-25
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PIER 5
BENT CAP LAYOUT

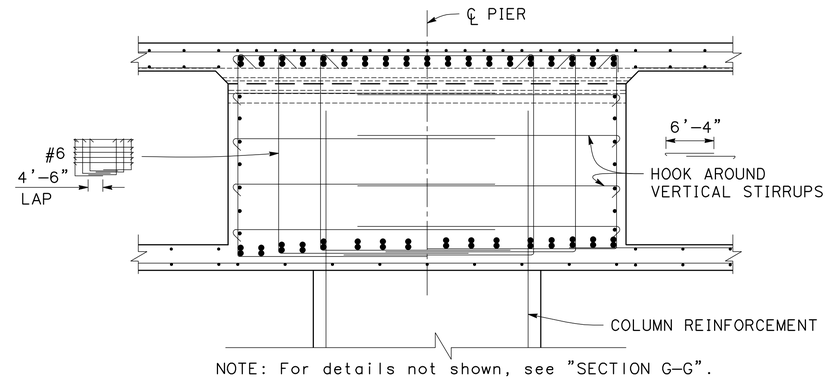
T15136000

SHEET 269 OF 648



SECTION G-G

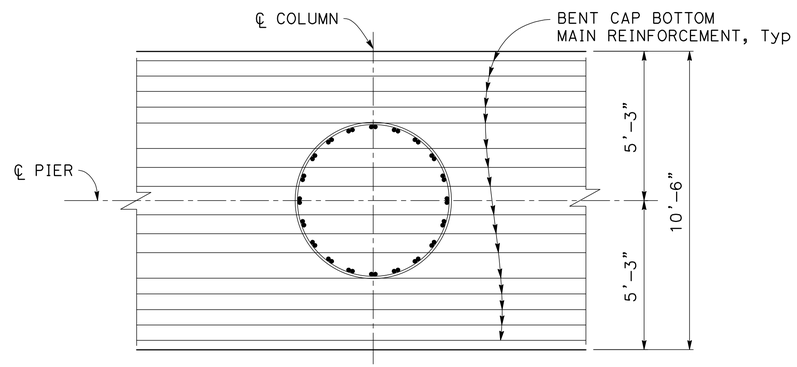
1/2" = 1'-0"



NOTE: For details not shown, see "SECTION G-G".

SECTION H-H

1/2" = 1'-0"



PARTIAL PLAN - BENT CAP AT COLUMN

3/8" = 1'-0"

NOTES:

1. For locations of "SECTION G-G" and "SECTION H-H", see "PIER 2 BENT CAP LAYOUT" and "PIER 5 BENT CAP LAYOUT" sheets.
2. Reinforcement may be bent or lowered to clear utility opening.
3. Main cap reinforcement to be grade 80.
4. Reinforcement may be lowered to clear P/S Ducts. Place as high as prestressing ducts allow.

(NOT FOR CONSTRUCTION)

S-28

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:00 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-25

CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

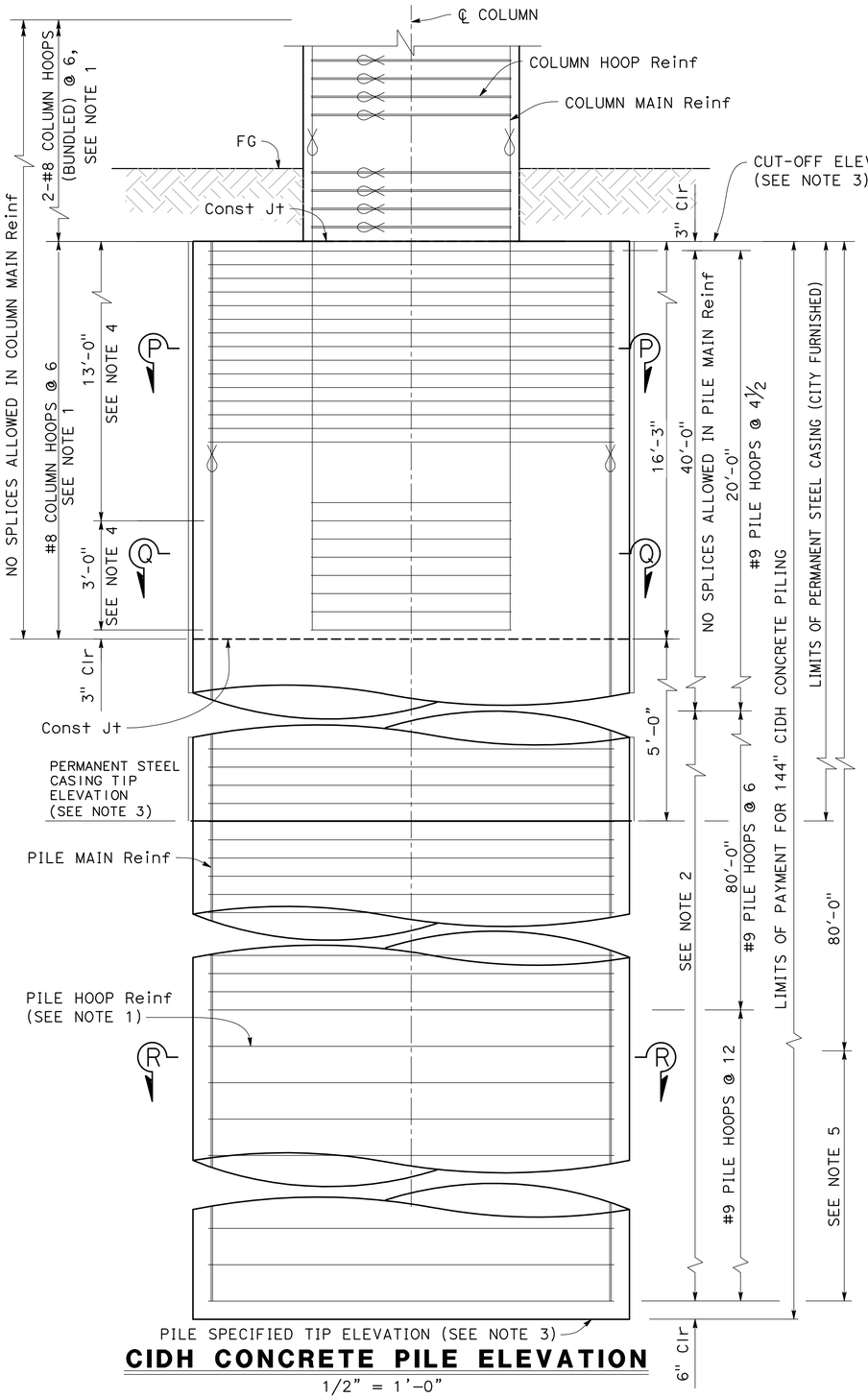
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

PIER 2 & 5 BENT CAP DETAILS

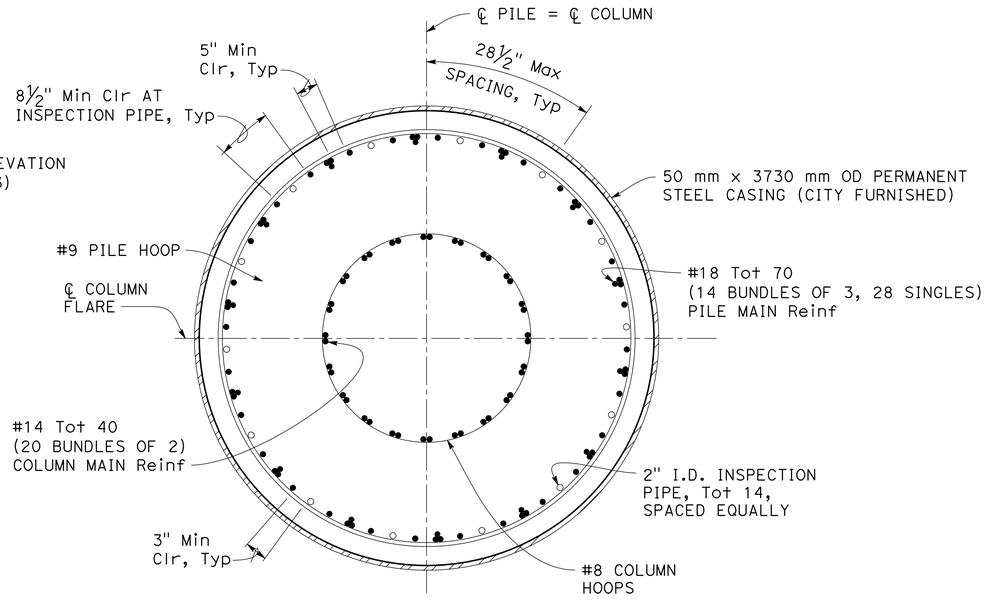
T15136000

SHEET 270 — OF — 648



CIDH CONCRETE PILE ELEVATION

1/2" = 1'-0"

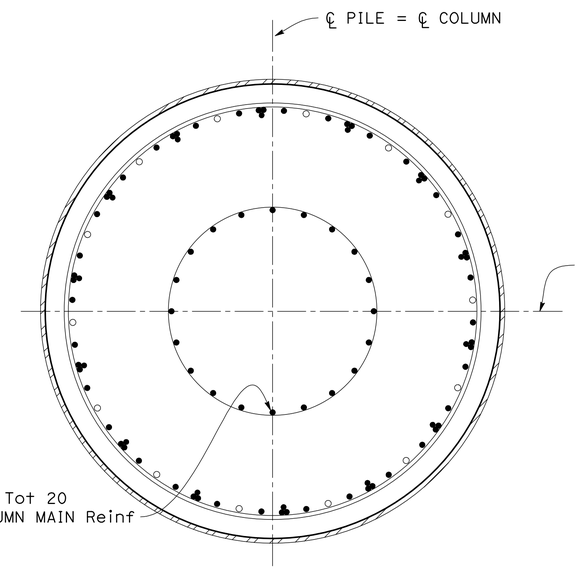


SECTION P-P

1/2" = 1'-0"

NOTES:

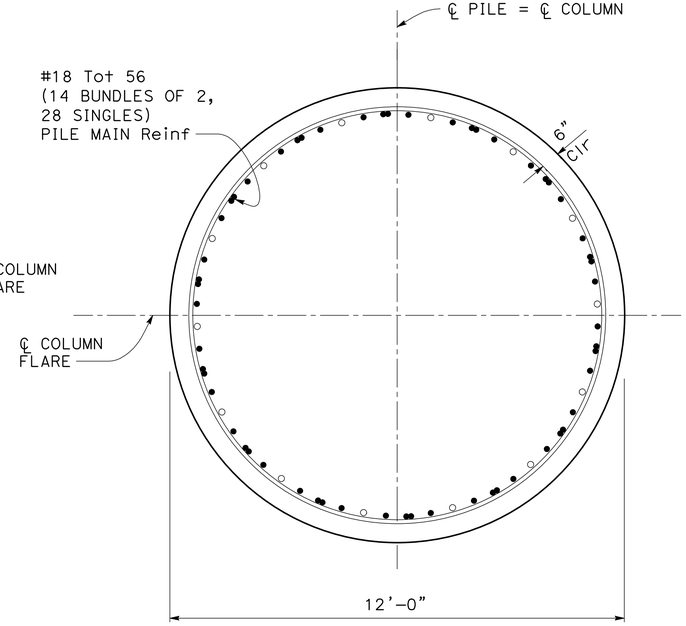
1. All column and CIDH pile hoops must utilize ultimate butt splices.
2. Only staggered ultimate butt splices are allowed in pile main reinforcement in this zone.
3. For specified tip elevation, and cut-off elevation, see "FOUNDATION PLAN" sheet.
4. Column main reinforcement extension must alternate between 13'-0" and 16'-0" below pile cut-off elevation.
5. Pile main reinforcement may be reduced to 14 bundles of 2 and 28 singles.



NOTE: For information not shown, see "SECTION P-P".

SECTION Q-Q

1/2" = 1'-0"



NOTE: For information not shown, see "SECTION P-P".

SECTION R-R

1/2" = 1'-0"

NOTE:
Representative reinforcement shown for clarity

LEGEND:
⟩⟨ Indicates Bundled Bars

(NOT FOR CONSTRUCTION)

S-29

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9-30-25
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

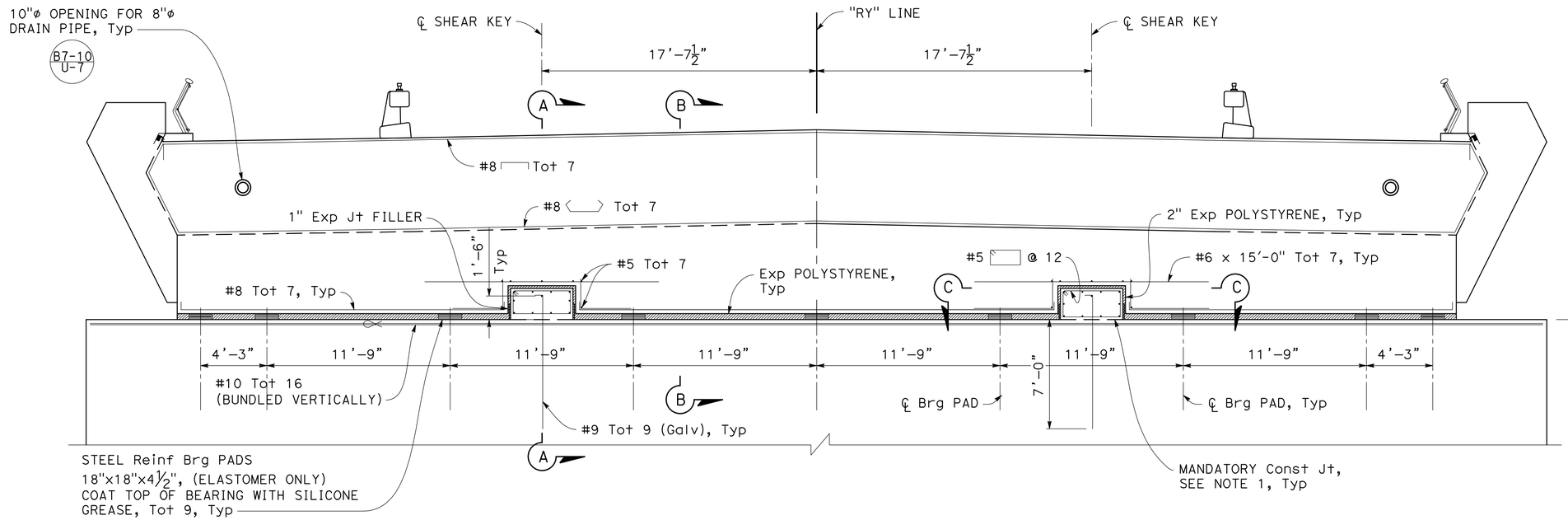
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

PIER 2 & 5 PILE DETAILS

T15136000

SHEET 271 OF 648

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:00 PM

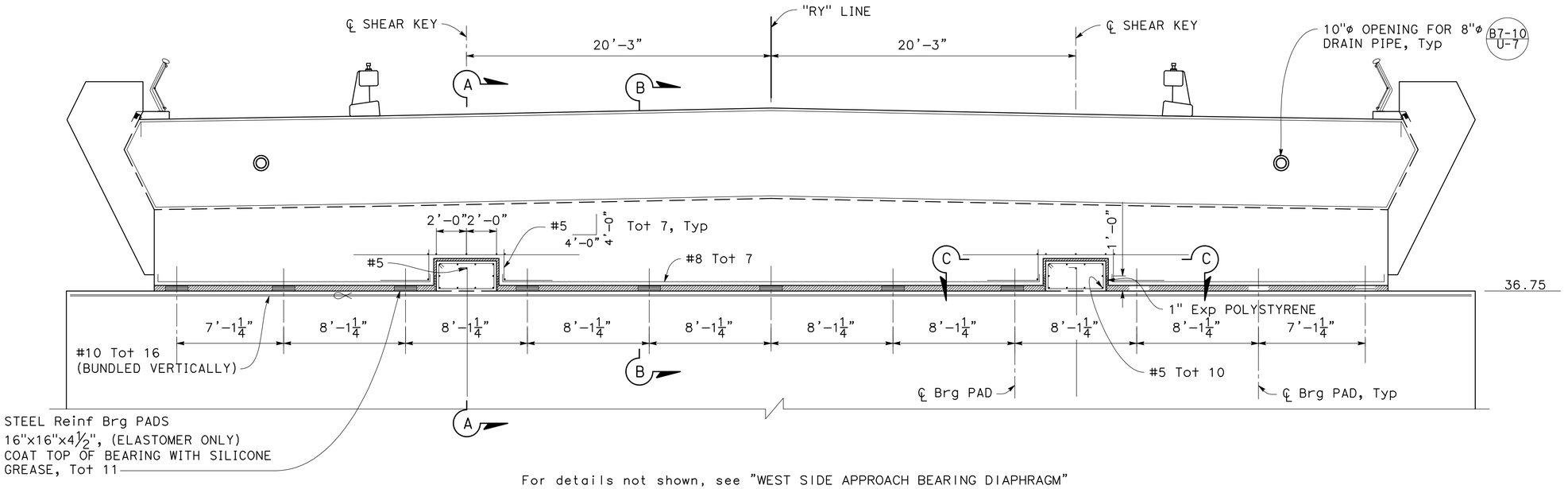


WEST SIDE APPROACH BEARING DIAPHRAGM

3/8" = 1'-0"

NOTES:

1. Mandatory construction joint shall be smooth finished and lined with 15 pound building paper.
2. Not all rebar shown for clarity.
3. For Pier 3 & Pier 4 bearing pad detail, see "PIER 3 & 4 PIER WALL DETAILS No. 2" sheet.
4. For "SECTIONS "A-A", "B-B" and "C-C", see "PIER 3 & 4 PIER WALL DETAILS No. 2" sheet.



For details not shown, see "WEST SIDE APPROACH BEARING DIAPHRAGM"

EAST SIDE APPROACH BEARING DIAPHRAGM

3/8" = 1'-0"

(NOT FOR CONSTRUCTION)

S-30

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:01 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

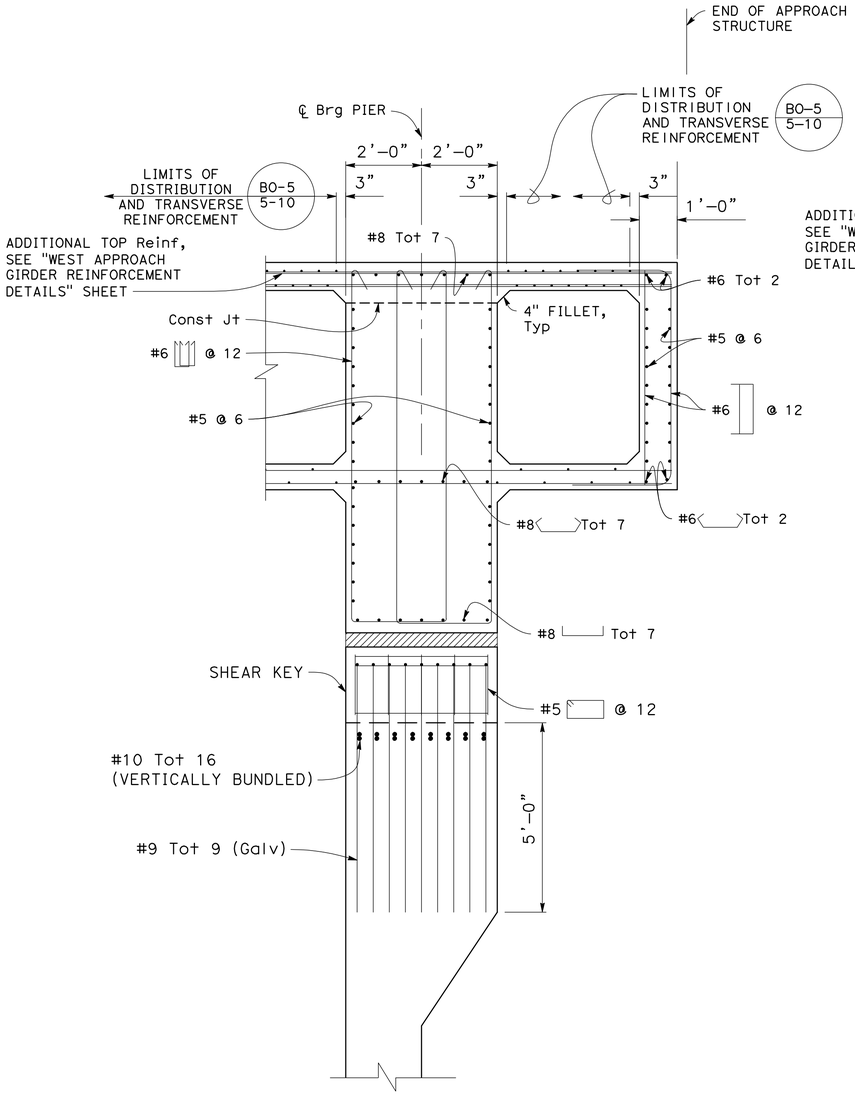
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: M. MOORE R.C.E. S 6557 DATE 9-30-25
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PIER 3 & 4
PIER WALL DETAILS No. 1

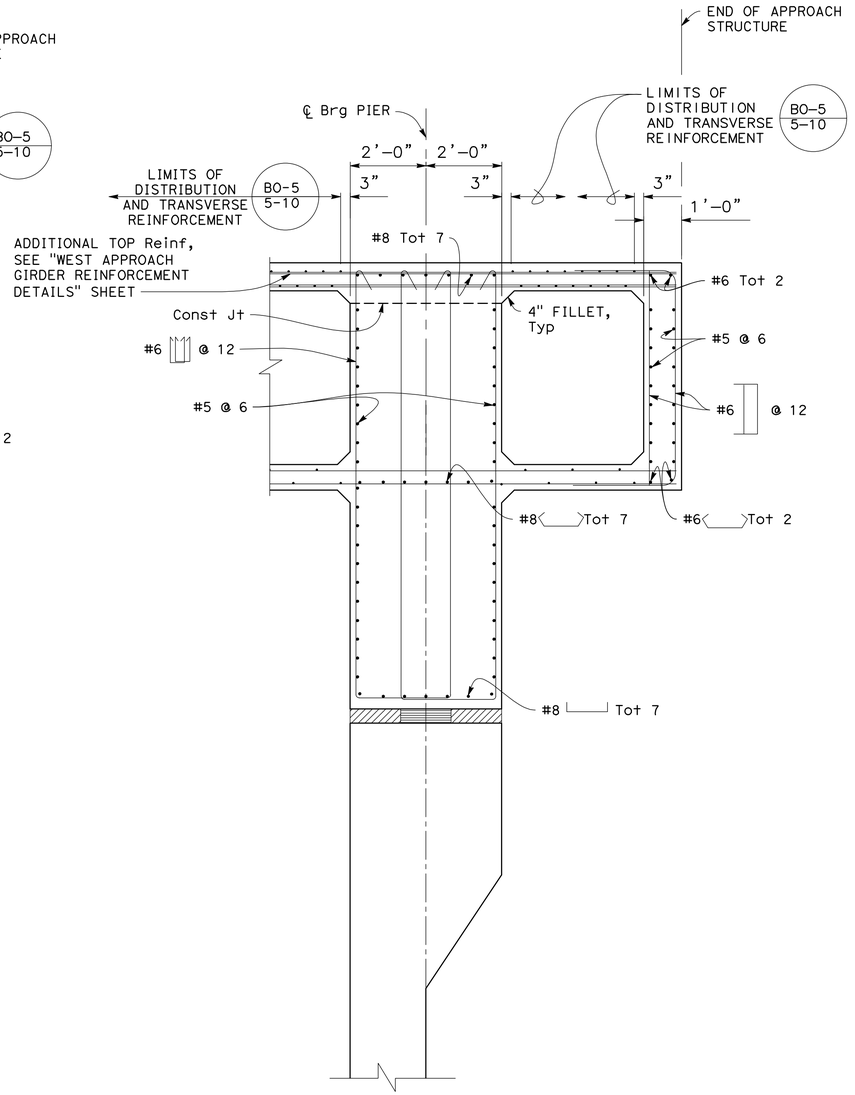
T15136000

SHEET 272 — OF — 648



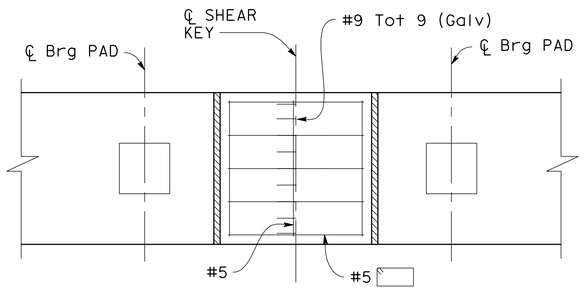
SECTION A-A

1/2" = 1'-0"



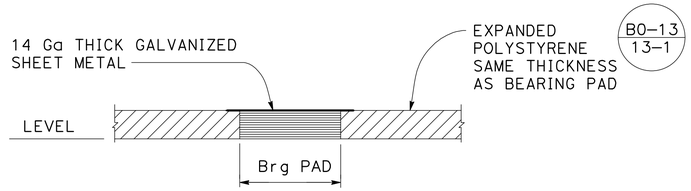
SECTION B-B

1/2" = 1'-0"

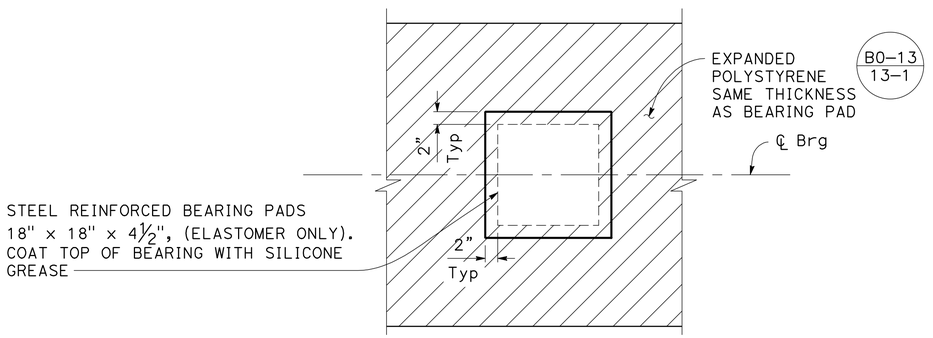


SECTION C-C

1/2" = 1'-0"



ELEVATION



PLAN

BEARING PAD DETAIL (PIER 3 & PIER 4)

1" = 1'-0"

(NOT FOR CONSTRUCTION)

S-31

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: M. MOORE
R.C.E. S 6557 DATE 9-30-25

CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

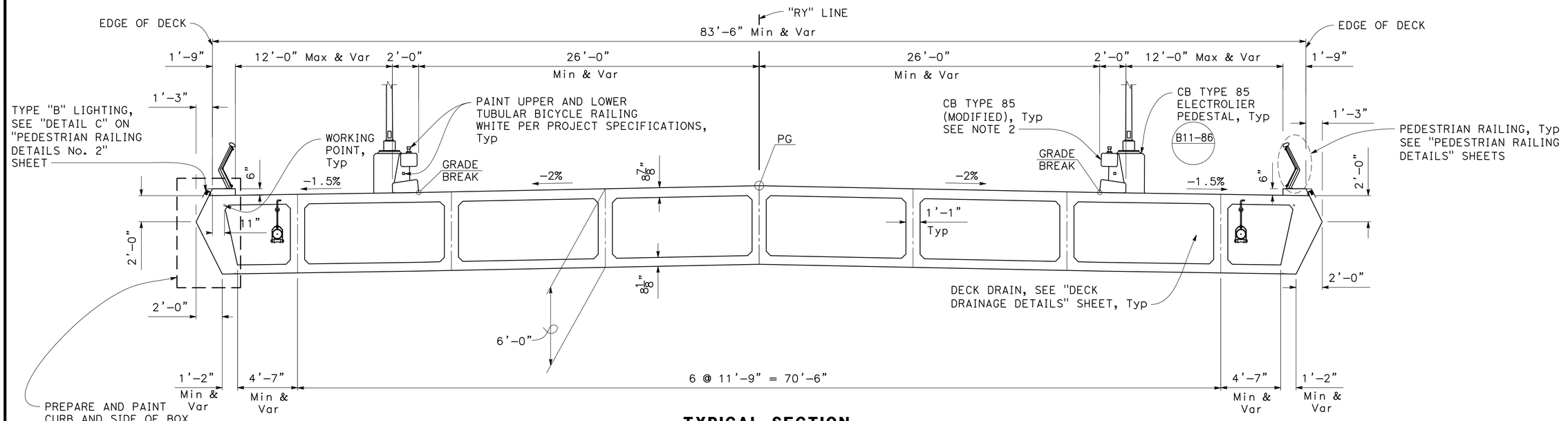
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PIER 3 & 4
PIER WALL DETAILS No. 2

T15136000

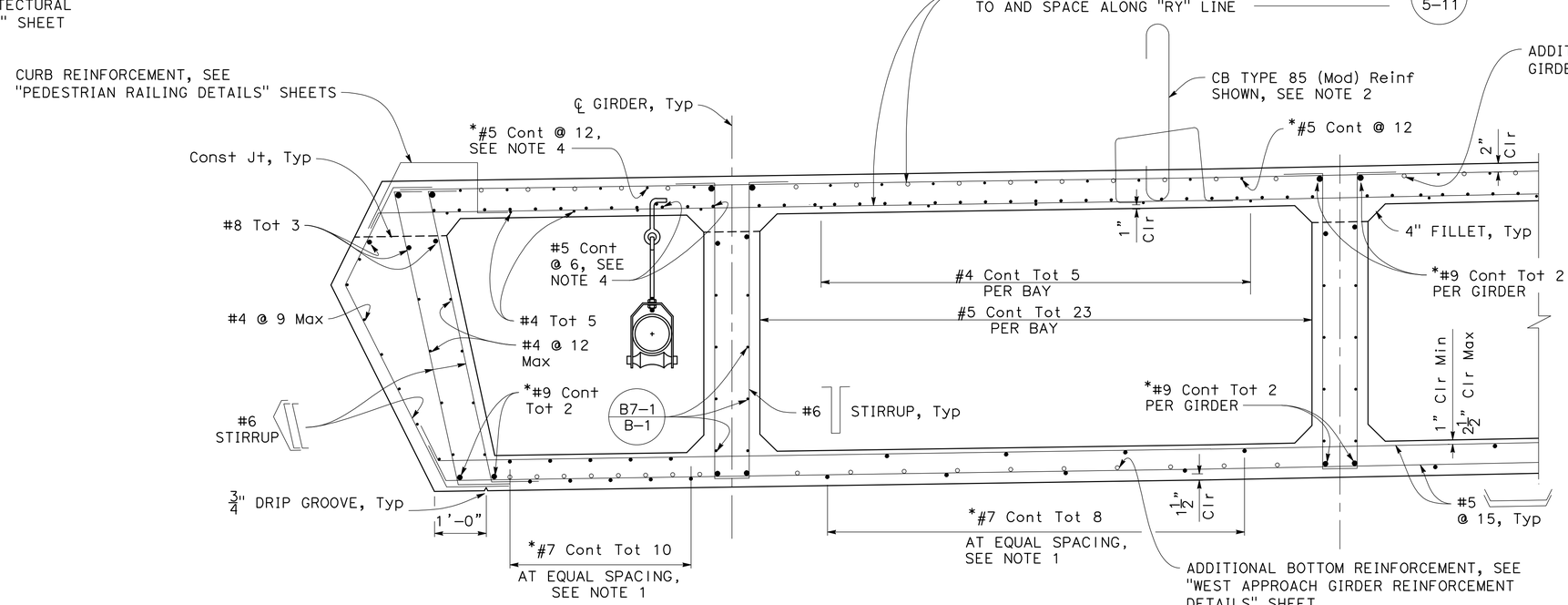
SHEET 273 — OF — 648

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:02 PM



TYPICAL SECTION

1/4" = 1'-0"



PART TYPICAL SECTION B0-5 B7-1 B8-5

3/4" = 1'-0"

*SEE NOTE 3

NOTES:

1. Space reinforcement uniformly between the inside edge of both girders. Spacing varies as the bay width varies.
2. For Concrete Barrier Type 85 (Modified), see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS" sheets. Barrier transitions from concrete barrier Type 85 (Modified) to a CA ST-75 (Modified) bridge rail, see "BRIDGE BARRIER KEY MAP" for location and "BARRIER TRANSITION DETAILS" sheets for details. For barrier reinforcement, see "CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS" sheets and "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS" sheets.
3. No splices allowed in continuous longitudinal reinforcement within zones shown on "WEST APPROACH GIRDER REINFORCEMENT" SHEETS.
4. See "ACUTE CORNER-DECK & SOFFIT REINFORCEMENT DETAIL" on "WEST APPROACH GIRDER REINFORCEMENT DETAILS No. 2" sheet.

(NOT FOR CONSTRUCTION)

S-32

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:02 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

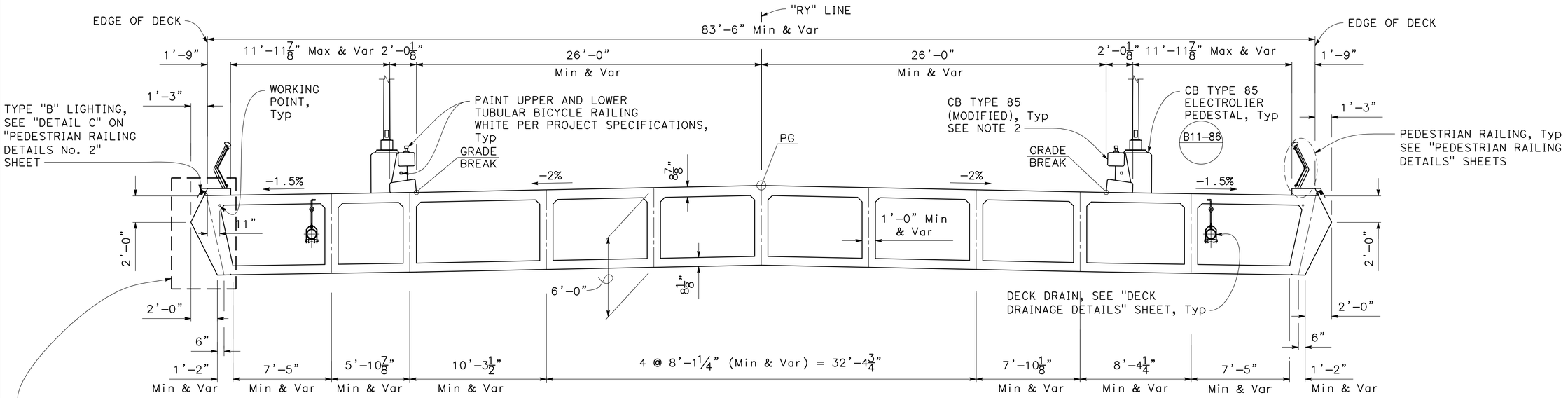
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
WEST APPROACH
TYPICAL SECTION

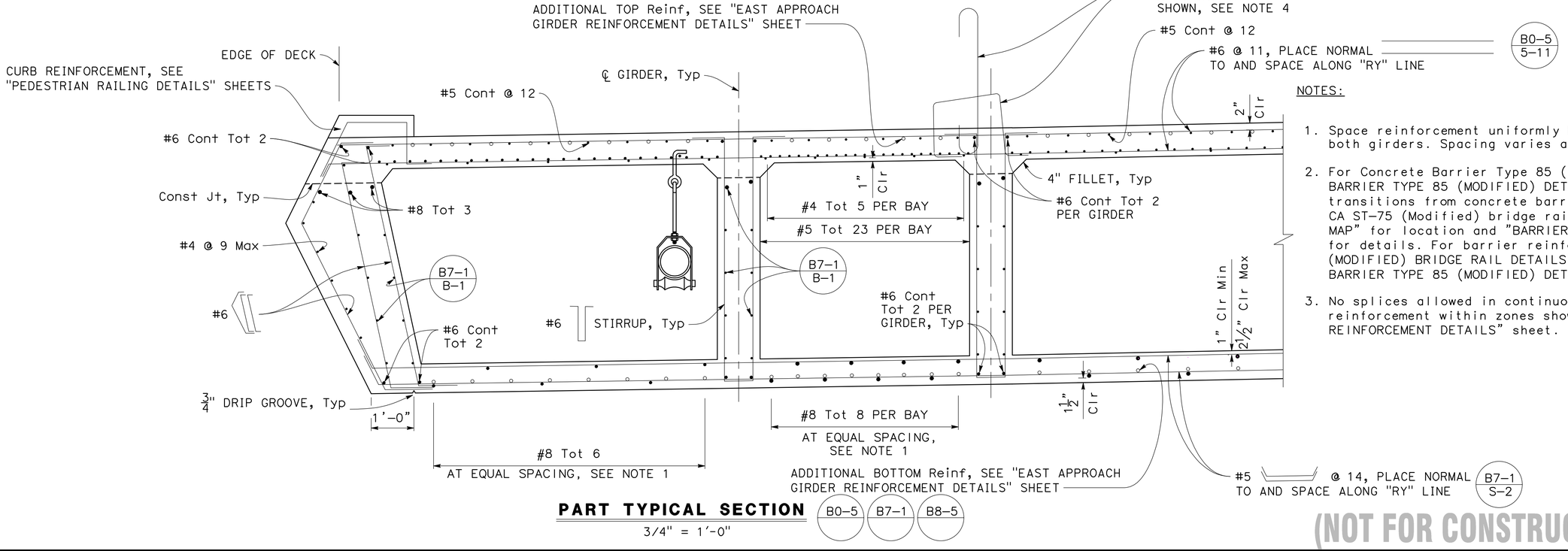
T15136000

SHEET 274 OF 648



TYPICAL SECTION

1/4" = 1'-0"



PART TYPICAL SECTION

3/4" = 1'-0"

B0-5 B7-1 B8-5

NOTES:

1. Space reinforcement uniformly between the inside edge of both girders. Spacing varies as the bay width varies.
2. For Concrete Barrier Type 85 (Modified), see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS" sheets. Barrier transitions from concrete barrier Type 85 (Modified) to a CA ST-75 (Modified) bridge rail, see "BRIDGE BARRIER KEY MAP" for location and "BARRIER TRANSITION DETAILS" sheets for details. For barrier reinforcement, see "CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS" sheets and "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS" sheets.
3. No splices allowed in continuous longitudinal reinforcement within zones shown on "EAST APPROACH GIRDER REINFORCEMENT DETAILS" sheet.

(NOT FOR CONSTRUCTION)

S-33

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:03 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

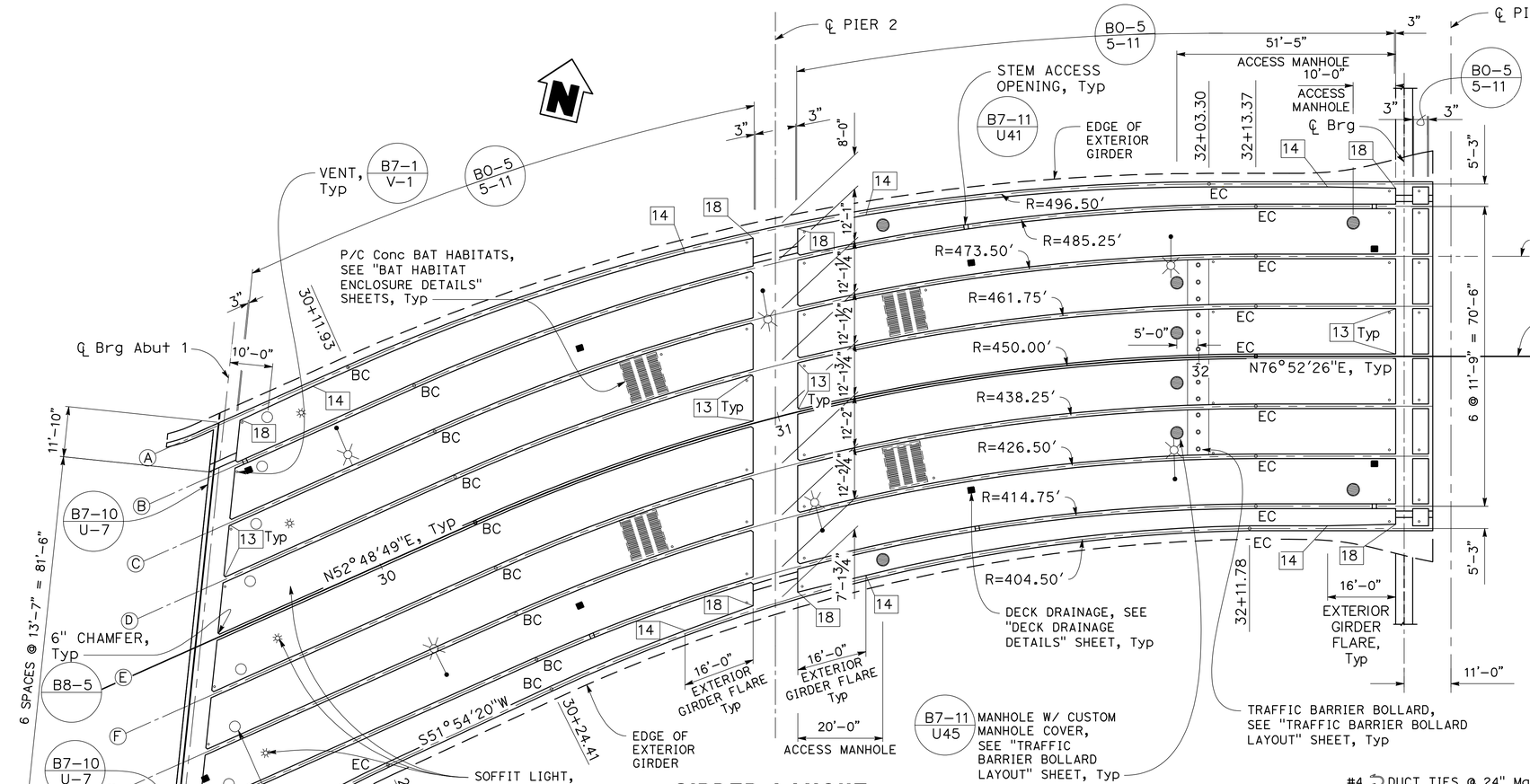
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
EAST APPROACH
TYPICAL SECTION

T15136000

SHEET 275 OF 648



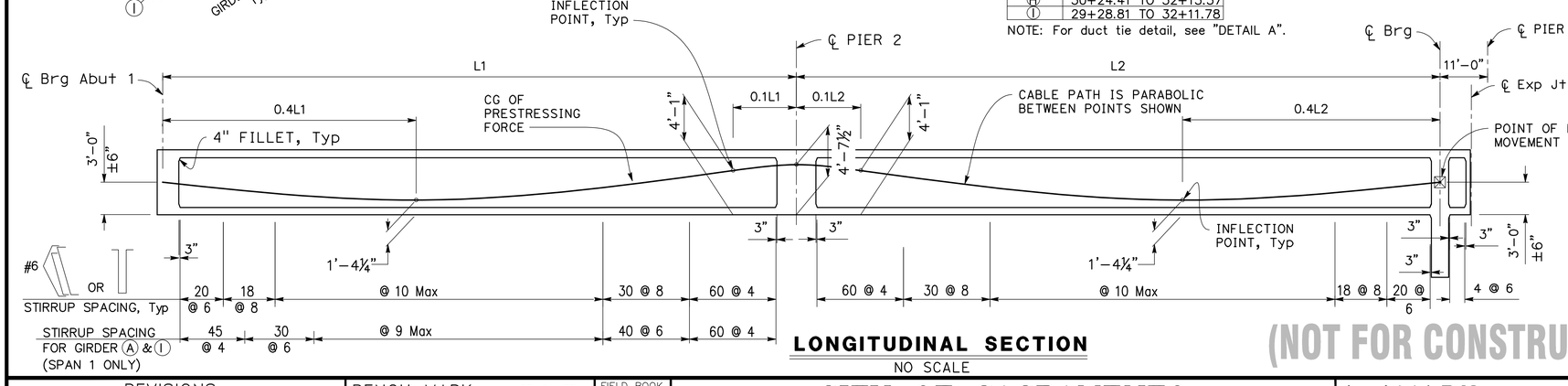
GIRDER LAYOUT

1/16" = 1'-0"

DUCT TIE LIMITS PER GIRDER

GIRDER	STATION RANGE
Ⓐ	30+11.93 TO 32+03.30
Ⓑ	30+24.41 TO 32+13.37
Ⓒ	30+24.41 TO 32+13.37
Ⓓ	30+24.41 TO 32+13.37
Ⓔ	30+24.41 TO 32+13.37
Ⓕ	30+24.41 TO 32+13.37
Ⓖ	30+24.41 TO 32+13.37
Ⓗ	30+24.41 TO 32+13.37
Ⓘ	29+28.81 TO 32+11.78

NOTE: For duct tie detail, see "DETAIL A".



LONGITUDINAL SECTION

NO SCALE

PRESTRESSING NOTES

270 ksi Low Relaxation Strand:

Pjack = 25,300 kips

Anchor Set = 0.375"

Friction curvature coefficients, u = 0.15/rad

Friction wobble coefficient, K = 0.0002/ft

Total Number of Girders = 9

The final force ratio (larger divided by smaller) between any two girders shall not exceed ratio of 10 to 9.

Concrete: f'c = 6.0 ksi @ 28 days

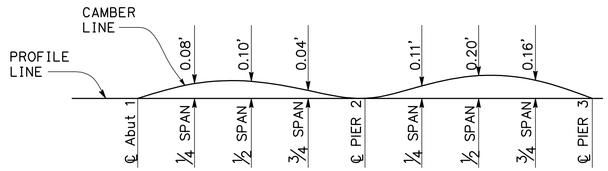
f'ci = 4.0 ksi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at ☒ = 0.858 times jacking stress.

One end stressing shall be performed from Abutment 1.

LEGEND:

- Indicates girder stem width in inches
- ■ Indicates drainage grate
- ○ Indicates Soffit Access Opening
- ∘ Indicates Traffic Barrier Bollard
- · Indicates Soffit Vent
- ✲ Indicates Soffit Light
- ● Indicates Manhole w/ Custom Manhole Cover
- Ⓐ Indicates girder designation



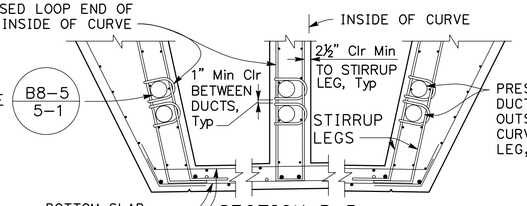
NOTE: Does not include allowance for falsework settlement.

CAMBER DIAGRAM

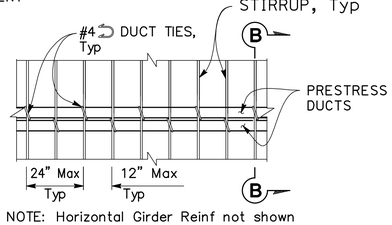
NO SCALE

#4 ⮌ DUCT TIES @ 24" Max, Typ UNLESS OTHERWISE NOTED. HOOK AROUND BOTH STIRRUP LEGS. ALTERNATE DUCT TIE PLACEMENT AT ADJACENT DUCTS AT 12" Max. CLOSED LOOP END OF DUCT TIES TO BE PLACED ON THE INSIDE OF CURVE

FOR DUCT TIES AT TENDON HORIZONTAL ANGLE CHANGES, SEE B8-5 5-1



SECTION B-B



NOTE: Horizontal Girder Reinf not shown

GIRDER ELEVATION

DETAIL A

NO SCALE

(NOT FOR CONSTRUCTION)

S-34

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:04 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

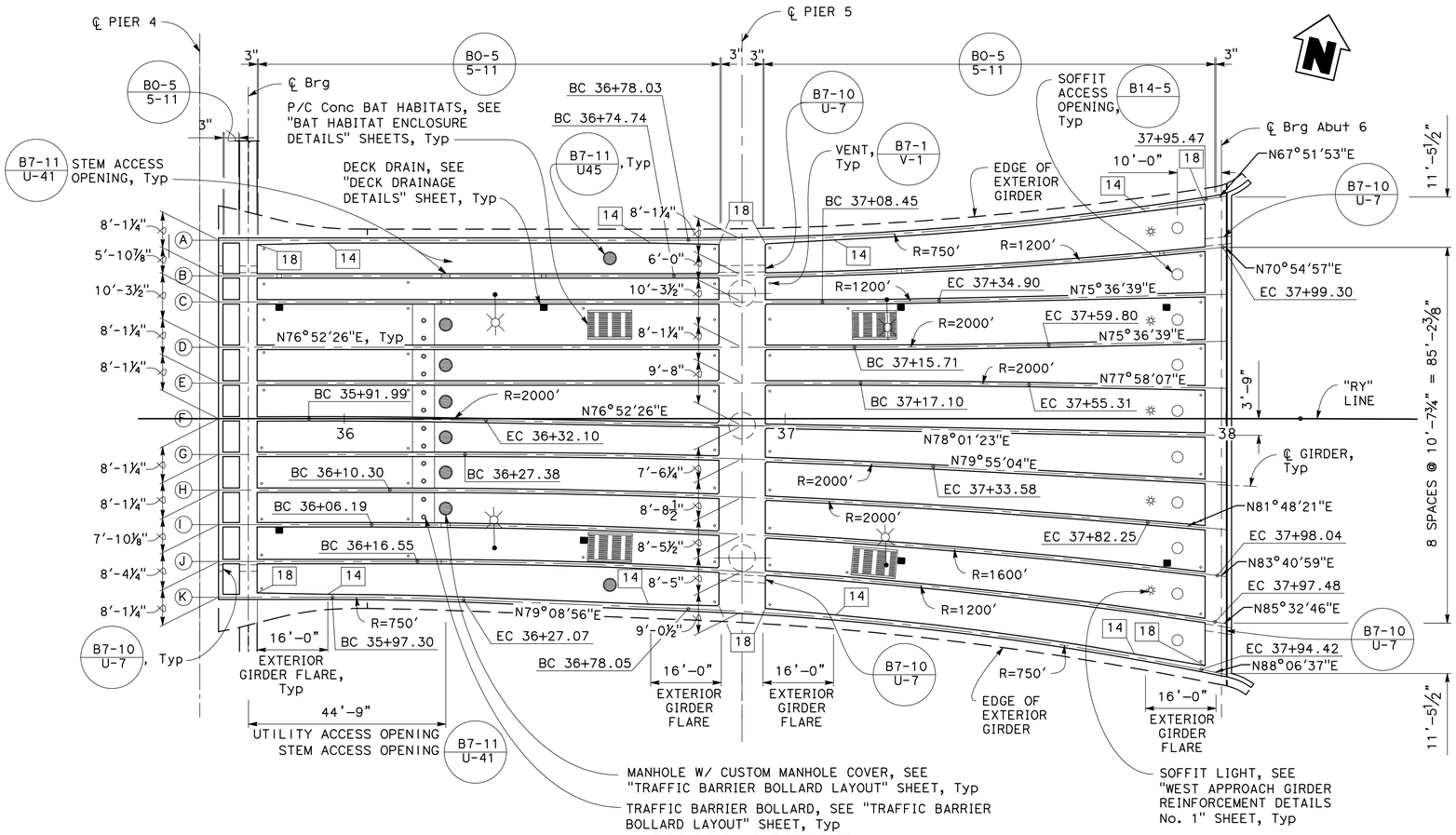
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
WEST APPROACH
GIRDER LAYOUT

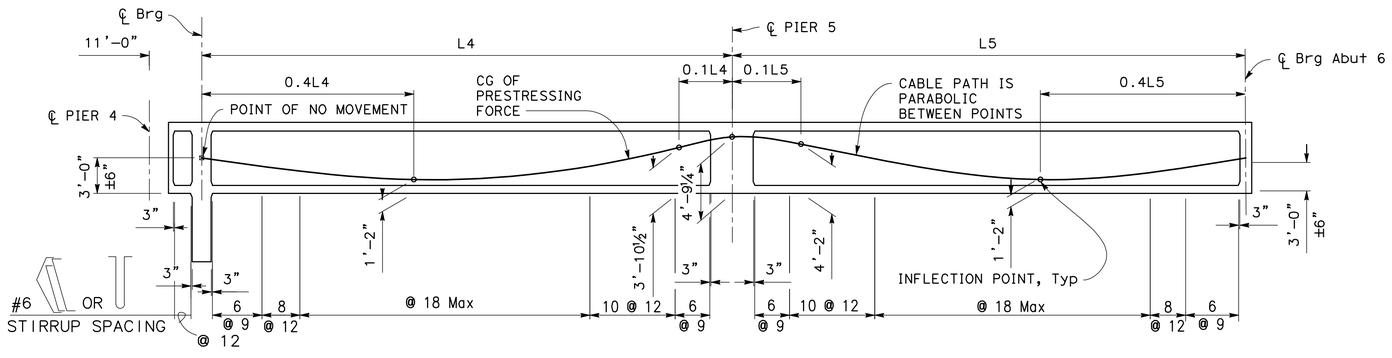
T15136000

SHEET 276 OF 648



GIRDER LAYOUT

1/16" = 1'-0"



LONGITUDINAL SECTION

NO SCALE

PRESTRESSING NOTES

270 ksi Low Relaxation Strand:

Pjack = 16,400 kips

Anchor Set = 0.375"

Friction curvature coefficients, u = 0.15/rad

Friction wobble coefficient, K = 0.0002/ft

Total Number of Girders = 11

The final force ratio (larger divided by smaller) between any two girders shall not exceed ratio of 10 to 9.

Concrete: f'c = 6.0 ksi @ 28 days

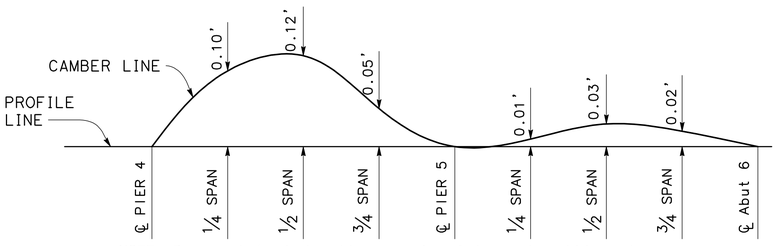
f'ci = 4.0 ksi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at ⊠ = 0.868 times jacking stress.

One end stressing shall be performed from Abutment 1.

LEGEND:

- Indicates girder stem width in inches
- ■ Indicates drainage grate
- ○ Indicates Soffit Access Opening
- ◦ Indicates Traffic Barrier Bollard
- · Indicates Soffit Vent
- ✲ Indicates Soffit Light
- ◍ Indicates Manhole w/ Custom Manhole Cover
- Ⓐ Indicates Girder Designation



NOTE: Does not include allowance for falsework settlement.

CAMBER DIAGRAM

NO SCALE

(NOT FOR CONSTRUCTION)

S-35

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:04 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

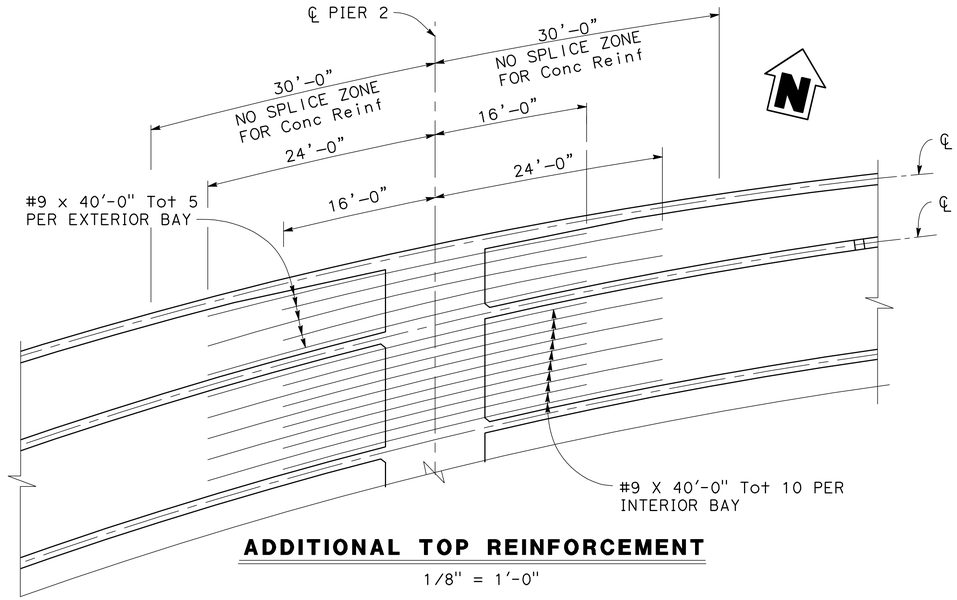
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

EAST APPROACH GIRDER LAYOUT

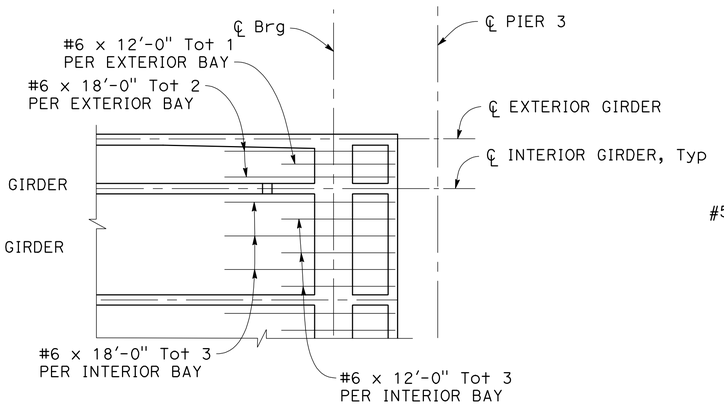
T15136000

SHEET 277 OF 648



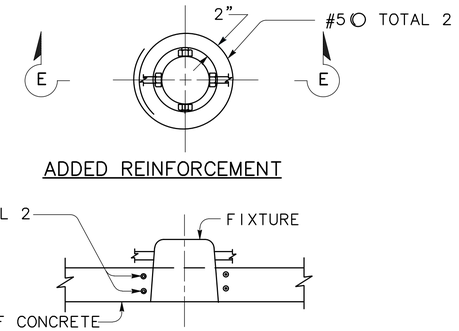
ADDITIONAL TOP REINFORCEMENT

1/8" = 1'-0"



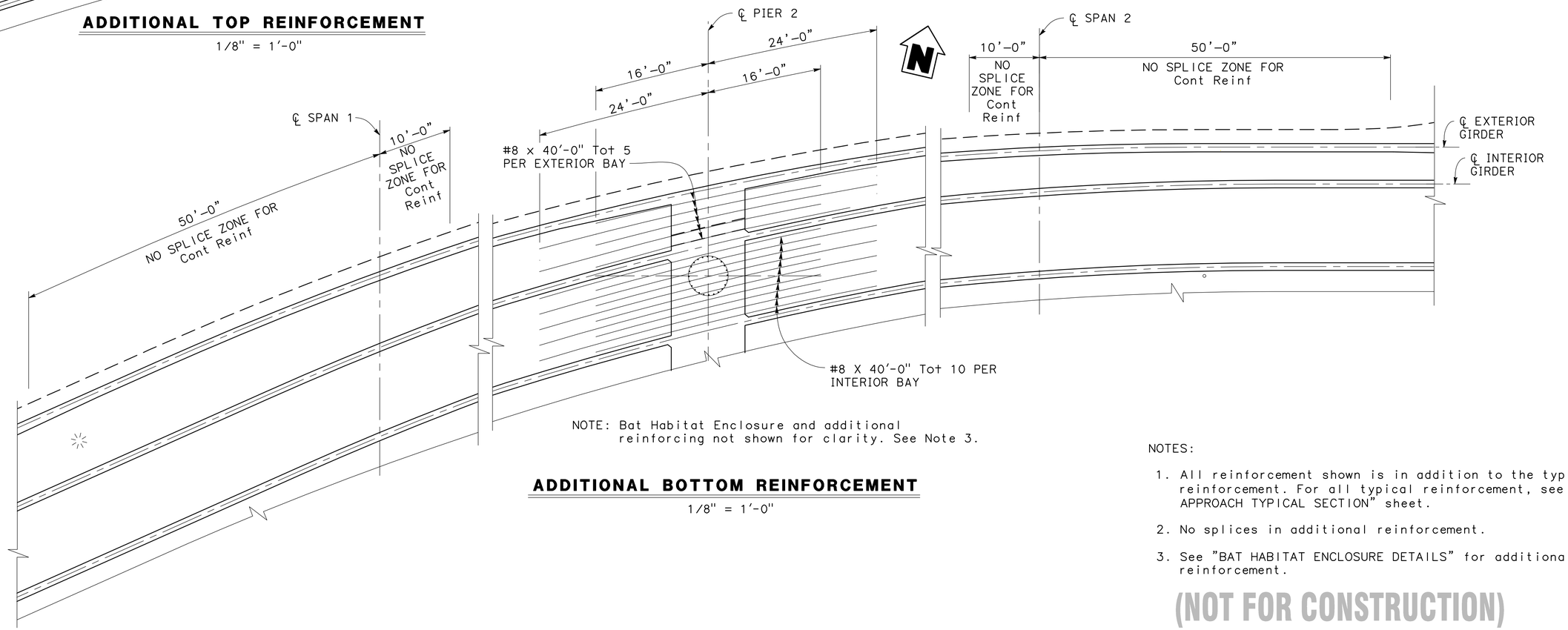
ADDITIONAL TOP REINFORCEMENT

1/8" = 1'-0"



RECESSED SOFFIT LIGHT

NO SCALE



NOTE: Bat Habitat Enclosure and additional reinforcing not shown for clarity. See Note 3.

ADDITIONAL BOTTOM REINFORCEMENT

1/8" = 1'-0"

NOTES:

1. All reinforcement shown is in addition to the typical reinforcement. For all typical reinforcement, see "WEST APPROACH TYPICAL SECTION" sheet.
2. No splices in additional reinforcement.
3. See "BAT HABITAT ENCLOSURE DETAILS" for additional reinforcement.

(NOT FOR CONSTRUCTION)

S-36

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:05 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

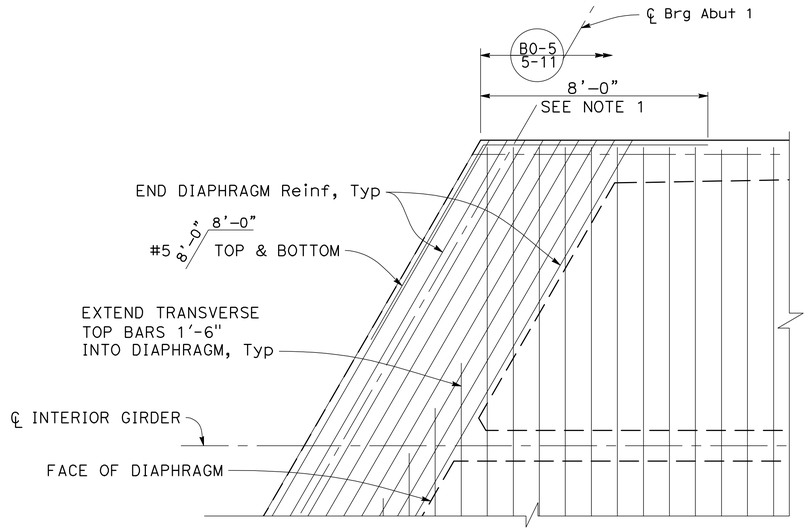
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

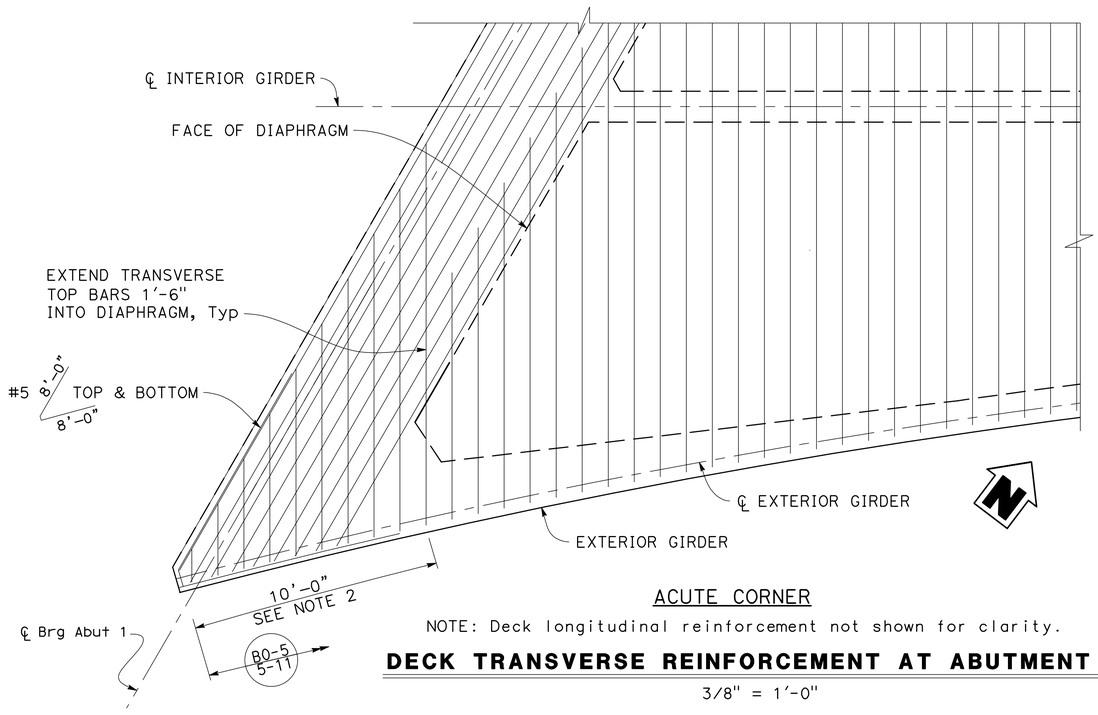
I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
WEST APPROACH
GIRDER REINFORCEMENT DETAILS No. 1

T15136000

SHEET 278 OF 648



OBTUSE CORNER

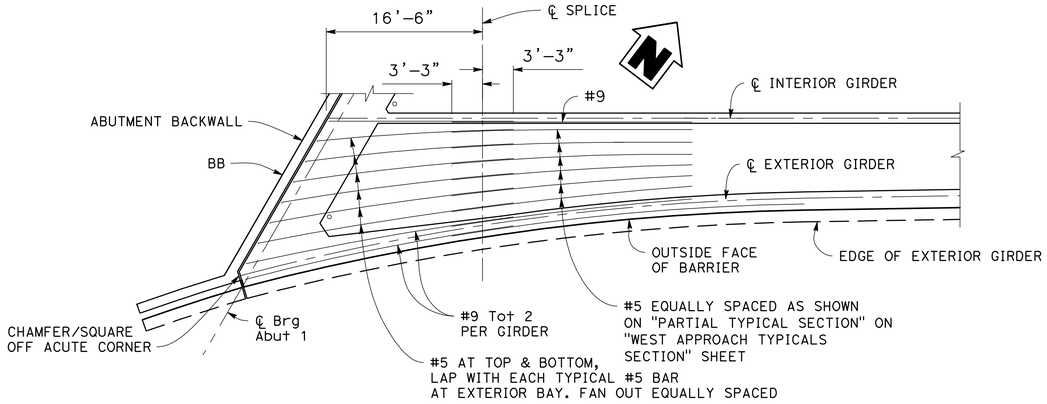


ACUTE CORNER

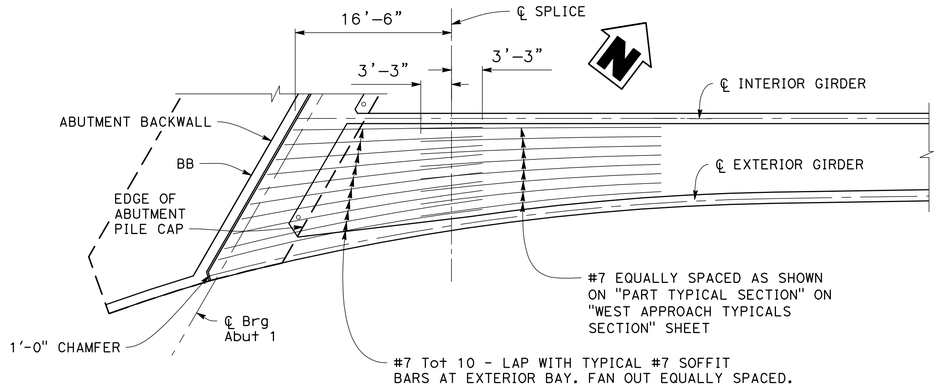
NOTE: Deck longitudinal reinforcement not shown for clarity.

DECK TRANSVERSE REINFORCEMENT AT ABUTMENT 1

3/8" = 1'-0"



AT DECK



AT SOFFIT

NOTE: Only longitudinal reinforcement shown for clarity.

ACUTE CORNER - DECK & SOFFIT REINFORCEMENT DETAIL

1/8" = 1'-0"

NOTES:

1. Extend top deck bars to left edge of deck, past face of end diaphragm.
2. Extend top deck bars to back face of end diaphragm.

(NOT FOR CONSTRUCTION)

S-37

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

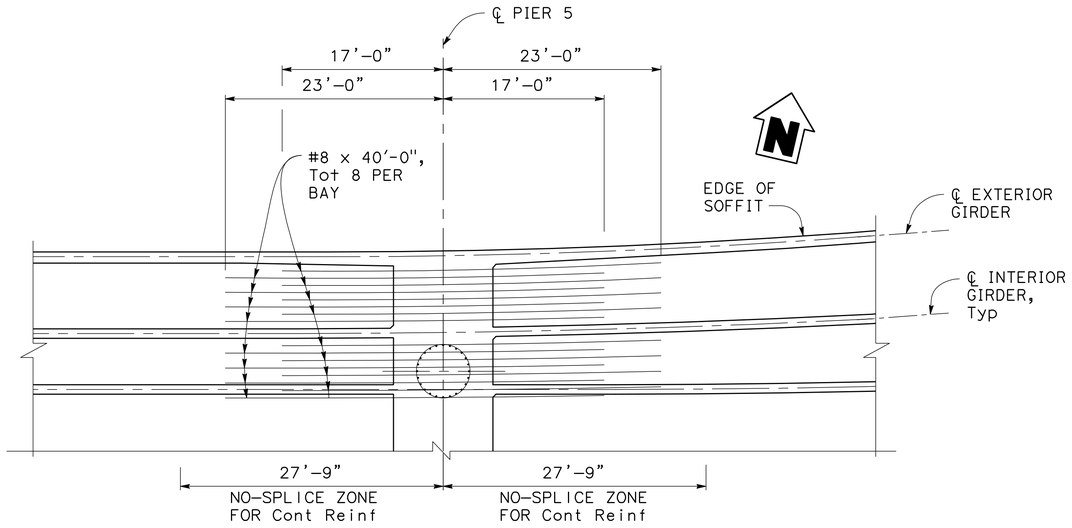
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
WEST APPROACH
GIRDER REINFORCEMENT DETAILS No. 2

T15136000

SHEET 279 — OF — 648

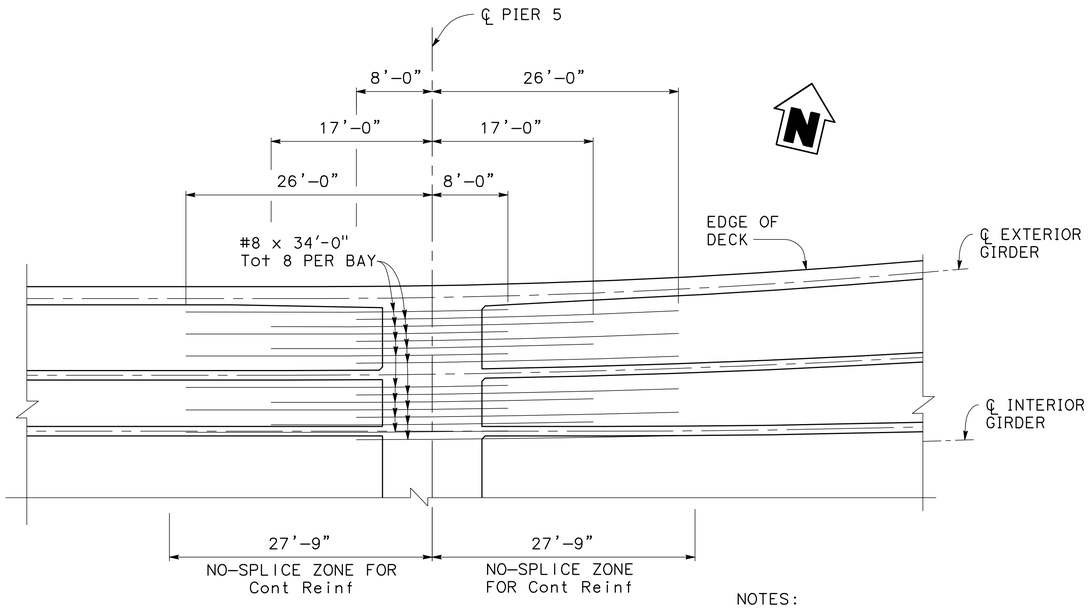
DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:06 PM



ADDITIONAL BOTTOM REINFORCEMENT

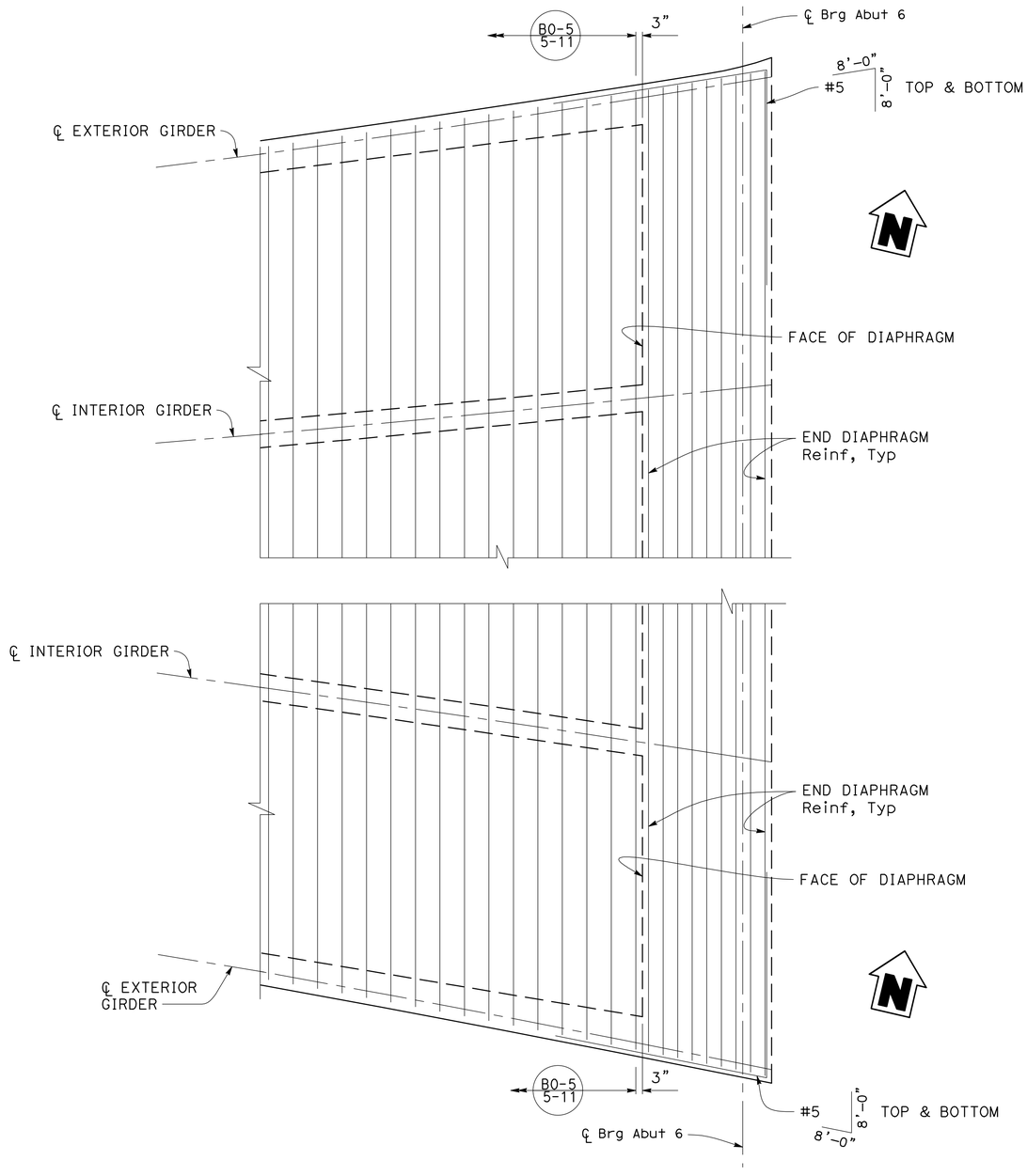
1/8" = 1'-0"

NOTE: Continuous bars to be Lap Spliced or Service spliced. No splices are permitted within the regions shown.



ADDITIONAL TOP REINFORCEMENT

1/8" = 1'-0"



DECK TRANSVERSE REINFORCEMENT AT ABUTMENT 6

3/8" = 1'-0"

NOTES:

1. All reinforcement shown is in addition to the typical reinforcement. For all typical reinforcement, see "EAST APPROACH TYPICAL SECTION" sheet.
2. No splices in additional reinforcement.

(NOT FOR CONSTRUCTION)

S-38

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:07 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

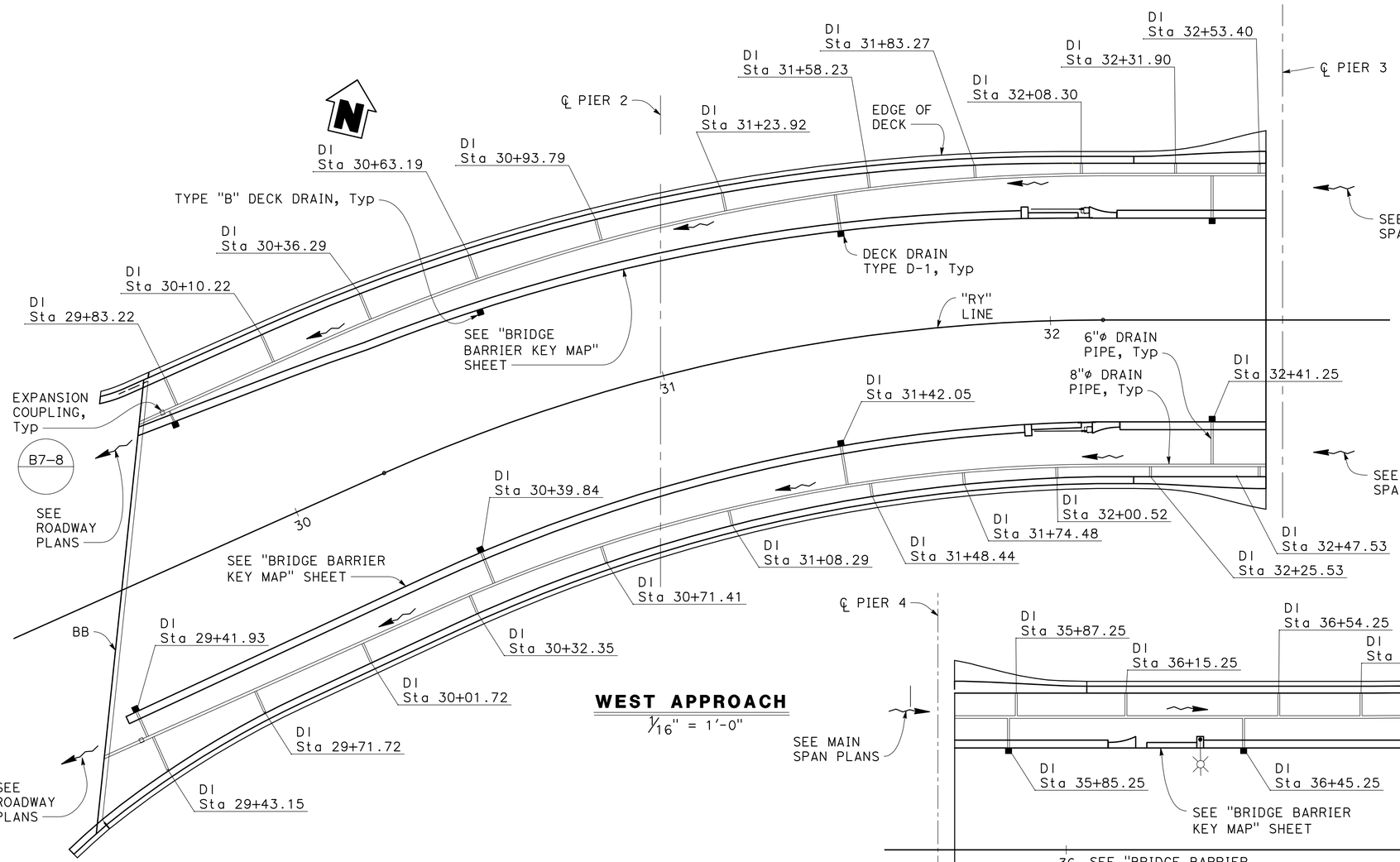
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER EAST APPROACH GIRDER REINFORCEMENT DETAILS

T15136000

SHEET 280 OF 648



WEST APPROACH
1/16" = 1'-0"

EAST APPROACH
1/16" = 1'-0"

(NOT FOR CONSTRUCTION)

S-39

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 2:07 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

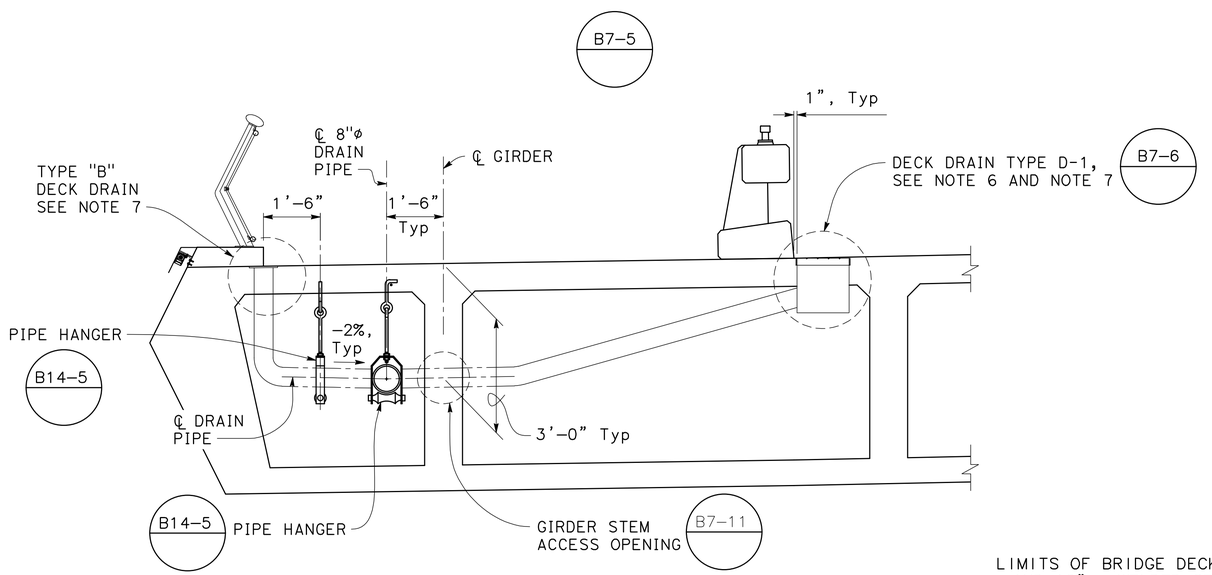
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

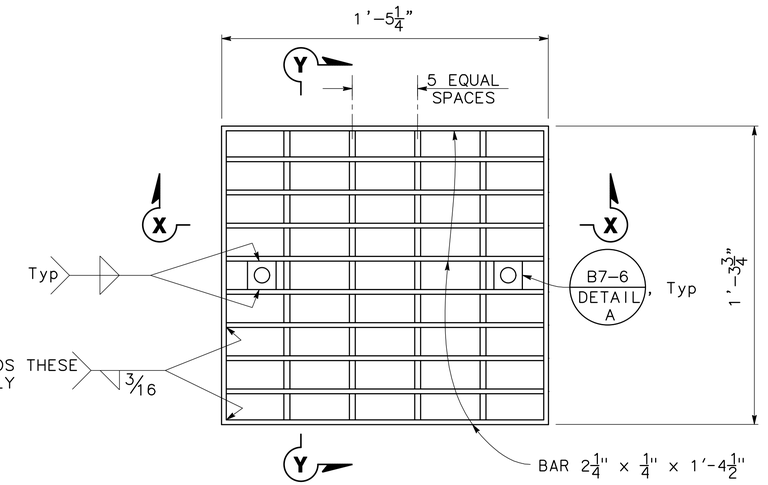
DECK DRAINAGE LAYOUT

T15136000

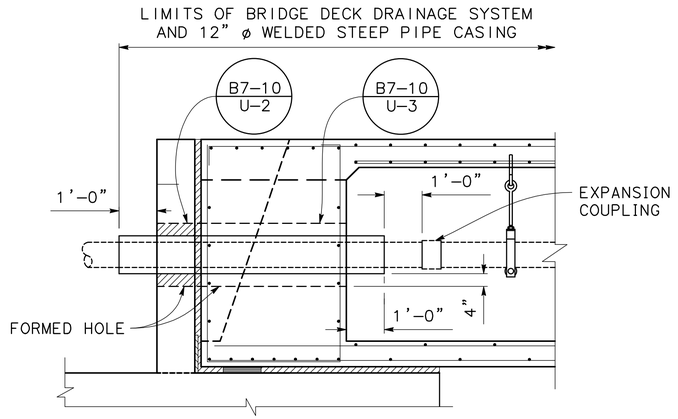
SHEET 281 OF 648



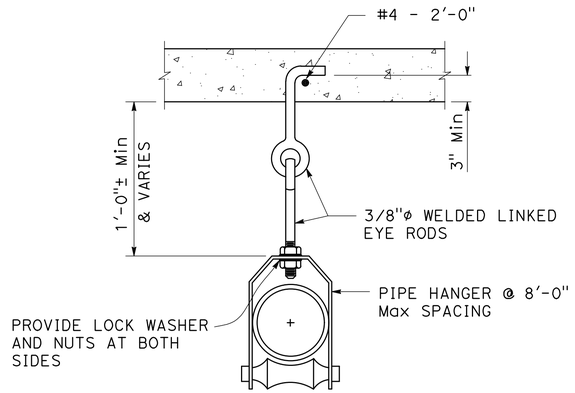
WEST APPROACH DRAIN DETAIL
1/2" = 1'-0"



GRATE PLAN
3" = 1'-0"



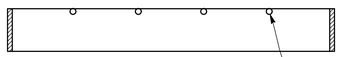
LIMITS OF PAYMENT
BRIDGE DECK DRAINAGE SYSTEM
1/2" = 1'-0"



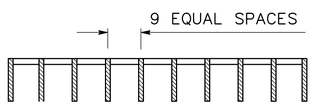
PIPE HANGER B14-5
NO SCALE

NOTES:

1. Pipe hanger spacing to be 10'-0" maximum.
2. Main drain pipe to be 8"ø x 0.148" WSP with 2'-0" minimum radius bends except where otherwise shown. Lateral drain pipes may be 6"ø.
3. Cut conflicting transverse deck reinforcement. Adjust continuous bars as necessary to avoid conflict.
4. 1% Min Pipe slope.
5. For details not shown, see B7-6, B7-7 and B7-8.
6. Standard Type D-1 drain is being used, with a modified grate. For modified grate details, see "GRATE PLAN", "SECTION X-X" and "SECTION Y-Y".
7. For Type "B" inlet locations, Type D-1 inlet locations, and drain pipe layout, see "DECK DRAINAGE LAYOUT" sheet.



SECTION X-X
3" = 1'-0"



SECTION Y-Y
3" = 1'-0"

(NOT FOR CONSTRUCTION)

S-40

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE HORIZ. AS NOTED VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

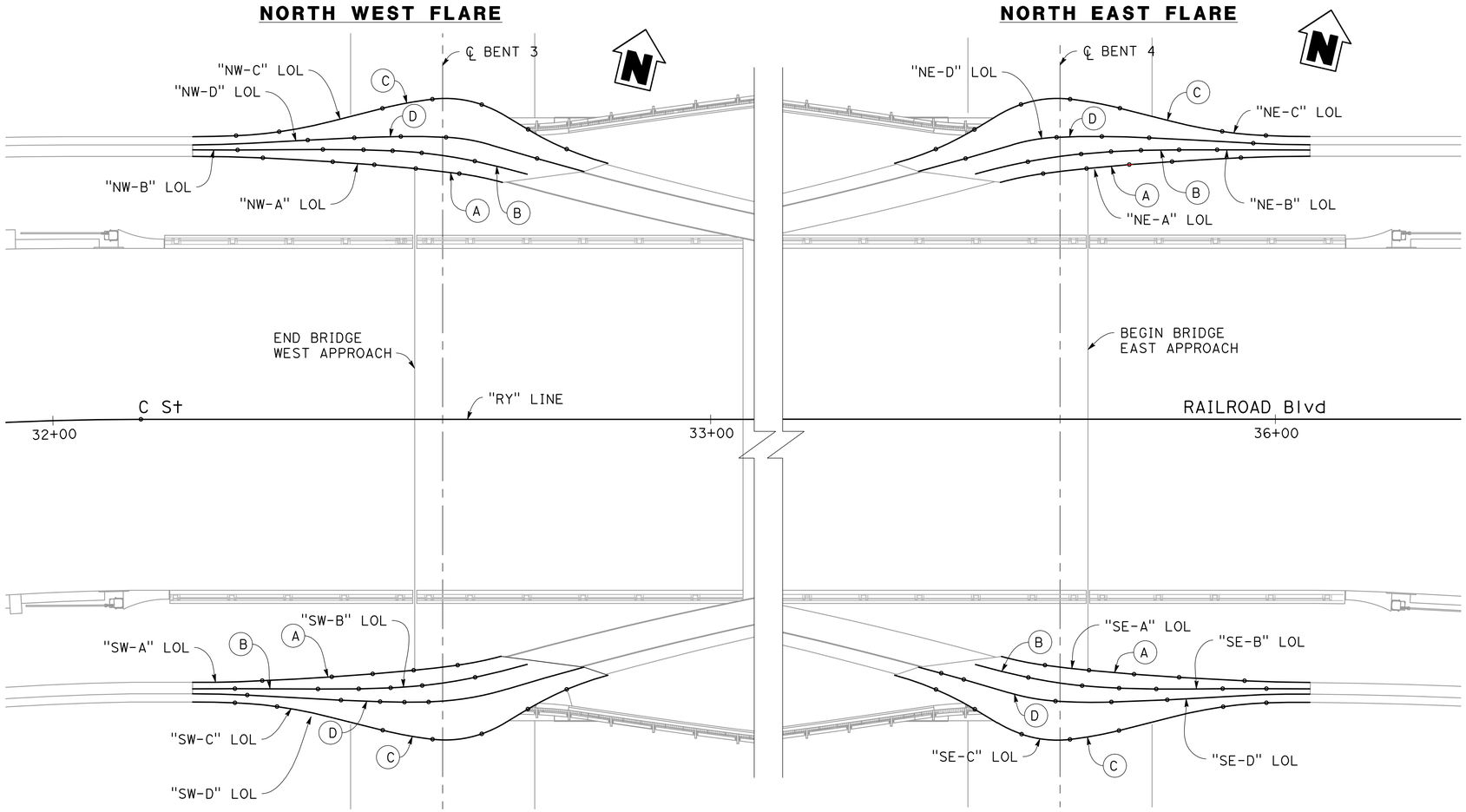
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
DECK DRAINAGE DETAILS

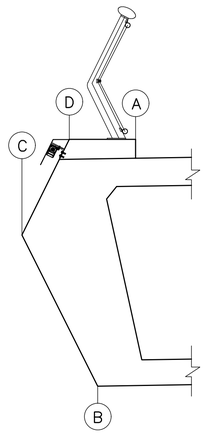
T15136000

SHEET 282 OF 648

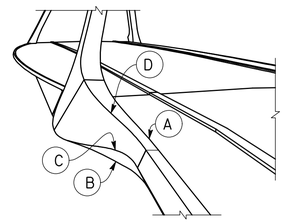
DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:07 PM

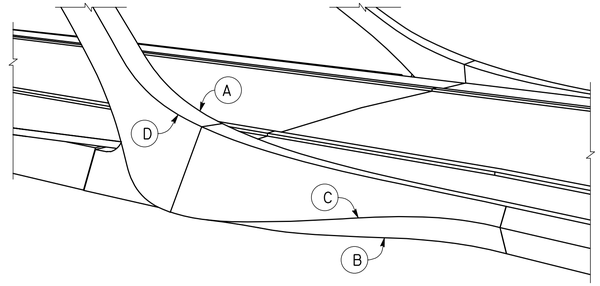


PLAN
1" = 10'



SECTION





ISOMETRIC VIEWS

EXTERIOR GIRDER FLARE
NO SCALE

LEGEND:

◯ Indicates working point on the exterior girder

(NOT FOR CONSTRUCTION)

S-41

TIME PLOTTED => 1:08 PM
DATE PLOTTED => 3-Nov-25

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

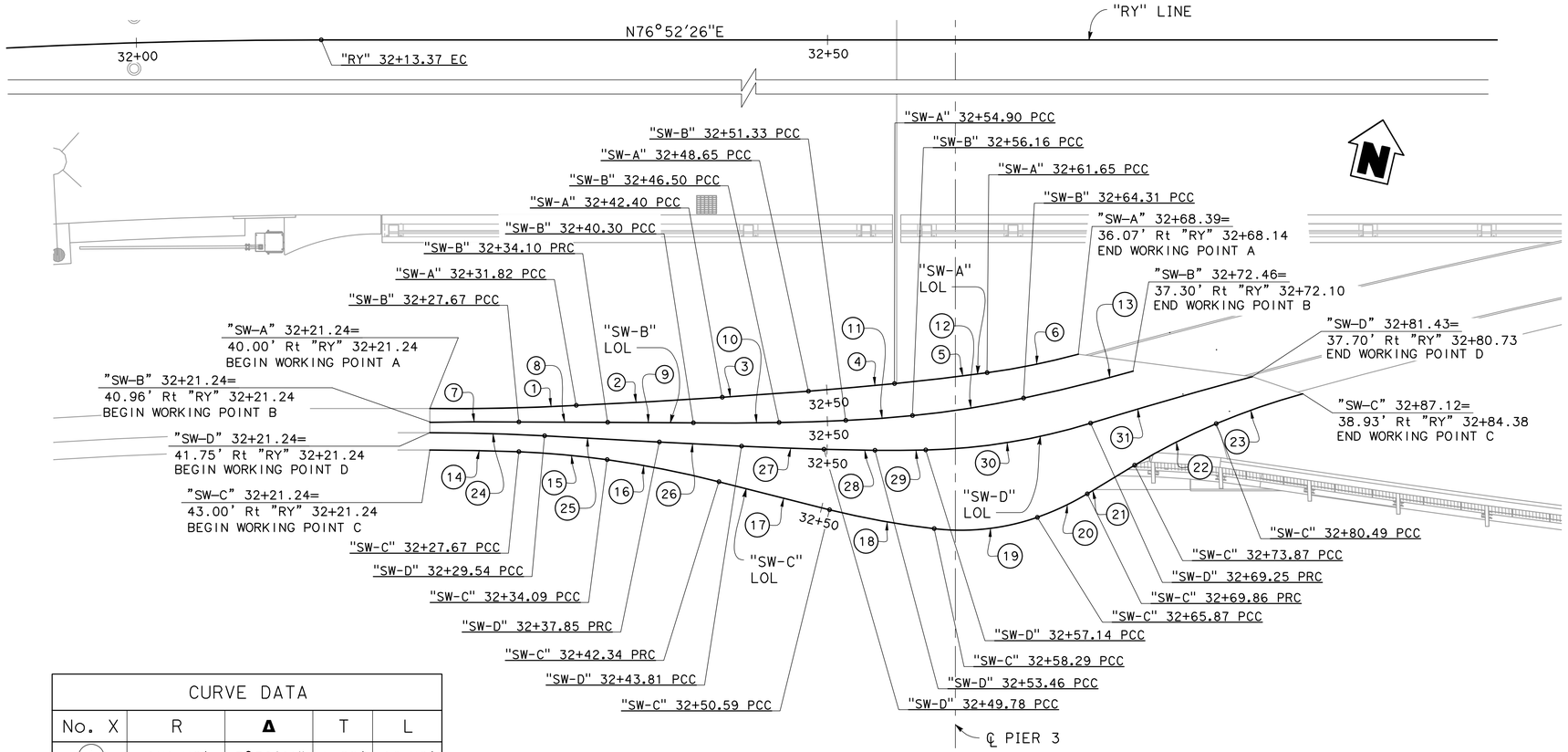
DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
EXTERIOR GIRDER ARCHITECTURAL
FLARE LAYOUT

T15136000

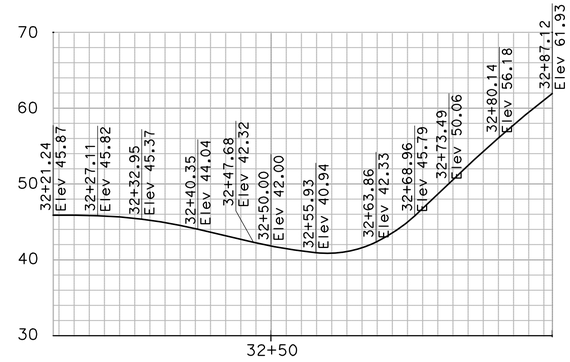
SHEET 283 OF 648



SOUTH WEST FLARE PLAN
1" = 5'

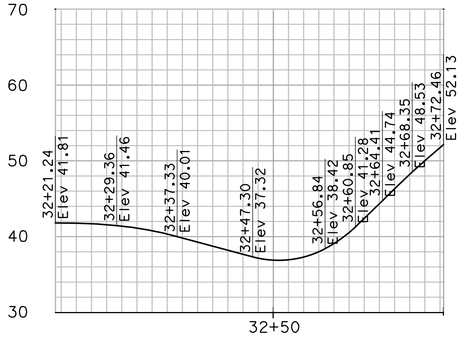
CURVE DATA				
No. X	R	Δ	T	L
(1)	151.76'	3°59'41"	5.29'	10.58'
(2)	493.98'	1°13'38"	5.29'	10.58'
(3)	494.19'	0°43'29"	3.13'	6.25'
(4)	307.56'	1°09'52"	3.13'	6.25'
(5)	192.24'	2°00'39"	3.37'	6.75'
(6)	50.06'	7°42'37"	3.37'	6.74'
(7)	251.09'	1°28'02"	3.22'	6.43'
(8)	1772.09'	0°12'28"	3.22'	6.43'
(9)	11074.46'	0°01'55"	3.10'	6.20'
(10)	292.69'	1°12'49"	3.10'	6.20'
(11)	86.14'	3°12'43"	2.41'	4.83'
(12)	74.36'	6°16'43"	4.08'	8.15'
(13)	127.39'	3°40'03"	4.08'	8.15'
(15)	64.49'	5°42'30"	3.22'	6.42'
(16)	73.43'	6°25'50"	4.13'	8.24'
(17)	999.98'	0°28'22"	4.13'	8.25'
(18)	60.53'	7°17'20"	3.86'	7.70'

CURVE DATA				
No. X	R	Δ	T	L
(19)	16.81'	25°49'42"	3.86'	7.58'
(20)	18.99'	12°02'30"	2.00'	3.99'
(21)	2556.88'	0°05'23"	2.00'	4.01'
(22)	45.23'	8°23'35"	3.32'	6.63'
(23)	51.39'	7°23'24"	3.32'	6.63'
(24)	157.60'	3°01'07"	4.15'	8.30'
(25)	4070.56'	0°07'01"	4.15'	8.31'
(26)	932.94'	0°21'59"	2.98'	5.96'
(27)	294.33'	1°09'39"	2.98'	5.96'
(28)	208.91'	1°00'37"	1.84'	3.68'
(29)	105.88'	1°59'35"	1.84'	3.68'
(30)	44.27'	15°40'15"	6.09'	12.11'
(31)	338.93'	2°03'35"	6.09'	12.18'



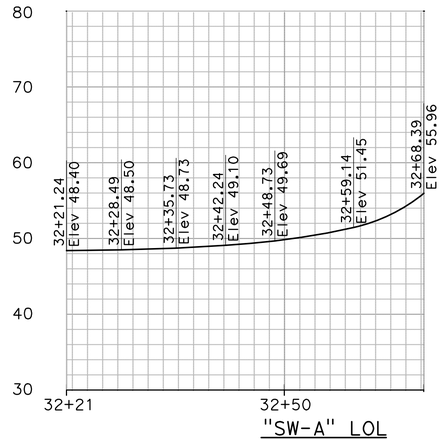
"SW-B" LOL

PROFILE WORKING POINT B
1" = 10'



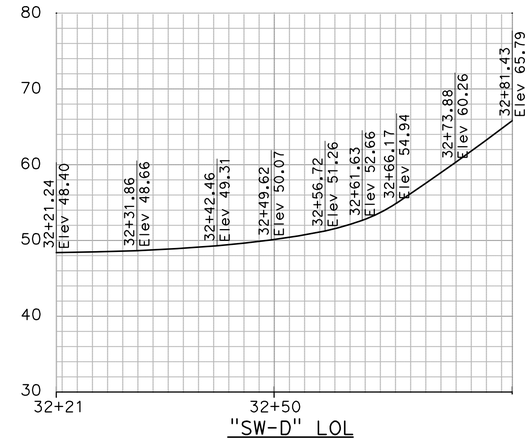
"SW-C" LOL

PROFILE WORKING POINT C
1" = 10'



"SW-A" LOL

PROFILE WORKING POINT A
1" = 10'



"SW-D" LOL

PROFILE WORKING POINT D
1" = 10'

(NOT FOR CONSTRUCTION)

S-42

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:10 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

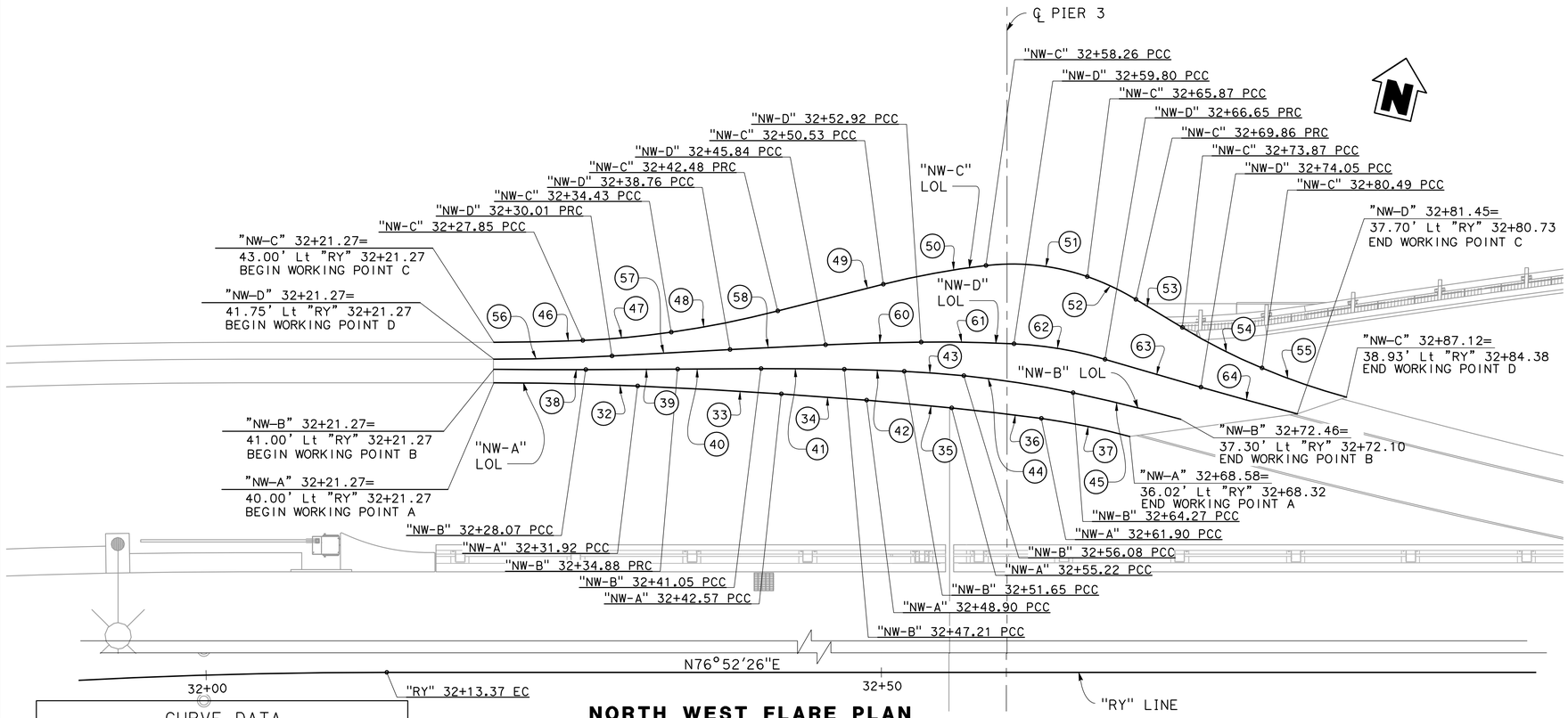
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 1

T15136000

SHEET 284 OF 648

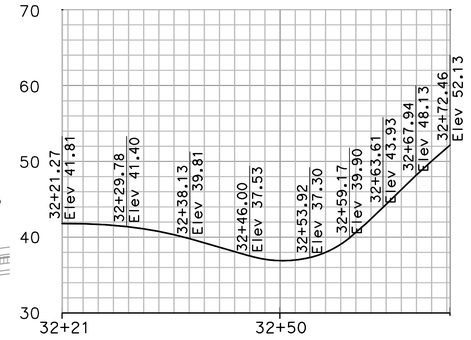


NORTH WEST FLARE PLAN

1" = 5'

CURVE DATA				
No. X	R	Δ	T	L
(32)	236.99'	2°34'29"	5.33'	10.65'
(33)	492.92'	1°14'17"	5.33'	10.65'
(34)	493.96'	0°44'02"	3.16'	6.33'
(35)	305.27'	1°11'14"	3.16'	6.33'
(36)	188.33'	2°01'59"	3.34'	6.68'
(37)	50.38'	7°35'21"	3.34'	6.67'
(38)	274.42'	1°25'14"	3.40'	6.80'
(39)	2002.24'	0°11'41"	3.40'	6.80'
(40)	3657.74'	0°05'48"	3.08'	6.17'
(41)	259.47'	1°21'43"	3.08'	6.17'
(42)	152.92'	1°39'40"	2.22'	4.43'
(43)	85.70'	2°57'50"	2.22'	4.43'
(44)	74.32'	6°18'46"	4.10'	8.19'
(45)	127.12'	3°41'35"	4.10'	8.19'
(46)	159.43'	2°21'53"	3.29'	6.58'
(47)	64.28'	5°51'39"	3.29'	6.58'
(48)	74.44'	6°11'44"	4.03'	8.05'

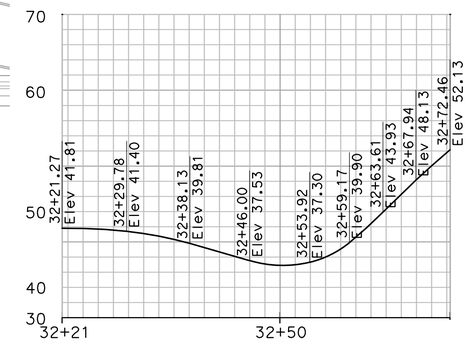
CURVE DATA				
No. X	R	Δ	T	L
(49)	991.77'	0°27'56"	4.03'	8.06'
(50)	61.24'	7°14'05"	3.87'	7.73'
(51)	16.82'	25°55'21"	3.87'	7.61'
(52)	18.99'	12°02'14"	2.00'	3.99'
(53)	2261.36'	0°06'05"	2.00'	4.01'
(54)	45.22'	8°23'28"	3.32'	6.62'
(55)	51.39'	7°23'11"	3.32'	6.63'
(56)	160.33'	3°07'29"	4.37'	8.74'
(57)	20661.92'	0°01'27"	4.37'	8.75'
(58)	764.46'	0°31'50"	3.54'	7.08'
(60)	214.49'	1°53'28"	3.54'	7.08'
(61)	114.95'	3°25'48"	3.44'	6.88'
(62)	28.23'	13°54'08"	3.44'	6.85'
(63)	550.76'	0°46'10"	3.70'	7.40'
(64)	481.16'	0°52'51"	3.70'	7.40'



"NW-B" LOL

PROFILE WORKING POINT B

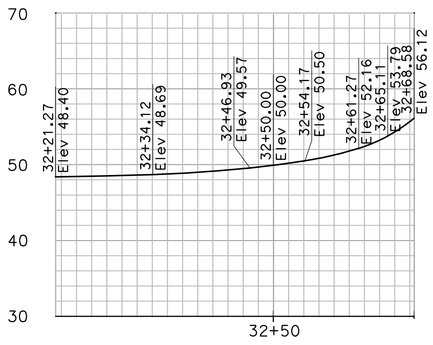
1" = 10'



"NW-C" LOL

PROFILE WORKING POINT C

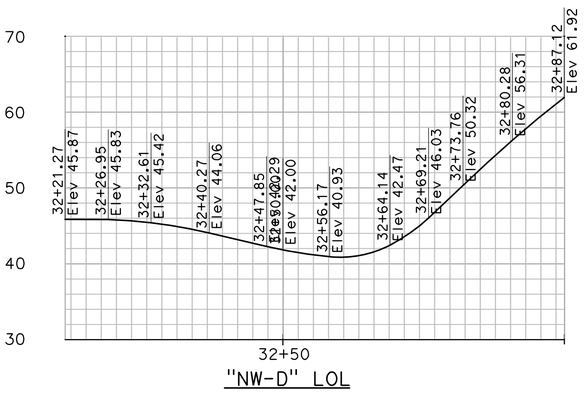
1" = 10'



"NW-A" LOL

PROFILE WORKING POINT A

1" = 10'



"NW-D" LOL

PROFILE WORKING POINT D

1" = 10'

(NOT FOR CONSTRUCTION)

S-43

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:11 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT

BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

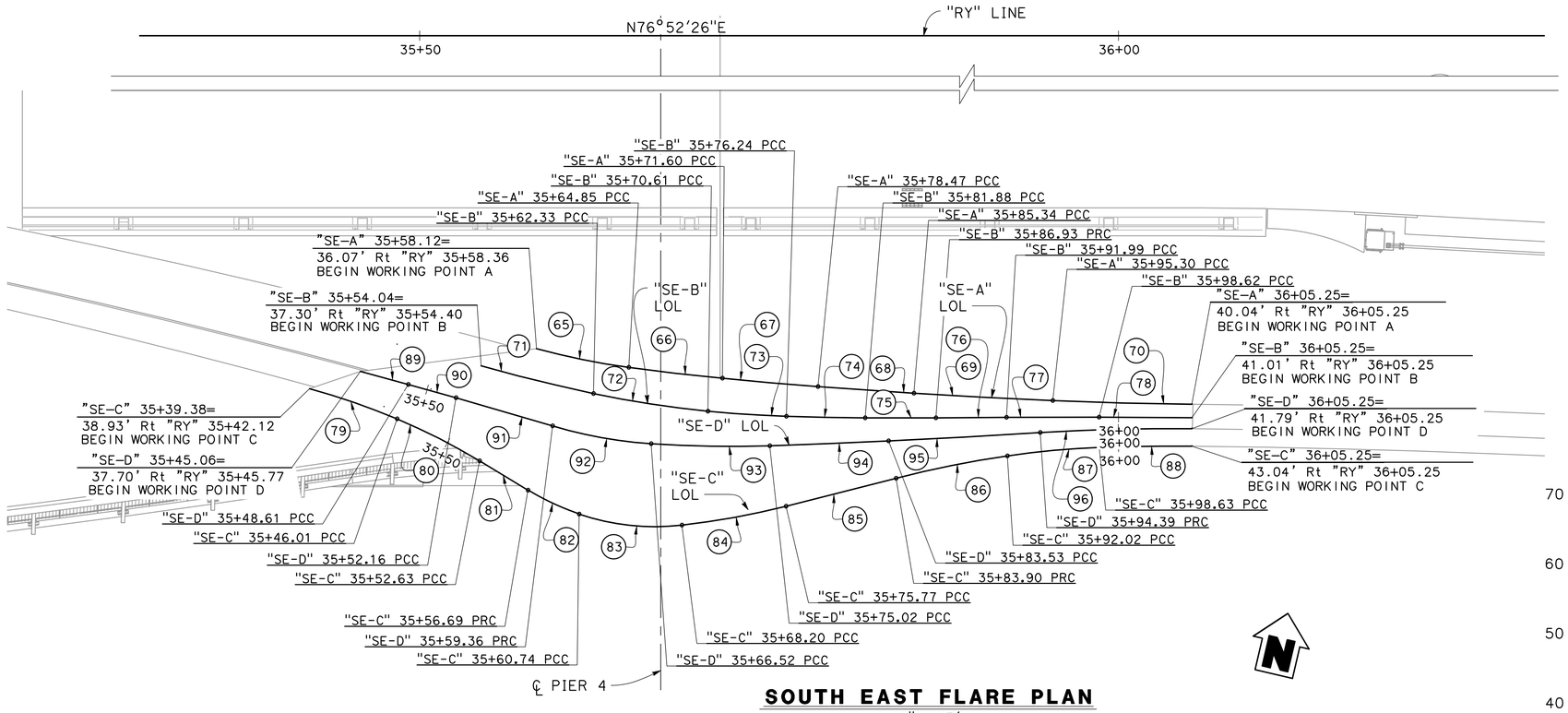
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

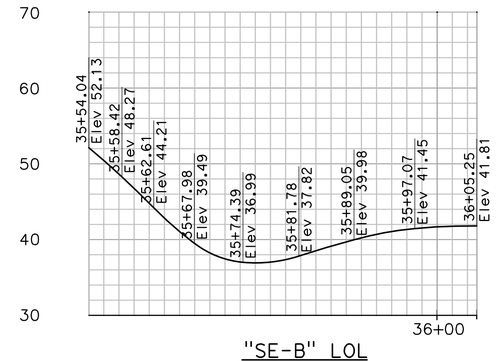
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 2

T15136000

SHEET 285 OF 648

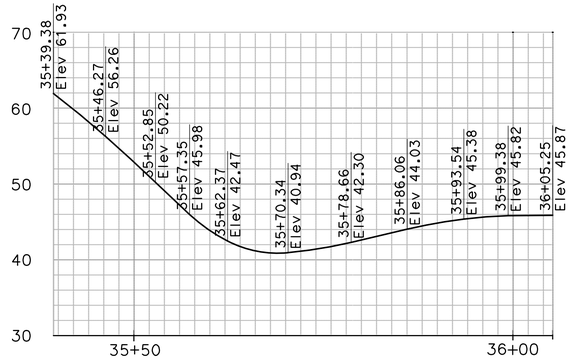


SOUTH EAST FLARE PLAN
1" = 5'



"SE-B" LOL

PROFILE WORKING POINT B
1" = 10'

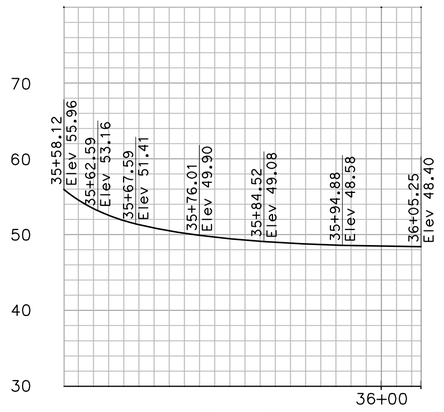


"SE-C" LOL

PROFILE WORKING POINT C
1" = 10'

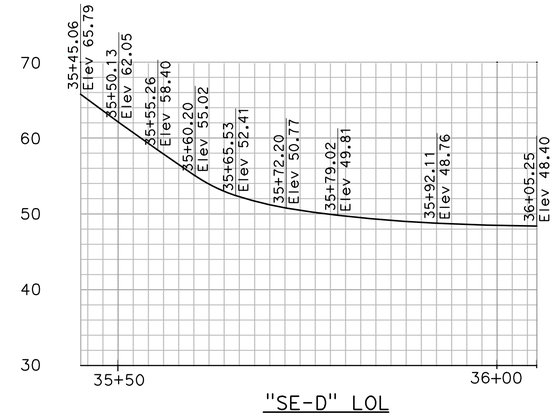
CURVE DATA				
No. X	R	Δ	T	L
65	49.87'	7°44'18"	3.37'	6.73'
66	192.19'	2°00'38"	3.37'	6.74'
67	314.63'	1°15'05"	3.44'	6.87'
68	522.92'	0°45'10"	3.44'	6.87'
69	475.67'	1°11'57"	4.98'	9.95'
70	317.44'	1°47'48"	4.98'	9.95'
71	126.64'	3°44'52"	4.14'	8.28'
72	74.06'	6°24'14"	4.14'	8.28'
73	89.05'	3°37'35"	2.82'	5.64'
74	204.51'	1°34'46"	2.82'	5.64'
75	387.65'	0°44'49"	2.53'	5.05'
76	7427.04'	0°02'20"	2.53'	5.05'
77	1022.57'	0°22'18"	3.32'	6.63'
78	650.43'	0°35'03"	3.32'	6.63'
79	51.39'	7°23'19"	3.32'	6.63'
80	45.22'	8°23'33"	3.32'	6.62'

CURVE DATA				
No. X	R	Δ	T	L
81	5551.95'	0°02'31"	2.03'	4.06'
82	18.79'	12°19'29"	2.03'	4.04'
83	16.81'	25°26'03"	3.79'	7.46'
84	59.14'	7°20'20"	3.79'	7.58'
85	697.35'	0°40'04"	4.06'	8.13'
86	73.65'	6°18'55"	4.06'	8.12'
87	62.49'	6°03'54"	3.31'	6.61'
88	134.90'	2°48'41"	3.31'	6.62'
89	482.85'	0°25'15"	1.77'	3.55'
90	500.87'	0°24'21"	1.77'	3.55'
91	482.54'	0°51'17"	3.60'	7.20'
92	31.89'	12°52'43"	3.60'	7.17'
93	86.12'	5°39'15"	4.25'	8.50'
94	524.62'	0°55'44"	4.25'	8.51'
95	795.17'	0°46'58"	5.43'	10.86'
96	149.26'	4°10'06"	5.43'	10.86'



"SE-A" LOL

PROFILE WORKING POINT A
1" = 10'



"SE-D" LOL

PROFILE WORKING POINT D
1" = 10'

(NOT FOR CONSTRUCTION)

S-44

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:11 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

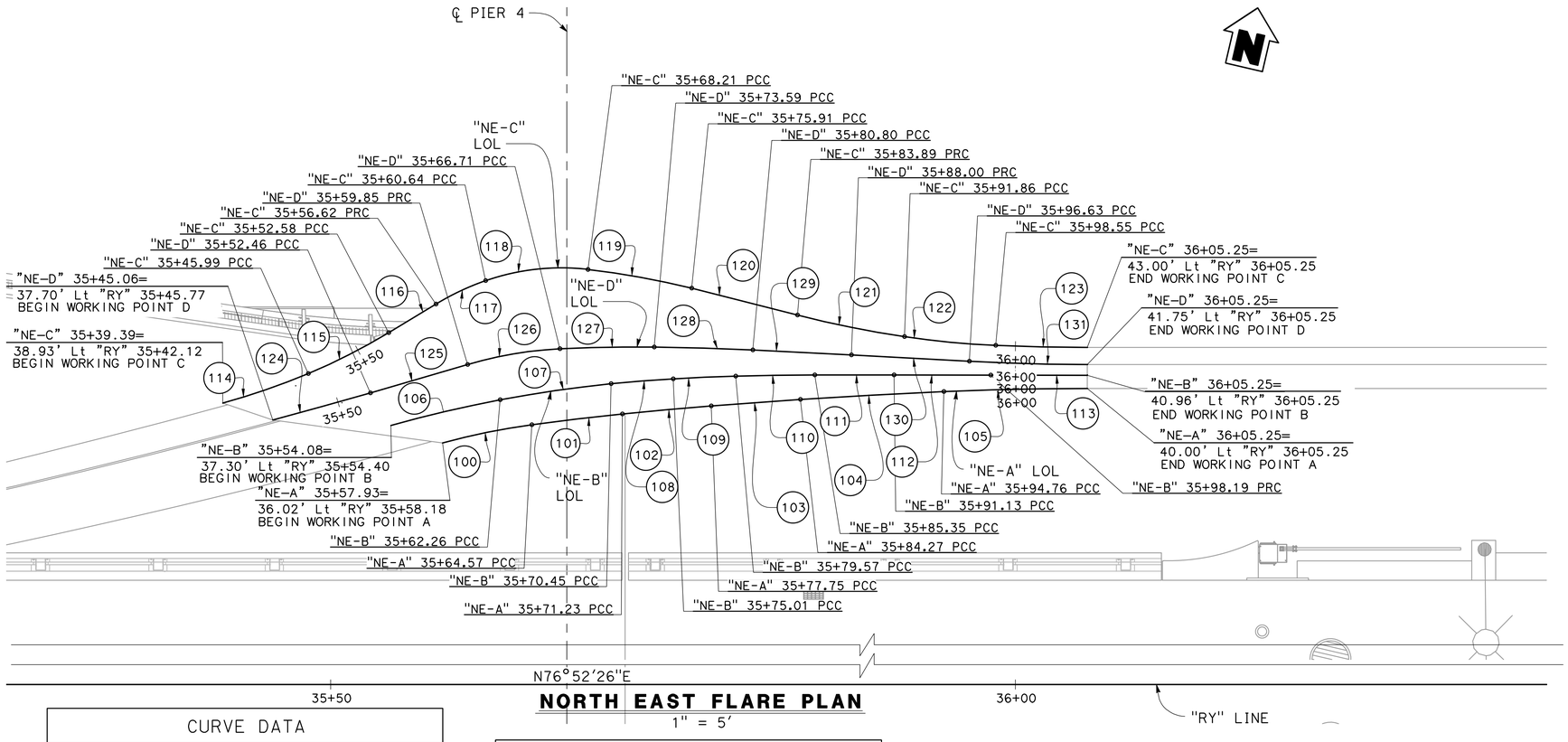
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 3

T15136000

SHEET 286 OF 648

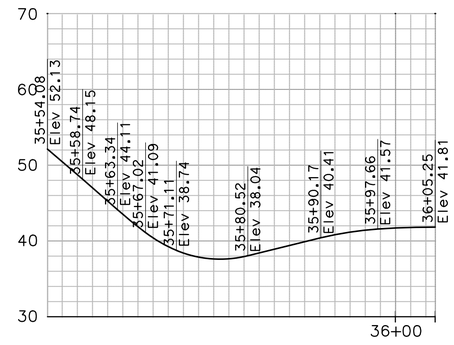


NORTH EAST FLARE PLAN

1" = 5'

CURVE DATA				
No. X	R	Δ	T	L
100	50.32′	7°34′03"	3.33′	6.65′
101	186.65′	2°02′35"	3.33′	6.66′
102	305.58′	1°13′22"	3.26′	6.52′
103	498.43′	0°44′59"	3.26′	6.52′
104	488.72′	1°13′47"	5.24′	10.49′
105	236.27′	2°32′35"	5.24′	10.49′
106	93.45′	5°01′11"	4.10′	8.19′
107	95.89′	4°53′31"	4.10′	8.19′
108	102.79′	2°32′27"	2.28′	4.56′
109	154.64′	1°41′20"	2.28′	4.56′
110	236.52′	1°24′03"	2.89′	5.78′
111	1126.16′	0°17′39"	2.89′	5.78′
112	858007.33′	0°00′02"	3.53′	7.06′
113	3409.12′	0°07′07"	3.53′	7.06′
114	51.44′	7°21′01"	3.30′	6.60′
115	45.15′	8°22′11"	3.30′	6.60′
116	1022.60′	0°13′34"	2.02′	4.03′

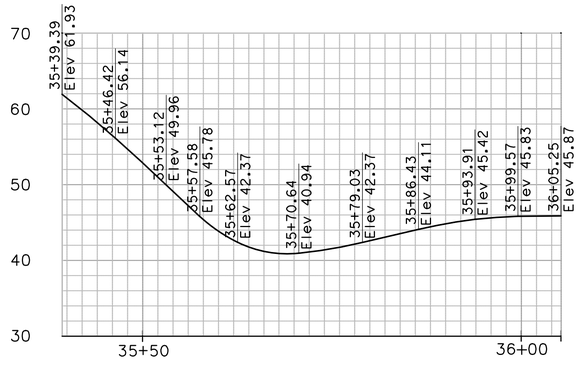
CURVE DATA				
No. X	R	Δ	T	L
117	19.01′	12°06′34"	2.02′	4.02′
118	16.81′	25°49′48"	3.85′	7.58′
119	60.49′	7°17′31"	3.85′	7.70′
121	75.33′	6°03′46"	3.99′	7.97′
122	64.21′	5°58′18"	3.35′	6.69′
123	157.02′	2°26′38"	3.35′	6.70′
124	480.98′	0°52′53"	3.70′	7.40′
125	551.46′	0°46′07"	3.70′	7.40′
126	28.23′	13°54′23"	3.44′	6.85′
127	115.12′	3°25′35"	3.44′	6.88′
128	215.60′	1°54′52"	3.60′	7.20′
129	796.61′	0°31′05"	3.60′	7.20′
130	32888.78′	0°00′54"	4.31′	8.63′
131	159.54′	3°05′50"	4.31′	8.62′



"NE-B" LOL

PROFILE WORKING POINT B

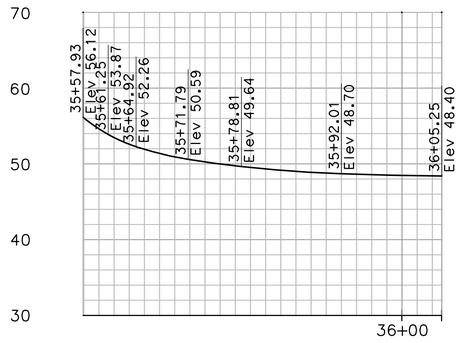
1" = 10'



"NE-C" LOL

PROFILE WORKING POINT C

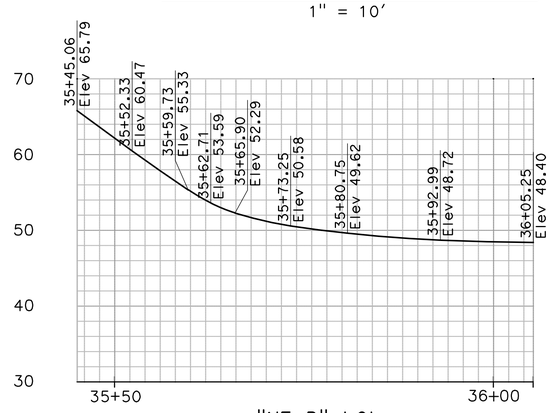
1" = 10'



"NE-A" LOL

PROFILE WORKING POINT A

1" = 10'



"NE-D" LOL

PROFILE WORKING POINT D

1" = 10'

(NOT FOR CONSTRUCTION)

S-45

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:12 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT

BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

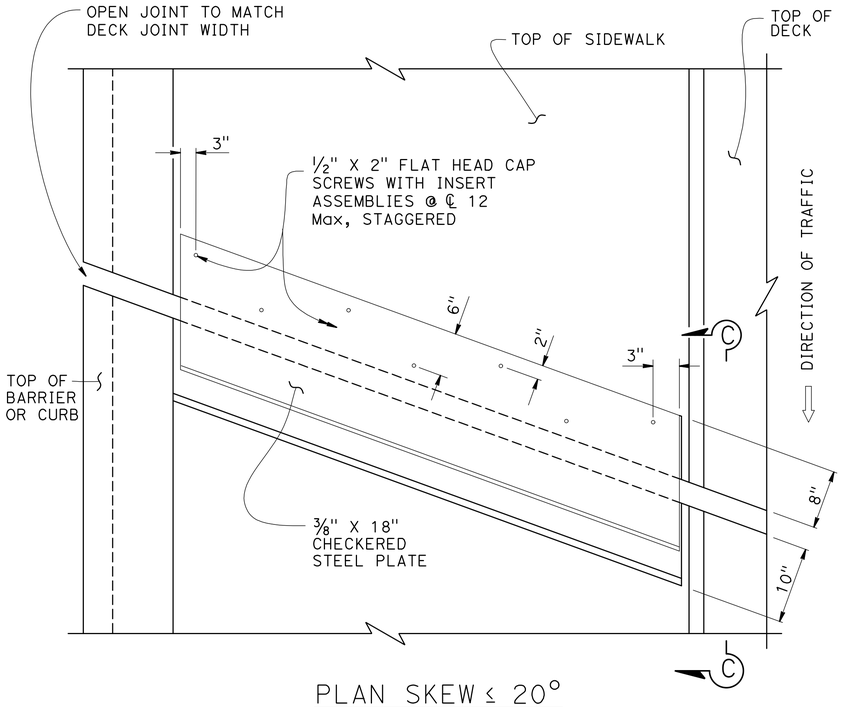
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

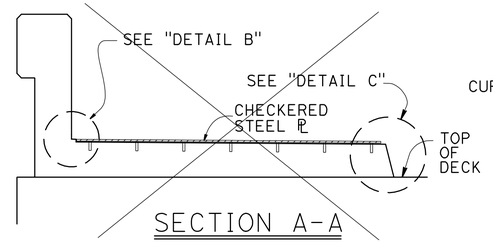
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER EXTERIOR GIRDER ARCHITECTURAL FLARE DETAILS No. 4

T15136000

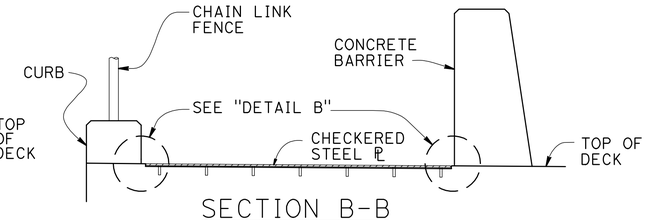
SHEET 287 OF 648



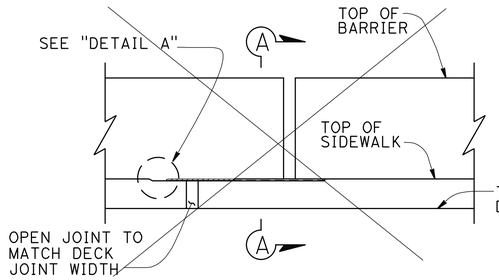
PLAN SKEW ≤ 20°



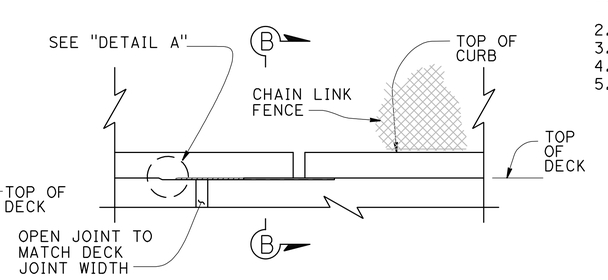
SECTION A-A



SECTION B-B



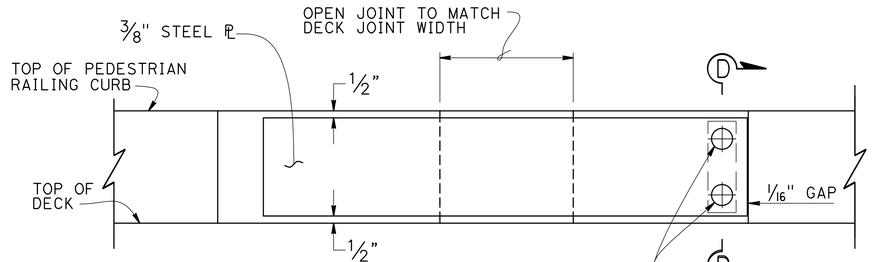
ELEVATION



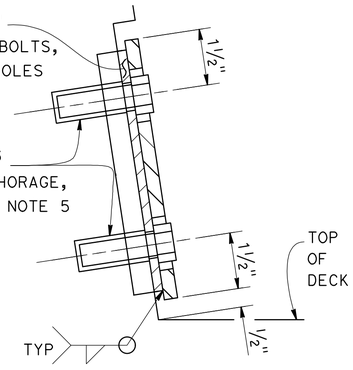
ELEVATION

NOTE: Barrier not shown for clarity

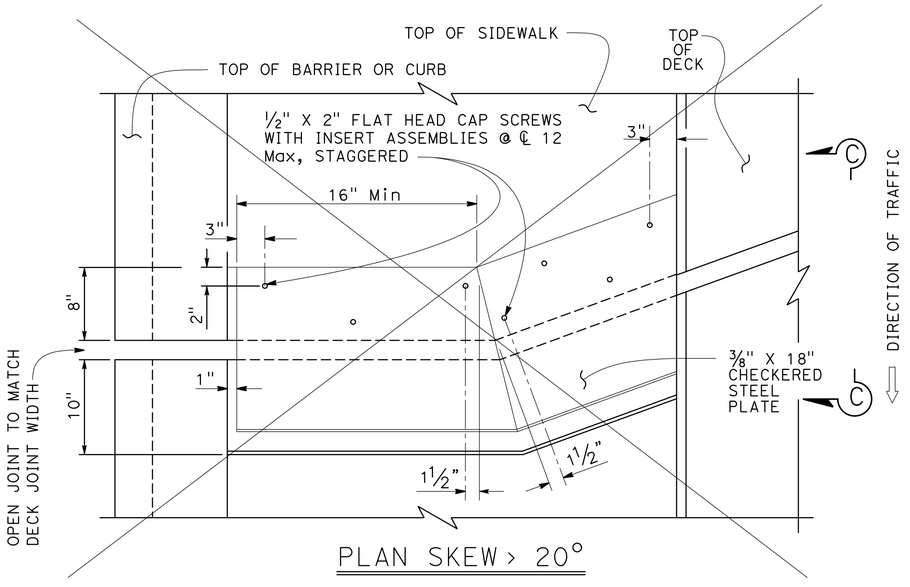
NOTES:
1. Utility openings and expansion joints not shown for clarity.
2. Recess concrete ½" for plates.
3. Plates to be galvanized.
4. Architectural treatment not shown.
5. Insert assembly or expansion anchorage for ⅝" x 1¾" bolts. Use installation bolts extended ½" minimum past nut and coat with bond breaker. After concrete has cured, remove installation bolts, install HS bolts.



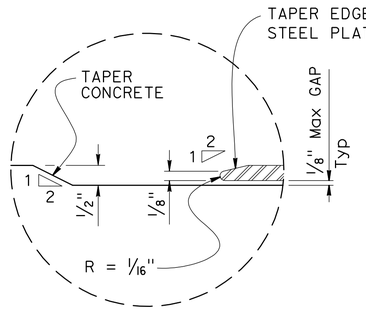
VIEW C-C



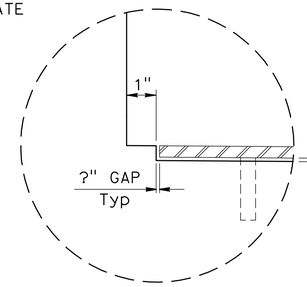
SECTION D-D



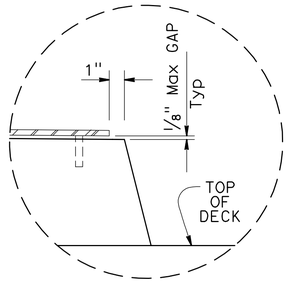
PLAN SKEW > 20°



DETAIL A



DETAIL B



DETAIL C

NO SCALE

(NOT FOR CONSTRUCTION)

S-46

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:12 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

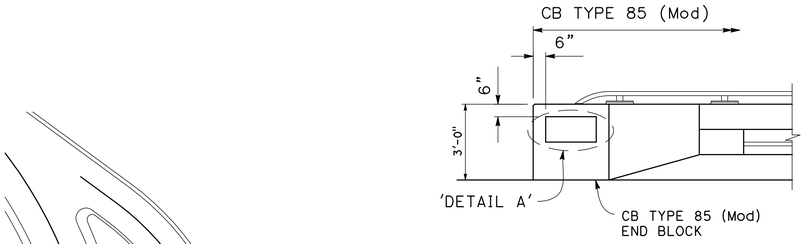
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
JOINT ARMOR FOR
PEDESTRIAN WALKWAYS

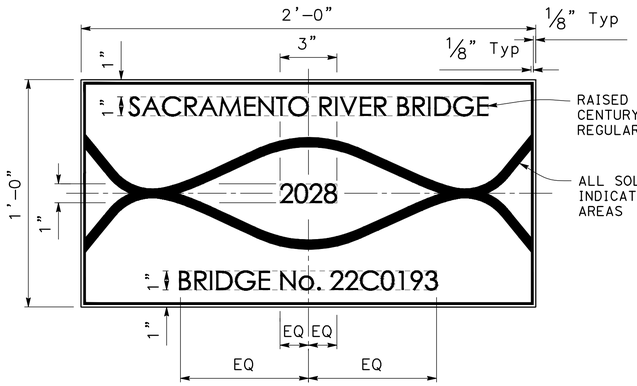
T15136000

SHEET 288 OF 648



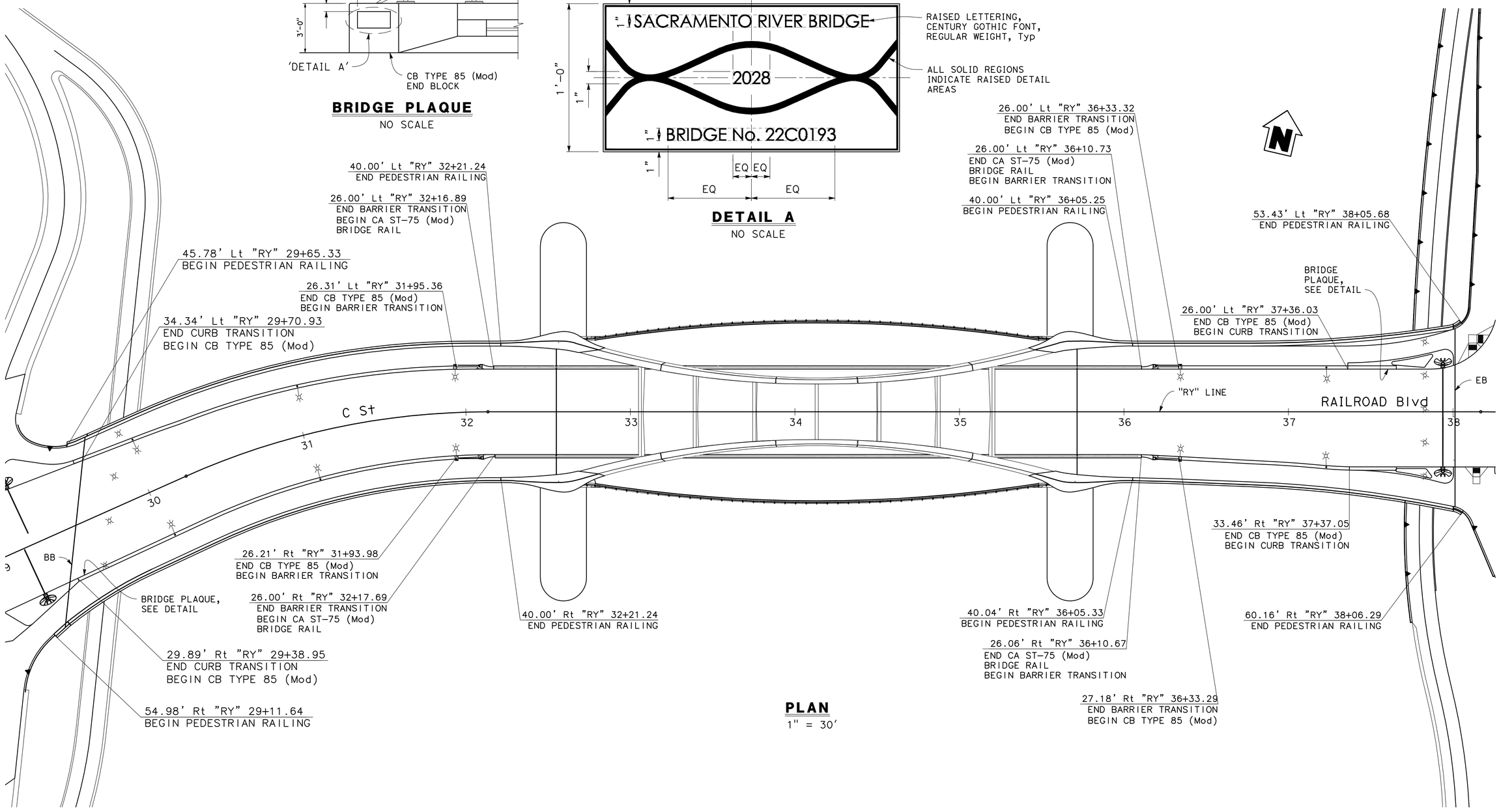
BRIDGE PLAQUE

NO SCALE



DETAIL A

NO SCALE



PLAN

1" = 30'

(NOT FOR CONSTRUCTION)

S-47

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:13 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25
CHECKED BY: H. YANG R.C.E. 92971 DATE 12-31-25

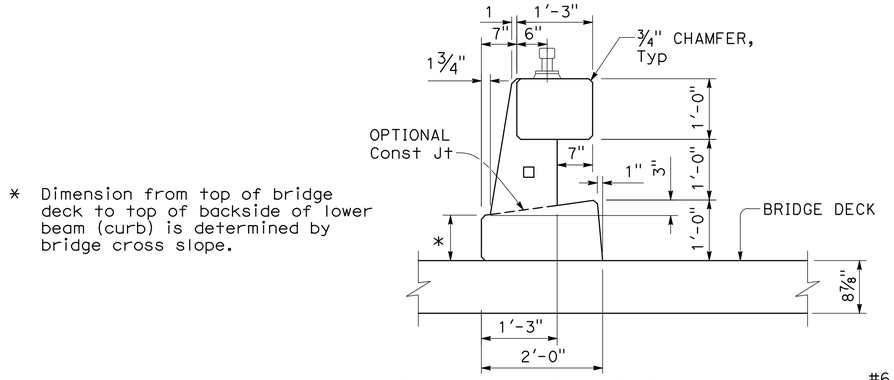
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

BRIDGE BARRIER KEY MAP

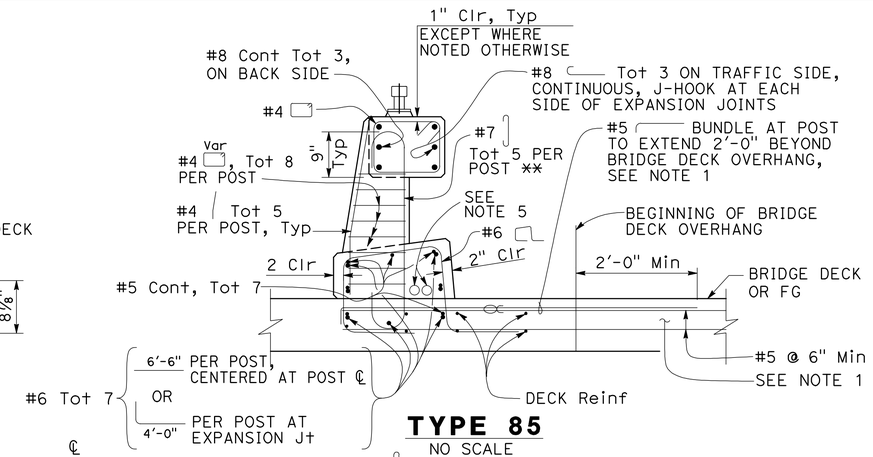
T15136000

SHEET 289 — OF — 648



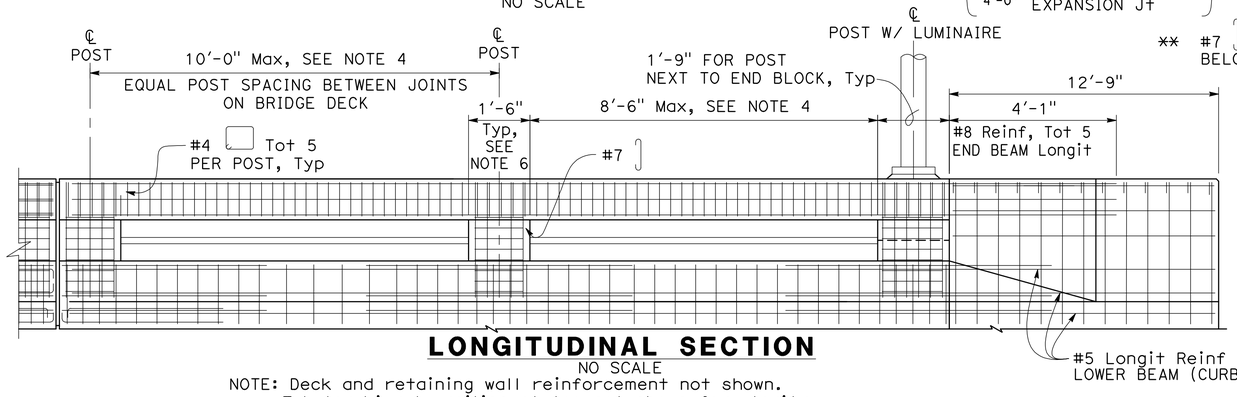
* Dimension from top of bridge deck to top of backside of lower beam (curb) is determined by bridge cross slope.

TYPICAL SECTION
NO SCALE



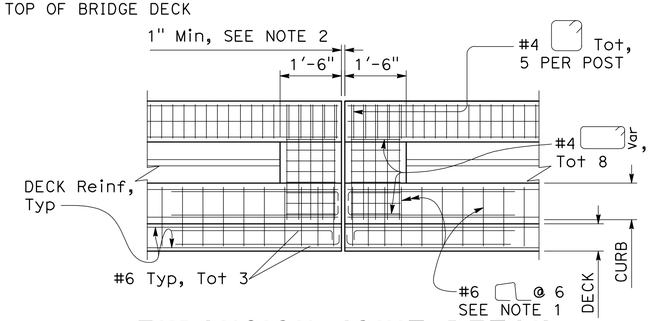
TYPE 85
NO SCALE

** #7 AT POST TO EXTEND 6" Min BELOW TOP OF BRIDGE DECK



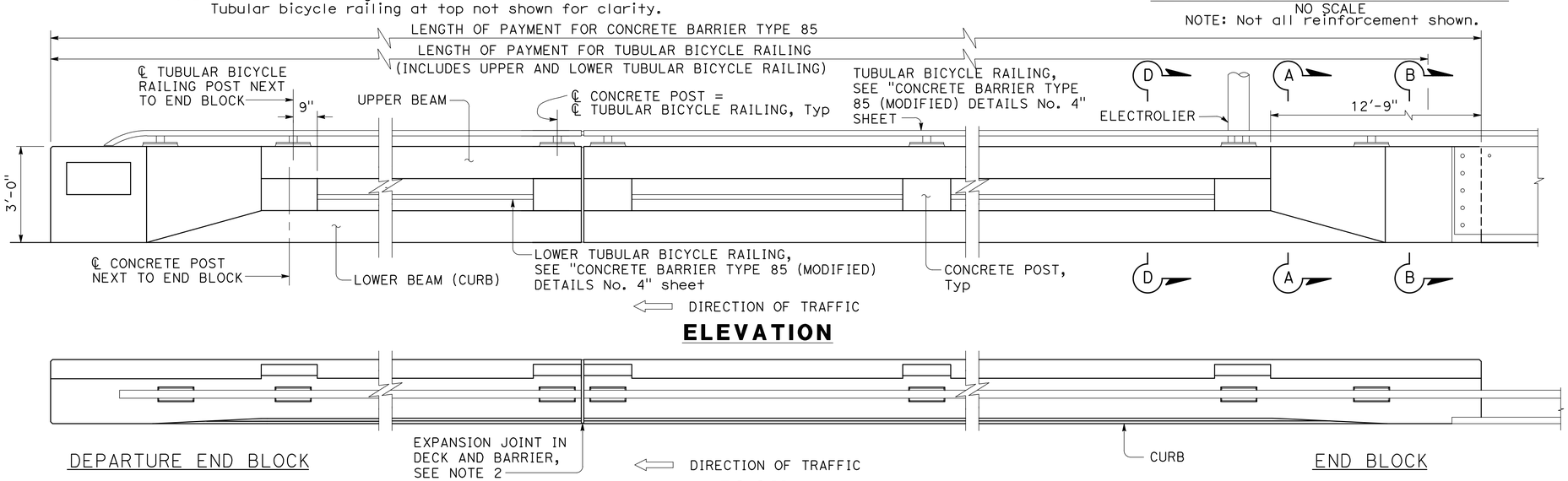
LONGITUDINAL SECTION
NO SCALE

NOTE: Deck and retaining wall reinforcement not shown.
Tubular bicycle railing at top not shown for clarity.



EXPANSION JOINT DETAIL
NO SCALE

NOTE: Not all reinforcement shown.



ELEVATION

PLAN
NO SCALE

NOTES:

1. For additional reinforcement details, see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 3" sheet.
2. Barrier expansion joint to match deck joint, 1" minimum.
3. Splicing in longitudinal rail reinforcing must be staggered. Lap splices must be completely outside the limits of concrete post. Butt welds are an acceptable alternative to lap splicing #8 bars.
4. Maximize post spacing, not to exceed 10'-0", while spacing posts equally between bridge joints.
5. The maximum number of conduits is limited to two 1½" ø and must be placed in front half of the lower beam (curb). See also Conduit in Bridge Railing detail on Standard Plan B14-3.
6. Width of concrete post supporting electrolier pedestal is 1'-8". For additional details, see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 2" sheet.
7. For Section A-A, Section B-B, and Section D-D. For additional details, see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 2" sheet.
8. Paint tubular bicycle railing and associated components white per project specifications.

(NOT FOR CONSTRUCTION)

S-48

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:14 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

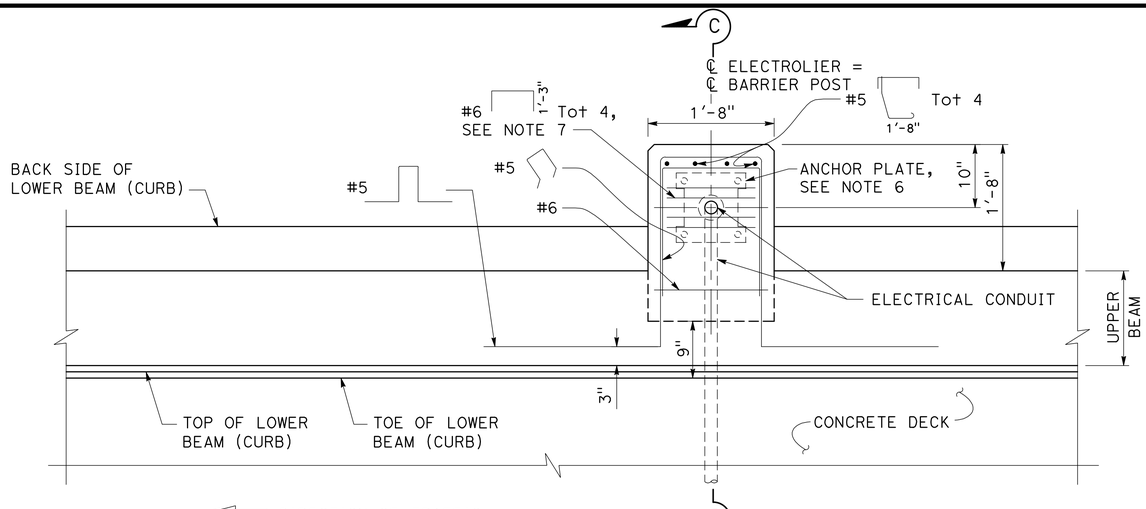
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25
CHECKED BY: H. YANG R.C.E. 92971 DATE 12-31-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

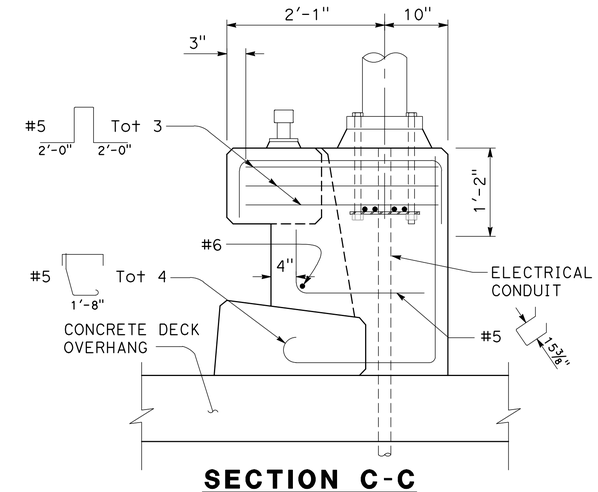
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 1

T15136000

SHEET 290 — OF — 648



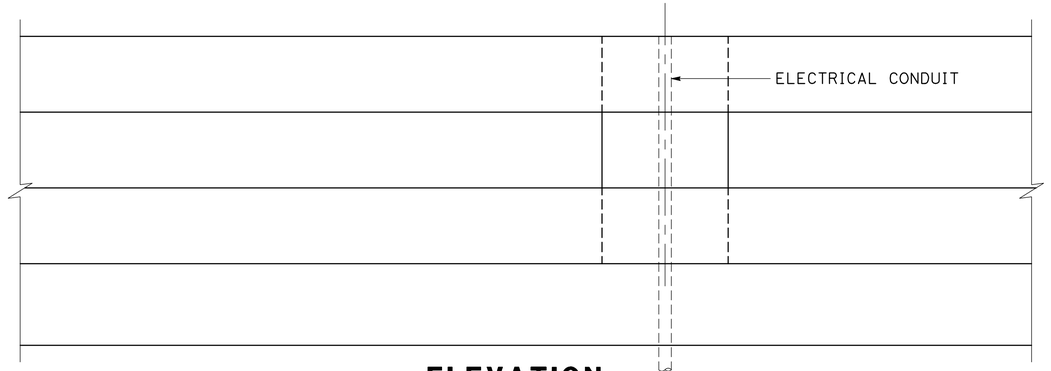
PLAN
NO SCALE
See Note 4



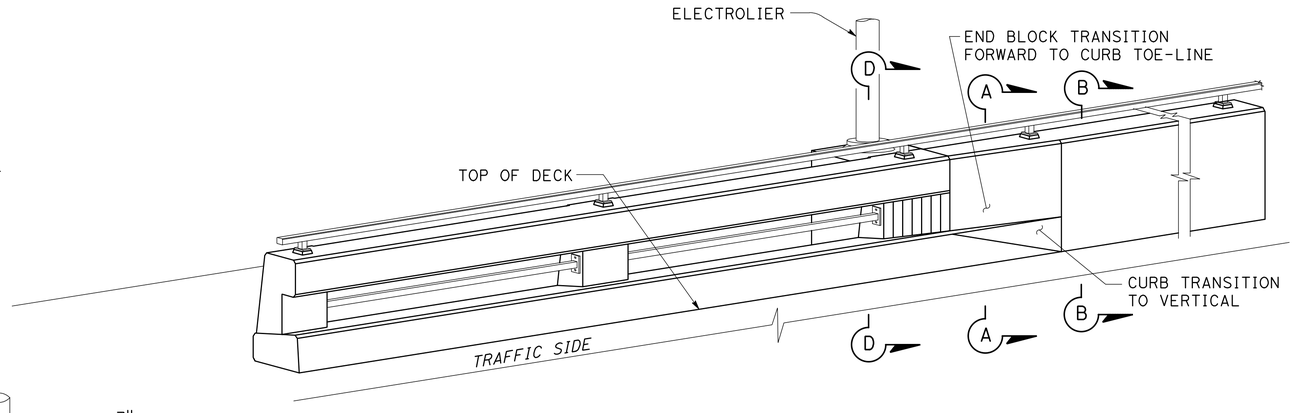
SECTION C-C
NO SCALE
See Note 6

NOTES:

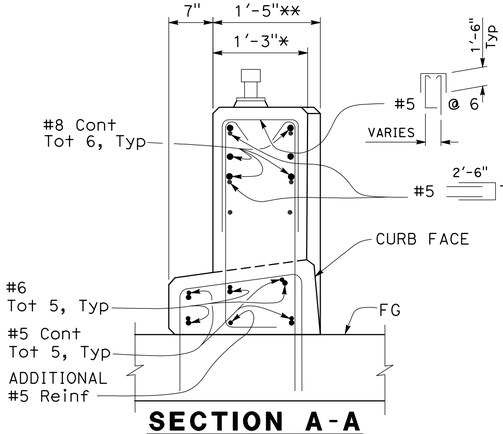
1. For details not shown, see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 1" and "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 3" sheets.
2. Section D-D is 1'-9" long as shown, only the reinforcement for post transition is shown.
3. For additional approach end block details, see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 5" sheet.
4. See Bridge Lighting sheets for electrical details.
5. Only the additional reinforcing for the electrolier pedestal is shown. For other reinforcement details, see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 1" and "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 3" sheets.
6. For electrolier mounting details, see Standards Plans ES-6A and ES-6B.
7. Place #6 reinforcement to clear conduit and anchor bolts.
8. Paint tubular bicycle railing and associated components white per project specifications.



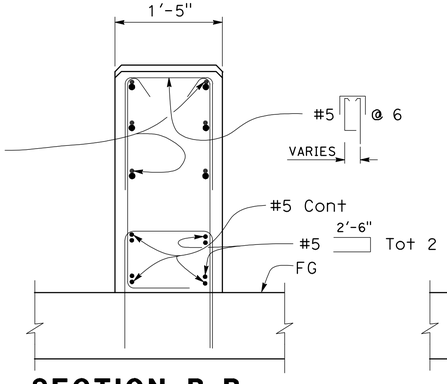
ELEVATION



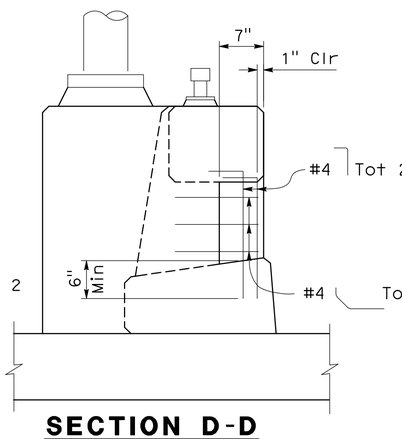
ISOMETRIC VIEW OF POST FACE TRANSITION TO END BLOCK AND DUAL END BLOCK CHAMFER
NO SCALE



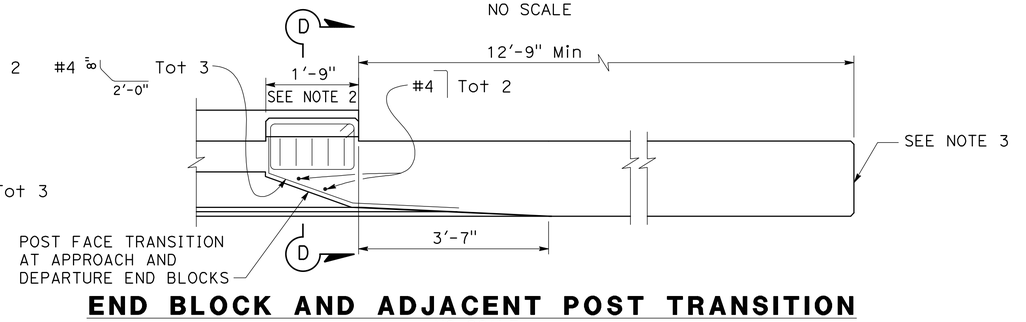
SECTION A-A
NO SCALE
* BEGIN BARRIER TRANSITION
** END BARRIER TRANSITION



SECTION B-B
NO SCALE



SECTION D-D
NO SCALE



END BLOCK AND ADJACENT POST TRANSITION
NO SCALE

(NOT FOR CONSTRUCTION)

S-49

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:14 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

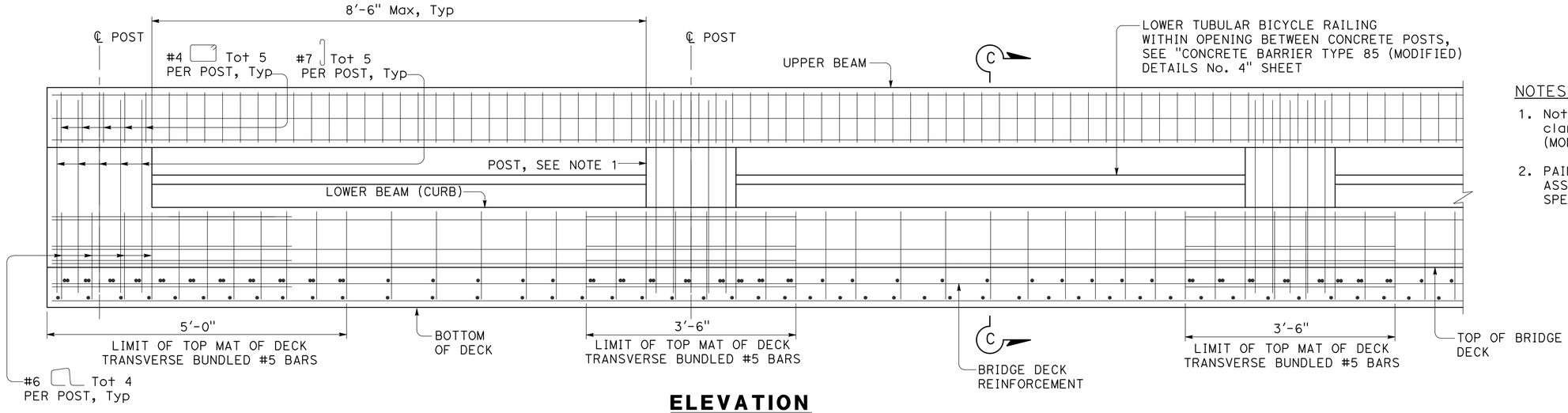
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25
CHECKED BY: H. YANG R.C.E. 92971 DATE 12-31-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
CONCRETE BARRIER TYPE 85
(MODIFIED) DETAILS No. 2

T15136000

SHEET 291 OF 648



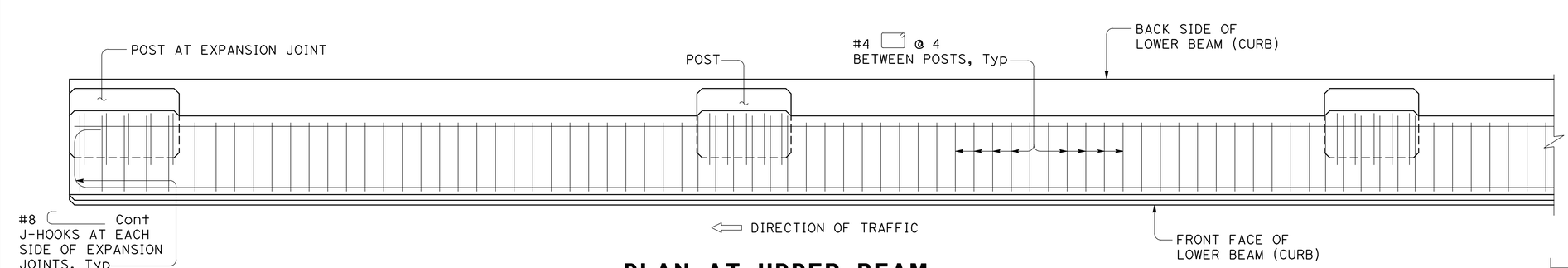
ELEVATION

NO SCALE

NOTE: Upper tubular bicycle railing not shown for clarity.

NOTES:

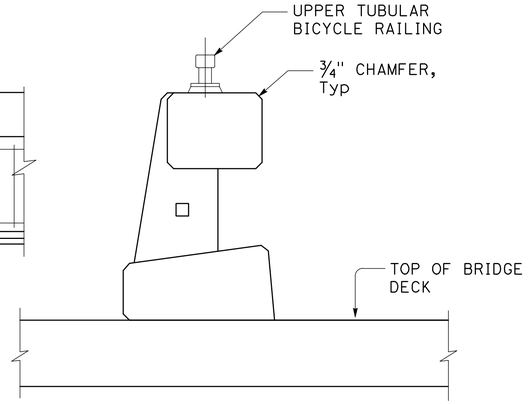
1. Not all post reinforcement is shown for clarity, see "CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 1" sheet.
2. PAINT TUBULAR BICYCLE RAILING AND ASSOCIATED COMPONENTS WHITE PER PROJECT SPECIFICATIONS.



PLAN AT UPPER BEAM

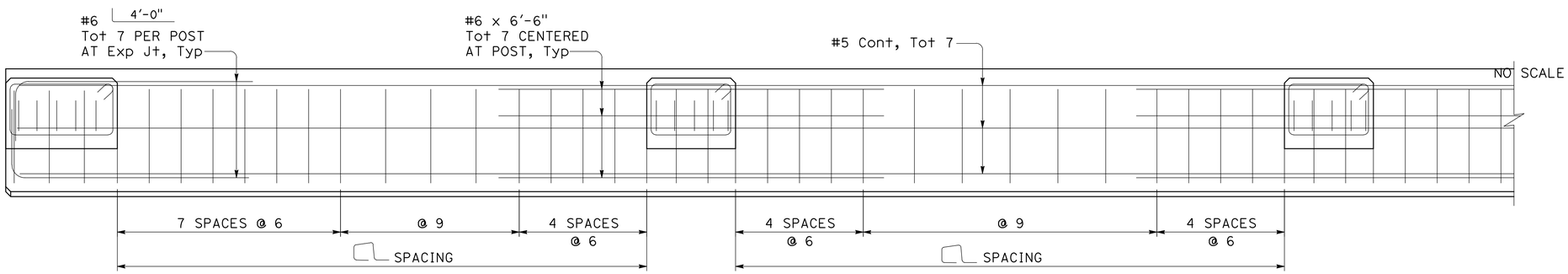
NO SCALE

NOTE: Upper tubular bicycle railing not shown for clarity.



SECTION C-C

NO SCALE



PLAN AT LOWER BEAM (CURB)

NO SCALE

(NOT FOR CONSTRUCTION)

S-50

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25
CHECKED BY: H. YANG R.C.E. 92971 DATE 12-31-25

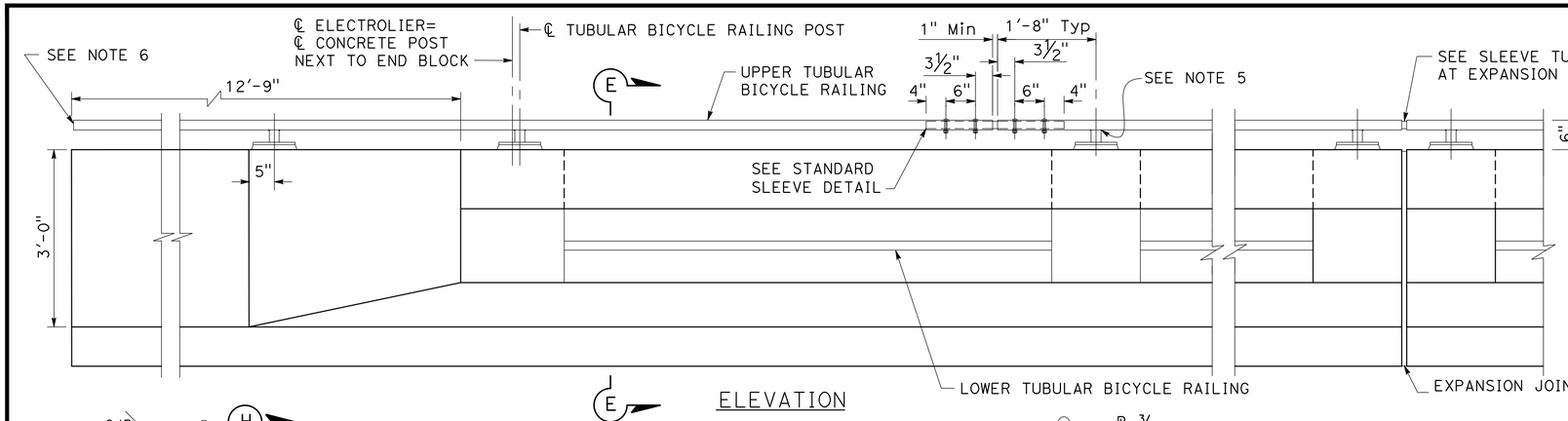
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 3

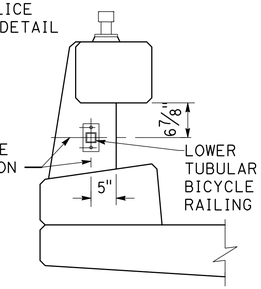
T15136000

SHEET 292 OF 648

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:14 PM



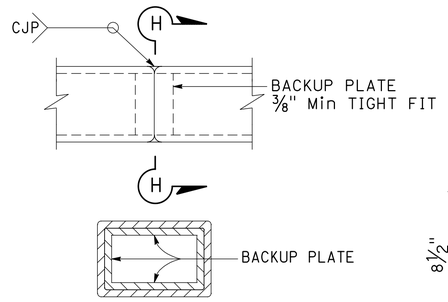
ELEVATION



SECTION E-E
NO SCALE

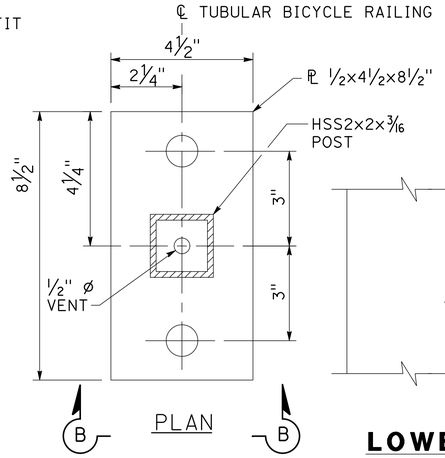
NOTES:

1. Adjust mortar pad thickness so that the base plate is level in the transverse cross sectional view, and is parallel to the top of the upper beam (parallel to profile grade) in the longitudinal direction.
2. Tube splices shall be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length accordingly.
3. Upper tubular bicycle railing shall be continuous over not less than two posts.
4. Use HS bolt ½" ø x 3⅝" with nut and washers, snug tightened, with thread locking mechanism.
5. Welded connection details between tubular bicycle railing and HSS2x2x3/16 post is shown. For bolted connection details, see Railing Connection Details on Standard Plan B11-220.
6. Provide expansion joint sleeves at locations where end block terminates for the pedestrian gate housing, see "BARRIER TRANSITION DETAILS" sheets.
7. Paint tubular bicycle railing and associated components white per project specifications.

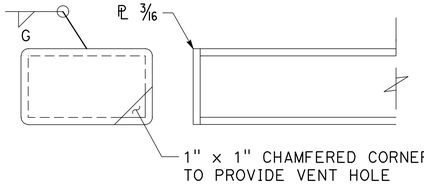


SECTION H-H

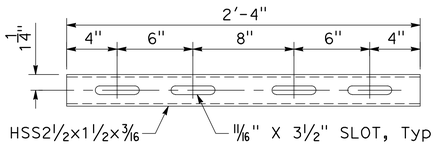
ALTERNATIVE TUBE WELDED STANDARD SPLICE
NO SCALE
NOTE: For splices not at expansion joints.



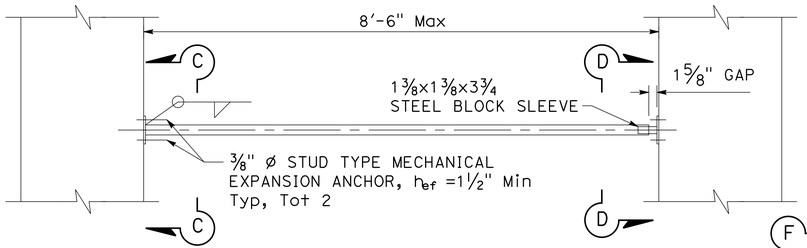
PLAN



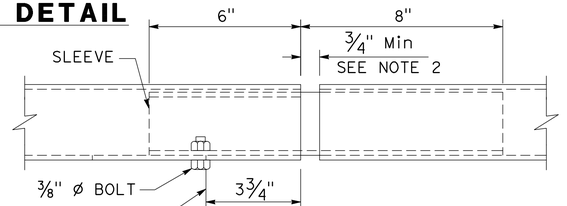
RAIL CAP DETAIL
NO SCALE



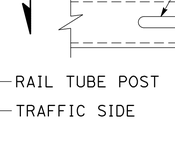
STANDARD SLEEVE DETAIL
NO SCALE
See Note 4



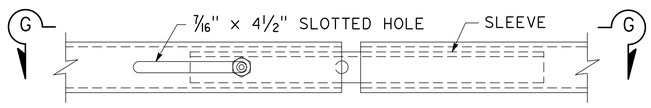
LOWER TUBULAR BICYCLE RAILING DETAIL
NO SCALE
h_{ef} = Effective Embedment Depth



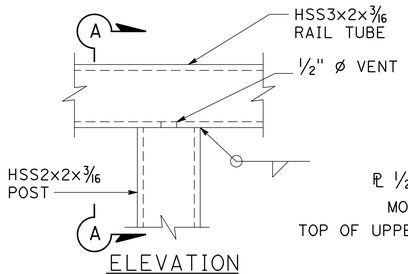
VIEW G-G
NO SCALE



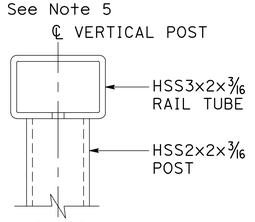
SECTION AT SLEEVE TUBE SPLICE AT EXPANSION JOINT
NO SCALE



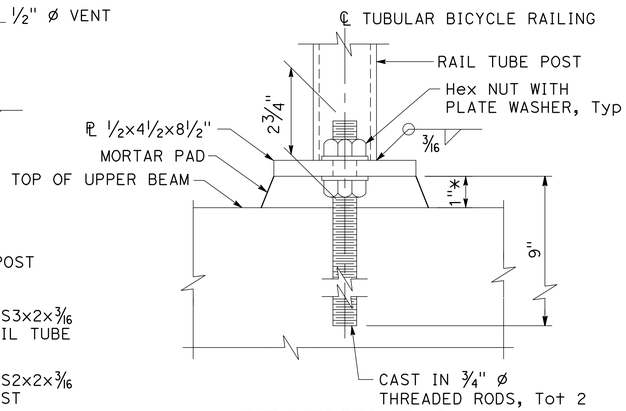
VIEW F-F
NO SCALE



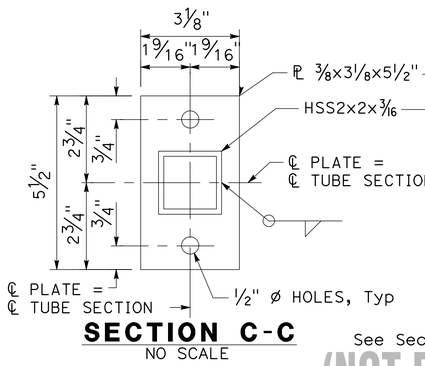
ELEVATION
See Note 5



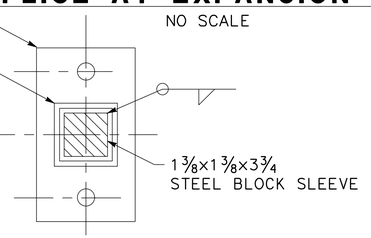
SECTION A-A
NO SCALE



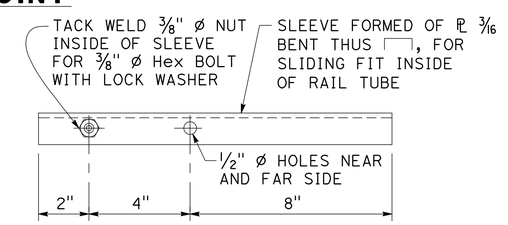
SECTION B-B
NO SCALE
* See Note 1



SECTION C-C
NO SCALE



SECTION D-D
NO SCALE
See Section C-C for details not shown.



SLEEVE TUBE SPLICE AT EXPANSION JOINT DETAIL
NO SCALE

TUBULAR BICYCLE RAILING DETAILS

(NOT FOR CONSTRUCTION)

S-51

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25
CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

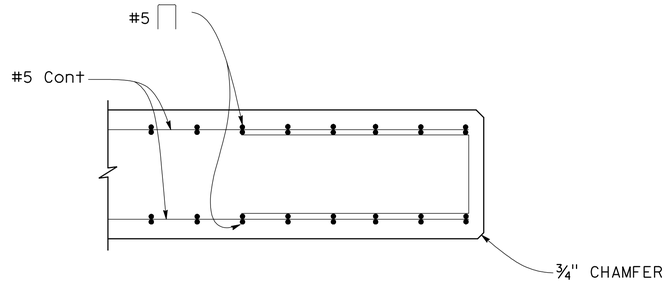
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
CONCRETE BARRIER TYPE 85
(MODIFIED) DETAILS No. 4

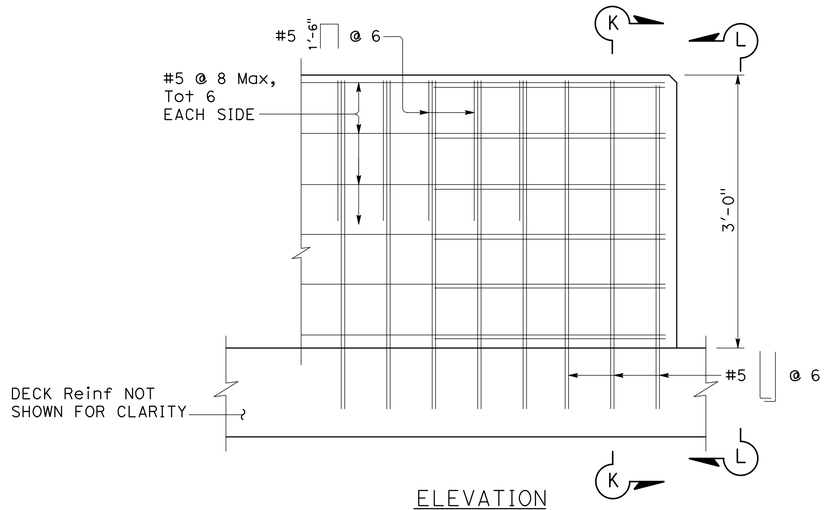
T15136000

SHEET 293 OF 648

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:14 PM



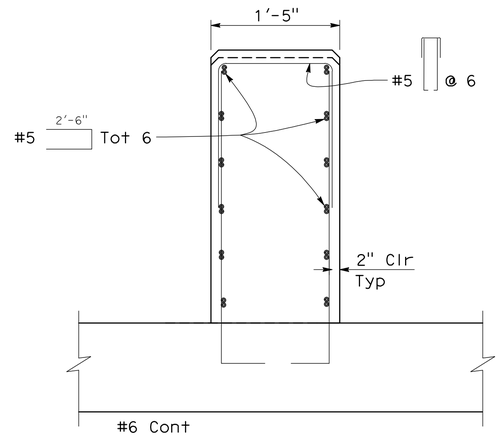
PLAN



ELEVATION

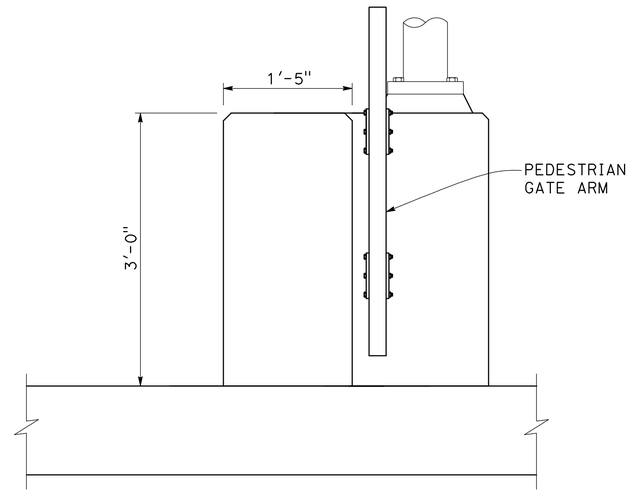
TYPE 85 END BLOCK DETAILS

NO SCALE



SECTION K-K

NO SCALE



VIEW L-L

NO SCALE

(NOT FOR CONSTRUCTION)

S-52

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

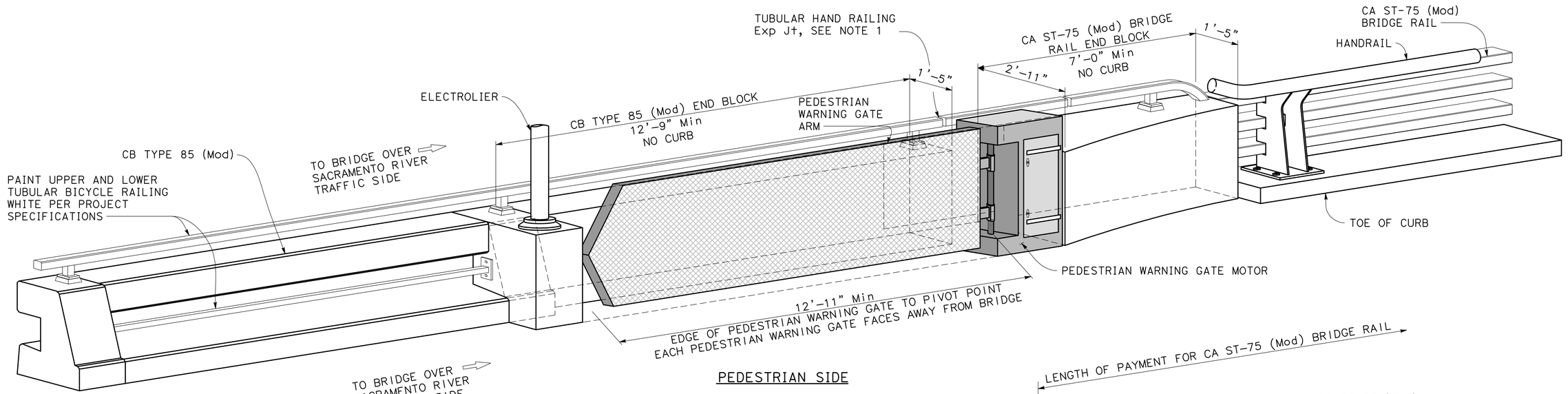
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CONCRETE BARRIER TYPE 85 (MODIFIED) DETAILS No. 5

T15136000

SHEET 294 OF 648

DATE PLOTTED => 3-Nov-25
TIME PLOTTED => 1:14 PM



NOTE:

1. For tubular hand railing Expansion Joint detail, see "CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 5" sheet.

ISOMETRIC VIEW OF BARRIER TRANSITION

NO SCALE

NOTE: North East gate shown, others similar.

(NOT FOR CONSTRUCTION)

S-53

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:15 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

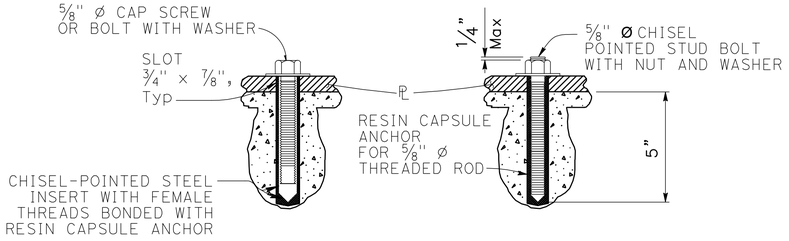
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER

BARRIER TRANSITION DETAILS No. 1

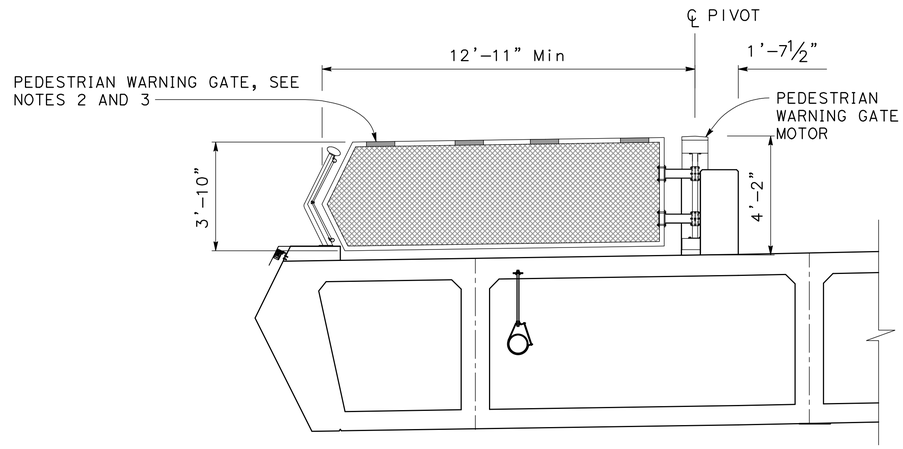
T15136000

SHEET 295 OF 648



ALTERNATIVE ANCHORAGE

NO SCALE



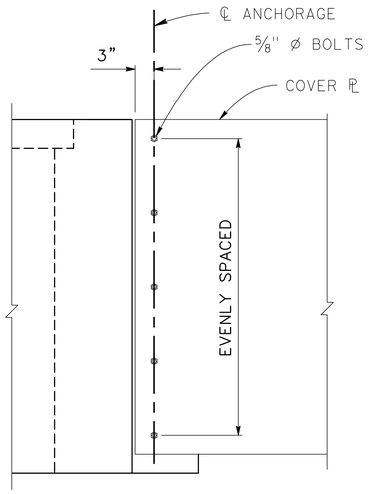
ELEVATION VIEW

PEDESTRIAN WARNING GATE

NO SCALE

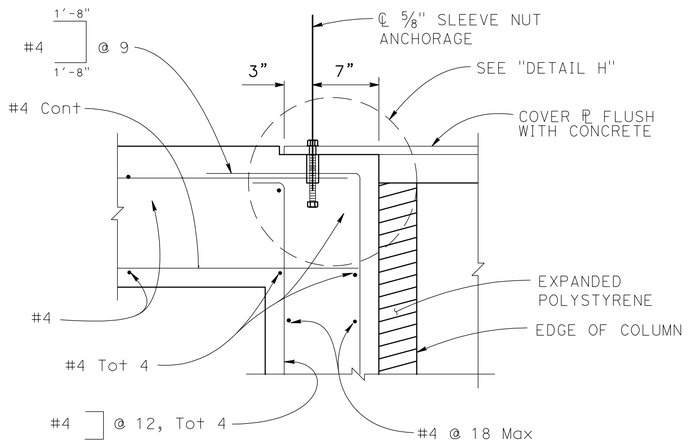
NOTES:

1. Steel plate and fasteners to be painted white per project specifications.
2. Refer to project specifications for pedestrian warning gate material requirements.
3. Paint pedestrian warning gate and associated components white per project specifications.



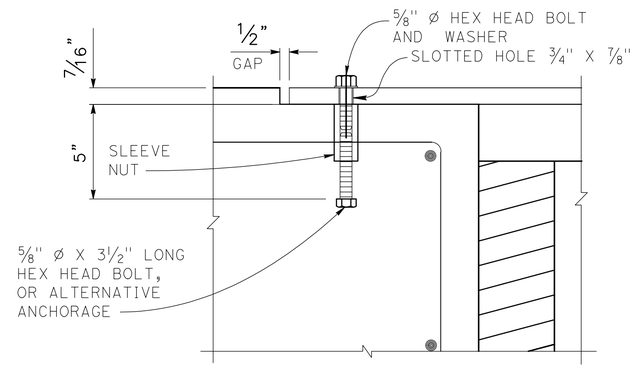
DETAIL F

NO SCALE



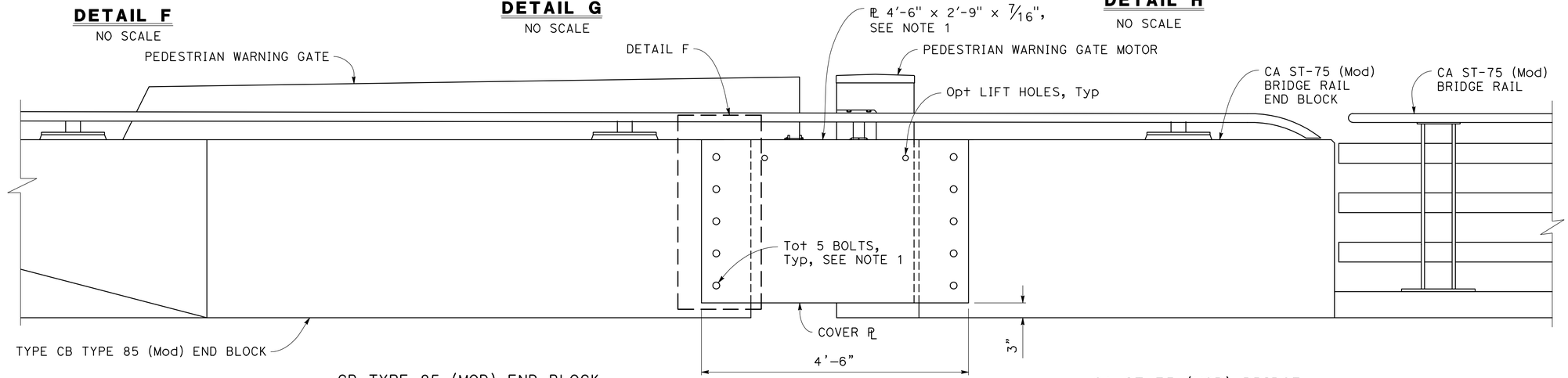
DETAIL G

NO SCALE



DETAIL H

NO SCALE



CB TYPE 85 (MOD) END BLOCK

BARRIER TRANSITION

NO SCALE

CA ST-75 (MOD) BRIDGE RAIL END BLOCK

(NOT FOR CONSTRUCTION)

S-54

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

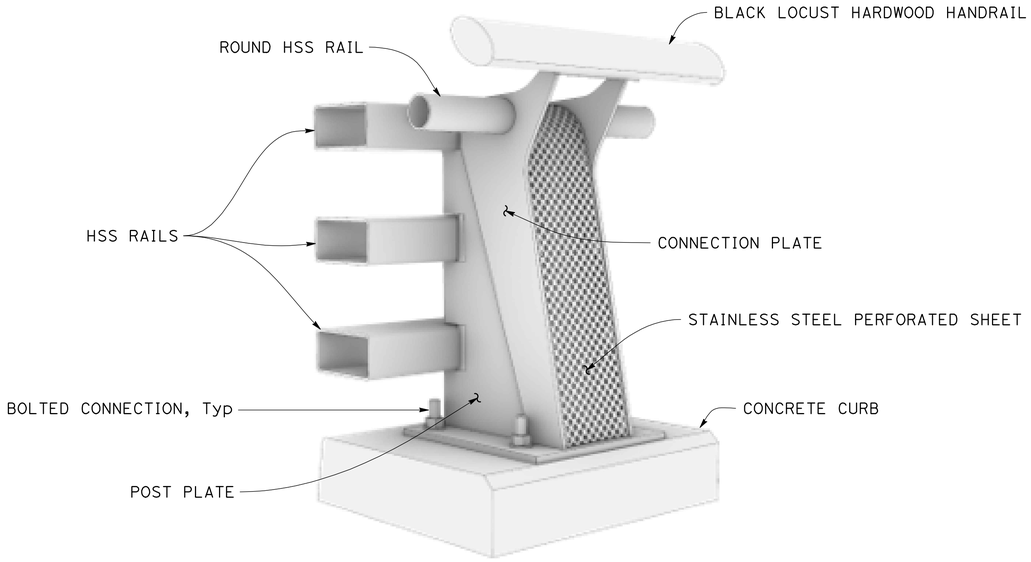
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

BARRIER TRANSITION DETAILS No. 2

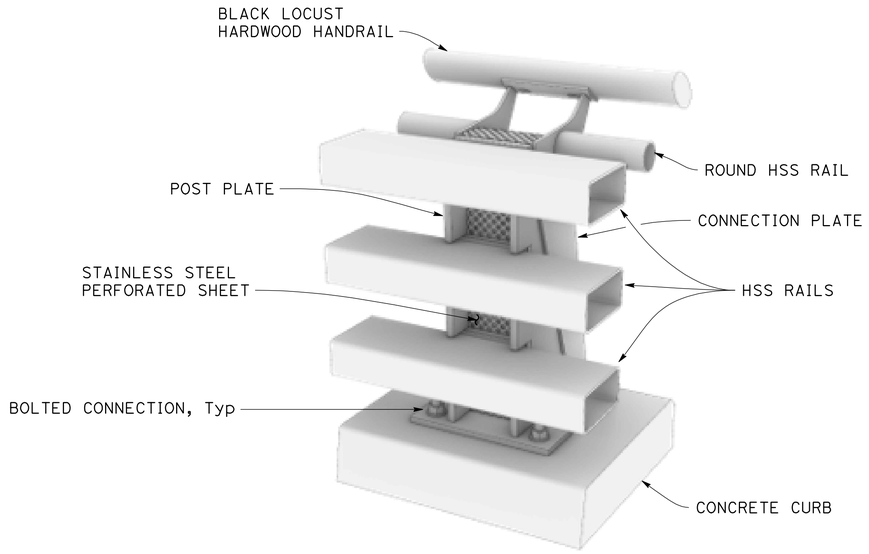
T15136000

SHEET 296 OF 648

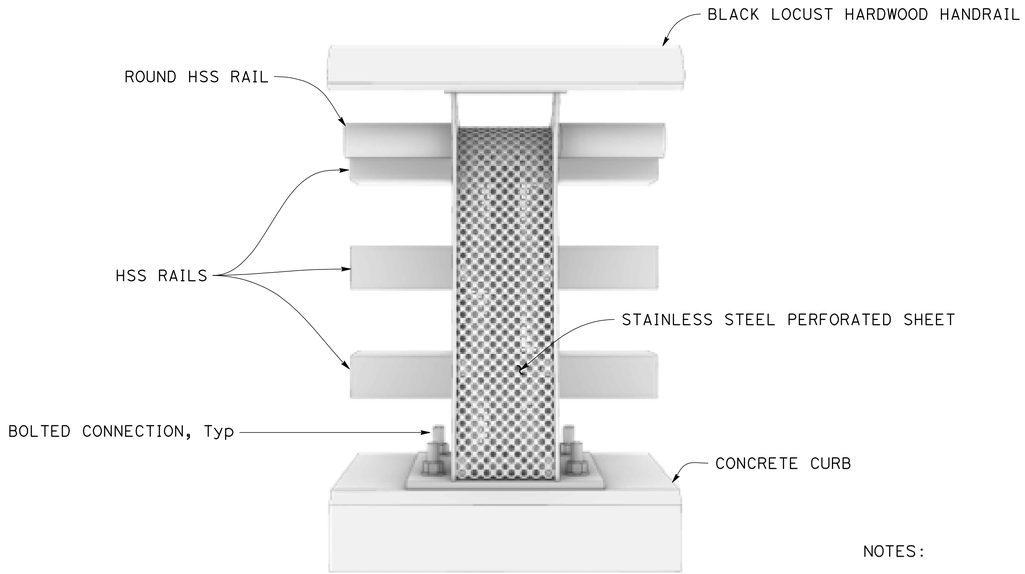
DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:15 PM



ISOMETRIC VIEW
BACK SIDE



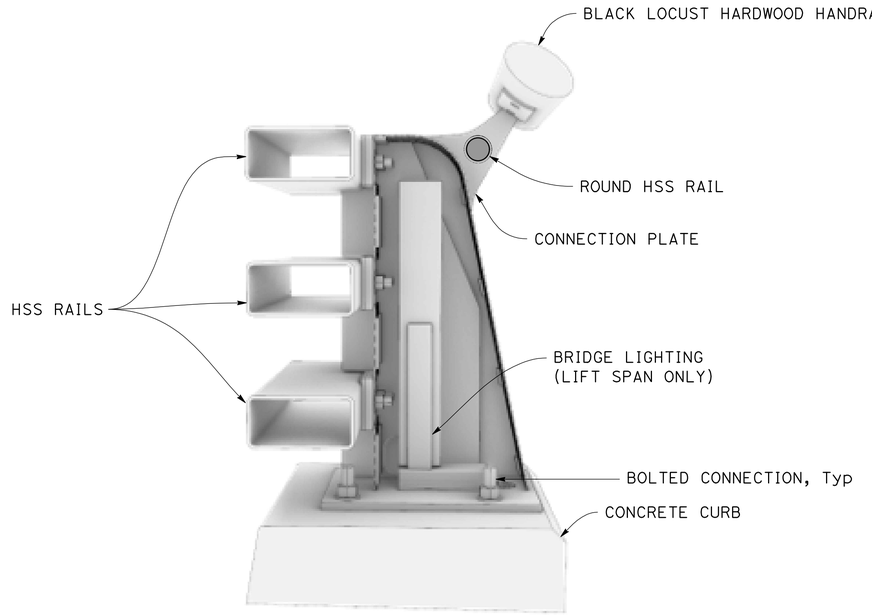
ISOMETRIC VIEW
BACK SIDE



ELEVATION
BACK SIDE

NOTES:

1. Paint all steel members and fasteners white per project specifications.
2.
3. See other CA ST-75 (MODIFIED) bridge rail detail sheets for details not shown.



SECTION
AT POST

(NOT FOR CONSTRUCTION)

S-55

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

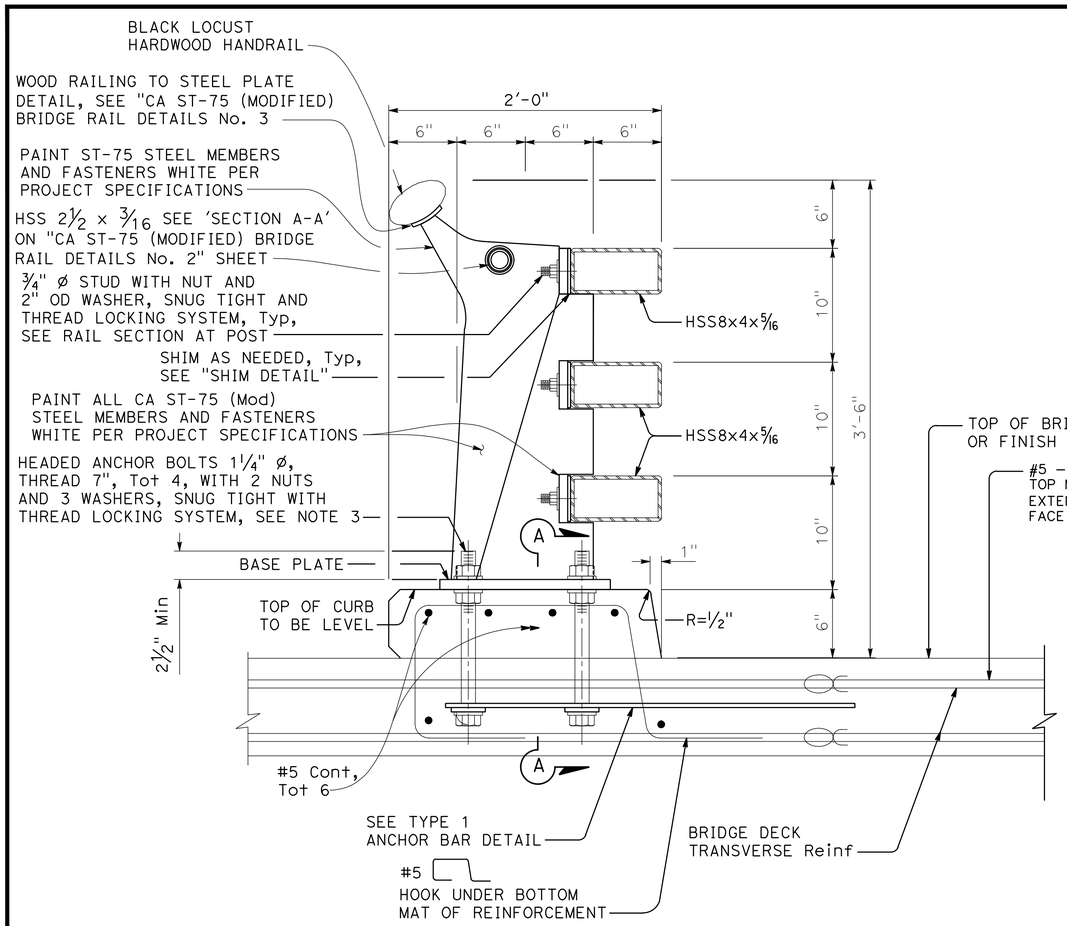
MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 1

T15136000

SHEET 297 — OF — 648

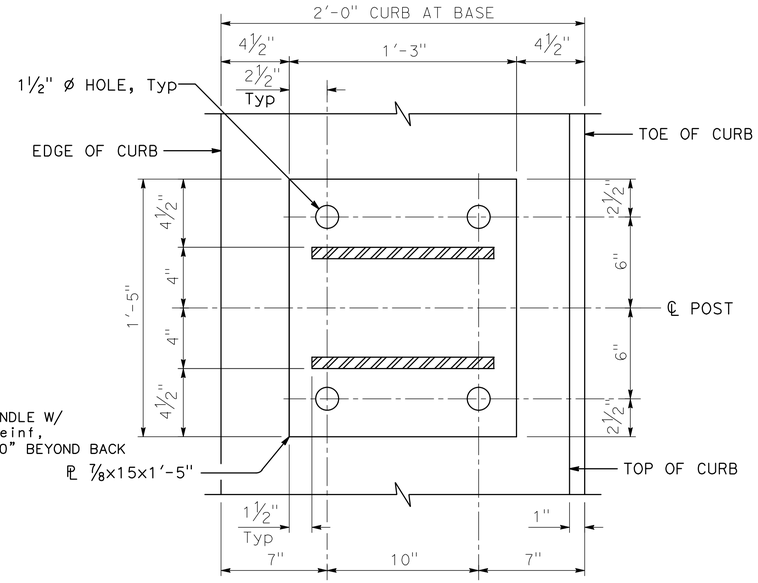
DATE PLOTTED => 3-Nov-25
TIME PLOTTED => 1:16 PM



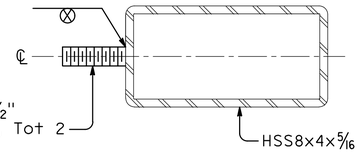
TYPICAL SECTION

LEGEND:

Bundled Reinforcement



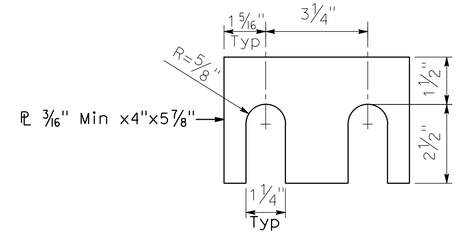
BASE PLATE DETAIL



RAIL SECTION AT POST

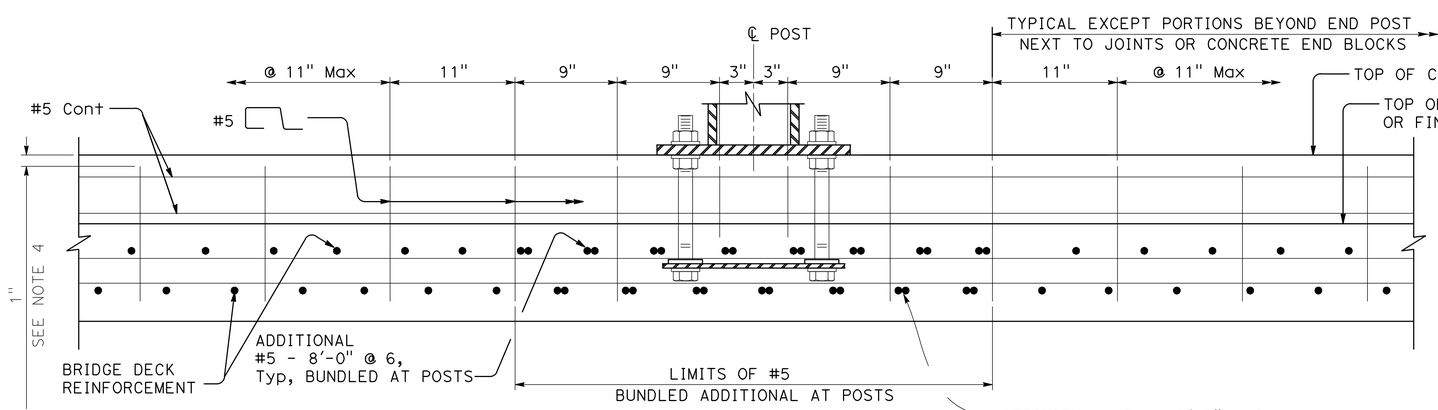
NOTES:

1. Heads of headed anchor bolts may be tack welded to washers and anchor bars. Anchor bars may be tack welded to anchor bars. Repair galvanized surfaces that are damaged.
2. Curb dimension at back side of rail will vary with bridge deck cross slope, and if overlay is placed on the bridge deck. For the same reasons, the anchor bolt lengths will vary.
3. Use extra thick washers for anchor bolts, with a minimum thickness of 0.305" and a maximum thickness of 0.375".
4. Clearance to reinforcement in concrete curb is 2" at traffic face and back face, and 1" on the top.
5. Paint all steel members and fasteners white per project specifications.
6. For details not shown, see other "CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS" sheets.

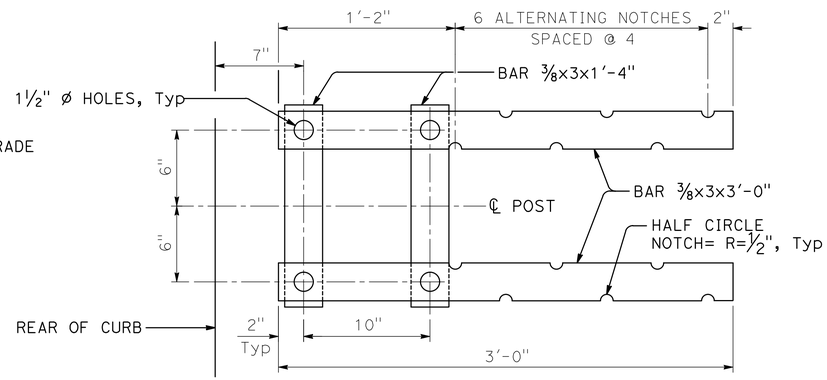


SHIM DETAIL

Shim as needed to get full bearing between posts and HSS rail tubes.



SECTION A-A



TYPE 1 ANCHOR BAR DETAIL

(NOT FOR CONSTRUCTION)

S-56

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE HORIZ. AS NOTED VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

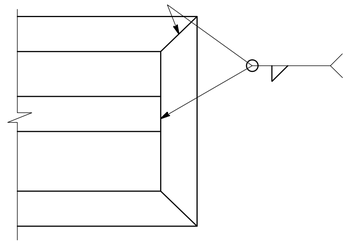
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 2

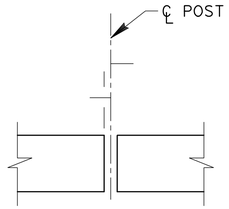
T15136000

SHEET 298 — OF — 648

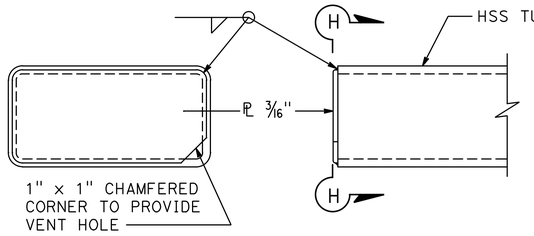
DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:16 PM



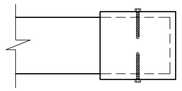
HSS RAIL END CONNECTION
NO SCALE



HARDWOOD HANDRAIL AT POST
NO SCALE



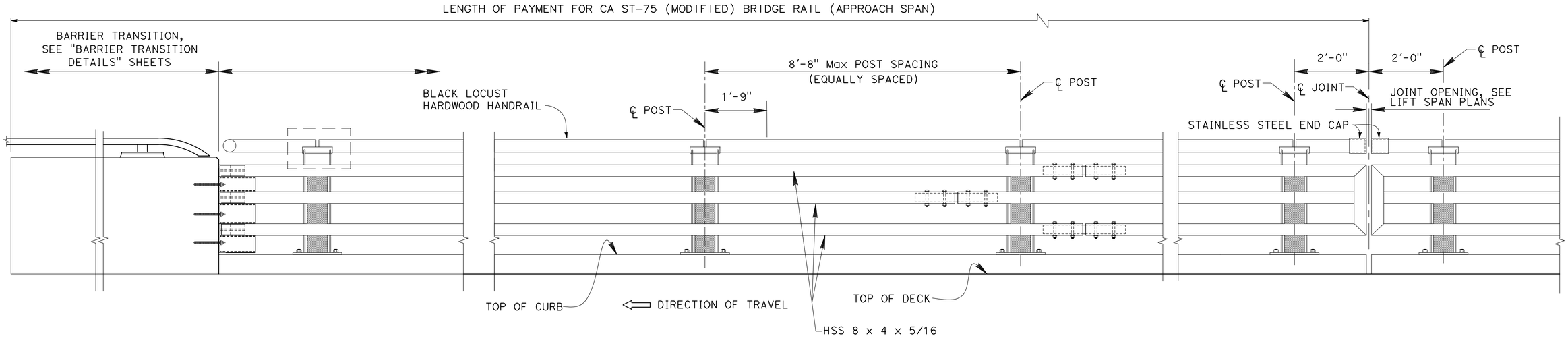
RAIL END CAP
NO SCALE



END CAP DETAIL
NO SCALE

NOTES:

1. All horizontal members are parallel to longitudinal profile grade.
2. Posts are normal to profile grade of structure.
3. Posts are vertical to the transverse cross section.
4. Anchor bolts may be tack welded to anchorage.
5. Paint all steel members and fasteners white per project specifications.



ELEVATION
NO SCALE

(NOT FOR CONSTRUCTION)

S-57

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:16 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

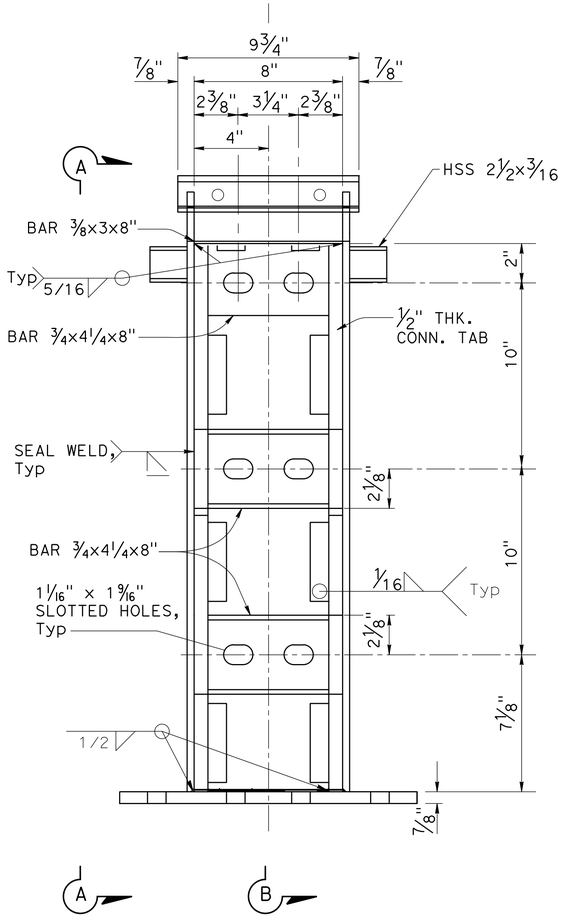
DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 3

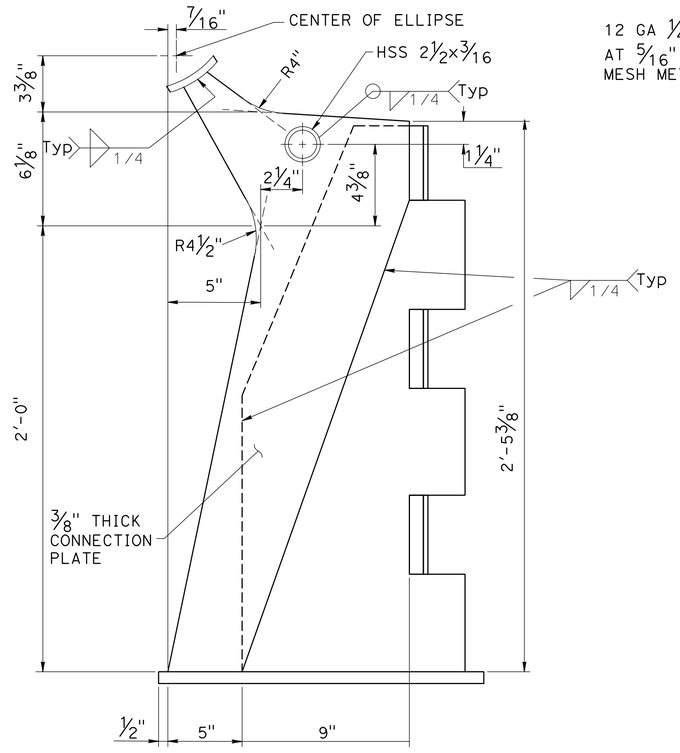
T15136000

SHEET 299 OF 648



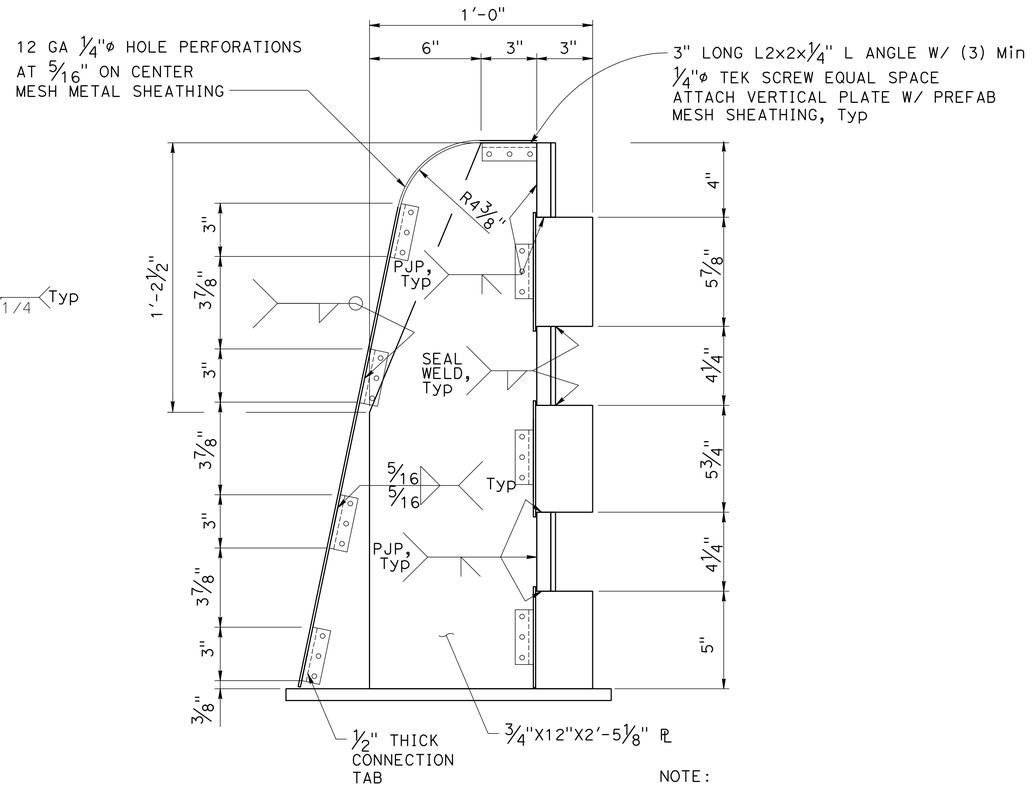
POST DETAIL

NO SCALE



SECTION A-A

NO SCALE

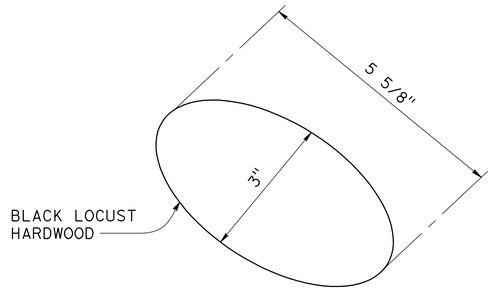


NOTE:

Paint all steel members and fasteners white per project specifications.

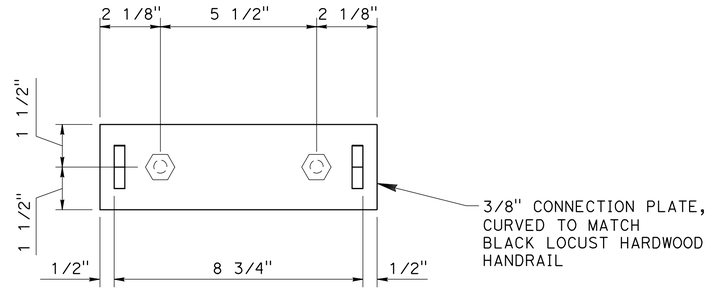
SECTION B-B

NO SCALE



BLACK LOCUST HARDWOOD HANDRAIL

NO SCALE



WOODEN HANDRAIL CONNECTION PLATE

NO SCALE

(NOT FOR CONSTRUCTION)

S-58

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

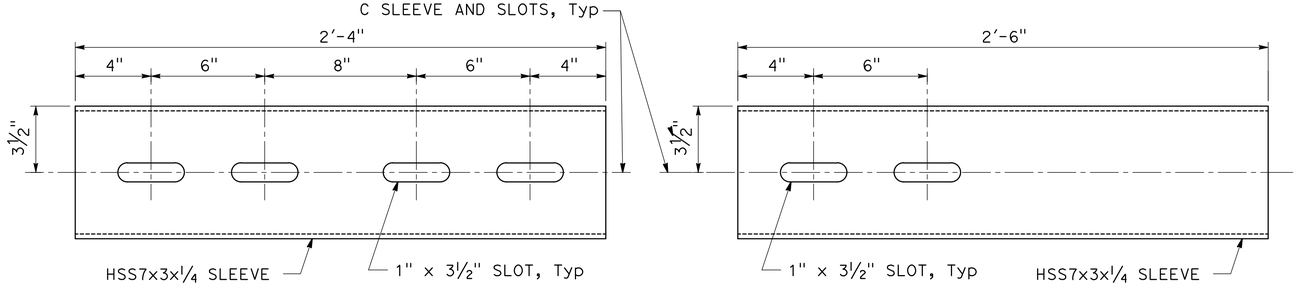
MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL
DETAILS No. 4

T15136000

SHEET 300 OF 648

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:16 PM



HSS 8 x 4 x 5/16" RAIL

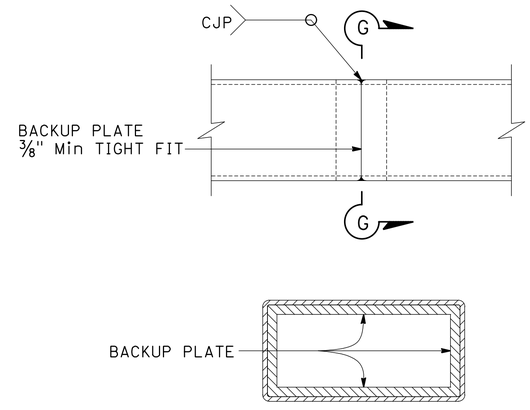
HSS 8 x 4 x 5/16" RAIL

STANDARD SLEEVES DETAILS

NO SCALE

EXPANSION SLEEVE DETAILS

NO SCALE



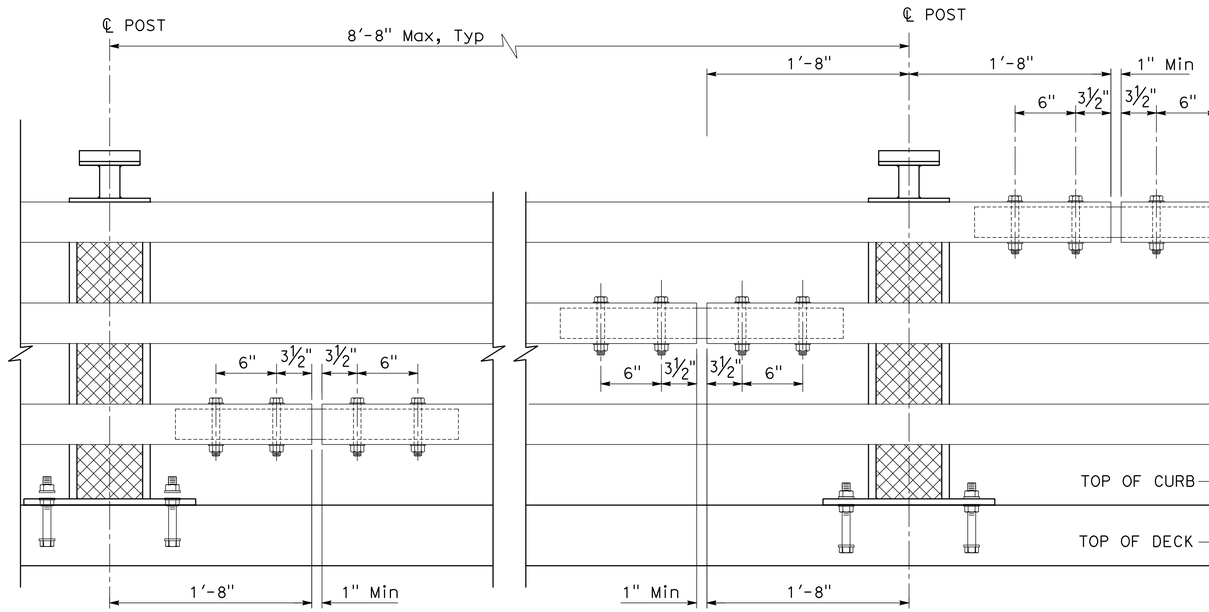
SECTION G-G

ALTERNATE TUBE WELDED STANDARD SPLICE

NO SCALE

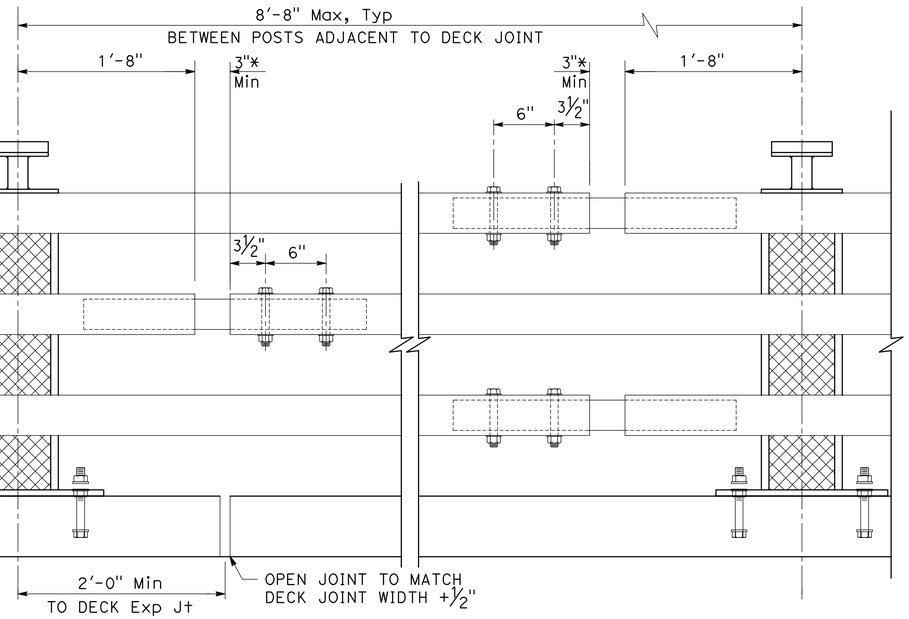
NOTES:

1. HS bolts with nut and washers, snug tightened, and thread locking system.
2. Use ¾" ø x 5⁵⁄₁₆" bolts for HSS8x4x⁵⁄₁₆.
3. Each rail length must be continuous over a minimum of two posts.
4. The fabricator must check that the tubular sleeve splices conform to the dimensions indicated to assure proper clearance.
5. Not more than one splice for permitted per same side of post.
6. Paint all steel members and fasteners white per project specifications.



STANDARD SPLICE

NO SCALE



EXPANSION SPLICE

NO SCALE

* Match deck or wall joint. See Notes 3 and 4.

(NOT FOR CONSTRUCTION)

S-59

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

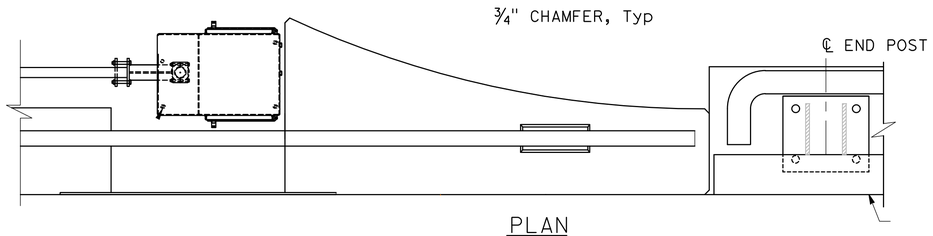
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL
DETAILS No. 5

T15136000

SHEET 301 — OF — 648

DATE PLOTTED => 3-Nov-25
TIME PLOTTED => 1:16 PM

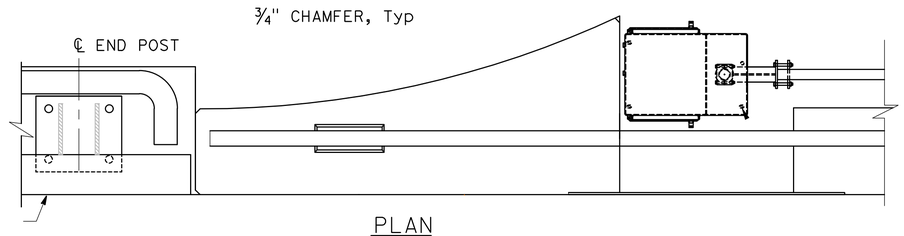


PLAN

DEPARTURE END BLOCK DETAIL

Tubular bicycle railing not shown for clarity.

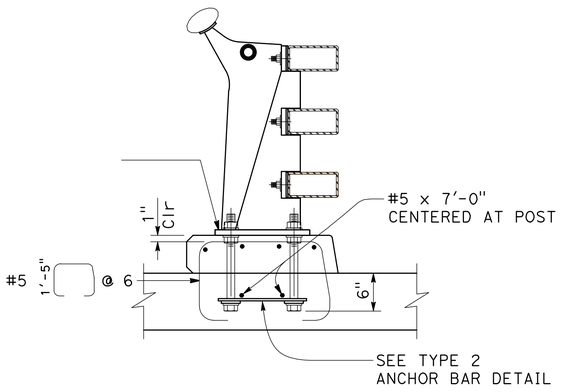
DIRECTION OF TRAFFIC



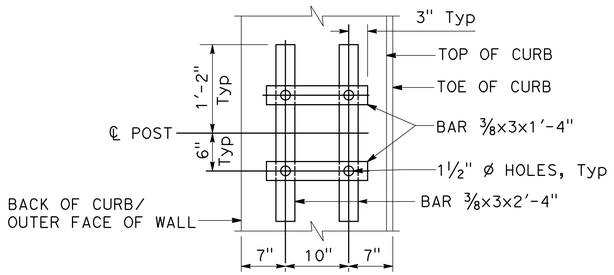
PLAN

APPROACH END BLOCK DETAIL

Tubular bicycle railing not shown for clarity.



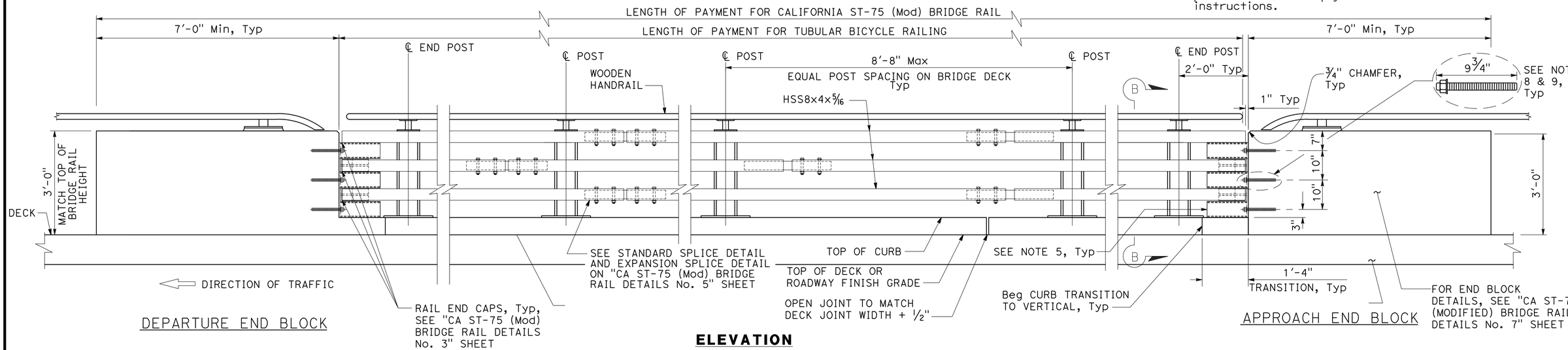
SECTION B-B



TYPE 2 ANCHOR BAR DETAIL

NOTES:

1. All HSS tubes to be parallel to longitudinal profile grade.
2. Posts are normal to profile grade of structure.
3. Posts are plumb in the transverse cross-section to profile grade.
4. Heads of headed anchor bolts may be tack welded to washers and anchor bars. Anchor bars may be tack welded to anchor bars. Repair galvanized surfaces that are damaged.
5. For parapet shoe details, see Standard Plan B11-222.
6. For additional approach end block details, see "CA ST-75 (Mod) BRIDGE RAIL DETAILS No. 7" sheet.
7. For post and rail, and rail splice details, see "CA ST-75 (Mod) BRIDGE RAIL DETAILS No. 2", "CA ST-75 (Mod) BRIDGE RAIL DETAILS No. 4, and "CA ST-75 (Mod) BRIDGE RAIL DETAILS No. 5" sheets.
8. Anchor bolts must be ⅞" Dia and ASTM F1554 Grade 105 fully threaded rods with heavy hex nut and one hardened washer (1¾" OD) each. Embed threaded rods 8" into concrete anchor block with Drill and Bond (Chemical Adhesive) anchorage system.
9. Drill and Bond (Chemical Adhesive) anchorages are subjected to approval of Engineer. Installation procedure must comply with manufacturer's instructions.



ELEVATION

NOTE: Not all reinforcement shown for clarity.

Tubular bicycle railing to extend to where level bench elevation along exterior face of wingwall is within 1'-0" of roadway shoulder FG.

(NOT FOR CONSTRUCTION)

S-60

TIME PLOTTED => 1:16 PM

DATE PLOTTED => 3-Nov-25

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

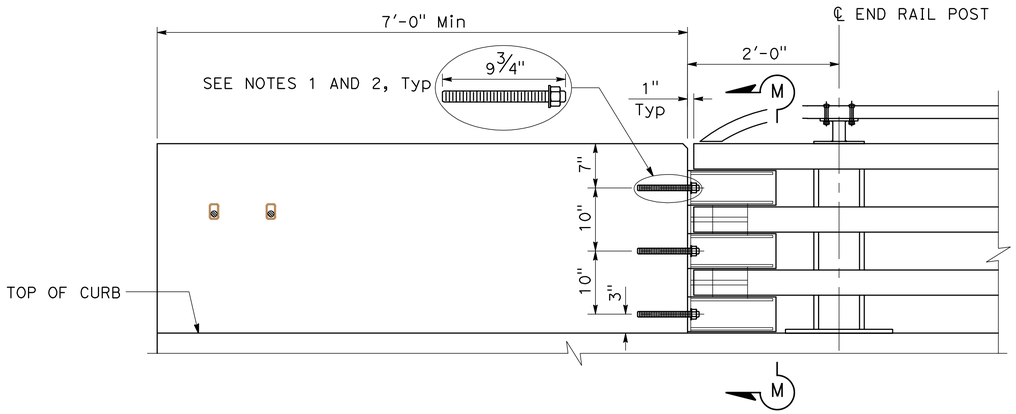
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 6

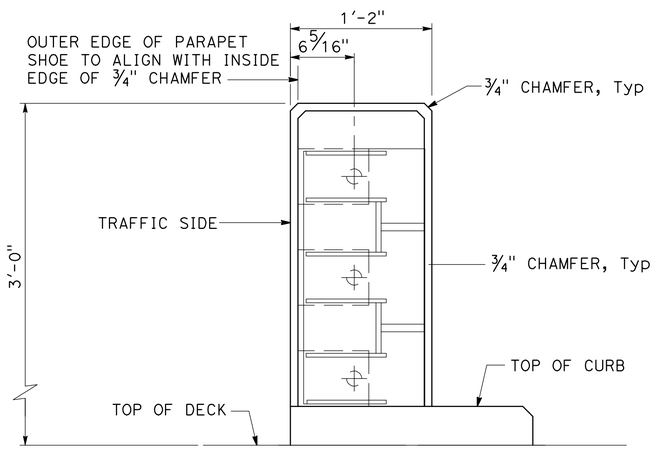
T15136000

SHEET 302 — OF — 648



PARAPET SHOE AT DEPARTURE END BLOCK

Parapet shoe connection to approach end block is similar.

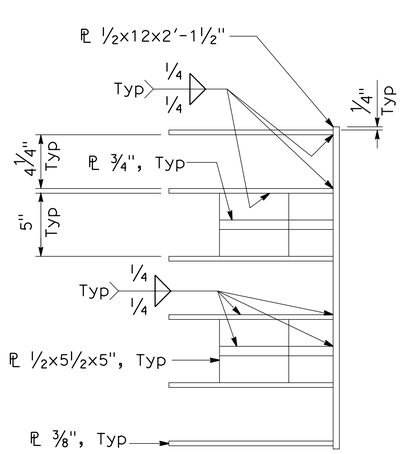


SECTION M-M

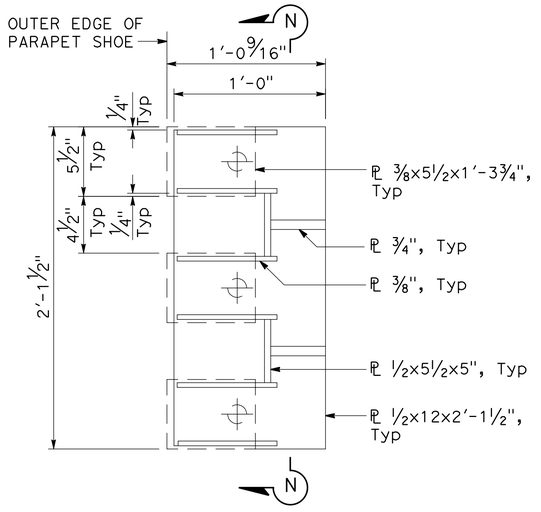
Bridge railing not shown for clarity.

NOTES:

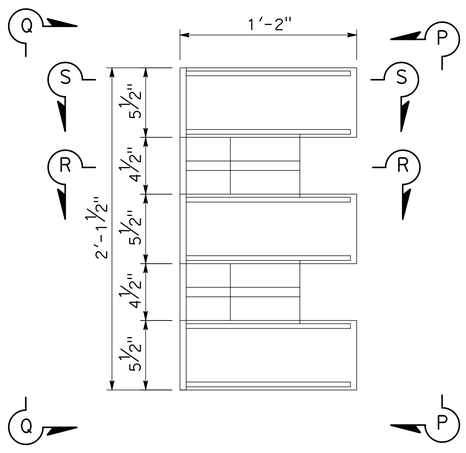
1. Anchor bolts must be ⅞" Dia and ASTM F1554 Grade 105 fully threaded rods with heavy hex nut and one hardened washer (1¾" OD) each. Embed threaded rods 8" into concrete anchor block with Drill and Bond (Chemical Adhesive) anchorage system.
2. Drill and Bond (Chemical Adhesive) anchorages are subjected to approval of Engineer. Installation procedure must comply with manufacturer's instructions.



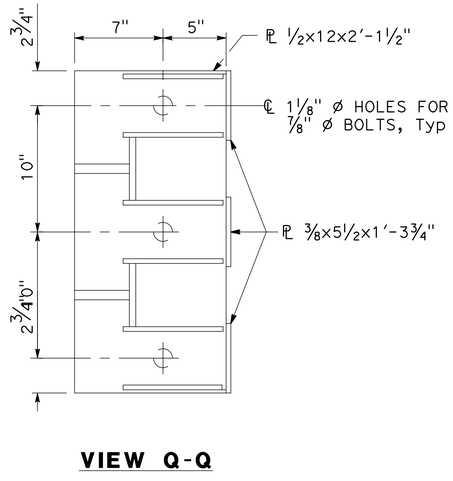
SECTION N-N



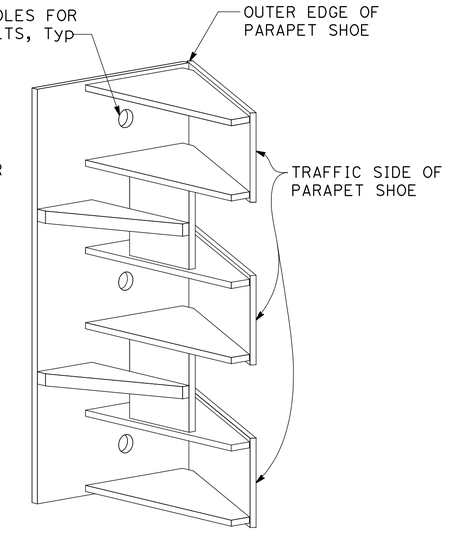
VIEW P-P



PARAPET SHOE ELEVATION

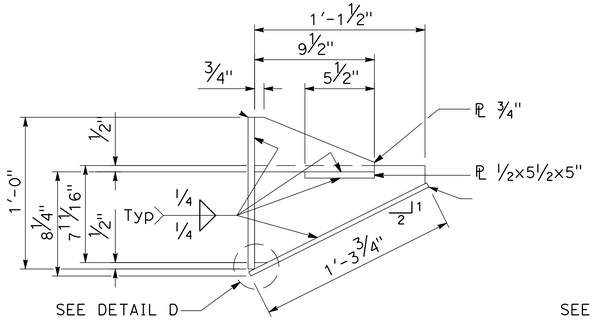


VIEW Q-Q

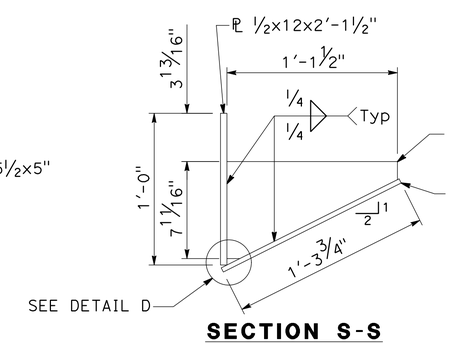


ISOMETRIC VIEW

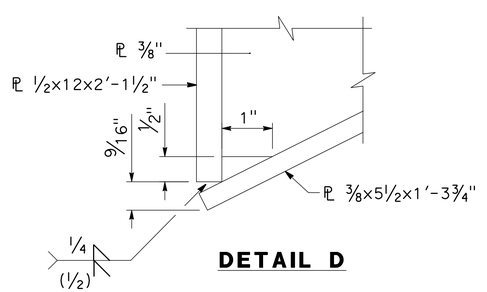
Isometric rear view
mirrored to show more details.



SECTION R-R



SECTION S-S



DETAIL D

(NOT FOR CONSTRUCTION)

S-61

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:16 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

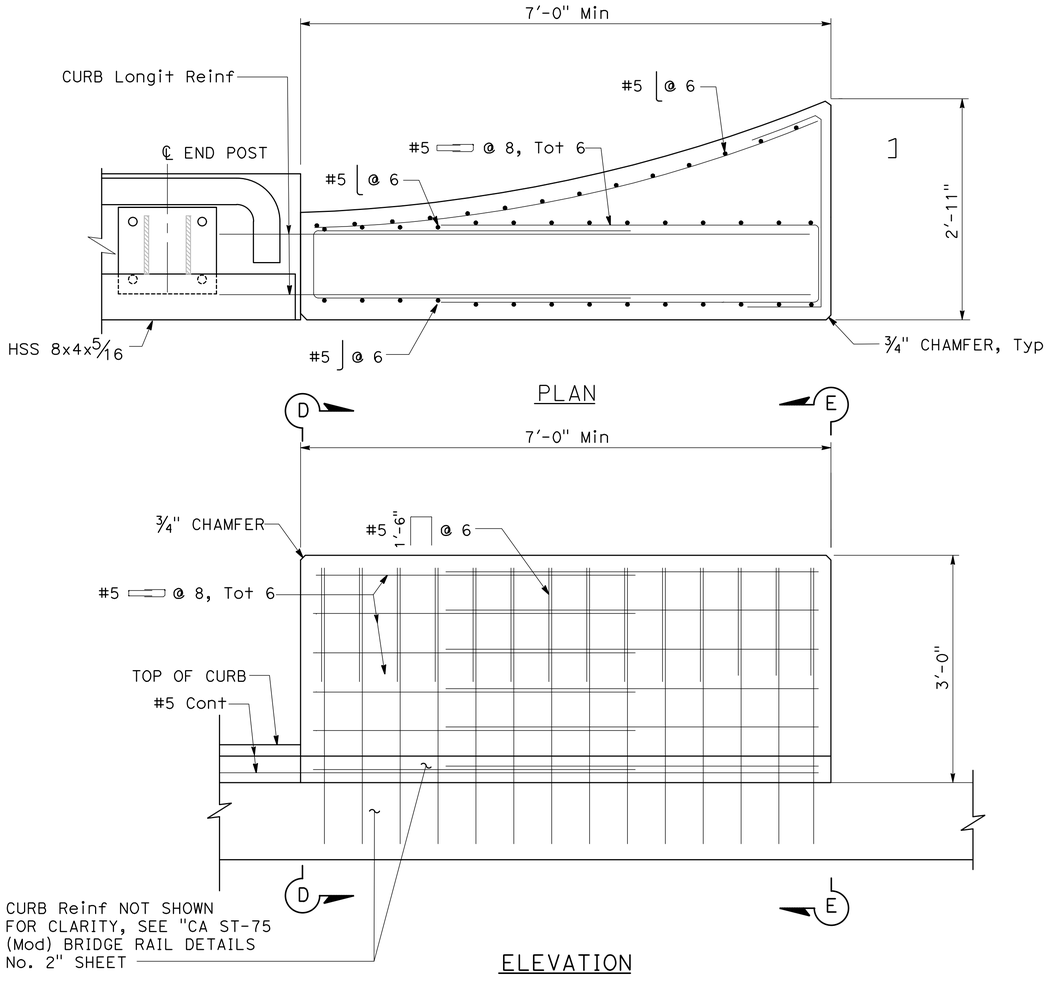
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL
DETAILS No. 7

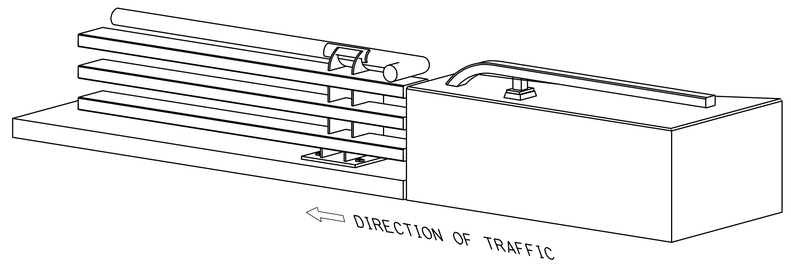
T15136000

SHEET 303 OF 648

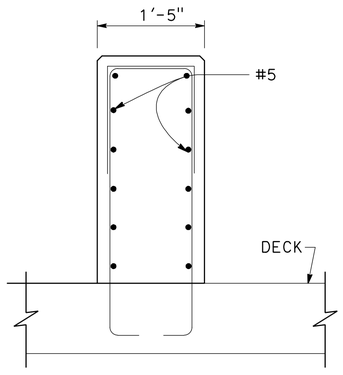


APPROACH AND DEPARTURE END BLOCK DETAILS

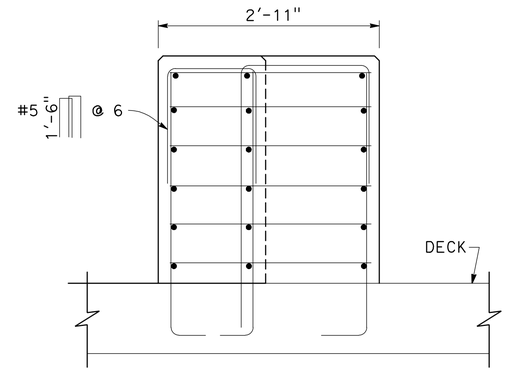
Not all reinforcement shown for clarity.



ISOMETRIC VIEW



SECTION D-D



SECTION E-E

(NOT FOR CONSTRUCTION)

S-62

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:16 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

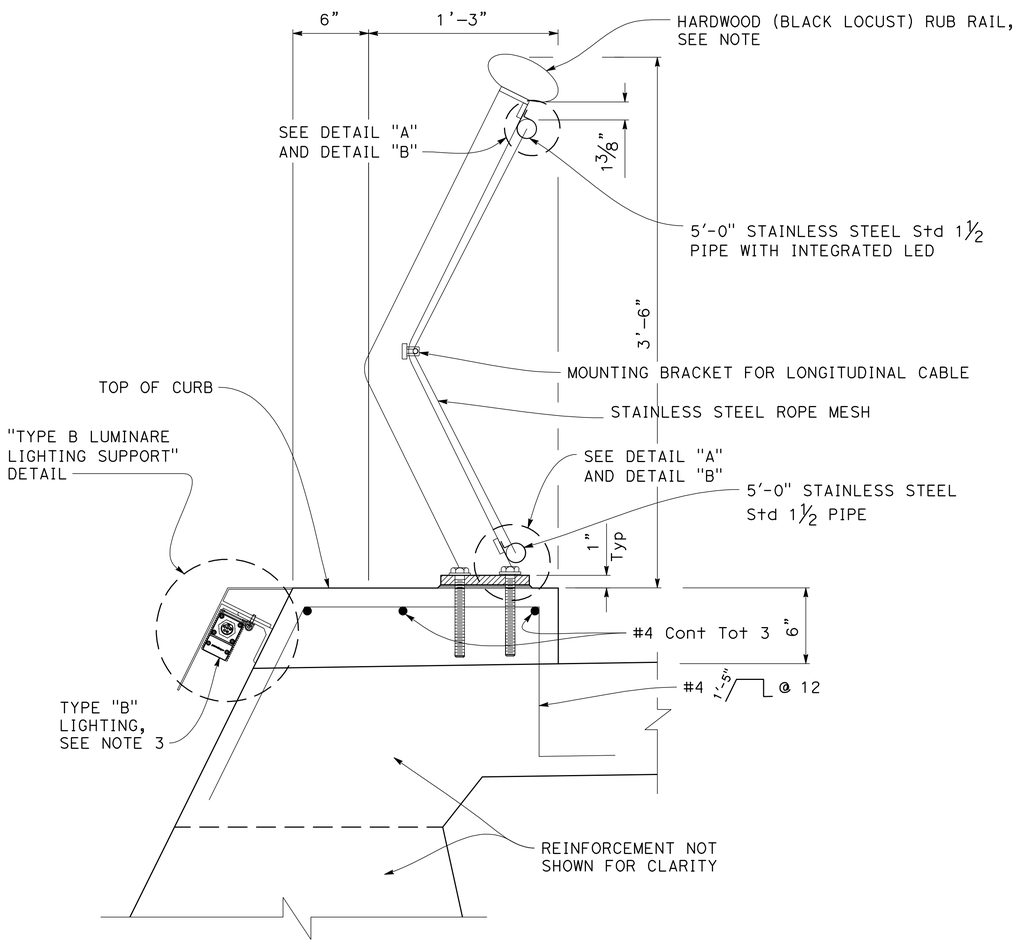
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

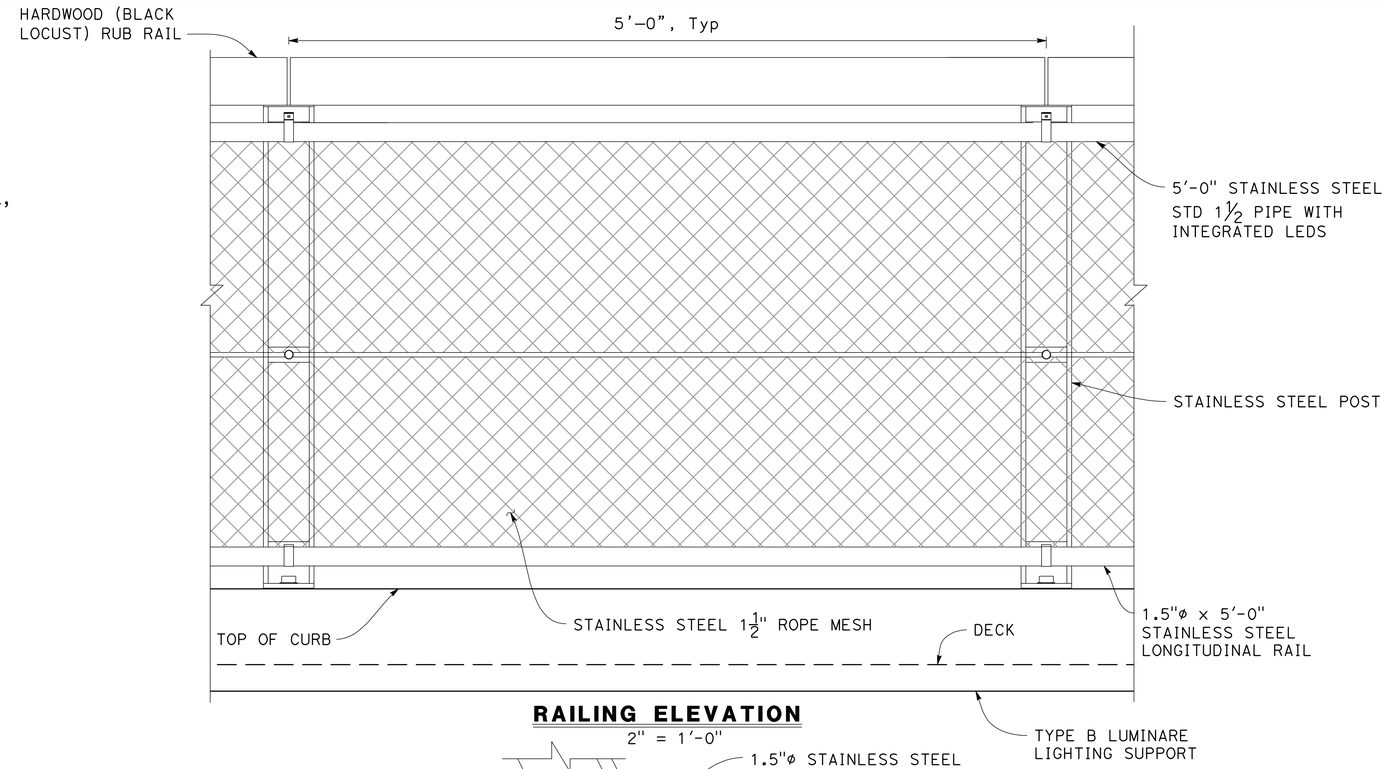
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
CA ST-75 (MODIFIED) BRIDGE RAIL DETAILS No. 8

T15136000

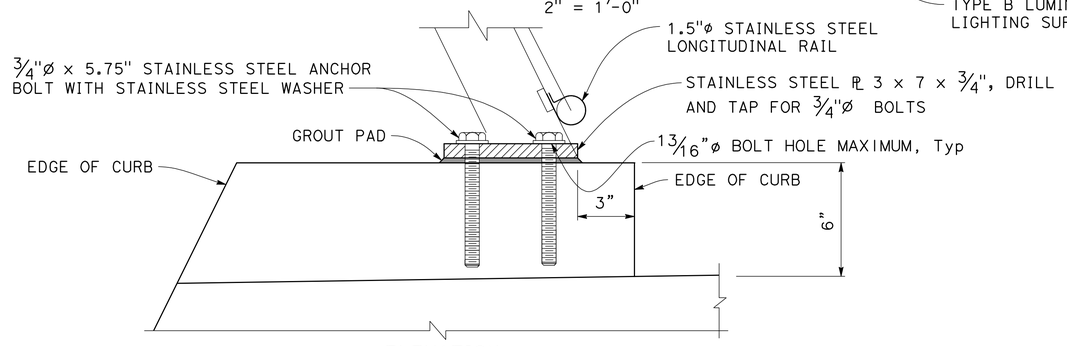
SHEET 304 OF 648



TYPICAL RAILING SECTION
2" = 1'-0"



RAILING ELEVATION
2" = 1'-0"



RAILING ANCHORAGE DETAILS
3" = 1'-0"

NOTES:

1. For hardwood rub rail mounting details, see "DETAIL D" and "DETAIL E" on "PEDESTRIAN RAILING DETAILS No. 2" sheet.
2. For location of "TYPE B LUMINARE LIGHTING SUPPORT" detail, see "PEDESTRIAN RAILING DETAILS No. 2" sheet.
3. For lighting details, see "LIGHTING" plans.

(NOT FOR CONSTRUCTION)

S-63

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:17 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

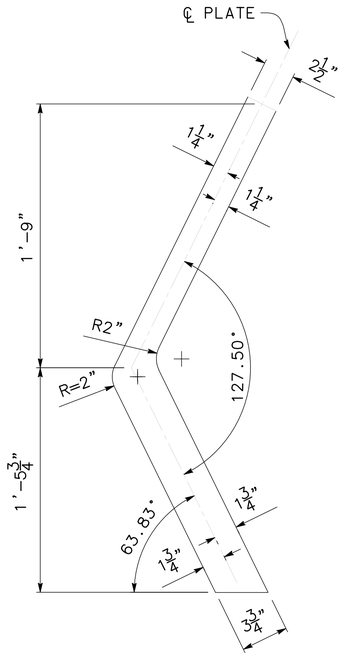
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

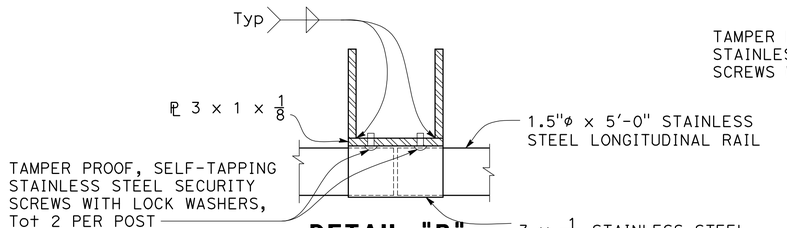
PEDESTRIAN RAILING DETAILS No. 1

T15136000

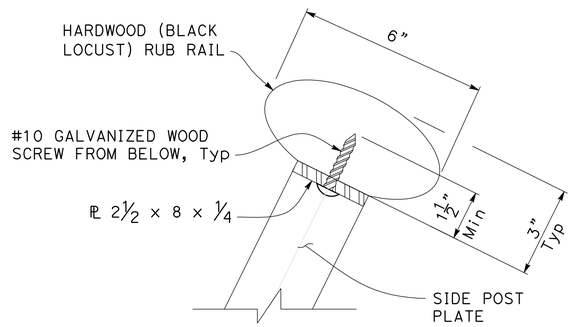
SHEET 305 OF 648



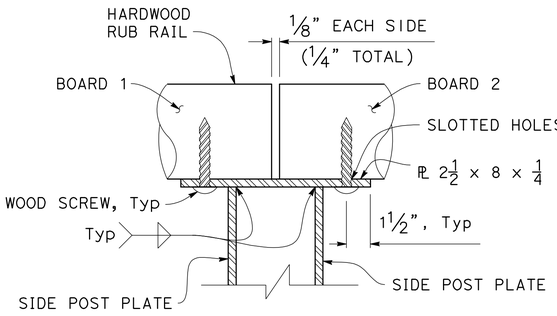
SIDE POST PLATE
2" = 1'-0"



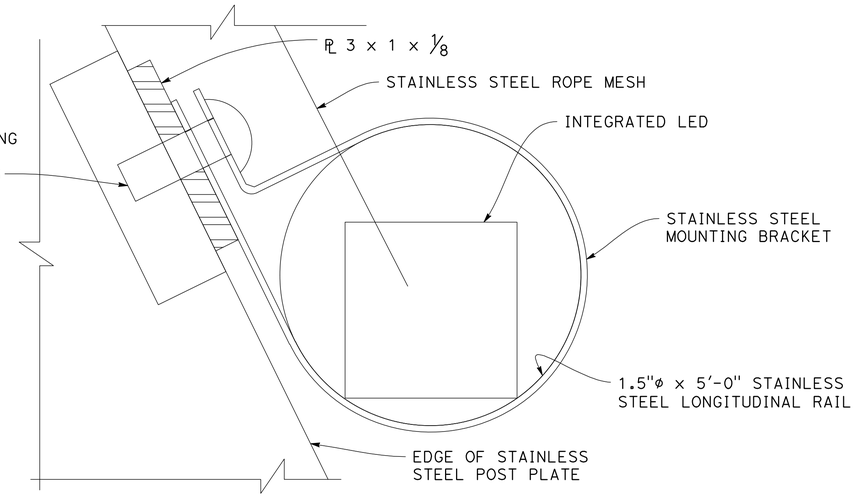
DETAIL "B"
NO SCALE



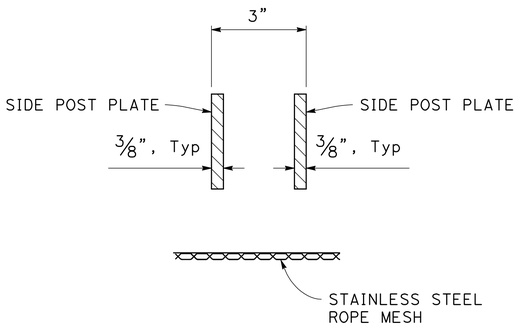
DETAIL "D"
NO SCALE



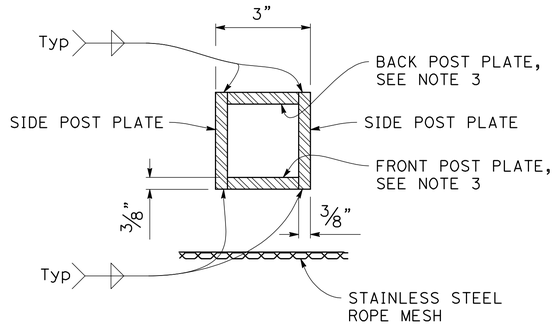
DETAIL "E"
NO SCALE



DETAIL "A"
NO SCALE



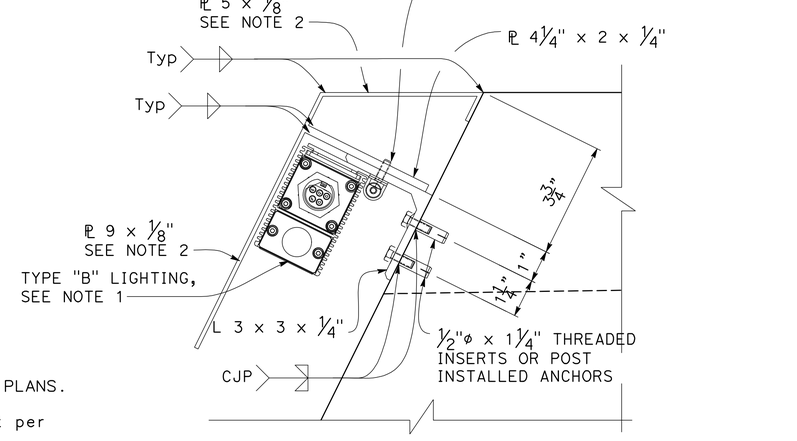
TYPICAL POST SECTION (TYPE A)
NO SCALE



TYPICAL POST SECTION (TYPE B) (FOR LIGHTING CONDUITS)
NO SCALE

NOTES:

1. For lighting details, see LIGHTING PLANS.
2. Paint Type B Luminare Light Support per project specifications.
3. Front and back post plates are ⅜" thick and flush with edge of side post plates.



TYPE "B" LUMINARE LIGHTING SUPPORT
NO SCALE

(NOT FOR CONSTRUCTION)

S-64

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:17 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: H. YANG
R.C.E. 92971 DATE 12-31-25
CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

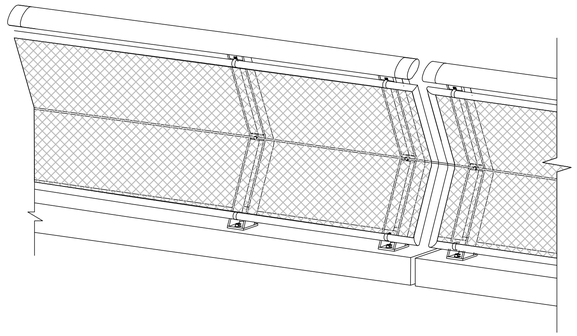
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

PEDESTRIAN RAILING DETAILS No. 2

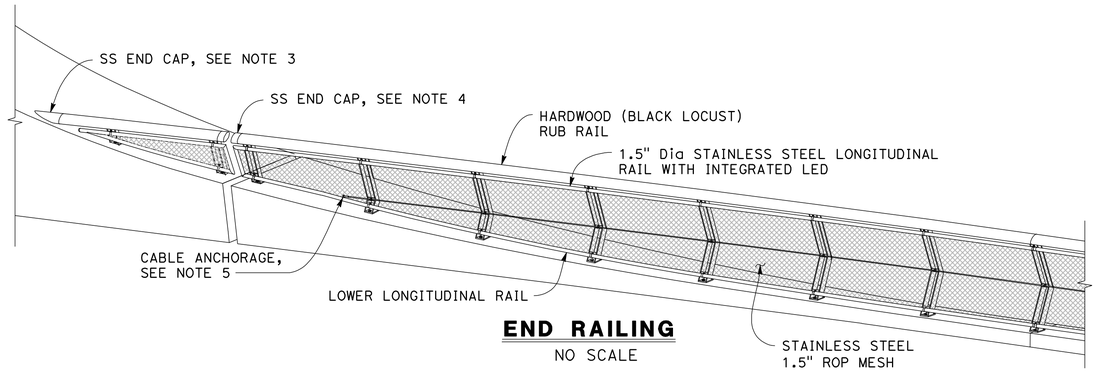
T15136000

SHEET 306 OF 648



BB AND EB RAILING TERMINATION

NO SCALE



END RAILING

NO SCALE

NOTES:

1. Pedestrian railing posts to be spaced evenly at a spacing less or equal to 5' from flare start to expansion joint.
2. 3" to be left between post and expansion joint.
3. 3" minimum length steel end cap. Angled face to be added to leave a 1" gap between end cap and FRP cladding.
4. 3" Steel end cap.
5. Welded plate to be used to form support for cable anchorage.
6. Typical posts to be shortened by profile of FRP and curb.
7. For all other details, see "PEDESTRIAN RAILING DETAILS" sheets.

(NOT FOR CONSTRUCTION)

S-65

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:17 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

CHECKED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

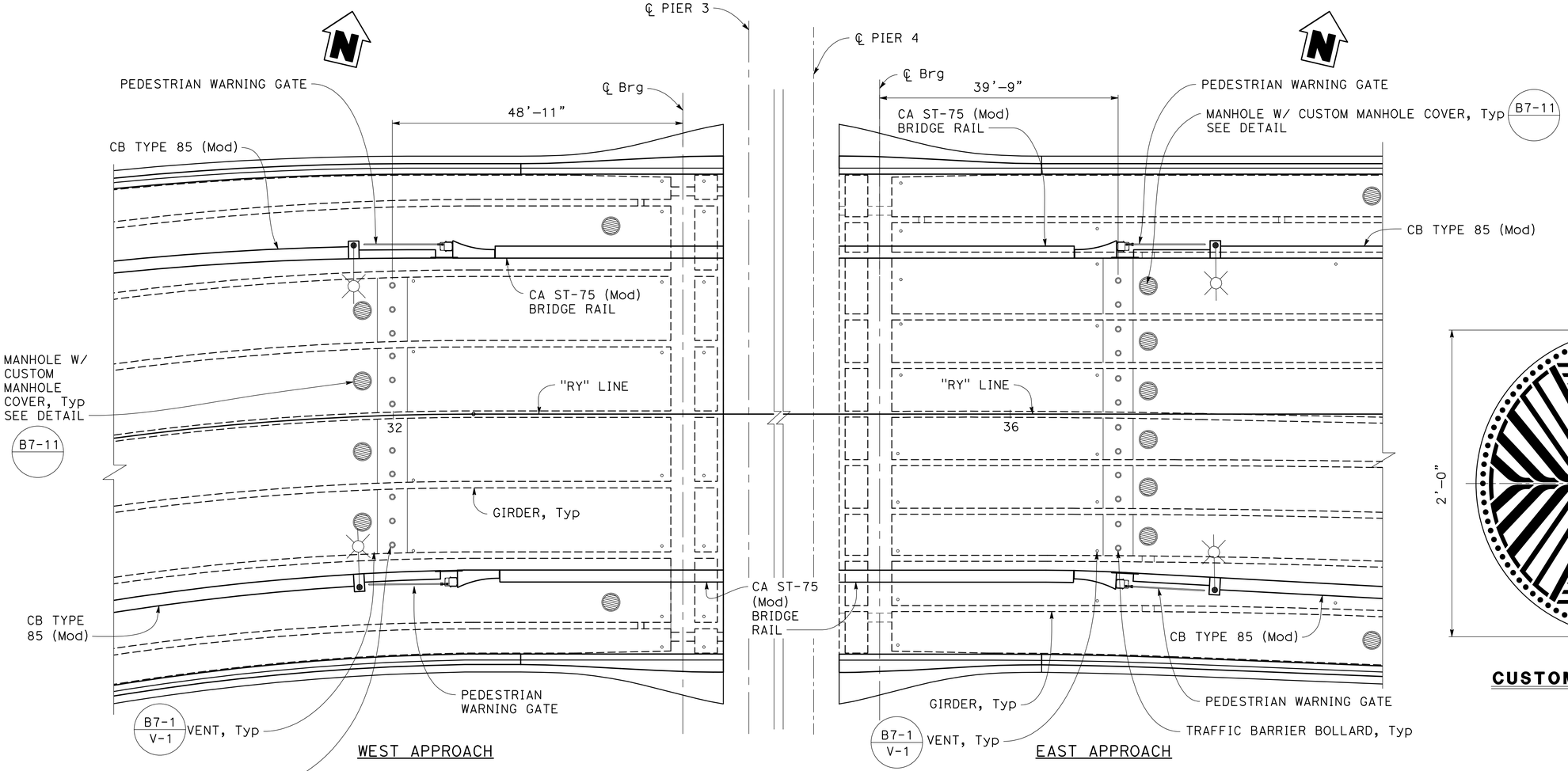
MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER

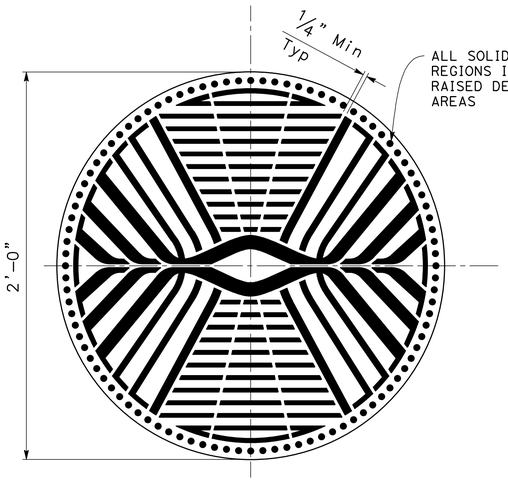
PEDESTRIAN RAILING DETAILS No. 3

T15136000

SHEET 307 — OF — 648



PLAN
1" = 10'



CUSTOM MANHOLE COVER
NO SCALE

NOTE:

For traffic barrier bollard details, see "TRAFFIC BARRIER BOLLARD DETAILS" sheets.

100% (NOT FOR CONSTRUCTION)

S-66

DATE PLOTTED => 3-Nov-25
TIME PLOTTED => 1:18 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

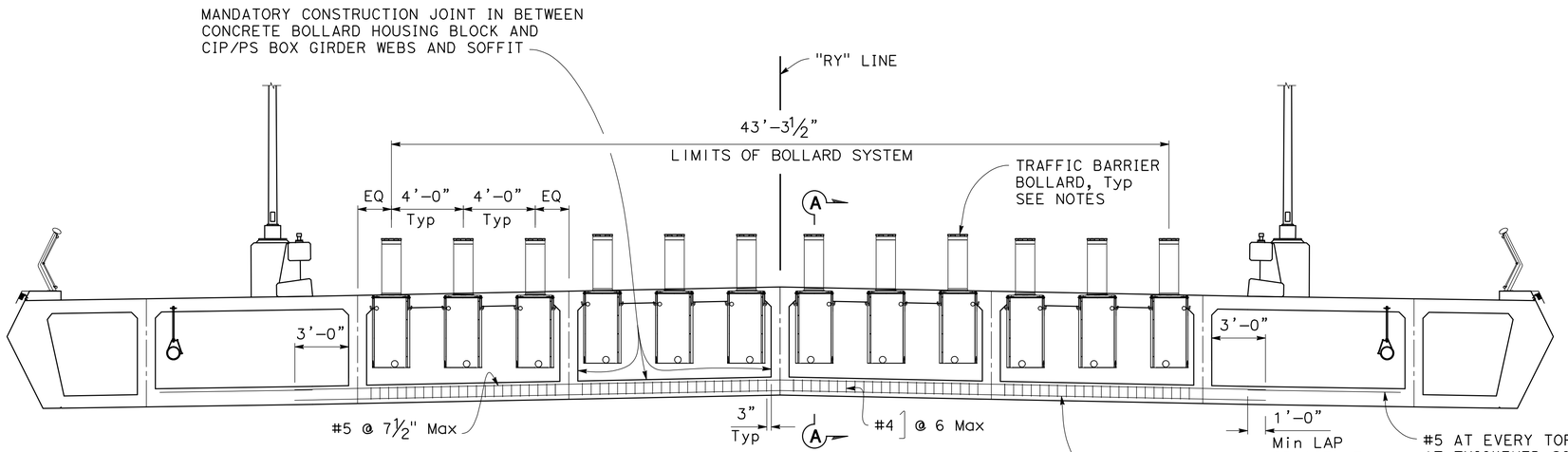
MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER

TRAFFIC BARRIER BOLLARD LAYOUT

T15136000

SHEET 308 — OF — 648



WEST APPROACH BOLLARD LAYOUT

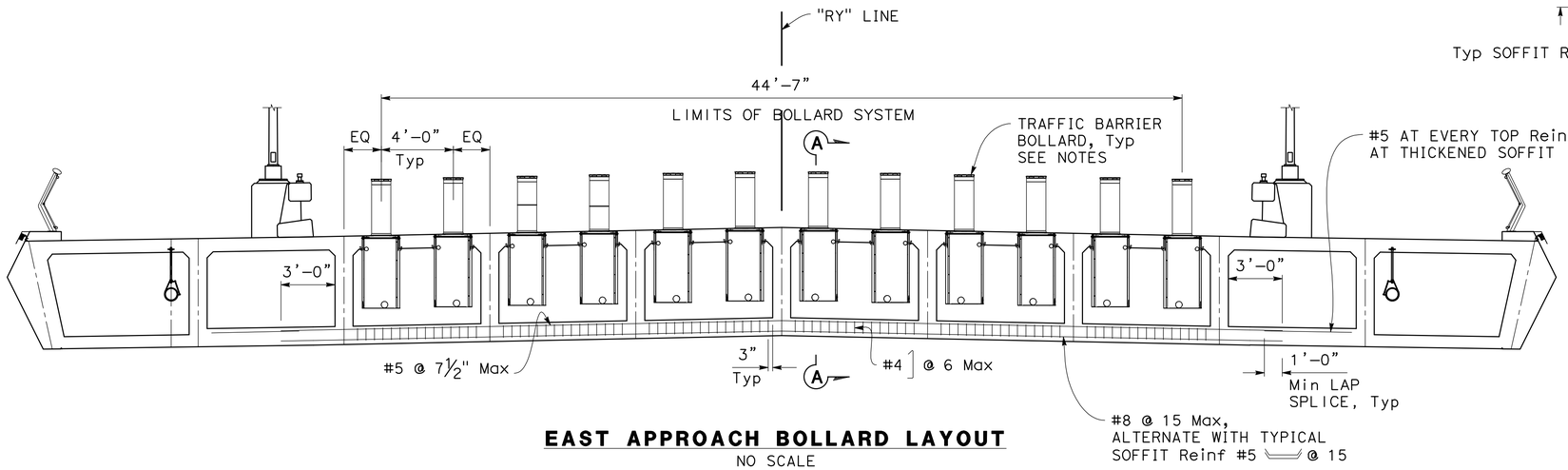
NO SCALE

NOTES:

1. Bollard system, deck opening and concrete bollard housing block to be designed and detailed by the Supplier and in coordination with the Contractor. Design shall include necessary considerations to transport, lift, and install the bollard system to its final condition. Refer to the Special Provisions for more information. Design shall be submitted to EOR for review prior to installation and concrete pour of the concrete bollard housing block.

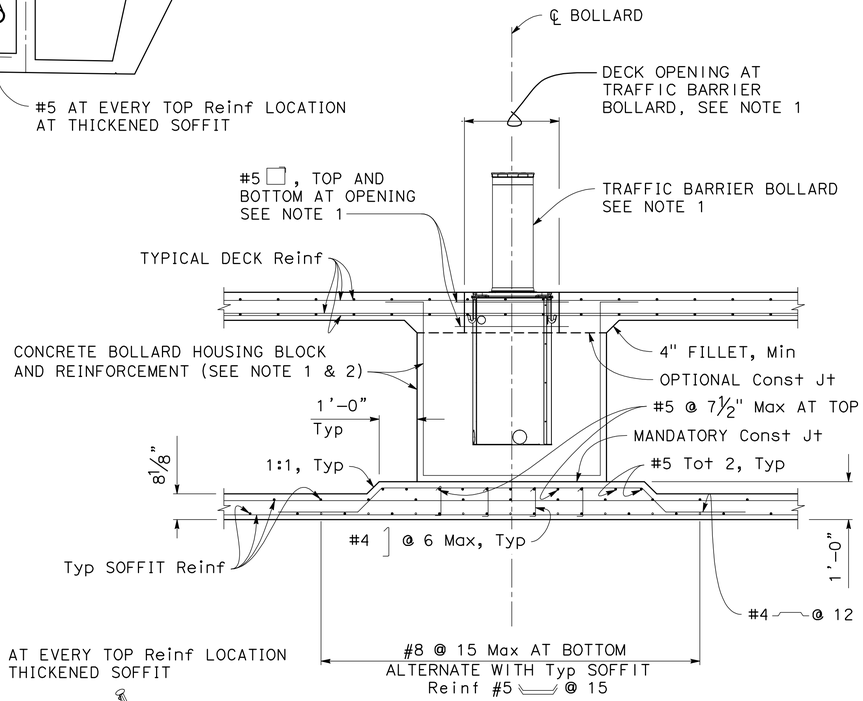
2. Total self weight of the bollard system (including concrete bollard housing blocks) must not exceed the below design values:

   a) West Approach superstructure design includes 135 kips (33.75 kips per bay)(Dead Load) for bollard layout shown.
   b) East Approach superstructure design includes 135 kips (22.5 kips per bay)(Dead Load) for bollard layout shown.



EAST APPROACH BOLLARD LAYOUT

NO SCALE



SECTION A-A

1/2" = 1'-0"

(NOT FOR CONSTRUCTION)

S-67

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:19 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

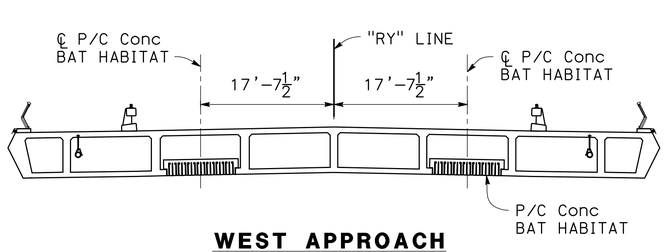
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

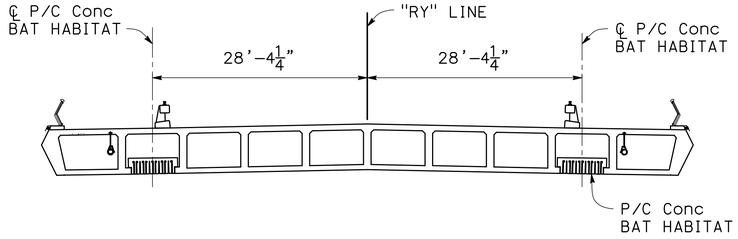
TRAFFIC BARRIER BOLLARD DETAILS

T15136000

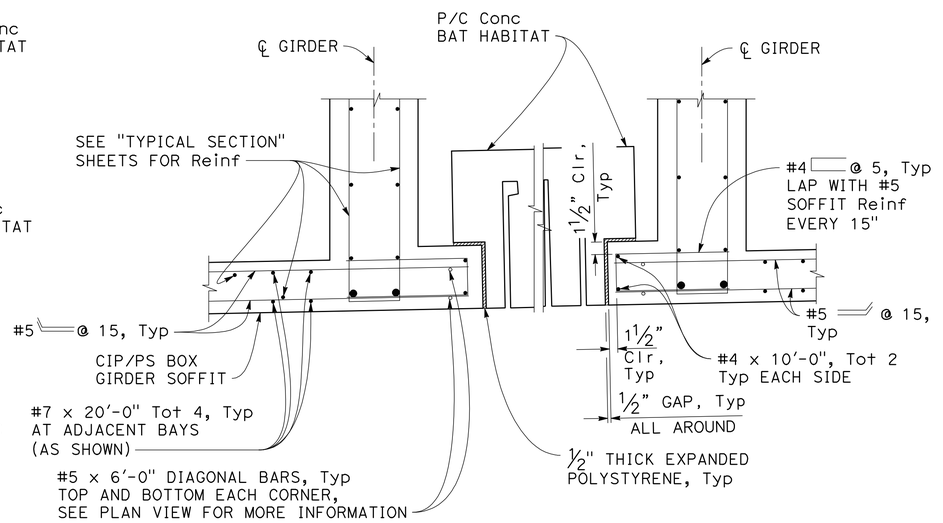
SHEET 309 — OF — 648



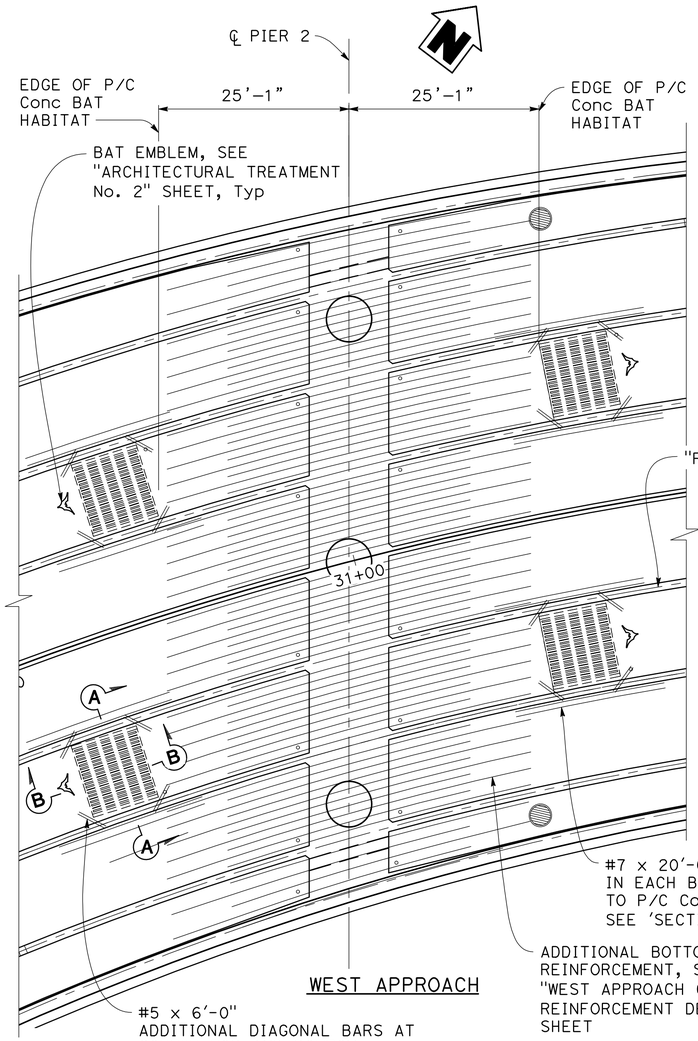
WEST APPROACH
NO SCALE



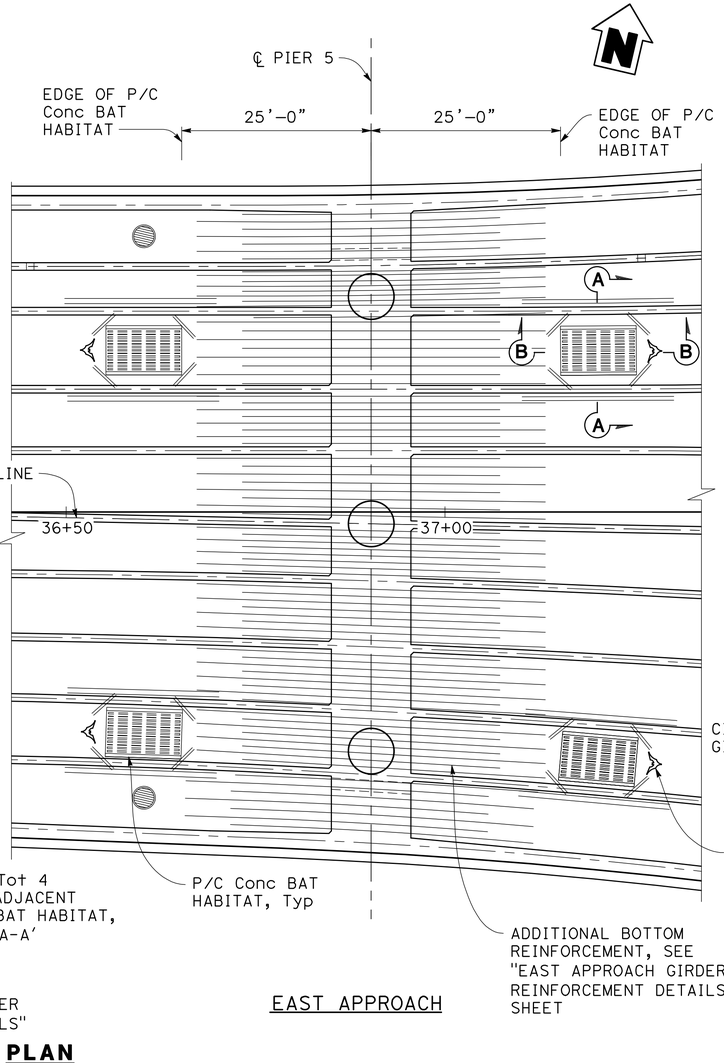
EAST APPROACH
NO SCALE



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

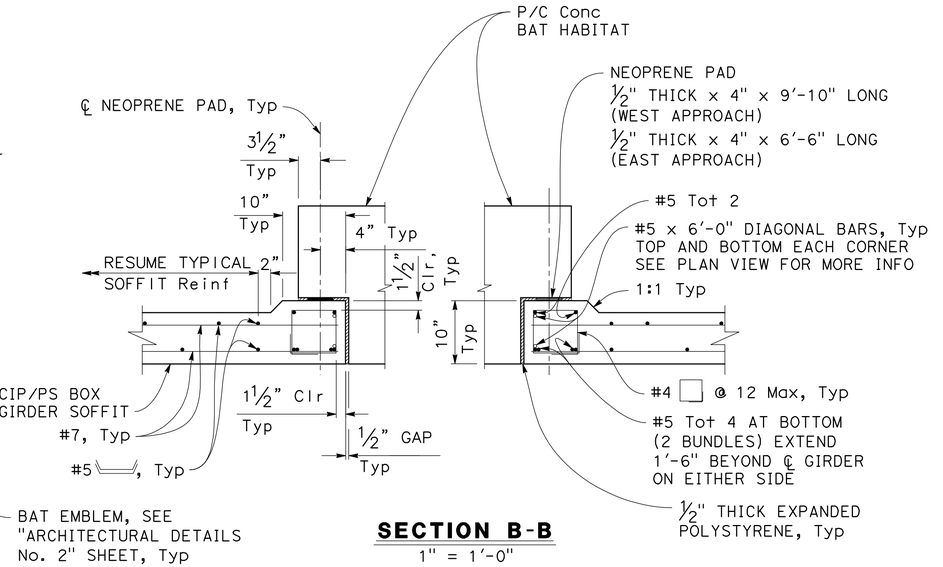


WEST APPROACH



EAST APPROACH

PLAN
1" = 10'



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

NOTE:

Precast concrete bat habitat to be centered in box girder bay and placed parallel with centerline of adjacent girders.

(NOT FOR CONSTRUCTION)

S-68

DATE PLOTTED => 3-Nov-25
TIME PLOTTED => 1:20 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

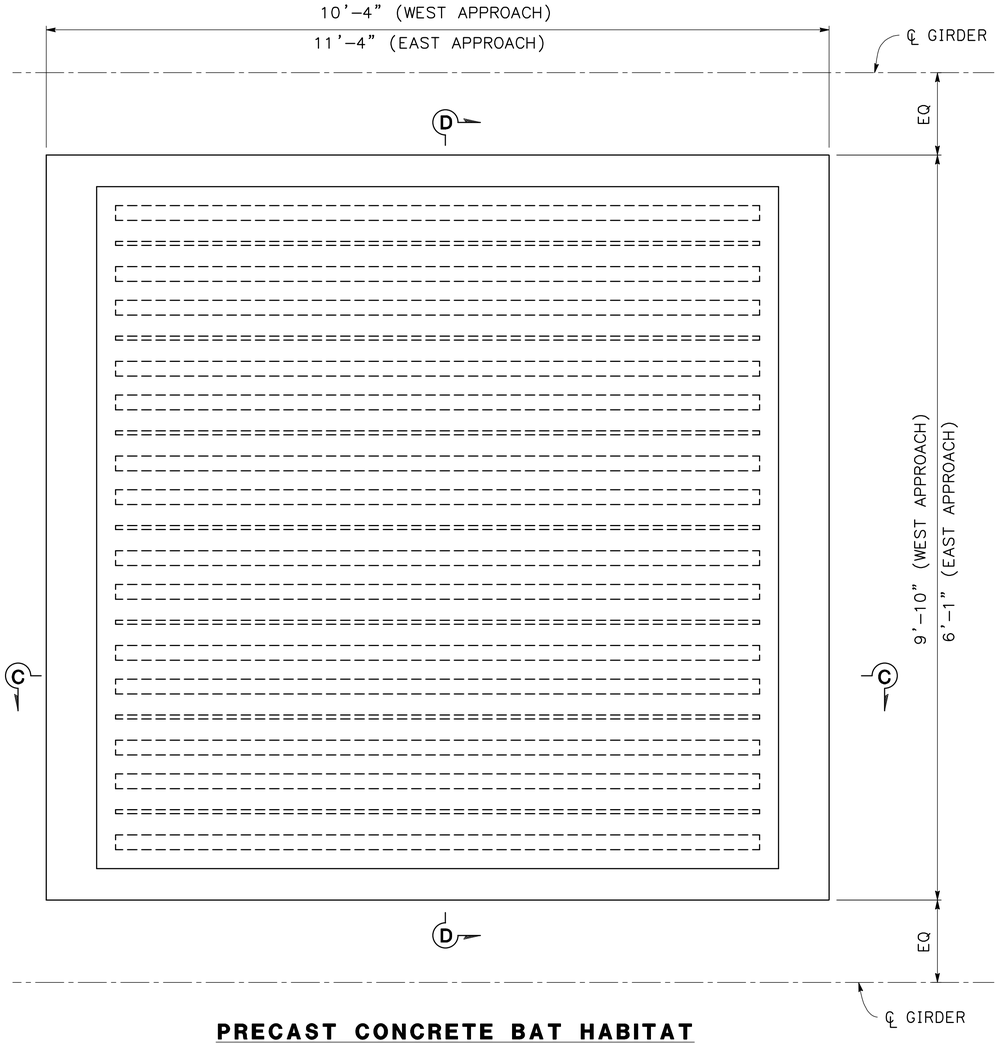
DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
PRECAST CONCRETE BAT HABITAT DETAILS No. 1

T15136000

SHEET 310 — OF — 648



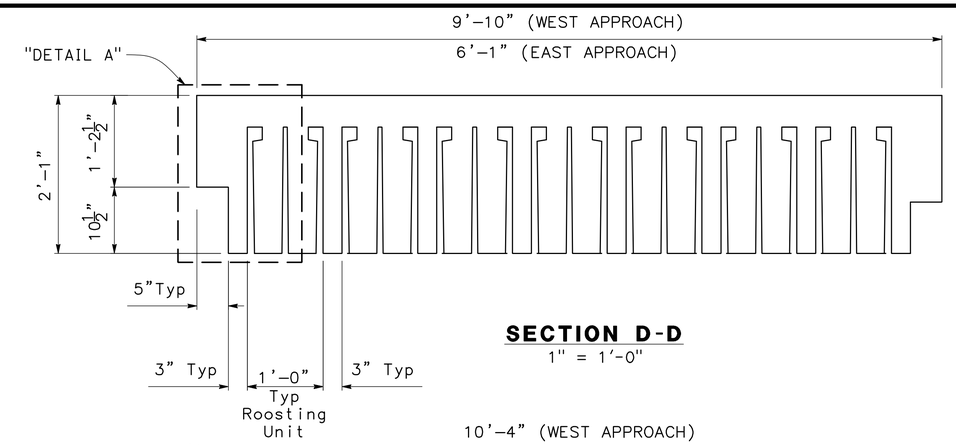
PRECAST CONCRETE BAT HABITAT
NO SCALE

NOTES:

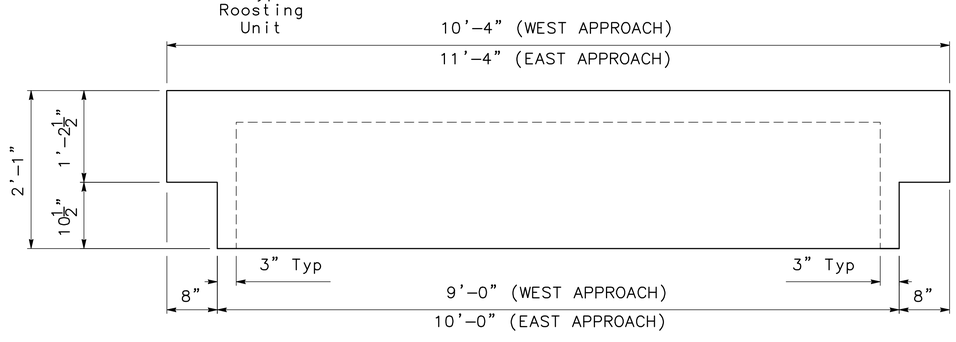
1. Precast Concrete bat habitat to be designed and detailed by the Supplier. Design shall include concrete mix, reinforcement detailing and necessary considerations to transport, lift, and install to its final condition. Refer to the Special Provisions for more information. Design shall be submitted to EOR for review prior to installation.

2. Precast concrete bat habitat must conform to the dimension shown on plans.

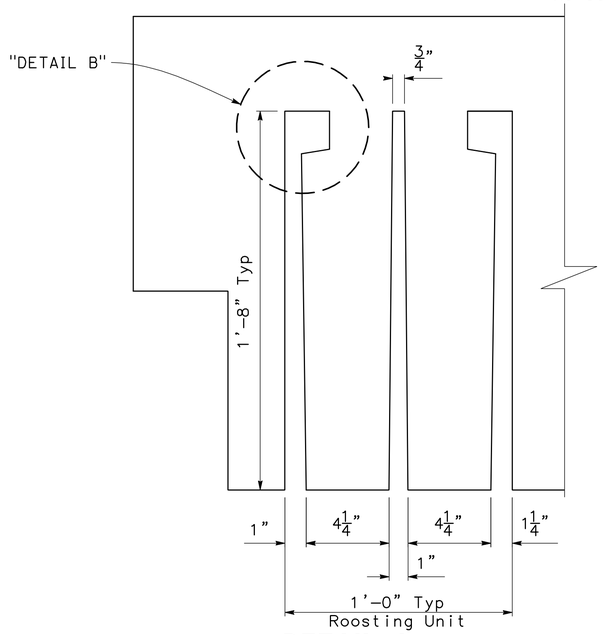
3. Total self weight of the bat habitat enclosure must not exceed the below design values:
   a) West Approach superstructure design includes 25 kips (Dead Load) for each precast concrete bat habitat location (at West Approach).
   b) East Approach superstructure design includes 17 kips for each precast concrete bat habitat location (at East Approach).



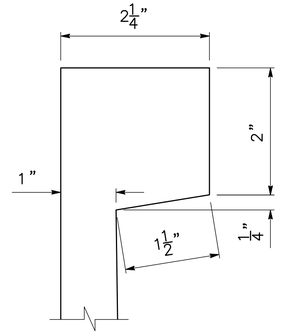
SECTION D-D
1" = 1'-0"



SECTION C-C
NO SCALE



DETAIL A
1" = 1'-0"



DETAIL B
1" = 1'-0"

(NOT FOR CONSTRUCTION)

S-69

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:20 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

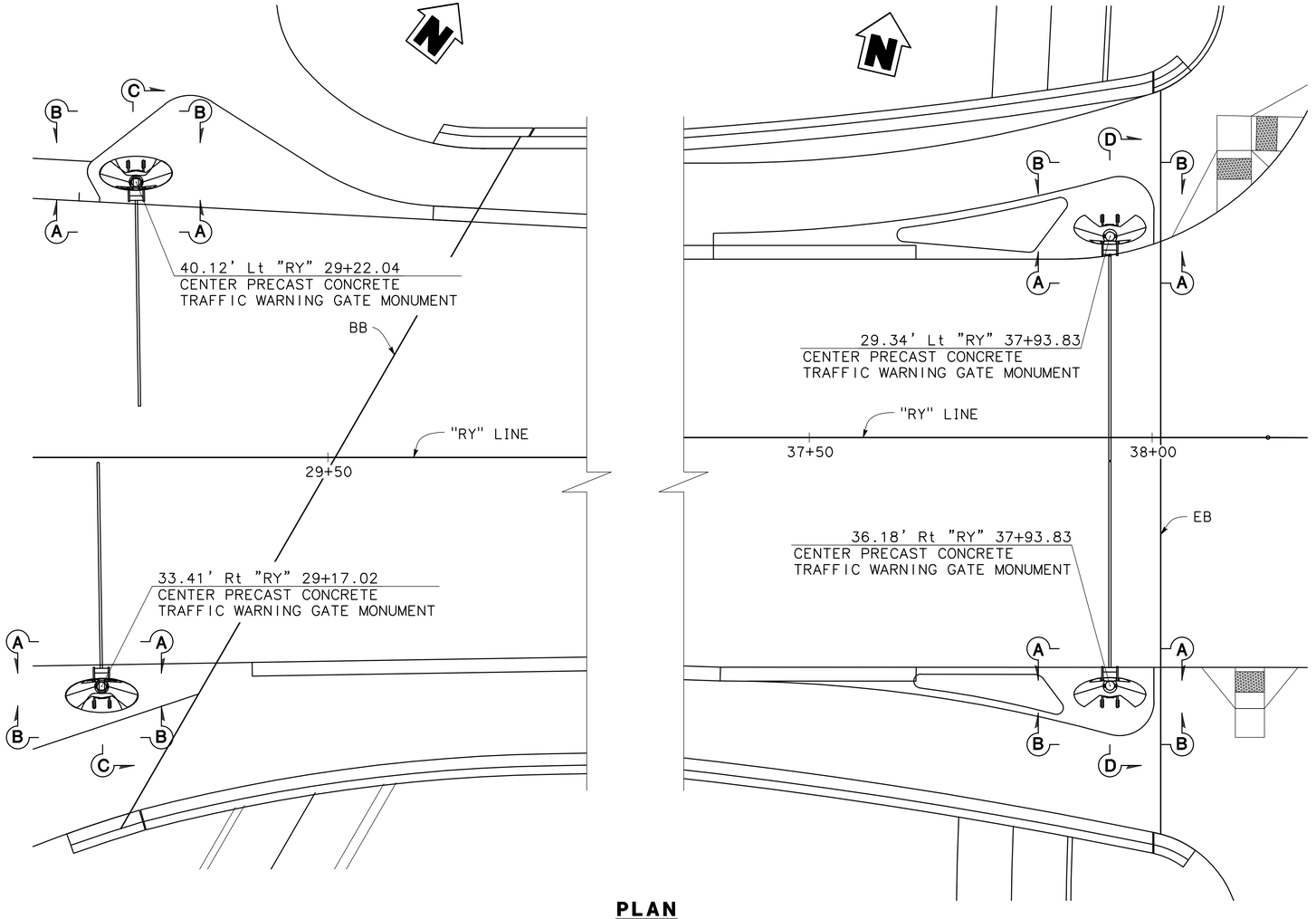
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

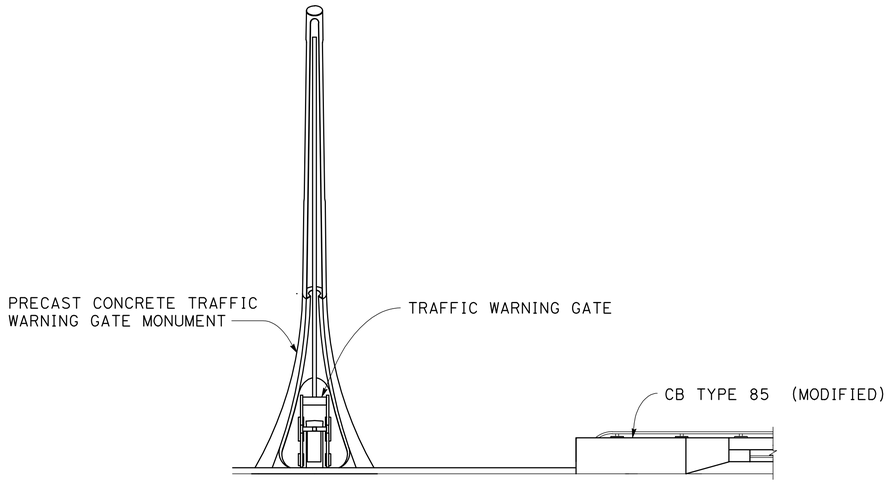
I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PRECAST CONCRETE BAT HABITAT
DETAILS No. 2

T15136000

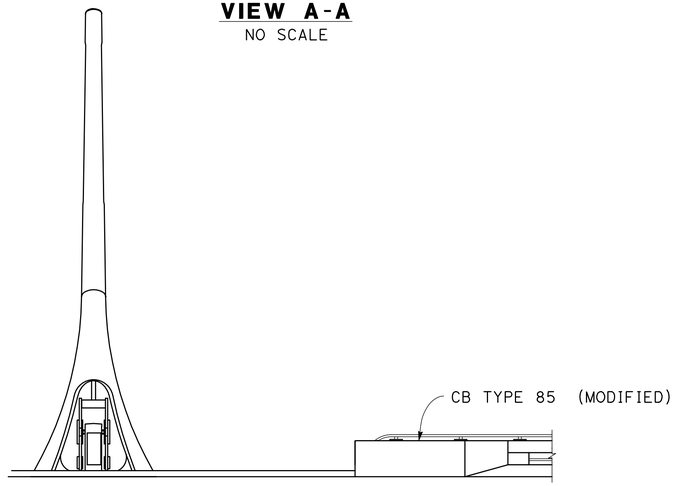
SHEET 311 OF 648



PLAN
1" = 10'



VIEW A-A
NO SCALE



VIEW B-B
NO SCALE

NOTES:

1. Traffic warning gate and precast concrete traffic warning gate monuments must conform to the dimensions shown on the plans.
2. Traffic warning gate must fit within the precast concrete traffic warning gate monument and operate without binding or being obstructed by the precast concrete traffic warning gate monument.
3. Supplier to design the concrete mix, reinforcement, anchorages and foundations as necessary to transport and install the precast concrete traffic warning gate monuments.
4. For Section C–C and D–D, see "PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 1" sheet.

(NOT FOR CONSTRUCTION)

S-70

DATE PLOTTED => 3-Nov-25
TIME PLOTTED => 1:21 PM

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

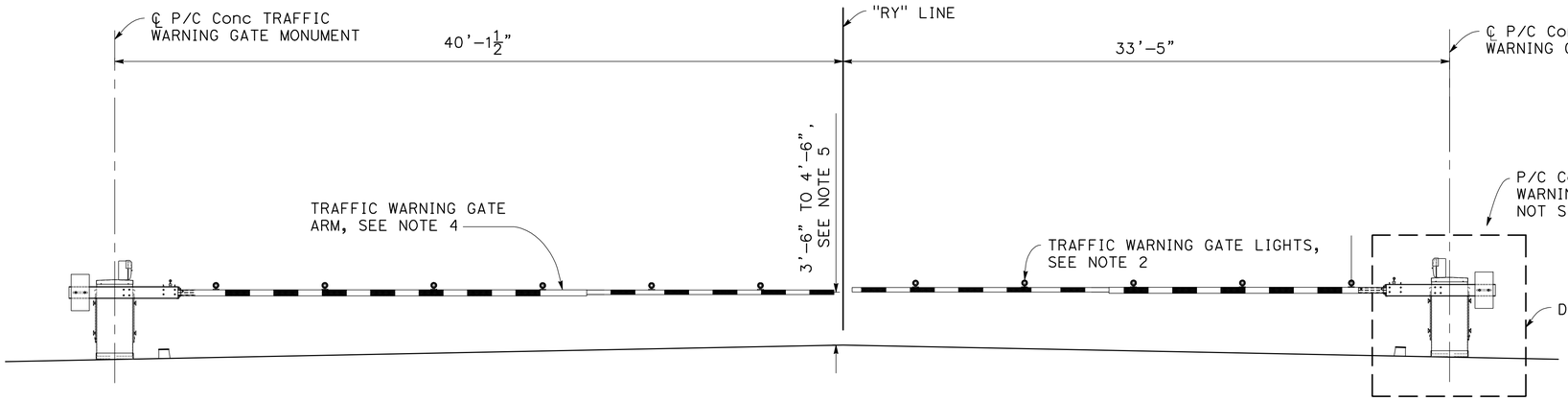
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

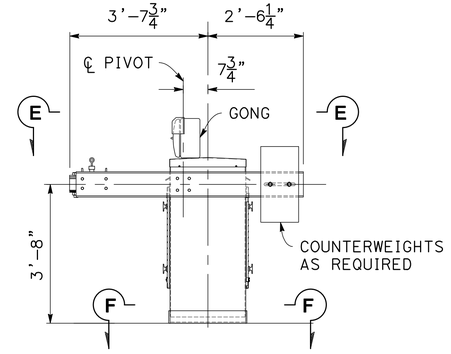
I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PRECAST CONCRETE TRAFFIC WARNING
GATE MONUMENT DETAILS No. 1

T15136000

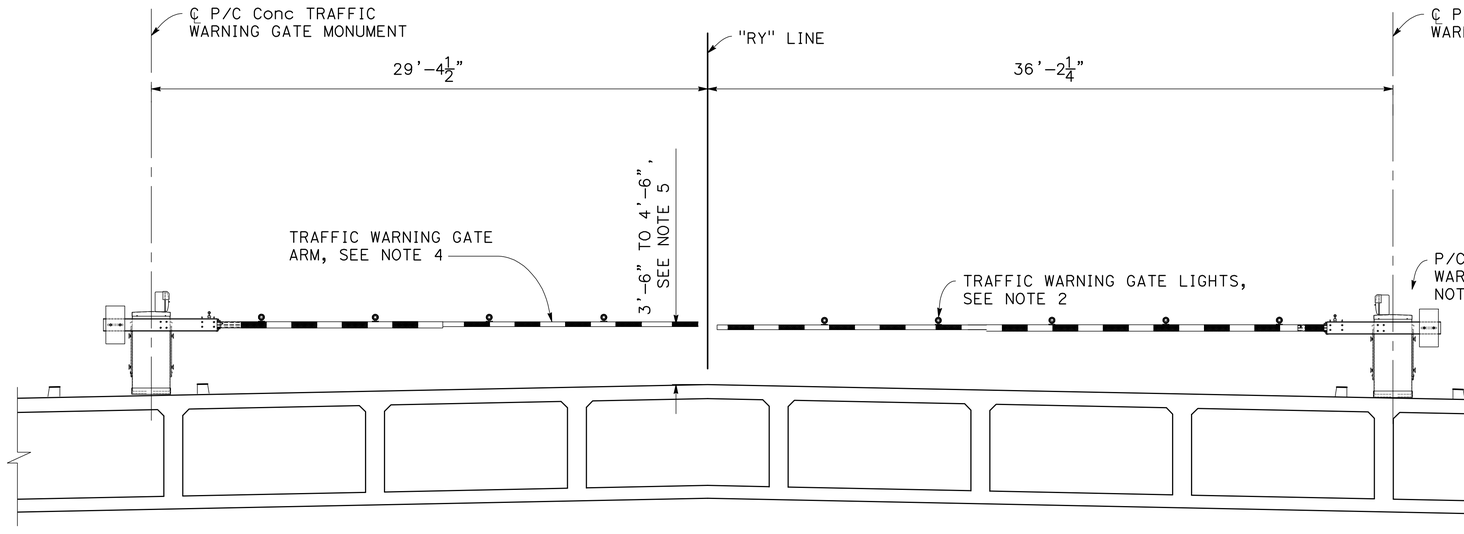
SHEET 312 — OF — 648



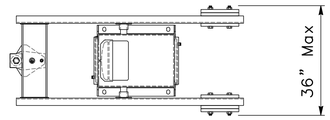
SECTION C-C
NO SCALE



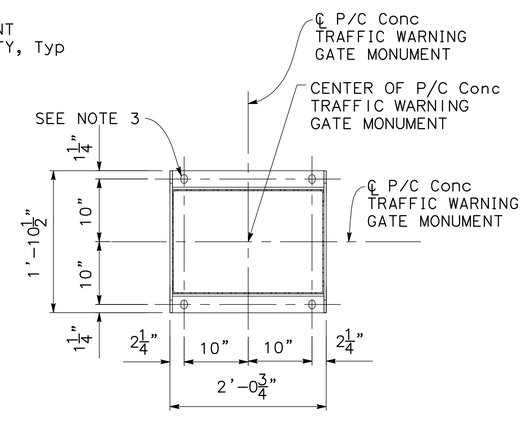
DETAIL A
NO SCALE



SECTION D-D
NO SCALE



VIEW E-E
NO SCALE



SECTION F-F
1" = 1'-0"

NOTES:

1. Contractor shall field verify all critical dimensions and submit shop drawings for the precast concrete traffic warning gate monuments prior to ordering any materials.
2. Space warning lights along the traffic warning gate arm at a 6 foot maximum spacing.
3. Anchorages and foundations per supplier design.
4. Traffic warning gate arm must extend across the approach traffic lanes and meet in the middle, no more than a 12 inch gap between arms. Contractor must verify traffic warning gate arm length prior to ordering any materials.
5. Traffic warning gate arm clearances must meet the current MUTCD requirements.
6. For SECTION C–C and SECTION D–D, see "PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 1" sheet.

(NOT FOR CONSTRUCTION)

S-71

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025
DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

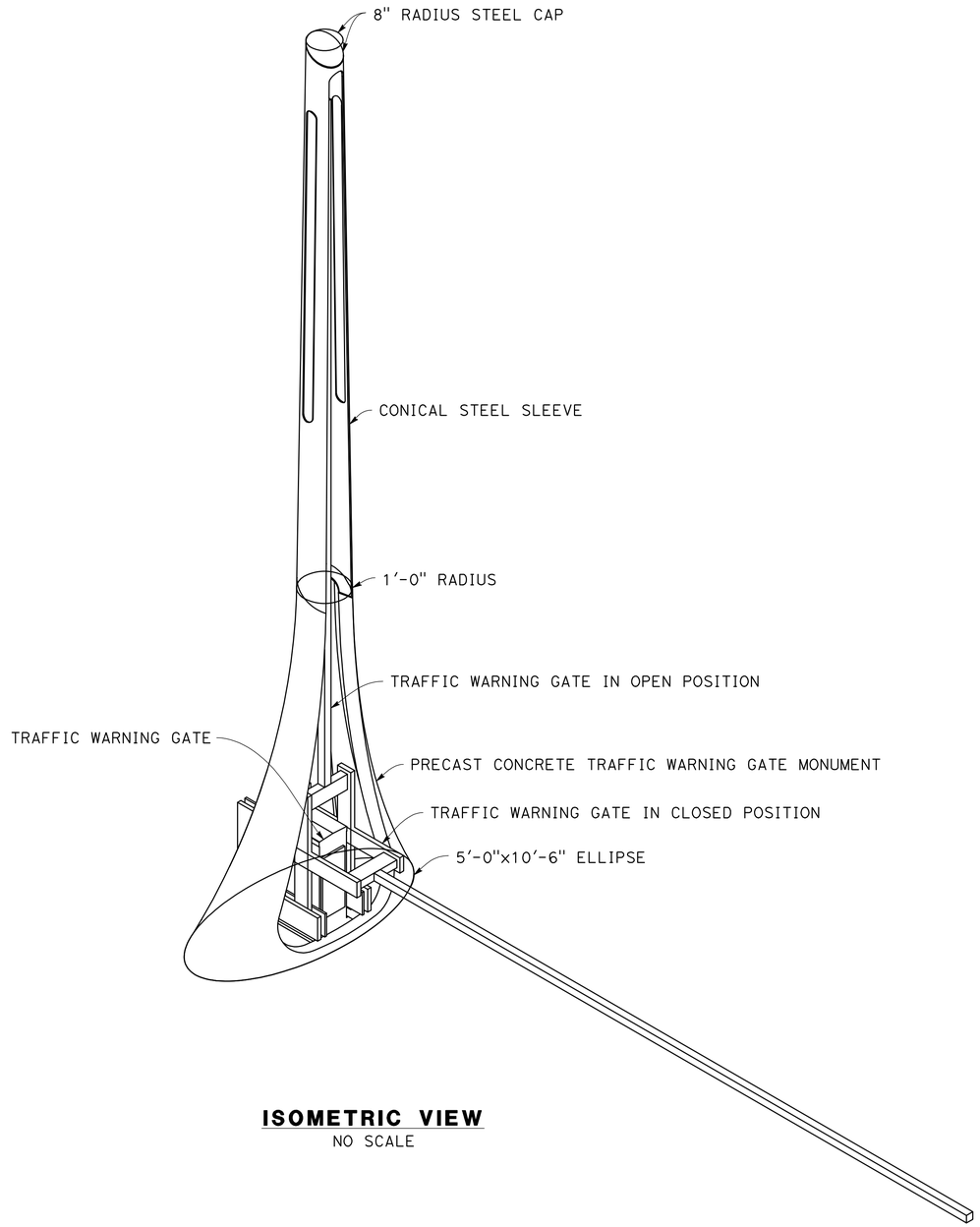
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 2

T15136000

SHEET 313 — OF — 648

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:21 PM



ISOMETRIC VIEW
NO SCALE

NOTES:

1. Traffic warning gate and precast concrete traffic warning gate monuments must conform to the dimensions shown on the plans.
2. Traffic warning gate must fit within the precast concrete traffic warning gate monument and operate without binding or being obstructed by the precast concrete traffic warning gate monument.
3. Supplier to design the concrete mix, reinforcement, anchorages and foundations as necessary to transport and install the precast concrete traffic warning gate monuments.
4. Paint conical steel sleeve and steel cap white per project specifications.

(NOT FOR CONSTRUCTION)

S-72

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:21 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: V. SHERBY
R.C.E. 80646 DATE 3-31-27

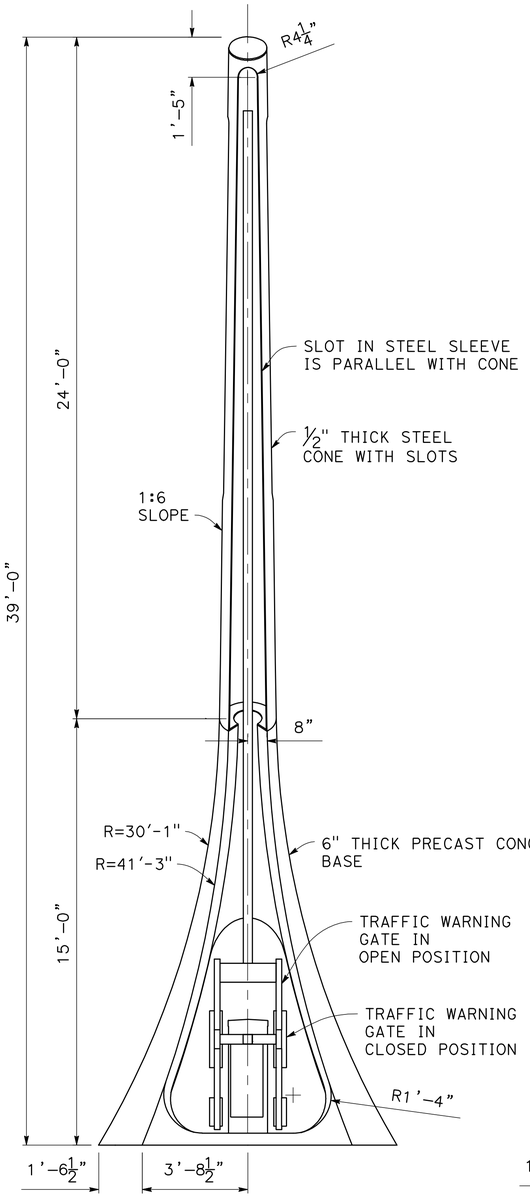
CHECKED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

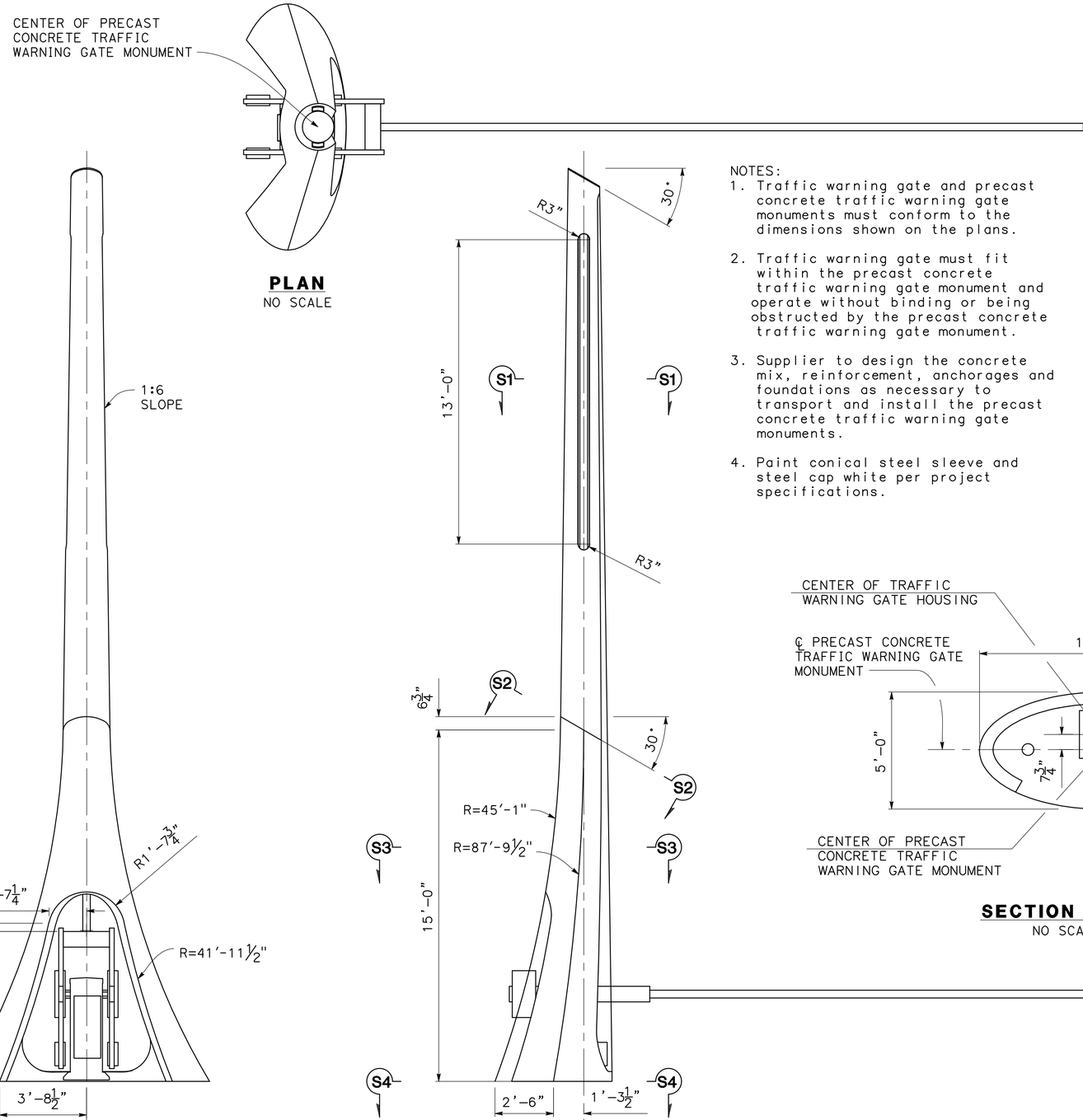
I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 3

T15136000

SHEET 314 OF 648



FRONT ELEVATION
NO SCALE

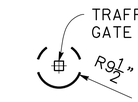


BACK ELEVATION
NO SCALE

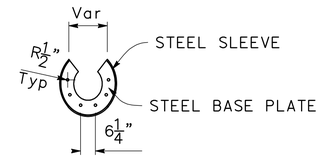
PLAN
NO SCALE

SIDE ELEVATION
NO SCALE

NOTES:
1. Traffic warning gate and precast concrete traffic warning gate monuments must conform to the dimensions shown on the plans.
2. Traffic warning gate must fit within the precast concrete traffic warning gate monument and operate without binding or being obstructed by the precast concrete traffic warning gate monument.
3. Supplier to design the concrete mix, reinforcement, anchorages and foundations as necessary to transport and install the precast concrete traffic warning gate monuments.
4. Paint conical steel sleeve and steel cap white per project specifications.

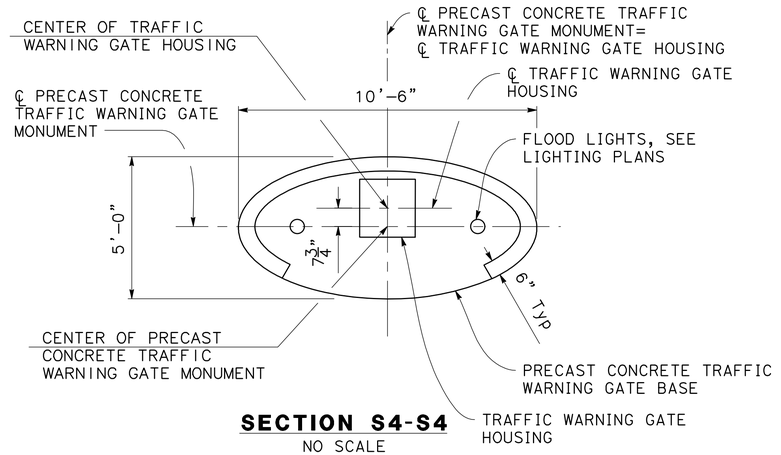


SECTION S1-S1
NO SCALE



SECTION S2-S2
NO SCALE

SECTION S3-S3
NO SCALE



SECTION S4-S4
NO SCALE

(NOT FOR CONSTRUCTION)

S-73

DATE PLOTTED => 3-Nov-25 TIME PLOTTED => 1:21 PM

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK
SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

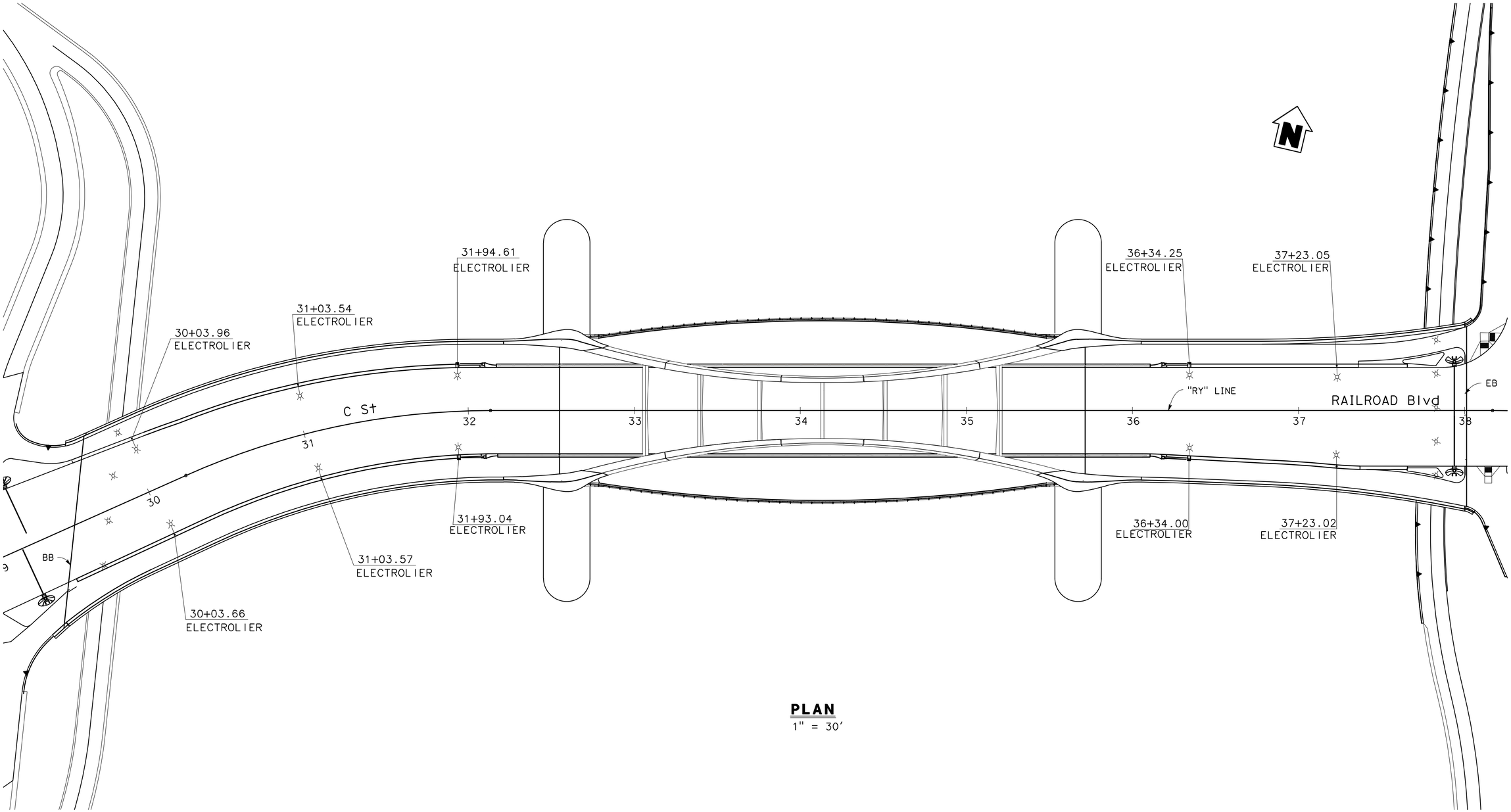
DRAWN BY: J. DOTY DATE 11/3/2025
DESIGNED BY: V. SHERBY R.C.E. 80646 DATE 3-31-27
CHECKED BY: K. LUNDBLOM R.C.E. 92686 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783 EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
PRECAST CONCRETE TRAFFIC WARNING GATE MONUMENT DETAILS No. 4

T15136000

SHEET 315 OF 648



PLAN
1" = 30'

(NOT FOR CONSTRUCTION)

S-74

TIME PLOTTED => 1:22 PM
DATE PLOTTED => 3-Nov-25

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K. LUNDBLOM
R.C.E. 92686 DATE 9-30-25

CHECKED BY: H. YANG
R.C.E. 92971 DATE 12-31-25

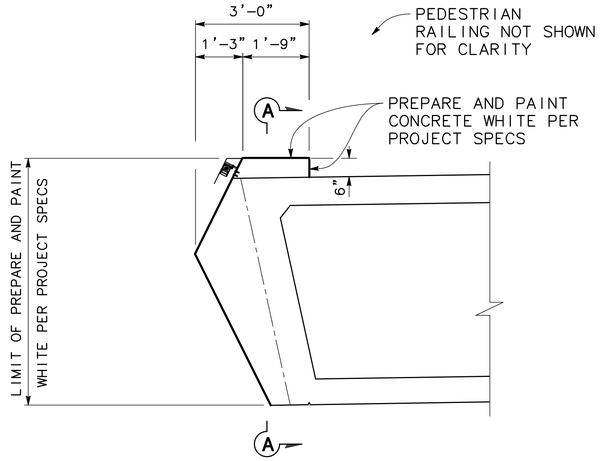
MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

BRIDGE LIGHTING LAYOUT

T15136000

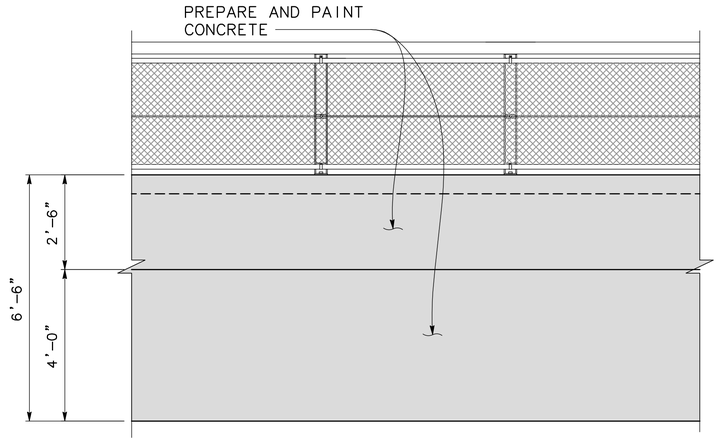
SHEET 316 — OF — 648



EAST AND WEST APPROACH

LIMITS OF PREPARE AND PAINT CONCRETE

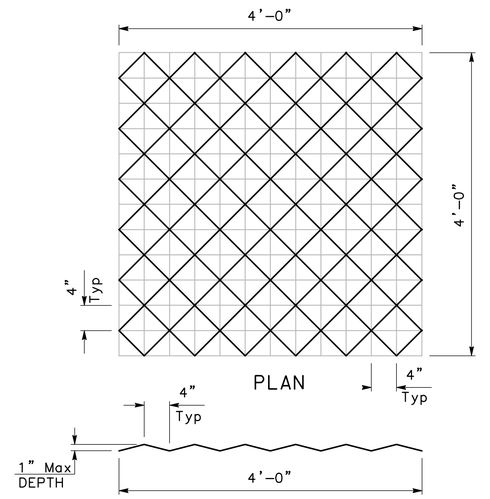
1/2" = 1'-0"



ELEVATION

SECTION A-A

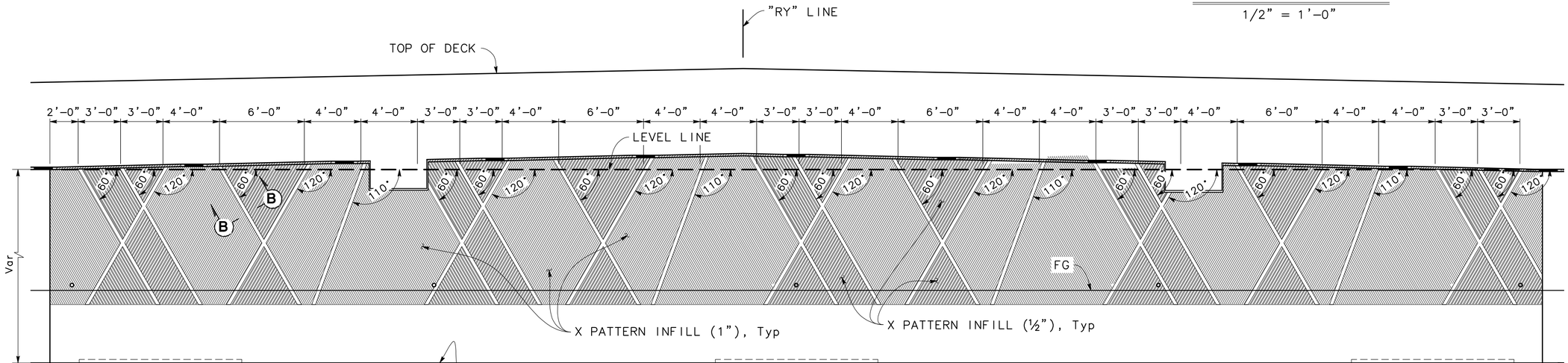
1/2" = 1'-0"

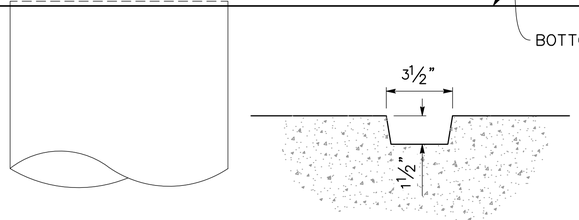


ELEVATION

CONCRETE SURFACE TEXTURE (4-SIDED PYRAMID)

1/2" = 1'-0"





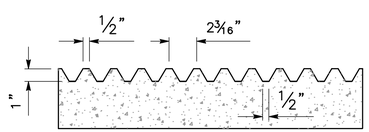
SECTION B-B

3" = 1'-0"

FACE OF ABUTMENT 6 PILE CAP

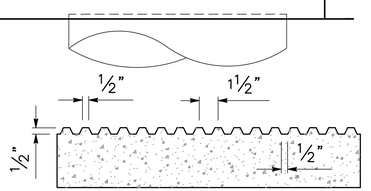
CONCRETE SURFACE TEXTURE (X PATTERN)

1/4" = 1'-0"



X PATTERN INFILL (1")

2" = 1'-0"



X PATTERN INFILL (1/2")

2" = 1'-0"

(NOT FOR CONSTRUCTION)

S-75

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K LUNDBLOM
R.C.E. 92686 DATE 9-30-25

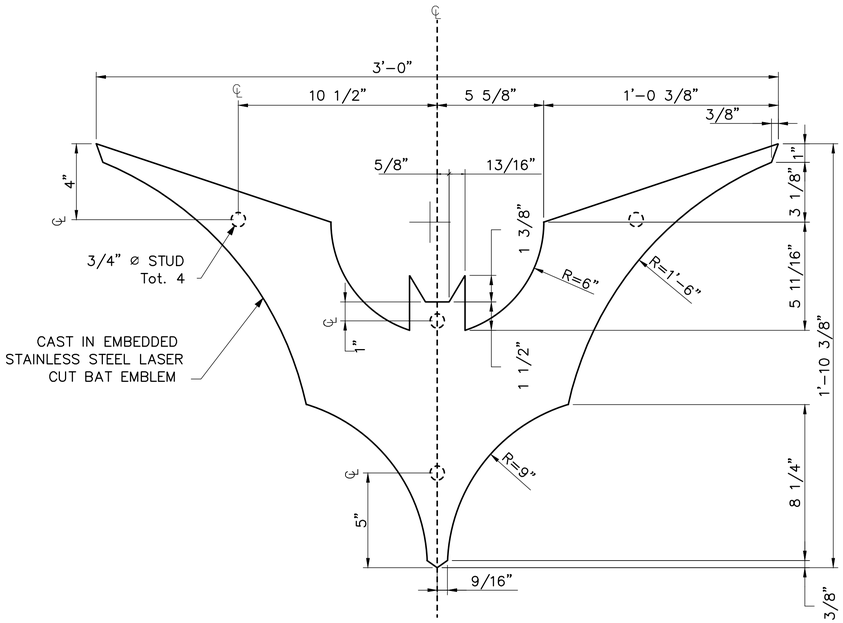
CHECKED BY: M MOORE
R.C.E. S 6557 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF: JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER
ARCHITECTURAL TREATMENT DETAILS No. 1

T15136000

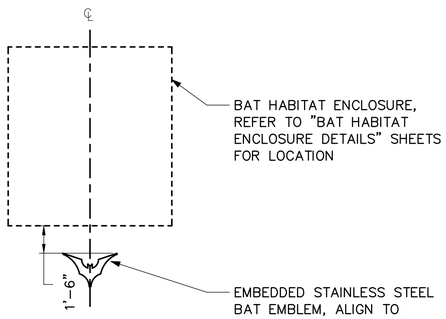
SHEET 317 OF 648



NOTE: ALL DIMENSIONS ARE SYMMETRIC ABOUT CENTERLINE

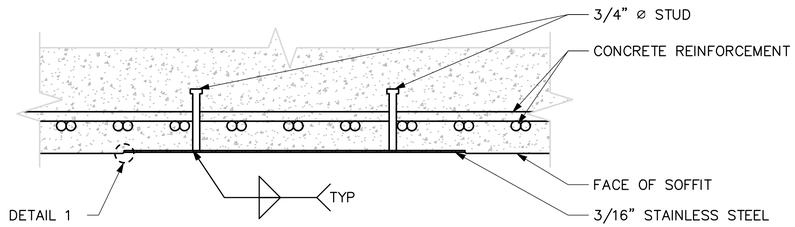
BAT EMBLEM DETAIL

6" = 1'-0"



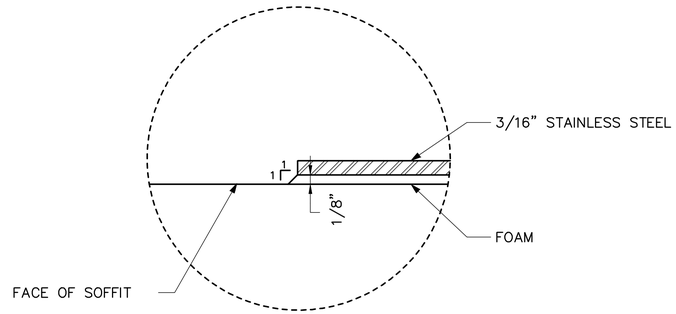
EMBLEM REFLECTED CEILING PLAN

1/4" = 1'-0"



SECTION A-A

1½" = 1'-0"



DETAIL 1

1" = 1'-0"

(NOT FOR CONSTRUCTION)

S-76

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297-B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297-B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK

SCALE
HORIZ. AS NOTED
VERT. N/A

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. DOTY
DATE 11/3/2025

DESIGNED BY: K LUNDBLOM
R.C.E. 92686 DATE 9-30-25

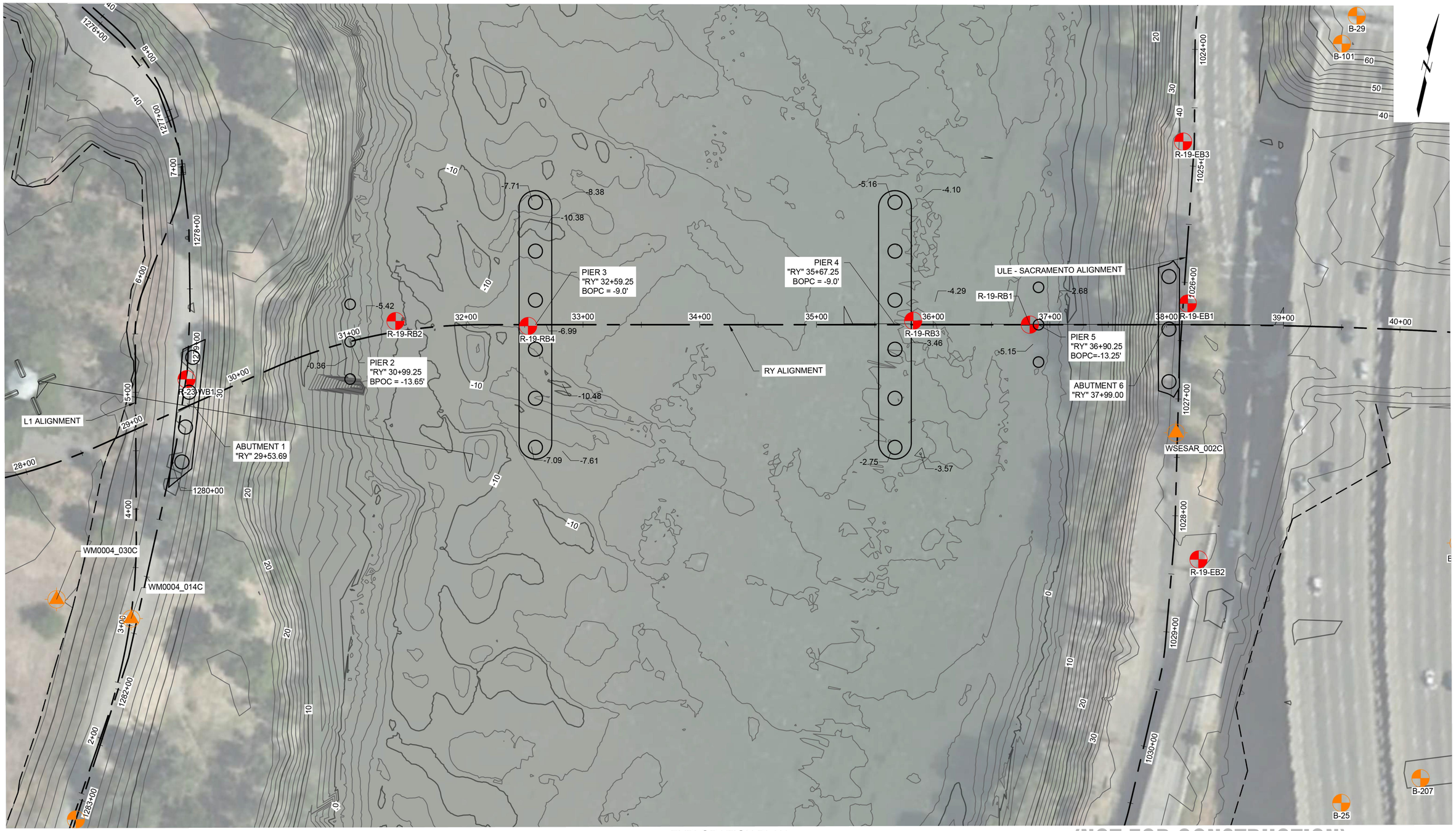
CHECKED BY: M MOORE
R.C.E. S 6557 DATE 9-30-25

MARK THOMAS
UNDER THE SUPERVISION OF:
JASON BRADFORD HICKEY
R.S.E. S 5783
EXP. 6-30-26

I STREET BRIDGE REPLACEMENT
OVER SACRAMENTO RIVER
ARCHITECTURAL TREATMENT
DETAILS No. 2

T15136000

SHEET 318 OF 648



EXPLORATION PLAN

SCALE: 1:40

(NOT FOR CONSTRUCTION)

LEGEND:

- BORING BY GEI (2019)
- BORING BY GEI (2023)
- CPT BY OTHERS

0 40 80
SCALE, FEET

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

GEI Consultants
2868 PROSPECT PARK DRIVE
SUITE 400
RANCHO CORDOVA, CA 95670
(916)631-4500

CITY OF SACRAMENTO
915 I STREET
ROOM 2000
SACRAMENTO, CA 95814

I STREET BRIDGE REPLACEMENT

SACRAMENTO AND YOLO COUNTIES, CALIFORNIA

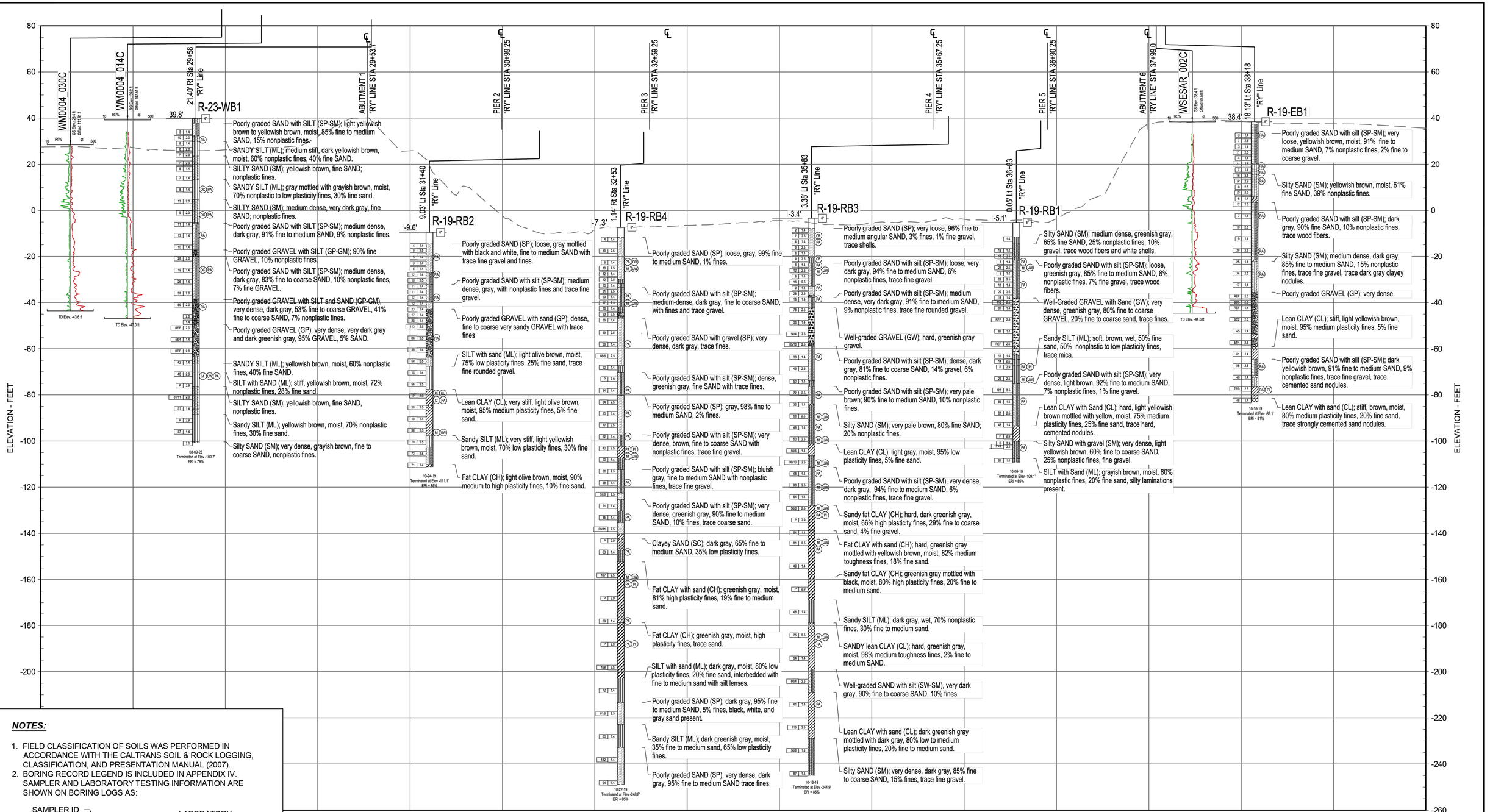
LOG OF TEST BORINGS PLAN

PLATE NO.

1

S-77

319 OF 648



NOTES:

1. FIELD CLASSIFICATION OF SOILS WAS PERFORMED IN ACCORDANCE WITH THE CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2007).
2. BORING RECORD LEGEND IS INCLUDED IN APPENDIX IV. SAMPLER AND LABORATORY TESTING INFORMATION ARE SHOWN ON BORING LOGS AS:

SAMPLER ID
1.4" ID = SPT
2.5" ID = STD CAL
2.87" ID = SHELBY

4 | 1.4
BLOW COUNT

PA
LABORATORY TESTING, REFER TO APPENDIX IV

3. STANDARD PENETRATION TESTS WERE PERFORMED IN ACCORDANCE WITH ASTM D 1586 USING AN AUTOMATED DROP SYSTEM.
4. IF LABORATORY TESTS ARE NOT SHOWN FOR A GIVEN SAMPLE, THE SOIL DESCRIPTIONS PRESENTED IN LOTB ARE BASED ON CRITERIA OUTLINED IN THE BORING RECORD LEGEND AS PART OF APPENDIX IV.
5. BORING LOCATIONS ARE APPROXIMATE.

HORIZONTAL SCALE, FEET
0 50 100
0 20 40
VERTICAL SCALE, FEET
NOTE: 2.5 VERTICAL EXAGGERATION

(NOT FOR CONSTRUCTION)

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

GEI Consultants
2868 PROSPECT PARK DRIVE
SUITE 400
RANCHO CORDOVA, CA 95670
(916)631-4500

CITY OF SACRAMENTO
915 I STREET
ROOM 2000
SACRAMENTO, CA 95814

I STREET BRIDGE REPLACEMENT

SACRAMENTO AND YOLO COUNTIES, CALIFORNIA

LOG OF TEST BORINGS PROFILE

PLATE NO.
2

B:\Working\MARK THOMAS & CO\1701459 Sacramento I Street Bridge Replacement\00_CAD_Engr Analysis\Geotech\Profiles\CAD Files\Plan and Profiles-LOTB_2025.07_Combined.dwg - 7/15/2025

CITY OF SACRAMENTO

DEPARTMENT OF PUBLIC WORKS

I-STREET BRIDGE REPLACEMENT PROJECT
SACRAMENTO, CA

MAIN MOVABLE SPAN STRUCTURAL

NOT FOR CONSTRUCTION

INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE
MS-001	TITLE SHEET - MAIN SPAN
MS-002	GENERAL PLAN AND ELEVATION
MS-003	GENERAL NOTES - 1
MS-004	GENERAL NOTES - 2
MS-005	GENERAL NOTES - 3
MS-006	WIND LOAD CASES - 1
MS-007	WIND LOAD CASES - 2
MS-008	WIND LOAD CASES - 3
MS-009	PIER GENERAL PLAN AND ELEVATION
MS-010	PIER SECTIONS - 1
MS-011	PIER SECTIONS - 2
MS-012	PIER SECTIONS - 3
MS-013	PIER SECTIONS - 4
MS-014	PIER SECTIONS - 5
MS-015	PIER SECTIONS - 6
MS-016	CIDH PILE DETAILS
MS-017	PIER FOOTING CAP DETAILS - 1
MS-018	PIER FOOTING CAP DETAILS - 2
MS-019	PIER COLUMN DETAILS - 1
MS-020	PIER COLUMN DETAILS - 2
MS-021	PIER FLOOR DETAILS - 1
MS-022	PIER FLOOR DETAILS - 2
MS-023	PIER FLOOR DETAILS - 3
MS-024	PIER FLOOR DETAILS - 4
MS-025	ELECTRICAL ROOM - 1
MS-026	ELECTRICAL ROOM - 2
MS-027	PIER CRANE DETAILS - 1
MS-028	PIER CRANE DETAILS - 2
MS-029	PIER WALL DETAILS - 1
MS-030	PIER WALL DETAILS - 2
MS-031	PIER WALL DETAILS - 3
MS-032	TOWER APRON DETAILS - 1
MS-033	TOWER APRON DETAILS - 2
MS-034	TOWER APRON DETAILS - 3
MS-035	PIER ROOF JOISTS
MS-036	PIER ROOF DETAILS - 1
MS-037	PIER ROOF DETAILS - 2
MS-038	TOWER LEG DETAILS - 1
MS-039	TOWER LEG DETAILS - 2
MS-040	TOWER LEG DETAILS - 3
MS-041	TOWER LEG DETAILS - 4
MS-042	TOWER LEG DETAILS - 5
MS-043	SHEAVE BASE CORBEL AND PEDESTAL DETAIL
MS-044	SHEAVE BOLSTER AND ANCHORAGE
MS-045	TOWER ROOF DETAILS - 1
MS-046	TOWER ROOF DETAILS - 2
MS-047	SHEAVE HOOD DETAILS
MS-048	DEFLECTOR SHEAVE SUPPORT DETAILS - 1
MS-049	DEFLECTOR SHEAVE SUPPORT DETAILS - 2
MS-050	COUNTERWEIGHT SUPPORT BEAM DETAILS - 1
MS-051	COUNTERWEIGHT SUPPORT BEAM DETAILS - 2
MS-052	COUNTERWEIGHT SUPPORT BEAM DETAILS - 3
MS-053	COUNTERWEIGHT SUPPORT BEAM DETAILS - 4
MS-054	COUNTERWEIGHT DETAILS - 1
MS-055	COUNTERWEIGHT DETAILS - 2
MS-056	COUNTERWEIGHT DETAILS - 3
MS-057	COUNTERWEIGHT DETAILS - 4
MS-058	COUNTERWEIGHT DETAILS - 5
MS-059	COUNTERWEIGHT DETAILS - 6
MS-060	COUNTERWEIGHT GUIDE RAIL
MS-061	COUNTERWEIGHT GUIDE RAIL DETAILS
MS-062	TOWER ACCESS DETAILS - 1
MS-063	TOWER ACCESS DETAILS - 2
MS-064	TOWER ACCESS DETAILS - 3
MS-065	TOWER ACCESS DETAILS - 4
MS-066	TOWER ACCESS DETAILS - 5
MS-067	TOWER ACCESS DETAILS - 6
MS-068	TOWER ACCESS DETAILS - 7
MS-069	PIER ACCESS DETAILS - 1
MS-070	PIER ACCESS DETAILS - 2
MS-071	PIER ACCESS DETAILS - 3
MS-072	PIER ACCESS DETAILS - 4
MS-073	PIER ACCESS DETAILS - 5
MS-074	PIER ACCESS DETAILS - 6
MS-075	FENDER RUBBING STRIP DETAILS
MS-076	FACADE ANCHORAGE DETAILS - 1
MS-077	FACADE ANCHORAGE DETAILS - 2
MS-078	LIFT SPAN GENERAL PLAN AND ELEVATION
MS-079	LIFT SPAN TYPICAL SECTION
MS-080	LIFT SPAN GEOMETRY - 1
MS-081	LIFT SPAN GEOMETRY - 2
MS-082	LIFT SPAN GEOMETRY - 3
MS-083	ARCH CAMBER DIAGRAM - 1
MS-084	ARCH CAMBER DIAGRAM - 2
MS-085	MEMBER FORCES
MS-086	ARCH RIB MEMBER DESIGN
MS-087	TIE GIRDER MEMBER DESIGN
MS-088	HANGER MEMBER DESIGN
MS-089	UPPER LATERAL MEMBER DESIGN
MS-090	LOWER LATERAL MEMBER DESIGN
MS-091	STRINGER MEMBER DESIGN
MS-092	END FLOORBEAM MEMBER DESIGN
MS-093	INT. FLOORBEAM MEMBER DESIGN
MS-094	KNUCKLE DETAILS - 1
MS-095	KNUCKLE DETAILS - 2
MS-096	KNUCKLE DETAILS - 3
MS-097	KNUCKLE DETAILS - 4
MS-098	KNUCKLE DETAILS - 5
MS-099	ARCH RIB RS1 TO RS2
MS-100	ARCH RIB RS2 TO RS3
MS-101	ARCH RIB RS3 TO RS4
MS-102	ARCH RIB DETAILS
MS-103	ARCH RIB SPLICE DETAILS - 1
MS-104	ARCH RIB SPLICE DETAILS - 2
MS-105	KNUCKLE COVER - 1
MS-106	KNUCKLE COVER - 2
MS-107	UPPER LATERAL UL1
MS-108	UPPER LATERAL UL2
MS-109	UPPER LATERAL UL3
MS-110	UPPER LATERAL UL4
MS-111	UPPER LATERAL DETAILS
MS-112	HANGER CONNECTION DETAILS - 1
MS-113	HANGER CONNECTION DETAILS - 2
MS-114	HANGER CONNECTION DETAILS - 3
MS-115	HANGER CONNECTION DETAILS - 4
MS-116	TIE GIRDER TS1 TO TS2
MS-117	TIE GIRDER TS2 TO TS3
MS-118	TIE GIRDER TS3 TO TS4
MS-119	TIE GIRDER DETAILS
MS-120	TIE GIRDER SPLICE TS1
MS-121	TIE GIRDER SPLICE TS2
MS-122	TIE GIRDER SPLICE TS3
MS-123	LIFT SPAN FRAMING PLAN
MS-124	END FLOORBEAM DETAILS - 1
MS-125	END FLOORBEAM DETAILS - 2
MS-126	INTERIOR FLOORBEAM DETAILS
MS-127	FLOORBEAM CAMBER
MS-128	STRINGER DETAILS - 1
MS-129	STRINGER DETAILS - 2
MS-130	STRINGER DETAILS - 3
MS-131	LOWER LATERAL BRACING DETAILS - 1
MS-132	LOWER LATERAL BRACING DETAILS - 2
MS-133	BRIDGE RAILING DETAILS
MS-134	DECK PLAN
MS-135	LIFT SPAN DECK CONTOURS
MS-136	EXODERMIC DECK DETAILS - 1
MS-137	EXODERMIC DECK DETAILS - 2
MS-138	LIFT SPAN TO PIER ACCESS - 1
MS-139	LIFT SPAN TO PIER ACCESS - 2
MS-140	DECK POURING SEQUENCE
MS-141	LIFT SPAN JOINT DETAILS - 1
MS-142	LIFT SPAN JOINT DETAILS - 2
MS-143	LIFT SPAN JOINT DETAILS - 3
MS-144	LIFT SPAN JOINT DETAILS - 4
MS-145	LIFTING GIRDER DETAILS - 1
MS-146	LIFTING GIRDER DETAILS - 2
MS-147	LIFT SPAN BEARING KEY PLAN
MS-148	CENTERING DEVICE - 1
MS-149	CENTERING DEVICE - 2
MS-150	LIFT SPAN BEARINGS - 1
MS-151	LIFT SPAN BEARINGS - 2
MS-152	HANGER FLOOR FRAMING PLAN
MS-153	HANGER FLOOR FRAMING DETAILS - 1
MS-154	HANGER FLOOR FRAMING DETAILS - 2
MS-155	OVERLOOK FRAMING PLAN
MS-156	OVERLOOK FLOORBEAM DETAILS - 1
MS-157	OVERLOOK FLOORBEAM DETAILS - 2
MS-158	OVERLOOK FLOORBEAM DETAILS - 3
MS-159	OVERLOOK STRINGER DETAILS
MS-160	PEDESTRIAN RAILING DETAILS - 1
MS-161	PEDESTRIAN RAILING DETAILS - 2
MS-162	INSPECTION TRAVELER FRAMING PLAN
MS-163	INSPECTION TRAVELER DETAILS - 1
MS-164	INSPECTION TRAVELER DETAILS - 2
MS-165	INSPECTION TRAVELER DETAILS - 3
MS-166	INSPECTION TRAVELER RAIL
MS-167	SUGGESTED CONSTRUCTION STAGING - 1
MS-168	SUGGESTED CONSTRUCTION STAGING - 2
MS-169	SUGGESTED CONSTRUCTION STAGING - 3
MS-170	SUGGESTED LIFT SPAN STAGING - 1
MS-171	SUGGESTED LIFT SPAN STAGING - 2

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. POE DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

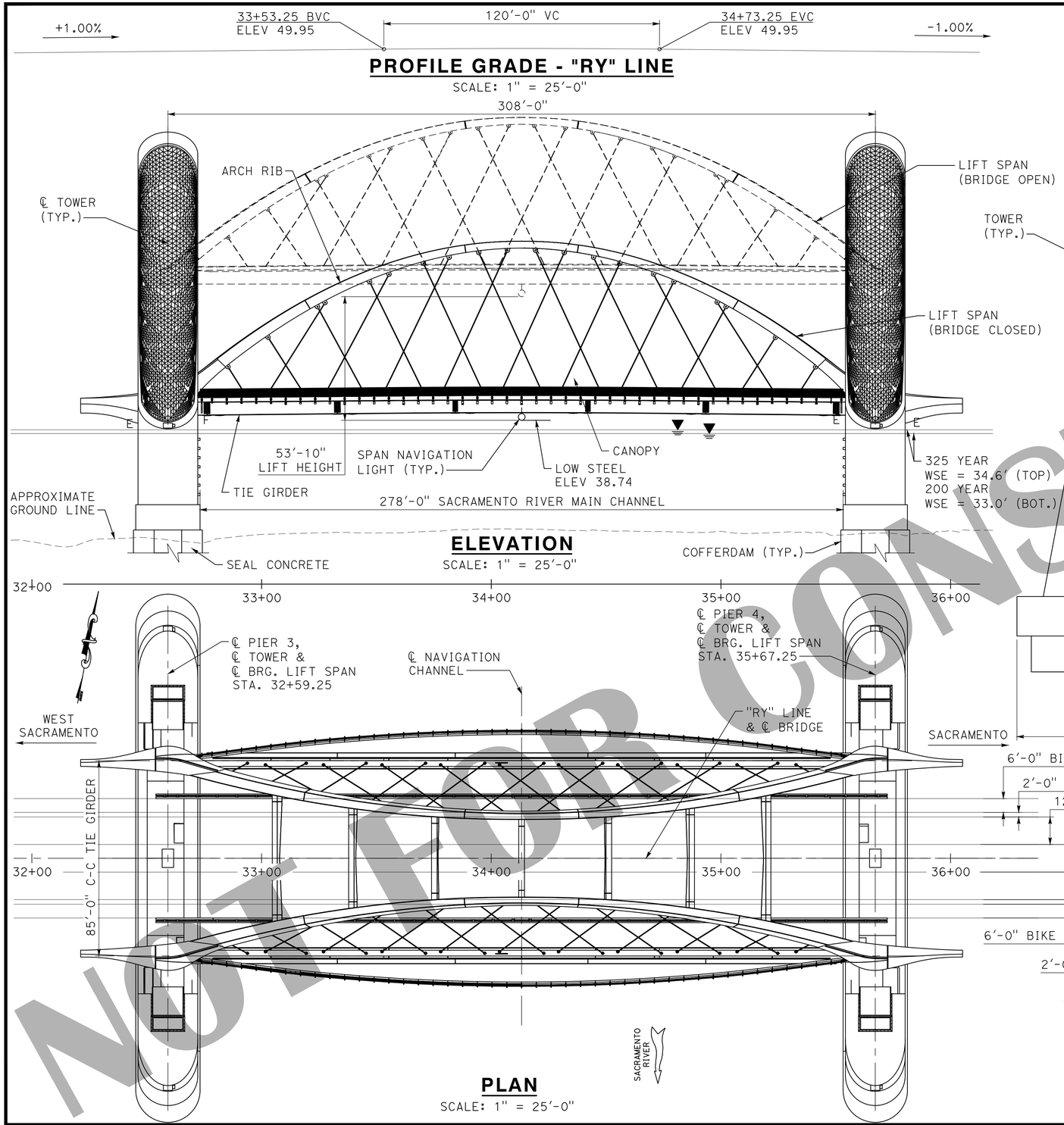
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TITLE SHEET - MAIN SPAN
(Date: 11/03/2025)

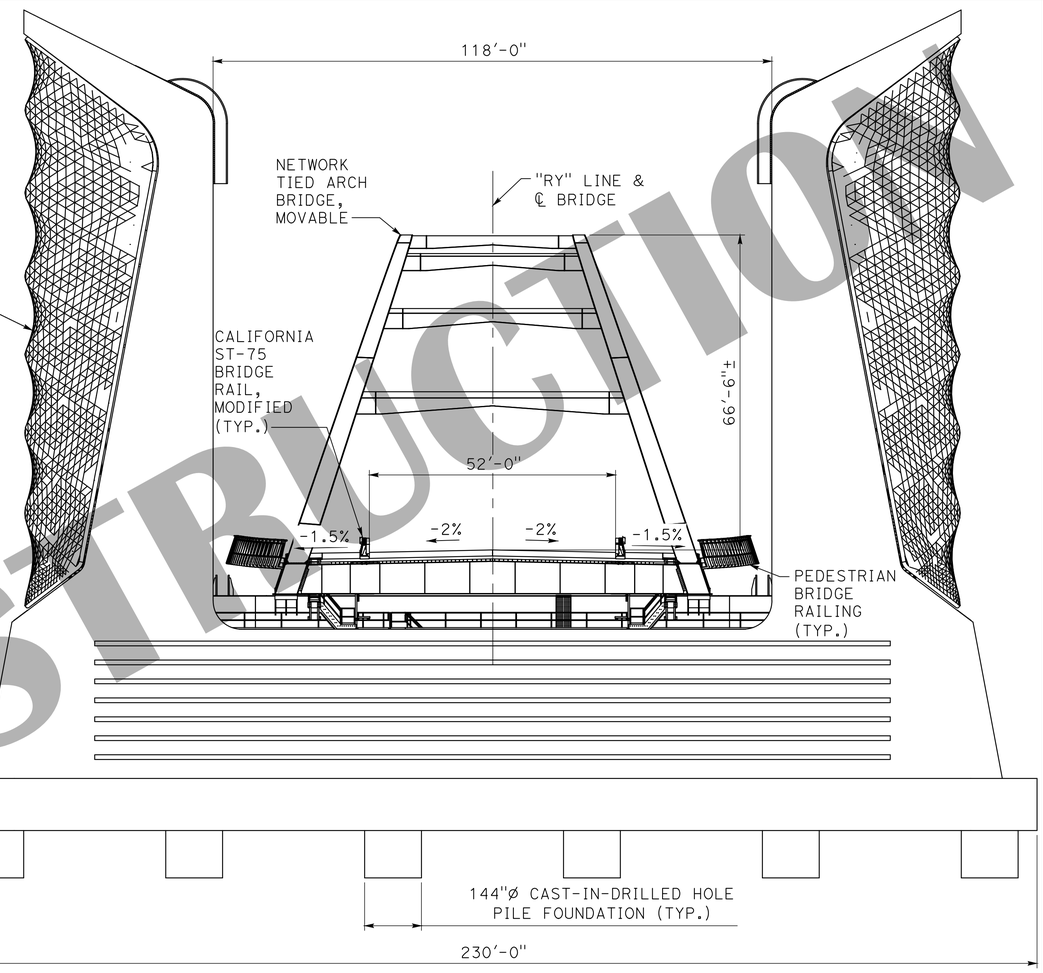
PN: T15136000

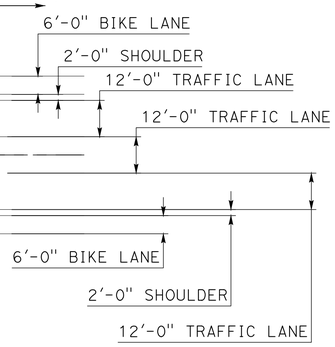
DWG NO.: MS-001
SHT NO.: 321 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-001 TITLE SHEET - MAIN SPAN.dwg LAST PLOTTED: 11/3/2025 1:35:14 PM







TYPICAL SECTION

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: C. AHLSKOG
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
GENERAL PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-002
SHT NO.: 322 OF 648

p:\3326.01\CADD\Structural\MS-002 GENERAL PLAN AND ELEVATION.dwg LAST PLOTTED: 11/3/2025 1:35:41 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

GENERAL NOTES:

1. DESIGN SPECIFICATIONS:
   - 1.1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION WITH CALIFORNIA AMENDMENTS, 2019 UNLESS NOTED OTHERWISE.
   - 1.2. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, NINTH EDITION, 2020 WAS UTILIZED FOR THE DESIGN OF STEEL BOX MEMBERS.
   - 1.3. AASHTO LRFD MOVABLE HIGHWAY BRIDGE DESIGN SPECIFICATIONS, SECOND EDITION, 2007 WITH 2018 INTERIM REVISIONS.
   - 1.4. AASHTO/AWS D1.5M/D1.5:2020, BRIDGE WELDING CODE.
   - 1.5. CALTRANS SEISMIC DESIGN CRITERIA, VERSION 2.0, 2019.
   - 1.6. CALTRANS SEISMIC DESIGN SPECIFICATIONS FOR STEEL BRIDGES, SECOND EDITION, 2016.
   - 1.7. AASHTO LRFD GUIDE SPECIFICATIONS FOR INTERNAL REDUNDANCY OF MECHANICALLY-FASTENED BUILT-UP STEEL MEMBERS, FIRST EDITION, 2018.
   - 1.8. AASHTO STEEL BRIDGE FABRICATION SPECIFICATION, FIRST EDITION, 2023 WITH 2024 INTERIM REVISIONS.
   - 1.9. POST-TENSIONING INSTITUTE GUIDE SPECIFICATION - RECOMMENDATIONS FOR STAY CABLE DESIGN, TESTING AND INSTALLATION, FIFTH EDITION, 2007.
   - 1.10. AASHTO GUIDE SPECIFICATIONS AND COMMENTARY FOR VESSEL COLLISION DESIGN OF HIGHWAY BRIDGES, SECOND EDITION, 2009 WITH 2010 INTERIM REVISIONS.
2. CONSTRUCTION AND MATERIAL SPECIFICATION:
   - 2.1. CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, 2023.
3. GENERAL:
   - 3.1. ALL DIMENSIONS ARE IN FEET AND INCHES; ALL STATIONS AND ELEVATIONS ARE IN FEET UNLESS NOTED OTHERWISE.
   - 3.2. DIMENSIONS SHOWN ARE FOR AN AMBIENT TEMPERATURE OF 70 DEGREES F.
   - 3.3. ALL PLAN DIMENSIONS ARE HORIZONTAL AND VERTICAL UNLESS NOTED OTHERWISE.
   - 3.4. THIS BRIDGE WILL BE BUILT ADJACENT TO AND OVER A NAVIGABLE WATERWAY. THE CONTRACTOR SHALL NOT OBSTRUCT NAVIGATION AND SHALL NOT RESTRICT THE VERTICAL CLEARANCE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROPRIATE GOVERNMENTAL AGENCIES HAVING REGULATORY AUTHORITY OVER THE WATERWAY.
   - 3.5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL, STABILITY AND SAFETY OF ITS CONSTRUCTION ACTIVITIES AT ALL TIMES, AND SHALL PLAN AND CONDUCT ITS OPERATIONS AND TAKE ALL NECESSARY PRECAUTIONS TO A) PROTECT AND PREVENT DAMAGE TO EXISTING, ADJACENT STRUCTURES AND OTHER SITE FEATURES (E.G. BRIDGE, ROADS, SLOPES, GRADES, UTILITIES, SURFACE WATER FEATURES, CATCH BASINS, MANHOLES); B) SAFEGUARD THE PUBLIC, PEOPLE, AND PROPERTY; C) MINIMIZE TRAFFIC INCONVENIENCES; D) MINIMIZE DUST AND ODORS; AND E) PROVIDE SAFE WORKING CONDITIONS.
4. LOADS:
   - 4.1. LOAD MODIFIERS
     - 4.1.1. DUCTILITY - 1.0 FOR ALL ELEMENTS
     - 4.1.2. REDUNDANCY - 1.05 FOR THE ARCH RIBS, TIE GIRDERS, ARCH BRACING, LIFTING GIRDER AND FLOORBEAMS; 1.0 FOR ALL OTHER ELEMENTS
     - 4.1.3. OPERATIONAL IMPORTANCE - 1.00 FOR ALL ELEMENTS
   - 4.2. DEAD LOAD
     - 4.2.1. REINFORCED CONCRETE - 150 PCF (TOWER)
     - 4.2.2. REINFORCED CONCRETE - 100 PCF (EXODERMIC DECK)
     - 4.2.3. STRUCTURAL STEEL - 490 PCF
     - 4.2.4. WEARING SURFACE (DW) - 0 PSF
     - 4.2.5. EXODERMIC DECK - 44 PSF
     - 4.2.6. FUTURE STREETCAR MODIFICATION LOADING (DCFS) - 180,000 LBS
   - 4.3. LIVE LOAD (BETWEEN TRAFFIC RAILINGS)
     - 4.3.1. HL-93 IN ACCORDANCE WITH AASHTO LRFD
     - 4.3.2. P15 PERMIT TRUCK IN ACCORDANCE WITH CALTRANS AMENDMENTS TO AASHTO LRFD
     - 4.3.3. 75 PSF PEDESTRIAN LOADING FOR THE BIKE LANE IN ACCORDANCE WITH AASHTO LRFD
   - 4.4. SIDEWALK LOADING
     - 4.4.1. 75 PSF PEDESTRIAN LOADING IN ACCORDANCE WITH AASHTO LRFD
     - 4.4.2. THE CONCRETE SIDEWALK BETWEEN THE BRIDGE RAILING AND THE BENCH IS ALSO CONSIDERED FOR H10 LIVE LOADING. THE VEHICULAR LOADING IS NOT ASSUMED TO ACT CONCURRENTLY WITH THE PEDESTRIAN LOADING.
   - 4.5. FATIGUE LIVE LOAD
     - 4.5.1. FATIGUE LIVE LOAD IN ACCORDANCE WITH AASHTO LRFD FATIGUE I LOAD COMBINATION
     - 4.5.2. P9 PERMIT TRUCK IN ACCORDANCE WITH CALTRANS AMENDMENTS TO AASHTO LRFD FATIGUE II LOAD COMBINATION
   - 4.6. WIND LOAD
     - 4.6.1. THIS BRIDGE IS DESIGNED FOR WIND LOADS BASED ON A PROJECT SPECIFIC WIND STUDY AND WIND TUNNEL TESTING: A STUDY OF THE WIND EFFECTS OF I STREET BRIDGE, SACRAMENTO, CA BY BOUNDARY LAYER WIND TUNNEL LABORATORY DATED DECEMBER 2024. SEE DRAWING NO. MS-006 THROUGH MS-008 FOR TABLES OF EQUIVALENT STATIC WIND LOADS.
   - 4.7. THERMAL LOAD
     - 4.7.1. THE CONSTRUCTION TEMPERATURE IS ASSUMED TO BE 70 DEGREES FAHRENHEIT, WITH A MAXIMUM RISE OF 50 AND A MAXIMUM FALL OF 50 DEGREES FAHRENHEIT. THERMAL GRADIENT LOADS ARE AS SPECIFIED IN AASHTO LRFD.
   - 4.8. EARTHQUAKE LOAD
     - 4.8.1. SOIL PROFILE: Vs30 = 180 M/S (590 FT/S)
     - 4.8.2. MEAN MAGNITUDE (FOR PGA): 6.67
     - 4.8.3. PEAK GROUND ACCELERATION: SEE = 0.32g
     - 4.8.4. PEAK GROUND ACCELERATION: FEE = 0.21g
     - 4.8.5. SEE ARS DESIGN CURVE ON DRAWING S-002.
   - 4.9. CABLE LOSS
     - 4.9.1. CABLE LOSS DYNAMIC FORCE (CLDF) IS TAKEN AS 2.0 TIMES THE STATIC FORCE IN THE CABLE. THIS FORCE IS APPLIED AT BOTH THE TOP AND BOTTOM ANCHORAGE LOCATIONS.
     - 4.9.2. LIVE LOAD IS TAKEN AS FULL DESIGN LOADING BETWEEN THE BRIDGE RAILINGS AND FULL PEDESTRIAN LOADING ON THE SIDEWALK AND CANTILEVER.
     - 4.9.3. EXTREME EVENT III LOAD COMBINATION (CABLE LOSS): 1.10DC + 1.35DW + 0.75(LL+IM) + 1.10CLDF
   - 4.10. CABLE EXCHANGE
     - 4.10.1. CABLE EXCHANGE FORCE (CEF) IS TAKEN AS THE STATIC FORCE IN THE CABLE. THIS FORCE IS APPLIED AT BOTH THE TOP AND BOTTOM ANCHORAGE LOCATIONS.
     - 4.10.2. LIVE LOAD IS TAKEN AS FULL DESIGN LOADING BETWEEN THE BRIDGE RAILINGS AND FULL PEDESTRIAN LOADING ON THE SIDEWALK AND CANTILEVER.
     - 4.10.3. STRENGTH VI LOAD COMBINATION (CABLE EXCHANGE): 1.2DC + 1.40DW + 1.50(LL+IM) + 1.00CEF
   - 4.11. VESSEL COLLISION LOAD
     - 4.11.1. DESIGN VESSEL COLLISION FORCES ARE IN ACCORDANCE WITH SECTION 3.14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION. THE DESIGN VESSEL IS A 35 FT. X 95 FT. JUMBO HOPPER BARGE
       - 4.11.1.1.DWT = 1,700 TONS DEAD WEIGHT TONNAGE
       - 4.11.1.2.DT = 1,900 TONS DISPLACEMENT TONNAGE
       - 4.11.1.3.V = 5 FT/S DESIGN SPEED
       - 4.11.1.4.IMPACT FORCE = 1,500 KIPS (90 DEGREE IMPACT ANGLE)
       - 4.11.1.5.IMPACT FORCE = 750 KIPS (SIDE IMPACT)
   - 4.12. INSPECTION TRAVELER
     - 4.12.1. THE TRAVELER DESIGN VERTICAL LIVE LOAD IS 50 PSF DISTRIBUTED IN ADDITION TO A SINGLE 300 LB CONCENTRATED LOAD. HORIZONTAL DYNAMIC LOADS, WIND LOADS INCLUDING OVERTURNING OF THE LIFT, LOADS ARISING FROM UNEVEN TRACKS AND DIFFERENCES IN DRIVE SPEEDS BETWEEN DRIVE WHEELS, ARE TAKEN INTO CONSIDERATION.
   - 4.13. SCOUR
     - 4.13.1. THIS BRIDGE IS DESIGNED FOR THE POSSIBILITY OF SCOUR CONDITIONS AS DETAILED IN THE PROJECT SPECIFIC SCOUR REPORT, FINAL SCOUR ANALYSIS FOR I STREET BRIDGE OVER SACRAMENTO RIVER, SACRAMENTO COUNTY AND YOLO COUNTY, CA, DATED JULY 31, 2025 BY AVILA AND ASSOCIATES CONSULTING ENGINEERS, INC.
   - 4.14. AMPLIFICATION FACTOR
     - 4.14.1. THE AMPLIFICATION FACTOR WAS FOUND BY DIVIDING THE MOMENT VALUES OBTAINED FROM A NONLINEAR FINITE ELEMENT ANALYSIS BY THE VALUES OBTAINED FROM A LINEAR FINITE ELEMENT ANALYSIS AT REPRESENTATIVE LOCATIONS UNDER THE STRENGTH I AND SERVICE I LOAD COMBINATIONS. A CONSERVATIVE AMPLIFICATION FACTOR OF 1.15 WHICH ENVELOPED THE VALUES FOUND WAS USED ON ALL ARCH MEMBER MOMENT AND SHEARS FOR ALL LOAD CASES.
5. DESIGN CONSIDERATIONS:
   - 5.1. DESIGN METHOD
     - 5.1.1. ALL REINFORCED CONCRETE MEMBERS ARE DESIGNED BY THE LRFD DESIGN METHOD AS SPECIFIED IN THE AASHTO LRFD DESIGN SPECIFICATIONS.
     - 5.1.2. ALL STRUCTURAL STEEL MEMBERS ARE DESIGNED BY THE LRFD DESIGN METHOD AS SPECIFIED IN THE AASHTO LRFD DESIGN SPECIFICATIONS.
     - 5.1.3. SLIP-CRITICAL CONNECTIONS ARE DESIGNED FOR CLASS B SURFACE CONDITIONS.
     - 5.1.4. SEISMIC DESIGN IS IN ACCORDANCE WITH CALTRANS SEISMIC DESIGN CRITERIA AND CALTRANS SEISMIC DESIGN SPECIFICATIONS FOR STEEL BRIDGES.
     - 5.1.5. SEISMIC DESIGN ACCELERATION COEFFICIENTS AND TIME HISTORY RECORDS WERE DEVELOPED USING A SITE-SPECIFIC RESPONSE ANALYSIS.
     - 5.1.6. STRUCTURAL STRAND HANGERS ARE DESIGNED FOR THE FOLLOWING LIMIT STATES WITH THE CORRESPONDING RESISTANCE FACTORS IN WHICH Fu IS THE MINIMUM BREAKING STRENGTH OF STRUCTURAL STRAND AND Fy IS THE YIELD STRENGTH OF THE STRUCTURAL STRAND TAKEN AS 160 KSI:
       - 5.1.6.1. STRENGTH I: 0.65Fu
       - 5.1.6.2. STRENGTH VI - CABLE EXCHANGE: 0.65Fu
       - 5.1.6.3. SERVICE I: 0.33Fu
       - 5.1.6.4. SERVICE II: 0.9Fy
       - 5.1.6.5. EXTREME EVENT I: 0.95Fu
       - 5.1.6.6. EXTREME EVENT III - CABLE LOSS: 0.95Fu
   - 5.2. FATIGUE
     - 5.2.1. THIS STRUCTURE IS DESIGNED FOR INFINITE LIFE IN ACCORDANCE WITH AASHTO LRFD.
   - 5.3. TIE GIRDER AND END FLOORBEAM FRACTURE
     - 5.3.1. THE TIE GIRDERS ARE DESIGNED ACCORDING TO THE AASHTO LRFD GUIDE SPECIFICATIONS FOR INTERNAL REDUNDANCY OF MECHANICALLY-FASTENED BUILT-UP STEEL MEMBERS TO SATISFY CASE I REQUIREMENTS.

NOT FOR CONSTRUCTION

P:\3326.01\CADD\Structural\MS-003 GENERAL NOTES - 1.dwg LAST PLOTTED: 11/3/2025 3:37:33 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: C. AHLSKOG
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
GENERAL NOTES - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-003
SHT NO.: 323 OF 648

GENERAL NOTES (CONTINUED):

5.3.2. THE MAXIMUM INTERVAL BETWEEN SPECIAL INSPECTIONS FOR THE TIE GIRDERS IS 10 YEARS.

6. MATERIALS:

6.1. STEEL REINFORCEMENT

6.1.1. ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A706, GRADE 60, UNLESS NOTED OTHERWISE.

6.2. CONCRETE

6.2.1. EXODERMIC DECK - 4.0 KSI AT 28 DAYS

6.2.2. PIER 3 & 4 UNLESS NOTED OTHERWISE - 4.0 KSI AT 28 DAYS

6.2.3. PIERS 3 & 4 FOOTING - 4.0 KSI AT 28 DAYS

6.3. STRUCTURAL STEEL

6.3.1. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A709 GRADE 50W STEEL UNLESS NOTED OTHERWISE.

6.3.2. STRUCTURAL STEEL FOR THE LIFT SPAN TIE GIRDER AND ARCH RIB MEMBERS SHALL CONFORM TO ASTM A709 GRADE HPS70W.

6.3.3. ALL BOLTS SHALL BE ⅞" DIAMETER ASTM F3125, GRADE A325, TYPE 1 GALVANIZED IN ACCORDANCE WITH ASTM A153 UNLESS NOTED OTHERWISE.

6.3.4. PROVIDE WELDED STUD SHEAR CONNECTORS MANUFACTURED FROM STEEL CONFORMING TO AASHTO M169 (ASTM A108), ⅞" DIAMETER UNLESS NOTED OTHERWISE.

6.4. STRUCTURAL STRAND

6.4.1. STRUCTURAL STRAND SHALL CONFORM TO ASTM A586, GRADE 1 WITH CLASS A COATING ON INNER WIRES AND CLASS C COATING ON OUTER WIRES. INNER WIRES SHALL BE INJECTED WITH CORROSION INHIBITING GREASE DURING MANUFACTURING OF THE STRAND.

6.4.2. OPEN STRAND SOCKETS SHALL CONFORM TO ASTM A148. PINS FOR OPEN STRAND SOCKET SHALL CONFORM TO ASTM A668, CLASS H. COTTER PINS SHALL BE STAINLESS STEEL CONFORMING TO ASTM A276, TYPE 304.

6.5. COMPOSITE MATERIAL

6.5.1. PROVIDE COMPOSITE TIMBER FOR THE FENDER SYSTEM IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

7. REINFORCED CONCRETE:

7.1. CHAMFER EXPOSED CONCRETE EDGES ¾" UNLESS NOTED OTHERWISE.

7.2. RAKE FINISH ALL HORIZONTAL CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.

7.3. WELDING OF REINFORCEMENT BARS DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS NOTED OTHERWISE.

7.4. PROVIDE 2 INCHES OF CONCRETE COVER ON REINFORCEMENT STEEL UNLESS NOTED OTHERWISE.

8. STRUCTURAL STEEL:

8.1. THE FABRICATOR OF THE STEEL SUPERSTRUCTURE SHALL BE CERTIFIED UNDER THE AISC QUALITY CONTROL PROGRAM AS CBR FOR MAJOR BRIDGE FABRICATION

8.2. FLOORBEAMS, TIE GIRDERS AND ARCH RIBS ARE CAMBERED FOR GEOMETRY. STRINGERS ARE NOT CAMBERED, BUT ANY CAMBER PRESENT IN THE ROLLED STRINGERS SHALL BE PLACED UPWARDS.

8.3. BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANE IN ALL BOLTED CONNECTIONS.

8.4. BOLT HOLES SHALL BE DRILLED FULL SIZE OR SUBPUNCHED AND REAMED TO SIZE.

8.5. BOLTS SHALL BE PLACED WITH BOLT HEADS EXPOSED TO WEATHER, EXCEPT THAT FOR VERTICALLY POSITIONED BOLTS, WHICH HAVE BOTH THE HEAD AND NUT EXPOSED, THE BOLT SHALL BE PLACED WITH THE HEAD ABOVE THE NUT.

8.6. USE THE TURN-OF-THE-NUT OR DIRECT TENSION INDICATOR METHOD TO INSTALL HIGH STRENGTH BOLTS.

8.7. SET ANCHOR BOLTS TO TEMPLATE. DO NOT DRILL UNLESS SPECIFICALLY INDICATED ON THE PLANS.

8.8. FILLET WELDS WITH NO SIZE GIVEN SHALL USE THE MINIMUM SIZE PER AWS D1.5M/D1.5.

8.9. DO NOT FIELD WELD ON ANY PART OF THE BRIDGE, EXCEPT WHERE SHOWN ON THE DRAWINGS, WITHOUT PRIOR APPROVAL OF THE ENGINEER.

8.10. MAKE TACK WELDS WITH THE SAME TYPE OF ELECTRODE AND INCORPORATE IN THE FINAL WELD. NO OTHER TACK WELDING WILL BE PERMITTED.

8.11. GRIND SURFACES OF ALL COPES AND RE-ENTRANT CORNERS SMOOTH TO A BRIGHT METAL SURFACE.

8.12. FILL PLATE THICKNESS SHOWN ON THE PLANS IS BASED ON NOMINAL DIMENSIONS. THE THICKNESS SHALL BE VERIFIED OR ADJUSTED DURING FABRICATION TO SECURE A CLOSE FIT. EACH FILL PLATE SHALL FIT TO THE NEAREST $\frac{1}{16}$" IN THICKNESS AND SINGLE PLATES ARE REQUIRED AT EACH FILL PLATE LOCATION.

8.13. SHOP WELDED FLANGE SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER, 6 INCHES FROM A WEB SPLICE, AND 4 INCHES FROM A SHEAR CONNECTOR. WEB SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER. SPLICES SHALL NOT INTERFERE WITH ANY OTHER BRIDGE COMPONENTS. ALL SHOP WELDED BUTT SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBJECT TO APPROVAL BY THE ENGINEER.

8.14. FRACTURE CRITICAL MEMBERS (FCM) ARE DESIGNATED ON THE CONTRACT PLANS. THE FLOORBEAMS BETWEEN TIE GIRDERS, TIE GIRDERS AND LIFTING GIRDERS ARE DESIGNATED FRACTURE CRITICAL. FABRICATION AND TESTING OF ALL FCMs SHALL BE AS SPECIFIED IN AASHTO LRFD ARTICLE C6.6.2 WITH THE EXCEPTION LISTED HEREIN. FCMs SHALL BE FABRICATED ACCORDING TO SECTION 12 OF AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE. ZONE 2 TEMPERATURE REQUIREMENTS SHALL BE USED FOR CHARPY V-NOTCH (CVN) TESTING OF FCMs.

8.15. THE NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) WERE REVISED IN MAY 2022 AND ELIMINATED THE TERM "FRACTURE CRITICAL MEMBER" (FCM) IN FAVOR OF THE TERM "NONREDUNDANT STEEL TENSION MEMBER" (NSTM). UNTIL SUCH TIME AS OTHER SPECIFICATIONS ARE REVISED, FOR CONSISTENCY, THE TERMS FCM AND NSTM ARE TO BE CONSIDERED SYNONYMOUS.

8.16. STEEL PLATES FOR MAIN MEMBERS, SPLICE PLATES AND TENSION MEMBERS SHALL BE CUT AND FABRICATED SO THAT THE PRINCIPAL DIRECTIONS OF ROLLING ARE PARALLEL TO THE DIRECTION OF THE PRIMARY TENSILE AND/OR COMPRESSIVE STRESSES.

8.17. STRUCTURAL METALWORK DESIGNATED WITH A "FINISHED THICKNESS DIMENSION" SHALL BE FABRICATED FROM A THICKER PLATE AS REQUIRED TO PROVIDE THE THICKNESS SHOWN IN THE CONTRACT PLANS.

9. CLEANING AND PAINTING:

9.1. PAINT - PER CALTRANS STANDARD SPECIFICATIONS

9.2. PAINTED SURFACES SHALL BE PROTECTED FROM DAMAGE DURING SHIPMENT AND DURING ERECTION. AFTER ERECTION OF THE BRIDGE, PAINTING OF EXTERIOR FASTENERS AND TOUCHUP OF PAINTED SURFACES SHALL BE IN ACCORDANCE WITH THE CALTRANS STANDARD SPECIFICATIONS.

10. SCHEDULE OF FINISHES:

10.1. PEDESTRIAN BRIDGE RAILING

10.1.1. STEEL POSTS, RAILINGS AND MID-POSTS - FEDERAL COLOR STANDARD 27875 INSIGNIA WHITE, AESS3 FINISH

10.1.2. CABLES - STAINLESS 316

10.1.3. WOODEN HANDRAIL - BLACK LOCUST

10.2. ST-75 (MODIFIED) BRIDGE RAILING

10.2.1. BASE PLATE, POSTS, RAILS AND HANDRAILS - FEDERAL COLOR STANDARD 27875 INSIGNIA WHITE, AESS3 FINISH

10.2.2. WOODEN HANDRAIL - BLACK LOCUST

PERFORATED SCREEN - GALVANIZED AND PAINTED WITH FEDERAL COLOR STANDARD 27875 INSIGNIA WHITE, AESS3 FINISH

10.3. MAIN SPAN STRUCTURAL STEEL, UNLESS NOTED OTHERWISE - FEDERAL COLOR STANDARD 27875 INSIGNIA WHITE, AESS1 FINISH

10.4. HANGER FLOOR SUPPORT BEAMS - FEDERAL COLOR STANDARD 27875 INSIGNIA WHITE, AESS1 FINISH, ANTI-SLIP COATING FOR DECK SURFACE.

10.5. LIFT SPAN DECK JOINTS - GALVANIZED

10.6. KNUCKLE COVERS - FRP CLADDING WITH GELCOAT AND WHITE ALUMINUM OXIDE TEXTURE

10.7. PIER 3 & 4 CONCRETE - CLASS 1 FINISH

10.8. ACCESS SYSTEM - GALVANIZED

10.9. TRAVELER - GALVANIZED

10.10. HANGER ASSEMBLIES - GALVANIZED

11. CONSTRUCTION:

11.1. THE CONTRACTOR SHALL SUBMIT FOR EXAMINATION THEIR METHODS, DETAILS, PROCEDURE OF ERECTION, THE ERECTION STRESSES, AND THE REQUIRED STRENGTHENING OF THE RESPECTIVE MEMBERS DUE TO ERECTION STRESSES. THE CALCULATIONS AND DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL INCLUDE IN THEIR BID PRICE THE COST OF ANY ADDITIONAL MATERIAL AND STRENGTHENING OF MEMBERS REQUIRED BY HIS METHOD OF ERECTION. THE SAFE ERECTION OF THE STRUCTURE BY ANY METHOD IS THE CONTRACTOR'S SOLE RESPONSIBILITY. SEE SPECIAL PROVISIONS FOR ERECTION REQUIREMENTS.

11.2. THE ERECTION CONTRACTOR SHALL BE CERTIFIED AS AN ADVANCED CERTIFIED STEEL ERECTOR (ACSE) BY THE AISC CERTIFICATION PROGRAM. THE ERECTION CONTRACTOR SHALL SUBMIT EVIDENCE OF CURRENT ACSE CERTIFICATION TO THE ENGINEER WITH THE SUBMITTAL OF THE PROPOSED ERECTION PLANS.

11.3. THE STEEL ARCH RIBS AND TIES SHALL BE FABRICATED AND ERECTED IN SUCH A MANNER THAT THEIR CENTER LINES ARE AT THE LOCATIONS AND AT THE FINAL ELEVATIONS SHOWN ON THE PLANS UNDER FULL DEAD LOAD AT THE DESIGN TEMPERATURE.

11.4. ALL WORK SHALL BE CONDUCTED WITHOUT UNREASONABLE INTERFERENCE TO THE FREE NAVIGATION OF THE WATERWAY AND WITHOUT IMPAIRMENT TO THE PRESENT NAVIGATIONAL DEPTHS OR VERTICAL CLEARANCES.

11.5. THIS CONTRACT REQUIRES THAT THE CONTRACTOR WORK IN AND OVER A NAVIGABLE WATERWAY. ALL OPERATIONS SHALL CONFORM TO THE REQUIREMENTS OR DIRECTIONS OF THE U.S. COAST GUARD.

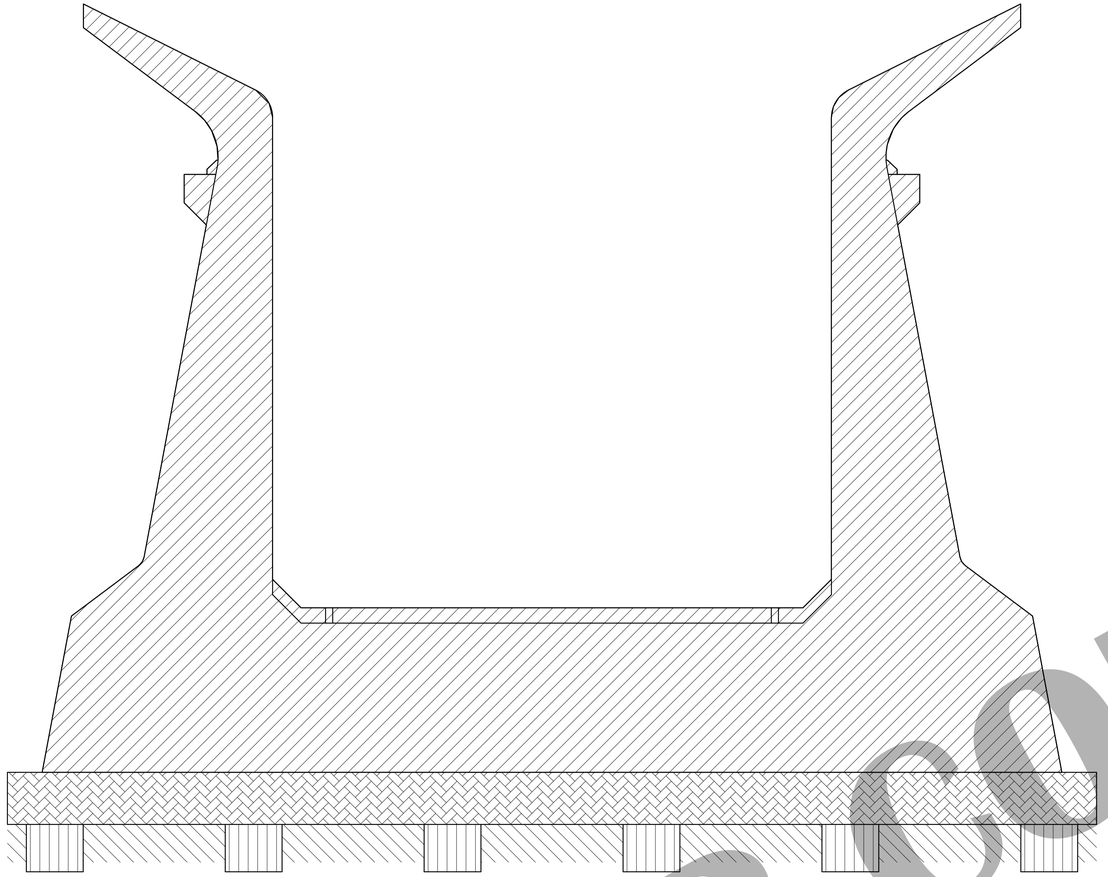
11.6. THERE SHALL BE NO SEPARATE PAYMENT FOR ANY TEMPORARY SHORING OR ANY OTHER TEMPORARY WORKS REQUIRED THROUGHOUT CONSTRUCTION, UNLESS NOTED OTHERWISE. THE COST FOR DESIGN, MATERIAL, INSTALLATION AND REMOVAL ASSOCIATED WITH TEMPORARY WORKS REQUIRED THROUGHOUT CONSTRUCTION SHALL BE INCLUDED AS PART OF THE TOTAL PROJECT COST.

11.7. ALL TEMPORARY STRUCTURES, INCLUDED BUT NOT LIMITED TO FALSEWORK, SHORTING, AND OTHER TEMPORARY STRUCTURES REQUIRED TO FACILITATE CONSTRUCTION, SHALL BE DESIGNED, DETAILED, AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. DESIGN CALCULATIONS AND DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF CALIFORNIA AND SHALL MEET ALL FEDERAL, STATE AND LOCAL LEGAL REGULATIONS. ALL TEMPORARY STRUCTURES SHALL BE AT THE CONTRACTOR'S EXPENSE. THE SAFE PERFORMANCE OF THE WORK BY ANY METHOD IS THE CONTRACTOR'S SOLE RESPONSIBILITY.

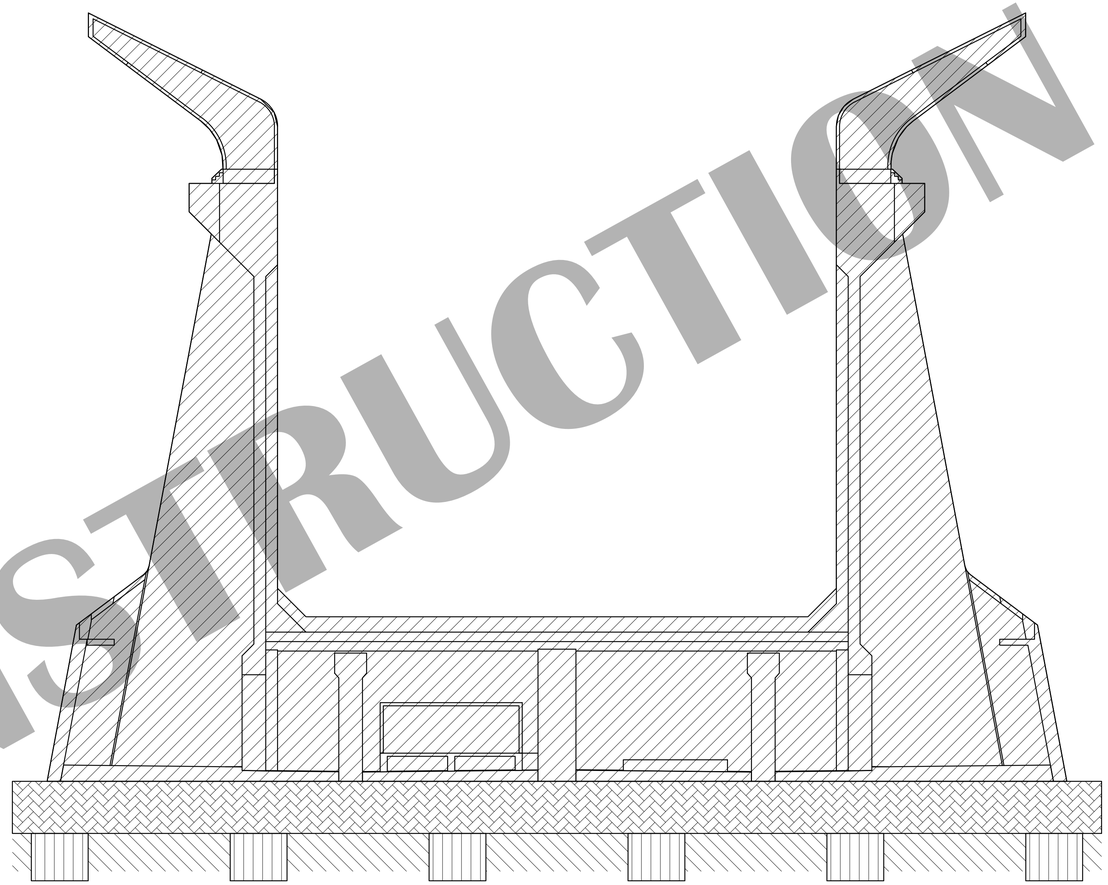
BAR SIZE (#)	EMBEDMENT LENGTH	SPLICE LENGTHS	
		CLASS A	CLASS B
		1	1.3
3	1' – 3"	1' – 3"	1' – 7"
4	1' – 7"	1' – 7"	2' – 1"
5	2' – 0"	2' – 0"	2' – 7"
6	2' – 5"	2' – 5"	3' – 1"
7	2' – 9"	2' – 9"	3' – 7"
8	3' – 2"	3' – 2"	4' – 1"
9	4' – 0"	4' – 0"	5' – 2"
10	5' – 1"	5' – 1"	6' – 7"
11	6' – 3"	6' – 3"	8' – 1"

- STANDARD DEVELOPMENT LENGTHS AND LAP LENGTHS UNLESS NOTED OTHERWISE.
- LAP SPLICES FOR ADJACENT BARS SHALL BE STAGGERED.

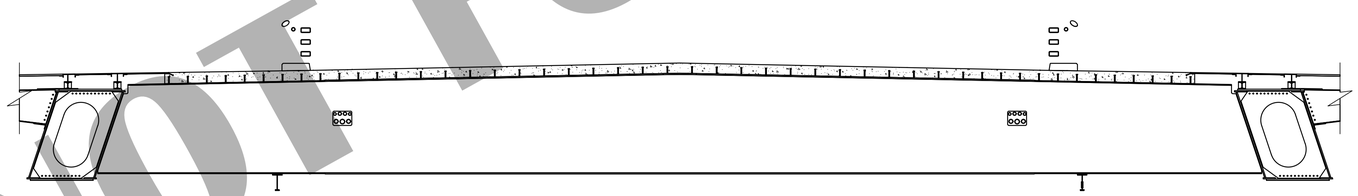
NOT FOR CONSTRUCTION



PIER 3 & 4 ELEVATION
NO SCALE



PIER 3 & 4 SECTION THROUGH CENTERLINE
NO SCALE



SPAN 4 TYPICAL SECTION
NO SCALE

LEGEND:

- EXODERMIC DECK CONCRETE (POLYMER FIBER) - (F'C = 4.0 KSI @ 28 DAYS)
- STRUCTURAL CONCRETE, BRIDGE - (F'C = 4.0 KSI @ 28 DAYS)
- STRUCTURAL CONCRETE, BRIDGE FOOTING - (F'C = 4.0 KSI @ 28 DAYS)
- SEAL COURSE CONCRETE (MAIN SPAN) - (F'C = 4.0 KSI @ 28 DAYS)
- CIDH CONCRETE PILE - (F'C = 4.0 KSI @ 28 DAYS)

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
GENERAL NOTES - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-005
SHT NO.: 325 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-005 GENERAL NOTES - 3.dwg LAST PLOTTED: 11/3/2025 1:35:54 PM

DECK AND TIE GIRDER EQUIVALENT STATIC WIND LOAD CASES

WORK POINT	MEAN				MODE 1				MODE 2				MODE 3				MODE 4				MODE 5				MODE 6				MODE 7				MODE 8			
	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)
L0	0	1251	929	44353	0	−41	0	−238	−2630	0	719	−2	0	26	0	−46	854	0	−244	1	2606	1	−482	16	−4	358	1	4416	−2	−156	0	−4508	1	−156	0	−11091
TS1	0	1417	1067	51764	0	−63	0	−440	−3019	0	2452	−5	0	33	0	−214	919	1	−840	3	2990	2	−1642	38	−4	596	2	9043	−3	−243	1	−9869	2	−376	−1	−26720
OFB0.75	0	638	539	29293	0	−31	0	−241	−1366	0	1587	−2	0	14	0	−202	380	0	−527	0	1346	1	−955	35	−2	332	1	7117	−1	−120	1	−6285	1	−249	0	−21007
L1	0	945	812	44855	0	−48	0	−328	−2058	0	2762	−1	0	19	0	−408	550	1	−864	−7	2030	2	−1375	76	−3	568	2	14539	−2	−185	1	−9737	1	−465	−1	−40687
OFB1.25	0	854	749	42247	0	−44	0	−247	−1895	0	2843	7	0	15	0	−480	486	1	−823	−19	1866	2	−1086	93	−3	583	1	17818	−2	−169	1	−8705	1	−510	0	−47241
T1	0	473	421	24039	0	−25	0	−110	−1063	0	1697	7	0	8	0	−308	265	0	−457	−16	1047	1	−498	62	−1	351	1	11853	−1	−95	0	−4567	1	−318	0	−30278
OFB1.5	0	184	166	9570	0	−10	0	−35	−418	0	682	4	0	3	0	−129	102	0	−176	−7	410	1	−169	27	−1	142	0	5113	0	−37	0	−1683	0	−131	0	−12758
T2	0	474	430	25070	0	−26	0	−67	−1078	0	1794	12	0	7	0	−356	260	0	−437	−23	1055	1	−357	76	−1	379	0	14500	−1	−96	0	−3935	1	−352	0	−35226
OFB1.75	0	855	785	46327	0	−48	0	−43	−1970	0	3388	29	0	12	0	−710	461	1	−721	−55	1921	3	−345	159	−3	733	0	30396	−2	−174	0	−5696	1	−691	0	−70856
L2	0	948	885	53081	0	−55	0	90	−2221	0	3927	46	0	12	0	−884	500	1	−645	−84	2154	4	131	211	−3	886	−1	40481	−2	−193	−1	−3461	1	−848	1	−89028
OFB2.25	0	857	812	49442	0	−50	0	222	−2034	0	3639	54	0	10	0	−874	443	1	−387	−94	1954	4	630	228	−3	865	−2	42897	−2	−167	−2	176	1	−832	1	−89037
T3	0	475	454	27935	0	−28	0	183	−1138	0	2038	35	0	5	0	−510	241	0	−115	−59	1088	2	570	143	−1	505	−1	26379	−1	−89	−1	1639	1	−488	1	−52473
OFB2.5	0	185	178	11057	0	−11	0	86	−446	0	797	15	0	2	0	−205	93	0	−22	−25	425	1	267	60	−1	201	−1	10844	0	−34	−1	1048	0	−195	0	−21150
T4	0	475	461	28804	0	−29	0	264	−1152	0	2051	42	0	4	0	−539	235	0	10	−68	1091	2	805	164	−1	529	−2	29523	−1	−85	−1	3873	1	−513	1	−55885
OFB2.75	0	620	605	37973	0	−38	0	413	−1510	0	2678	60	0	5	0	−722	302	0	163	−95	1424	3	1302	232	−2	714	−3	41321	−1	−107	−2	7080	1	−693	1	−75265
TS2	0	475	468	29626	0	−29	0	370	−1146	0	2012	50	0	4	0	−551	223	0	247	−77	1074	2	1173	189	−1	558	−2	33088	−1	−77	−2	7188	0	−540	1	−57987
L3	0	714	709	45305	0	−43	0	646	−1706	0	2943	80	0	5	0	−820	320	0	588	−122	1583	3	2033	307	−2	854	−4	51958	−1	−107	−3	13912	1	−821	1	−86857
OFB3.25	0	859	860	55389	0	−53	0	931	−2075	1	3484	100	0	5	0	−1000	370	0	1089	−155	1899	4	2896	423	−3	1079	−5	68016	−2	−114	−5	21915	1	−1030	1	−107262
T5	0	476	480	31112	0	−29	0	593	−1159	0	1895	54	0	2	0	−559	199	0	801	−86	1053	3	1809	266	−1	624	−3	40326	−1	−56	−3	14820	0	−588	1	−60482
OFB3.5	0	186	188	12255	0	−12	0	251	−454	0	731	20	0	1	0	−219	76	0	354	−33	409	1	747	113	−1	248	−1	16427	0	−20	−1	6478	0	−233	0	−23831
T6	0	476	485	31774	0	−30	0	690	−1173	0	1846	49	0	2	0	−558	190	0	1027	−79	1049	4	2017	313	−1	644	−4	43752	−1	−48	−3	18480	0	−602	1	−61265
OFB3.75	0	860	881	58007	0	−54	0	1383	−2129	1	3233	80	0	3	0	−984	326	1	2285	−119	1892	7	3969	635	−3	1195	−7	83397	−2	−73	−5	39098	1	−1102	2	−110196
L4	0	954	984	65289	0	−60	0	1739	−2376	1	3409	75	0	2	0	−1041	334	1	3215	−92	2084	8	4835	800	−3	1372	−8	99208	−2	−57	−6	52598	0	−1238	2	−119995
OFB4.25	0	861	895	59770	0	−54	0	1742	−2165	0	2891	54	0	1	0	−875	276	1	3539	−51	1867	8	4646	784	−3	1281	−8	95110	−2	−26	−5	55937	0	−1129	2	−104479
T7	0	477	498	33395	0	−30	0	1029	−1207	0	1519	24	0	1	0	−453	142	1	2227	−13	1028	5	2659	452	−1	725	−4	54745	−1	−3	−3	34418	0	−629	2	−55746
OFB4.5	0	186	195	13097	0	−12	0	415	−471	0	574	8	0	0	0	−169	53	0	923	−1	400	2	1052	179	−1	285	−2	21867	0	1	−1	14235	0	−245	1	−21146
T8	0	478	501	33808	0	−30	0	1100	−1211	0	1432	17	0	0	0	−407	128	1	2531	9	1024	5	2722	469	−1	739	−5	57344	−1	7	−3	38796	0	−628	2	−52465
OFB4.75	0	623	655	44290	0	−39	0	1489	−1585	0	1772	17	0	0	0	−488	155	2	3620	34	1330	7	3602	625	−2	976	−6	76794	−1	20	−3	54439	0	−815	2	−65473
TS3	0	478	504	34155	0	−30	0	1184	−1217	0	1280	9	0	0	0	−332	108	1	3018	47	1012	5	2775	488	−1	757	−5	60707	−1	23	−2	45166	0	−620	2	−47223
L5	0	717	758	51545	0	−45	0	1839	−1836	0	1795	7	0	0	0	−424	143	2	4922	102	1513	7	4134	734	−2	1146	−7	93662	−2	48	−3	73174	0	−920	3	−65185
OFB5.25	0	863	914	62307	0	−55	0	2284	−2221	0	1946	−2	0	−1	0	−398	145	2	6527	152	1813	9	4849	869	−2	1402	−8	115716	−2	81	−4	95620	0	−1092	4	−69553
T9	0	478	508	34640	0	−30	0	1295	−1236	0	976	−5	0	−1	0	−164	68	2	3899	99	1002	5	2595	469	−1	785	−4	65456	−1	56	−2	56508	0	−595	3	−33981
OFB5.5	0	186	198	13529	0	−12	0	509	−482	0	360	−3	0	0	0	−50	23	1	1581	42	388	2	990	179	−1	308	−2	25773	0	24	−1	22858	0	−231	1	−12144
T10	0	478	509	34780	0	−30	0	1314	−1240	0	875	−10	0	−1	0	−90	51	2	4207	120	995	5	2476	449	−1	792	−4	66837	−1	66	−2	60979	0	−584	3	−28130
OFB5.75	0	863	919	62861	0	−55	0	2383	−2245	0	1405	−25	0	−2	0	−53	67	3	8120	255	1793	8	4215	778	−2	1436	−7	122795	−2	135	−3	116294	0	−1029	5	−41697
L6	0	956	1018	69695	0	−61	0	2637	−2492	0	1285	−38	0	−2	0	112	33	3	9730	342	1976	9	4209	798	−3	1599	−8	138488	−2	172	−3	138005	0	−1100	6	−31878
OFB6.25	0	863	919	62861	0	−55	0	2354	−2259	0	918	−44	0	−2	0	254	−7	3	9375	338	1779	8	3285	639	−2	1449	−6	126366	−2	179	−2	131995	0	−955	5	−15522
T11	0	478	509	34780	0	−31	0	1286	−1257	0	412	−27	0	−1	0	200	−19	2	5421	198	980	4	1583	319	−1	803	−3	70303	−1	109	−1	75645	0	−513	3	−3300
OFB6.5	0	186	198	13529	0	−12	0	495	−490	0	141	−11	0	−1	0	92	−11	1	2152	80	381	2	567	116	0	313	−1	27488	0	44	0	30048	0	−196	1	−39
T12	0	478	508	34640	0	−31	0	1249	−1260	0	316	−30	0	−2	0	270	−38	2	5632	213	978	4	1331	277	−1	802	−3	70635	−1	116	−1	78591	0	−496	3	3039
OFB6.75	0	863	914	62307	0	−55	0	2181	−2282	0	410	−59	0	−3	0	581	−97	3	10537	412	1763	7	1936	436	−2	1434	−5	127622	−2	218	−2	145844	0	−861	5	14620
L7	0	717	758	51545	0	−46	0	1741	−1898	0	191	−52	0	−3	0	567	−109	3	9076	367	1457	5	1140	297	−2	1181	−3	105712	−1	189	−1	124411	0	−682	4	20567
TS4	0	478	504	34155	0	−30	0	1111	−1266	0	54	−37	0	−2	0	424	−90	2	6181	249	969	3	514	156	−1	782	−2	69877	−1	131	−1	84182	0	−438	2	18325
OFB7.25	0	623	655	44290	0	−40	0	1392	−1658	0	−12	−50	0	−3	0	600	−138	3	8184	323	1265	4	371	153	−2	1014	−2	90227	−1	177	−1	110849	0	−549	2	28963
T13	0	478	501	33808	0	−30	0	1025	−1271	0	−70	−39	0	−2	0	488	−119	2	6340	248	969	3	57	85	−1	771	−2	68464	−1	140	−1	85404	0	−405	2	25314
OFB7.5	0	186	195	13097	0	−12	0	384	−495	0	−41	−15	0	−1	0	199	−51	1	2484	97	378	1	−33	23	0	300	−1	26443	0	55	0	33418	0	−154	1	10806
T14	0	477	498	33395	0	−30	0	949	−1273	0	−140	−40	0	−3	0	528	−142	2	6417	251	969	3	−222	34	−1	762	−1	67199	−1	142	−1	85989	0	−387	1	29939
OFB7.75	0	861	895	59770	0	−55	0	1607	−2304	0	−365	−74	0	−5	0	1000	−290	3	11676	461	1748	4	−874	−9	−2	1349	−2	119144	−2	255	−2	155141	0	−661	1	60063
L8	0	954	984	65289	0	−60	0	1600	−2554	1	−554	−81	0	−6	0	1163	−376	3	12999	510	1939	4	−1633	−110	−2	1455	−1	128106	−2	279	−2	170382	0	−684	1	74505
OFB8.25	0	860	881	58007	0	−54	0	1281	−2306	0	−616	−71	0	−6	0	1080	−391	3	11633	431	1759	2	−2021	−179	−2	1277	−1	111082	−1	249	−2	150883	0	−575	−1	72758
T15	0	476	485	31774	0	−30	0	645	−1281	0	−382	−38	0	−4	0	605	−238	2	6365	225	975	1	−1318	−128	−1	693	0	59418	−1	136	−2	81918	0	−301	−1	41992
OFB8.5	0	186	188	12255	0	−12	0	236	−499	0	−156	−14	0	−2	0	237	−98	1	2459	85	380	0	−552	−56	0	265	0	22637	0	52	−1	31440	0	−114	0	16722
T16	0	476	480	31112	0	−29	0	565	−1278	0	−415	−35	0	−4	0	603	−263	1	6248	210	974	1	−1498	−155	−1	670	0	56435	−1	131	−2	78917	0	−283	−1	43248
OFB8.75	0	859	860	55389	0	−52	0	911	−2301	1	−796	−59	0	−8	0	1076	−513	2	11039	361	1765	1	−2977	−305	−2	1167	0	97270	−1	223	−3	137838	0	−483	−4	79001
L9	0	714	709	45305	0	−43	0	659	−1909	1	−696	−44	0	−7	0	877	−464	1	8904	277	1475	1	−2695	−262	−2	928	0	76422	−1	171	−3	109932	0	−374	−4	66219
TS5	0	475	468	29626	0	−29	0	397	−1293	0	−485	−26	0	−5	0	589	−338	0	5871	172	1007	1	−1916	−177	−1	608	0	49855	−1	109	−2	72400	0	−241	−3	45459
OFB9.25	0	620	605	37973	0	−37	0	471	−1715	1	−652	−31	0	−7	0	773	−474	0	7538	209	1339	2	−2622	−230	−1	780	1	63478	−1	136	−3	93212	0	−306	−4	60351
T17	0	475	461	28804	0	−28	0	322	−1313	0	−502	−22	0	−6	0	578	−380	0	5575	147	1031	1	−2046	−170	−1	576	0	46302	−1	97	−2	68722	0	−223	−4	45691
OFB9.5	0	185	178	11057	0	−11	0	114	−511	0	−196	−8	0	−2	0	221	−153	0	2123	53	405	1	−804	−64	0	219	0	17323	0	36	−1	25894	0	−84	−1	17599
T18	0	475	454	27935	0	−28	0	266	−1312	0	−501	−18	0	−6	0	552	−406	0	5308	127	1042	1	−2074	−159	−1	551	1	42627	−1	89	−2	64132	0	−209	−4	44318
OFB9.75	0	857	812	49442	0	−49	0	406	−2367	1	−890	−27	0	−12	0	949	−772	0	9094	202	1894	2	−3752	−269	−2	942	1	71295	−1	144	−5	108641	1	−352	−7	77239
L10	0	948	885	53081	0	−53	0	344	−2620	1	−947	−24	0	−14	0	969	−916	0	9244	187	2124	3	−4070	−270	−2	969	1	70220	−1	133	−5	108575	1	−352	−8	80284
OFB10.25	0	855	785	46327	0	−46	0	225	−2365	1	−801	−17	0	−14	0	790	−882	0	7498	142	1932	2	−3503	−222	−2	803	1	55220	−1	93	−4	86693	1	−291	−7	66397
T19	0	474	430	25070	0	−25	0	94	−1313	0	−416	−8	0	−8	0	401	−510	0	3794	69	1077	1	−1838	−114	−1	416	1	27304	−1	40	−2	43423	0	−151	−4	34038
OFB10.5	0	184	166	9570	0	−10	0	30	−512	0	−156	−3	0	−3	0	147	−204	0	1402	25	423	0	−693	−42	0	156	0	9894	0	13	−1	15819	0	−57	−2	12544
T20	0	473	421	24039	0	−24	0	61	−1314	0	−385	−7	0	−9	0	353	−536	0	3409	60	1087	1	−1714	−102	−1	385	1	23489	−1	28	−2	37637	0	−141	−4	30377
OFB10.75	0	854	749	42247	0	−42	0	68	−2369	1	−628	−11	0	−17	0	559	−1006	0	5447	95	1976	2	−2832	−166	−2	640	1	36754	−1	27	−3	59553	1	−235	−6	48992
L11	0	945	812	44855	0	−45	0	13	−2622	0	−585	−9	0	−20	0	491	−1174	0	4928	87	2213	2	−2672	−155	−2	620	1	32081	−1	−8	−3	52633	1	−231	−6	44420
OFB11.25	0	638	539	29293	0	−30	0	−26	−1768	0	−323	−4	0	−15	0	253	−826	0	2645	43	1503	1	−1490	−83	−1	360	1	16847	−1	−31	−2	27784	1	−137	−3	24277
TS6	0	1417	1067	51764	0	−60	0	−115	−4010	1	−484	−5	0	−34	0	288	−1987	0	3897	52	3425	2	−2249	−109	−3	636	1	22285	−1	−122	−2	35853	2	−254	−5	32619
L12	0	1251	929	44353	0	−38	0	−100	−3558	0	−142	−2	0	−26	0	77	−1832	0	1144	21	3049	1	−658	−44	−3	374	0	9937	−1	−125	−1	14485	2	−169	−1	13408

NOT FOR CONSTRUCTION

p:\3326.01\CADD\StructuralMS-006 WIND LOAD CASES - 1.dwg LAST PLOTTED: 11/3/2025 1:35:58 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
WIND LOAD CASES - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-006

SHT NO.: 326 OF 648

ARCH RIB EQUIVALENT STATIC WIND LOAD CASES

WORK POINT		MEAN				MODE 1				MODE 2				MODE 3				MODE 4				MODE 5				MODE 6				MODE 7				MODE 8			
		Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)	Fx (LB)	Fy (LB)	Fz (LB)	Mx (LB-FT)
UPWIND ARCH (SOUTH)	L0	0	902	−129	−1637	9	−23	−6	−45	−969	8	205	89	2	17	3	33	351	−10	−65	−40	957	−41	−192	−125	0	136	26	270	93	−86	−34	−177	93	−14	−21	−22
	RS1	0	2007	−314	−3672	22	−166	−56	−160	−2497	65	1157	131	9	120	31	122	1003	−39	−411	−79	2342	−189	−937	−44	15	640	192	531	260	−546	−258	−539	293	84	−147	172
	R1	0	2586	−479	−4742	30	−603	−204	−710	−3371	82	2128	369	15	428	126	500	1576	−44	−829	−207	2644	−220	−1048	79	7	1746	645	1843	405	−1732	−752	−1942	587	534	−374	636
	R2	0	1961	−401	−3579	24	−801	−269	1155	−2628	31	1815	−987	14	548	166	−783	1359	−12	−733	347	1643	−82	−298	481	−9	1945	763	−2982	344	−2025	−828	3093	593	734	−401	−658
	U1	0	1498	−355	−2708	17	−828	−273	−654	−1938	1	1379	289	13	540	164	422	1075	4	−541	−148	952	−4	203	126	−8	1667	680	1260	265	−1791	−699	−1364	510	706	−364	495
	RS2	0	1252	−308	−2255	12	−834	−273	898	−1619	−4	1162	−387	12	520	158	−555	914	6	−410	97	667	12	414	−102	−8	1421	601	−1634	221	−1557	−585	1746	457	646	−341	−443
	R3	0	494	−130	−883	5	−387	−126	2	−660	−2	475	3	5	232	70	2	375	2	−145	−18	236	6	243	10	−3	565	249	2	89	−629	−228	−11	194	273	−150	37
	R4	0	1254	−352	−2225	10	−1074	−346	−948	−1630	−4	1168	307	15	613	186	535	929	5	−283	−107	516	10	771	244	−6	1291	597	1095	216	−1464	−504	−1231	488	663	−398	488
	U2	0	1422	−412	−2510	8	−1346	−428	957	−1796	−4	1261	−267	18	716	215	−517	1008	4	−156	−3	484	4	1090	−199	−5	1184	605	−1050	229	−1395	−430	1119	546	673	−474	−274
	R5	0	1020	−318	−1774	3	−1036	−326	−130	−1224	−2	835	43	13	502	150	60	669	2	53	−30	284	1	911	56	−4	543	355	4	149	−697	−161	−45	372	373	−351	76
	R6	0	1581	−521	−2703	2	−1709	−533	−499	−1798	−1	1167	110	20	724	216	183	959	3	371	6	388	0	1531	166	−3	220	376	−163	214	−439	37	96	535	330	−554	43
	R7	0	1349	−461	−2276	0	−1548	−477	909	−1461	−1	865	−141	17	551	164	−339	750	3	636	−141	311	−2	1375	−216	−2	−395	166	23	168	229	312	−79	420	38	−469	81
	U3	0	700	−250	−1154	−1	−818	−250	55	−722	−1	390	3	8	246	73	−17	365	1	453	−27	160	−1	708	2	1	−427	25	−11	83	347	265	−29	201	−82	−235	30
	R8	0	777	−283	−1260	−1	−912	−278	−1	−772	−1	388	12	9	234	70	−1	392	2	599	−17	180	1	763	18	3	−625	−15	−45	90	542	368	1	210	−167	−250	14
	RS3	0	762	−282	−1216	−1	−901	−275	99	−735	−1	330	0	8	186	56	−22	374	3	701	−40	182	2	713	−6	5	−758	−54	32	87	683	438	−84	195	−233	−227	39
	R9	0	1025	−386	−1584	−2	−1242	−378	−59	−971	−1	364	19	11	170	52	4	509	4	1149	−1	260	2	902	37	13	−1248	−129	−119	121	1161	719	59	251	−422	−272	−23
	R10	0	1031	−391	−1560	−2	−1274	−387	184	−968	−1	293	1	11	82	26	−16	531	4	1348	−72	276	0	831	−12	21	−1423	−170	136	129	1341	826	−225	246	−510	−232	70
	U4	0	653	−249	−965	−2	−806	−245	42	−605	0	134	6	7	0	2	0	351	2	969	−20	181	−2	452	9	18	−936	−113	14	87	878	560	−67	152	−350	−108	10
	R11	0	1027	−389	−1554	−3	−1254	−382	182	−942	−1	131	7	10	−82	−21	15	589	6	1706	−83	287	−3	576	4	37	−1406	−151	133	148	1298	898	−235	237	−540	−92	49
	R12	0	1031	−388	−1593	−3	−1238	−379	−56	−948	0	62	14	11	−171	−48	−4	637	8	1874	23	285	−1	444	37	45	−1252	−98	−120	162	1119	883	35	242	−486	−6	−59
	RS4	0	756	−279	−1206	−2	−868	−267	86	−685	1	−5	8	8	−180	−51	18	497	5	1460	−41	195	−1	202	16	39	−740	−18	19	128	624	602	−98	180	−287	68	−10
	R13	0	777	−283	−1260	−3	−867	−268	10	−705	1	−45	8	8	−224	−64	3	541	3	1576	1	186	−2	105	21	44	−606	31	−42	140	470	578	−36	191	−235	131	−37
	U5	0	708	−252	−1167	−3	−806	−250	53	−677	0	−72	7	8	−243	−70	16	545	3	1557	−19	163	−2	17	19	46	−434	75	−18	142	288	511	−64	188	−171	173	−32
	R14	0	1334	−456	−2249	−7	−1526	−478	882	−1353	0	−215	53	16	−546	−159	328	1162	8	3204	−552	266	−7	−203	92	101	−423	283	3	303	106	886	−199	393	−173	473	−119
	R15	0	1582	−522	−2706	−12	−1706	−542	−450	−1660	1	−359	−9	19	−726	−214	−164	1509	11	3988	328	215	−9	−617	20	133	179	550	−191	392	−593	851	20	507	57	765	−120
	R16	0	1036	−323	−1801	−10	−1049	−337	−146	−1127	1	−285	−5	12	−511	−152	−69	1068	6	2705	143	78	−5	−613	1	97	525	492	−2	274	−813	430	−124	357	192	611	−44
	U6	0	1397	−405	−2464	−16	−1324	−430	905	−1575	1	−436	100	16	−707	−212	488	1527	5	3710	−739	15	−5	−1074	273	142	1131	796	−1037	385	−1517	437	839	512	413	931	−604
	R17	0	1255	−352	−2227	−17	−1079	−355	−881	−1436	1	−415	−94	13	−618	−187	−499	1402	7	3296	841	−56	−5	−1128	−243	135	1270	788	1015	346	−1593	290	−1139	472	454	886	432
	R18	0	519	−137	−928	−7	−398	−132	−16	−587	0	−171	−1	5	−240	−73	−13	572	4	1312	36	−39	−2	−496	0	57	573	335	23	140	−695	90	−79	192	201	365	−20
	RS5	0	1251	−308	−2253	−17	−821	−273	900	−1363	1	−392	133	10	−515	−157	558	1301	7	2920	−949	−115	−5	−1200	436	133	1386	779	−1700	310	−1633	160	1498	438	472	832	−838
	U7	0	1500	−355	−2710	−21	−822	−276	−652	−1615	2	−445	−98	11	−539	−164	−423	1467	2	3240	779	−146	−6	−1456	−299	153	1645	891	1273	341	−1881	139	−1350	495	533	935	490
	R19	0	1963	−402	−3583	−28	−827	−277	1223	−2228	3	−538	255	13	−570	−172	834	1755	−4	3899	−1822	−103	−27	−1936	1048	195	2004	1064	−3308	391	−2201	158	2806	589	575	1097	−1374
	R20	0	2585	−478	−4740	−32	−633	−208	−745	−2923	6	−534	−133	14	−452	−131	−529	1551	−24	3928	1019	291	−63	−2129	−444	183	1831	965	1981	325	−1913	230	−1983	549	377	1009	729
	RS6	0	2005	−314	−3668	−23	−170	−50	−171	−2393	7	−223	−40	8	−126	−30	−132	147	−47	1693	322	1008	−33	−994	−161	55	661	329	589	19	−604	163	−579	153	−17	362	153
	L12	0	902	−129	−1637	−11	−23	−5	−42	−1130	1	−32	−12	1	−17	−3	−34	−379	−29	262	72	806	5	−156	−48	−4	137	46	280	−81	−93	30	−172	−29	−47	46	−69
DOWNWIND ARCH (NORTH)	L0	0	902	129	1637	−9	−23	6	−45	−969	−8	205	−89	−3	17	−3	33	351	10	−65	41	957	41	−192	126	−3	136	−26	270	−95	−86	34	−178	−92	−14	21	−21
	RS1	0	2007	314	3672	−22	−166	56	−160	−2497	−66	1157	−132	−9	120	−31	122	1005	39	−412	79	2342	192	−938	46	−22	639	−190	531	−263	−546	259	−539	−290	84	146	172
	R1	0	2586	479	4742	−30	−603	204	−710	−3371	−86	2128	−373	−15	428	−125	500	1576	42	−826	203	2643	227	−1054	−72	−15	1746	−642	1843	−409	−1732	754	−1941	−583	534	373	636
	R2	0	1961	401	3579	−24	−801	269	1155	−2628	−35	1815	993	−15	548	−166	−783	1356	9	−727	−342	1644	89	−306	−495	5	1945	−762	−2982	−347	−2025	828	3093	−592	734	401	−658
	U1	0	1498	355	2708	−16	−828	273	−654	−1938	−5	1379	−293	−13	540	−164	422	1073	−7	−535	145	958	9	194	−121	6	1667	−681	1260	−267	−1791	699	−1364	−510	706	365	495
	RS2	0	1252	308	2255	−12	−834	273	898	−1619	0	1162	391	−12	520	−158	−555	912	−9	−405	−92	671	−7	405	93	7	1421	−604	−1634	−222	−1557	585	1746	−457	646	343	−442
	R3	0	494	130	883	−5	−387	126	2	−660	0	475	−3	−6	232	−70	2	374	−3	−143	19	238	−4	239	−10	3	565	−249	2	−89	−629	227	−11	−193	273	150	37
	R4	0	1254	352	2225	−10	−1074	346	−948	−1630	−1	1168	−311	−15	613	−185	535	926	−8	−278	103	521	−6	758	−240	5	1291	−598	1096	−217	−1464	504	−1231	−488	663	400	487
	U2	0	1422	412	2510	−8	−1346	428	957	−1796	−2	1261	271	−18	716	−214	−517	1005	−9	−151	7	489	−1	1075	191	4	1184	−608	−1051	−230	−1395	427	1118	−546	674	476	−274
	R5	0	1020	318	1774	−3	−1036	326	−130	−1224	−3	835	−44	−13	502	−150	60	667	−5	56	30	288	0	900	−57	3	543	−357	5	−150	−697	159	−45	−372	373	353	76
	R6	0	1581	521	2703	−2	−1709	533	−499	−1798	−5	1167	−111	−20	724	−215	183	956	−8	376	−8	395	−1	1515	−168	2	220	−380	−163	−215	−439	−39	96	−536	330	557	43
	R7	0	1349	461	2276	0	−1548	477	909	−1461	−3	865	143	−17	551	−163	−338	748	−7	639	144	316	−1	1362	213	1	−395	−170	22	−169	229	−313	−79	−422	38	471	81
	U3	0	700	250	1154	1	−818	250	55	−722	−1	392	−3	−8	246	−73	−17	365	−3	453	27	162	−2	701	−3	−2	−427	−27	−11	−83	347	−266	−29	−202	−82	236	30
	R8	0	777	283	1260	1	−912	278	−1	−772	−1	388	−12	−9	234	−70	−1	392	−4	599	17	183	−4	756	−19	−4	−625	12	−45	−91	542	−370	1	−210	−167	251	14
	RS3	0	762	282	1216	1	−901	275	99	−735	−1	330	0	−8	186	−56	−22	373	−4	701	40	185	−6	709	6	−6	−758	51	32	−88	683	−440	−84	−195	−233	228	39
	R9	0	1025	386	1584	2	−1242	378	−59	−971	−1	365	−19	−11	170	−52	4	507	−6	1147	1	263	−8	897	−38	−14	−1248	126	−119	−122	1161	−721	59	−252	−422	274	−23
	R10	0	1031	391	1560	2	−1274	387	184	−968	0	293	0	−11	82	−26	−16	529	−5	1341	72	279	−6	826	11	−21	−1423	167	136	−130	1341	−826	−226	−246	−510	235	70
	U4	0	653	249	965	2	−806	245	42	−605	0	134	−6	−7	0	−2	0	351	−2	969	20	183	−2	447	−9	−19	−936	111	14	−87	878	−560	−67	−152	−350	109	10
	R11	0	1027	389	1554	3	−1254	382	182	−942	1	131	−7	−11	−82	21	15	588	−7	1706	83	290	−3	572	−4	−38	−1406	149	133	−149	1298	−900	−235	−239	−539	94	49
	R12	0	1031	388	1593	3	−1238	379	−56	−948	1	63	−13	−11	−171	48	−4	636	−8	1873	−24	288	−4	441	−38	−47	−1252	96	−119	−163	1119	−885	35	−244	−486	7	−59
	RS4	0	756	279	1206	2	−868	267	86	−685	1	−5	−8	−8	−180	51	18	496	−4	1454	40	197	−2	201	−16	−39	−740	17	19	−129	624	−602	−98	−181	−287	−67	−10
	R13	0	777	283	1260	3	−867	268	10	−705	1	−45	−8	−8	−224	64	3	539	−3	1569	−2	188	−1	105	−21	−45	−606	−32	−42	−141	470	−580	−36	−191	−235	−130	−37
	U5	0	708	252	1167	3	−806	250	53	−677	2	−72	−7	−8	−243	70	16	544	−2	1551	19	165	1	17	−19	−46	−434	−76	−18	−142	288	−513	−64	−188	−171	−173	−32
	R14	0	1334	456	2249	7	−1526	478	882	−1353	4	−215	−55	−16	−546	159	328	1159	−6	3193	549	271	5	−202	−91	−102	−423	−284	3	−304	106	−886	−199	−393	−174	−473	−119
	R15	0	1582	522	2706	12	−1706	542	−450	−1660	5	−359	10	−19	−726	214	−164	1507	−8	3984	−329	222	10	−613	−20	−135	179	−551	−190	−393	−593	−851	20	−507	57	−765	−121
	R16	0	1036	323	1801	10	−1049	337	−146	−1127	3	−285	6	−13	−511	152	−69	1067	−3	2696	−144	83	7	−608	0	−98	525	−492	−1	−277	−813	−432	−124	−358	192	−611	−44
	U6	0	1397	405	2464	16	−1324	430	905	−1575	4	−436	−103	−16	−707	212	488	1527	−2	3695	733	22	9	−1067	−274	−143	1131	−796	−1037	−389	−1517	−441	839	−514	413	−934	−605
	R17	0	1255	352	2227	17	−1079	355	−881	−1436	4	−415	98	−13	−618	187	−499	1402	−4	3283	−836	−49	10	−1121	246	−136	1270	−788	1015	−349	−1593	−293	−1139	−474	454	−888	432
	R18	0	519	137	928	7	−398	132	−16	−587	1	−171	1	−5	−240	73	−13	572	−3	1307	−37	−36	5	−493	0	−57	573	−335	23	−140	−695	−91	−79	−193	201	−367	−20
	RS5	0	1251	308	2253	17	−821	273	900	−1363	3	−392	−138	−11	−515	157	558	1300	−5	2910	943	−108	11	−1194	−439	−133	1386	−777	−1699	−312	−1633	−162	1498	−440	472	−837	−839
	U7	0	1500	355	2710	21	−822	276	−652	−1615	3	−445	101	−11	−539	164	−423	1465	0	3237	−777	−138	13	−1448	304	−154	1645	−890	1273	−343	−1881	−142	−1349	−498	533	−941	491
	R19	0	1963	402	3583	28	−827	277	1223	−2228	2	−538	−261	−13	−570	172	834	1754	6	3895	1813	−93	36	−1927	−1056	−196	2004	−1061	−3306	−395	−2201	−162	2804	−596	575	−1103	−1377
	R20	0	2585	478	4740	32	−633	208	−745	−2923	−2	−534	137	−15	−452	131	−529	1550	26	3906	−1015	300	72	−2126	451	−186	1831	−964	1981	−330	−1913	−234	−1982	−555	377	−1019	730
	RS6	0	2005	314	3668	23	−170	50	−171	−2393	−6	−223	41	−8	−126	30	−132	149	47	1687	−318	1011	37	−991	164	−57	661	−328	590	−22	−604	−166	−578	−155	−17	−367	153
	L12	0	902	129	1637	11	−23	5	−42	−1130	−1	−32	12	−2	−17	3	−34	−378	29	262	−72	806	−4	−155	49	2	137	−46	280	80	−93	−30	−172	30	−47	−47	−69

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS
DATE: 11/03/2025

DESIGN BY: T. STEPHENS
DATE: 11/03/2025

CHECKED BY: M. MAJD
DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
WIND LOAD CASES - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-007

SHT NO.: 327 OF 648

p:\3326.01\CADD\Structural\MS-007 WIND LOAD CASES - 2.dwg LAST PLOTTED: 11/3/2025 1:36:02 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

EQUIVALENT STATIC WIND LOAD CASES																				
COMPONENT	HANGERS (WINDWARD AND LEEWARD ARCH ACTING IN ANY HORIZONTAL DIRECTION)																			
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20
BOTTOM (PLF)	7.58	7.58	7.59	7.59	7.61	7.61	7.62	7.62	7.63	7.63	7.63	7.63	7.62	7.62	7.61	7.61	7.59	7.59	7.58	7.58
TOP (PLF)	8.59	9.17	9.68	9.74	10.06	10.15	10.31	10.38	10.45	10.47	10.48	10.44	10.39	10.30	10.17	10.05	9.76	9.67	9.15	8.57

NOT FOR CONSTRUCTION

NOTES:

1. FOR WORK POINT DESIGNATIONS AND X-Y-Z COORDINATE SYSTEM, SEE DWGS. MS-080 THRU MS-082.
2. THE EQUIVALENT STATIC WIND LOADS ARE BASED ON THE ASSUMPTION OF LINEAR ELASTIC BEHAVIOR AND RESULT IN DIFFERENT LOAD CASES WHICH CAN BE ANALYZED TO DEVELOP AN ENVELOP OF STRESS CONDITIONS IN THE STRUCTURE. THESE LOADS ARE SUITABLE FOR A LINEAR STRUCTURE FOR BOTH POSITIVE AND NEGATIVE LOADS. THE LOADS PRESENTED ARE CONSISTENT WITH WIND ACTING IN THE DIRECTION FROM SOUTH ARCH TO NORTH ARCH.
3. RESULTS ARE CONSISTENT WITH A 700-YR MEAN-HOURLY WIND SPEED OF 66.7 MPH AT 33 FT.
4. DECK AND TIE GIRDER LOADS ARE TO BE APPLIED AT CENTER OF GRAVITY OF DECK, LOCATED AT THE CENTERLINE OF BRIDGE.
5. MAXIMUM AND MINIMUM MEMBER RESPONSES ARE DETERMINED USING THE FOLLOWING EQUATION:

$$R = R_{mean} + R_{hangers} \pm R_{dynamic}$$

WHERE:

R = MAX/MIN MEMBER RESPONSE

R_{mean} = MEAN LOADS (Fx, Fy, Fz, Mx) OF DECK AND TIE GIRDER, AND ARCH RIBS APPLIED SIMULTANEOUSLY

$R_{hangers}$ = HANGER LOADS

$R_{dynamic}$ = TOTAL DYNAMIC COMPONENT OF MEMBER RESPONSE FROM THE WIND LOADING OF THE DECK AND TIE GIRDER, AND ARCH RIBS DETERMINED AS THE SQUARE ROOT OF THE SUM OF SQUARES FROM ALL DYNAMIC COMPONENTS OF THE RESPONSE FROM ALL MODES:

$$= \sqrt{R_1^2 + R_2^2 + R_3^2 + \ldots R_n^2}$$

R_n = MODAL LOADS (Fx, Fy, Fz, Mx). THE DYNAMIC MODAL LOADS OF DECK AND TIE GIRDER, AND ARCH RIBS OF THE SAME MODE ARE APPLIED SIMULTANEOUSLY

p:\3326.01\CADD\Structural\MS-008 WIND LOAD CASES - 3.dwg LAST PLOTTED: 11/3/2025 1:36:05 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

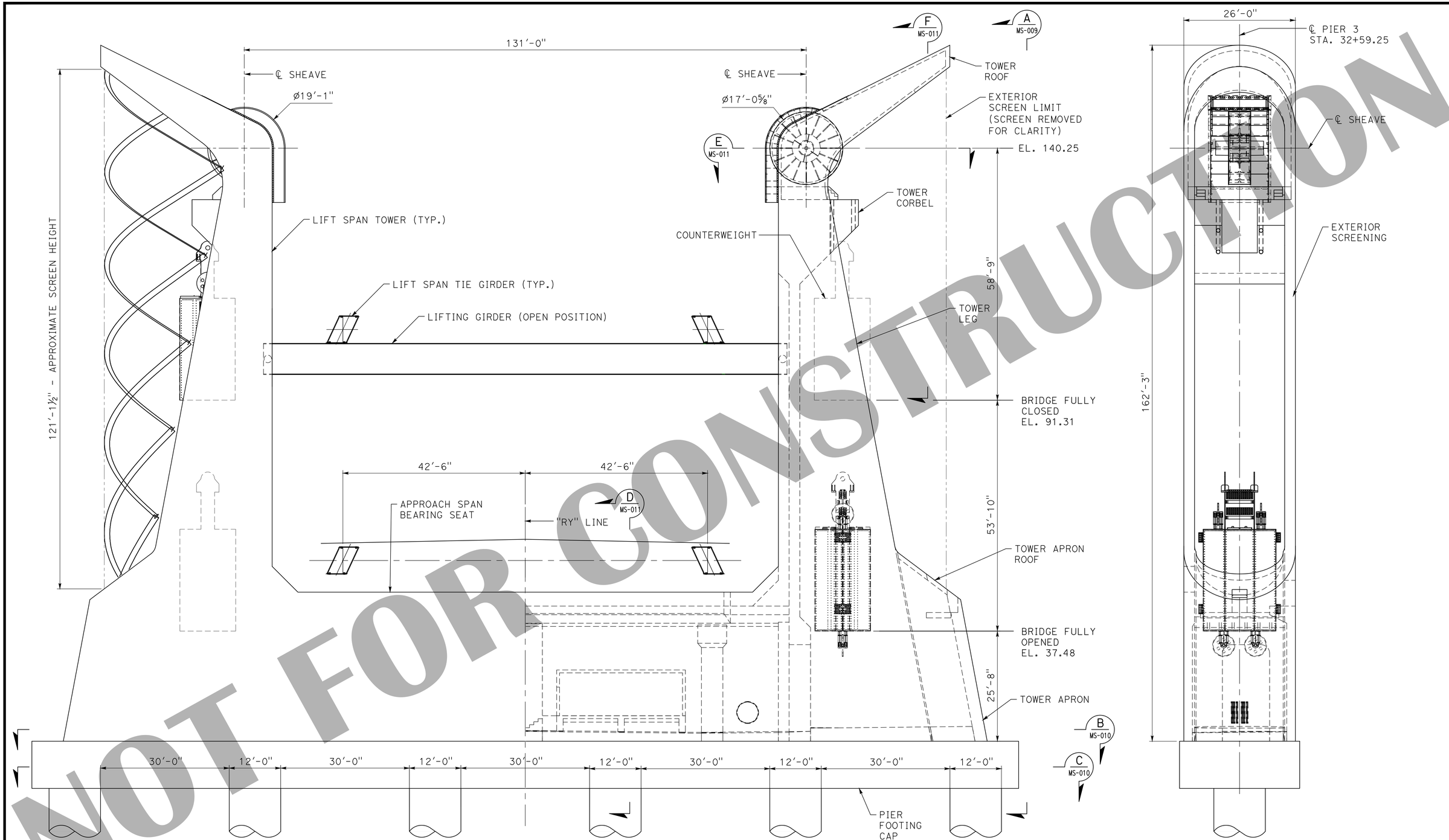
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
WIND LOAD CASES - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-008

SHT NO.: 328 OF 648



ELEVATION - LIFT SPAN PIER AND TOWERS

(PIER 3 LOOKING AHEAD STATION SHOWN, PIER 4 SYMM. ABOUT ℄ LIFT SPAN, EXCEPT AS NOTED)
SCALE: 3/32" = 1'-0"

A MS-009 SECTION

SCALE: 3/32" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG	DESIGN BY: C. AHLSKOG	CHECKED BY: T. STEPHENS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

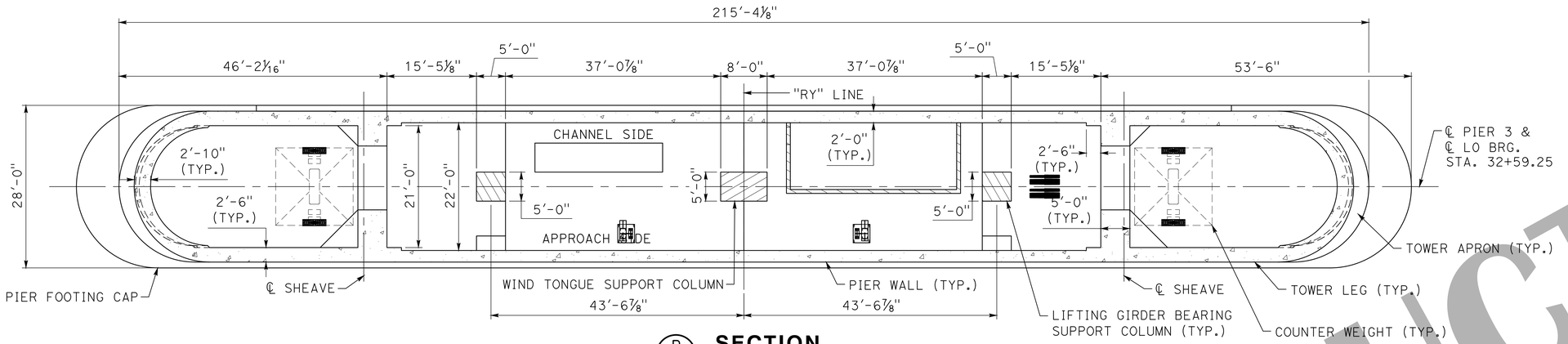
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER GENERAL PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-009
SHT NO.: 329 OF 648

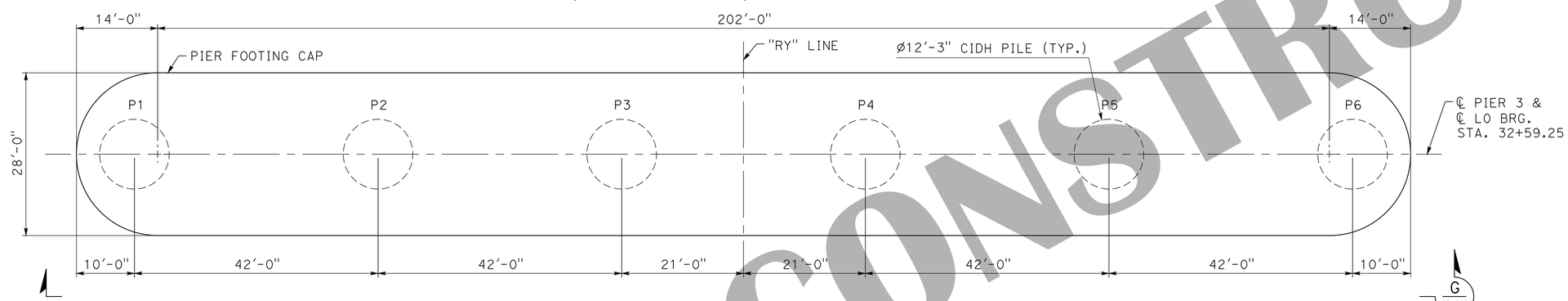
p:\3326.01\CADD\Structural\MS-009 TOWER GENERAL PLAN AND ELEVATION.dwg LAST PLOTTED: 11/3/2025 1:36:12 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

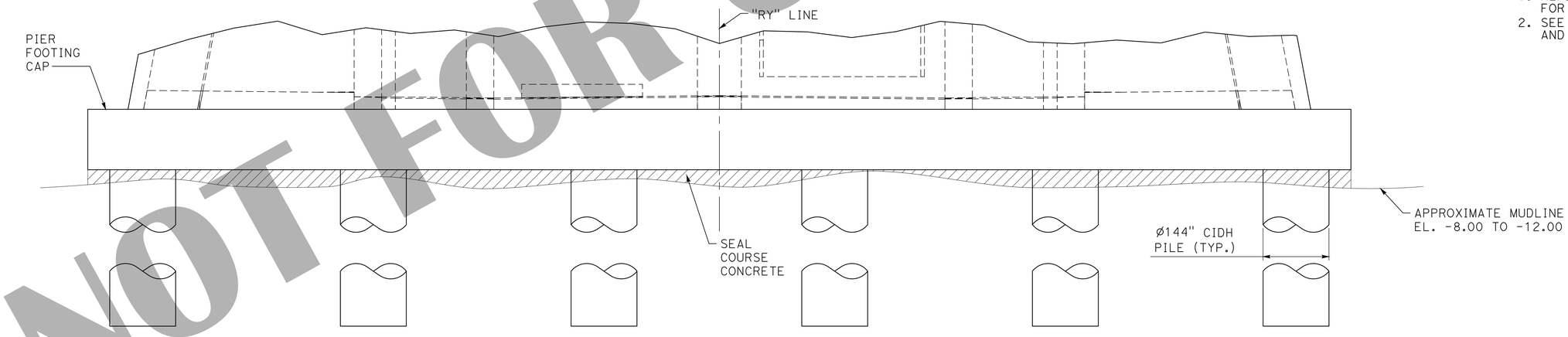


B MS-009 **SECTION**
SCALE: 3/32" = 1'-0"

(SLOPED FLOOR, CONCRETE PEDESTALS, & ELECTRICAL ROOM REMOVED FOR CLARITY)



C MS-009 **SECTION**
SCALE: 3/32" = 1'-0"



G MS-010 **VIEW**
SCALE: 3/32" = 1'-0"

(SLOPED FLOOR, CONCRETE PEDESTALS, & ELECTRICAL ROOM REMOVED FOR CLARITY)

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-009 FOR LOCATION OF SECTION B AND SECTION C.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: T. STEPHENS DATE: 11/03/2025

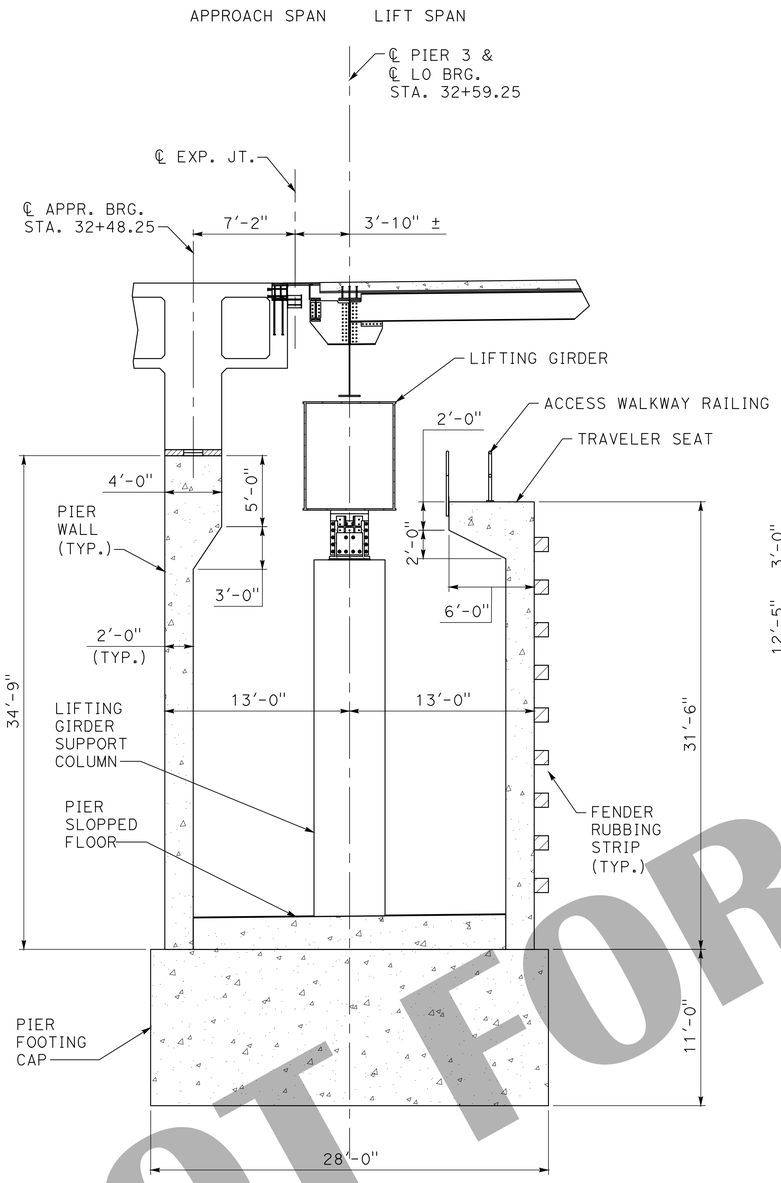
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER SECTIONS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-010
SHT NO.: 330 OF 648

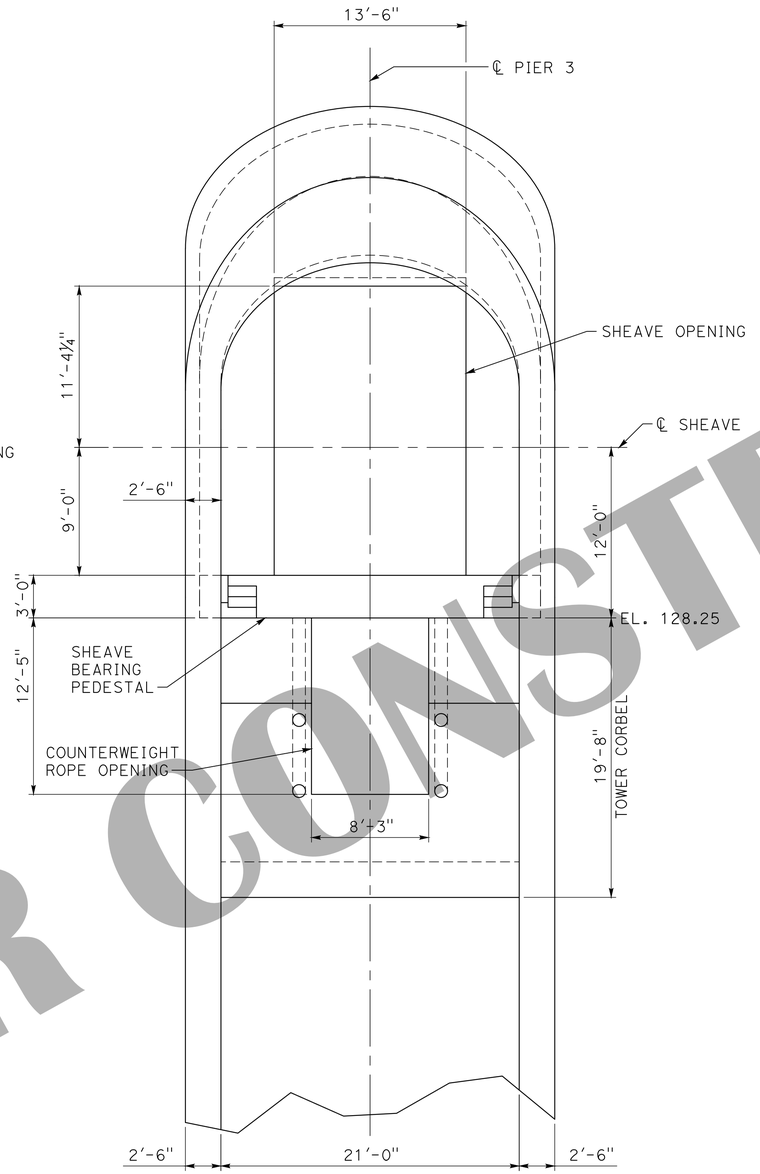
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-010 TOWER SECTIONS - 1.dwg LAST PLOTTED: 11/3/2025 1:38:20 PM



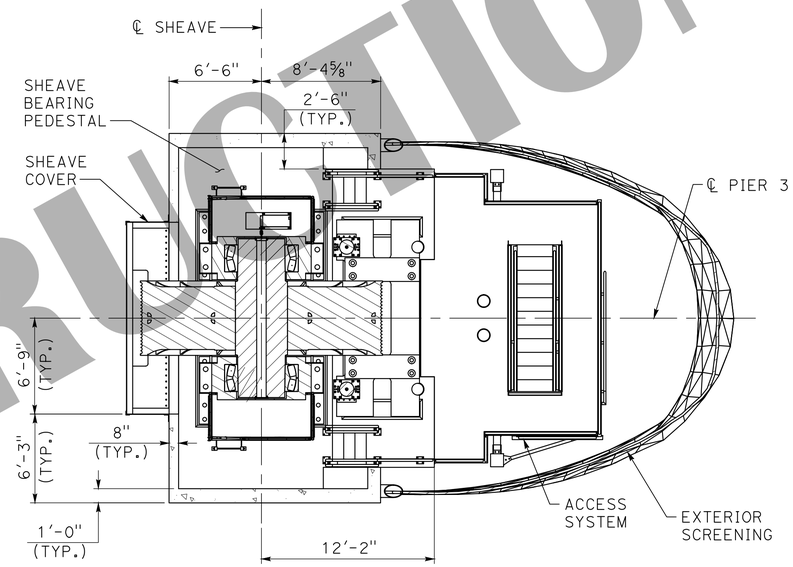
D MS-009 **SECTION**
SCALE: 3/16" = 1'-0"

(PIER ROOF, PIER FLOOR GRATING, PIER FLOOR PEDESTALS AND MACHINERY, NOT SHOWN FOR CLARITY)



F MS-009 **SECTION**
SCALE: 3/16" = 1'-0"

(SHEAVE, SHEAVE BEARING AND COUNTERWEIGHT ROPE SUPPORT BEAM, NOT SHOWN FOR CLARITY)



E MS-009 **SECTION**
SCALE: 3/16" = 1'-0"

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-009 FOR LOCATION OF SECTION D, SECTION E AND SECTION F.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG	DESIGN BY: C. AHLSKOG	CHECKED BY: T. STEPHENS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

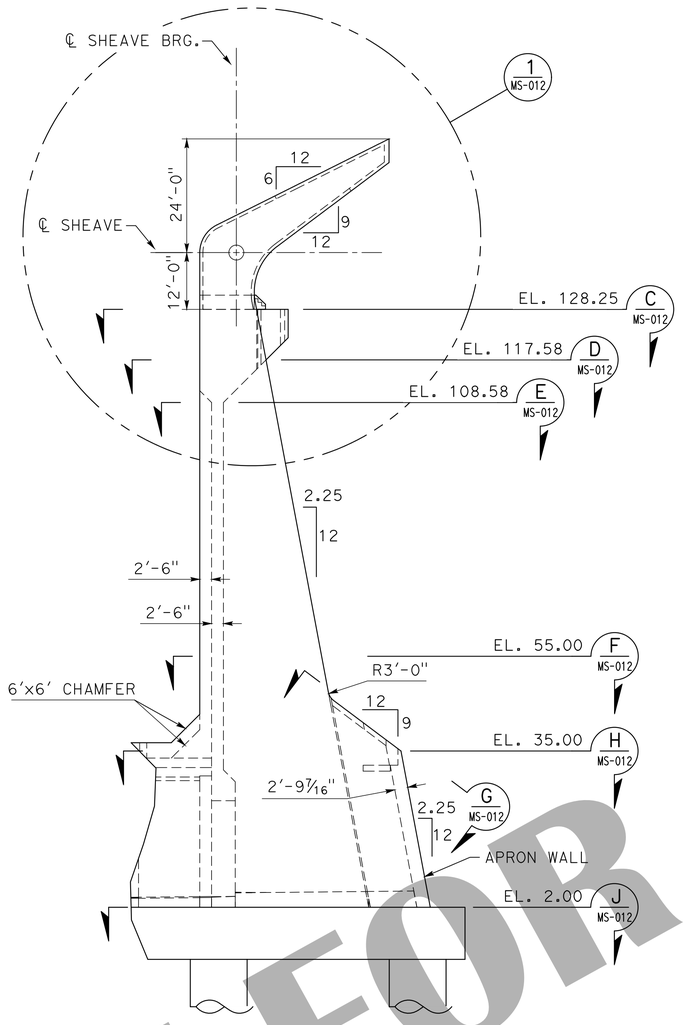
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER SECTIONS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-011
SHT NO.: 331 OF 648

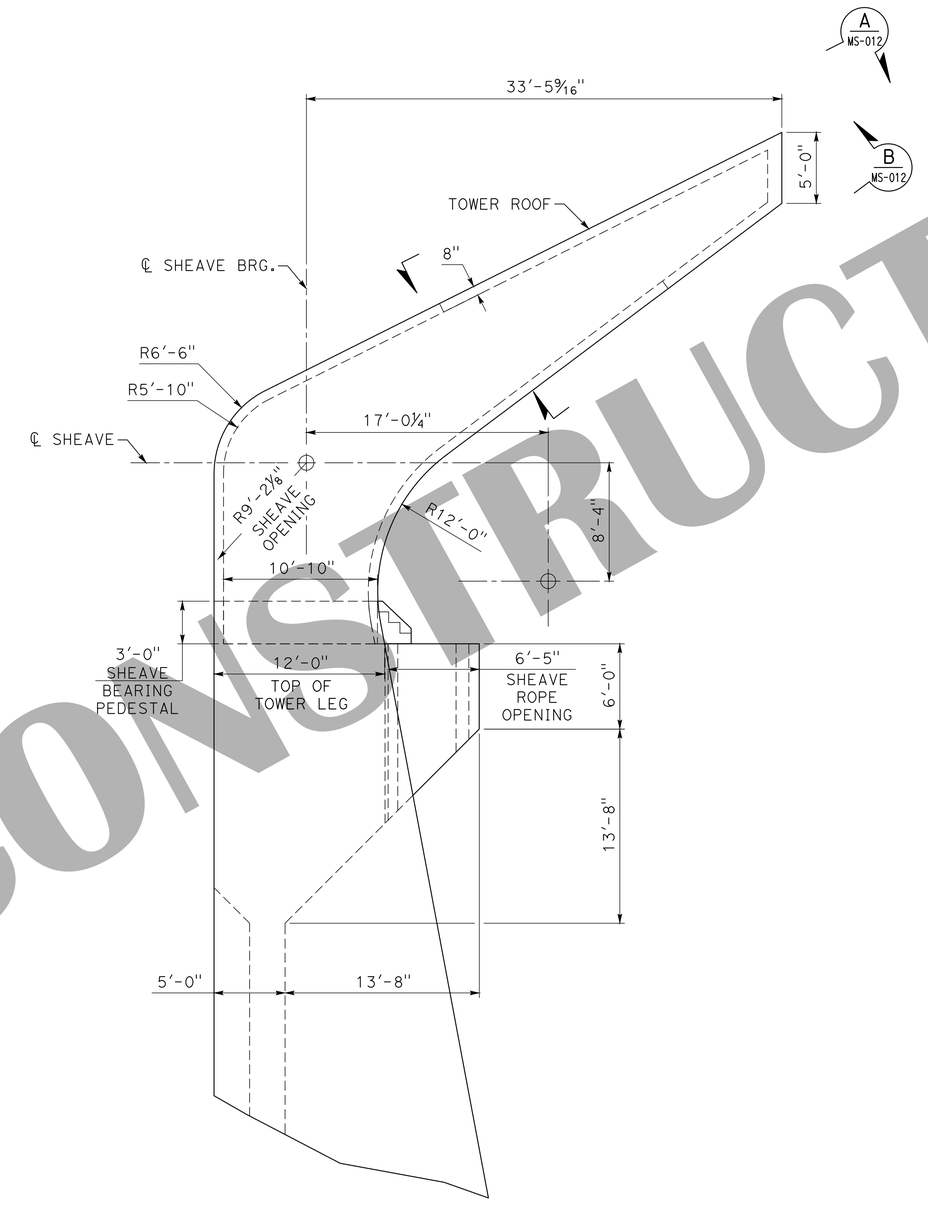
p:\3326.01\CADD\Structural\MS-011 TOWER SECTIONS - 2.dwg LAST PLOTTED: 11/3/2025 1:38:35 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



ELEVATION - TOWER LEG

SCALE: 1/16" = 1'-0"



1 MS-012 **DETAIL**

SCALE: 3/16" = 1'-0"

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: T. STEPHENS DATE: 11/03/2025

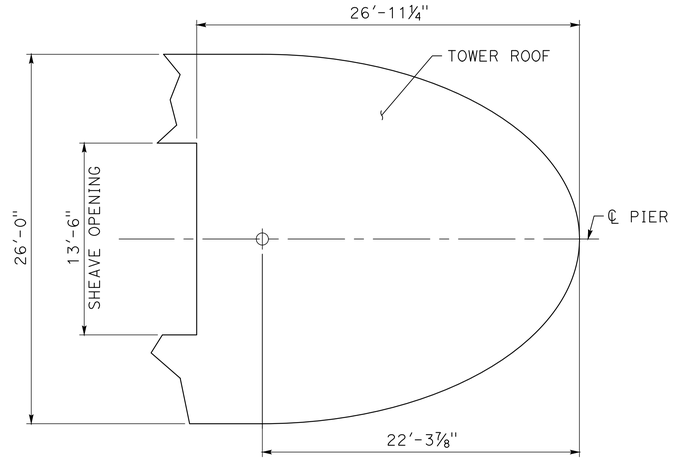
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER SECTIONS - 3
(Date: 11/03/2025)

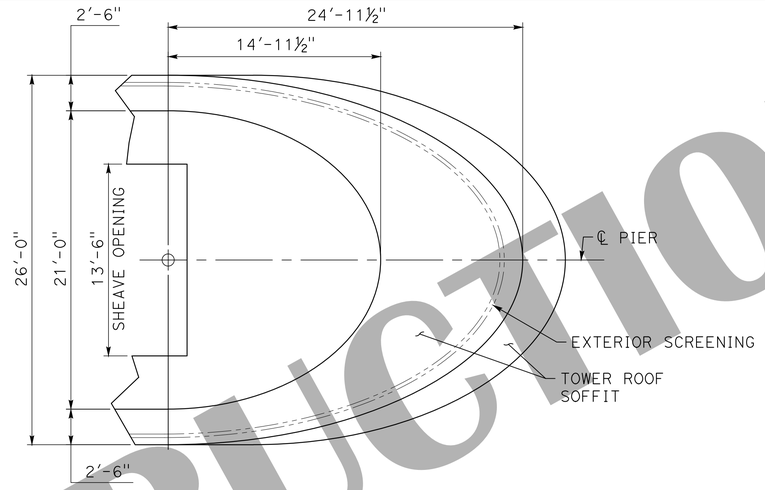
PN: T15136000
DWG NO.: MS-012
SHT NO.: 332 OF 648

p:\3326.01\CADD\Structural\MS-012 TOWER SECTIONS - 3.dwg LAST PLOTTED: 11/3/2025 1:36:45 PM

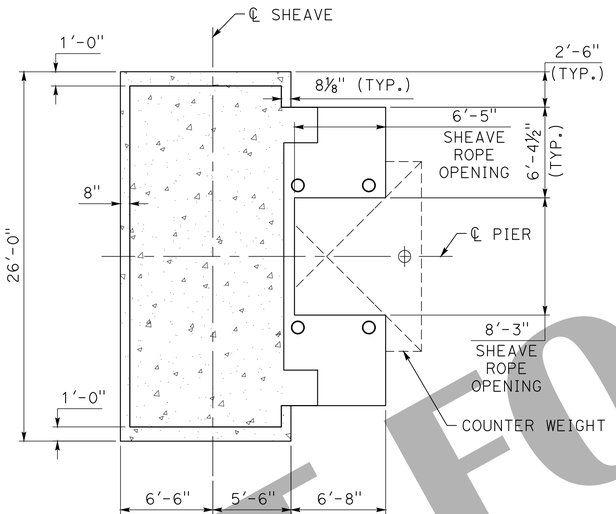
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



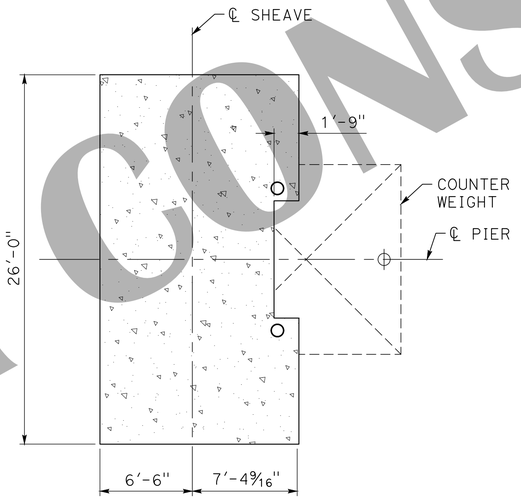
A MS-013 **VIEW**
SCALE: 3/16" = 1'-0"



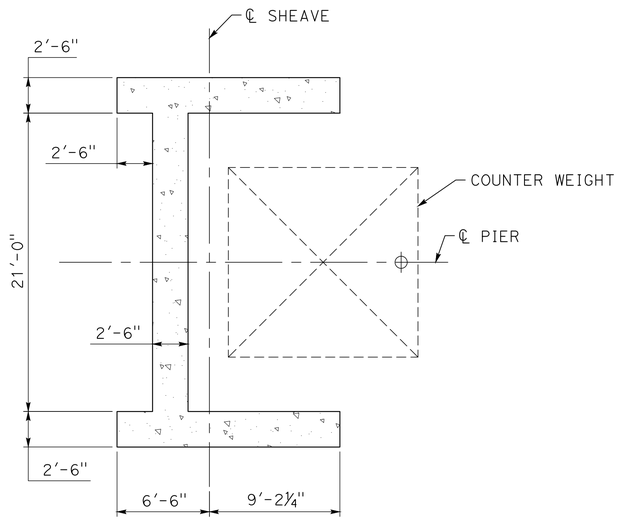
B MS-013 **SECTION**
SCALE: 3/16" = 1'-0"
(SHEAVE AND STEEL ROOF SUPPORT NOT SHOWN FOR CLARITY)



C MS-013 **SECTION**
SCALE: 3/16" = 1'-0"
(SHEAVE, SHEAVE BEARINGS, AND COUNTERWEIGHT ROPE SUPPORT BEAM NOT SHOWN FOR CLARITY)



D MS-013 **SECTION**
SCALE: 3/16" = 1'-0"



E MS-013 **SECTION**
SCALE: 3/16" = 1'-0"

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-012 FOR LOCATION OF SECTIONS A TO E.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. POE DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: T. STEPHENS DATE: 11/03/2025

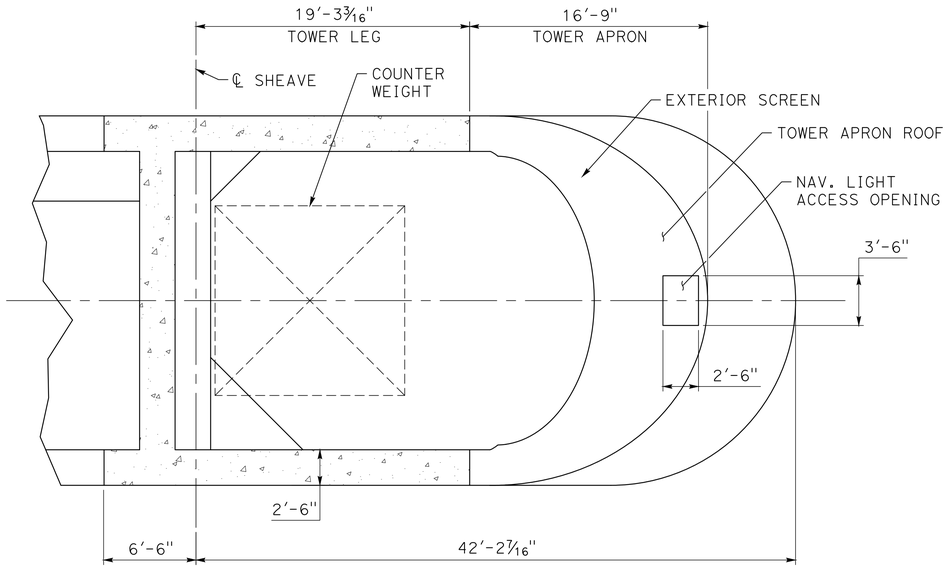
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER SECTIONS - 4
(Date: 11/03/2025)

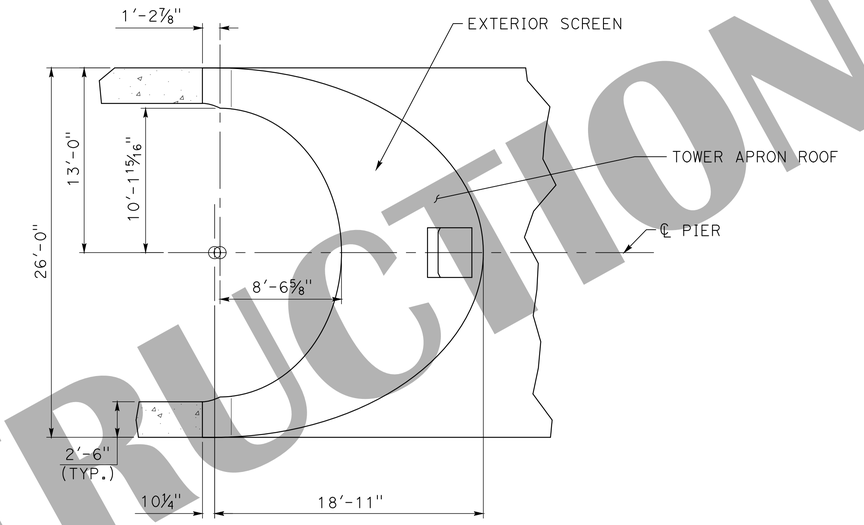
PN: T15136000
DWG NO.: MS-013
SHT NO.: 333 OF 648

p:\3326.01\CADD\Structural\MS-013 TOWER SECTIONS - 4.dwg LAST PLOTTED: 11/3/2025 1:36:52 PM

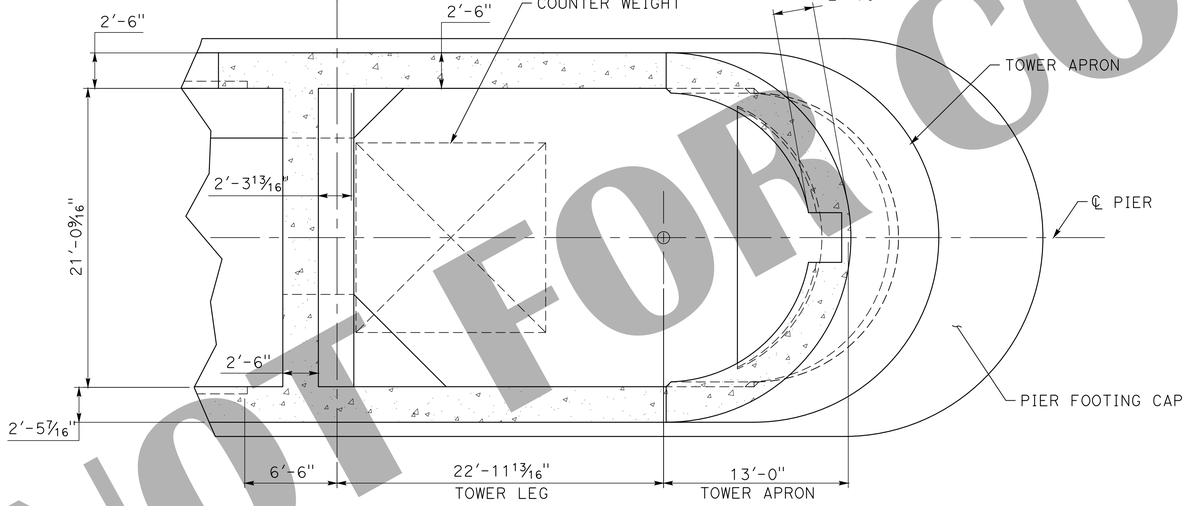
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



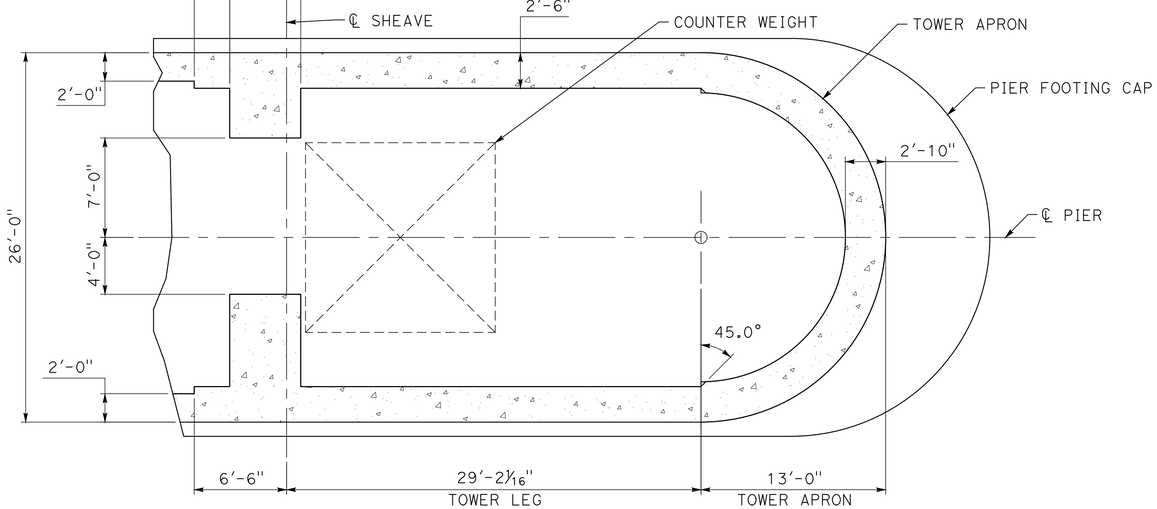
F MS-014 **SECTION**
SCALE: 3/16″ = 1′-0″



G MS-014 **SECTION**
SCALE: 3/16″ = 1′-0″



H MS-014 **SECTION**
SCALE: 3/16″ = 1′-0″



J MS-014 **SECTION**
SCALE: 3/16″ = 1′-0″

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-012 FOR LOCATION OF SECTIONS F, G, H, AND J.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG	DESIGN BY: C. AHLSKOG	CHECKED BY: T. STEPHENS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

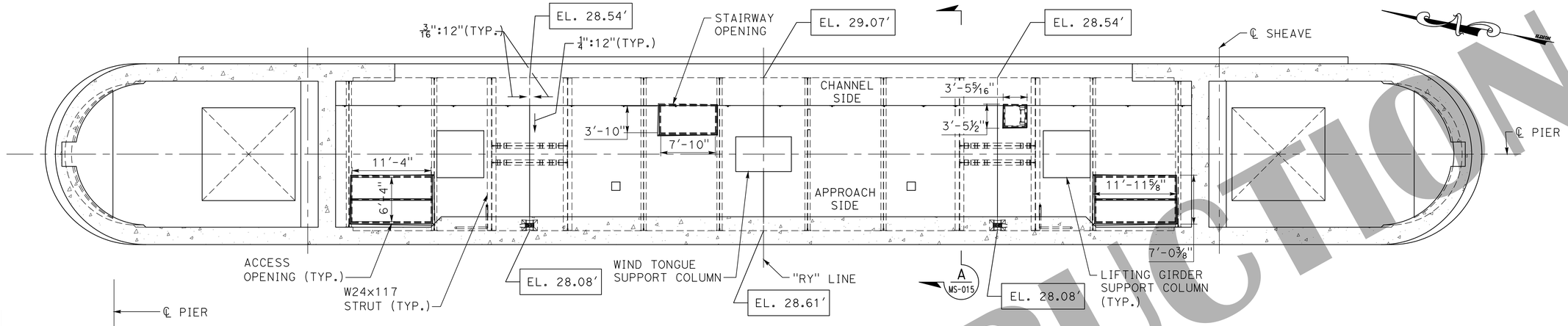
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER SECTIONS - 5
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-014
SHT NO.: 334 OF 648

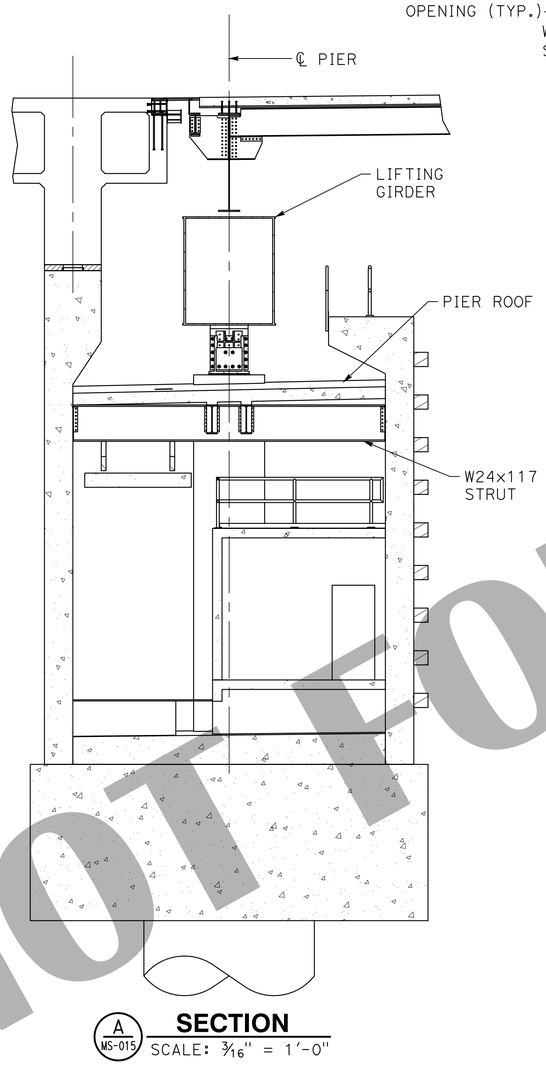
p:\3326.01\CADD\Structural\MS-014 TOWER SECTIONS - 5.dwg LAST PLOTTED: 11/3/2025 1:36:59 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



PIER ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



A MS-015 **SECTION**

SCALE: 3/16" = 1'-0"

EL. 28.08' - PIER ROOF FINISH GRADE ELEVATION

← 1/4":12" - PIER ROOF SLOPE AND DIRECTION

* ALL PIER ROOF OPENING DIMENSIONS ARE THE LIMITS OF THE CONCRETE PIER ROOF SLAB, NOT THE FINAL HATCH CLEAR OPENING

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: T. STEPHENS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

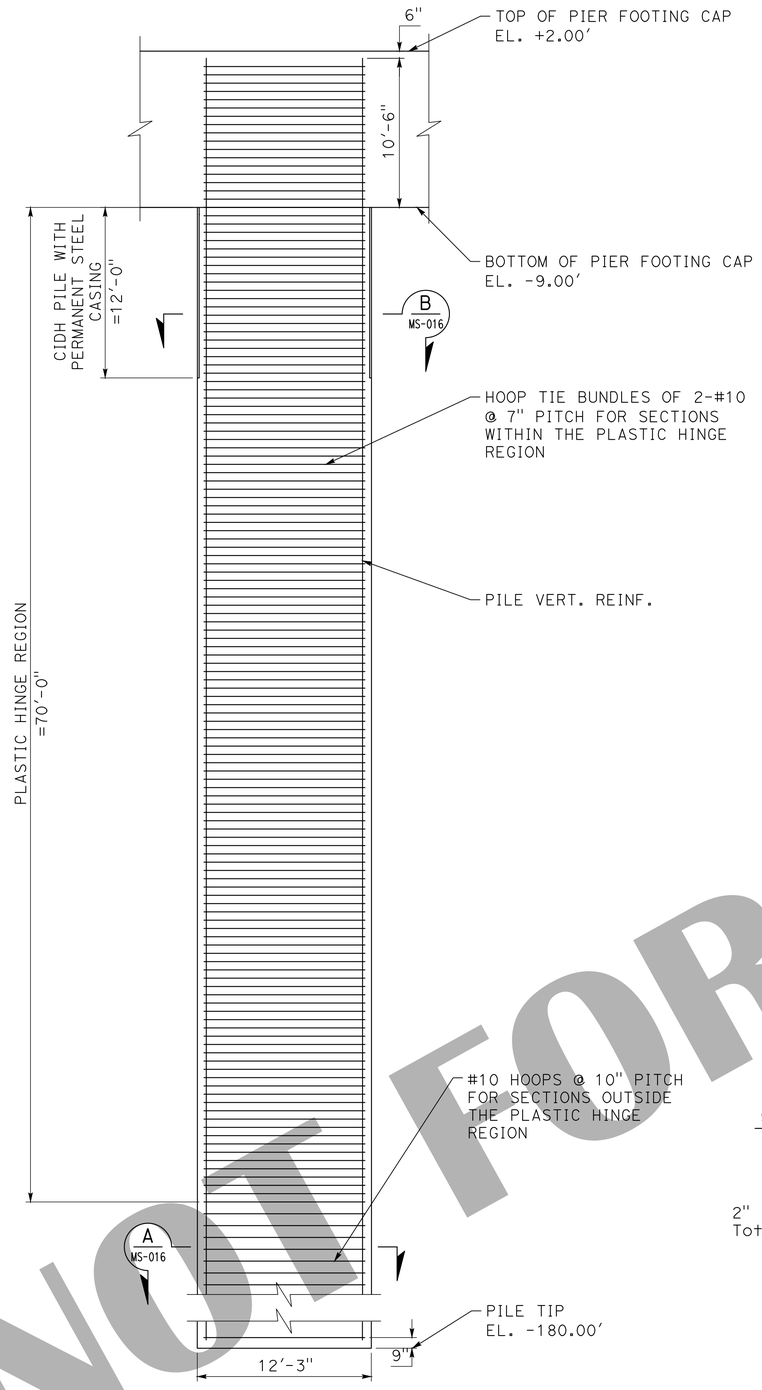
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER SECTIONS - 6
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-015
SHT NO.: 335 OF 648

P:\3326.01\CADD\Structural\MS-015 TOWER SECTIONS - 6.dwg LAST PLOTTED: 11/3/2025 3:34:01 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



CIDH PILE DETAILS

SCALE: 3/16" = 1'-0"

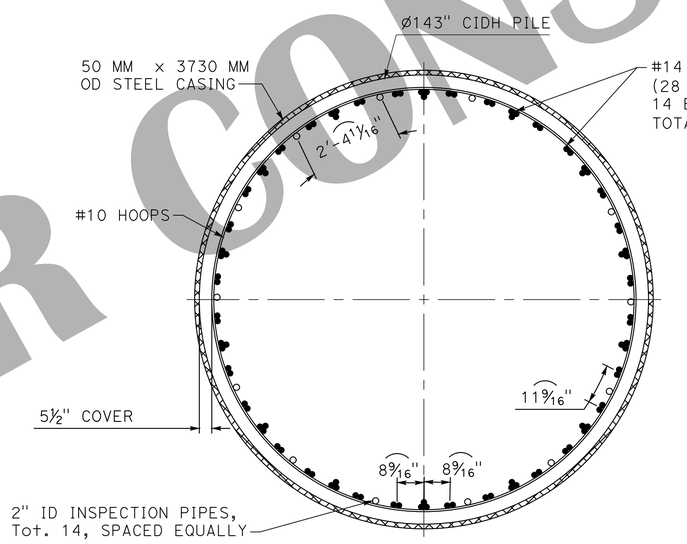
PILE DATA TABLE						
LOCATION	PILE TYPE	NOMINAL RESISTANCE (KIPS)		DRIVEN STEEL SHELL SPECIFIED TIP ELEVATION (ft)	CIDH DESIGN TIP ELEVATIONS (ft)	CIDH SPECIFIED TIP ELEVATIONS (ft)
		COMPRESSION	TENSION			
PIER 3 AND PIER 4	CIDH PILES WITH 50 MM x 3730 MM OD STEEL CASING	12000	1000	-21	-180.00 (a) -180.00 (b) -100.00 (d)	-180

PILE DATA NOTES:

1. DESIGN TIP ELEVATIONS ARE CONTROLLED BY: (a) COMPRESSION, (b) TENSION, (d) LATERAL LOAD.
2. THE CIDH SPECIFIED TIP ELEVATION SHALL NOT BE RAISED.
3. UNSUITABLE SOIL LAYERS (VERY SOFT, LIQUEFIABLE, SCOURABLE) THAT DO NOT CONTRIBUTE TO THE DESIGN NOMINAL RESISTANCE EXIST AT PIERS 3 AND 4 EXTENDING TO ELEVATION OF -11 ft.

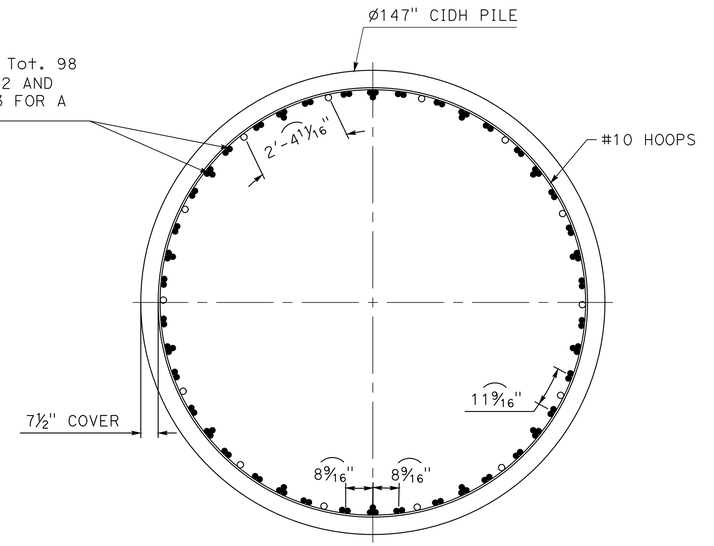
NOTES:

1. SPLICING OF LONGITUDINAL REINFORCEMENT IS ALLOWED AT A DISTANCE OF 18 FT BELOW THE BOTTOM OF CAP (ELEV. -27.00), AND OTHER LOCATIONS OUTSIDE THE PLASTIC HINGE REGION.
2. SPLICING OF LONGITUDINAL AND TRANSVERSE REINFORCEMENT SHALL MEET THE REQUIREMENTS FOR ULTIMATE BUTT SPLICING.



B MS-016 **SECTION**

SCALE: 1/2" = 1'-0"



A MS-016 **SECTION**

SCALE: 1/2" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG	DESIGN BY: C. AHLSKOG	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CIDH PILE DETAILS
(Date: 11/03/2025)

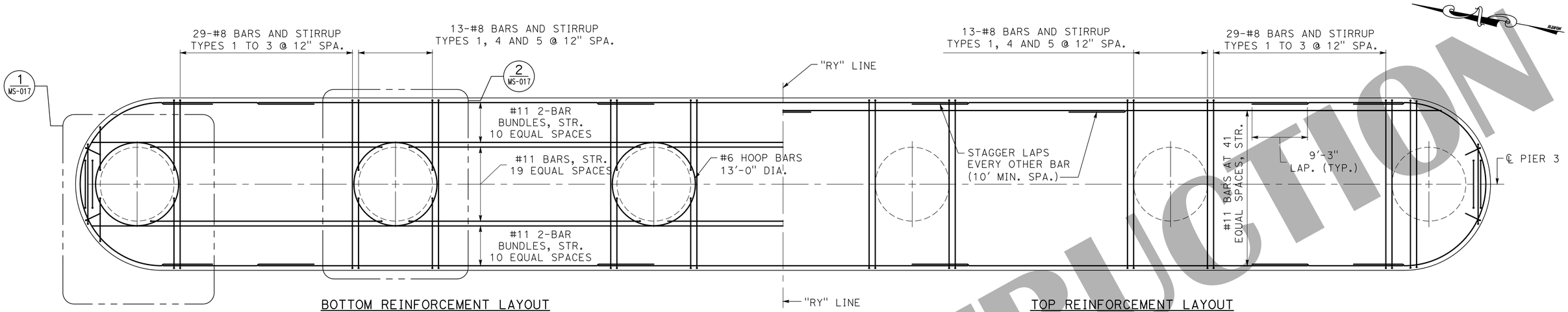
PN: T15136000

DWG NO.: MS-016

SHT NO.: 336 OF 648

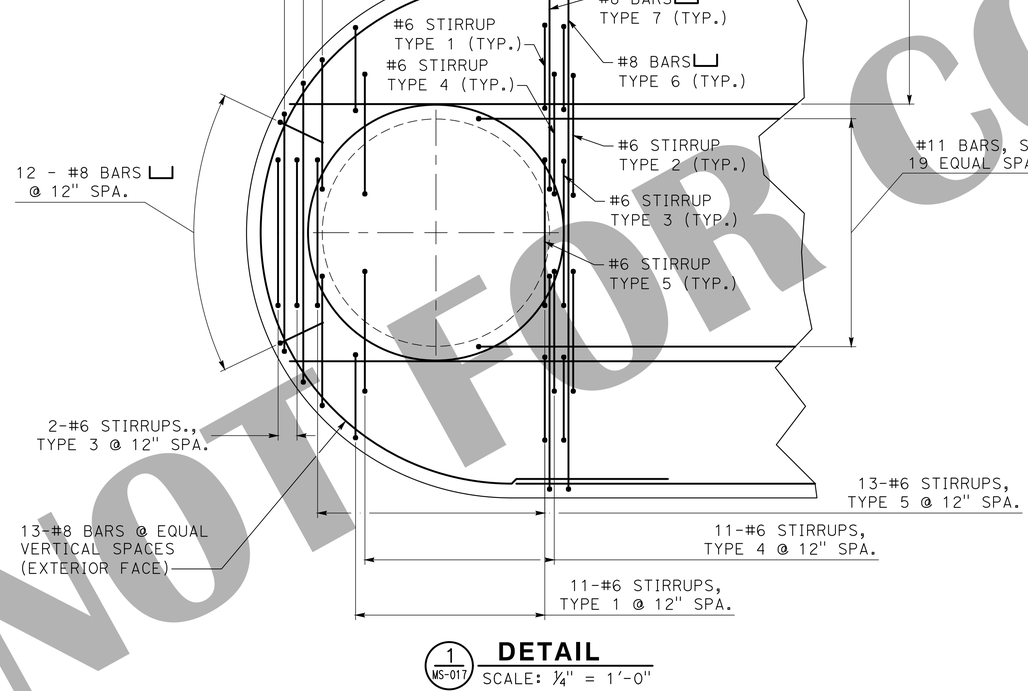
p:\3326.01\CADD\Structural\MS-016 FOUNDATION DETAILS.dwg LAST PLOTTED: 11/3/2025 1:37:11 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



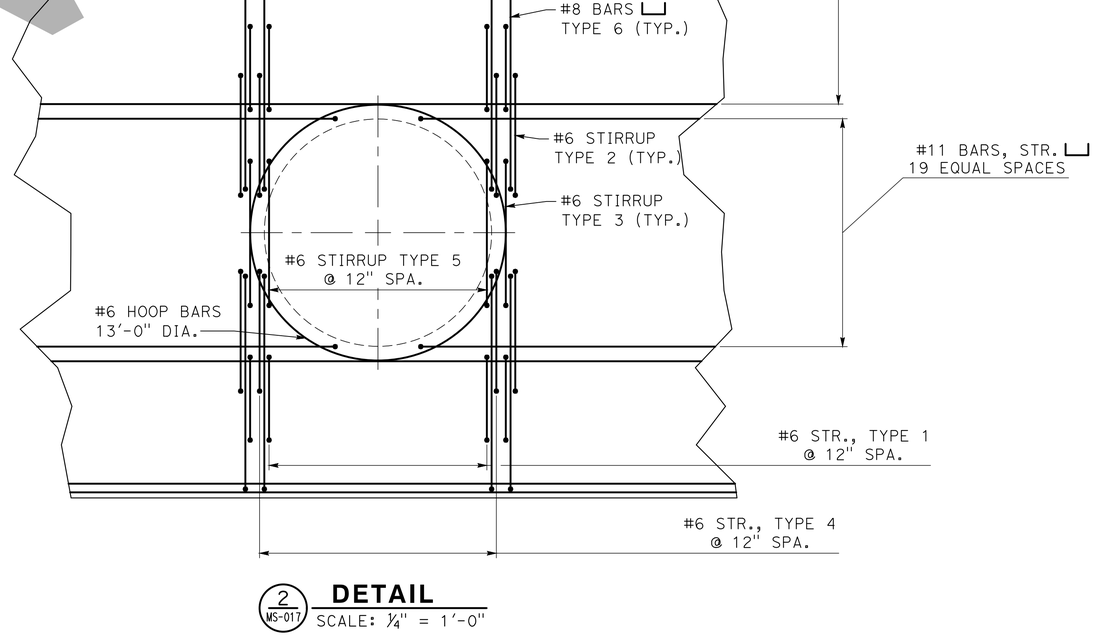
PLAN VIEW

SCALE: ⅛" = 1'-0"



1 MS-017 **DETAIL**

SCALE: ¼" = 1'-0"



2 MS-017 **DETAIL**

SCALE: ¼" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: HORIZ. 1"=1'-0" AS SHOWN; VERT. 1"=1'-0"

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

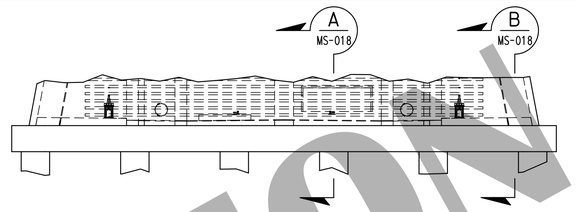
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER FOOTING CAP DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

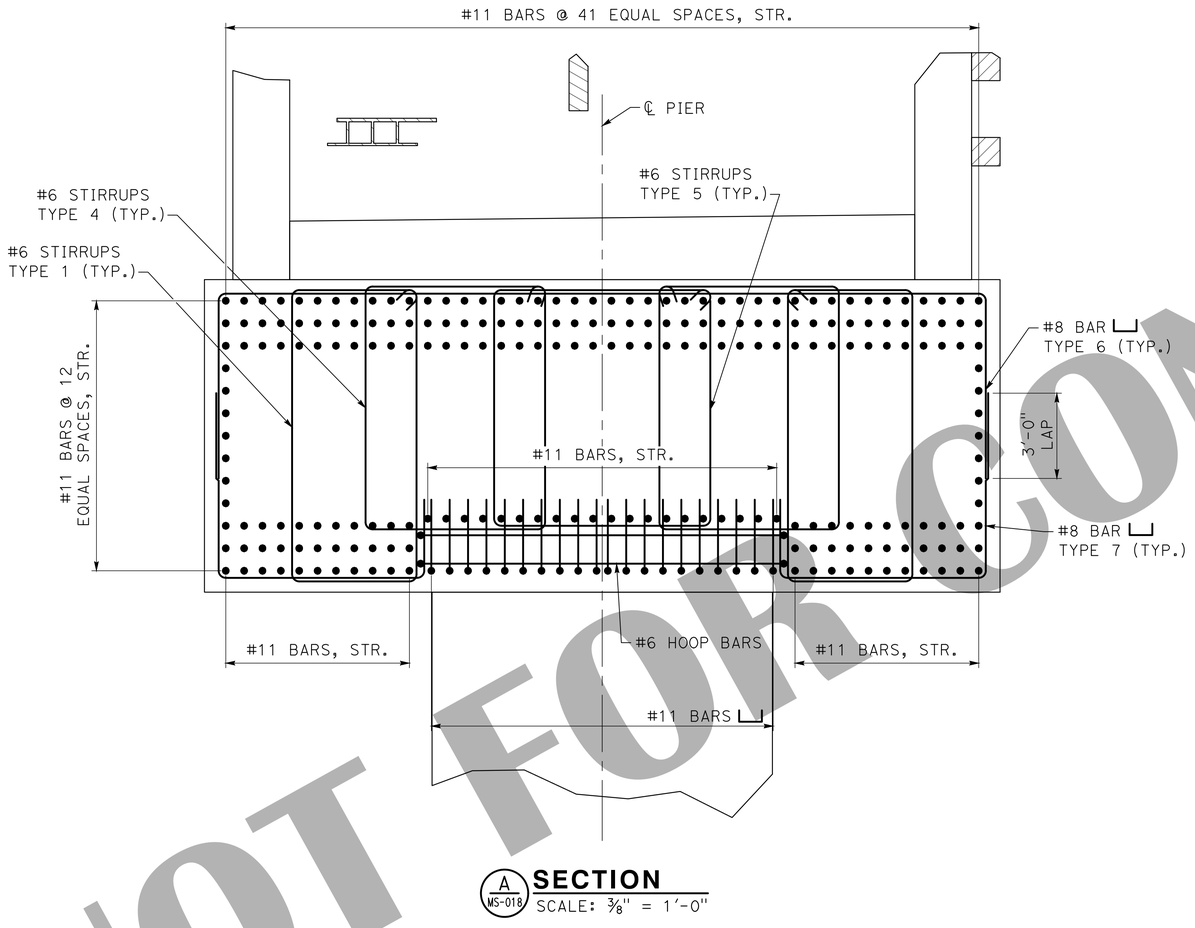
DWG NO.: MS-017
SHT NO.: 337 OF 648

p:\3326.01\CADD\Structural\MS-017 PIER CAP DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:37:18 PM

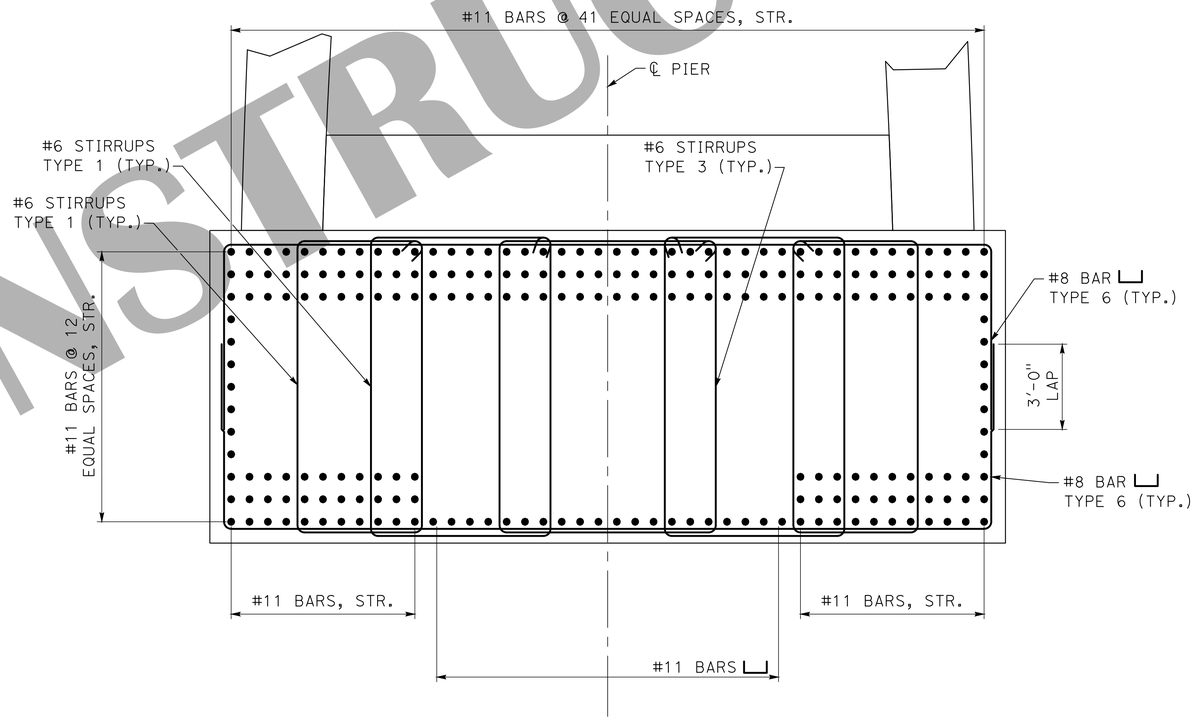
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



PARTIAL ELEVATION PIER CAP



A MS-018 **SECTION**
SCALE: 3/8" = 1'-0"



B MS-018 **SECTION**
SCALE: 3/8" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: HORIZ. 1"=1'-0" AS SHOWN; VERT. 1"=1'-0"

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

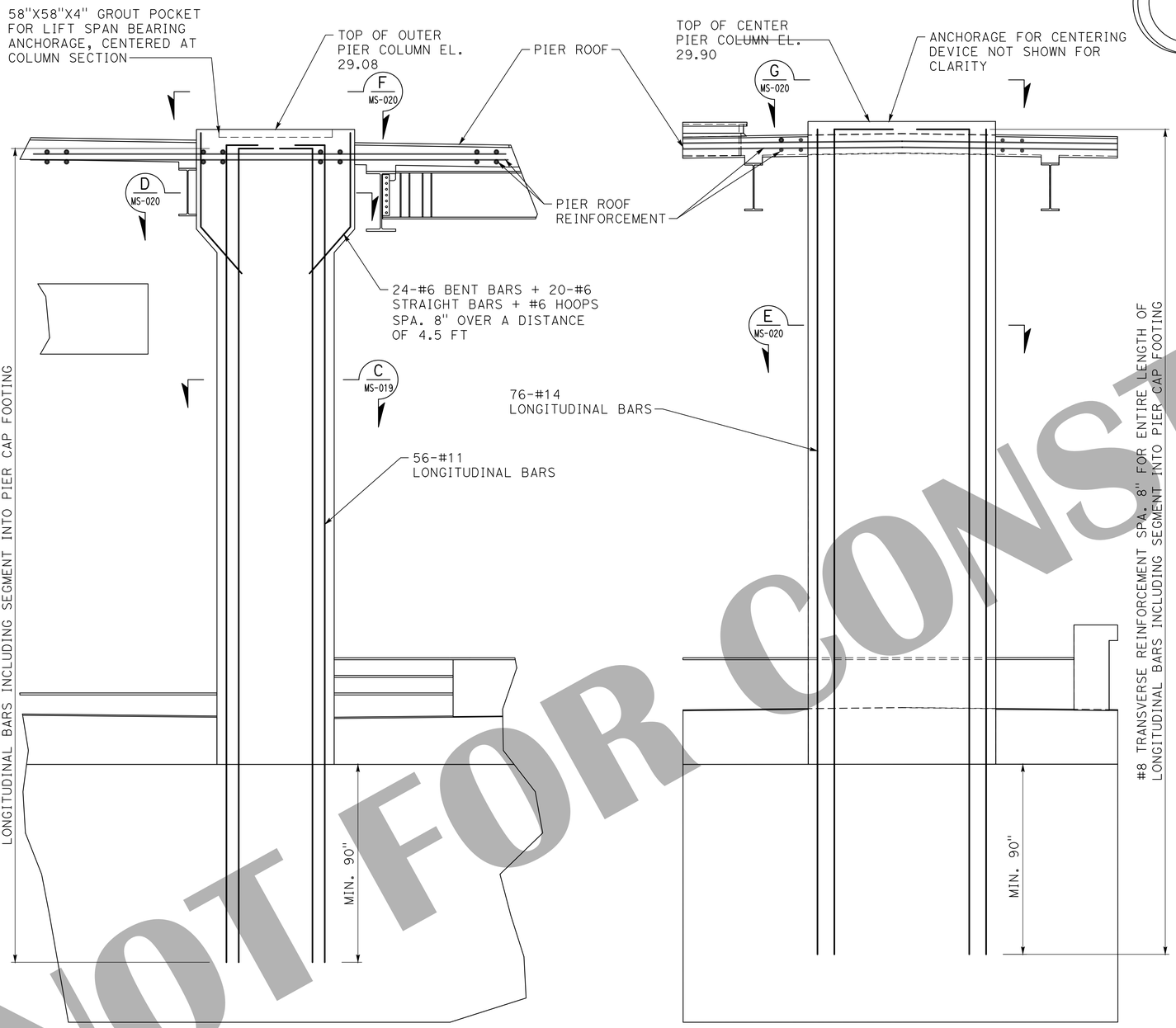
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER FOOTING CAP DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-018
SHT NO.: 338 OF 648

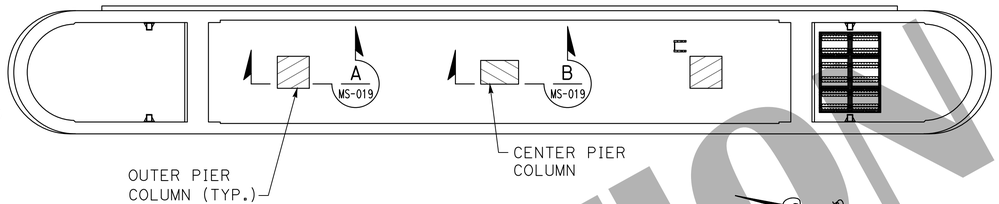
p:\3326.01\CADD\Structural\MS-018 PIER CAP DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:37:24 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

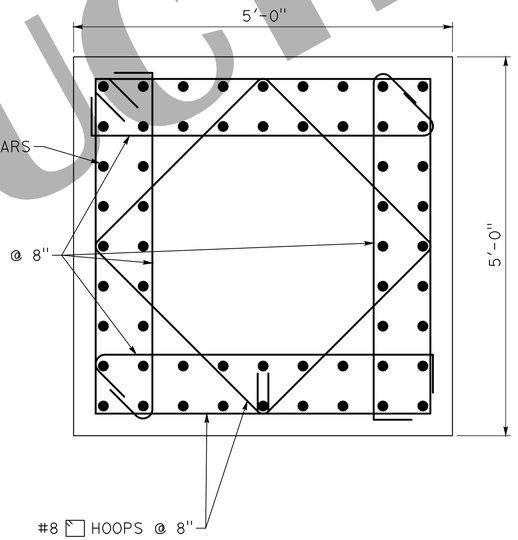


A MS-019 **SECTION**
SCALE: 3/8" = 1'-0"
(OUTER PIER COLUMN)

B MS-019 **SECTION**
SCALE: 3/8" = 1'-0"
(CENTER PIER COLUMN)



KEY PLAN



C MS-019 **SECTION**
SCALE: 1" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWGS NO. MS-003 THRU MS-005.
2. FOR SECTIONS D, E, F AND G, SEE DWG NO. MS-020.
3. FOR LIFT SPAN BEARING DETAILS, SEE DWGS MS-140 AND MS-141.
4. FOR CENTERING DEVICE DETAILS, SEE DWGS MS-138 AND MS-139.
5. ANCHOR BOLTS NOT SHOWN FOR CLARITY.
6. FOR PIER ROOF DETAILS, SEE DWGS MS-029 THRU MS-031.
7. LONGITUDINAL BARS ARE CONTINUOUS.
8. EXTEND LONGITUDINAL BARS A MINIMUM DISTANCE OF 90" INTO PIER CAP FOOTING.
9. EXTEND TRANSVERSE REINFORCEMENT INTO PIER CAP FOOTING AT SAME SPACING AS IN COLUMNS.
10. ALTERNATE CORNERS/ENDS OF TRANSVERSE REINFORCEMENT.
11. CLEAR CONCRETE COVERS ARE 3", UNLESS NOTED OTHERWISE.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG DATE: 11/03/2025
DESIGN BY: N. GALINDEZ DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

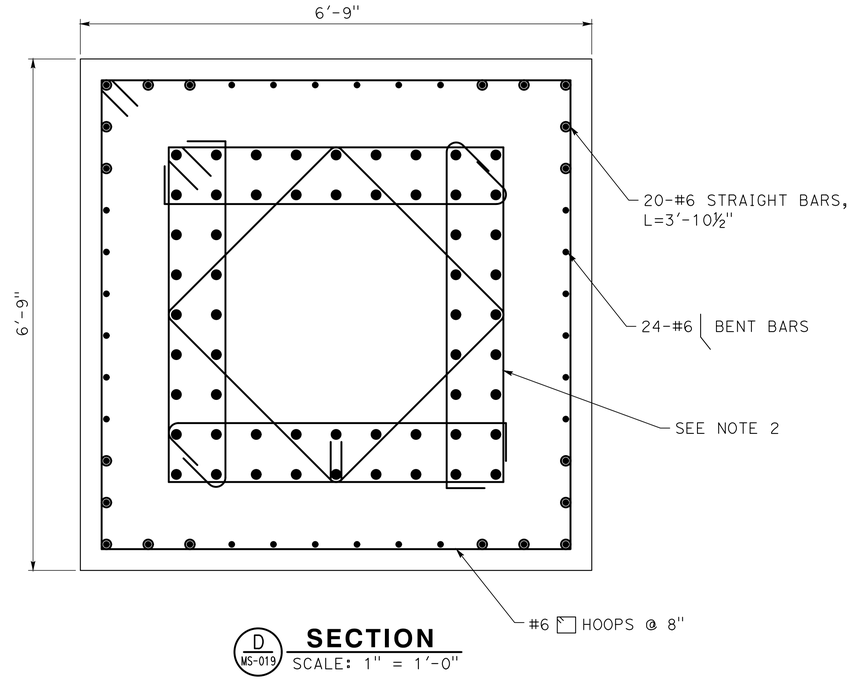
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER COLUMN DETAILS - 1
(Date: 11/03/2025)

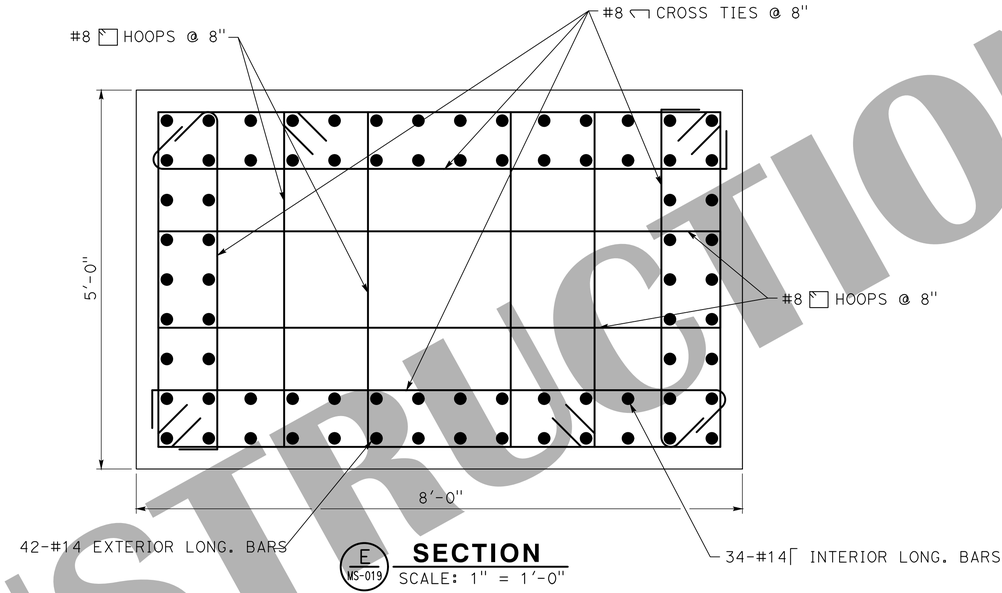
PN: T15136000
DWG NO.: MS-019
SHT NO.: 339 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

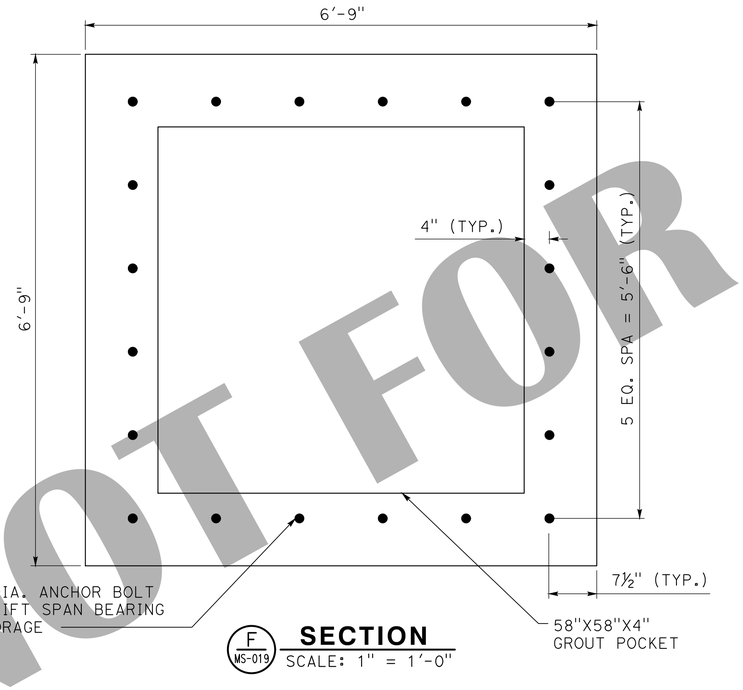
\\mm.ichpa_data\pa projects\3326.01\CADD\Structural\MS-019 PIER COLUMN DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:34:58 PM



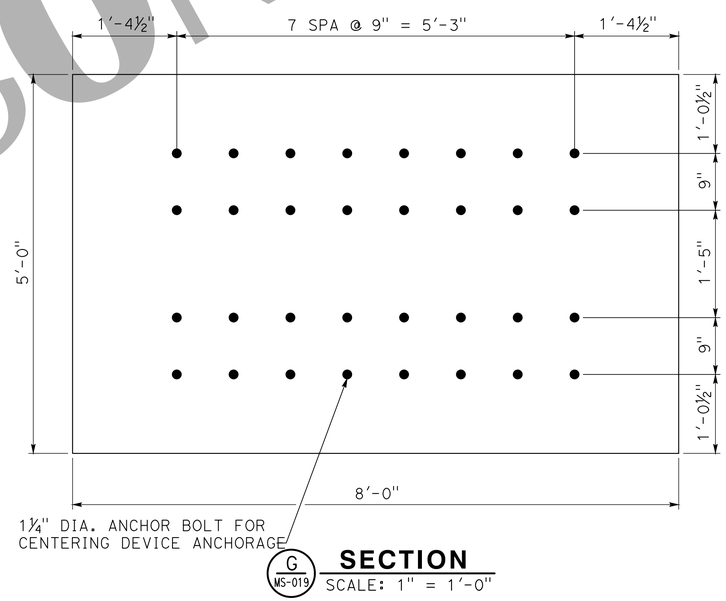
D MS-019 **SECTION**
SCALE: 1" = 1'-0"



E MS-019 **SECTION**
SCALE: 1" = 1'-0"



F MS-019 **SECTION**
SCALE: 1" = 1'-0"



G MS-019 **SECTION**
SCALE: 1" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWGS NO. MS-003 THRU MS-005.
2. FOR PIER COLUMN DETAILS, SEE DWG NO. MS-019.
3. FOR LIFT SPAN BEARING DETAILS, SEE DWGS MS-140 AND MS-141.
4. FOR CENTERING DEVICE DETAILS, SEE DWGS MS-138 AND MS-139.
5. ALTERNATE CORNERS/ENDS OF TRANSVERSE REINFORCEMENT.
6. CLEAR CONCRETE COVERS ARE 3", UNLESS NOTED OTHERWISE.
7. ANCHOR BOLTS TO BE INSTALLED BEFORE PLACING THE COLUMN CONCRETE.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: C. AHLSKOG DATE: 11/03/2025
DESIGN BY: N. GALINDEZ DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

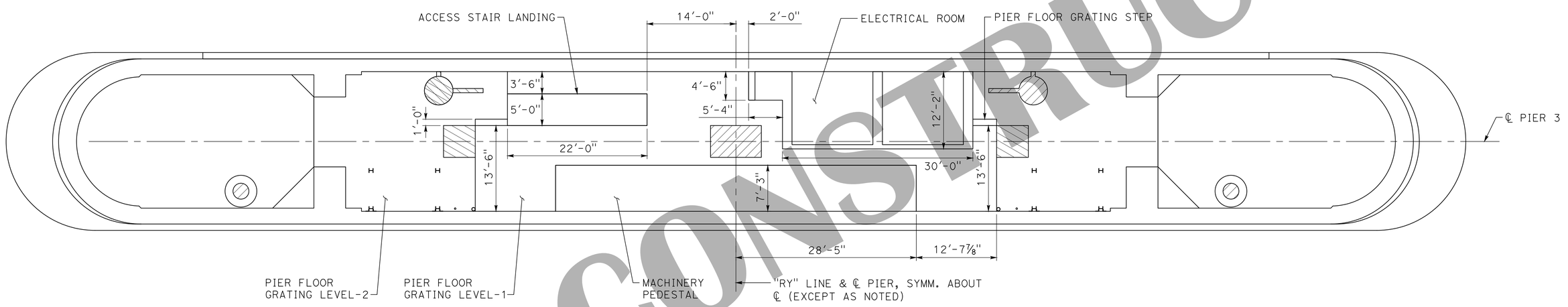
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER COLUMN DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-020
SHT NO.: 340 OF 648

p:\3326.01\CADD\Structural\MS-020 PIER COLUMN DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:37:37 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



MACHINERY ROOM FLOOR - PLAN VIEW

(PIER 3 SHOWN, PIER 4 SIMILAR, SYMM. ABOUT ℄ CHANNEL)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON	DESIGN BY: C. AHLSKOG	CHECKED BY: T. STEPHENS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER FLOOR DETAILS - 1
(Date: 11/03/2025)

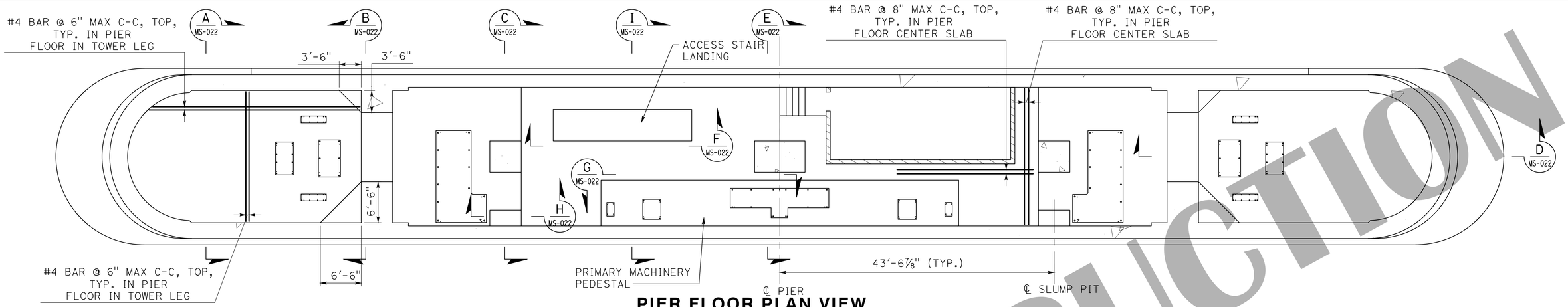
PN: T15136000

DWG NO.: MS-021

SHT NO.: 341 OF 648

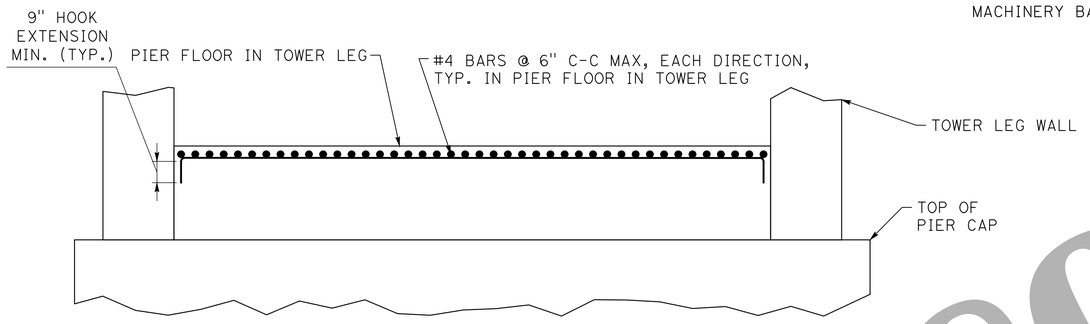
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-021 PIER FLOOR DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:37:42 PM



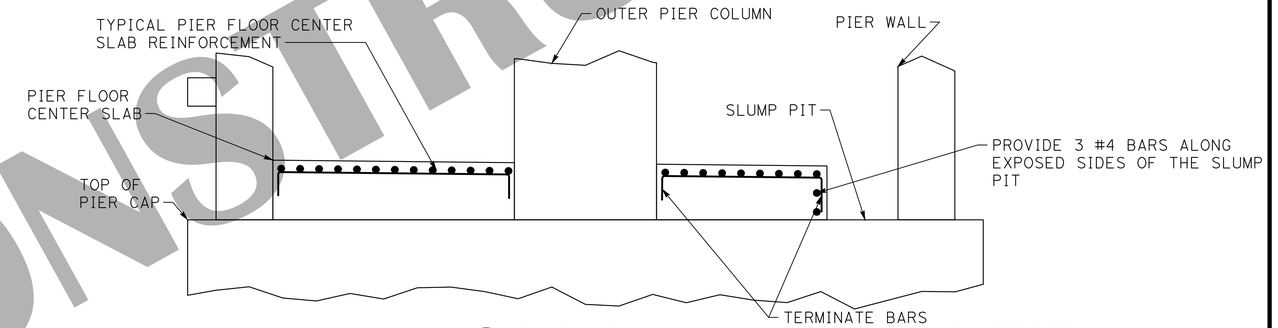
PIER FLOOR PLAN VIEW

SCALE: $\frac{1}{8}$" = 1'-0"
MACHINERY BASEPLATES SHOWN FOR CLARITY



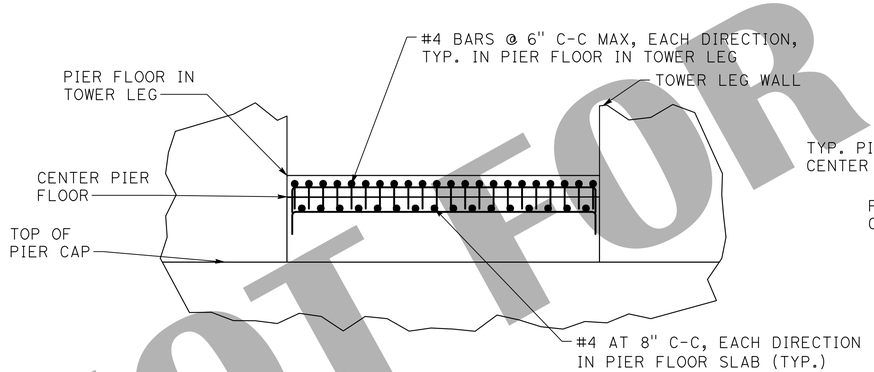
A MS-022 SECTION

SCALE: ¼" = 1'-0"



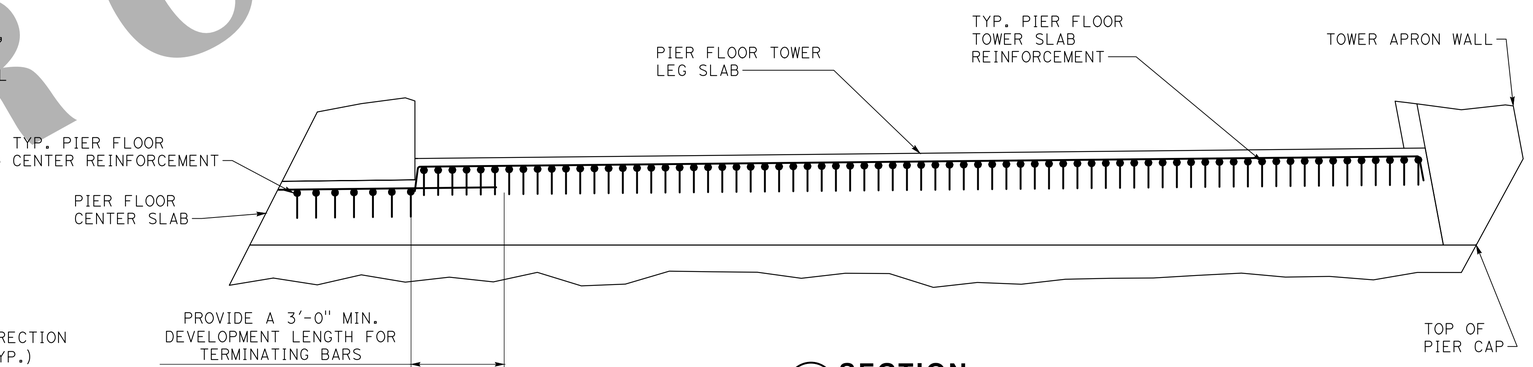
C MS-022 SECTION

SCALE: $\frac{3}{8}$" = 1'-0"



B MS-022 SECTION

SCALE: $\frac{3}{8}$" = 1'-0"



D MS-022 SECTION

SCALE: $\frac{3}{16}$" = 1'-0"

NOTES:

1. REFER TO SHEETS MS-003 TO MS-005 FOR GENERAL REQUIREMENTS.
2. PROVIDE A MINIMUM EXTENSION OF 9" FOR ALL HOOKED BARS, AND A MINIMUM DEVELOPMENT LENGTH OF 3'-0" FOR ALL STRAIGHT BARS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: I. ARAHAM DATE: 10/28/2025
DESIGN BY: I. ABRAHAM DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

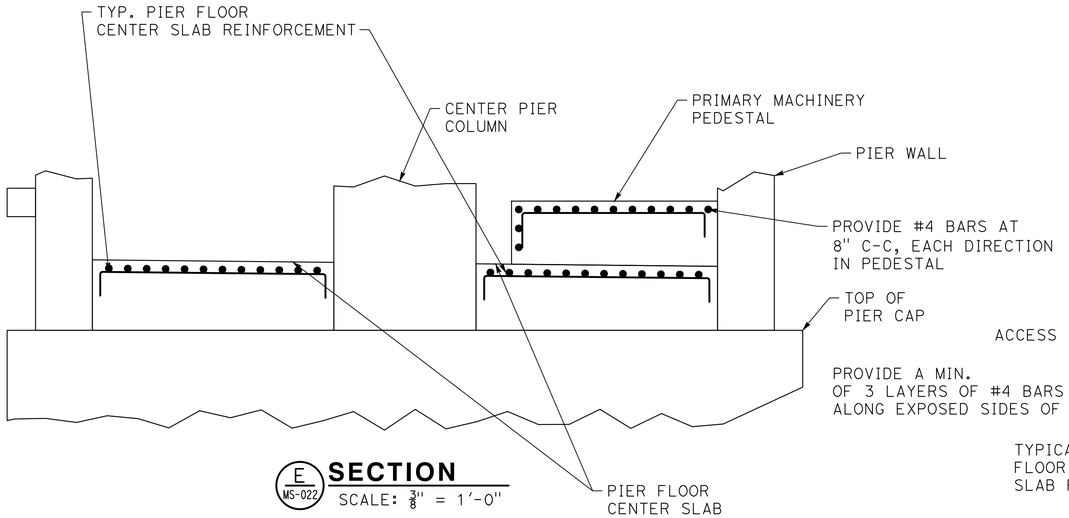
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPPENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER FLOOR DETAILS - 2
(Date: 11/03/2025)

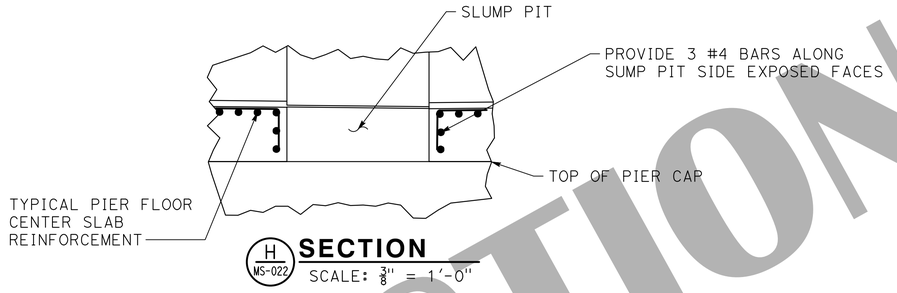
PN: T15136000
DWG NO.: MS-022
SHT NO.: 342 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

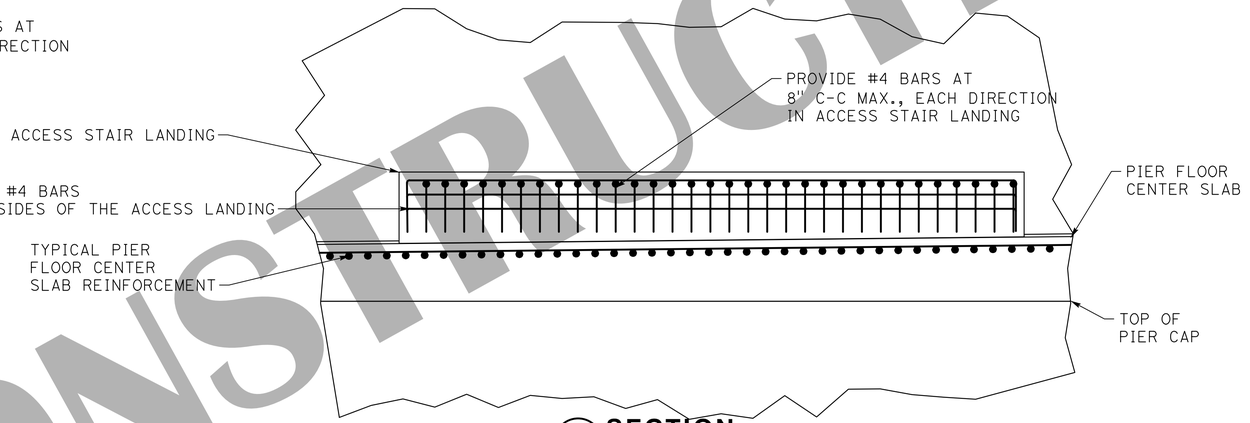
p:\3326.01\CADD\Structural\MS-025 PIER FLOOR DETAILS - 5.dwg LAST PLOTTED: 11/3/2025 1:37:47 PM



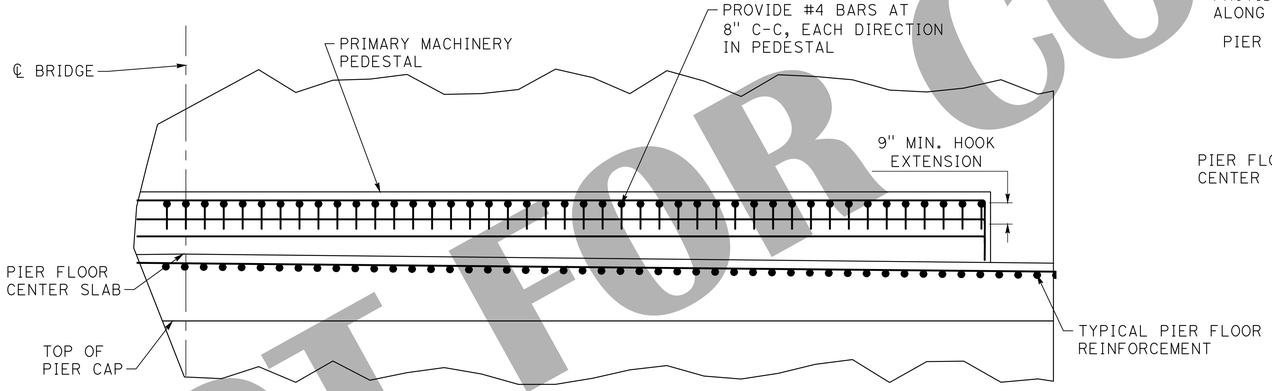
E MS-022 **SECTION**
SCALE: $\frac{3}{8}$" = 1'-0"



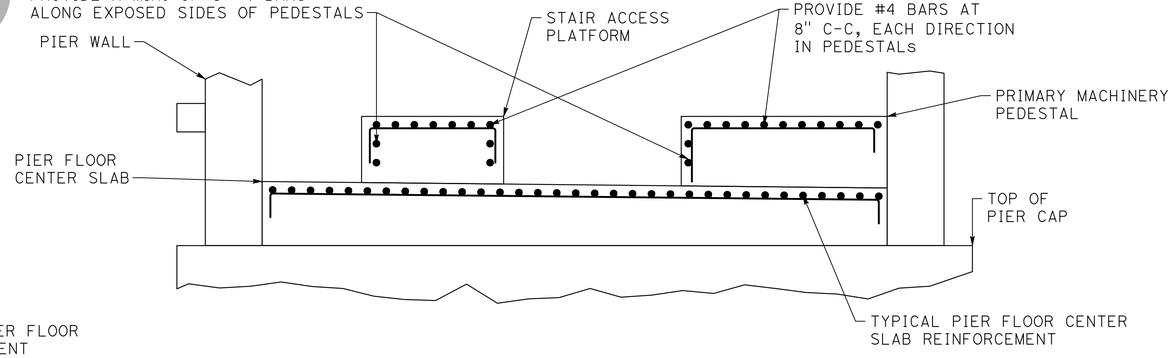
H MS-022 **SECTION**
SCALE: $\frac{3}{8}$" = 1'-0"



F MS-022 **SECTION**
SCALE: $\frac{3}{16}$" = 1'-0"



G MS-022 **SECTION**
SCALE: $\frac{3}{8}$" = 1'-0"
REINFORCEMENT SYMMETRIC ABOUT BRIDGE ℄



I MS-022 **SECTION**
SCALE: $\frac{3}{8}$" = 1'-0"

NOTES:

1. WORK THIS SHEET WITH MS-022.
2. REFER TO SHEETS MS-003 TO MS-005 FOR GENERAL REQUIREMENTS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: I. ARAHAM DATE: 10/28/2025
DESIGN BY: I. ABRAHAM DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

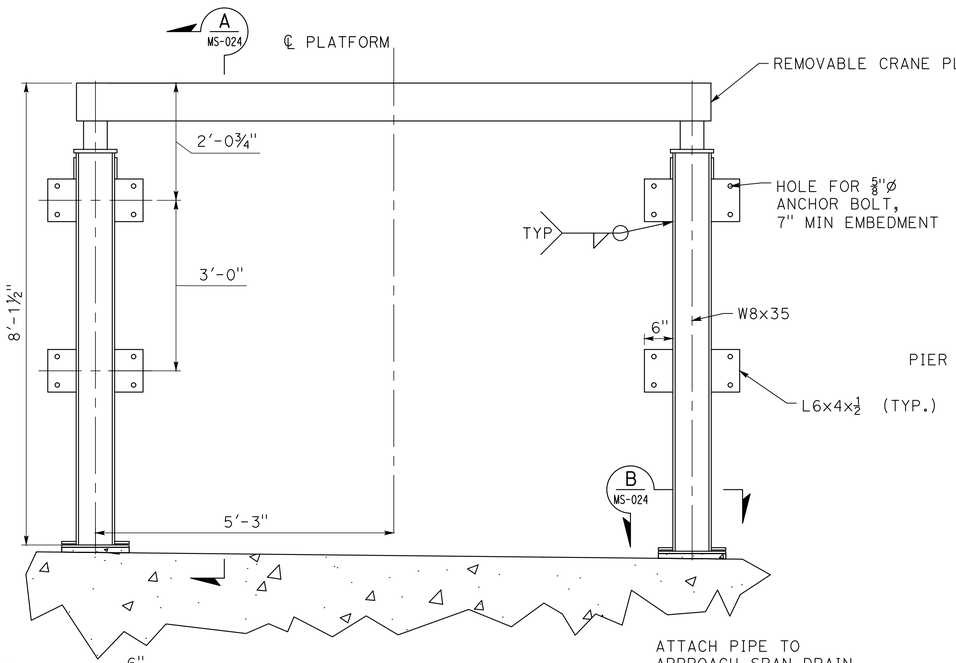
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER FLOOR DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-023
SHT NO.: 343
OF 648

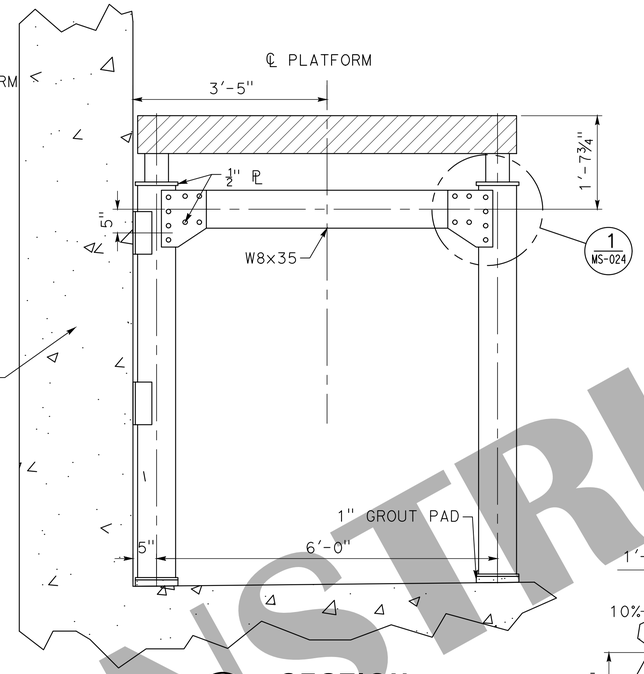
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-026 PIER FLOOR DETAILS - 6.dwg LAST PLOTTED: 11/3/2025 1:37:53 PM



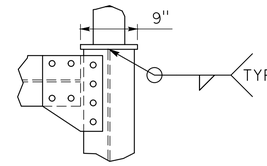
REMOVABLE PLATFORM VIEW

SCALE: ¾" = 1'-0"



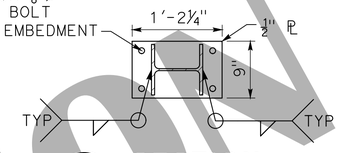
A MS-024 **SECTION**

SCALE: ¾" = 1'-0"



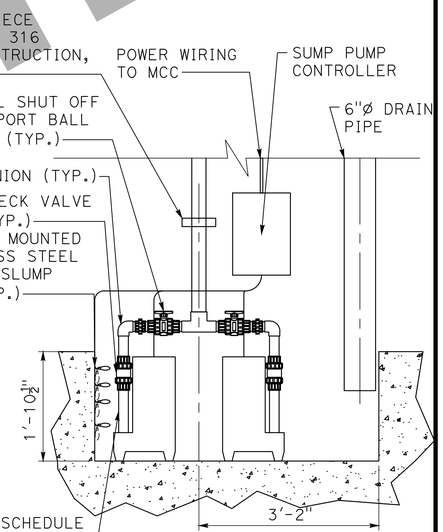
1 MS-024 **DETAIL**

SCALE: 1" = 1'-0"



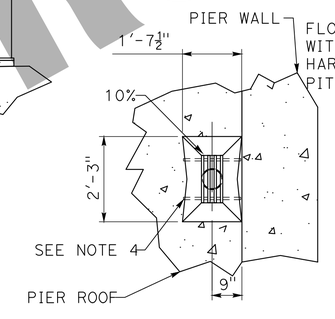
B MS-024 **SECTION**

SCALE: 1" = 1'-0"



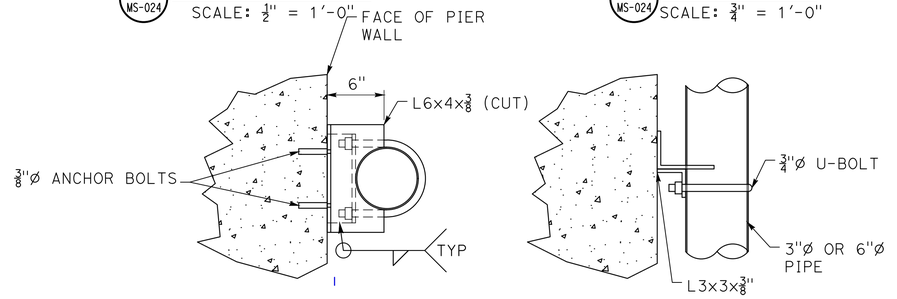
2 MS-024 **DETAIL**

SCALE: ¾" = 1'-0"



E MS-024 **SECTION**

SCALE: ½" = 1'-0"

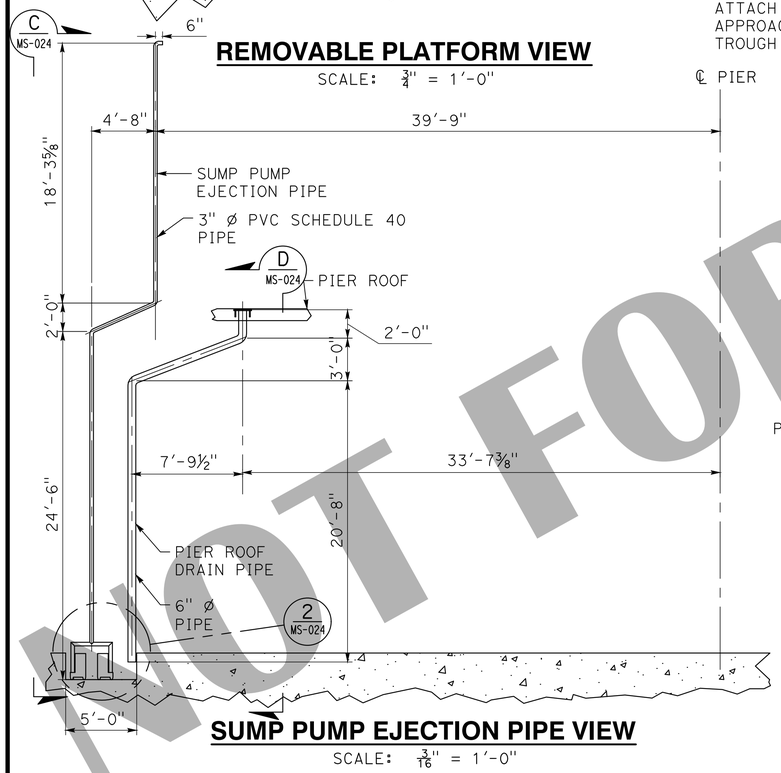


DRAINAGE PIPE ANCHOR

SCALE: 1½" = 1'-0"

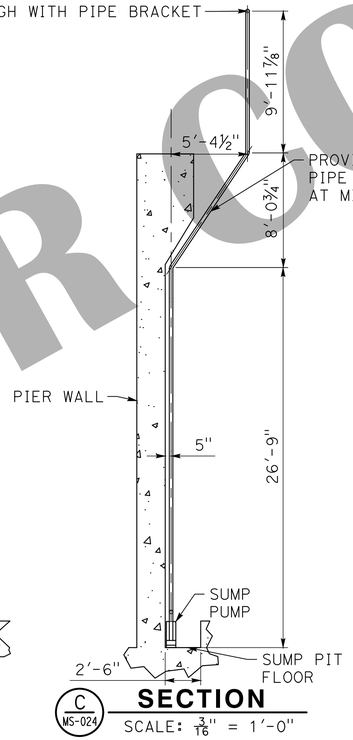
NOTES:

1. SEE PROJECT SPECIFICATIONS FOR REMOVABLE PLATFORM REQUIREMENTS.
2. ANCHOR BOLTS SHALL BE POST-INSTALLED ADHESIVE ANCHORS, WITH A MINIMUM EMBEDMENT OF 7".
3. THE MAXIMUM UNSUPPORTED LENGTH OF DRAINAGE PIPES SHALL BE 10'.
4. REFER TO DRAWING B7-5 OF THE 2024 CALTRANS STANDARD PLANS FOR DRAIN AND GRATE DETAILS.



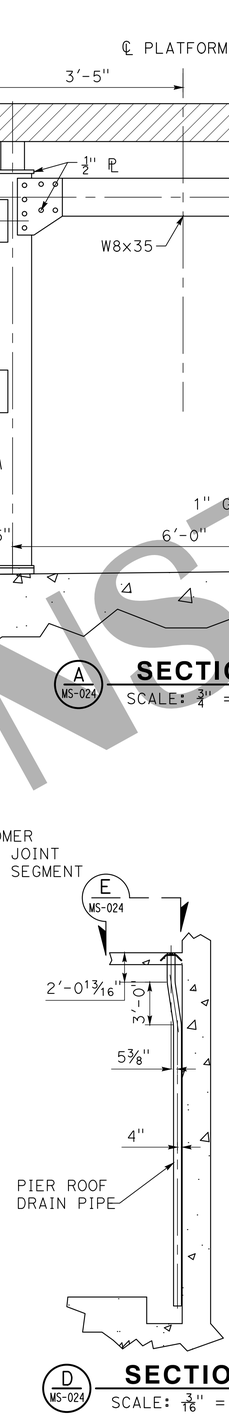
SUMP PUMP EJECTION PIPE VIEW

SCALE: 3/16" = 1'-0"



C MS-024 **SECTION**

SCALE: 3/16" = 1'-0"



D MS-024 **SECTION**

SCALE: 3/16" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: I. ABRAHAM DATE: 11/03/2025
DESIGN BY: I. ABRAHAM DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPPENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

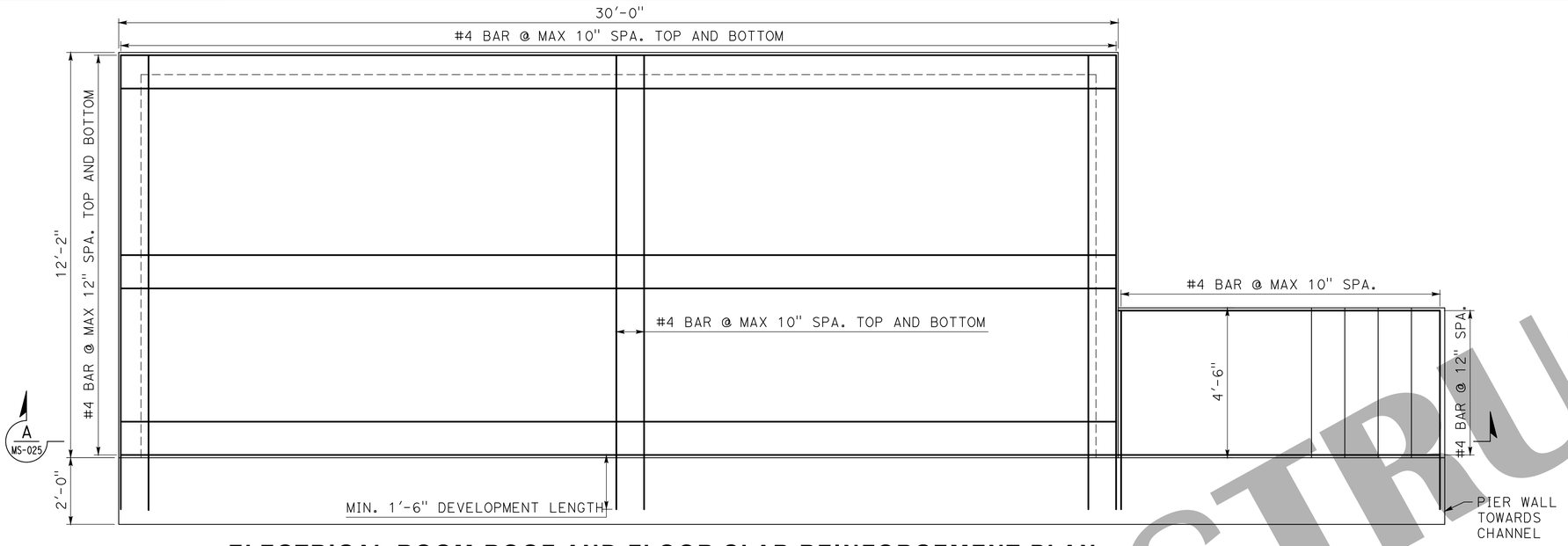
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER FLOOR DETAILS - 4
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-024
SHT NO.: 344 OF 648

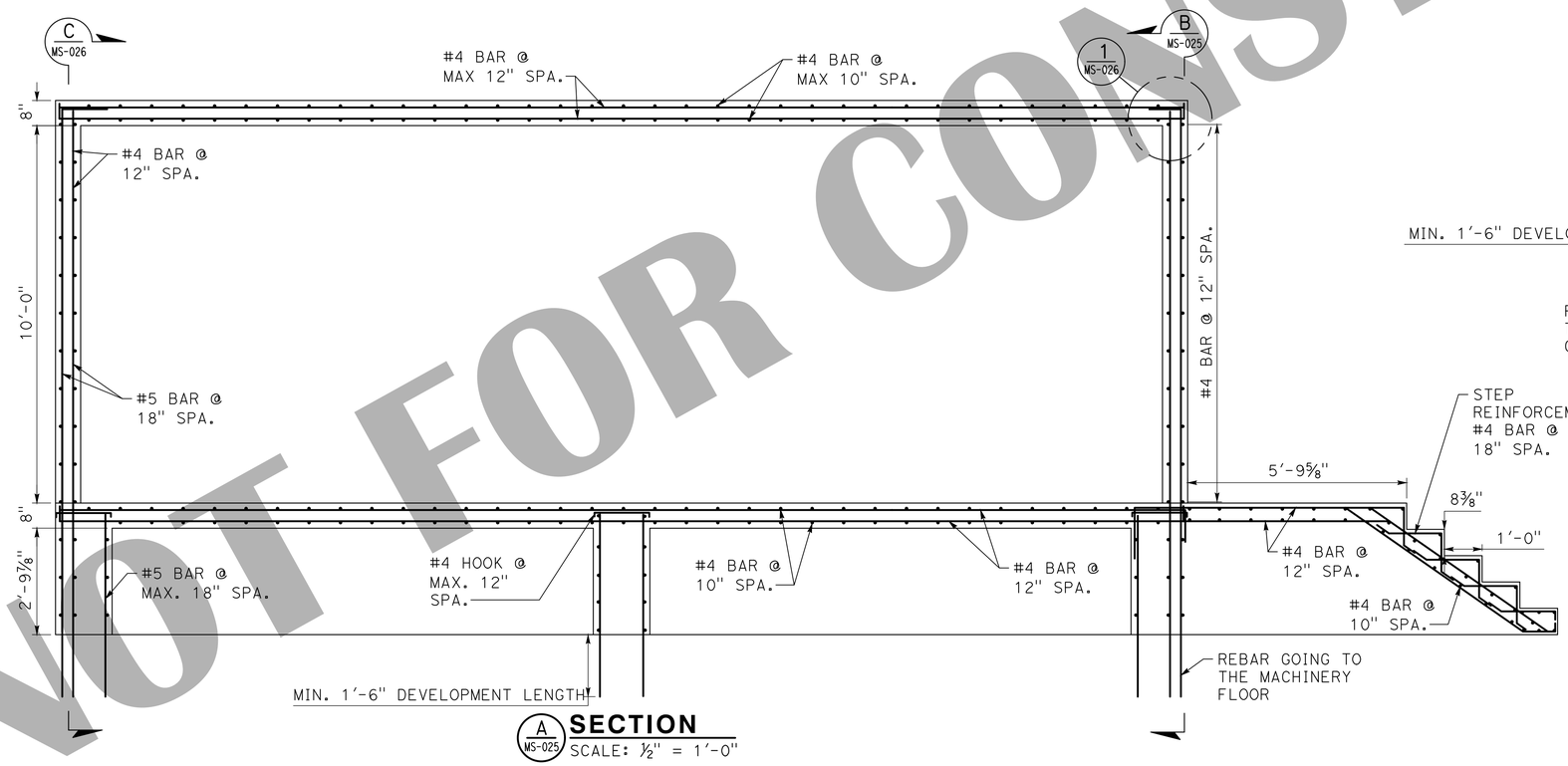
p:\3326.01\CADD\Structural\MS-023 PIER FLOOR DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:37:59 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



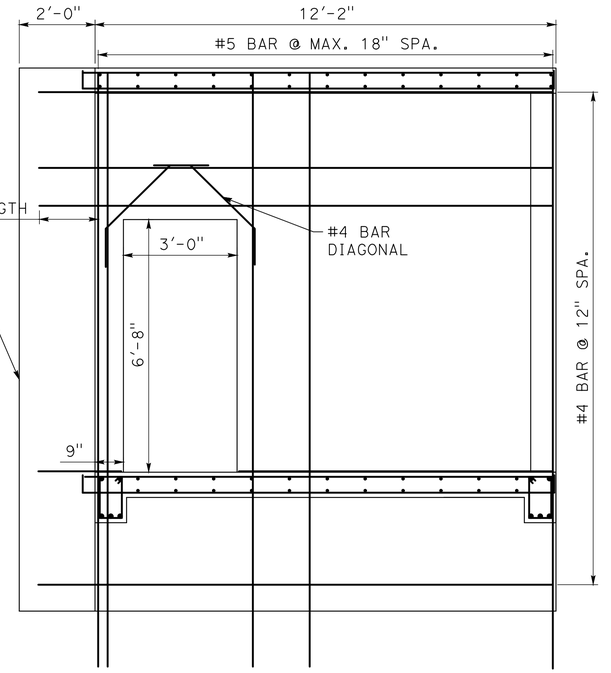
ELECTRICAL ROOM ROOF AND FLOOR SLAB REINFORCEMENT PLAN

SCALE: ½" = 1'-0"



A MS-025 **SECTION**

SCALE: ½" = 1'-0"



B MS-025 **SECTION**

SCALE: ½" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: P. GHIMIRE DATE: 11/03/2025
CHECKED BY: I. ABRAHAM DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

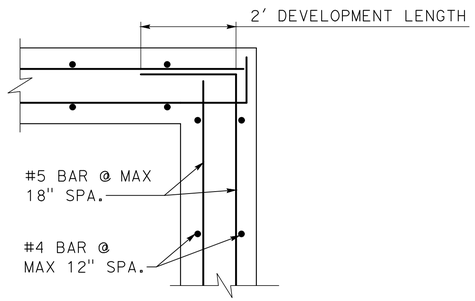
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL ROOM - 1
(Date: 11/03/2025)

PN: T15136000

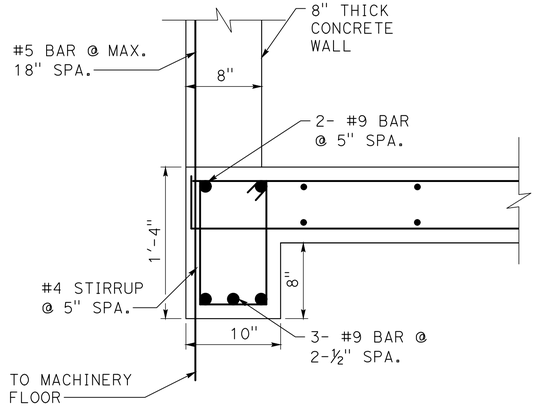
DWG NO.: MS-025
SHT NO.: 345 OF 648

p:\3326.01\CADD\Structural\MS-026A PIER FLOOR DETAILS - 6.dwg LAST PLOTTED: 11/3/2025 1:38:04 PM

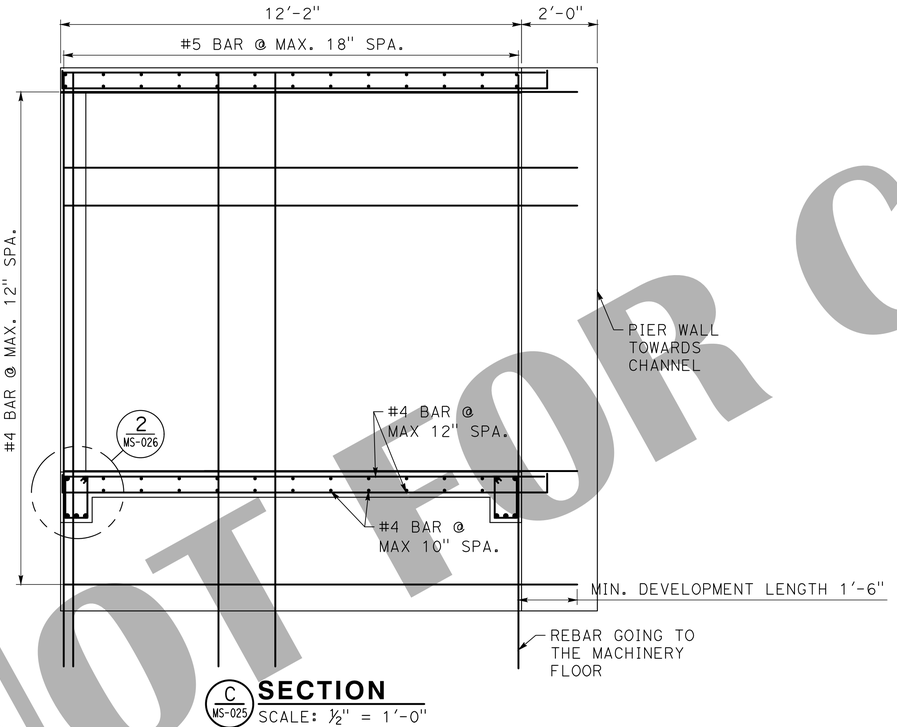
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



1 / MS-025 **DETAIL**
SCALE: 1- ½" = 1'-0"



2 / MS-026 **DETAIL**
SCALE: 1- ½" = 1'-0"



C / MS-025 **SECTION**
SCALE: ½" = 1'-0"

NOTES:

1. THE CLEAR COVER FOR THE SLAB AND THE BEAM SHALL BE 2".

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: P. GHIMIRE DATE: 11/03/2025
CHECKED BY: I. ABRAHAM DATE: 11/03/2025

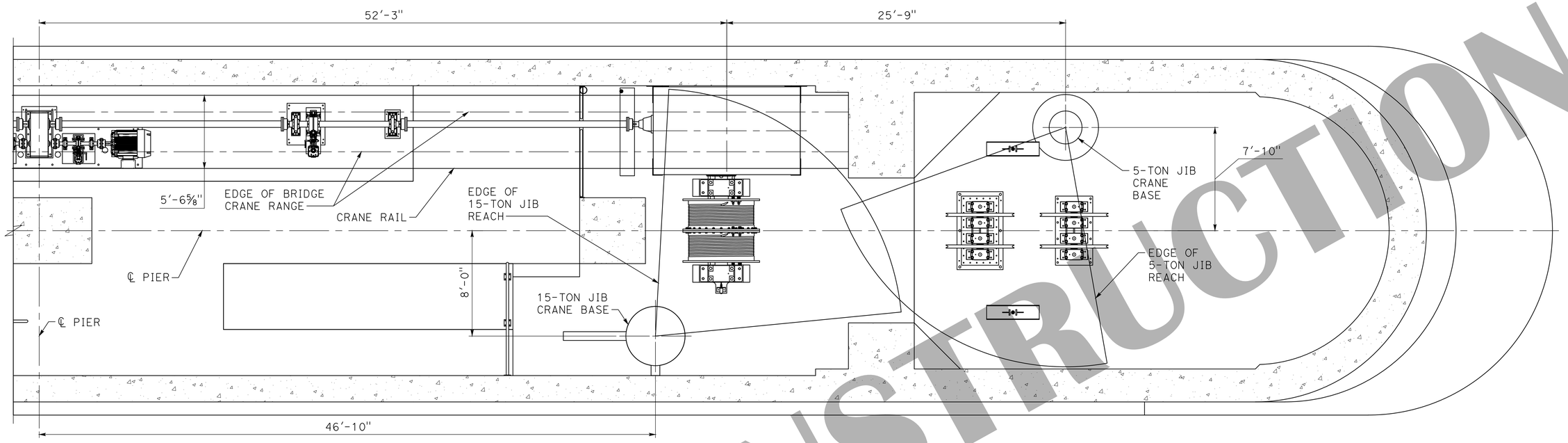
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL ROOM - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-026
SHT NO.: 346 OF 648

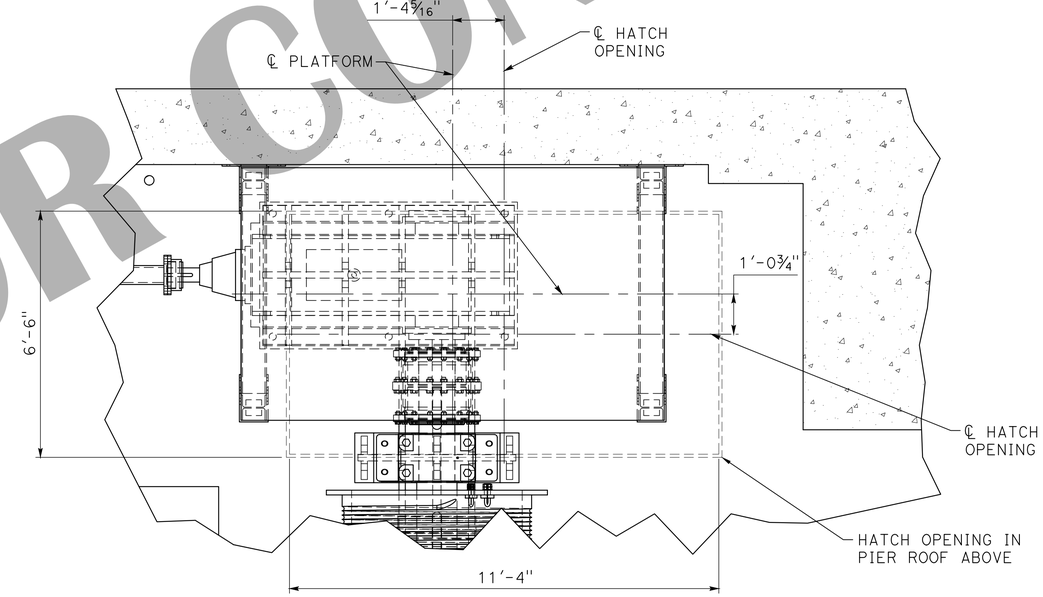
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-024 PIER FLOOR DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:38:10 PM



PLAN VIEW- CRANE LAYOUT

SCALE: ¼" = 1'-0"



REMOVABLE PLATFORM DETAILS

SCALE: ½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. NORTHWEST LAYOUT SHOWN, SYMMETRICAL ABOUT CENTERLINE PIER AND CENTERLINE CHANNEL.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

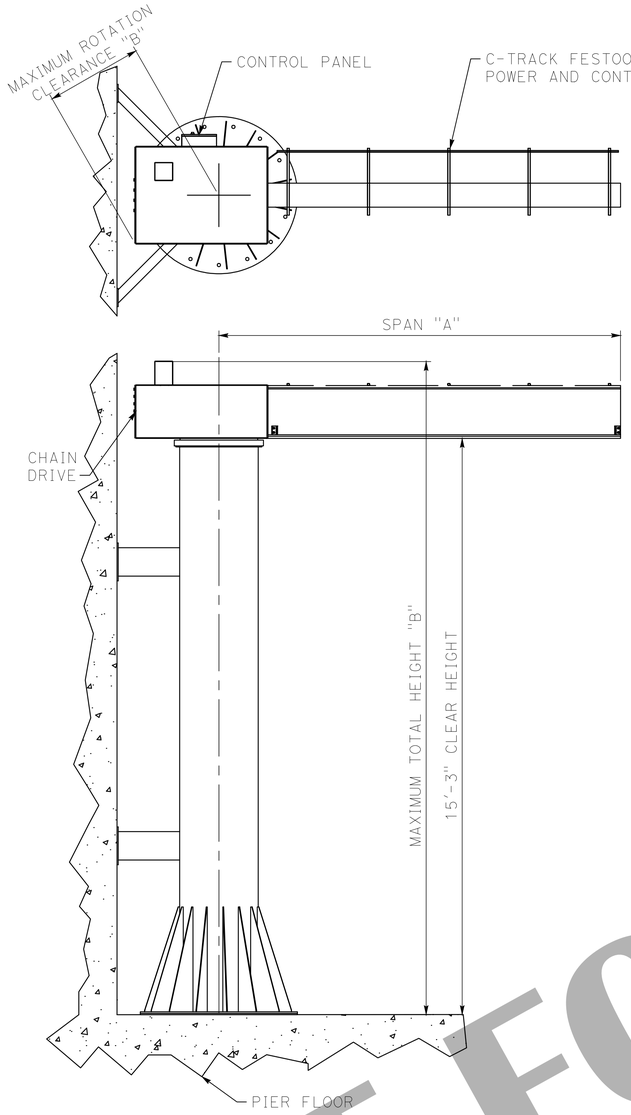
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER CRANE DETAILS - 1
(Date: 11/03/2025)

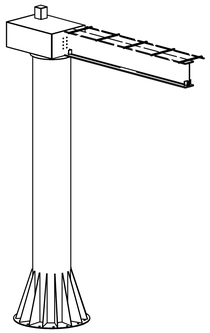
PN: T15136000

DWG NO.: MS-027
SHT NO.: 347 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

e:\pa projects\3326.01\CADD\Structural\MS-022 PIER CRANE DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 3:11:23 PM



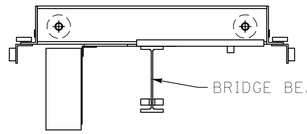


ISOMETRIC JIB CRANE VIEW

TYPICAL JIB CRANE DETAILS

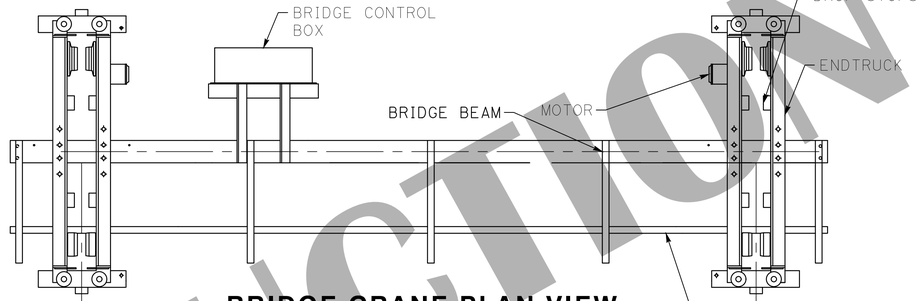
SCALE: N.T.S.

JIB CRANE DETAILS			
CRANE	SPAN "A"	TOTAL HEIGHT "B"	CLEARANCE "C"
5-TON JIB CRANE	13'-0"	16'-5"	2'-6"
15-TON JIB CRANE	14'-0"	17'-8"	2'-10"



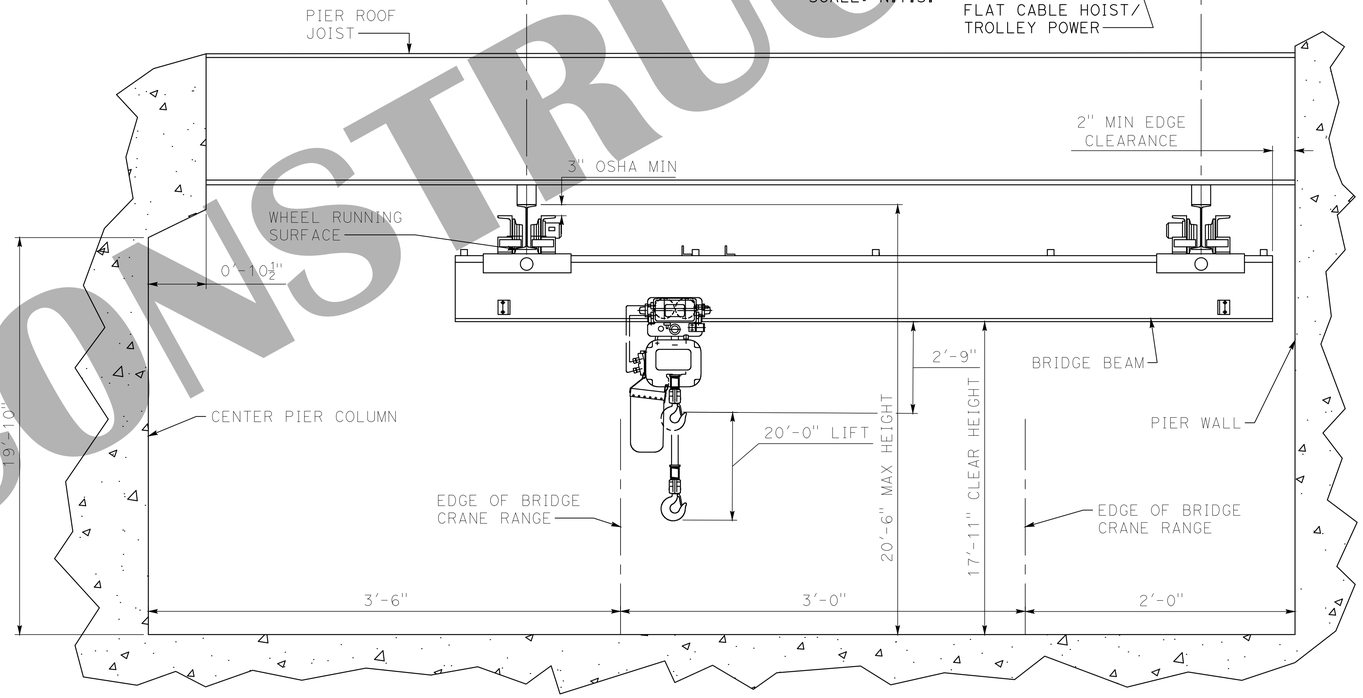
BRIDGE CRANE SIDE VIEW

SCALE: N.T.S.



BRIDGE CRANE PLAN VIEW

SCALE: N.T.S.



BRIDGE CRANE ELEVATION VIEW

SCALE: N.T.S.

NOTES:

1. AFTER FINAL ASSEMBLY, CRANE MUST BE LOAD TESTED PER APPLICABLE OSHA AND ASME SPECIFICATIONS.
2. THE SYSTEMS SHOWN ARE BASED ON DRAWING NUMBERS 42133 AND 351M-30000-14-20 FROM HARRINGTON TIGER TRACK.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

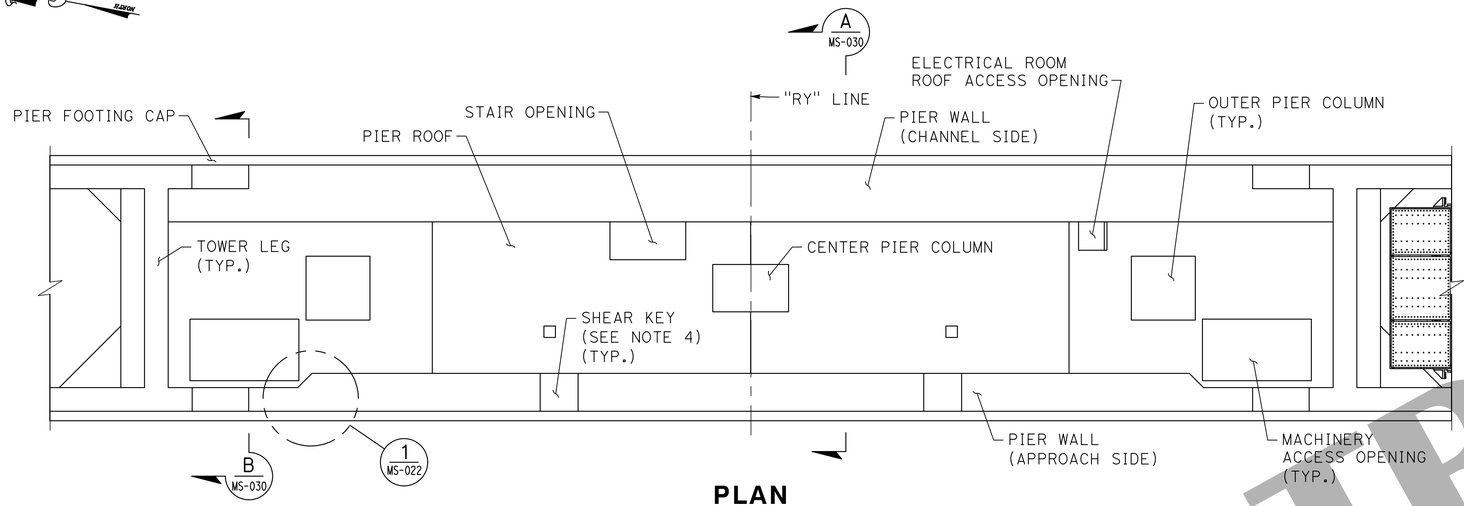
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER CRANE DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-028
SHT NO.: 348 OF 648

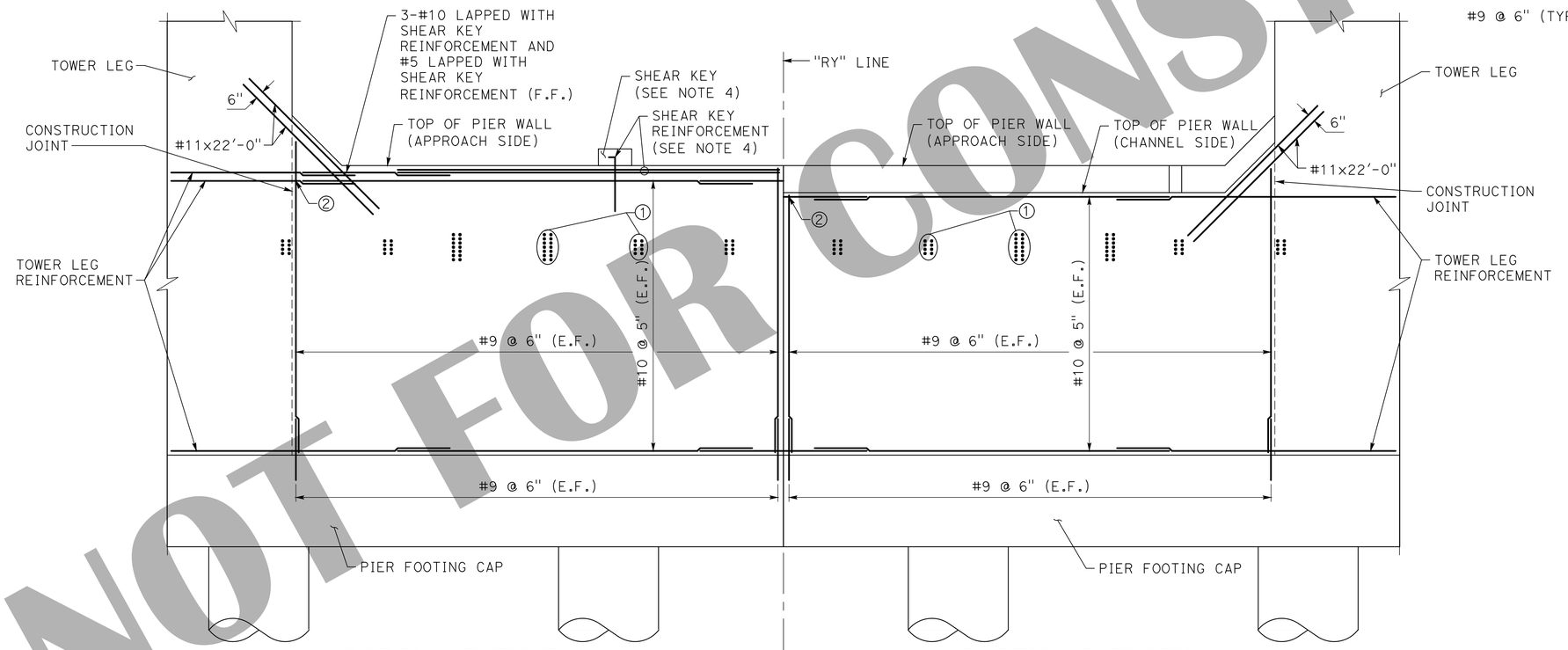
p:\3326.01\CADD\Structural\MS-22A PIER CRANE DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:38:27 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



PLAN

SCALE: ⅛" = 1'-0"
(PIER 3 LOOKING UPSTATION,
PIER 4 OPPOSITE HAND)

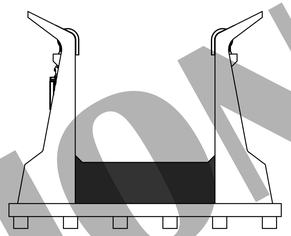


PARTIAL ELEVATION

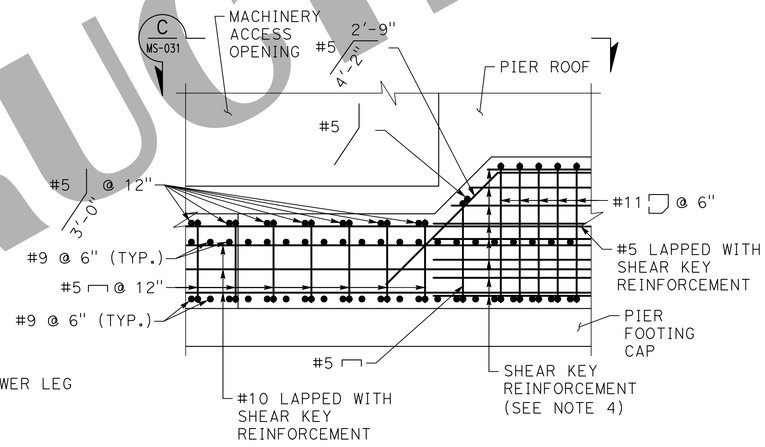
SCALE: ⅛" = 1'-0"
(PIER 3 LOOKING UPSTATION, PIER 4 OPPOSITE HAND)
(NOT ALL REINFORCEMENT SHOWN FOR CLARITY)

PARTIAL ELEVATION

SCALE: ⅛" = 1'-0"
(PIER 3 LOOKING DOWNSTATION, PIER 4 OPPOSITE HAND)
(NOT ALL REINFORCEMENT SHOWN FOR CLARITY)



KEY ELEVATION



1/MS-029 DETAIL

SCALE: ½" = 1'-0"
(ONLY TOP AND VERTICAL
REINFORCEMENT ARE SHOWN)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. MS-003 THRU MS-005.
2. WORK THIS SHEET WITH DWG. NOS. MS-010 THRU MS-015.
3. FOR ELECTRICAL ROOM DETAILS SEE DWG. NO. MS-025.
4. FOR SHEAR KEY AND SHEAR KEY REINFORCEMENT DETAILS SEE "APPROACH STRUCTURES DRAWINGS".
5. FOR CAST-IN ANCHOR BOLT DETAILS FOR PIER ROOF JOISTS SEE DWG. NO. MS-035
6. FOR FENDER RUBBING STRIP DETAILS SEE DWG. NO. MS-075.
7. FOR HANDRAIL DETAILS SEE DWG. NOS. MS-069 THRU MS-074.
8. FOR PIER ROOF REINFORCEMENT DETAILS SEE SHEETS MS-036 THRU MS-037.

① CAST-IN ANCHOR BOLTS FOR PIER ROOF STEEL JOISTS (TYP.)(SEE NOTE 5)

② #5 ⌐ CROSS TIE @ VERTICAL/HORIZONTAL BAR INTERSECTIONS

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

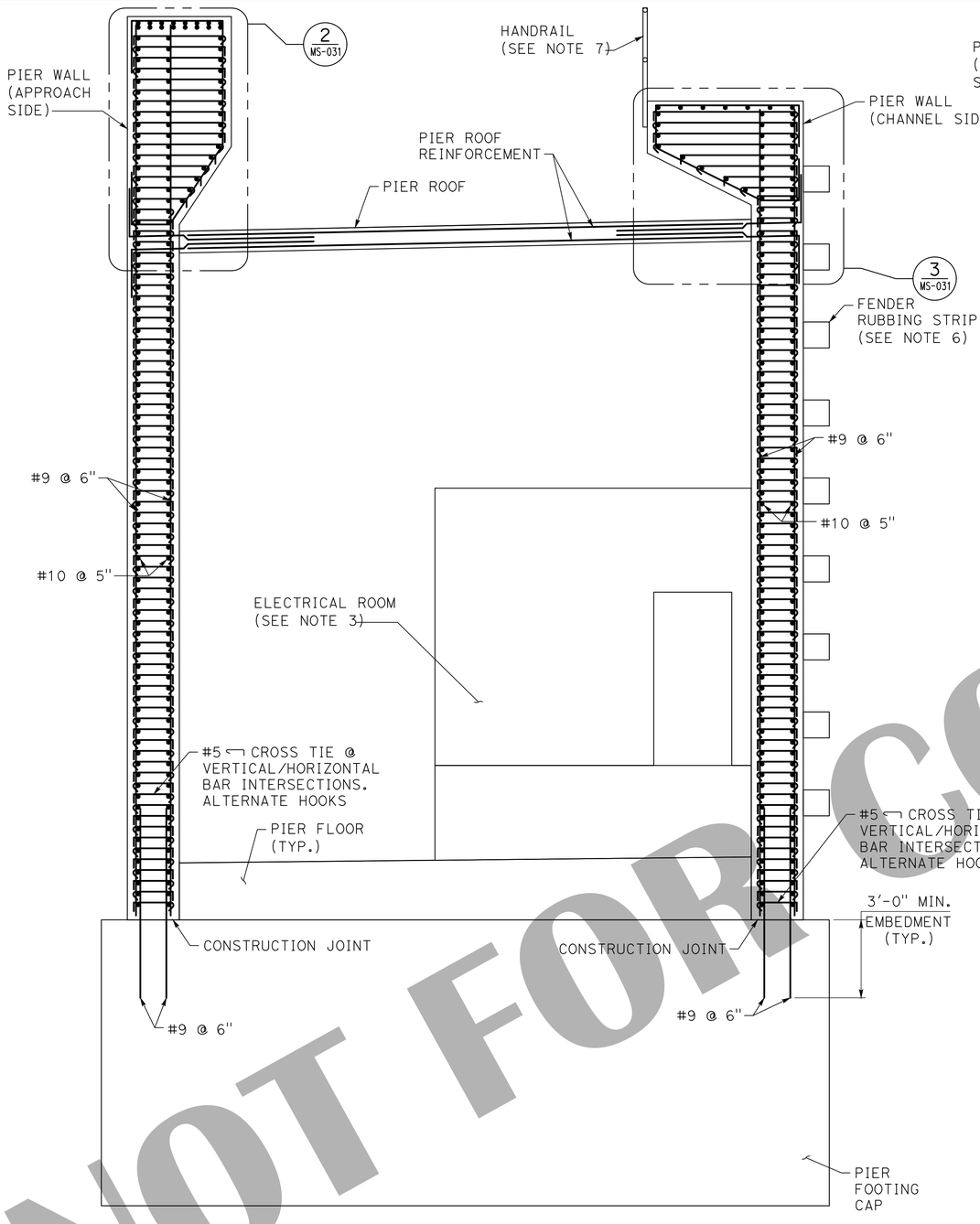
REGISTERED PROFESSIONAL ENGINEER — FORREST M. GEPHERT — No. 69928 — Exp. 09-30-26 — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER WALL DETAILS - 1
(Date: 11/03/2025)

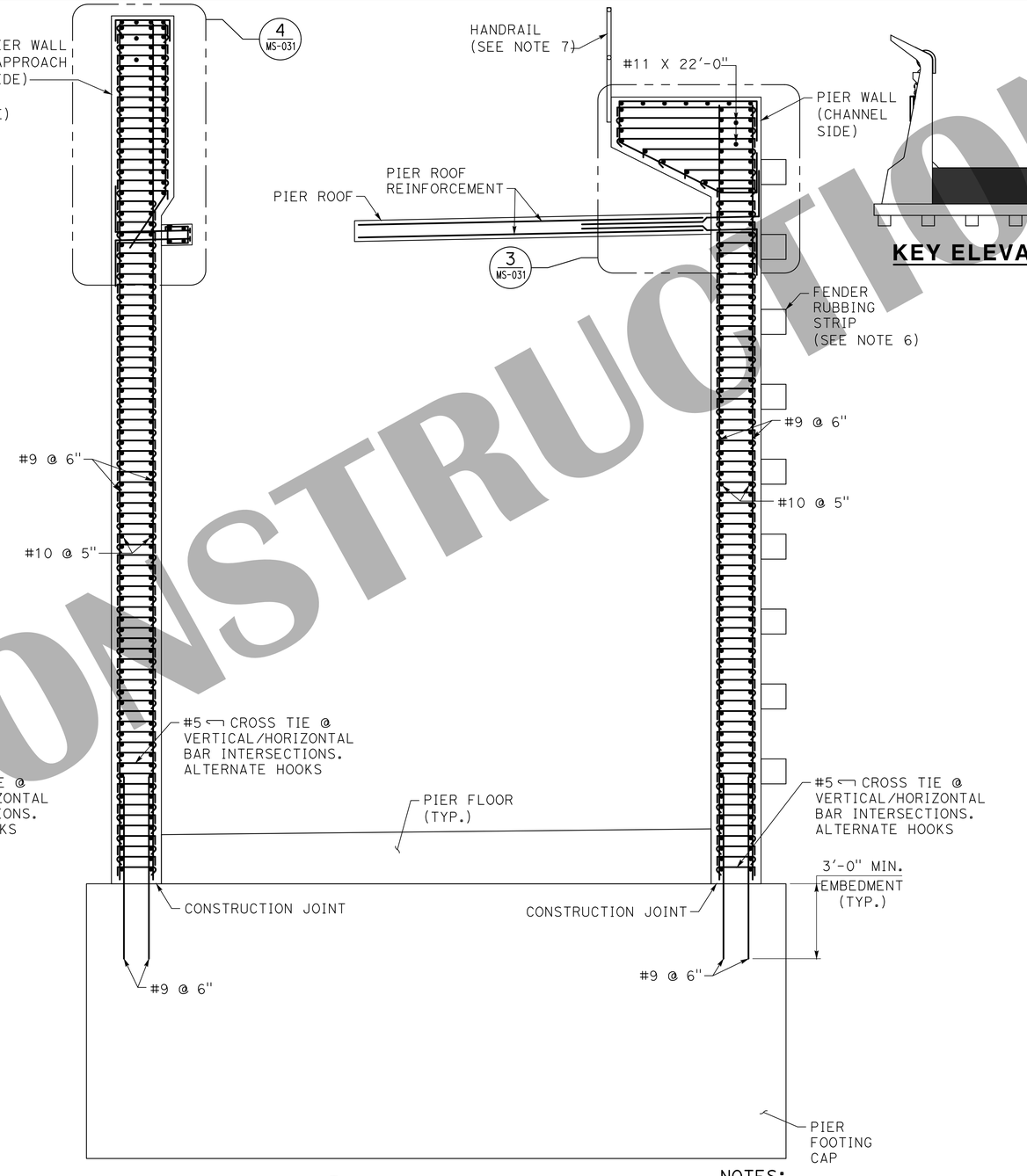
PN: T15136000
DWG NO.: MS-029
SHT NO.: 349 OF 648

p:\13326.01\CADD\Structural\MS-025 PIER WALL DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:38:40 PM

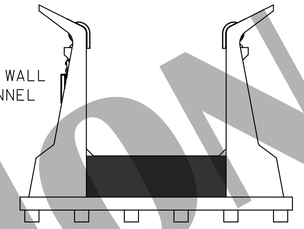
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



A MS-029 **SECTION**
SCALE: 3/8" = 1'-0"
(PIER FLOOR, PIER FOOTING CAP, AND ELECTRICAL ROOM REINFORCEMENT NOT SHOWN)



B MS-029 **SECTION**
SCALE: 3/8" = 1'-0"
(PIER FLOOR AND PIER FOOTING CAP REINFORCEMENT NOT SHOWN)



KEY ELEVATION

NOTES:

1. SEE DWG. NO. MS-029 FOR NOTES.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

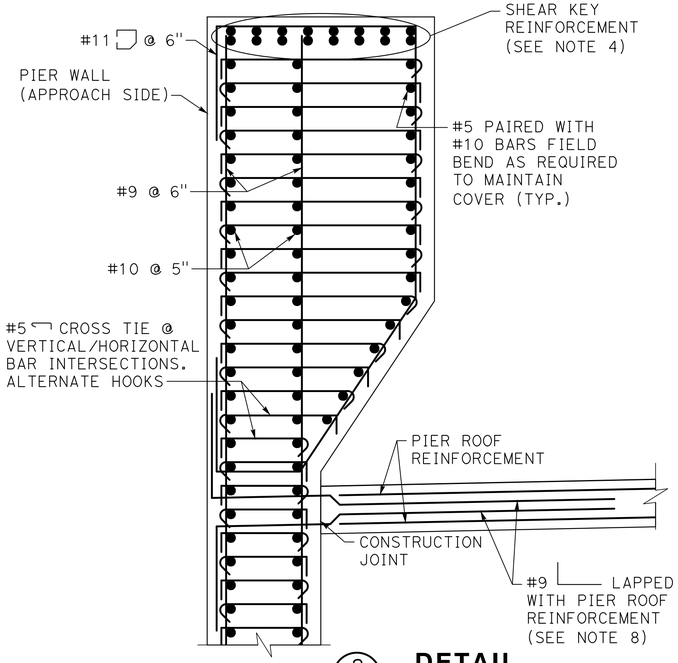
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER WALL DETAILS - 2
(Date: 11/03/2025)

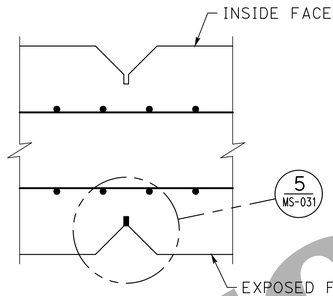
PN: T15136000
DWG NO.: MS-030
SHT NO.: 350 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

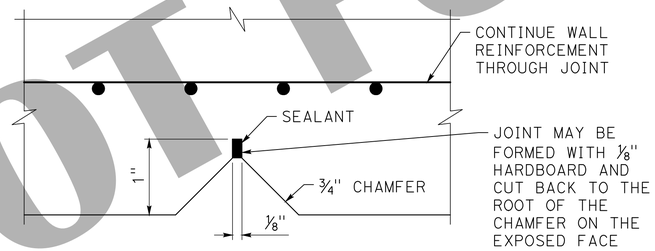
p:\3326.01\CADD\Structural\MS-026 PIER WALL DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:38:53 PM



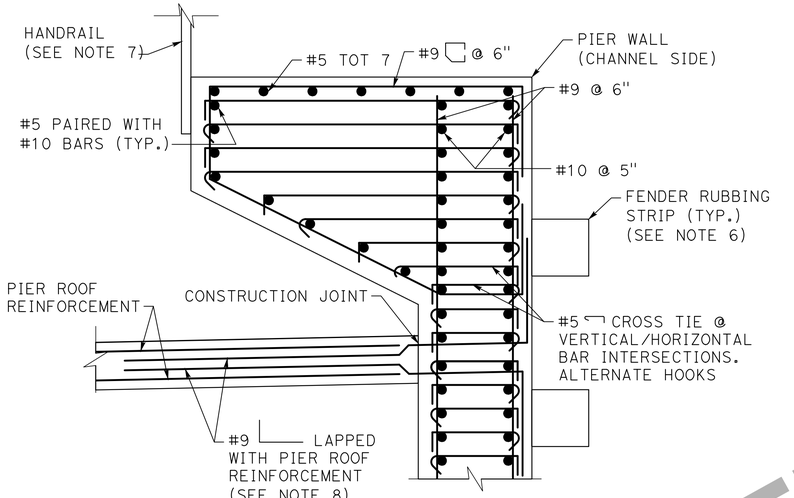
2 / MS-030 **DETAIL**
SCALE: 3/4" = 1'-0"



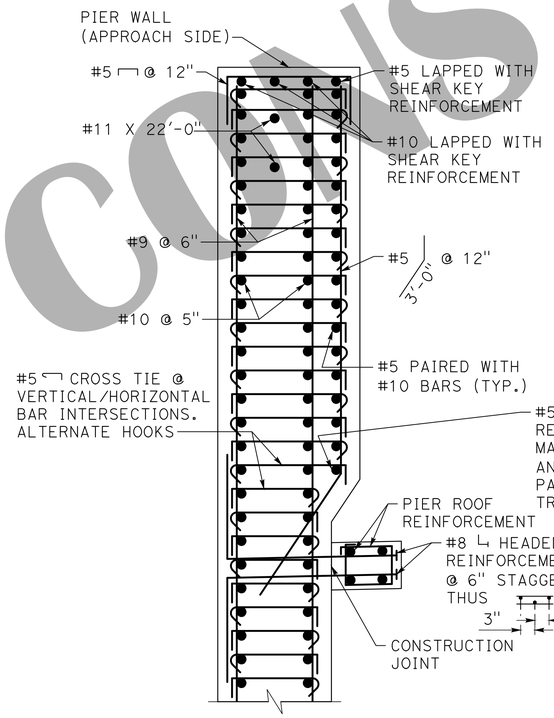
D / MS-031 **SECTION**
SCALE: 6" = 1'-0"



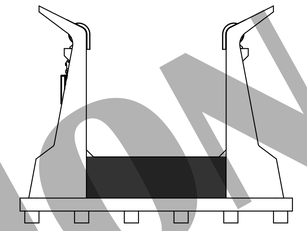
5 / MS-031 **DETAIL**
SCALE: 1'-0" = 1'-0"
(JOINT AT EXPOSED FACED SHOWN, NO SEALANT AT INSIDE FACE)



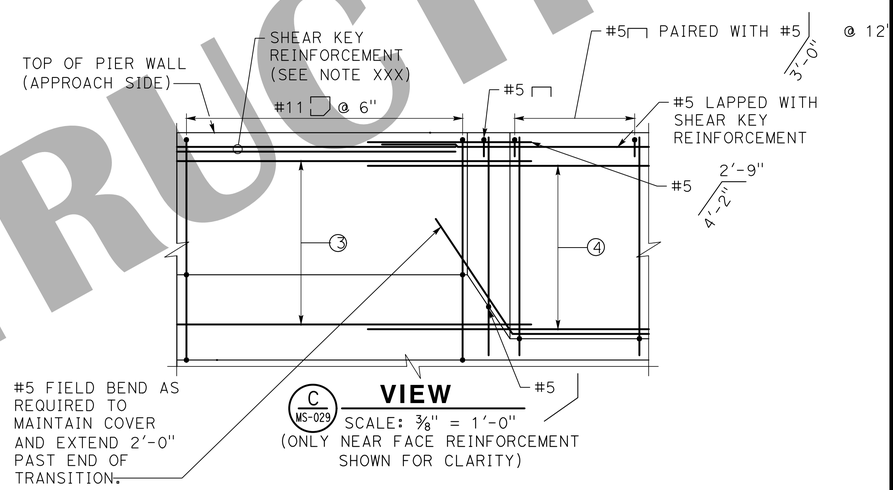
3 / MS-030 **DETAIL**
SCALE: 3/4" = 1'-0"
(#11 X 22'-0" NOT SHOWN)



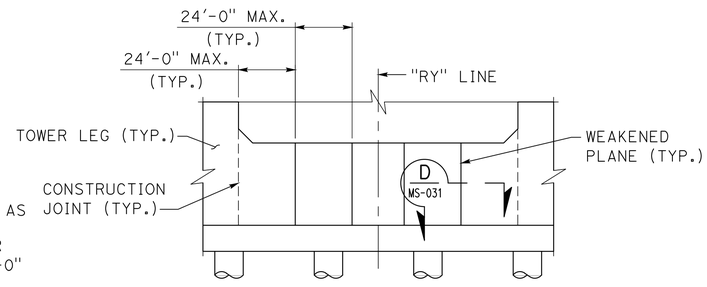
4 / MS-030 **DETAIL**
SCALE: 3/4" = 1'-0"



KEY ELEVATION



C / MS-029 **VIEW**
SCALE: 3/8" = 1'-0"
(ONLY NEAR FACE REINFORCEMENT SHOWN FOR CLARITY)



WEAKENED PLANE LAYOUT
SCALE: 1/32" = 1'-0"

NOTES:

1. SEE DWG. NO. MS-029 FOR NOTES.

③ #5 PAIRED WITH #10 BARS. FIELD BEND AS REQUIRED TO MAINTAIN COVER.

④ #5 PAIRED WITH #10 BARS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

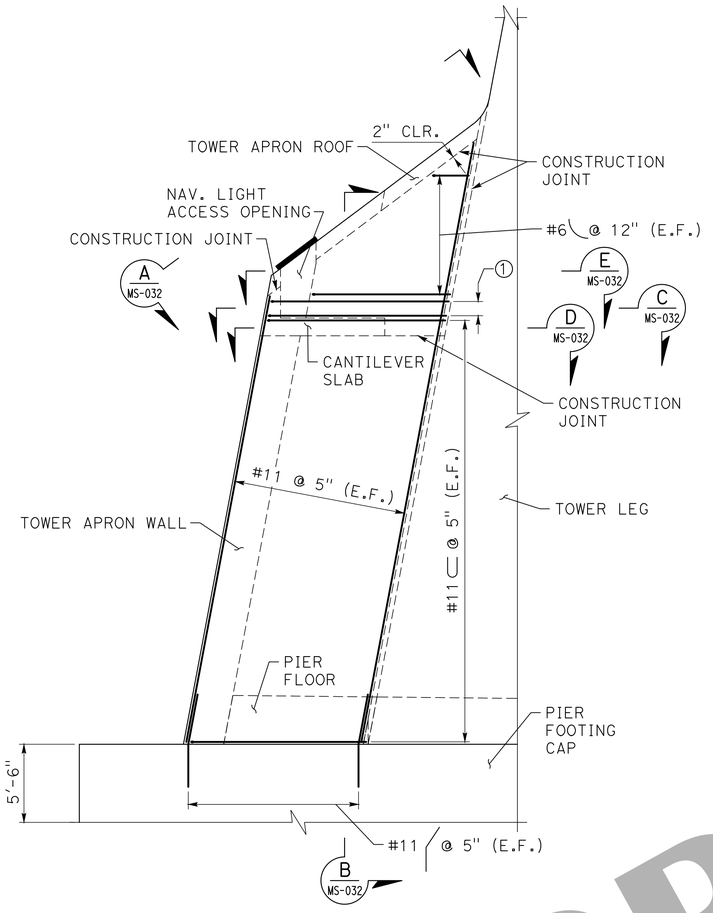
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER WALL DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-031
SHT NO.: 351 OF 648

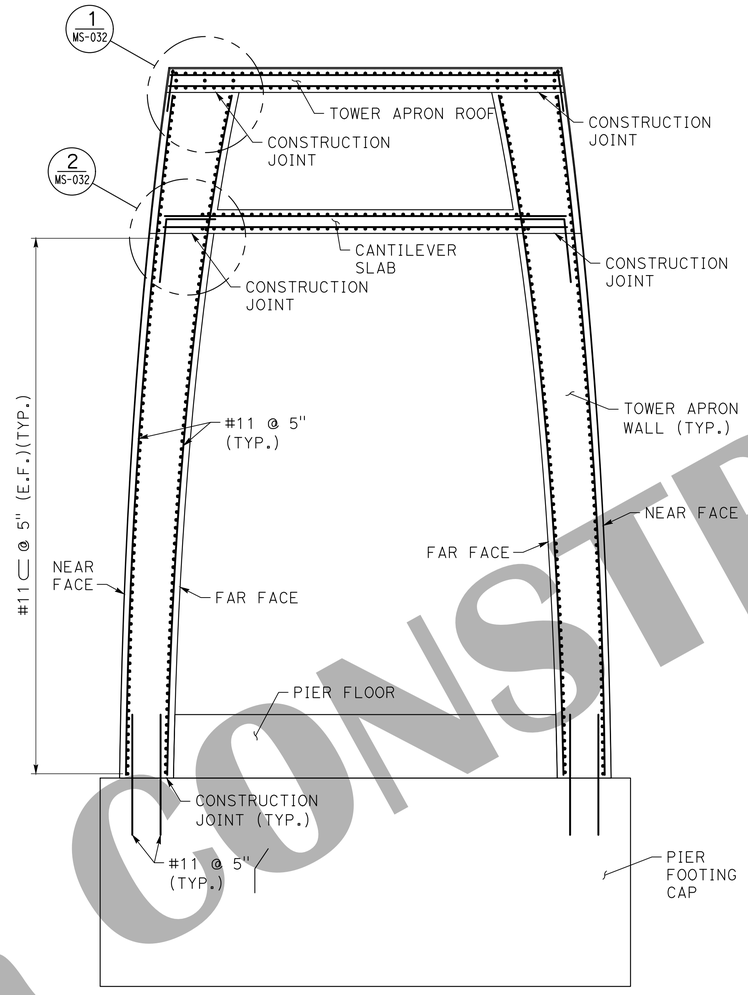
p:\3326.01\CADD\Structural\MS-026A PIER WALL DETAILS - 2A.dwg LAST PLOTTED: 11/3/2025 1:39:01 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



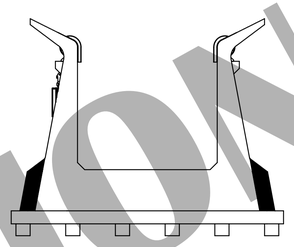
PARTIAL ELEVATION

SCALE: 3/16" = 1'-0"
(PIER 3 LOOKING UPSTATION, PIER 4 SIMILAR)
(PIER FLOOR, CANTILEVER SLAB, AND TOWER APRON ROOF REINFORCEMENT NOT SHOWN FOR CLARITY)

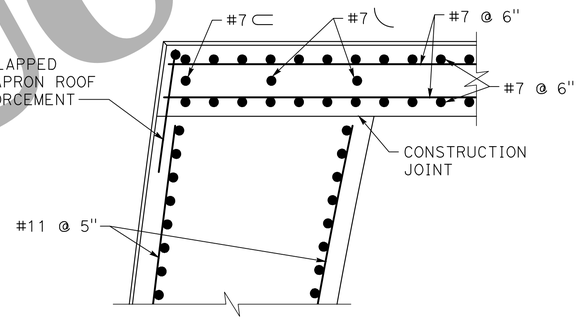


SECTION

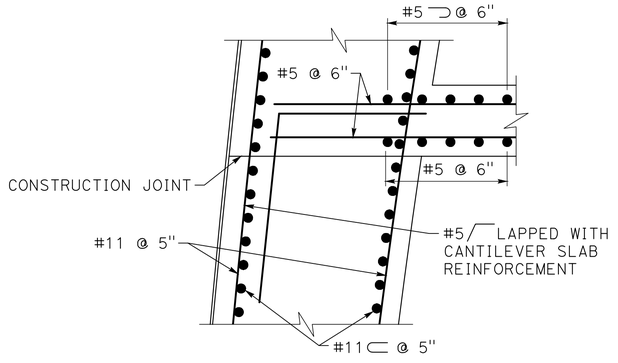
B MS-032 SCALE: 1/4" = 1'-0"
(PIER FLOOR REINFORCEMENT NOT SHOWN)



KEY ELEVATION



1 MS-032 **DETAIL**
SCALE: 3/4" = 1'-0"



2 MS-032 **DETAIL**
SCALE: 3/4" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. MS-003 THRU MS-005.
2. WORK THIS SHEET WITH DWG. NOS. MS-010 THRU MS-015.
3. FOR TOWER LEG DETAILS SEE DWG. NOS. MS-038 THRU MS-042.

① #11 @ 5" (N.F.), #11 @ 5" (F.F.)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

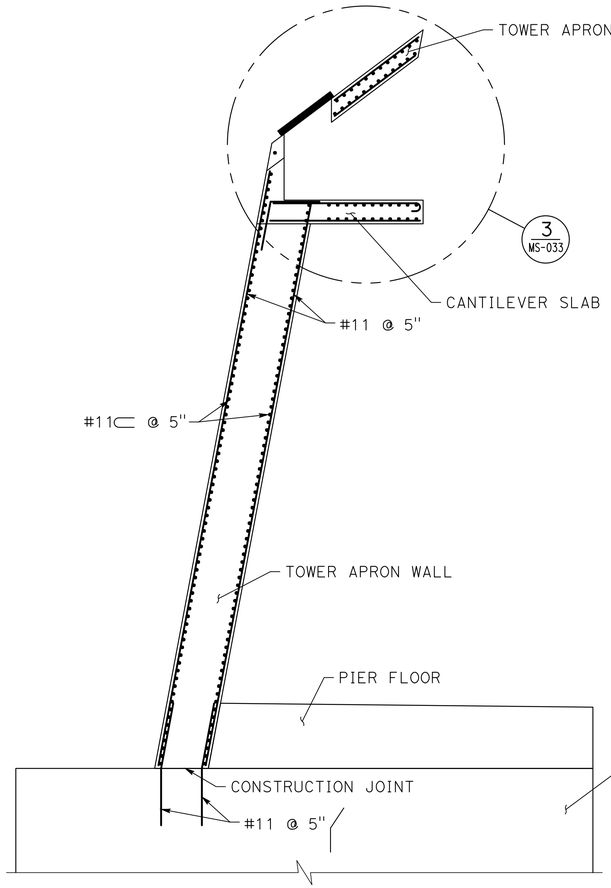
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER APRON DETAILS - 1
(Date: 11/03/2025)

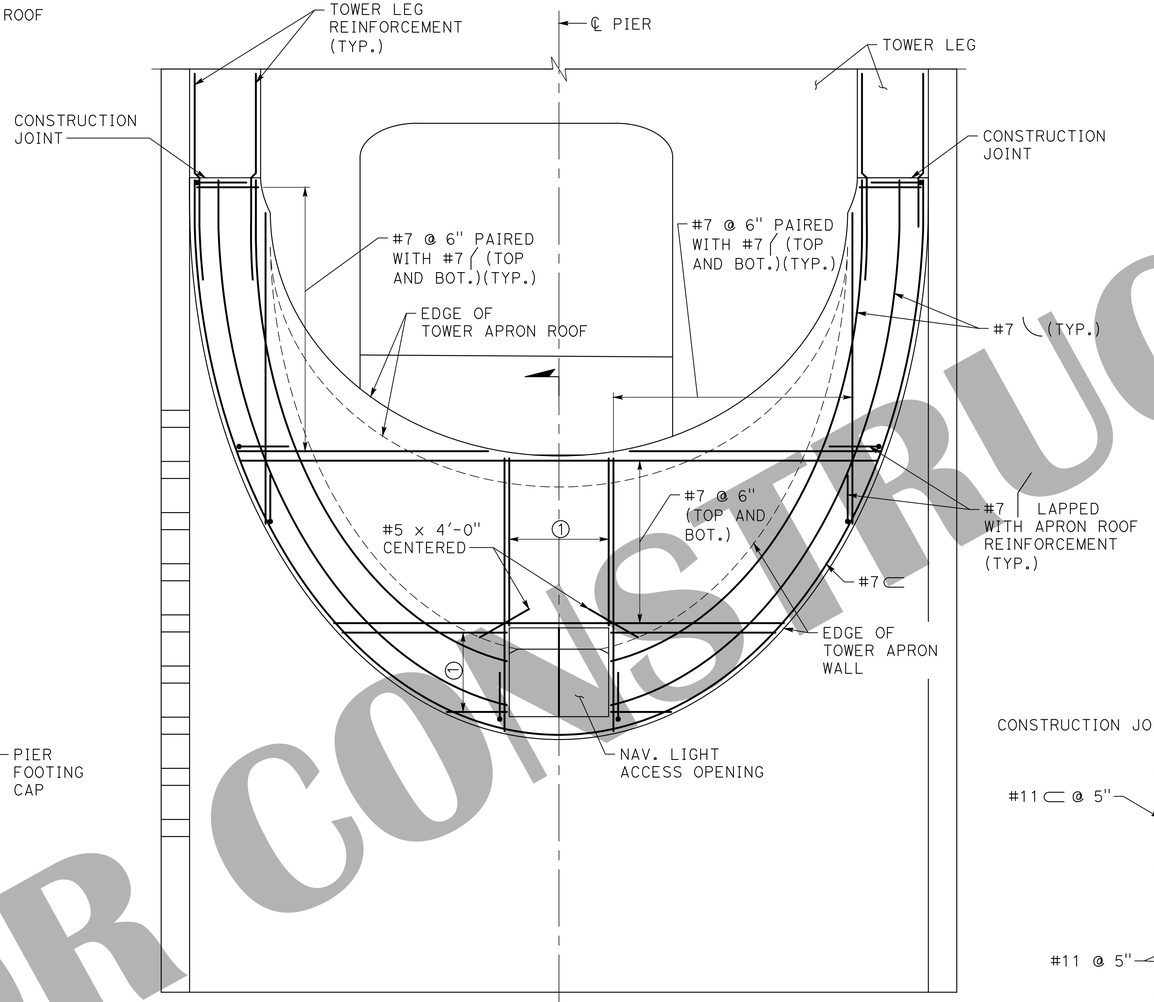
PN: T15136000
DWG NO.: MS-032
SHT NO.: 352 OF 648

p:\3326.01\CADD\Structural\MS-027 TOWER APRON DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:39:11 PM

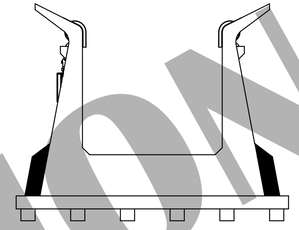
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



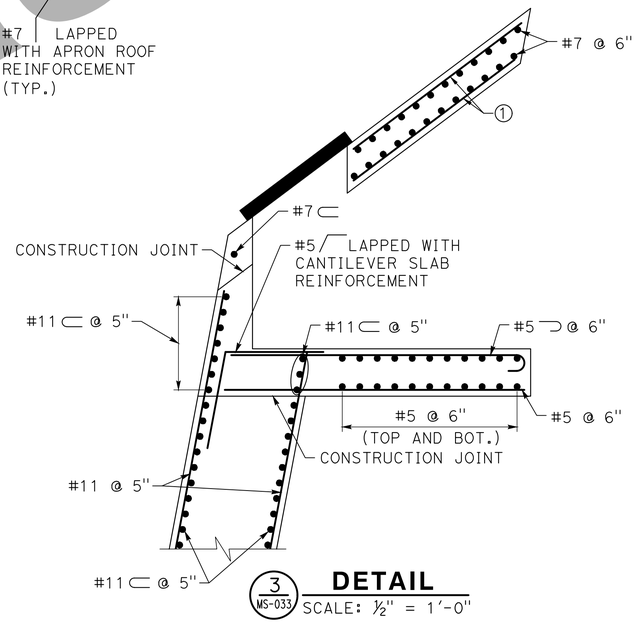
E MS-033 **SECTION**
SCALE: ¼" = 1'-0"
(PIER FLOOR REINFORCEMENT NOT SHOWN)



E MS-033 **VIEW**
SCALE: ⅜" = 1'-0"



KEY ELEVATION



3 MS-033 **DETAIL**
SCALE: ½" = 1'-0"

NOTES:

1. SEE DWG. NO. MS-032 FOR NOTES.

① #7 @ 6" TERMINATE BARS AS REQUIRED TO CLEAR OPENING (TOP AND BOT.)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

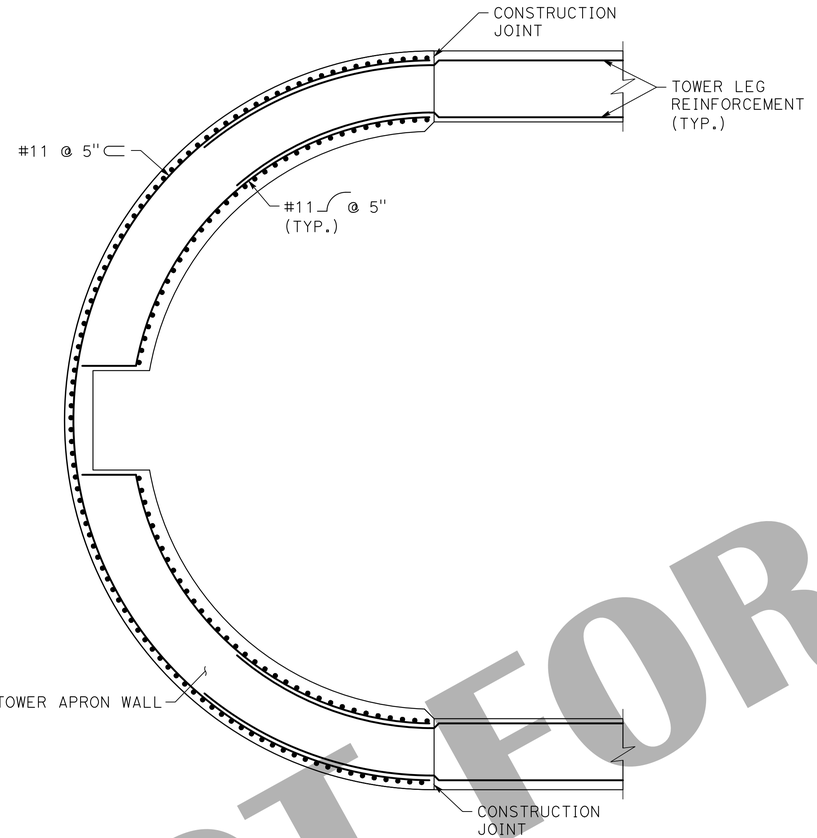
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER APRON DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

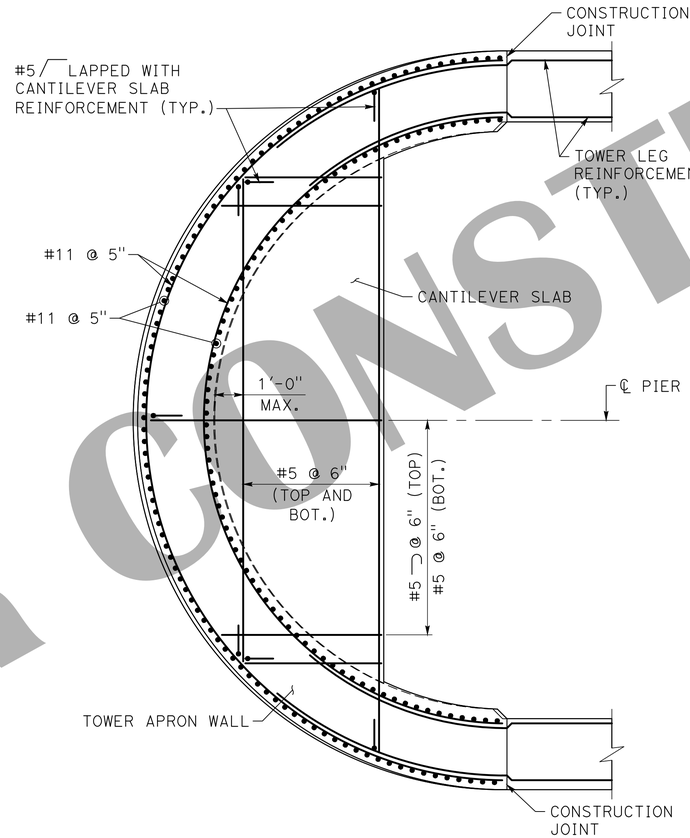
DWG NO.: MS-033
SHT NO.: 353 OF 648

p:\3326.01\CADD\Structural\MS-028 TOWER APRON DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:39:20 PM

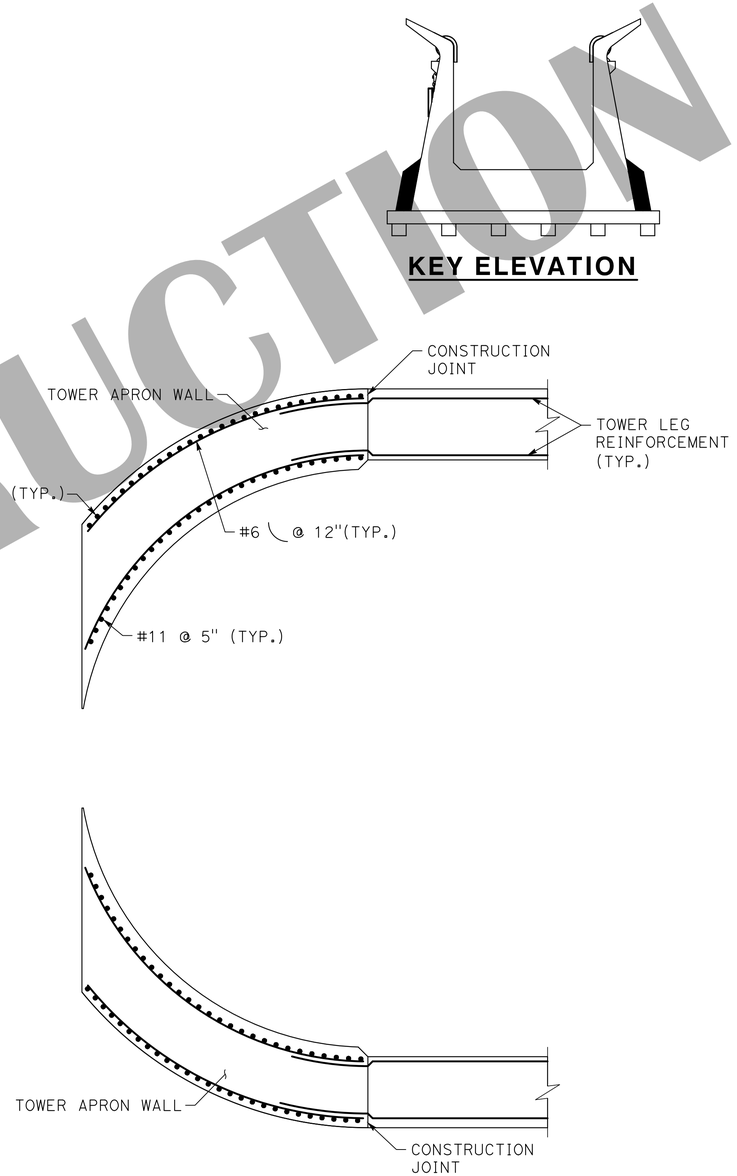
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



C MS-034 **SECTION**
SCALE: 3/8" = 1'-0"



D MS-034 **SECTION**
SCALE: 3/8" = 1'-0"



D MS-034 **SECTION**
SCALE: 3/8" = 1'-0"

NOTES:

1. SEE DWG. NO. MS-032 FOR NOTES.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

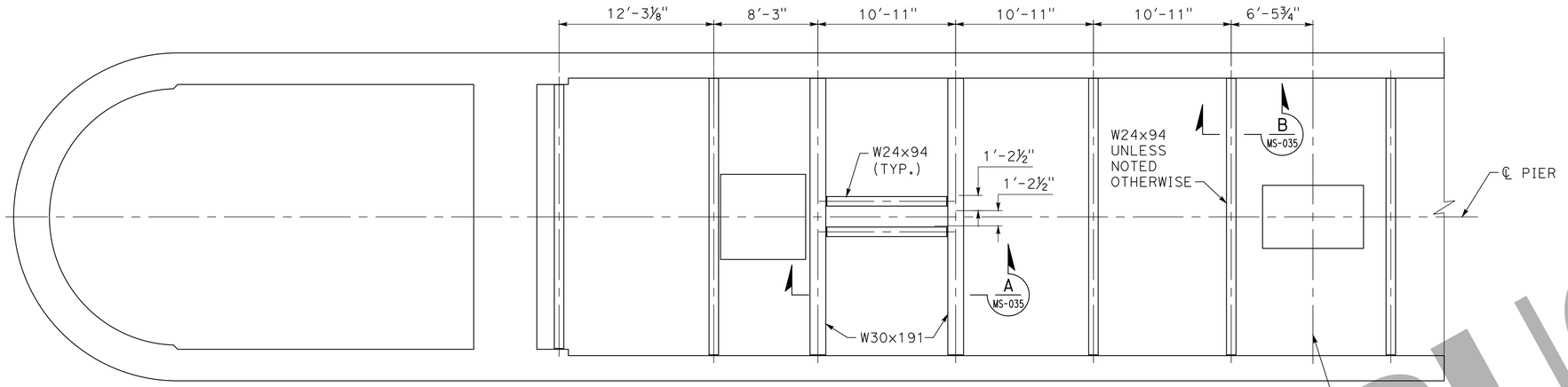
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER APRON DETAILS - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-034
SHT NO.: 354 OF 648

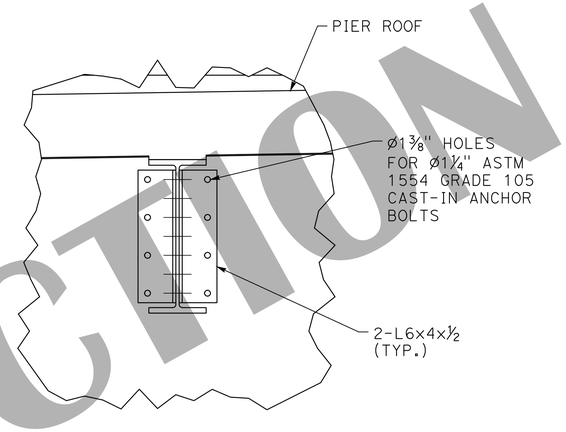
p:\3326.01\CADD\Structural\MS-028A TOWER APRON DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:39:28 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

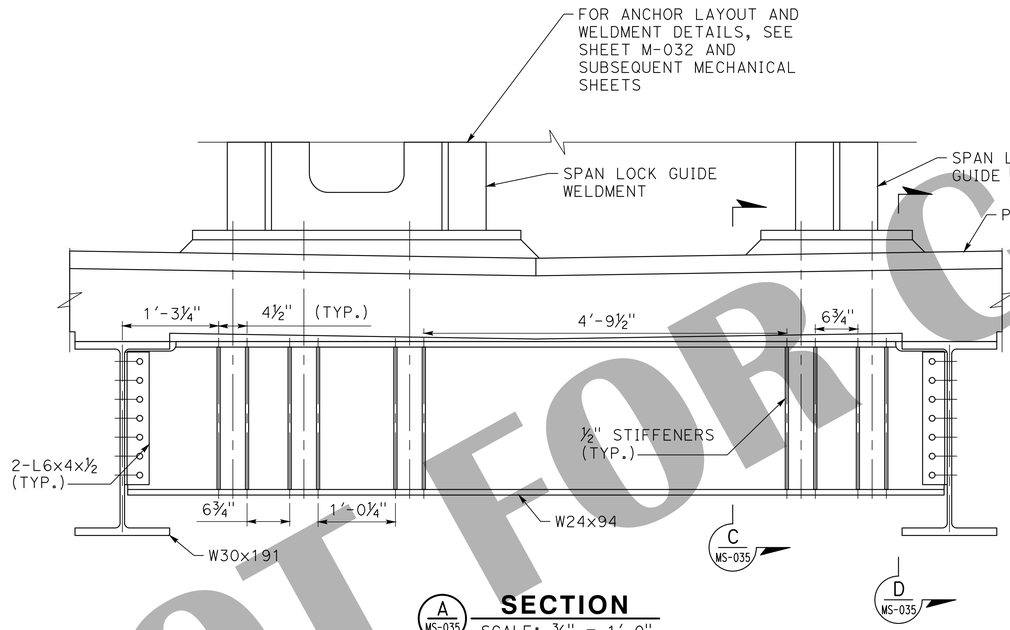


PIER ROOF FRAMING PLAN

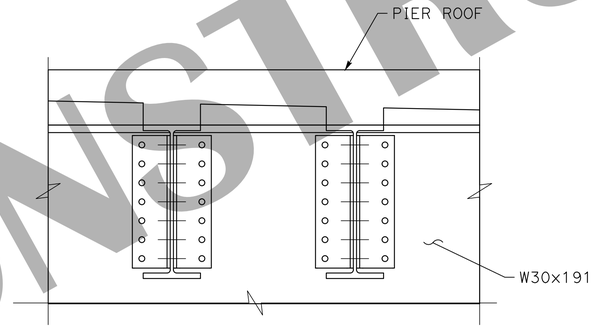
SCALE: ⅛" = 1'-0"
NOTE: FRAMING SYMMETRICAL ABOUT ℄ PIER



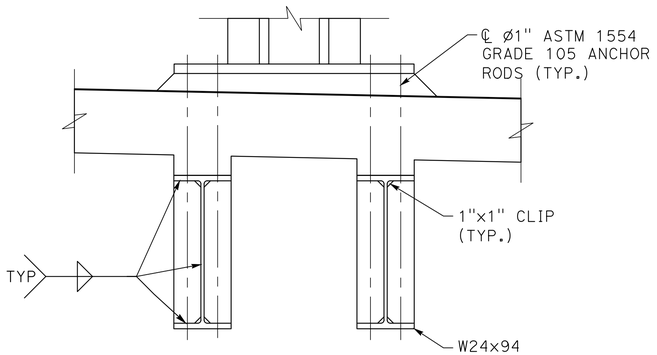
B MS-035 **SECTION**
SCALE: 1" = 1'-0"



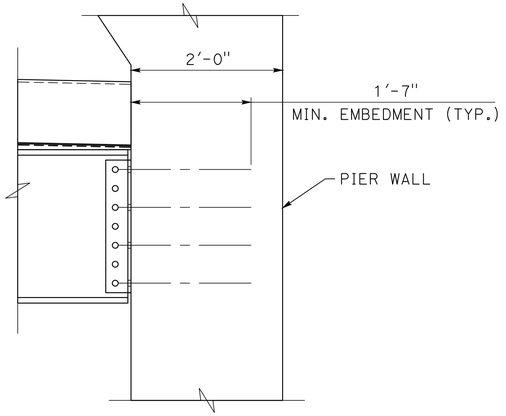
A MS-035 **SECTION**
SCALE: ¾" = 1'-0"



D MS-035 **SECTION**
SCALE: 1" = 1'-0"



C MS-035 **SECTION**
SCALE: 1" = 1'-0"



E MS-035 **SECTION**
SCALE: 1" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. TENSION EACH ANCHOR FOR BOTH THE SPAN LOCK GUIDE AND END GUIDE TO 55 KIPS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: I. ABRAHAM
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

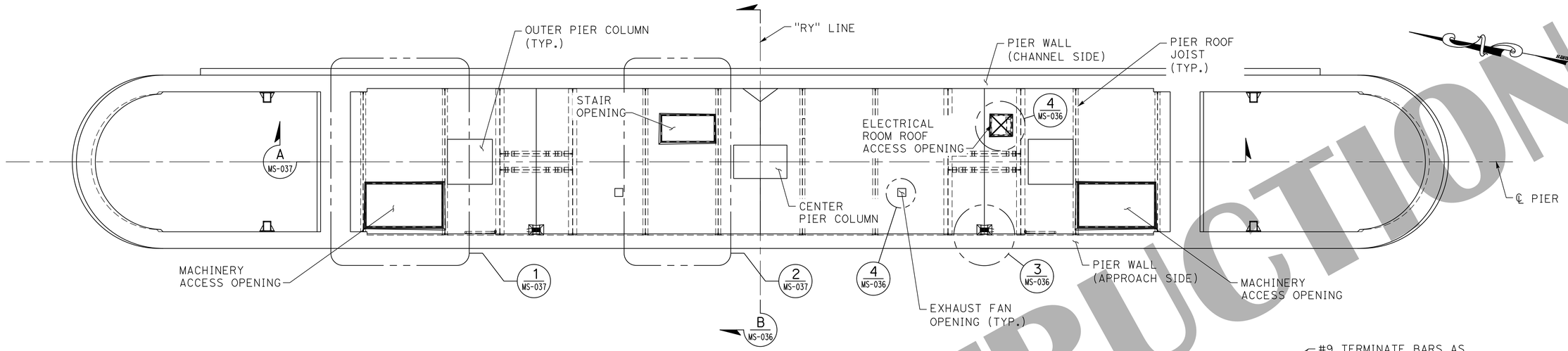
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ROOF JOISTS
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-035
SHT NO.: 355 OF 648

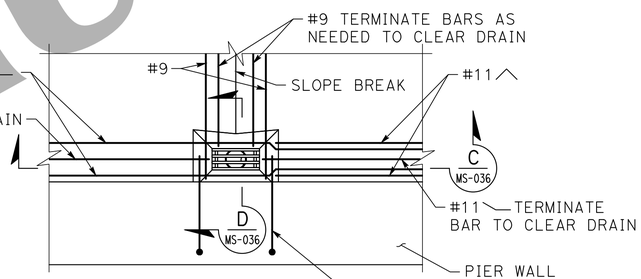
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

e:\pa projects\3326.01\CADD\Structural\MS-029 PIER ROOF FRAMING.dwg LAST PLOTTED: 11/3/2025 3:13:03 PM



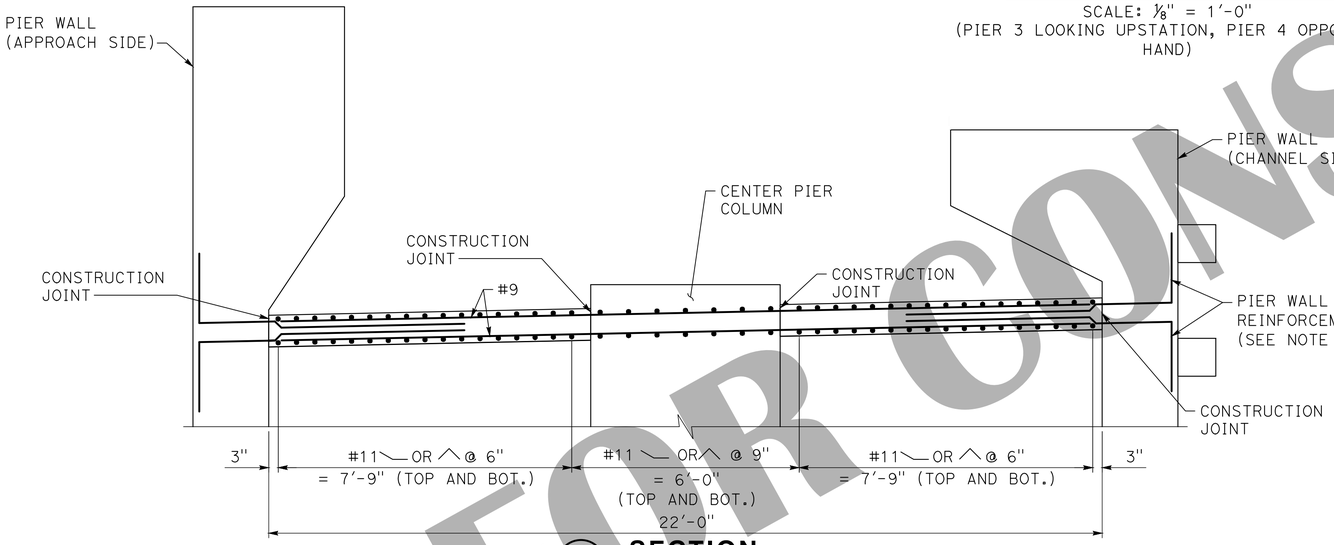
PLAN VIEW PIER ROOF

SCALE: ⅛" = 1'-0"
(PIER 3 LOOKING UPSTATION, PIER 4 OPPOSITE HAND)



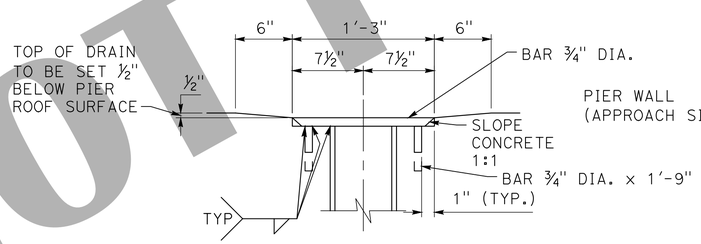
3/MS-036 DETAIL

SCALE: ½" = 1'-0"



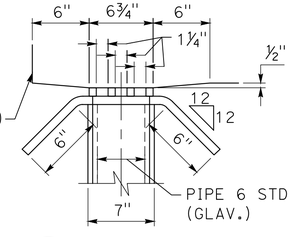
B/MS-036 SECTION

SCALE: ½" = 1'-0"



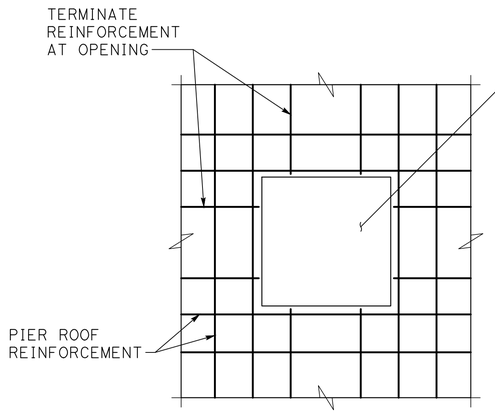
C/MS-036 SECTION

SCALE: 1½" = 1'-0"
(REINFORCEMENT NOT SHOWN)



D/MS-036 SECTION

SCALE: 1½" = 1'-0"
(REINFORCEMENT NOT SHOWN)



4/MS-036 DETAIL

SCALE: ½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. MS-003 THRU MS-005.
2. WORK THIS SHEET WITH DWG. NOS. MS-010 THRU MS-015.
3. FOR PIER ROOF JOISTS DETAILS SEE DWG. NO. MS-035.
4. FOR CENTER PIER COLUMN AND OUTER PIER COLUMN DETAILS SEE DWG. NOS. MS-019 THRU MS-020.
5. FOR PIER WALL DETAILS SEE DWG. NOS. MS-029 THRU MS-031.
6. FOR TOWER LEG DETAILS SEE DWG. NOS. MS-038 THRU MS-042.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: HORIZ. 1"=1'-0" AS SHOWN, VERT. 1"=1'-0"

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

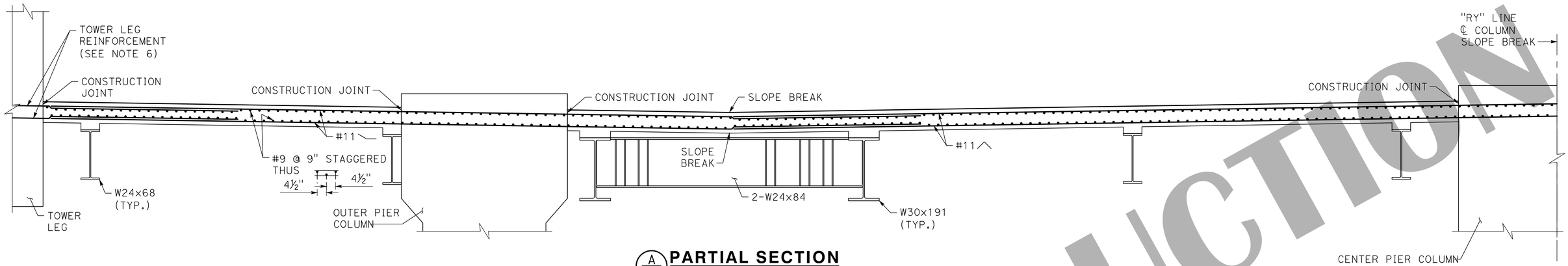
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ROOF DETAILS - 1
(Date: 11/03/2025)

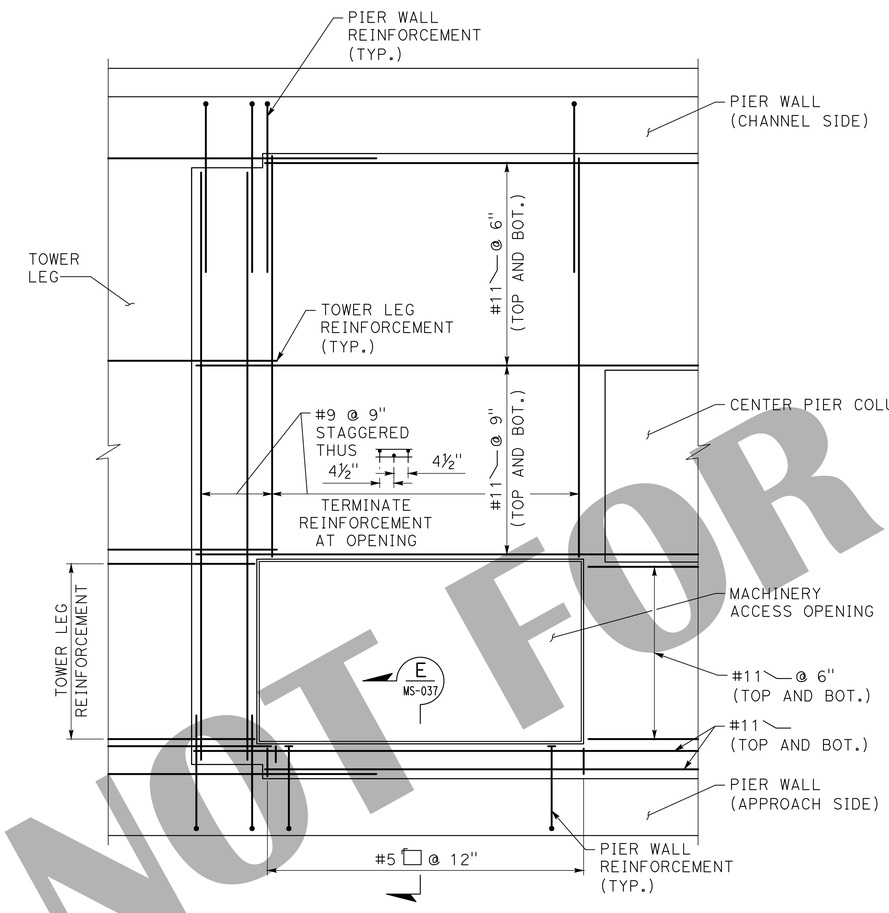
PN: T15136000
DWG NO.: MS-036
SHT NO.: 356 OF 648

p:\3326.01\CADD\Structural\MS-029 PIER ROOF DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:39:50 PM

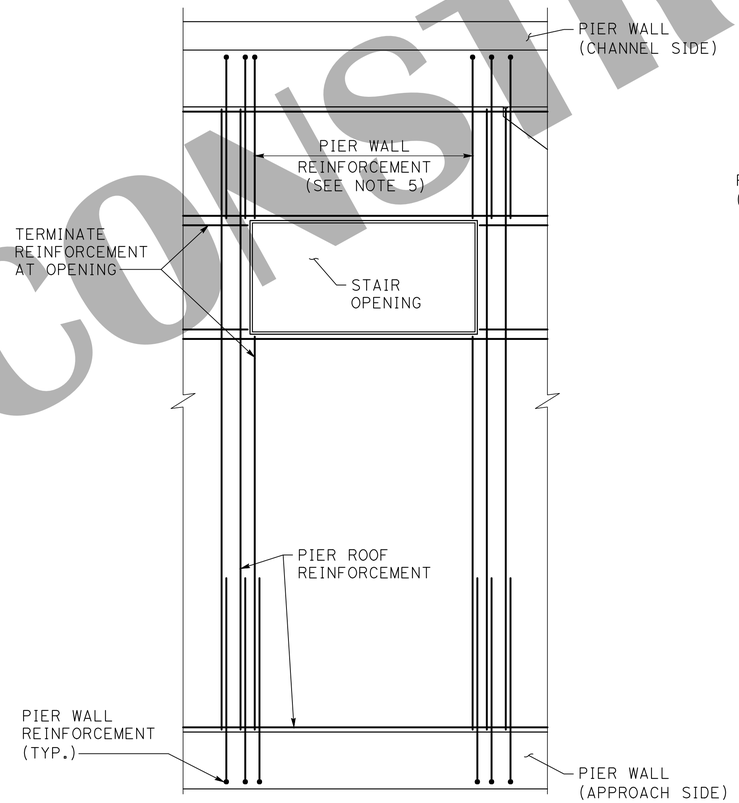
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



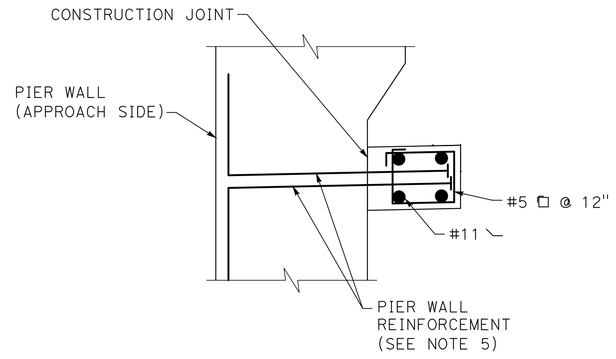
A / MS-037 **PARTIAL SECTION**
SCALE: ½" = 1'-0"



1 / MS-036 **DETAIL**
SCALE: ⅜" = 1'-0"



2 / MS-036 **DETAIL**
SCALE: ⅜" = 1'-0"



E / MS-037 **SECTION**
SCALE: 1" = 1'-0"

NOTES:

1. SEE DWG. NO. MS-036 FOR NOTES.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

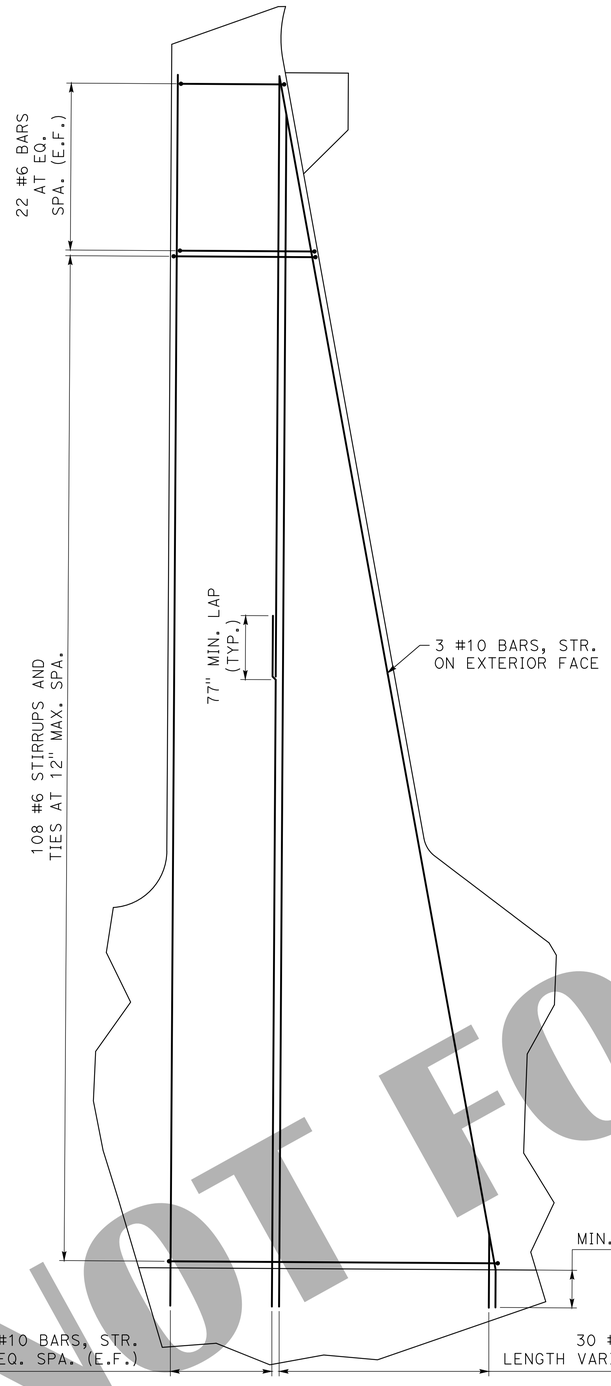
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ROOF DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-037
SHT NO.: 357 OF 648

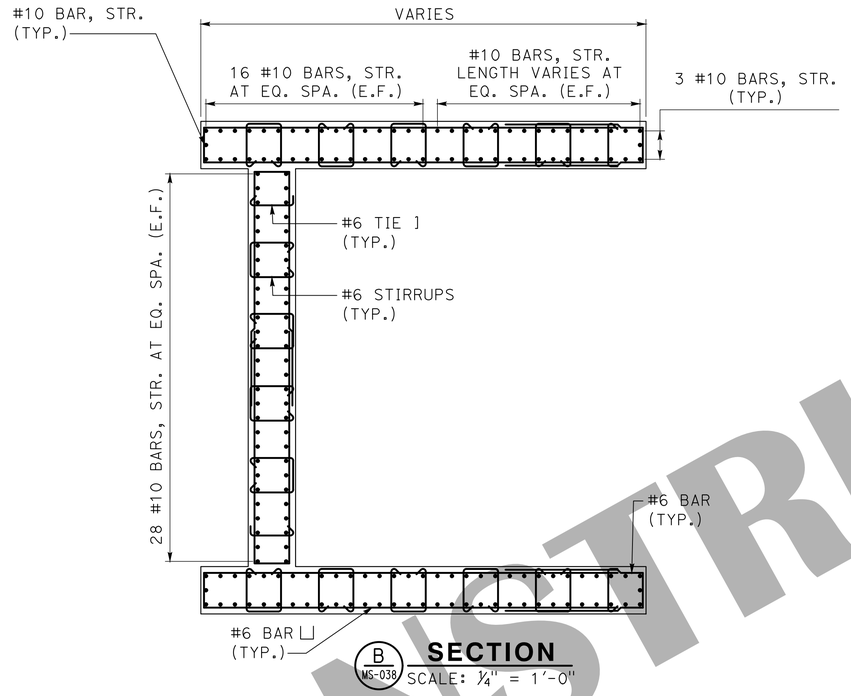
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-030 PIER ROOF DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:40:02 PM



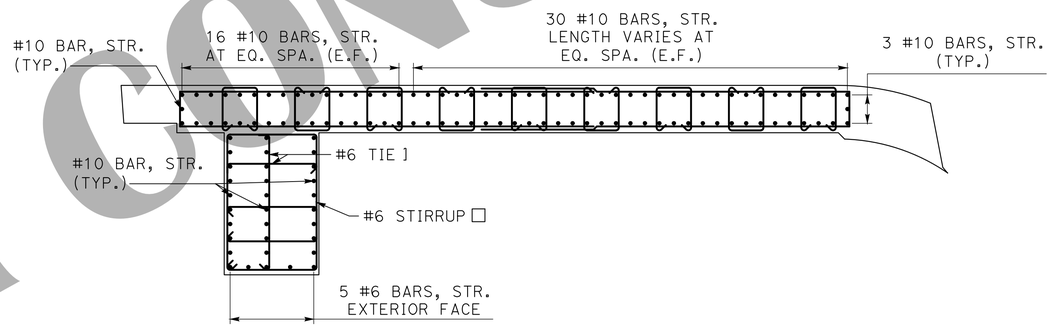
TOWER LEG - ELEVATION

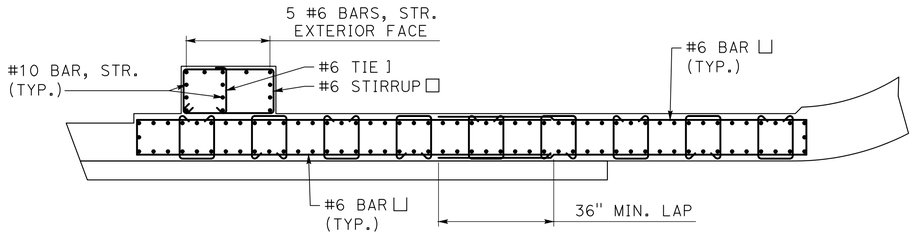
SCALE: 1/8" = 1'-0"



B / MS-038 **SECTION**

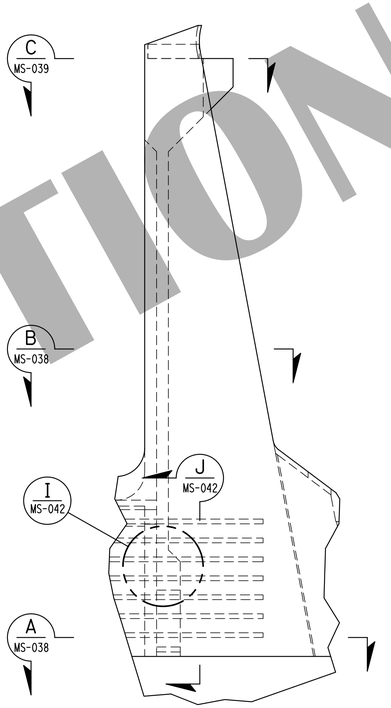
SCALE: 1/4" = 1'-0"





A / MS-038 **SECTION**

SCALE: 1/4" = 1'-0"



TOWER LEG - KEY PLAN

NTS

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: A. ROSSOLL DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER LEG DETAILS - 1
(Date: 11/03/2025)

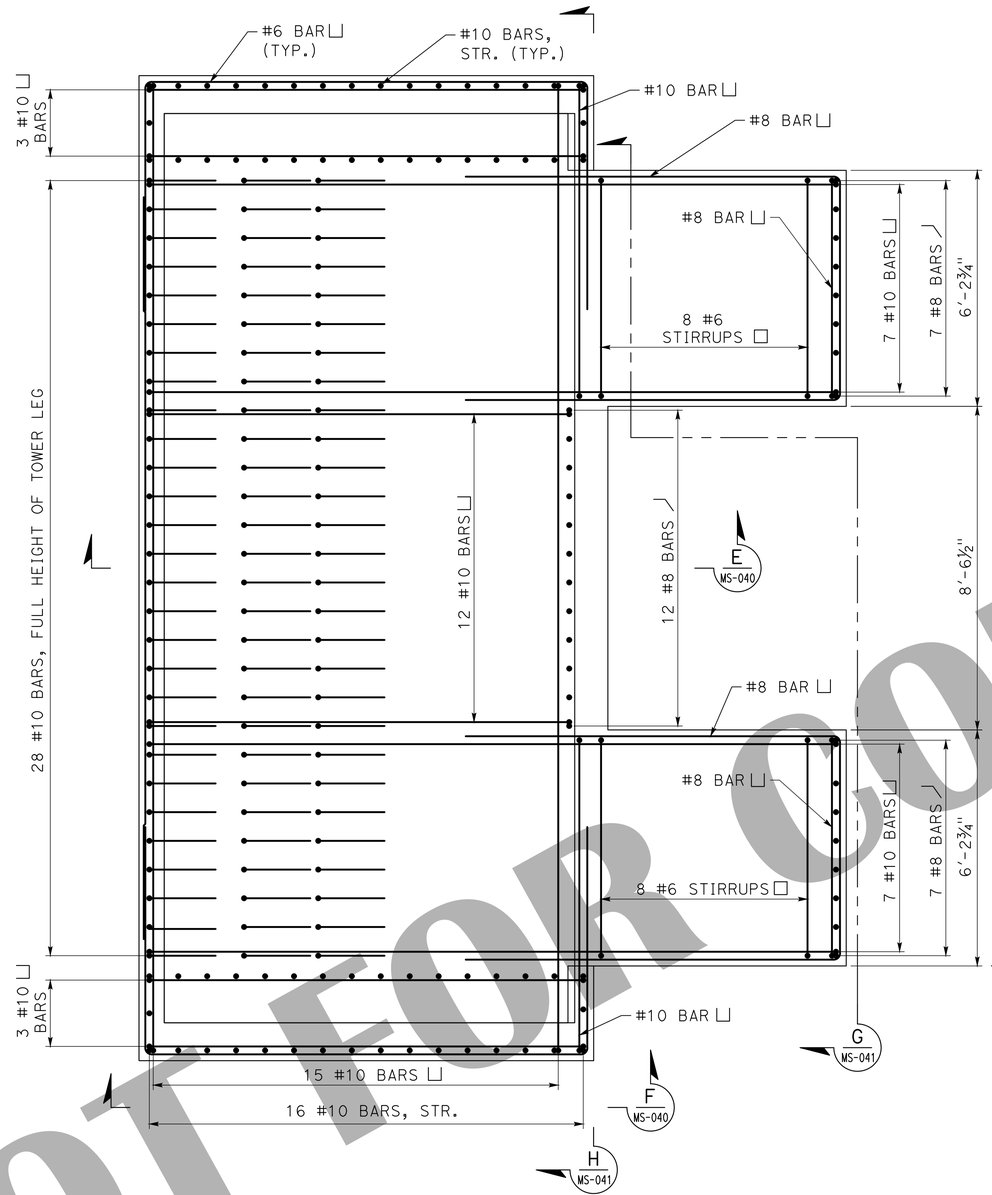
PN: T15136000

DWG NO.: MS-038

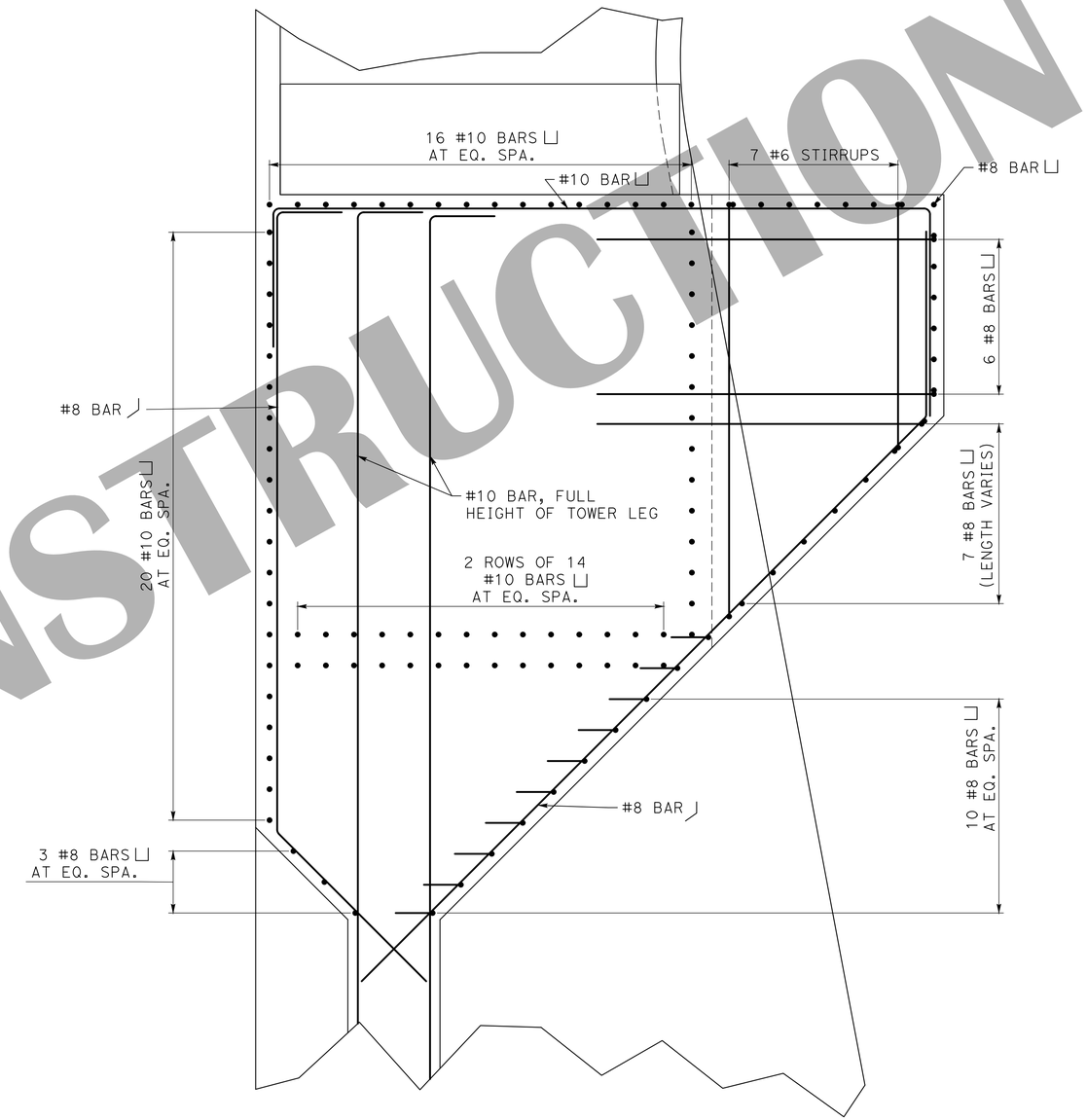
SHT NO.: 358 OF 648

p:\3326.01\CADD\Structural\MS-032 TOWER LEG DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:40:11 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



C MS-038 **SECTION**
SCALE: ½" = 1'-0"



D MS-039 **SECTION**
SCALE: ½" = 1'-0"

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-038 FOR LOCATION OF SECTION C.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: A. ROSSOLL DATE: 11/03/2025

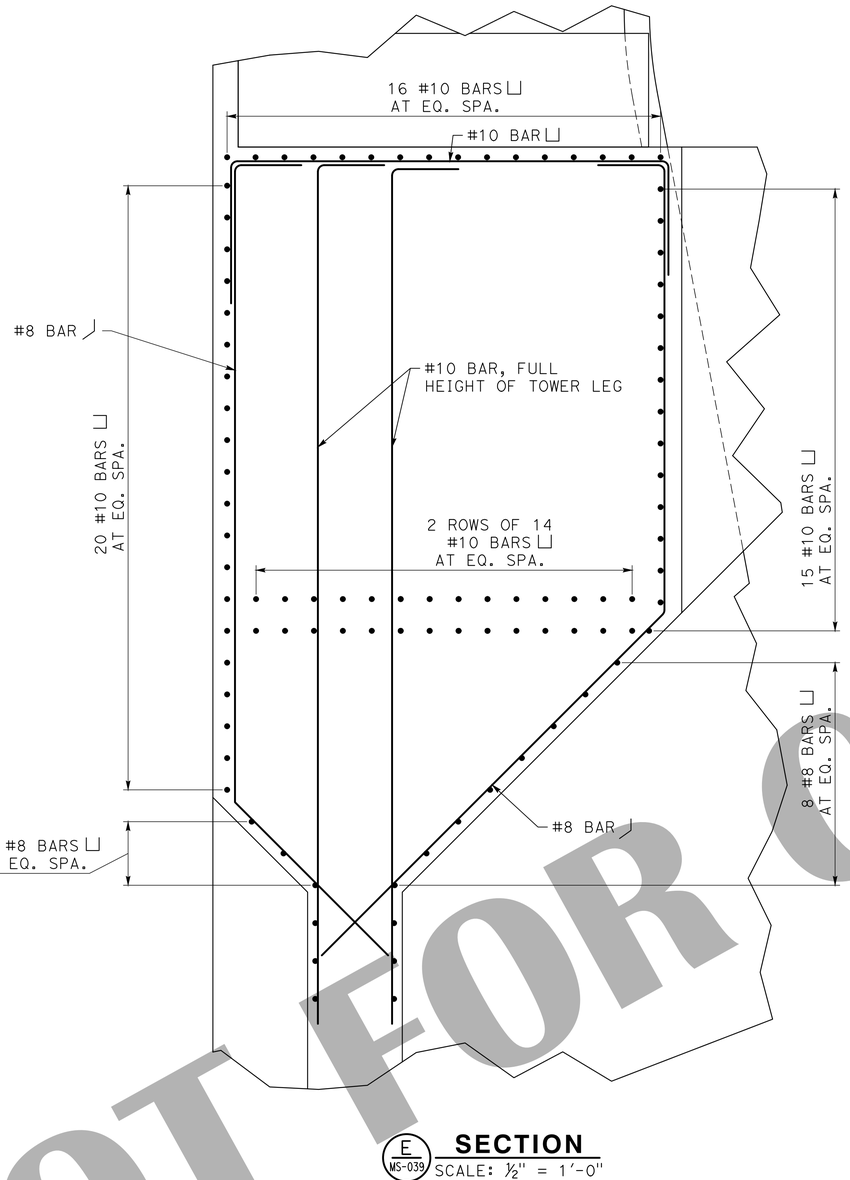
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER LEG DETAILS - 2
(Date: 11/03/2025)

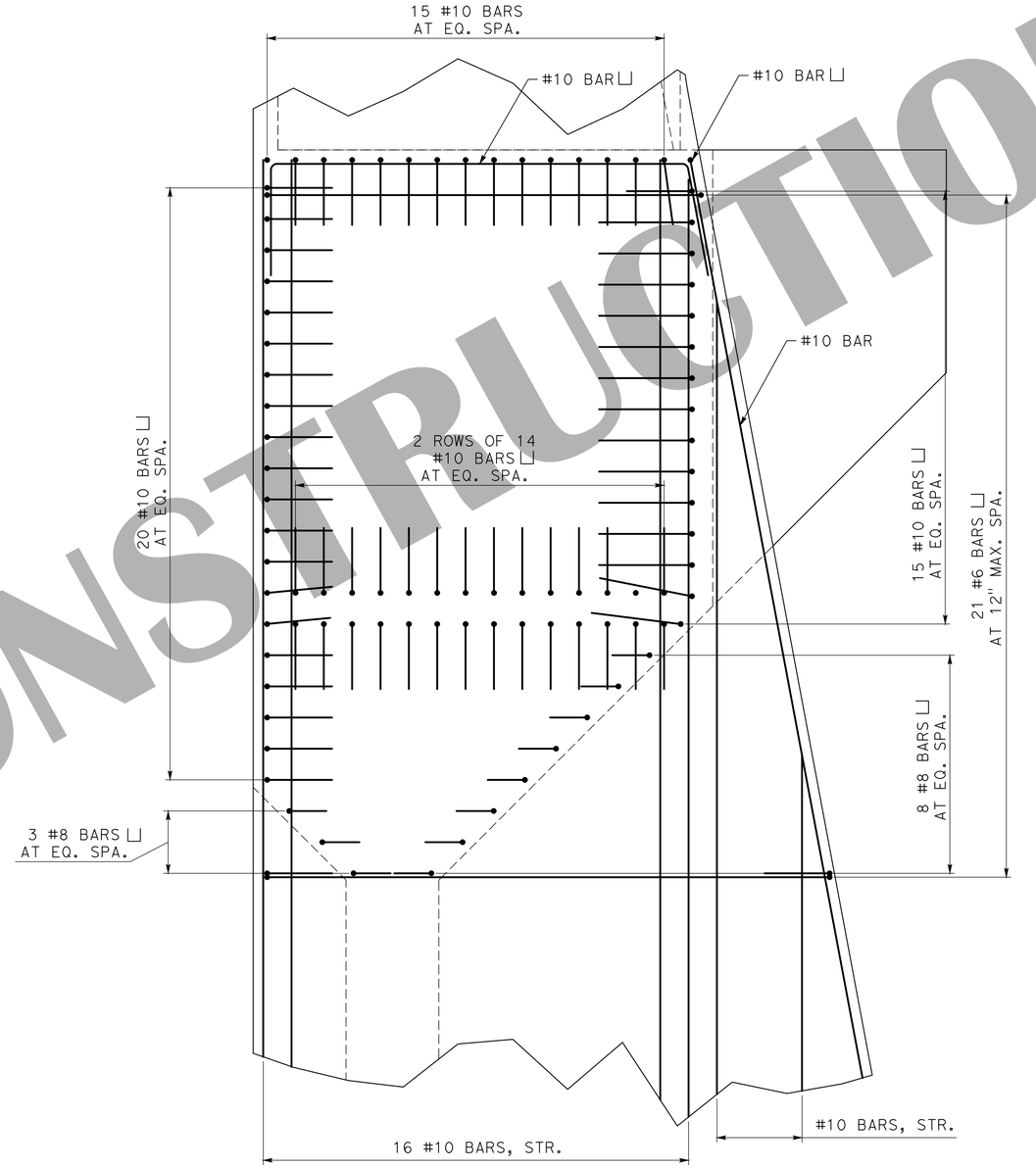
PN: T15136000
DWG NO.: MS-039
SHT NO.: 359 OF 648

p:\3326.01\CADD\Structural\MS-033 TOWER LEG DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:40:20 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



E MS-039 **SECTION**
SCALE: ½" = 1'-0"



F MS-039 **SECTION**
SCALE: ½" = 1'-0"

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-039 FOR LOCATION OF SECTION E AND SECTION F.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. POE	DESIGN BY: C. AHLSKOG	CHECKED BY: A. ROSSOLL
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

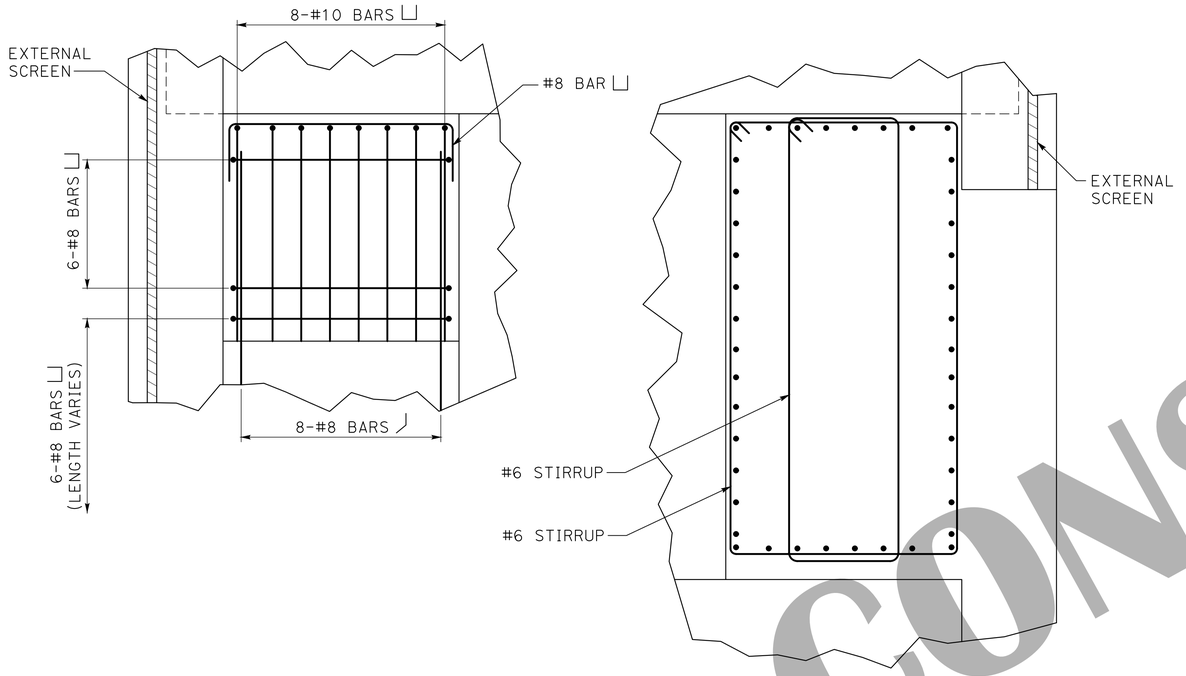
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER LEG DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

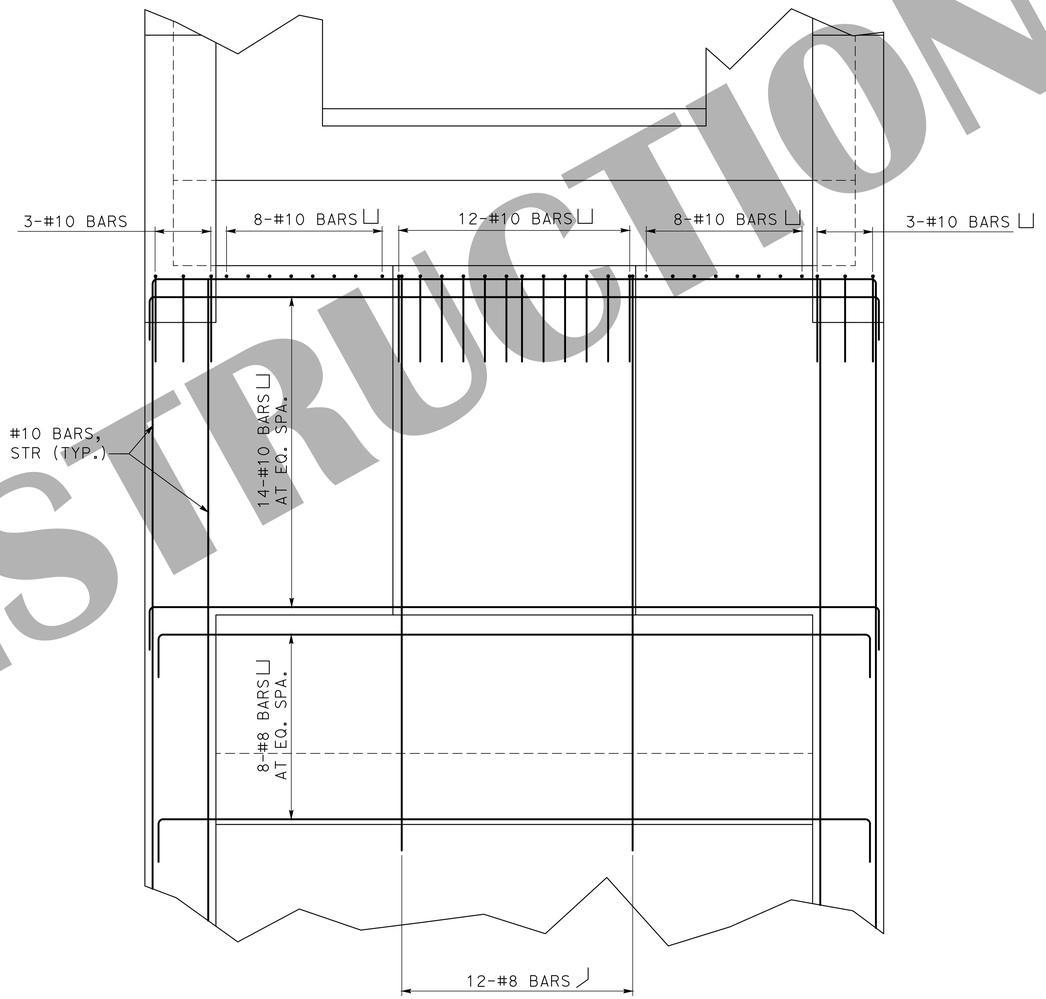
DWG NO.: MS-040
SHT NO.: 360
OF 648

p:\3326.01\CADD\Structural\MS-034 TOWER LEG DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:40:28 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



G MS-039 **SECTION**
SCALE: ½" = 1'-0"



H MS-039 **SECTION**
SCALE: ½" = 1'-0"

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-039 FOR LOCATION OF SECTION G AND SECTION H.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. POE	DESIGN BY: C. AHLSKOG	CHECKED BY: A. ROSSOLL
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER LEG DETAILS - 4
(Date: 11/03/2025)

PN: T15136000

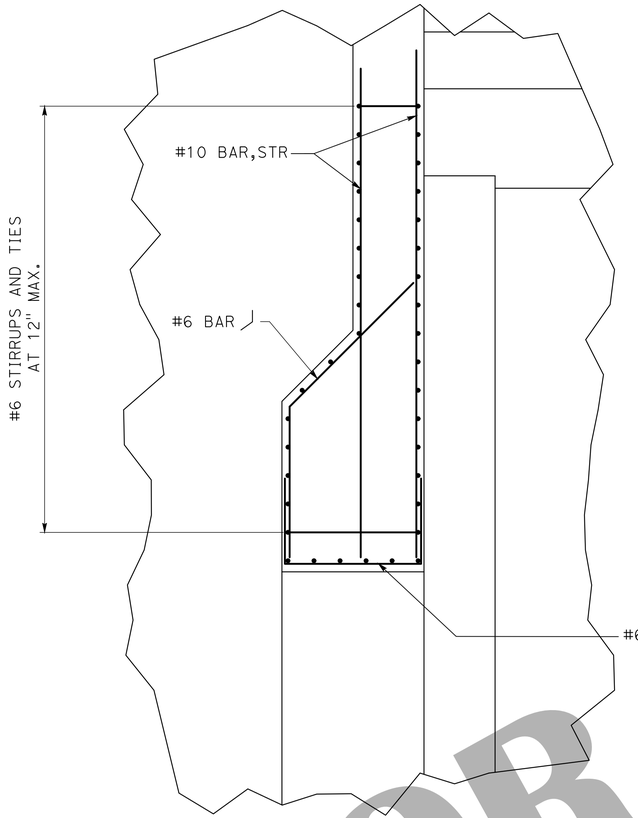
DWG NO.: MS-041
SHT NO.: 361 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

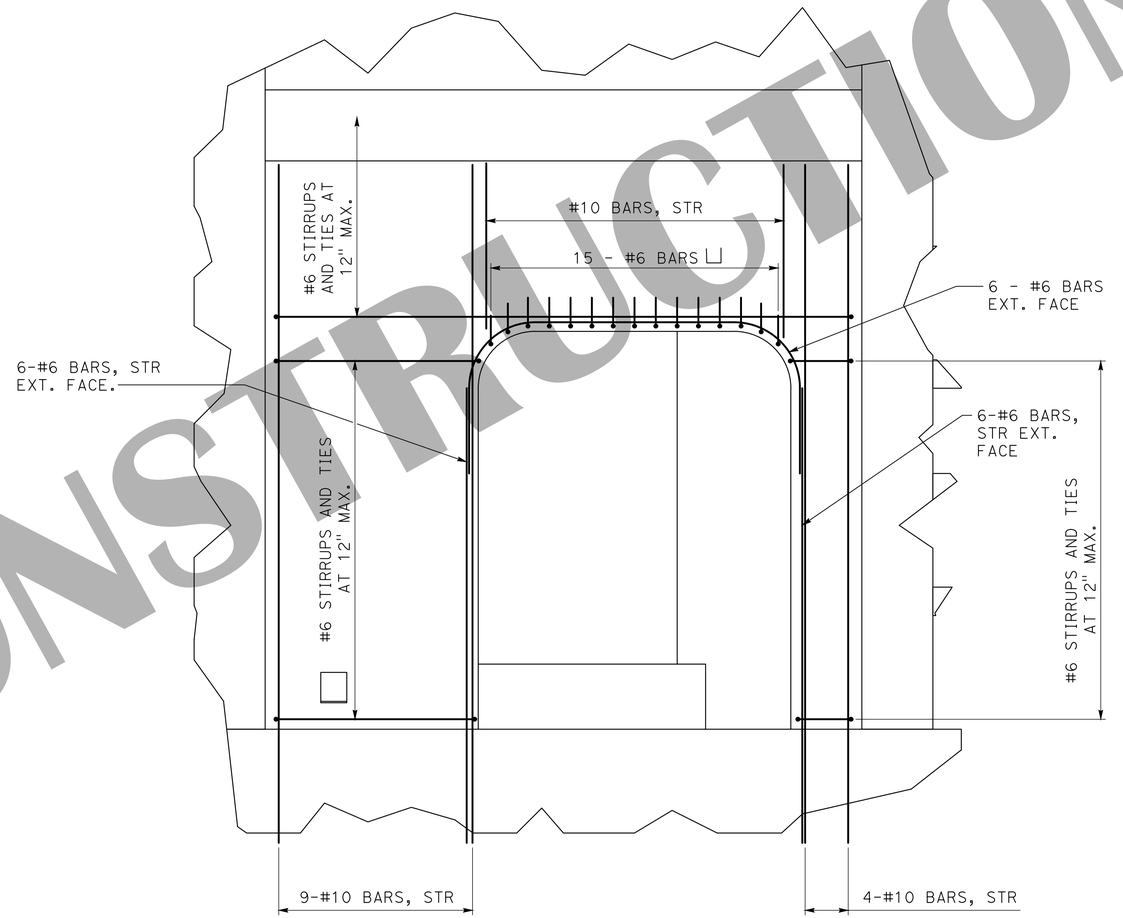
p:\3326.01\CADD\Structural\MS-037 SHEAVE BASE CORBEL AND PEDESTAL DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:40:34 PM

p:\3326.01\CADD\Structural\MS-038 SHEAVE BASE CORBEL AND PEDESTAL DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:40:41 PM

NOT FOR CONSTRUCTION



I MS-038 **DETAIL**
SCALE: 3/8" = 1'-0"



J MS-038 **SECTION**
SCALE: 3/8" = 1'-0"

NOTES:

1. REFER TO DRAWING NO. MS-003 TO MS-005 FOR GENERAL NOTES AND REQUIREMENTS.
2. SEE MS-038 FOR LOCATION OF DETAIL I AND SECTION J.

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. POE DATE: 11/03/2025
DESIGN BY: C. AHLSKOG DATE: 11/03/2025
CHECKED BY: A. ROSSOLL DATE: 11/03/2025

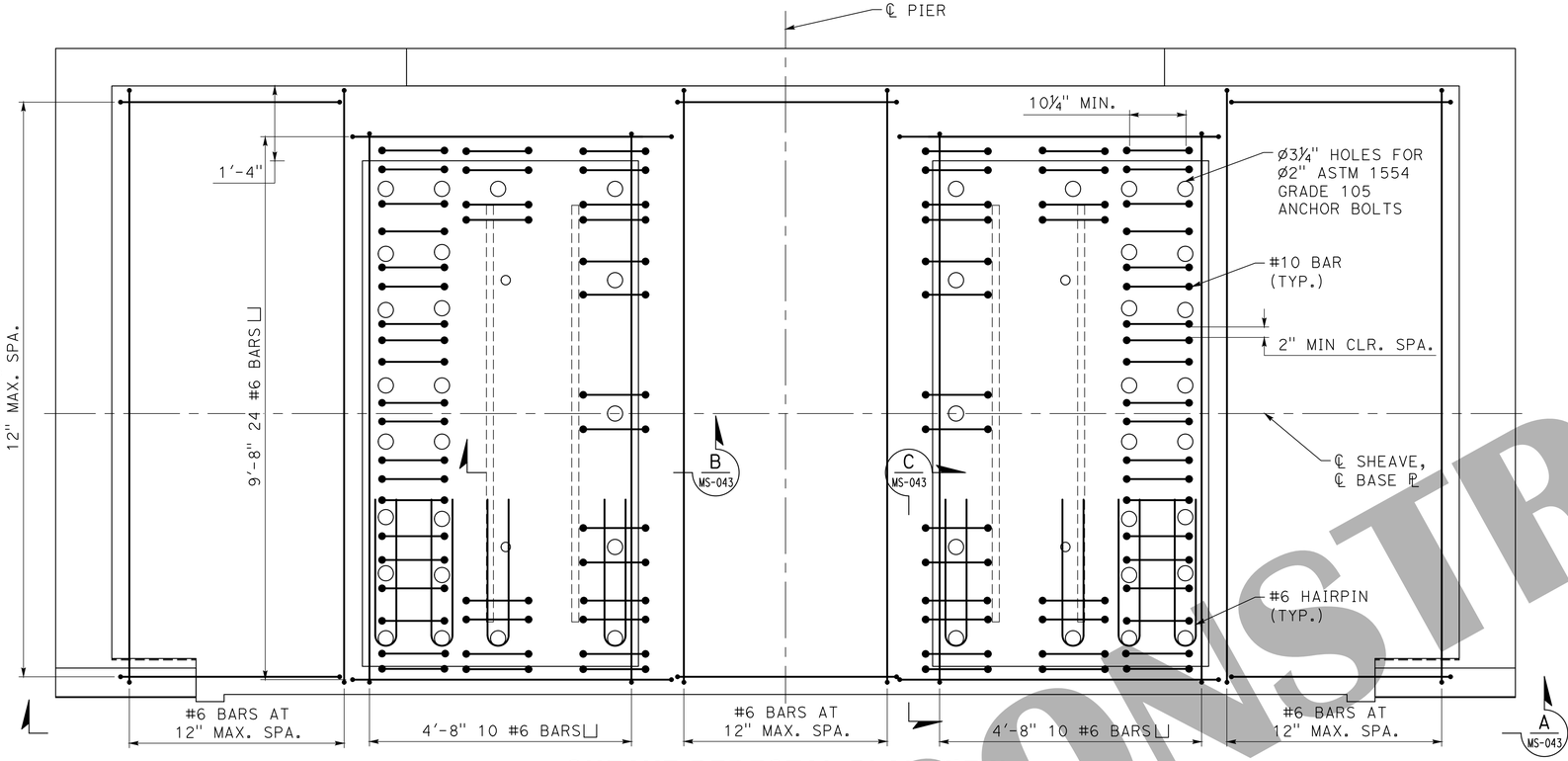
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER LEG DETAILS - 5
(Date: 11/03/2025)

PN: T15136000

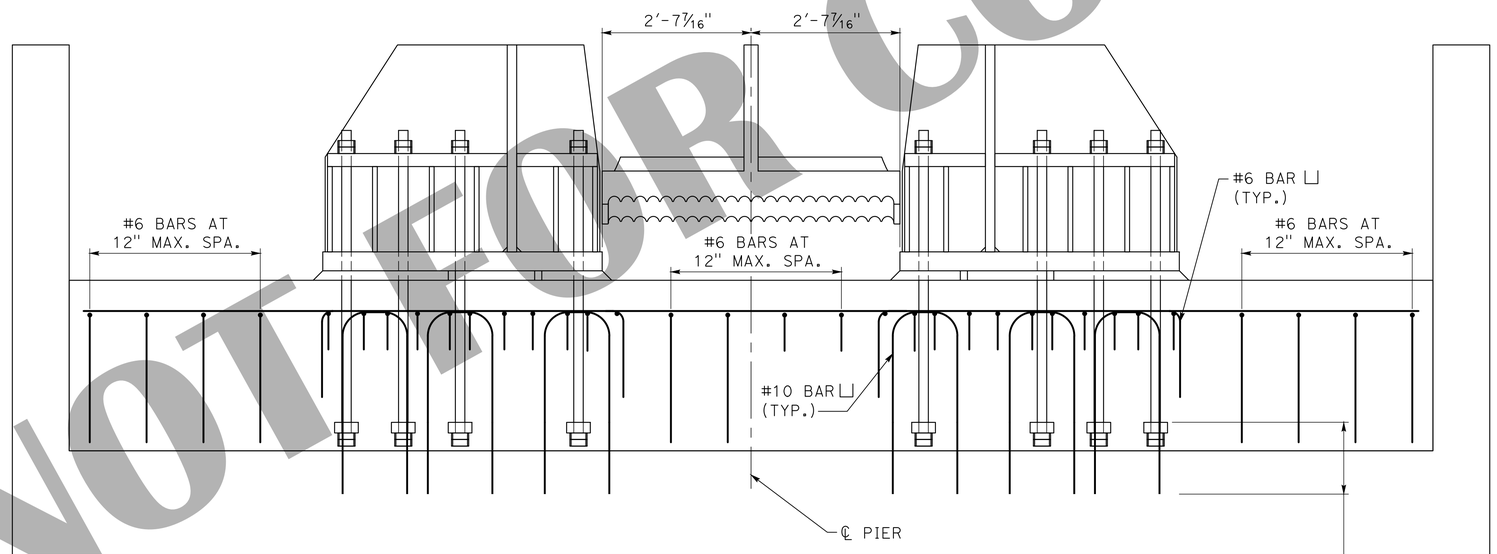
DWG NO.: MS-042
SHT NO.: 362 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



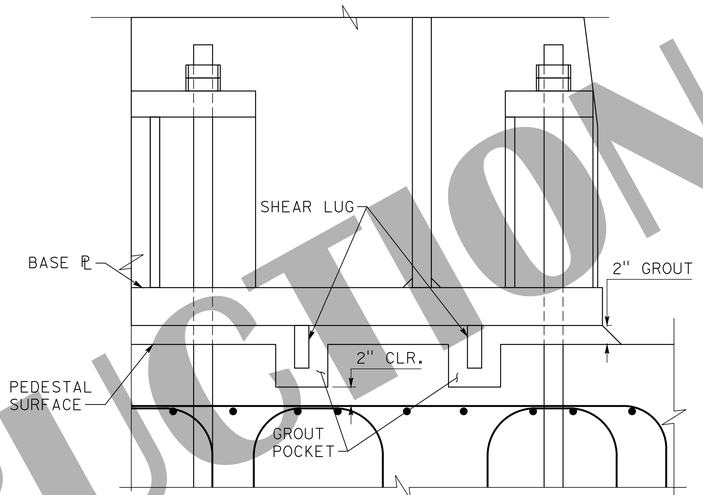
SHEAVE PEDESTAL PLAN VIEW

SCALE: ¾" = 1'-0"



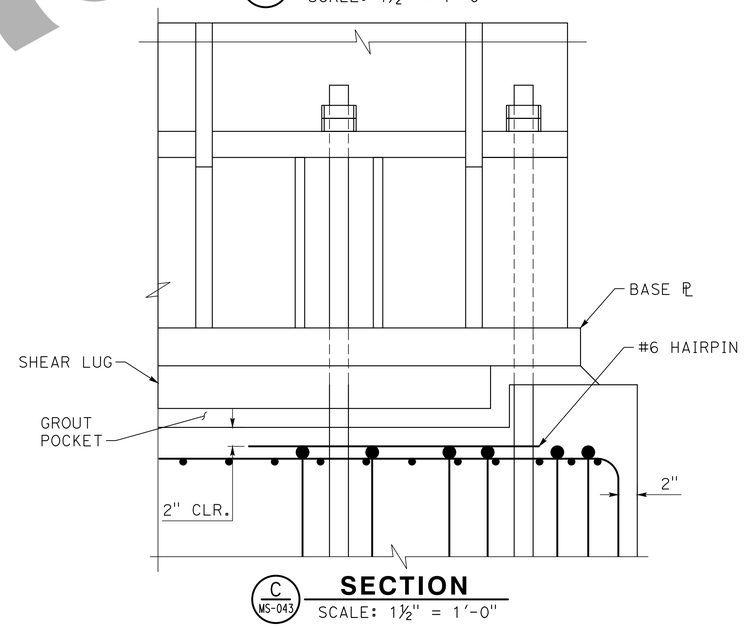
A MS-043 **SECTION**

SCALE: ¾" = 1'-0"



B MS-043 **SECTION**

SCALE: 1½" = 1'-0"



C MS-043 **SECTION**

SCALE: 1½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR SHEAR LUG, ANCHOR BOLTS, BASE ℄, AND WELDMENT DETAILS SEE DWG. NO. MS-044.
3. FOR CORBEL REINFORCEMENT DETAILS, SEE DWG. NOS. MS-039 THRU MS-040 AND MS-041 THRU MS-042.
4. FOR TOWER ROOF REINFORCEMENT DETAILS, SEE DWG. NOS. MS-045 AND MS-046.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: R. BOTERO DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

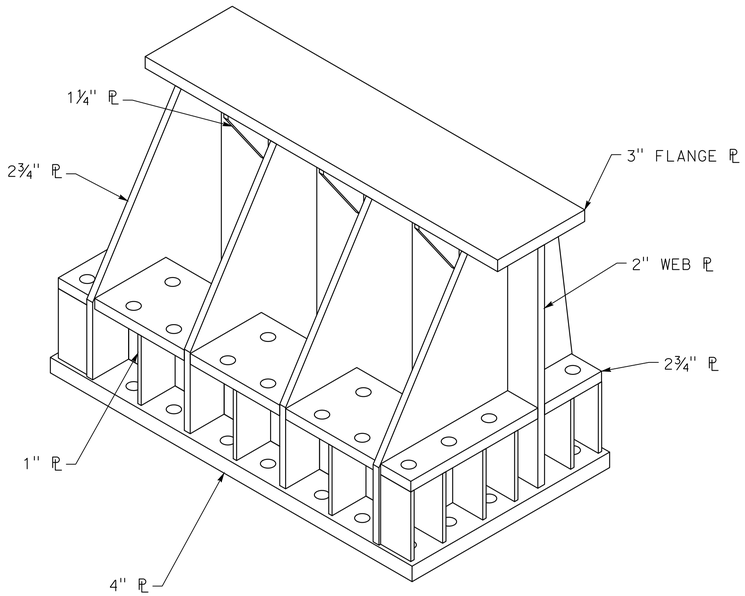
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SHEAVE BASE CORBEL AND PEDESTAL DETAIL
(Date: 11/03/2025)

PN: T15136000

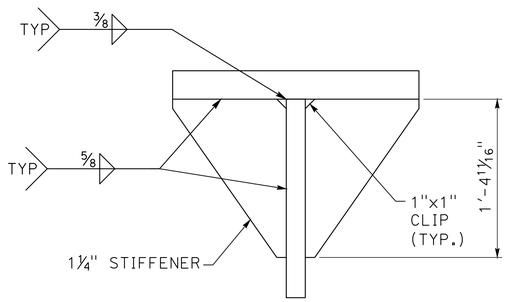
DWG NO.: MS-043
SHT NO.: 363 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

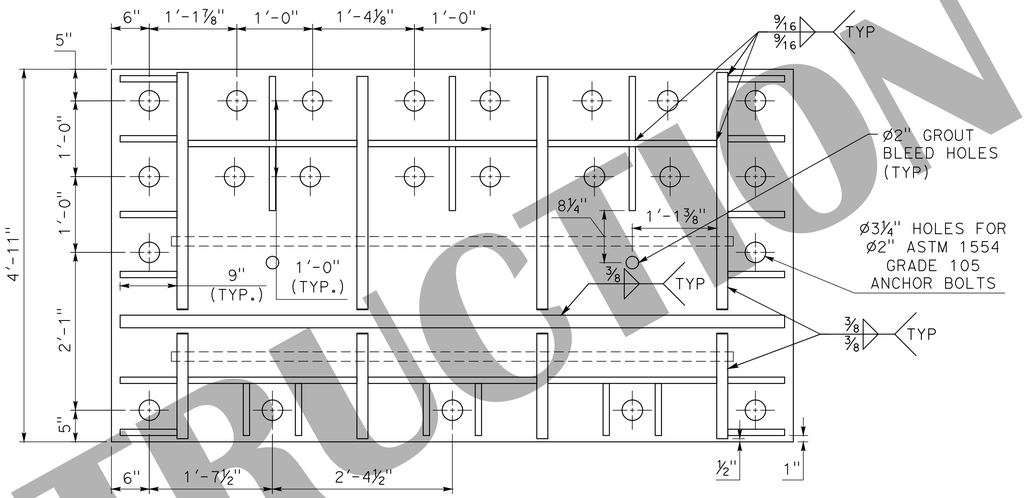
e:\pa projects\3326.01\CADD\Structural\MS-039 SHEAVE BASE CORBEL AND PEDESTAL DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 3:09:19 PM



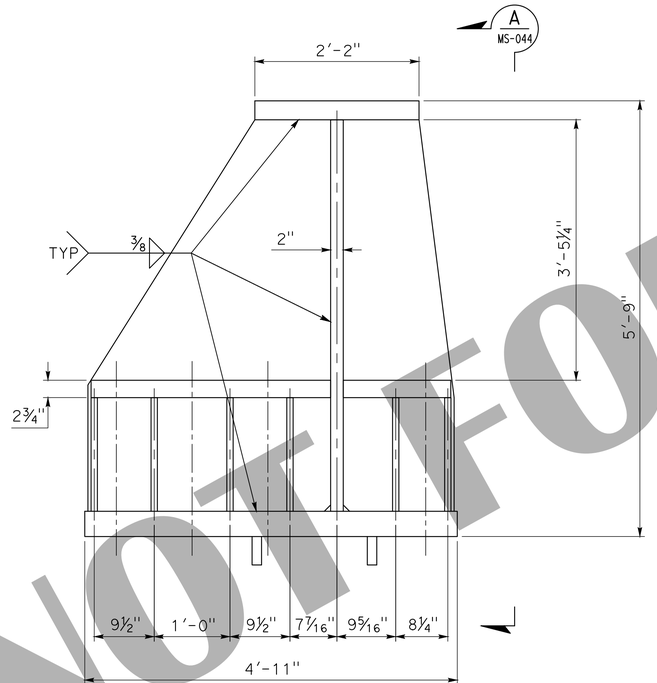
SHEAVE BOLSTER ISOMETRIC VIEW



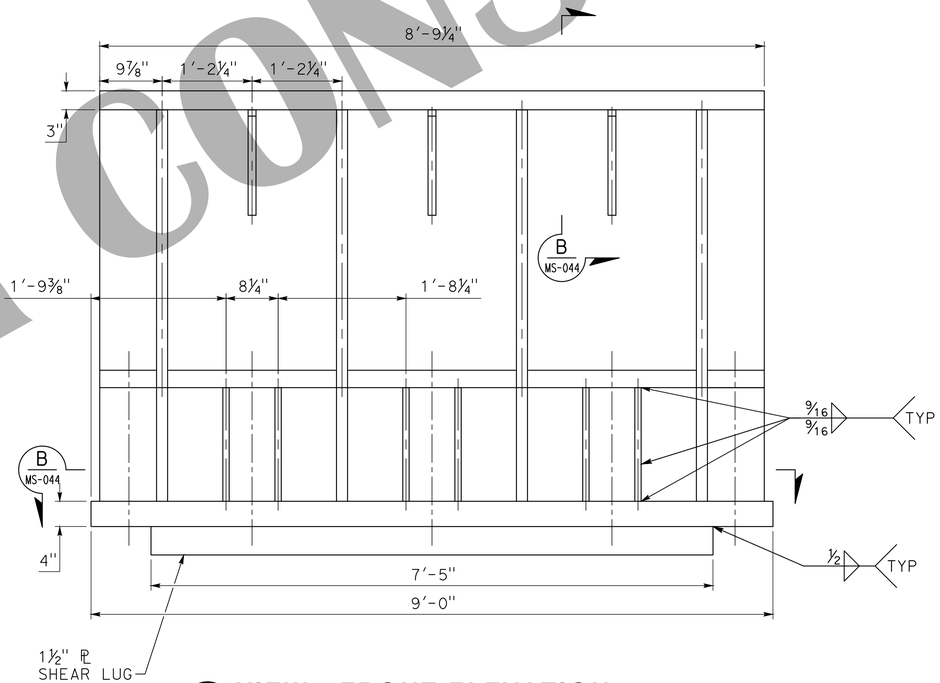
B / MS-044 **SECTION**
SCALE: 1½" = 1'-0"



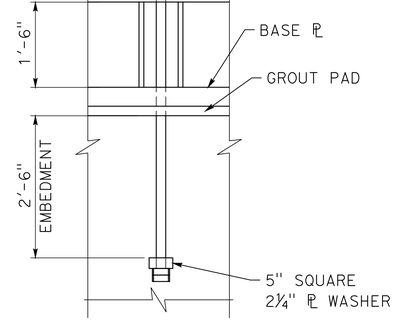
B / MS-044 **SECTION**
SCALE: 1" = 1'-0"



SIDE ELEVATION
SCALE: ¾" = 1'-0"



A / MS-044 **VIEW - FRONT ELEVATION**
SCALE: ¾" = 1'-0"



TYPICAL ANCHOR DETAIL
SCALE: ¾" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG NOS. MS-003 THRU MS-005.
2. ALL STEEL SHOWN IS ASTM A709 GRADE HPS 70W UNLESS NOTED OTHERWISE.
3. FOR ANCHORAGE REINFORCEMENT DETAILS, SEE DWG. NO. MS-043.
4. NUTS SHALL CONFORM TO ASTM A563.
5. WASHERS SHALL CONFORM TO ASTM A572 GRADE 50.
6. TENSION EACH ANCHOR BOLT TO 200 KIPS.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-040 SHEAVE BOLSTER AND ANCHORAGE.dwg LAST PLOTTED: 11/3/2025 1:41:05 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

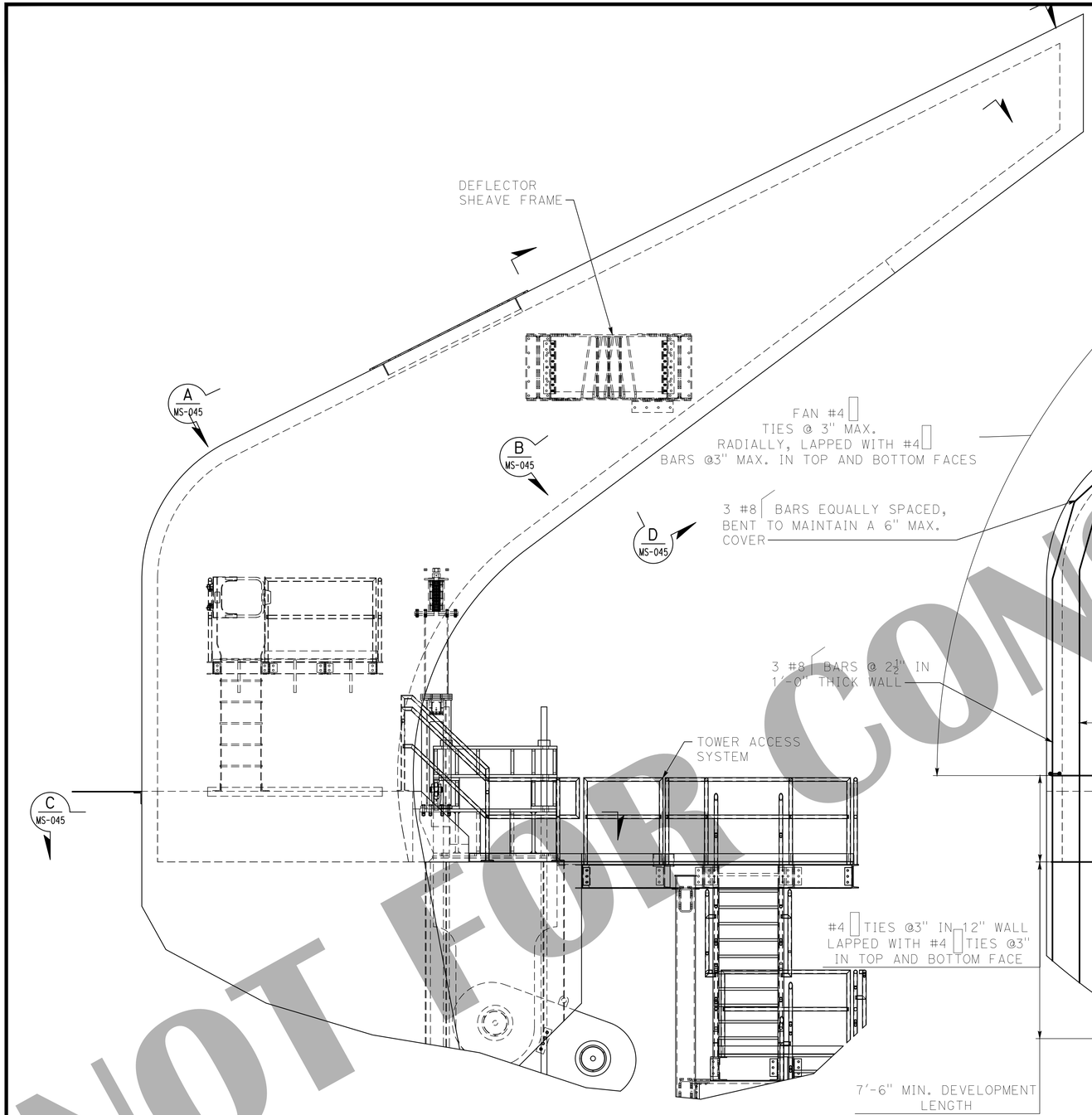
DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: R. BOTERO
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SHEAVE BOLSTER AND ANCHORAGE
(Date: 11/03/2025)

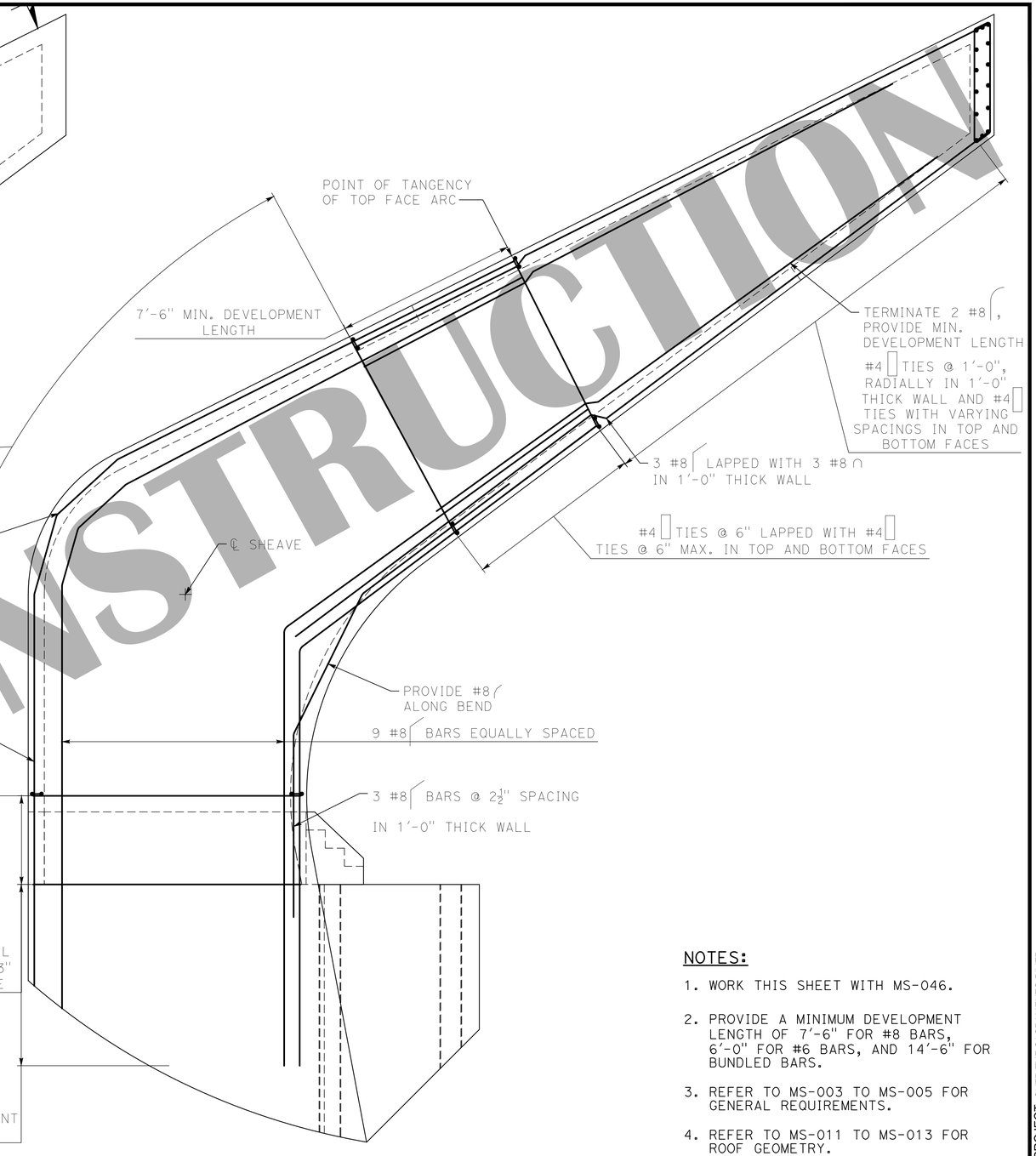
PN: T15136000

DWG NO.: MS-044
SHT NO.: 364 OF 648



TOWER ROOF ELEVATION VIEW

SCALE: ⅜" = 1'-0"



TOWER ROOF REINFORCEMENT DETAILS

SCALE: ⅜" = 1'-0"
REINFORCEMENT IN OUTER FACE SHOWN U.N.O., INNER FACE SIMILAR

NOTES:

1. WORK THIS SHEET WITH MS-046.
2. PROVIDE A MINIMUM DEVELOPMENT LENGTH OF 7'-6" FOR #8 BARS, 6'-0" FOR #6 BARS, AND 14'-6" FOR BUNDLED BARS.
3. REFER TO MS-003 TO MS-005 FOR GENERAL REQUIREMENTS.
4. REFER TO MS-011 TO MS-013 FOR ROOF GEOMETRY.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: I. ABRAHAM DATE: 11/03/2025
DESIGN BY: I. ABRAHAM DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

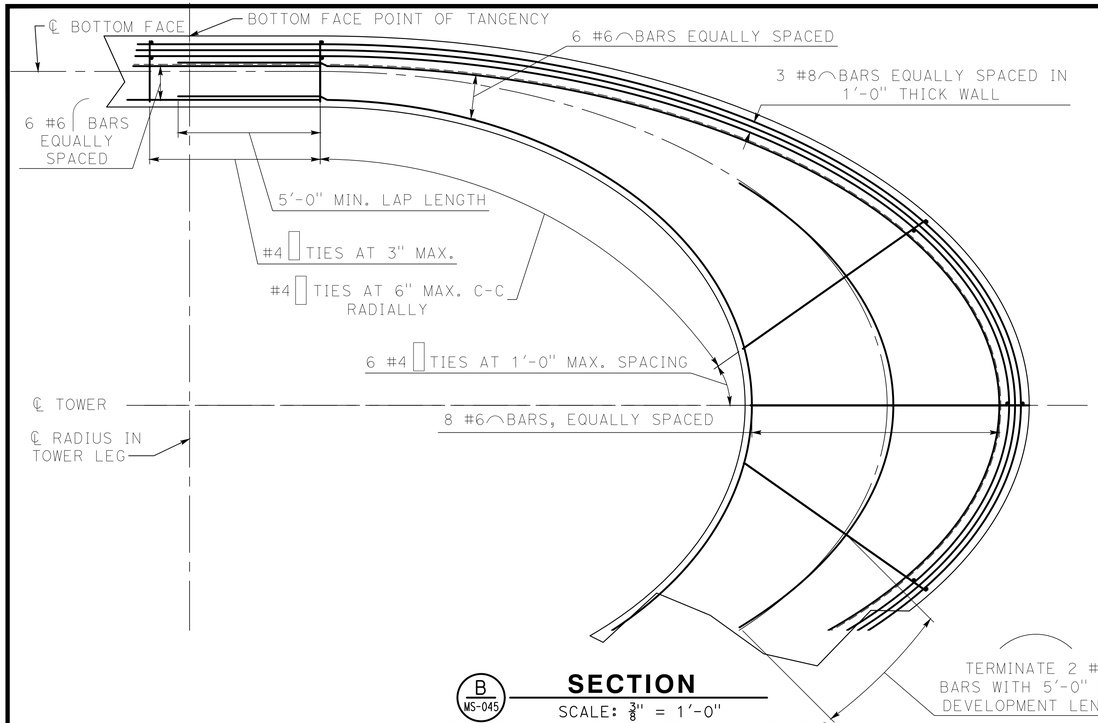
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ROOF DETAILS - 1
(Date: 11/03/2025)

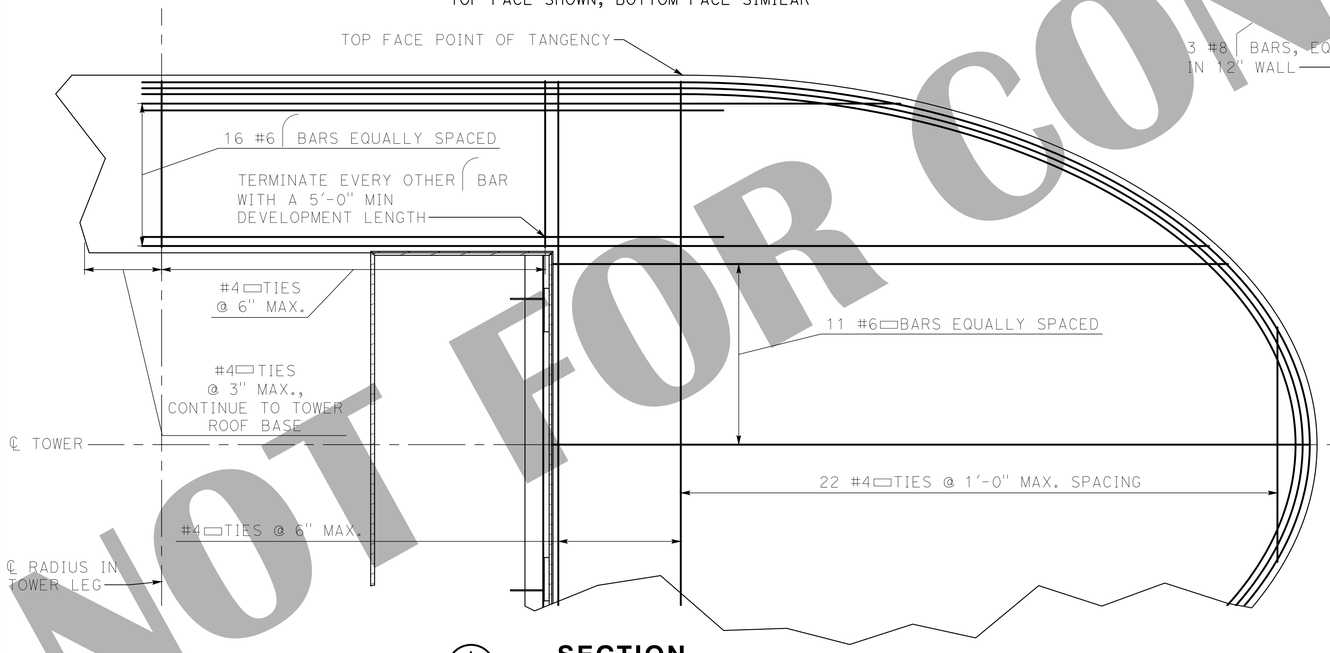
PN: T15136000
DWG NO.: MS-045
SHT NO.: 365 OF 648

p:\3326.01\CADD\Structural\MS-051 TOWER ROOF DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:41:11 PM

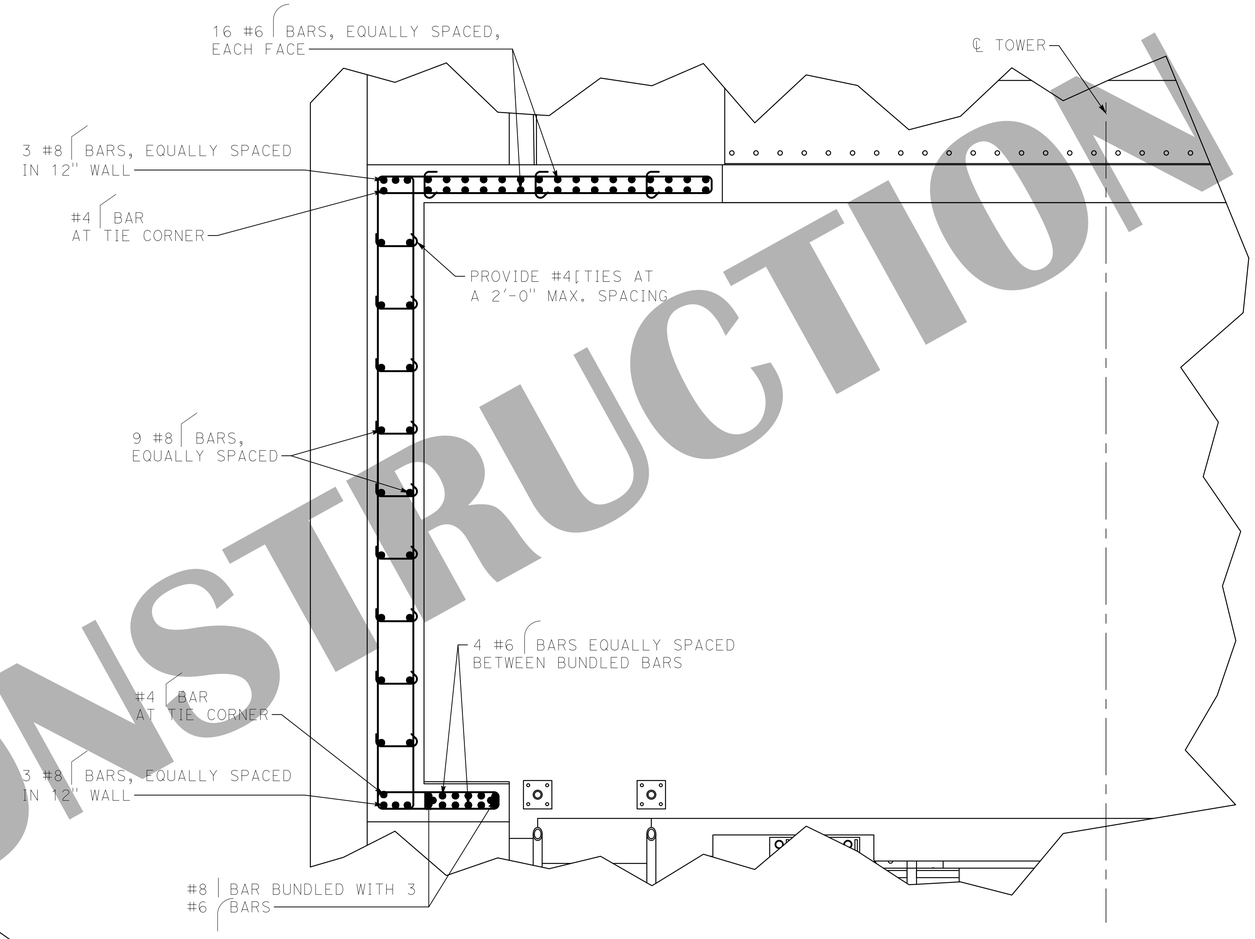
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



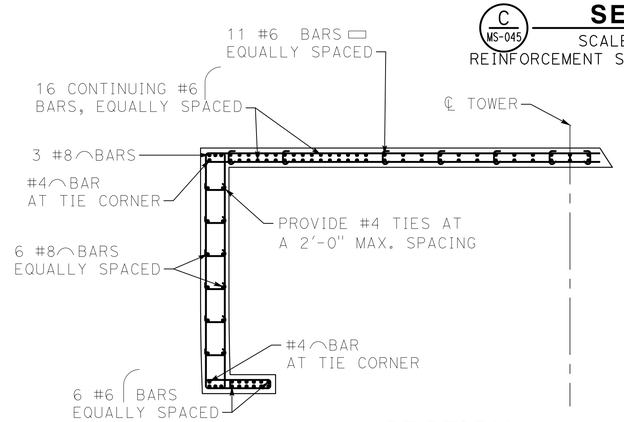
B / MS-045 **SECTION**
SCALE: 3/8" = 1'-0"
REINFORCEMENT SYMM. ABOUT THE TOWER ℄
TOP FACE SHOWN, BOTTOM FACE SIMILAR



A / MS-045 **SECTION**
SCALE: 3/8" = 1'-0"
REINFORCEMENT SYMM. ABOUT THE TOWER ℄
TOP FACE SHOWN BOTTOM FACE SIMILAR



C / MS-045 **SECTION**
SCALE: 1/4" = 1'-0"
REINFORCEMENT SYMM. ABOUT THE TOWER ℄



D / MS-045 **SECTION**
SCALE: 3/8" = 1'-0"
REINFORCEMENT SYMMETRIC ABOUT ℄ TOWER

NOTES:

1. TOWER ROOF REINFORCEMENT DETAILS ARE SYMMETRIC ABOUT THE ℄ OF THE TOWER.
2. WORK THIS SHEET WITH MS-051 TOWER ROOF DETAILS 1.
3. REFER TO MS-003 AND MS-004 FOR CONCRETE AND STEEL REQUIREMENTS.
4. UNLESS NOTED OTHERWISE, TIES ARE PERPENDICULAR TO THE ℄ OF THE FACE OF INTEREST, AND SPACINGS ARE ALONG THE ℄.
5. TERMINATING BARS IN BUNDLES SHALL END AT DIFFERENT LOCATIONS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: I. ABRAHAM DATE: 11/03/2025
DESIGN BY: I. ABRAHAM DATE: 11/03/2025
CHECKED BY: C. AHLSKOG DATE: 11/03/2025

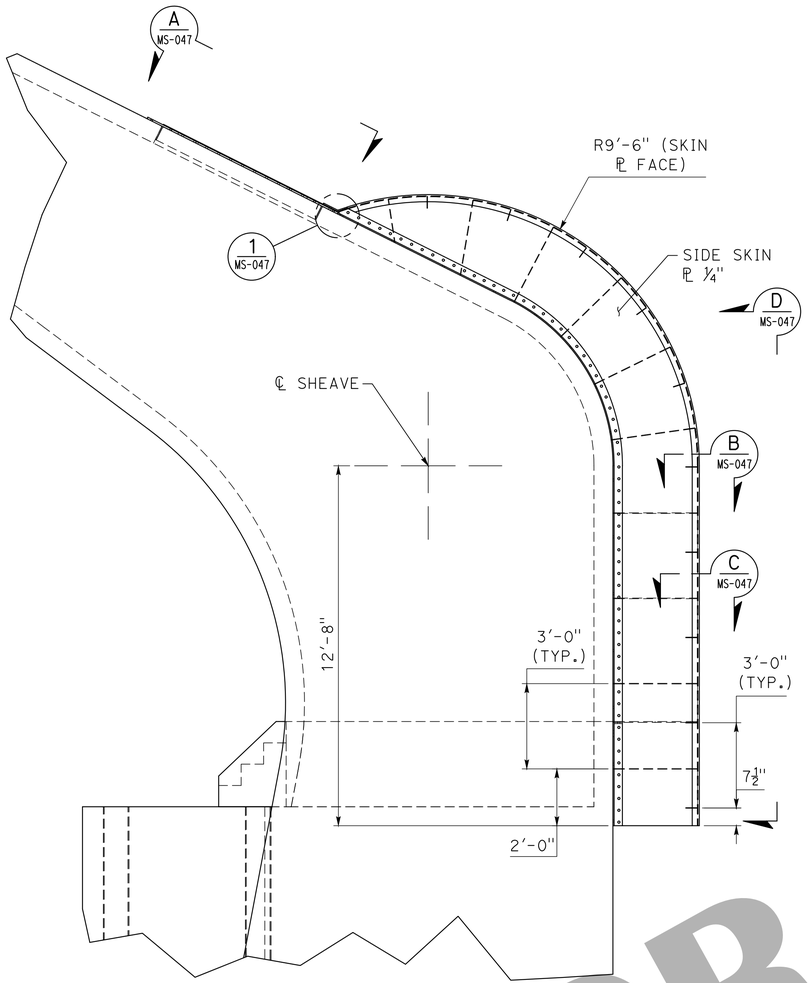
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ROOF DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-046
SHT NO.: 366 OF 648

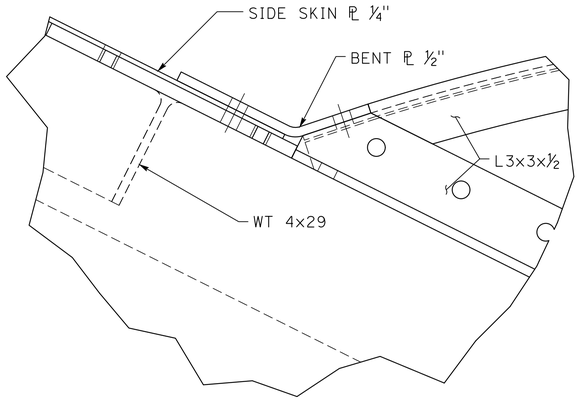
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-062 TOWER ROOF DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:41:17 PM

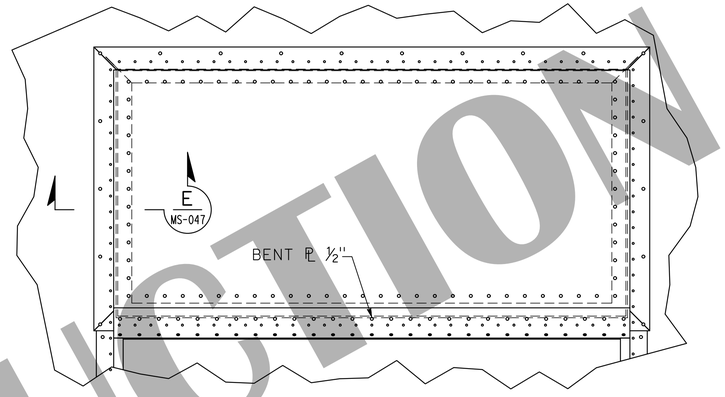


SHEAVE COVER ELEVATION VIEW

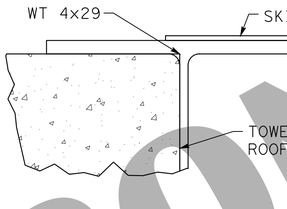
SCALE: ½" = 1'-0"



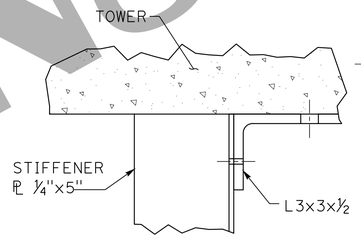
1 MS-047 **DETAIL**
SCALE: 3" = 1'-0"



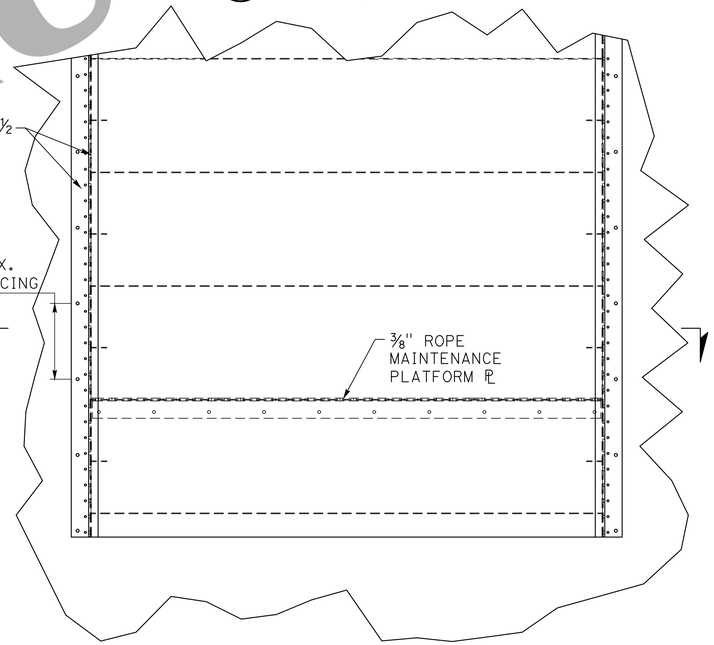
A MS-047 **VIEW**
SCALE: ½" = 1'-0"



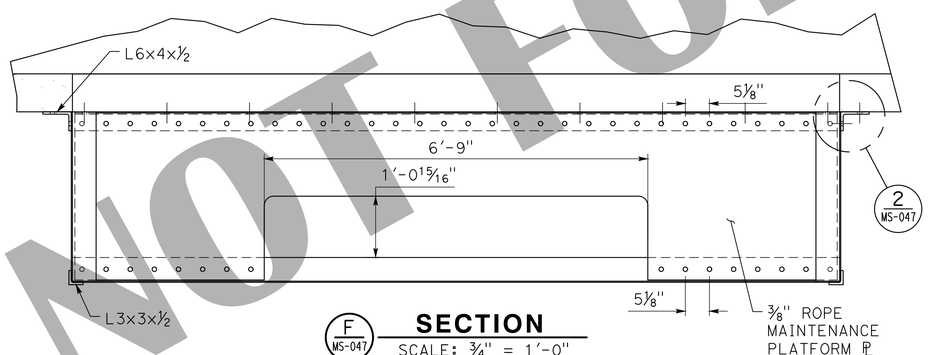
E MS-047 **SECTION**
SCALE: 3" = 1'-0"



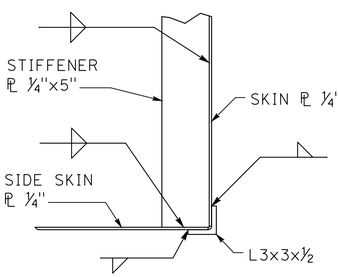
2 MS-047 **DETAIL**
SCALE: 3" = 1'-0"



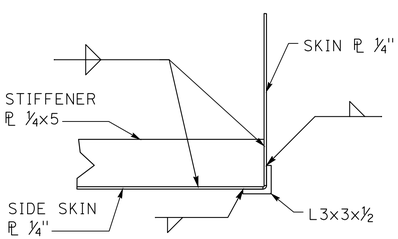
D MS-047 **VIEW**
SCALE: ½" = 1'-0"



F MS-047 **SECTION**
SCALE: ¾" = 1'-0"



B MS-047 **SECTION**
SCALE: 1½" = 1'-0"



C MS-047 **SECTION**
SCALE: 1½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: Y. JIA DATE: 11/03/2025

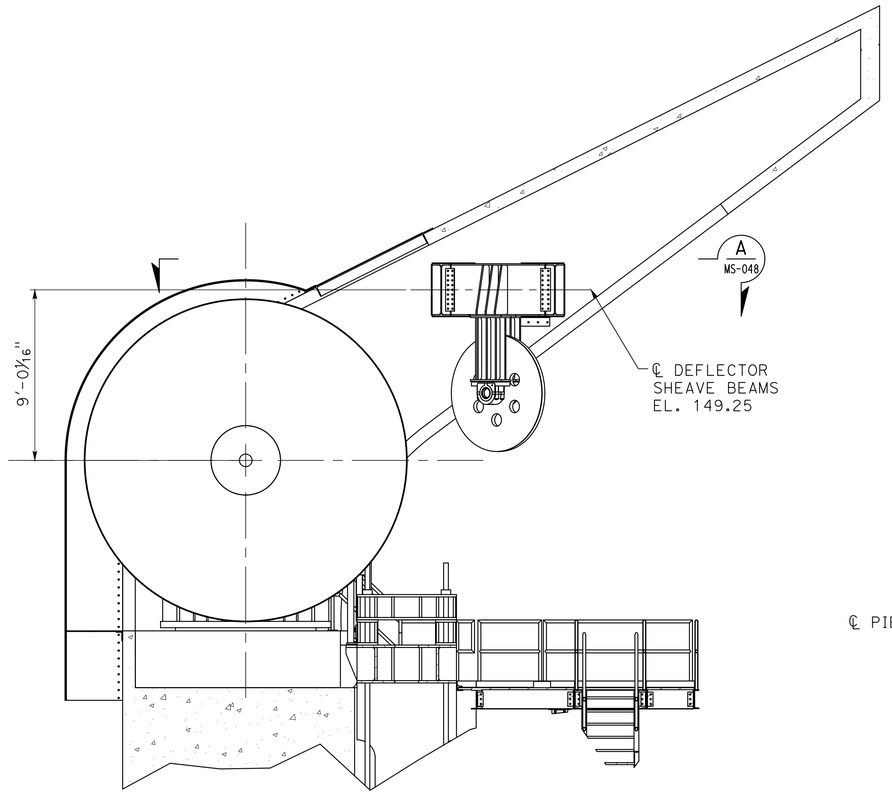
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SHEAVE HOOD DETAILS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-047
SHT NO.: 367 OF 648

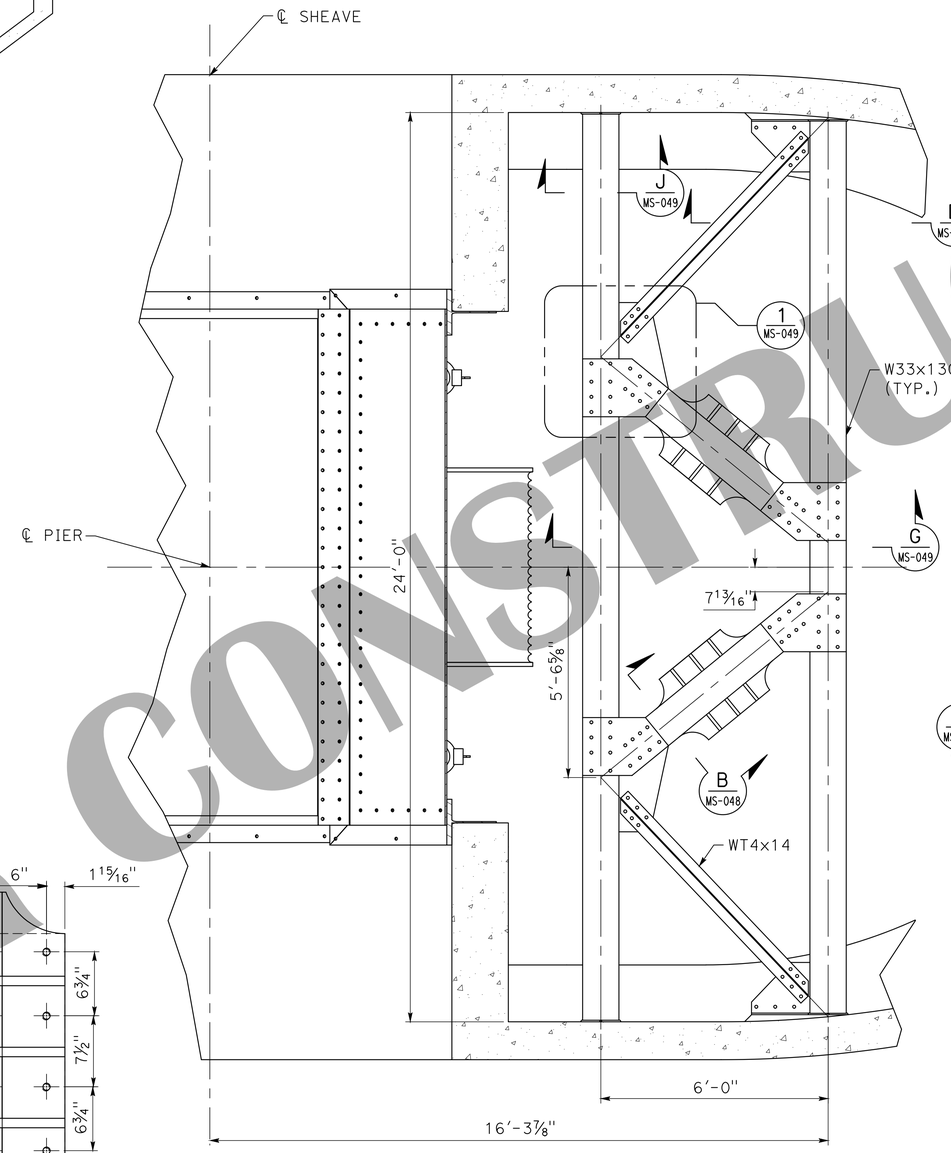
p:\3326.01\CADD\Structural\MS-053 SHEAVE HOOD DETAILS.dwg LAST PLOTTED: 11/3/2025 1:41:23 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



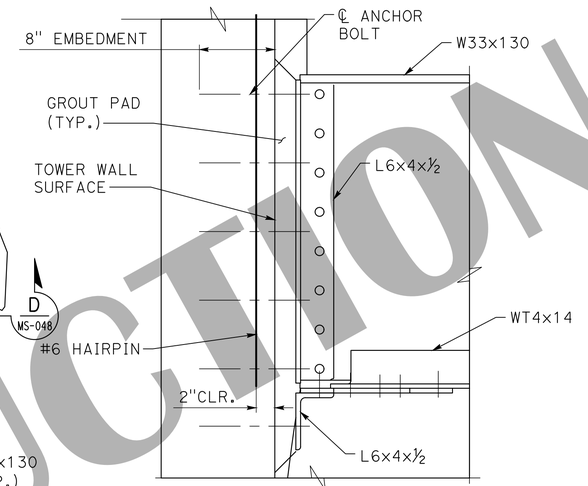
TOWER ROOF ELEVATION VIEW

SCALE: 1/4" = 1'-0"



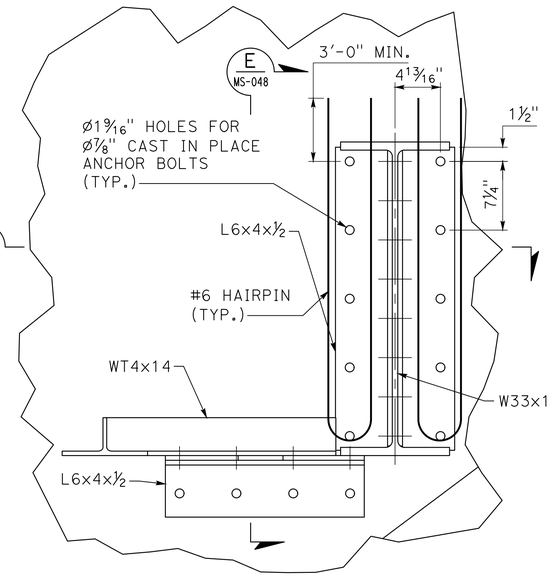
A MS-048 **VIEW**

SCALE: 1/2" = 1'-0"



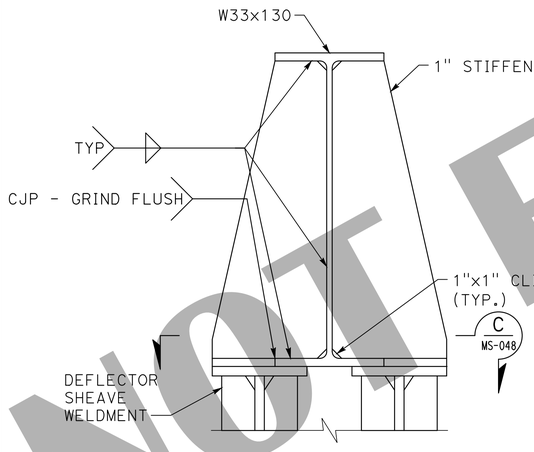
E MS-048 **SECTION**

SCALE: 1 1/2" = 1'-0"



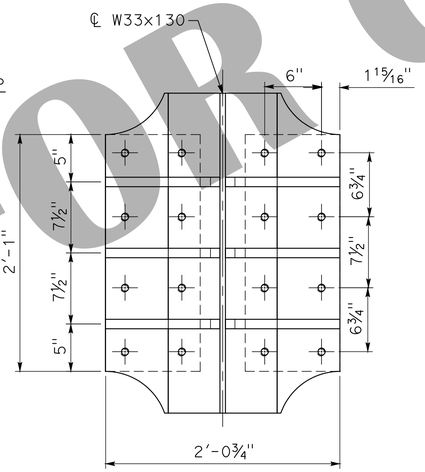
D MS-048 **SECTION**

SCALE: 1 1/2" = 1'-0"



B MS-048 **SECTION**

SCALE: 1 1/2" = 1'-0"



C MS-048 **SECTION**

SCALE: 1 1/2" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. WASHERS SHALL CONFORM TO ASTM A572 GRADE 50.
3. NUTS SHALL CONFORM TO ASTM A563.
4. ANCHOR BOLTS SHALL CONFORM TO ASTM 1554 GRADE 105.
5. ALL NUTS AND BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695.
6. FOR DEFLECTOR SHEAVE AND WELDMENT DETAILS, SEE DWG. NO. M-017.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: Y. JIA
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

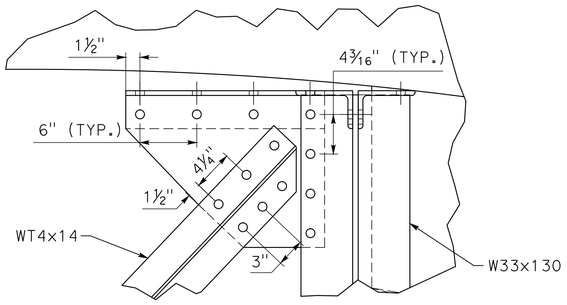
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
DEFLECTOR SHEAVE SUPPORT DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

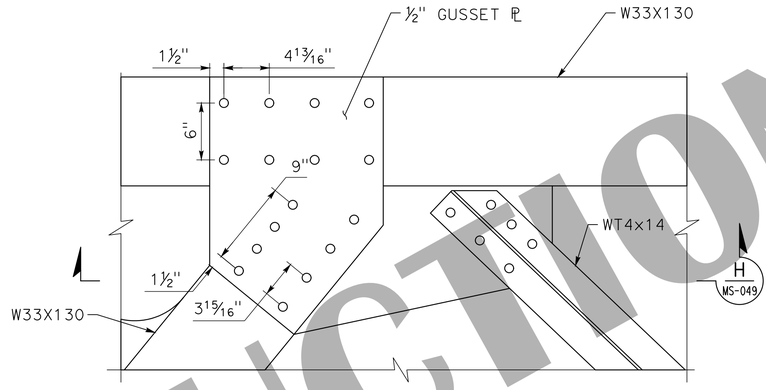
DWG NO.: MS-048
SHT NO.: 368 OF 648

e:\pa projects\3326.01\CADD\Structural\MS-054 DEFLECTOR SHEAVE SUPPORT DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 3:14:44 PM

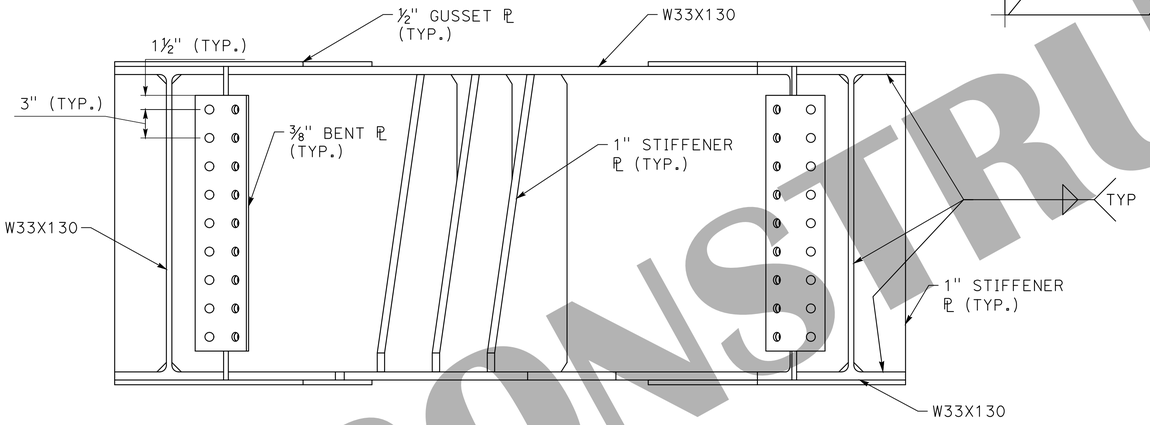
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



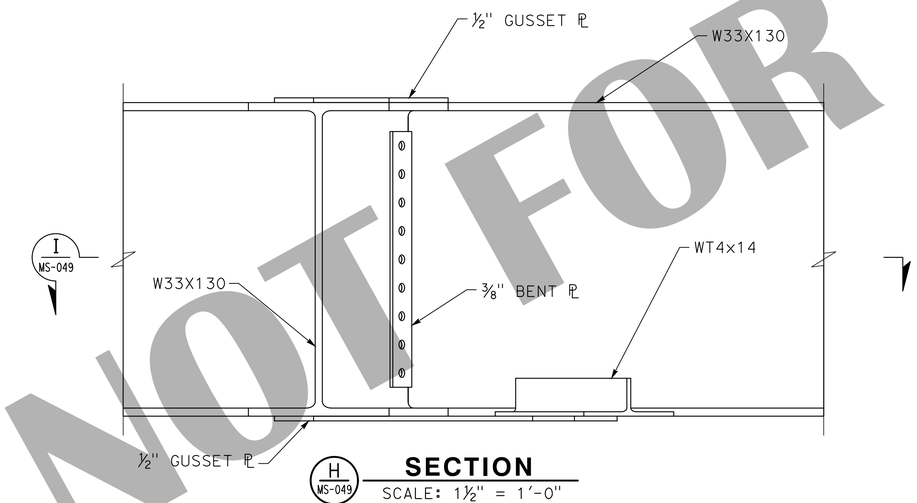
F MS-048 **SECTION**
SCALE: 1½" = 1'-0"



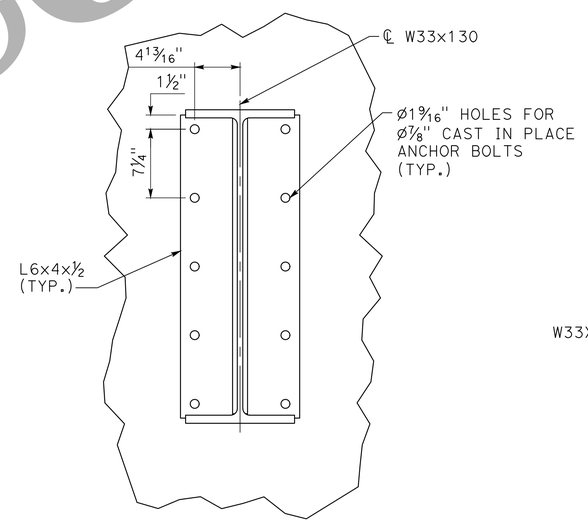
1 MS-048 **DETAIL**
SCALE: 1½" = 1'-0"



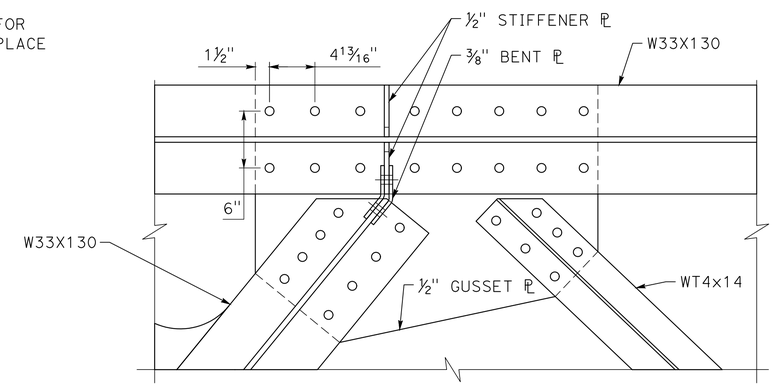
G MS-048 **SECTION**
SCALE: 1½" = 1'-0"



H MS-049 **SECTION**
SCALE: 1½" = 1'-0"



J MS-048 **SECTION**
SCALE: 1½" = 1'-0"



I MS-049 **SECTION**
SCALE: 1½" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: Y. JIA DATE: 11/03/2025

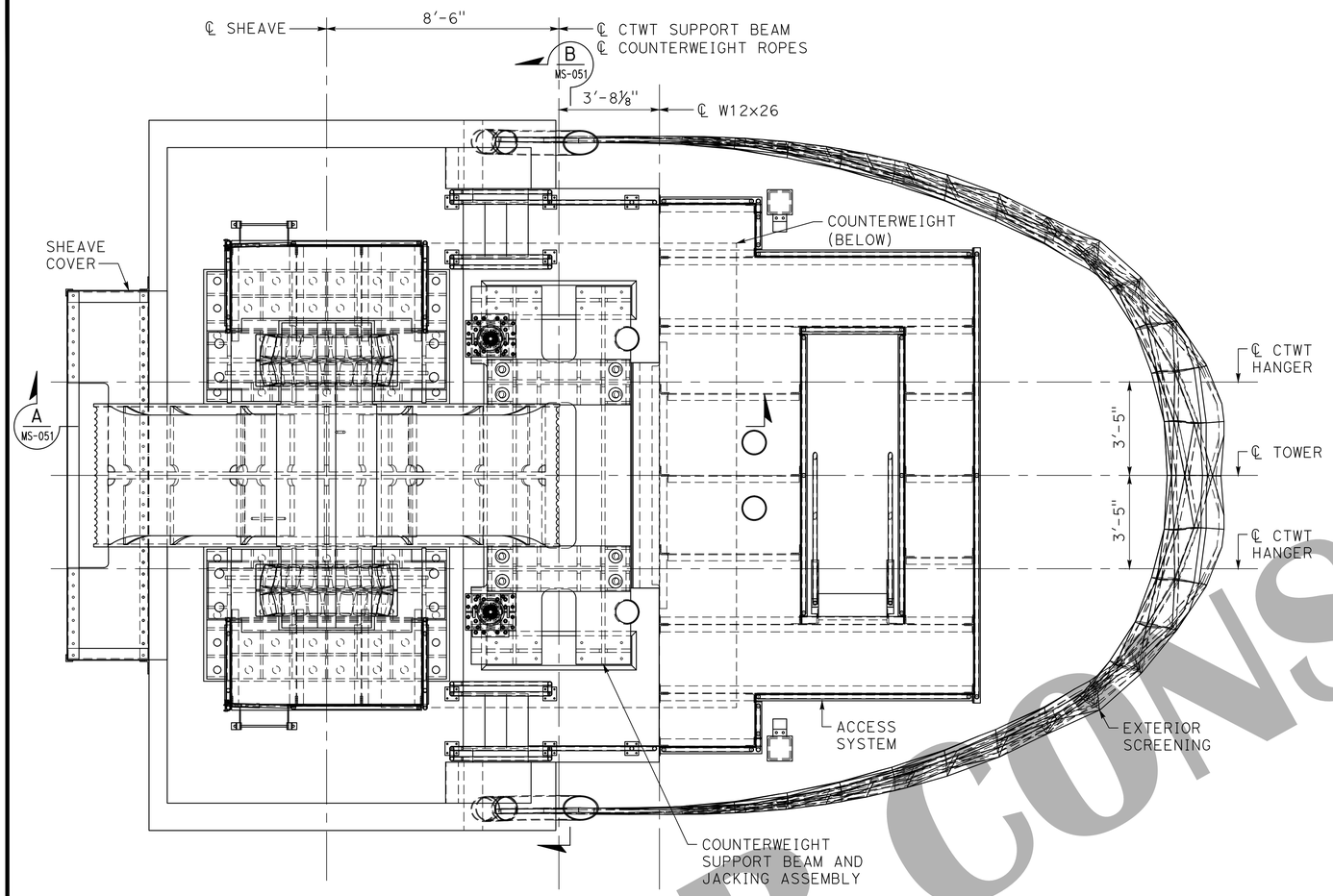
REGISTERED PROFESSIONAL ENGINEER YORG R. JIA No. 100000 Exp. 09-30-26 STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
DEFLECTOR SHEAVE SUPPORT DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-049
SHT NO.: 369 OF 648

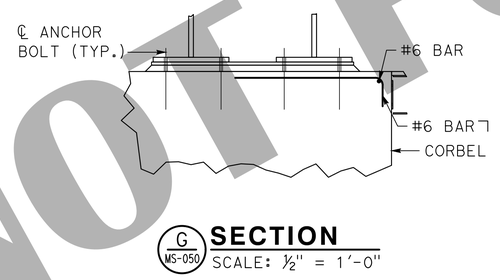
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-XXX DEFLECTOR SHEAVE SUPPORT DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:41:37 PM



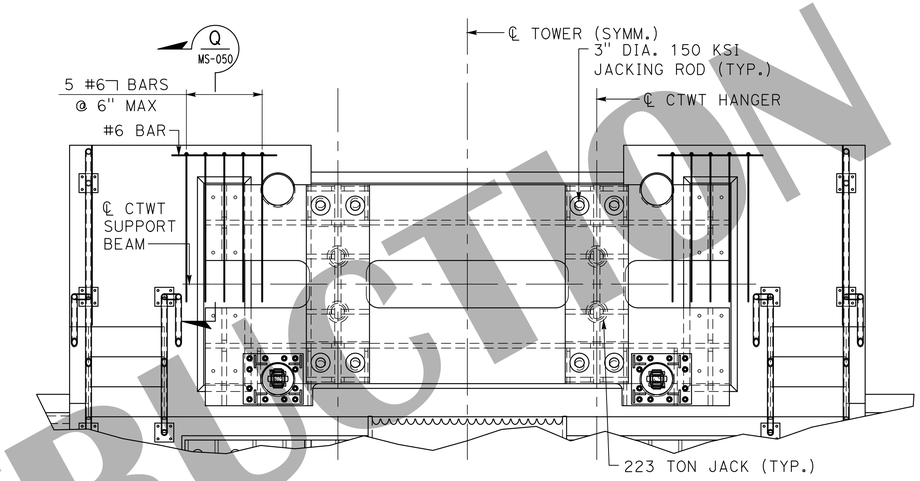
PLAN - TOP OF TOWER COUNTERWEIGHT SUPPORT BEAM

SCALE: ⅜" = 1'-0"



G MS-050 **SECTION**

SCALE: ½" = 1'-0"



PLAN - COUNTERWEIGHT JACK ASSEMBLY

SCALE: ½" = 1'-0"

JACKING PROCEDURE:

1. INSTALL EIGHT (8) F1554 GRADE 105 THREADED RODS AT EACH TOWER. INSTALL TWO NUTS ON EACH END OF EACH ROD.
2. PLACE FOUR JACKS AT EACH TOWER IN THE SPECIFIED LOCATIONS.
3. JACK THE COUNTERWEIGHTS EVENLY BY SYNCHRONIZING ALL JACKS. JACK TO THE REQUIRED HEIGHT.
4. INSTALL COUNTERWEIGHT HANGER LINKS AND PIN ASSEMBLIES AT THE COUNTERWEIGHT PIN PLATES.
5. SLOWLY RELEASE THE JACKS.
6. PERFORM ROPE REPLACEMENT.
7. RE-LOAD JACKS.
8. REMOVE PIN ASSEMBLIES AT THE COUNTERWEIGHT PIN PLATES AND COUNTERWEIGHT HANGER LINKS.
9. SLOWLY LOWER JACKS.
10. REMOVE JACKS AND THREADED RODS.

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. FOR COUNTERWEIGHT DETAILS, SEE DRAWING NOS. MS-054 THRU MS-059.
4. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA	DESIGN BY: E. MADARA	CHECKED BY: A. SHAW
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

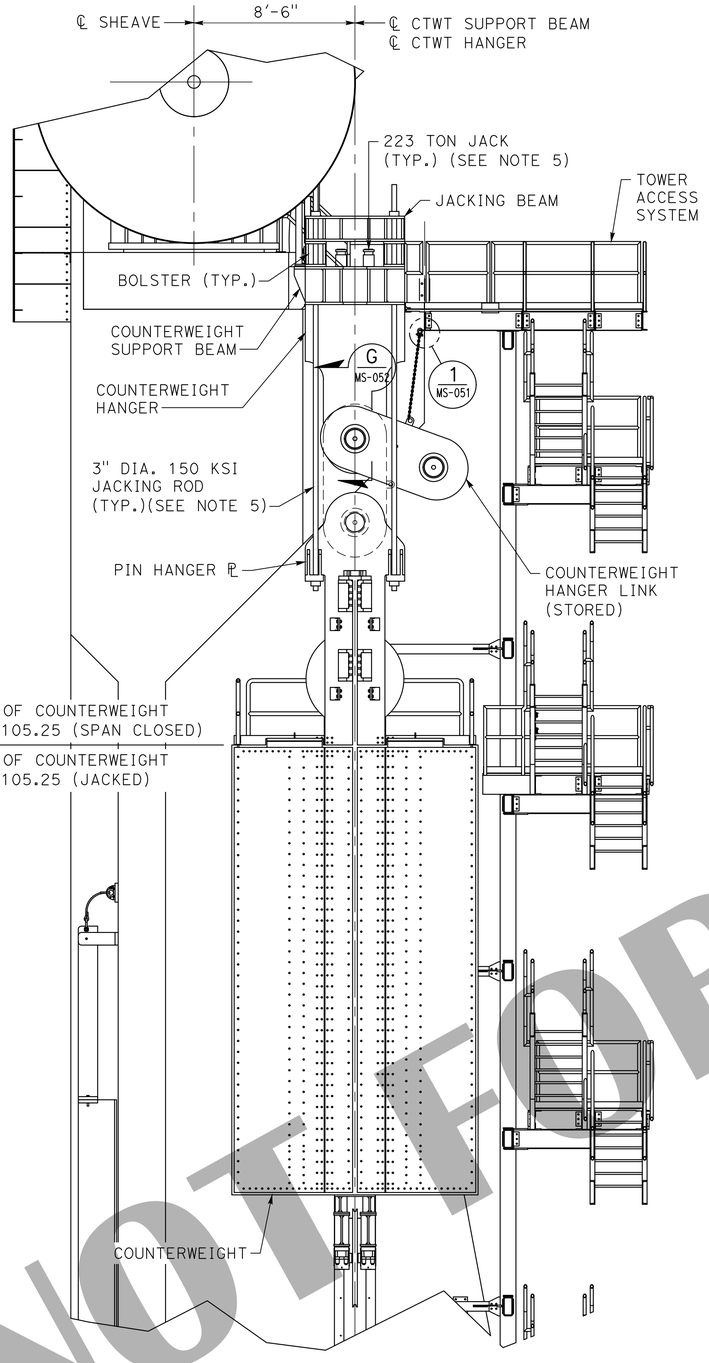
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT SUPPORT BEAM DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

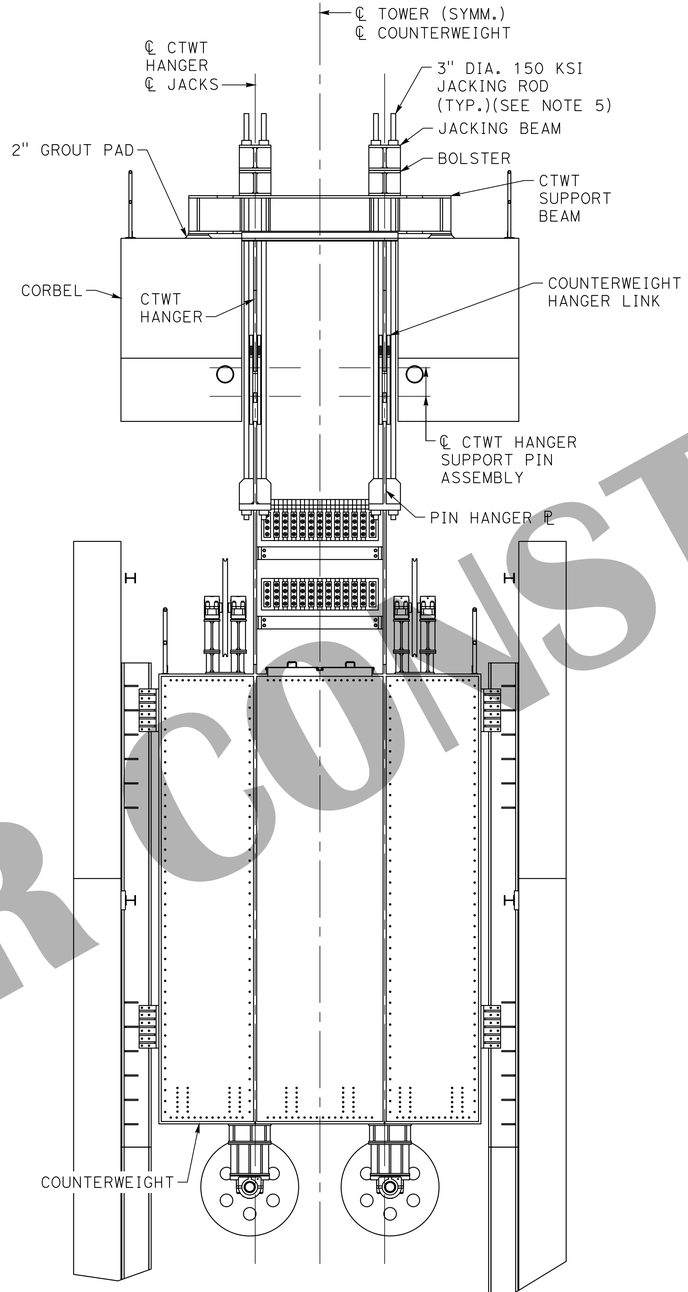
DWG NO.: MS-050
SHT NO.: 370 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

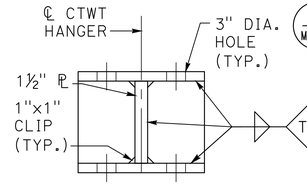
\\mm.lcl\PA_Data\PA Projects\3326.01\CADD\Structural\MS-041 COUNTERWEIGHT SUPPORT BEAM DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 3:13:03 PM



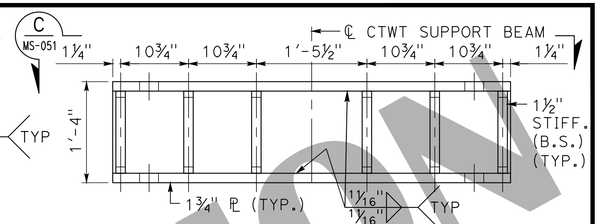
A MS-050 **SECTION**
SCALE: ¼" = 1'-0"



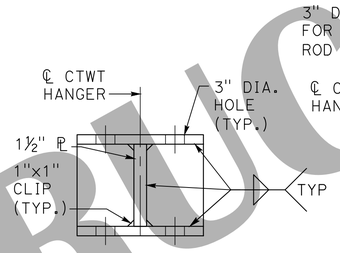
B MS-050 **SECTION**
SCALE: ¼" = 1'-0"



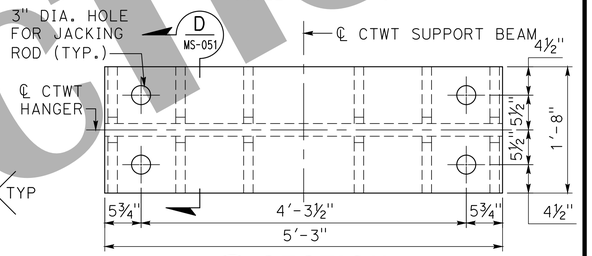
D MS-051 **SECTION**
SCALE: 1" = 1'-0"



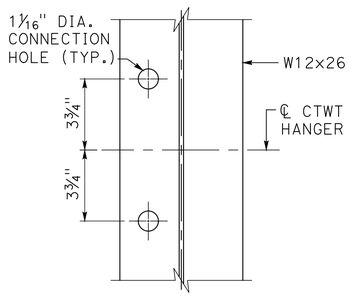
COUNTERWEIGHT JACKING BEAM
SCALE: 1" = 1'-0"

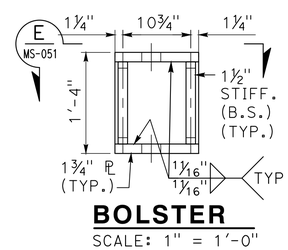


F MS-051 **SECTION**
SCALE: 1" = 1'-0"

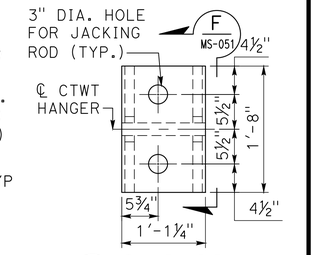


C MS-051 **SECTION**
SCALE: 1" = 1'-0"



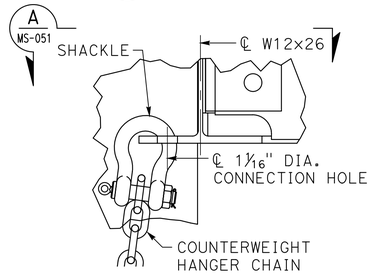


BOLSTER
SCALE: 1" = 1'-0"



E MS-051 **SECTION**
SCALE: 1" = 1'-0"

A MS-051 **VIEW**
SCALE: 3" = 1'=0"



1 MS-051 **DETAIL**
SCALE: 3" = 1'=0"

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. FOR COUNTERWEIGHT DETAILS, SEE DRAWING NOS. MS-054 THRU MS-059.
4. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
5. JACKS, JACKING RODS, AND ASSOCIATED HYDRAULIC POWER UNITS AND HARDWARE ARE NOT PART OF THE PERMANENT WORKS. WHERE SHOWN, THESE ITEMS DEPICT THE INTENT OF THE JACKING SYSTEM DESIGN. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND MATERIALS REQUIRED FOR COUNTERWEIGHT JACKING DURING CONSTRUCTION.
6. CONTRACTOR TO PROVIDE (2) TWO 6'-0" LONG COUNTERWEIGHT HANGER CHAINS AT EACH HANGER ASSEMBLY LOCATION WHICH SHALL BE CUT TO LENGTH SO AS TO PROPERLY STORE THE COUNTERWEIGHT LINKS. COUNTERWEIGHT HANGER CHAINS SHALL BE ½" TYPE 316 STAINLESS STEEL. SHACKLES SHALL BE ¾" TYPE 316 STAINLESS STEEL.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

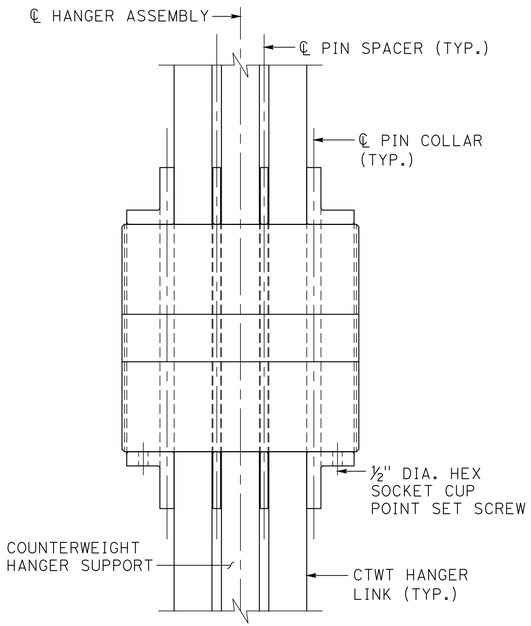
REGISTERED PROFESSIONAL ENGINEER — TRAVIS H. GATTENBERG — No. 99999 — Exp. 09-30-26 — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT SUPPORT BEAM DETAILS - 2
(Date: 11/03/2025)

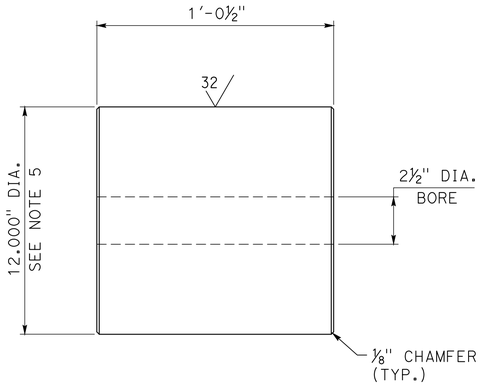
PN: T15136000
DWG NO.: MS-051
SHT NO.: 371 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

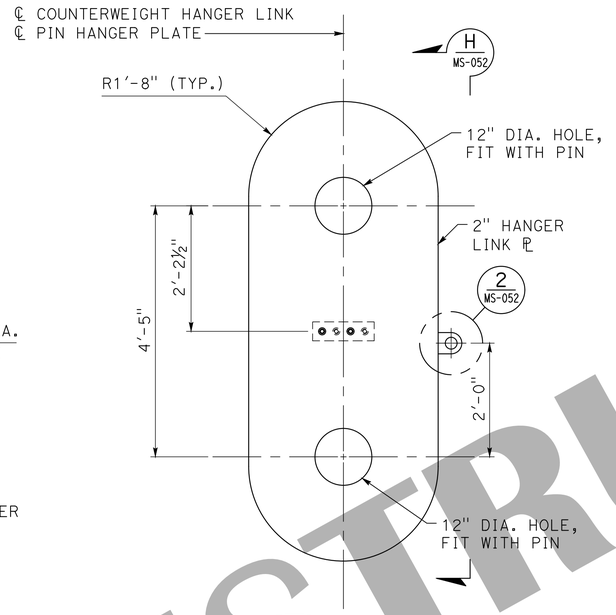
p:\3326.01\CADD\Structural\MS-041A COUNTERWEIGHT SUPPORT BEAM DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:42:00 PM



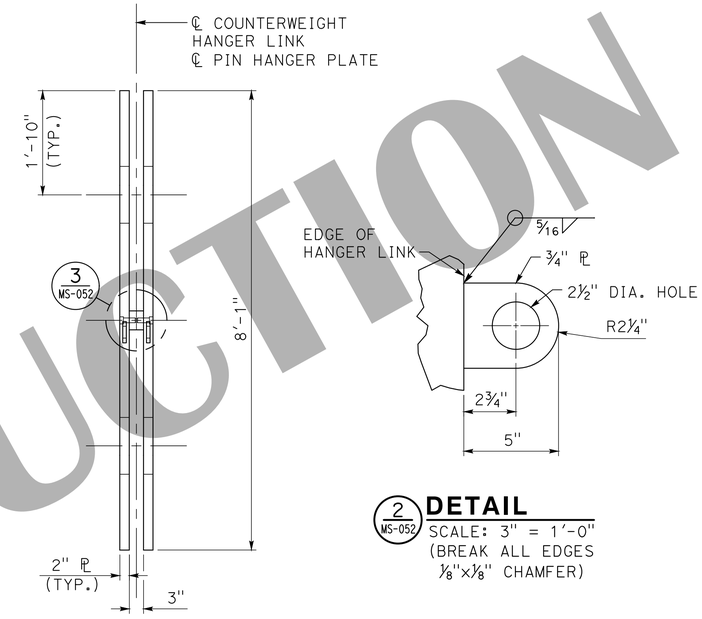
G / MS-051 **SECTION**
SCALE: 3" = 1'-0"



PIN DETAIL
SCALE: 3" = 1'-0"
(16 REQUIRED)

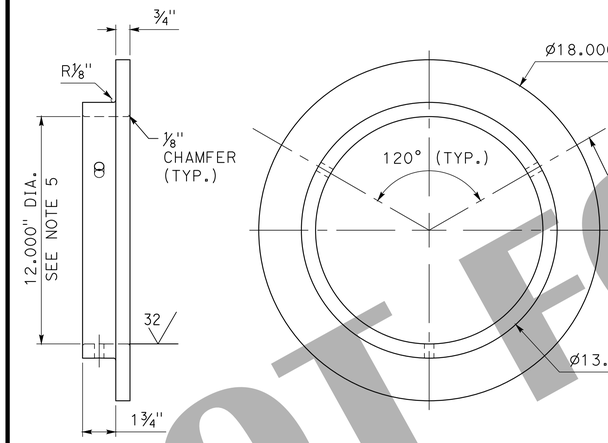


COUNTERWEIGHT HANGER LINK
SCALE: ¾" = 1'-0"
(8 REQUIRED)

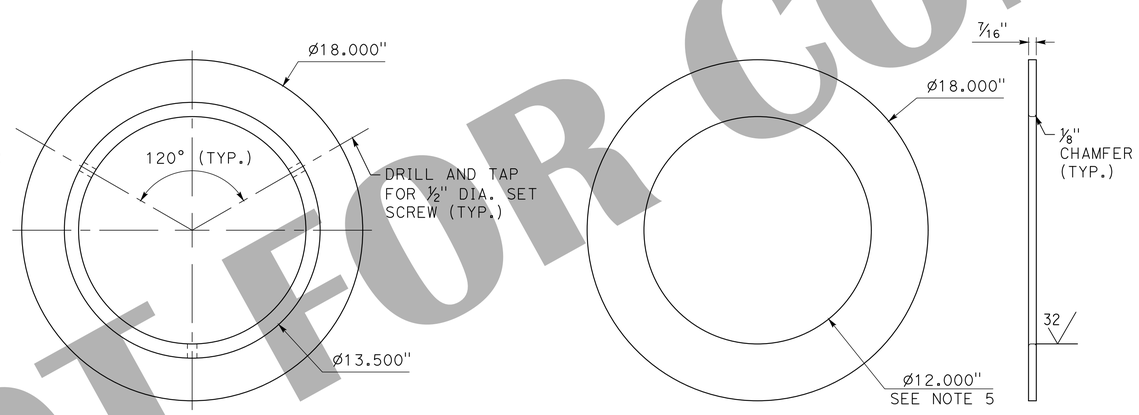


H / MS-052 **SECTION**
SCALE: ¾" = 1'-0"

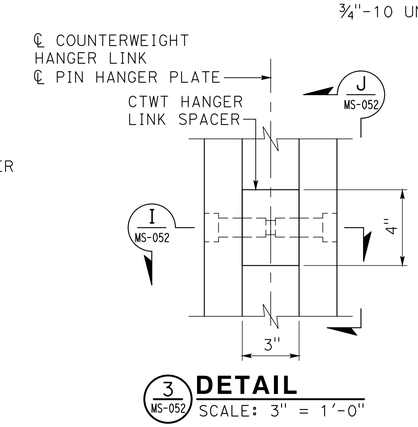
2 / MS-052 **DETAIL**
SCALE: 3" = 1'-0"
(BREAK ALL EDGES ⅛"x⅛" CHAMFER)



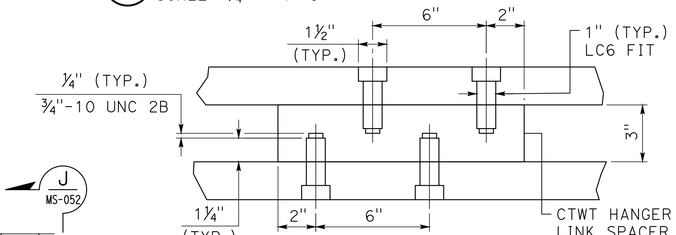
PIN COLLAR DETAIL
SCALE: 3" = 1'-0"
(32 REQUIRED)



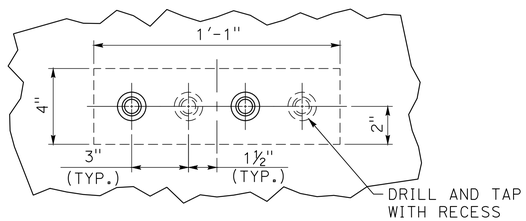
PIN SPACER DETAIL
SCALE: 3" = 1'-0"
(32 REQUIRED)



3 / MS-052 **DETAIL**
SCALE: 3" = 1'-0"



I / MS-052 **SECTION**
SCALE: 3" = 1'-0"



J / MS-052 **SECTION**
SCALE: 3" = 1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. FOR COUNTERWEIGHT DETAILS, SEE DRAWING NOS. MS-054 THRU MS-059.
4. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
5. A QUANTITY OF 2 PIN ASSEMBLIES IS REQUIRED PER HANGER ASSEMBLY. THE HANGER PINS ARE TO HAVE AN RC8 FIT WITH THE COUNTERWEIGHT HANGER, COUNTERWEIGHT HANGER LINK, PIN COLLAR, AND PIN SPACER TO ALLOW FOR DISASSEMBLY, THE HANGER SUPPORT PIN ASSEMBLY IS TO HAVE AN FN1 FIT AT THE PIN WITH THE COUNTERWEIGHT HANGER SUPPORT.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-042 COUNTERWEIGHT SUPPORT BEAM DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:42:11 PM

REVISIONS
NO. | DESCRIPTION | DATE | BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

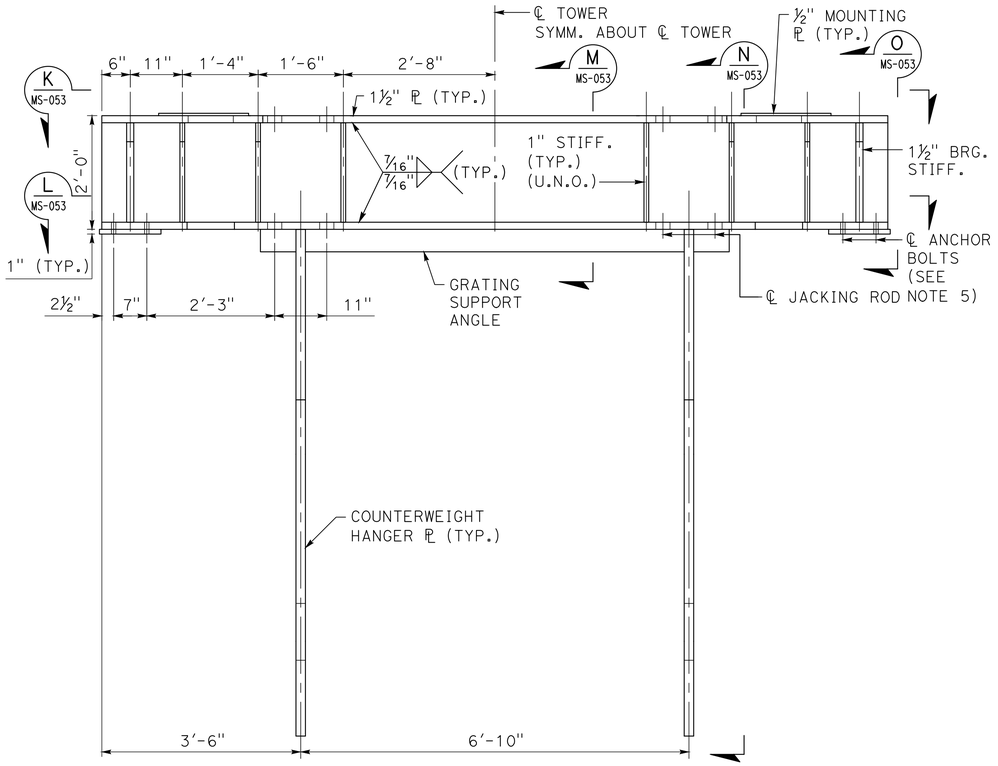
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS
DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT SUPPORT BEAM DETAILS - 3
(Date: 11/03/2025)

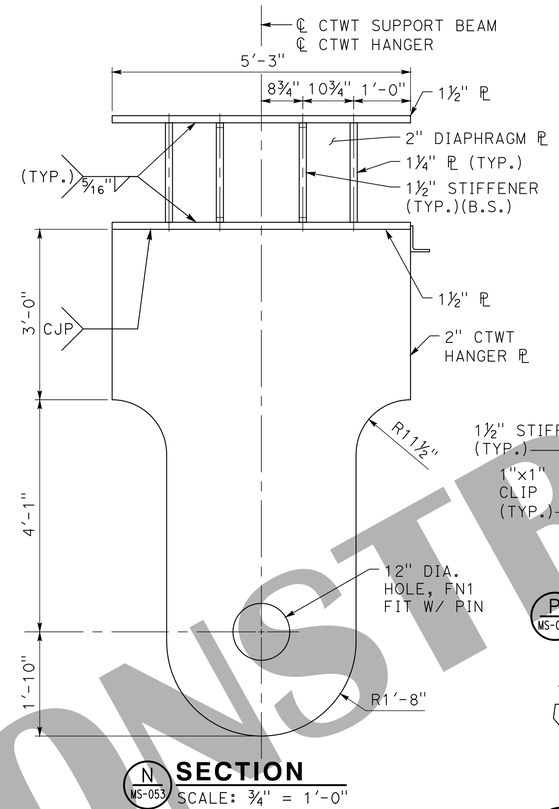
PN: T15136000
DWG NO.: MS-052
SHT NO.: 372 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

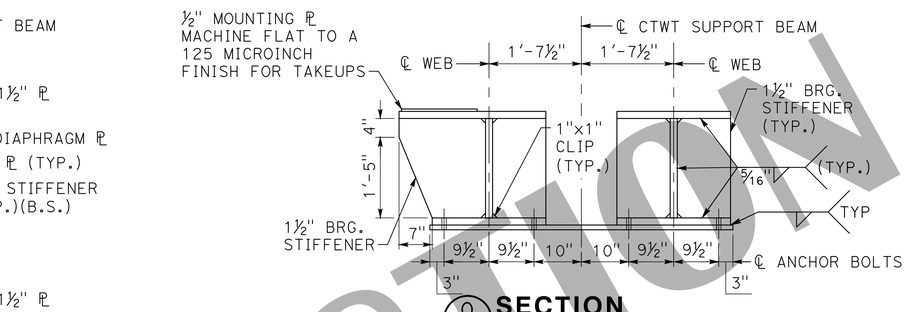


COUNTERWEIGHT SUPPORT BEAM

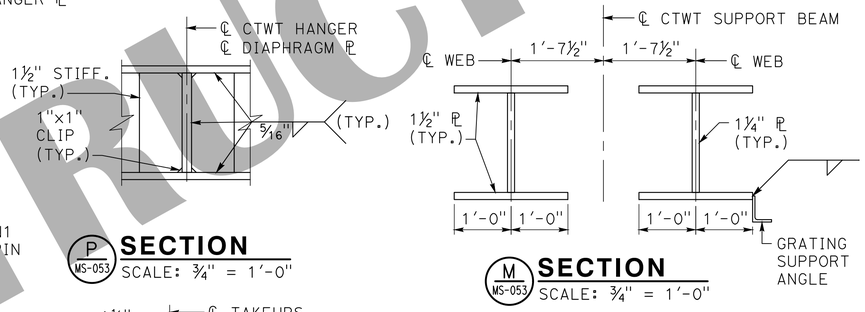
SCALE: ¾" = 1'-0"
(4 REQUIRED)



N MS-053 **SECTION**
SCALE: ¾" = 1'-0"

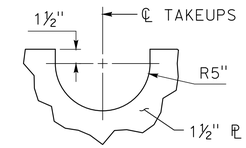


O MS-053 **SECTION**
SCALE: ¾" = 1'-0"

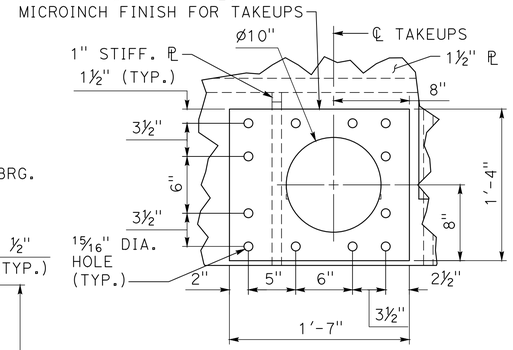


P MS-053 **SECTION**
SCALE: ¾" = 1'-0"

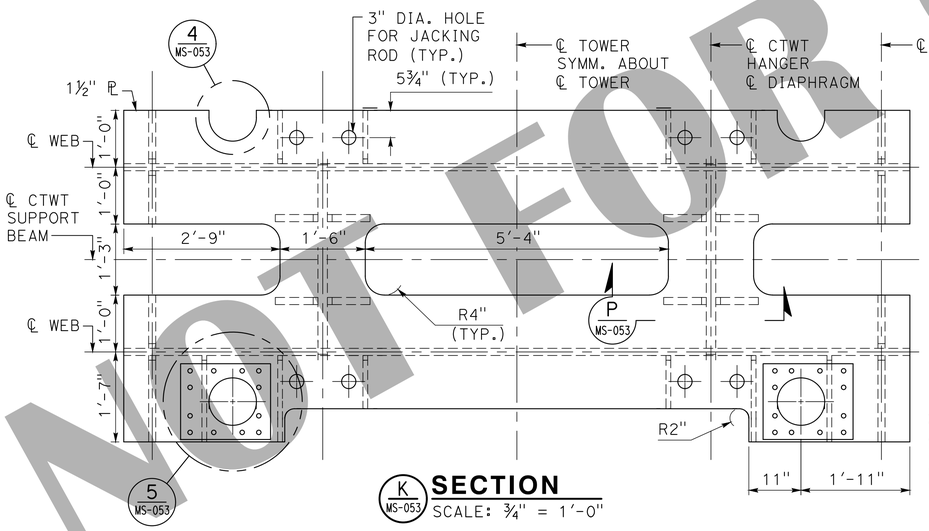
M MS-053 **SECTION**
SCALE: ¾" = 1'-0"



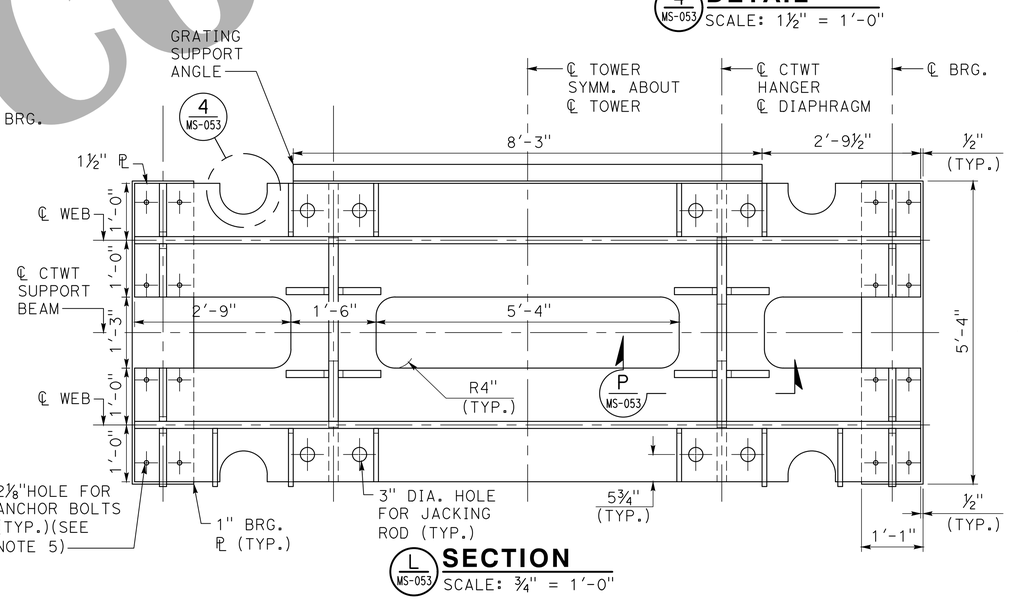
4 MS-053 **DETAIL**
SCALE: 1½" = 1'-0"



5 MS-053 **DETAIL**
SCALE: 1½" = 1'-0"



K MS-053 **SECTION**
SCALE: ¾" = 1'-0"



L MS-053 **SECTION**
SCALE: ¾" = 1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. FOR COUNTERWEIGHT DETAILS, SEE DRAWING NOS. MS-054 THRU MS-059.
4. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
5. ANCHOR BOLTS SHALL BE 11/4" DIAMETER ASTM F1554 DR. 105 WITH HEAVY HEX NUTS AND STANDARD WASHERS AT 12" MINIMUM EMBEDMENT. ANCHORS SHALL BE CAST IN PLACE. PROVIDE TEMPORARY STEEL TEMPLATE TO ALIGN ANCHOR BOLTS DURING PLACEMENT OF THE CONCRETE. ALL NUTS AND BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153. HEAVY HEX NUTS SHALL TURN FREE AFTER GALVANIZING.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

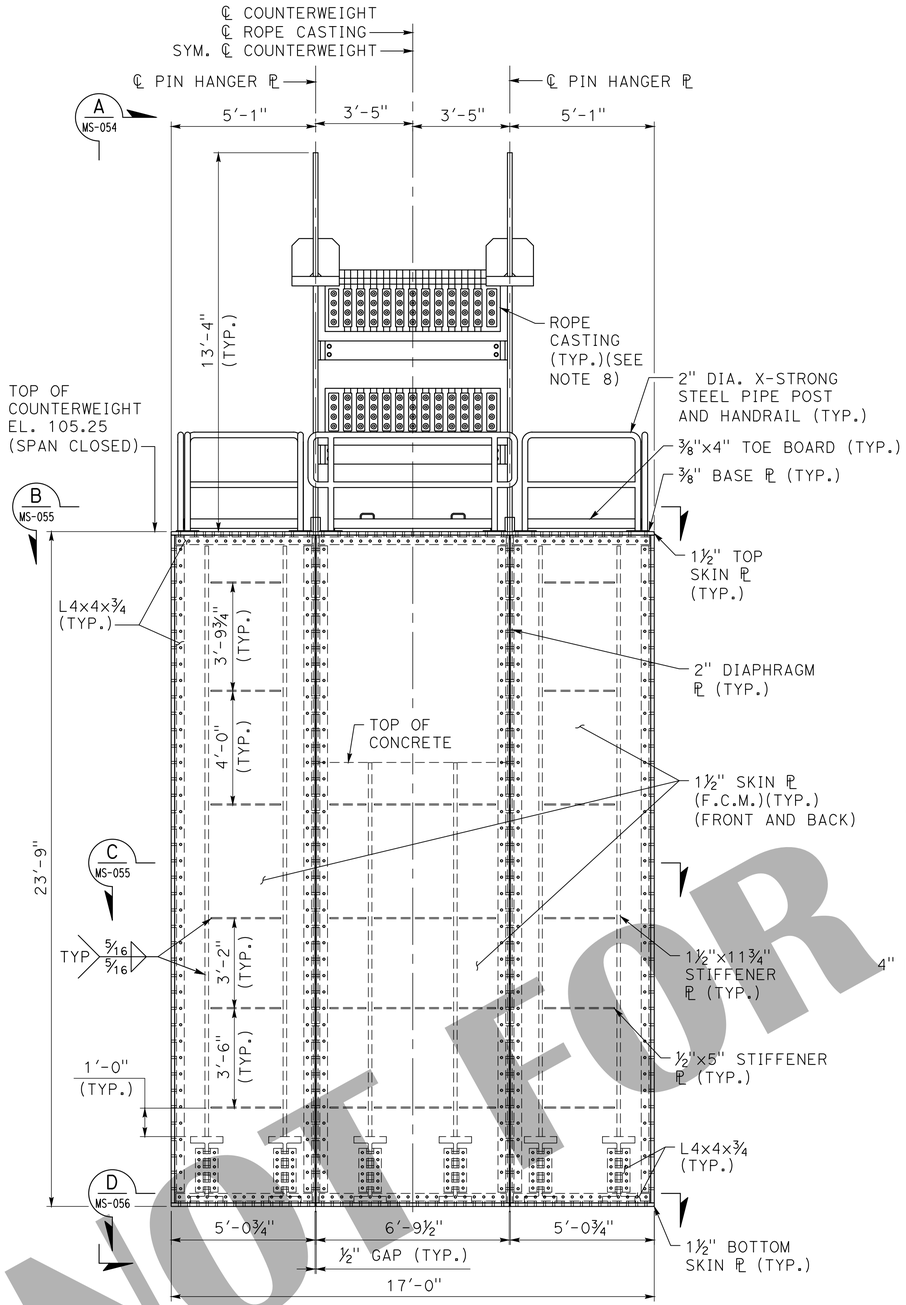
REGISTERED PROFESSIONAL ENGINEER — TARA P. SATTERWHITE — No. 88888 — Exp. 09-30-26 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT SUPPORT BEAM DETAILS - 4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-053
SHT NO.: 373 OF 648

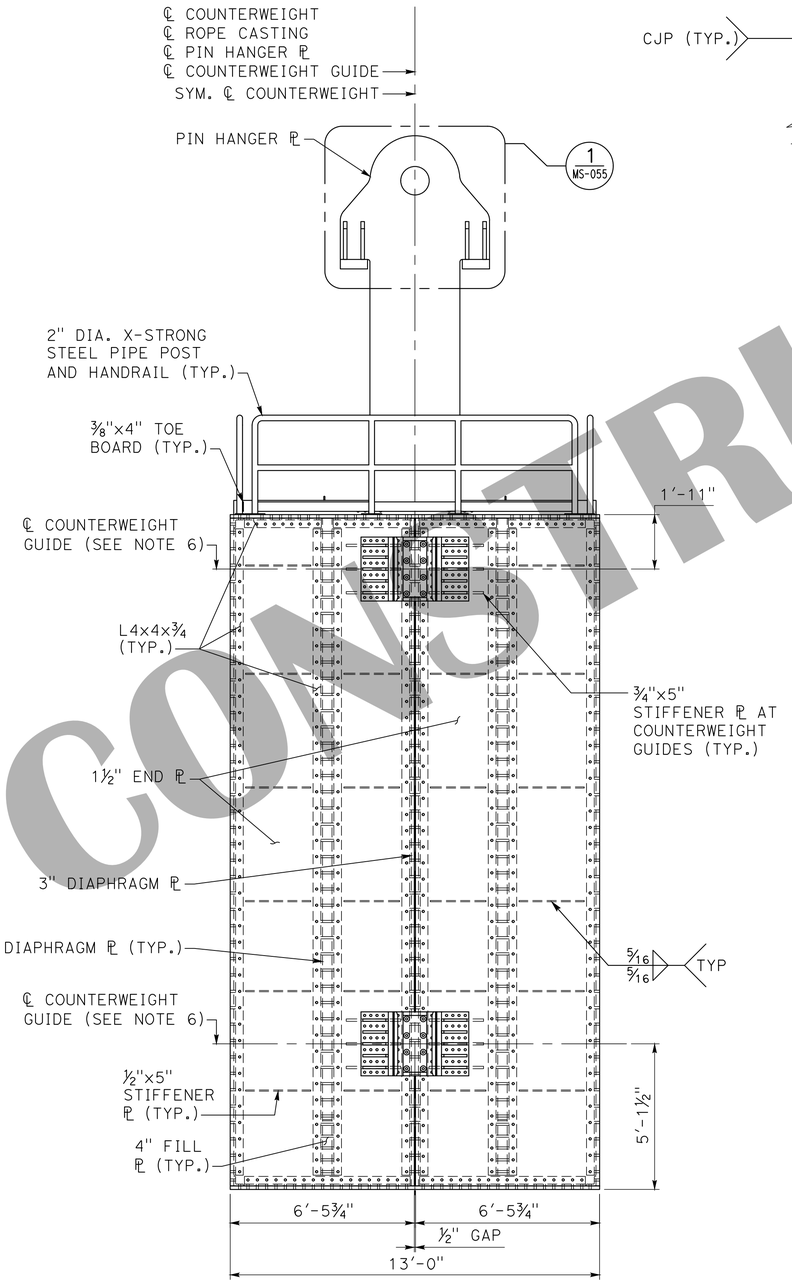
p:\3326.01\CADD\Structural\MS-042A COUNTERWEIGHT SUPPORT BEAM DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:42:19 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



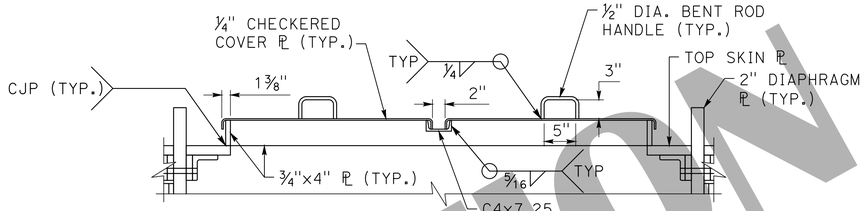
TYPICAL FRONT ELEVATION

SCALE: ⅜"=1'-0"
(GUIDES NOT SHOWN FOR CLARITY)



A SECTION

A MS-054
SCALE: ⅜"=1'-0"



POCKET COVER PLATE DETAIL

SCALE: 1"=1'-0"

COUNTERWEIGHT NOTES:

1. ALL COUNTERWEIGHT BOLTS SHALL BE ⅞" DIA. UNLESS NOTED OTHERWISE.
2. ONLY A PRIMER COAT OF PAINT SHALL BE USED ON STEEL SURFACES IN CONTACT WITH CONCRETE.
3. COUNTERWEIGHT CONCRETE MUST BE PLACED IN 4 FOOT MAXIMUM LIFTS. EACH LIFT MUST CURE FOR 5 DAYS MINIMUM BEFORE PLACING NEXT LIFT.
4. ALL SURFACES OF THE COUNTERWEIGHT BOX SKIN IN CONTACT WITH CONCRETE MUST HAVE ONE 1⅛" DIA. OPEN HOLE WITHIN EACH 10 SQ. FT. OF SURFACE AREA TO PERMIT ESCAPE OF WATER FROM THE BOX AS THE CONCRETE CURES.
5. ASSUMED DENSITY OF COUNTERWEIGHT CONCRETE IS 145 PCF.
6. CAST FIVE TEST BLOCKS OF MATERIALS TO BE USED IN THE COUNTERWEIGHTS. EACH TEST BLOCK SHALL HAVE A VOLUME OF ONE CUBIC FOOT. PREPARE AND CURE TEST BLOCKS AS SPECIFIED FOR PERMANENT CONCRETE. CAREFULLY MEASURE AND WEIGH THESE BLOCKS IMMEDIATELY AFTER CASTING AND AGAIN 28 DAYS LATER. ESTIMATE THE UNIT WEIGHT FROM THESE MEASUREMENTS.
7. VERIFY THE UNIT WEIGHT OF CONCRETE PLACED IN THE COUNTERWEIGHT BY TWO TEST BLOCKS MADE AT INTERVALS DURING THE PLACEMENT OF EACH LIFT OF THE CONCRETE FOR THE COUNTERWEIGHT. WEIGH EACH BLOCK PROMPTLY AFTER BEING MADE AND COMPARE THE WEIGHT TO THE ORIGINAL TEST BLOCKS TO ESTIMATE THE RESULTING UNIT WEIGHT WHEN SEASONED, AND THE NEED FOR ADJUSTING THE TOTAL VOLUME OR UNIT WEIGHT OF CONCRETE TO BE PLACED IN THE COUNTERWEIGHT. IF WEIGHT ADJUSTMENTS ARE REQUIRED FOR THE COUNTERWEIGHT, SUBMIT THE METHOD FOR ADDING OR REMOVING WEIGHT TO THE ENGINEER FOR REVIEW AND APPROVAL.
8. CONCRETE SHALL CONTAIN A SUPERPLASTICIZER TO BE MADE MORE FLOWABLE.
9. DO NOT OPERATE BRIDGE UNTIL COUNTERWEIGHT CONCRETE HAS CURED FOR A MINIMUM OF 5 DAYS AFTER FINAL CONCRETE POUR.
10. THE CONTRACTOR MUST BE RESPONSIBLE TO ENSURE THAT ALL SPECIFIED GEOMETRY IS MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
11. THE AMOUNT AND LOCATION OF BALANCE BLOCKS, STEEL FRAMING, AND COUNTERWEIGHT CONCRETE ARE ESTIMATED BASED ON PRELIMINARY BALANCE CALCULATIONS USING THE ASSUMED DIMENSIONS, DETAILS, AND UNIT WEIGHTS SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE FINAL ADJUSTMENTS TO THE COUNTERWEIGHT TO ACHIEVE THE PROPER BALANCE IN CONFORMANCE WITH THE SPECIFICATIONS.
12. WEIGHT TO BE PLACED SHALL BE CHECKED AGAINST THE SCALE WEIGHTS OF THE STEEL AND THE TEST WEIGHTS OF OTHER MATERIALS TO BE LIFTED BEFORE THE COUNTERWEIGHTS HAVE BEEN CONSTRUCTED TO ENSURE PROPER BALANCE.

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. FOR COUNTERWEIGHT SUPPORT BEAM AND JACKING DETAILS, SEE DRAWING NOS. MS-050 AND MS-052.
4. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
5. FOR COUNTERWEIGHT GUIDE DETAILS, SEE DRAWING NO. MS-059.
6. FOR COUNTERWEIGHT GUIDE RAIL DETAILS, SEE DRAWING NOS. MS-060 AND MS-061.
7. FOR DETAILS ON COUNTERWEIGHT ROPE CONNECTIONS AND CASTINGS, SEE DRAWING NOS. M-027 AND M-028.
8. COUNTERWEIGHT AND COUNTERWEIGHT COMPONENTS TO BE COORDINATED WITH MECHANICAL COMPONENTS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA	DESIGN BY: E. MADARA	CHECKED BY: A. SHAW
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

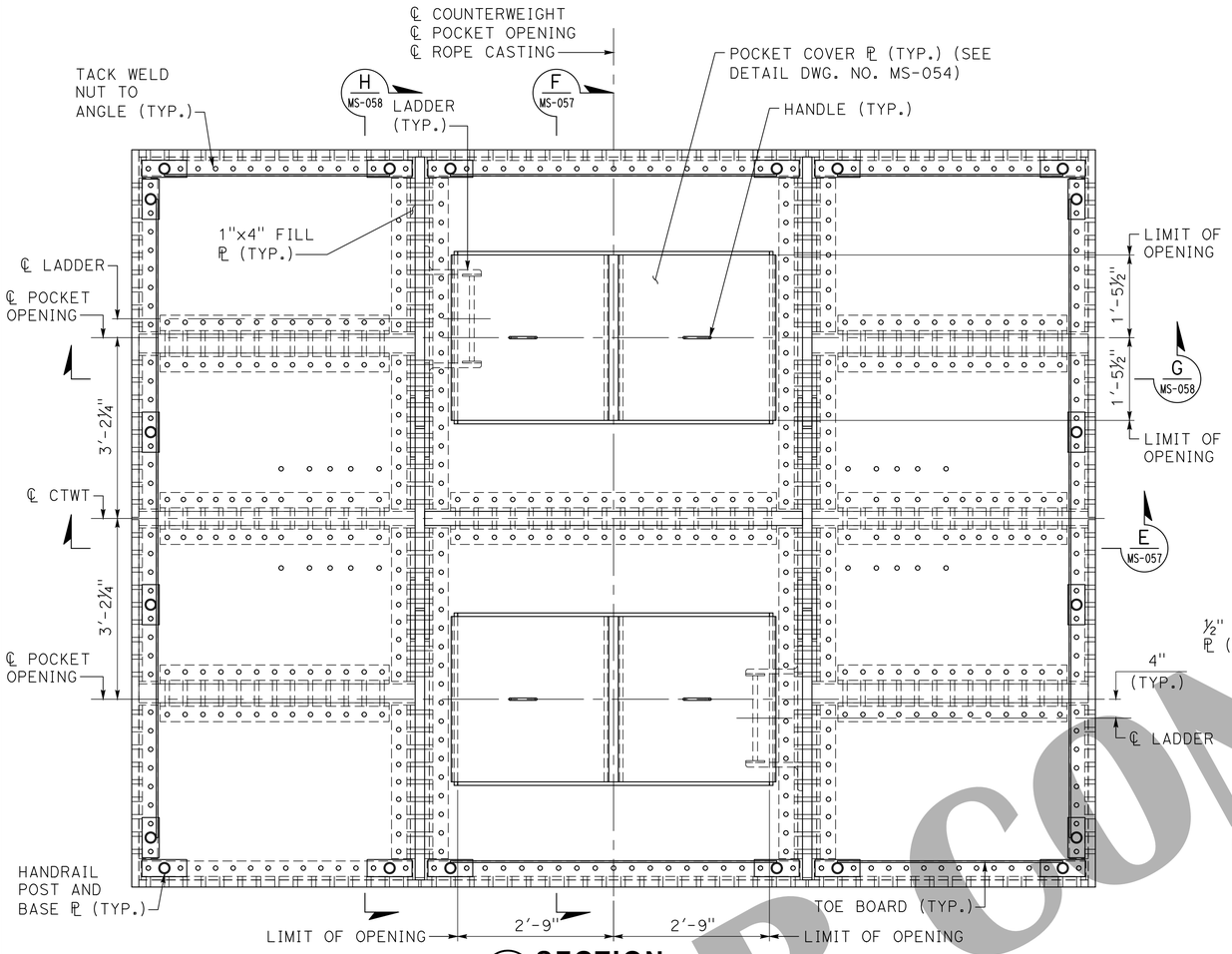
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-054
SHT NO.: 374 OF 648

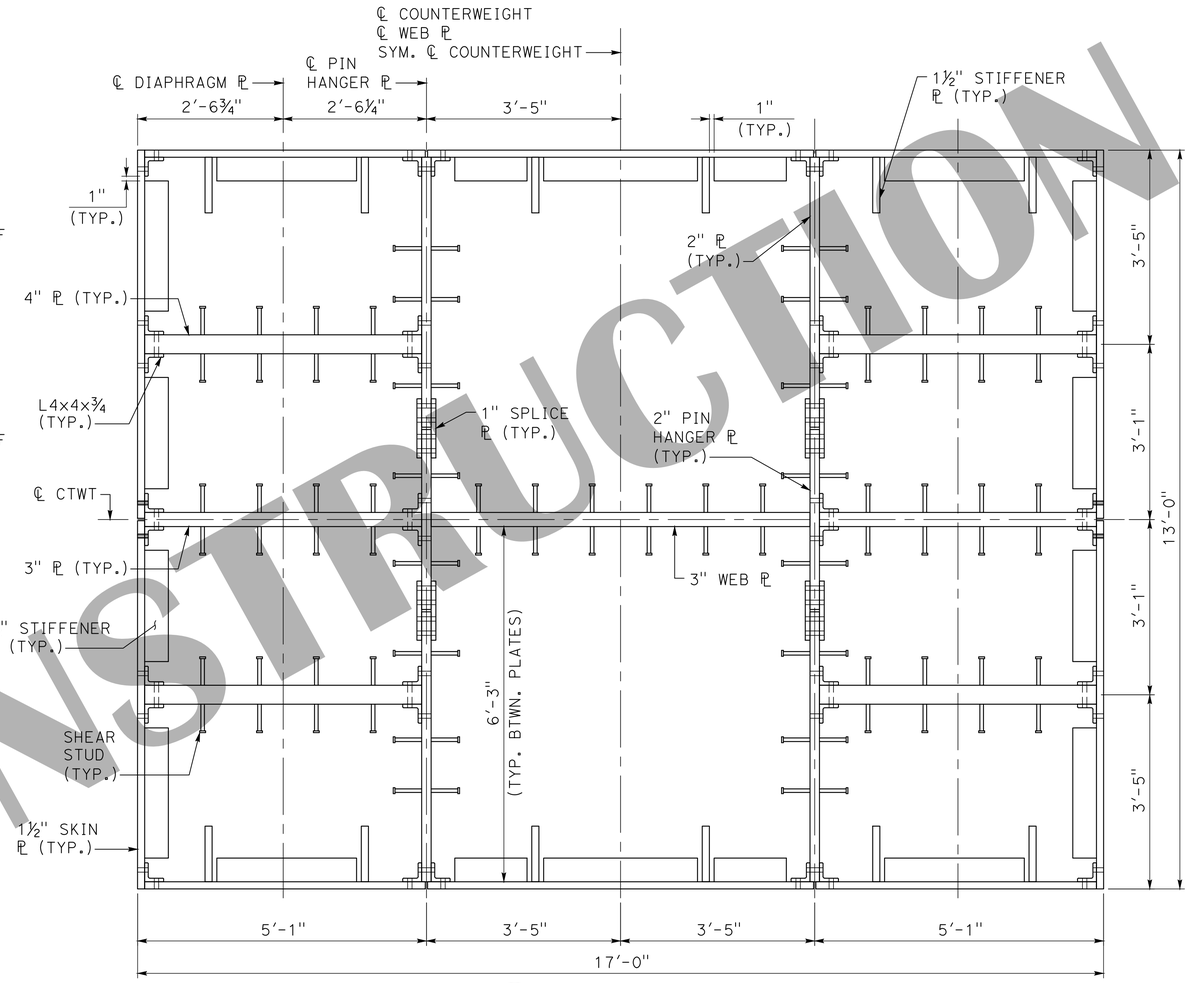
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-043 COUNTERWEIGHT DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:42:31 PM

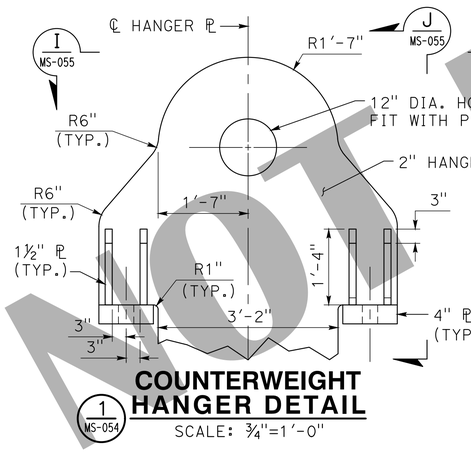
NOT FOR CONSTRUCTION



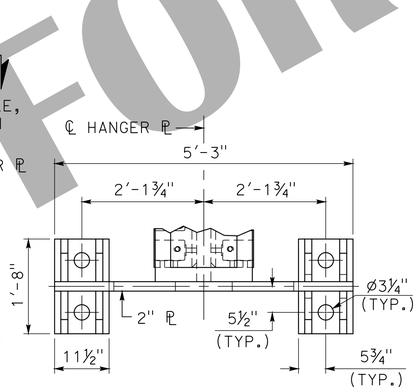
B MS-054 **SECTION**
SCALE: ¾"=1'-0"



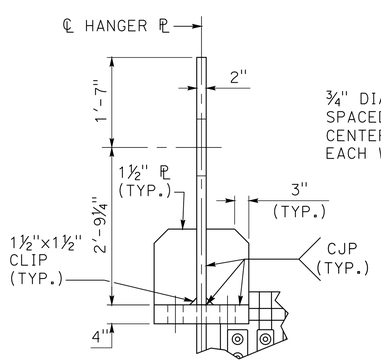
C MS-054 **SECTION**
SCALE: ¾"=1'-0"



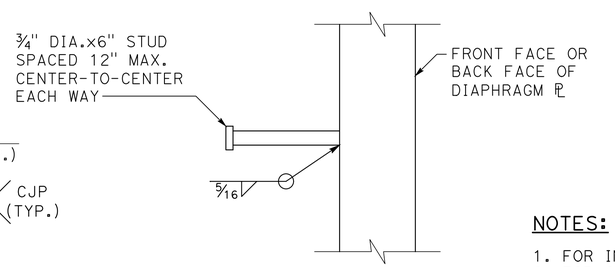
1 MS-054 **COUNTERWEIGHT HANGER DETAIL**
SCALE: ¾"=1'-0"



I MS-054 **SECTION**
SCALE: ¾"=1'-0"



J MS-054 **SECTION**
SCALE: ¾"=1'-0"



SHEAR STUD DETAIL
SCALE: 3"=1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
4. FOR COUNTERWEIGHT NOTES, SEE DRAWING NO. MS-054.
5. FOR DETAILS ON COUNTERWEIGHT ROPE CONNECTIONS AND CASTINGS, SEE DRAWING NOS. M-027 AND M-028.
6. COUNTERWEIGHT AND COUNTERWEIGHT COMPONENTS TO BE COORDINATED WITH MECHANICAL COMPONENTS.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

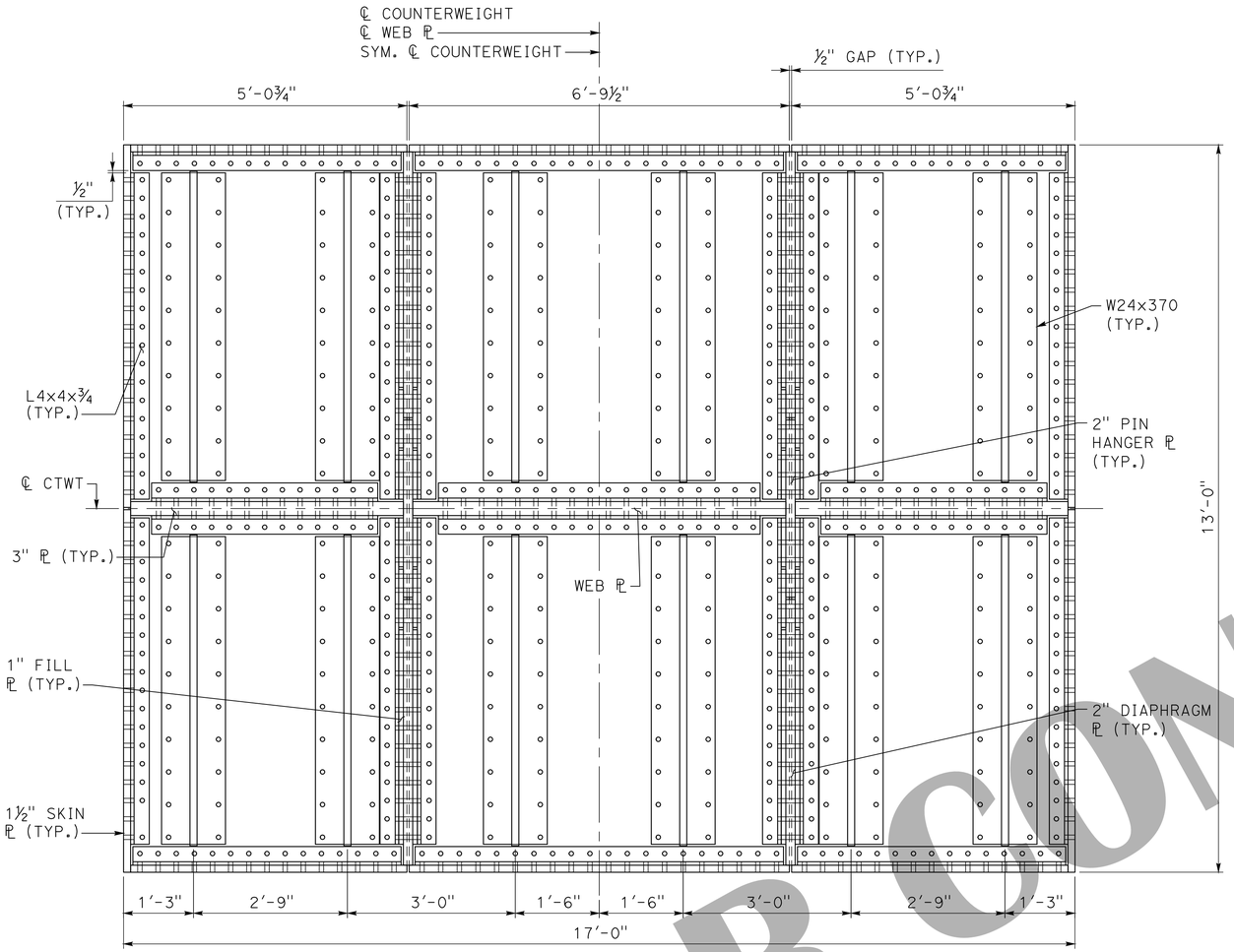
REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT DETAILS - 2
(Date: 11/03/2025)

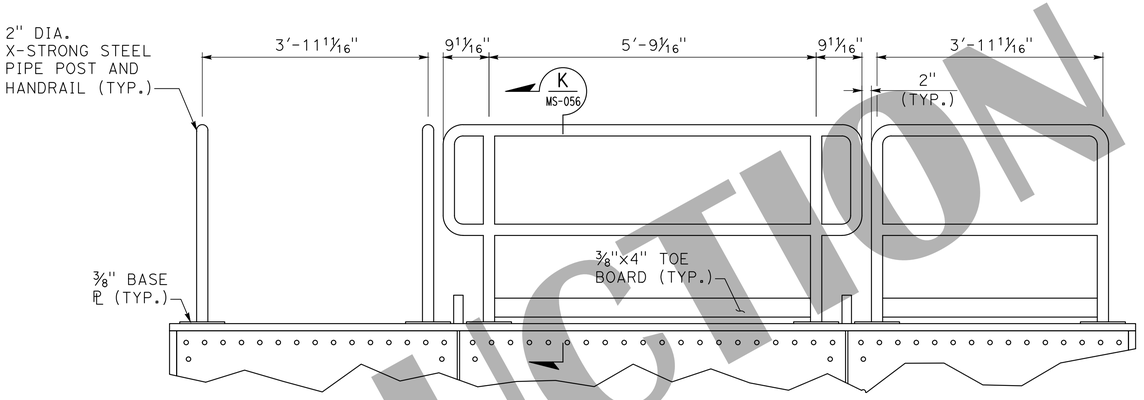
PN: T15136000
DWG NO.: MS-055
SHT NO.: 375 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

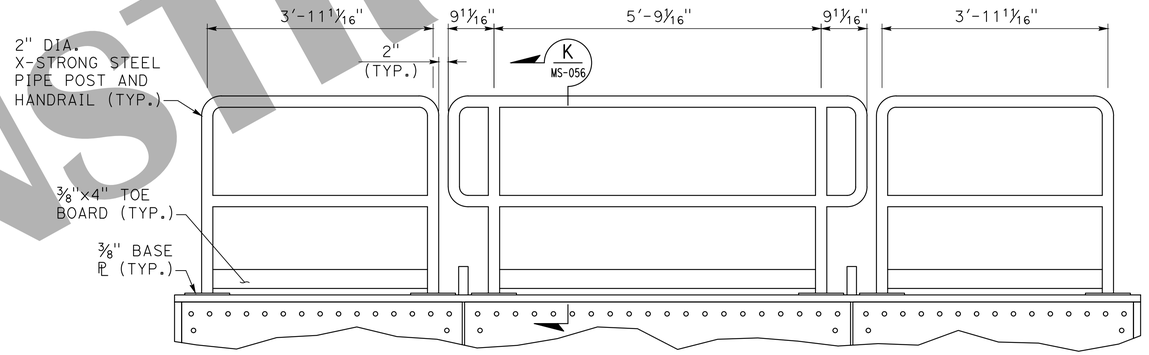
p:\3326.01\CADD\Structural\MS-044 COUNTERWEIGHT DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:42:46 PM



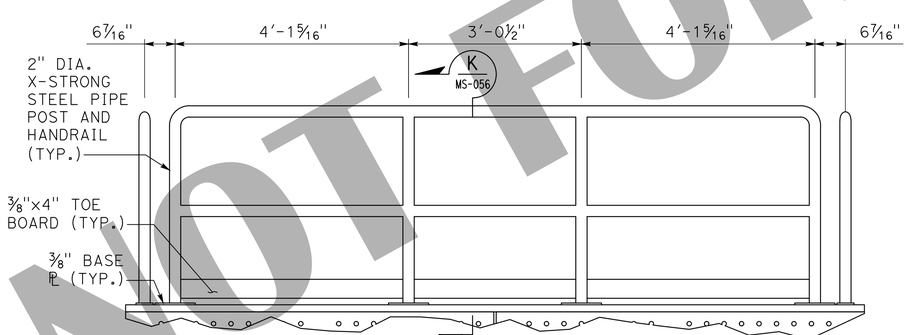
D / MS-054 **SECTION**
SCALE: ¾"=1'-0"



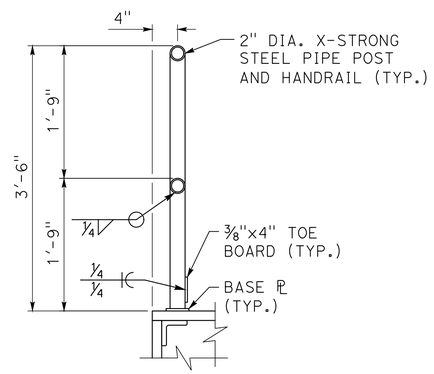
RAILING FRONT VIEW
SCALE: ¾"=1'-0"



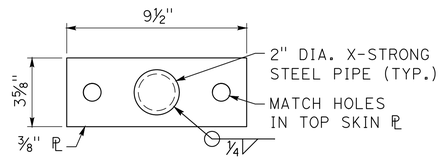
RAILING BACK VIEW
SCALE: ¾"=1'-0"



TYPICAL RAILING SIDE VIEW
SCALE: ¾"=1'-0"



K / MS-056 **SECTION**
SCALE: 1"=1'-0"



TYPICAL HANDRAIL BASE PLATE DETAIL
SCALE: 3"=-1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
4. FOR COUNTERWEIGHT NOTES, SEE DRAWING NO. MS-054.
5. COUNTERWEIGHT AND COUNTERWEIGHT COMPONENTS TO BE COORDINATED WITH MECHANICAL COMPONENTS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA	DESIGN BY: E. MADARA	CHECKED BY: A. SHAW
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

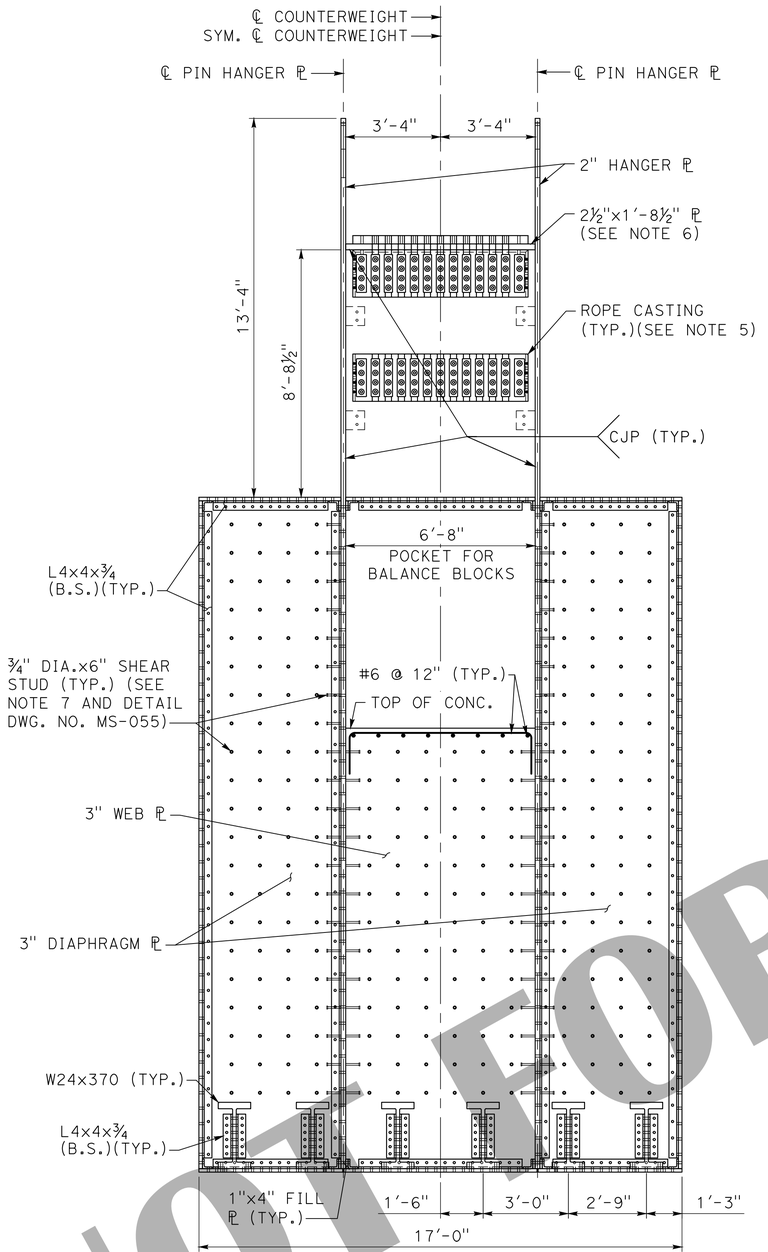
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT DETAILS - 3
(Date: 11/03/2025)

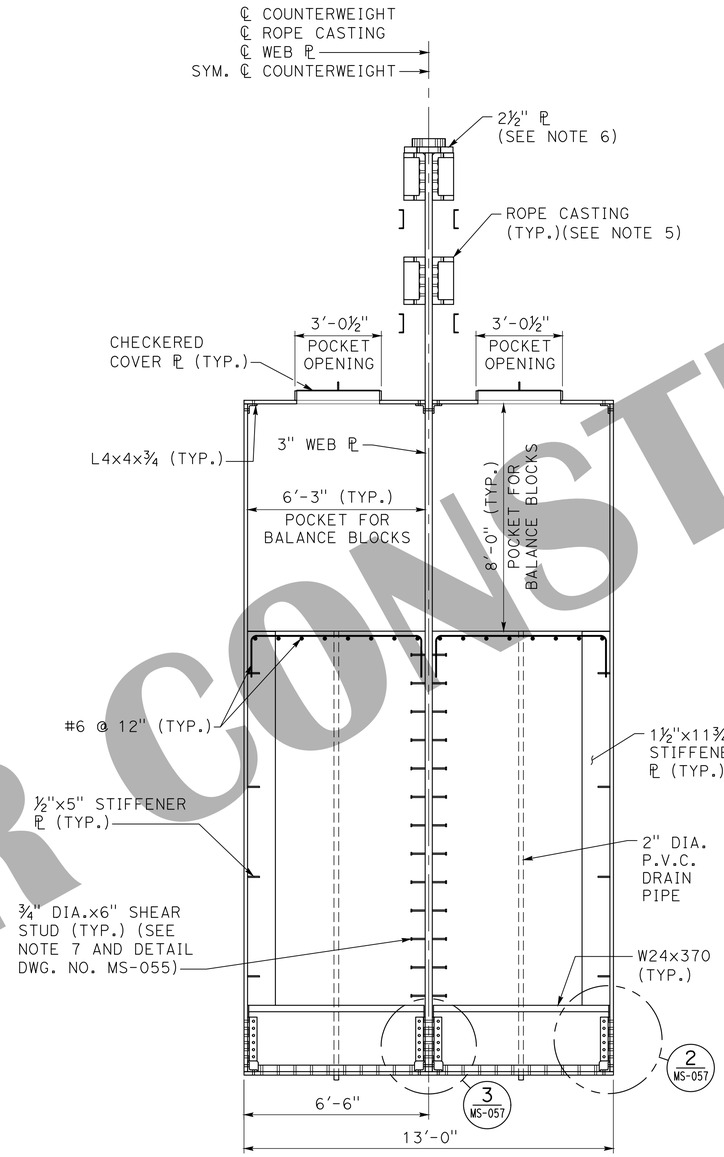
PN: T15136000
DWG NO.: MS-056
SHT NO.: 376 OF 648

p:\3326.01\CADD\Structural\MS-045 COUNTERWEIGHT DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:42:56 PM

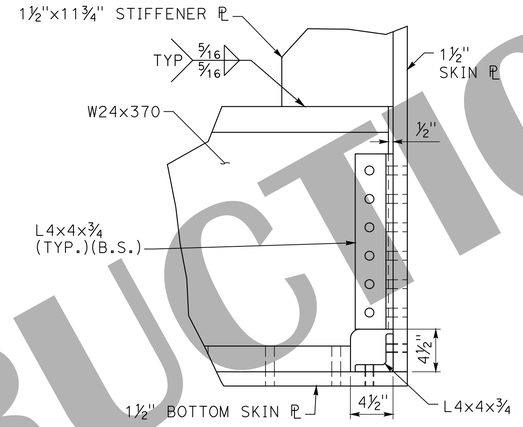
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



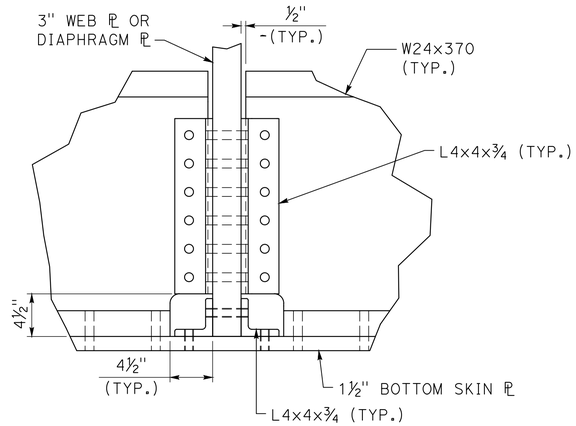
E MS-055 **SECTION**
SCALE: ⅜"=1'-0"
(COUNTERWEIGHT GUIDES, RAILING, AND STIFFENER PLATES NOT SHOWN FOR CLARITY)



F MS-055 **SECTION**
SCALE: ⅜"=1'-0"
(RAILING NOT SHOWN FOR CLARITY)



2 MS-057 **DETAIL**
SCALE: 1½"=1'-0"



3 MS-057 **DETAIL**
SCALE: 1½"=1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
4. FOR COUNTERWEIGHT NOTES, SEE DRAWING NO. MS-054.
5. FOR DETAILS ON COUNTERWEIGHT ROPE CONNECTIONS AND CASTINGS, SEE DRAWING NOS. M-027 AND M-028.
6. COUNTERWEIGHT AND COUNTERWEIGHT COMPONENTS TO BE COORDINATED WITH MECHANICAL COMPONENTS.
7. PROVIDE STUDS ON ALL PLATES IN POCKETS WHERE CAST IN PLACE CONCRETE IS PROPOSED WITHIN THE CONTRACTOR'S BALANCE PLAN. STUDS SHALL BE LAID OUT IN AN APPROXIMATE 12"x12" GRID PATTERN. CONTRACTOR MAY MAKE LOCAL ADJUSTMENT TO STUD POSITIONS TO FACILITATE CONSTRUCTION ACCESS AND COUNTERWEIGHT ASSEMBLY AND ERECTION.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

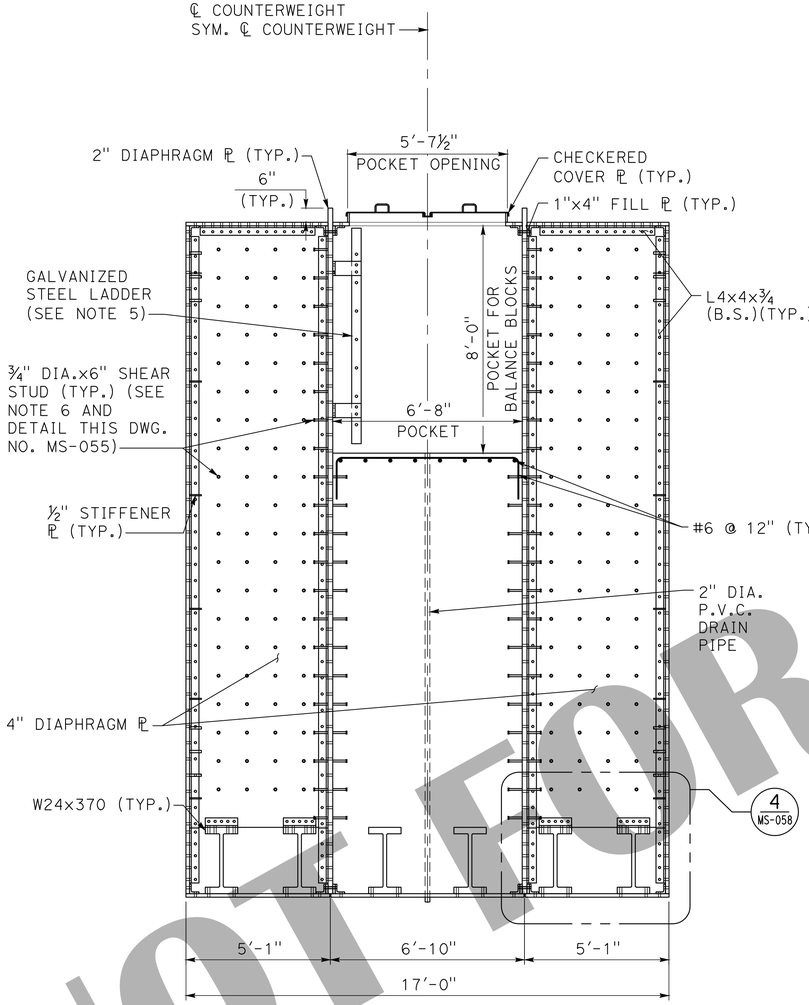
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT DETAILS - 4
(Date: 11/03/2025)

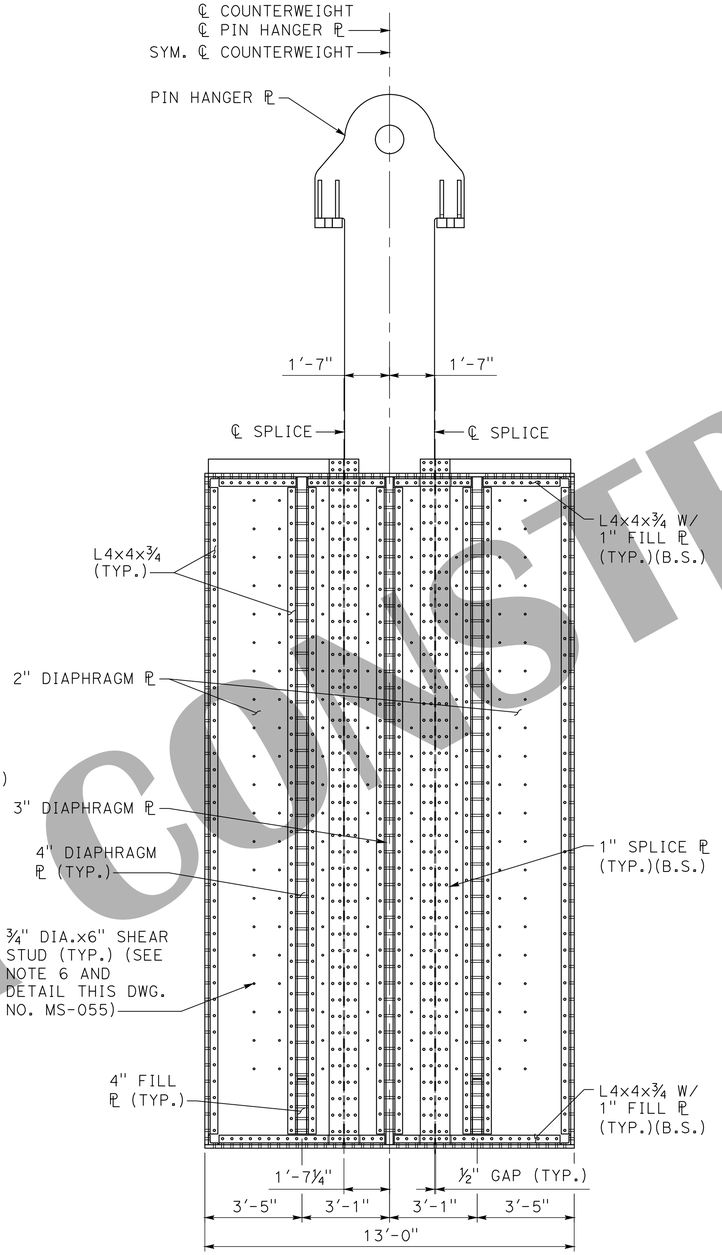
PN: T15136000
DWG NO.: MS-057
SHT NO.: 377 OF 648

p:\3326.01\CADD\Structural\MS-046 COUNTERWEIGHT DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:43:05 PM

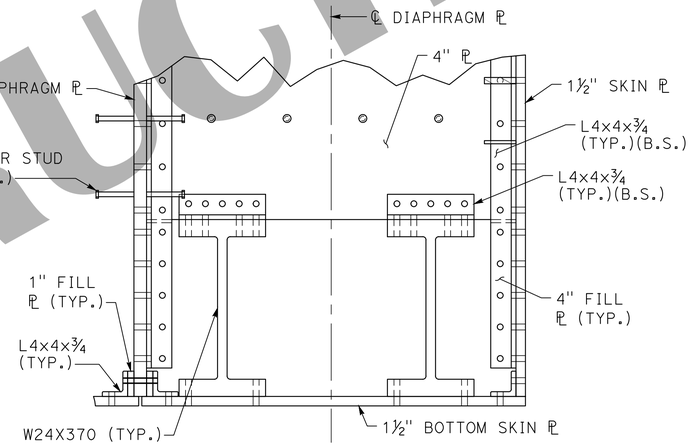
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



G MS-055 **SECTION**
SCALE: ⅜"=1'-0"
(RAILING NOT SHOWN FOR CLARITY)



H MS-055 **SECTION**
SCALE: ⅜"=1'-0"
(RAILING NOT SHOWN FOR CLARITY)



4 MS-058 **DETAIL**
SCALE: 1"=1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
4. FOR COUNTERWEIGHT NOTES, SEE DRAWING NO. MS-054.
5. FOR LADDER DETAILS, SEE DRAWING NO. MS-059.
6. PROVIDE STUDS ON ALL PLATES IN POCKETS WHERE CAST IN PLACE CONCRETE IS PROPOSED WITHIN THE CONTRACTOR'S BALANCE PLAN. STUDS SHALL BE LAID OUT IN AN APPROXIMATE 12"x12" GRID PATTERN. CONTRACTOR MAY MAKE LOCAL ADJUSTMENT TO STUD POSITIONS TO FACILITATE CONSTRUCTION ACCESS AND COUNTERWEIGHT ASSEMBLY AND ERECTION.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-047 COUNTERWEIGHT DETAILS - 5.dwg LAST PLOTTED: 11/3/2025 1:43:15 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK ----
SCALE AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

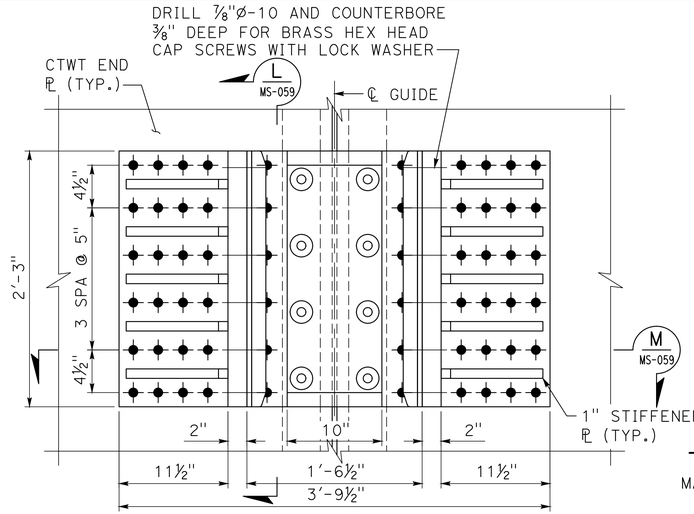
DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT DETAILS - 5
(Date: 11/03/2025)

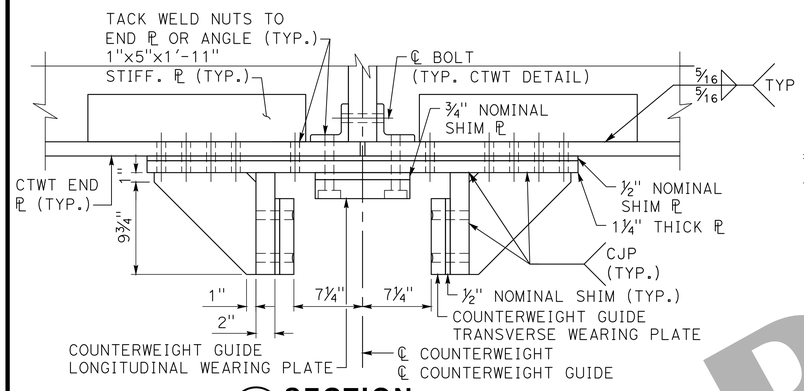
PN: T15136000

DWG NO.: MS-058
SHT NO.: 378 OF 648

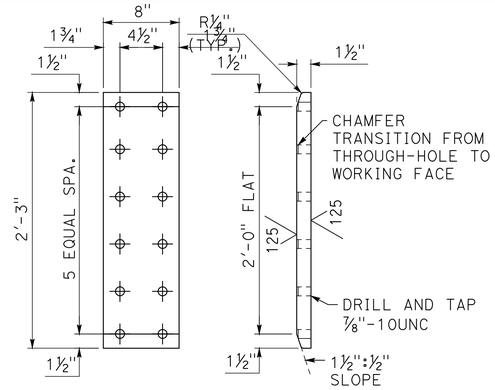


COUNTERWEIGHT GUIDE ASSEMBLY

SCALE: 1½"=1'-0"
(16) ASSEMBLIES REQUIRED, 4 PER COUNTERWEIGHT

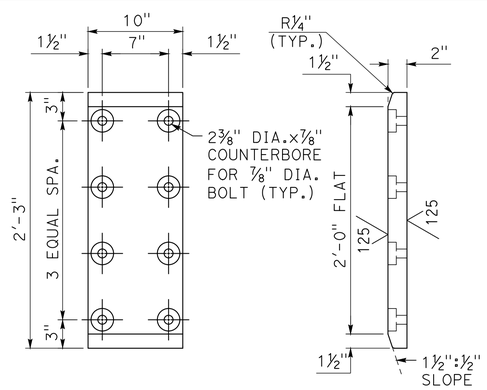


M MS-059 **SECTION**
SCALE: 1½"=1'-0"



COUNTERWEIGHT GUIDE TRANSVERSE WEARING PLATE

SCALE: 1½"=1'-0"
MATERIAL: BRONZE PLATE, ASTM B22, ALLOY C91100
(32) REQUIRED, 2 PER ASSEMBLY

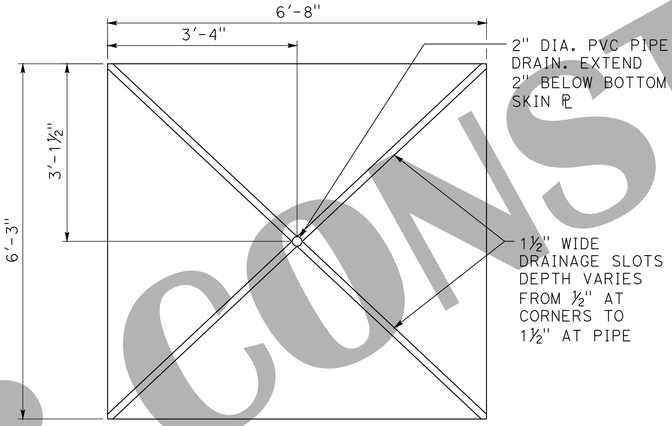


COUNTERWEIGHT GUIDE LONGITUDINAL WEARING PLATE

SCALE: 1½"=1'-0"
MATERIAL: BRONZE PLATE, ASTM B22, ALLOY C91100
(16) REQUIRED, 1 PER ASSEMBLY

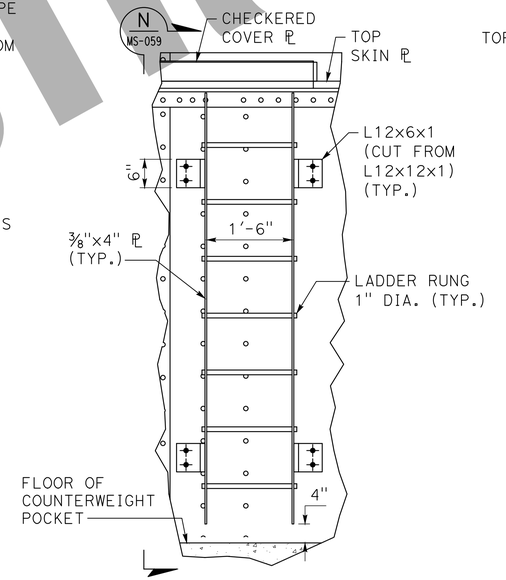
BALANCE TABLE		
LIFT SPAN SIDE	SPAN DOWN	SPAN UP
LOAD TO LIFT	5,400,000	5,400,000
UNBALANCED ROPES	57,900	-
TOTAL LIFT SPAN SIDE	5,457,900	5,400,000
COUNTERWEIGHT SIDE		
UNBALANCED ROPES	-	40,700
COUNTERWEIGHT STEEL AND GUIDES	1,626,500	1,626,500
CONCRETE: 12,907 CF AT 145 PCF	1,871,500	1,871,500
COUNTERWEIGHT BALLAST BEAMS	1,633,500	1,633,500
STEEL BALANCE BLOCKS: 2460 AT 100#	246,000	246,000
TOTAL COUNTERWEIGHT SIDE	5,377,900	5,418,600
LIFT SPAN HEAVY	80,000	-
COUNTERWEIGHT HEAVY	-	18,600

NOTE:
- WEIGHTS ARE IN POUNDS AND ARE TOTAL WEIGHT FOR BRIDGE.
- ADDITIONAL VOID SPACE HAS BEEN PROVIDED IN THIS COUNTERWEIGHT TO ALLOW FOR THE ADDITION OF FUTURE STREET CARS AT AN ESTIMATED 180,000 POUNDS.
- TWO THOUSAND FOUR HUNDRED AND SIXTY-FOUR BLOCKS ARE REQUIRED TO BALANCE THIS BRIDGE.
- THE CONTRACTOR SHALL SUPPLY AN ADDITIONAL 272 BALANCE BLOCKS TO BE STORED FOR FUTURE USE.



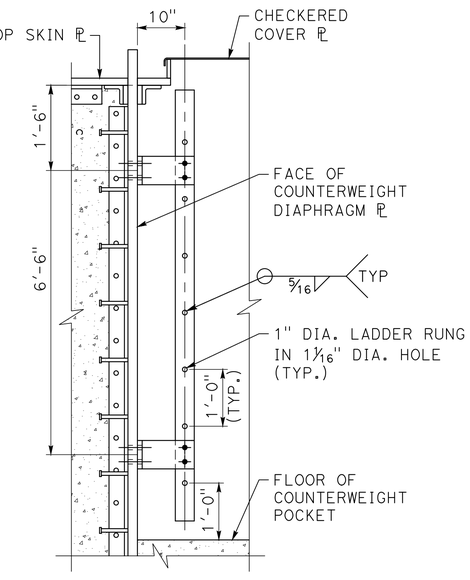
POCKET DRAINAGE DETAIL

SCALE: ¾"=1'-0"
(TYPICAL EACH POCKET)

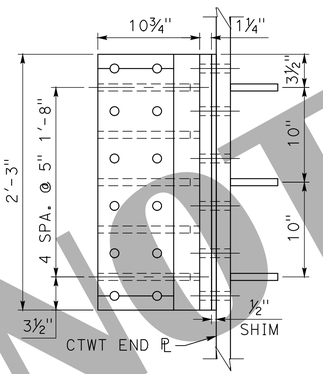


COUNTERWEIGHT ACCESS LADDER

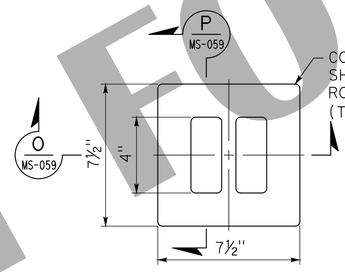
SCALE: ¾"=1'-0"



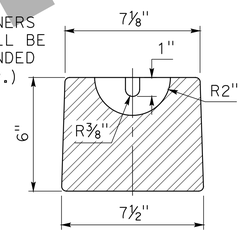
N MS-059 **SECTION**
SCALE: ¾"=1'-0"



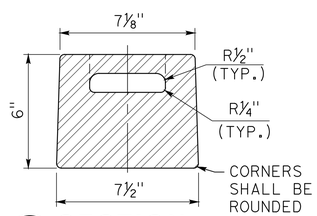
L MS-059 **SECTION**
SCALE: 1½"=1'-0"



PLAN



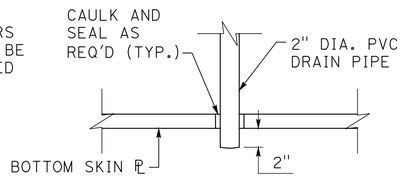
O MS-059 **SECTION**



P MS-059 **SECTION**

STEEL BALANCE BLOCKS

SCALE: 3"=1'-0"
(100 LBS/EACH MAX)



DRAIN PIPE DETAIL

SCALE: 1½"=1'-0"

NOTES:
1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. WORK THIS DRAWING WITH DRAWING NOS. MS-054 THRU MS-059.
4. FOR ADDITIONAL COUNTERWEIGHT NOTES, SEE DRAWING NO. MS-054.
5. FOR COUNTERWEIGHT GUIDE RAIL DETAILS, SEE DRAWING NOS. MS-060 AND MS-061.
6. ALL COUNTERWEIGHT GUIDE SURFACES SHALL BE 125 MICROINCH.
7. COUNTERWEIGHT GUIDE PLATE SHALL BE STRESS RELIEVED BY HEAT PRIOR TO MACHINING.
8. TRANSVERSE WEAR PLATE ATTACHMENT SCREW LENGTH WILL BE DEPENDENT UPON FINAL SHIMMING.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-048 COUNTERWEIGHT DETAILS - 6.dwg LAST PLOTTED: 11/3/2025 1:43:26 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS
NO. | DESCRIPTION | DATE | BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

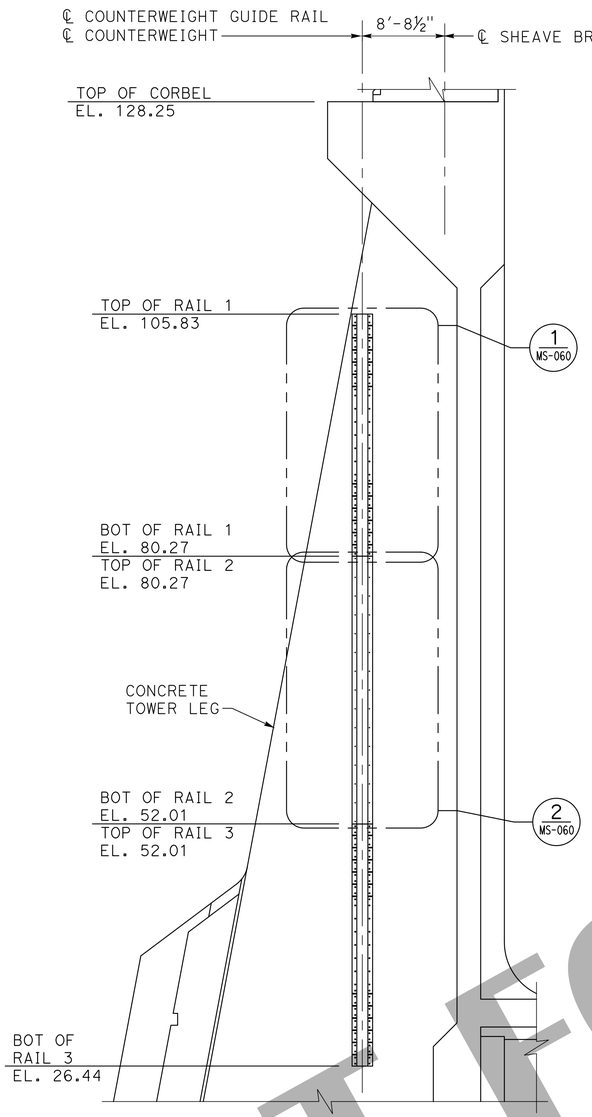
FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS
DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

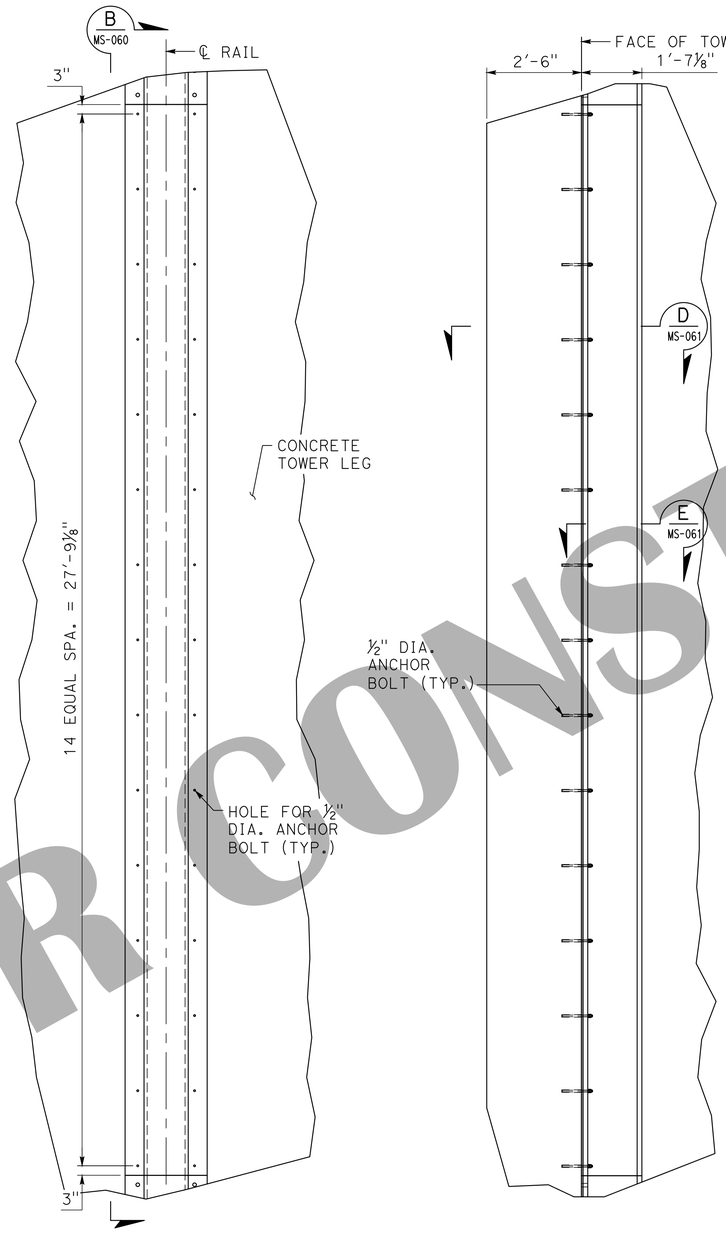
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT DETAILS - 6
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-059
SHT NO.: 379 OF 648



COUNTERWEIGHT GUIDE RAIL - ELEVATION

SCALE: ⅛"=1'-0"
(EXTERIOR SCREENING NOT SHOWN FOR CLARITY)

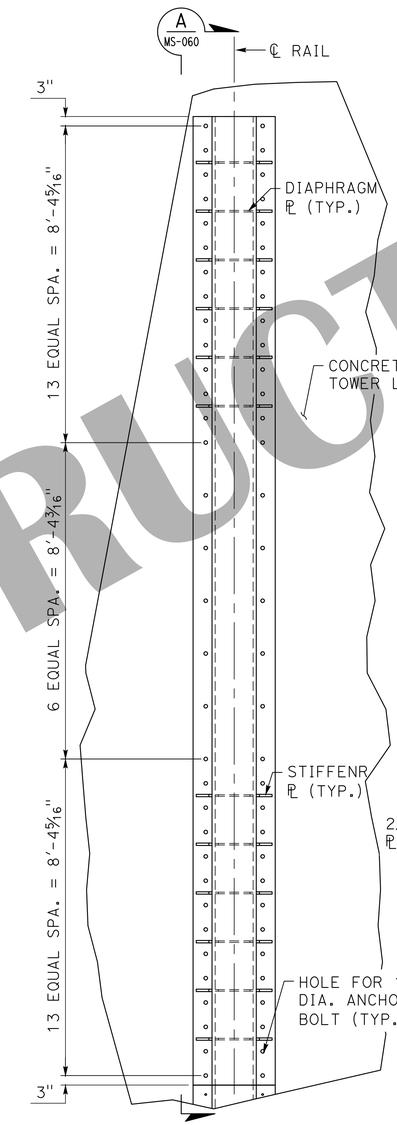


2 MS-060 DETAIL - RAIL 2

SCALE: ½"=1'-0"

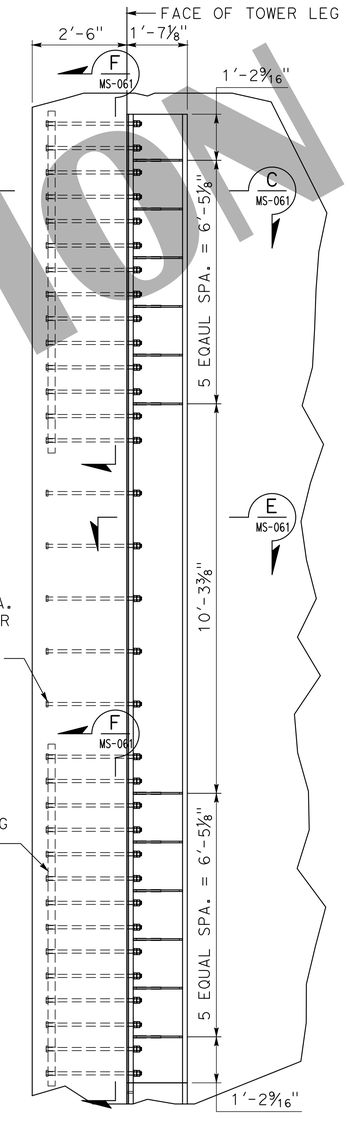
B MS-060 SECTION

SCALE: ½"=1'-0"



1 MS-060 DETAIL - RAIL 1 & 3

SCALE: ½"=1'-0"
(REINFORCEMENT NOT
SHOWN FOR CLARITY)



A MS-060 SECTION

SCALE: ½"=1'-0"
(REINFORCEMENT NOT
SHOWN FOR CLARITY)

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. FOR COUNTERWEIGHT GUIDE DETAILS, DEE DRAWING NO. MS-059.
4. ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105, WITH HEAVY HEX NUTS AND STANDARD WASHER. ALL NUTS AND BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695. HEAVY HEX NUTS SHALL TURN FREELY AFTER GALVANIZING.
5. 1" DIAMETER ANCHOR BOLTS SHALL BE CAST IN PLACE. PROVIDE TEMPORARY STEEL TEMPLATE TO ALIGN ANCHOR BOLTS DURING PLACEMENT OF CONCRETE.
6. ½" DIAMETER ANCHOR BOLTS SHALL BE POST INSTALLED ADHESIVE ANCHORS CONSISTING OF HILTI-RE 500 EPOXY ADHESIVE ANCHORING SYSTEM OR APPROVED EQUAL. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA DATE: 11/03/2025
DESIGN BY: E. MADARA DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

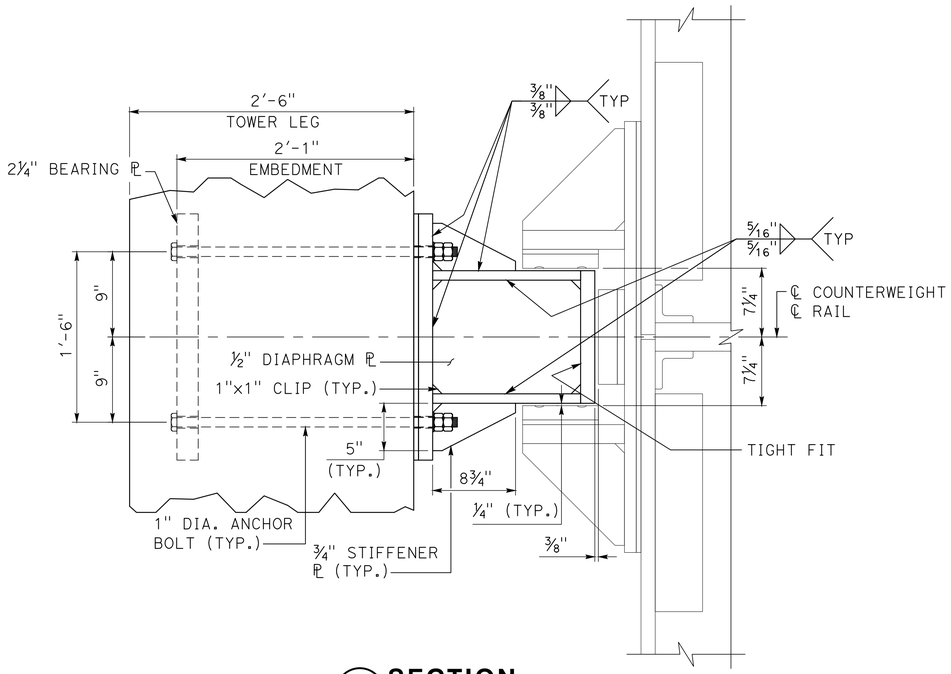
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT GUIDE RAIL
(Date: 11/03/2025)

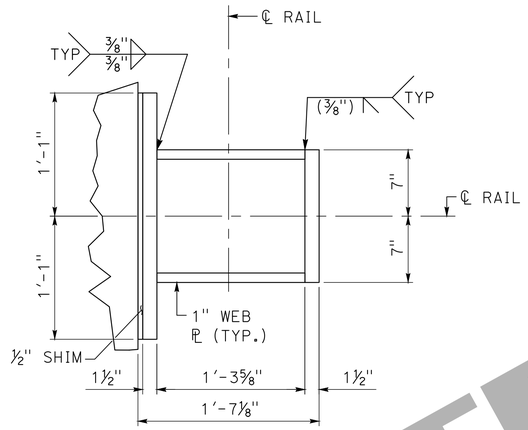
PN: T15136000
DWG NO.: MS-060
SHT NO.: 380 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

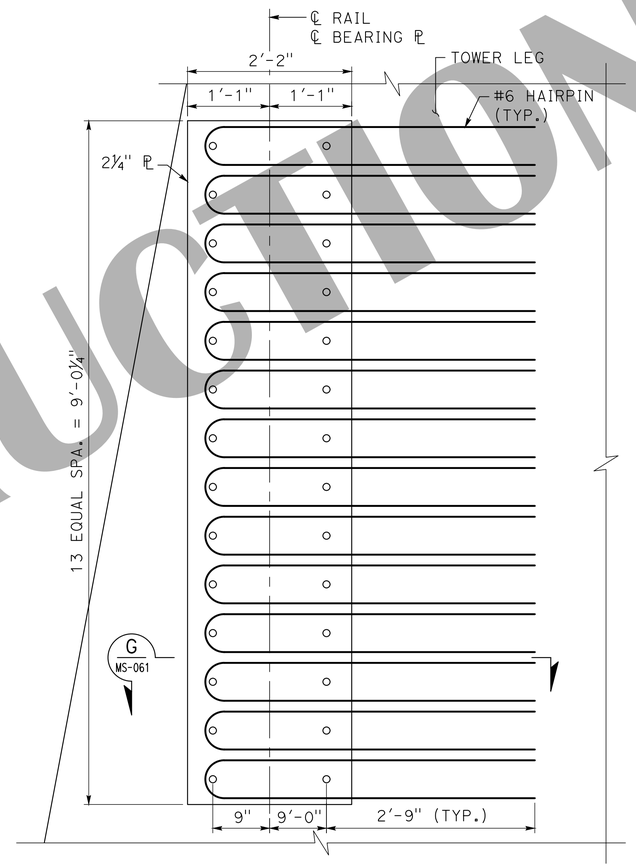
p:\3326.01\CADD\Structural\MS-049 COUNTERWEIGHT GUIDE RAIL.dwg LAST PLOTTED: 11/3/2025 1:43:38 PM



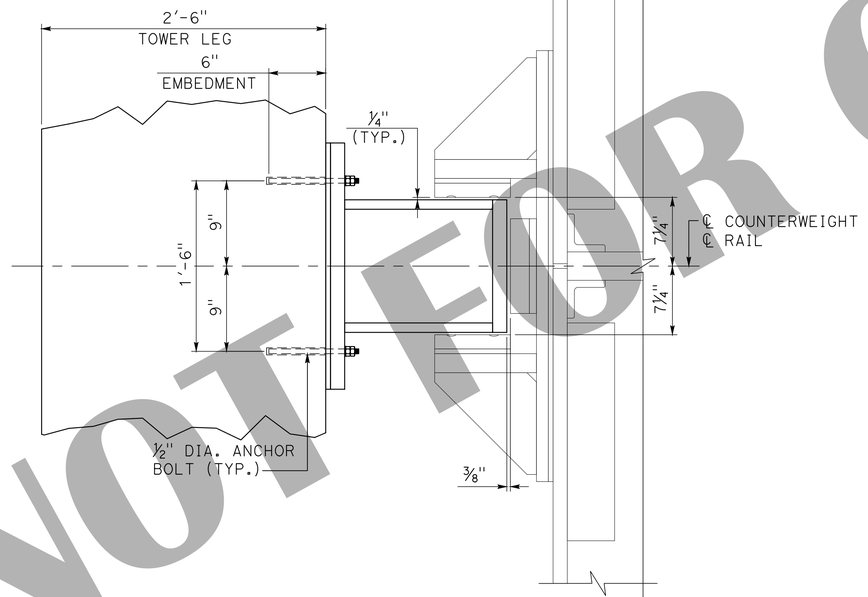
C MS-060 **SECTION**
SCALE: 1½"=1'-0"



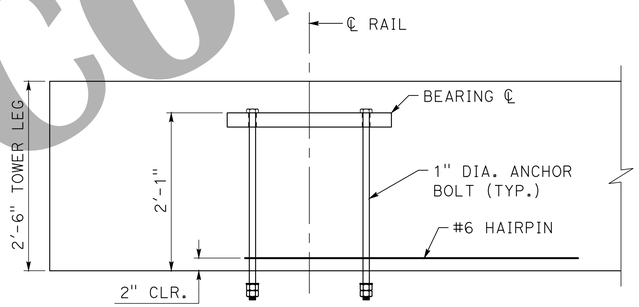
E MS-060 **TYPICAL RAIL SECTION**
SCALE: 1½"=1'-0"



F MS-060 **SECTION**
SCALE: 1"=1'-0"



D MS-060 **SECTION**
SCALE: 1½"=1'-0"



G MS-061 **SECTION**
SCALE: 1"=1'-0"
(RAIL NOT SHOWN FOR CLARITY)

NOTES:

1. FOR INDEX OF DRAWINGS, SEE DRAWING NO. MS-001.
2. FOR GENERAL NOTES, SEE DRAWING NOS. MS-003 THRU MS-005.
3. FOR COUNTERWEIGHT GUIDE DETAILS, DEE DRAWING NO. MS-059.
4. ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105, WITH HEAVY HEX NUTS AND STANDARD WASHER. ALL NUTS AND BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695. HEAVY HEX NUTS SHALL TURN FREELY AFTER GALVANIZING.
5. 1" DIAMETER ANCHOR BOLTS SHALL BE CAST IN PLACE. PROVIDE TEMPORARY STEEL TEMPLATE TO ALIGN ANCHOR BOLTS DURING PLACEMENT OF CONCRETE.
6. ½" DIAMETER ANCHOR BOLTS SHALL BE POST INSTALLED ADHESIVE ANCHORS CONSISTING OF HILTI-RE 500 EPOXY ADHESIVE ANCHORING SYSTEM OR APPROVED EQUAL. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. GRIND FLUSH ALL WELDS ON THE RAIL THAT WILL BE IN CONTACT WITH THE COUNTERWEIGHT GUIDES.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: E. MADARA	DESIGN BY: E. MADARA	CHECKED BY: A. SHAW
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

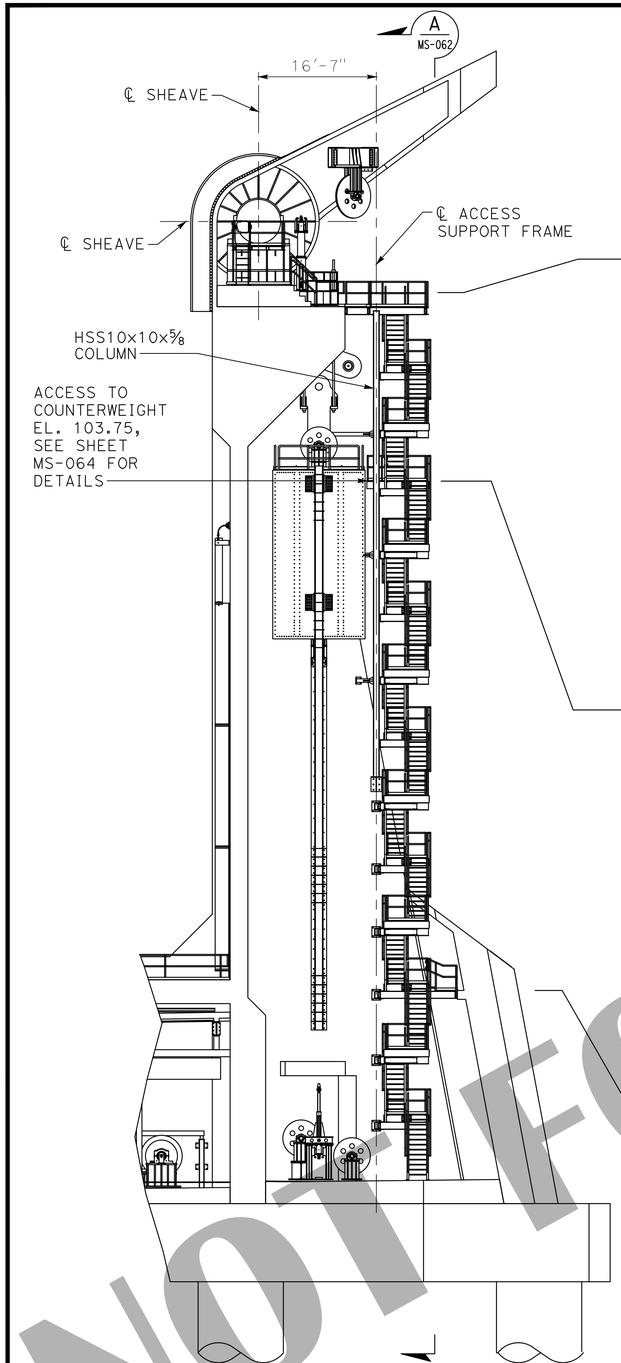
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

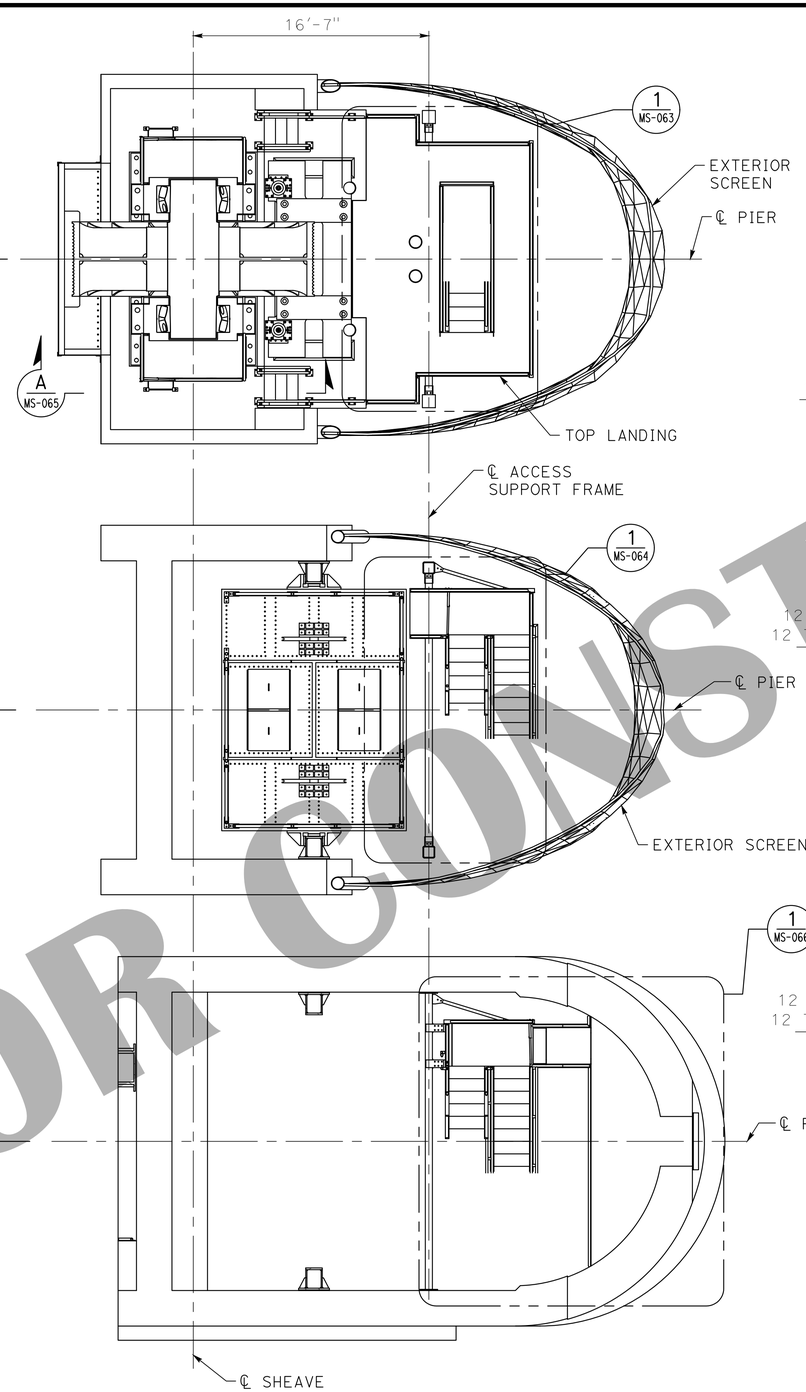
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT GUIDE RAIL DETAILS
(Date: 11/03/2025)

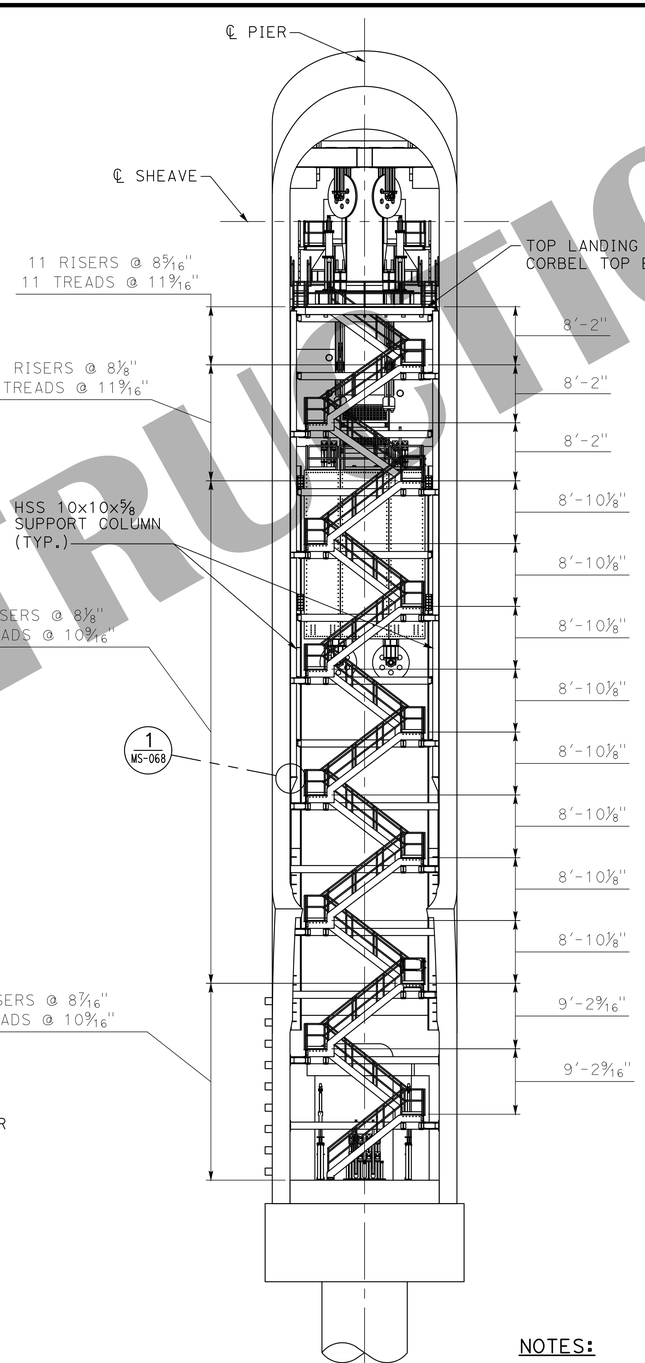
PN: T15136000
DWG NO.: MS-061
SHT NO.: 381 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-050 COUNTERWEIGHT GUIDE RAIL DETAILS.dwg LAST PLOTTED: 11/3/2025 1:43:44 PM







TOWER ACCESS ELEVATION

SCALE: 3/32" = 1'-0"
(NORTHWEST TOWER SHOWN, SOUTHWEST TOWER OPPOSITE HAND)

SECTION

A MS-062 SCALE: 3/32 = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: R. KRIEGER
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

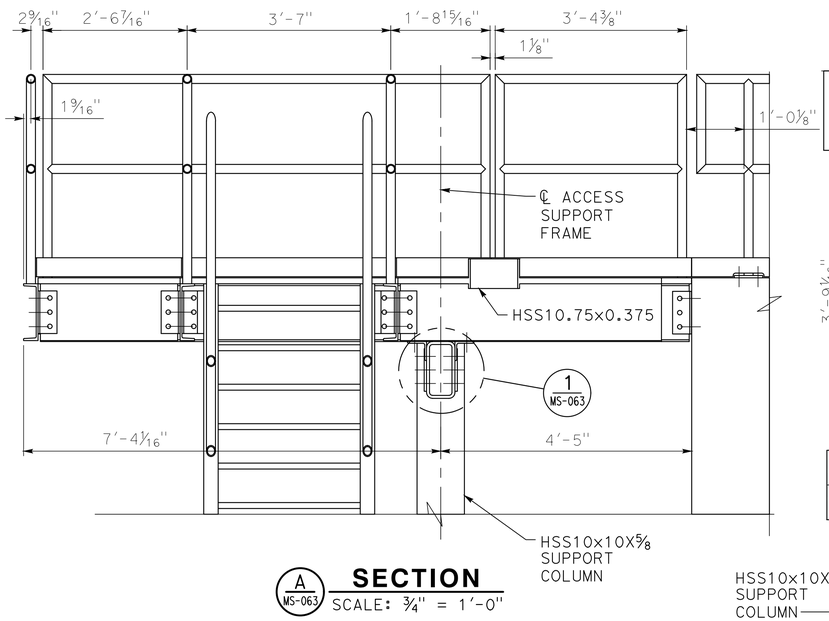
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ACCESS DETAILS - 1
(Date: 11/03/2025)

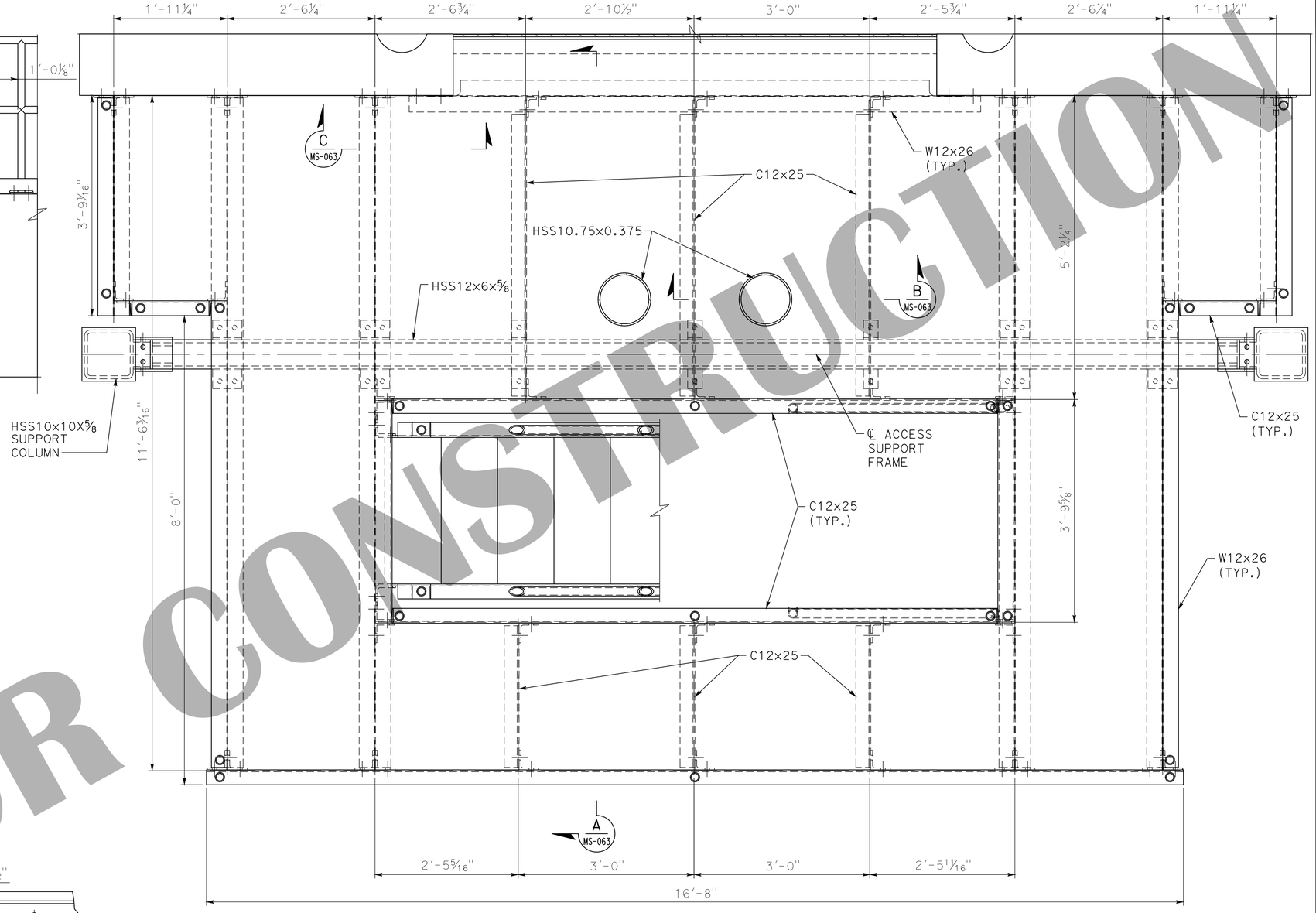
PN: T15136000
DWG NO.: MS-062
SHT NO.: 382 OF 648

p:\3326.01\CADD\Structural\MS-056 TOWER ACCESS DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:43:58 PM

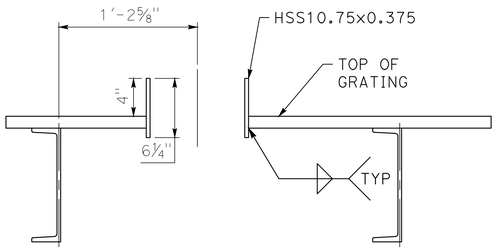
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



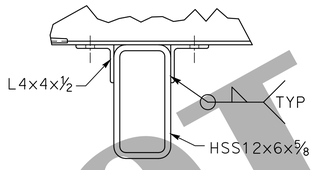
A MS-063 **SECTION**
SCALE: 3/4" = 1'-0"



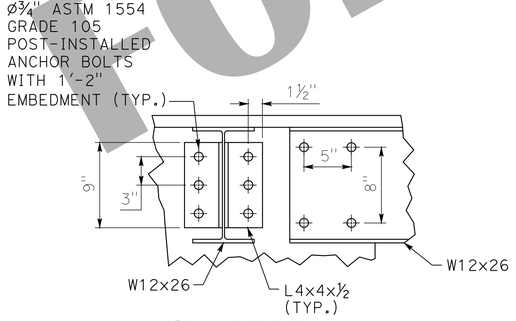
1 MS-062 **PLAN - TOP LANDING**
SCALE: 1" = 1'-0"



B MS-063 **SECTION**
SCALE: 1 1/2" = 1'-0"



1 MS-063 **DETAIL**
SCALE: 1 1/2" = 1'-0"



C MS-063 **SECTION**
SCALE: 1 1/2" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: R. KRIEGER
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

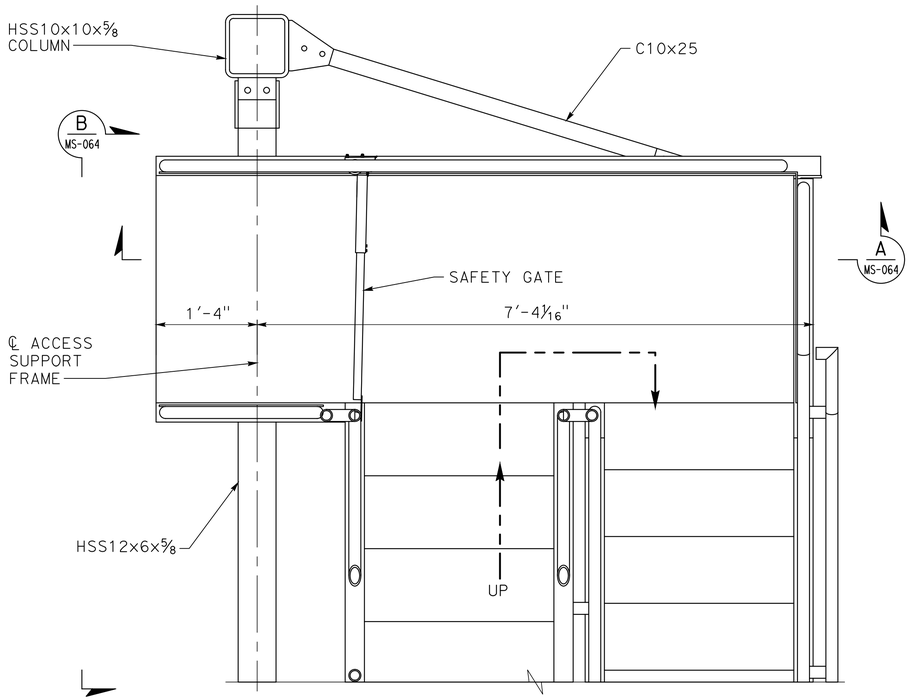
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ACCESS DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

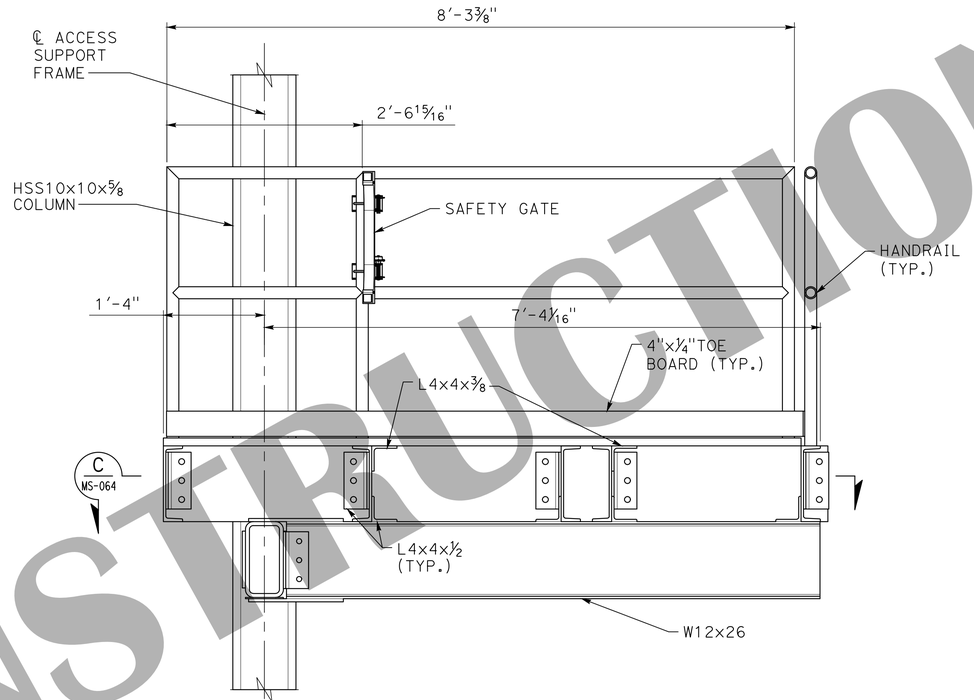
DWG NO.: MS-063
SHT NO.: 383 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

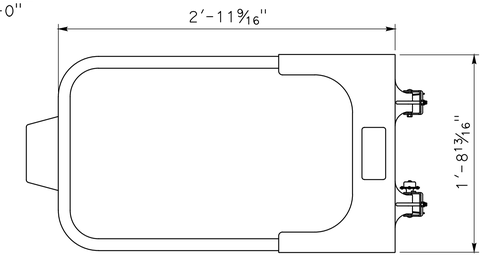
p:\3326.01\CADD\Structural\MS-057 TOWER ACCESS DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:44:06 PM



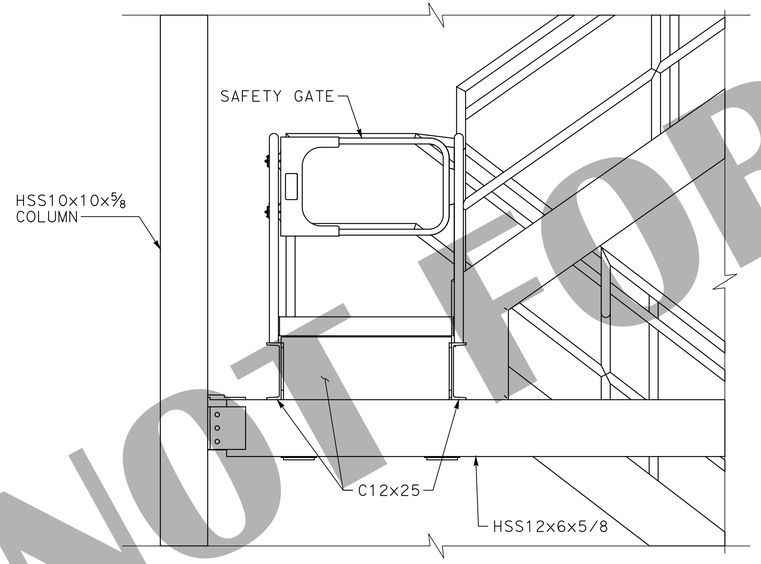
1 / MS-062 **DETAIL**
SCALE: 1" = 1'-0"



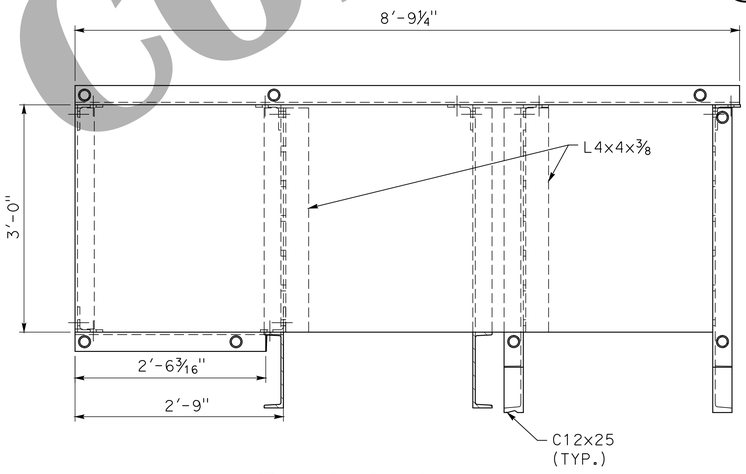
A / MS-064 **SECTION**
SCALE: 3/4" = 1'-0"



SAFETY GATE DETAIL
SCALE: 1 1/2" = 1'-0"



B / MS-064 **SECTION**
SCALE: 3/4" = 1'-0"



C / MS-064 **SECTION**
SCALE: 3/4" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU. MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: R. KRIEGER
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — TYLER P. RAY CLEMENTS — No. 99999 — Exp. 09-30-26 — STATE OF CALIFORNIA — Date: 11/03/2025

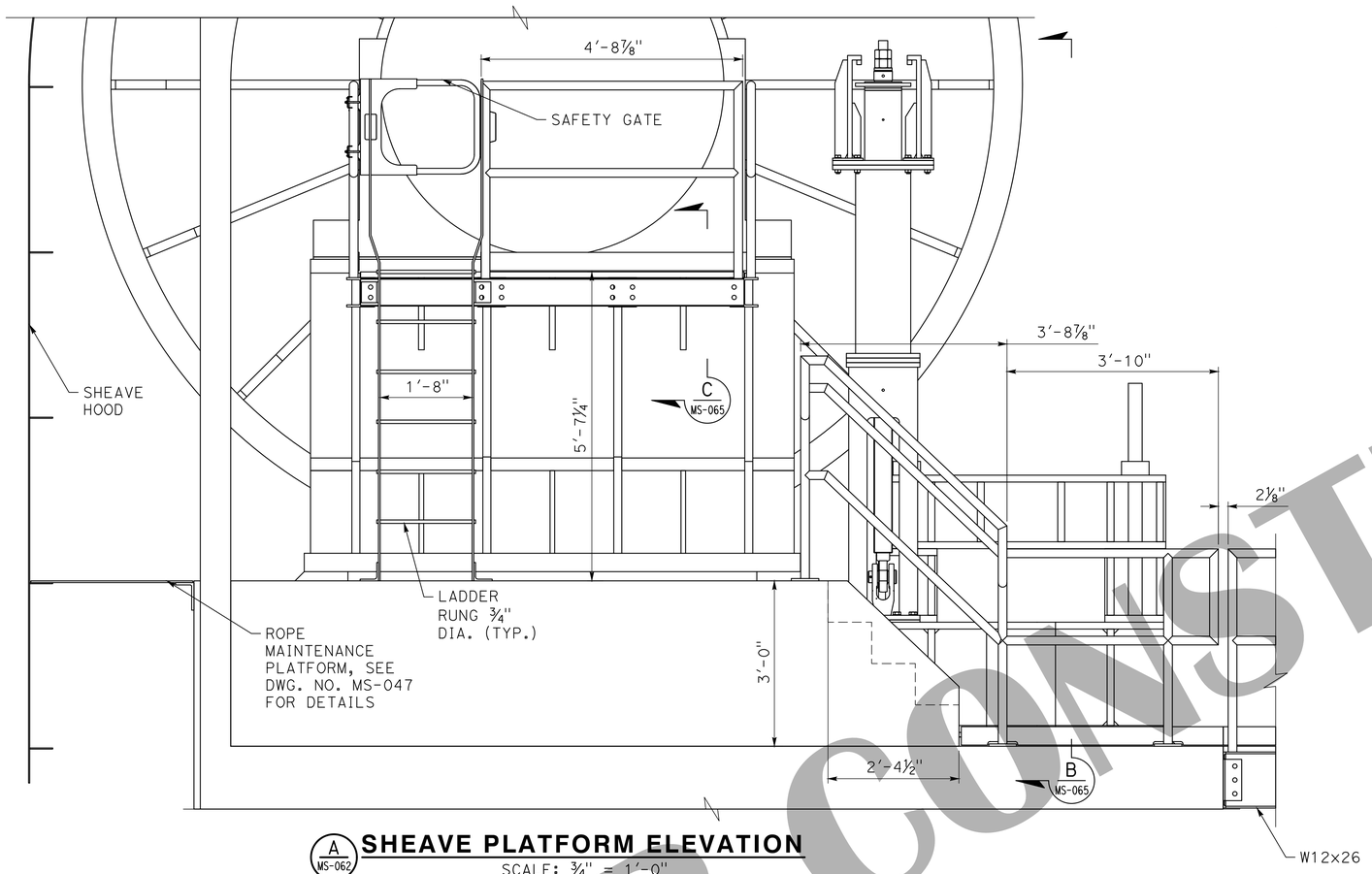
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ACCESS DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-064
SHT NO.: 384 OF 648

p:\3326.01\CADD\Structural\MS-XXX TOWER ACCESS DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:44:15 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

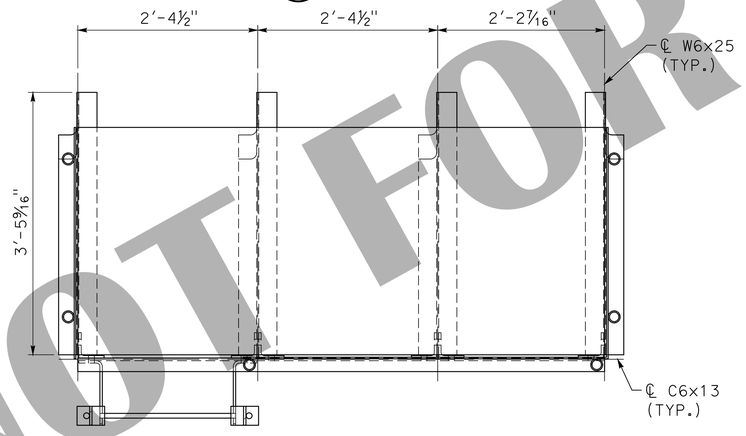


A MS-062 **SHEAVE PLATFORM ELEVATION**

SCALE: ¾" = 1'-0"

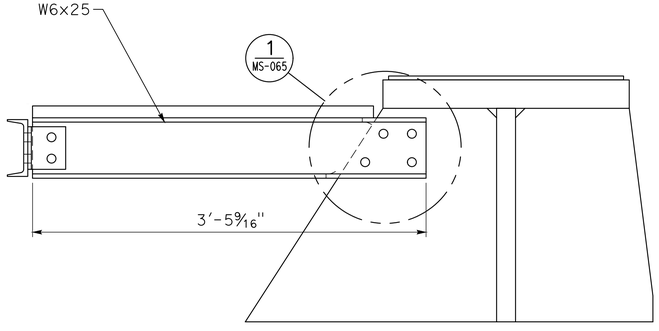
B MS-065 **SHEAVE PLATFORM ELEVATION**

SCALE: ¾" = 1'-0"



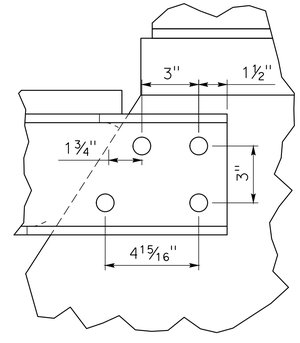
PLATFORM FRAMING PLAN

SCALE: 1" = 1'-0"



C MS-065 **SECTION**

SCALE: 1½" = 1'-0"



1 MS-065 **DETAIL**

SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025

DESIGN BY: R. HICKEY DATE: 11/03/2025

CHECKED BY: R. KRIEGER DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — CHRIS A. PETERSEN — No. 99999 — Exp. 09-30-26 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ACCESS DETAILS - 4
(Date: 11/03/2025)

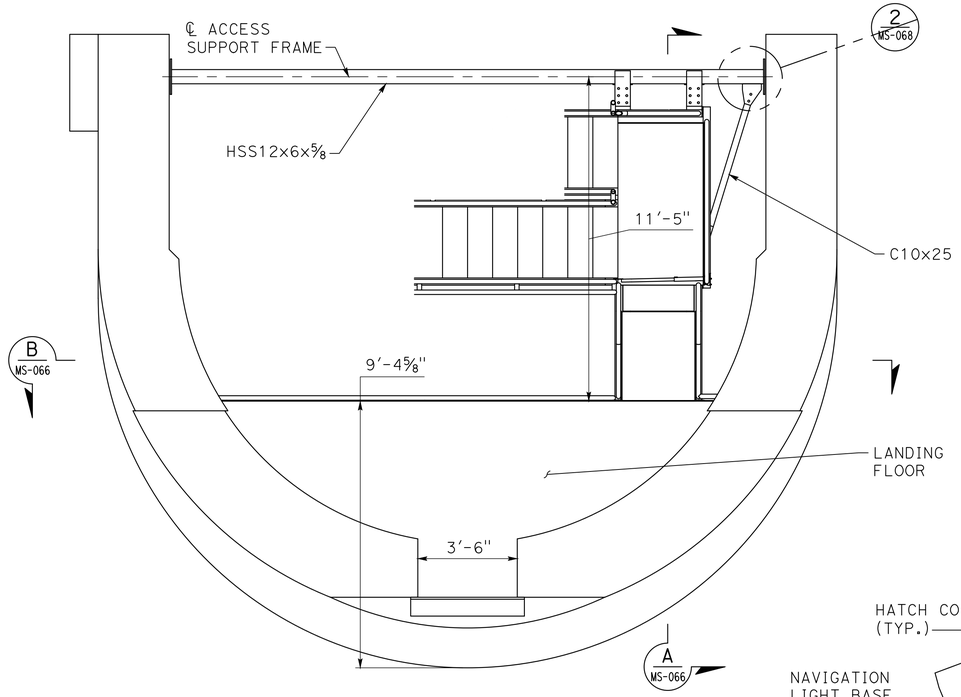
PN: T15136000

DWG NO.: MS-065

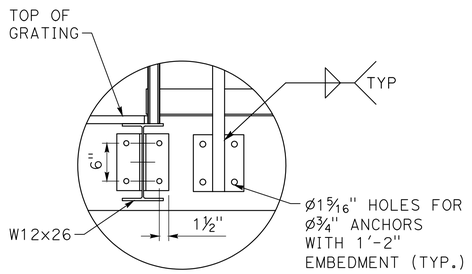
SHT NO.: 385 OF 648

p:\3326.01\CADD\Structural\MS-XXX TOWER ACCESS DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:44:23 PM

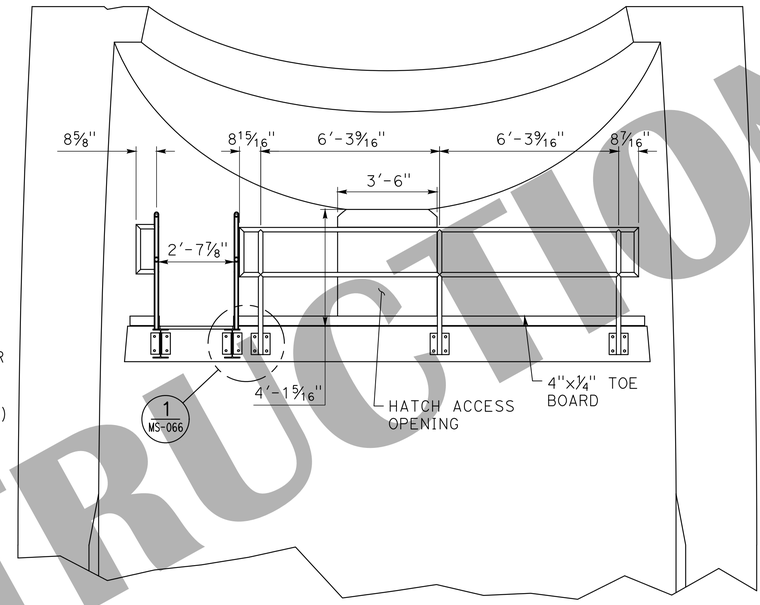
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



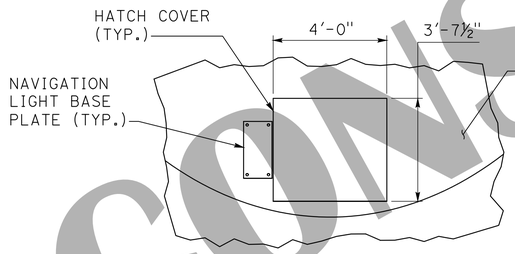
3 MS-062 HATCH LANDING PLAN VIEW
SCALE: 3/8" = 1'-0"



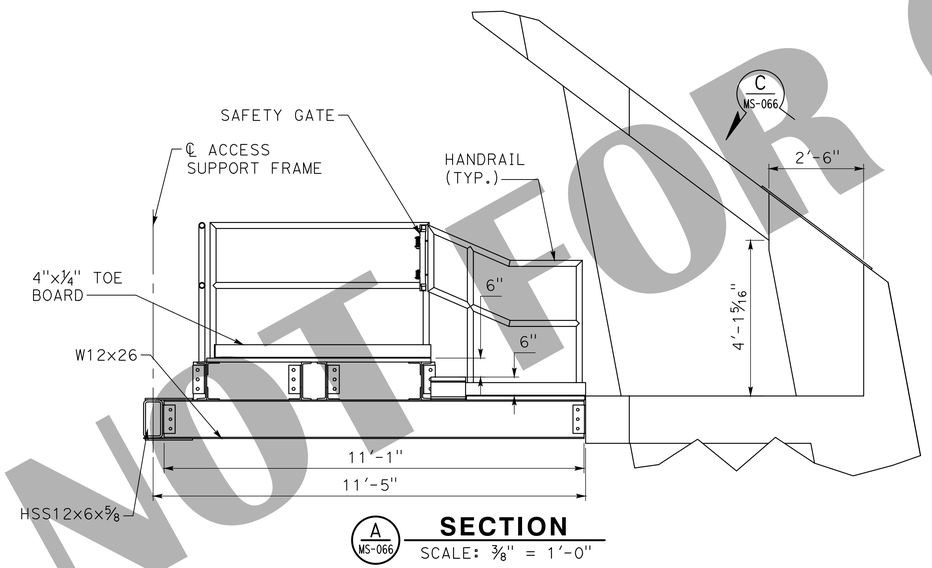
1 MS-066 DETAIL
SCALE: 1" = 1'-0"



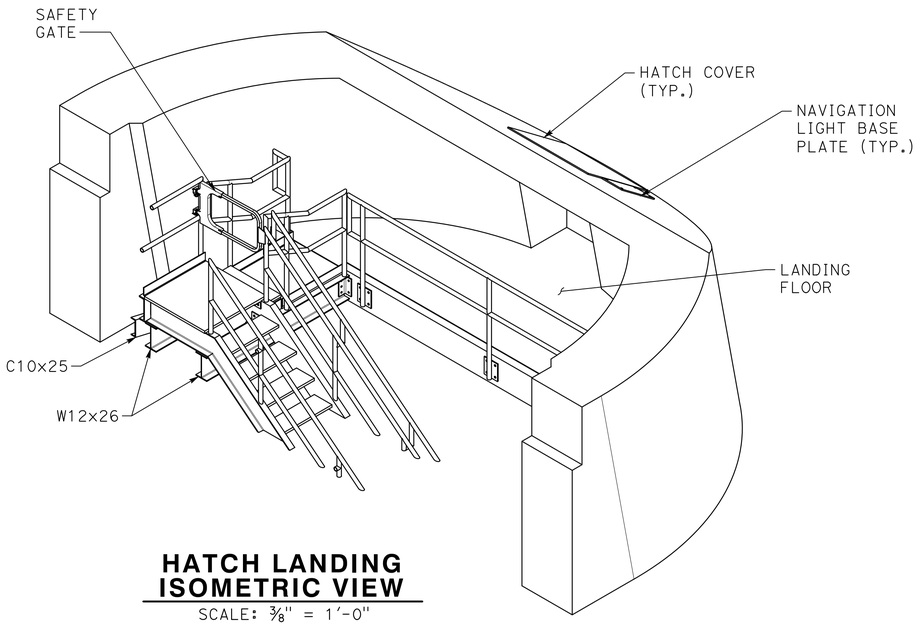
B MS-066 SECTION
SCALE: 3/8" = 1'-0"



C MS-066 SECTION
SCALE: 3/8" = 1'-0"



A MS-066 SECTION
SCALE: 3/8" = 1'-0"



HATCH LANDING ISOMETRIC VIEW
SCALE: 3/8" = 1'-0"

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-XXX TOWER ACCESS DETAILS - 5.dwg LAST PLOTTED: 11/3/2025 1:44:30 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

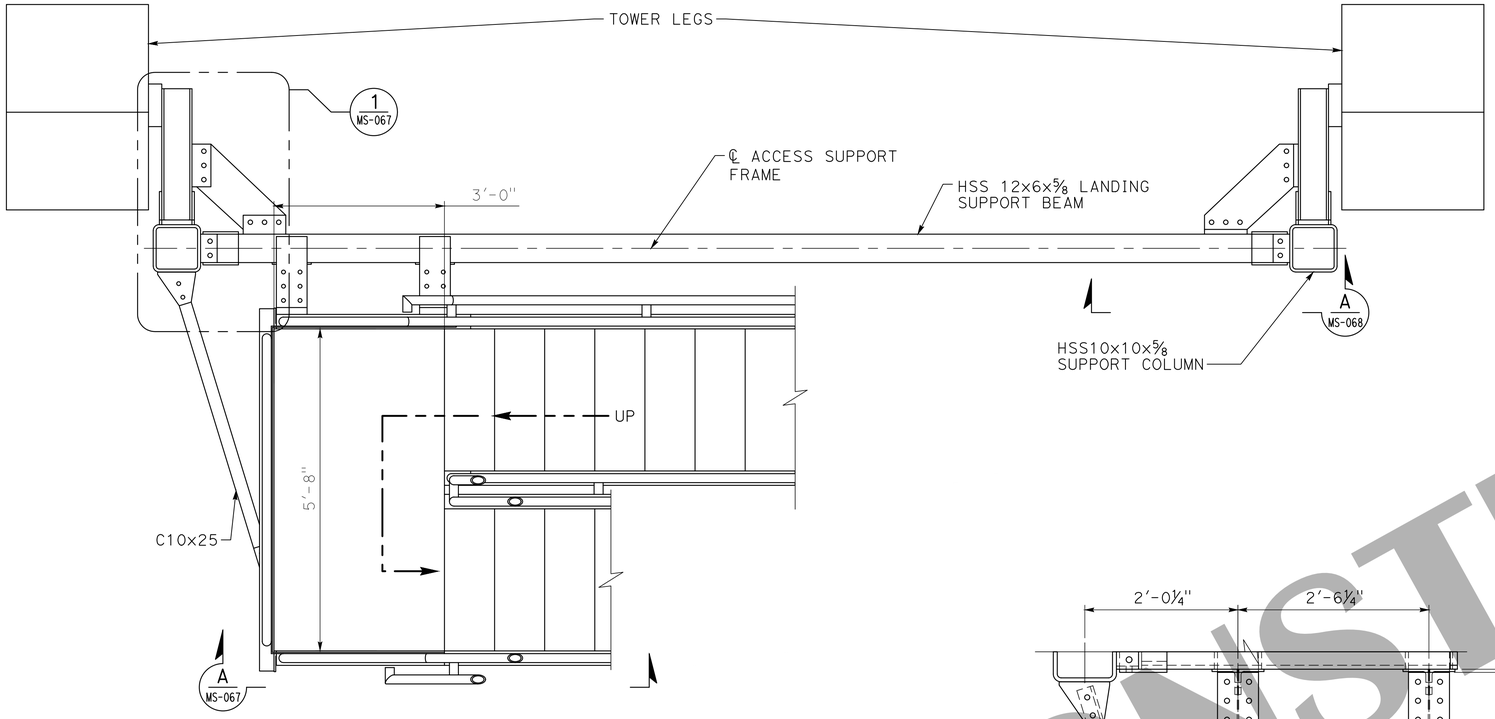
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: R. KRIEGER DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — TRAVIS H. GATTENBERG — No. 99999 — Exp. 09-30-26 — STATE OF CALIFORNIA — Date: 11/03/2025

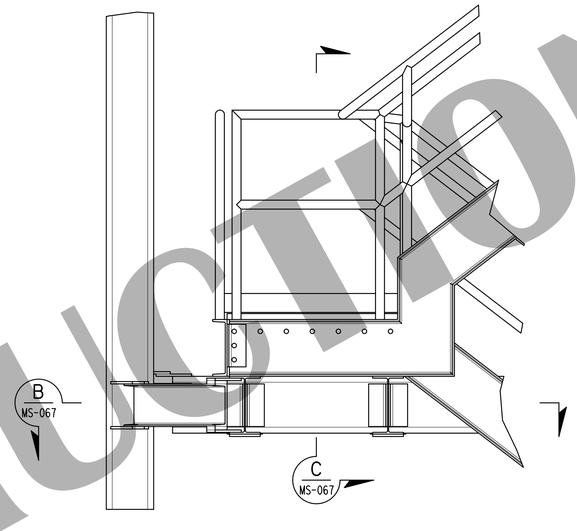
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ACCESS DETAILS - 5
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-066
SHT NO.: 386 OF 648



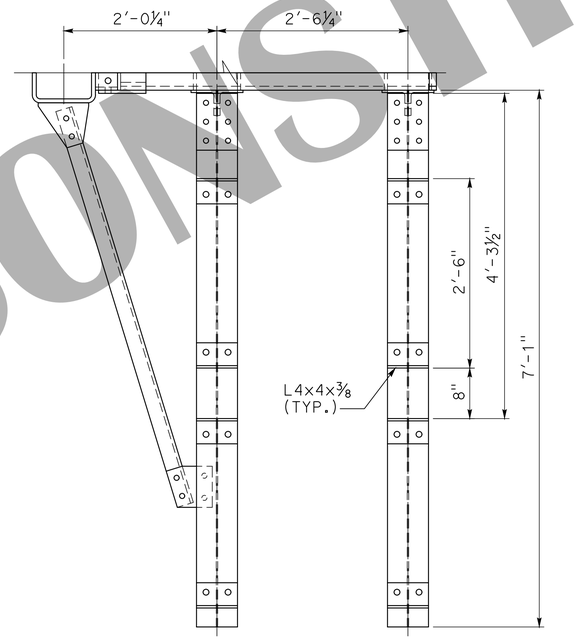
PLAN - TYPICAL LANDING

SCALE: ¾" = 1'-0"



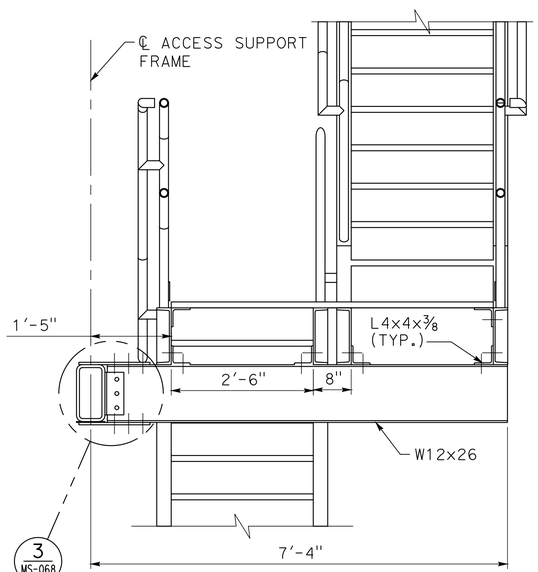
A MS-067 **SECTION**

SCALE: 1" = 1'-0"



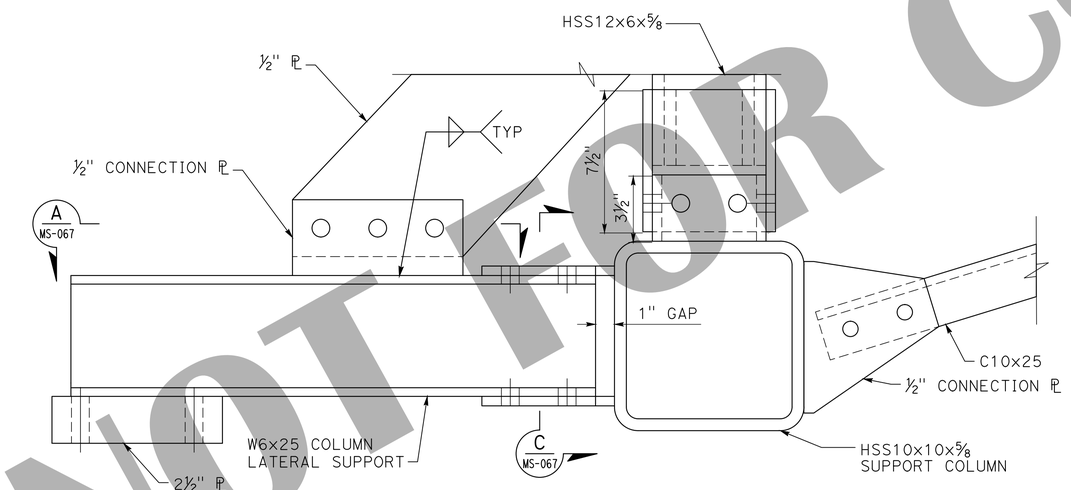
B MS-067 **SECTION**

SCALE: 1" = 1'-0"



C MS-067 **SECTION**

SCALE: 1½" = 1'-0"



1 MS-067 **DETAIL**

SCALE: 3" = 1'-0"

NOTE: COLUMN LATERAL SUPPORTS AT EL. 75.61, 91.30, AND 108.31.

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: R. KRIEGER DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TERRY P. GILBERTS No. 19000 Exp. 03-31-26 CIVIL STATE OF CALIFORNIA

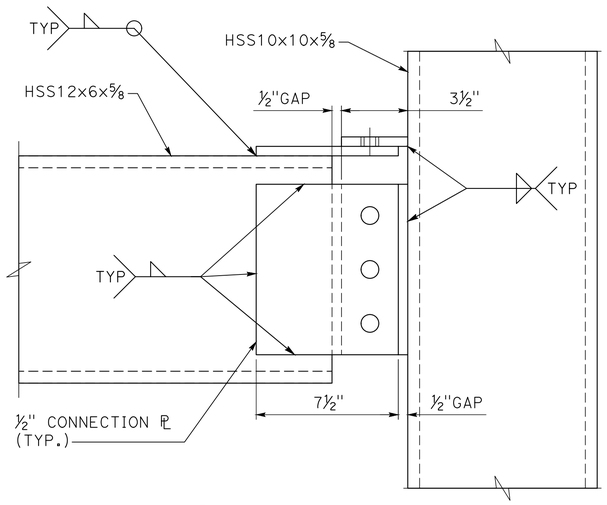
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ACCESS DETAILS - 6
(Date: 11/03/2025)

PN: T15136000

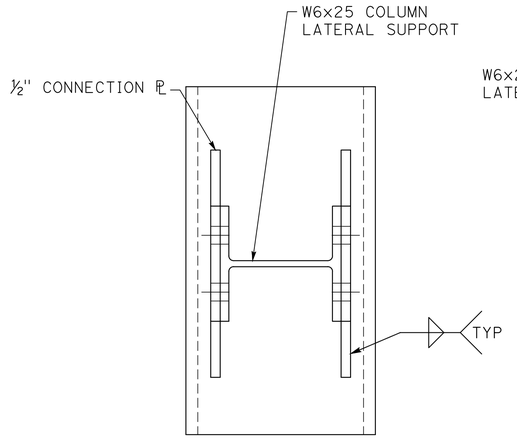
DWG NO.: MS-067
SHT NO.: 387 OF 648

p:\3326.01\CADD\Structural\MS-XXX TOWER ACCESS DETAILS - 6.dwg LAST PLOTTED: 11/3/2025 1:44:38 PM

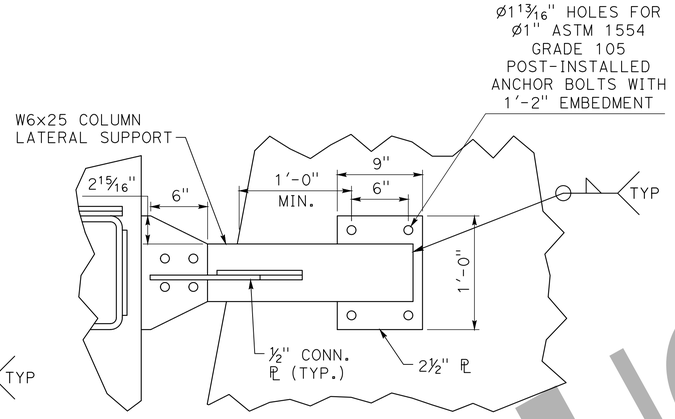
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



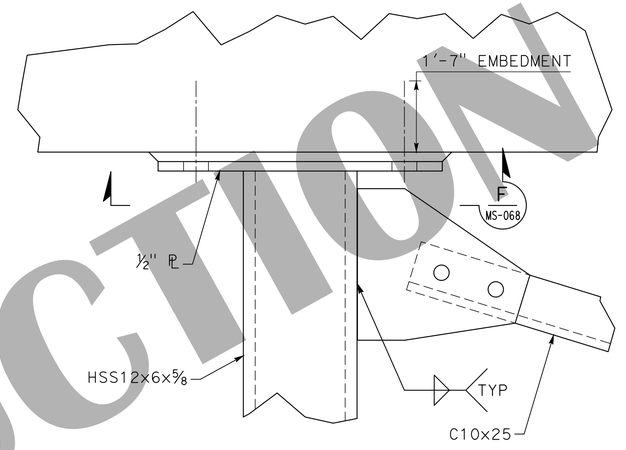
A MS-067 **SECTION**
SCALE: 3" = 1'-0"



B MS-067 **SECTION**
SCALE: 3" = 1'-0"

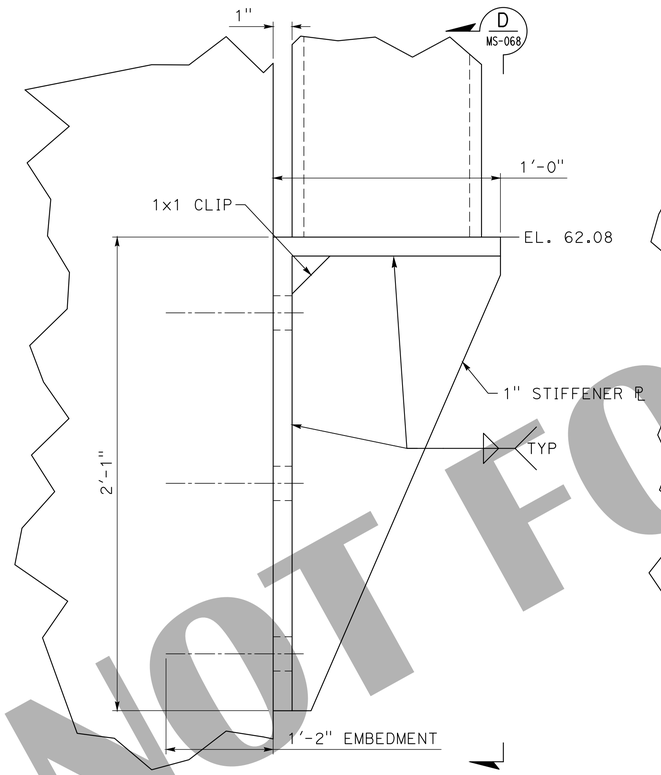


C MS-067 **VIEW**
SCALE: 1 1/2" = 1'-0"

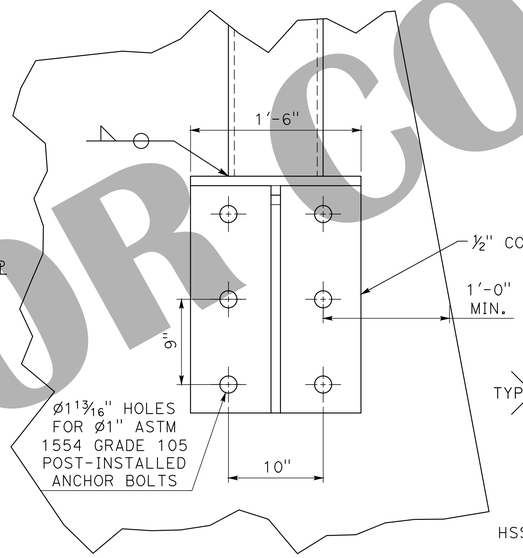


2 MS-066 **DETAIL**
SCALE: 3" = 1'-0"

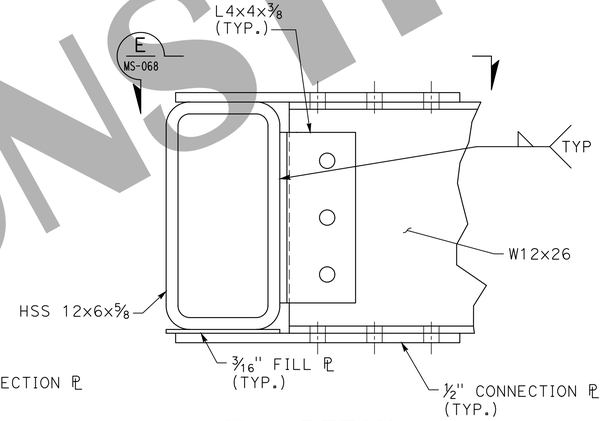
NOTE:
FOR LANDINGS ANCHORED TO THE TOWER LEG, C10x25 KICKER SHALL BE CONNECTED TO HSS12x6x5/8 BEAM.



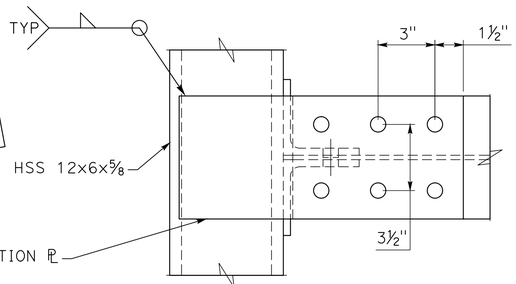
1 MS-062 **DETAIL**
SCALE: 3" = 1'-0"



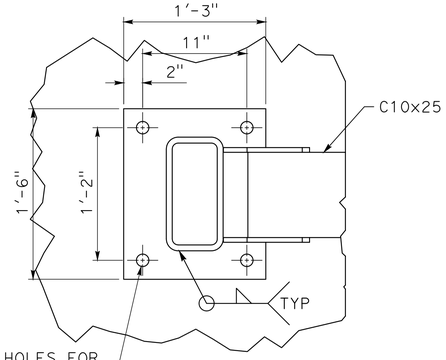
D MS-068 **VIEW**
SCALE: 1 1/2" = 1'-0"



3 MS-067 **DETAIL**
SCALE: 3" = 1'-0"



E MS-068 **VIEW**
SCALE: 3" = 1'-0"



F MS-068 **SECTION**
SCALE: 1 1/2" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG NOS. MS-003 THRU MS-005.
2. FOR TYPICAL STAIRCASE AND RAILING DETAILS, SEE DWG. NO. MS-078.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: R. KRIEGER
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

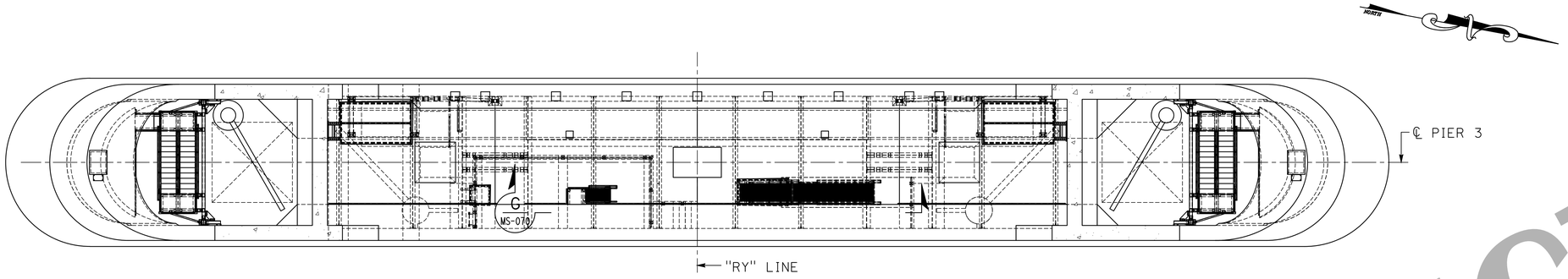
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ACCESS DETAILS - 7
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-068
SHT NO.: 388 OF 648

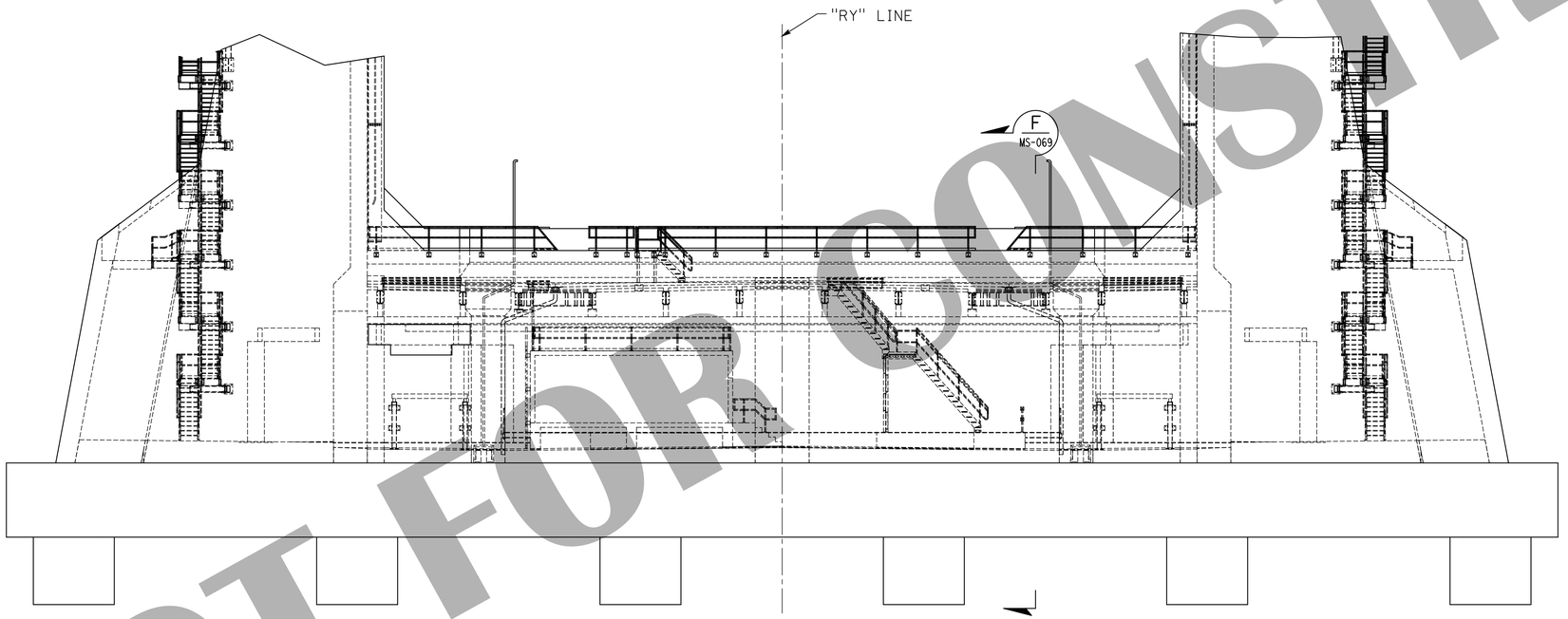
p:\3326.01\CADD\Structural\MS-058 TOWER ACCESS DETAILS - 7.dwg LAST PLOTTED: 11/3/2025 1:44:50 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



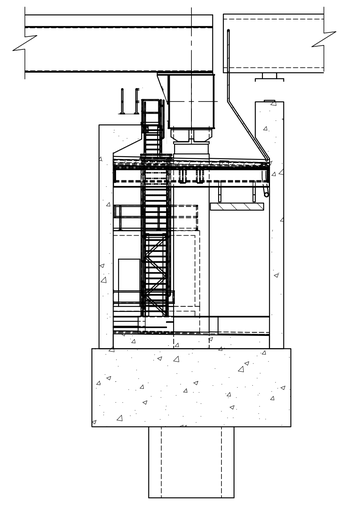
TOWER ACCESS DETAILS -PLAN

SCALE: 3/32" = 1'-0"



TOWER ACCESS DETAILS -ELEVATION

SCALE: 3/32" = 1'-0"



F MS-069 **SECTION**

SCALE: 3/32" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. GHIMIRE DATE: 11/03/2025
DESIGN BY: P. GHIMIRE DATE: 11/03/2025
CHECKED BY: R. HICKEY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

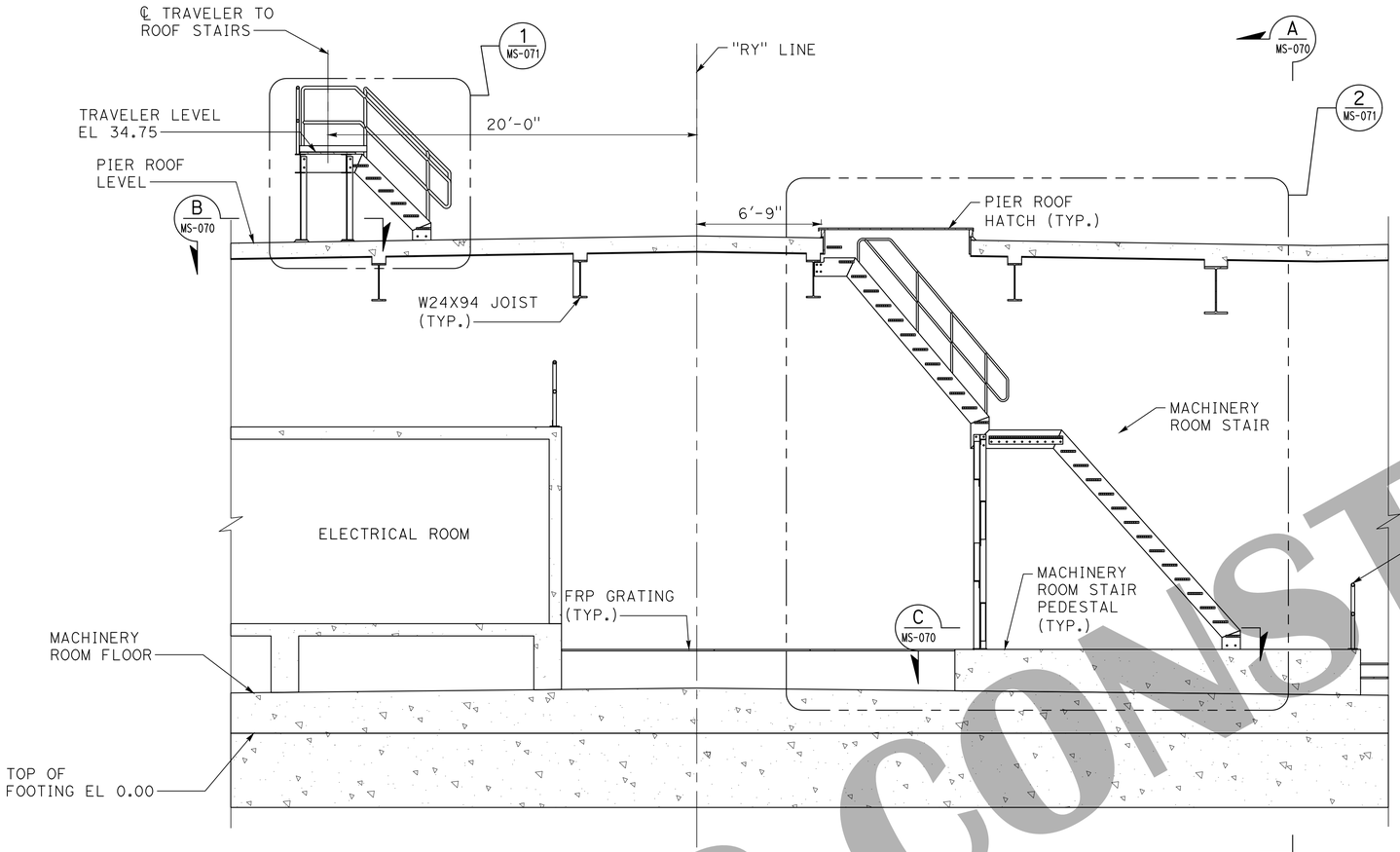
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ACCESS DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

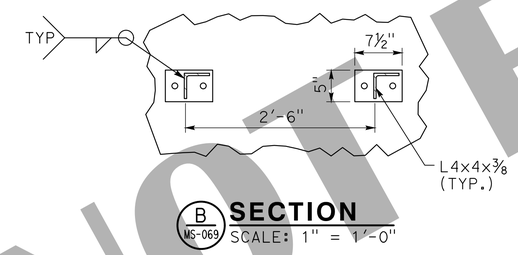
DWG NO.: MS-069
SHT NO.: 389 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

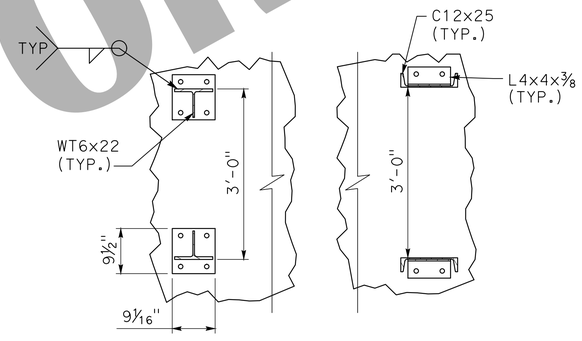
p:\3326.01\CADD\Structural\MS-059 PIER ACCESS DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:44:59 PM



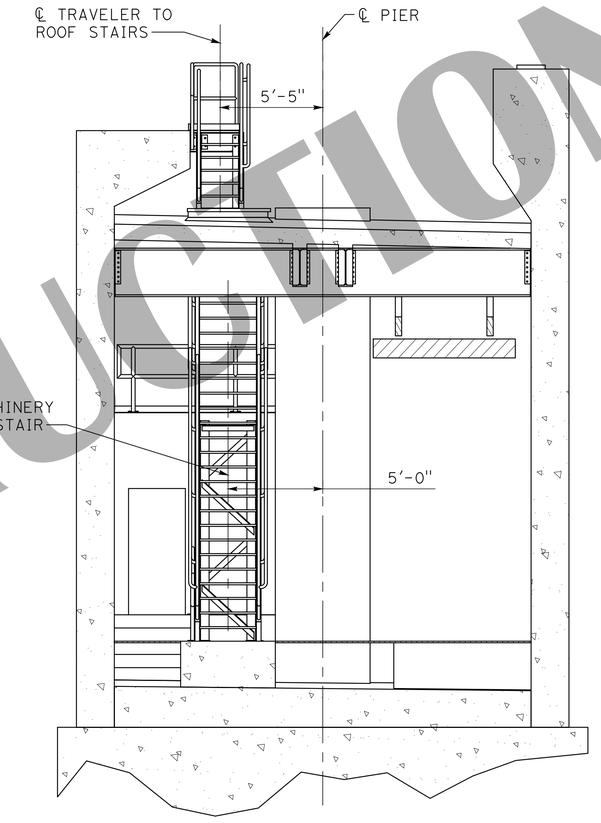
G MS-069 **SECTION**
SCALE: ¼" = 1'-0"
(MACHINERY DETAILS NOT SHOWN FOR CLARITY)



B MS-069 **SECTION**
SCALE: 1" = 1'-0"



C MS-069 **SECTION**
SCALE: 1" = 1'-0"



A MS-070 **PIER ACCESS - DEVELOPED SECTION**
SCALE: ¼" = 1'-0"
(MACHINERY DETAILS NOT SHOWN FOR CLARITY)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. GHIMIRE	DESIGN BY: P. GHIMIRE	CHECKED BY: R. HICKEY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

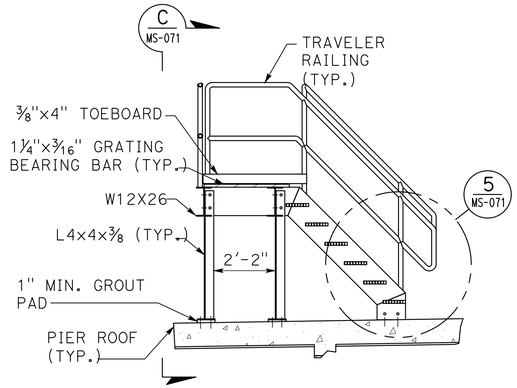
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ACCESS DETAILS - 2
(Date: 11/03/2025)

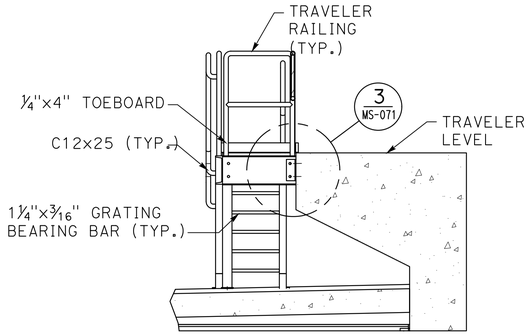
PN: T15136000
DWG NO.: MS-070
SHT NO.: 390 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

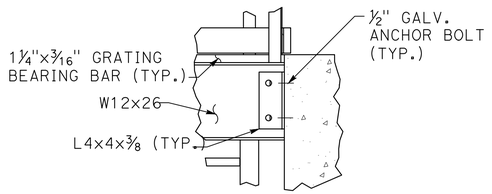
p:\3326.01\CADD\Structural\MS-060 PIER ACCESS DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:45:06 PM



1 MS-070 **DETAIL**
SCALE: ⅜" = 1'-0"

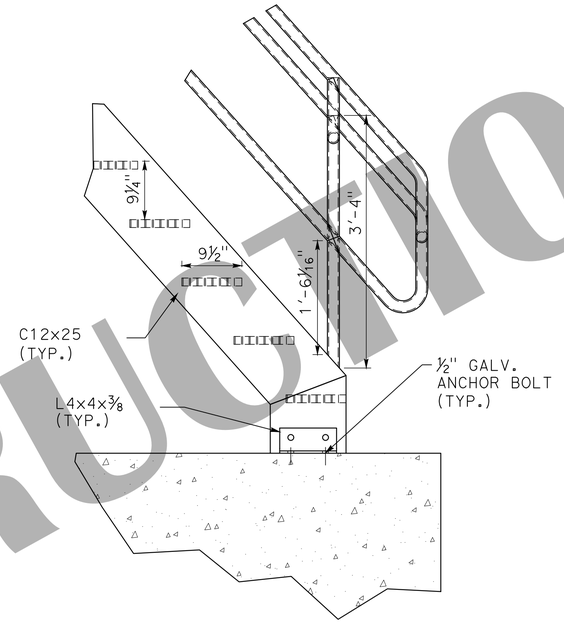


C MS-070 **SECTION**
SCALE: ⅜" = 1'-0"

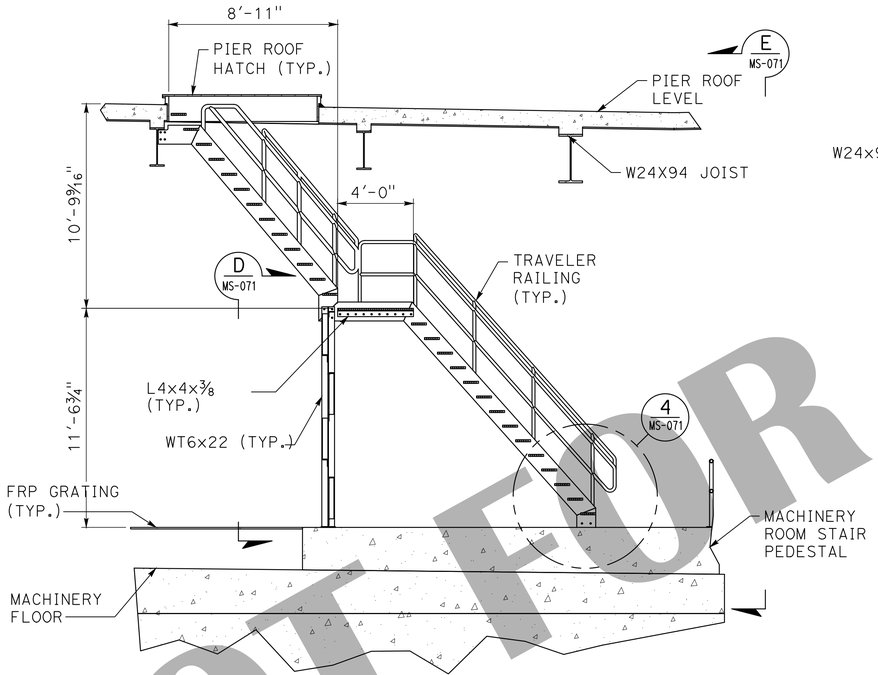


DETAIL I
SCALE 1" = 1'-0"

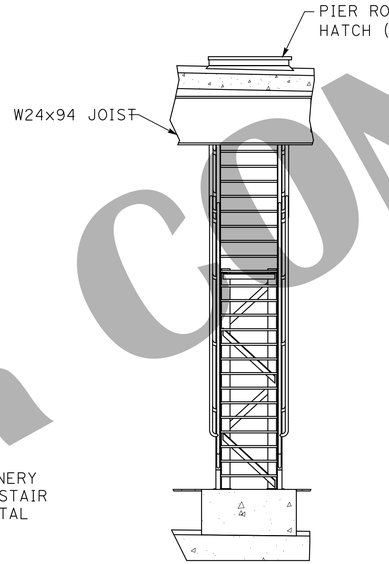
3 MS-071 **DETAIL**
SCALE: 1" = 1'-0"



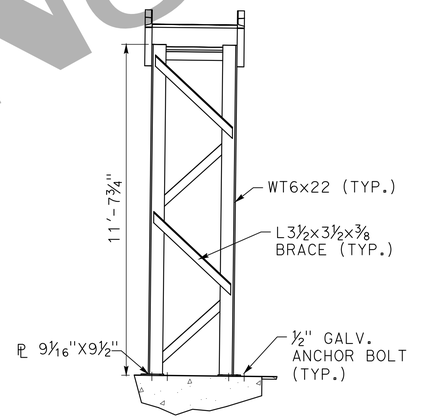
4 MS-071 **DETAIL**
SCALE: 1" = 1'-0"
(DETAIL 5 SIMILAR)



2 MS-070 **DETAIL**
SCALE: ¼" = 1'-0"



E MS-071 **SECTION**
SCALE: ¼" = 1'-0"



D MS-071 **SECTION**
SCALE: ⅜" = 1'-0"
(NOTE: STAIRCASE NOT SHOWN FOR CLARITY)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. ALL BOLTS SHOWN ON THIS SHEET SHALL BE ⅞" H.S. BOLTS UNLESS NOTED OTHERWISE.
3. PROVIDE SERRATED GALVANIZED GRATING FOR TREADS AND LANDING WITH 1¼"X3/16" BEARING BARS SPACED AT 1 3/16", CROSS BARS SPACED AT 4", CHECKERED PLATE NOSING AND ¼" END PLATES.
4. ANCHOR BOLTS SHALL BE POST-INSTALLED ADHESIVE ANCHORS, WITH A MINIMUM EMBEDMENT OF 7".

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. GHIMIRE DATE: 11/03/2025
DESIGN BY: P. GHIMIRE DATE: 11/03/2025
CHECKED BY: R. HICKEY DATE: 11/03/2025

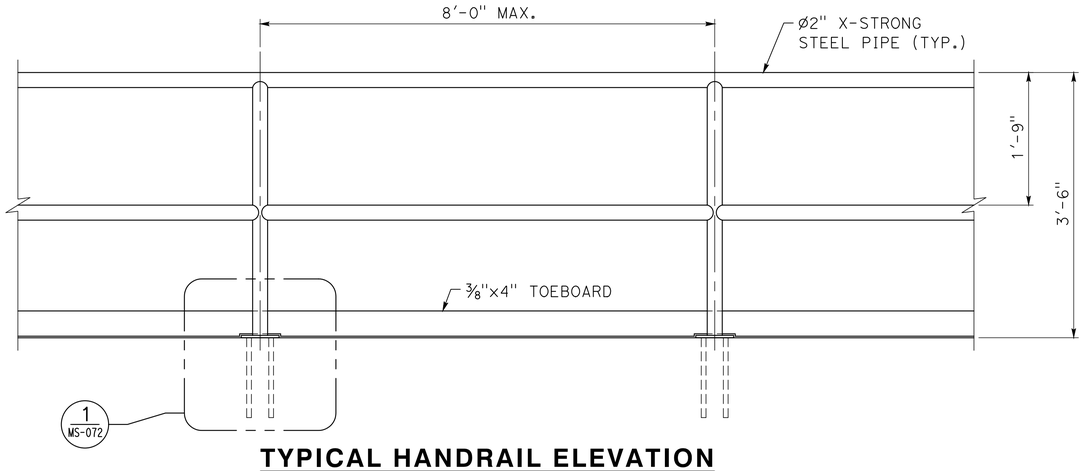
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ACCESS DETAILS - 3
(Date: 11/03/2025)

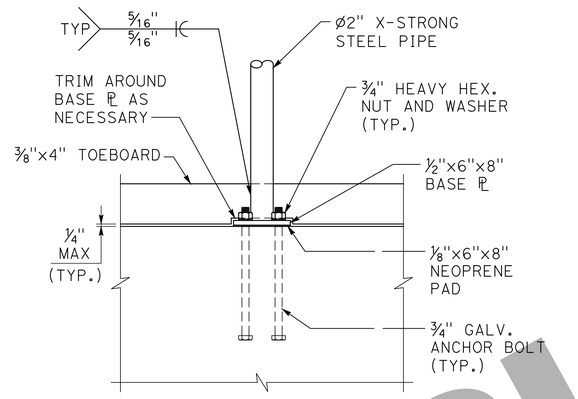
PN: T15136000
DWG NO.: MS-071
SHT NO.: 391 OF 648

p:\3326.01\CADD\Structural\MS-061 PIER ACCESS DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:45:24 PM

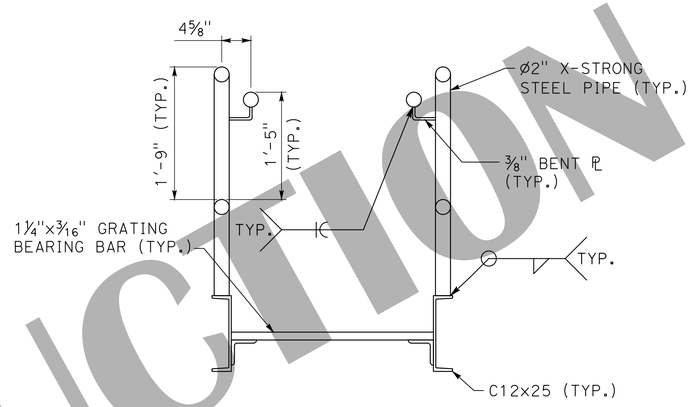
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



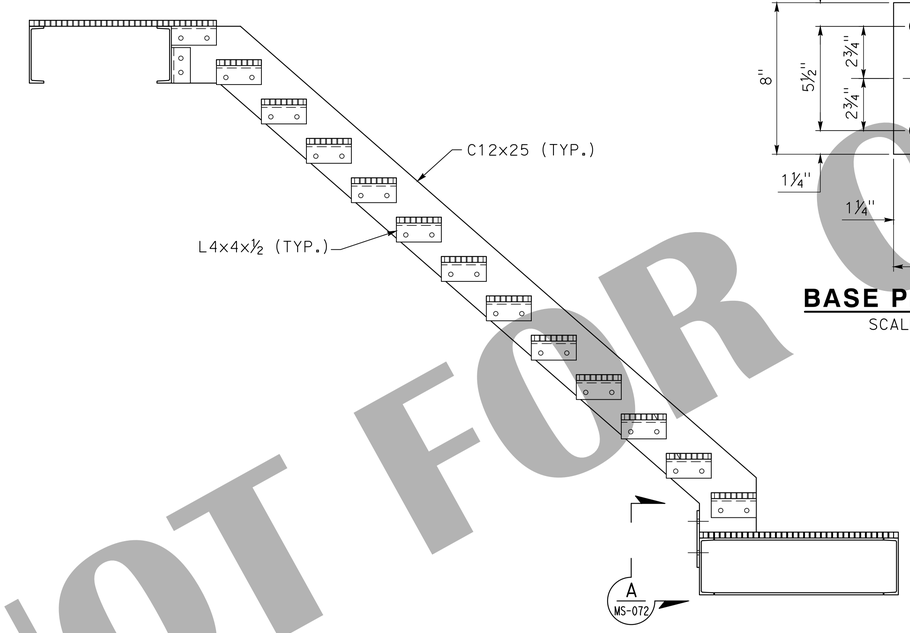
TYPICAL HANDRAIL ELEVATION
SCALE: 1" = 1'-0"



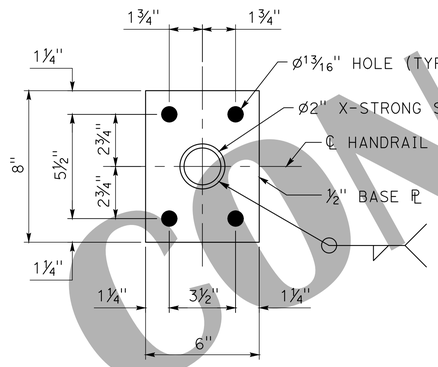
DETAIL 1
SCALE: 1½" = 1'-0"



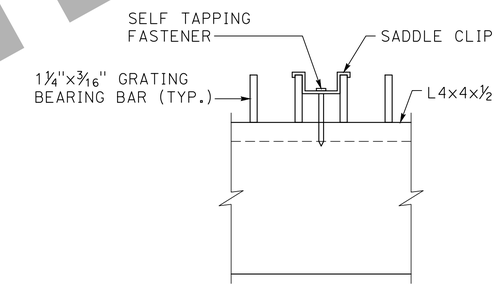
TYPICAL STAIRCASE HANDRAIL CROSS SECTION
SCALE: 1" = 1'-0"



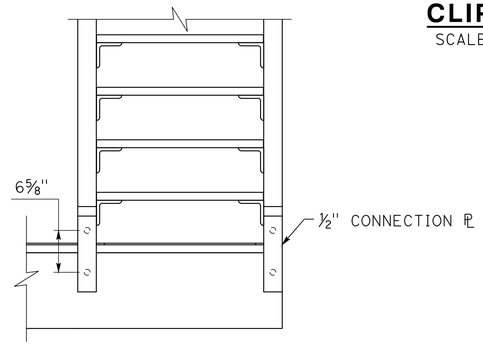
TYPICAL STAIRCASE ELEVATION
SCALE: ¾" = 1'-0"
(HANDRAIL NOT SHOWN FOR CLARITY)



BASE PLATE DETAIL
SCALE: 3" = 1'-0"



GRATING CONNECTION CLIP DETAIL
SCALE: 6" = 1'-0"



VIEW
SCALE: 1" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. GHIMIRE	DESIGN BY: P. GHIMIRE	CHECKED BY: R. HICKEY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

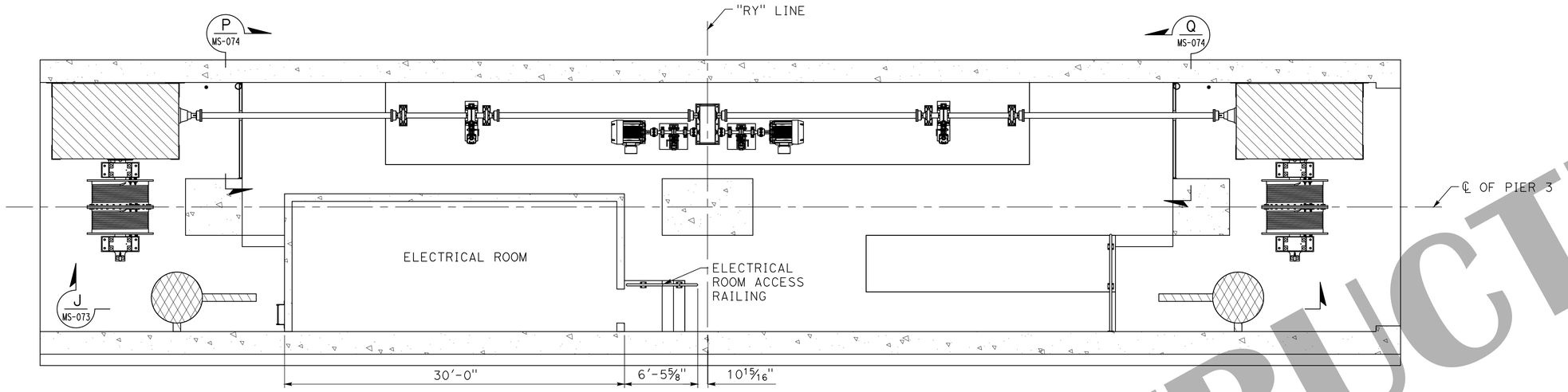
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ACCESS DETAILS - 4
(Date: 11/03/2025)

PN: T15136000

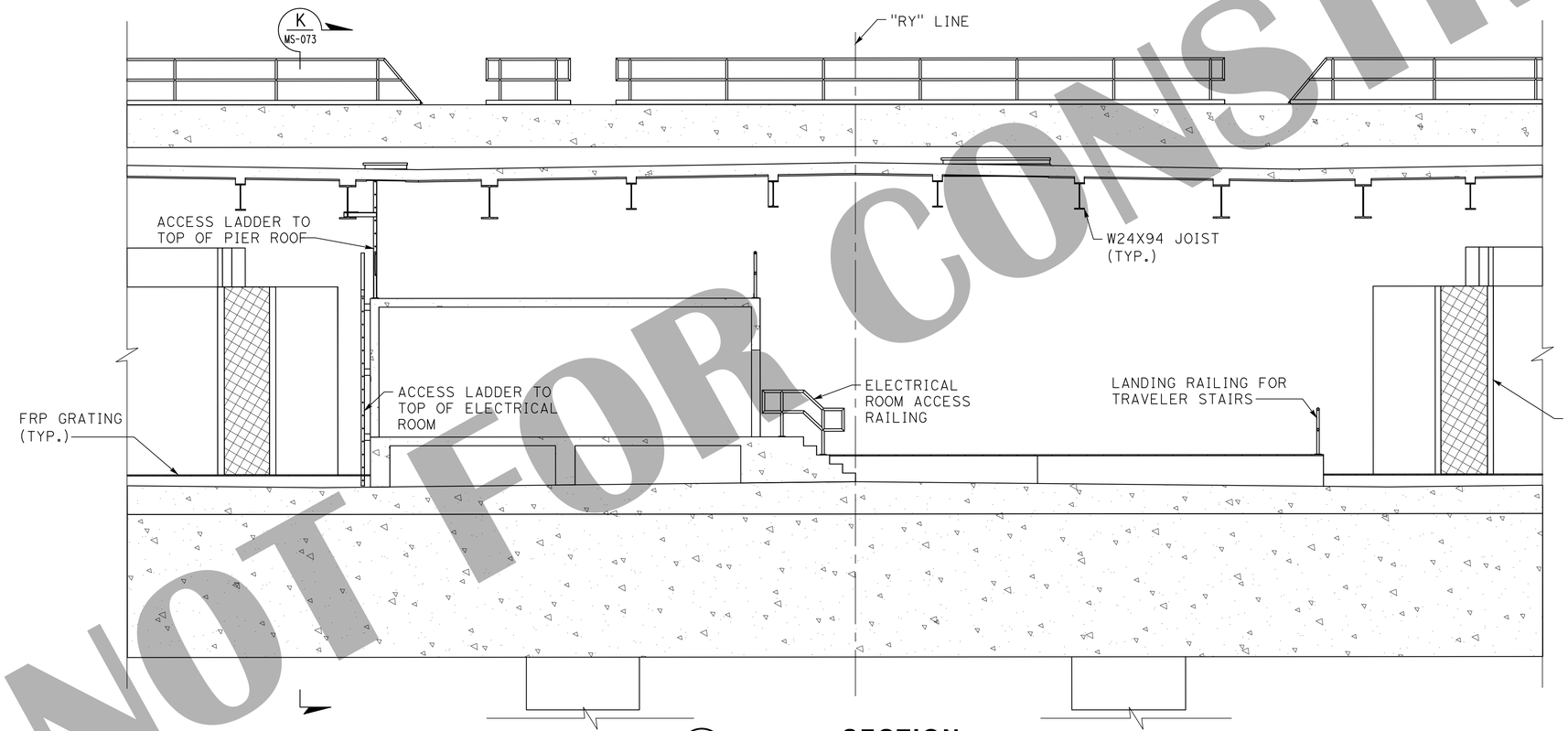
DWG NO.: MS-072
SHT NO.: 392 OF 648

p:\3326.01\CADD\Structural\MS-062 PIER ACCESS DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:45:32 PM



PLAN VIEW OF MACHINERY FLOOR

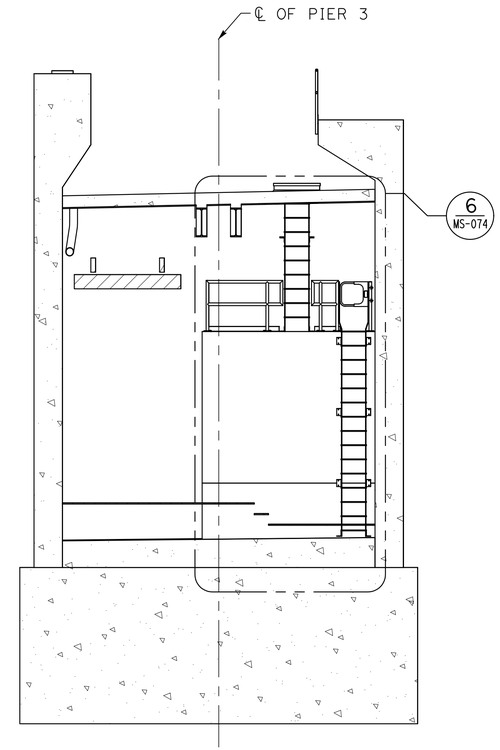
SCALE: ³⁄₁₆" = 1'-0"



J / MS-073 **SECTION**

SCALE: ³⁄₁₆" = 1'-0"

(MACHINERY DETAILS AND TRAVELER STAIR NOT SHOWN FOR CLARITY)



K / MS-073 **SECTION**

SCALE: ³⁄₁₆" = 1'-0"

(MACHINERY DETAILS NOT SHOWN FOR CLARITY)

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. GHIMIRE DATE: 11/03/2025

DESIGN BY: P. GHIMIRE DATE: 11/03/2025

CHECKED BY: R. HICKEY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ACCESS DETAILS - 5
(Date: 11/03/2025)

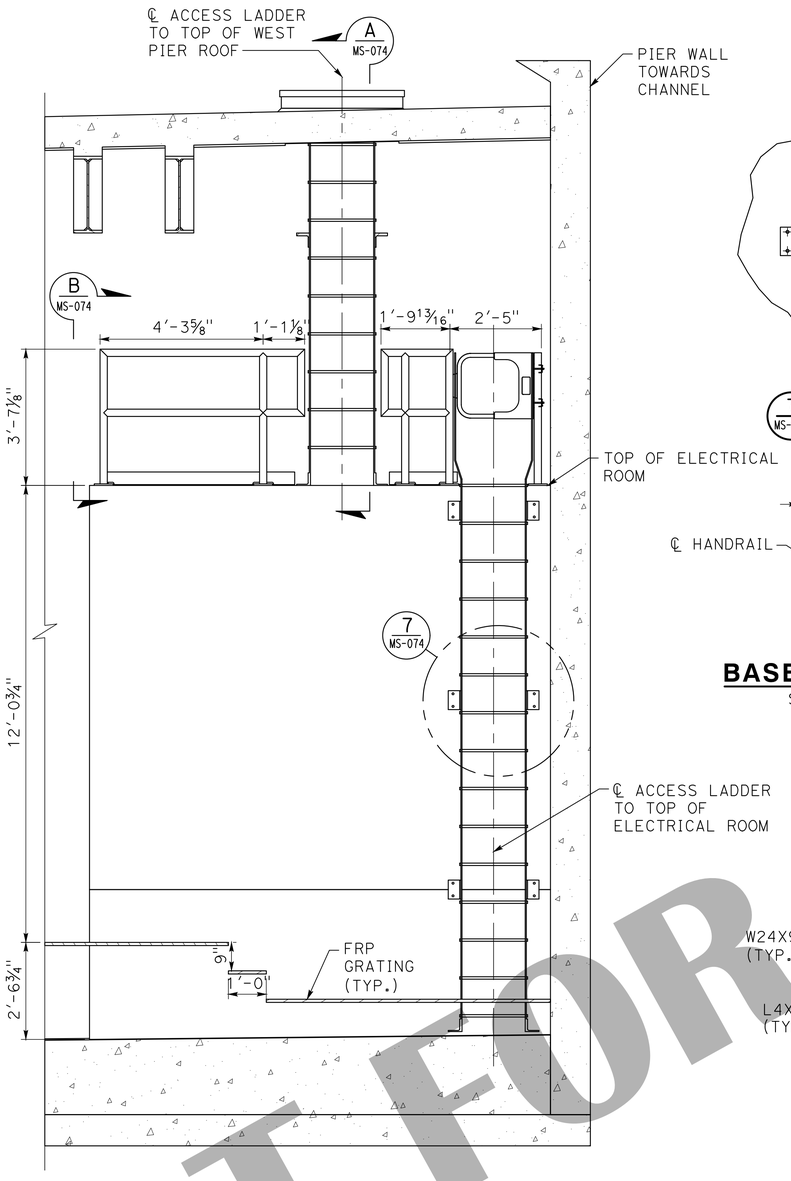
PN: T15136000

DWG NO.: MS-073

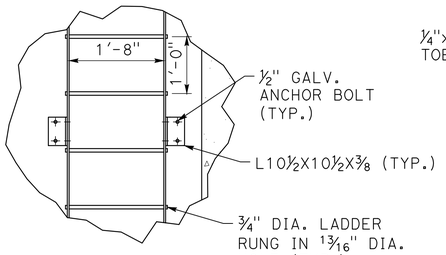
SHT NO.: 393 OF 648

p:\3326.01\CADD\Structural\MS-062A PIER ACCESS DETAILS - 5.dwg LAST PLOTTED: 11/3/2025 1:45:39 PM

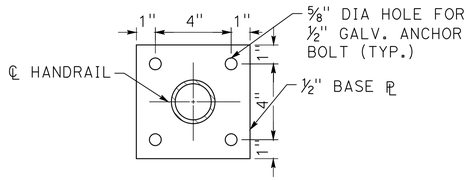
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



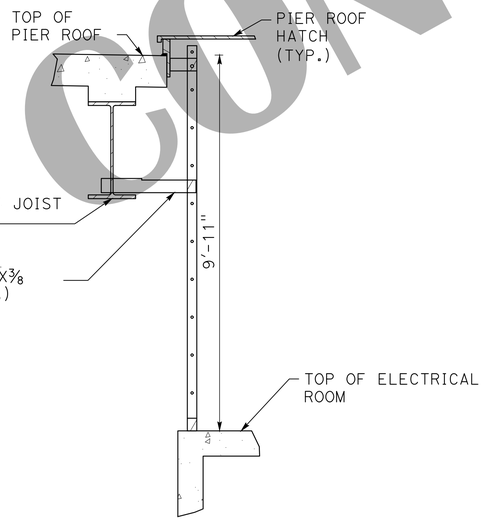
6 MS-073 **DETAIL**
SCALE: ½" = 1'-0"



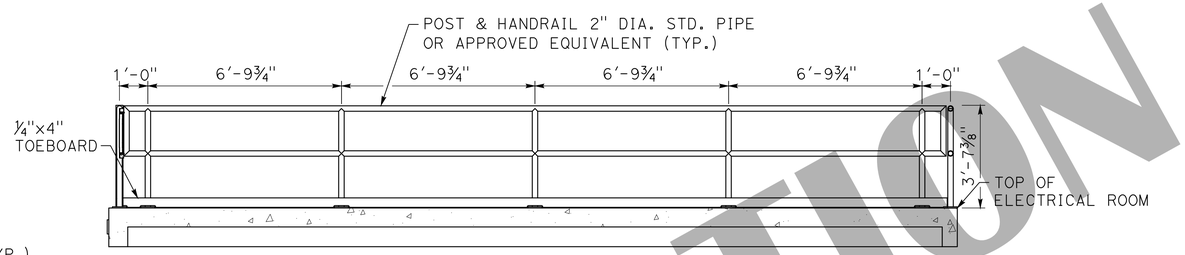
7 MS-074 **DETAIL**
SCALE: ¾" = 1'-0"



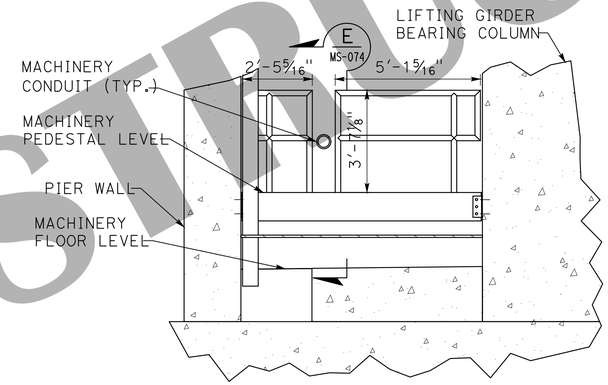
BASE PLATE DETAIL
SCALE: 3" = 1'-0"



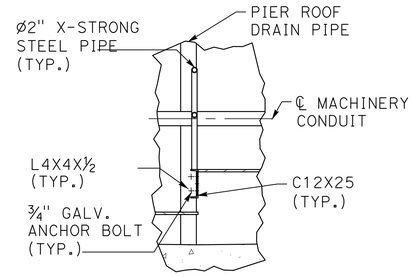
A MS-074 **SECTION**
SCALE: ½" = 1'-0"



B MS-074 **SECTION**
SCALE: ⅜" = 1'-0"



P MS-073 **SECTION**
SCALE: ⅜" = 1'-0"
(DETAILS OF SECTION Q SIMILAR)



E MS-074 **SECTION**
SCALE: ⅜" = 1'-0"
(DETAILS OF SECTION Q SIMILAR)

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-063A PIER ACCESS DETAILS - 6.dwg LAST PLOTTED: 11/3/2025 1:45:47 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

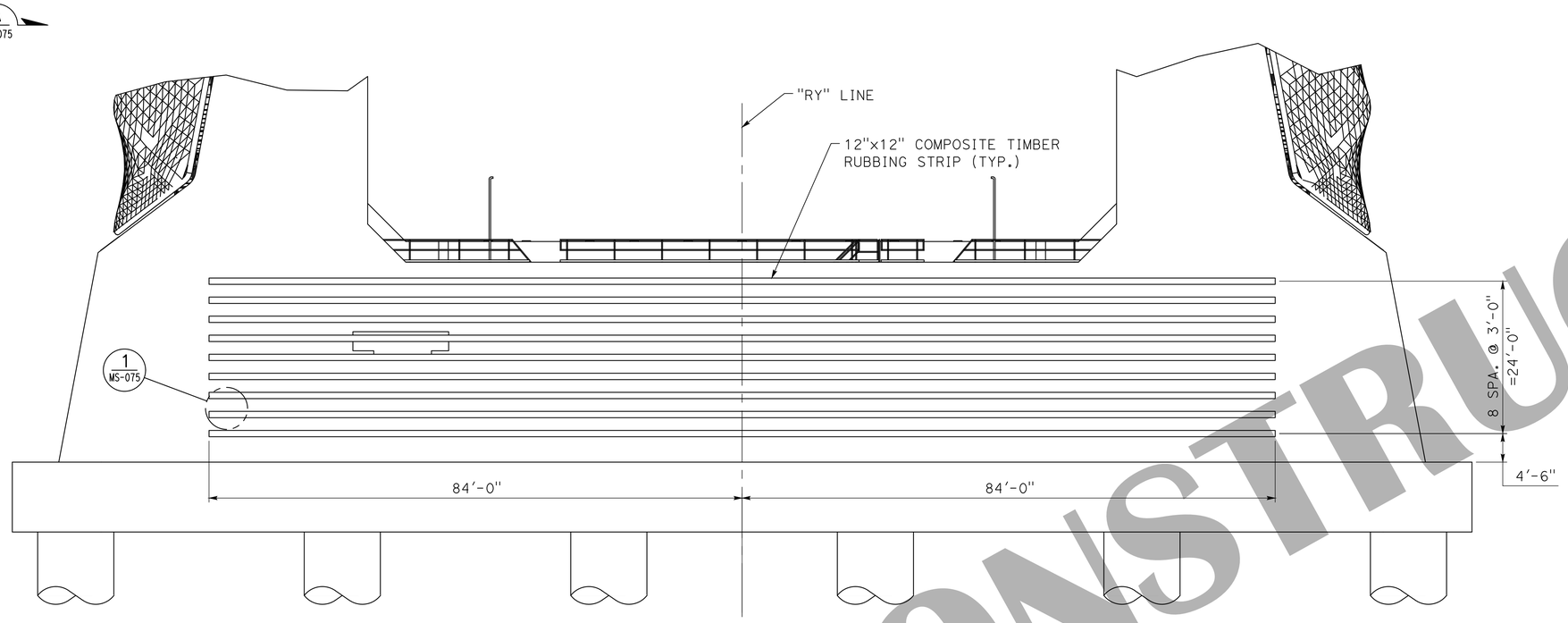
DRAWN BY: P. GHIMIRE DATE: 11/03/2025
DESIGN BY: P. GHIMIRE DATE: 11/03/2025
CHECKED BY: R. HICKEY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PIER ACCESS DETAILS - 6
(Date: 11/03/2025)

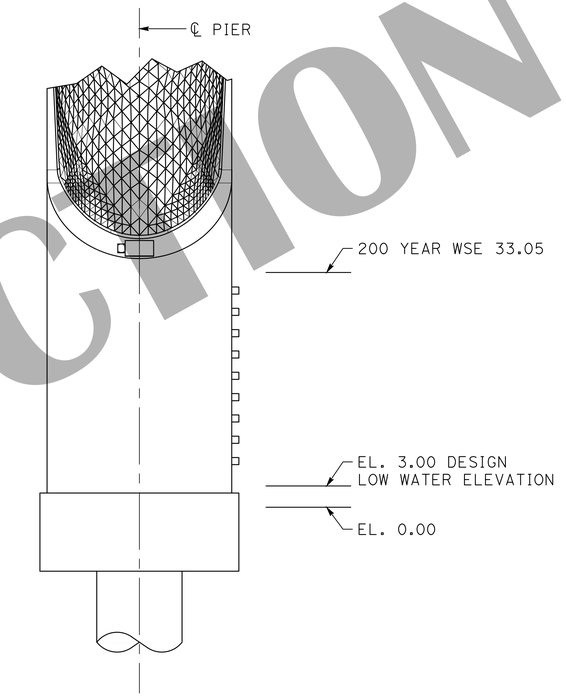
PN: T15136000

DWG NO.: MS-074
SHT NO.: 394 OF 648

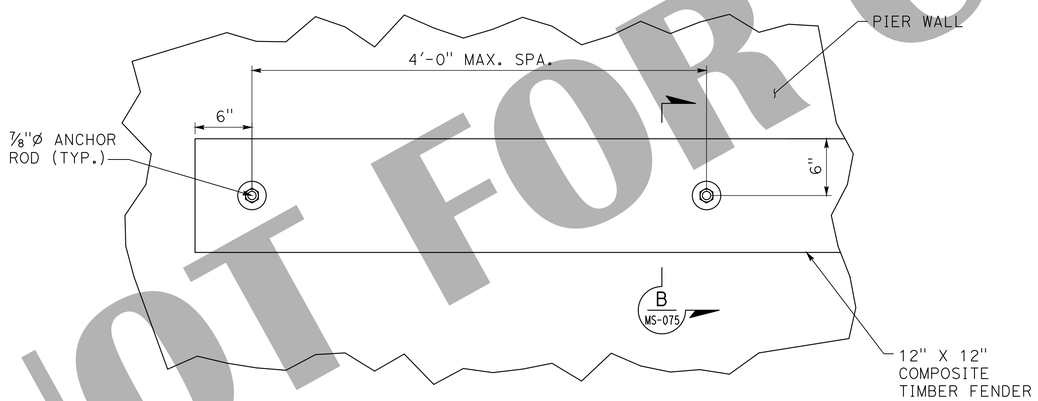


ELEVATION - LIFT SPAN TOWERS FENDER RUBBING STRIPS

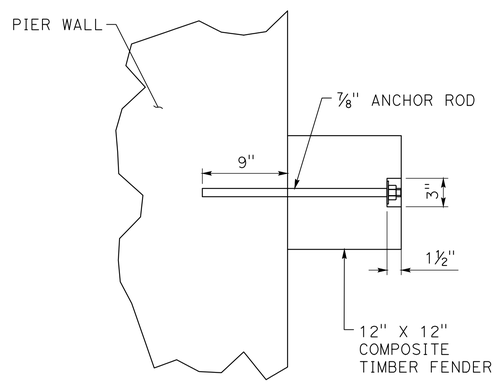
(PIER 3 LOOKING AHEAD STATION SHOWN, PIER 4 SYMM. ABOUT ℄ LIFT SPAN, EXCEPT AS NOTED)
SCALE: 3/32" = 1'-0"



A MS-075 **SECTION**
SCALE: 3/32 = 1'-0"



1 MS-075 **DETAIL**
SCALE: 1-1/2" = 1'-0"



B MS-075 **SECTION**
SCALE: 1-1/2" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON	DESIGN BY: C. AHLSKOG	CHECKED BY: R. HICKEY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

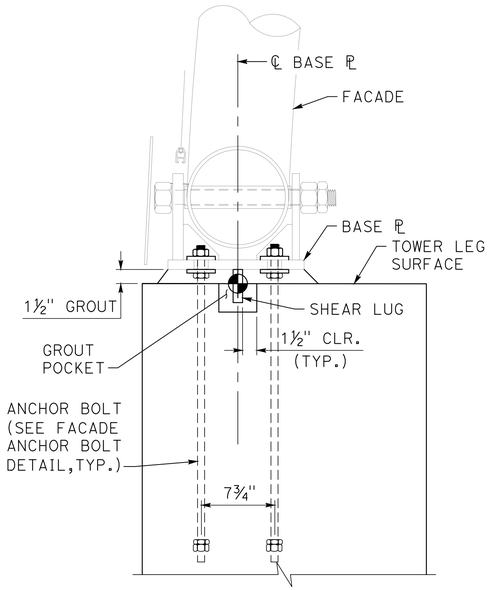
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
FENDER RUBBING STRIP DETAILS
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-075
SHT NO.: 395
OF 648

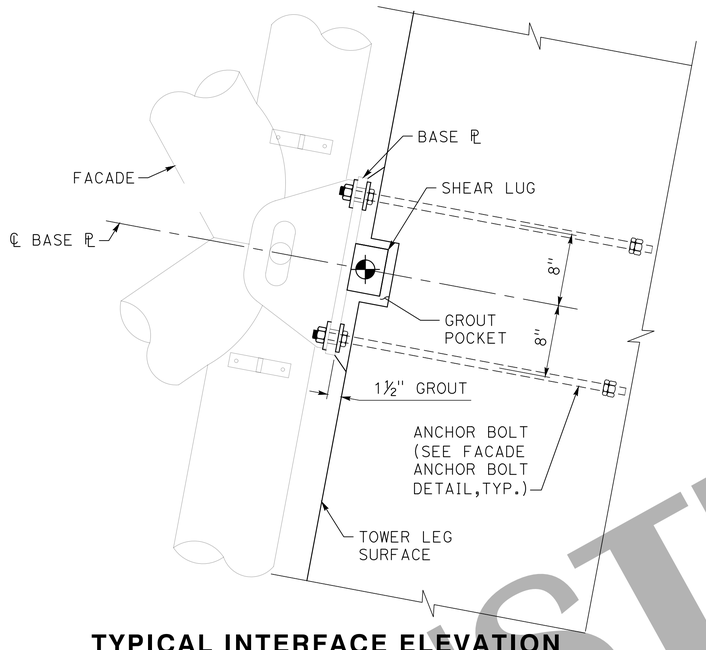
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-055 FENDER RUBBING STRIP DETAILS.dwg LAST PLOTTED: 11/3/2025 1:45:53 PM



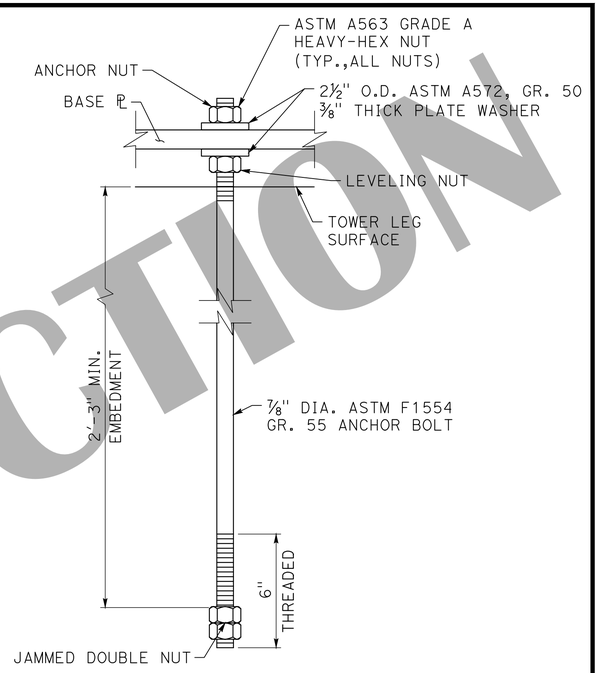
TYPICAL INTERFACE SECTION

SCALE: 1½" = 1'-0"
(TOWER LEG REINFORCEMENT NOT SHOWN)



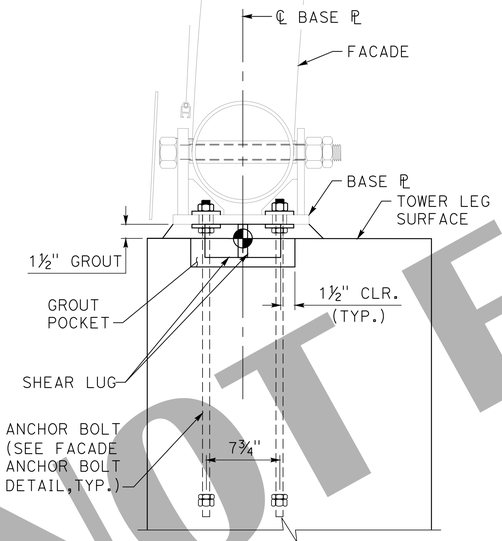
TYPICAL INTERFACE ELEVATION

SCALE: 1½" = 1'-0"
(TOWER LEG REINFORCEMENT NOT SHOWN)



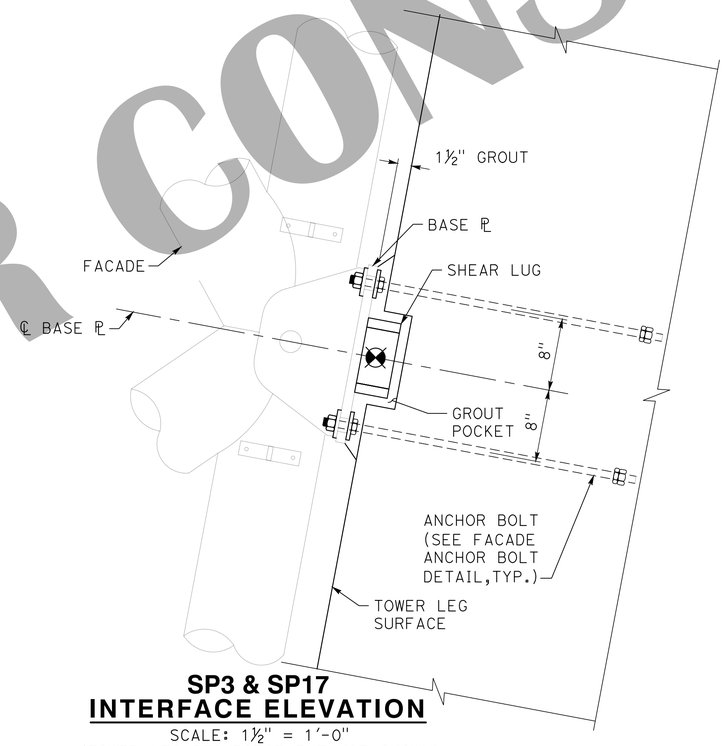
FACADE ANCHOR BOLT DETAIL

SCALE: 3" = 1'-0"
(SEE NOTE 4)



SP3 & SP17 INTERFACE SECTION

SCALE: 1½" = 1'-0"
(TOWER LEG REINFORCEMENT NOT SHOWN)



SP3 & SP17 INTERFACE ELEVATION

SCALE: 1½" = 1'-0"
(TOWER LEG REINFORCEMENT NOT SHOWN)

LEGEND:

⊕ = COORDINATE LOCATION

——— = DESIGNED BY OTHERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. FOR FACADE AND BASE ℙ, SEE TOWER FACADE DRAWINGS.
3. FOR SPOT COORDINATE LOCATIONS SEE TOWER FACADE DRAWINGS.
4. PROVIDE EACH ANCHOR BOLT WITH FOUR (4) NUTS AND TWO (2) PLATE WASHERS. ANCHOR BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F1554.
5. CONCRETE SURFACE OF GROUT POCKETS AND UNDER GROUT PAD SHALL BE INTENTIONALLY ROUGHENED WITH BRUSH AND HAMMER AND BLAST CLEANED PRIOR TO INSTALLATION OF GROUT.
6. FOR SHEAR LUG DETAILS SEE DWG. NO. MS-077.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON — DATE: 11/03/2025
DESIGN BY: R. BOTERO — DATE: 11/03/2025
CHECKED BY: P. GHIMIRE — DATE: 11/03/2025

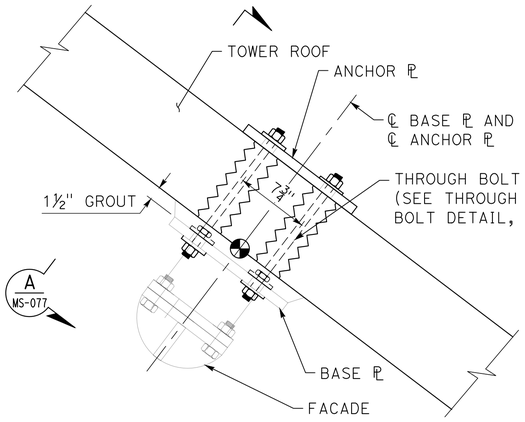
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
FACADE ANCHORAGE DETAILS - 1
(Date: 08/01/2025)

PN: T15136000
DWG NO.: MS-076
SHT NO.: 396 OF 648

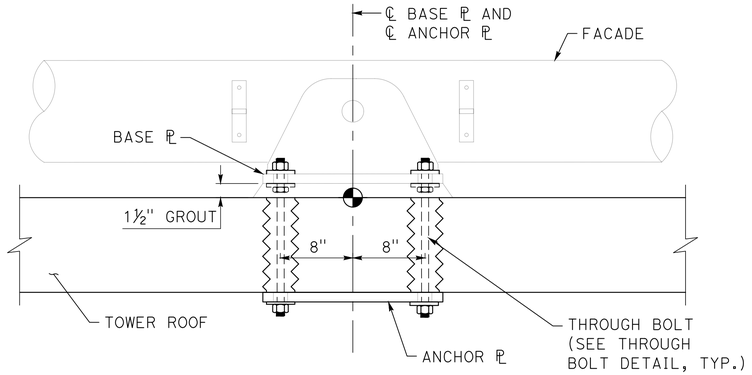
p:\3326.01\CADD\Structural\MS-035 FACADE ANCHORAGE DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:45:59 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



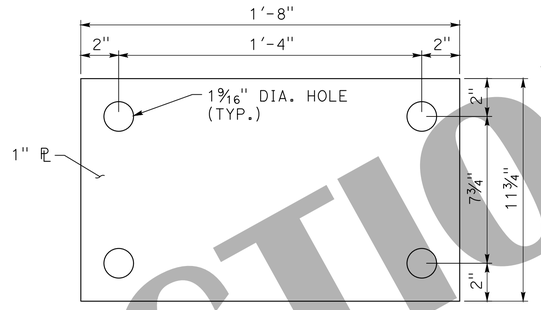
SP10 INTERFACE SECTION

SCALE: 1½" = 1'-0"
(TOWER REINFORCEMENT NOT SHOWN)



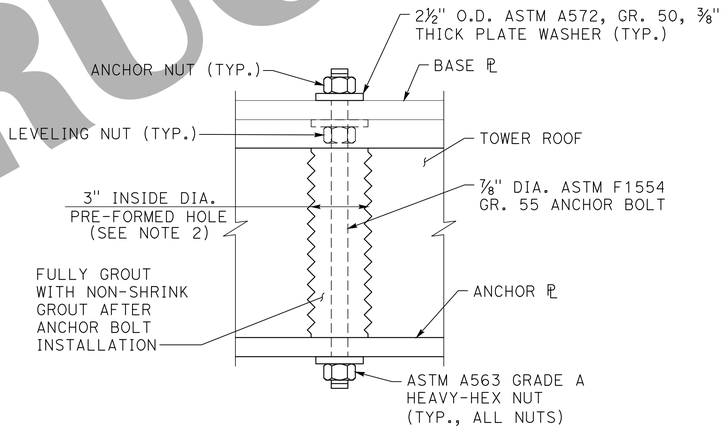
A/MS-077 SECTION

SCALE: 1½" = 1'-0"
(TOWER REINFORCEMENT NOT SHOWN)



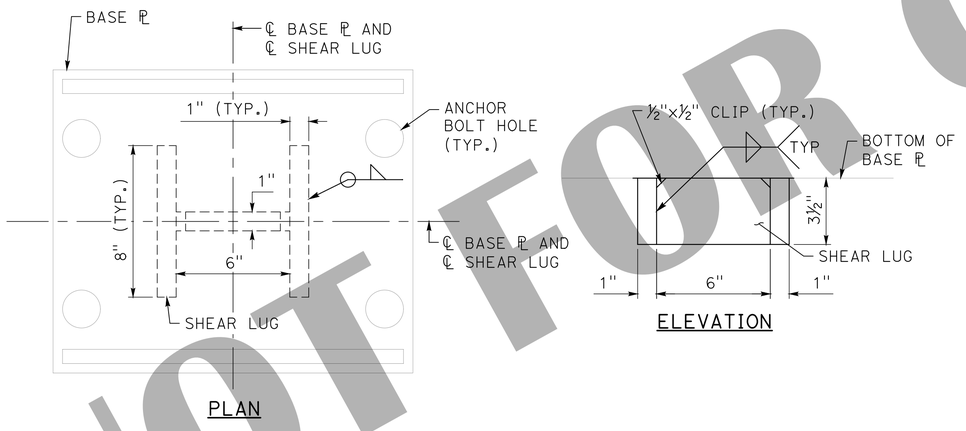
ANCHOR PLATE DETAILS

SCALE: 3" = 1'-0"



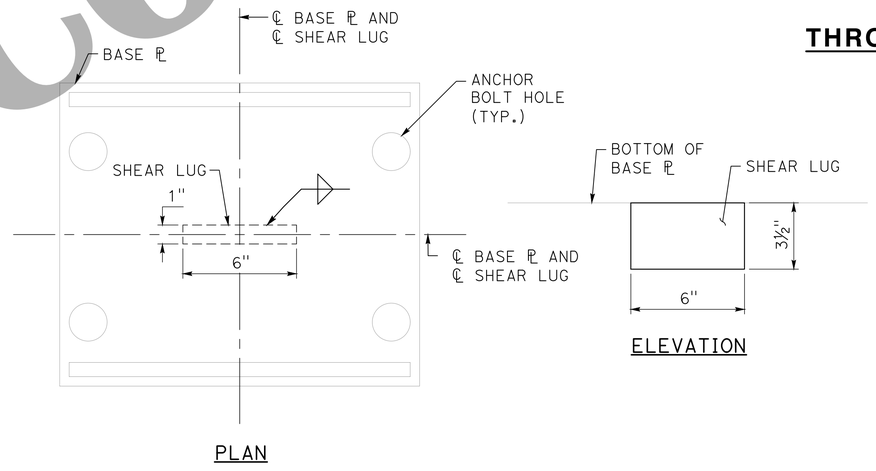
THROUGH BOLT DETAIL

SCALE: 3" = 1'-0"
(SEE NOTE 3)



SP3 & SP17 SHEAR LUG DETAILS

SCALE: 3" = 1'-0"



TYPICAL SHEAR LUG DETAILS

SCALE: 3" = 1'-0"

LEGEND:

⌖ = COORDINATE LOCATION

____ = DESIGNED BY OTHERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. HOLES FOR THROUGH BOLTS SHALL BE PRE-FORMED USING CORRUGATED POLYPROPYLENE MATERIAL WITH A MINIMUM THICKNESS OF 0.12 INCHES.
3. PROVIDE EACH THROUGH BOLT WITH THREE (3) NUTS AND THREE (3) PLATE WASHERS. THROUGH BOLTS, SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F1554.
4. FOR SPOT COORDINATE LOCATIONS SEE TOWER FACADE DRAWINGS.
5. FOR FACADE AND BASE ℄ DETAILS TOWER FACADE DRAWINGS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

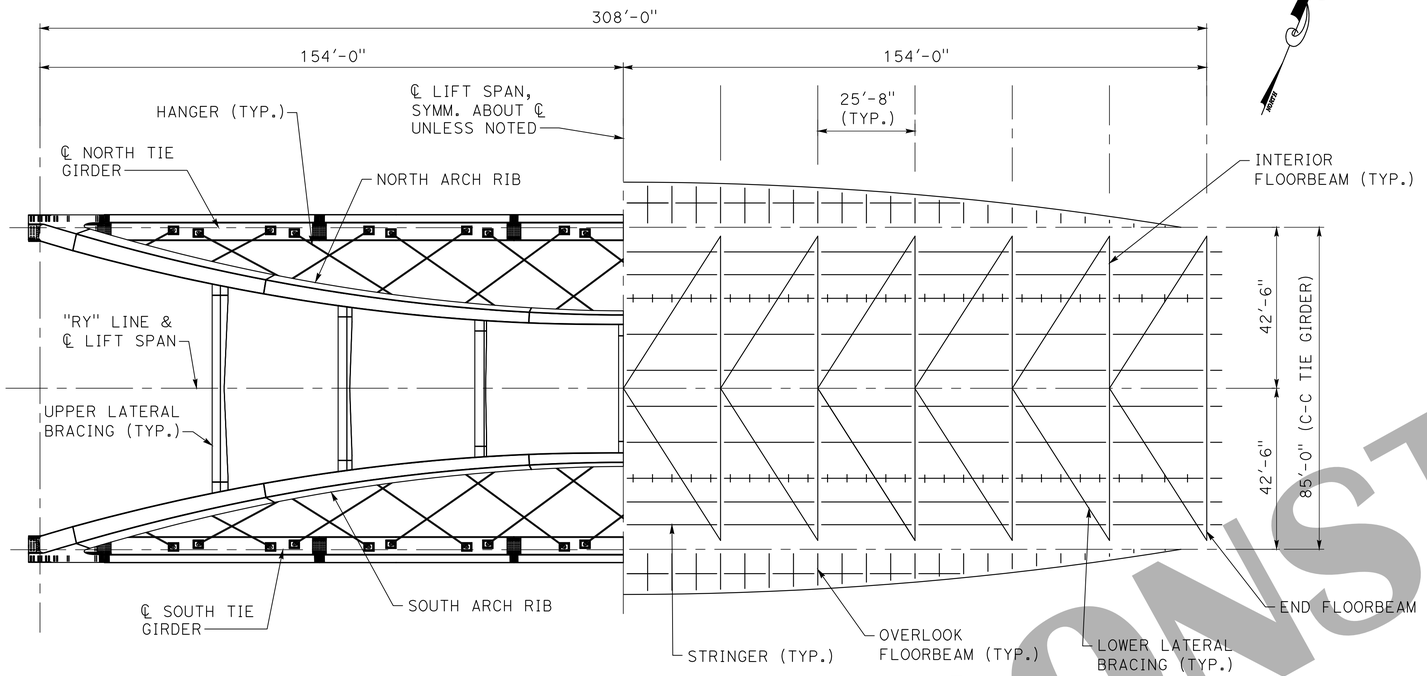
DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: P. GHIMIRE DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
FACADE ANCHORAGE DETAILS - 2
(Date: 08/01/2025)

PN: T15136000
DWG NO.: MS-077
SHT NO.: 397 OF 648

p:\3326.01\CADD\Structural\MS-036 FACADE ANCHORAGE DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:46:04 PM
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

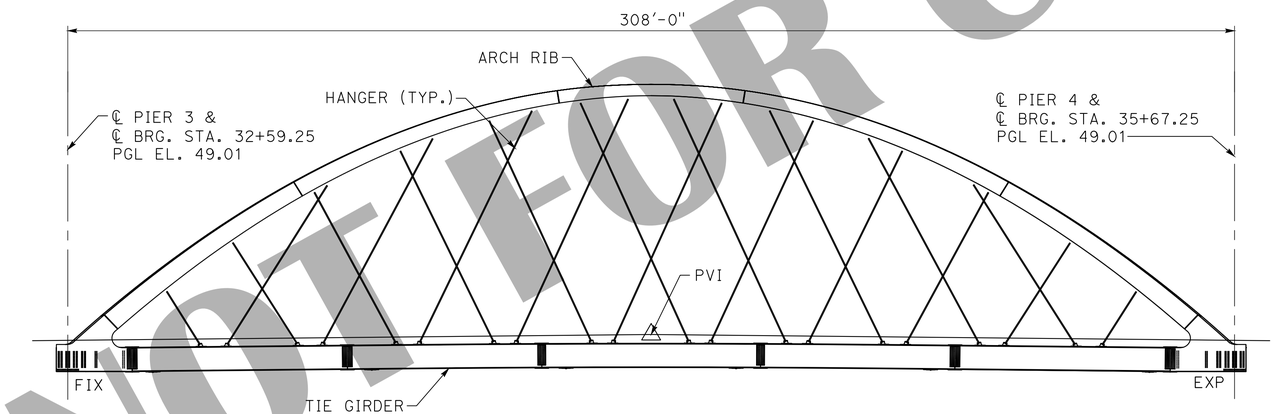


HALF PLAN OF UPPER LATERALS

HALF PLAN OF FRAMING PLAN

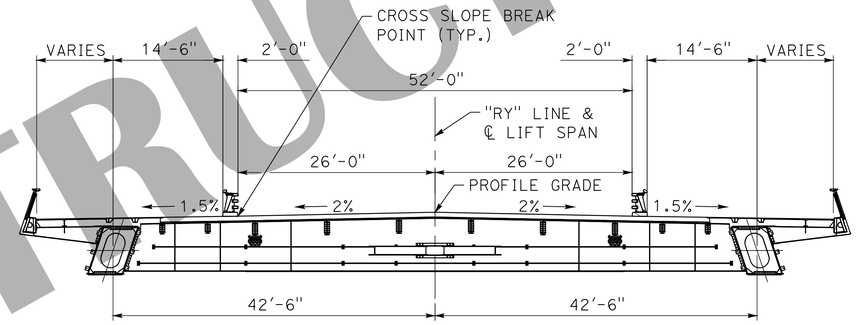
PLAN

SCALE: 1" = 20'-0"



ELEVATION

SCALE: 1" = 20'-0"



TYPICAL CROSS SECTION

SCALE: 1" = 10'-0"
(HANGERS AND ARCH RIBS NOT SHOWN FOR CLARITY)

VERTICAL CURVE DATA

P.V.I 34+13.25
EL. 50.55
120' V.C.

1.00% 1.00%

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR LIFT SPAN ARCH - KEY ELEVATION, SEE DWG. NO. MS-080.
3. FOR ARCH RIB, TIE GIRDER, FLOORBEAM, HANGER AND UPPER LATERAL BRACING GEOMETRY, SEE DWG. NOS. MS-081 AND MS-082.
4. FOR LIFT SPAN FRAMING PLAN, SEE DWG. NO. MS-123.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

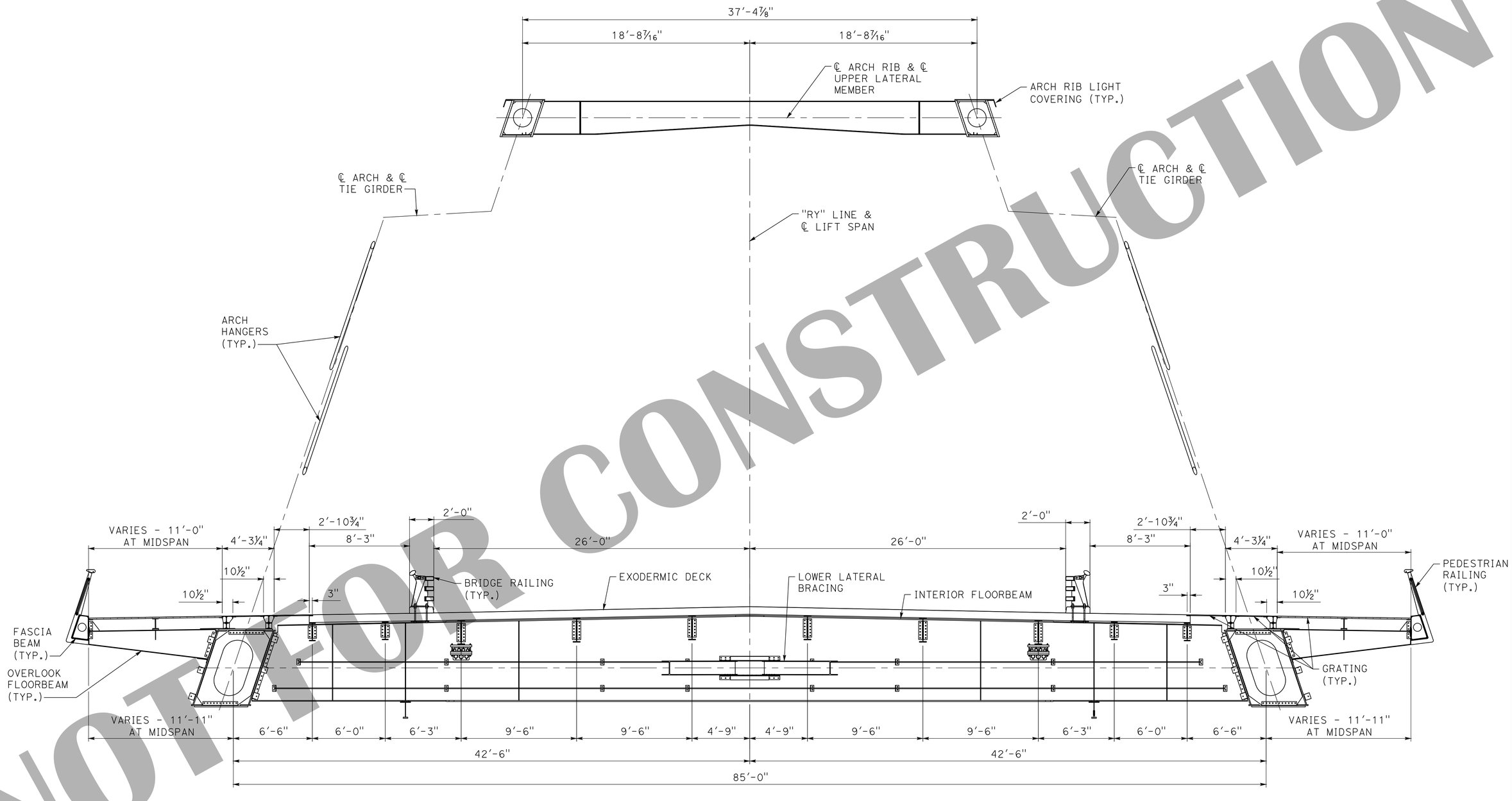
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN GENERAL PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-078
SHT NO.: 398 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-063 LIFT SPAN GENERAL PLAN AND ELEVATION.dwg LAST PLOTTED: 11/3/2025 1:46:17 PM



LIFT SPAN TYPICAL SECTION

SCALE: ¼" = 1′-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: M. ALESTRA
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

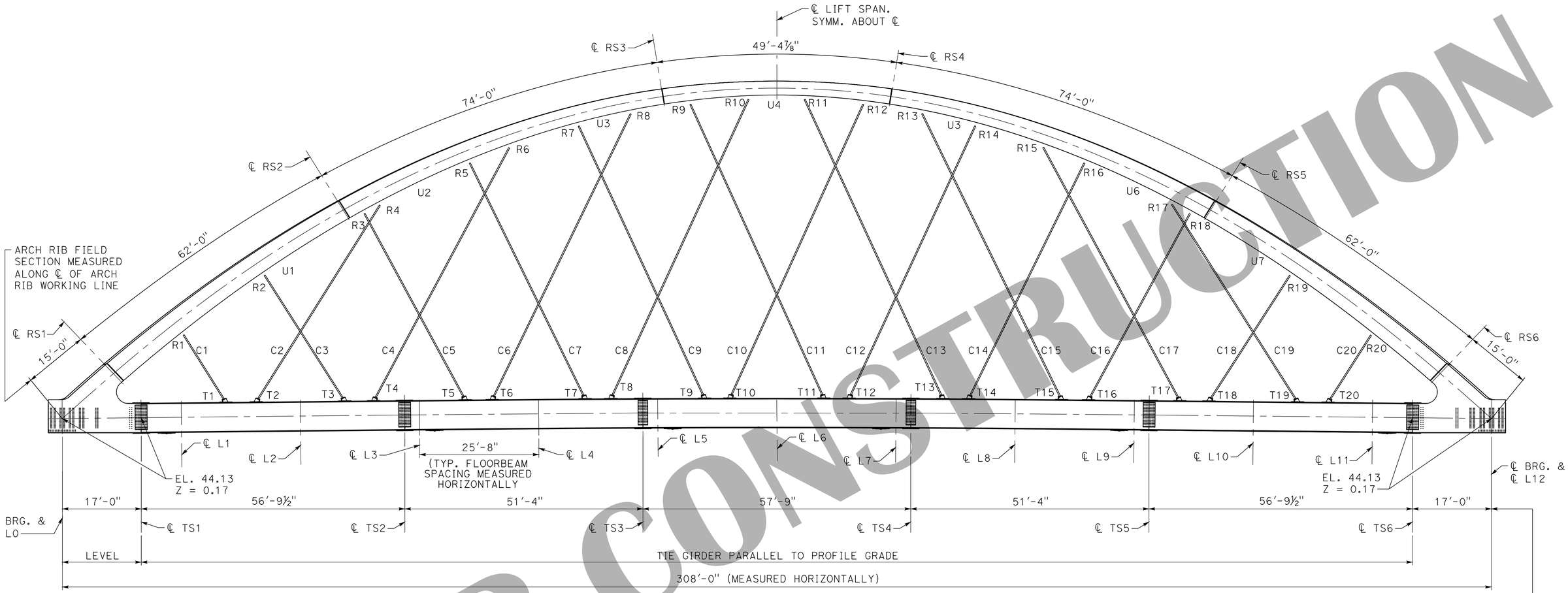
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN TYPICAL SECTION
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-079
SHT NO.: 399 OF 648

p:\3326.01\CADD\Structural\MS-064 LIFT SPAN TYPICAL SECTION.dwg LAST PLOTTED: 11/3/2025 1:46:27 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



LIFT SPAN ARCH - KEY ELEVATION

SCALE: 3/32″ = 1′-0″

LEGEND:

C(n) INDICATES HANGER MEMBER

FB(n) INDICATES FLOORBEAM MEMBER

L(n) INDICATES FLOORBEAM PANEL POINT ON TIE GIRDER WORKING LINE

LL(n) INDICATES LOWER LATERAL BRACING MEMBER

R(n) INDICATES HANGER PANEL POINT ON ARCH RIB WORKING LINE

RS(n) INDICATES ARCH RIB SPLICE ON ARCH RIB WORKING LINE

T(n) INDICATES HANGER PANEL POINT ON TIE GIRDER WORKING LINE

TS(n) INDICATES TIE GIRDER SPLICE ON TIE GIRDER WORKING LINE

U(n) INDICATES UPPER LATERAL BRACING PANEL POINT ON ARCH RIB WORKING LINE

UL(n) INDICATES UPPER LATERAL BRACING MEMBER

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR ARCH RIB, TIE GIRDER, HANGER AND UPPER LATERAL GEOMETRY, SEE DWG. NOS. MS-081 THRU MS-082.
3. FOR KNUCKLE JOINT DETAILS, SEE DWG. NOS. MS-094 THRU MS-098.
4. FOR ARCH RIB SEGMENT DETAILS, SEE DWG. NOS. MS-099 THRU MS-102.
5. FOR ARCH RIB SPLICE DETAILS, SEE DWG. NOS. MS-103 THRU MS-104.
6. FOR TIE GIRDER SEGMENT DETAILS, SEE DWG. NOS. MS-116 THRU MS-119.
7. FOR TIE GIRDER SPLICE DETAILS, SEE DWG. NOS. MS-120 THRU MS-122.
8. FOR HANGER CONNECTIONS AND DETAILS, SEE DWG. NOS. MS-112 THRU MS-115.
9. FOR UPPER LATERAL CONNECTIONS AND DETAILS, SEE DWG. NOS. MS-107 THRU MS-111.
10. FOR FLOORBEAM CONNECTIONS AND DETAILS, SEE DWG. NOS. MS-124 THRU MS-126.
11. WORK POINT GEOMETRY IS SHOWN IN THE FINAL CAMBERED POSITION WITH FULL DEAD LOAD, INCLUDING FUTURE STREETCAR ADDITIONS AT THE DESIGN TEMPERATURE.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN GEOMETRY - 1
(Date: 11/03/2025)

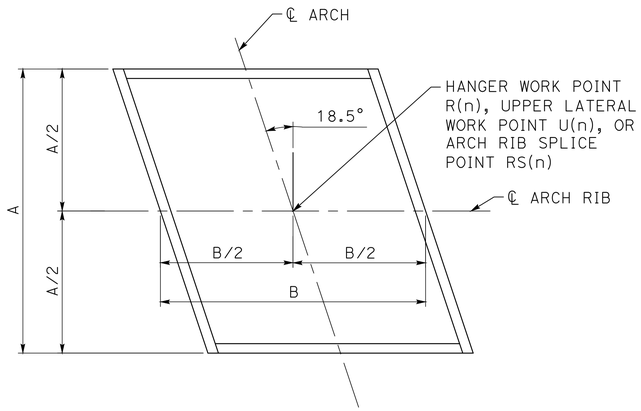
PN: T15136000

DWG NO.: MS-080

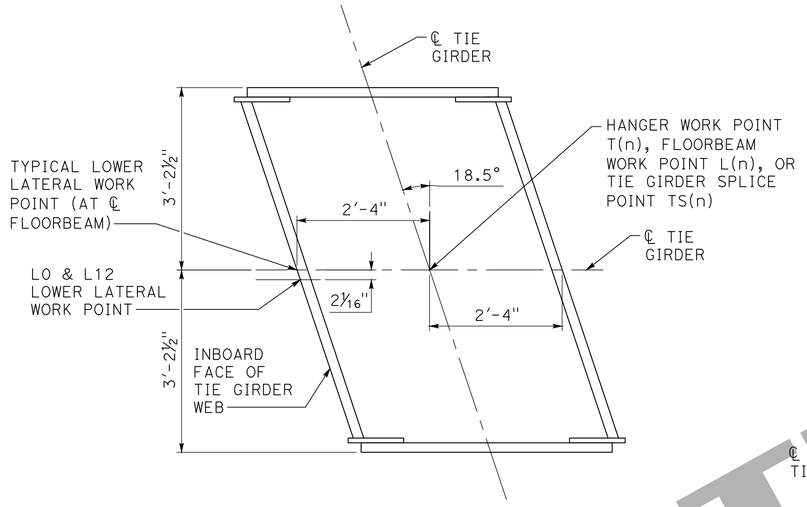
SHT NO.: 400 OF 648

p:\3326.01\CADD\Structural\MS-065 LIFT SPAN GEOMETRY - 1.dwg LAST PLOTTED: 11/3/2025 1:46:54 PM

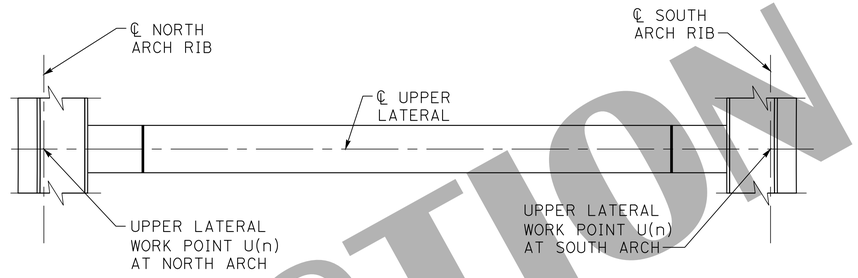
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



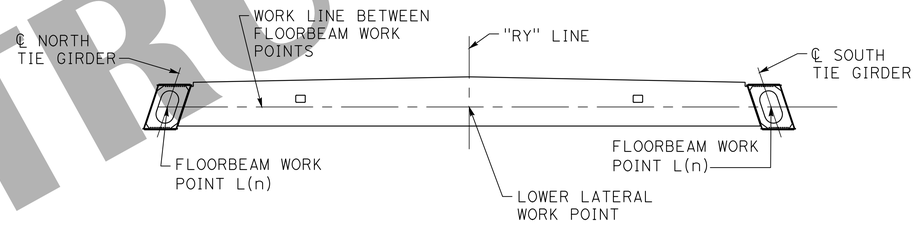
WP DEFINITION AT ARCH RIB
(NOT TO SCALE)



WP DEFINITION AT TIE GIRDER
(NOT TO SCALE)



WP DEFINITION AT UPPER LATERAL
(NOT TO SCALE)

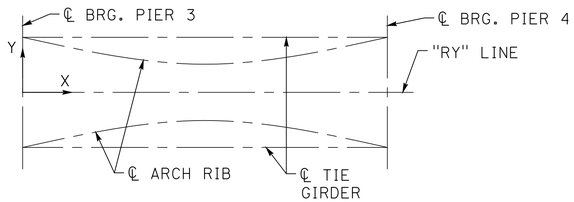


WP DEFINITION AT LOWER LATERAL
(NOT TO SCALE)

NOT FOR CONSTRUCTION

ARCH HANGER WORKING POINT GEOMETRY

HANGER MEMBER	ARCH RIB WORKING POINT					TIE GIRDER WORKING POINT					WORKING LENGTH
	WP	X (FT.)	SOUTH Y (FT.)	NORTH Y (FT.)	Z (FT.)	WP	X (FT.)	SOUTH Y (FT.)	NORTH Y (FT.)	Z (FT.)	
C1	R1	24.30	−35.58	35.58	20.85	T1	37.25	−42.50	42.50	0.37	25.19
C2	R4	71.74	−25.49	25.49	51.00	T2	39.75	−42.50	42.50	0.40	62.23
C3	R2	41.84	−31.33	31.33	33.56	T3	62.92	−42.50	42.50	0.63	40.67
C4	R6	98.35	−21.81	21.81	62.01	T4	65.42	−42.50	42.50	0.65	72.64
C5	R3	63.66	−26.89	26.89	46.82	T5	88.58	−42.50	42.50	0.89	54.54
C6	R8	123.97	−19.61	19.61	68.59	T6	91.08	−42.50	42.50	0.91	78.65
C7	R5	86.55	−23.27	23.27	57.65	T7	114.25	−42.50	42.50	1.11	65.83
C8	R10	149.06	−18.73	18.73	71.22	T8	116.75	−42.50	42.50	1.12	80.76
C9	R7	110.16	−20.63	20.63	65.53	T9	139.92	−42.50	42.50	1.22	74.16
C10	R12	173.68	−19.09	19.09	70.13	T10	142.42	−42.50	42.50	1.23	79.20
C11	R9	134.32	−19.09	19.09	70.13	T11	165.58	−42.50	42.50	1.23	79.20
C12	R14	197.84	−20.63	20.63	65.53	T12	168.08	−42.50	42.50	1.22	74.16
C13	R11	158.94	−18.73	18.73	71.22	T13	191.25	−42.50	42.50	1.12	80.76
C14	R16	221.45	−23.27	23.27	57.65	T14	193.75	−42.50	42.50	1.11	65.83
C15	R13	184.03	−19.61	19.61	68.59	T15	216.92	−42.50	42.50	0.91	78.65
C16	R18	244.34	−26.89	26.89	46.82	T16	219.42	−42.50	42.50	0.89	54.54
C17	R15	209.65	−21.81	21.81	62.01	T17	242.58	−42.50	42.50	0.65	72.64
C18	R19	266.16	−31.33	31.33	33.56	T18	245.08	−42.50	42.50	0.63	40.67
C19	R17	236.26	−25.49	25.49	51.00	T19	268.25	−42.50	42.50	0.40	62.23
C20	R20	283.70	−35.58	35.58	20.85	T20	270.75	−42.50	42.50	0.37	25.19

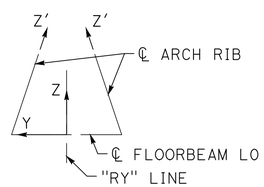


PLAN - COORDINATE SYSTEM DEFINITION
(NOT TO SCALE)

ARCH RIB WORKING LINE:

$$Z' = \frac{-RISE}{(SPAN/2)} X^2 + \frac{RISE}{(SPAN/4)} X$$

RISE = 75'-0"
SPAN = 308'-0"
X, Z' IN FEET



SECTION - COORDINATE SYSTEM DEFINITION
(NOT TO SCALE)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR HANGER MEMBER DESIGN, SEE DWG. NO. MS-088.
3. FOR HANGER MEMBER CONNECTIONS AND DETAILS, SEE DWG. NOS. MS-112 THRU MS-115.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

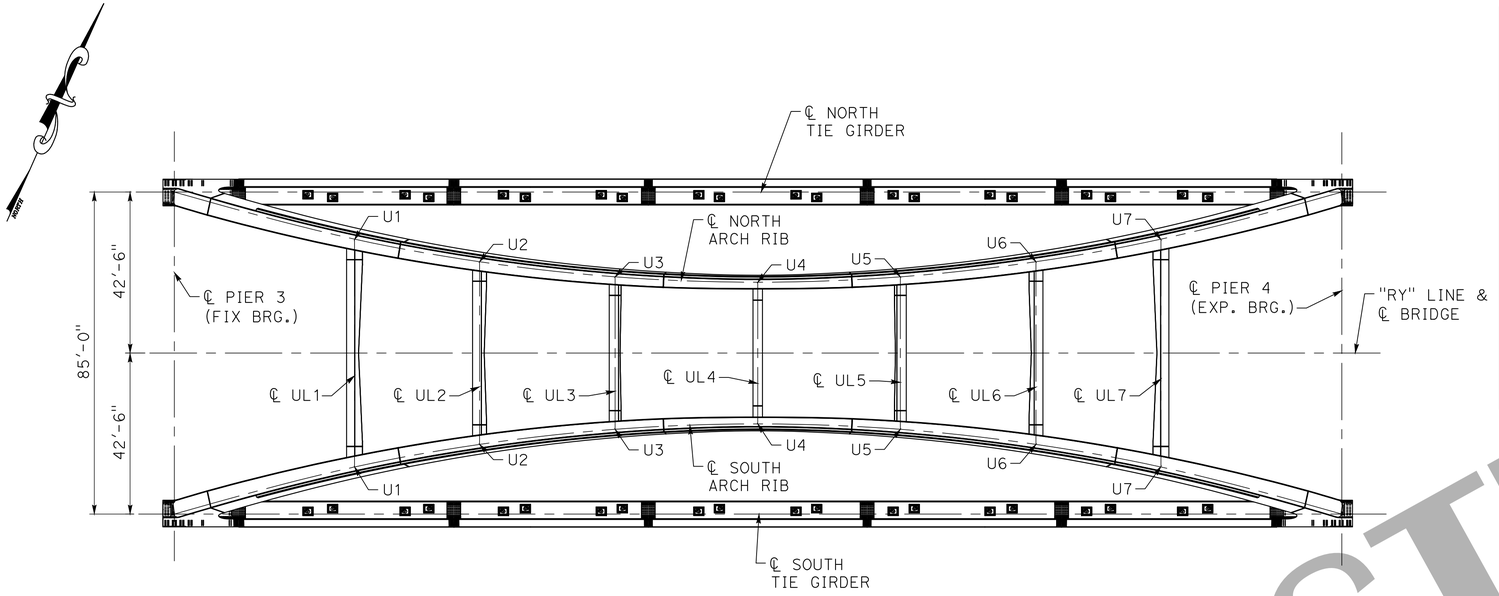
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN GEOMETRY - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-081
SHT NO.: 401 OF 648

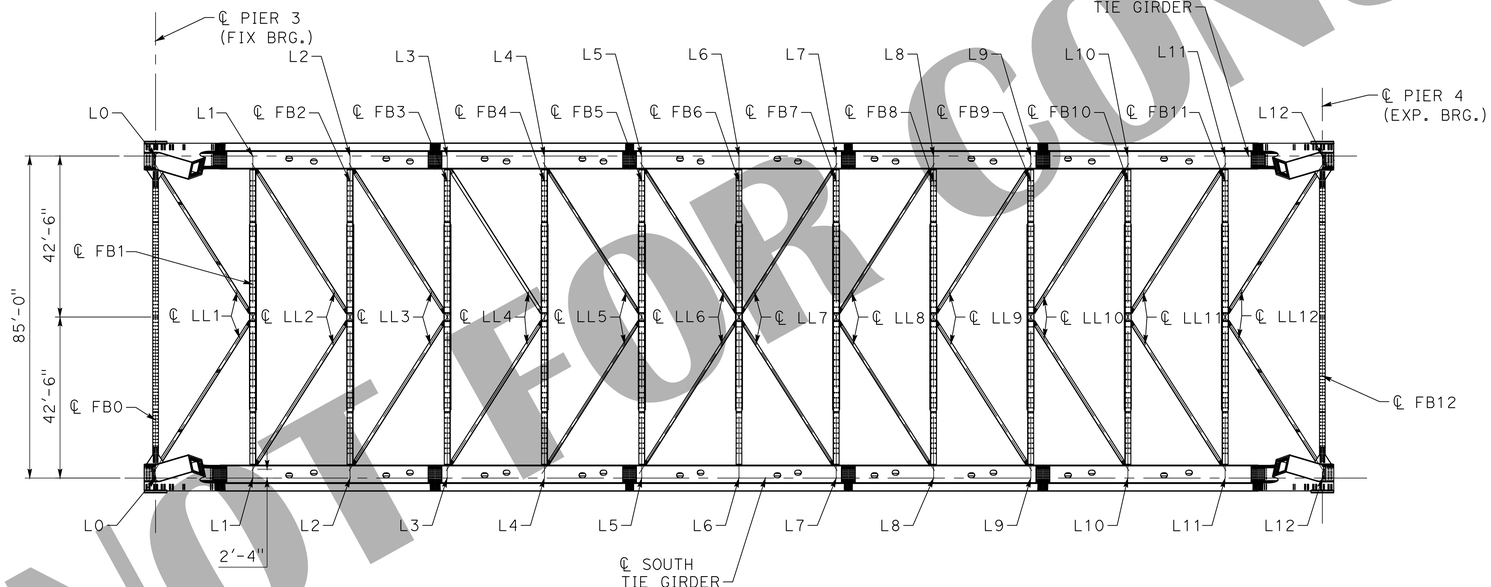
p:\3326.01\CADD\Structural\MS-066 LIFT SPAN GEOMETRY - 2.dwg LAST PLOTTED: 11/3/2025 1:47:04 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



PLAN VIEW
UPPER LATERAL BRACING

SCALE: 1" = 20'-0"



PLAN VIEW
LOWER LATERAL BRACING

SCALE: 1" = 20'-0"

NOTES:

1. INTERIOR FLOORBEAMS ARE ALIGNED NORMAL TO THE PROFILE GRADE. END FLOORBEAMS ARE ALIGNED VERTICAL.

FLOORBEAM WORKING POINT GEOMETRY								
FLOORBEAM MEMBER	SOUTH ARCH WORKING POINT				NORTH ARCH WORKING POINT			
	WP	X (FT.)	Y (FT.)	Z (FT.)	WP	X (FT.)	Y (FT.)	Z (FT.)
FB0	L0	0.00	−42.50	0.17	L0	0.00	42.50	0.17
FB1	L1	25.67	−42.50	0.26	L1	25.67	42.50	0.26
FB2	L2	51.33	−42.50	0.51	L2	51.33	42.50	0.51
FB3	L3	77.00	−42.50	0.77	L3	77.00	42.50	0.77
FB4	L4	102.67	−42.50	1.02	L4	102.67	42.50	1.02
FB5	L5	128.33	−42.50	1.19	L5	128.33	42.50	1.19
FB6	L6	154.00	−42.50	1.24	L6	154.00	42.50	1.24
FB7	L7	179.67	−42.50	1.19	L7	179.67	42.50	1.19
FB8	L8	205.33	−42.50	1.02	L8	205.33	42.50	1.02
FB9	L9	231.00	−42.50	0.77	L9	231.00	42.50	0.77
FB10	L10	256.67	−42.50	0.51	L10	256.67	42.50	0.51
FB11	L11	282.33	−42.50	0.26	L11	282.33	42.50	0.26
FB12	L12	308.00	−42.50	0.17	L12	308.00	42.50	0.17

UPPER LATERAL WORKING POINTS						
WORKING POINT	SOUTH ARCH			NORTH ARCH		
	X (FT.)	Y (FT.)	Z (FT.)	X (FT.)	Y (FT.)	Z (FT.)
U1	47.57	−30.07	37.32	47.57	30.07	37.32
U2	80.56	−24.11	55.12	80.56	24.11	55.12
U3	116.35	−20.12	67.04	116.35	20.12	67.04
U4	154.00	−18.70	71.29	154.00	18.70	71.29
U5	191.65	−20.12	67.04	191.65	20.12	67.04
U6	227.44	−24.11	55.12	227.44	24.11	55.12
U7	260.43	−30.07	37.32	260.43	30.07	37.32

ARCH RIB SPLICE WORKING POINTS						
WORKING POINT	SOUTH ARCH			NORTH ARCH		
	X (FT)	Y (FT)	Z (FT)	X (FT)	Y (FT)	Z (FT)
L0	0.00	−42.50	0.17	0.00	42.50	0.17
RS1	10.93	−39.24	9.91	10.93	39.24	9.91
RS2	60.49	−27.48	45.07	60.49	27.48	45.07
RS3	129.40	−19.31	69.48	129.40	19.31	69.48
RS4	178.60	−19.31	69.48	178.60	19.31	69.48
RS5	247.51	−27.48	45.07	247.51	27.48	45.07
RS6	297.07	−39.24	9.91	297.07	39.24	9.91
L12	308.00	−42.50	0.17	308.00	42.50	0.17

TIE GIRDER SPLICE WORKING POINTS						
WORKING POINT	SOUTH ARCH			NORTH ARCH		
	X (FT)	Y (FT)	Z (FT)	X (FT)	Y (FT)	Z (FT)
L0	0.00	−42.50	0.17	0.00	42.50	0.17
TS1	17.00	−42.50	0.17	17.00	42.50	0.17
TS2	73.79	−42.50	0.74	73.79	42.50	0.74
TS3	125.13	−42.50	1.17	125.13	42.50	1.17
TS4	182.88	−42.50	1.17	182.88	42.50	1.17
TS5	234.21	−42.50	0.74	234.21	42.50	0.74
TS6	291.00	−42.50	0.17	291.00	42.50	0.17
L12	308.00	−42.50	0.17	308.00	42.50	0.17

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN GEOMETRY - 3
(Date: 11/03/2025)

PN: T15136000

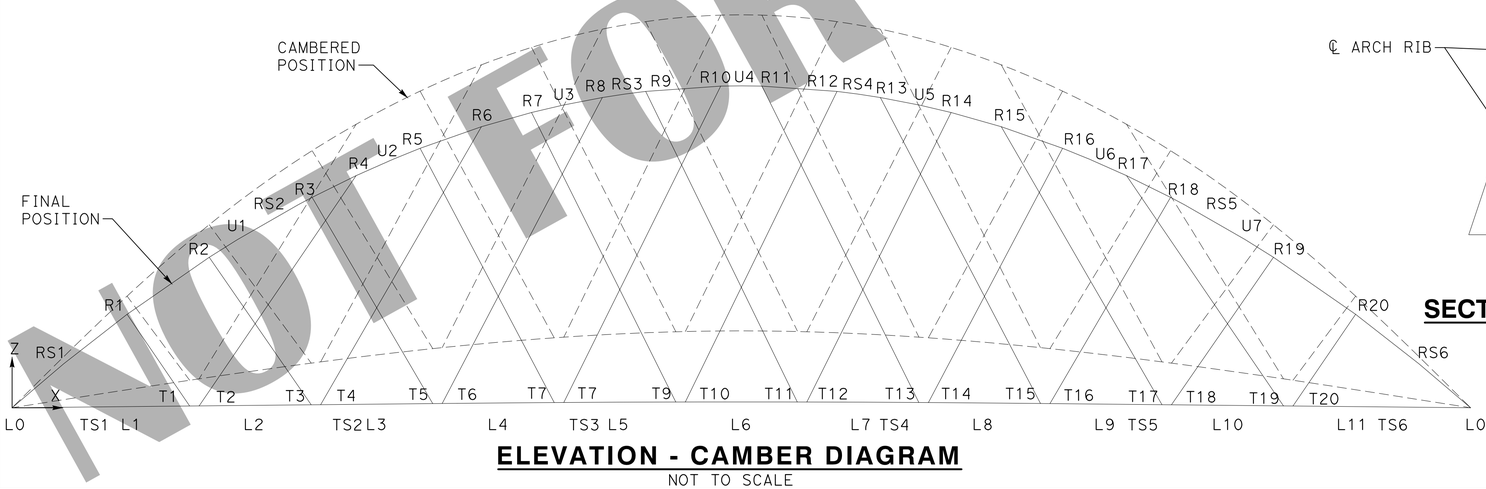
DWG NO.: MS-082
SHT NO.: 402 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-067 LIFT SPAN GEOMETRY - 3.dwg LAST PLOTTED: 11/3/2025 1:47:10 PM

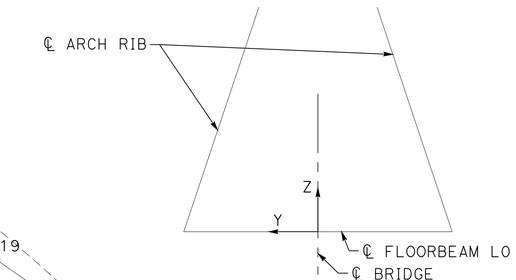
ARCH RIB CAMBER

WORK POINT	WORK POINT COORDINATES				STEEL ONLY				EXODERMIC DECK CONCRETE				ROADWAY BARRIERS				FUTURE STREETCAR				TOTAL CAMBER				CAMBERED WORK POINT COORDINATES			
	X (IN)	Y SOUTH (IN)	Y NORTH (IN)	Z (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	X (IN)	Y SOUTH (IN)	Y NORTH (IN)	Z (IN)
L0	0.00	−510.00	510.00	2.04	−0.17	0.04	0.02	0.06	−0.06	0.01	0.02	0.03	−0.01	−0.01	0.01	0.00	−0.01	−0.01	0.01	0.00	−0.25	0.06	0.04	0.09	−0.25	−509.94	510.04	2.13
RS1	131.18	−470.90	470.90	118.91	−0.25	−0.12	0.14	0.22	−0.10	−0.06	0.06	0.09	−0.01	−0.01	0.01	0.01	−0.02	0.00	0.00	0.01	−0.37	−0.18	0.20	0.32	130.81	−471.07	471.10	119.23
R1	287.03	−428.18	428.18	246.58	−0.34	−0.16	0.16	0.37	−0.12	−0.07	0.07	0.13	−0.01	0.00	0.00	0.00	−0.01	0.00	0.00	0.00	−0.50	−0.23	0.23	0.55	286.53	−428.41	428.41	247.12
R2	499.76	−376.43	376.43	401.25	−0.39	−0.04	0.04	0.46	−0.13	−0.02	0.02	0.15	0.00	0.00	0.00	0.00	−0.01	0.00	0.00	0.00	−0.57	−0.06	0.06	0.66	499.19	−376.49	376.49	401.91
U1	570.78	−360.83	360.83	447.85	−0.40	0.00	0.00	0.47	−0.13	0.00	0.00	0.15	0.00	0.00	0.00	0.00	−0.01	0.00	0.00	0.01	−0.58	0.00	0.00	0.69	570.21	−360.84	360.84	448.53
RS2	725.91	−329.71	329.71	540.86	−0.40	0.03	−0.03	0.51	−0.13	0.01	−0.01	0.15	0.00	0.00	0.00	−0.01	−0.01	0.00	0.00	0.00	−0.58	0.04	−0.04	0.73	725.33	−329.68	329.68	541.60
R3	762.57	−322.95	322.95	561.09	−0.39	0.02	−0.03	0.51	−0.12	0.01	−0.01	0.15	0.00	0.00	0.00	−0.01	−0.01	0.00	0.00	0.00	−0.57	0.04	−0.04	0.74	761.99	−322.91	322.91	561.83
R4	803.73	−315.61	315.61	583.00	−0.39	0.02	−0.02	0.52	−0.12	0.01	−0.01	0.16	0.00	0.00	0.00	−0.01	0.00	0.00	0.00	0.00	−0.57	0.03	−0.03	0.76	803.16	−315.58	315.58	583.75
U2	966.74	−289.37	289.37	661.44	−0.38	0.00	−0.01	0.55	−0.12	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	−0.55	0.01	−0.01	0.80	966.18	−289.36	289.36	662.24
R5	1039.56	−279.08	279.08	692.19	−0.37	0.00	0.00	0.56	−0.12	0.00	0.00	0.17	0.00	0.00	0.00	−0.01	0.00	0.00	0.00	0.00	−0.55	0.00	0.00	0.82	1039.02	−279.08	279.08	693.01
R6	1143.72	−265.90	265.90	731.57	−0.36	0.00	0.00	0.57	−0.11	0.00	0.00	0.18	0.00	0.00	0.00	−0.01	0.00	0.00	0.00	0.00	−0.53	0.00	0.00	0.83	1143.19	−265.91	265.91	732.40
R7	1326.43	−247.17	247.17	787.55	−0.34	0.00	0.00	0.58	−0.10	0.00	0.00	0.18	0.01	0.00	0.00	−0.01	0.00	0.00	0.00	−0.01	−0.50	0.00	0.00	0.85	1325.93	−247.17	247.17	788.40
U3	1396.23	−241.49	241.49	804.53	−0.33	0.00	0.00	0.58	−0.10	0.00	0.00	0.18	0.01	0.00	0.00	−0.01	0.00	0.00	0.00	−0.01	−0.49	0.00	0.00	0.86	1395.75	−241.49	241.49	805.38
R8	1463.49	−236.79	236.79	818.58	−0.32	0.00	0.00	0.58	−0.10	0.00	0.00	0.18	0.01	0.00	0.00	−0.01	0.00	0.00	0.00	−0.01	−0.47	0.00	0.00	0.86	1463.02	−236.79	236.79	819.44
RS3	1552.74	−231.72	231.72	833.74	−0.31	0.00	0.00	0.58	−0.09	0.00	−0.01	0.18	0.01	0.00	0.00	−0.02	0.00	0.00	0.00	−0.01	−0.46	0.00	0.00	0.86	1552.29	−231.71	231.71	834.61
R9	1620.64	−228.75	228.75	842.61	−0.30	0.00	0.00	0.58	−0.09	0.00	−0.01	0.18	0.01	0.00	0.00	−0.02	0.00	0.00	0.00	−0.01	−0.44	0.00	0.00	0.87	1620.20	−228.75	228.75	843.48
R10	1773.35	−224.89	224.89	854.14	−0.28	0.00	0.00	0.58	−0.08	0.00	0.00	0.19	0.01	0.00	0.00	−0.02	0.01	0.00	0.00	−0.01	−0.41	0.00	0.00	0.87	1772.94	−224.89	224.89	855.01
U4	1848.00	−224.43	224.43	855.53	−0.27	0.00	0.00	0.59	−0.08	0.00	0.00	0.19	0.01	0.00	0.00	−0.01	0.01	0.00	0.00	−0.01	−0.40	0.00	0.00	0.87	1847.60	−224.43	224.43	856.41
R11	1921.33	−224.88	224.88	854.19	−0.26	0.00	0.00	0.59	−0.07	0.00	0.00	0.19	0.01	0.00	0.00	−0.02	0.01	0.00	0.00	−0.01	−0.38	0.00	0.00	0.87	1920.94	−224.87	224.87	855.06
R12	2074.56	−228.72	228.72	842.70	−0.24	0.00	0.00	0.59	−0.07	0.00	−0.01	0.19	0.01	0.00	0.00	−0.02	0.01	0.00	0.00	−0.01	−0.35	0.00	0.00	0.88	2074.21	−228.72	228.72	843.58
RS4	2143.26	−231.72	231.72	833.74	−0.23	0.00	0.00	0.59	−0.06	0.00	0.00	0.19	0.01	0.00	0.00	−0.01	0.01	0.00	0.00	−0.01	−0.34	0.00	0.00	0.88	2142.92	−231.71	231.71	834.62
R13	2230.55	−236.66	236.66	818.96	−0.21	0.00	0.00	0.59	−0.06	0.00	0.00	0.19	0.01	0.00	0.00	−0.01	0.01	0.00	0.00	−0.01	−0.32	0.00	0.00	0.87	2230.23	−236.66	236.66	819.83
U5	2299.77	−241.49	241.49	804.52	−0.20	0.00	0.00	0.59	−0.05	0.00	0.00	0.19	0.02	0.00	0.00	−0.01	0.01	0.00	0.00	−0.01	−0.30	0.00	0.00	0.87	2299.46	−241.49	241.49	805.40
R14	2369.18	−247.14	247.14	787.65	−0.20	0.00	0.00	0.58	−0.05	0.00	0.00	0.19	0.02	0.00	0.00	−0.01	0.01	0.00	0.00	−0.01	−0.29	0.00	0.00	0.87	2368.89	−247.14	247.14	788.52
R15	2549.50	−265.58	265.58	732.55	−0.17	0.00	0.00	0.58	−0.04	0.00	0.00	0.19	0.02	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.26	0.00	0.00	0.86	2549.24	−265.58	265.58	733.41
R16	2656.36	−279.07	279.07	692.22	−0.16	0.00	0.00	0.57	−0.04	0.00	0.00	0.19	0.02	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.24	0.00	0.00	0.85	2656.12	−279.07	279.07	693.07
U6	2729.27	−289.37	289.37	661.44	−0.15	0.00	0.00	0.56	−0.03	0.00	0.00	0.19	0.02	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.23	0.01	−0.01	0.83	2729.03	−289.36	289.36	662.27
R17	2888.16	−314.90	314.90	585.14	−0.14	0.02	−0.02	0.53	−0.03	0.01	−0.01	0.17	0.02	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.22	0.03	−0.03	0.79	2887.94	−314.86	314.86	585.92
R18	2933.54	−322.96	322.96	561.03	−0.14	0.02	−0.03	0.52	−0.03	0.01	−0.01	0.17	0.02	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.21	0.04	−0.04	0.77	2933.33	−322.93	322.93	561.80
RS5	2970.09	−329.71	329.71	540.86	−0.14	0.02	−0.03	0.51	−0.03	0.01	−0.01	0.17	0.02	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.21	0.04	−0.04	0.76	2969.88	−329.67	329.67	541.63
U7	3125.22	−360.84	360.84	447.85	−0.14	0.00	0.00	0.48	−0.03	0.00	0.00	0.17	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	−0.21	0.00	0.00	0.71	3125.00	−360.84	360.84	448.56
R19	3196.40	−376.46	376.46	401.14	−0.15	−0.04	0.04	0.46	−0.03	−0.02	0.02	0.16	0.02	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.22	−0.06	0.06	0.69	3196.18	−376.52	376.52	401.83
R20	3409.29	−428.26	428.26	246.33	−0.20	−0.16	0.16	0.37	−0.04	−0.07	0.07	0.14	0.03	0.00	0.00	−0.01	0.02	0.00	0.00	0.00	−0.30	−0.23	0.23	0.56	3408.98	−428.49	428.49	246.89
RS6	3564.82	−470.90	470.90	118.91	−0.28	−0.14	0.14	0.24	−0.07	−0.06	0.06	0.10	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.01	−0.42	−0.20	0.20	0.35	3564.40	−471.10	471.10	119.26
L12	3696.00	−510.00	510.00	2.04	−0.37	−0.02	−0.04	0.06	−0.10	−0.02	−0.01	0.03	0.03	−0.01	0.01	0.00	0.02	−0.01	0.01	0.00	−0.56	−0.04	−0.05	0.09	3695.44	−510.04	509.95	2.13



ELEVATION - CAMBER DIAGRAM

NOT TO SCALE



SECTION - CAMBER DIAGRAM

NOT TO SCALE

NOTES:

1. "STEEL ONLY" CAMBER REPRESENTS THE AMOUNT OF DEFLECTION DUE TO ALL STRUCTURAL STEEL, EXODERMIC DECK STEEL AND HAUNCH SUPPORTS, OVERLOOK GRATING AND WOOD DECKING.
2. "EXODERMIC DECK CONCRETE" CAMBER REPRESENTS THE AMOUNT OF DEFLECTION DUE TO THE EXODERMIC DECK CONCRETE AND REINFORCING STEEL.
3. "ROADWAY BARRIERS" CAMBER REPRESENTS THE AMOUNT OF DEFLECTION DUE TO THE VEHICULAR BARRIERS, CONCRETE CURBS, UTILITIES AND OTHER ITEMS ADDED AFTER THE DECK HAS CURED.
4. "FUTURE STREETCAR" CAMBER REPRESENTS THE AMOUNT OF DEFLECTION DUE TO THE FUTURE STREETCAR ALLOWANCE. FOR THE ASSUMED FUTURE STREETCAR MODIFICATION WEIGHT, SEE DWG, NO, MS-003.
5. CAMBER TABLES ARE BASED ON TOTAL DEAD LOADS AND ARE NOT ADJUSTED FOR ERECTION SEQUENCE OR ERECTION DEFLECTIONS.
6. THE CONTRACTOR SHALL FABRICATE THE TIE GIRDERS SUCH THAT UNDER TOTAL DEAD LOAD THE TOP OF THE TIE GIRDER IS PARALLEL WITH THE PROFILE.
7. THE CONTRACTOR SHALL FABRICATE THE ARCH RIB SUCH THAT UNDER TOTAL DEAD LOAD THE ARCH FIB FOLLOWS THE GEOMETRY SHOWN ON DWG. NOS. MS-081 AND MS-082.
8. THE CONTRACTOR SHALL VERIFY THE DEFLECTIONS, CAMBER AND LAYDOWN DIMENSIONS AS SHOWN IN THE PLANS.
9. FOR TIE GIRDER TORSIONAL CAMBER AND FLOORBEAM CAMBER, SEE DWG. NO. MS-127.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH CAMBER DIAGRAM - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-083
SHT NO.: 403 OF 648

p:\3326.01\CADD\Structural\MS-070 ARCH CAMBER DIAGRAM - 1.dwg LAST PLOTTED: 11/3/2025 1:47:18 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

TIE GIRDER CAMBER

WORK POINT	WORK POINT COORDINATES				STEEL ONLY				EXODERMIC DECK CONCRETE				ROADWAY BARRIERS				FUTURE STREETCAR				TOTAL CAMBER				CAMBERED WORK POINT COORDINATES			
	X (IN)	Y SOUTH (IN)	Y NORTH (IN)	Z (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	dX (IN)	dY SOUTH (IN)	dY NORTH (IN)	dZ (IN)	X (IN)	Y SOUTH (IN)	Y NORTH (IN)	Z (IN)
L0	0.00	−510.00	510.00	2.04	−0.15	0.04	−0.04	0.03	−0.06	0.01	−0.01	0.01	−0.01	−0.01	0.01	0.00	−0.01	−0.01	0.01	0.00	−0.22	0.06	−0.06	0.04	−0.22	−509.94	509.94	2.08
TS1	204.00	−510.00	510.00	2.04	−0.17	0.04	−0.04	0.25	−0.06	0.02	−0.02	0.09	−0.01	0.00	0.00	−0.01	−0.01	0.00	0.00	−0.01	−0.25	0.07	−0.07	0.38	203.75	−509.93	509.93	2.42
OFB0.75	231.00	−510.00	510.00	2.31	−0.17	0.04	−0.04	0.28	−0.06	0.02	−0.02	0.10	−0.01	0.00	0.00	−0.01	−0.01	0.00	0.00	−0.01	−0.25	0.06	−0.06	0.43	230.75	−509.94	509.94	2.74
L1	308.00	−510.00	510.00	3.08	−0.18	0.03	−0.03	0.36	−0.06	0.02	−0.02	0.12	−0.01	0.01	−0.01	−0.02	−0.01	0.01	−0.01	−0.01	−0.26	0.05	−0.05	0.55	307.74	−509.95	509.95	3.63
OFB1.25	385.00	−510.00	510.00	3.85	−0.18	0.02	−0.02	0.44	−0.07	0.02	−0.02	0.16	−0.01	0.01	−0.01	−0.01	−0.01	0.01	−0.01	−0.01	−0.27	0.04	−0.04	0.68	384.73	−509.96	509.96	4.53
OFB1.5	462.00	−510.00	510.00	4.62	−0.19	0.02	−0.02	0.52	−0.07	0.02	−0.02	0.19	−0.01	0.01	−0.01	−0.01	−0.01	0.01	−0.01	0.00	−0.28	0.04	−0.04	0.79	461.72	−509.96	509.96	5.41
OFB1.75	539.00	−510.00	510.00	5.39	−0.19	0.02	−0.02	0.58	−0.07	0.02	−0.02	0.21	0.00	0.01	−0.01	−0.01	−0.01	0.01	−0.01	0.00	−0.28	0.03	−0.03	0.89	538.72	−509.97	509.97	6.28
L2	616.00	−510.00	510.00	6.16	−0.20	0.01	−0.01	0.64	−0.07	0.02	−0.02	0.23	0.00	0.01	−0.01	−0.01	−0.01	0.01	−0.01	0.00	−0.29	0.03	−0.03	0.98	615.71	−509.97	509.97	7.14
OFB2.25	693.00	−510.00	510.00	6.93	−0.20	0.01	−0.01	0.70	−0.07	0.02	−0.02	0.26	0.00	0.01	−0.01	0.00	−0.01	0.01	−0.01	0.00	−0.30	0.03	−0.03	1.07	692.70	−509.97	509.97	8.00
OFB2.5	770.00	−510.00	510.00	7.70	−0.21	0.01	−0.01	0.76	−0.07	0.02	−0.02	0.28	0.00	0.01	−0.01	0.00	−0.01	0.01	−0.01	0.01	−0.31	0.03	−0.03	1.15	769.69	−509.97	509.97	8.85
OFB2.75	847.00	−510.00	510.00	8.47	−0.21	0.01	−0.01	0.80	−0.07	0.02	−0.02	0.30	0.00	0.01	−0.01	0.01	−0.01	0.01	−0.01	0.01	−0.32	0.03	−0.03	1.22	846.68	−509.97	509.97	9.69
TS2	885.50	−510.00	510.00	8.86	−0.22	0.01	−0.01	0.82	−0.08	0.02	−0.02	0.31	0.00	0.01	−0.01	0.01	−0.01	0.01	−0.01	0.02	−0.32	0.03	−0.03	1.25	885.18	−509.97	509.97	10.10
L3	924.00	−510.00	510.00	9.24	−0.22	0.01	−0.01	0.84	−0.08	0.02	−0.02	0.31	0.00	0.01	−0.01	0.01	−0.01	0.01	−0.01	0.02	−0.32	0.03	−0.03	1.28	923.68	−509.97	509.97	10.52
OFB3.25	1001.00	−510.00	510.00	10.01	−0.22	0.01	−0.01	0.88	−0.08	0.02	−0.02	0.34	0.00	0.01	−0.01	0.02	0.00	0.02	−0.02	0.03	−0.33	0.03	−0.03	1.34	1000.67	−509.97	509.97	11.35
OFB3.5	1078.00	−510.00	510.00	10.78	−0.23	0.01	−0.01	0.92	−0.08	0.02	−0.02	0.36	0.00	0.02	−0.02	0.03	0.00	0.02	−0.02	0.04	−0.34	0.02	−0.02	1.38	1077.66	−509.98	509.98	12.16
OFB3.75	1155.00	−510.00	510.00	11.54	−0.23	0.01	−0.01	0.95	−0.08	0.02	−0.02	0.37	0.00	0.02	−0.01	0.04	0.00	0.02	−0.02	0.05	−0.35	0.02	−0.02	1.43	1154.65	−509.98	509.98	12.97
L4	1232.00	−510.00	510.00	12.24	−0.24	0.01	−0.01	0.97	−0.08	0.02	−0.02	0.39	0.00	0.01	−0.01	0.04	0.00	0.02	−0.01	0.05	−0.35	0.02	−0.02	1.46	1231.65	−509.98	509.98	13.71
OFB4.25	1309.00	−510.00	510.00	12.86	−0.24	0.01	−0.01	1.00	−0.08	0.02	−0.02	0.40	0.00	0.01	−0.01	0.06	0.00	0.02	−0.02	0.07	−0.36	0.02	−0.02	1.50	1308.64	−509.98	509.98	14.36
OFB4.5	1386.00	−510.00	510.00	13.40	−0.25	0.01	−0.01	1.02	−0.08	0.02	−0.02	0.42	0.00	0.02	−0.01	0.07	0.00	0.02	−0.02	0.08	−0.37	0.02	−0.02	1.52	1385.63	−509.98	509.98	14.92
OFB4.75	1463.00	−510.00	510.00	13.85	−0.25	0.01	−0.01	1.04	−0.08	0.02	−0.02	0.43	0.01	0.01	−0.01	0.08	0.00	0.02	−0.01	0.09	−0.37	0.02	−0.02	1.55	1462.63	−509.98	509.98	15.40
TS3	1501.50	−510.00	510.00	14.05	−0.25	0.01	−0.01	1.05	−0.08	0.02	−0.02	0.44	0.01	0.01	−0.01	0.08	0.00	0.01	−0.01	0.09	−0.38	0.02	−0.02	1.56	1501.12	−509.98	509.98	15.61
L5	1540.00	−510.00	510.00	14.22	−0.25	0.01	−0.01	1.05	−0.08	0.02	−0.02	0.44	0.01	0.01	−0.01	0.08	0.00	0.01	−0.01	0.09	−0.38	0.02	−0.02	1.57	1539.62	−509.98	509.98	15.79
OFB5.25	1617.00	−510.00	510.00	14.51	−0.26	0.01	−0.01	1.07	−0.08	0.02	−0.02	0.45	0.01	0.01	−0.01	0.09	0.00	0.01	−0.01	0.10	−0.39	0.02	−0.02	1.58	1616.61	−509.98	509.98	16.09
OFB5.5	1694.00	−510.00	510.00	14.72	−0.26	0.01	−0.01	1.08	−0.08	0.02	−0.02	0.46	0.01	0.01	−0.01	0.10	0.00	0.02	−0.02	0.11	−0.39	0.02	−0.02	1.60	1693.61	−509.98	509.98	16.31
OFB5.75	1771.00	−510.00	510.00	14.84	−0.27	0.01	−0.01	1.08	−0.08	0.02	−0.02	0.47	0.01	0.01	−0.01	0.10	0.01	0.02	−0.01	0.11	−0.40	0.02	−0.02	1.60	1770.60	−509.98	509.98	16.44
L6	1848.00	−510.00	510.00	14.88	−0.27	0.01	−0.01	1.08	−0.08	0.02	−0.02	0.47	0.01	0.01	−0.01	0.10	0.01	0.01	−0.01	0.11	−0.41	0.03	−0.03	1.61	1847.59	−509.97	509.97	16.49
OFB6.25	1925.00	−510.00	510.00	14.84	−0.27	0.01	−0.01	1.08	−0.08	0.02	−0.02	0.47	0.01	0.01	−0.01	0.10	0.01	0.02	−0.01	0.11	−0.41	0.02	−0.02	1.61	1924.59	−509.98	509.98	16.45
OFB6.5	2002.00	−510.00	510.00	14.72	−0.28	0.01	−0.01	1.08	−0.08	0.02	−0.02	0.47	0.01	0.01	−0.01	0.10	0.01	0.02	−0.02	0.11	−0.42	0.02	−0.02	1.60	2001.58	−509.98	509.98	16.32
OFB6.75	2079.00	−510.00	510.00	14.51	−0.28	0.01	−0.01	1.07	−0.09	0.02	−0.02	0.46	0.02	0.01	−0.01	0.09	0.01	0.01	−0.01	0.10	−0.42	0.02	−0.02	1.59	2078.58	−509.98	509.98	16.10
L7	2156.00	−510.00	510.00	14.22	−0.29	0.01	−0.01	1.06	−0.09	0.02	−0.02	0.45	0.02	0.01	−0.01	0.08	0.01	0.01	−0.01	0.09	−0.43	0.02	−0.02	1.58	2155.57	−509.98	509.98	15.80
TS4	2194.50	−510.00	510.00	14.05	−0.29	0.01	−0.01	1.05	−0.09	0.02	−0.02	0.44	0.02	0.01	−0.01	0.08	0.01	0.01	−0.01	0.09	−0.43	0.02	−0.02	1.57	2194.07	−509.98	509.98	15.62
OFB7.25	2233.00	−510.00	510.00	13.85	−0.29	0.01	−0.01	1.04	−0.09	0.02	−0.02	0.44	0.02	0.01	−0.01	0.07	0.01	0.02	−0.01	0.08	−0.44	0.02	−0.02	1.56	2232.56	−509.98	509.98	15.41
OFB7.5	2310.00	−510.00	510.00	13.40	−0.29	0.01	−0.01	1.03	−0.09	0.02	−0.02	0.43	0.02	0.02	−0.01	0.07	0.01	0.02	−0.02	0.08	−0.44	0.02	−0.02	1.54	2309.56	−509.98	509.98	14.94
OFB7.75	2387.00	−510.00	510.00	12.86	−0.30	0.01	−0.01	1.00	−0.09	0.02	−0.02	0.41	0.02	0.01	−0.01	0.05	0.02	0.02	−0.02	0.06	−0.45	0.02	−0.02	1.52	2386.55	−509.98	509.98	14.38
L8	2464.00	−510.00	510.00	12.24	−0.30	0.01	−0.01	0.98	−0.09	0.02	−0.02	0.40	0.02	0.01	−0.01	0.04	0.02	0.02	−0.01	0.05	−0.46	0.02	−0.02	1.48	2463.54	−509.98	509.98	13.73
OFB8.25	2541.00	−510.00	510.00	11.54	−0.31	0.01	−0.01	0.95	−0.09	0.02	−0.02	0.38	0.02	0.02	−0.01	0.03	0.02	0.02	−0.02	0.04	−0.46	0.02	−0.02	1.45	2540.54	−509.98	509.98	12.99
OFB8.5	2618.00	−510.00	510.00	10.78	−0.31	0.01	−0.01	0.92	−0.09	0.02	−0.02	0.37	0.02	0.02	−0.02	0.03	0.02	0.02	−0.02	0.03	−0.47	0.02	−0.02	1.41	2617.53	−509.98	509.98	12.19
OFB8.75	2695.00	−510.00	510.00	10.01	−0.32	0.01	−0.01	0.89	−0.09	0.02	−0.02	0.35	0.02	0.01	−0.01	0.01	0.02	0.02	−0.02	0.02	−0.48	0.03	−0.03	1.36	2694.52	−509.97	509.97	11.37
L9	2772.00	−510.00	510.00	9.24	−0.32	0.01	−0.01	0.85	−0.09	0.02	−0.02	0.32	0.03	0.01	−0.01	0.00	0.02	0.01	−0.01	0.01	−0.49	0.03	−0.03	1.30	2771.51	−509.97	509.97	10.54
TS5	2810.50	−510.00	510.00	8.85	−0.32	0.01	−0.01	0.83	−0.09	0.02	−0.02	0.32	0.03	0.01	−0.01	0.00	0.02	0.01	−0.01	0.01	−0.49	0.03	−0.03	1.27	2810.01	−509.97	509.97	10.13
OFB9.25	2849.00	−510.00	510.00	8.47	−0.33	0.01	−0.01	0.81	−0.09	0.02	−0.02	0.31	0.03	0.01	−0.01	0.00	0.02	0.01	−0.01	0.01	−0.49	0.03	−0.03	1.24	2848.51	−509.97	509.97	9.71
OFB9.5	2926.00	−510.00	510.00	7.70	−0.33	0.01	−0.01	0.76	−0.09	0.02	−0.02	0.29	0.03	0.01	−0.01	0.00	0.02	0.01	−0.01	0.00	−0.50	0.03	−0.03	1.17	2925.50	−509.97	509.97	8.87
OFB9.75	3003.00	−510.00	510.00	6.93	−0.34	0.01	−0.01	0.71	−0.10	0.02	−0.02	0.26	0.03	0.01	−0.01	−0.01	0.02	0.01	−0.01	0.00	−0.51	0.03	−0.03	1.09	3002.49	−509.97	509.97	8.02
L10	3080.00	−510.00	510.00	6.16	−0.34	0.01	−0.01	0.65	−0.10	0.02	−0.02	0.24	0.03	0.01	−0.01	−0.02	0.02	0.01	−0.01	−0.01	−0.52	0.03	−0.03	1.00	3079.48	−509.97	509.97	7.16
OFB10.25	3157.00	−510.00	510.00	5.39	−0.35	0.02	−0.02	0.58	−0.10	0.02	−0.02	0.22	0.03	0.01	−0.01	−0.02	0.02	0.01	−0.01	−0.01	−0.53	0.03	−0.03	0.91	3156.47	−509.97	509.97	6.30
OFB10.5	3234.00	−510.00	510.00	4.62	−0.35	0.02	−0.02	0.52	−0.10	0.02	−0.02	0.19	0.03	0.01	−0.01	−0.02	0.02	0.01	−0.01	−0.01	−0.53	0.04	−0.04	0.80	3233.47	−509.96	509.96	5.42
OFB10.75	3311.00	−510.00	510.00	3.85	−0.36	0.02	−0.02	0.44	−0.10	0.02	−0.02	0.16	0.03	0.01	−0.01	−0.02	0.02	0.01	−0.01	−0.01	−0.54	0.04	−0.04	0.69	3310.46	−509.96	509.96	4.54
L11	3388.00	−510.00	510.00	3.08	−0.36	0.03	−0.03	0.36	−0.10	0.02	−0.02	0.13	0.03	0.01	−0.01	−0.02	0.02	0.01	−0.01	−0.02	−0.55	0.05	−0.05	0.57	3387.45	−509.95	509.95	3.65
OFB11.25	3465.00	−510.00	510.00	2.31	−0.37	0.04	−0.04	0.28	−0.10	0.02	−0.02	0.10	0.03	0.00	0.00	−0.02	0.02	0.00	0.00	−0.01	−0.56	0.06	−0.06	0.43	3464.44	−509.94	509.94	2.74
TS6	3492.00	−510.00	510.00	2.04	−0.37	0.05	−0.05	0.25	−0.11	0.02	−0.02	0.09	0.03	0.00	0.00	−0.02	0.02	0.00	0.00	−0.01	−0.56	0.07	−0.07	0.39	3491.44	−509.93	509.93	2.43
L12	3696.00	−510.00	510.00	2.04	−0.39	0.04	−0.04	0.03	−0.11	0.01	−0.01	0.01	0.03	−0.01	0.01	0.00	0.02	−0.01	0.01	0.00	−0.59	0.05	−0.05	0.04	3695.41	−509.95	509.95	2.08

NOTES:

1. FOR CAMBER DIAGRAM AND NOTES, SEE DWG. NO. MS-083.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-071 ARCH CAMBER DIAGRAM - 2.dwg LAST PLOTTED: 11/3/2025 1:47:22 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

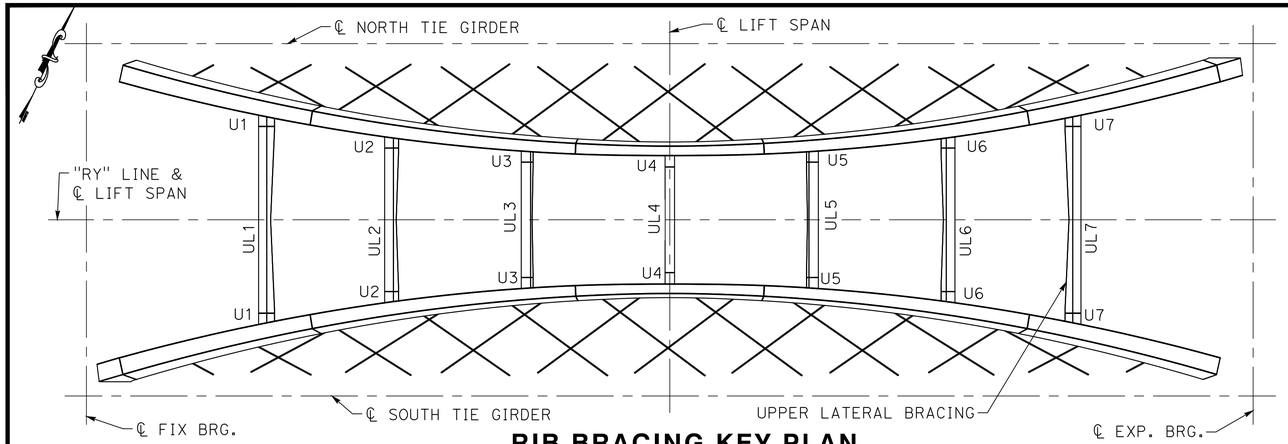
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH CAMBER DIAGRAM - 2
(Date: 11/03/2025)

PN: T15136000

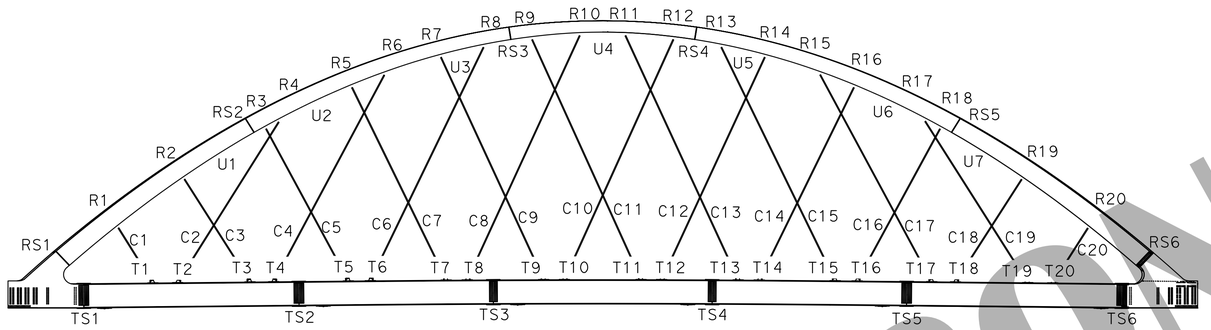
DWG NO.: MS-084

SHT NO.: 404 OF 648



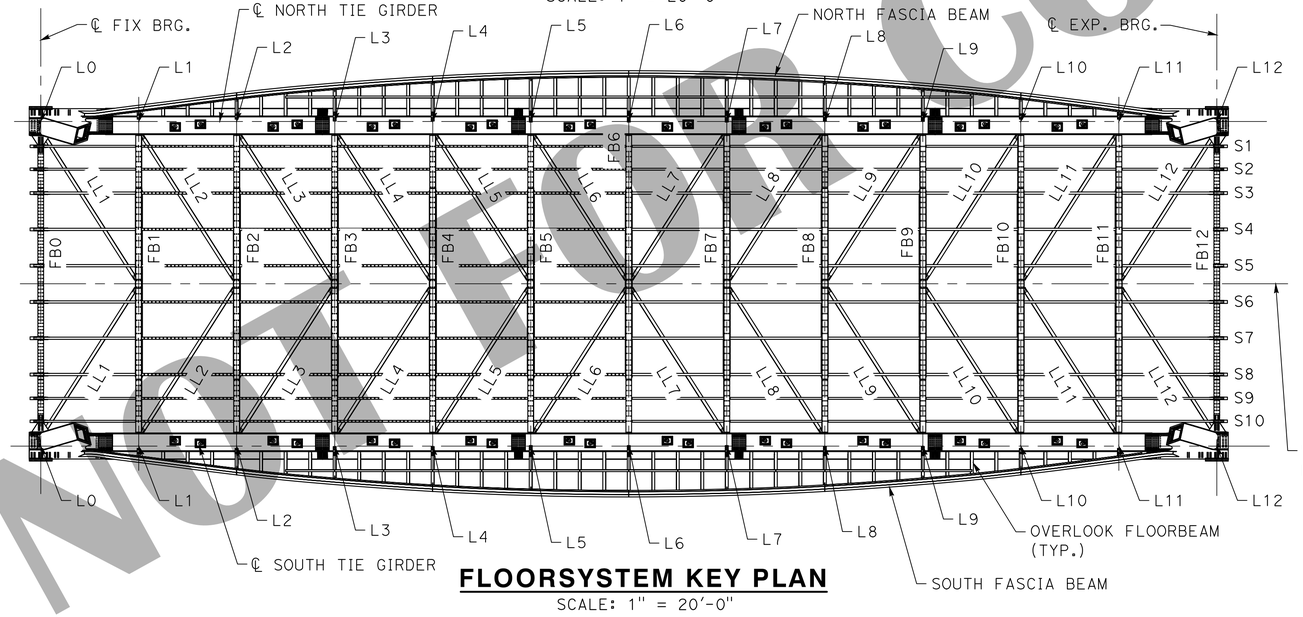
RIB BRACING KEY PLAN

SCALE: 1" = 20'-0"



ARCH KEY ELEVATION

SCALE: 1" = 20'-0"



FLOORSYSTEM KEY PLAN

SCALE: 1" = 20'-0"

LEGEND:

C(n)	INDICATES HANGER MEMBER
S(n)	INDICATES STRINGER MEMBER
FB(n)	INDICATES FLOORBEAM MEMBER
L(n)	INDICATES FLOORBEAM PANEL POINT ON TIE GIRDER WORKING LINE
LL(n)	INDICATES LOWER LATERAL BRACING MEMBER
R(n)	INDICATES HANGER PANEL POINT ON ARCH RIB WORKING LINE
R(n)C	INDICATES HANGER CONNECTION POINT AT ARCH RIB
RS(n)	INDICATES ARCH RIB SPLICE LOCATION ON ARCH RIB WORKING LINE
T(n)	INDICATES HANGER PANEL POINT ON TIE GIRDER WORKING LINE
T(n)C	INDICATES HANGER CONNECTION POINT AT TIE GIRDER
TS(n)	INDICATES TIE GIRDER SPLICE LOCATION ON TIE GIRDER WORKING LINE
U(n)	INDICATES UPPER LATERAL BRACING PANEL POINT ON ARCH RIB WORKING LINE
U(n)C	INDICATES UPPER LATERAL BRACING CONNECTION POINT
UL(n)	INDICATES UPPER LATERAL BRACING MEMBER
DC	DEAD LOAD OF STRUCTURAL COMPONENTS AND NON-STRUCTURAL ATTACHMENTS
DCFS	DEAD LOAD ALLOWANCE DUE TO FUTURE STREETCAR MODIFICATIONS
DW	DEAD LOAD OF UTILITIES
LL+I	LIVE LOAD AND IMPACT
BR	BRAKING LOADING
WS	WIND LOAD ON STRUCTURE
WL	WIND ON LIVE LOAD
TU	TEMPERATURE LOAD
EQ	SEISMIC (EARTHQUAKE) LOAD
CE LL+I	LIVE LOAD AND IMPACT FOR CABLE EXCHANGE
CEF	CABLE EXCHANGE FORCE
CL LL+I	LIVE LOAD AND IMPACT FOR ACCIDENTAL CABLE LOSS
CL-DF	DYNAMIC FORCE FOR ACCIDENTAL CABLE LOSS

STRENGTH I(II-III)	STRENGTH I THROUGH V LOAD COMBINATIONS
STRENGTH VI	CABLE EXCHANGE LOADCASE 1.20 (DC + DCFS) + 1.40 DW + 1.50 CE LL+I + 1.00 CEF
STRENGTH BV-I(II-III)	STRENGTH BV-I THROUGH BV-III LOAD COMBINATIONS
SERVICE I	SERVICE I LOAD COMBINATION
EXTREME EVENT I	EXTREME EVENT I LOAD COMBINATION (EARTHQUAKE). ALL SUPERSTRUCTURE ELEMENTS ARE EXCLUDED FROM THE EARTHQUAKE RESISTING SYSTEM AND THUS ARE DESIGNED AS CAPACITY PROTECTED MEMBERS IN WHICH THE SUPERSTRUCTURE EARTHQUAKE DEMANDS ARE TAKEN AS 1.2 TIMES THE ELASTIC EARTHQUAKE FORCES FOR THE DESIGN EARTHQUAKE EVENT. 1.00 (DC + DCFS) + 1.00 DW + 1.00 EQ
EXTREME EVENT III	EXTREME EVENT ACCIDENTAL CABLE LOSS LOAD COMBINATION. IMPACT DYNAMIC FORCE OF 2.0 TIMES THE STATIC FORCE IS USED IN ALL HANGER LOSS LOAD CASES 1.10 (DC + DCFS) + 1.35 DW + 0.75 CL LL+I + 1.10 CL-DF
EXTREME EVENT IV	TIE GIRDER PLATE FRACTURE LOAD COMBINATION WITH HL-93 LIVE LOAD 1.05 (DC + DCFS) + 1.05 DW + 1.30 LL+I
EXTREME EVENT V	TIE GIRDER PLATE FRACTURE LOAD COMBINATION WITH P15 PERMIT LIVE LOAD 1.05 (DC + DCFS) + 1.05 DW + 1.00 LL+I
Pu	AXIAL FORCE IN KIPS, POSITIVE = TENSION
Pr	AXIAL RESISTANCE IN KIPS, POSITIVE = TENSION
Muy	MOMENT IN Y-Y AXIS IN K-FT
Mry	MOMENT RESISTANCE IN Y-Y AXIS IN K-FT
Muz	MOMENT IN Z-Z AXIS IN K-FT
Mrz	MOMENT RESISTANCE IN Z-Z AXIS IN K-FT
Δ	REDUCTION FACTOR FOR TORSION AND FLEXURAL SHEAR

STRINGER LEGEND:

S1-S1, S9-S10 - SIDEWALK STRINGER
S3-S8 - ROADWAY STRINGER

GENERAL LOAD TABLE NOTES:

1. INDIVIDUAL LOAD CASES ARE UNFACTORED AND DO NOT INCLUDE SECOND ORDER EFFECTS. LOAD COMBINATIONS ARE FACTORED AND INCLUDE SECOND ORDER EFFECTS.
2. INDIVIDUAL LOADS ARE REPORTED AT CONTROLLING SECTION FOR CONTROLLING LOAD COMBINATION.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: M. ALESTRA
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MEMBER FORCES
(Date: 11/03/2025)

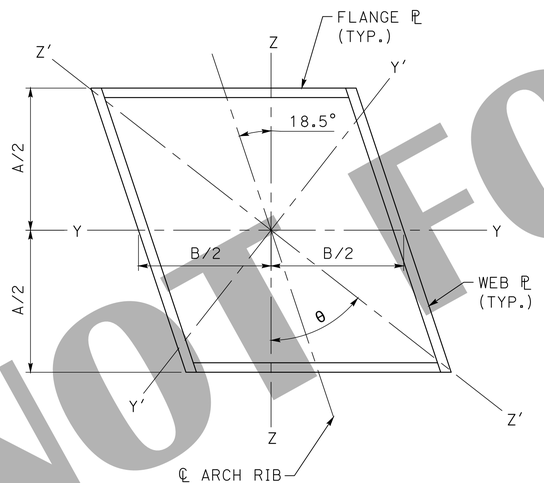
PN: T15136000
DWG NO.: MS-085
SHT NO.: 405
OF 648

p:\3326.01\CADD\Structural\MS-072 MEMBER FORCES.dwg LAST PLOTTED: 11/3/2025 1:47:28 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

ARCH RIB SECTION PROPERTIES										GROSS SECTION PROPERTIES (GLOBAL COORDINATE AXIS)				GROSS SECTION PROPERTIES (PRINCIPAL COORDINATE AXIS)				
MEMBER	LENGTH (FT)	FCM	STEEL GRADE	WORK POINT	LENGTH ALONG ARCH (FT)	FLANGE THICKNESS (IN)	WEB THICKNESS (IN)	A (IN)	B (IN)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Iyz (IN4)	Iy' (IN4)	Iz' (IN4)	θ (DEG.)	Sy' (IN3)	Sz' (IN3)
L0–RS1, RS6–L12	15.00	YES	70W	L0/L12	0.00	1	1 1/2	60.00	56.00	295	148,917	181,809	−45,060	213,330	117,396	55.03	4,411	3,366
				RS1/RS6	15.00	1	1 1/2	60.00	56.00	295	148,917	181,809	−45,060	213,330	117,396	55.03	4,411	3,366
RS1–RS2, RS5–RS6	62.00	YES	70W		15.00	1 1/4	1 3/4	60.00	56.00	352	179,299	212,299	−54,428	252,673	138,925	53.43	6,636	5,114
				RS2/RS5	77.00	1 1/4	1 3/4	50.74	46.74	295	106,100	122,906	−32,133	147,717	81,289	52.33	4,847	3,803
RS2–RS3, RS4–RS5	74.00	YES	70W		77.00	1 1/2	1 3/4	50.74	46.74	316	118,494	127,617	−36,277	159,618	86,493	48.58	5,211	4,234
				RS3/RS4	151.00	1 1/2	1 3/4	39.69	35.69	242	54,251	56,241	−16,536	71,813	38,680	46.72	3,278	2,818
RS3–RS4	49.41	YES	70W		151.00	1 1/2	1 3/4	39.69	35.69	242	54,251	56,241	−16,536	71,813	38,680	46.72	3,278	2,818
				U4	175.70	1 1/2	1 3/4	36.00	32.00	218	39,640	40,342	−12,057	52,053	27,929	45.83	2,750	2,459

ARCH RIB STRESS DATA																		
MEMBER	UNFACTORED LOADS (KIPS AND KIP–FT)											CONTROLLING FACTORED DESIGN LOADS				CONTROLLING RESISTANCE				DEMAND / RESISTANCE
		DC	DCFS	DW	LL+I+BR	WS	WL	TU	EQ	CL LL+I	CL–DF	LOAD COMB.	Pu (K)	Muy (K–FT)	Muz (K–FT)	Pr (K)	Mry (K–FT)	Mrz (K–FT)	Δ	
L0–RS1, RS6–L12	P	−1,578	−57	0	−58	209	4	43	143	−58	3	Extreme Event I	−1,491	−4,386	−3,327	19,858	24,703	18,851	1.00	0.69
	My	−132	−47	0	97	−936	68	171	−3,635	97	95									
	Mz	−111	31	0	−60	−1,069	−39	−398	−2,813	−60	−42									
RS1–RS2, RS5–RS6	P	−1,565	−59	0	−344	−157	−4	−92	−139	−344	21	Extreme Event I	−1,764	3,131	2,169	18,268	20,651	15,862	0.97	0.60
	My	164	−27	0	−193	−126	−50	−244	2,586	−193	−691									
	Mz	−121	18	0	135	33	28	225	1,988	135	348									
RS2–RS3, RS4–RS5	P	−1,483	−58	0	−258	488	17	77	66	−258	−53	Extreme Event III	−1,947	3,574	−1,612	14,663	13,328	10,196	0.98	0.87
	My	−116	−13	0	96	274	14	90	524	96	2,890									
	Mz	63	5	0	−24	163	1	−33	613	−24	−1,326									
RS3–RS4	P	−1,274	−52	0	−217	184	−2	−61	17	−217	−48	Extreme Event III	−1,674	3,124	−1,531	12,936	10,715	8,202	0.96	0.91
	My	−118	−6	0	82	−135	1	27	−452	82	2,537									
	Mz	64	3	0	−50	−169	−1	−33	−391	−50	−1,244									



ARCH RIB TYPICAL SECTION

LEGEND:

Iyz INDICATES PRODUCT MOMENT OF INERTIA ABOUT Y-Z AXIS

Iy' INDICATES MOMENT OF INERTIA ABOUT ARCH RIB PRINCIPAL AXIS Y'-Y'

Iz' INDICATES MOMENT OF INERTIA ABOUT ARCH RIB PRINCIPAL AXIS Z'-Z'

θ INDICATES ANGLE BETWEEN GLOBAL AXIS AND ARCH RIB PRINCIPAL AXIS

Sy' INDICATES SECTION MODULUS ABOUT ARCH RIB PRINCIPAL AXIS Y'-Y'

Sz' INDICATES SECTION MODULUS ABOUT ARCH RIB PRINCIPAL AXIS Z'-Z'

ARCH RIB NOTES:

1. THE OUTSIDE FACE OF THE MEMBER IS HELD CONSTANT. INCREASES IN PLATE THICKNESS PROJECT TOWARDS THE INSIDE OF THE BOX.
2. UNFACTORED LOADS ARE REPORTED AT THE CONTROLLING SECTION FOR THE CONTROLLING LOAD COMBINATION.
3. DESIGN IS CONTROLLED BY THE FOLLOWING EQUATION:

$$Pu/\Delta Pr + (Muy/\Delta Mry + Muz/\Delta Mrz) <= 1.0$$

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: B. LOFLIN DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH RIB MEMBER DESIGN
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-086

SHT NO.: 406 OF 648

p:\3326.01\CADD\Structural\MS-073 ARCH RIB MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:33 PM

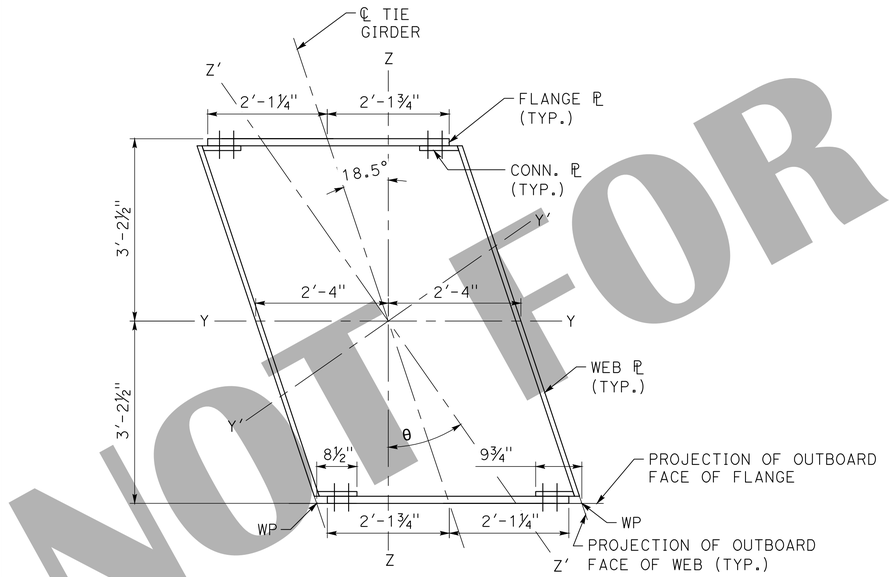
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

TIE GIRDER SECTION PROPERTIES						GROSS SECTION PROPERTIES (GLOBAL COORDINATE AXIS)				GROSS SECTION PROPERTIES (PRINCIPAL COORDINATE AXIS)				
MEMBER	LENGTH (FT)	FCM	STEEL GRADE	FLANGE THICKNESS (IN)	WEB THICKNESS (IN)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Iyz (IN4)	Iy' (IN4)	Iz' (IN4)	θ (DEG.)	Sy' (IN3)	Sz' (IN3)
L0–TS1, TS6–L12	17.00	YES	70W	1 1/4	1 1/2	391	329,702	253,046	−101,276	399,660	183,088	34.64	7,476	5,392
TS1–TS2, TS5–TS6	56.79	YES	70W	1 1/4	1 1/4	364	327,821	232,107	−99,829	390,671	169,256	32.19	7,293	4,930
TS2–TS3, TS4–TS5	51.33	YES	70W	1 1/4	1	326	311,567	203,083	−95,750	367,372	147,278	30.23	6,929	4,390
TS3–TS4	57.75	YES	70W	1 1/4	1	326	311,567	203,083	−95,750	367,372	147,278	30.23	6,929	4,390

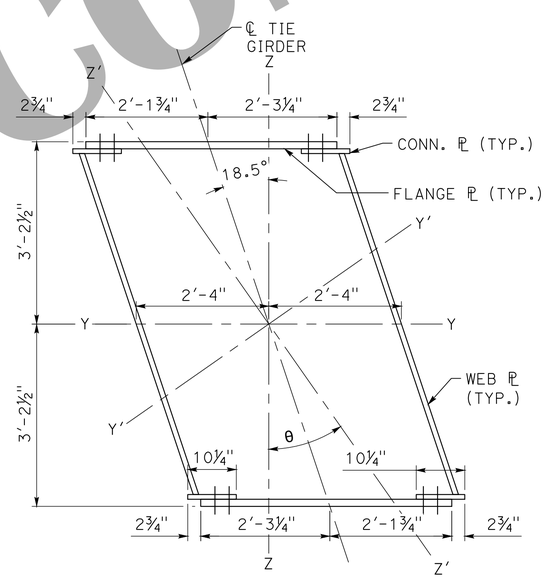
LEGEND:

Iyz INDICATES PRODUCT MOMENT OF INERTIA ABOUT Y-Z AXIS
Iy′ INDICATES MOMENT OF INERTIA ABOUT TIE PRINCIPAL AXIS Y′-Y′
Iz′ INDICATES MOMENT OF INERTIA ABOUT TIE PRINCIPAL AXIS Z′-Z′
θ INDICATES ANGLE BETWEEN GLOBAL AXIS AND TIE PRINCIPAL AXIS
Sy′ INDICATES SECTION MODULUS ABOUT TIE PRINCIPAL AXIS Y′-Y′
Sz′ INDICATES SECTION MODULUS ABOUT TIE PRINCIPAL AXIS Z′-Z′

TIE GIRDER STRESS DATA																			
MEMBER	UNFACTORED LOADS (KIPS AND KIP–FT)											CONTROLLING FACTORED DESIGN LOADS				CONTROLLING RESISTANCE				DEMAND / RESISTANCE
		DC	DCFS	DW	LL+I+BR	WS	WL	TU	EQ	CL LL+I	CL–DF	LOAD COMB.	Pu (K)	Muy (K–FT)	Muz (K–FT)	Pr (K)	Mry (K–FT)	Mrz (K–FT)	Δ	
L0–TS1, TS6–L12	P	1,172	46	0	272	−190	−5	23	263	272	104	Extreme Event IV	1,999	3,102	−2,861	13,083	20,717	5,733	0.90	0.90
	My	726	75	0	343	−547	−16	−281	−598	343	3,166									
	Mz	−392	5	0	−589	−712	−22	−285	−485	−589	−900									
TS1–TS2, TS5–TS6	P	1,184	41	0	269	−334	5	−229	477	269	−12	Extreme Event IV	1,982	−3,642	2,322	13,345	22,574	6,540	1.00	0.67
	My	−381	−79	0	−14	139	−4	65	−59	−14	1,306									
	Mz	137	15	0	−208	−253	−3	−98	−104	−208	−383									
TS2–TS3, TS4–TS5	P	1,112	34	0	212	−307	5	789	631	212	−6	Extreme Event IV	1,861	−3,643	2,073	12,329	22,361	6,399	1.00	0.64
	My	−570	−76	0	−352	38	−4	454	149	−352	1,541									
	Mz	167	19	0	−255	−201	−1	−231	−185	−255	−410									
TS3–TS4	P	1,112	34	0	248	−302	7	−849	−173	248	−19	Extreme Event IV	1,848	−3,112	1,947	12,329	22,361	6,399	1.00	0.59
	My	−259	−41	0	−254	−34	−3	202	267	−254	1,528									
	Mz	−43	13	0	−227	−138	−3	−79	−44	−227	−376									



TIE GIRDER TYPICAL SECTION - L0-TS1



TIE GIRDER TYPICAL SECTION - TS1-TS4

TIE GIRDER NOTES:

1. THE OUTSIDE FACE OF THE MEMBER IS HELD CONSTANT. INCREASES IN PLATE THICKNESS PROJECT TOWARDS THE INSIDE OF THE BOX.
2. UNFACTORED LOADS ARE REPORTED AT THE CONTROLLING SECTION FOR THE CONTROLLING LOAD COMBINATION.
3. COMBINED LOADS UNDER EXTREME EVENT IV & V ARE WITH RESPECT TO THE CENTROID OF THE UN-FRACTURED SECTION.
4. EXTREME EVENT IV & V CAPACITIES ARE GOVERNED BY NET SECTION FRACTURE STRENGTH AFTER LOSS OF ANY ONE FLANGE OR WEB PLATE.
5. STRENGTH AND EXTREME EVENT DESIGN IS CONTROLLED BY THE FOLLOWING EQUATIONS:

   Pu/Δ2Pr + (Muy/ΔMry + Muz/ΔMrz) <= 1.0 IF Pu/Pr < 0.2
   Pu/ΔPr + 8/9(Muy/ΔMry + Muz/ΔMrz) <= 1.0 IF Pu/Pr < 0.2

6. EXTREME EVENT IV & V DESIGN IS CONTROLLED BY THE FOLLOWING EQUATION:

   Pu/ΔPr + Muy/ΔMry + Muz/ΔMrz <= 1.0

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: J. BORUTA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER MEMBER DESIGN
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-087
SHT NO.: 407 OF 648

p:\3326.01\CADD\Structural\MS-074 TIE GIRDER MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:37 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

STRUCTURAL STRAND DATA

HANGER	GEOMETRIC PROPERTIES		UNFACTORED STRAND FORCES (KIPS)																	APPROX. WEIGHT OF ASSEMBLY (KIPS)
	STRUCTURAL STRAND DIAMETER (IN)	STRUCTURAL STRAND LENGTH (FT)	DEAD LOAD			HL-93 LL+I+BR		PERMIT LL+I		WIND		EARTHQUAKE		TEMPERATURE		HANGER LOSS LOAD (MAX)	HANGER LOSS LL + I (MAX)	FATIGUE I RANGE (LL+I)	FATIGUE II RANGE (LL+I)	CONTROLLING LOAD CASE	
			DC	DCFS	DW	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN						
C1, C20	3.125	21.92	91	4	0	47	−3	63	−1	12	−40	26	−26	16	−16	164	47	8	24	Service I	1.174
C2, C19	3.125	56.53	92	3	0	53	−18	66	−22	18	−31	48	−48	13	−13	75	53	13	38	Service I	1.871
C3, C18	3.125	37.57	94	5	0	49	−2	68	−1	16	−47	19	−19	9	−9	147	49	7	23	Service I	1.495
C4, C17	3.125	68.68	82	4	0	68	−21	94	−28	21	−41	45	−45	14	−14	103	68	17	50	Service I	2.122
C5, C16	3.125	51.63	92	5	0	55	−6	77	−4	20	−52	13	−13	6	−6	138	55	9	28	Service I	1.783
C6, C15	3.125	75.55	87	4	0	72	−23	105	−32	21	−45	39	−39	12	−12	116	72	18	54	Service I	2.264
C7, C14	3.125	63.09	89	5	0	61	−12	87	−12	22	−54	14	−14	4	−4	138	61	12	35	Service I	2.018
C8, C13	3.125	78.17	90	4	0	72	−23	106	−33	19	−45	30	−30	8	−8	121	72	17	53	Service I	2.318
C9, C12	3.125	71.55	94	5	0	65	−18	95	−22	26	−55	16	−16	8	−8	132	65	14	43	Service I	2.192
C10, C11	3.125	76.69	94	5	0	69	−22	102	−30	17	−44	22	−22	9	−9	121	69	16	50	Service I	2.288

OPEN STRAND SOCKET

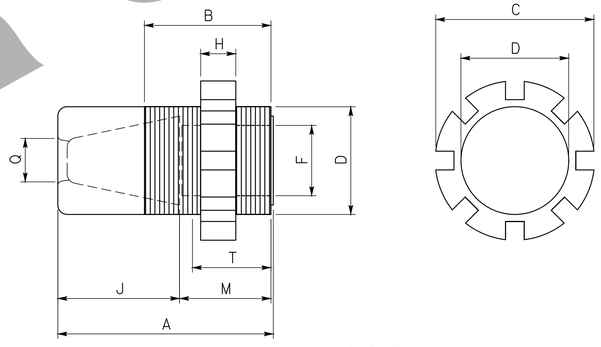
STRUCTURAL STRAND DIAMETER (IN)	A (IN)	J (IN)	K (IN)	M (IN)	N (IN)	O (IN)	P (IN)	Q (IN)	U (IN)	V (IN)	Y (IN)	PIN		COTTER PIN DIA. (IN)	WEIGHT (LB)
												LENGTH (IN)	DIA. D (IN)		
3.125	31.50	10.50	6.13	13.25	7.75	6.75	11.75	3.75	7.50	2.75	11.25	13.50	6.50	0.63	433

TYPE 7 ANCHOR SOCKET

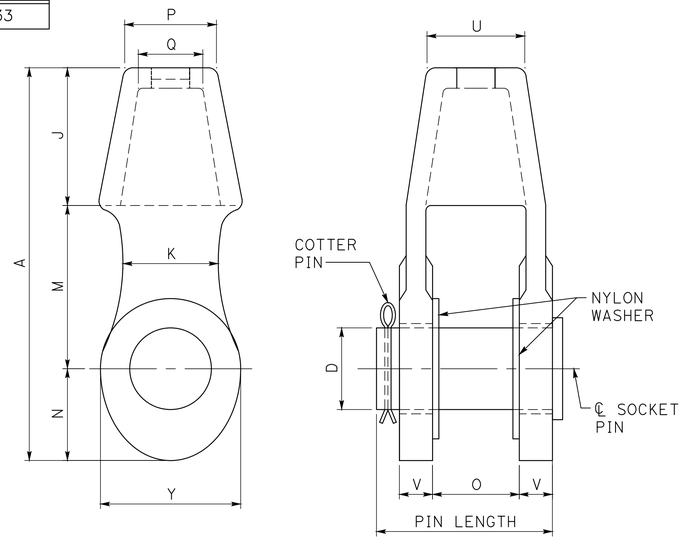
STRUCTURAL STRAND DIAMETER (IN)	A (IN)	B (IN)	C (IN)	D (IN)	F (IN)	H (IN)	J (IN)	M (IN)	Q (IN)	T (IN)	WEIGHT (LB)
3.125	16.88	9.50	14.38	9.75	6.00	3.25	9.75	7.00	3.75	6.50	292

NOTES:

1. LENGTH OF STRUCTURAL STRAND IS MEASURED FROM CENTERLINE OF OPEN STRAND SOCKET PIN TO BOTTOM OF BEARING PLATE IN TIE GIRDER HANGER CONNECTION UNDER LOAD OF DC + DCFS + DW. LENGTH IS BASED ON THE THEORETICAL STRAIGHT LINE DIMENSIONS, CONNECTION POINT TO CONNECTION POINT AND DOES NOT INCLUDE SAG.
2. DIMENSIONS, LENGTHS AND FORCES APPLY TO BOTH THE NORTH AND SOUTH ARCH HANGERS.
3. FOR MORE INFORMATION ON THE CONTROLLING LOAD CASE, SEE THE GENERAL NOTES.
4. FOR MORE INFORMATION ON HANGER ASSEMBLY AND FABRICATION, SEE THE SPECIAL PROVISIONS.
5. OPEN STRAND AND TYPE 7 SOCKETS SHALL BE DESIGNED BY THE MANUFACTURER TO MEET OR EXCEED THE RESPECTIVE STRAND MINIMUM BREAKING STRENGTH.
6. ALL SOCKET CROSS SECTION DIMENSIONS SHOWN ARE FOR INFORMATION ONLY AND SHALL BE VERIFIED BY THE MANUFACTURER. OVERALL SOCKET DIMENSIONS AND SHAPE SHALL SUBSTANTIALLY CONFORM TO THESE DETAILS.



TYPE 7 SOCKET
NOT TO SCALE



OPEN STRAND SOCKET
NOT TO SCALE

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: B. LOFLIN DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER MEMBER DESIGN
(Date: 11/03/2025)

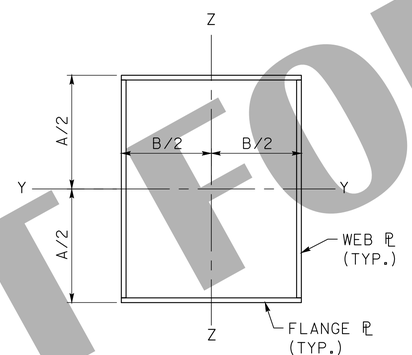
PN: T15136000
DWG NO.: MS-088
SHT NO.: 408 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-075 HANGER MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:41 PM

UPPER LATERAL SECTION PROPERTIES							GROSS SECTION PROPERTIES					NET SECTION PROPERTIES				
MEMBER	LOCATION	STEEL GRADE	FLANGE THICKNESS (IN)	WEB THICKNESS (IN)	A (IN)	B (IN)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Sy (IN3)	Sz (IN3)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Sy (IN3)	Sz (IN3)
UL1, UL7	MIDSPAN	70W	0.625	0.625	24.00	30.00	56	4,740	8,735	478	582	56	4,740	8,735	336	582
	AT U1/U7		0.625	0.625	48.00	30.00	82	22,679	14,866	1,132	991	82	22,679	14,866	811	991
UL2, UL6	MIDSPAN	70W	0.625	0.625	24.00	30.00	56	4,740	8,735	478	582	56	4,740	8,735	336	582
	AT U2/U6		0.625	0.625	43.00	30.00	76	17,125	13,518	970	901	76	17,125	13,518	676	901
UL3, UL5	MIDSPAN	70W	0.625	0.625	24.00	30.00	56	4,740	8,735	478	582	56	4,740	8,735	336	582
	AT U3/U5		0.625	0.625	38.00	30.00	70	12,517	12,169	817	811	70	12,517	12,169	552	811
UL4	MIDSPAN	70W	0.625	0.625	24.00	30.00	56	4,740	8,735	478	582	56	4,740	8,735	336	582
	AT U4		0.625	0.625	33.00	30.00	63	8,777	10,821	676	721	63	8,777	10,821	439	721

UPPER LATERAL STRESS DATA																				
MEMBER	UNFACTORED LOADS (KIPS AND KIP–FT)											CONTROLLING FACTORED DESIGN LOADS				CONTROLLING RESISTANCE				DEMAND / RESISTANCE
		DC	DCFS	DW	LL+I+BR	WS	WL	TU	EQ	CL LL+I	CL–DF	LOAD COMB.	Pu (K)	Muy (K–FT)	Muz (K–FT)	Pr (K)	Mry (K–FT)	Mrz (K–FT)	Δ	
UL1, UL7	P	–20	0	0	–6	–4	0	–10	–7	–6	–2	Extreme Event I	–27	156	–1,498	1,850	2,242	3,185	1.00	0.70
	My	67	1	0	–8	23	1	–22	121	–8	–4									
	Mz	–50	0	0	–3	–224	0	–20	–1,447	–3	–23									
UL2, UL6	P	–18	0	0	–1	–3	0	–4	–6	–1	–1	Extreme Event I	–24	341	–1,524	2,182	2,155	3,185	1.00	0.77
	My	27	1	0	0	–62	0	9	336	0	–38									
	Mz	–23	0	0	0	226	0	20	–1,501	0	14									
UL3, UL5	P	–16	0	0	0	–3	0	–1	–4	0	–1	Extreme Event I	–20	422	–985	2,383	2,106	3,185	1.00	0.57
	My	5	0	0	–11	85	0	25	431	–11	–40									
	Mz	–8	0	0	0	–177	0	59	–977	0	39									
UL4	P	–14	0	0	0	–2	0	0	–4	0	–1	Extreme Event I	–17	362	–11	2,448	2,091	3,185	1.00	0.19
	My	–5	0	0	–20	–77	0	2	376	–20	171									
	Mz	0	0	0	0	–7	0	–60	–11	0	58									



UPPER LATERAL TYPICAL SECTION

UPPER LATERAL NOTES:

1. THE OUTSIDE FACE OF THE MEMBER IS HELD CONSTANT. INCREASES IN PLATE THICKNESS PROJECT TOWARDS THE INSIDE OF THE BOX.
2. UNFACTORED LOADS ARE REPORTED AT THE CONTROLLING SECTION FOR THE CONTROLLING LOAD COMBINATION.
3. DESIGN IS CONTROLLED BY THE FOLLOWING EQUATIONS:

$Pu/\Delta 2Pr + (Muy/\Delta Mry + Muz/\Delta Mrz) <= 1.0$ IF $Pu/Pr < 0.2$

$Pu/\Delta Pr + 8/9(Muy/\Delta Mry + Muz/\Delta Mrz) <= 1.0$ IF $Pu/Pr >= 0.2$

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
UPPER LATERAL MEMBER DESIGN
(Date: 11/03/2025)

PN: T15136000

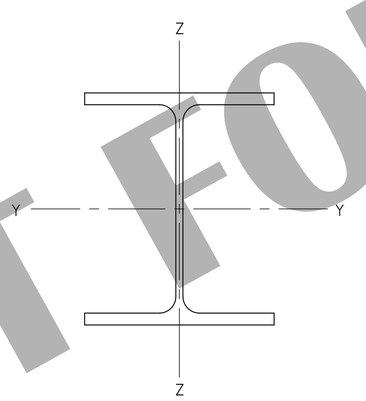
DWG NO.: MS-089
SHT NO.: 409 OF 648

p:\3326.01\CADD\Structural\MS-076 UPPER LATERAL MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:45 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

LOWER LATERAL SECTION PROPERTIES				GROSS SECTION PROPERTIES					NET SECTION PROPERTIES				
MEMBER	SECTION	FCM	STEEL GRADE	AREA (IN2)	Iy (IN4)	Iz (IN4)	Sy (IN3)	Sz (IN3)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Sy (IN3)	Sz (IN3)
LL1&12	w14x61	NO	50W	17.9	640	107	92.1	21.5	15.5	533.7	94.6	76.8	18.9
LL2&11	w14x53	NO	50W	15.6	541	57.7	77.8	14.3	13.1	432.4	53.5	62.2	13.3
LL3&10	w14x48	NO	50W	14.1	484	51.4	70.2	12.8	11.9	386.7	47.7	56.0	11.9
LL4&9	w14x48	NO	50W	14.1	484.0	51.4	70.2	12.8	11.9	386.7	47.7	56.0	11.9
LL5&8	w14x48	NO	50W	14.1	484.0	51.4	70.2	12.8	11.9	386.7	47.7	56.0	11.9
LL6&7	w14x48	NO	50W	14.1	484.0	51.4	70.2	12.8	11.9	386.7	47.7	56.0	11.9

LOWER LATERAL STRESS DATA														
MEMBER	UNFACTORED LOADS (KIPS AND K–FT)									CONTROLLING FACTORED DESIGN LOADS			CONTROLLING RESISTANCE		DEMAND / RESISTANCE
		DC	DCFS	DW	LL+I+BR	TU	WS	WL	EQ	LOAD COMBO	Pu (K)	Muy (K–FT)	Pr (K)	Mry (K–FT)	
LL1&12	P	0	0	0	–55	–32	–32	–3	–215	Extreme Event I	–237	–10	556	282	0.54
	My	33	0	0	0	0	0	0	0						
LL2&11	P	1	1	0	–53	–28	–24	–3	–186	Extreme Event I	–206	–9	359	172	0.72
	My	29	0	0	0	0	0	0	0						
LL3&10	P	1	1	0	–49	–22	–19	–2	–148	Extreme Event I	–168	–8	322	153	0.67
	My	26	0	0	0	0	0	0	0						
LL4&9	P	1	1	0	–48	–12	–16	–2	–118	Extreme Event I	–138	–8	322	153	0.58
	My	26	0	0	0	0	0	0	0						
LL5&8	P	0	1	0	–47	–8	–9	–1	–81	Extreme Event I	–102	–8	322	153	0.47
	My	26	0	0	0	0	0	0	0						
LL6&7	P	–5	2	0	–26	–13	–4	–1	–47	Strength I	–55	–7	318	153	0.40
	My	26	0	0	0	0	0	0	0						



LOWER LATERAL TYPICAL SECTION

LOWER LATERAL NOTES:

1. UNFACTORED LOADS ARE REPORTED AT THE CONTROLLING SECTION FOR THE CONTROLLING LOAD COMBINATION.
2. DESIGN IS CONTROLLED BY THE FOLLOWING EQUATIONS:

$Pu/\Delta 2Pr + (Muy/\Delta Mry + Muz/\Delta Mrz) <= 1.0$ IF $Pu/Pr < 0.2$
$Pu/\Delta Pr + 8/9(Muy/\Delta Mry + Muz/\Delta Mrz) <= 1.0$ IF $Pu/Pr < 0.2$

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: Y. JIA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LOWER LATERAL MEMBER DESIGN
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-090
SHT NO.: 410 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

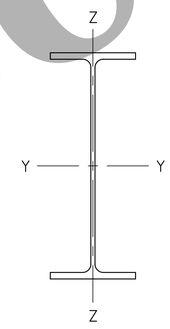
p:\3326.01\CADD\Structural\MS-077 LOWER LATERAL MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:48 PM

STRINGER SECTION PROPERTIES

LOCATION	ROLLED SHAPE	FCM	STEEL GRADE	STEEL					LONG TERM COMPOSITE (N=51)					SHORT TERM COMPOSITE (N=17)					NEGATIVE MOMENT COMPOSITE				
				AREA (IN2)	Iy (IN4)	Iz (IN4)	Sy (IN3)	Sz (IN3)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Syt (IN3)	Syb (IN3)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Syt (IN3)	Syb (IN3)	AREA (IN2)	Iy (IN4)	Iz (IN4)	Syt (IN3)	Syb (IN3)
ROADWAY STRINGERS	W24X55	NO	50W	16	1350	29	114	8	23	2819	7589	429	166	37	4105	22795	2021	190	20	2199	29	254	147
SIDEWALK STRINGERS	W18X35	NO	50W	10	510	15	58	5	15	1169	2176	265	88	24	1736	6498	2770	102	13	885	15	143	77

STRINGER STRESS DATA

LOCATION		UNFACTORED LOADS			CONTROLLING FACTORED LOAD COMBINATIONS			RESISTANCE		DEMAND / RESISTANCE
		DC1	DC2	LL + I						
ROADWAY STRINGERS	My (K-FT)	40	5	413	Muy (K-FT)	STR-I	865	Mry (K-FT)	1190	0.73
	Vz (KIP)	6	1	70	Vuz (KIP)		122	Vrz (KIP)	259	0.47
SIDEWALK STRINGERS	My (K-FT)	26	5	137	Muy (K-FT)	STR-I	222	Mry (K-FT)	632	0.35
	Vz (KIP)	4	1	24	Vuz (KIP)		35	Vrz (KIP)	147	0.24



STRINGER TYPICAL SECTION

STRINGER NOTES:

1. Mu AND Vu INDICATE FACTORED DEMAND. Mr AND Vr INDICATE MEMBER RESISTANCE.
2. DC1 DESIGNATES DEAD LOADS ACTING ON STEEL SECTION ONLY.
3. DC2 DESIGNATES LOADS DUE TO STRUCTURAL COMPONENTS AND ATTACHMENTS ACTING ON LONG TERM COMPOSITE SECTION.
4. DEMANDS PROVIDED ARE FROM A LINE GIRDER ANALYSIS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
STRINGER MEMBER DESIGN
(Date: 11/03/2025)

PN: T15136000

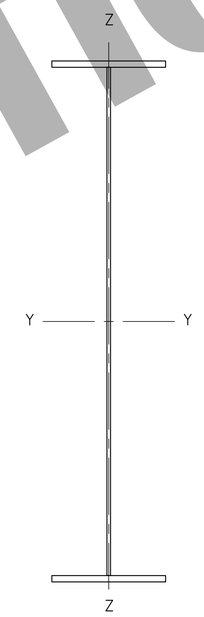
DWG NO.: MS-091
SHT NO.: 411 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-078 STRINGER MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:52 PM

END FLOORBEAM SECTION PROPERTIES						GROSS SECTION PROPERTIES (GLOBAL COORDINATE AXIS)				
LOCATION	FCM	STEEL GRADE FLANGE	STEEL GRADE WEB	FLANGE THICKNESS (IN)	WEB THICKNESS (IN)	D (IN)	AREA (IN2)	Av (IN2)	Iy (IN4)	Iz (IN4)
0.0, 1.0	YES	70W	50W	1 1/2	9/16	72 4/16	94.6	40.6	91,096	1,459
0.1, 0.9	YES	70W	50W	1 1/2	9/16	74 1/16	95.6	41.6	96,082	1,459
0.2, 0.8	YES	70W	50W	1	9/16	75 14/16	78.7	42.7	73,623	973
0.3, 0.7	YES	70W	50W	1	9/16	77 12/16	79.7	43.7	77,941	973
0.4, 0.6	YES	70W	50W	1	9/16	79 11/16	80.8	44.8	82,379	973
0.5	YES	70W	50W	1	9/16	81 10/16	81.9	45.9	86,937	973

END FLOORBEAM STRESS DATA												
LOCATION		UNFACTORED LOADS (KIPS AND KIP–FT)					CONTROLLING FACTORED DESIGN LOADS			CONTROLLING RESISTANCE (KSI AND KIPS)		DEMAND / RESISTANCE
		DC1	DC2	DCFS	LL+I+BR	TU	LOAD COMB.	LOADS				
0.0, 1.0	P	312	1	1	40	295						
	My	−754	−96	−95	−2,936	−479	STR I	fbu	51	ϕf Fnc	58	0.89
	Mz	13	2	0	112	76						
	Vz	81	8	5	190	27	STR I	Vuz (K)	501	Vrz (K)	901	0.56
0.1, 0.9	P	312	1	1	29	295						
	My	−164	−28	−55	−1,567	−171	STR I	fbu	27	ϕf Fnc	68	0.39
	Mz	21	1	0	32	25						
	Vz	66	8	5	190	22	STR I	Vuz (K)	476	Vrz (K)	870	0.55
0.2, 0.8	P	312	1	1	114	295						
	My	272	15	−16	−523	−352	STR I	fbu	5	ϕf Fnc	49	0.09
	Mz	14	2	0	29	16						
	Vz	48	0	5	190	19	STR I	Vuz (K)	439	Vrz (K)	718	0.61
0.3, 0.7	P	312	1	1	114	295						
	My	564	15	24	1,023	252	STR I	fbu	33	ϕf Fnc	68	0.48
	Mz	19	2	0	21	12						
	Vz	33	0	5	142	21	STR I	Vuz (K)	332	Vrz (K)	869	0.38
0.4, 0.6	P	312	1	1	114	295						
	My	740	15	44	1,481	284	STR I	fbu	38	ϕf Fnc	67	0.57
	Mz	4	2	0	23	20						
	Vz	17	0	0	97	20	STR I	Vuz (K)	221	Vrz (K)	890	0.25
0.5	P	312	1	1	114	295						
	My	799	15	44	1,613	164	STR I	fbu	40	ϕf Fnc	67	0.59
	Mz	20	7	0	22	27						
	Vz	0	0	0	55	15	STR I	Vuz (K)	125	Vrz (K)	912	0.14



END FLOORBEAM TYPICAL SECTION

NOTES:

1. fbu AND Vu INDICATE FACTORED DEMAND. Fnc AND Vr INDICATE MEMBER RESISTANCE.
2. DC1 DESIGNATES DEAD LOADS ACTING ON STEEL SECTION ONLY.
3. DC2 DESIGNATES DEAD LOADS DUE TO STRUCTURAL COMPONENTS AND ATTACHMENTS ACTING ON LONG TERM COMPOSITE SECTION.
4. NON-COMPOSITE AND COMPOSITE SECTIONS ANALYZED FOR LOAD SUPERPOSITION.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: M. NIFONG DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
END FLOORBEAM MEMBER DESIGN
(Date: 11/03/2025)

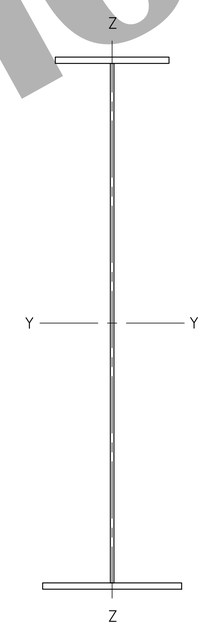
PN: T15136000
DWG NO.: MS-092
SHT NO.: 412 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-079 END FLOORBEAM MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:55 PM

INTERIOR FLOORBEAM SECTION PROPERTIES						GROSS SECTION PROPERTIES (GLOBAL COORDINATE AXIS)				
LOCATION	FCM	STEEL GRADE FLANGE	STEEL GRADE WEB	FLANGE THICKNESS (IN)	WEB THICKNESS (IN)	D (IN)	AREA (IN2)	Av (IN2)	Iy (IN4)	Iz (IN4)
0.0, 1.0	YES	70W	50W	3/4	9/16	73 13/16	68.5	41.5	56,379	730
0.1, 0.9	YES	70W	50W	3/4	9/16	74 13/16	69.1	42.1	58,160	730
0.2, 0.8	YES	70W	50W	1	9/16	75 15/16	82.7	42.7	79,475	1,374
0.3, 0.7	YES	70W	50W	1	9/16	78 5/16	84.0	44.0	85,138	1,374
0.4, 0.6	YES	70W	50W	1	9/16	80 10/16	85.4	45.4	90,993	1,375
0.5	YES	70W	50W	1	9/16	83	86.7	46.7	97,040	1,375

INTERIOR FLOORBEAM STRESS DATA											
LOCATION	UNFACTORED LOADS (KIPS AND KIP-FT)						CONTROLLING FACTORED DESIGN LOADS			CONTROLLING RESISTANCE (KSI AND KIPS)		DEMAND / RESISTANCE
		DC1	DC2	DCFS	LL+I+BR	TU	LOAD COMB.	LOADS				
0.0, 1.0	P	−53	−9	−1	−132	−148						
	My	0	0	0	0	0	STR I	fbu	−0.4	ϕf Fnc	−2.4	0.18
	Mz	0	0	0	0	0						
	Vz	71	13	8	140	0	STR I	Vuz (K)	377	Vrz (K)	595	0.63
0.1, 0.9	P	−53	−9	−1	−30	−148						
	My	530	103	60	1,113	0	STR I	fbu	−1.0	ϕf Fnc	−2.4	0.43
	Mz	0	0	0	0	0						
	Vz	61	13	8	140	0	STR I	Vuz (K)	364	Vrz (K)	745	0.49
0.2, 0.8	P	−53	−9	−1	−30	−148						
	My	936	169	121	2,188	0	STR I	fbu	−1.5	ϕf Fnc	−2.4	0.62
	Mz	0	0	0	0	0						
	Vz	45	0	8	140	0	STR I	Vuz (K)	326	Vrz (K)	396	0.82
0.3, 0.7	P	−53	−9	−1	−30	−148						
	My	1,219	169	180	2,865	0	STR I	fbu	−1.8	ϕf Fnc	−2.4	0.75
	Mz	0	0	0	0	0						
	Vz	33	0	8	110	0	STR I	Vuz (K)	256	Vrz (K)	472	0.54
0.4, 0.6	P	−53	−9	−1	−30	−148						
	My	1,395	169	211	3,246	0	STR I	fbu	−1.9	ϕf Fnc	−2.4	0.81
	Mz	0	0	0	0	0						
	Vz	17	0	0	85	0	STR I	Vuz (K)	179	Vrz (K)	475	0.38
0.5	P	−53	−9	−1	−30	−148						
	My	1,462	169	211	3,336	0	STR I	fbu	−1.9	ϕf Fnc	−2.4	0.80
	Mz	0	0	0	0	0						
	Vz	0	0	0	55	0	STR I	Vuz (K)	108	Vrz (K)	479	0.23



INTERIOR FLOORBEAM
TYPICAL SECTION

NOTES:

1. fbu AND Vu INDICATE FACTORED DEMAND. Fnc AND Vr INDICATE MEMBER RESISTANCE.
2. DC1 DESIGNATES DEAD LOADS ACTING ON STEEL SECTION ONLY.
3. DC2 DESIGNATES DEAD LOADS DUE TO STRUCTURAL COMPONENTS AND ATTACHMENTS ACTING ON LONG TERM COMPOSITE SECTION.
4. NON-COMPOSITE AND COMPOSITE SECTIONS ANALYZED FOR LOAD SUPERPOSITION.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: M. NIFONG DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

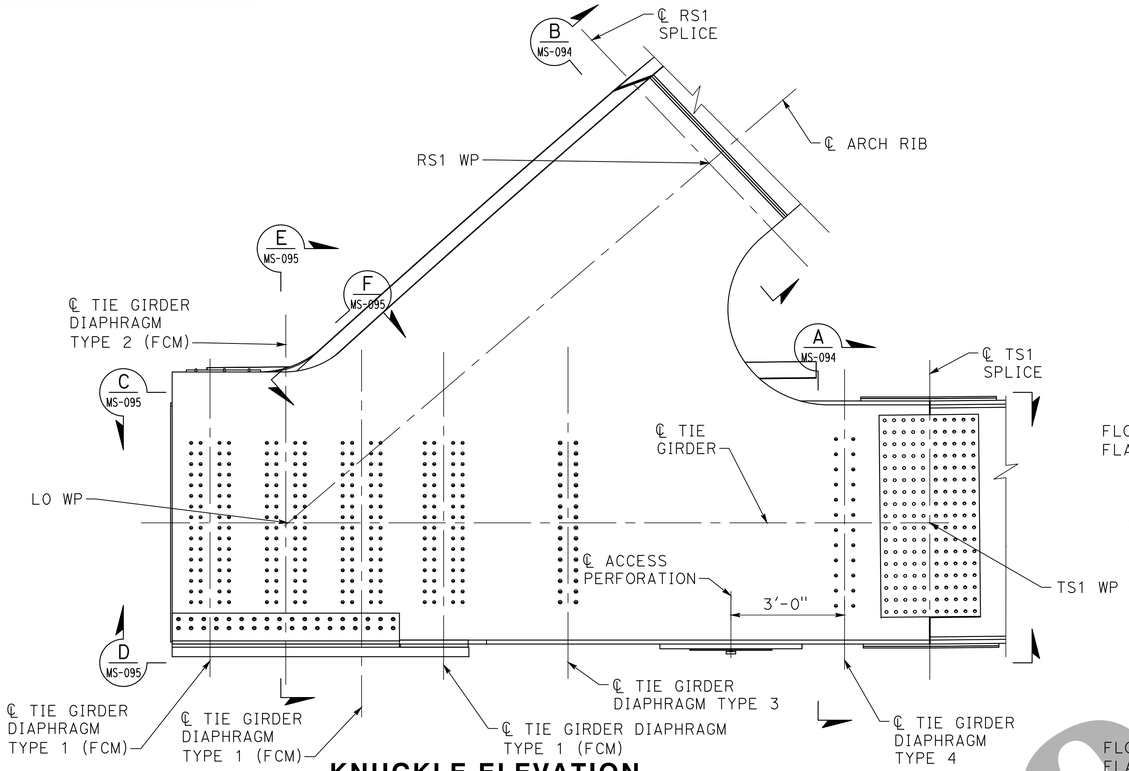
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INT. FLOORBEAM MEMBER DESIGN
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-093
SHT NO.: 413 OF 648

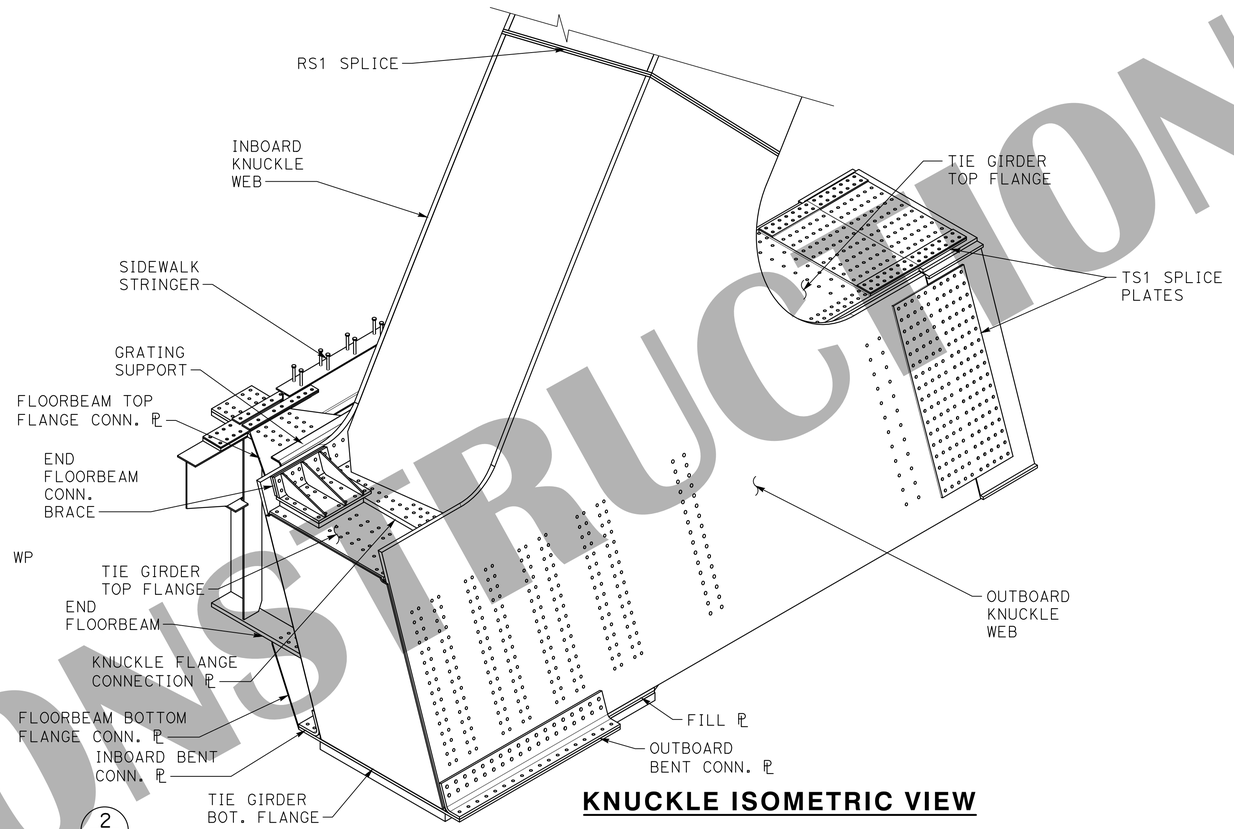
p:\3326.01\CADD\Structural\MS-080 INT. FLOORBEAM MEMBER DESIGN.dwg LAST PLOTTED: 11/3/2025 1:47:59 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

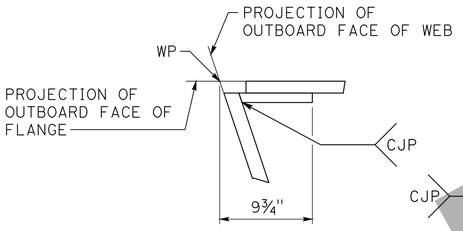


KNUCKLE ELEVATION

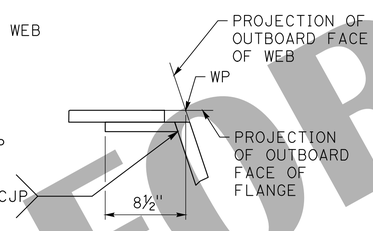
SCALE: ½" = 1'-0"
(KNUCKLE JOINT LO SHOWN, L12 OPPOSITE HAND)



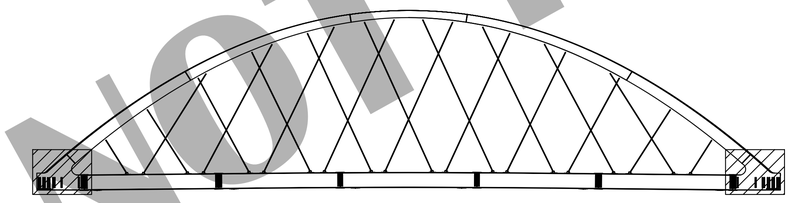
KNUCKLE ISOMETRIC VIEW



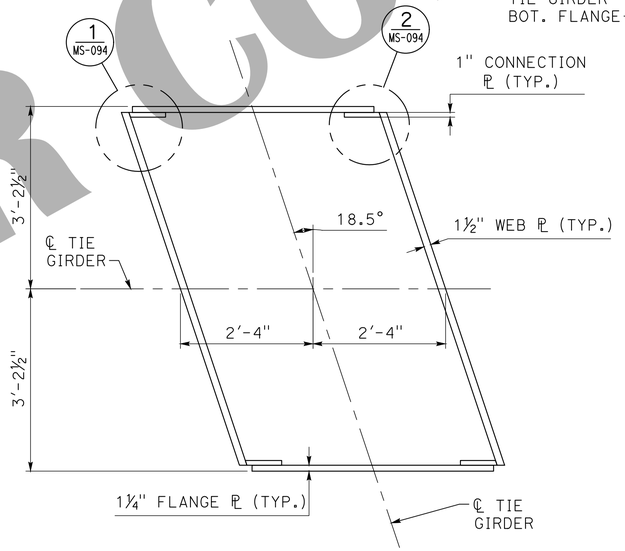
1 MS-094 **DETAIL**
SCALE: 1½" = 1'-0"



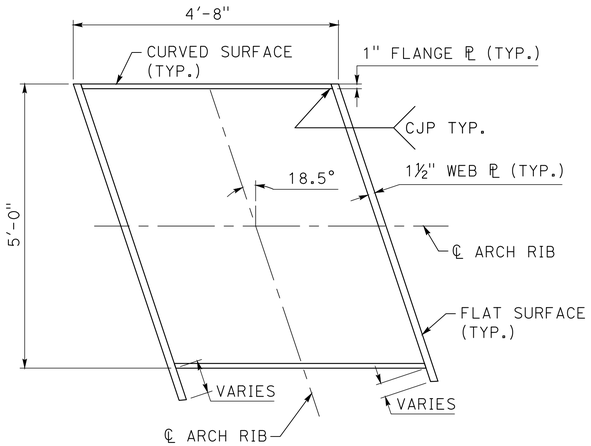
2 MS-094 **DETAIL**
SCALE: 1½" = 1'-0"



KEY ELEVATION



A MS-094 **TYPICAL L0-TS1 SECTION**
SCALE: ¾" = 1'-0"



B MS-094 **TYPICAL L0-RS1 SECTION**
SCALE: ¾" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

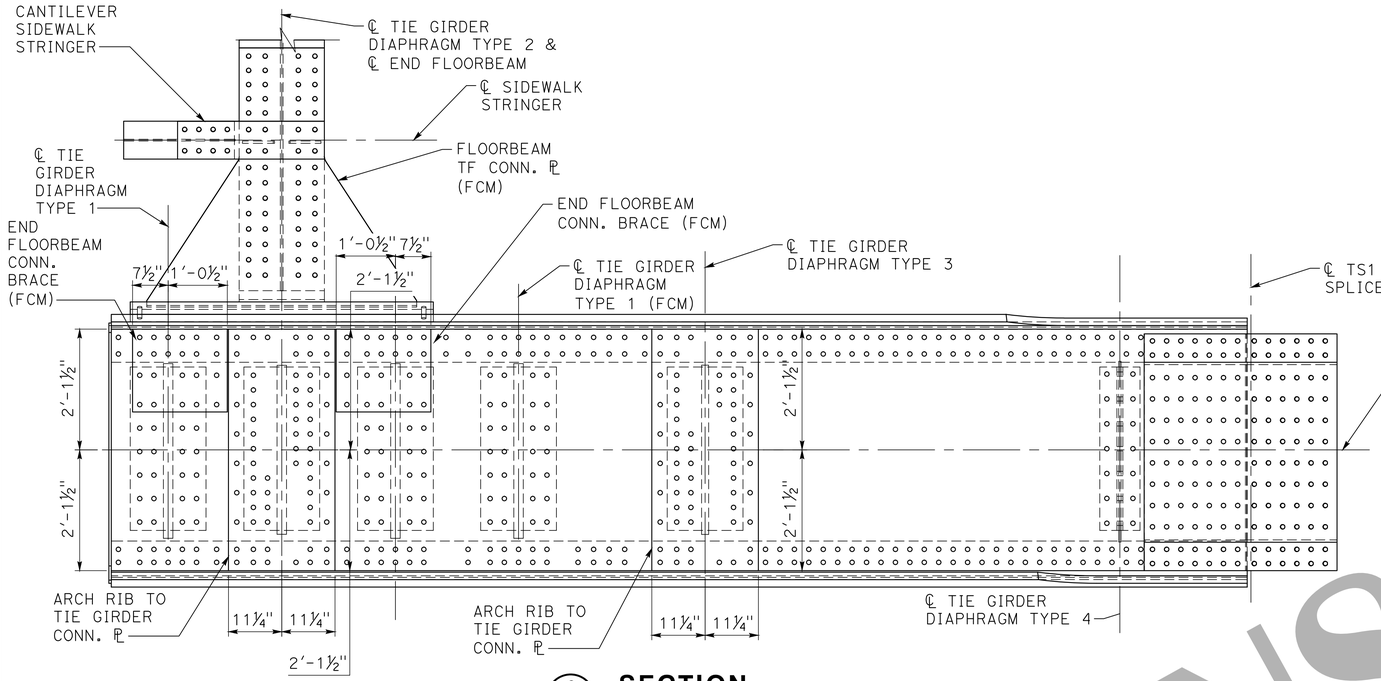
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
KNUCKLE DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

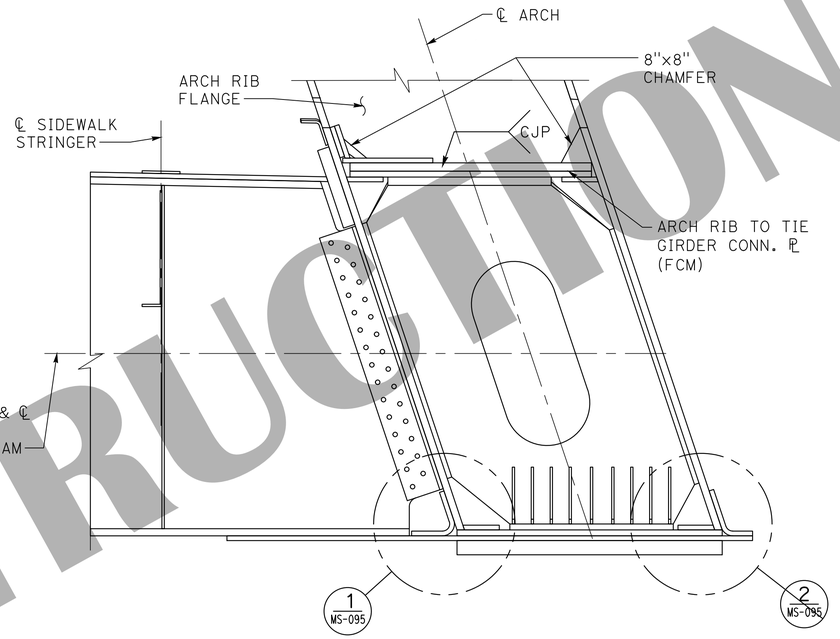
DWG NO.: MS-094
SHT NO.: 414 OF 648

p:\3326.01\CADD\Structural\MS-081 KNUCKLE DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:48:13 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

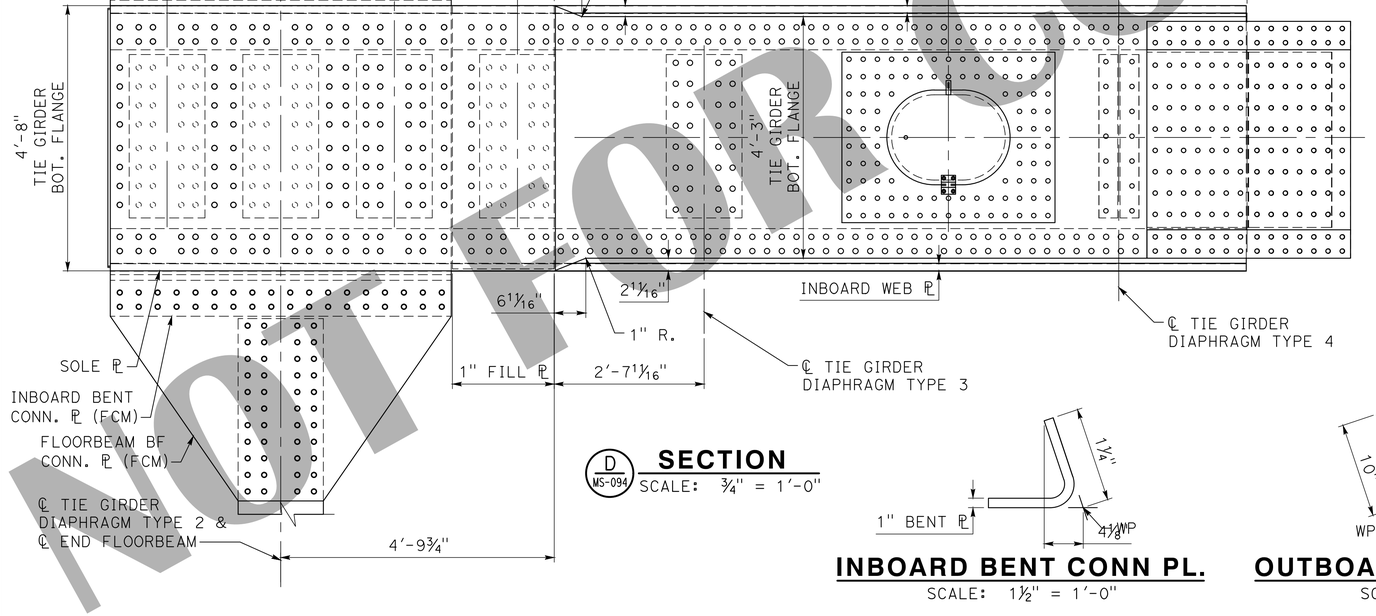


C MS-094 **SECTION**
SCALE: ¾" = 1'-0"



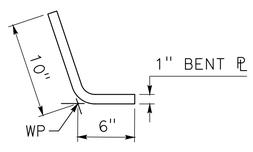
E MS-094 **SECTION**
SCALE: ¾" = 1'-0"

(TOP FLANGE CONNECTION TO TIE GIRDER CONN. ℙ SHOWN, BOTTOM FLANGE CONNECTION SIMILAR)

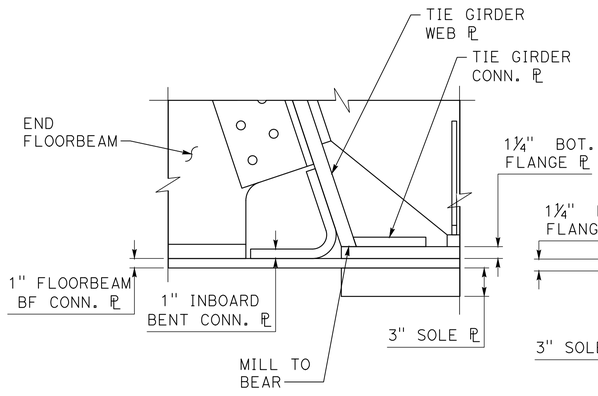


D MS-094 **SECTION**
SCALE: ¾" = 1'-0"

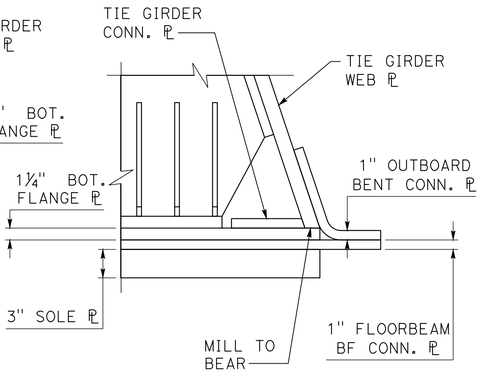
INBOARD BENT CONN PL.
SCALE: 1½" = 1'-0"



OUTBOARD BENT CONN PL.
SCALE: 1½" = 1'-0"



1 MS-095 **DETAIL**
SCALE: 1½" = 1'-0"



2 MS-095 **DETAIL**
SCALE: 1½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

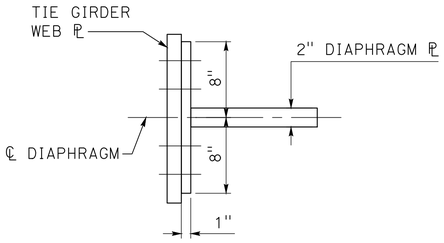
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
KNUCKLE DETAILS - 2
(Date: 11/03/2025)

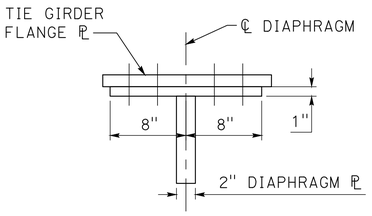
PN: T15136000
DWG NO.: MS-095
SHT NO.: 415 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

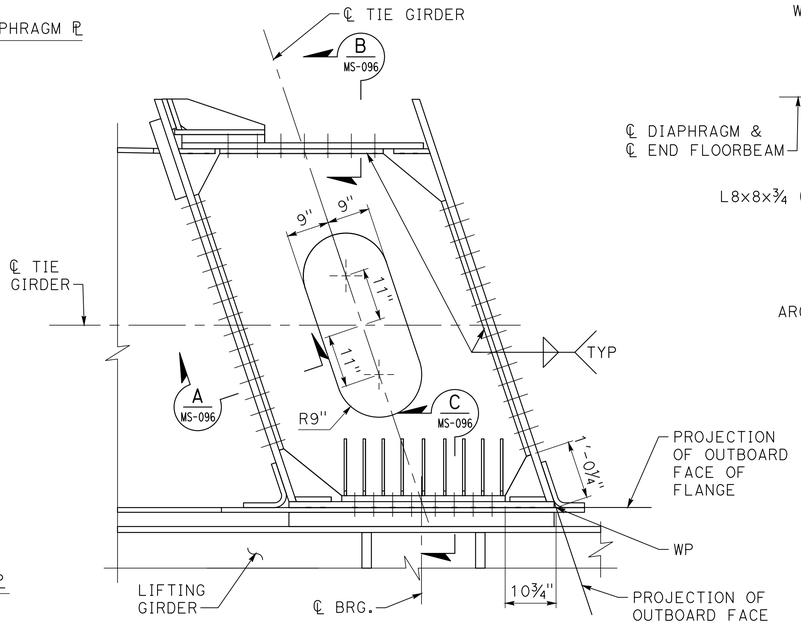
p:\3326.01\CADD\Structural\MS-082 KNUCKLE DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:48:21 PM



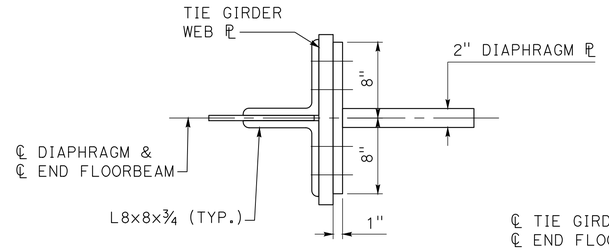
A MS-096 **SECTION**
SCALE: 1½" = 1'-0"



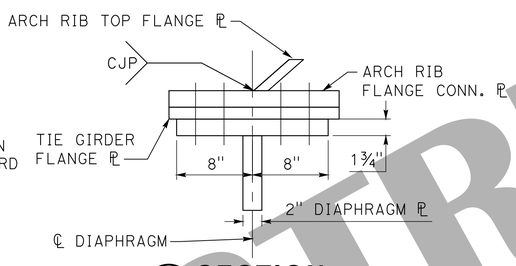
B MS-096 **SECTION**
SCALE: 1½" = 1'-0"



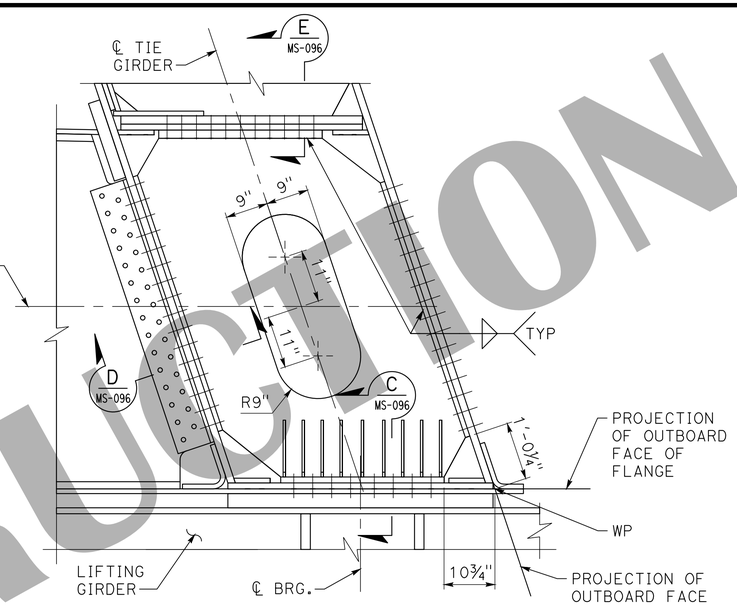
TIE GIRDER DIAPHRAGM TYPE 1
SCALE: ¾" = 1'-0"
(AT TIE GIRDER BEARING)



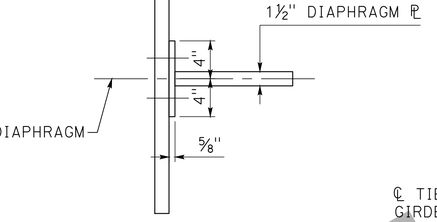
D MS-096 **SECTION**
SCALE: 1½" = 1'-0"



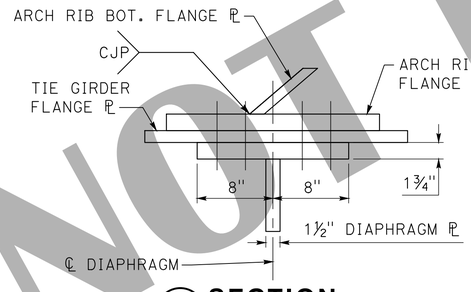
E MS-096 **SECTION**
SCALE: 1½" = 1'-0"



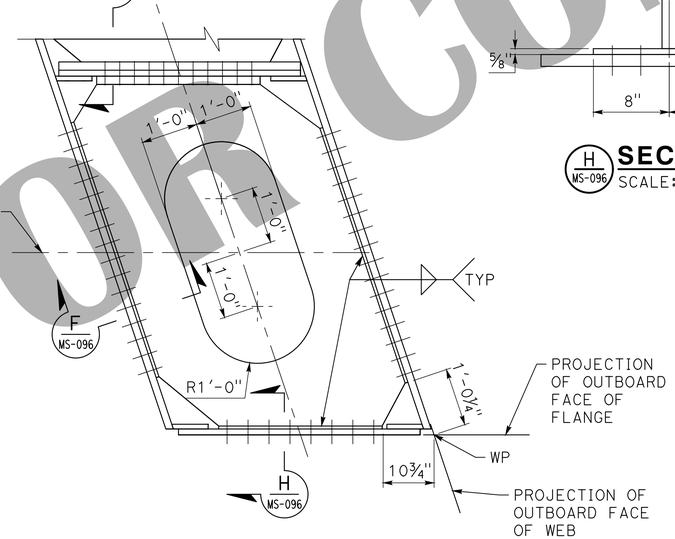
TIE GIRDER DIAPHRAGM TYPE 2
SCALE: ¾" = 1'-0"
(AT END FLOORBEAM)



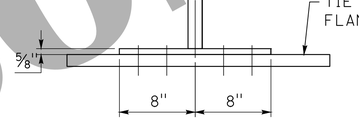
F MS-096 **SECTION**
SCALE: 1½" = 1'-0"



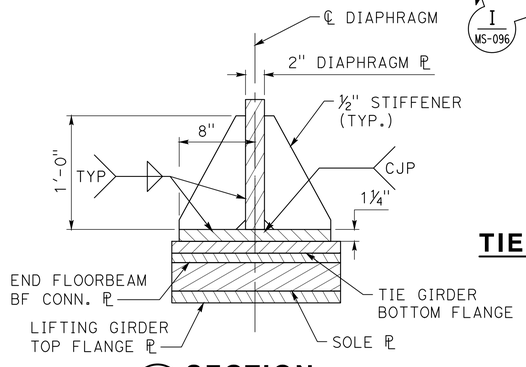
G MS-096 **SECTION**
SCALE: 1½" = 1'-0"



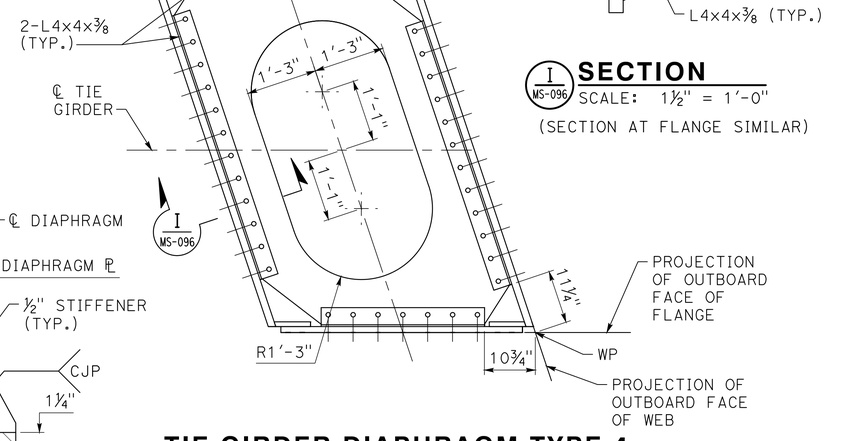
TIE GIRDER DIAPHRAGM TYPE 3
SCALE: ¾" = 1'-0"
(AT ARCH RIB BOTTOM FLANGE)



H MS-096 **SECTION**
SCALE: 1½" = 1'-0"



C MS-096 **SECTION**
SCALE: 1½" = 1'-0"



I MS-096 **SECTION**
SCALE: 1½" = 1'-0"
(SECTION AT FLANGE SIMILAR)

TIE GIRDER DIAPHRAGM TYPE 4
SCALE: ¾" = 1'-0"
(AT TIE GIRDER SPLICE)

NOTES:

1. FOR GENERAL NOTES SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

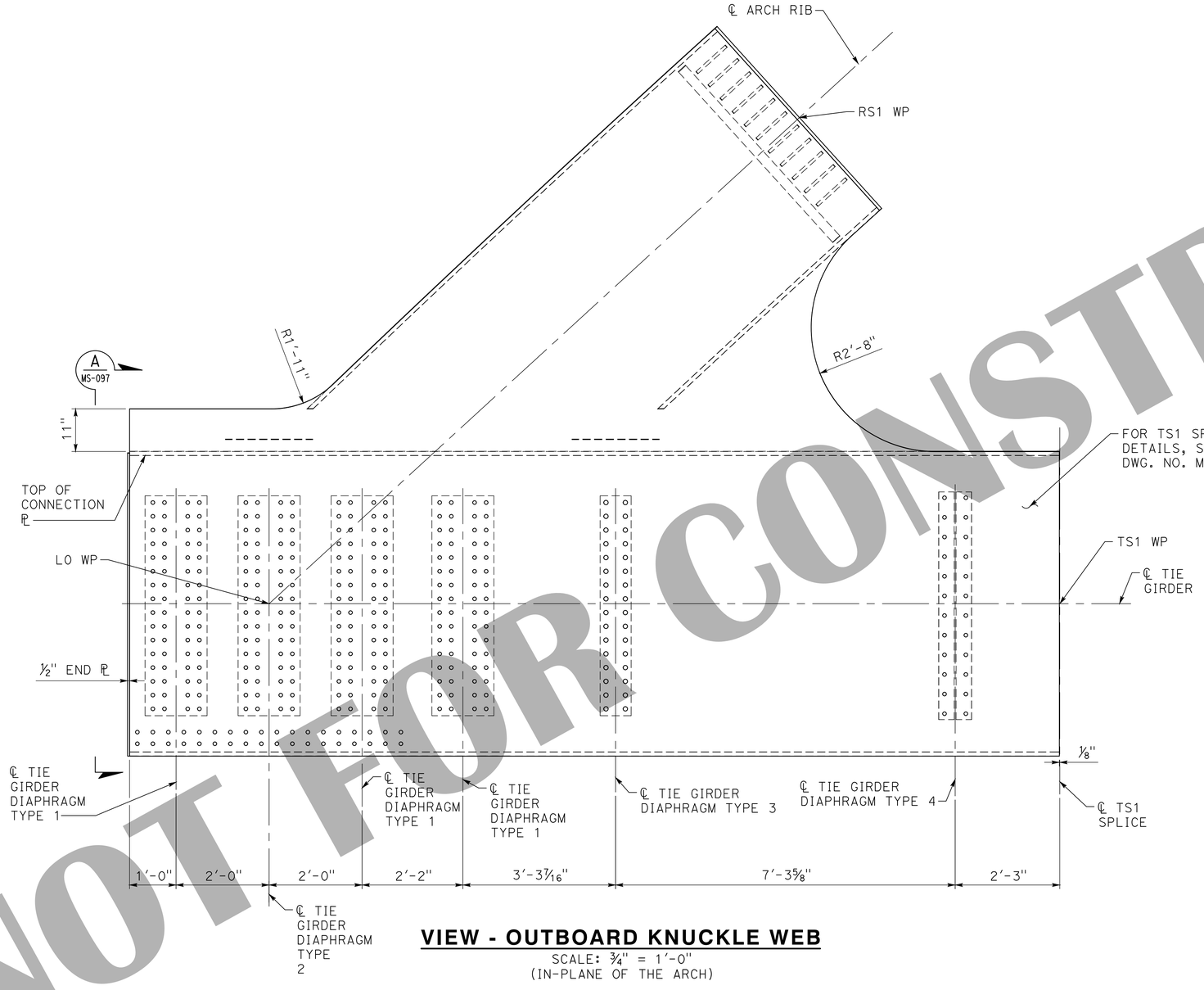
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
KNUCKLE DETAILS - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-096
SHT NO.: 416 OF 648

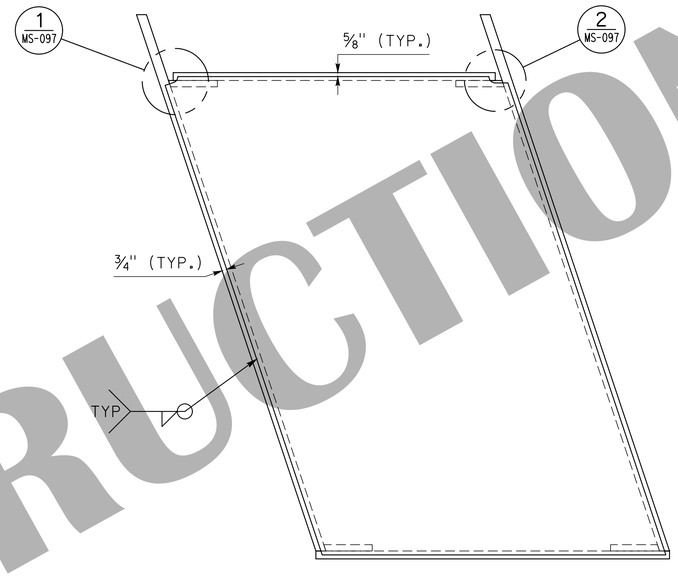
p:\3326.01\CADD\Structural\MS-083 KNUCKLE DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:48:27 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



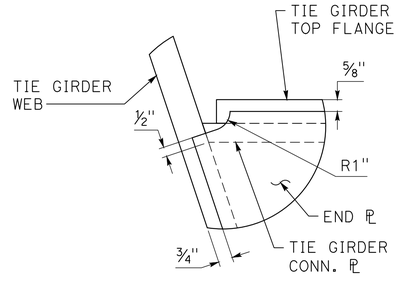
VIEW - OUTBOARD KNUCKLE WEB

SCALE: ¾" = 1'-0"
(IN-PLANE OF THE ARCH)



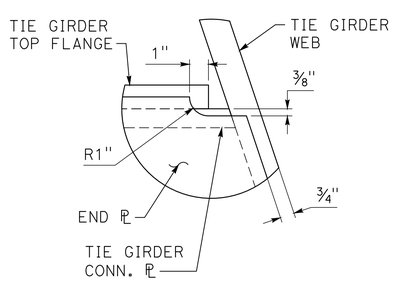
A/MS-097 END PLATE SECTION

SCALE: 1" = 1'-0"



1/MS-097 DETAIL

SCALE: 3" = 1'-0"



2/MS-097 DETAIL

SCALE: 3" = 1'-0"

NOTES:

1. FOR GENERAL NOTES SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

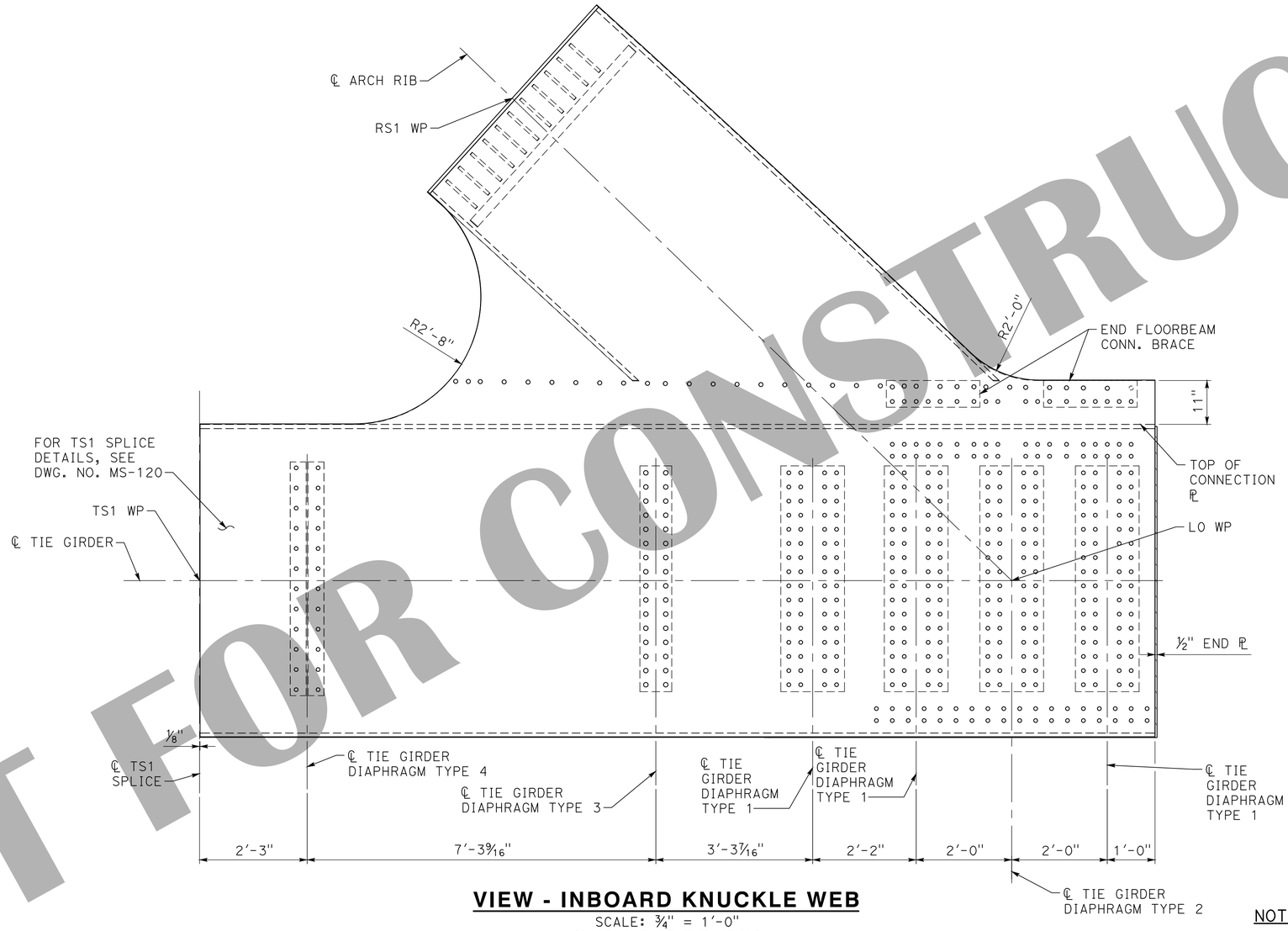
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
KNUCKLE DETAILS - 4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-097
SHT NO.: 417 OF 648

p:\3326.01\CADD\Structural\MS-084 KNUCKLE DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:48:32 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



VIEW - INBOARD KNUCKLE WEB

SCALE: ¾" = 1'-0"
(IN-PLANE OF THE ARCH)

NOTES:

1. FOR GENERAL NOTES SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

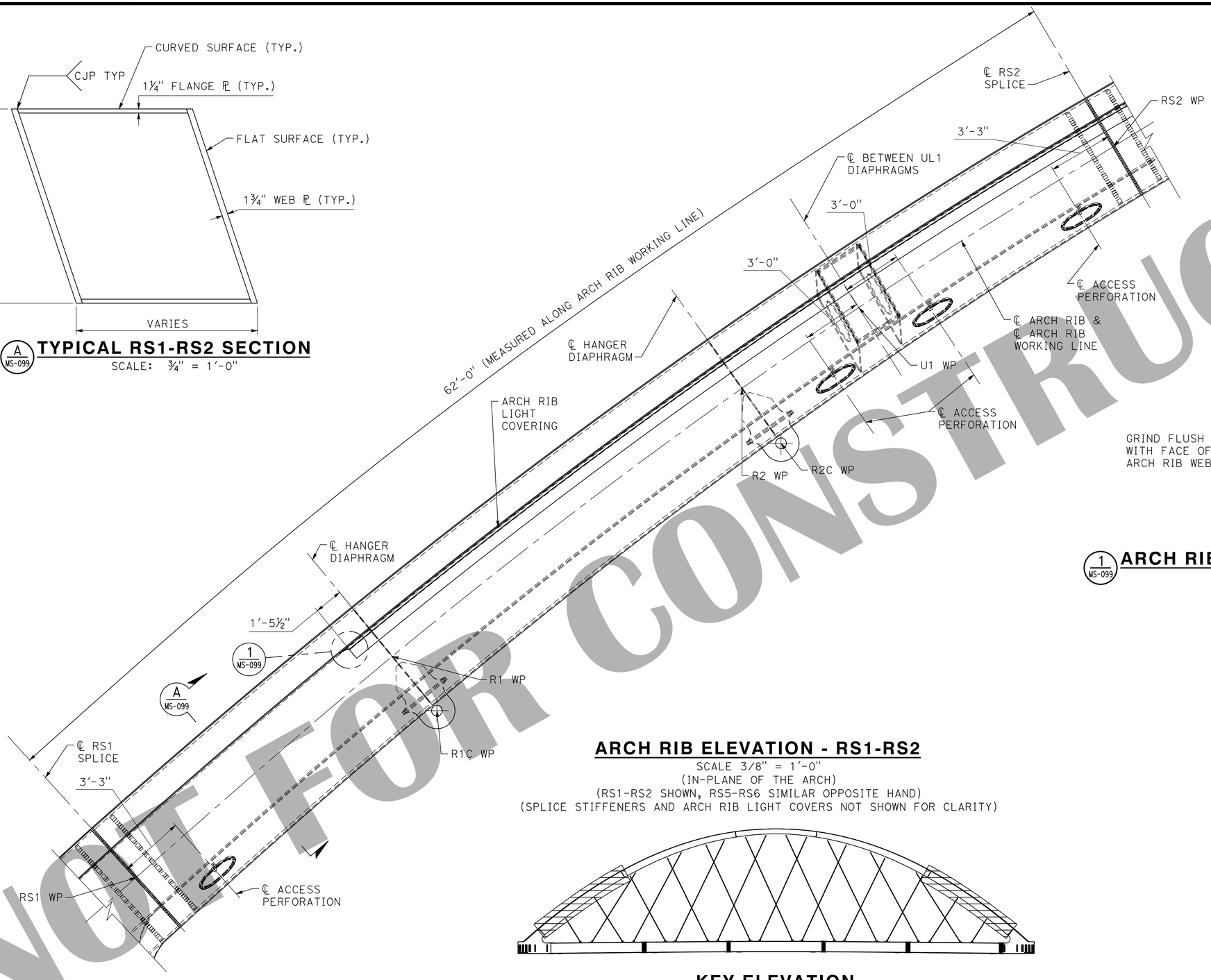
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
KNUCKLE DETAILS - 5
(Date: 11/03/2025)

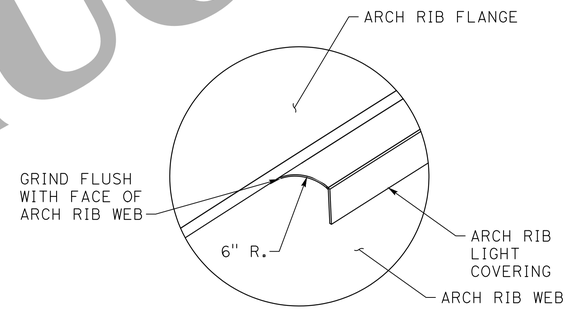
PN: T15136000
DWG NO.: MS-098
SHT NO.: 418 OF 648

p:\3326.01\CADD\Structural\MS-085 KNUCKLE DETAILS - 5.dwg LAST PLOTTED: 11/3/2025 1:48:36 PM

A / MS-099 **TYPICAL RS1-RS2 SECTION**

SCALE: ¾" = 1'-0"





1 / MS-099 **ARCH RIB LIGHT COVERING END DETAIL**

SCALE: 1" = 1'-0"

ARCH RIB ELEVATION - RS1-RS2

SCALE 3/8" = 1'-0"
(IN-PLANE OF THE ARCH)
(RS1-RS2 SHOWN, RS5-RS6 SIMILAR OPPOSITE HAND)
(SPLICE STIFFENERS AND ARCH RIB LIGHT COVERS NOT SHOWN FOR CLARITY)

KEY ELEVATION

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR ARCH RIB GEOMETRY, SEE DWG. NO. MS-086.
3. FOR ARCH RIB SPLICE DETAILS, SEE DWG. NOS. MS-103 THRU MS-104.
4. FOR HANGER WORK POINTS, SEE DWG. NO. MS-081.
5. FOR HANGER CONNECTION POINTS, SEE DWG. NO. X.
6. FOR HANGER CONNECTION DETAILS AND CONNECTION POINTS, SEE DWG. NOS. MS-112 THRU MS-115.
7. FOR UPPER LATERAL WORK POINTS, SEE DWG. NO. MS-082.
8. FOR UPPER LATERAL BRACING AND CONNECTION DETAILS, SEE DWG. NOS. MS-107 THRU MS-111.
9. FOR ARCH RIB CAMBER, SEE DWG. NOS. MS-083 THRU MS-084.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: B. LOFLIN DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH RIB RS1 TO RS2
(Date: 11/03/2025)

PN: T15136000

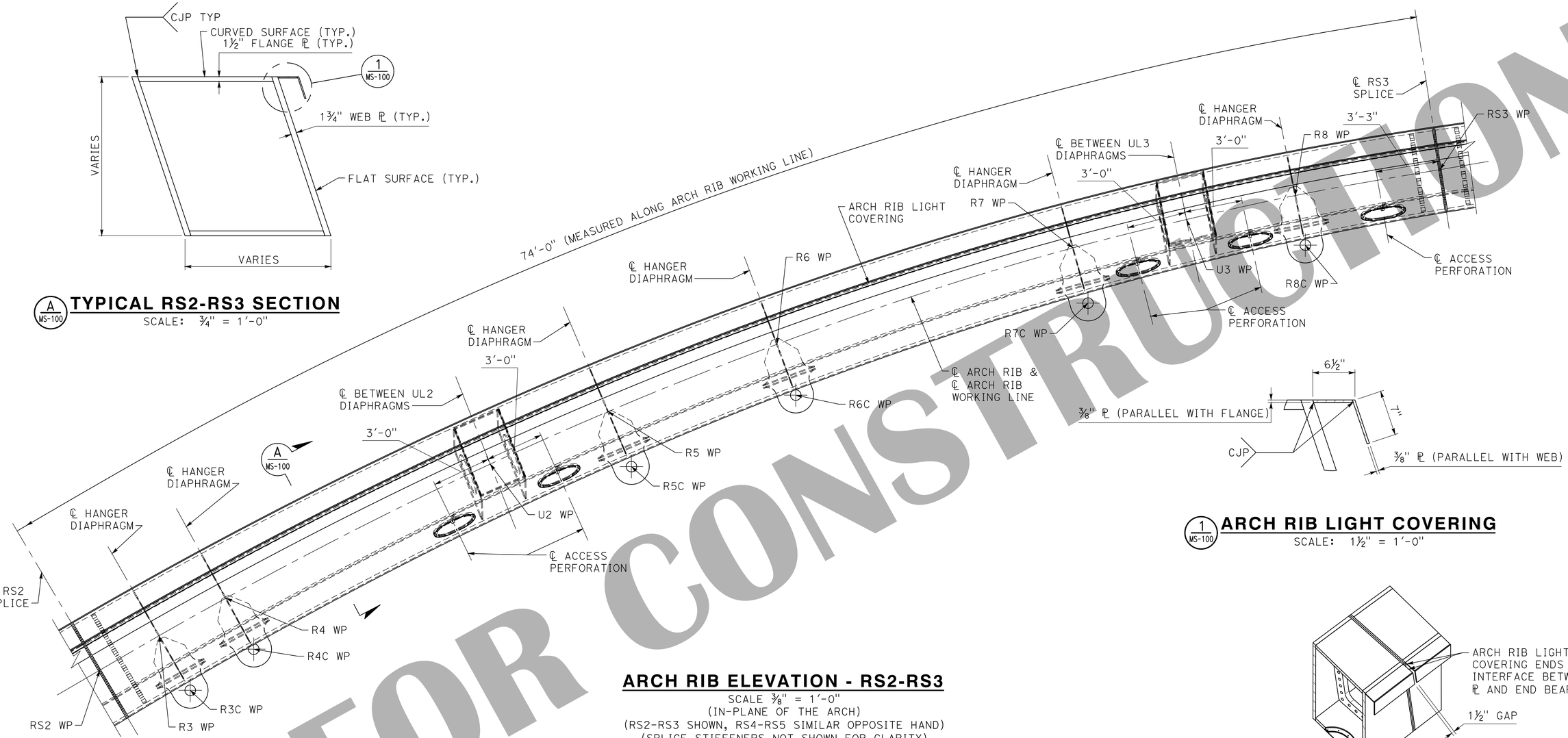
DWG NO.: MS-099
SHT NO.: 419 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-086 ARCH RIB RS1 TO RS2.dwg LAST PLOTTED: 11/3/2025 1:48:50 PM

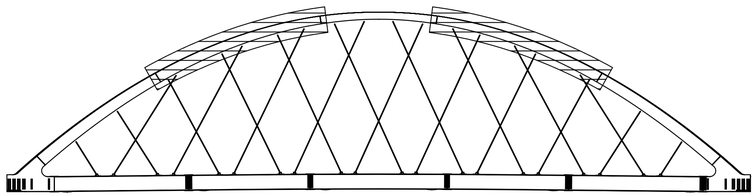
A / MS-100 TYPICAL RS2-RS3 SECTION

SCALE: ¾" = 1'-0"



ARCH RIB ELEVATION - RS2-RS3

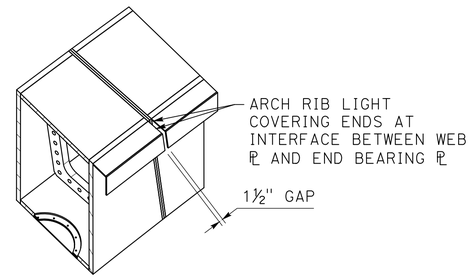
SCALE ⅜" = 1'-0"
(IN-PLANE OF THE ARCH)
(RS2-RS3 SHOWN, RS4-RS5 SIMILAR OPPOSITE HAND)
(SPLICE STIFFENERS NOT SHOWN FOR CLARITY)



KEY ELEVATION

1 / MS-100 ARCH RIB LIGHT COVERING

SCALE: 1½" = 1'-0"



ARCH RIB LIGHT COVERING AT SPLICE

SCALE: 1½" = 1'-0"

NOTES:

1. FOR ARCH RIB NOTES, SEE DWG. NO. MS-099.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: B. LOFLIN
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

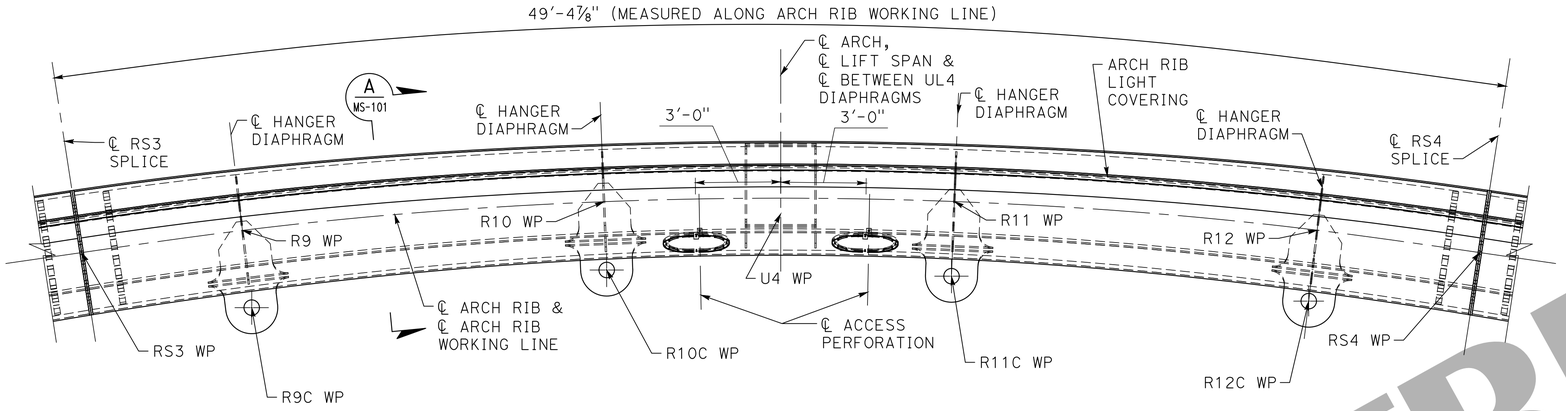
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH RIB RS2 TO RS3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-100
SHT NO.: 420 OF 648

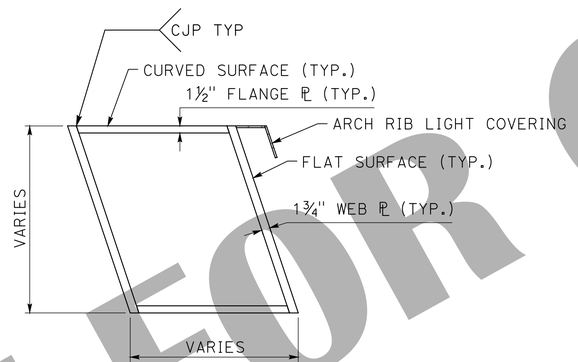
p:\3326.01\CADD\Structural\MS-087 ARCH RIB RS2 TO RS3.dwg LAST PLOTTED: 11/3/2025 1:48:56 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



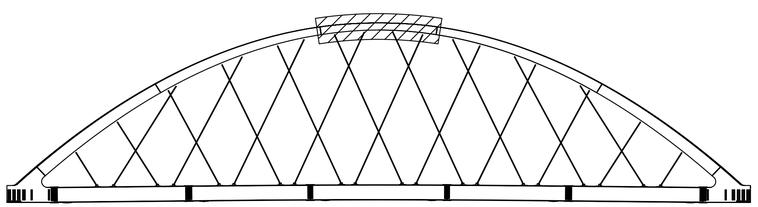
ARCH RIB ELEVATION - RS3-RS4

SCALE ⅜" = 1'-0"
(IN-PLANE OF THE ARCH)
(SPLICE STFFENERS NOT SHOWN FOR CLARITY)



A MS-101 **TYPICAL RS3-RS4 SECTION**

SCALE: ¾" = 1'-0"



KEY ELEVATION

NOTES:

1. FOR ARCH RIB NOTES, SEE DWG. NO. MS-099.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: B. LOFLIN DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

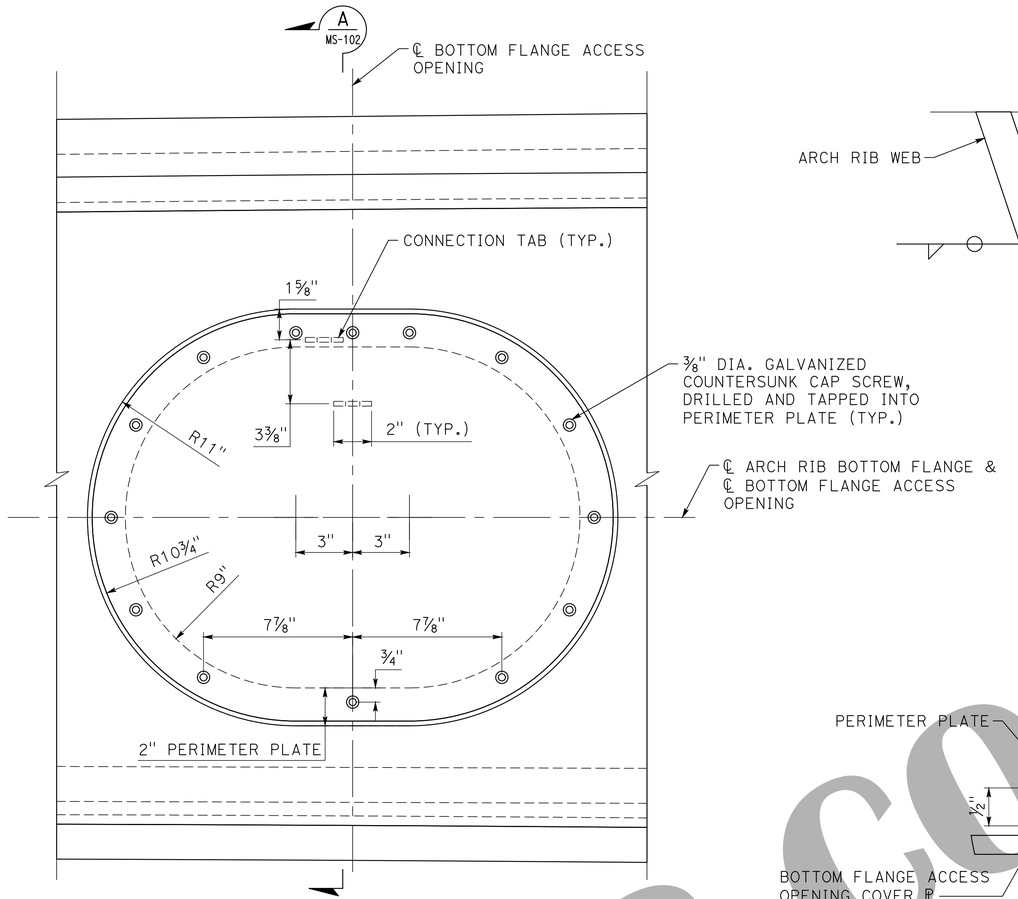
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH RIB RS3 TO RS4
(Date: 11/03/2025)

PN: T15136000

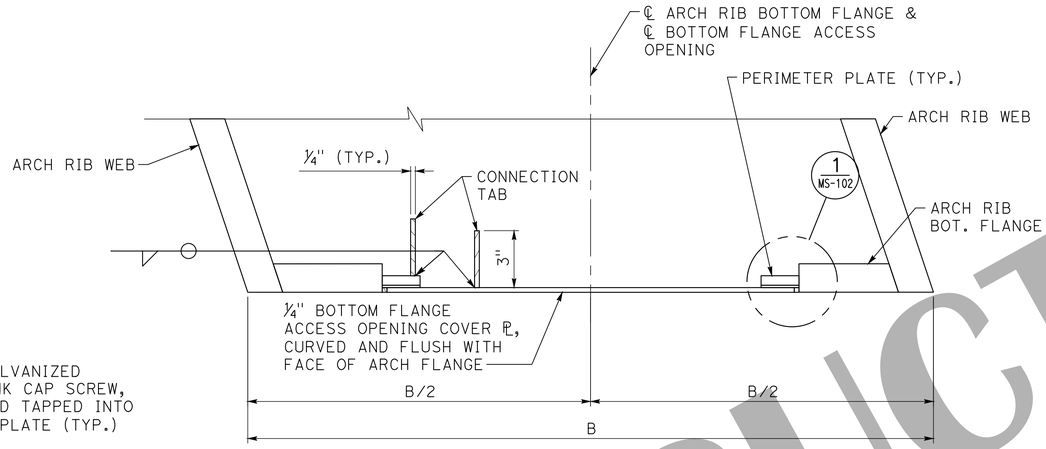
DWG NO.: MS-101
SHT NO.: 421 OF 648

p:\3326.01\CADD\Structural\MS-088 ARCH RIB RS3 TO RS4.dwg LAST PLOTTED: 11/3/2025 1:49:02 PM

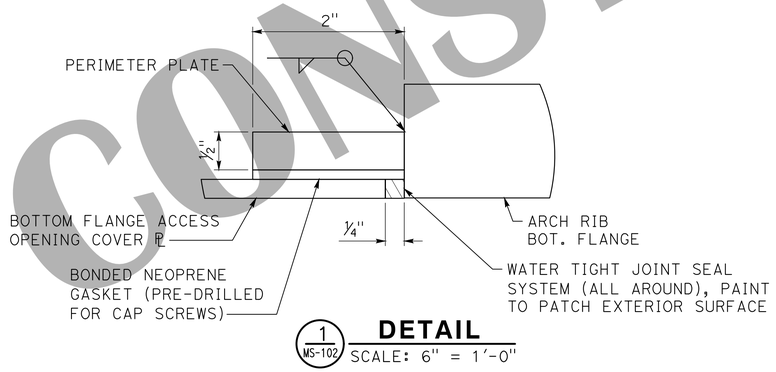
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



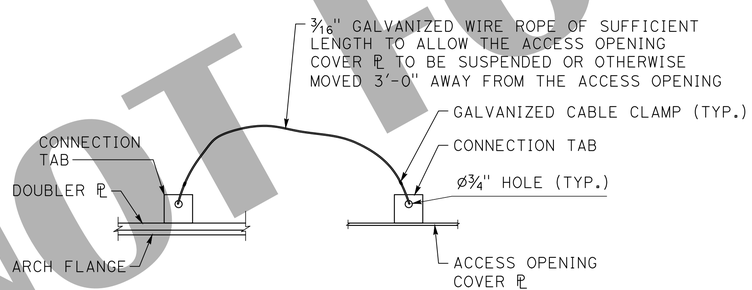
ARCH RIB
BOTTOM FLANGE ACCESS OPENING
SCALE: 3" = 1'-0"



A MS-102 **SECTION**
SCALE: 3" = 1'-0"



1 MS-102 **DETAIL**
SCALE: 6" = 1'-0"



ACCESS OPENING RETAINER DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: B. LOFLIN
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

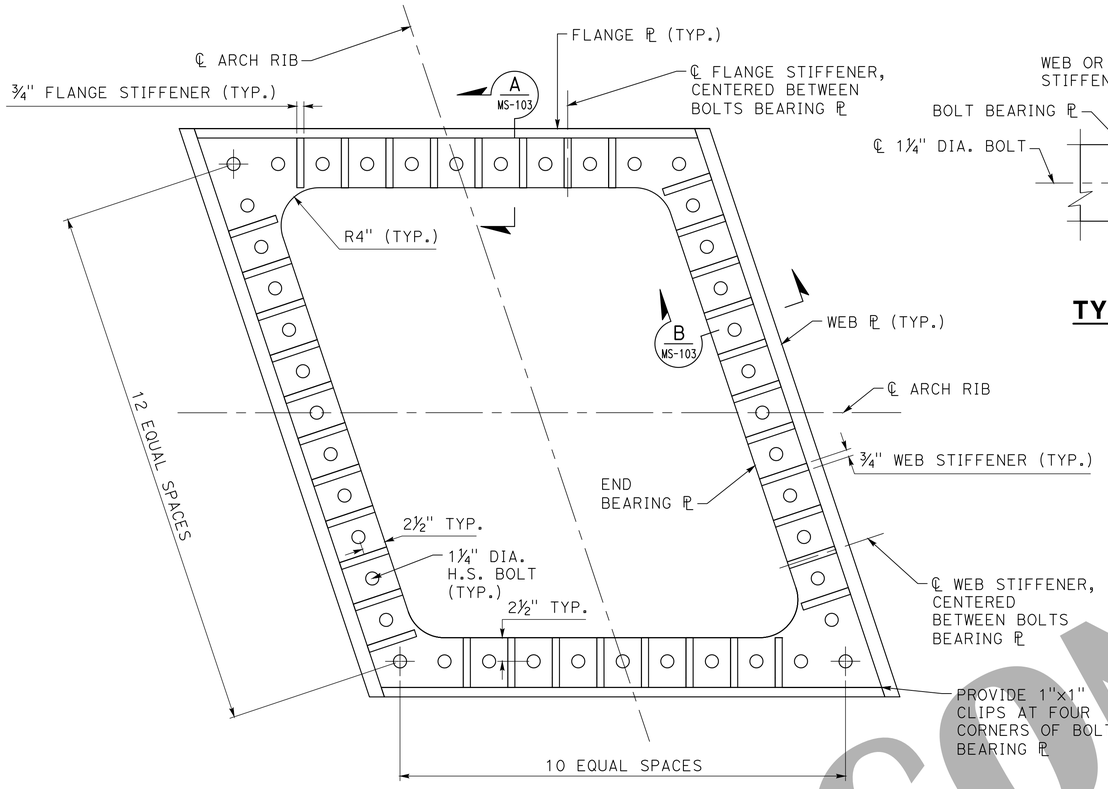
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH RIB DETAILS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-102
SHT NO.: 422 OF 648

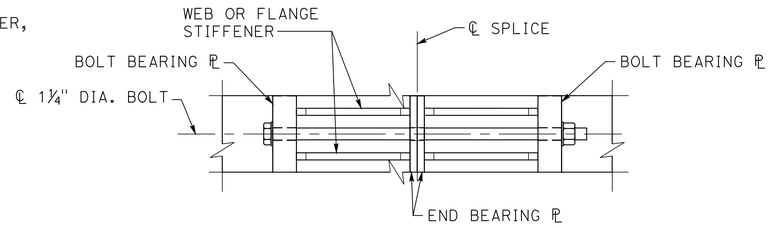
p:\3326.01\CADD\Structural\MS-089 ARCH RIB DETAILS.dwg LAST PLOTTED: 11/3/2025 1:49:06 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



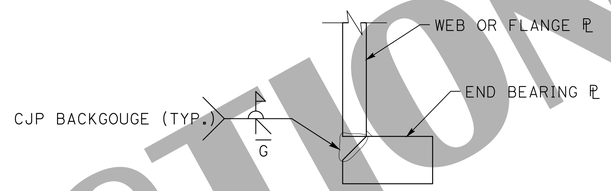
ARCH RIB RS1 SPLICE

SCALE: 1½" = 1'-0"
(RS1 SHOWN RS6 SIMILAR)
(SECTION AT END BEARING ℄ SHOWN, SECTION AT BOLT BEARING ℄ SIMILAR AS NOTED)



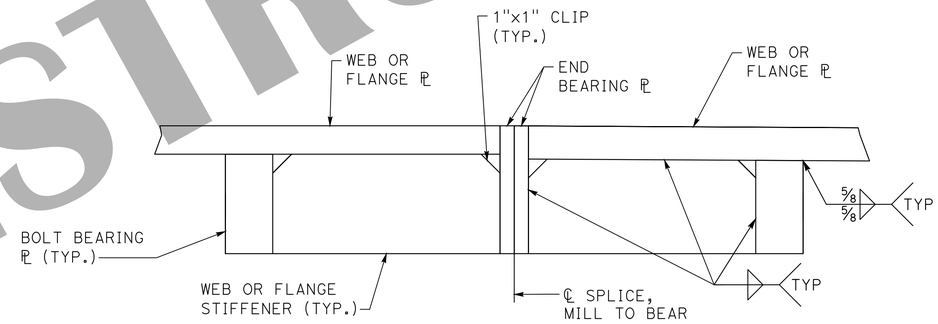
TYPICAL SPLICE BOLT DETAIL

SCALE: NOT TO SCALE



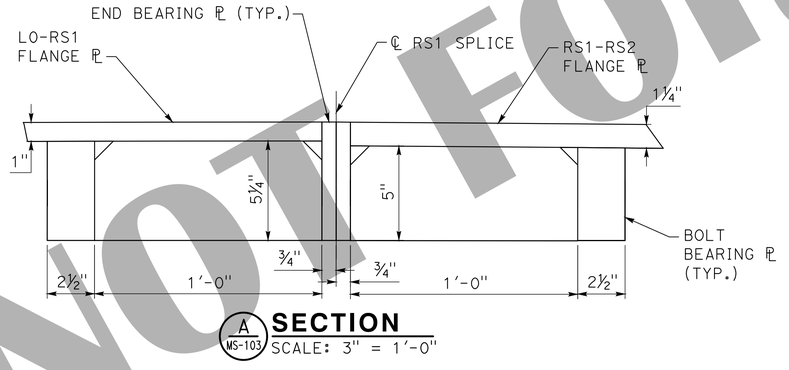
TYPICAL WEB OR FLANGE TO END BEARING PLATE WELD

SCALE: NOT TO SCALE

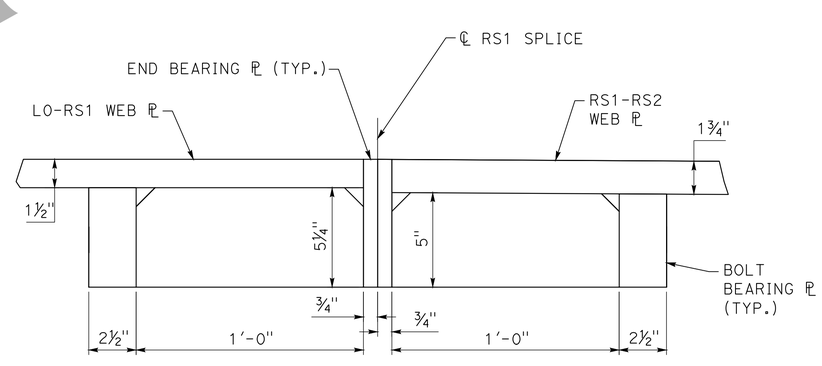


TYPICAL WEB AND FLANGE STIFFENER DETAILS

SCALE: NOT TO SCALE



A MS-103 **SECTION**
SCALE: 3" = 1'-0"



B MS-103 **SECTION**
SCALE: 3" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR ARCH RIB ELEVATION AND SPLICE LOCATIONS, SEE DWG. NO. MS-080.
3. FOR ARCH RIB SECTION DETAILS, SEE DWG. NOS. MS-099 THRU MS-102.
4. ALL SPLICE BEARING PLATES SHALL BE MILLED TO BEAR IN ACCORDANCE WITH AWS 3.5.1.9.
5. THE SPLICE END BEARING PLATE THICKNESS INDICATED IN THE DETAILS IS THE FINAL THICKNESS AFTER MILLING.
6. ALL STEEL PLATES DETAILED ON THIS DRAWING ARE FCM.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: D. KO
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

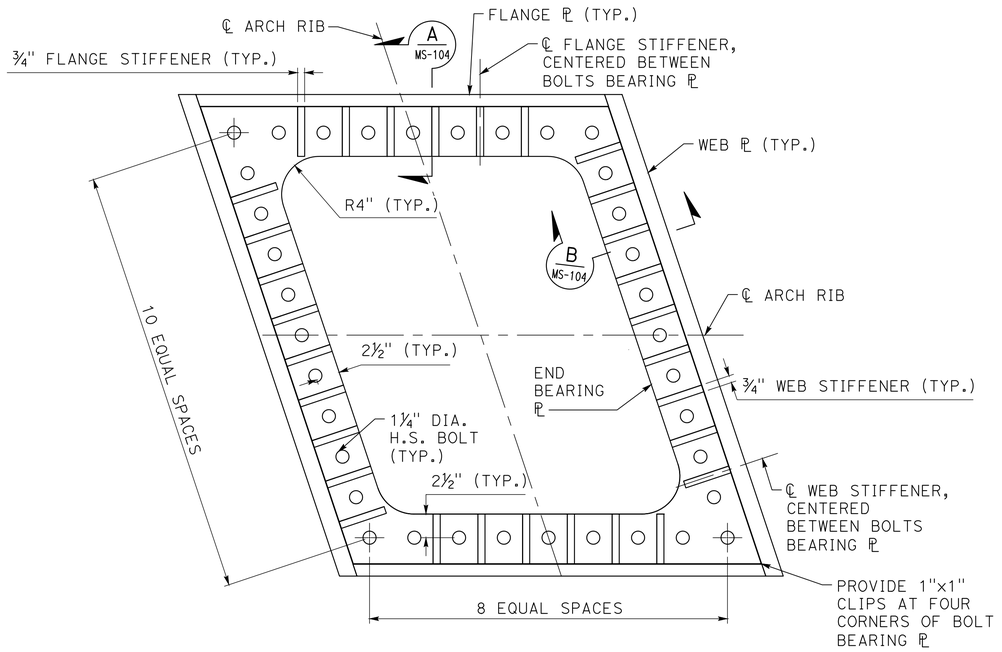
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH RIB SPLICE DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-103
SHT NO.: 423 OF 648

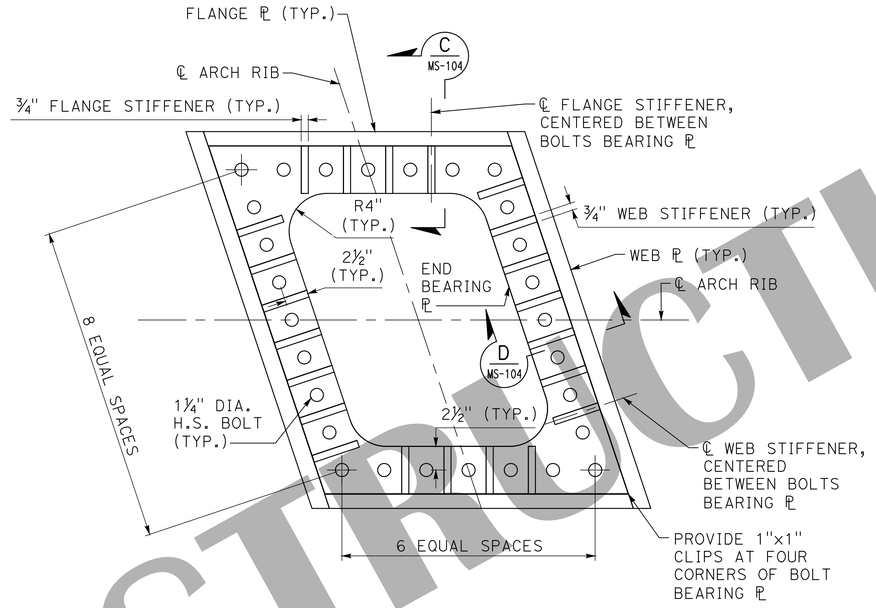
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-090 ARCH RIB SPLICE DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:49:14 PM



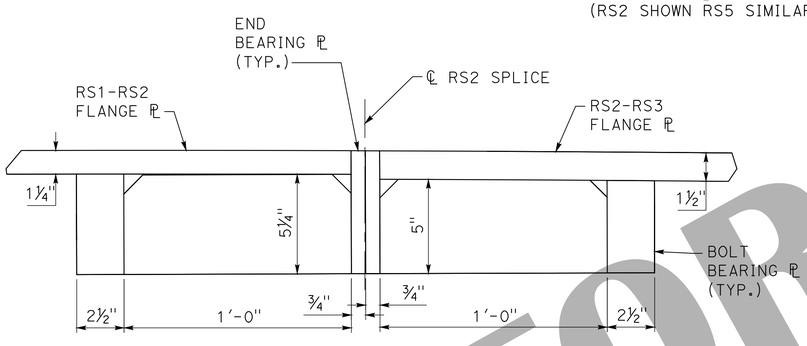
ARCH RIB RS2 SPLICE

SCALE: 1½" = 1'-0"
(RS2 SHOWN RS5 SIMILAR)

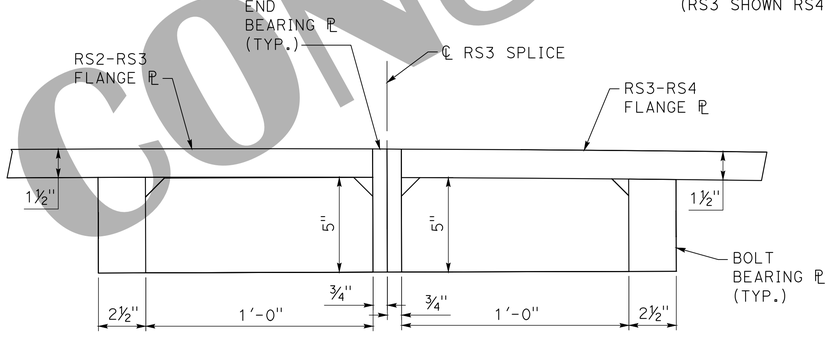


ARCH RIB RS3 SPLICE

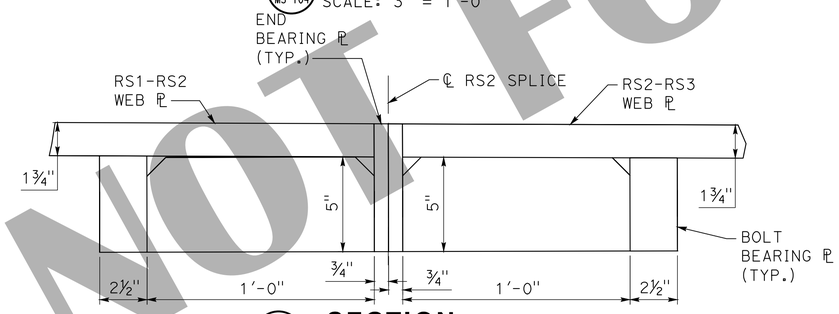
SCALE: 1½" = 1'-0"
(RS3 SHOWN RS4 SIMILAR)



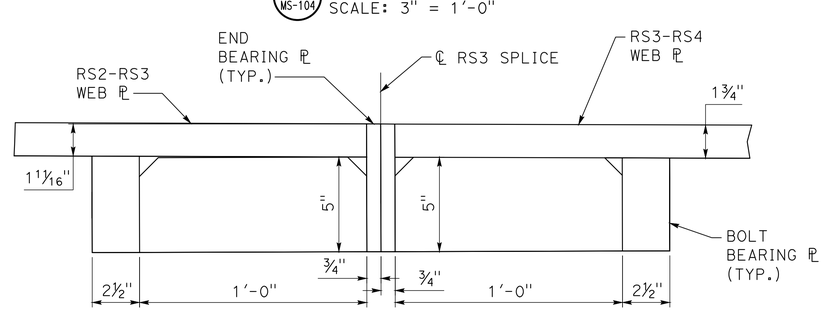
A MS-104 **SECTION**
SCALE: 3" = 1'-0"



C MS-104 **SECTION**
SCALE: 3" = 1'-0"



B MS-104 **SECTION**
SCALE: 3" = 1'-0"



D MS-104 **SECTION**
SCALE: 3" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. WORK THIS DWG. WITH DWG. NO. MS-103.
3. FOR ARCH RIB ELEVATION AND SPLICE LOCATIONS, SEE DWG. NO. MS-080.
4. FOR ARCH RIB SECTION DETAILS, SEE DWG. NOS. MS-099 THRU MS-102.
5. ALL SPLICE BEARING PLATES SHALL BE MILLED TO BEAR IN ACCORDANCE WITH AWS 3.5.1.9.
6. THE SPLICE END BEARING PLATE THICKNESS INDICATED IN THE DETAILS IS THE FINAL THICKNESS AFTER MILLING.
7. ALL STEEL PLATES DETAILED ON THIS DRAWING ARE FCM.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: D. KO
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

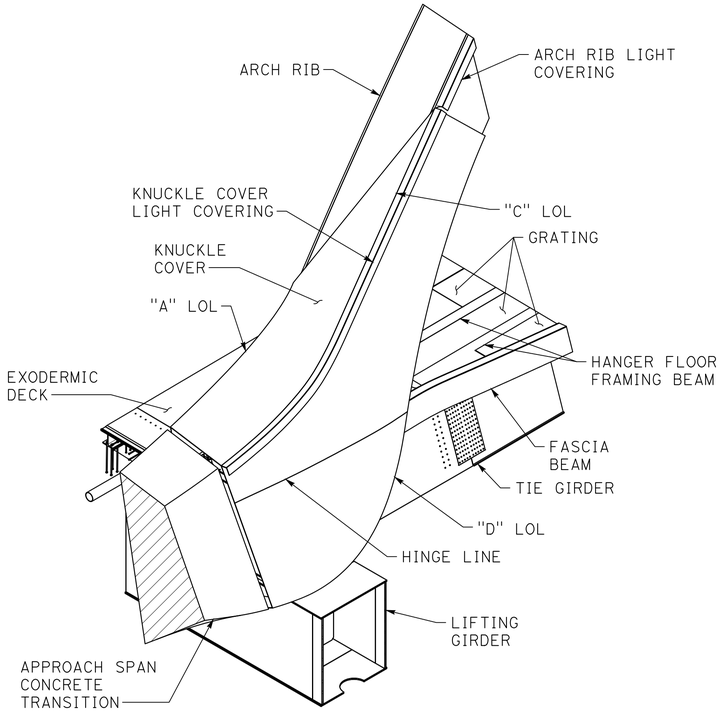
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ARCH RIB SPLICE DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

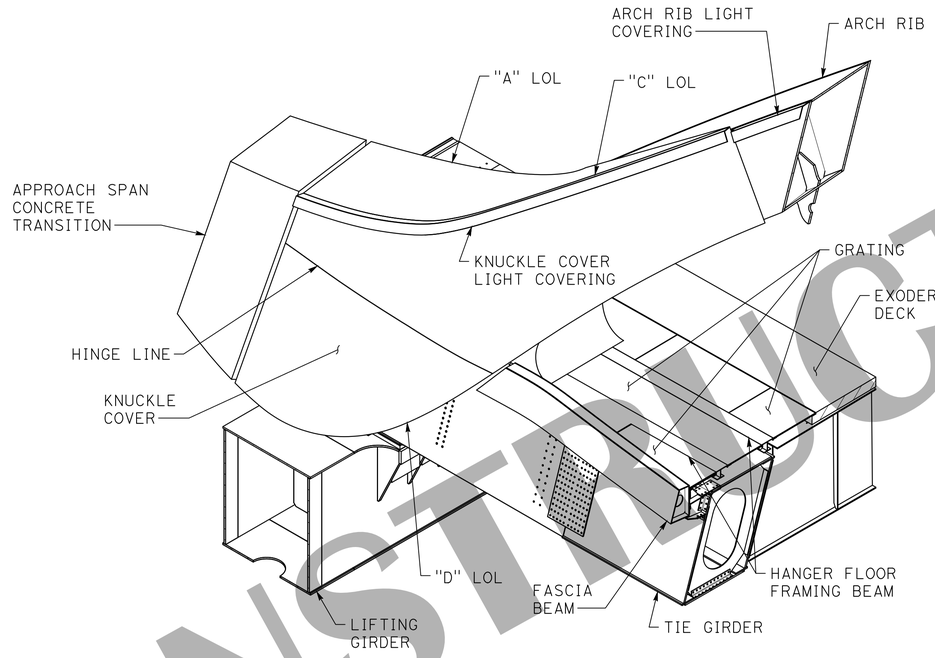
DWG NO.: MS-104
SHT NO.: 424
OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

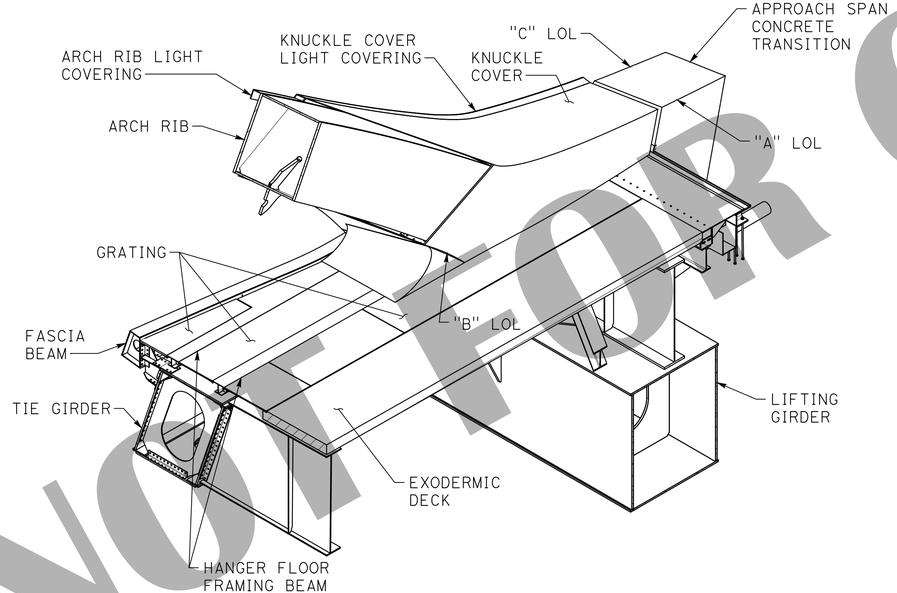
p:\3326.01\CADD\Structural\MS-091 ARCH RIB SPLICE DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:49:21 PM



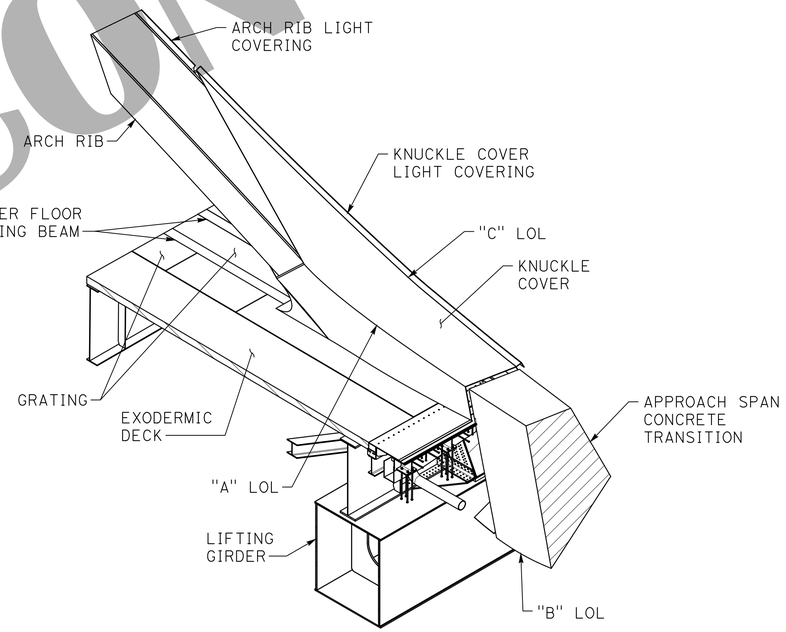
OUTBOARD ISOMETRIC AHEAD



OUTBOARD ISOMETRIC BACK



INBOARD ISOMETRIC BACK



INBOARD ISOMETRIC AHEAD

NOTES:

1. FOR KNUCKLE COVER CONTROL LINES, SEE DWG. NOS. S-33 THRU S-37.
2. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-003.
3. ISOMETRIC VIEWS ARE SHOWN FOR THE SOUTH ARCH KNUCKLE AT PIER 3. OTHER LOCATIONS SIMILAR.
4. PEDESTRIAN RAILING AND APPROACH RAILING NOT SHOWN FOR CLARITY. FOR DETAILS OF APPROACH RAILING AND CONNECTION DETAILS WITH KNUCKLE COVER, SEE DRAWING NO. S-39.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

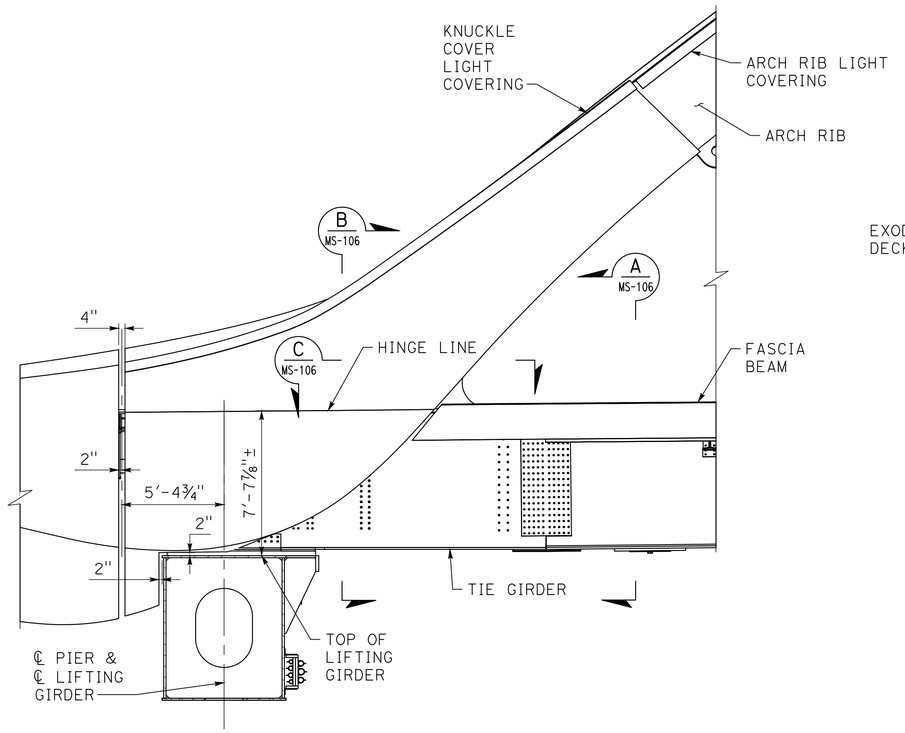
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
KNUCKLE COVER - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-105
SHT NO.: 425 OF 648

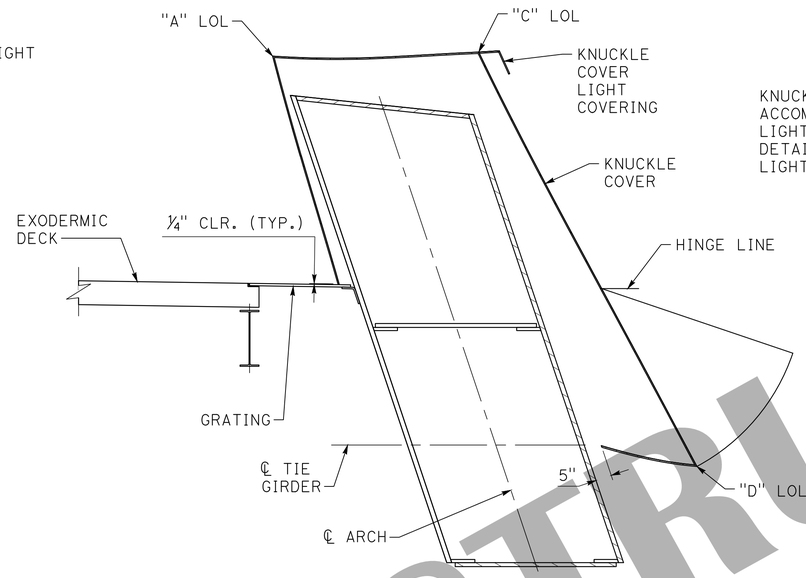
p:\3326.01\CADD\Structural\MS-092 KNUCKLE COVER - 1.dwg LAST PLOTTED: 11/3/2025 1:49:25 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



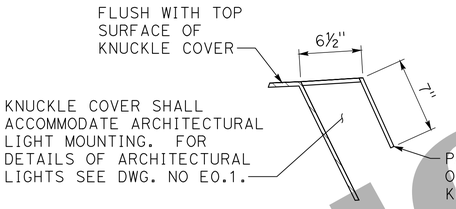
KNUCKLE COVER ELEVATION

SCALE: ¼" = 1'-0"



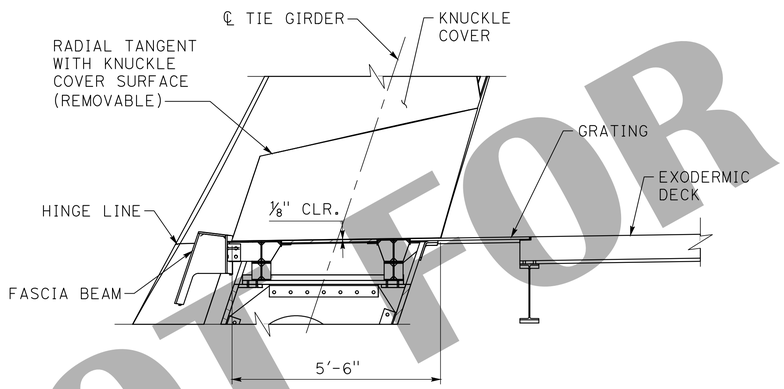
B MS-106 **SECTION**

SCALE: ½" = 1'-0"



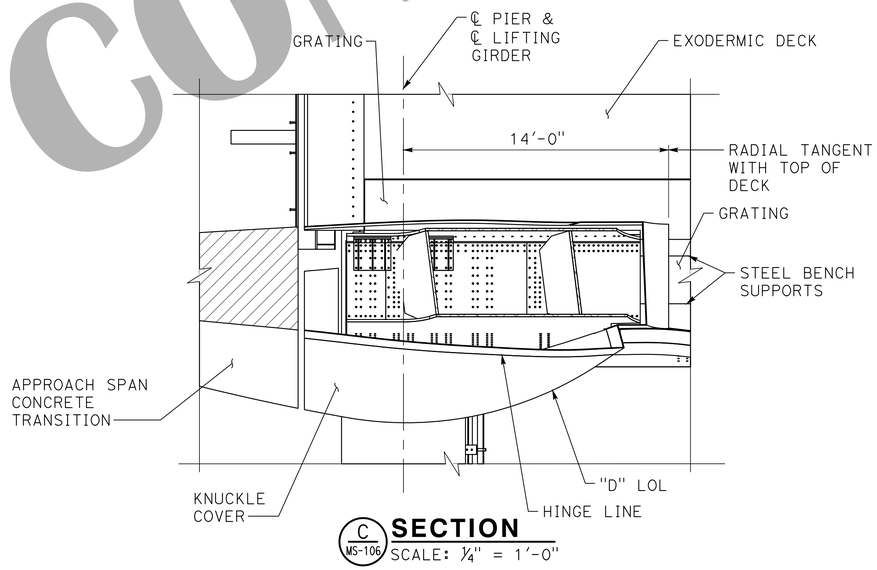
KNUCKLE COVER LIGHT COVERING

SCALE: ¼" = 1'-0"



A MS-106 **SECTION**

SCALE: ½" = 1'-0"



C MS-106 **SECTION**

SCALE: ¼" = 1'-0"

NOTES:

1. FOR KNUCKLE COVER CONTROL LINES, SEE DWG. NOS. S-33 THRU S-37.
2. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
4. PEDESTRIAN RAILING AND APPROACH RAILING NOT SHOWN FOR CLARITY. FOR DETAILS OF APPROACH RAILING AND CONNECTION DETAILS WITH KNUCKLE COVER, SEE DRAWING NO. S-39.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

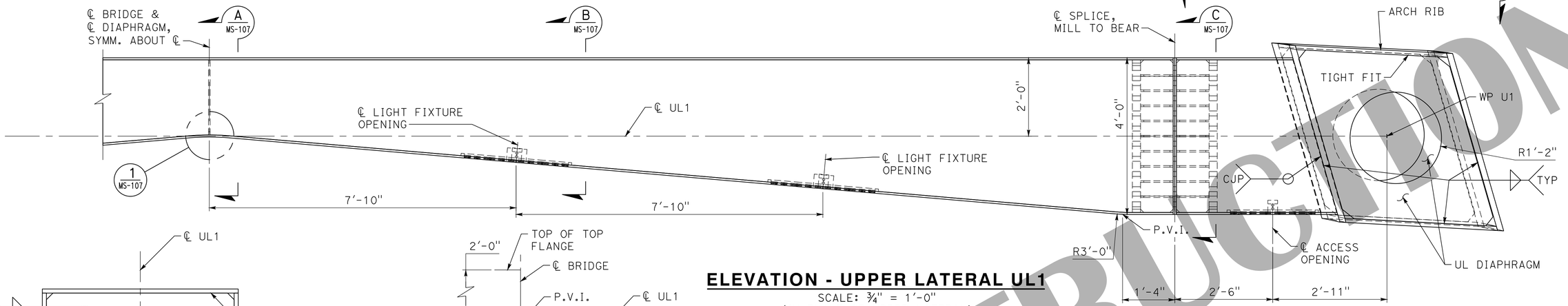
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
KNUCKLE COVER - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-106
SHT NO.: 426 OF 648

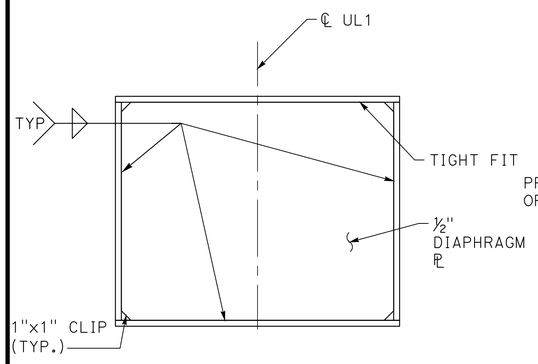
p:\3326.01\CADD\Structural\MS-093 KNUCKLE COVER - 2.dwg LAST PLOTTED: 11/3/2025 1:49:30 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

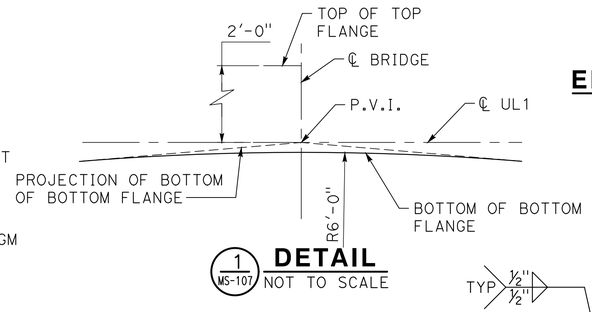


ELEVATION - UPPER LATERAL UL1

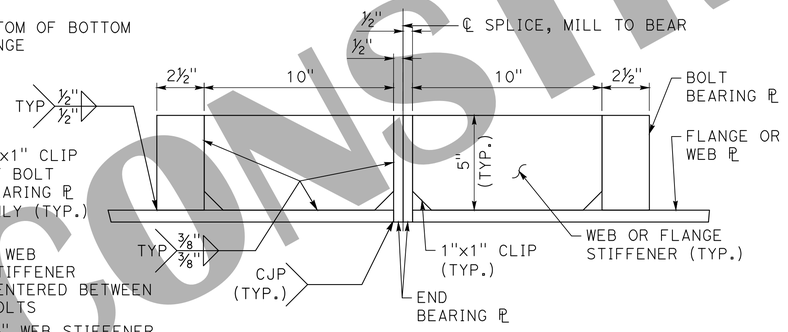
SCALE: ¾" = 1'-0"
(IN PLANE OF UPPER LATERAL)
(UL1 SHOWN, UL7 SIMILAR)



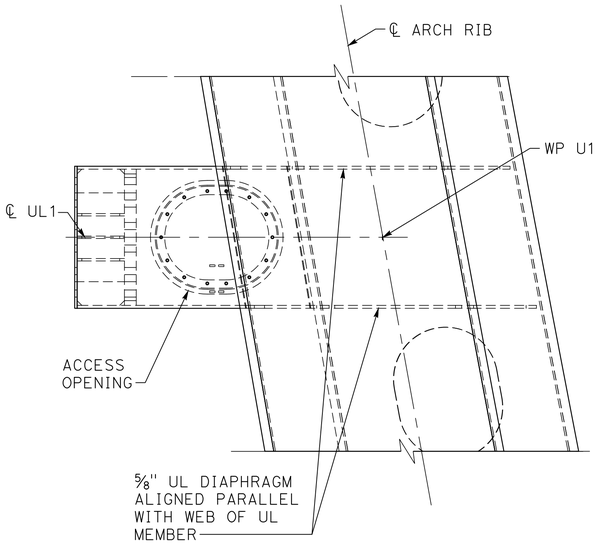
A MS-107 **SECTION AT DIAPHRAGM**
SCALE: 1½" = 1'-0"



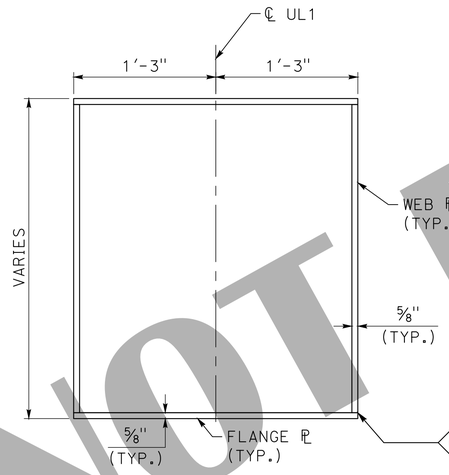
1 MS-107 **DETAIL**
NOT TO SCALE



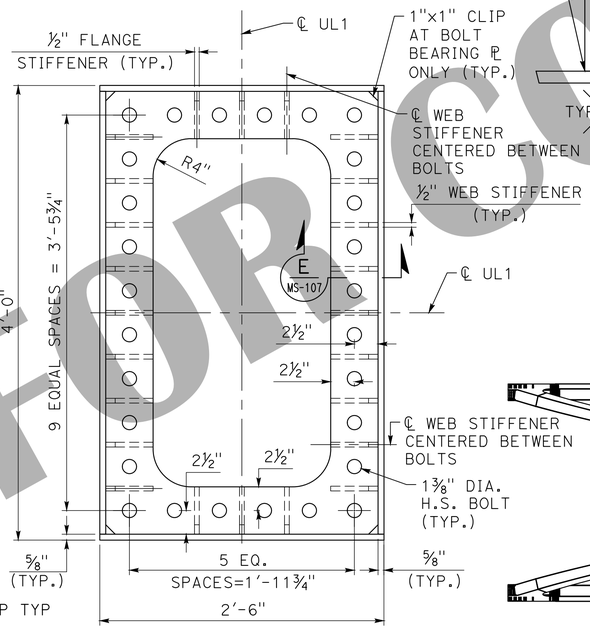
E MS-107 **SECTION**
SCALE: 3" = 1'-0"



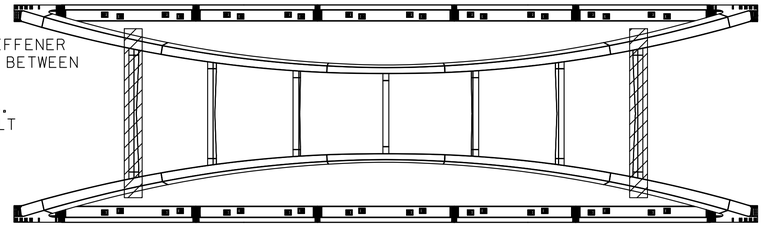
D MS-107 **SECTION AT ARCH**
SCALE: ¾" = 1'-0"



B MS-107 **TYPICAL SECTION**
SCALE: 1½" = 1'-0"



C MS-107 **SECTION AT SPLICE**
SCALE: 1½" = 1'-0"



KEY PLAN

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. FOR UPPER LATERAL WORK POINTS, SEE DWG. NO. MS-082.
3. SPLICE BEARING PLATES SHALL BE MILLED TO BEAR IN ACCORDANCE WITH AWS 3.5.1.9. THE THICKNESS SHOWN IS THE FINAL THICKNESS AFTER MILLING.
4. FOR UPPER LATERAL ACCESS OPENING AND LIGHT FIXTURE OPENING DETAILS, SEE DWG. NO. MS-111.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

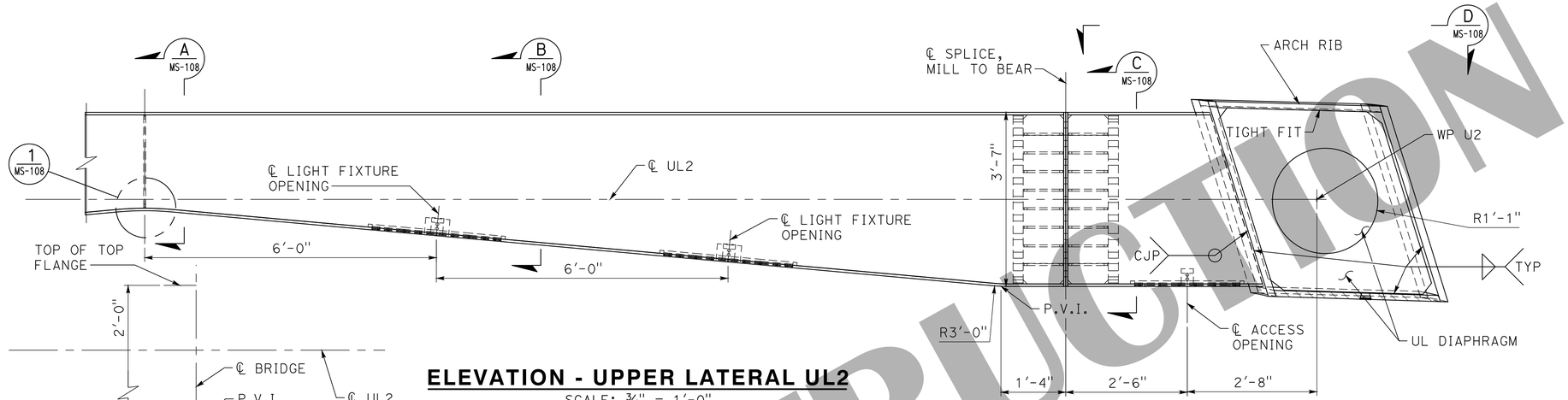
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
UPPER LATERAL UL1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-107
SHT NO.: 427 OF 648

p:\3326.01\CADD\Structural\MS-095 UPPER LATERAL UL1.dwg LAST PLOTTED: 11/3/2025 1:49:39 PM

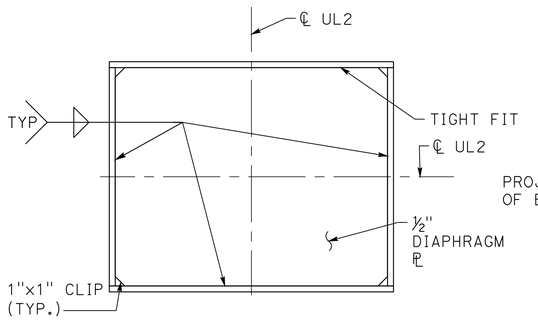
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



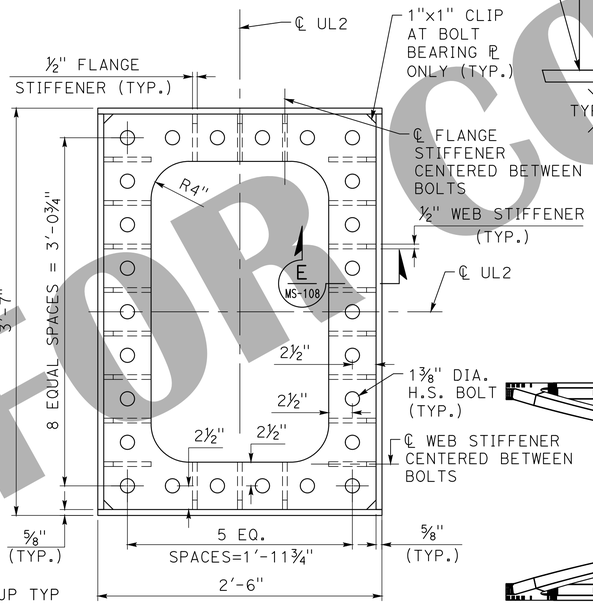
ELEVATION - UPPER LATERAL UL2

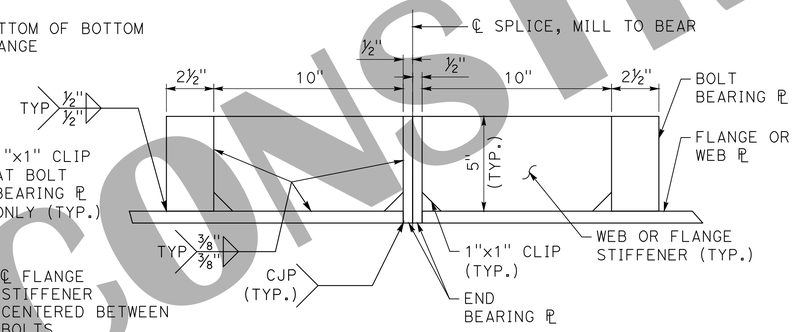
SCALE: ¾" = 1'-0"
(IN PLANE OF UPPER LATERAL)
(UL2 SHOWN, UL6 SIMILAR)

1 MS-108 **DETAIL** NOT TO SCALE

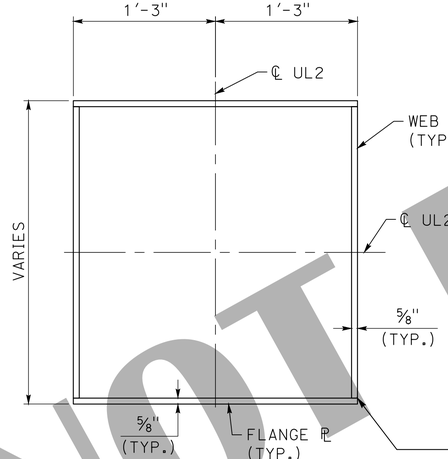


A MS-108 **SECTION AT DIAPHRAGM**
SCALE: 1½" = 1'-0"



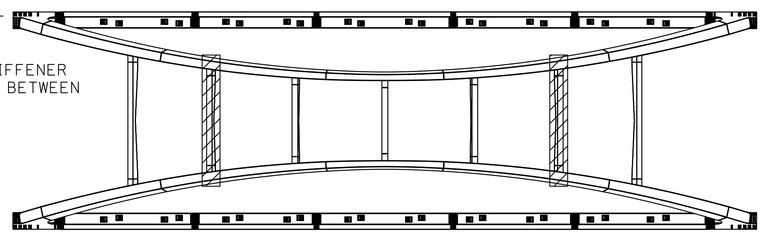


E MS-108 **SECTION**
SCALE: 3" = 1'-0"

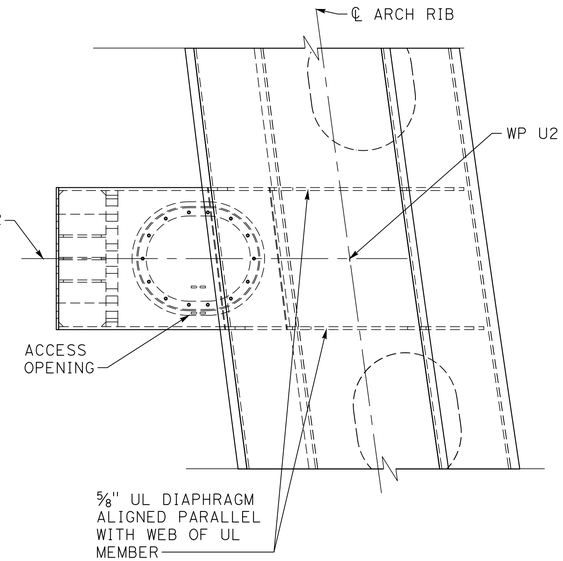


B MS-108 **TYPICAL SECTION**
SCALE: 1½" = 1'-0"

C MS-108 **SECTION AT SPLICE**
SCALE: 1½" = 1'-0"



KEY PLAN



D MS-108 **SECTION AT ARCH**
SCALE: ¾" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. FOR UPPER LATERAL WORK POINTS, SEE DWG. NO. MS-082.
3. SPLICE BEARING PLATES SHALL BE MILLED TO BEAR IN ACCORDANCE WITH AWS 3.5.1.9. THE THICKNESS SHOWN IS THE FINAL THICKNESS AFTER MILLING.
4. FOR UPPER LATERAL ACCESS OPENING AND LIGHT FIXTURE OPENING DETAILS, SEE DWG. NO. MS-111.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

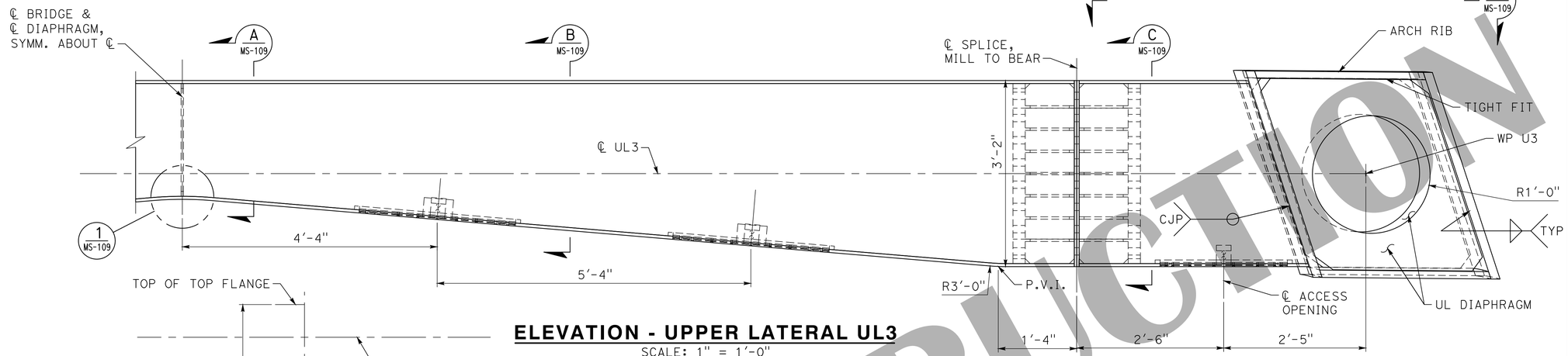
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
UPPER LATERAL UL2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-108
SHT NO.: 428 OF 648

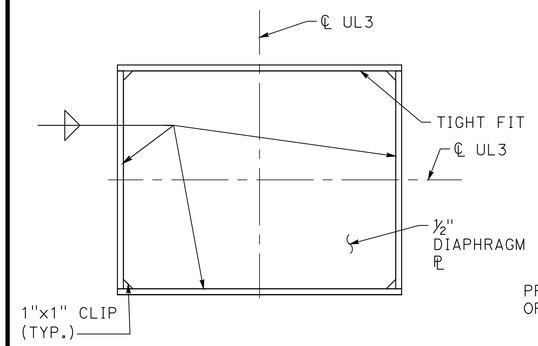
p:\3326.01\CADD\Structural\MS-096 UPPER LATERAL UL2.dwg LAST PLOTTED: 11/3/2025 1:49:46 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

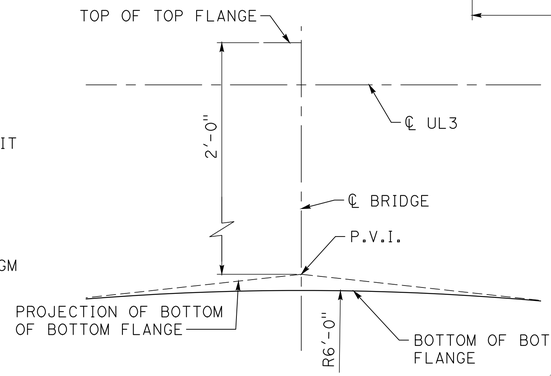


ELEVATION - UPPER LATERAL UL3

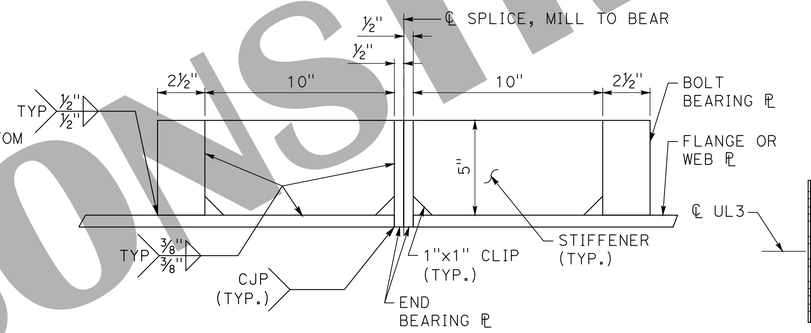
SCALE: 1" = 1'-0"
(IN PLANE OF UPPER LATERAL)
(UL3 SHOWN, UL5 SIMILAR)



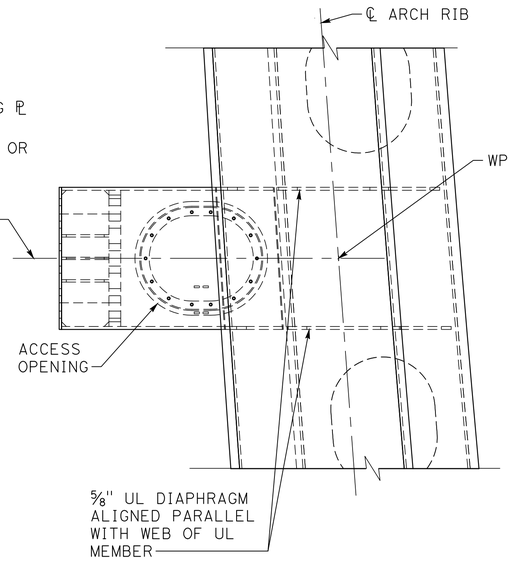
A MS-109 **SECTION AT DIAPHRAGM**
SCALE: 1½" = 1'-0"



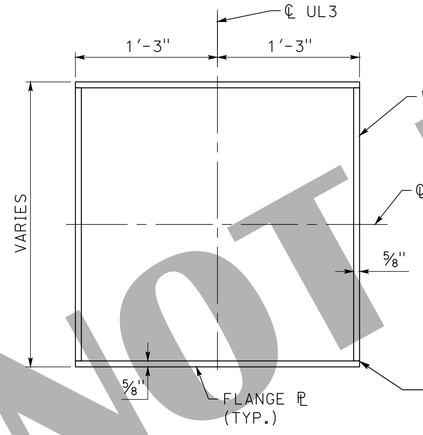
1 MS-109 **DETAIL**
NOT TO SCALE



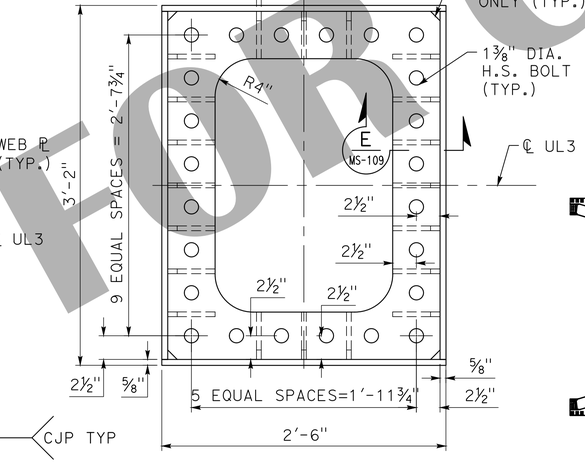
E MS-109 **SECTION**
SCALE: 3" = 1'-0"



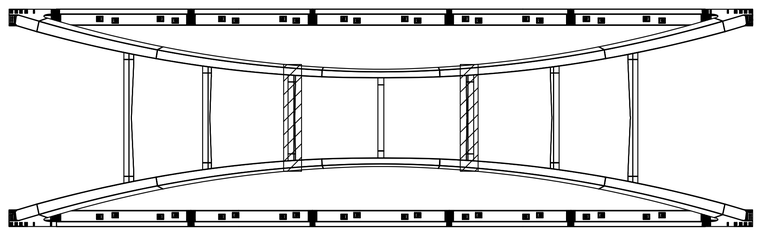
D MS-109 **SECTION AT ARCH**
SCALE: ¾" = 1'-0"



B MS-109 **TYPICAL SECTION**
SCALE: 1½" = 1'-0"



C MS-109 **SECTION AT SPLICE**
SCALE: 1½" = 1'-0"



KEY PLAN

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. FOR UPPER LATERAL WORK POINTS, SEE DWG. NO. MS-082.
3. SPLICE BEARING PLATES SHALL BE MILLED TO BEAR IN ACCORDANCE WITH AWS 3.5.1.9. THE THICKNESS SHOWN IS THE FINAL THICKNESS AFTER MILLING.
4. FOR UPPER LATERAL ACCESS OPENING DETAILS, SEE DWG. NO. MS-111.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: D. KO
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

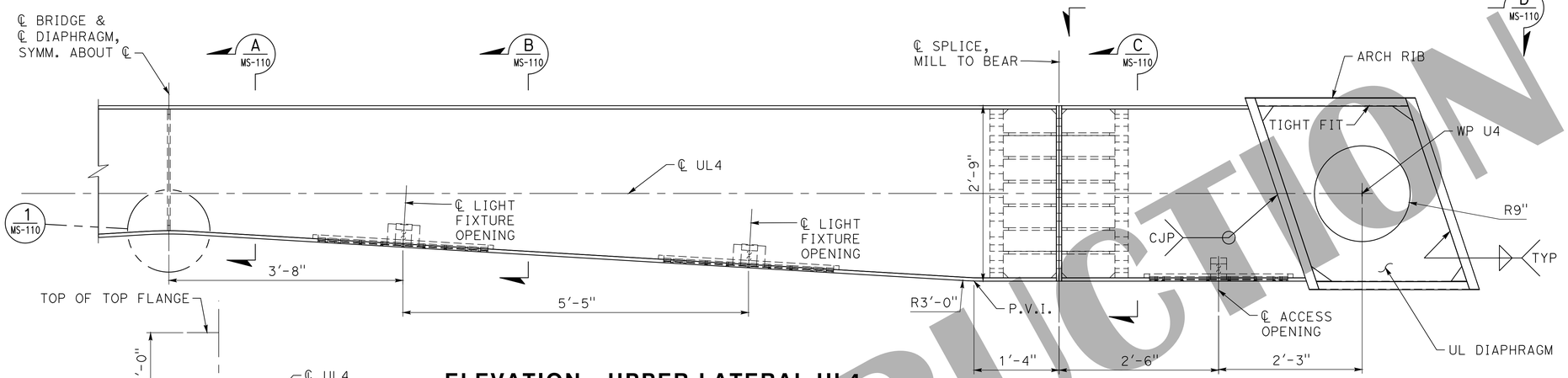
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
UPPER LATERAL UL3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-109
SHT NO.: 429 OF 648

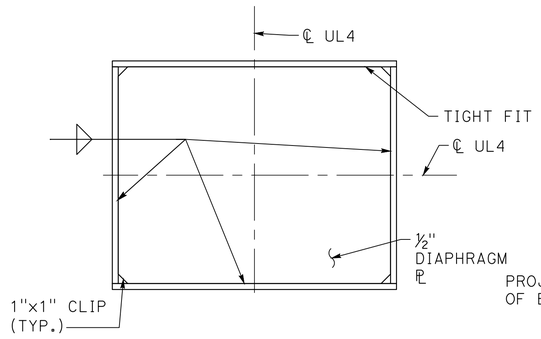
p:\3326.01\CADD\Structural\MS-097 UPPER LATERAL UL3.dwg LAST PLOTTED: 11/3/2025 1:49:53 PM

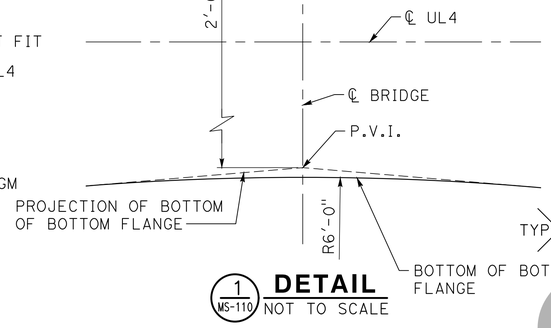
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



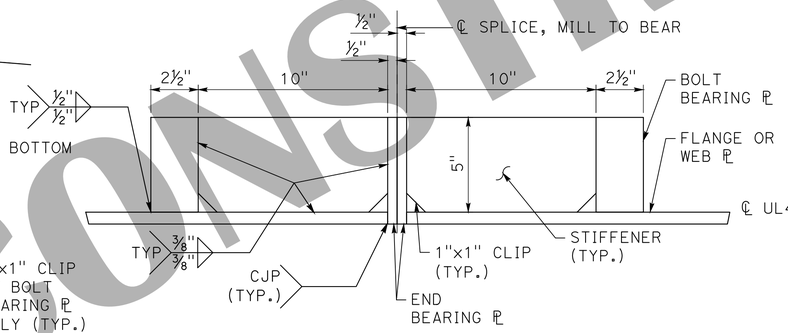
ELEVATION - UPPER LATERAL UL4

SCALE: 1" = 1'-0"
(IN PLANE OF UPPER LATERAL)

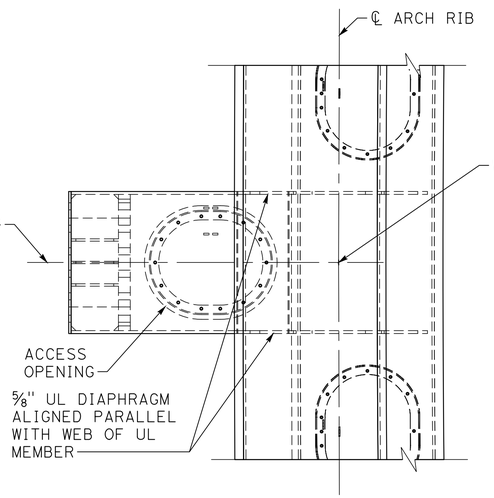




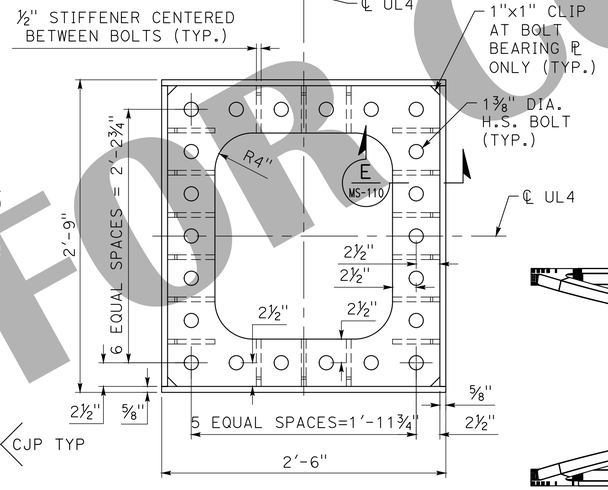
1 MS-110 **DETAIL**
NOT TO SCALE

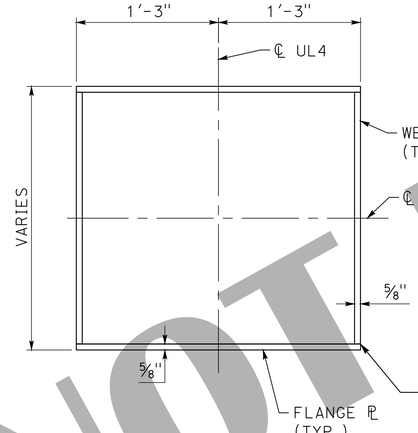


E MS-110 **SECTION**
SCALE: 3" = 1'-0"



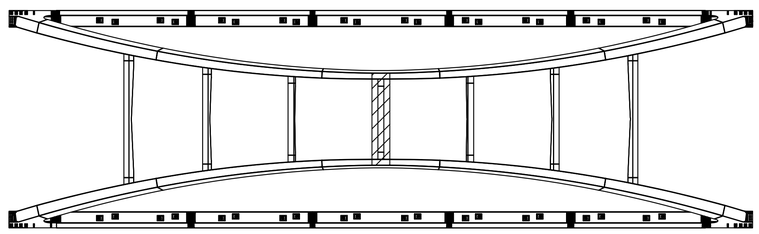
A MS-110 **SECTION AT DIAPHRAGM**
SCALE: 1½" = 1'-0"





B MS-110 **TYPICAL SECTION**
SCALE: 1½" = 1'-0"

C MS-110 **SECTION AT SPLICE**
SCALE: 1½" = 1'-0"



KEY PLAN

D MS-110 **SECTION AT ARCH**
SCALE: ¾" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. FOR UPPER LATERAL WORK POINTS, SEE DWG. NO. MS-082.
3. SPLICE BEARING PLATES SHALL BE MILLED TO BEAR IN ACCORDANCE WITH AWS 3.5.1.9. THE THICKNESS SHOWN IS THE FINAL THICKNESS AFTER MILLING.
4. FOR UPPER LATERAL ACCESS OPENING DETAILS, SEE DWG. NO. MS-111.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

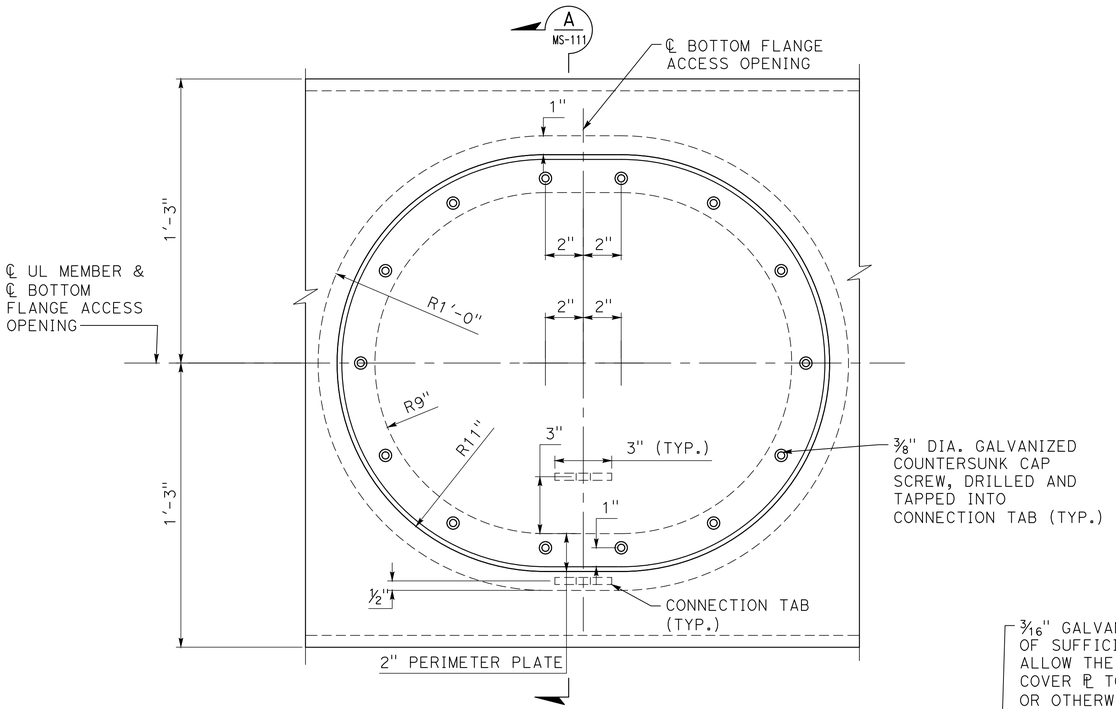
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
UPPER LATERAL UL4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-110
SHT NO.: 430 OF 648

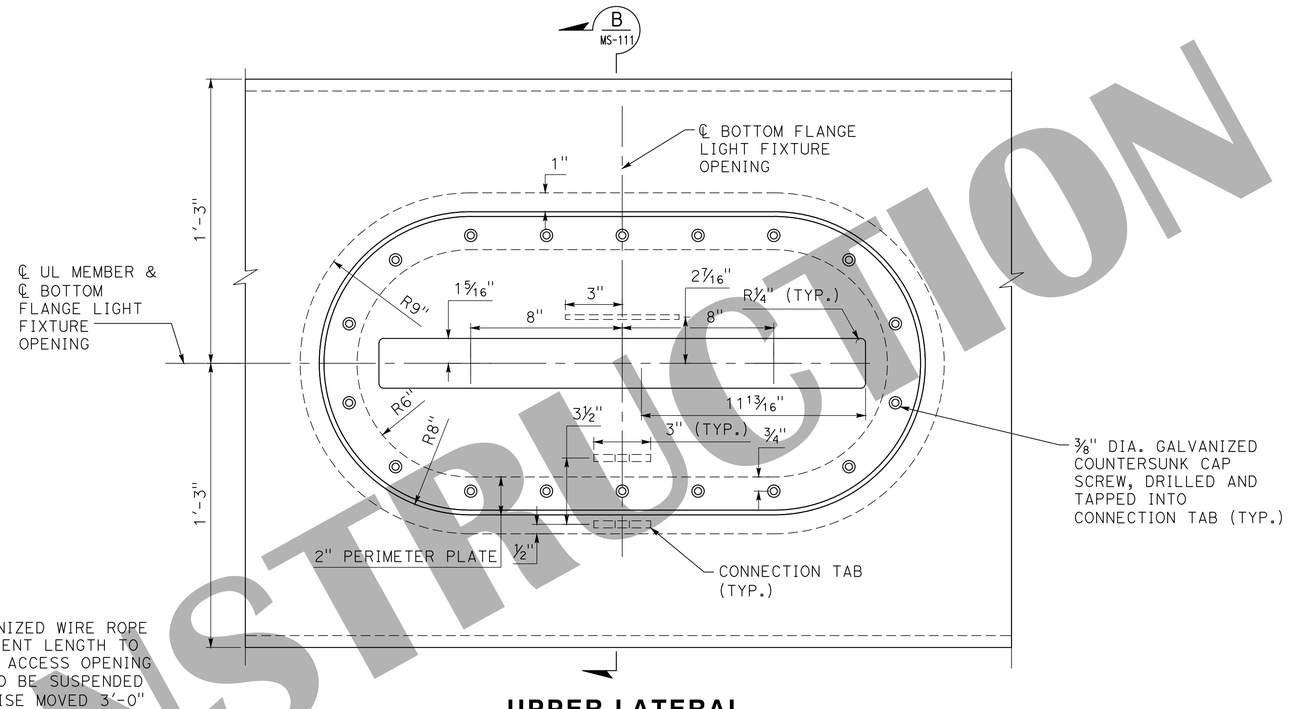
p:\3326.01\CADD\Structural\MS-098 UPPER LATERAL UL4.dwg LAST PLOTTED: 11/3/2025 1:49:59 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



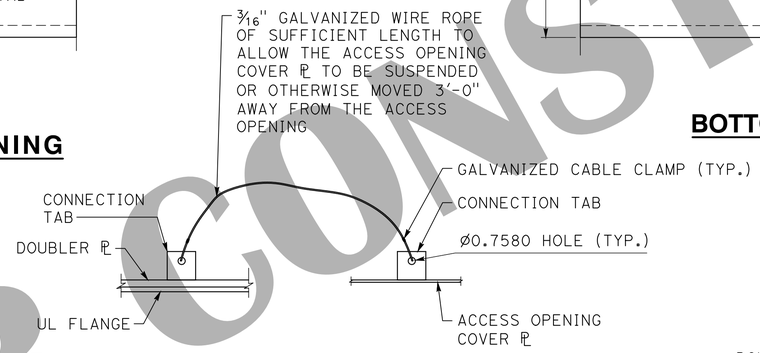
UPPER LATERAL
BOTTOM FLANGE ACCESS OPENING

SCALE: 3" = 1'-0"



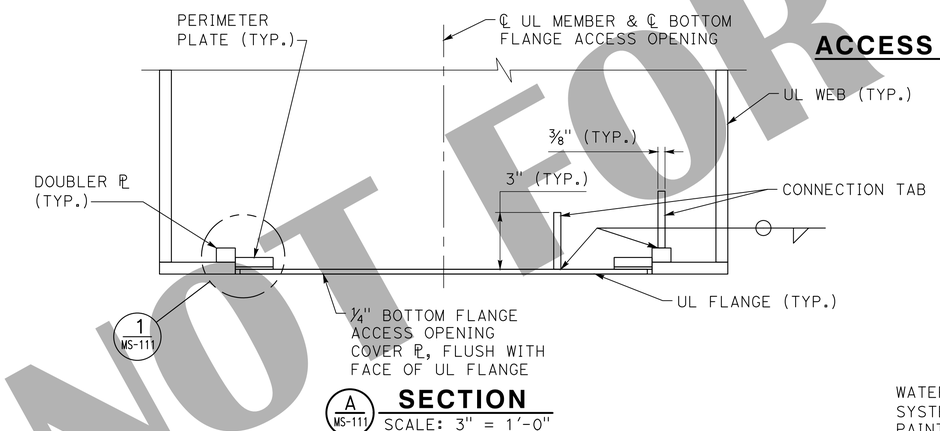
UPPER LATERAL
BOTTOM FLANGE LIGHT FIXTURE OPENING

SCALE: 3" = 1'-0"



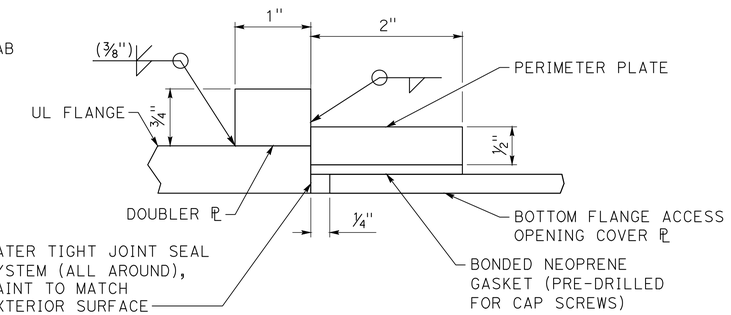
ACCESS OPENING RETAINER DETAIL

NOT TO SCALE



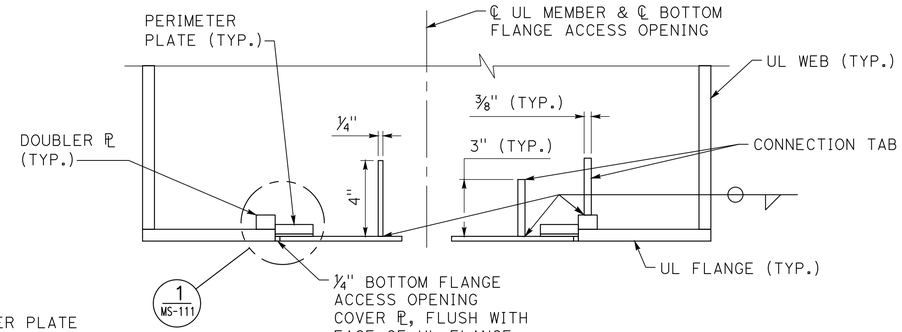
A MS-111 **SECTION**

SCALE: 3" = 1'-0"



1 MS-111 **DETAIL**

SCALE: 1'-0" = 1'-0"



B MS-111 **SECTION**

SCALE: 3" = 1'-0"

NOTES:

1. NOTES

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-099 UPPER LATERAL DETAILS.dwg LAST PLOTTED: 11/3/2025 1:50:04 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

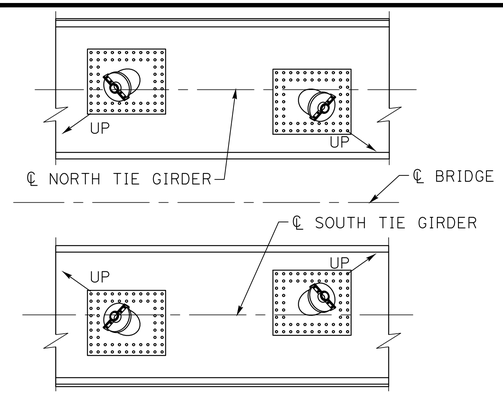
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
UPPER LATERAL DETAILS
(Date: 11/03/2025)

PN: T15136000

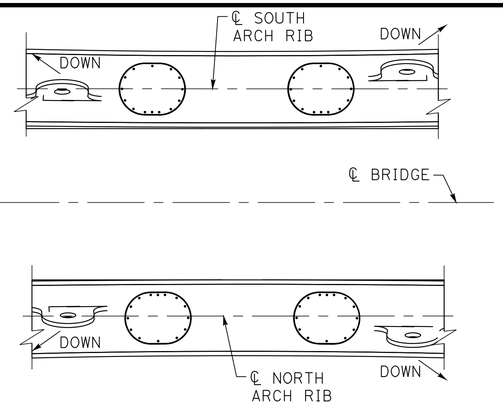
DWG NO.: MS-111

SHT NO.: 431 OF 648



TIE GIRDER TYPICAL HANGER ECCENTRICITY

SCALE: NOT TO SCALE
(LOOKING DOWN)

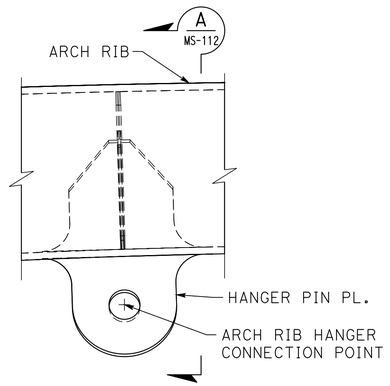


ARCH RIB TYPICAL HANGER ECCENTRICITY

SCALE: NOT TO SCALE
(LOOKING UP)

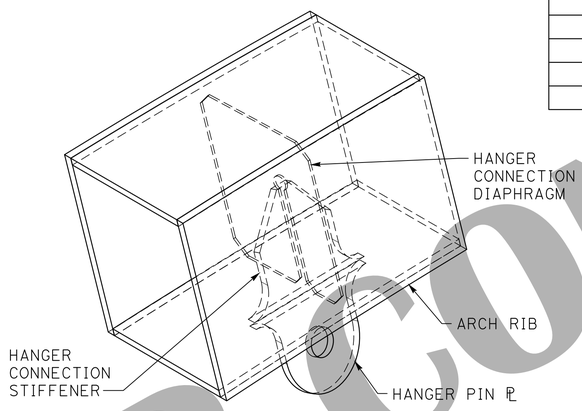
ARCH HANGER CONNECTION POINT GEOMETRY

HANGER MEMBER	ARCH RIB CONNECTION POINT					TIE GIRDER CONNECTION POINT					HANGER LENGTH
	WP	X (FT.)	SOUTH Y (FT.)	NORTH Y (FT.)	Z (FT.)	WP	X (FT.)	SOUTH Y (FT.)	NORTH Y (FT.)	Z (FT.)	
C1	R1C	26.03	−36.81	36.81	18.22	T1C	37.25	−42.85	42.85	0.37	21.92
C2	R4C	68.52	−26.88	26.88	45.81	T4C	39.75	−42.15	42.15	0.40	55.89
C3	R2C	43.49	−32.51	32.51	31.08	T3C	62.92	−42.85	42.85	0.63	37.57
C4	R6C	96.36	−22.74	22.74	58.19	T6C	65.42	−42.15	42.15	0.65	68.15
C5	R3C	65.04	−28.06	28.06	44.38	T5C	88.58	−42.85	42.85	0.89	51.63
C6	R8C	122.52	−20.29	20.29	65.49	T8C	91.08	−42.15	42.15	0.91	75.07
C7	R5C	87.74	−24.40	24.40	55.31	T7C	114.25	−42.85	42.85	1.11	63.09
C8	R10C	147.88	−19.27	19.27	68.56	T10C	116.75	−42.15	42.15	1.12	77.72
C9	R7C	111.25	−21.73	21.73	63.29	T9C	139.92	−42.85	42.85	1.22	71.55
C10	R12C	172.56	−19.61	19.61	67.55	T12C	142.42	−42.15	42.15	1.23	76.25
C11	R9C	135.35	−20.17	20.17	67.96	T11C	165.58	−42.85	42.85	1.23	76.69
C12	R14C	196.66	−21.17	21.17	62.88	T14C	168.08	−42.15	42.15	1.22	71.12
C13	R11C	160.02	−19.83	19.83	68.99	T13C	191.25	−42.85	42.85	1.12	78.17
C14	R16C	220.16	−23.83	23.83	54.91	T16C	193.75	−42.15	42.15	1.11	62.67
C15	R13C	185.37	−20.85	20.85	65.94	T15C	216.92	−42.85	42.85	0.91	75.55
C16	R18C	242.86	−27.49	27.49	43.98	T18C	219.42	−42.15	42.15	0.89	51.20
C17	R15C	211.49	−23.27	23.27	58.68	T17C	242.58	−42.85	42.85	0.65	68.68
C18	R19C	264.39	−31.94	31.94	30.69	T19C	245.08	−42.15	42.15	0.63	37.16
C19	R17C	239.25	−27.39	27.39	46.39	T19C	268.25	−42.85	42.85	0.40	56.53
C20	R20C	281.85	−36.24	36.24	17.82	T20C	270.75	−42.15	42.15	0.37	21.51



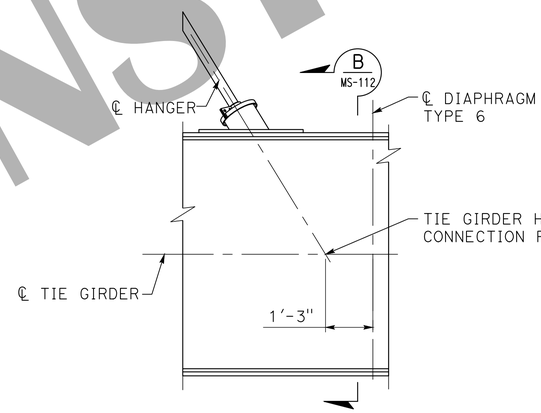
ARCH RIB HANGER CONNECTION POINT ELEVATION

SCALE: ¾" = 1'-0"



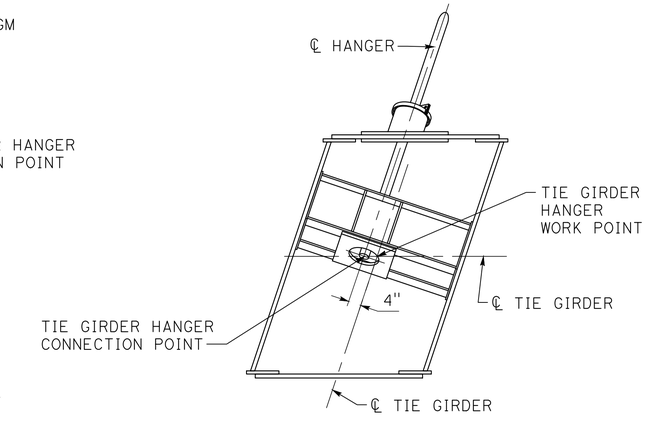
ARCH RIB HANGER CONNECTION POINT ISOMETRIC

SCALE: ¾" = 1'-0"



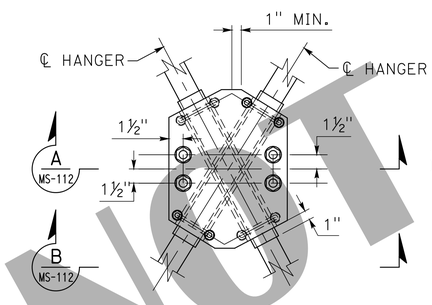
TIE GIRDER HANGER CONNECTION POINT ELEVATION

SCALE: ½" = 1'-0"



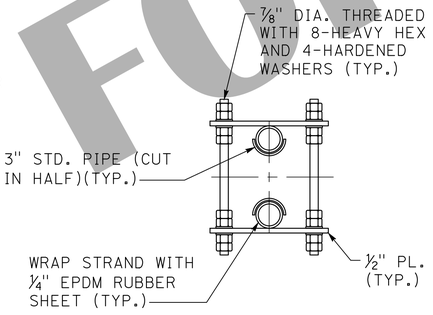
B MS-112 **SECTION**

SCALE: ½" = 1'-0"



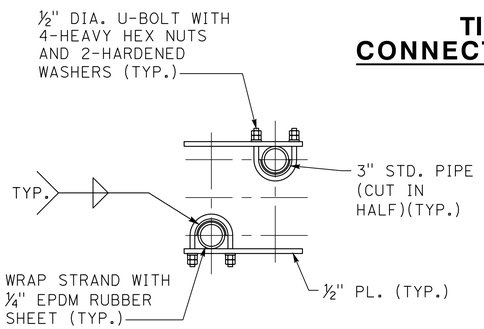
HANGER SPACER DETAIL

SCALE: 1½" = 1'-0"



A MS-112 **SECTION**

SCALE: 1½" = 1'-0"



B MS-112 **SECTION**

SCALE: 1½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: B. LOFLIN
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

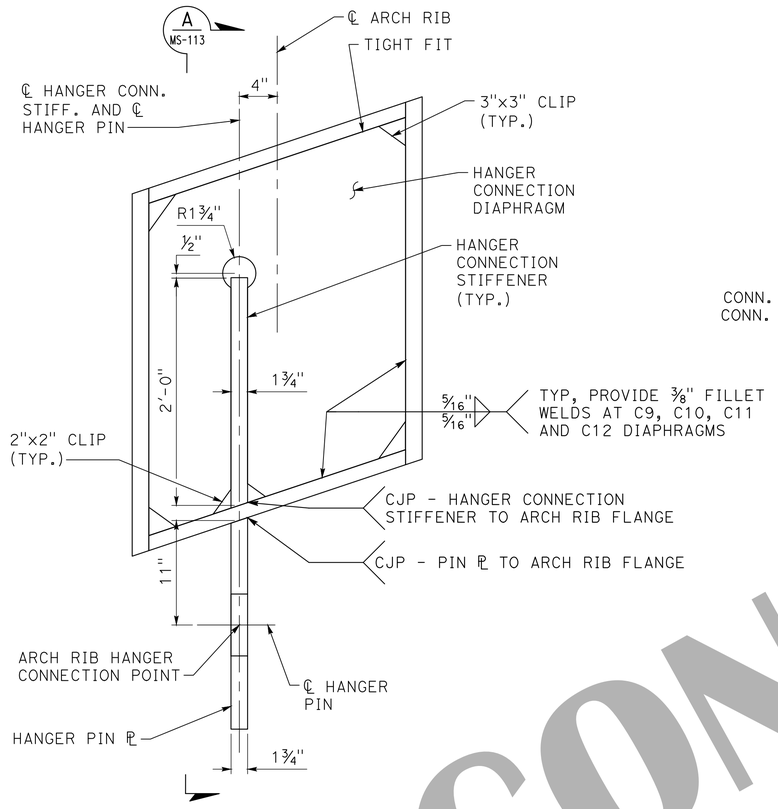
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER CONNECTION DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-112
SHT NO.: 432
OF 648

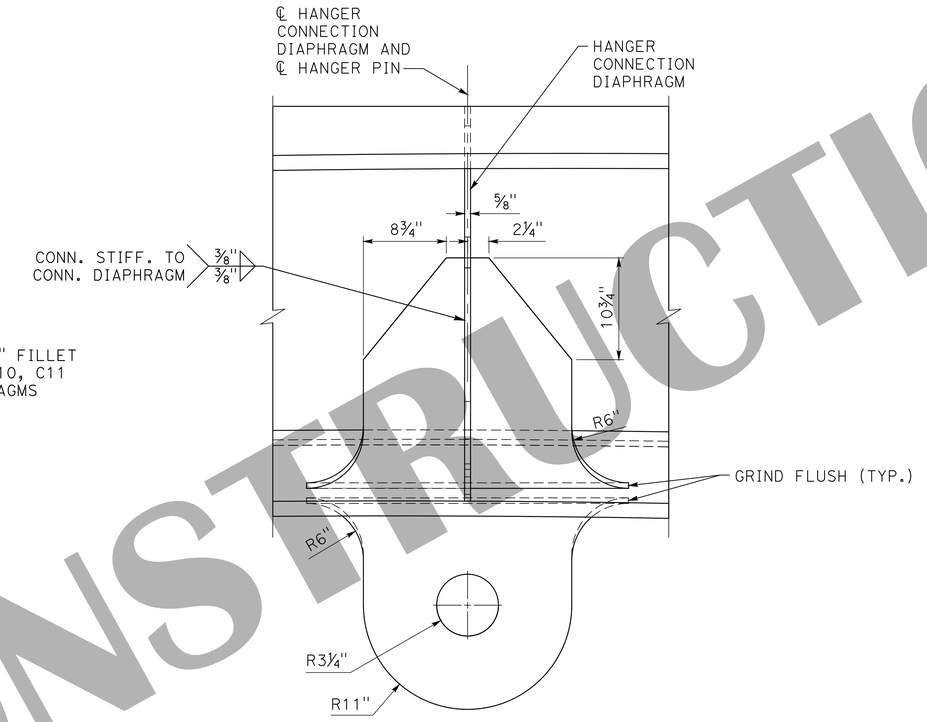
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-100 HANGER CONNECTION DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:50:14 PM



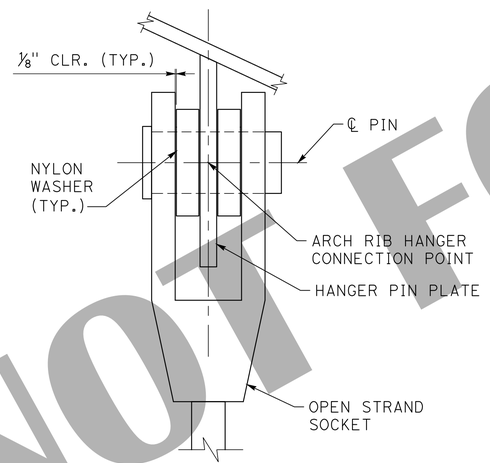
ARCH RIB HANGER CONNECTION SECTION

SCALE: 1½" = 1'-0"



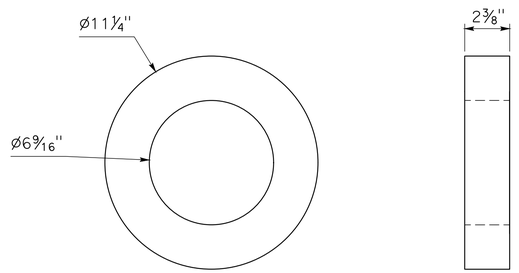
A MS-113 SECTION

SCALE: 1½" = 1'-0"



ARCH RIB HANGER PIN CONNECTION DETAIL

NOT TO SCALE



NYLON WASHER

NOT TO SCALE

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. ALIGN HANGER CONNECTION DIAPHRAGMS PERPENDICULAR TO ARCH PARABOLA AND CONCENTRIC ON ARCH HANGER CONNECTION POINT.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: B. LOFLIN DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

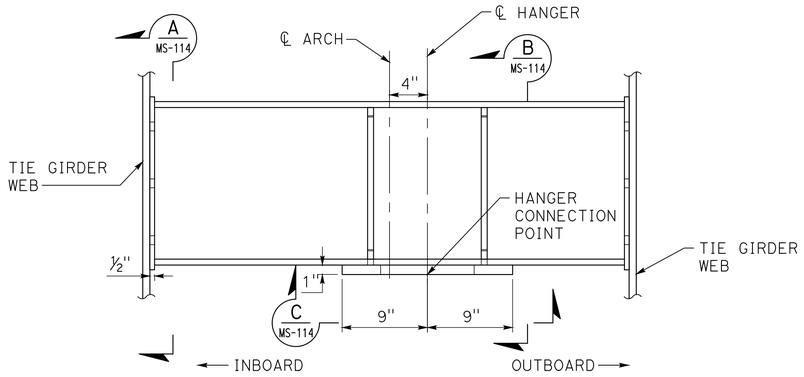
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER CONNECTION DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-113
SHT NO.: 433 OF 648

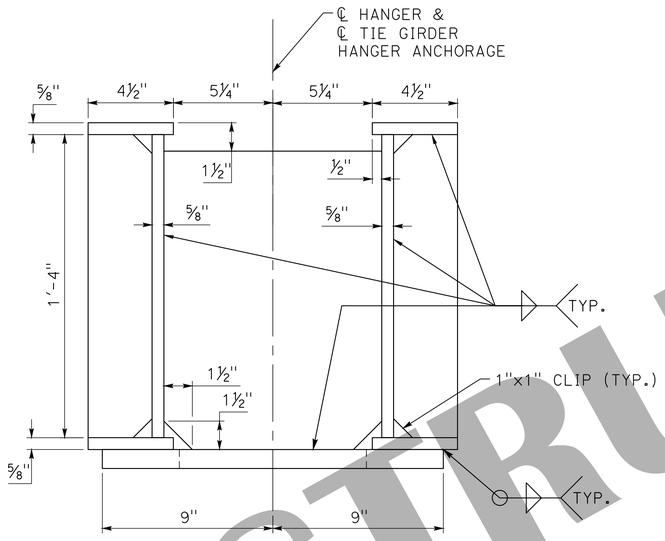
p:\3326.01\CADD\Structural\MS-101 HANGER CONNECTION DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:50:20 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

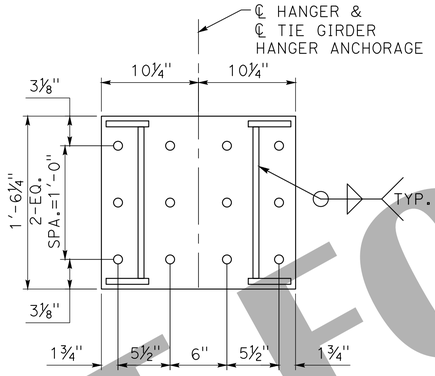


ELEVATION - TIE GIRDER HANGER ANCHORAGE

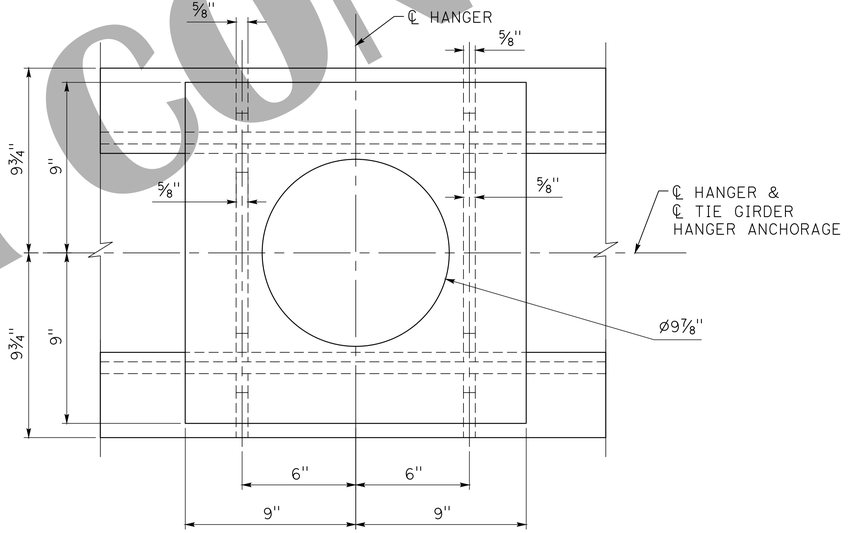
SCALE 1½" = 1'-0"
(OUTBOARD HANGER OFFSET SHOWN, INBOARD HANGER OFFSET SIMILAR)



B MS-114 **SECTION**
SCALE: 3" = 1'-0"



A MS-114 **SECTION**
SCALE: 1½" = 1'-0"
(TIE GIRDER WEB NOT SHOWN FOR CLARITY)



C MS-114 **SECTION**
SCALE: 3" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR HANGER CONNECTION POINTS, SEE DWG. NO. MS-111.
3. TIE GIRDER HANGER ANCHORAGE IS DETAILED WITHOUT FILL PLATES. FILL PLATES MAY BE PROVIDED TO ALLOW FOR FABRICATION TOLERANCES BETWEEN THE TIE GIRDER WEB AND END PLATE. THE FILL PLATE THICKNESS SHALL NOT EXCEED ½" AND SHALL CONSIST OF A SINGLE PLY.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: B. LOFLIN
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

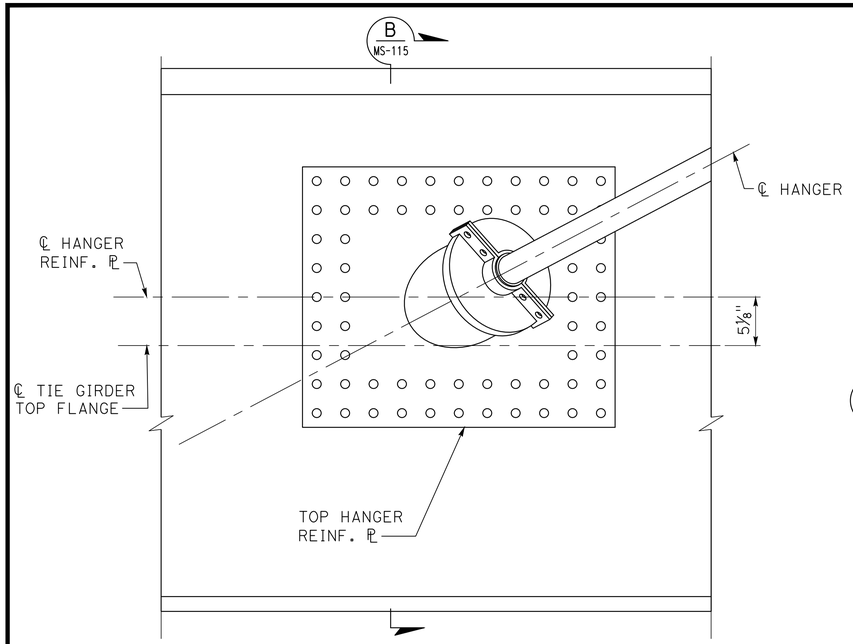
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER CONNECTION DETAILS - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-114
SHT NO.: 434 OF 648

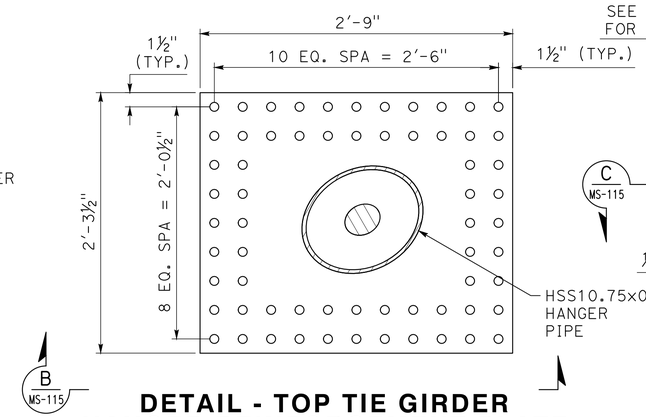
p:\3326.01\CADD\Structural\MS-102 HANGER CONNECTION DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:50:25 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



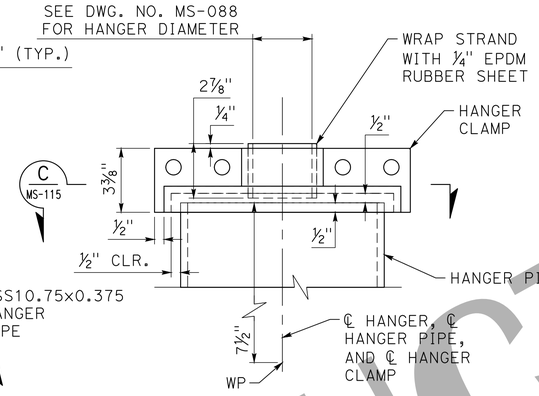
PLAN - TIE GIRDER HANGER REINFORCEMENT PLATE

SCALE: 1½" = 1'-0"



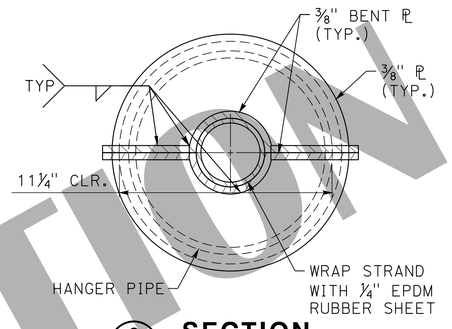
DETAIL - TOP TIE GIRDER HANGER REINFORCEMENT PLATE

SCALE: 1½" = 1'-0"
(C2 HANGER PERFORATION SHOWN, OTHERS SIMILAR AS NOTED)



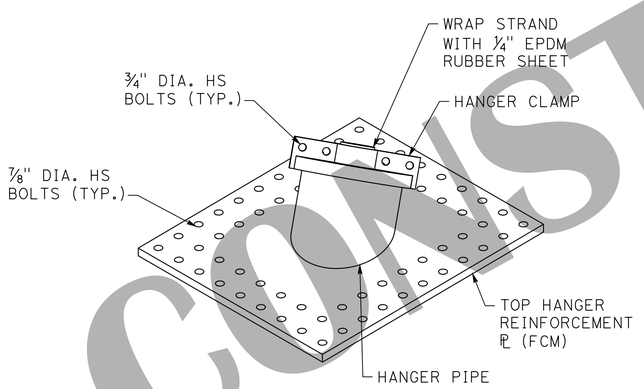
DETAIL - HANGER CLAMP

SCALE: 3" = 1'-0"

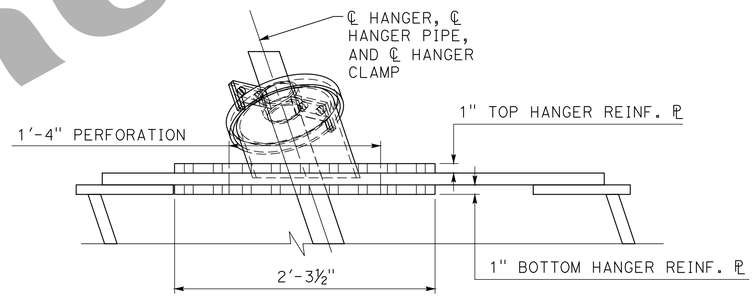


SECTION

SCALE: 3" = 1'-0"

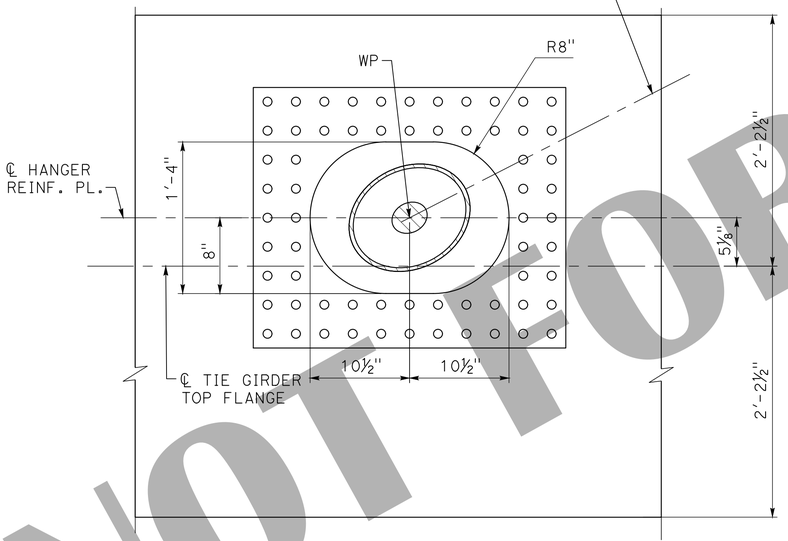


ISOMETRIC VIEW - TOP HANGER REINFORCEMENT PLATE



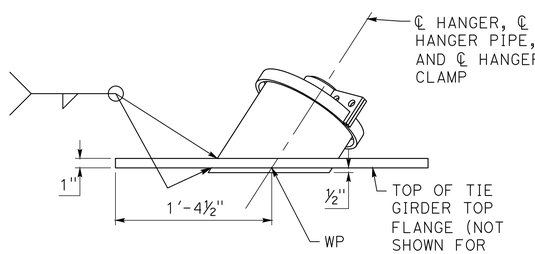
A
MS-115
SECTION

SCALE: 1½" = 1'-0"



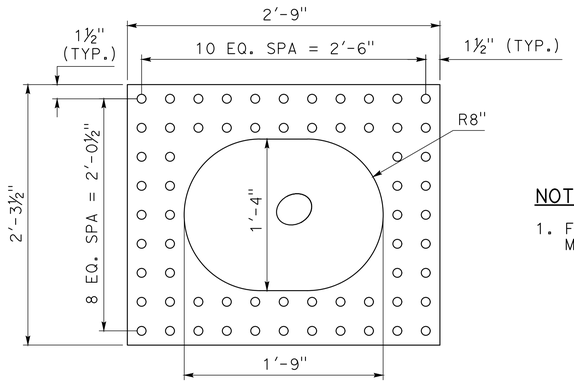
PLAN - TIE GIRDER HANGER PERFORATION

SCALE: 1½" = 1'-0"



B
MS-115
SECTION

SCALE: 1½" = 1'-0"



DETAIL - BOTTOM TIE GIRDER HANGER REINFORCEMENT PLATE

SCALE: 1½" = 1'-0"
(C2 HANGER PERFORATION SHOWN, OTHERS SIMILAR AS NOTED)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: B. LOFLIN DATE: 11/03/2025

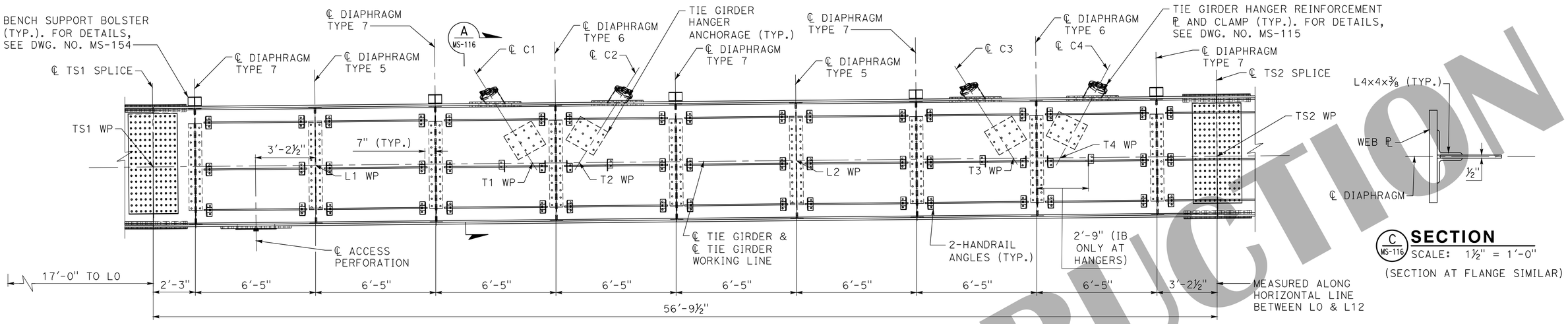
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER CONNECTION DETAILS - 4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-115
SHT NO.: 435 OF 648

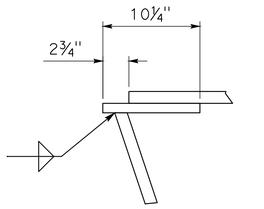
p:\3326.01\CADD\Structural\MS-103 HANGER CONNECTION DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:50:31 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

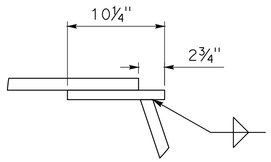


TIE GIRDER ELEVATION - TS1-TS2

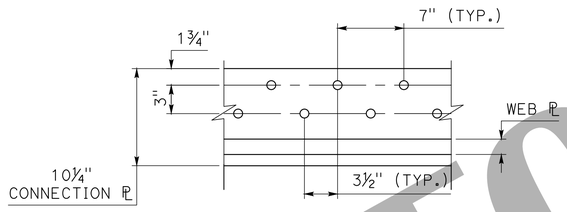
SCALE ⅜" = 1'-0"
(TS1-TS2 SHOWN, TS5-TS6 SIMILAR OPPOSITE HAND)
(BENCH SUPPORT BEAMS NOT SHOWN FOR CLARITY)



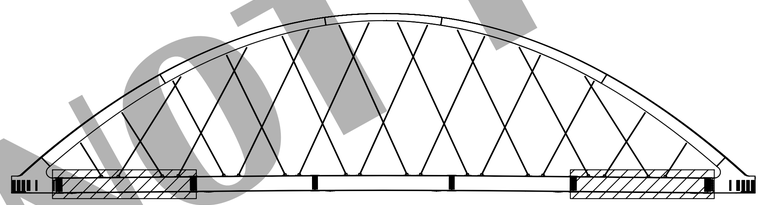
1 MS-116 **DETAIL**
SCALE: 1½" = 1'-0"



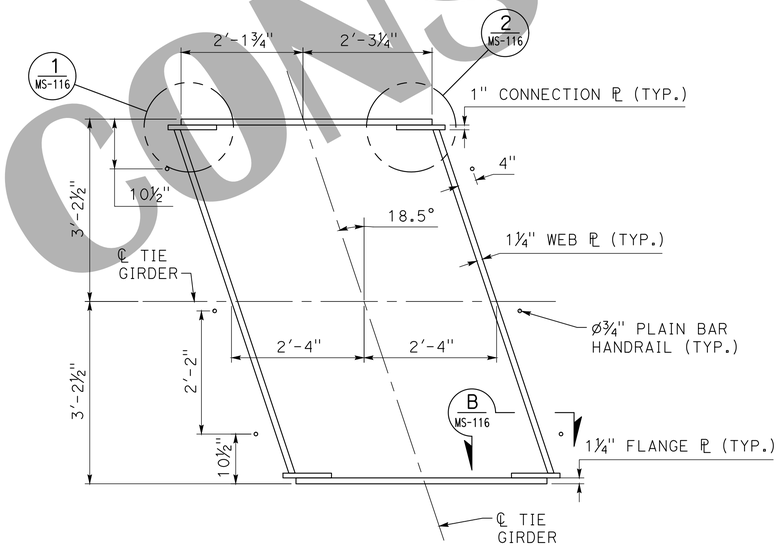
2 MS-116 **DETAIL**
SCALE: 1½" = 1'-0"



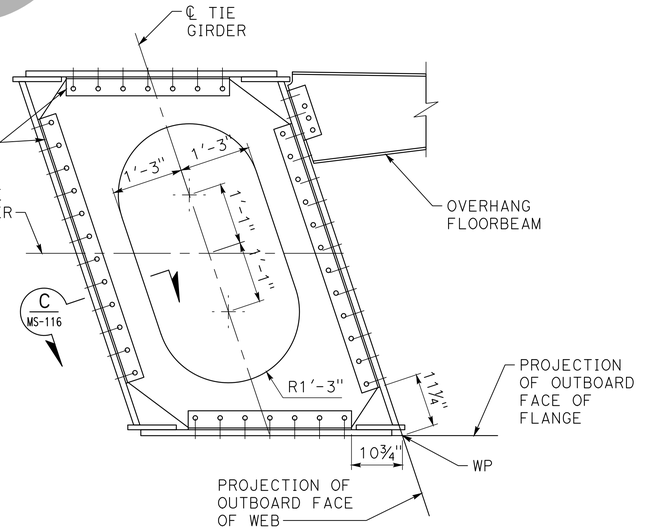
B MS-116 **SECTION**
SCALE: 1½" = 1'-0"



KEY ELEVATION



A MS-116 **TYPICAL TS1-TS2 SECTION**
SCALE: ¾" = 1'-0"



TIE GIRDER DIAPHRAGM TYPE 7

SCALE: ¾" = 1'-0"
(AT OVERHANG FLOORBEAM)
(ASTM A709 GR. 50W)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR TIE GIRDER GEOMETRY, SEE DWG. NOS. MS-080 THRU MS-082.
3. FOR TIE GIRDER SPLICE DETAILS, SEE DWG. NOS. MS-120 THRU MS-122.
4. FOR HANGER WORK POINTS, SEE DWG. NO. MS-081.
5. FOR HANGER CONNECTION POINTS, SEE DWG. NO. MS-112.
6. FOR HANGER CONNECTION DETAILS, SEE DWG. NOS. MS-112 THRU MS-115.
7. FOR INTERIOR FLOORBEAM CONNECTION DETAILS, SEE DWG. NO. MS-126.
8. FOR OVERHANG FLOORBEAM CONNECTION DETAILS, SEE DWG. NOS. MS-156 THRU MS-158.
9. FOR TIE GIRDER CAMBER, SEE DWG. NO. MS-084.
10. FOR HANDRAIL END CONNECTION DETAIL, SEE DWG. NO. MS-126.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: J. BORUTA DATE: 11/03/2025

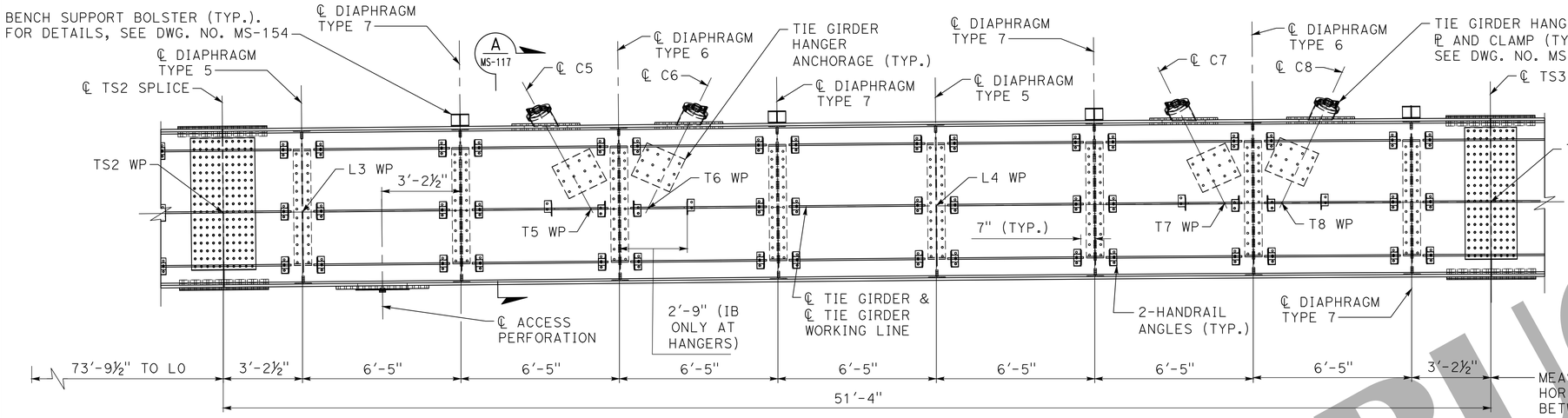
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER TS1 TO TS2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-116
SHT NO.: 436 OF 648

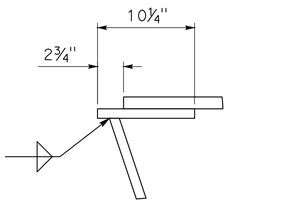
p:\3326.01\CADD\Structural\MS-104 TIE GIRDER TS1 TO TS2.dwg LAST PLOTTED: 11/3/2025 1:50:46 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

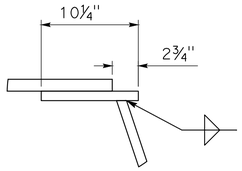


TIE GIRDER ELEVATION - TS2-TS3

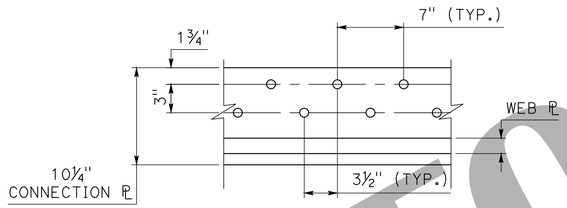
SCALE ⅜" = 1'-0"
(TS2-TS3 SHOWN, TS4-TS5 SIMILAR OPPOSITE HAND)
(BENCH SUPPORT BEAMS NOT SHOWN FOR CLARITY)



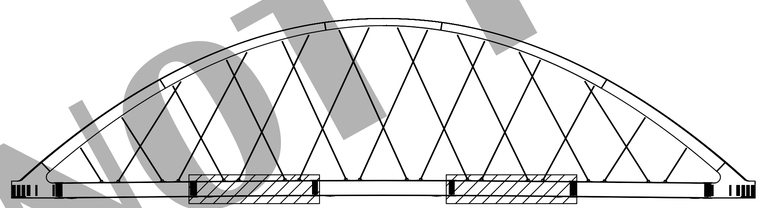
1 MS-117 **DETAIL**
SCALE: 1½" = 1'-0"



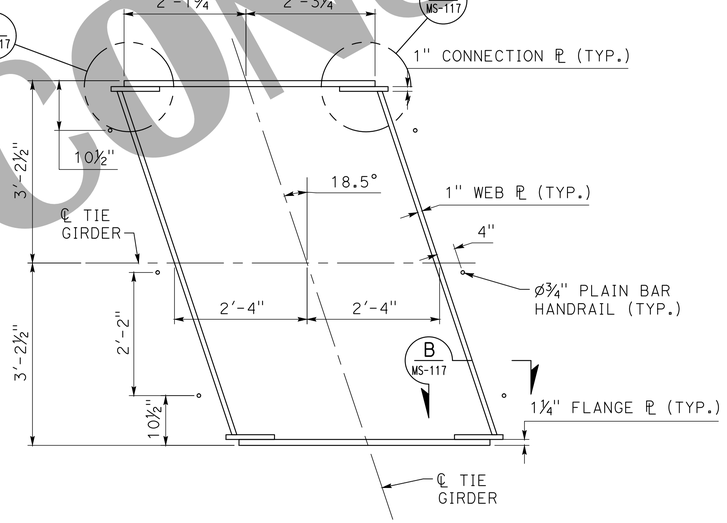
2 MS-117 **DETAIL**
SCALE: 1½" = 1'-0"



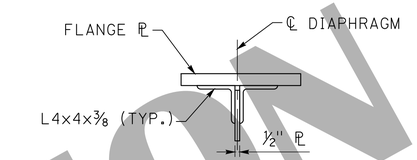
B MS-117 **SECTION**
SCALE: 1½" = 1'-0"



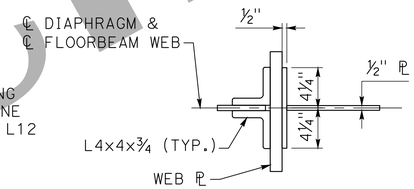
KEY ELEVATION



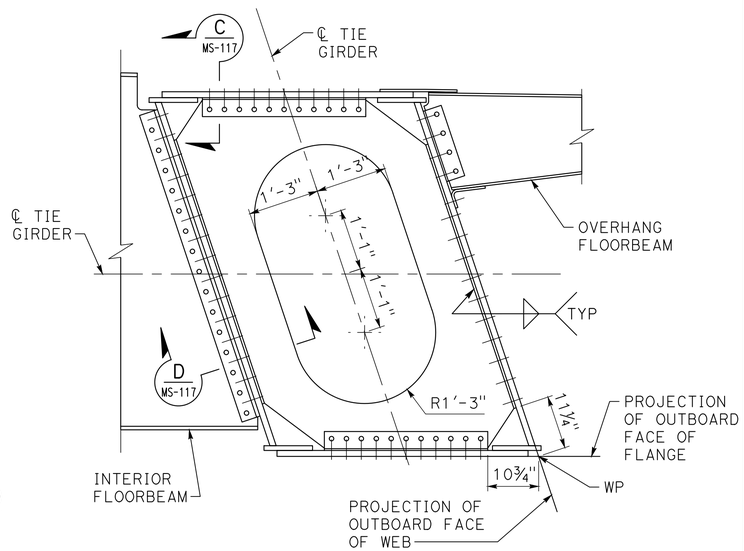
A MS-117 **TYPICAL TS2-TS3 SECTION**
SCALE: ¾" = 1'-0"



C MS-117 **SECTION**
SCALE: 1½" = 1'-0"



D MS-117 **SECTION**
SCALE: 1½" = 1'-0"



TIE GIRDER DIAPHRAGM TYPE 5

SCALE: ¾" = 1'-0"
(AT INTERIOR FLOORBEAM)
(ASTM A709 GR. 50W)

NOTES:

1. FOR TIE GIRDER NOTES, SEE DWG. NO. MS-116.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: J. BORUTA
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

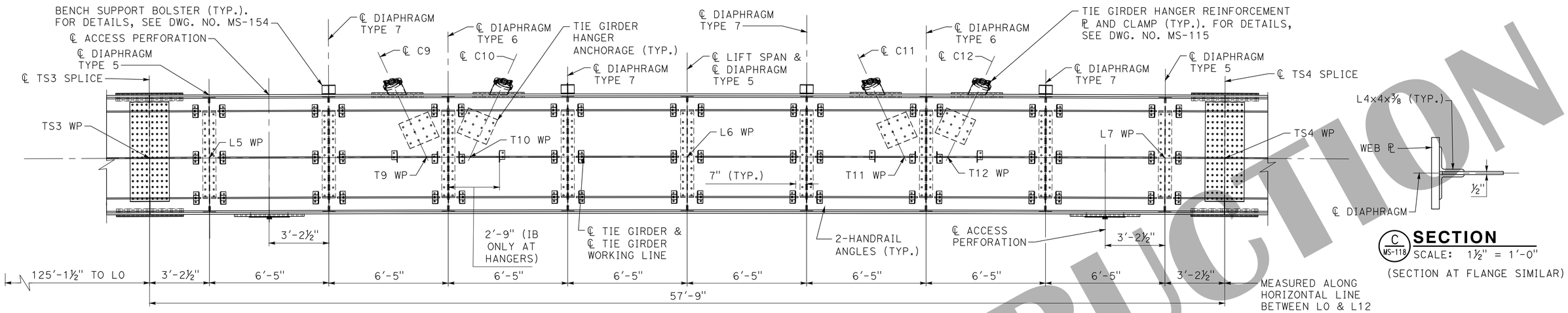
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER TS2 TO TS3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-117
SHT NO.: 437 OF 648

p:\3326.01\CADD\Structural\MS-105 TIE GIRDER TS2 TO TS3.dwg LAST PLOTTED: 11/3/2025 1:50:54 PM

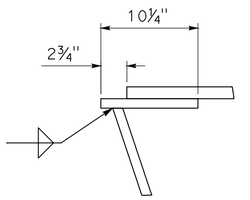
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



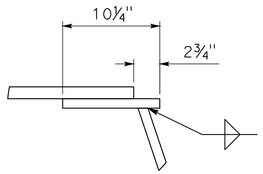
C MS-118 **SECTION**
SCALE: 1½" = 1'-0"
(SECTION AT FLANGE SIMILAR)

TIE GIRDER ELEVATION - TS3-TS4

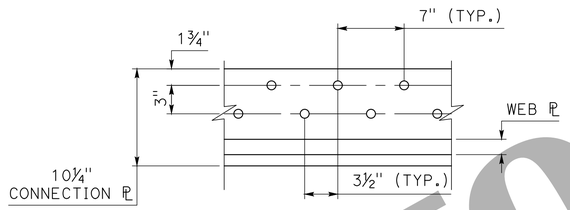
SCALE: ⅜" = 1'-0"
(BENCH SUPPORT BEAMS NOT SHOWN FOR CLARITY)



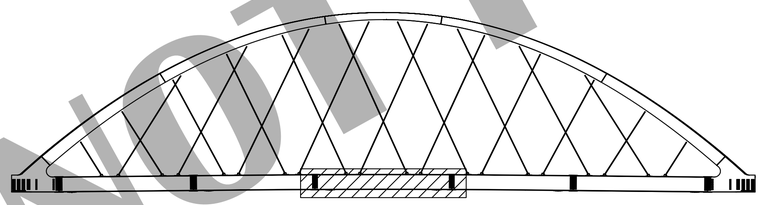
1 MS-118 **DETAIL**
SCALE: 1½" = 1'-0"



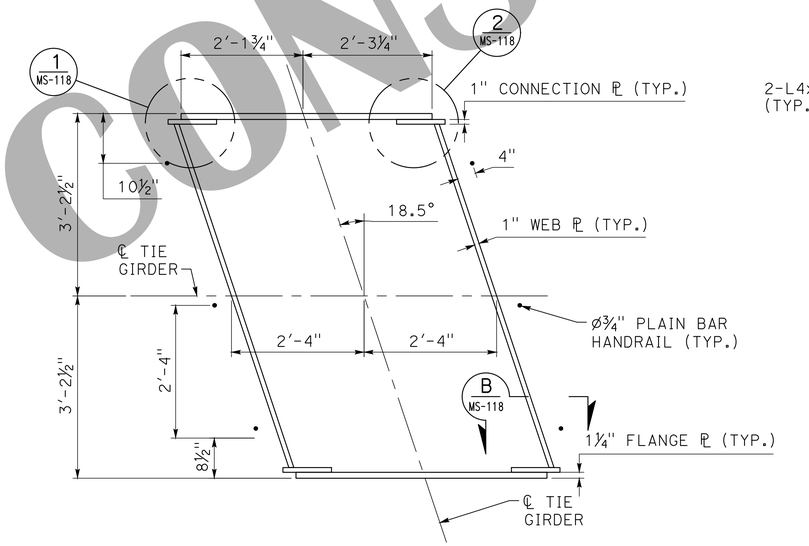
2 MS-118 **DETAIL**
SCALE: 1½" = 1'-0"



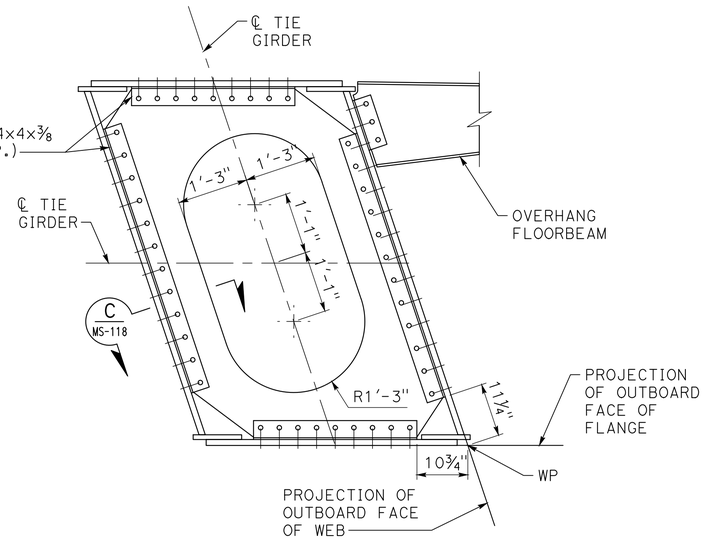
B MS-118 **SECTION**
SCALE: 1½" = 1'-0"



KEY ELEVATION



A MS-118 **TYPICAL TS3-TS4 SECTION**
SCALE: ¾" = 1'-0"



TIE GIRDER DIAPHRAGM TYPE 6

SCALE: ¾" = 1'-0"
(AT HANGERS)
(ASTM A709 GR. 50W)

NOTES:

1. FOR TIE GIRDER NOTES, SEE DWG. NO. MS-116.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: J. BORUTA DATE: 11/03/2025

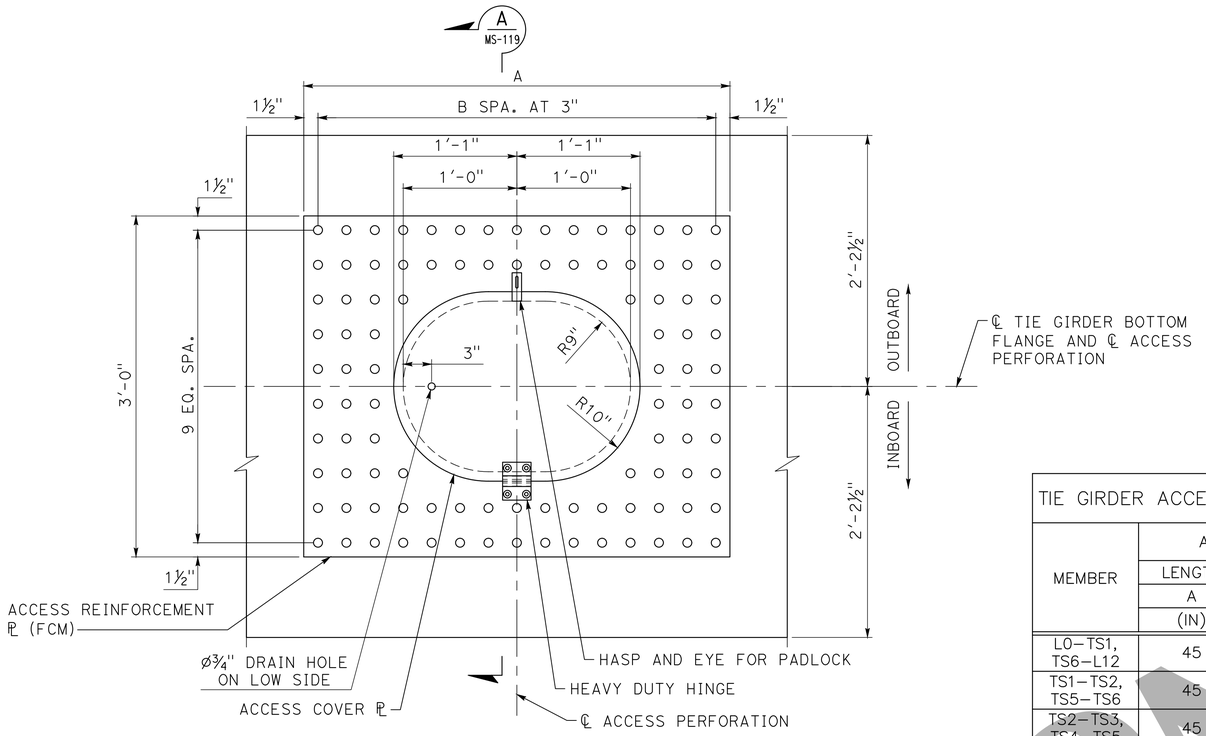
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER TS3 TO TS4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-118
SHT NO.: 438 OF 648

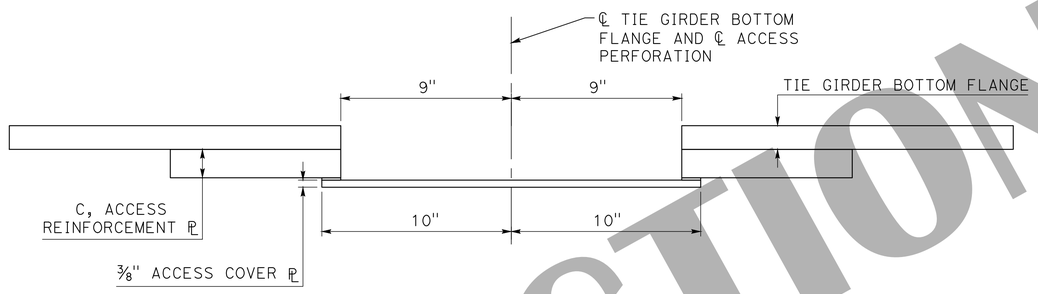
p:\3326.01\CADD\Structural\MS-106 TIE GIRDER TS3 TO TS4.dwg LAST PLOTTED: 11/3/2025 1:51:03 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



TIE GIRDER - BOTTOM FLANGE ACCESS PERFORATION COVER

SCALE: 1½" = 1'-0"
(TS1-TS2 ACCESS PERFORATION SHOWN, OTHERS SIMILAR AS NOTED)



A MS-119 **SECTION**
SCALE: 3" = 1'-0"

TIE GIRDER ACCESS OPENING DIMENSIONS			
MEMBER	ACCESS OPENING PLATE		
	LENGTH	BOLT SPA.	THICKNESS
	A	B	C
	(IN)	(EA)	(IN)
L0–TS1, TS6–L12	45	14	1.25
TS1–TS2, TS5–TS6	45	14	1.25
TS2–TS3, TS4–TS5	45	14	1.25
TS3–TS4	45	14	1.25

NOTES:

1. FOR GENERAL NOTES SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: J. BORUTA DATE: 11/03/2025

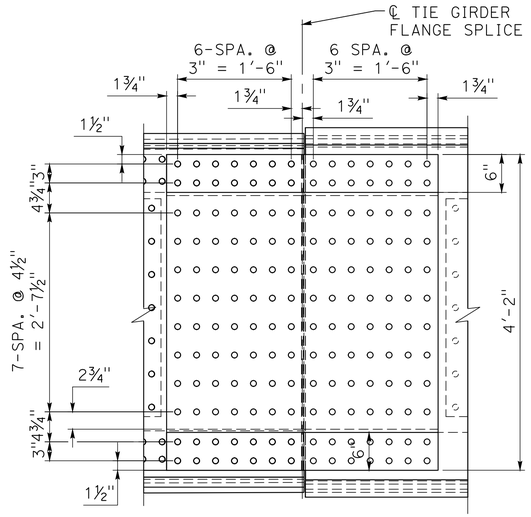
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER DETAILS
(Date: 11/03/2025)

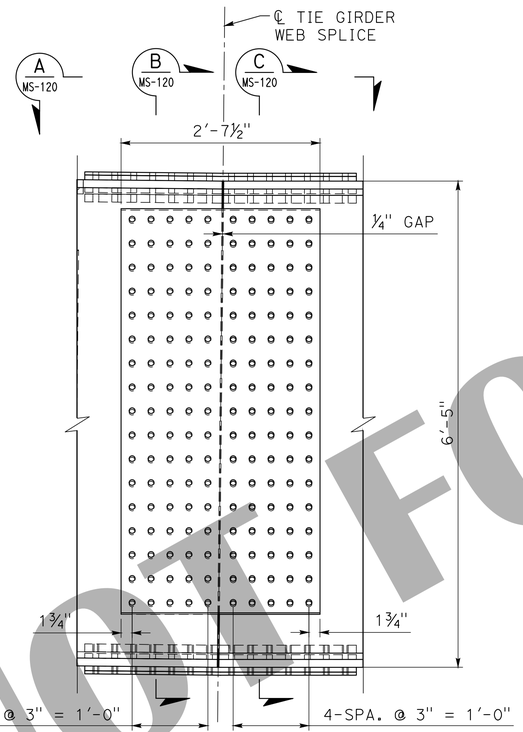
PN: T15136000
DWG NO.: MS-119
SHT NO.: 439 OF 648

p:\3326.01\CADD\Structural\MS-107 TIE GIRDER DETAILS.dwg LAST PLOTTED: 11/3/2025 1:51:11 PM

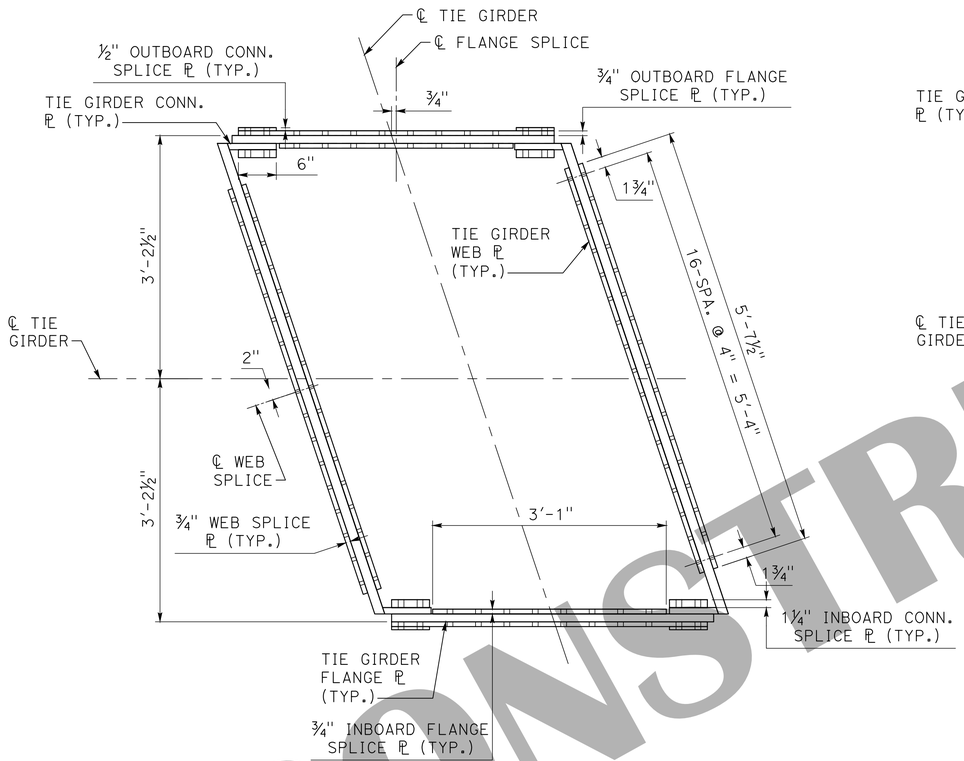
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



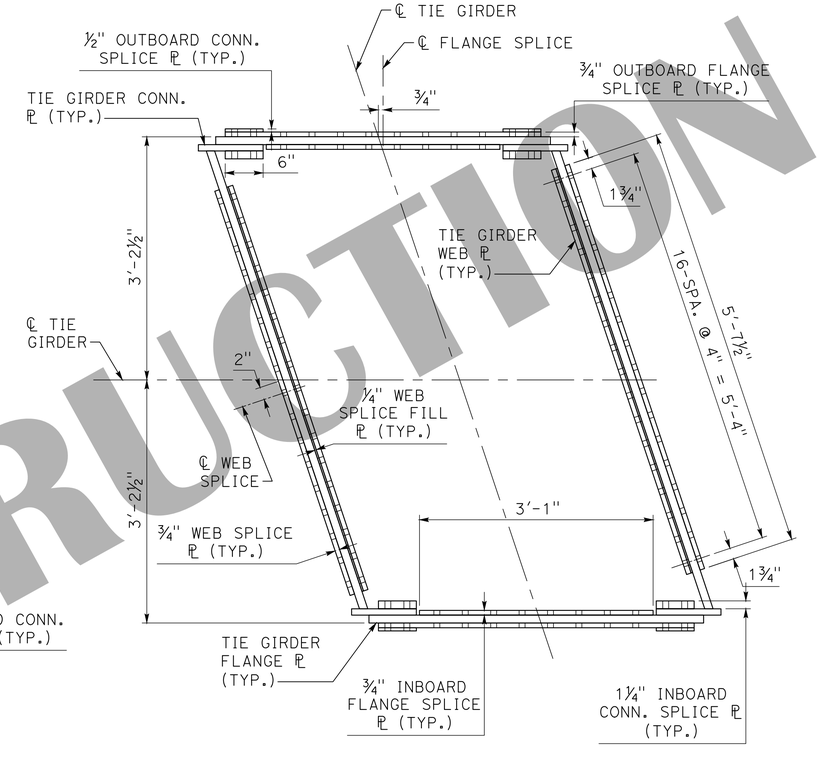
A / MS-120 **VIEW**
SCALE: 1" = 1'-0"



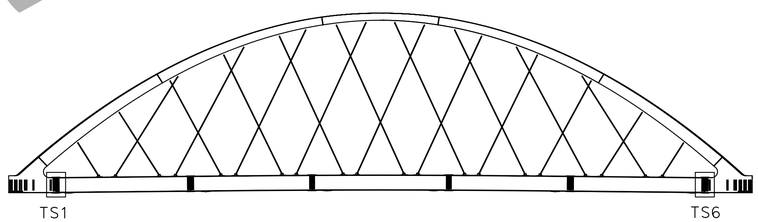
TIE GIRDER WEB SPLICE ELEVATION
SCALE: 1" = 1'-0"
(TS1 SHOWN, TS6 OPPOSITE HAND)
(INBOARD SPLICE PLATES NOT SHOWN FOR CLARITY)



B / MS-120 **SECTION**
SCALE: 1" = 1'-0"



C / MS-120 **SECTION**
SCALE: 1" = 1'-0"



KEY ELEVATION

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR TIE GIRDER ELEVATION AND SPLICE LOCATIONS, SEE DWG. NOS. MS-081 AND MS-082.
3. FOR TIE GIRDER SECTION DETAILS, SEE DWG. NOS. MS-116 THRU MS-118.
4. PROVIDE WATERTIGHT SEALANT COMPATIBLE WITH STEEL COMPONENTS, AS APPROVED BY THE ENGINEER. APPLY SEALANT PER MANUFACTURER'S RECOMMENDATIONS TO ALL SPLICE GAPS NOT COVERED BY THE SPLICE PLATES.
5. SEALANT, TOOLS, LABOR AND INCIDENTAL MATERIALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR STRUCTURAL STEEL.
6. ALL STEEL PLATES DETAILED ON THIS DRAWING ARE FCM.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

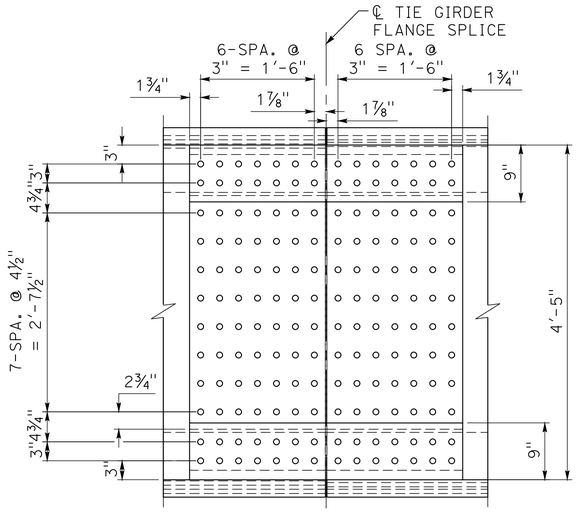
DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

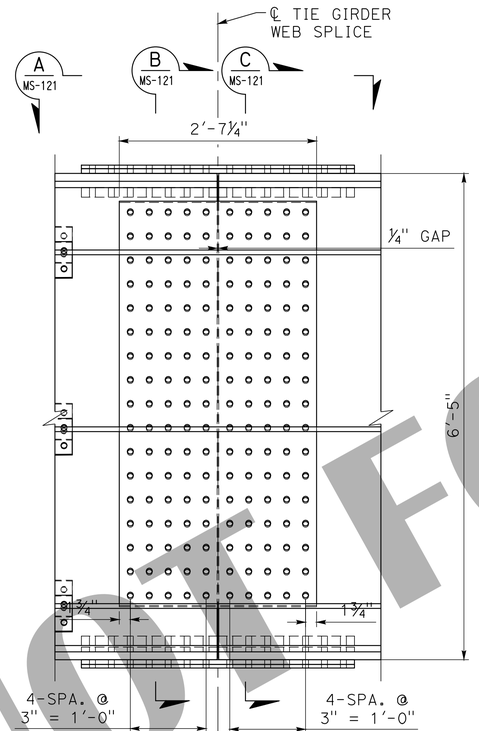
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER SPLICE TS1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-120
SHT NO.: 440 OF 648

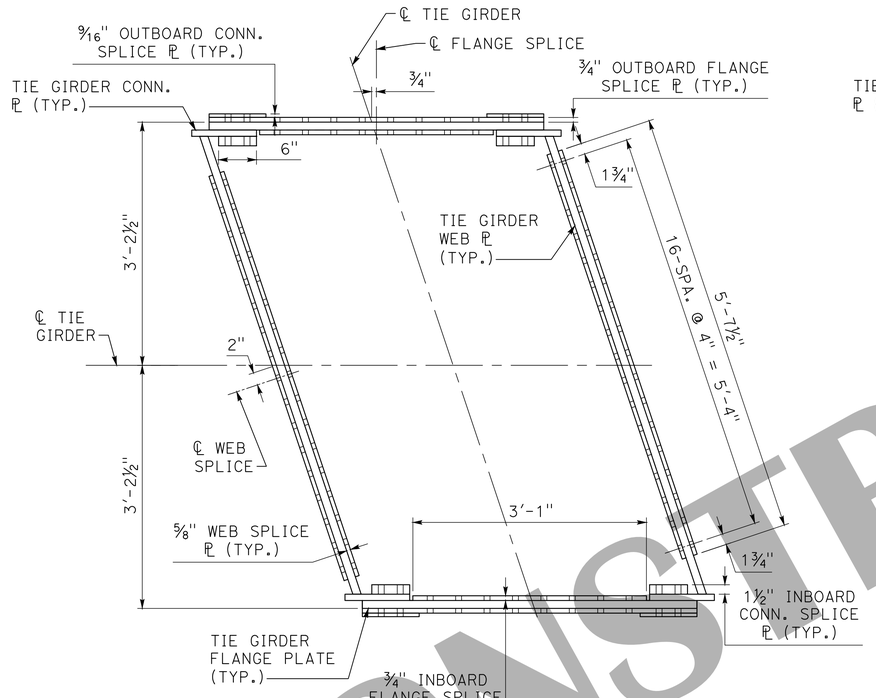
p:\3326.01\CADD\Structural\MS-108 TIE GIRDER SPLICE TS1.dwg LAST PLOTTED: 11/3/2025 1:51:22 PM
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



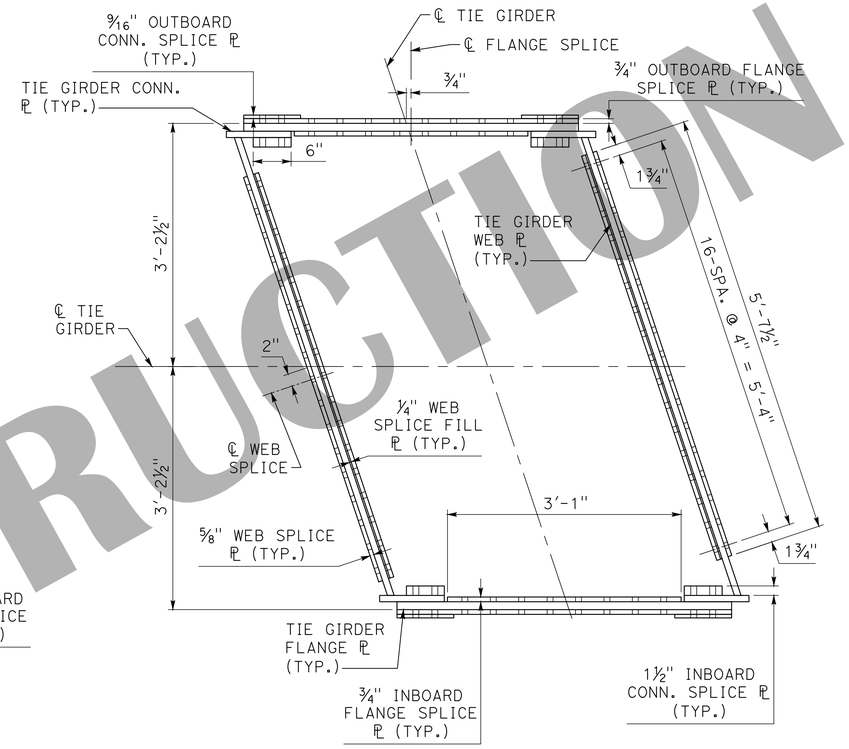
A MS-121 **VIEW**
SCALE: 1" = 1'-0"



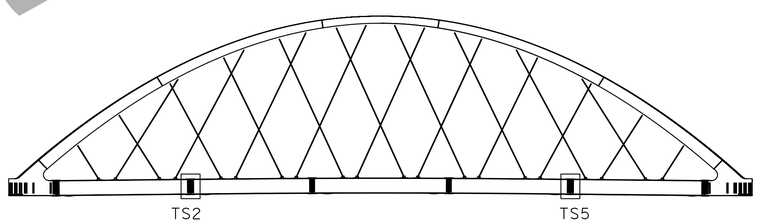
TIE GIRDER WEB SPLICE ELEVATION
SCALE: 1" = 1'-0"
(TS2 SHOWN, TS5 OPPOSITE HAND)
(INBOARD SPLICE PLATES NOT SHOWN FOR CLARITY)



B MS-121 **SECTION**
SCALE: 1" = 1'-0"



C MS-121 **SECTION**
SCALE: 1" = 1'-0"



KEY ELEVATION

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR TIE GIRDER ELEVATION AND SPLICE LOCATIONS, SEE DWG. NOS. MS-081 AND MS-082.
3. FOR TIE GIRDER SECTION DETAILS, SEE DWG. NOS. MS-116 THRU MS-118.
4. PROVIDE WATERTIGHT SEALANT COMPATIBLE WITH STEEL COMPONENTS, AS APPROVED BY THE ENGINEER. APPLY SEALANT PER MANUFACTURER'S RECOMMENDATIONS TO ALL SPLICE GAPS NOT COVERED BY THE SPLICE PLATES.
5. SEALANT, TOOLS, LABOR AND INCIDENTAL MATERIALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR STRUCTURAL STEEL.
6. ALL STEEL PLATES DETAILED ON THIS DRAWING ARE FCM.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Structural\MS-109 TIE GIRDER SPLICE TS2.dwg LAST PLOTTED: 11/3/2025 1:51:34 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

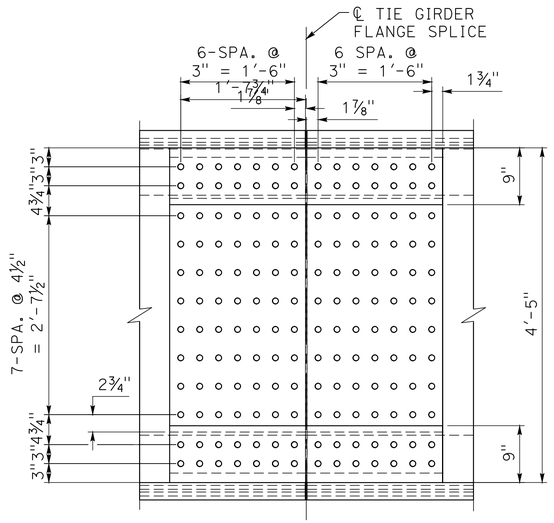
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

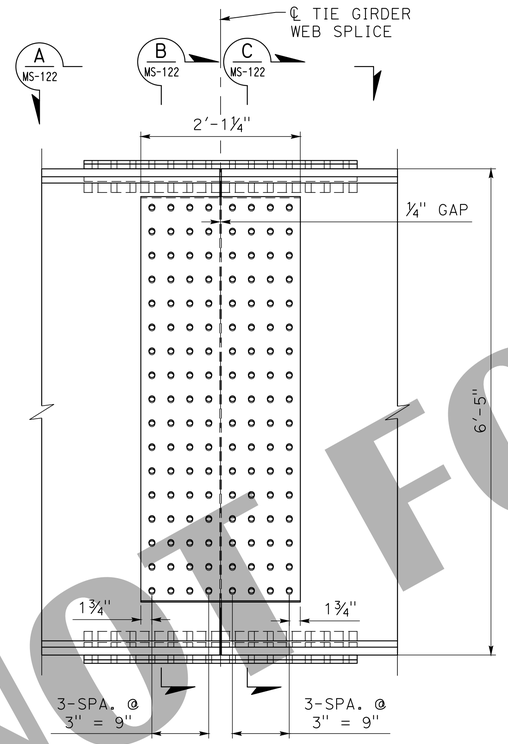
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER SPLICE TS2
(Date: 11/03/2025)

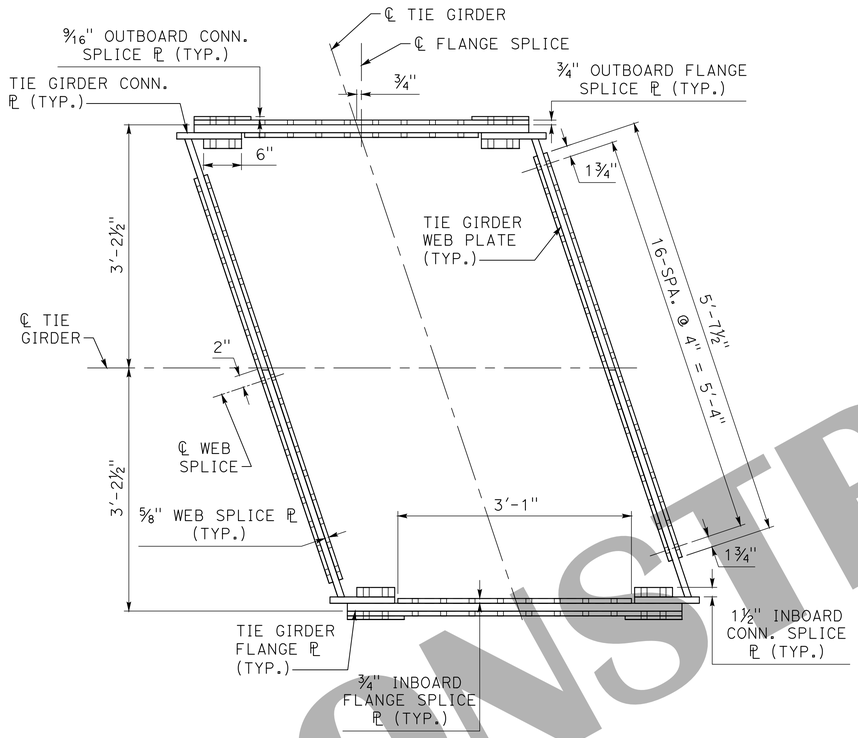
PN: T15136000
DWG NO.: MS-121
SHT NO.: 441 OF 648



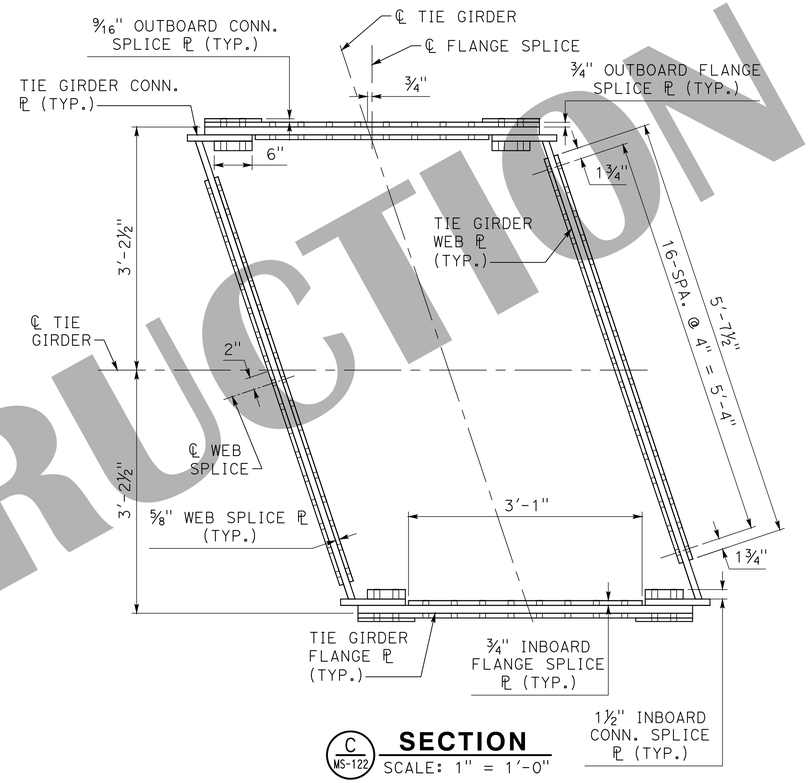
A MS-122 **VIEW**
SCALE: 1" = 1'-0"



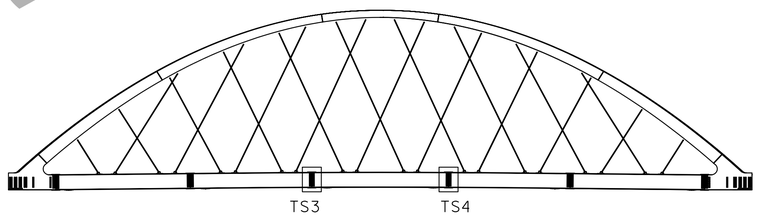
TIE GIRDER WEB SPLICE ELEVATION
SCALE: 1" = 1'-0"
(TS3 SHOWN, TS4 OPPOSITE HAND)
(INBOARD SPLICE PLATES NOT SHOWN FOR CLARITY)



B MS-122 **SECTION**
SCALE: 1" = 1'-0"



C MS-122 **SECTION**
SCALE: 1" = 1'-0"



KEY ELEVATION

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR TIE GIRDER ELEVATION AND SPLICE LOCATIONS, SEE DWG. NOS. MS-081 AND MS-082.
3. FOR TIE GIRDER SECTION DETAILS, SEE DWG. NOS. MS-116 THRU MS-118.
4. PROVIDE WATERTIGHT SEALANT COMPATIBLE WITH STEEL COMPONENTS, AS APPROVED BY THE ENGINEER. APPLY SEALANT PER MANUFACTURER'S RECOMMENDATIONS TO ALL SPLICE GAPS NOT COVERED BY THE SPLICE PLATES.
5. SEALANT, TOOLS, LABOR AND INCIDENTAL MATERIALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR STRUCTURAL STEEL.
6. ALL STEEL PLATES DETAILED ON THIS DRAWING ARE FCM.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

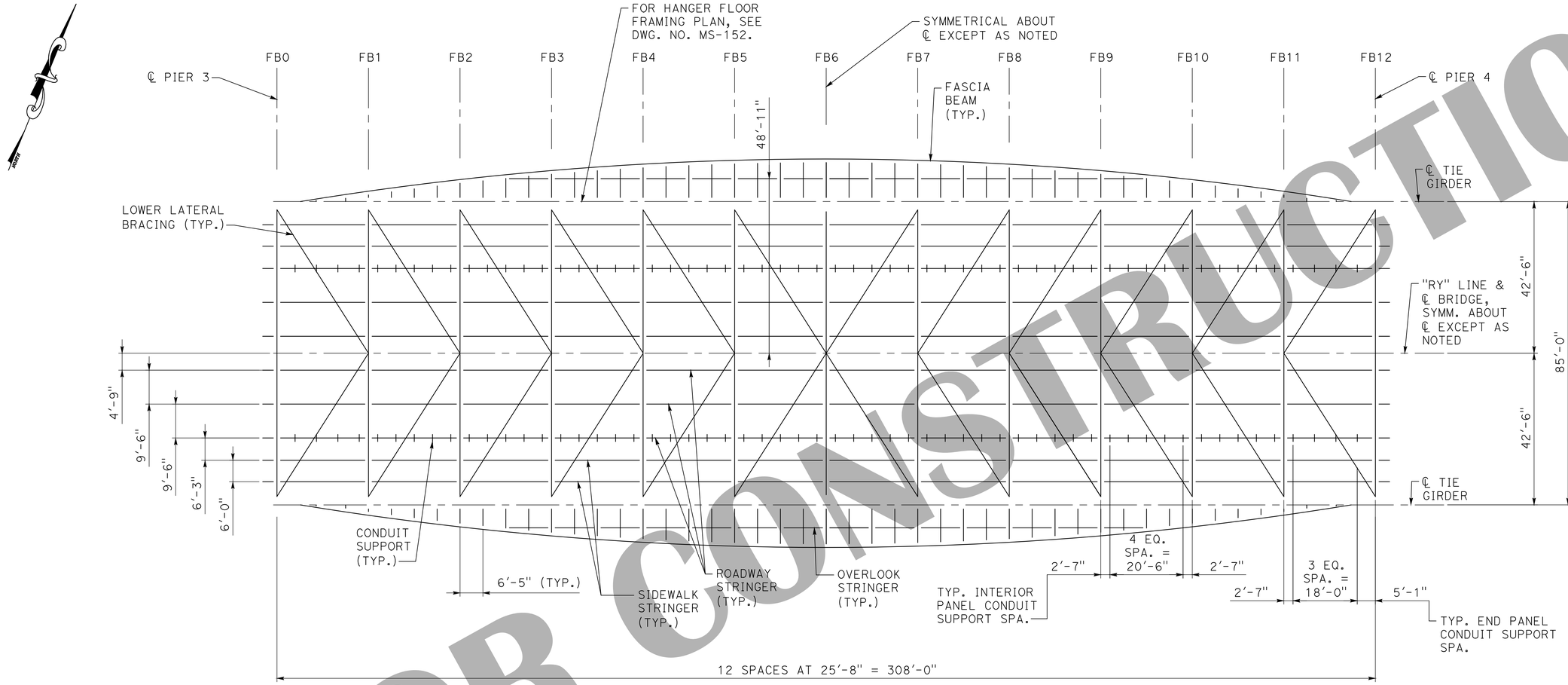
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TIE GIRDER SPLICE TS3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-122
SHT NO.: 442 OF 648

p:\3326.01\CADD\Structural\MS-110 TIE GIRDER SPLICE TS3.dwg LAST PLOTTED: 11/3/2025 1:51:46 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



LIFT SPAN FRAMING PLAN

SCALE: 1/16" = 1'-0"

CONSTRUCTION
NOT FOR

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR TYPICAL SECTIONS, SEE DWG. NO. MS-079.

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

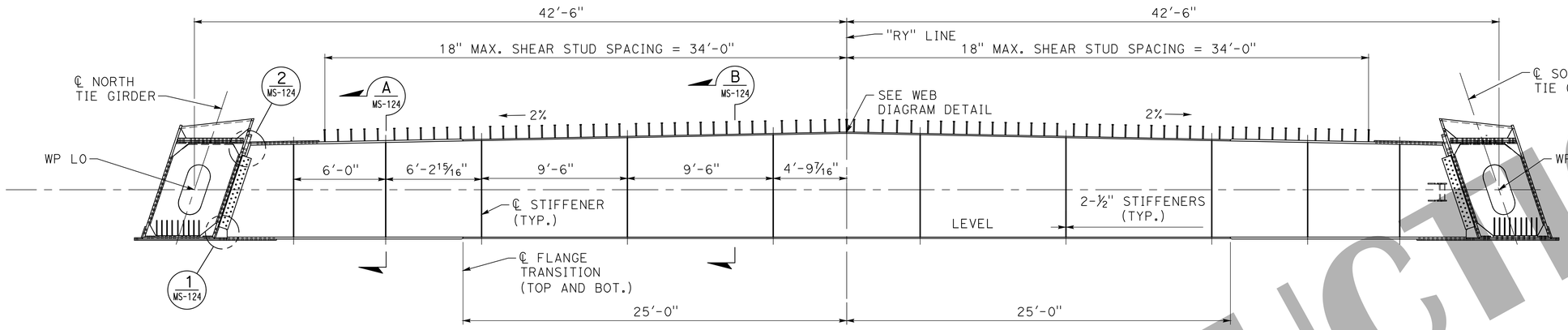
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN FRAMING PLAN
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-123
SHT NO.: 443 OF 648

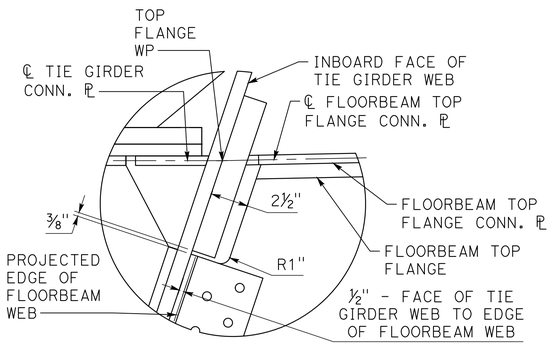
p:\3326.01\CADD\Structural\MS-111 LIFT SPAN FRAMING PLAN.dwg LAST PLOTTED: 11/3/2025 1:51:55 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

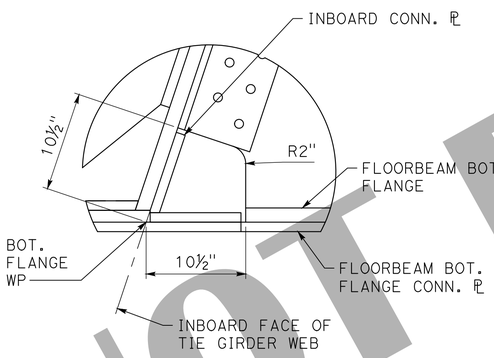


END FLOORBEAM ELEVATION

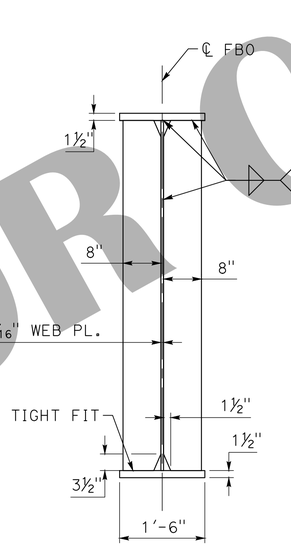
SCALE: ¼" = 1'-0"
(LOOKING AHEAD STATION)
(FBO SHOWN, FB12 SIMILAR)



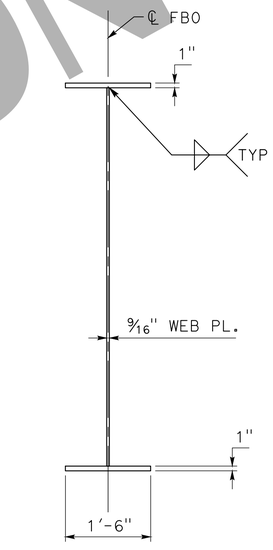
2 MS-124 **DETAIL**
SCALE: 1½" = 1'-0"



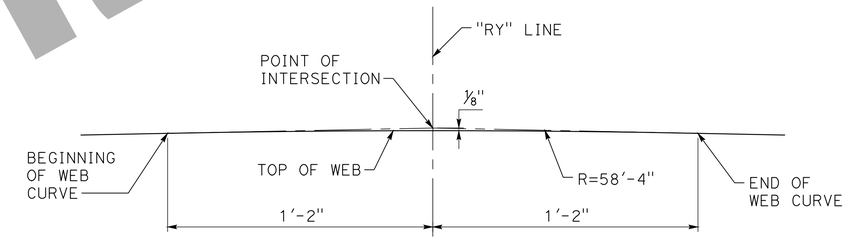
1 MS-124 **DETAIL**
SCALE: 1½" = 1'-0"



A MS-124 **SECTION**
SCALE: ¾" = 1'-0"

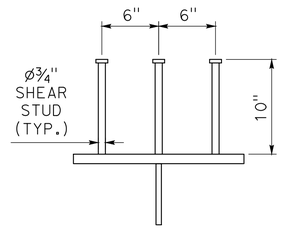


B MS-124 **SECTION**
SCALE: ¾" = 1'-0"



WEB DIAGRAM

NOT TO SCALE



SHEAR STUD DETAIL

SCALE: ¾" = 1'-0"

NOTES:

1. FOR FRAMING PLAN, SEE DWG. NO. MS-123.
2. FOR STRINGER CONNECTION DETAILS, SEE DWG. NOS. MS-128 THRU MS-129.
3. FOR FLOORBEAM TO TIE GIRDER CONNECTION DETAIL, SEE DWG. NO. MS-125.
4. FOR FLANGE THICKNESS TRANSITION DETAIL, SEE DWG. NO. MS-126.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: M. NIFONG DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

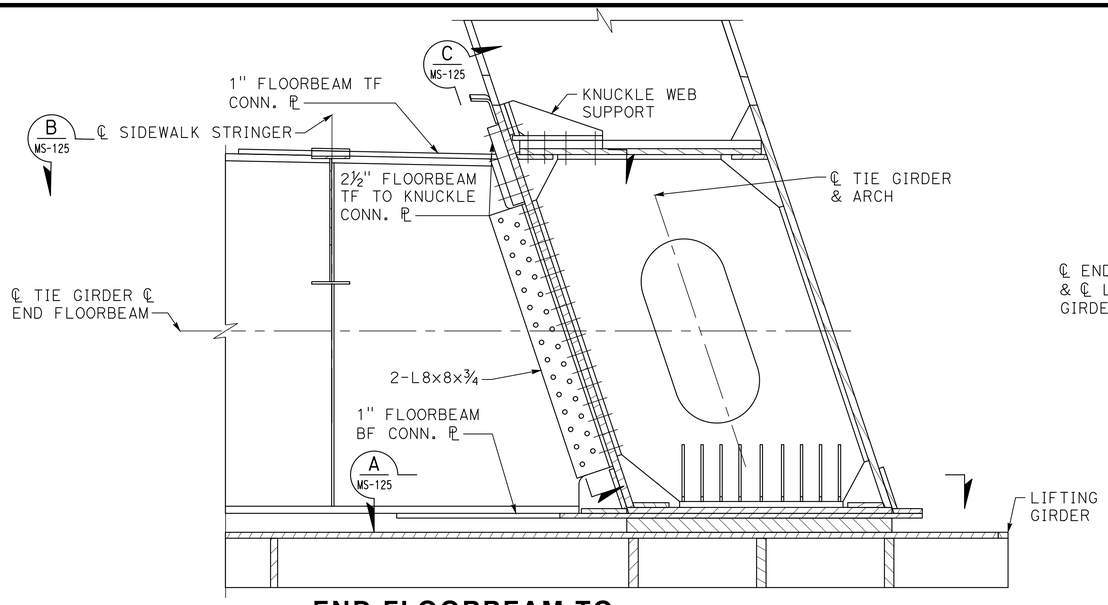
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
END FLOORBEAM DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-124
SHT NO.: 444 OF 648

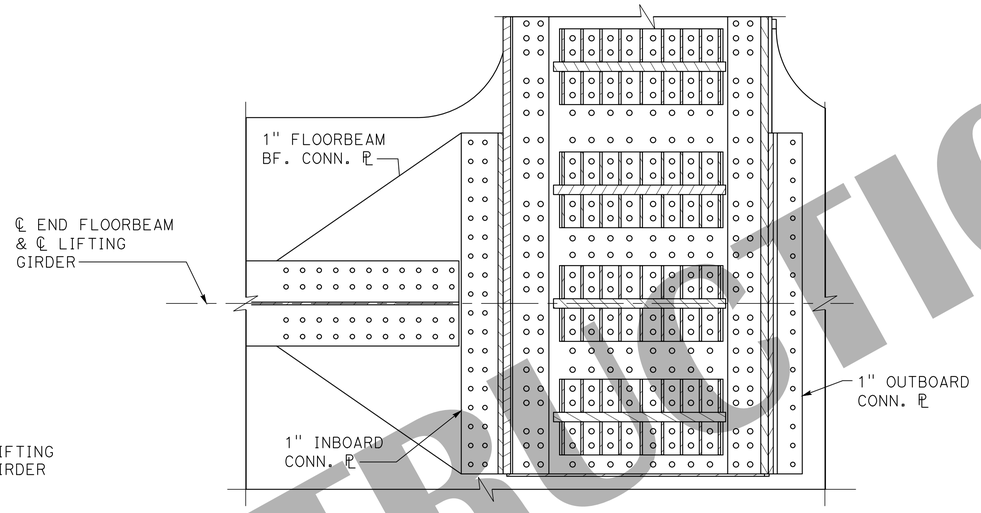
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-112 END FLOORBEAM DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:52:04 PM



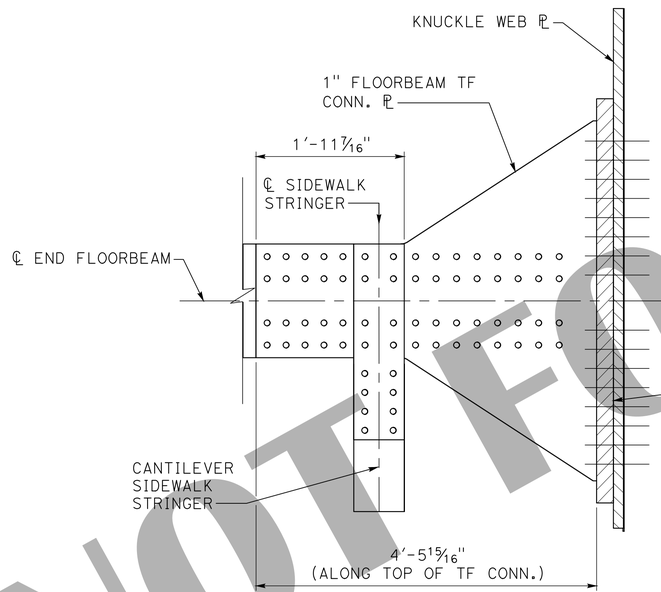
END FLOORBEAM TO TIE GIRDER CONNECTION DETAIL

SCALE: ¾" = 1'-0"



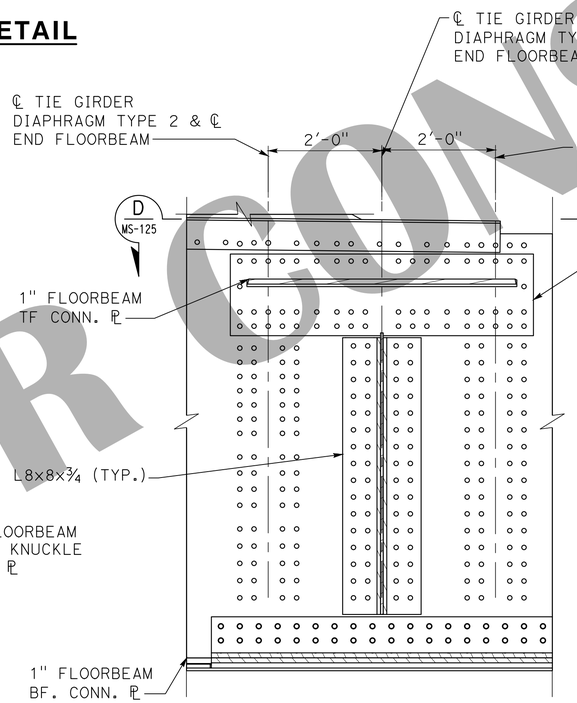
A MS-125 **SECTION**

SCALE: ¾" = 1'-0"



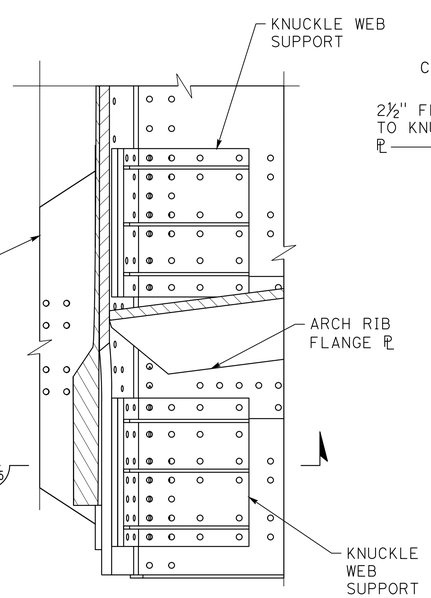
B MS-125 **SECTION**

SCALE: 1" = 1'-0"



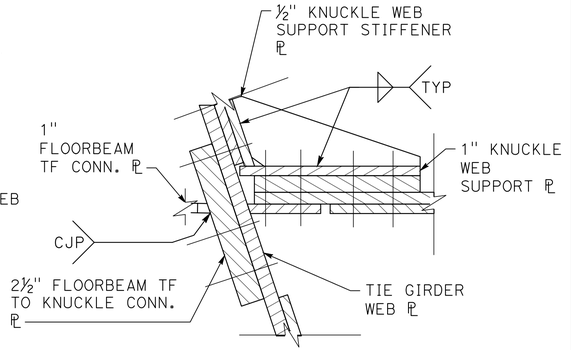
C MS-125 **SECTION**

SCALE: ¾" = 1'-0"



D MS-125 **SECTION**

SCALE: 1" = 1'-0"



E MS-125 **SECTION**

SCALE: 1½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR ADDITIONAL KNUCKLE DETAILS, SEE DWG. NOS, MS-094 THRU MS-098.
3. ALL BOLTS SHOWN ON THIS DRAWING ARE Ø1" A325 UNLESS NOTED OTHERWISE.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: M. NIFONG DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

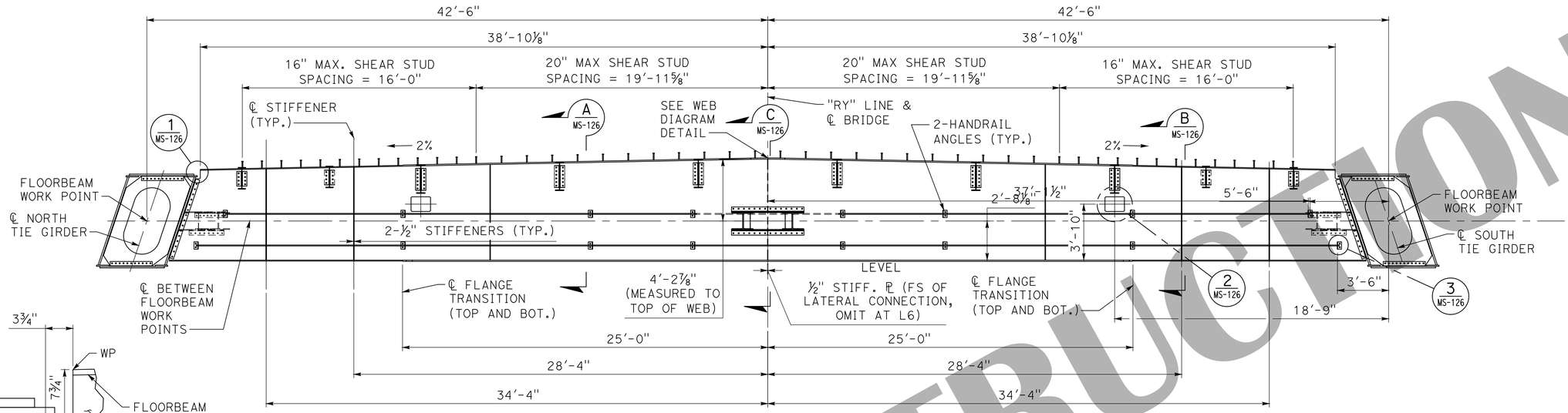
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
END FLOORBEAM DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-125
SHT NO.: 445 OF 648

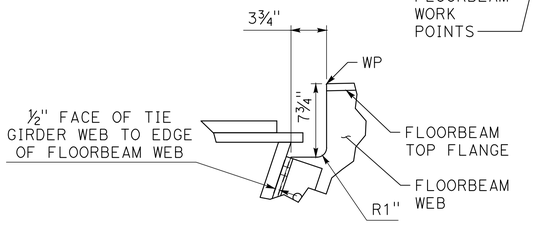
p:\3326.01\CADD\Structural\MS-113 END FLOORBEAM DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:52:09 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



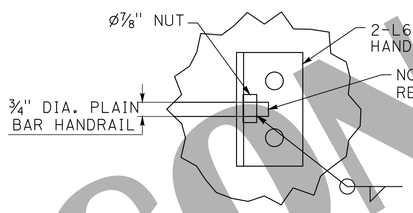
TYPICAL INTERIOR FLOORBEAM ELEVATION

SCALE: ¼" = 1'-0"
(LOOKING AHEAD STATION)



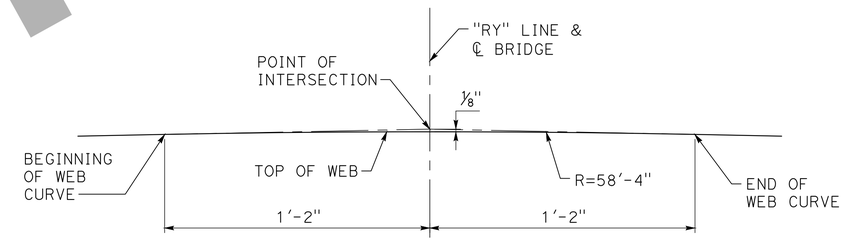
1/MS-126 DETAIL

SCALE: 1½" = 1'-0"



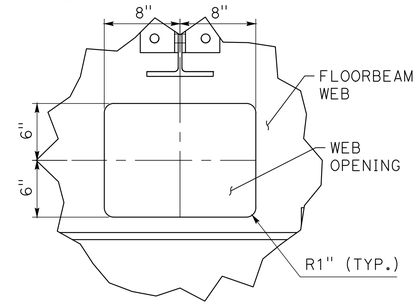
3/MS-126 HANDRAIL END CONNECTION

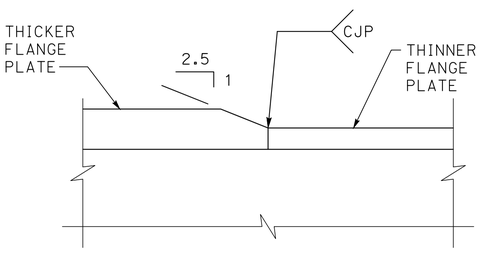
SCALE: 1½" = 1'-0"



WEB DIAGRAM

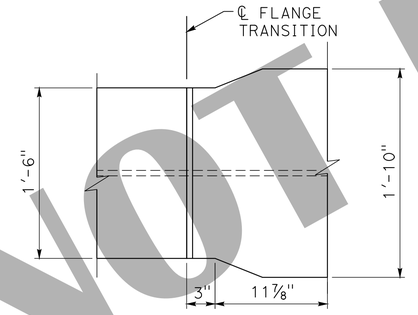
NOT TO SCALE





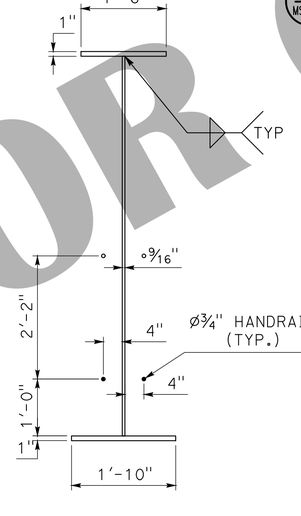
FLANGE THICKNESS TRANSITION DETAIL

NOT TO SCALE



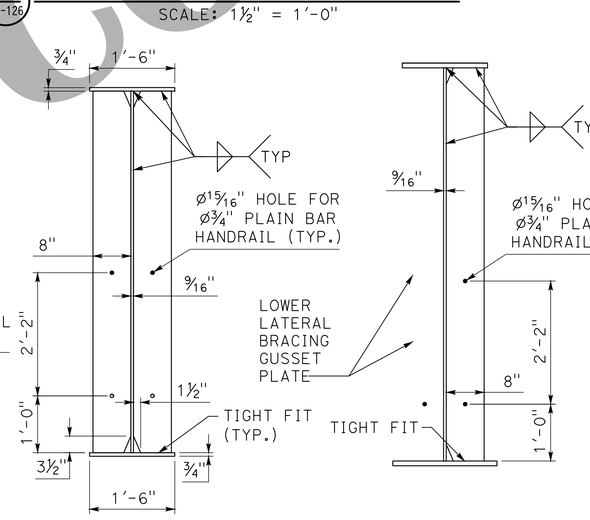
FLANGE WIDTH TRANSITION DETAIL

NOT TO SCALE



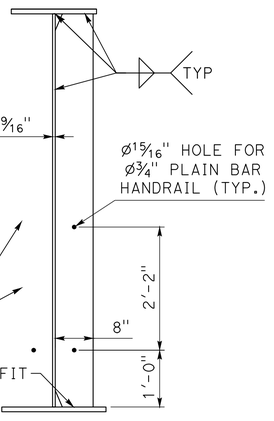
A/MS-126 SECTION

SCALE: ¾" = 1'-0"



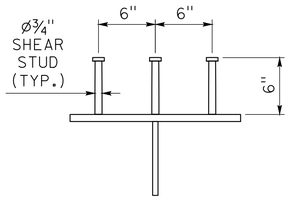
B/MS-126 SECTION

SCALE: ¾" = 1'-0"



C/MS-126 SECTION

SCALE: ¾" = 1'-0"



SHEAR STUD DETAIL

SCALE: 1½" = 1'-0"

2/MS-126 WEB OPENING DETAIL

SCALE: 1½" = 1'-0"

NOTES:

1. FOR FRAMING PLAN, SEE DWG. NO. MS-123.
2. FOR STRINGER CONNECTION DETAILS, SEE DWG. NOS. MS-128 THRU MS-129.
3. FOR FLOORBEAM TO TIE GIRDER CONNECTION DETAIL, SEE DWG. NO. MS-117.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: M. NIFONG	CHECKED BY: A. SHAW
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERIOR FLOORBEAM DETAILS
(Date: 11/03/2025)

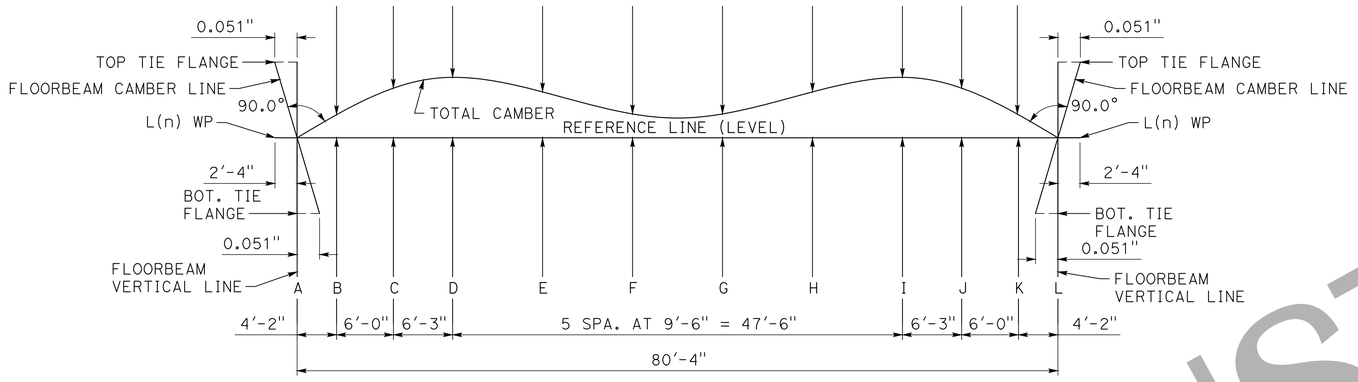
PN: T15136000

DWG NO.: MS-126
SHT NO.: 446 OF 648

p:\3326.01\CADD\Structural\MS-114 INTERIOR FLOORBEAM DETAILS.dwg LAST PLOTTED: 11/3/2025 1:52:17 PM

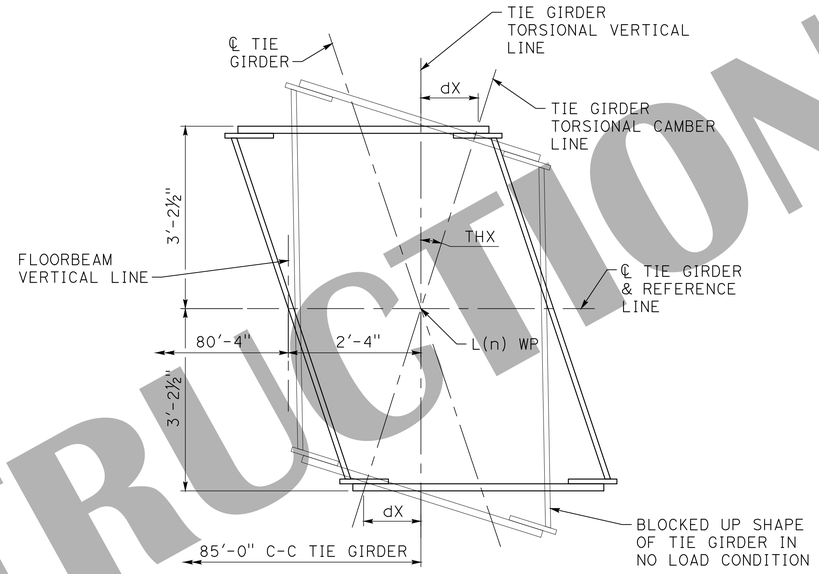
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

FB0 & FB12												
ITEM	A	B	C	D	E	F	G	H	I	J	K	L
DEAD LOAD STEEL	0.000	0.047	0.116	0.185	0.268	0.312	0.312	0.268	0.185	0.116	0.047	0.000
DEAD LOAD SLAB	0.000	0.004	0.014	0.026	0.043	0.053	0.053	0.043	0.026	0.014	0.004	0.000
DEAD LOAD BARRIER	0.000	0.001	0.004	0.007	0.009	0.009	0.009	0.009	0.007	0.004	0.001	0.000
TOTAL DEAD LOAD	0.000	0.053	0.135	0.218	0.319	0.374	0.374	0.319	0.218	0.135	0.053	0.000



END FLOORBEAM, FB0 & FB12 CAMBER

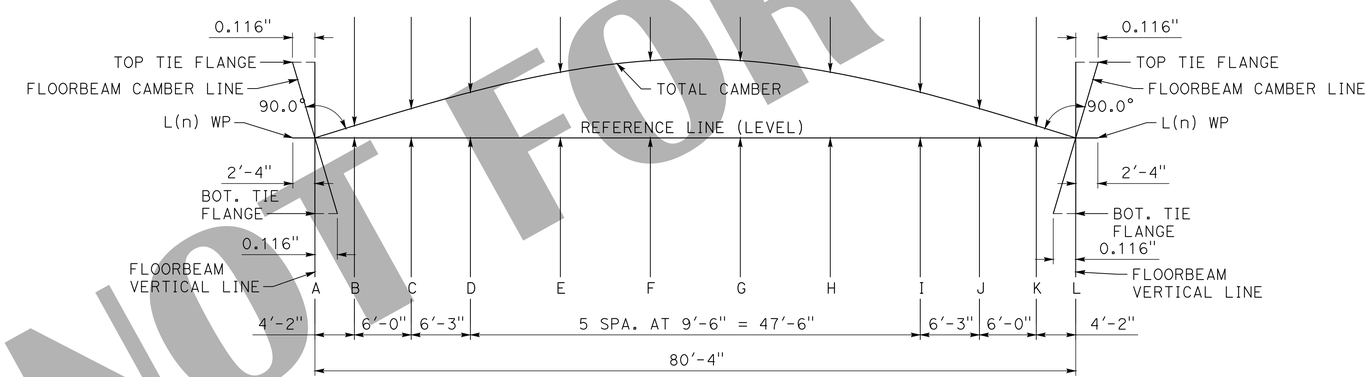
UNITS ARE IN INCHES, + INDICATES UPWARD CAMBER
(LOOKING AHEAD STATION



TIE GIRDER ROTATION CAMBER DETAIL

(LOOKING AHEAD STATION, SOUTH TIE GIRDER SHOWN, NORTH OPPOSITE HAND)

FB1 – FB11												
ITEM	A	B	C	D	E	F	G	H	I	J	K	L
DEAD LOAD STEEL & SLAB	0.000	0.127	0.298	0.449	0.617	0.704	0.704	0.617	0.449	0.298	0.127	0.000
DEAD LOAD BARRIER	0.000	0.014	0.033	0.049	0.063	0.070	0.070	0.063	0.049	0.033	0.014	0.000
TOTAL DEAD LOAD	0.000	0.141	0.331	0.498	0.681	0.774	0.774	0.681	0.498	0.331	0.141	0.000



INTERIOR FLOORBEAM, FB1 - FB11 CAMBER

UNITS ARE IN INCHES, + INDICATES UPWARD CAMBER
(LOOKING AHEAD STATION

TIE GIRDER TORSIONAL CAMBER		
WORK POINT	THX (DEG)	dX (IN)
L0	0.197	0.133
L1	0.197	0.132
L2	0.196	0.131
L3	0.196	0.131
L4	0.198	0.133
L5	0.199	0.134
L6	0.200	0.134
L7	0.199	0.133
L8	0.197	0.132
L9	0.195	0.131
L10	0.195	0.131
L11	0.196	0.132
L12	0.198	0.133

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR FRAMING PLAN, SEE DWG. NO. MS-123.
3. FOR END FLOORBEAM DETAILS, SEE DWG. NOS. MS-124 & MS-125.
4. FOR INTERIOR FLOORBEAM DETAILS, SEE DWG. NO. MS-126.
5. CONTRACTOR SHALL SUBMIT BLOCKING OR JACKING SCHEME TO MAKE FLOORBEAM END TO TIE GIRDER CONNECTION FOR APPROVAL BY THE ENGINEER.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: M. NIFONG DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

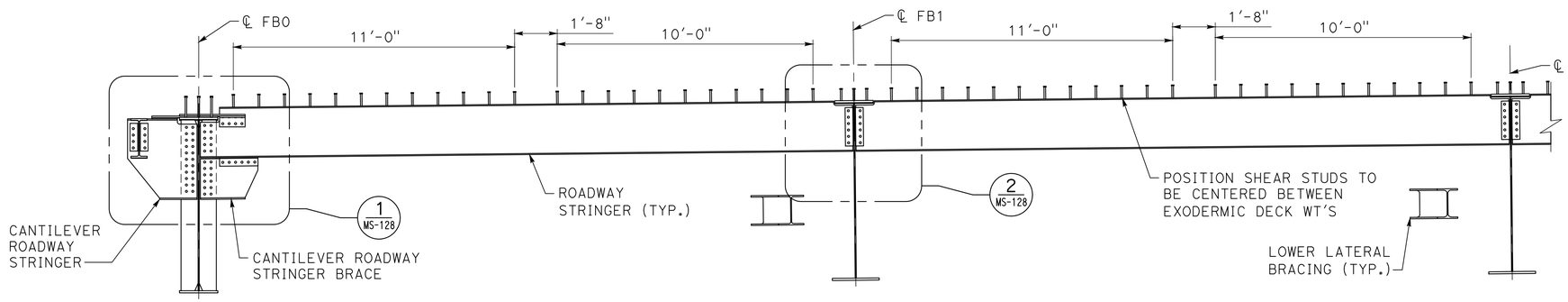
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
FLOORBEAM CAMBER
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-127
SHT NO.: 447 OF 648

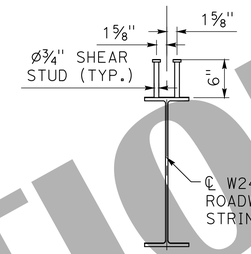
p:\3326.01\CADD\Structural\MS-115 FLOORBEAM CAMBER.dwg LAST PLOTTED: 11/3/2025 1:52:23 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



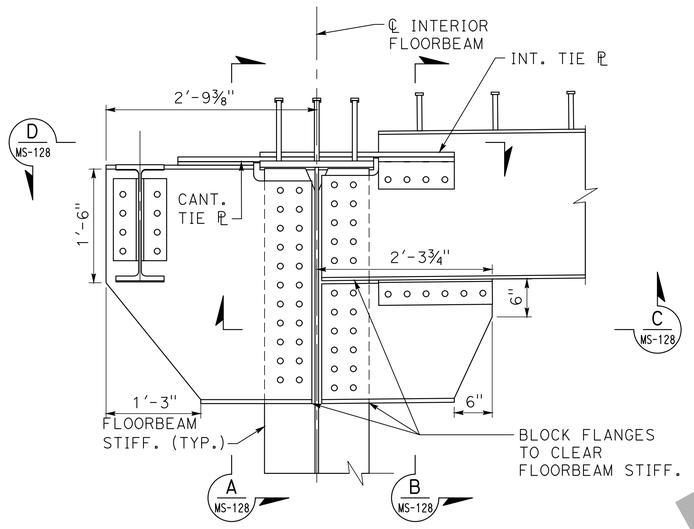
ELEVATION - ROADWAY STRINGER

SCALE: 3/8" = 1'-0"
(DECK AND JOINT NOT SHOWN FOR CLARITY)
(TYPICAL END PANEL AND INTERIOR PANEL SHOWN, OTHER LOCATIONS SIMILAR)



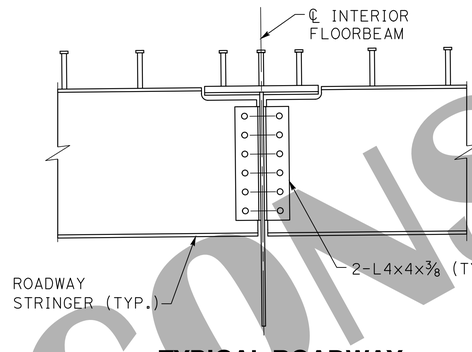
ROADWAY STRINGER TYPICAL SECTION

SCALE: 1" = 1'-0"



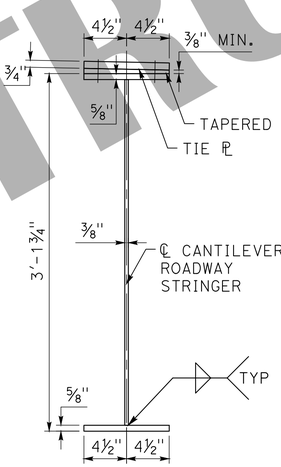
1 MS-128 END FLOORBEAM ROADWAY STRINGER CONNECTION

SCALE: 1" = 1'-0"



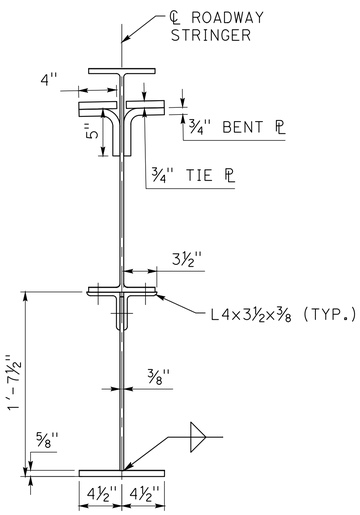
2 MS-128 TYPICAL ROADWAY STRINGER CONNECTION

SCALE: 1" = 1'-0"



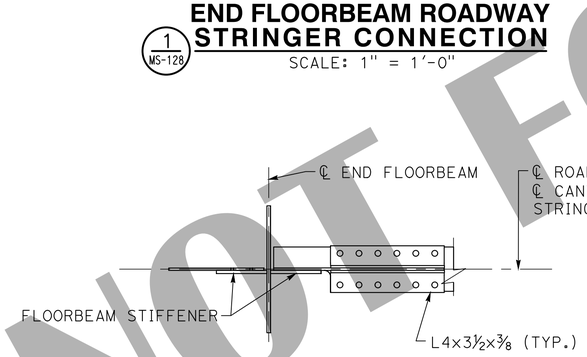
A MS-128 SECTION

SCALE: 1½" = 1'-0"



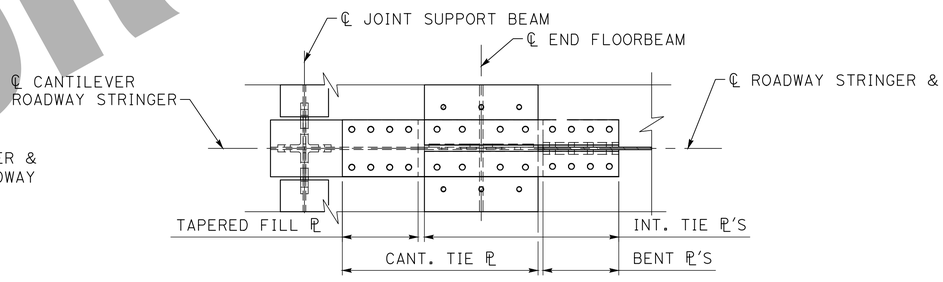
B MS-128 SECTION

SCALE: 1½" = 1'-0"



C MS-128 SECTION

SCALE: 1" = 1'-0"



D MS-128 SECTION

SCALE: 1" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: D. KO
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

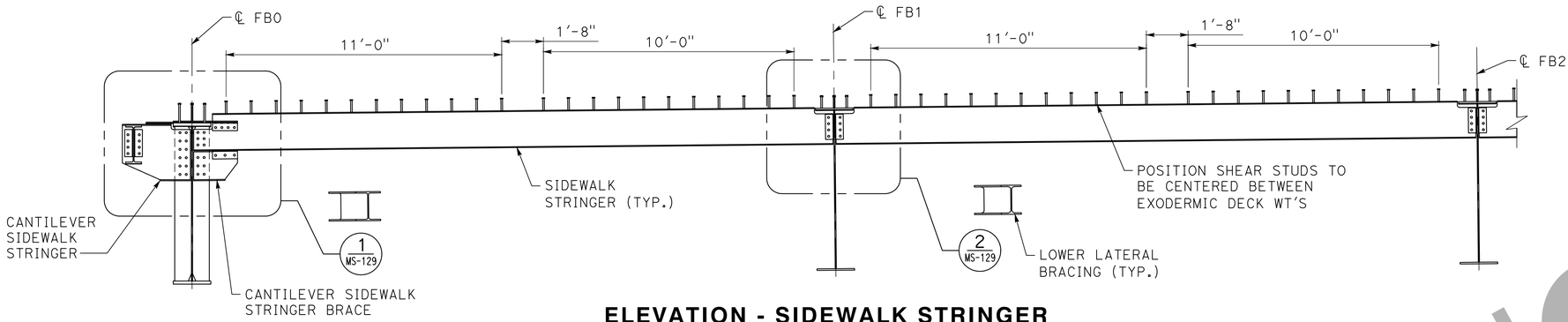
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
STRINGER DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-128
SHT NO.: 448 OF 648

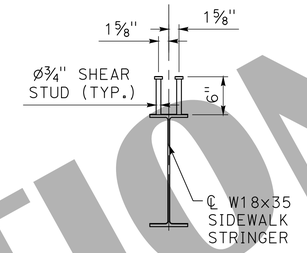
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-116 STRINGER DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:52:30 PM



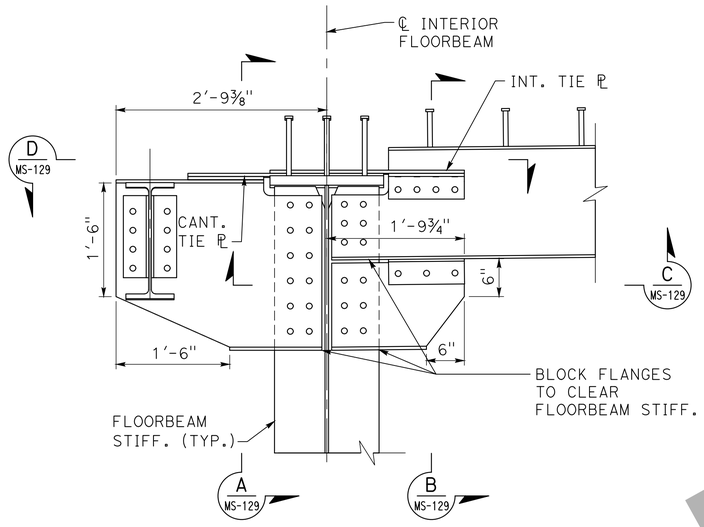
ELEVATION - SIDEWALK STRINGER

SCALE: ⅜" = 1′-0"
(DECK AND JOINT NOT SHOWN FOR CLARITY)
(TYPICAL END PANEL AND INTERIOR PANEL SHOWN, OTHER LOCATIONS SIMILAR)



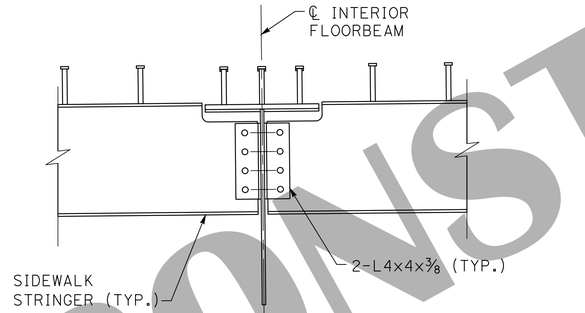
SIDEWALK STRINGER TYPICAL SECTION

SCALE: 1" = 1′-0"



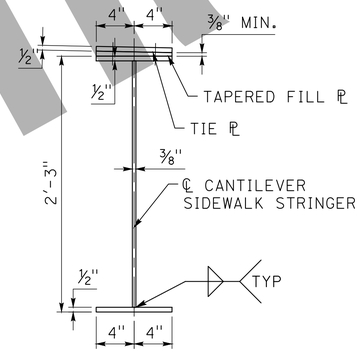
END FLOORBEAM SIDEWALK STRINGER CONNECTION

1 MS-129
SCALE: 1" = 1′-0"



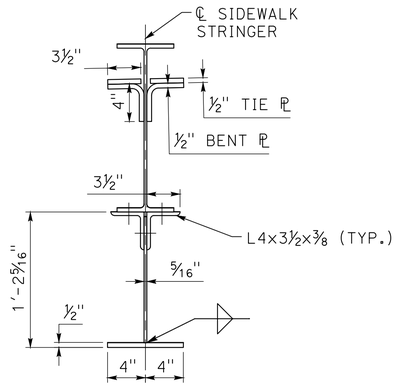
TYPICAL SIDEWALK STRINGER CONNECTION

2 MS-129
SCALE: 1" = 1′-0"



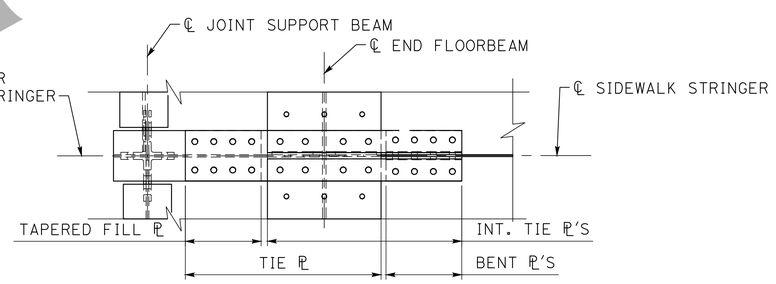
A MS-129 SECTION

SCALE: 1½" = 1′-0"



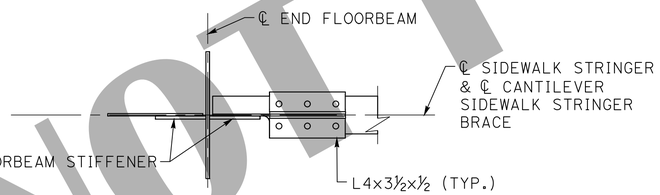
B MS-129 SECTION

SCALE: 1½" = 1′-0"



D MS-129 SECTION

SCALE: 1" = 1′-0"



C MS-129 SECTION

SCALE: 1" = 1′-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: D. KO
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

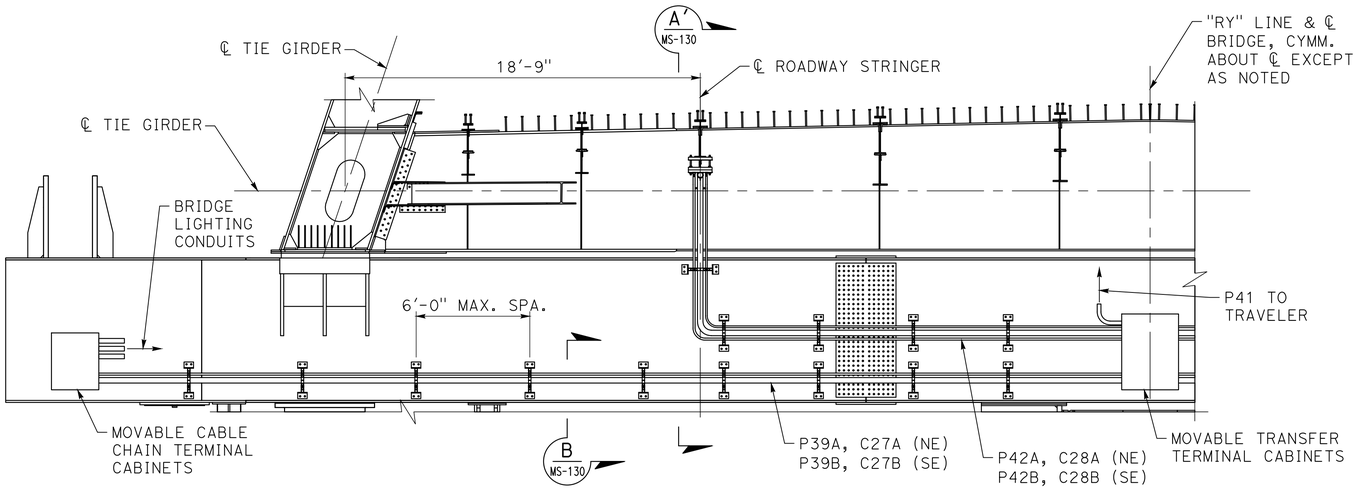
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
STRINGER DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-129
SHT NO.: 449
OF 648

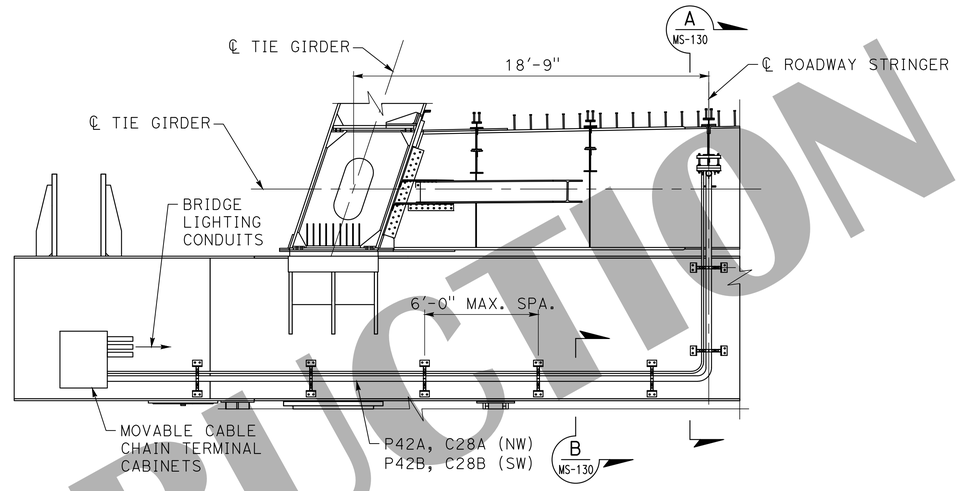
p:\13326.01\CADD\Structural\MS-117 STRINGER DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:52:36 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



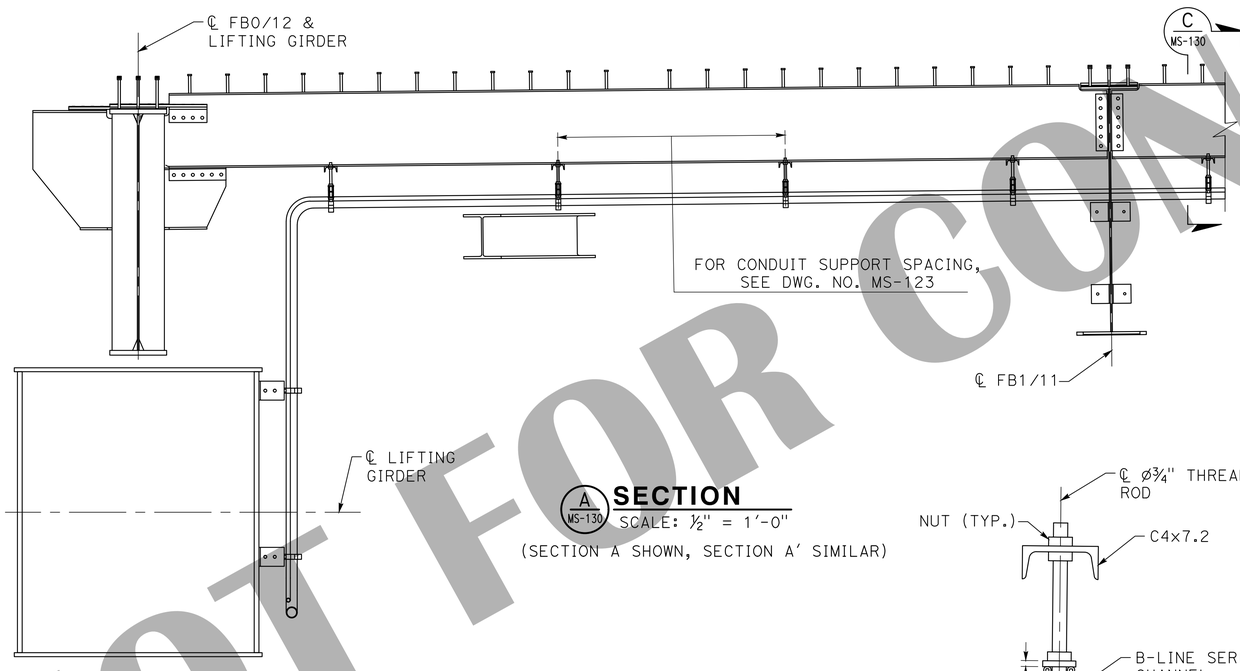
ELEVATION - PIER 4 CONDUIT SUPPORT

SCALE: ¼" = 1′-0"
(NE QUADRANT SHOWN, SE QUADRANT SIMILAR OPPOSITE HAND)



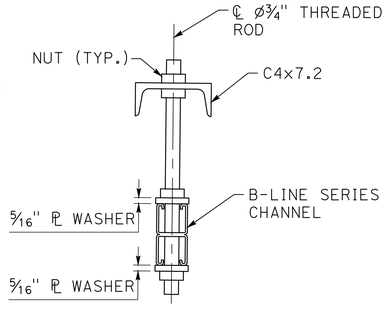
ELEVATION - PIER 3 CONDUIT SUPPORT

SCALE: ¼" = 1′-0"
(SW QUADRANT SHOWN, NW QUADRANT SIMILAR OPPOSITE HAND)



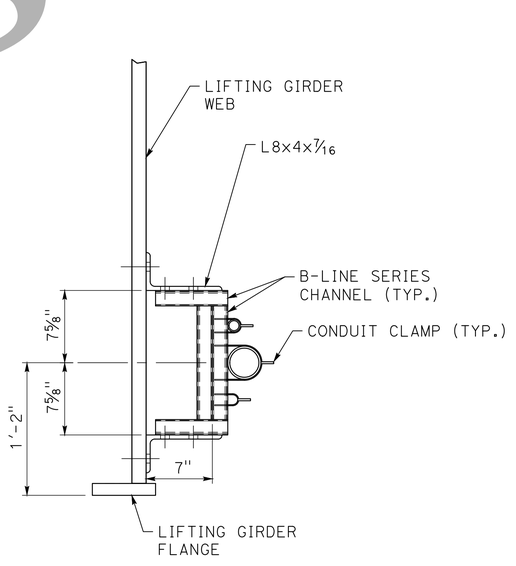
A/MS-130 SECTION

SCALE: ½" = 1′-0"
(SECTION A SHOWN, SECTION A′ SIMILAR)



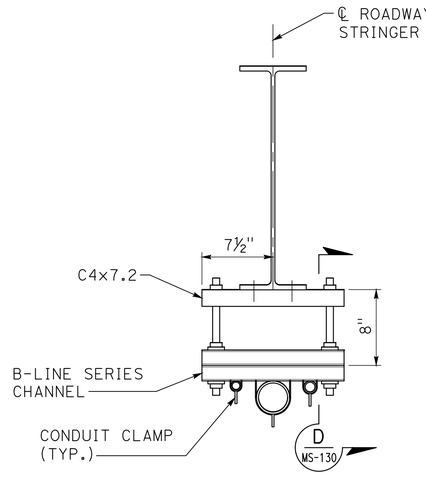
D/MS-130 SECTION

SCALE: 3" = 1′-0"



B/MS-130 SECTION

SCALE: 1½" = 1′-0"



C/MS-130 SECTION

SCALE: 1½" = 1′-0"

NOTES:

1. FOR BRIDGE LIGHTING CONDUIT SIZES AND ROUTING, SEE BRIDGE LIGHTING DRAWINGS.
2. FOR MAIN SPAN CONDUIT SIZES AND ROUTING, SEE DWG. NOS. E-090 THRU E-092.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: D. KO DATE: 11/03/2025

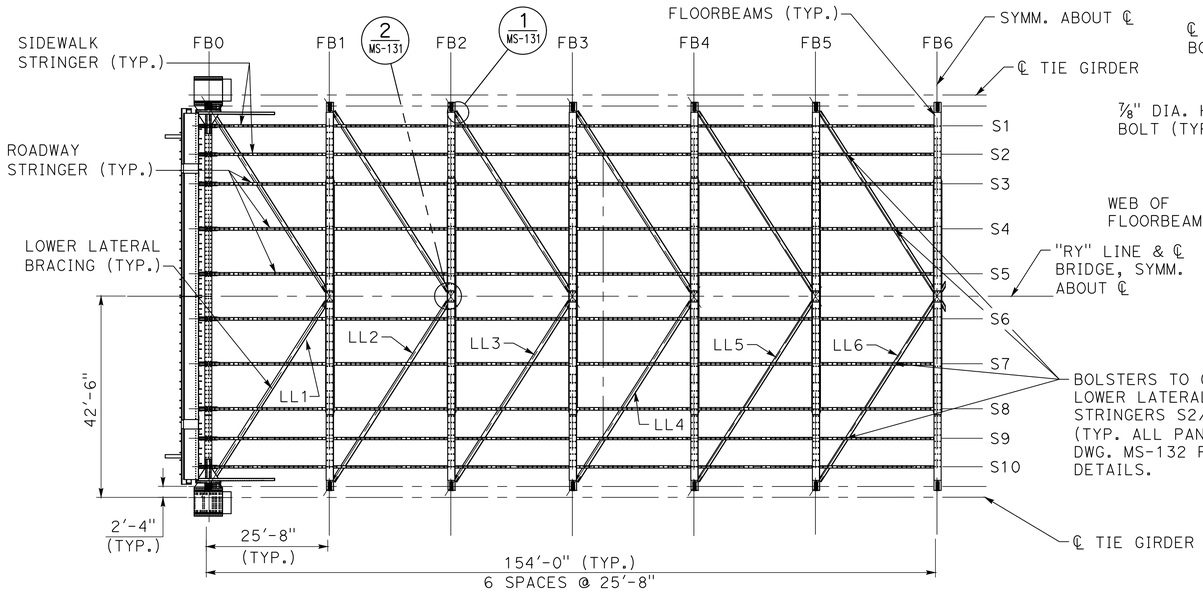
REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
STRINGER DETAILS - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-130
SHT NO.: 450 OF 648

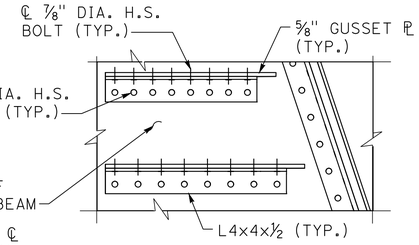
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-118 STRINGER DETAILS - 3 recov.dwg LAST PLOTTED: 11/3/2025 1:52:42 PM



LIFT SPAN FLOORING SYSTEM PLAN

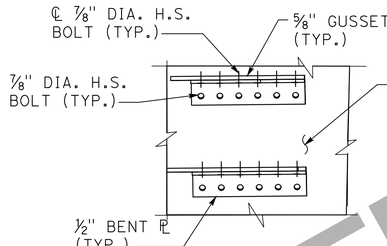
SCALE: 1/16" = 1'-0"



A MS-131 **SECTION**

SCALE: 1" = 1'-0"

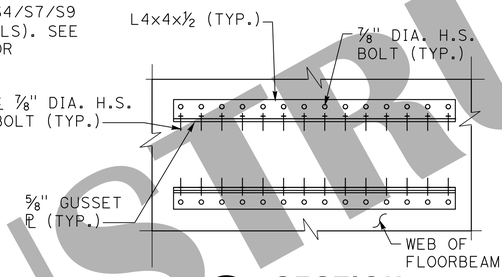
(LOWER LATERAL BRACING NOT SHOWN FOR CLARITY)



B MS-131 **SECTION**

SCALE: 1" = 1'-0"

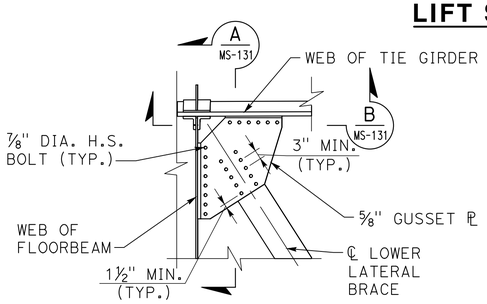
MEMBER SHAPE	
DESCRIPTION	AISC SHAPE
LL1	W14x68
LL2	W14x61
LL3	W14x61
LL4	W14x61
LL5	W14x61
LL6	W14x61



D MS-131 **SECTION**

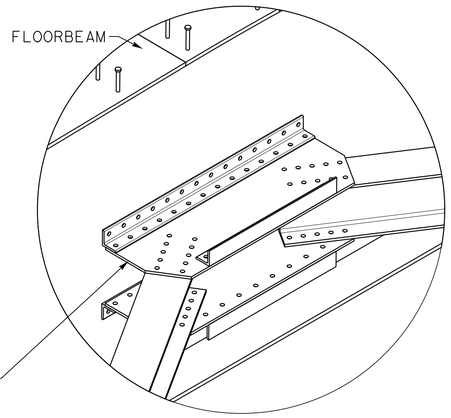
SCALE: 1" = 1'-0"

(LOWER LATERAL BRACING NOT SHWON FOR CLARITY)



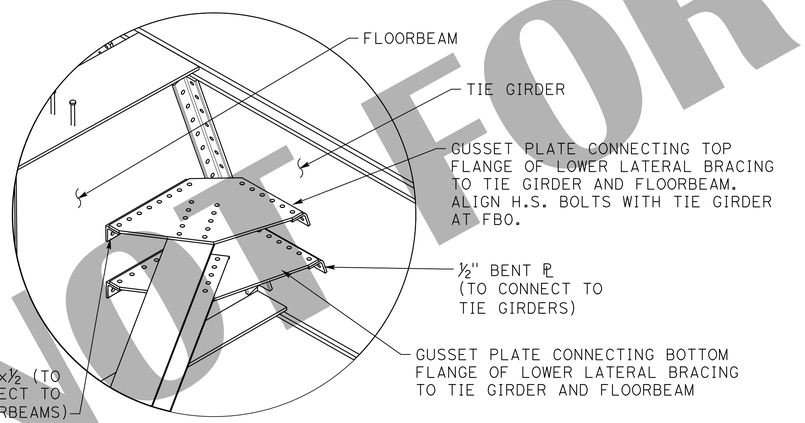
1 MS-131 **DETAIL - PLAN VIEW**

SCALE: 1/2" = 1'-0"



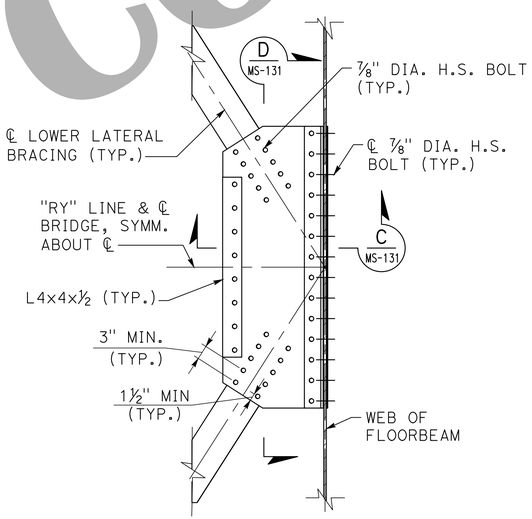
2 MS-131 **DETAIL - ISOMETRIC VIEW**

SCALE: 3/4" = 1'-0"



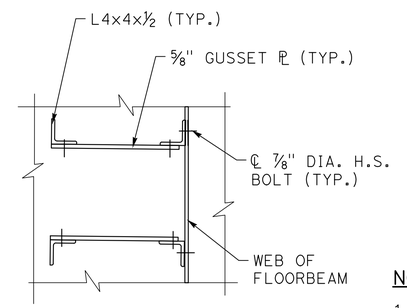
1 MS-131 **DETAIL - ISOMETRIC VIEW**

SCALE: 3/4" = 1'-0"



2 MS-131 **DETAIL - PLAN VIEW**

SCALE: 3/4" = 1'-0"



C MS-131 **SECTION**

SCALE: 1" = 1'-0"

(LOWER LATERAL BRACING NOT SHOWN FOR CLARITY)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR TYPICAL SECTIONS, SEE DWG. NO. MS-079.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: Y. JIA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

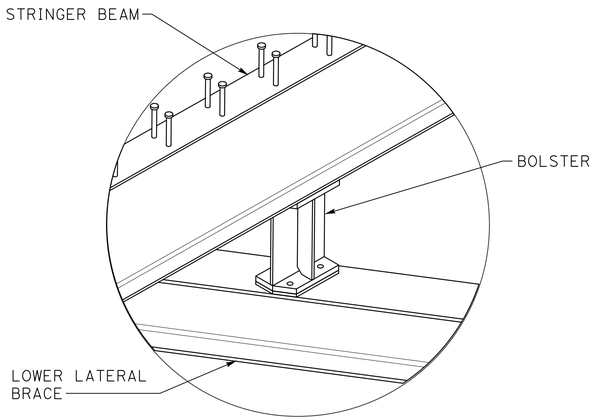
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LOWER LATERAL BRACING DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-131
SHT NO.: 451 OF 648

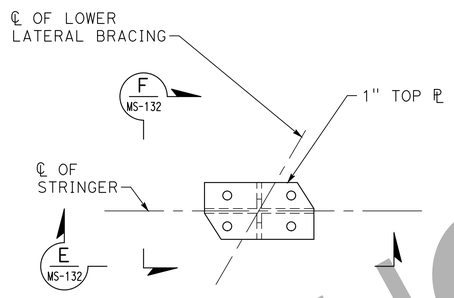
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-119 LOWER LATERAL BRACING DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:52:51 PM



TYPICAL BOLSTER DETAIL - ISOMETRIC VIEW

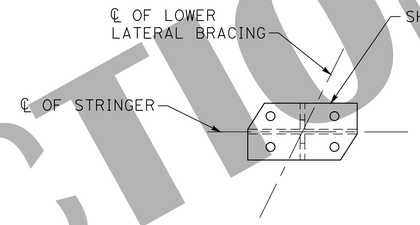
SCALE: 1" = 1'-0"



TYPICAL BOLSTER DETAIL - TOP VIEW

SCALE: 1-½" = 1'-0"

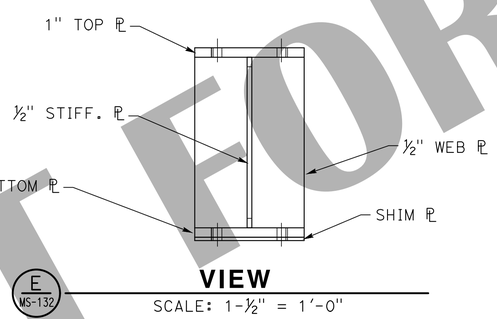
(LOWER LATERAL BRACING AND STRINGER NOT SHOWN FOR CLARITY)



TYPICAL BOLSTER DETAIL - BOTTOM VIEW

SCALE: 1-½" = 1'-0"

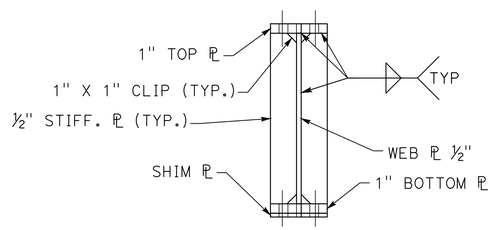
(LOWER LATERAL BRACING AND STRINGER NOT SHOWN FOR CLARITY)



E MS-132 VIEW

SCALE: 1-½" = 1'-0"

(LOWER LATERAL BRACING AND STRINGER NOT SHOWN FOR CLARITY)



F MS-132 VIEW

SCALE: 1-½" = 1'-0"

(LOWER LATERAL BRACING AND STRINGER NOT SHOWN FOR CLARITY)

NOT FOR CONSTRUCTION

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW DATE: 11/03/2025

DESIGN BY: R. KRIEGER DATE: 11/03/2025

CHECKED BY: Y. JIA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LOWER LATERAL BRACING DETAILS - 2
(Date: 11/03/2025)

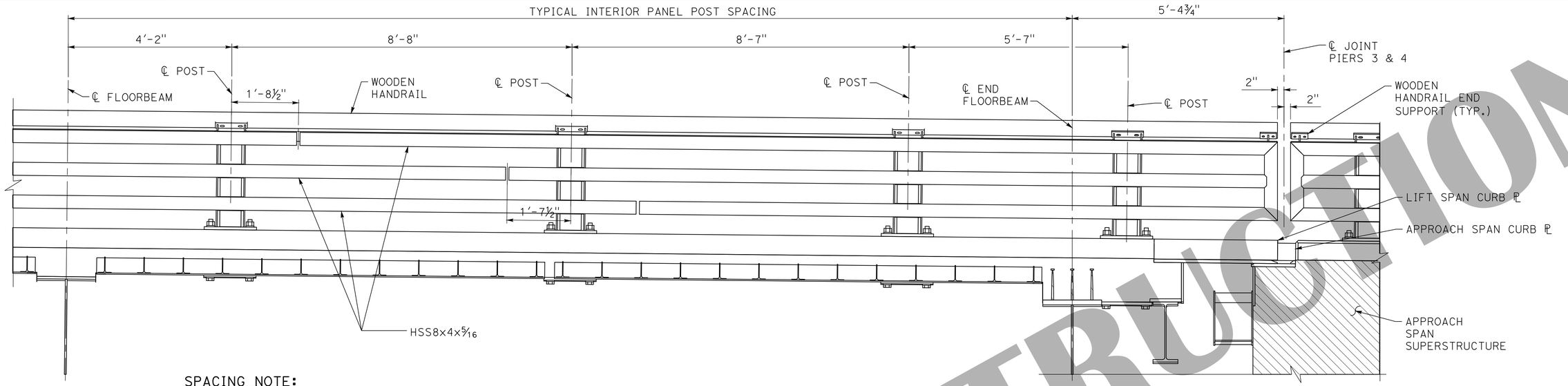
PN: T15136000

DWG NO.: MS-132

SHT NO.: 452 OF 648

p:\3326.01\CADD\Structural\MS-120 LOWER LATERAL BRACING DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:52:58 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

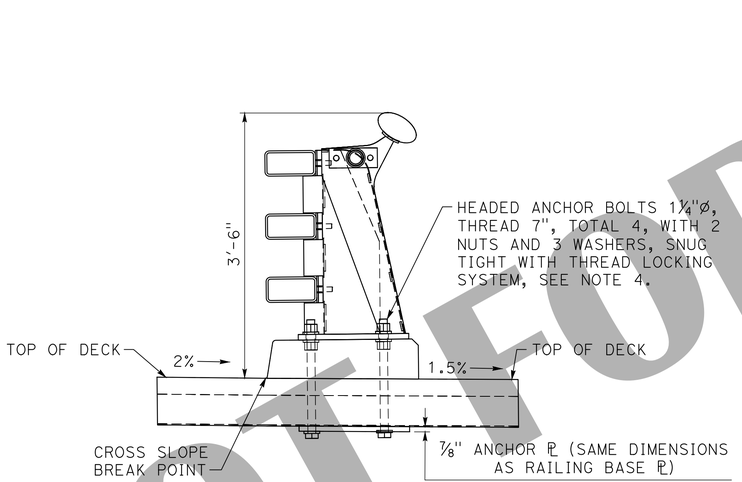


SPACING NOTE:

DIMENSIONS SHOWN ASSUME HORIZONTAL SPACING BETWEEN FLOORBEAM PANEL POINTS. INCREASE SPACING IN THESE LOCATIONS WITH EQUAL PROPORTIONS TO ACCOUNT FOR THE INCREASE IN LENGTH DUE TO THE CHANGE IN ELEVATION BETWEEN FLOORBEAM PANEL POINTS.

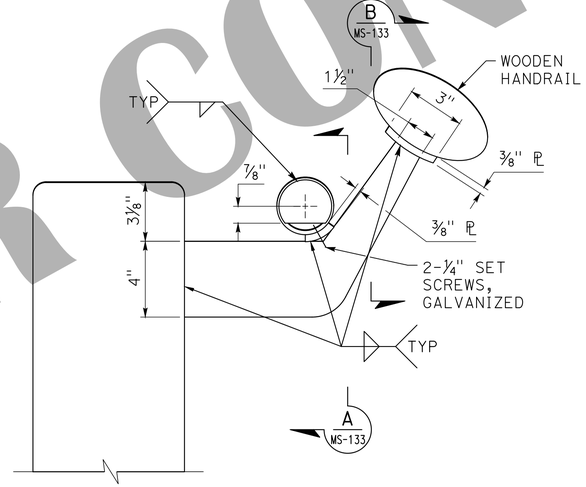
LONGITUDINAL SECTION OF BARRIER POST

(SHOWING SPACING OF BARRIER POST)
SCALE: ¾" = 1'-0"



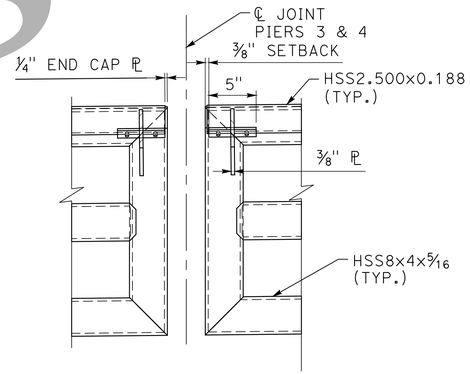
TYPICAL SECTION

SCALE: 1" = 1'-0"



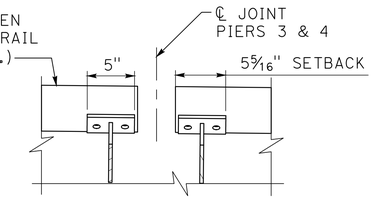
WOODEN HANDRAIL END SUPPORT

SCALE: 3" = 1'-0"



A MS-133 **SECTION**

SCALE: 1½" = 1'-0"



B MS-133 **SECTION**

SCALE: 1½" = 1'-0"

NOTES:

1. ALL HORIZONTAL MEMBERS ARE PARALLEL TO LONGITUINAL PROFILE GRADE.
2. POSTS ARE NORMAL TO PROFILE GRADE OF STRUCTURE.
3. POSTS ARE VERTICAL IN THE TRANSVERSE CROSS SECTION.
4. USE EXTRA THICK WASHERS FOR ANCHOR BOLTS, WITH A MINIMUM THICKNESS OF 0.305" AND A MAXIMUM THICKNESS OF 0.375".
5. NOT MORE THAN ONE RAIL SPLICE IS PERMITTED PER SAME SIDE OF POST.
6. FOR ADDITIONAL RAILING DETAILS, UNLESS NOTED ON THIS DWG., SEE DWG. NOS. S-42 THRU S-45.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: R. KRIEGER	CHECKED BY: R. HICKEY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

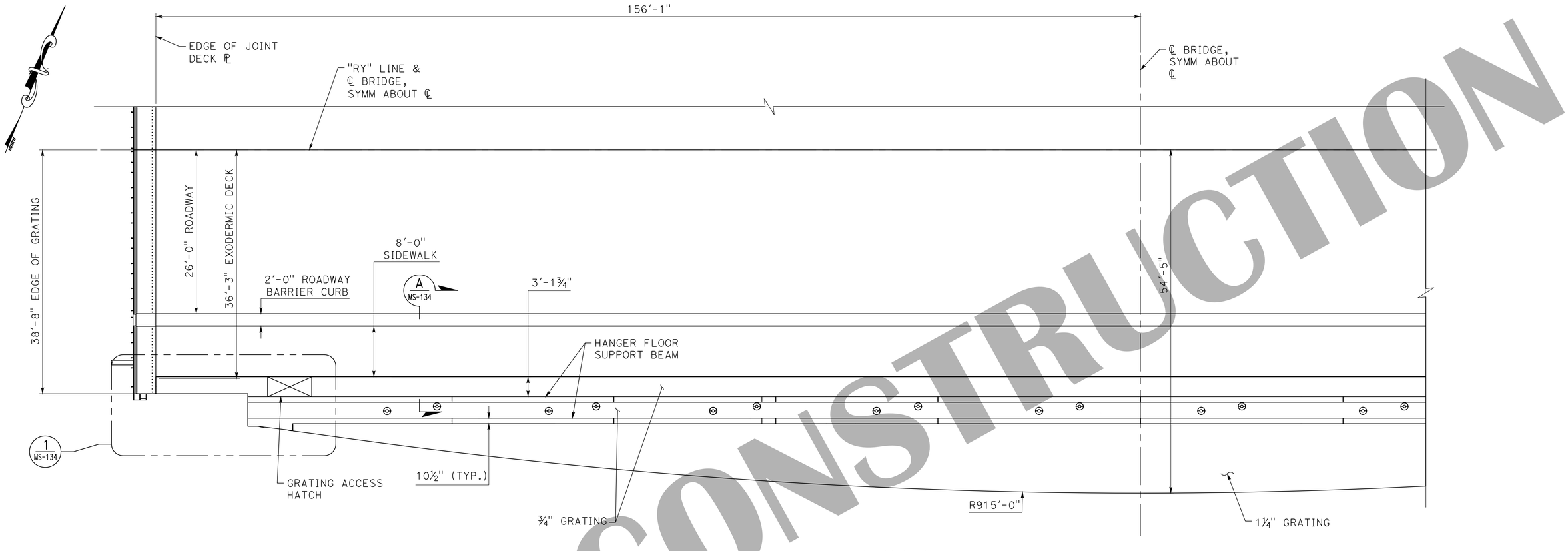
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BRIDGE RAILING DETAILS
(Date: --/--/----)

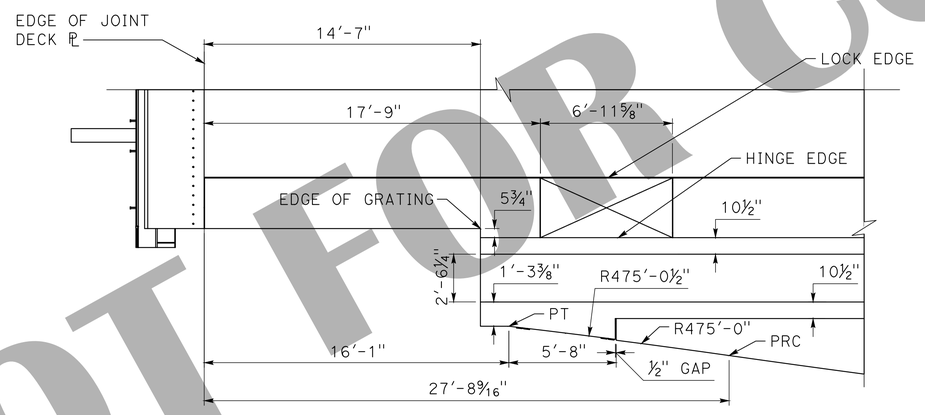
PN: T15136000
DWG NO.: MS-133
SHT NO.: 453 OF 648

p:\3326.01\CADD\Structural\MS-122 BRIDGE RAILING DETAILS.dwg LAST PLOTTED: 11/3/2025 1:53:03 PM

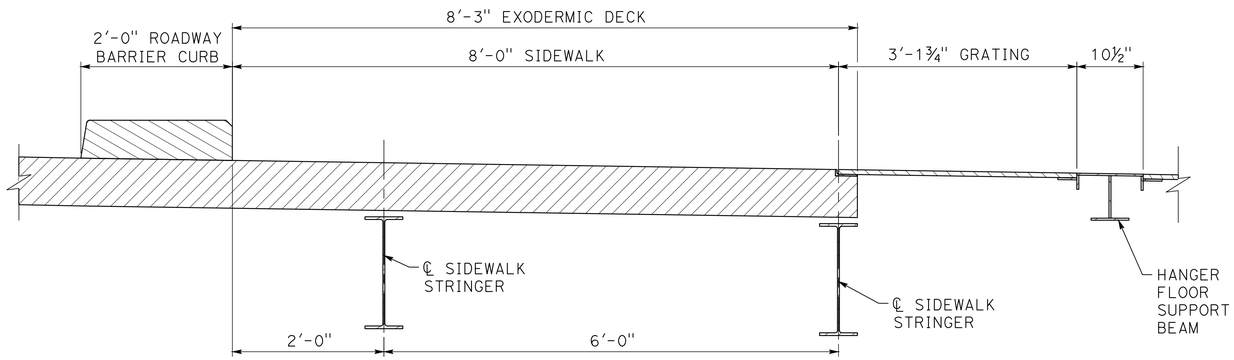
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



DECK PLAN
SCALE: ⅛" = 1'-0"



1/MS-134 DETAIL
SCALE: ¼" = 1'-0"



A/MS-134 SECTION
SCALE: ¼" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: R. HICKEY DATE: 11/03/2025

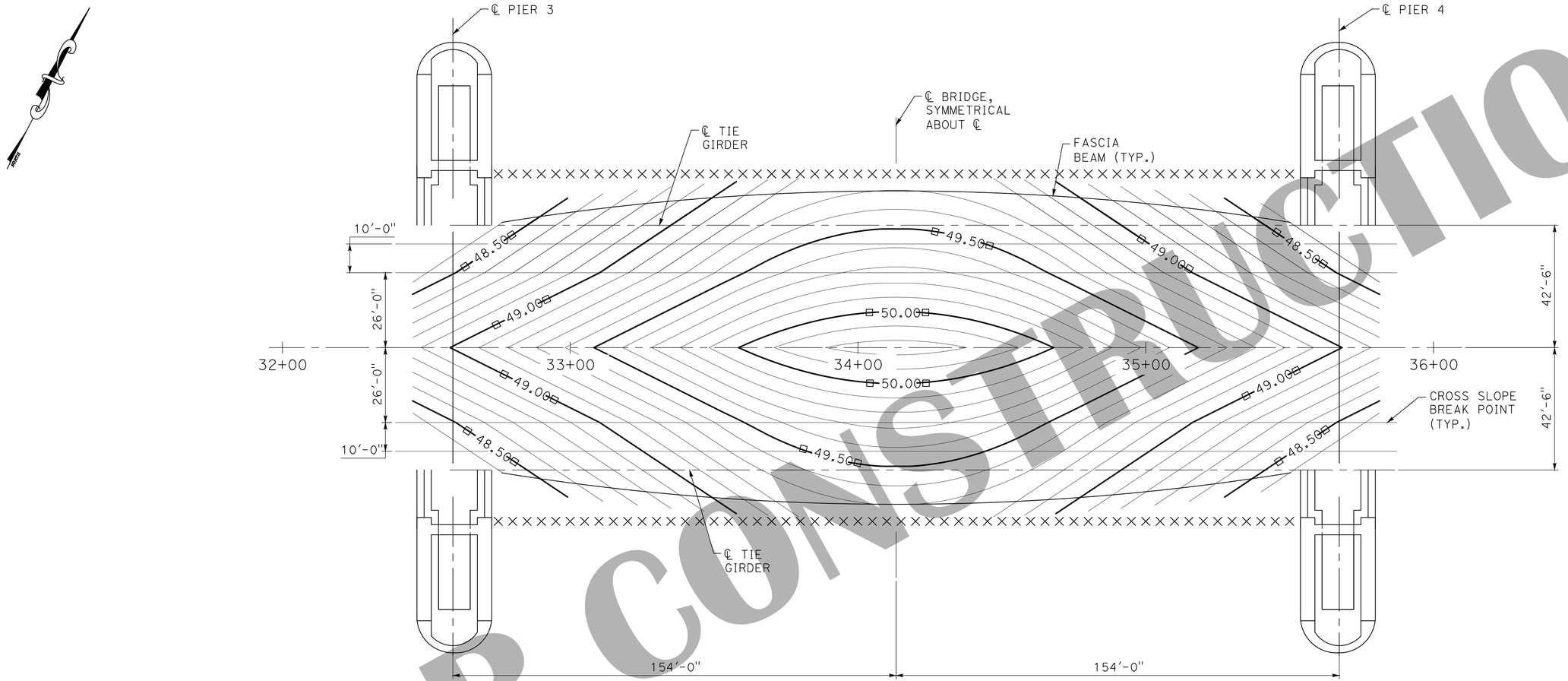
REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
DECK PLAN
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-134
SHT NO.: 454 OF 648

p:\3326.01\CADD\Structural\MS-124 DECK PLAN.dwg LAST PLOTTED: 11/3/2025 1:53:08 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



PLAN
SCALE: 1" = 30'-0"

NOT FOR CONSTRUCTION

NOTES:

1. CONTOUR INTERVAL IS 0.1 FEET.
2. X - INDICATES 5'-0" ALONG STATION LINE.
3. ☐ - INDICATES 0.5 FOOT CONTOUR LINE.
4. CONTOURS DO NOT INCLUDE CAMBER.

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER	DESIGN BY: R. KRIEGER	CHECKED BY: R. HICKEY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

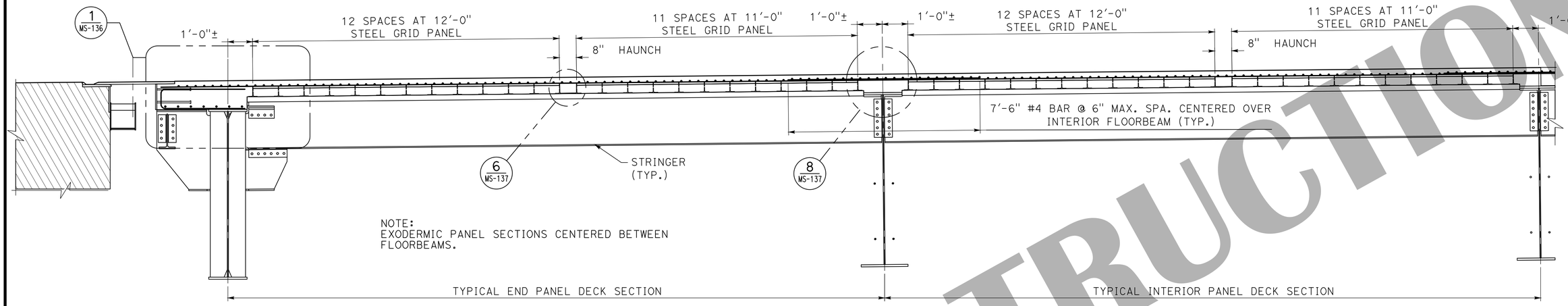
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN DECK CONTOURS
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-135
SHT NO.: 455 OF 648

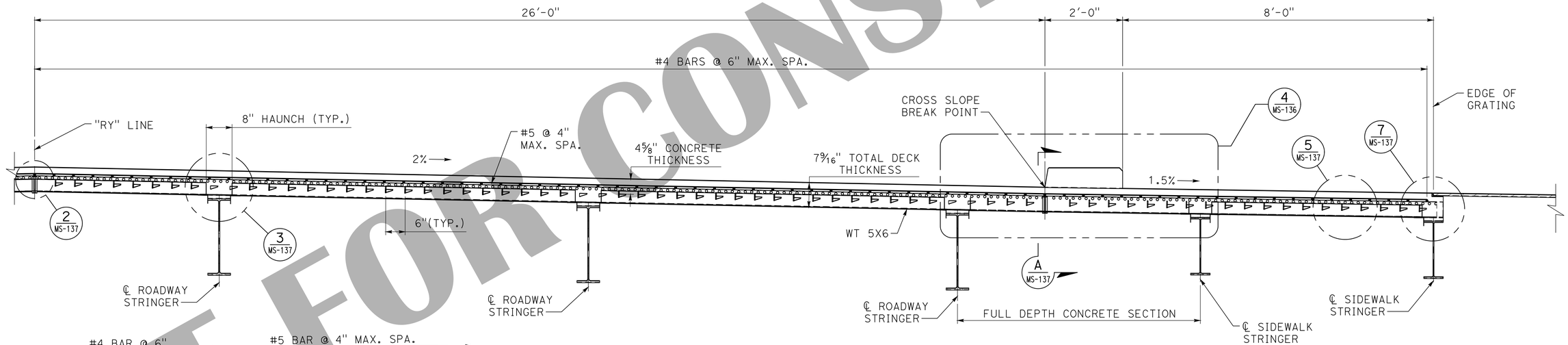
p:\3326.01\CADD\Structural\MS-125 LIFT SPAN DECK CONTOURS.dwg LAST PLOTTED: 11/3/2025 1:53:12 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



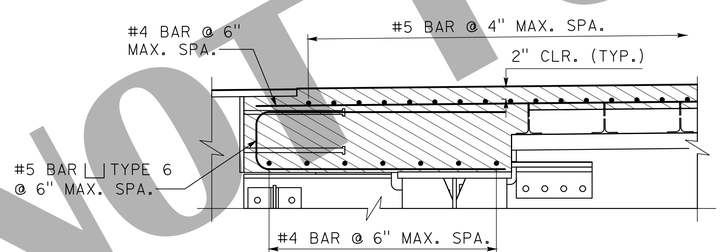
TYPICAL LONGIDTUINAL EXODERMIC DECK SECTION

SCALE: ½" = 1'-0"



TYPICAL TRANSVERSE EXODERMIC DECK SECTION

SCALE: ¾" = 1'-0"



1 / MS-136 **DETAIL**
SCALE: 1" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. DIMENSIONS ARE HORIZONTAL UNLESS OTHERWISE NOTED.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: R. HICKEY DATE: 11/03/2025

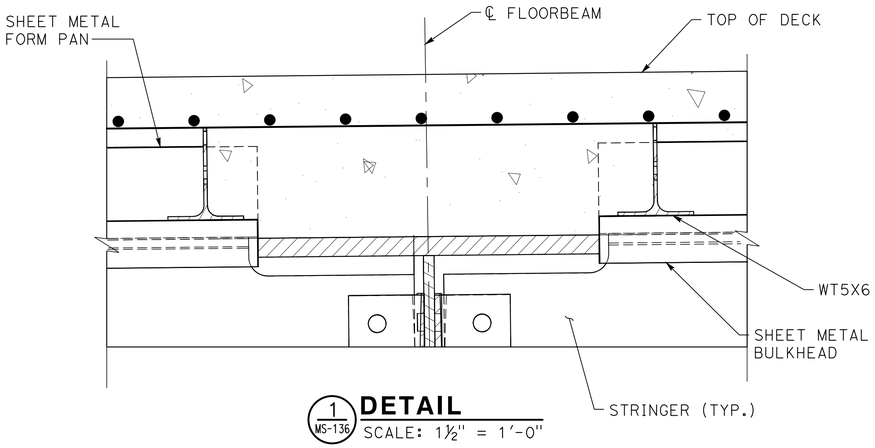
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
EXODERMIC DECK DETAILS - 1
(Date: 11/03/2025)

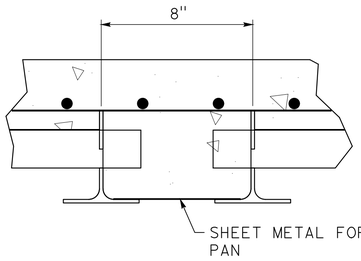
PN: T15136000
DWG NO.: MS-136
SHT NO.: 456 OF 648

p:\3326.01\CADD\Structural\MS-126 EXODERMIC DECK DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:53:20 PM

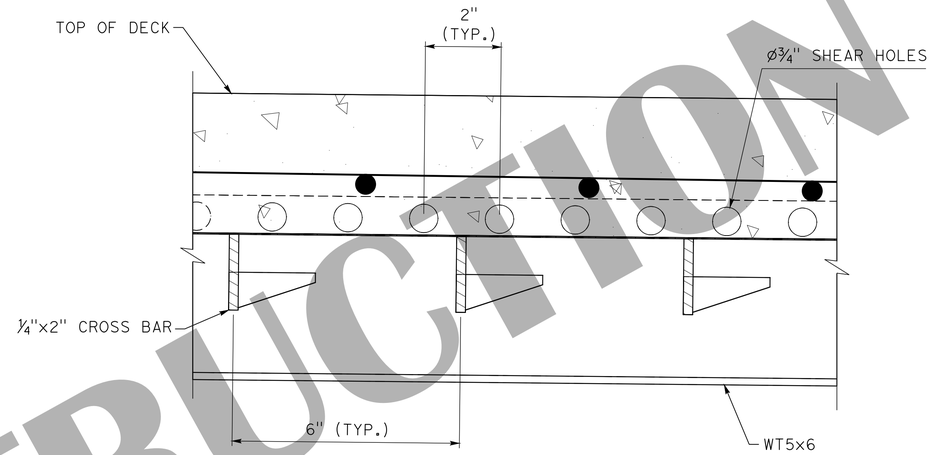
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



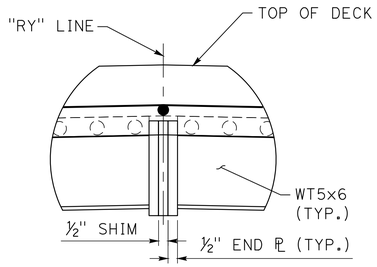
1 MS-136 **DETAIL**
SCALE: 1½" = 1'-0"



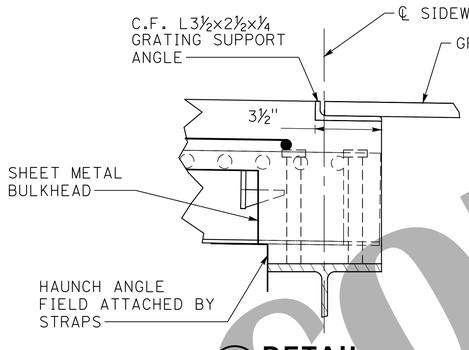
6 MS-136 **DETAIL**
SCALE: 3" = 1'-0"



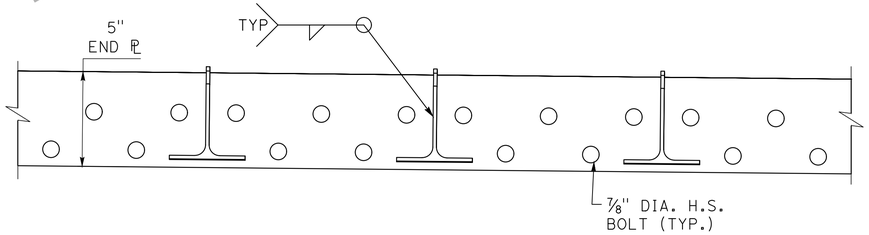
5 MS-136 **DETAIL**
SCALE: 6" = 1'-0"



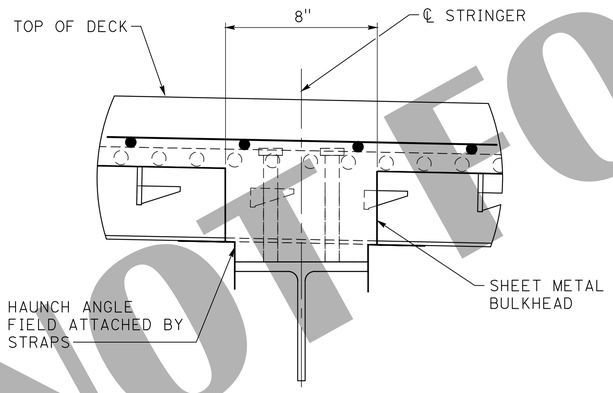
2 MS-136 **DETAIL**
SCALE: 3" = 1'-0"



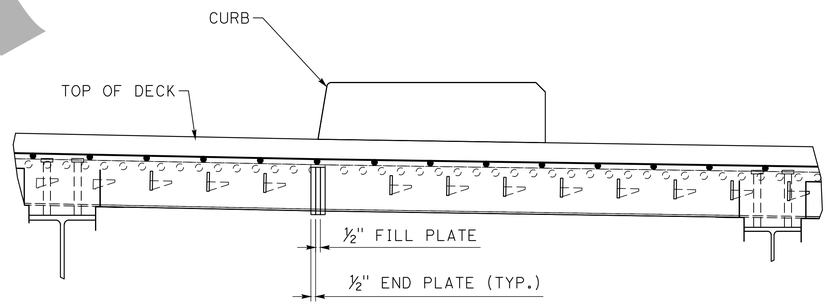
7 MS-136 **DETAIL**
SCALE: 3" = 1'-0"



NOTE:
CONCRETE, REINFORCEMENT AND CURB NOT SHOWN FOR CLARITY.

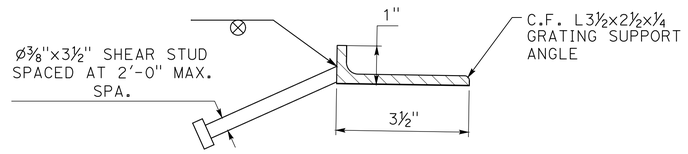


3 MS-136 **DETAIL**
SCALE: 3" = 1'-0"



4 MS-136 **DETAIL**
SCALE: 1 ½" = 1'-0"

A MS-136 **SECTION AT WT ENDPLATE**
SCALE: 3" = 1'-0"



GRATING SUPPORT ANGLE
SCALE: 6" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. DIMENSIONS ARE HORIZONTAL UNLESS OTHERWISE NOTED.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: R. HICKEY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

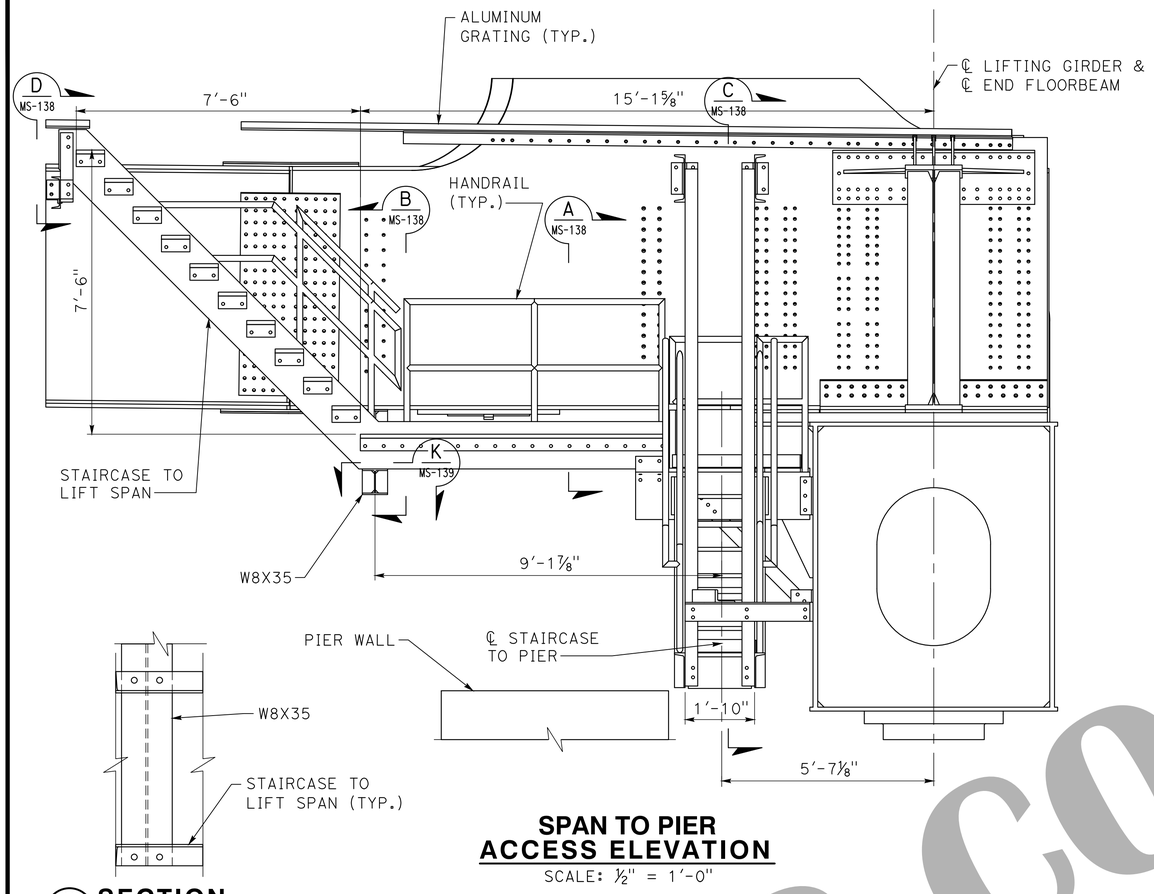
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
EXODERMIC DECK DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-137
SHT NO.: 457 OF 648

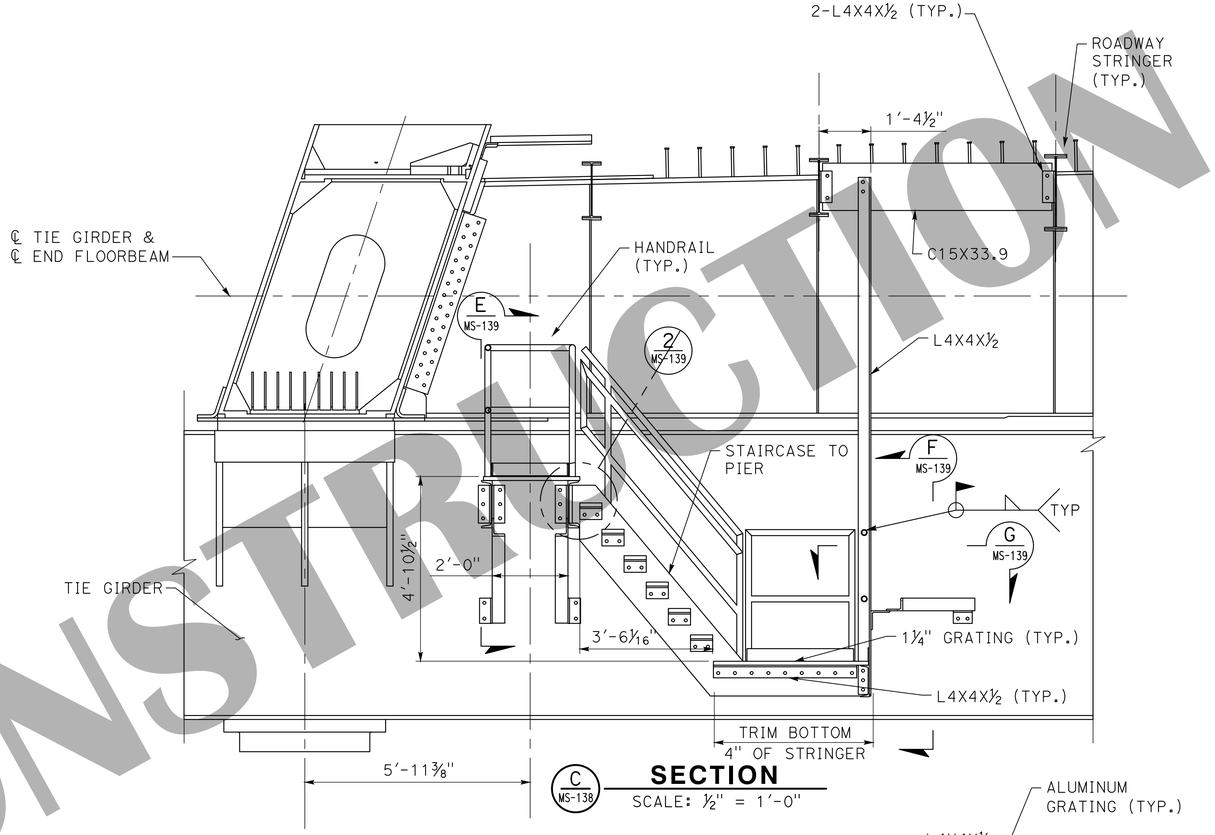
p:\13326.01\CADD\Structural\MS-127 EXODERMIC DECK DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:53:32 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

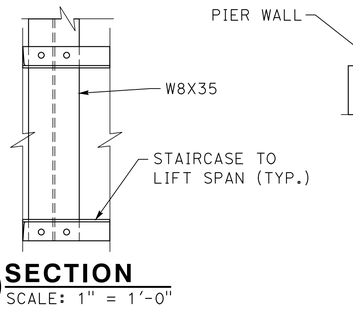


SPAN TO PIER ACCESS ELEVATION

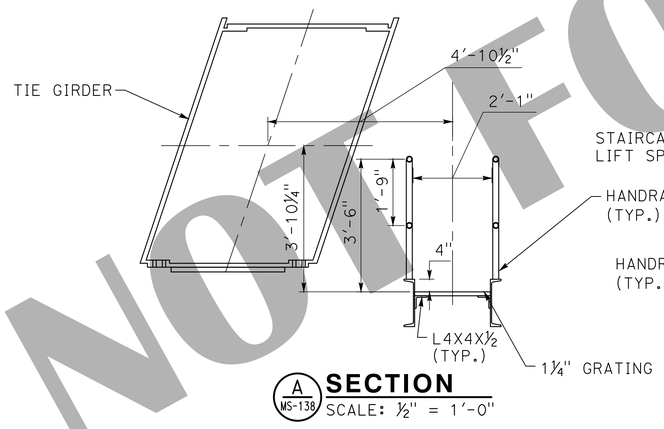
SCALE: ½" = 1'-0"



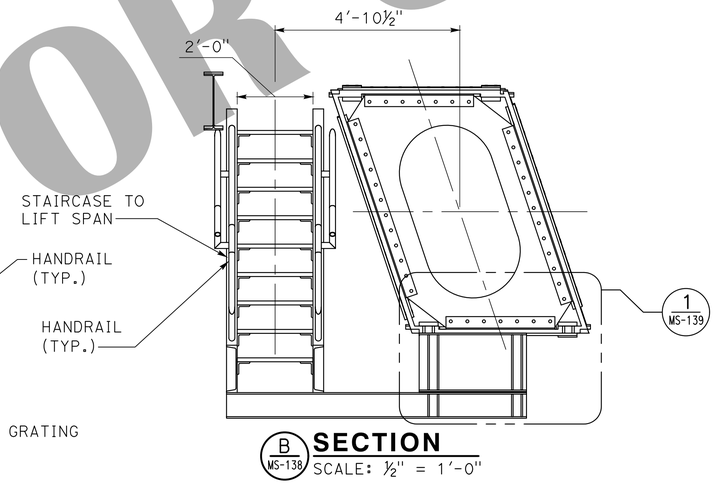
C MS-138 **SECTION**
SCALE: ½" = 1'-0"



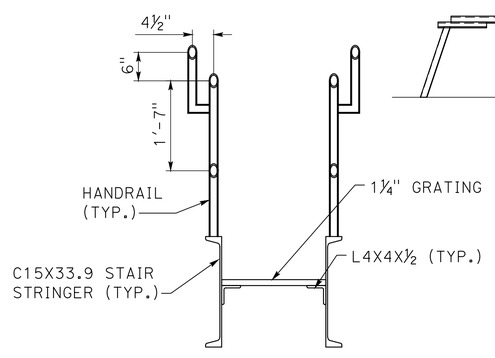
K MS-138 **SECTION**
SCALE: 1" = 1'-0"



A MS-138 **SECTION**
SCALE: ½" = 1'-0"

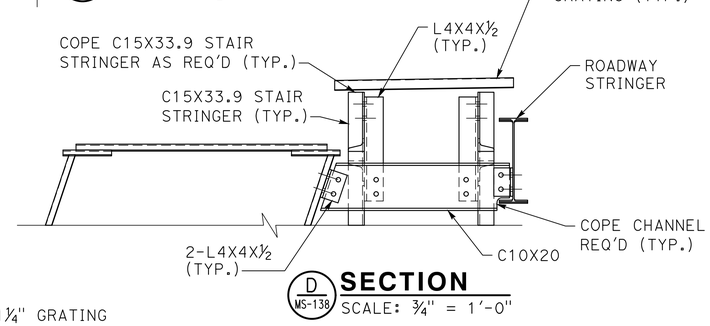


B MS-138 **SECTION**
SCALE: ½" = 1'-0"



TYPICAL STAIRCASE SECTION

SCALE: ¾" = 1'-0"



D MS-138 **SECTION**
SCALE: ¾" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. HANDRAILS PIPE 1½XS. TOEBOARDS 4"X⅜" ℙ.
3. GRATING MCNICHOLS GW-125, 19-W-4 SPACING, 1¼"X$\frac{3}{16}$" BEARING BARS WITH SERRATED SURFACE OR APPROVED EQUIVALENT.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER	DESIGN BY: R. KRIEGER	CHECKED BY: R. HICKEY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

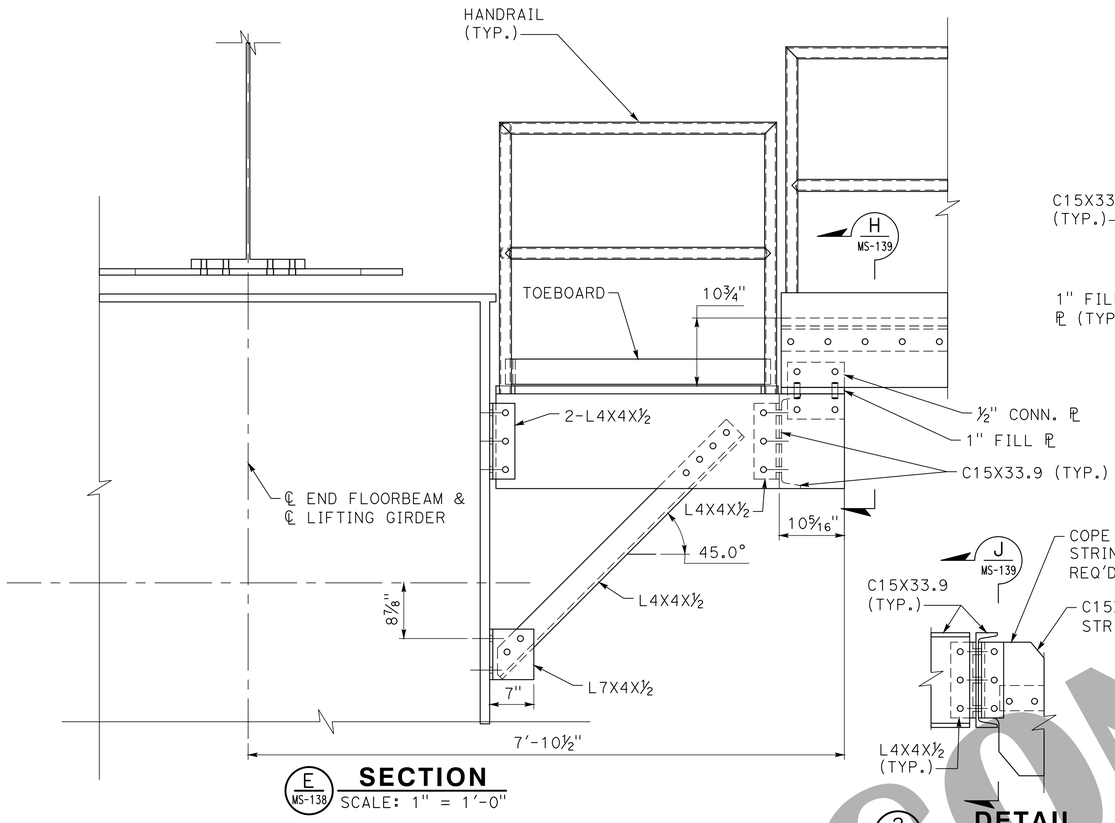
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN TO PIER ACCESS - 1
(Date: 11/03/2025)

PN: T15136000

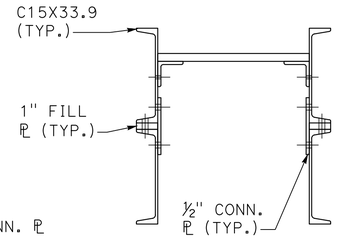
DWG NO.: MS-138
SHT NO.: 458 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

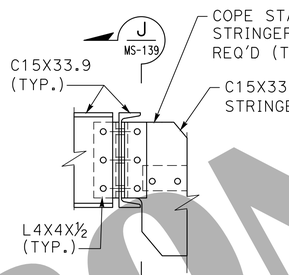
p:\3326.01\CADD\Structural\MS-128 LIFT SPAN TO PIER ACCESS - 1.dwg LAST PLOTTED: 11/3/2025 1:53:39 PM



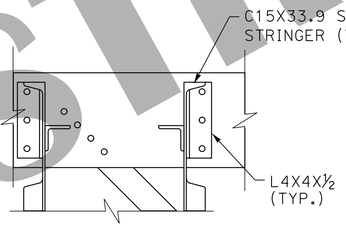
E MS-138 **SECTION**
SCALE: 1" = 1'-0"



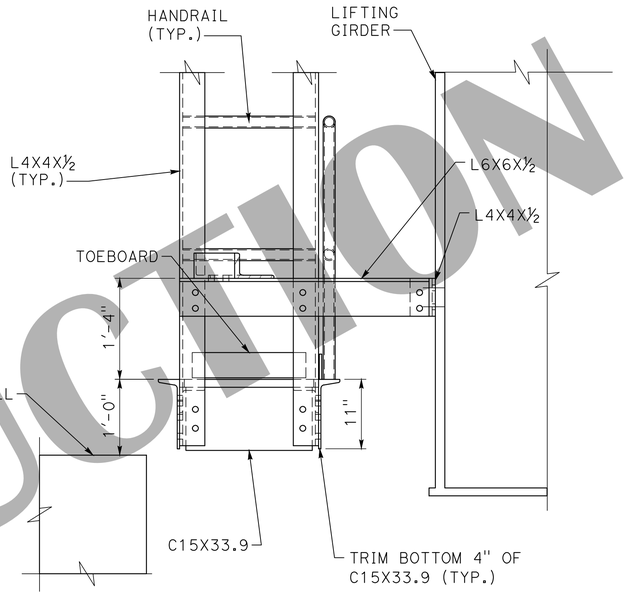
H MS-138 **SECTION**
SCALE: 1" = 1'-0"



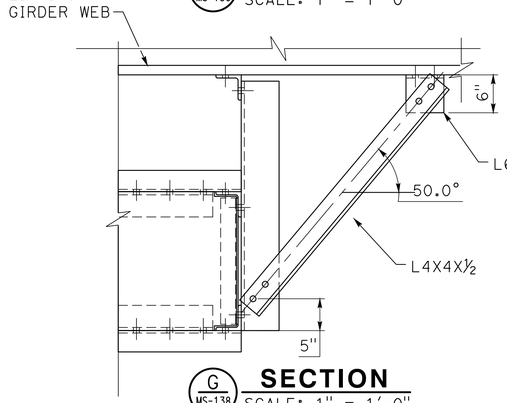
2 MS-138 **DETAIL**
SCALE: 1" = 1'-0"
(GRATING AND HANDRAILS
NOT SHOWN FOR CLARITY)



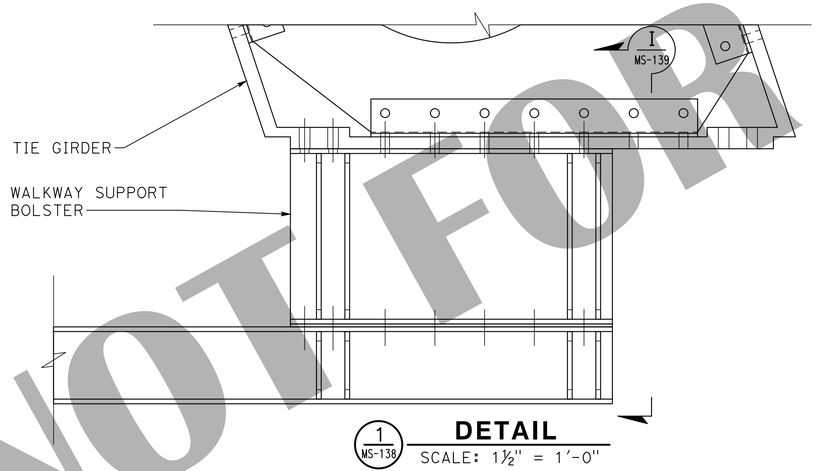
J MS-138 **SECTION**
SCALE: 1" = 1'-0"
(GRATING AND HANDRAILS
NOT SHOWN FOR CLARITY)



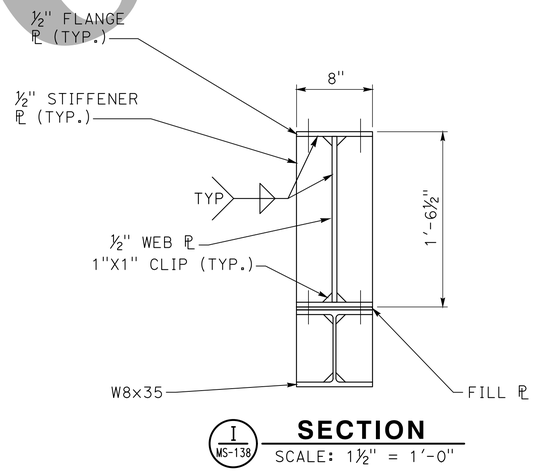
F MS-138 **SECTION**
SCALE: 1" = 1'-0"



G MS-138 **SECTION**
SCALE: 1" = 1'-0"



1 MS-138 **DETAIL**
SCALE: 1½" = 1'-0"



I MS-138 **SECTION**
SCALE: 1½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. ALIGN H.S. BOLTS FOR THE WALKWAY SUPPORT BOLSTER WITH EXISTING HOLES IN THE TIE GIRDER.
3. FOR TYPICAL HANDRAIL, TOEBOARD, AND GRATING DETAILS, SEE DWG NO. MS-137.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: R. HICKEY DATE: 11/03/2025

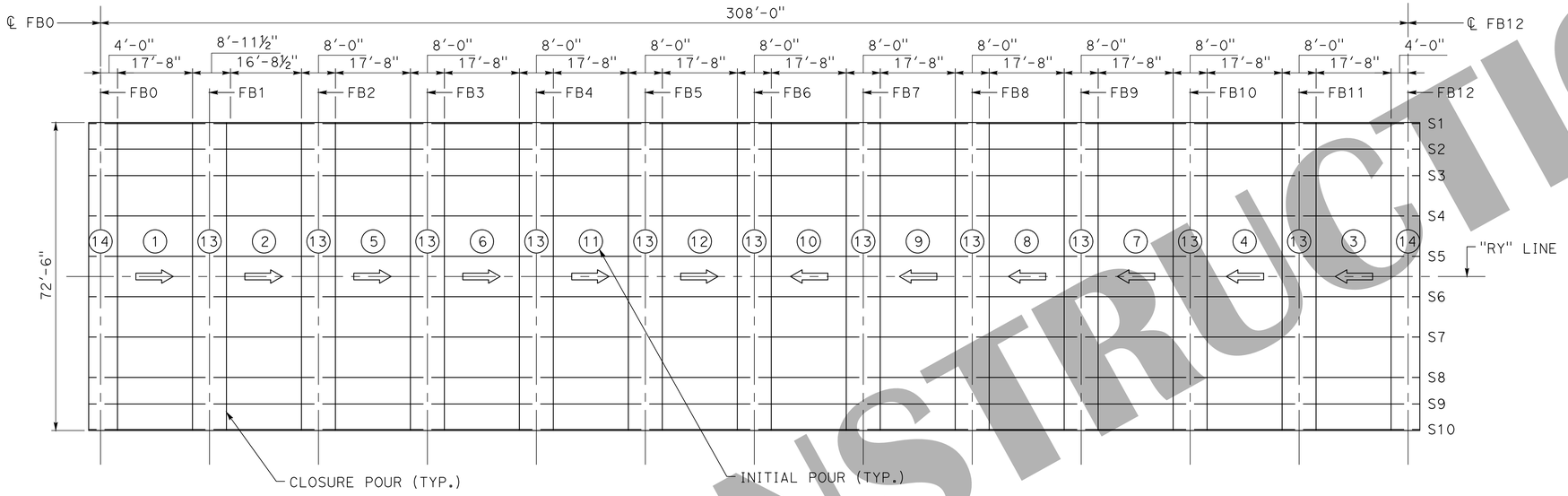
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN TO PIER ACCESS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-139
SHT NO.: 459 OF 648

p:\3326.01\CADD\Structural\MS-129 LIFT SPAN TO PIER ACCESS - 2.dwg LAST PLOTTED: 11/3/2025 1:53:46 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



DECK POURING SEQUENCE

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION

LEGEND

(1) INDICATES NUMBER OF POUR

⇨ INDICATES DIRECTION OF POUR

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. BRIDGE SLAB PLACING SHALL CONFORM TO THE POURING SEQUENCE SHOWN AND SHALL START AT THE LOWEST ELEVATION OF THE SEQUENCE.
3. STRINGERS S5 & S6: FULLY TIGHTEN ALL CONNECTION BOLTS TO SPECIFIED TENSION PRIOR TO INITIAL POUR.
4. STRINGERS S1, S2, S3, S4, S7, S8, S9, S10: INSTALL ALL CONNECTION BOLTS TO A FINGER TIGHT CONDITION PRIOR TO INITIAL POUR. FULLY TIGHTEN ALL BOLTS TO SPECIFIED TENSION AFTER INITIAL POUR AND PRIOR TO CLOSURE POURS.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: M. NIFONG DATE: 11/03/2025
CHECKED BY: A. SHAW DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

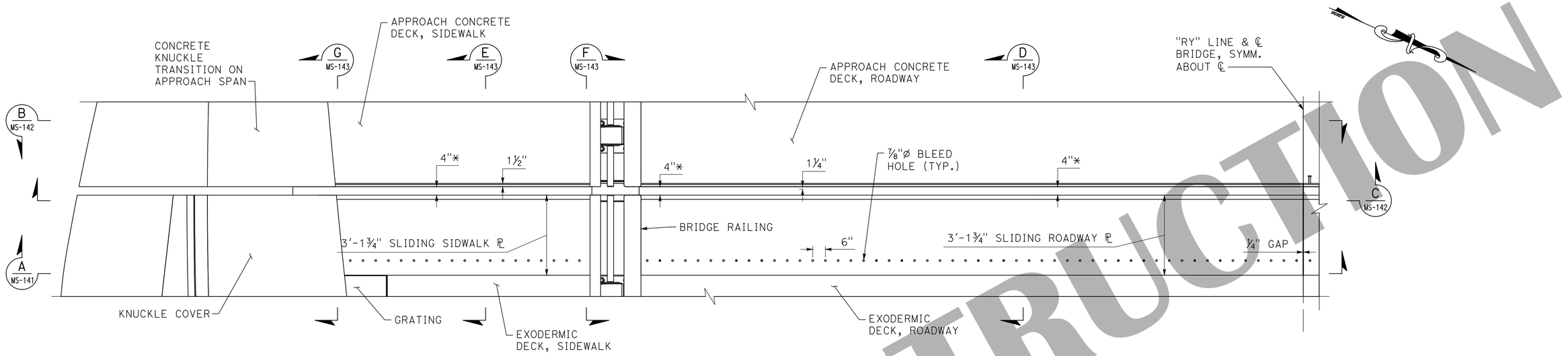
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
DECK POURING SEQUENCE
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-140
SHT NO.: 460 OF 648

p:\3326.01\CADD\Structural\MS-130 DECK POURING SEQUENCE.dwg LAST PLOTTED: 11/3/2025 1:53:51 PM

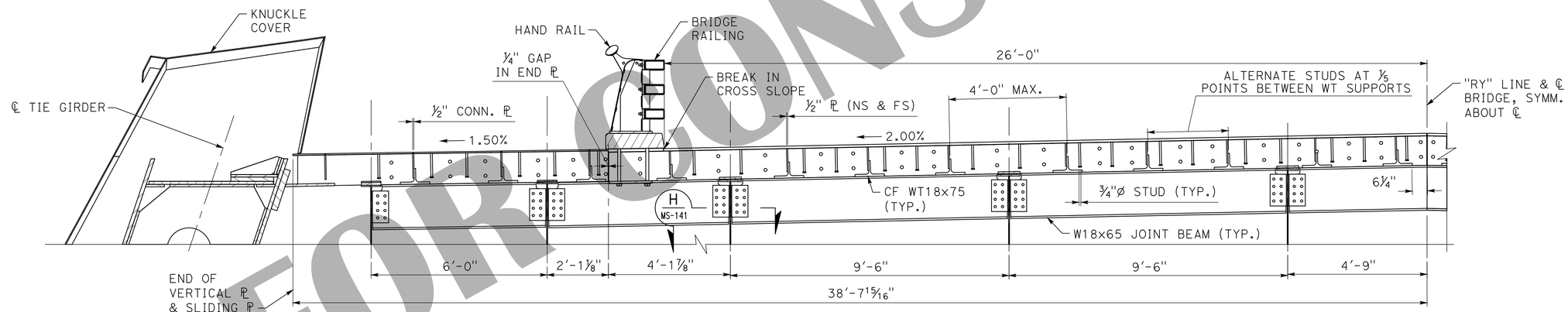
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



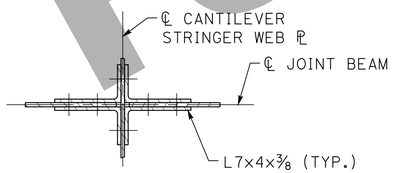
PIER 3 & PIER 4 LIFT SPAN JOINT

SCALE: ½" = 1'-0"

(PIER 3 SOUTH SHOWN, OTHER LOCATIONS SIMILAR)
(*-DIMENSION BASED ON ASSUMED SETTING TEMPERATURE, ADJUST DIMENSION AS REQUIRED FOR TEMPERATURE AT TIME OF PLACEMENT)



A MS-141 **SECTION**
SCALE: ½" = 1'-0"



H MS-141 **SECTION**
SCALE: 1½" = 1'-0"

(CANTILEVER ROADWAY STRINGER SHOWN, CANTILEVER SIDEWALK STRINGER SIMILAR)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW	DESIGN BY: A. SHAW	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

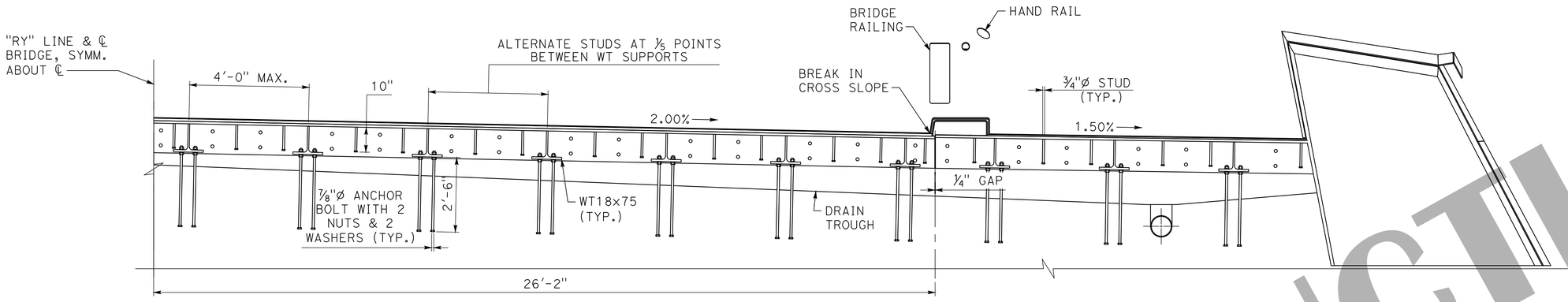
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN JOINT DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

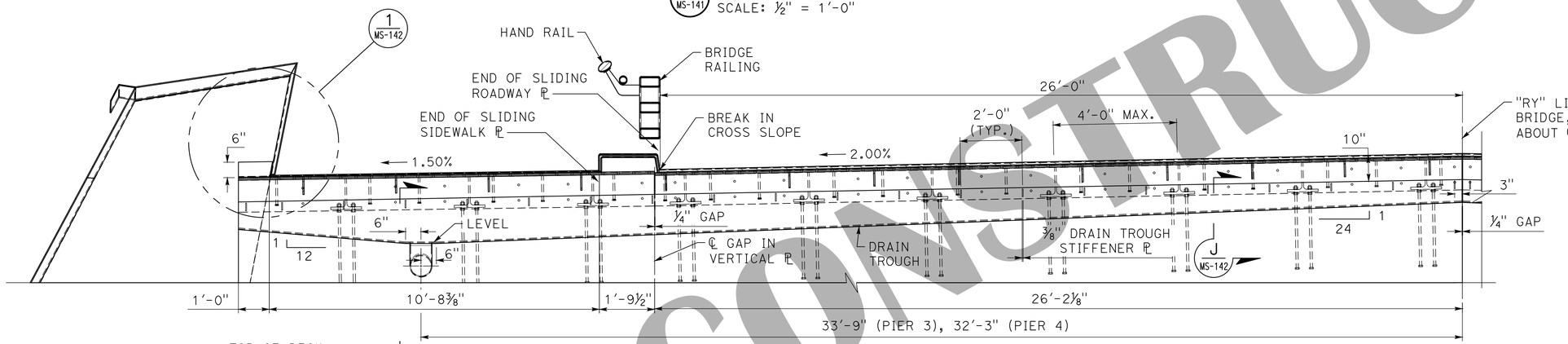
DWG NO.: MS-141
SHT NO.: 461 OF 648

p:\3326.01\CADD\Structural\MS-131 LIFT SPAN JOINT DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:53:58 PM

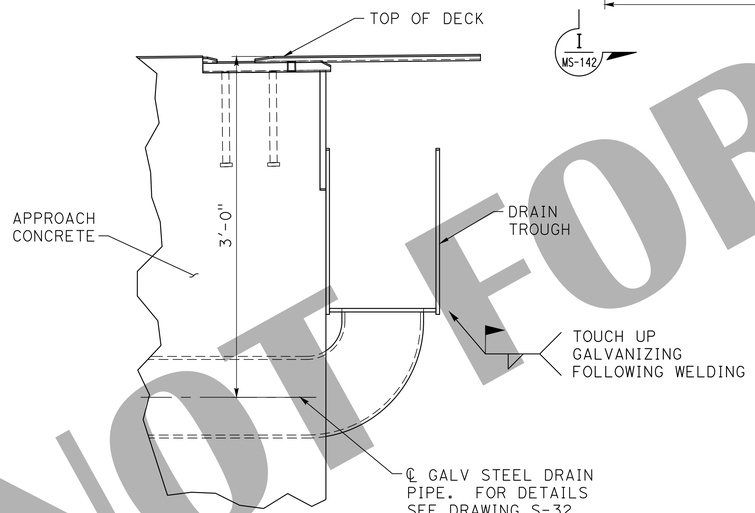
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



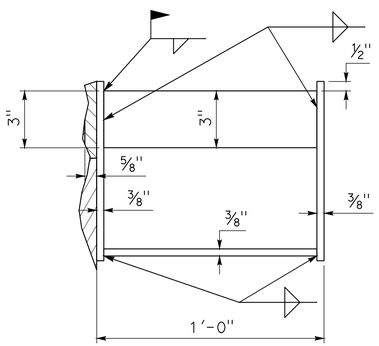
B MS-141 **SECTION**
SCALE: ½" = 1'-0"



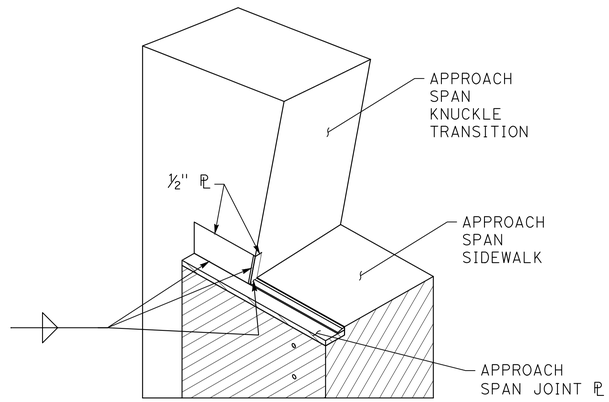
C MS-141 **SECTION**
SCALE: ½" = 1'-0"



I MS-142 **SECTION**
SCALE: ½" = 1'-0"



J MS-142 **SECTION**
SCALE: ½" = 1'-0"



1 MS-142 **ISOMETRIC DETAIL**
SCALE: 1" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW DATE: 11/03/2025
DESIGN BY: A. SHAW DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

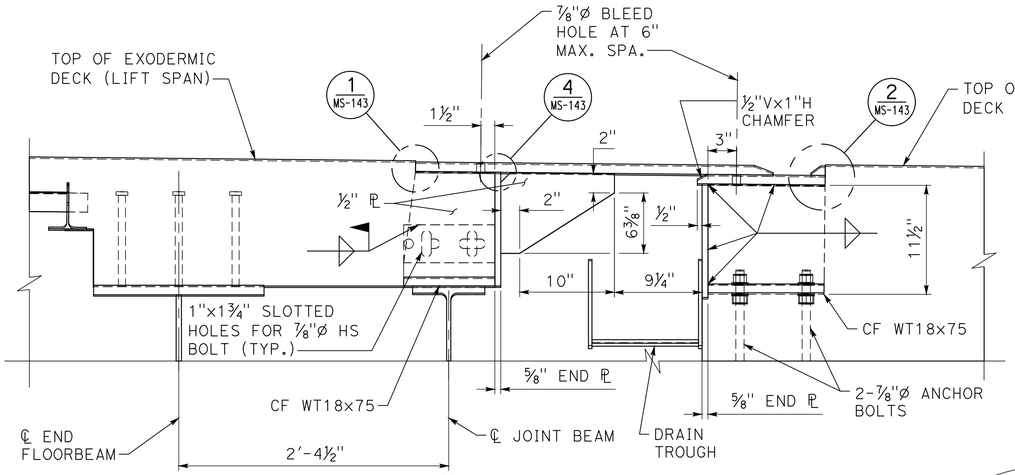
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN JOINT DETAILS - 2
(Date: 11/03/2025)

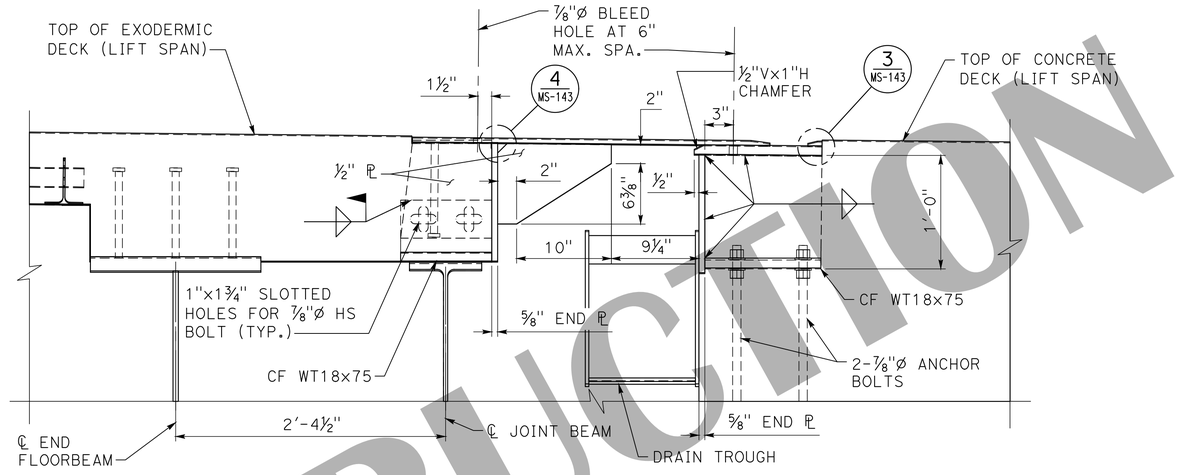
PN: T15136000
DWG NO.: MS-142
SHT NO.: 462 OF 648

p:\3326.01\CADD\Structural\MS-132 LIFT SPAN JOINT DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:54:06 PM

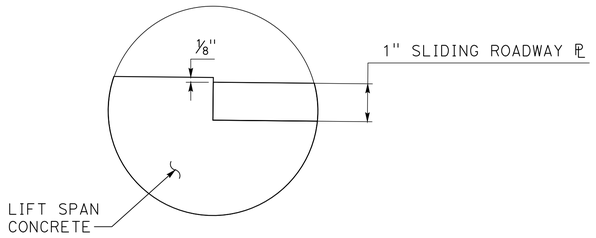
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



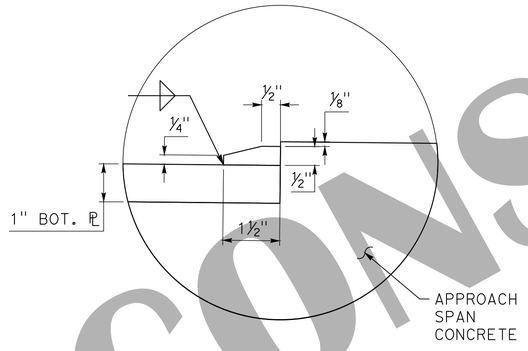
D MS-141 **SECTION**
SCALE: 1 1/2" = 1'-0"



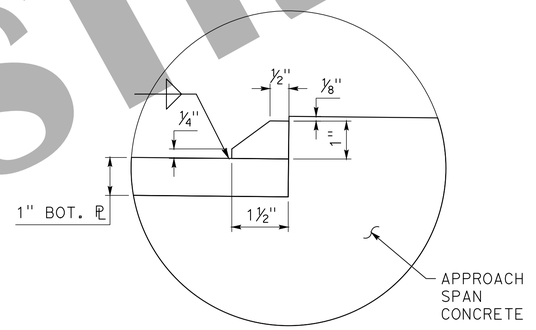
E MS-141 **SECTION**
SCALE: 1 1/2" = 1'-0"



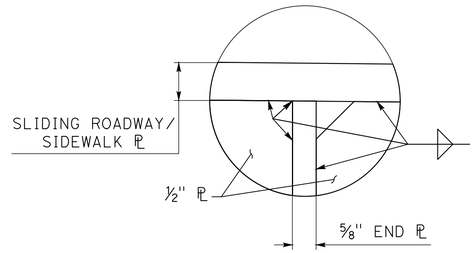
1 MS-141 **DETAIL**
SCALE: 6" = 1'-0"
(SLIDING SIDEWALK ℄ SIMILAR)



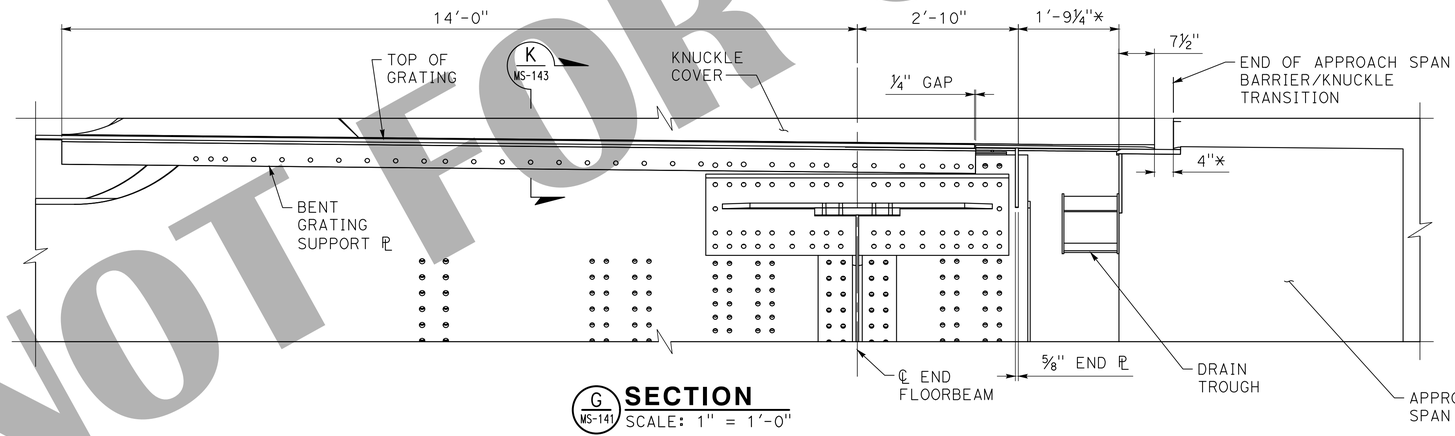
2 MS-141 **DETAIL**
SCALE: 6" = 1'-0"



3 MS-141 **DETAIL**
SCALE: 6" = 1'-0"

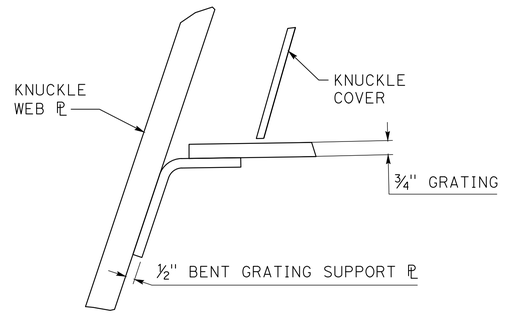


4 MS-141 **DETAIL**
SCALE: 6" = 1'-0"



G MS-141 **SECTION**
SCALE: 1" = 1'-0"

(*-DIMENSION BASED ON ASSUMED SETTING TEMPERATURE, ADJUST DIMENSION AS REQUIRED FOR TEMPERATURE AT TIME OF PLACEMENT)



K MS-141 **SECTION**
SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW	DESIGN BY: A. SHAW	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

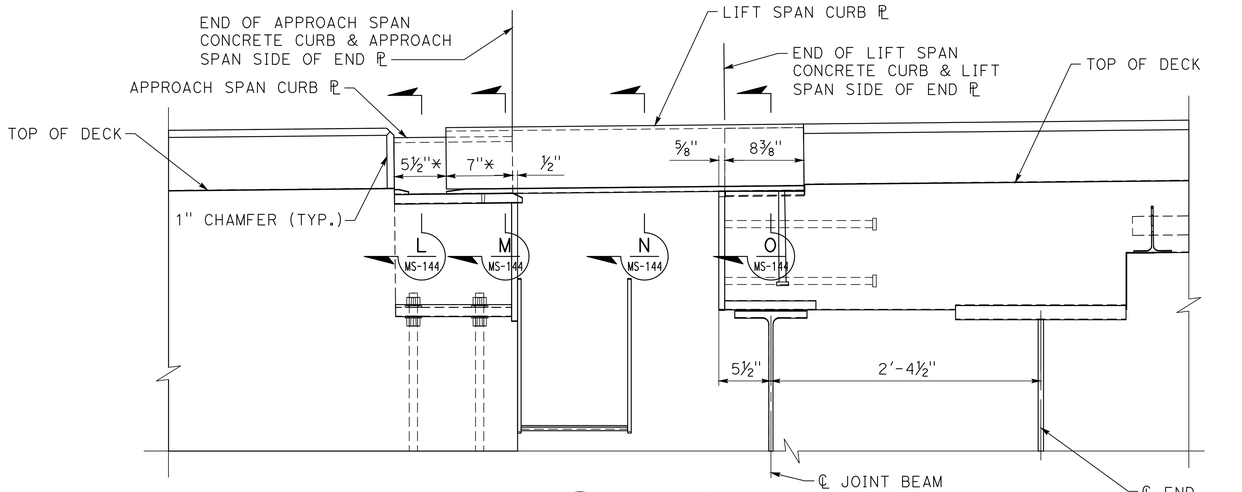
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN JOINT DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-143
SHT NO.: 463 OF 648

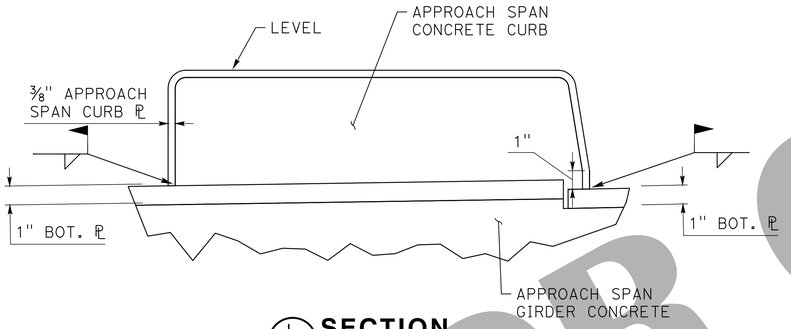
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-133 LIFT SPAN JOINT DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:54:16 PM

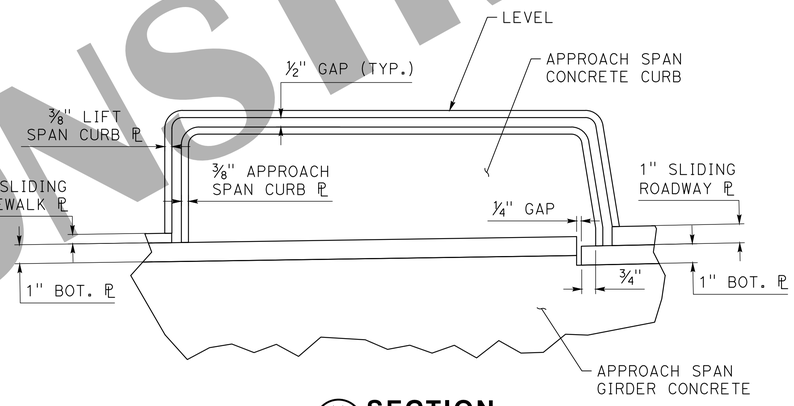


F MS-141 **SECTION**
SCALE: 1½" = 1'-0"

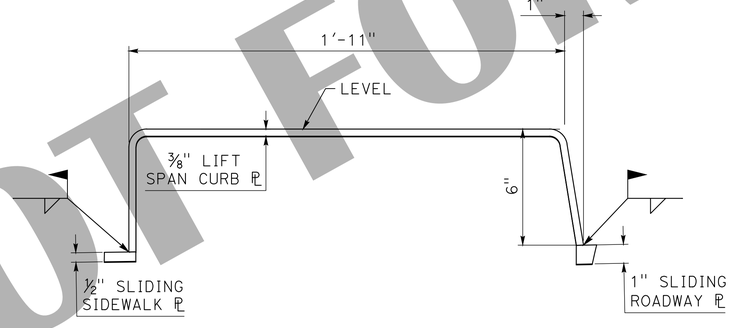
(BRIDGE RAILING NOT SHOWN FOR CLARITY)
(*-DIMENSION BASED ON ASSUMED SETTING TEMPERATURE, ADJUST DIMENSION AS REQUIRED FOR TEMPERATURE AT TIME OF PLACEMENT)



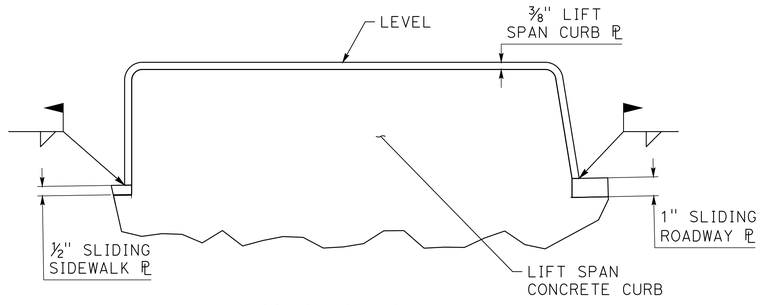
L MS-144 **SECTION**
SCALE: 3" = 1'-0"



M MS-144 **SECTION**
SCALE: 3" = 1'-0"



N MS-144 **SECTION**
SCALE: 3" = 1'-0"



O MS-144 **SECTION**
SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW DATE: 11/03/2025
DESIGN BY: A. SHAW DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

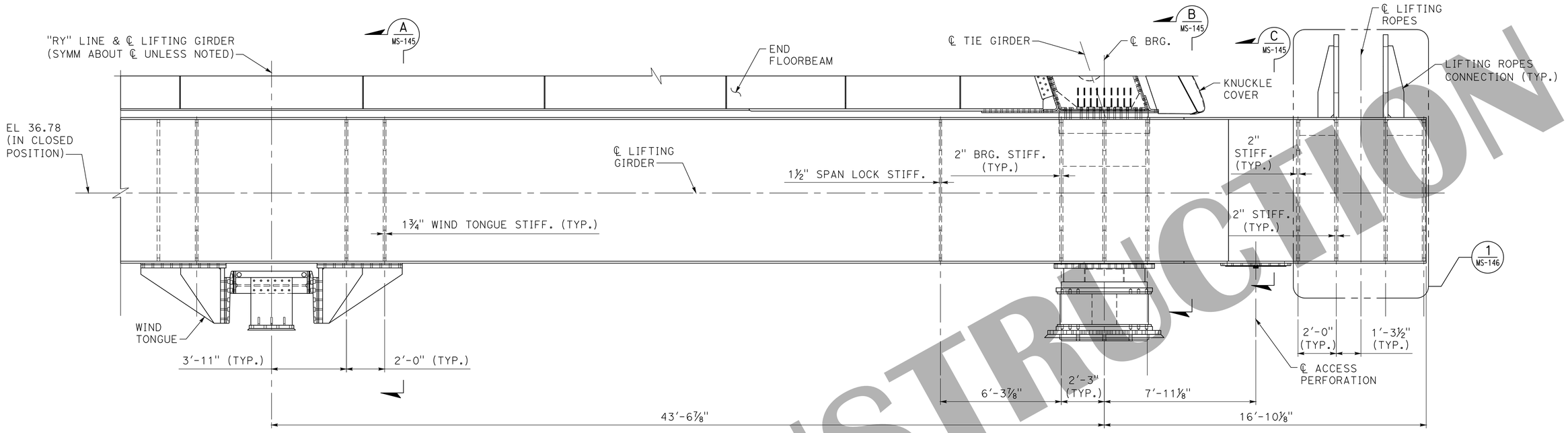
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN JOINT DETAILS - 4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-144
SHT NO.: 464
OF 648

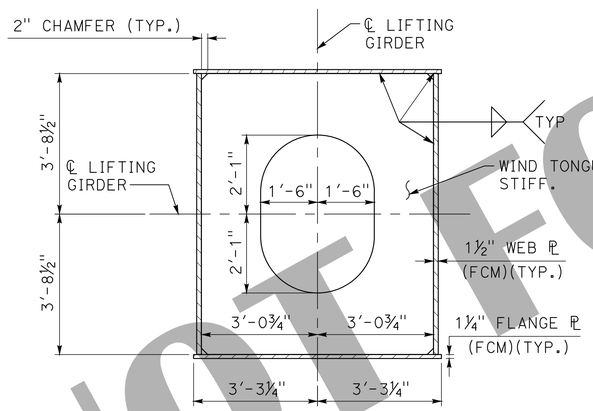
p:\3326.01\CADD\Structural\MS-134 LIFT SPAN JOINT DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:54:28 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

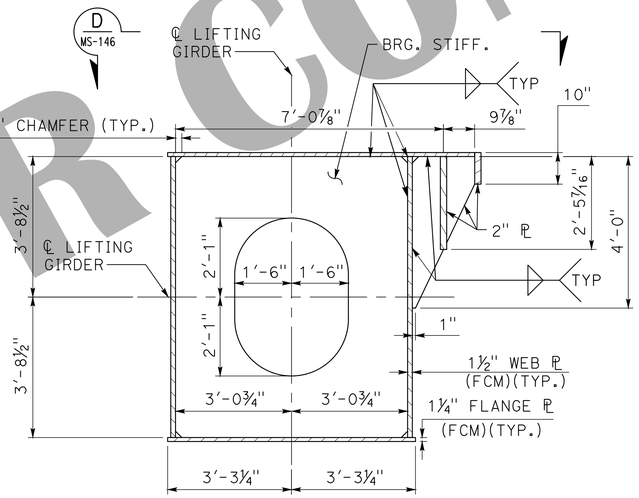


LIFTING GIRDER ELEVATION

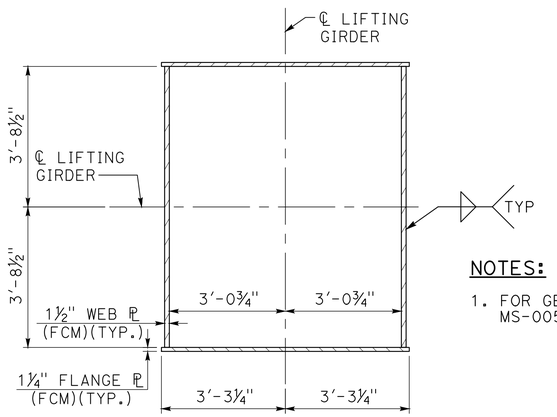
SCALE: ⅜" = 1'-0"
(WEST LIFTING GIRDER SHOWN, EAST SIMILAR)



A MS-145 **SECTION**
SCALE: ½" = 1'-0"
(WIND TONGUE NOT SHOWN FOR CLARITY)



B MS-145 **SECTION**
SCALE: ½" = 1'-0"
(TIE GIRDER AND LOWER LIFT SPAN BEARING NOT SHOWN FOR CLARITY)



C MS-145 **SECTION**
SCALE: ½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW DATE: 11/03/2025
DESIGN BY: A. SHAW DATE: 11/03/2025
CHECKED BY: R. BOTERO DATE: 11/03/2025

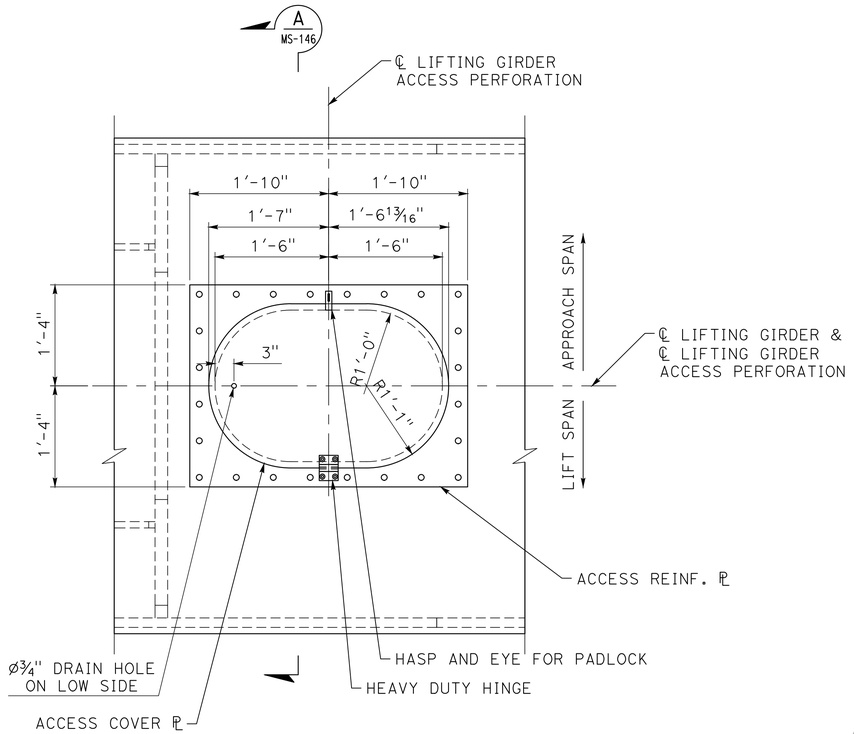
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFTING GIRDER DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-145
SHT NO.: 465 OF 648

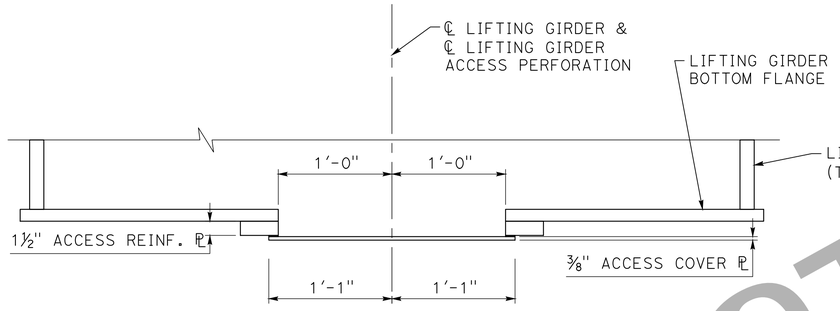
p:\3326.01\CADD\Structural\MS-135 LIFTING GIRDER DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:54:35 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



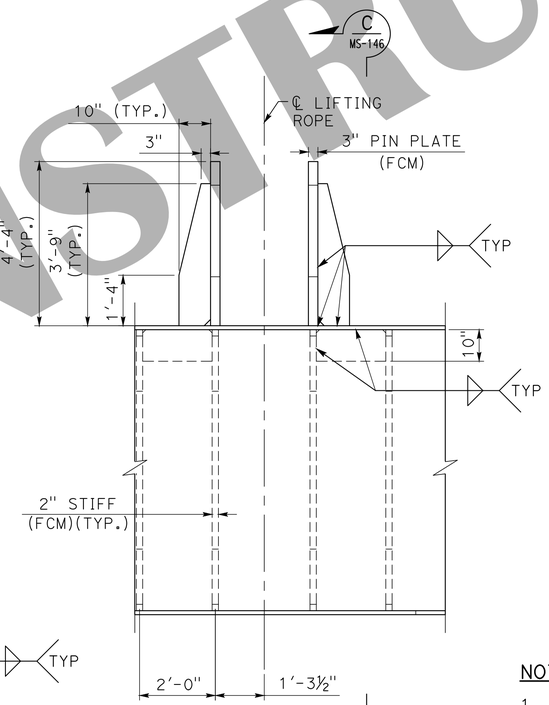
LIFTING GIRDER - BOTTOM FLANGE ACCESS PERFORATION COVER

SCALE: 1" = 1'-0"



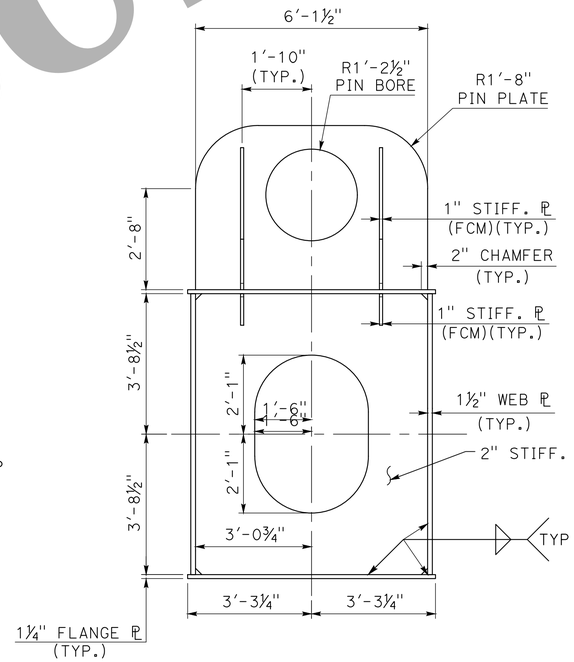
A MS-146 **SECTION**

SCALE: 1½" = 1'-0"



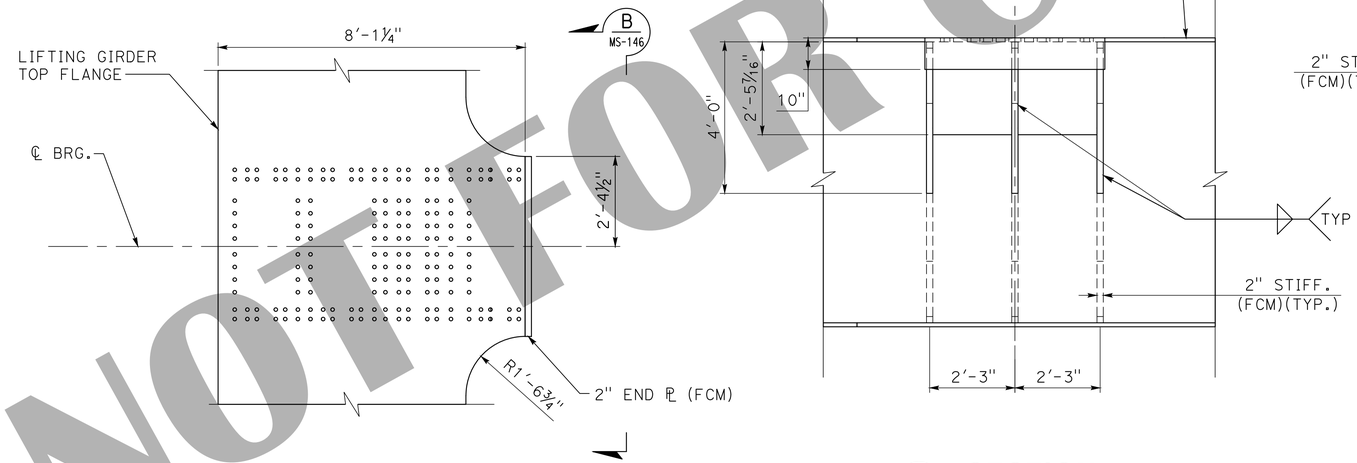
1 MS-145 **DETAIL**

SCALE: ½" = 1'-0"



C MS-146 **SECTION**

SCALE: ½" = 1'-0"



D MS-145 **SECTION**

SCALE: ½" = 1'-0"

B MS-145 **SECTION**

SCALE: ½" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. SHAW	DESIGN BY: A. SHAW	CHECKED BY: R. BOTERO
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPPENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFTING GIRDER DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

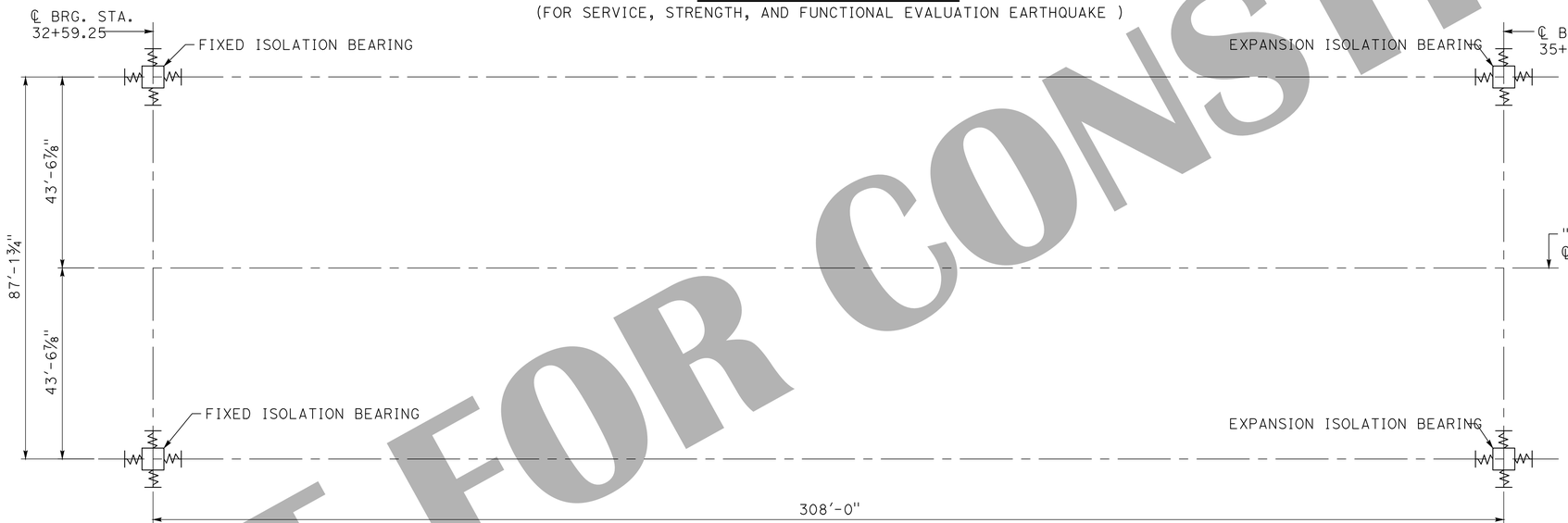
DWG NO.: MS-146
SHT NO.: 466 OF 648

p:\3326.01\CADD\Structural\MS-136 LIFTING GIRDER DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:54:41 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

BEARING KEY PLAN

(FOR SERVICE, STRENGTH, AND FUNCTIONAL EVALUATION EARTHQUAKE)



SEISMIC BEARING KEY PLAN

(FOR DEMANDS GREATER THAN FUNCTIONAL EVALUATION EARTHQUAKE)

LEAD-CORE ELASTOMERIC (LCE) ISOLATION BEARING NOTES

FIXED ISOLATION BEARING:
FIXED LONGITUDINALLY AND FREE TRANSVERSELY FOR ALL SERVICE, STRENGTH, AND EXTREME EVENT LIMIT STATES INCLUDING EXTREME-I DEMANDS UP TO THE FUNCTIONAL EVALUATION EARTHQUAKE. AFTER A FUNCTIONAL EVALUATION EARTHQUAKE DEMAND THE LEAD CORE SHALL BE DESIGNED TO YIELD AND THE BEARING WILL FUNCTION AS A MULTI-DIRECTIONAL SEISMIC ISOLATION BEARING WHICH WILL HAVE VARIABLE STIFFNESS FOR DIFFERENT SEISMIC EVENTS.

EXPANSION ISOLATION BEARING:

FREE LONGITUDINALLY AND FREE TRANSVERSELY FOR ALL SERVICE, STRENGTH, AND EXTREME EVENT LIMIT STATES INCLUDING EXTREME-I DEMANDS UP TO THE FUNCTIONAL EVALUATION EARTHQUAKE. AFTER A FUNCTIONAL EVALUATION EARTHQUAKE DEMAND THE LEAD CORE SHALL BE DESIGNED TO YIELD AND THE BEARING WILL FUNCTION AS A MULTI-DIRECTIONAL SEISMIC ISOLATION BEARING WHICH WILL HAVE VARIABLE STIFFNESS FOR DIFFERENT SEISMIC EVENTS.

LEGEND

- DIRECTION OF FREE MOVEMENT
- DIRECTION OF RESTRAINED MOVEMENT
- DIRECTION OF MULTI-STIFFNESS

TRANSVERSE
LONGITUDINAL
AXIS

NOTES:

1. FOR ISOLATION BEARING DETAILS, SEE DWG. NOS. MS-150 AND MS-151.
2. FOR CENTERING DEVICE DETAILS SEE DWG. NOS. MS-148 AND MS-149.
3. FOR ISOLATION BEARING DEMANDS AND ADDITIONAL REQUIREMENTS SEE SPECIAL PROVISIONS.

NOT FOR CONSTRUCTION!

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. BOTERO DATE: 11/03/2025
DESIGN BY: R. BOTERO DATE: 11/03/2025
CHECKED BY: P. GHIMIRE DATE: 11/03/2025

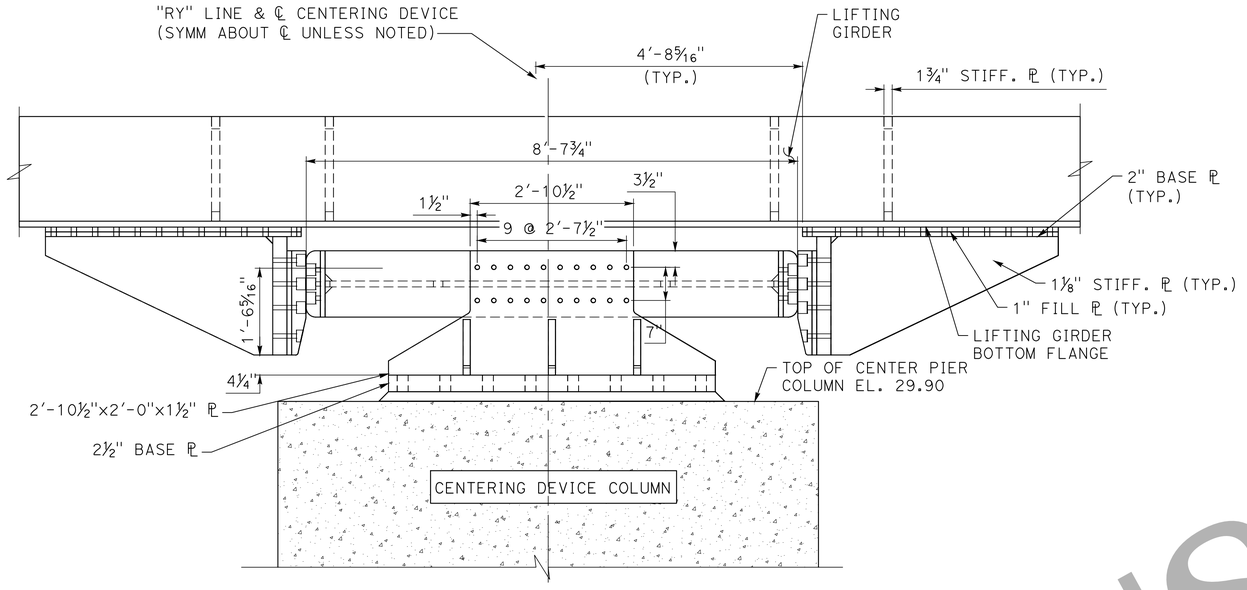
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN BEARING KEY PLAN
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-147
SHT NO.: 467 OF 648

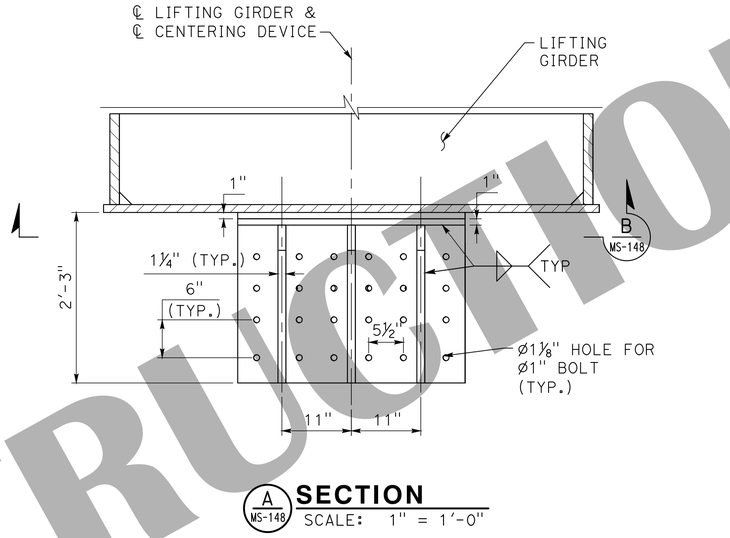
p:\3326.01\CADD\Structural\MS-137 LIFT SPAN BEARING KEY PLAN.dwg LAST PLOTTED: 11/3/2025 1:54:46 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



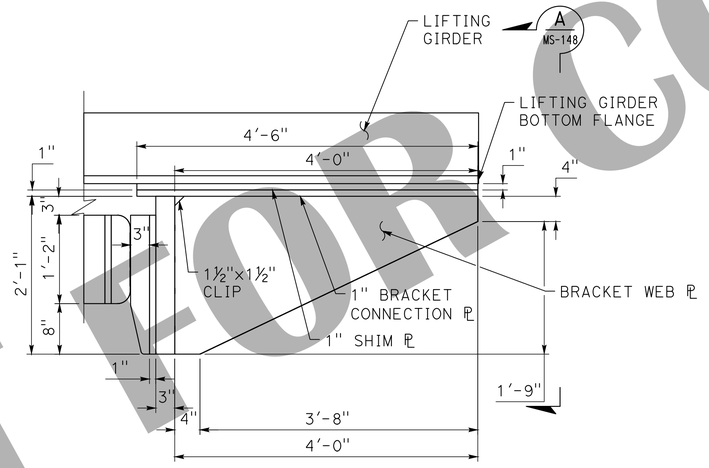
CENTERING DEVICE - UPPER AND LOWER ELEVATION

SCALE: ¾" = 1'-0"



A MS-148 **SECTION**

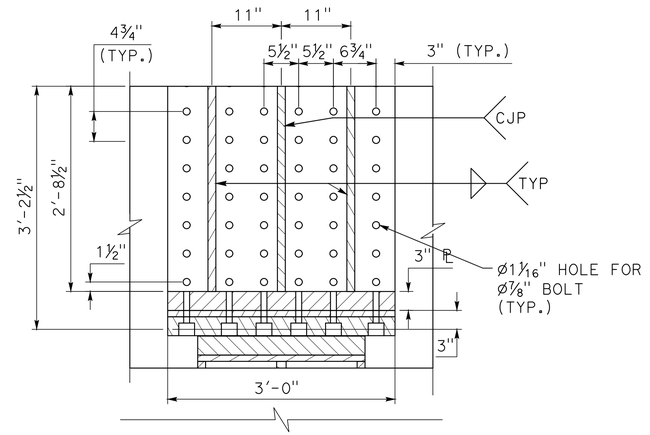
SCALE: 1" = 1'-0"



CENTERING DEVICE - UPPER ELEVATION

SCALE: 1" = 1'-0"

(RIGHT UPPER CENTERING DEVICE SHOWN, LEFT UPPER CENTERING DEVICE SIMILAR)



B MS-148 **SECTION**

SCALE: 1" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON	DESIGN BY: S. WAGLEY	CHECKED BY: P. RITCHIE
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

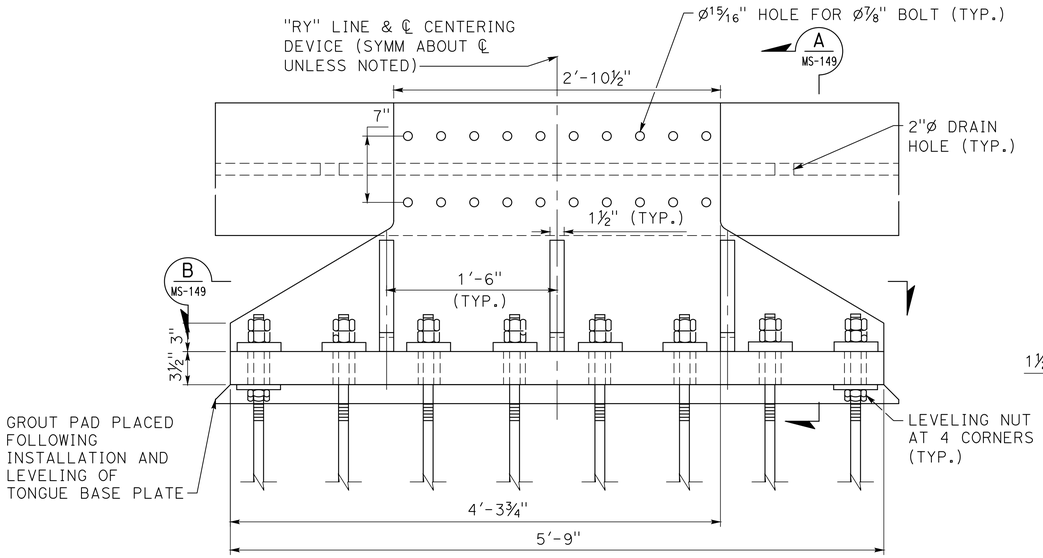
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CENTERING DEVICE - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-148
SHT NO.: 468 OF 648

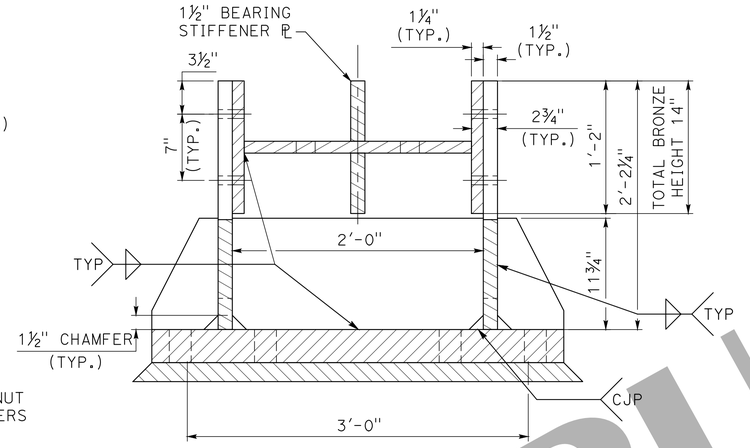
\\mmdc10\projects\3326.01\CADD\Structural\MS-138 CENTERING DEVICE - 1.dwg LAST PLOTTED: 11/3/2025 2:25:22 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



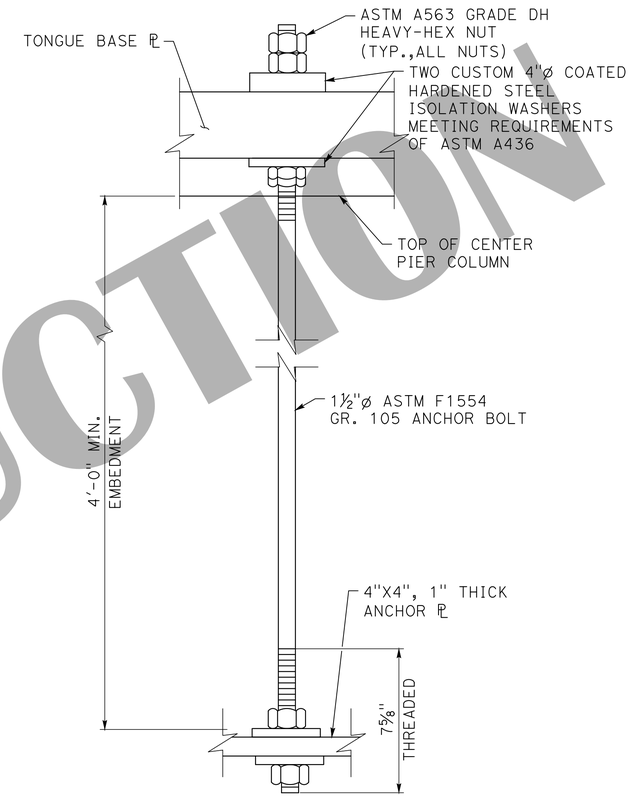
CENTERING DEVICE - LOWER ELEVATION

SCALE: 1½" = 1'-0"
(CENTER PIER COLUMN NOT SHOWN FOR CLARITY)



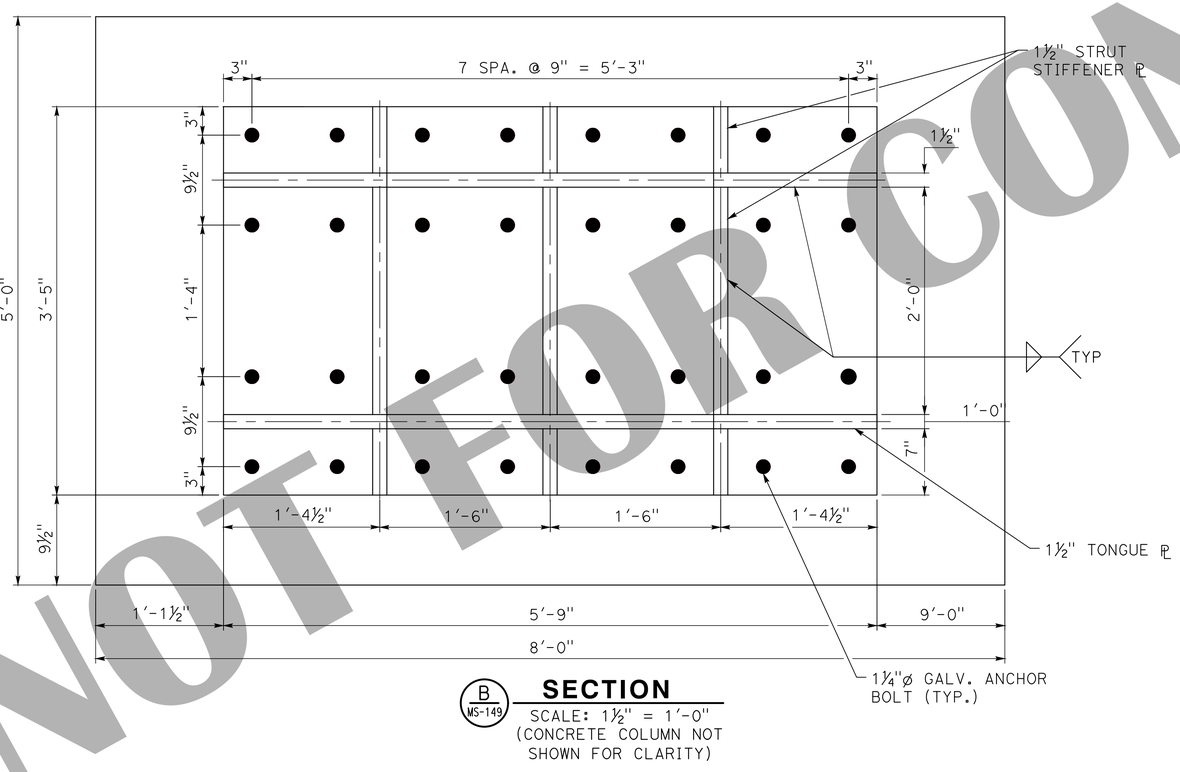
A MS-149 **SECTION**

SCALE: 1½" = 1'-0"
(CENTER PIER COLUMN NOT SHOWN FOR CLARITY)



ANCHOR BOLT DETAIL

SCALE: 3" = 1'-0"
(ONE INTERIOR ANCHOR BOLT SHOWN ONLY.
OTHER BOLTS SIMILAR. SEE NOTE XX



B MS-149 **SECTION**

SCALE: 1½" = 1'-0"
(CONCRETE COLUMN NOT SHOWN FOR CLARITY)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. CONCRETE SURFACE UNDER THE GROUT PAD SHALL BE INTENTIONALLY ROUGHENED WITH BRUSH AND HAMMER AND BLAST CLEANED PRIOR TO INSTALLATION OF THE GROUT.
3. ANCHOR BOLTS, NUTS, AND PLATE WASHERS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM F1554.
4. FOR CENTER PIER COLUMN DETAILS, SEE SHEET MS-019 AND MS-020.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. JOHNSON DATE: 11/03/2025
DESIGN BY: S. WAGLEY DATE: 11/03/2025
CHECKED BY: P. RITCHIE DATE: 11/03/2025

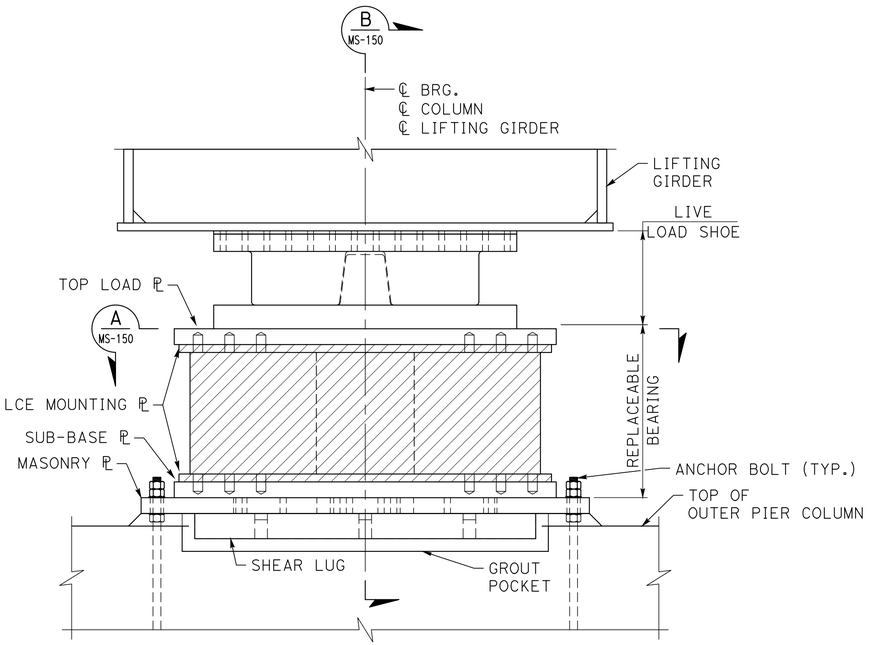
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CENTERING DEVICE - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-149
SHT NO.: 469 OF 648

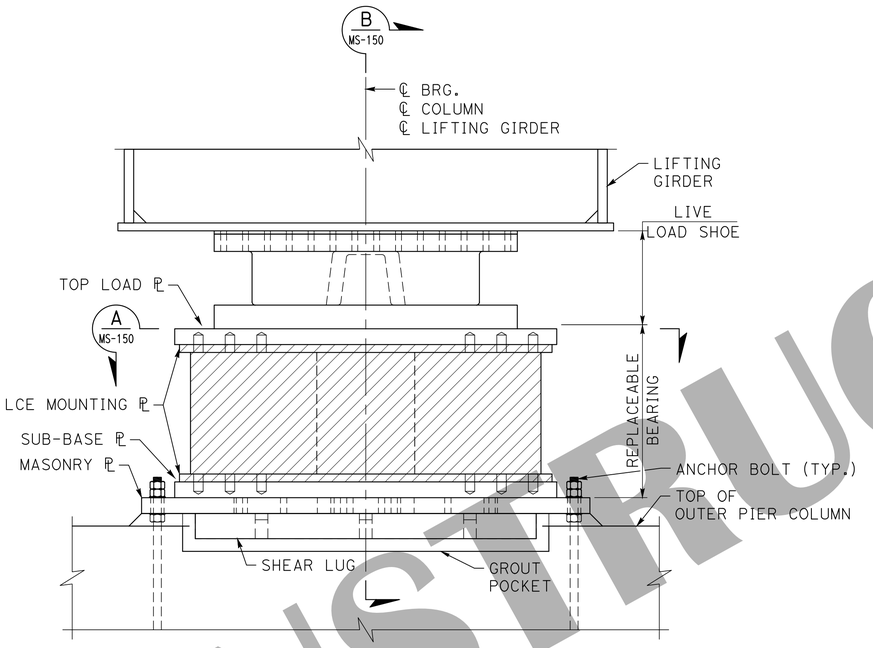
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

\\mmdc10\projects\3326.01\CADD\Structural\MS-139 CENTERING DEVICE - 2.dwg LAST PLOTTED: 11/3/2025 2:32:39 PM



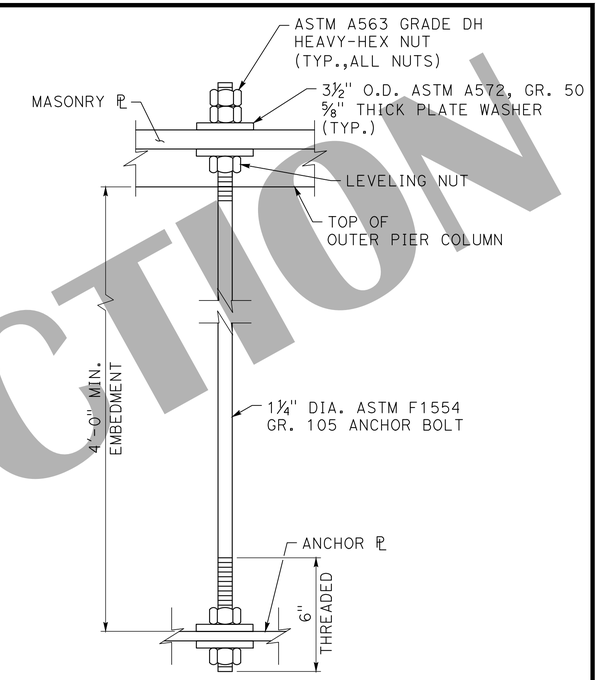
FIXED ISOLATION BEARING

SCALE: 1" = 1'-0"



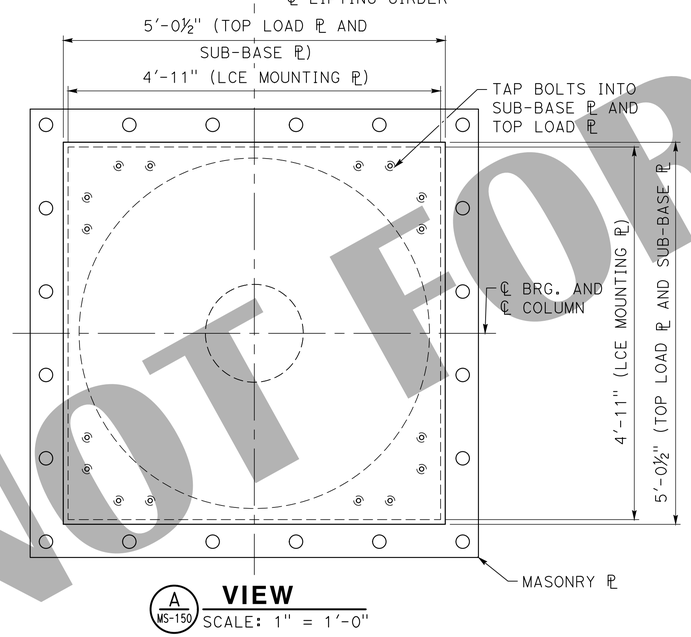
EXPANSION ISOLATION BEARING

SCALE: 1" = 1'-0"

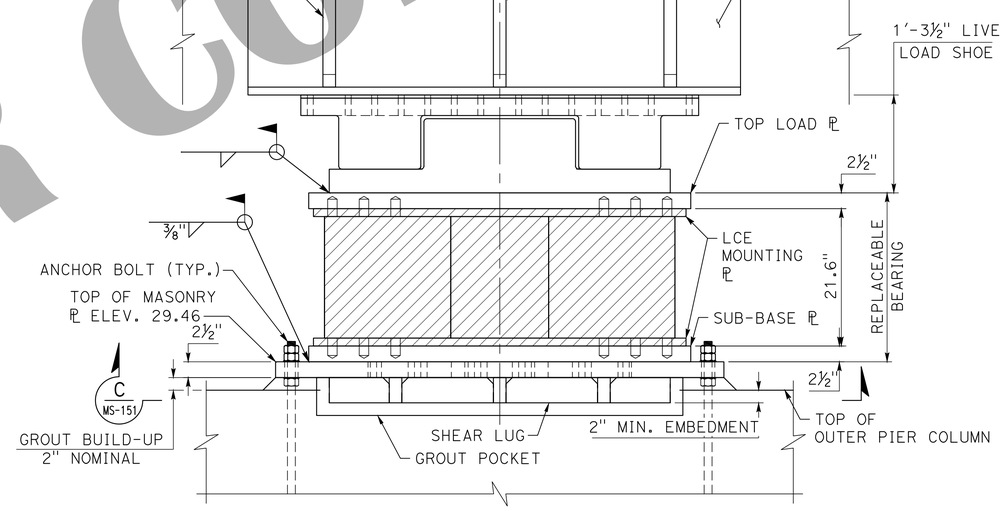


ANCHOR BOLT DETAIL

SCALE: 3" = 1'-0"
(ONE INTERIOR ANCHOR BOLT SHOWN ONLY. OTHER BOLTS SIMILAR. SEE NOTE 8)



A MS-150 **VIEW**
SCALE: 1" = 1'-0"



B MS-150 **SECTION**
SCALE: 1" = 1'-0"

LEGEND:

INDICATES BEARING PARTS DESIGNED BY MANUFACTURER

NOTES:

1. THE CONNECTION OF THE BEARING TO THE SUB-BASE PLATE AND THE TOP LOAD PLATE SHALL BE DESIGNED BY THE BEARING MANUFACTURER IN ACCORDANCE WITH DEMANDS AND REQUIREMENTS GIVEN IN THE SPECIAL PROVISIONS.
2. BEARING DIMENSIONS ARE BASED ON VARIOUS LEAD CORE ELASTOMER SEISMIC ISOLATION BEARINGS. ADJUST TOP OF OUTER PIER COLUMN AND TOP OF MASONRY PLATE ELEVATIONS BASED ON ACTUAL DIMENSIONS OF THE SELECTED SEISMIC ISOLATION BEARINGS.
3. CONCRETE SURFACE OF THE GROUT POCKET AND UNDER THE GROUT PAD SHALL BE INTENTIONALLY ROUGHENED WITH BRUSH AND HAMMER AND BLAST CLEANED PRIOR TO INSTALLATION OF THE GROUT.
4. FOR ANCHOR ℙ DETAILS, AND LIVE LOAD SHOE DETAILS SEE DWG. NO. MS-151.
5. FOR GROUT POCKET DETAILS SEE DWG. NO. MS-019.
6. FOR OUTER PIER COLUMN DETAILS SEE DWG. NOS. MS-019 AND MS-020.
7. FOR LIFT SPAN BEARING KEY PLAN SEE DWG. NO. MS-147.
8. PROVIDE EACH ANCHOR BOLT WITH FIVE (5) NUTS AND FOUR (4) PLATE WASHERS. ANCHOR BOLTS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM F1554.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. BOTERO	DESIGN BY: R. BOTERO	CHECKED BY: P. GHIMIRE
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

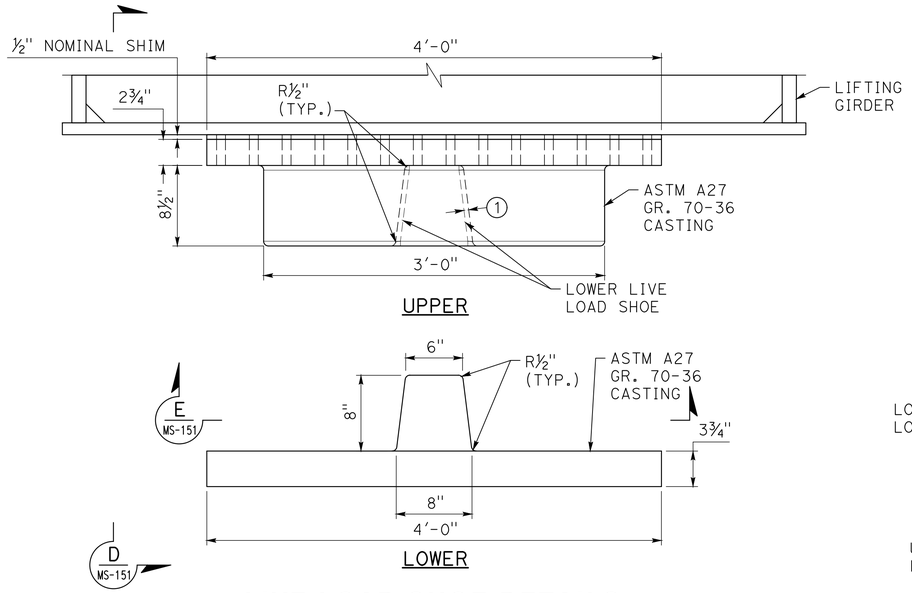
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN BEARINGS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-150
SHT NO.: 470 OF 648

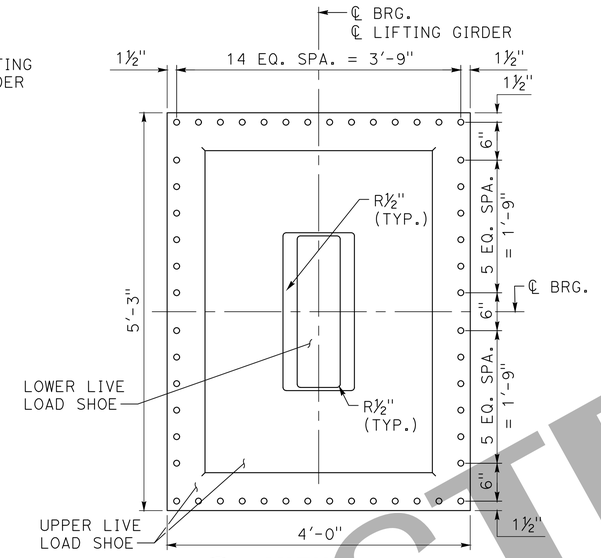
p:\3326.01\CADD\Structural\MS-140 LIFT SPAN BEARINGS - 1.dwg LAST PLOTTED: 11/3/2025 1:55:04 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



LIVE LOAD SHOE DETAILS

SCALE: 1½" = 1'-0"

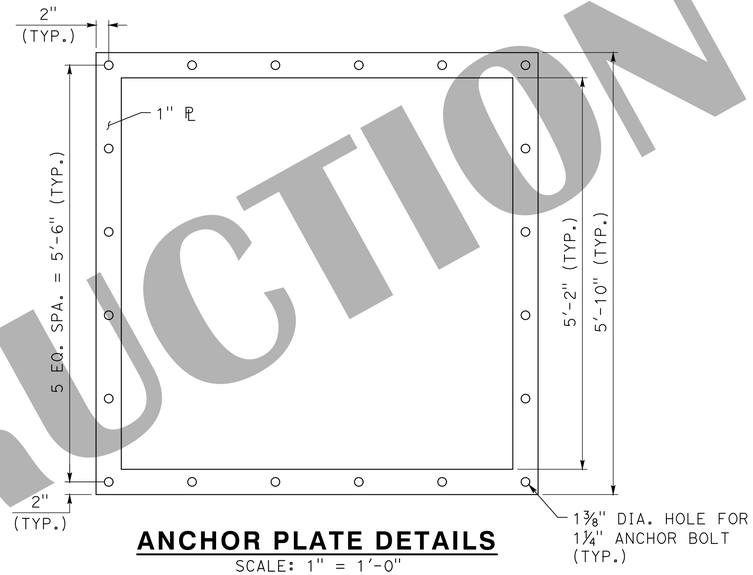


E MS-151

VIEW

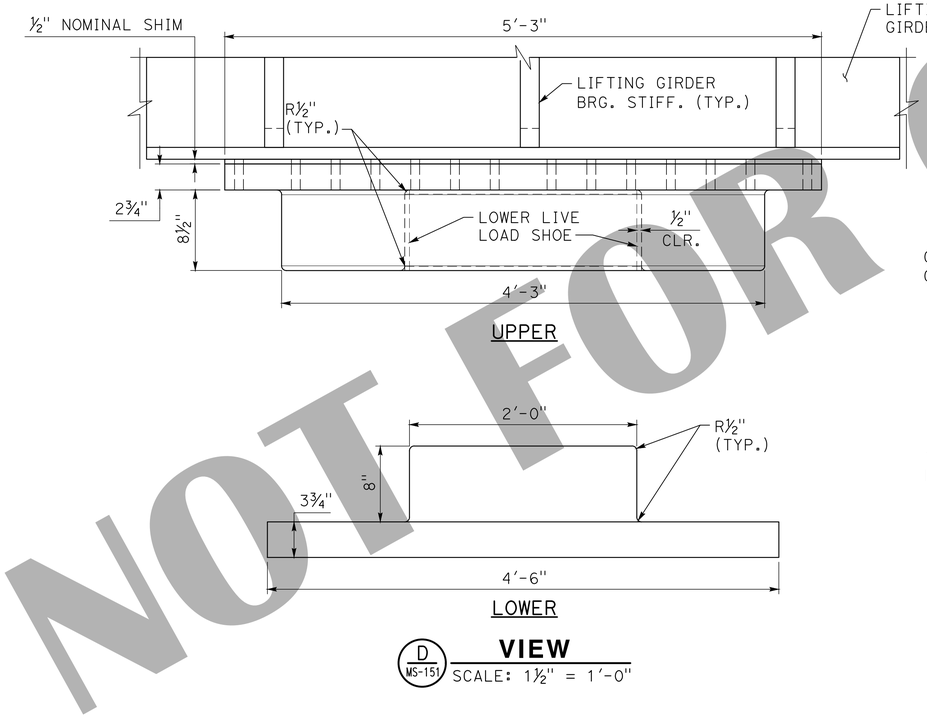
SCALE: 1½" = 1'-0"

(SECTION AT EXPANSION ISOLATION BEARING SHOWN, SECTION AT FIXED ISOLATION BEARING SIMILAR)



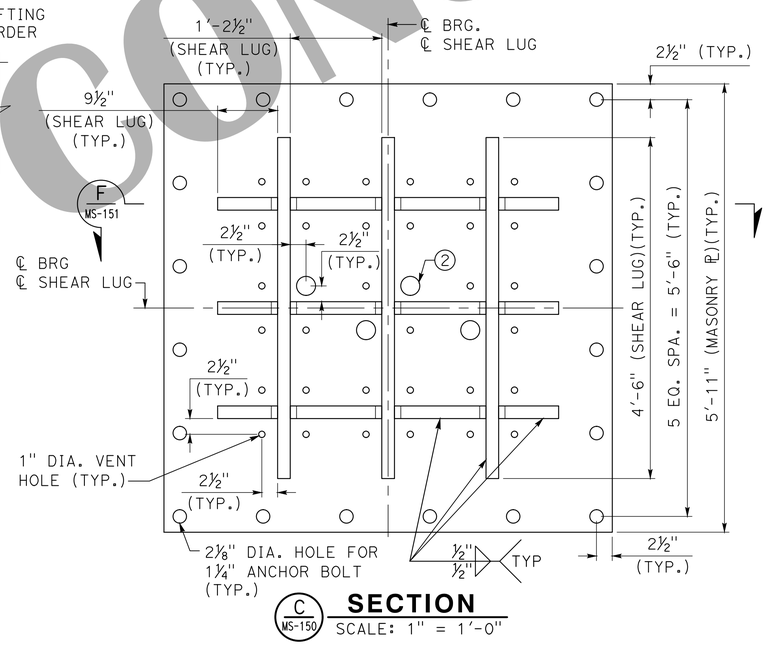
ANCHOR PLATE DETAILS

SCALE: 1" = 1'-0"



VIEW

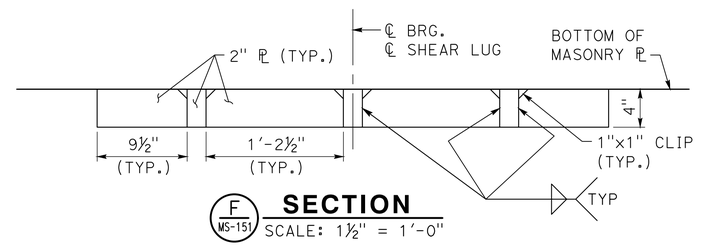
SCALE: 1½" = 1'-0"



C MS-150

SECTION

SCALE: 1" = 1'-0"



F MS-151

SECTION

SCALE: 1½" = 1'-0"

NOTES:

1. ⅛" CLR. AT FIXED ISOLATION BEARINGS, 2¼" CLR. AT EXPANSION ISOLATION BEARINGS
2. 3" DIA. GROUT HOLE (TYP.)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. BOTERO	DESIGN BY: R. BOTERO	CHECKED BY: P. GHIMIRE
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

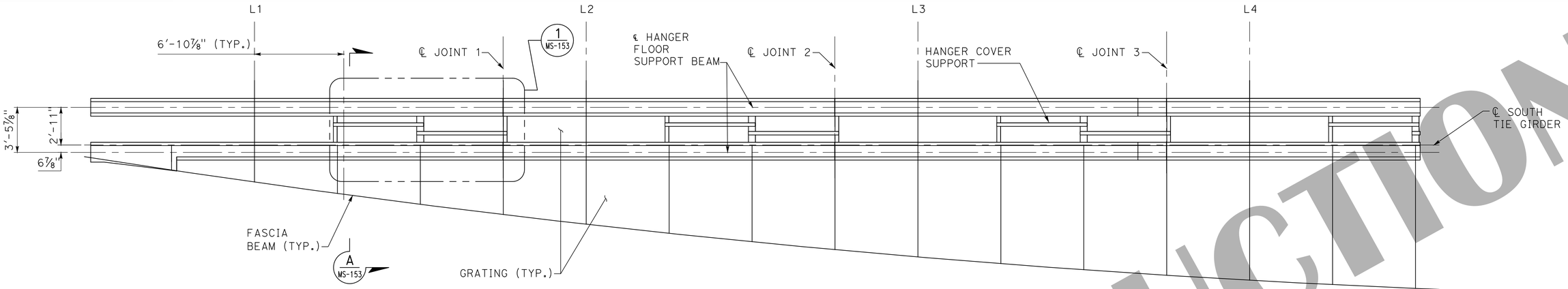
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFT SPAN BEARINGS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-151
SHT NO.: 471 OF 648

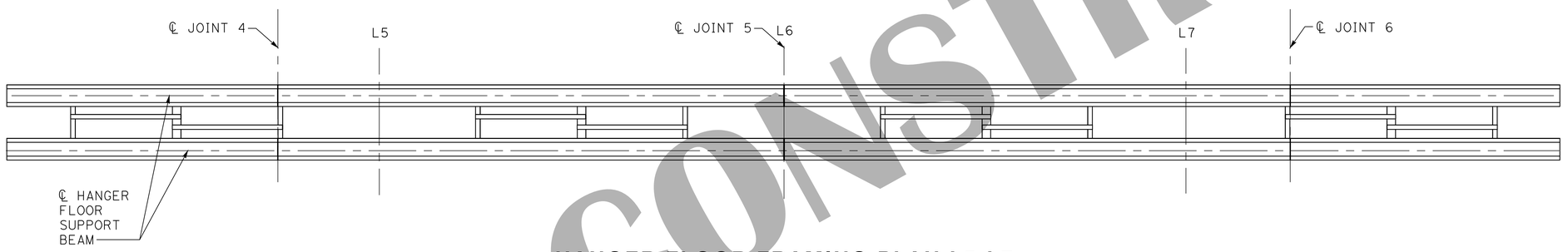
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-141 LIFT SPAN BEARINGS - 2.dwg LAST PLOTTED: 11/3/2025 1:55:12 PM



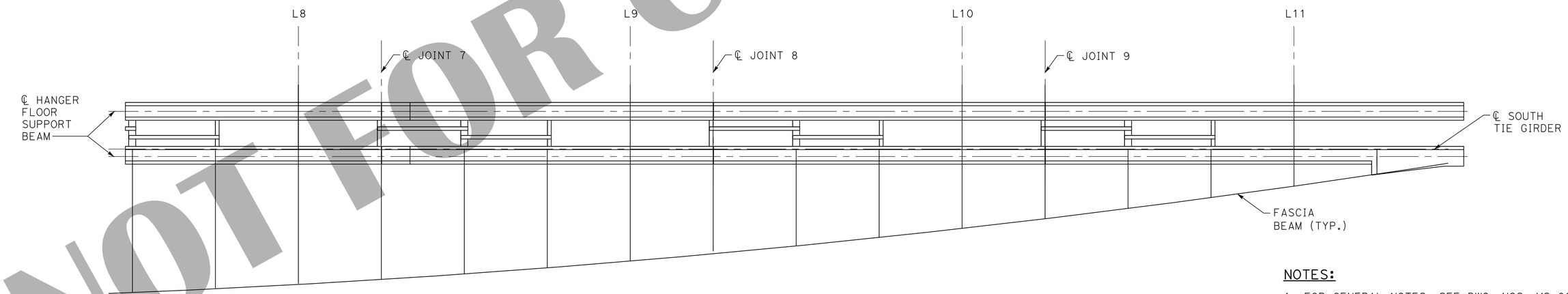
HANGER FLOOR FRAMING PLAN L1-L4

SCALE: ¼" = 1'-0"



HANGER FLOOR FRAMING PLAN L5-L7

SCALE: ¼" = 1'-0"



HANGER FLOOR FRAMING PLAN L8-L11

SCALE: ¼" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS. MS-003 THRU MS-005.
2. FOR OUTBOARD MEMBER END DETAILS, SEE DWG. NOS. MS-134 AND MS-158.

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY — DATE: 11/03/2025
DESIGN BY: R. HICKEY — DATE: 11/03/2025
CHECKED BY: R. KRIEGER — DATE: 11/03/2025

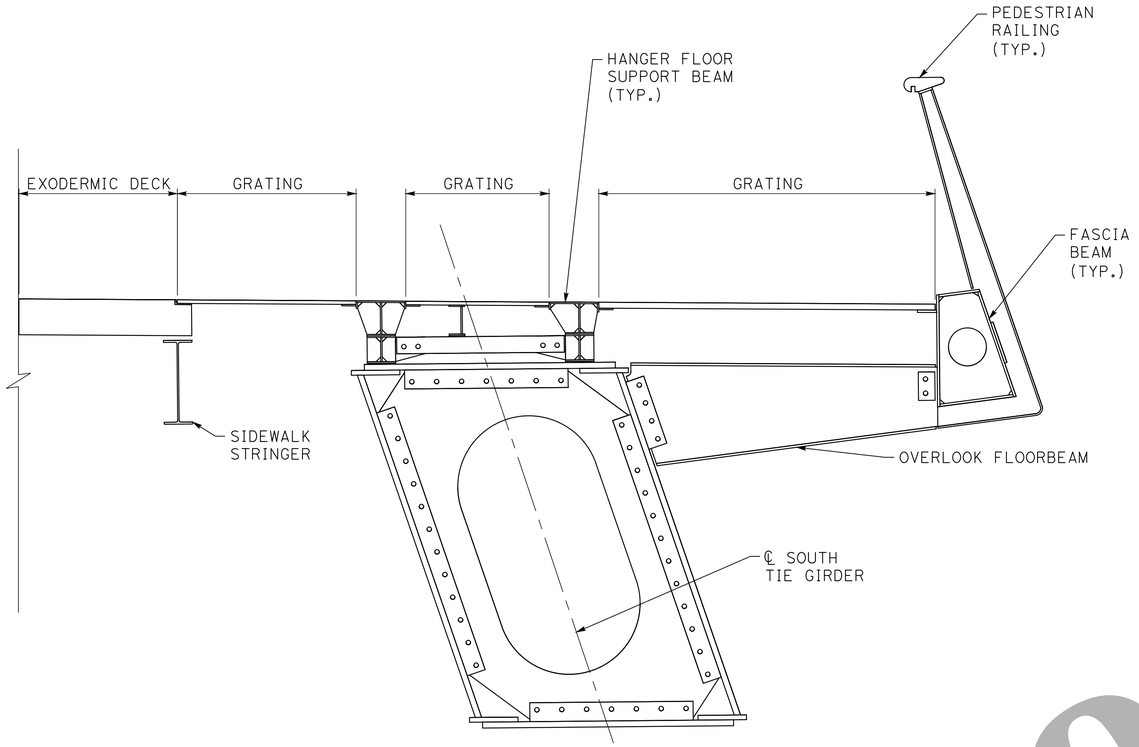
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER FLOOR FRAMING PLAN
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-152
SHT NO.: 472 OF 648

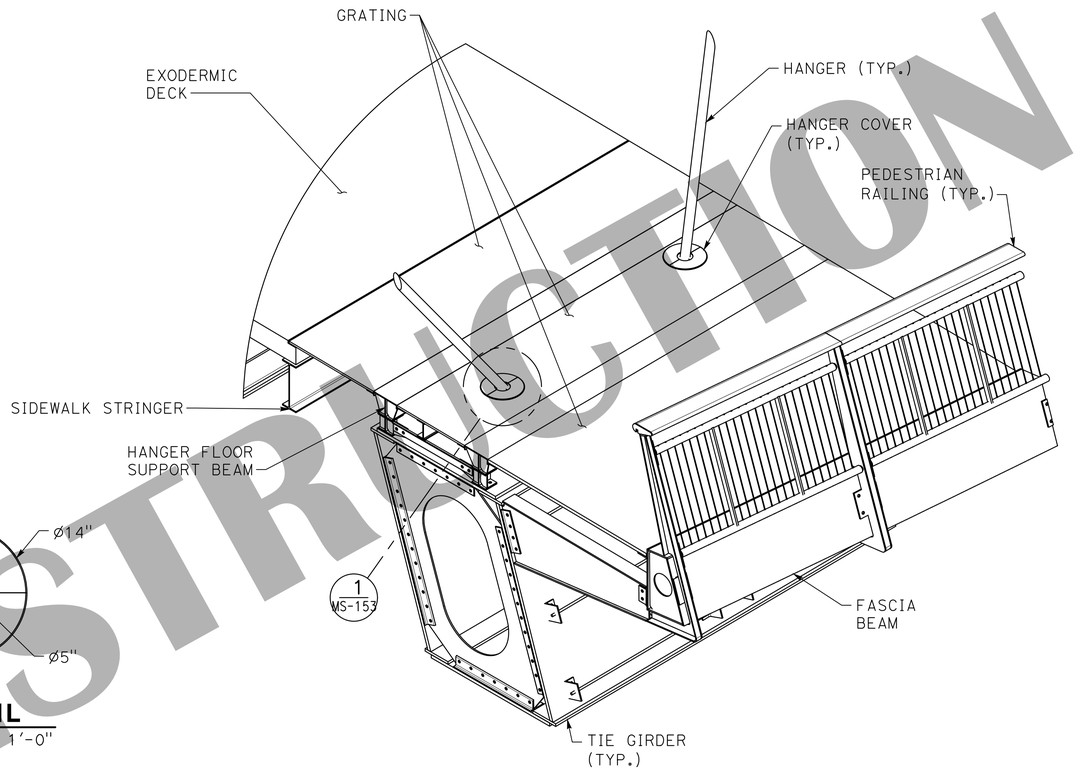
p:\3326.01\CADD\Structural\MS-142 HANGER FLOOR FRAMING PLAN.dwg LAST PLOTTED: 11/3/2025 1:55:20 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

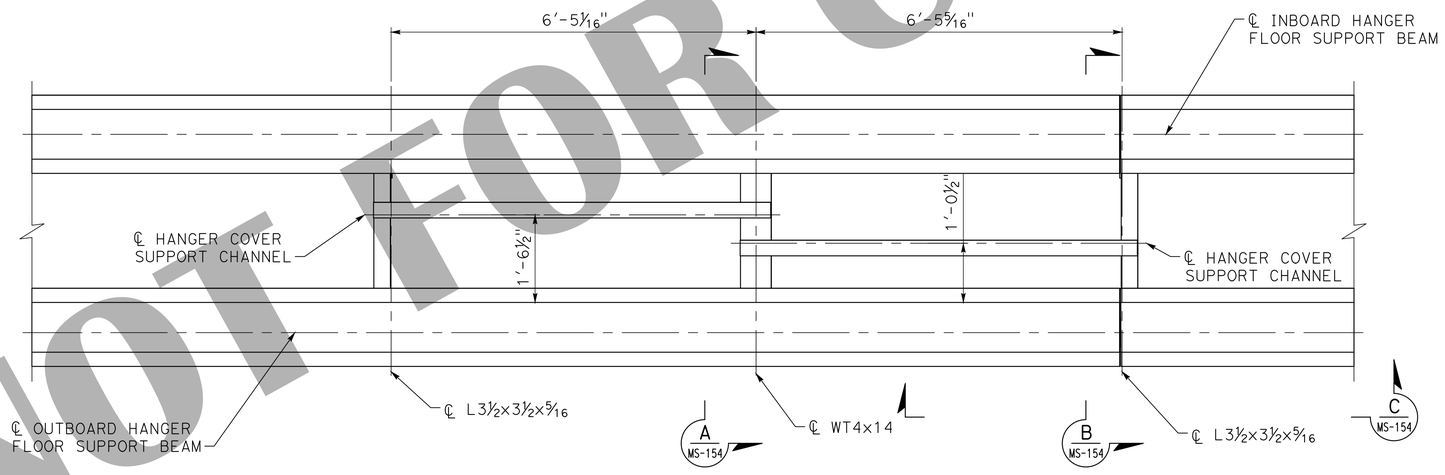


A / MS-152 **SECTION**
SCALE: ¾" = 1'-0"

1 / MS-153 **DETAIL**
SCALE: 3" = 1'-0"



HANGER FLOOR ISOMETRIC VIEW
SCALE: ½" = 1'-0"



1 / MS-153 **DETAIL**
SCALE: ¾" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NOS MS-003 THRU MS-005.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: R. KRIEGER DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

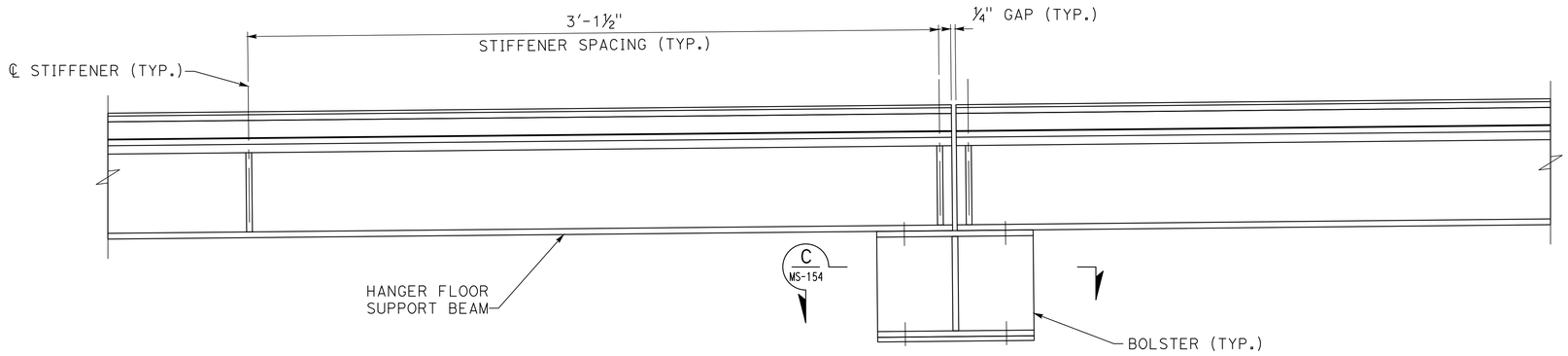
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER FLOOR FRAMING DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

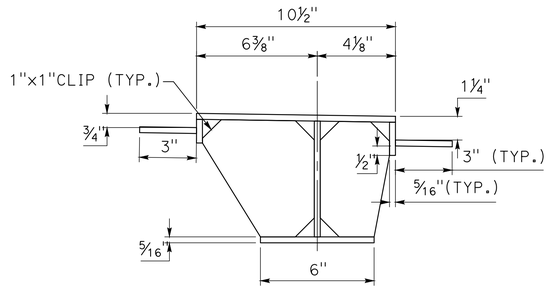
DWG NO.: MS-153
SHT NO.: 473 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

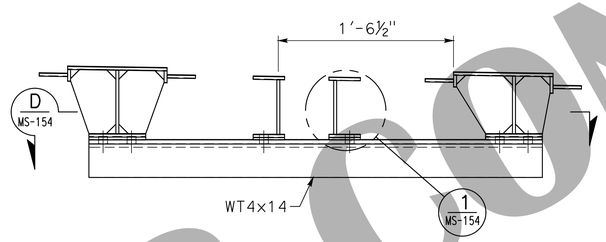
p:\3326.01\CADD\Structural\MS-143 HANGER FLOOR FRAMING DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:55:35 PM



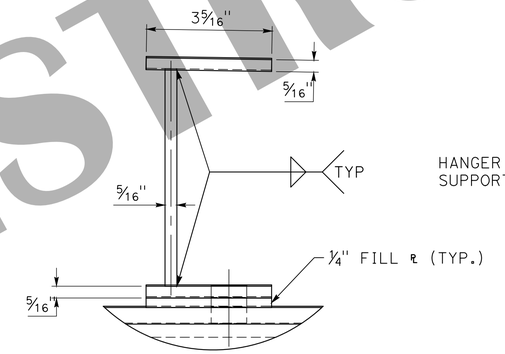
1/MS-153 DETAIL
SCALE: 3" = 1'-0"



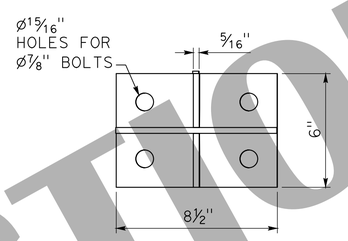
OUTBOARD HANGER FLOOR SUPPORT BEAM TYPICAL SECTION
SCALE: 3" = 1'-0"



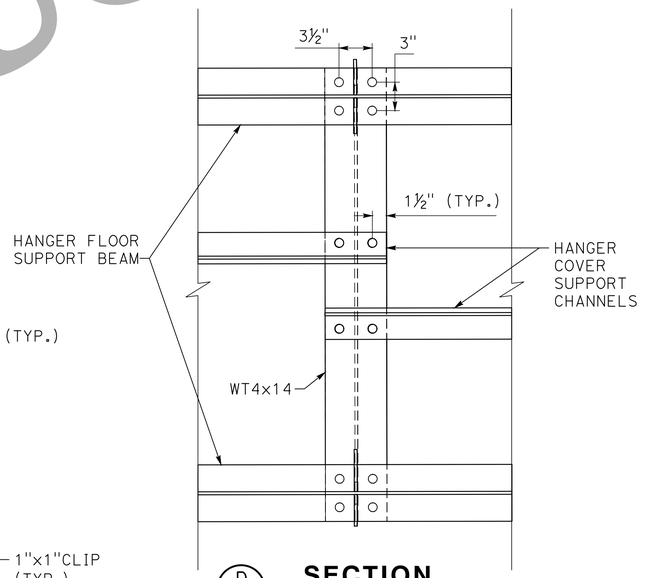
A/MS-153 SECTION
SCALE: 1-½" = 1'-0"



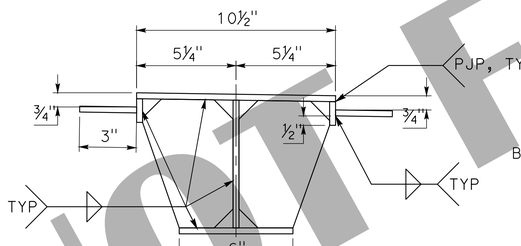
1/MS-154 DETAIL
SCALE: 6" = 1'-0"



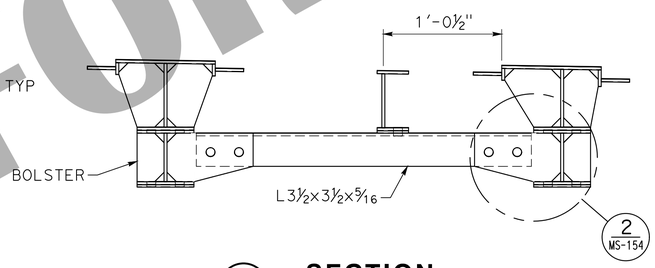
C/MS-154 BOLSTER SECTION
SCALE: 3" = 1'-0"
NOTE: BOLSTER TOP AND BOTTOM IDENTICAL.



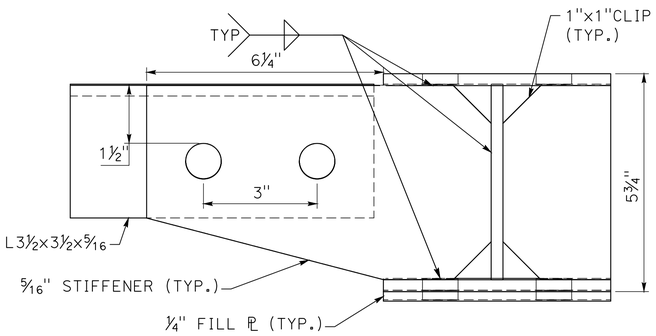
D/MS-154 SECTION
SCALE: 1-½" = 1'-0"



INBOARD HANGER FLOOR SUPPORT BEAM TYPICAL SECTION
SCALE: 3" = 1'-0"



B/MS-153 SECTION
SCALE: 1-½" = 1'-0"



2/MS-154 DETAIL
SCALE: 6" = 1'-0"

NOTES:

1. ALL BOLT HOLES SHOWN ARE ø1 1⁄16" FOR ø⅝" ASTM F3125 GRADE A325 BOLTS UNLESS OTHERWISE NOTED.
2. FOR BOLSTER LOCATIONS ON TIE GIRDER, SEE DWG. NOS. MS-116 THRU MS-118.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY	DESIGN BY: R. HICKEY	CHECKED BY: R. KRIEGER
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

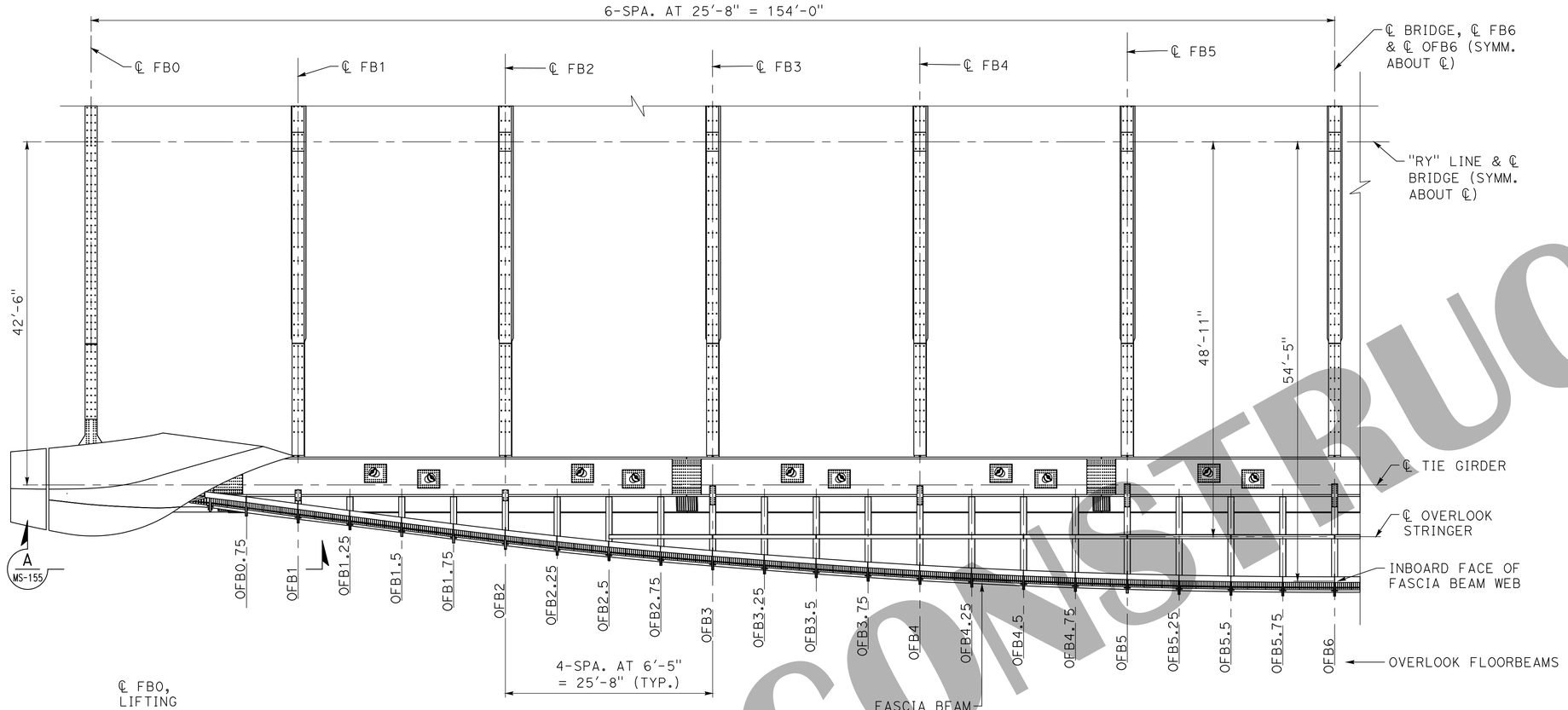
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HANGER FLOOR FRAMING DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-154
SHT NO.: 474 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

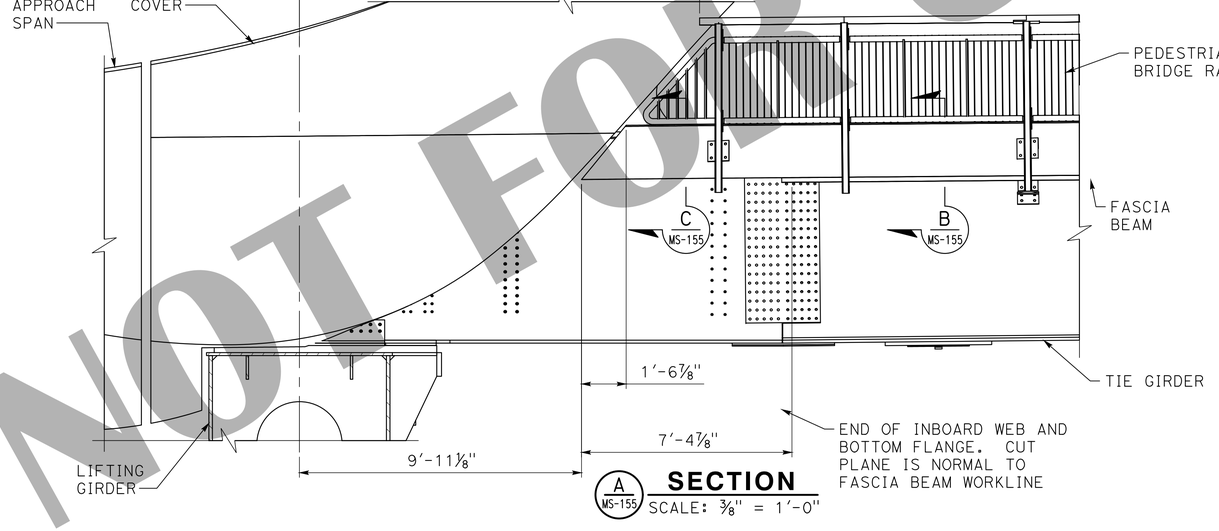
p:\3326.01\CADD\Structural\MS-144 HANGER FLOOR FRAMING DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:55:44 PM



OVERLOOK FRAMING PLAN

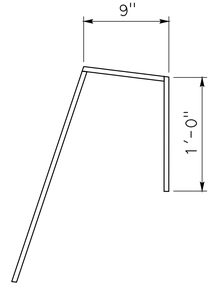
SCALE: ⅛" = 1'-0"

(NOT ALL DETAILS SHOWN FOR CLARITY)



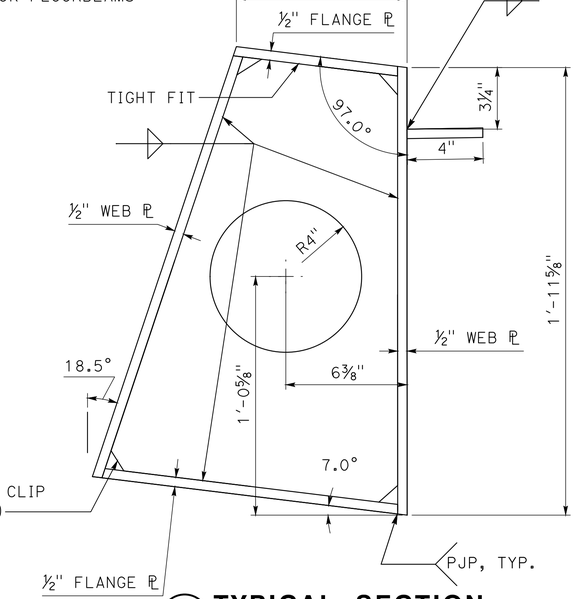
A MS-155 SECTION

SCALE: ⅜" = 1'-0"



C MS-155 INBOARD WEB AND BOTTOM FLANGE CUT SECTION

SCALE: 1½" = 1'-0"



B MS-155 TYPICAL SECTION

SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: D. KO	CHECKED BY: M. MAJD
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

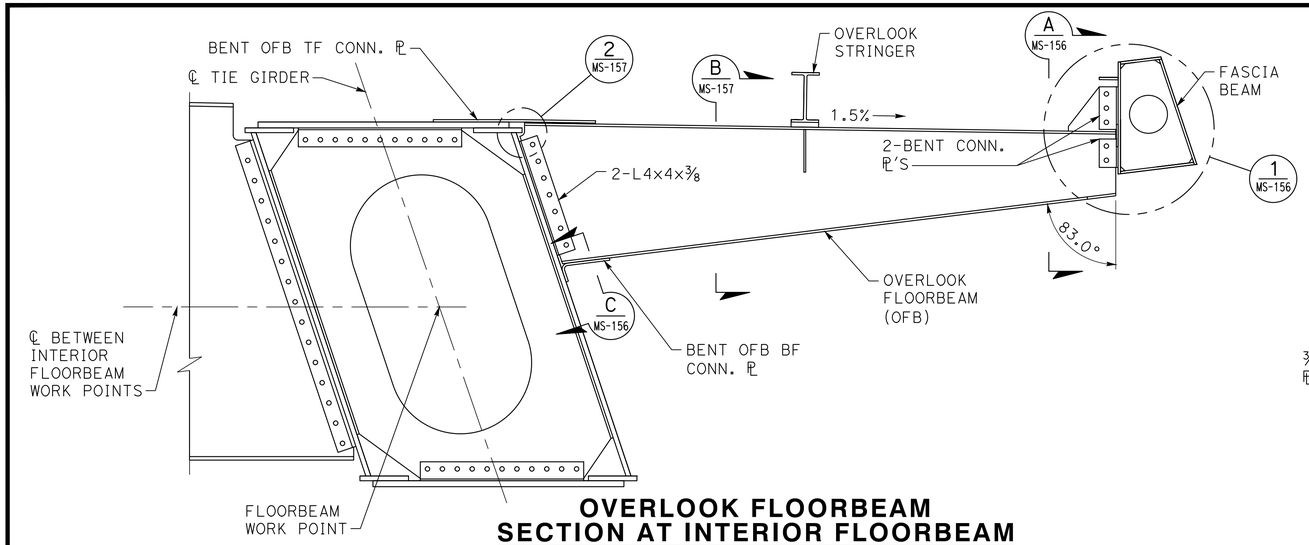
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
OVERLOOK FRAMING PLAN
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-155
SHT NO.: 475 OF 648

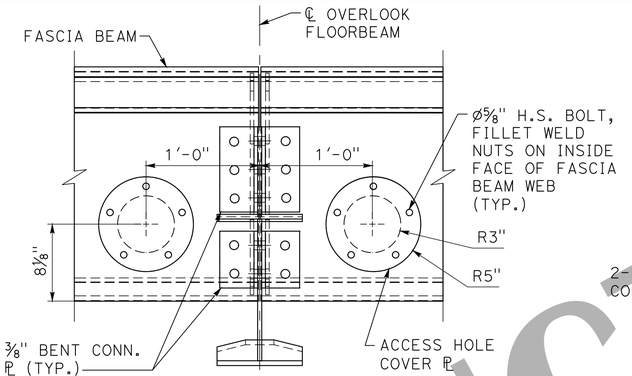
p:\3326.01\CADD\Structural\MS-153 OVERLOOK FRAMING PLAN.dwg LAST PLOTTED: 11/3/2025 1:55:50 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

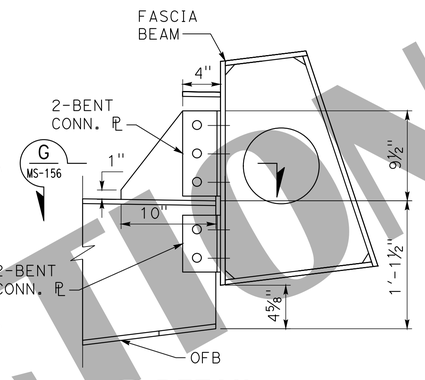


OVERLOOK FLOORBEAM SECTION AT INTERIOR FLOORBEAM

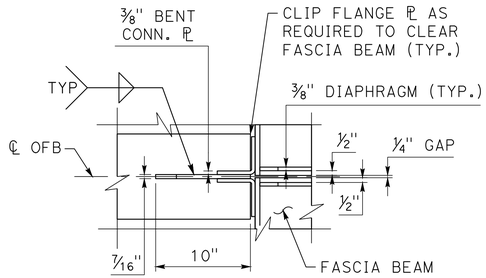
SCALE: 3/4" = 1'-0"
(OFB1, 2, 3, 4, 5, 6, 7, 8, 9, 10 & 11)
(HANGER FLOOR SUPPORT BEAMS AND GRATING NOT SHOWN FOR CLARITY)



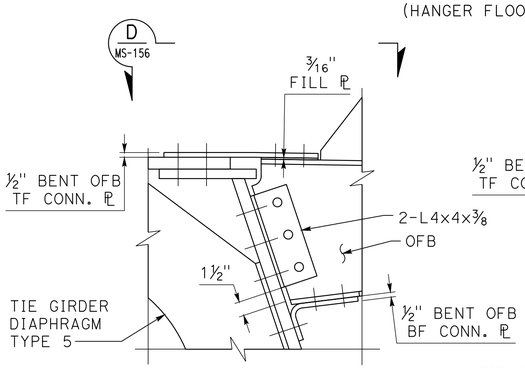
A MS-156 **SECTION**
SCALE: 1 1/2" = 1'-0"



1 MS-156 **DETAIL**
SCALE: 1 1/2" = 1'-0"

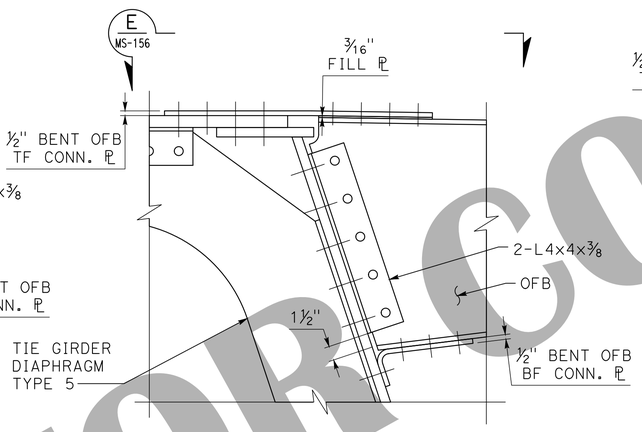


G MS-156 **SECTION**
SCALE: 1 1/2" = 1'-0"



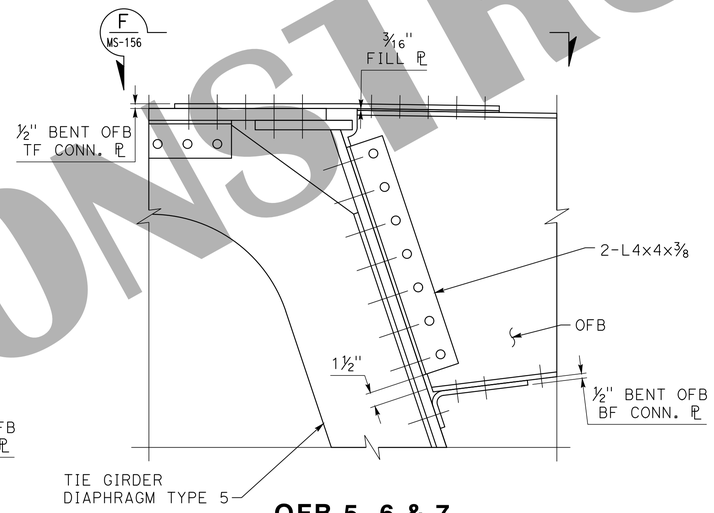
OFB 1, 2, 10 & 11 TIE GIRDER CONNECTION

SCALE: 1 1/2" = 1'-0"



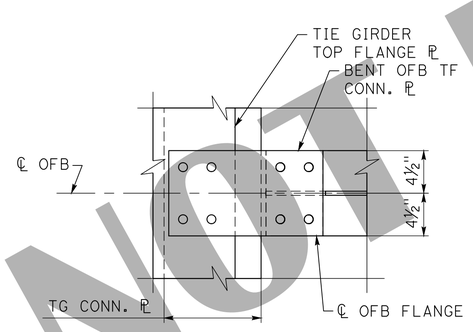
OFB 3, 4, 8 & 9 TIE GIRDER CONNECTION

SCALE: 1 1/2" = 1'-0"

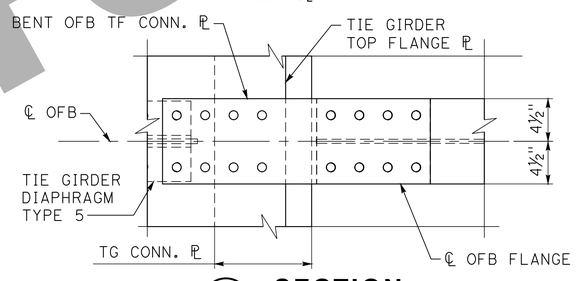


OFB 5, 6 & 7 TIE GIRDER CONNECTION

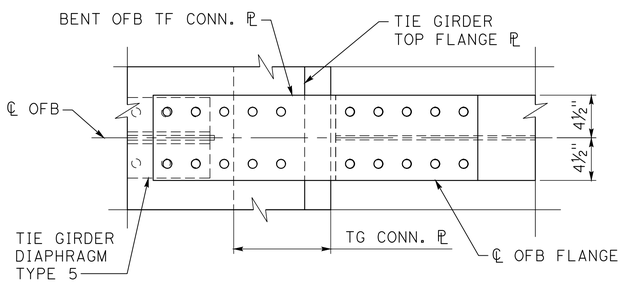
SCALE: 1 1/2" = 1'-0"



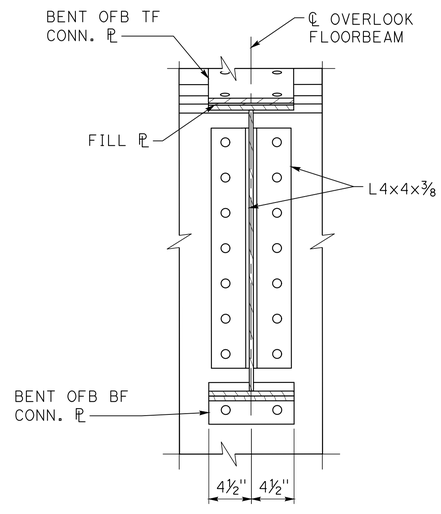
D MS-156 **SECTION**
SCALE: 1 1/2" = 1'-0"



E MS-156 **SECTION**
SCALE: 1 1/2" = 1'-0"



F MS-156 **SECTION**
SCALE: 1 1/2" = 1'-0"



C MS-156 **SECTION**
SCALE: 1 1/2" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: D. KO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

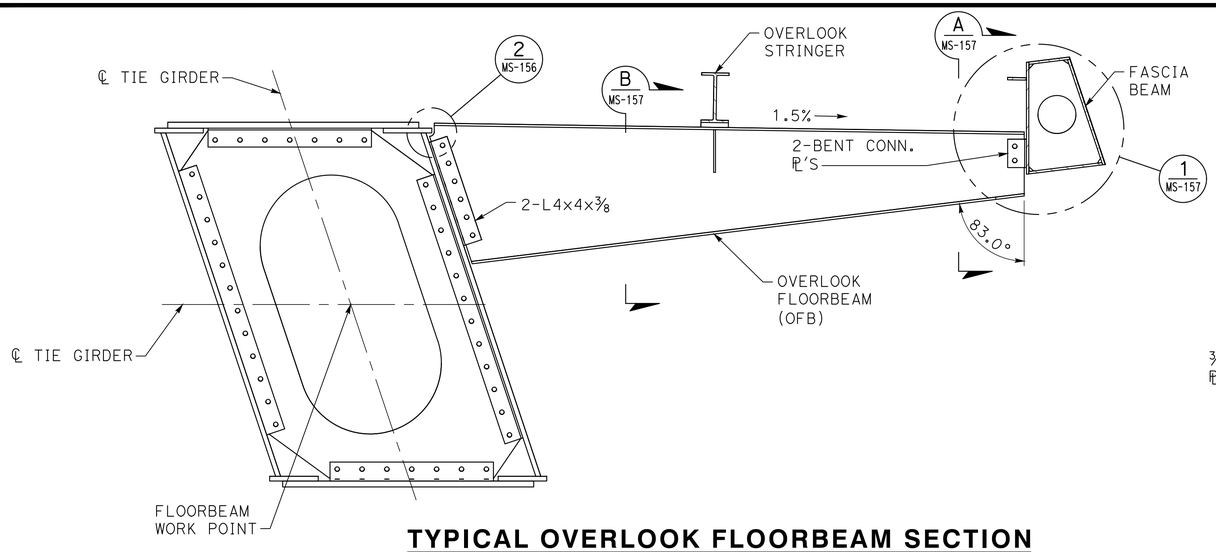
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
OVERLOOK FLOORBEAM DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-156
SHT NO.: 476 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

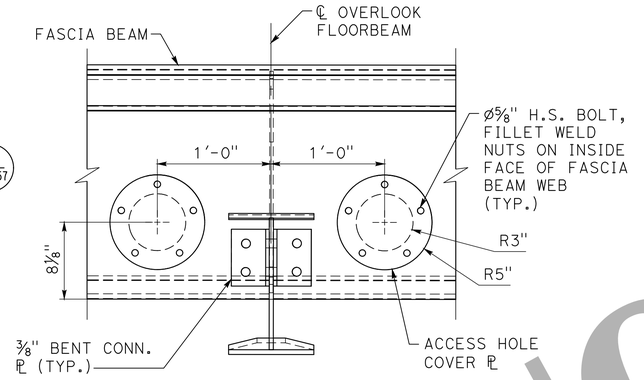
p:\3326.01\CADD\Structural\MS-154 OVERLOOK FLOORBEAM DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:55:57 PM



TYPICAL OVERLOOK FLOORBEAM SECTION

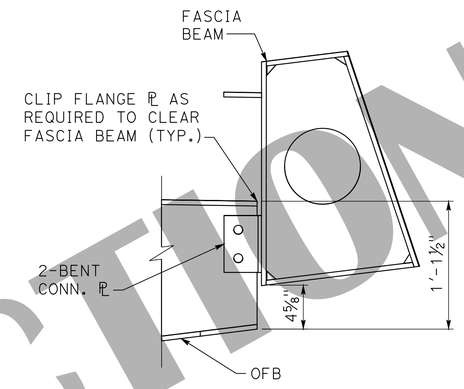
SCALE: ¾" = 1'-0"

(HANGER FLOOR SUPPORT BEAMS AND GRATING NOT SHOWN FOR CLARITY)



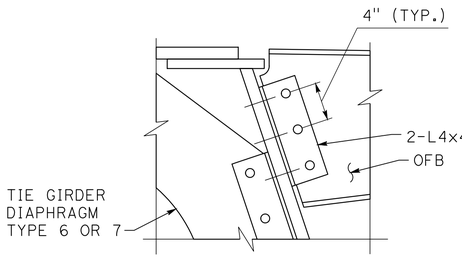
A/MS-157 **SECTION**

SCALE: 1½" = 1'-0"



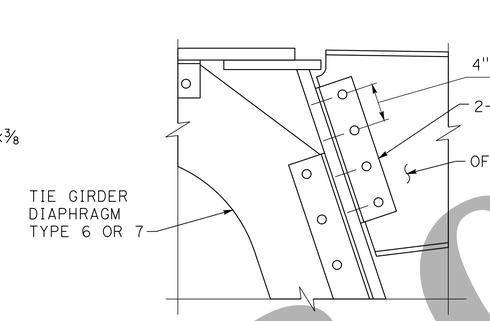
1/MS-157 **DETAIL**

SCALE: 1½" = 1'-0"



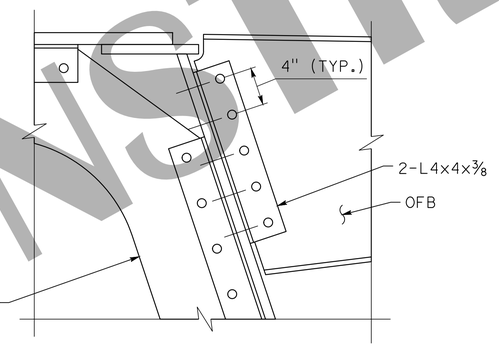
OFB 1.25-1.75 & 10.25-10.75 TIE GIRDER CONNECTION

SCALE: 1½" = 1'-0"



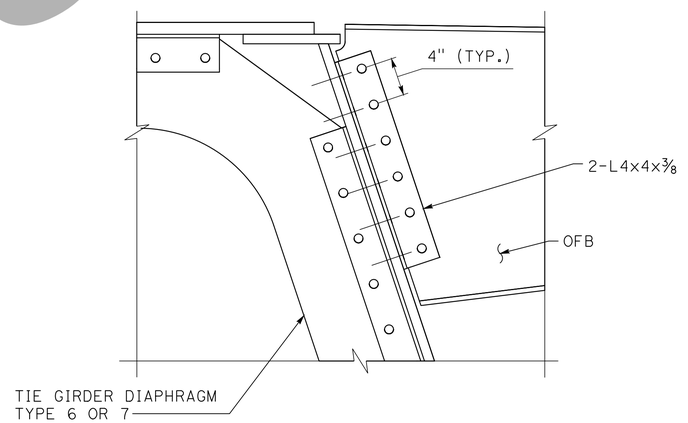
OFB 2.25-2.75 & 9.25-9.75 TIE GIRDER CONNECTION

SCALE: 1½" = 1'-0"



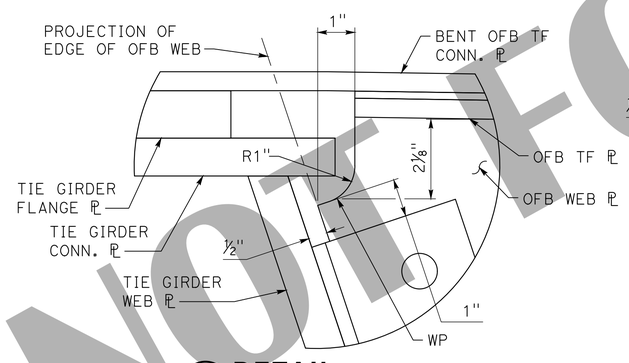
OFB 3.25-3.75 & 8.25-8.75 TIE GIRDER CONNECTION

SCALE: 1½" = 1'-0"



OFB 4.25-4.75, 5.25-5.75, 6.25-6.75 & 7.25-7.75 TIE GIRDER CONNECTION

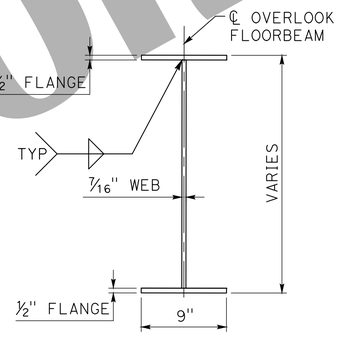
SCALE: 1½" = 1'-0"



2/MS-156 **DETAIL**

SCALE: 1½" = 1'-0"

(DETAIL 2 FROM MS-156 SHOWN,
DETAIL 2 FROM MS-157 SIMILAR)



B/MS-157 **SECTION**

SCALE: 1½" = 1'-0"

(SEE MS-156 FOR ADDITIONAL ORIGIN OF SECTION B)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: D. KO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

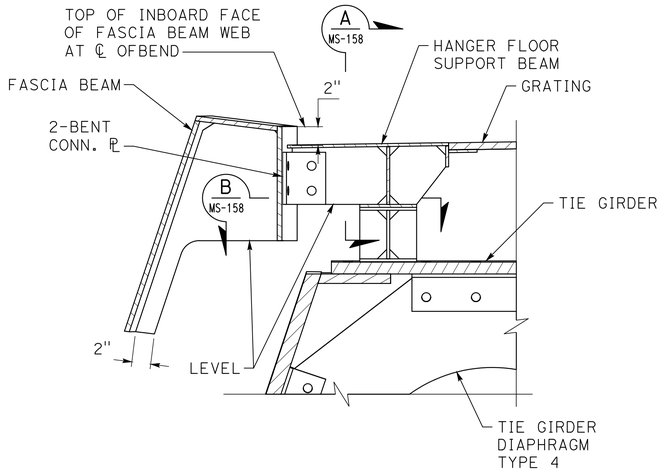
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
OVERLOOK FLOORBEAM DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-157
SHT NO.: 477 OF 648

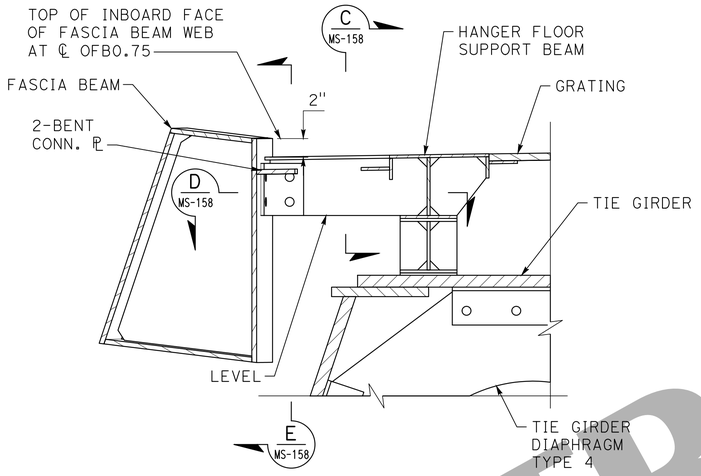
p:\3326.01\CADD\Structural\MS-155 OVERLOOK FLOORBEAM DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:56:05 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



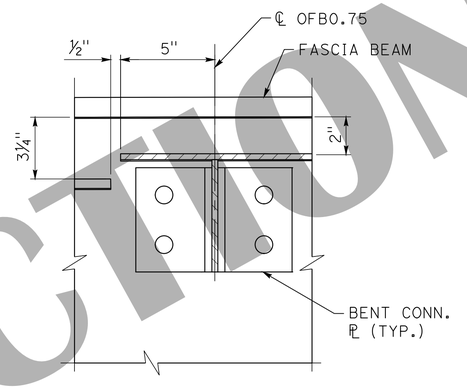
OVERLOOK FLOORBEAM SECTION AT OFBEND

SCALE: 1½" = 1'-0"



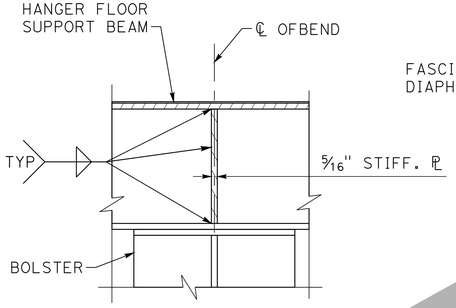
OVERLOOK FLOORBEAM SECTION AT OFB0.75

SCALE: 1½" = 1'-0"



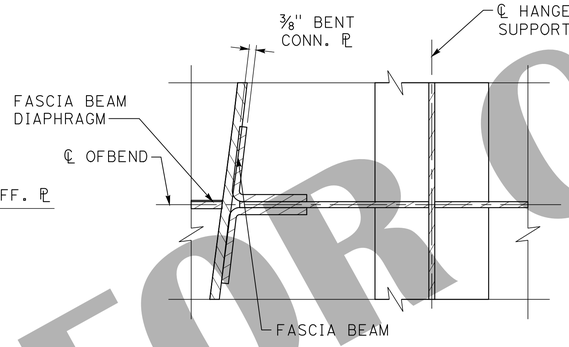
E MS-158 **SECTION**

SCALE: 3" = 1'-0"



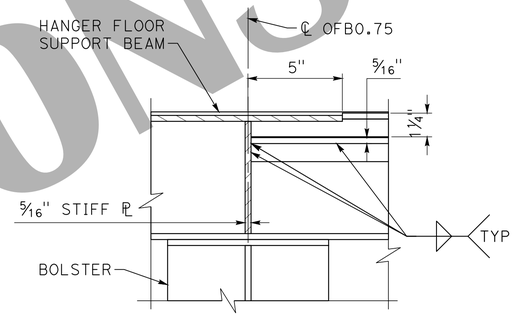
A MS-158 **SECTION**

SCALE: 3" = 1'-0"



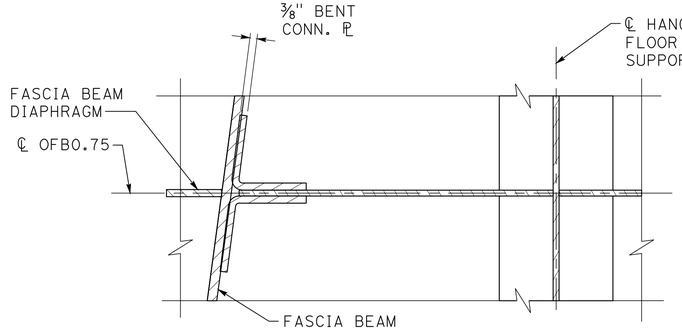
B MS-158 **SECTION**

SCALE: 3" = 1'-0"



C MS-158 **SECTION**

SCALE: 3" = 1'-0"



D MS-158 **SECTION**

SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: D. KO DATE: 11/03/2025
CHECKED BY: M. MAJD DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

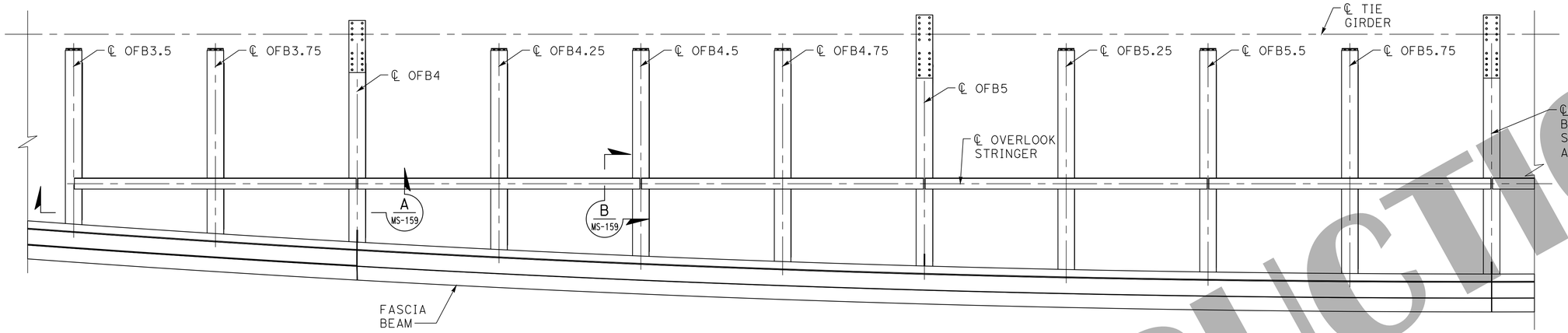
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
OVERLOOK FLOORBEAM DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-158
SHT NO.: 478
OF 648

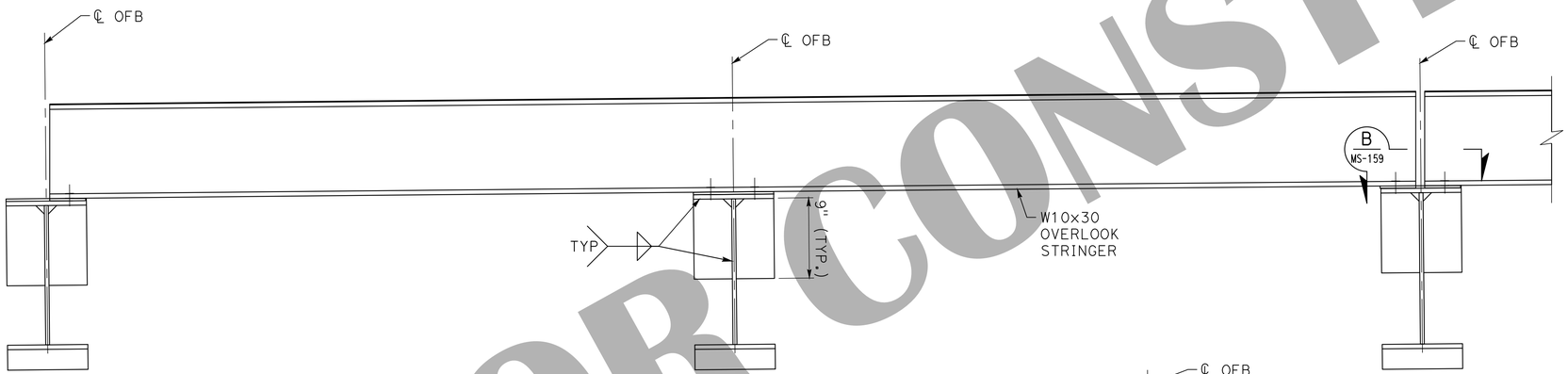
p:\3326.01\CADD\Structural\MS-156 OVERLOOK FLOORBEAM DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:56:12 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

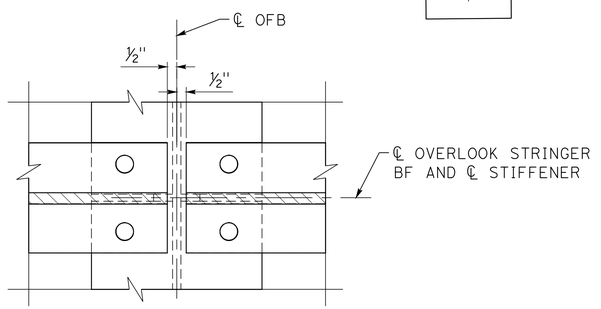


OVERLOOK STRINGER PLAN VIEW

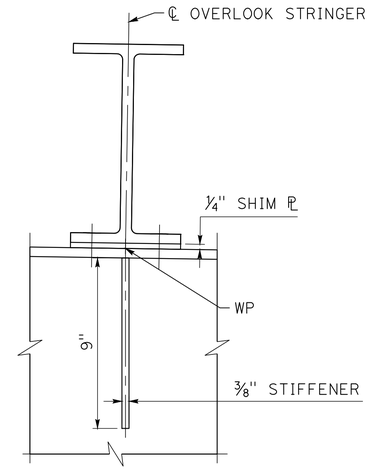
SCALE: ⅜" = 1'-0"
(SOUTH OVERLOOK SHOWN, NORTH OVERLOOK SIMILAR)



A MS-159 **SECTION**
SCALE: 1½" = 1'-0"



C MS-159 **SECTION**
SCALE: 3" = 1'-0"



B MS-159 **SECTION**
SCALE: 3" = 1'-0"

NOTES:

1. OVERLOOK GRATING NOT SHOWN FOR CLARITY.
2. FOR LIFT SPAN FRAMING PLAN, SEE DWG. NO. MS-123.
3. FOR OVERLOOK FRAMING PLAN, SEE DWG. NO. MS-155.
4. FOR OVERLOOK FLOORBEAM DETAILS, SEE DWG. NOS. MS-156 THRU MS-158.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. HICKEY DATE: 11/03/2025
DESIGN BY: R. HICKEY DATE: 11/03/2025
CHECKED BY: R. KRIEGER DATE: 11/03/2025

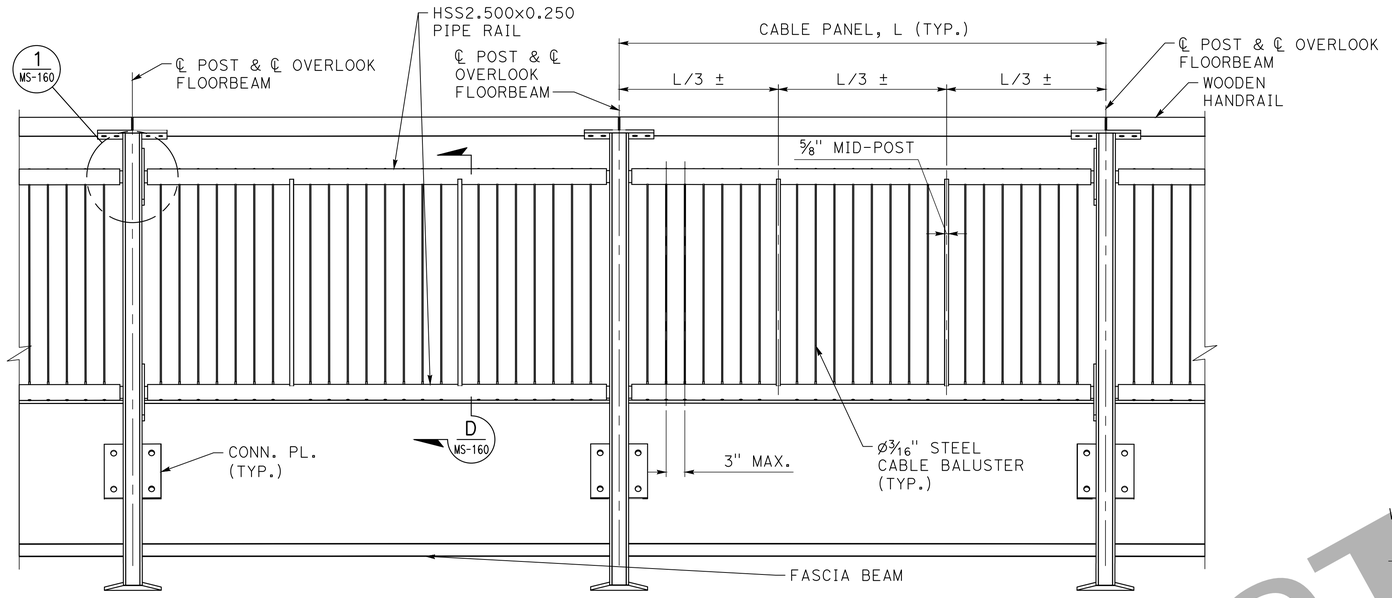
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
OVERLOOK STRINGER DETAILS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-159
SHT NO.: 479 OF 648

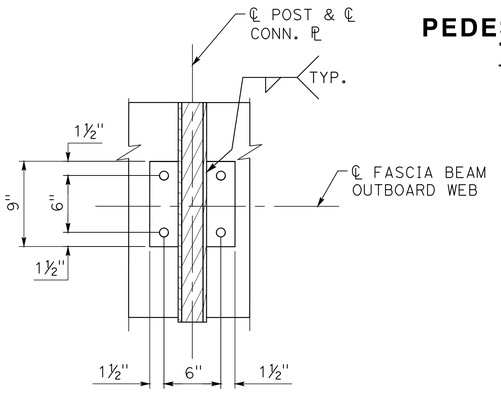
p:\3326.01\CADD\Structural\MS-157 OVERLOOK STRINGER DETAILS.dwg LAST PLOTTED: 11/3/2025 1:56:20 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

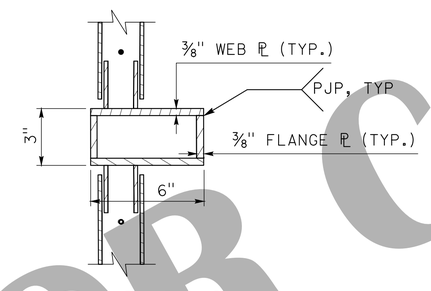


PEDESTRIAN BRIDGE RAILING
TYPICAL ELEVATION

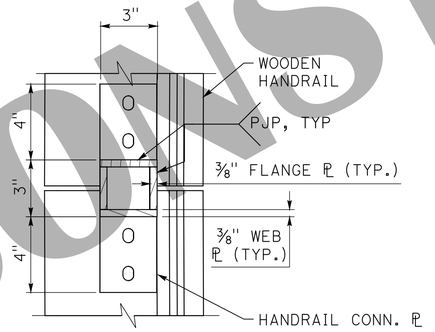
SCALE: 1" = 1'-0"



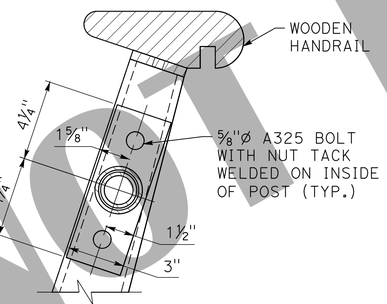
A MS-160 **SECTION**
SCALE: 1½" = 1'-0"



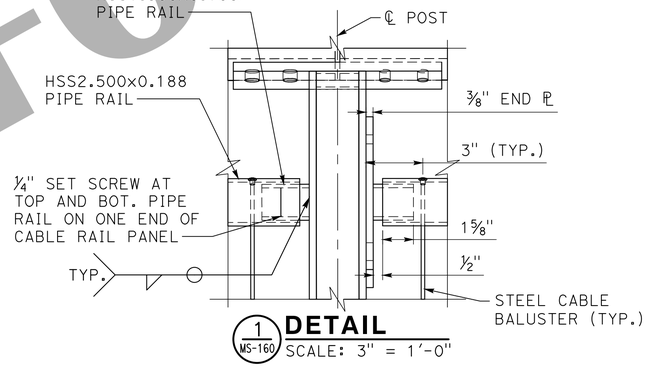
B MS-160 **SECTION**
SCALE: 3" = 1'-0"



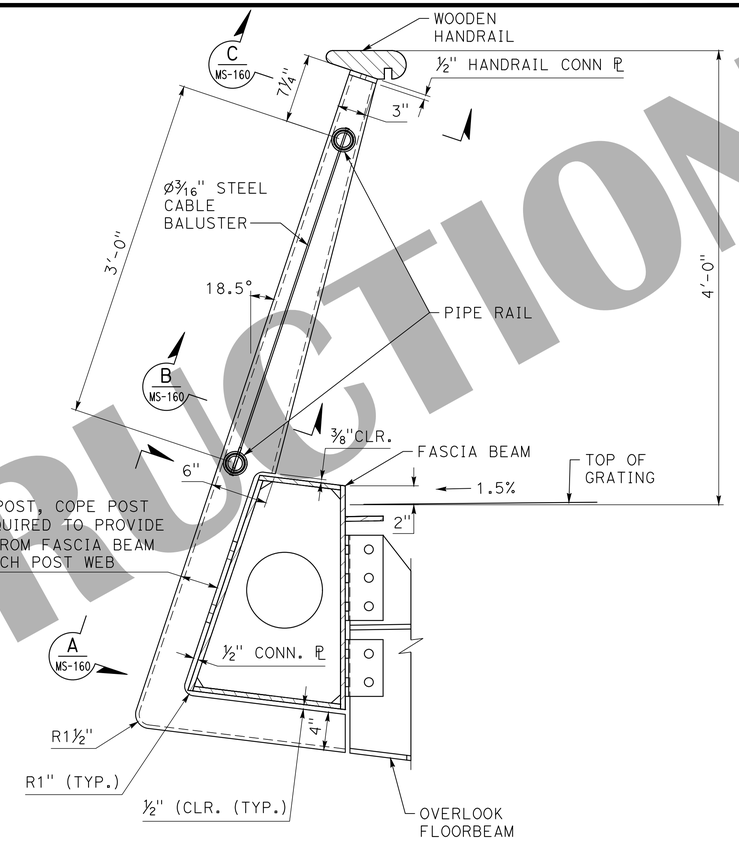
C MS-160 **SECTION**
SCALE: 3" = 1'-0"



E MS-160 **SECTION**
SCALE: 3" = 1'-0"

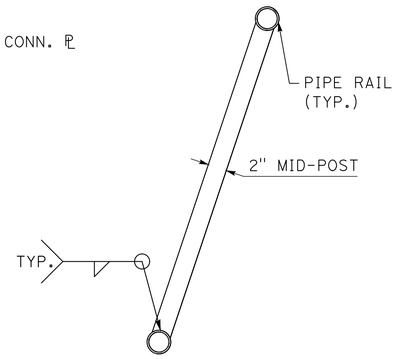


1 MS-160 **DETAIL**
SCALE: 3" = 1'-0"



PEDESTRIAN BRIDGE RAILING
TYPICAL SECTION

SCALE: 1½" = 1'-0"



D MS-160 **SECTION**
SCALE: 3" = 1'-0"

NOTES:

1. PEDESTRIAN BRIDGE RAILING POSTS SHALL BE ALIGNED PERPENDICULAR TO THE PROFILE GRADE AND PERPENDICULAR TO THE ℄ BRIDGE.
2. WOODEN HANDRAILS SHALL BE CHORDED BETWEEN POSTS WITH JOINTS AT ℄ OF POSTS.
3. CABLE PANELS SHALL BE CHORDED BETWEEN POSTS.
4. STEEL CABLE BALUSTER SHALL BE 1X19 STAINLESS STEEL STRAND WITH A MINIMUM BREAKING STRENGTH OF 4,000 LBS AND CONFORM TO ASTM A492, TYPE 316. PRETENSION BALUSTER'S TO 225 LBS. INSTALL CABLES ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
5. CABLE FITTINGS AND HARDWARE SHALL CONFORM TO ASTM A492, TYPE 316.
6. PIPE RAIL SHALL CONFORM TO ASTM A500, GRADE C.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: E. MADARA DATE: 11/03/2025

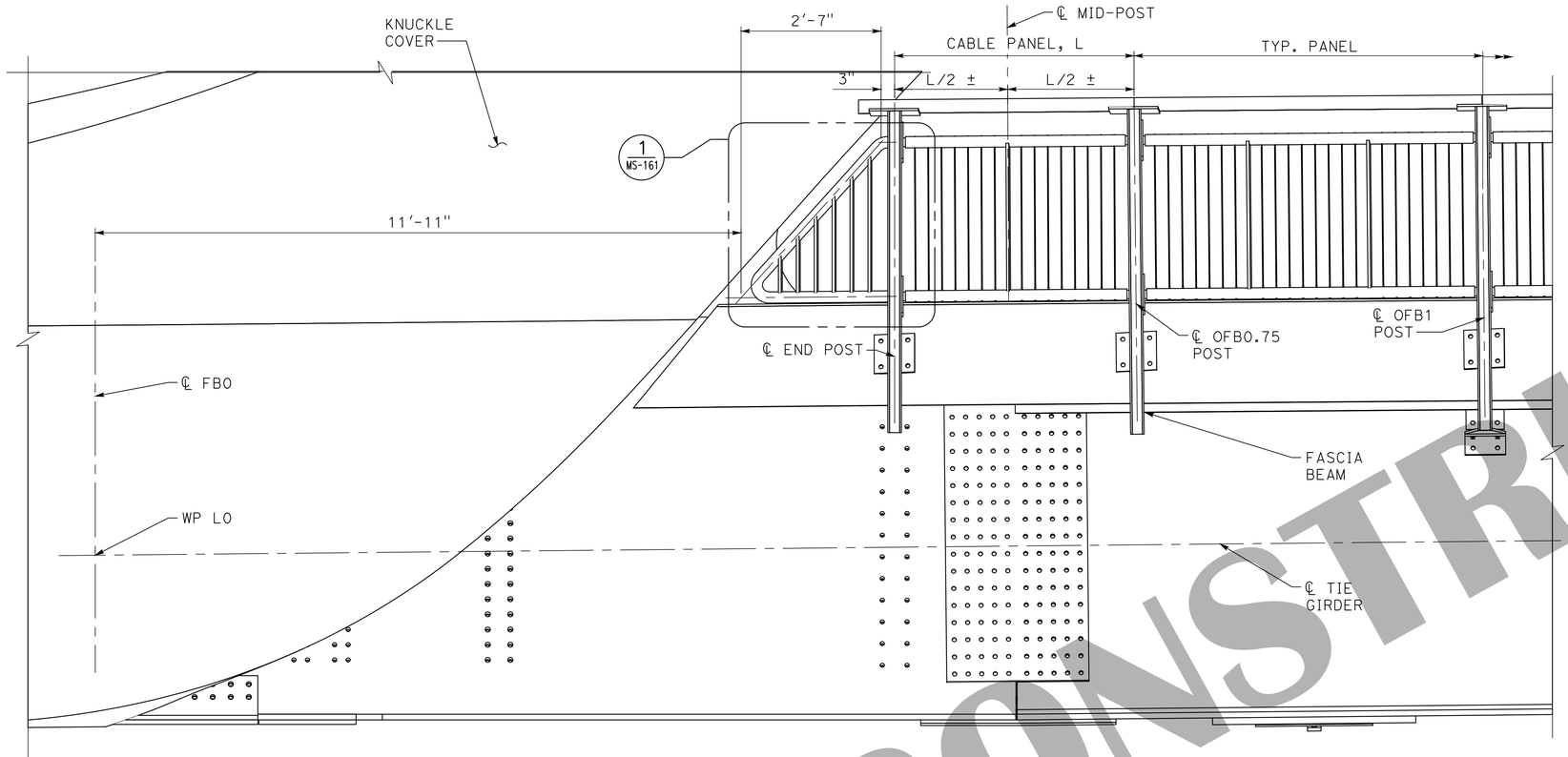
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PEDESTRIAN RAILING DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-160
SHT NO.: 480 OF 648

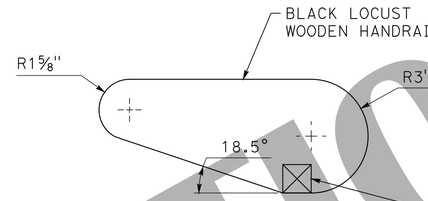
p:\3326.01\CADD\Structural\MS-158 PEDESTRIAN RAILING DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:56:27 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



WOODEN HANDRAIL TYPICAL SECTION

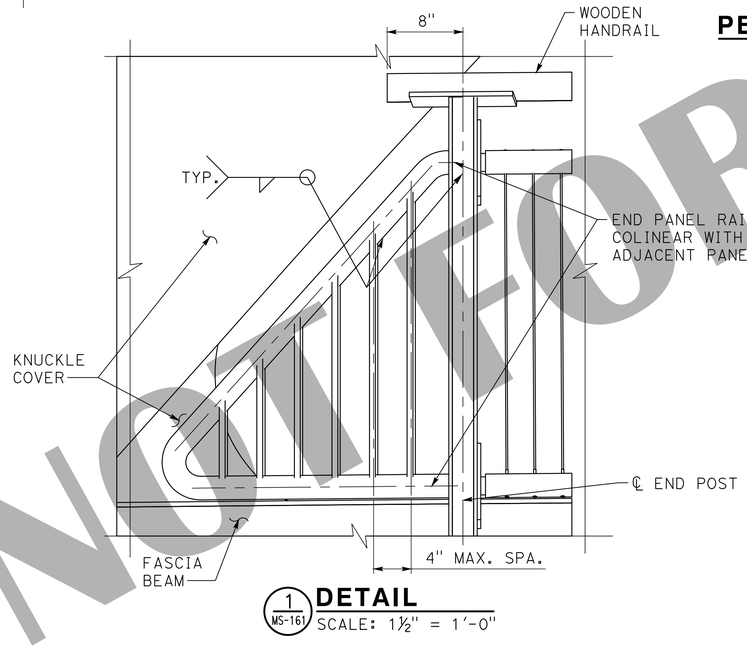
SCALE: 3" = 1'-0"



ROUTED SLOT FOR PEDESTRIAN BRIDGE RAILING LIGHTING. COORDINATE SIZE OF CUTOUT WITH LIGHT FIXTURE. SEE DRAWING XXX FOR LIGHTING DETAILS.

PEDESTRIAN BRIDGE RAILING ELEVATION AT KNUCKLE

SCALE: ¾" = 1'-0"
(SOUTH KNUCKLE AT PIER 3 SHOWN, OTHER LOCATIONS SIMILAR)



1 / MS-161 **DETAIL**

SCALE: 1½" = 1'-0"

NOTES:

1. PEDESTRIAN BRIDGE RAILING POSTS SHALL BE ALIGNED PERPENDICULAR TO THE PROFILE GRADE AND PERPENDICULAR TO THE ℄ BRIDGE.
2. WOODEN HANDRAILS SHALL BE CHORDED BETWEEN POSTS WITH JOINTS AT ℄ OF POSTS.
3. CABLE PANELS SHALL BE CHORDED BETWEEN POSTS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: E. MADARA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

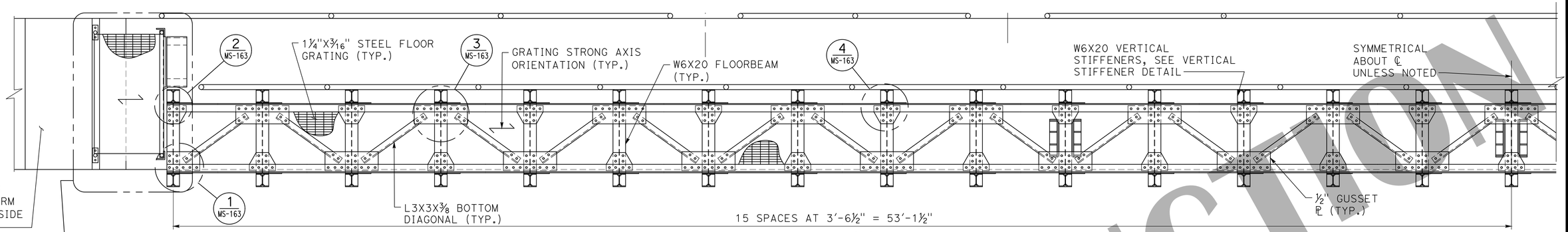
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PEDESTRIAN RAILING DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-161
SHT NO.: 481 OF 648

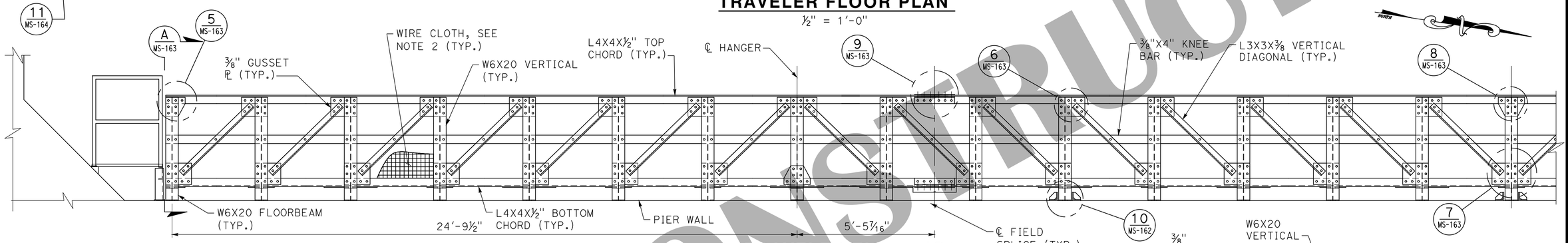
p:\3326.01\CADD\Structural\MS-159 PEDESTRIAN RAILING DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:56:32 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



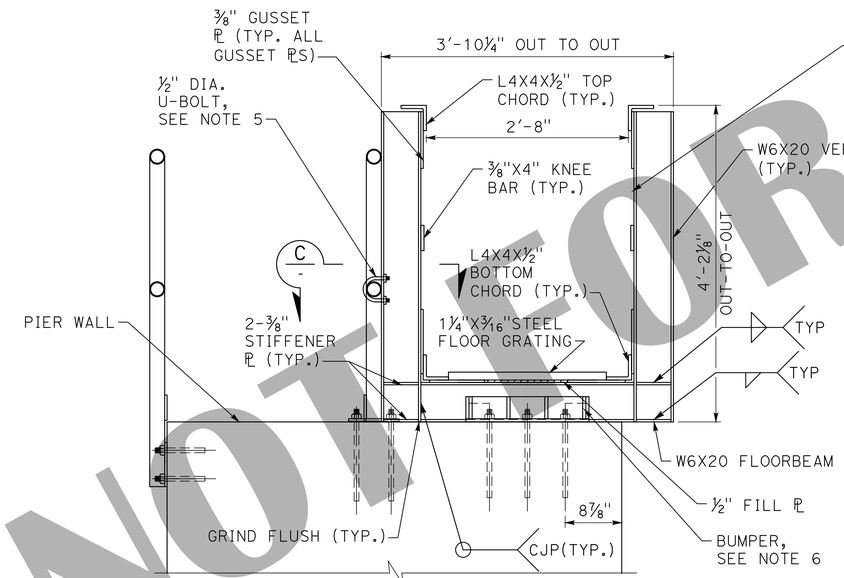
TRAVELER FLOOR PLAN

½" = 1'-0"



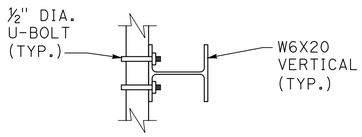
TRAVELER ELEVATION

½" = 1'-0"



TYPICAL SECTION

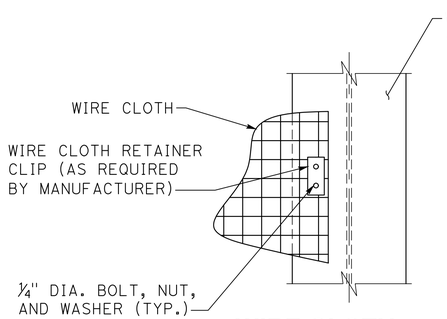
1" = 1'-0"
(LOOKING NORTH)



C

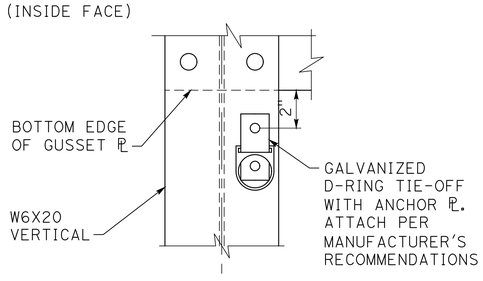
SECTION

1-½"=1'-0"



WIRE CLOTH FASTENING DETAIL

3" = 1'-0"



TIE-OFF DETAIL

3" = 1'-0"

VERTICAL STIFFENER DETAIL

3" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. WIRE CLOTH SHALL BE WOVEN, GALVANIZED STEEL WIRE OF 0.063" DIAMETER WIRE WITH 1" CENTER TO CENTER SPACING.
3. D-RING AND CONNECTION SHALL BE RATED FOR A 5-KIP LOAD. OMIT D-RING AT VERTICALS WITH TRAVELER HANGER CONNECTION.
4. INSPECTION TRAVELER HAS BEEN DESIGNED FOR INSPECTION USE ONLY AND IS NOT DESIGNED FOR LOADS RESULTING FROM CONSTRUCTION OR MAINTENANCE USE.
5. U-BOLTS SHALL BE PLACED AT A MINIMUM OF (8) W6x20 VERTICALS FOR A TOTAL MINIMUM OF (16) U-BOLTS. U-BOLTS SHALL BE PLACED AROUND THE MID RAIL OF PIER RAILING. U-BOLTS SHALL HAVE A MINIMUM TENSILE CAPACITY OF 2,000 LBS.
6. BUMPERS SHALL BE PLACED AT A MINIMUM OF (3) LOCATIONS AND BE SYMMETRIC ABOUT THE CENTERLINE OF THE TRAVELER.
7. ⅞" DIAMETER COUNTERSUNK ASTM F3125, GRADE A325 BOLTS MAY BE USED TO CONNECT BOTTOM DIAGONAL AND FLOORBEAM TO GUSSET TO AVOID INTERFERENCE WITH GRATING. COUNTERSUNK BOLTS MAY NOT BE USED THROUGH BOTTOM CHORD. COUNTERSUNK BOLTS SHALL BE FULLY PRETENSIONED.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

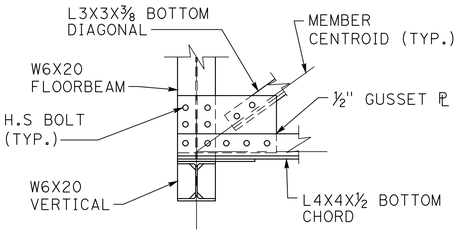
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER FRAMING PLAN
(Date: 11/03/2025)

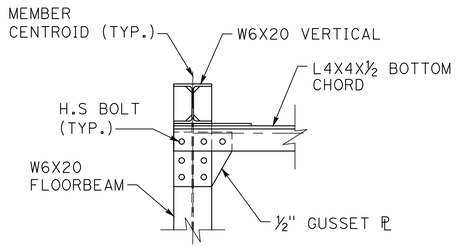
PN: T15136000
DWG NO.: MS-162
SHT NO.: 482 OF 648

p:\3326.01\CADD\Structural\MS-160 INSPECTION TRAVELER FRAMING PLAN.dwg LAST PLOTTED: 11/3/2025 1:56:38 PM

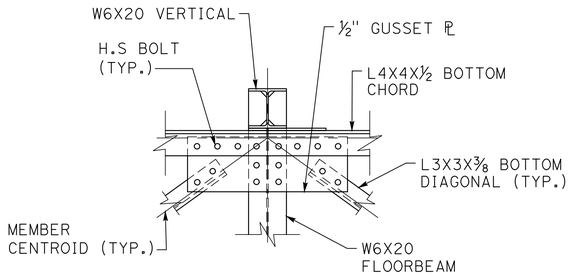
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



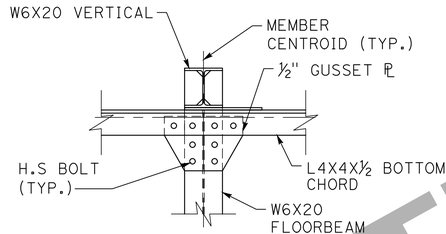
1 MS-162 **DETAIL**
1" = 1'-0"



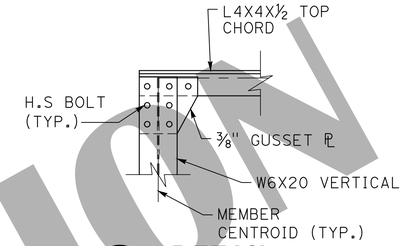
2 MS-162 **DETAIL**
1" = 1'-0"



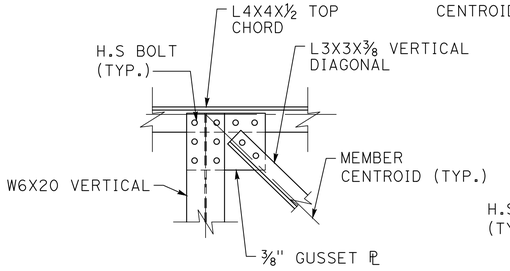
3 MS-162 **DETAIL**
1" = 1'-0"



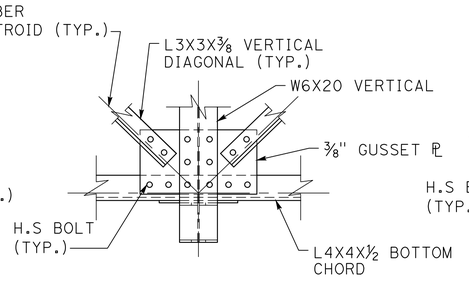
4 MS-162 **DETAIL**
1" = 1'-0"



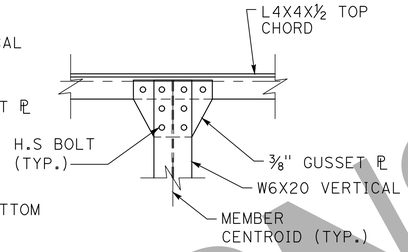
5 MS-162 **DETAIL**
1" = 1'-0"



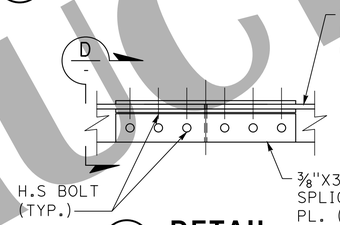
6 MS-162 **DETAIL**
1" = 1'-0"



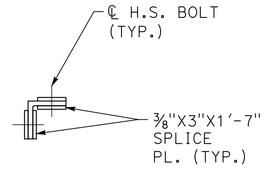
7 MS-162 **DETAIL**
1" = 1'-0"



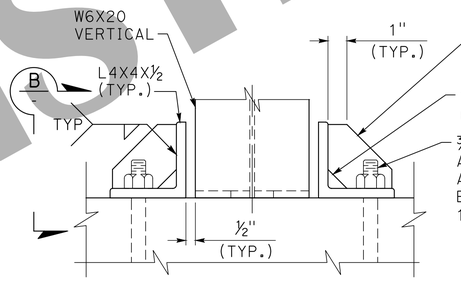
8 MS-162 **DETAIL**
1" = 1'-0"



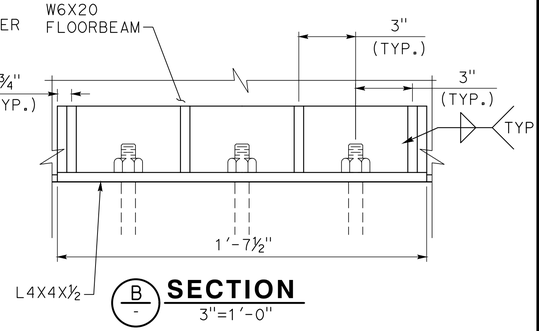
9 MS-162 **DETAIL**
1-½"=1'-0"



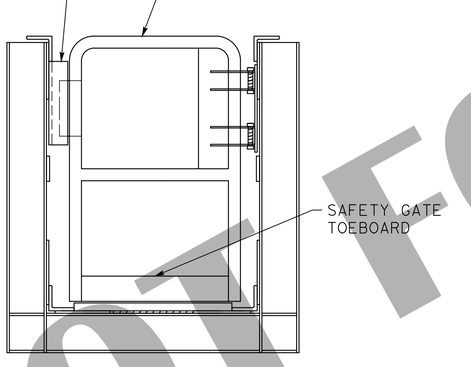
D - **SECTION**
1-½"=1'-0"



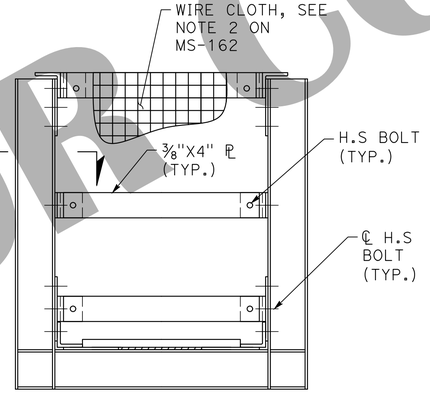
10 MS-162 **DETAIL**
3"=1'-0"



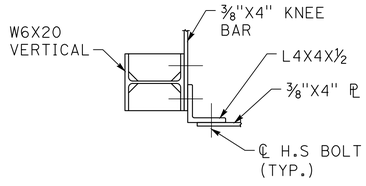
B - **SECTION**
3"=1'-0"



A MS-162 **SECTION**
1"=1'-0"
(SOUTH END)



A MS-162 **SECTION**
1"=1'-0"
(NORTH END)



C - **SECTION**
1-½"=1'-0"
(SECTIONS NOT SHOWN SIMILAR)

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. SAFETY GATE SHALL MEET ALL APPLICABLE REQUIREMENTS OF OSHA FOR USE ON A POWERED PLATFORM AND INCLUDE A TOEBOARD. THE SAFETY GATE SHALL BE SELF-CLOSING AND SELF-LATCHING, OR PROVIDED WITH AN INTERLOCK. INSTALL SAFETY GATE AND GATE STOPPER ACCORDING TO MANUFACTURERS RECOMMENDATIONS. CONTRACTOR SHALL ENSURE COMPATIBILITY OF SAFETY GATE WITH TRAVELER FRAMING.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

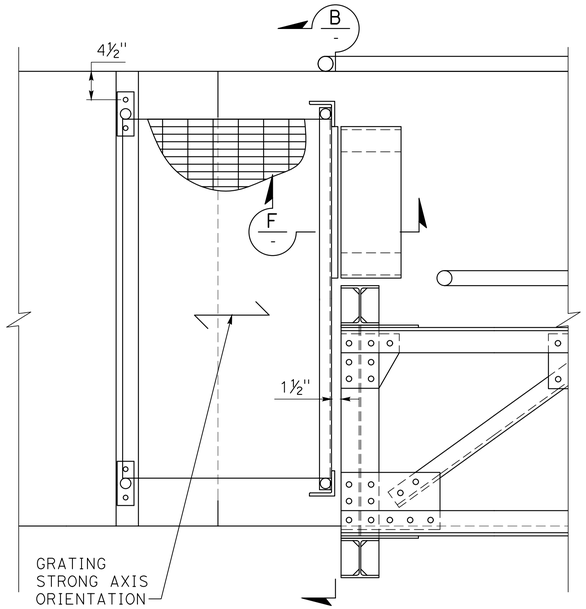
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 1
(Date: 11/03/2025)

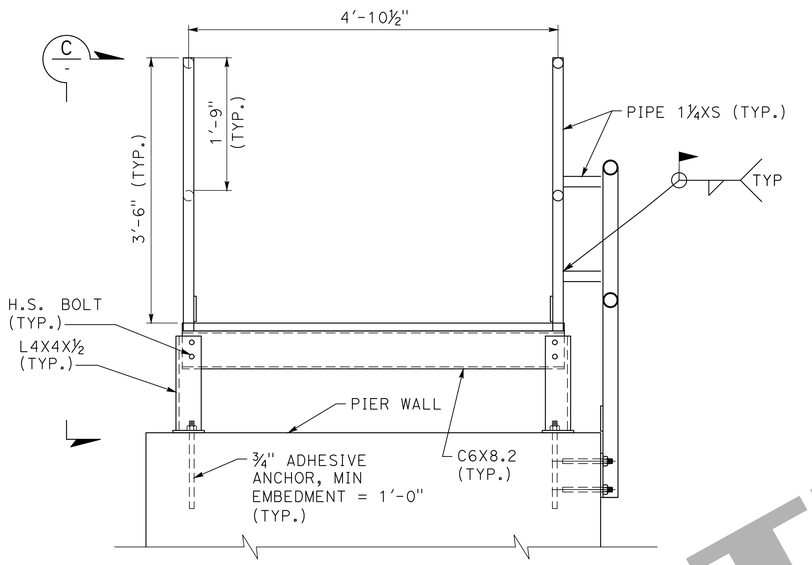
PN: T15136000
DWG NO.: MS-163
SHT NO.: 483 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

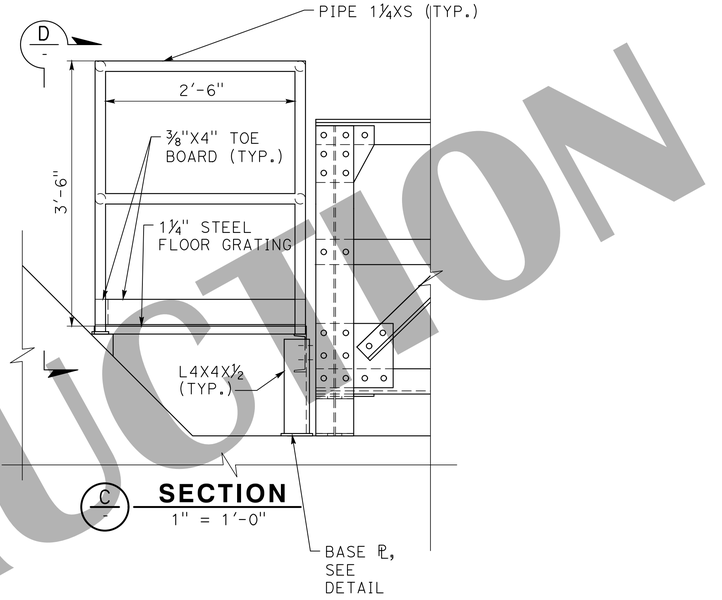
p:\3326.01\CADD\Structural\MS-161 INSPECTION TRAVELER DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:56:49 PM



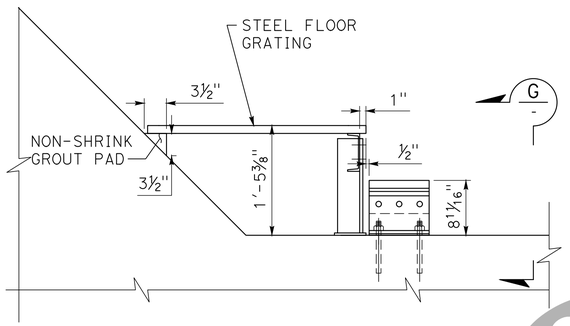
11 / MS-162 **DETAIL**
1" = 1'-0"



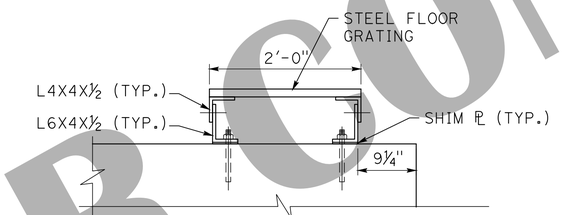
B **SECTION**
1" = 1'-0"



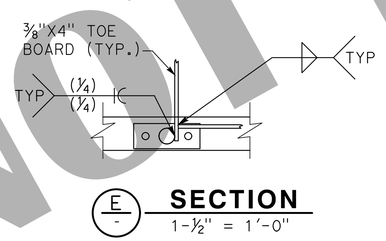
C **SECTION**
1" = 1'-0"



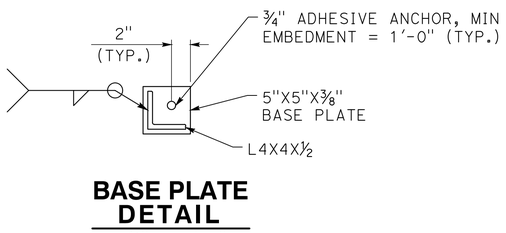
F **SECTION**
1" = 1'-0"



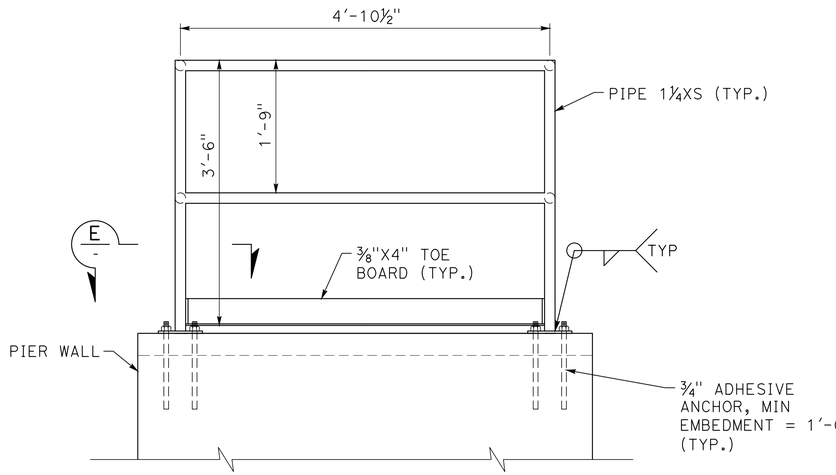
G **SECTION**
1" = 1'-0"



E **SECTION**
1-½" = 1'-0"



BASE PLATE DETAIL
1½" = 1'-0"



D **SECTION**
1" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. ADHESIVE ANCHORS SHALL BE CHOSEN FROM THE CALTRANS AUTHORIZED MATERIAL LIST.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

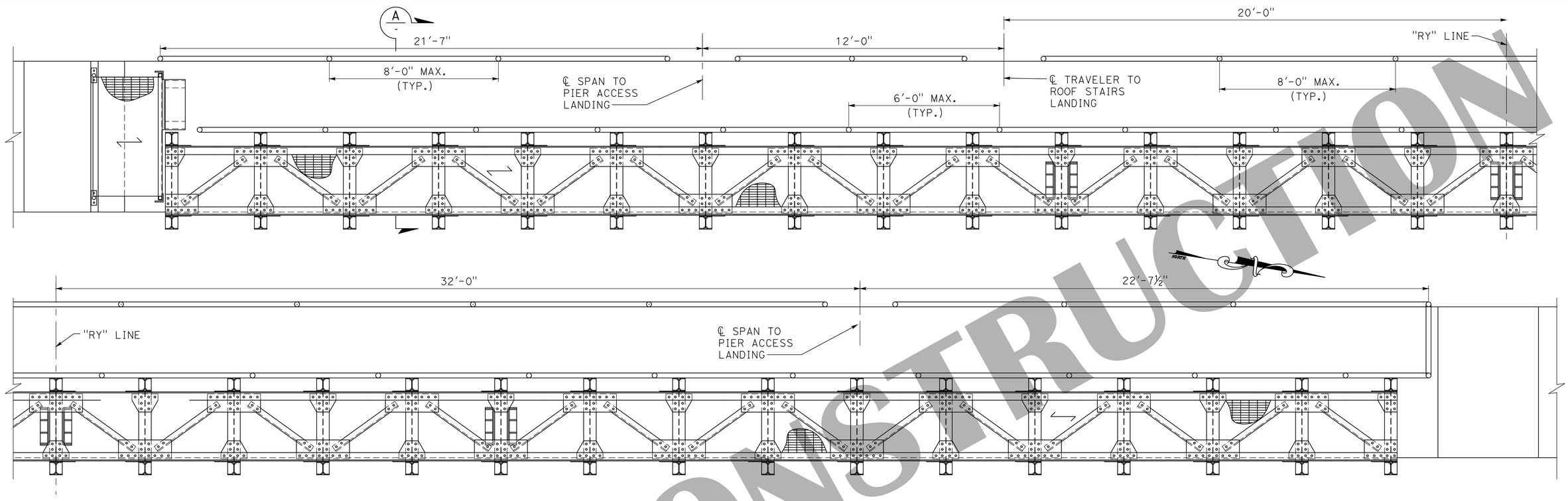
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: MS-164
SHT NO.: 484 OF 648

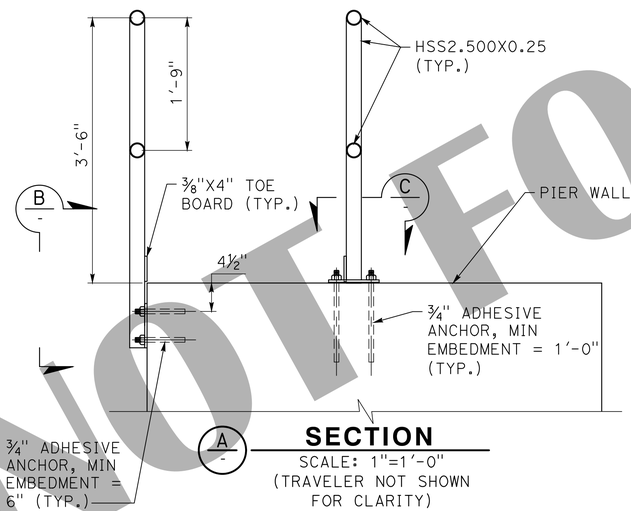
p:\3326.01\CADD\Structural\MS-162 INSPECTION TRAVELER DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 1:56:57 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



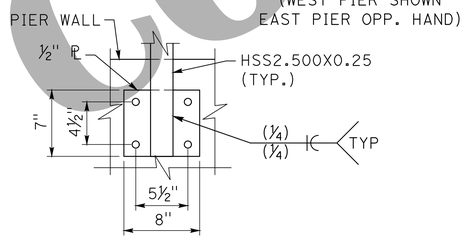
PIER WALL RAILING PLAN

SCALE: ½=1′-0"
(WEST PIER SHOWN
EAST PIER OPP. HAND)



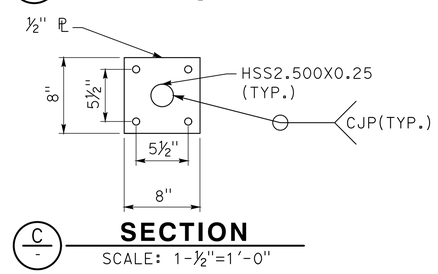
SECTION

SCALE: 1"=1′-0"
(TRAVELER NOT SHOWN
FOR CLARITY)



SECTION

SCALE: 1-½"=1′-0"



SECTION

SCALE: 1-½"=1′-0"

NOTES:

1. FOR GENERAL NOTES, SEE DWG. NO. MS-003 THRU MS-005.
2. ADHESIVE ANCHORS SHALL BE CHOSEN FROM THE CALTRANS AUTHORIZED MATERIAL LIST.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: R. KRIEGER DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

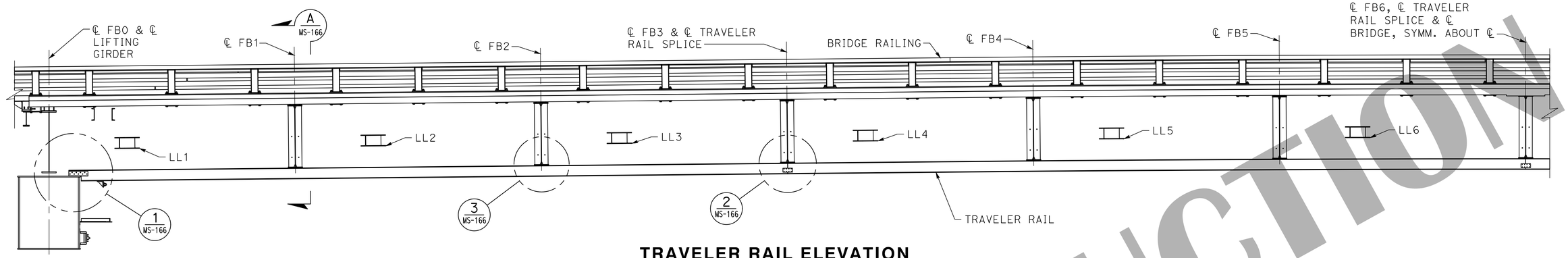
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-165
SHT NO.: 485 OF 648

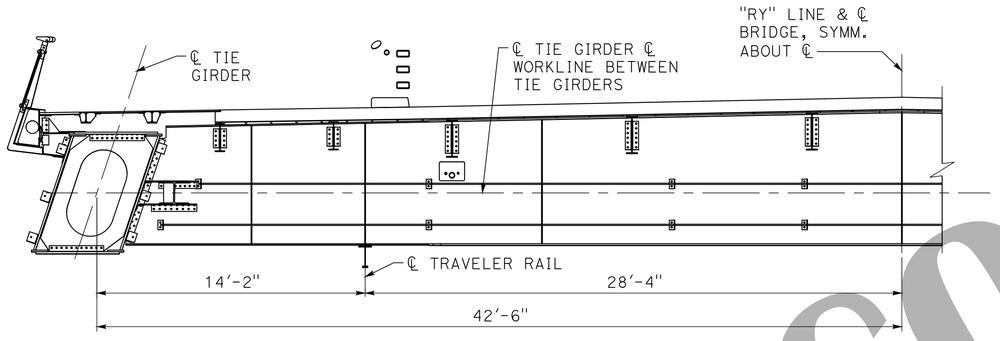
p:\3326.01\CADD\Structural\MS-163 INSPECTION TRAVELER DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 1:57:06 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



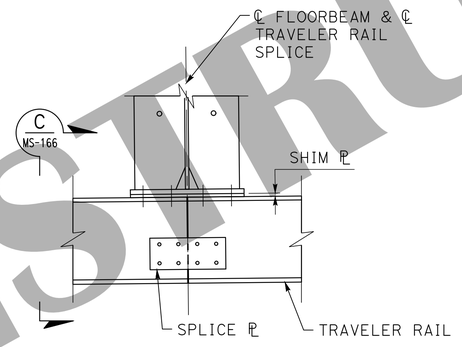
TRAVELER RAIL ELEVATION

SCALE: 3/16" = 1'-0"



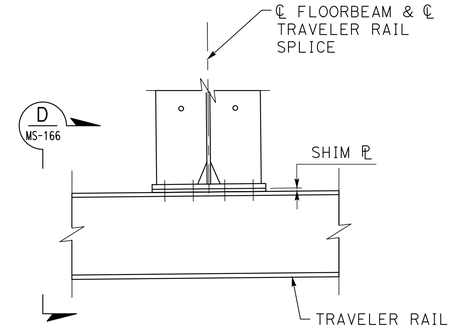
A MS-166 **SECTION**

SCALE: 1/4" = 1'-0"



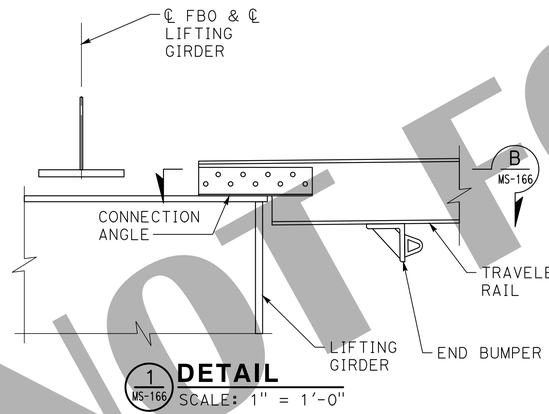
2 MS-166 **DETAIL**

SCALE: 1" = 1'-0"



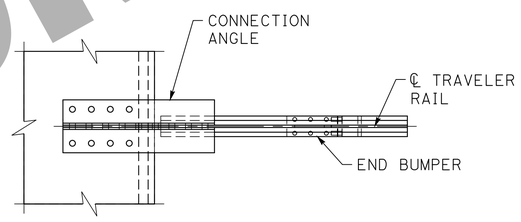
3 MS-166 **DETAIL**

SCALE: 1" = 1'-0"



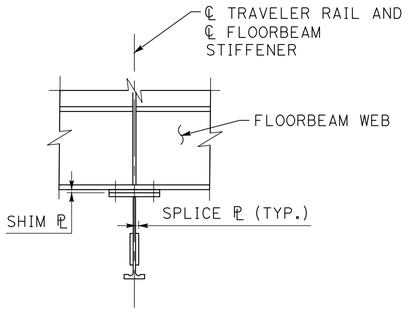
1 MS-166 **DETAIL**

SCALE: 1" = 1'-0"



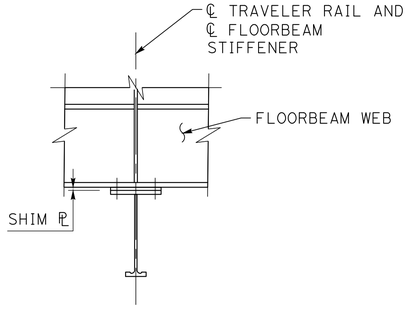
B MS-166 **SECTION**

SCALE: 1" = 1'-0"



C MS-166 **SECTION**

SCALE: 1" = 1'-0"



D MS-166 **SECTION**

SCALE: 1" = 1'-0"

NOTES:

1. DETAILS ON THIS SHEET ARE ONLY CONCEPTUAL. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS TO DESIGN AND DETAIL THE TRAVELER SYSTEM. SUBMIT COMPLETE DESIGN CALCULATIONS, MANUFACTURER RECOMMENDATIONS, SHOP DRAWINGS, INSTALLATION PROCEDURES, AND TRAINING DETAILS AND PROCEDURES SIGNED AND SEALED BY STRUCTURAL, MECHANICAL, AND ELECTRICAL PROFESSIONAL ENGINEERS REGISTERED IN THE STATE OF CALIFORNIA, TO THE ENGINEER FOR REVIEW AND APPROVAL.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: R. KRIEGER DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER RAIL
(Date: 11/03/2025)

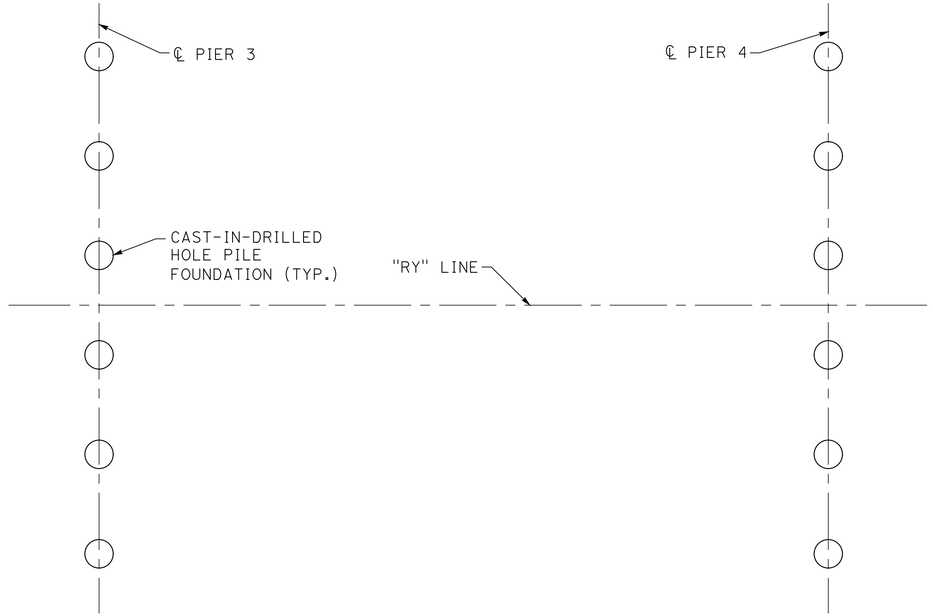
PN: T15136000

DWG NO.: MS-166

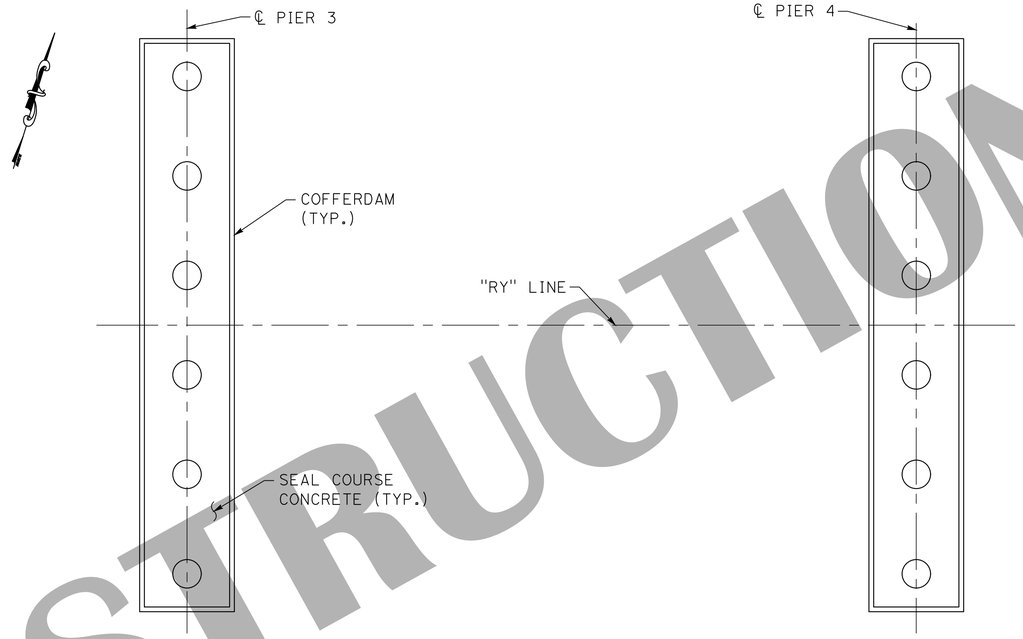
SHT NO.: 486 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

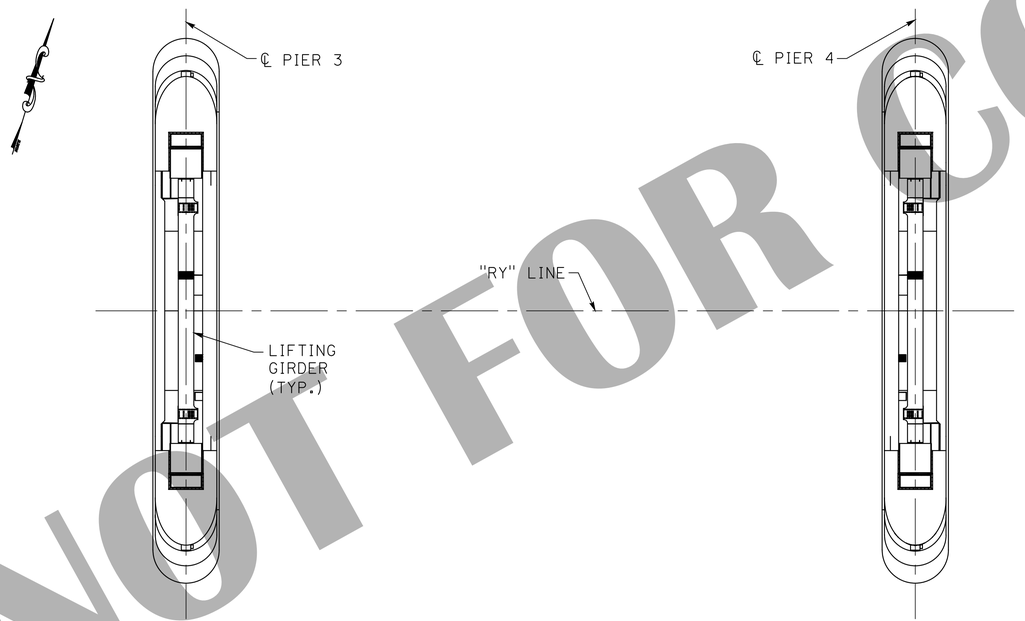
p:\3326.01\CADD\Structural\MS-164 INSPECTION TRAVELER DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 1:57:31 PM



STAGE 1
(NOT TO SCALE)



STAGE 2
(NOT TO SCALE)



STAGE 3
(NOT TO SCALE)

STAGE 1:

INSTALL CAST-IN-DRILLED HOLE PILE FOUNDATIONS FOR PIERS 3 AND 4.

STAGE 2:

1. INSTALL COFFERDAMS.
2. PLACE SEAL COURSE CONCRETE IN COFFERDAMS.
3. DEWATER COFFERDAMS.

STAGE 3:

1. CONSTRUCT LIFT SPAN TOWERS IN THEIR ENTIRETY.
2. INSTALL AND HANG COUNTERWEIGHTS IN LIFT SPAN TOWERS.
3. REMOVE COFFERDAM.
5. INSTALL ALL MECHANICAL AND ELECTRICAL COMPONENTS IN LIFT SPAN TOWERS.
6. INSTALL LIFTING GIRDER, LIFT SPAN BEARINGS AND CENTERING DEVICES.

NOTES:

1. WORK THIS DRAWING WITH DRAWING NOS. MS-168 AND MS-169.

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

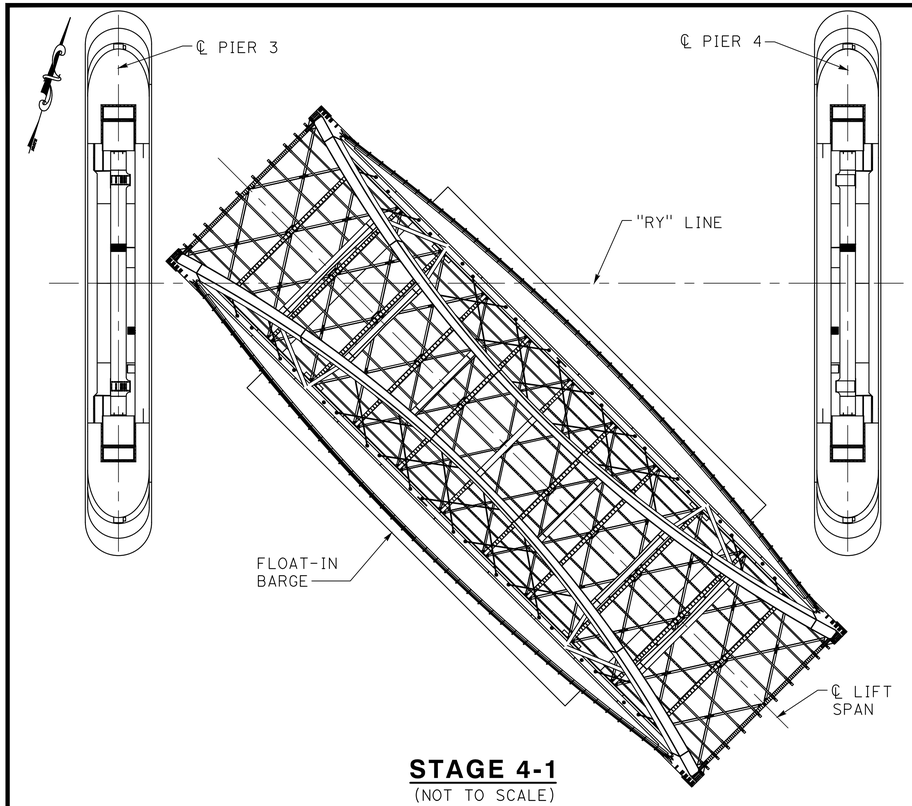
REGISTERED PROFESSIONAL ENGINEER TODD J. STEPHENS No. 97725 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SUGGESTED CONSTRUCTION STAGING - 1
(Date: 11/03/2025)

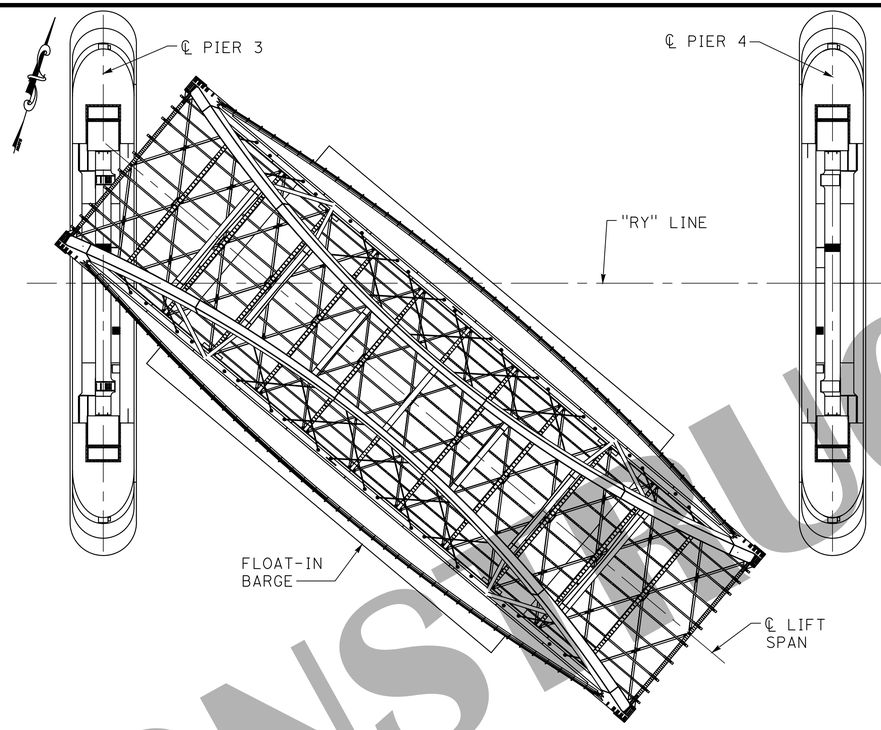
PN: T15136000
DWG NO.: MS-167
SHT NO.: 487 OF 648

p:\3326.01\CADD\Structural\MS-165 SUGGESTED CONSTRUCTION STAGING - 1.dwg LAST PLOTTED: 11/3/2025 1:57:39 PM

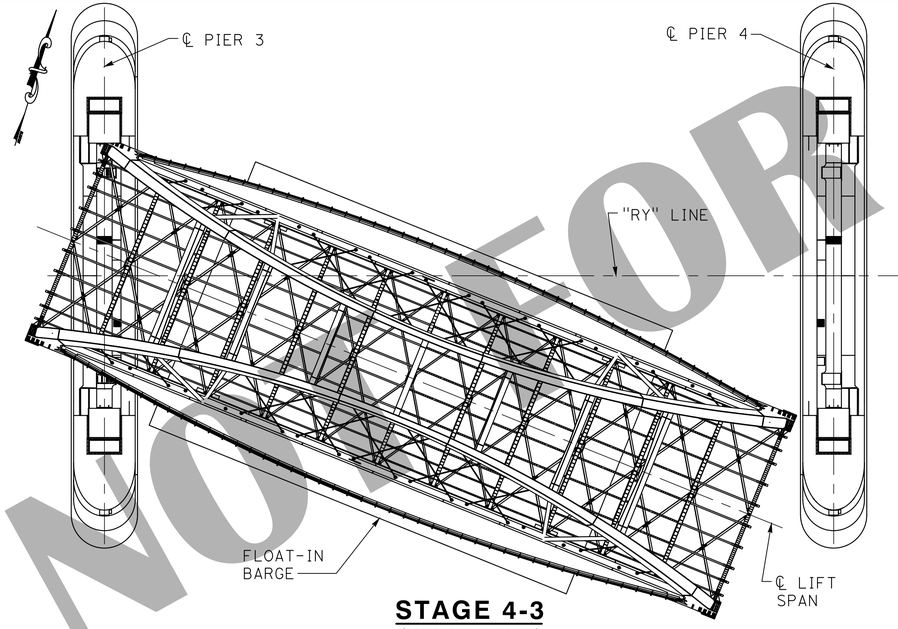
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



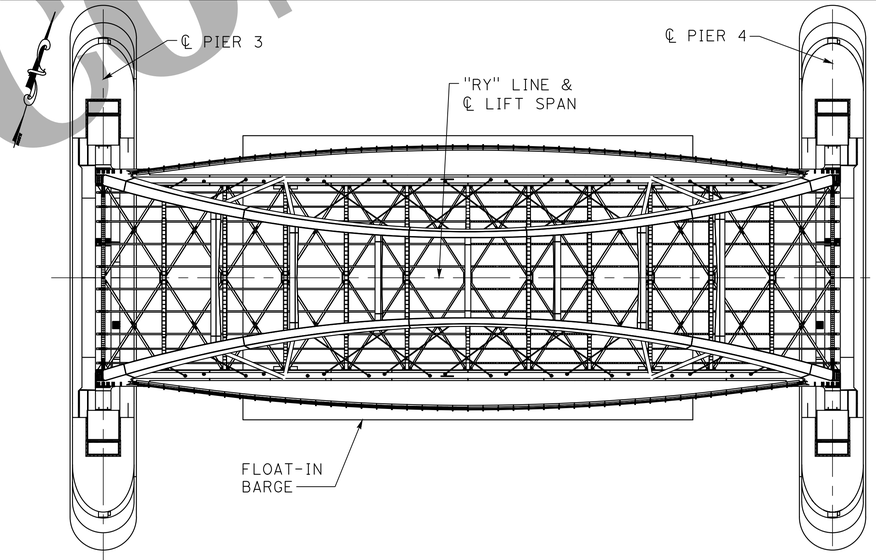
STAGE 4-1
(NOT TO SCALE)



STAGE 4-2
(NOT TO SCALE)



STAGE 4-3
(NOT TO SCALE)



STAGE 4-4
(NOT TO SCALE)

STAGE 4:

1. CLOSE CHANNEL TO MARINE TRAFFIC.
2. FLOAT-IN LIFT SPAN. SEE DRAWING NOS. MS-170 AND MS-171 FOR SUGGESTED LIFT SPAN STAGING PRIOR TO FLOAT-IN. FLOAT-IN WILL REQUIRE THE LIFT SPAN TO BE INITIALLY ROTATED FROM ITS FINAL CONDITION TO FIT BETWEEN THE TOWER LEGS. SEVERAL ITERATIONS OF LONGITUDINAL AND TRANSVERSE TRANSLATIONS COMBINED WITH ROTATING THE SPAN WILL BE REQUIRED TO GET THE LIFT SPAN INTO THE FINAL POSITION.

NOTES:

1. WORK THIS DRAWING WITH DRAWING NOS. MS-167 AND MS-169.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS	DESIGN BY: T. STEPHENS	CHECKED BY: M. ALESTRA
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

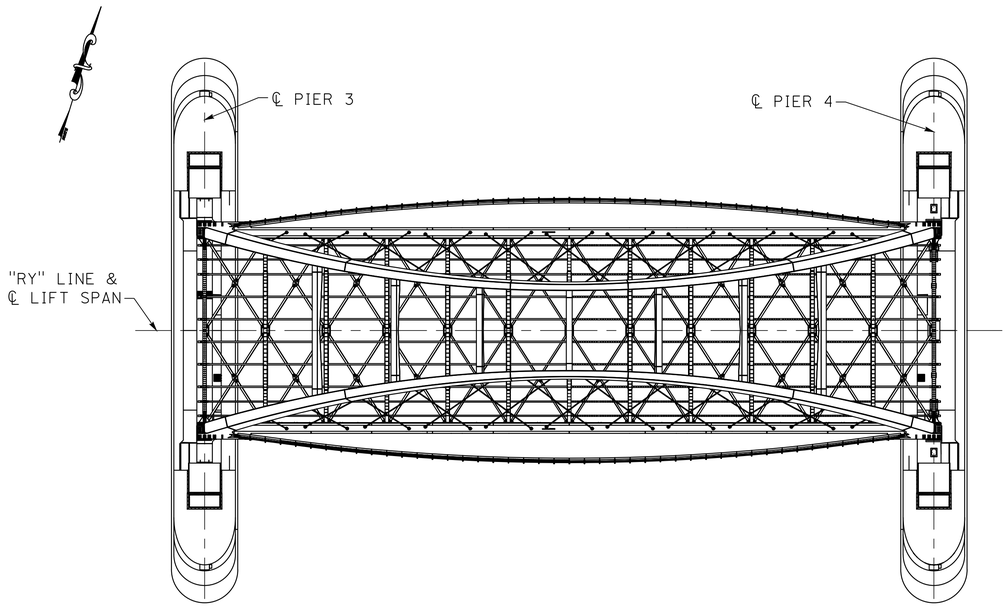
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SUGGESTED CONSTRUCTION STAGING - 2
(Date: 11/03/2025)

PN: T15136000

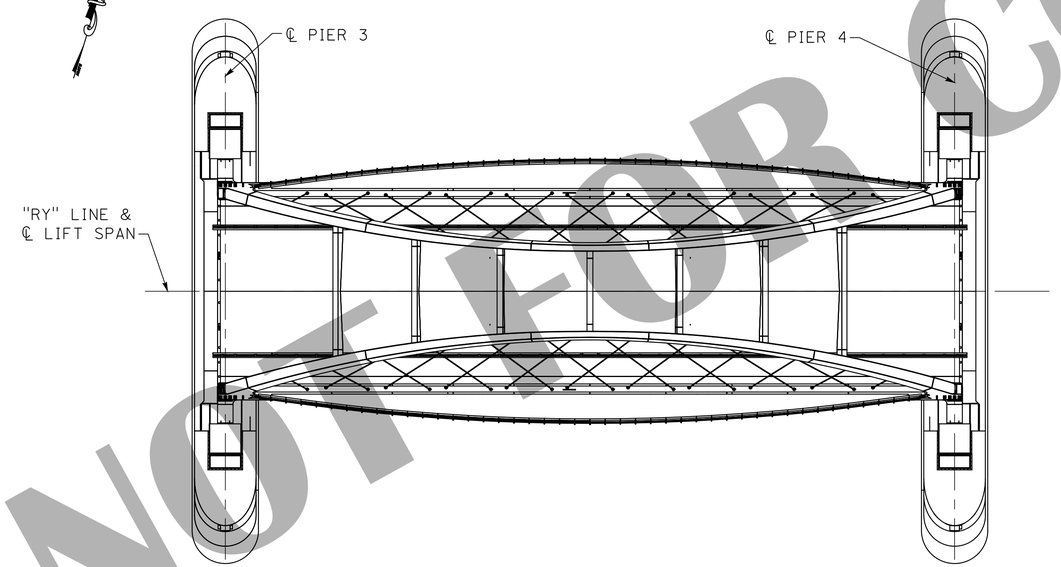
DWG NO.: MS-168
SHT NO.: 488 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-166 SUGGESTED CONSTRUCTION STAGING - 2.dwg LAST PLOTTED: 11/3/2025 1:57:54 PM



STAGE 5
(NOT TO SCALE)



STAGE 6
(NOT TO SCALE)

STAGE 5:

1. REMOVE FLOAT-IN BARGE.
2. REMOVE TEMPORARY SUPPORTS BETWEEN L3-U4/L9-U7 AND L3-U3/L9-U5.
3. INSTALL HANGERS C2-C5 AND C16-C19

STAGE 6:

1. INSTALL REMAINING HANGER FLOOR FRAMING MEMBERS AND GRATING.
2. POUR CONCRETE FOR EXODERMIC DECK.

STAGE 7:

1. TEST OPERATE BRIDGE AND COMPLETE SPAN BALANCE TESTING.
2. COMPLETE SPAN BALANCE ADJUSTMENTS AND ADDITIONAL TESTING OPERATIONS.
3. OPEN WATERWAY TO MARINE TRAFFIC.

NOTES:

1. WORK THIS DRAWING WITH DRAWING NOS. MS-167 AND MS-168.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

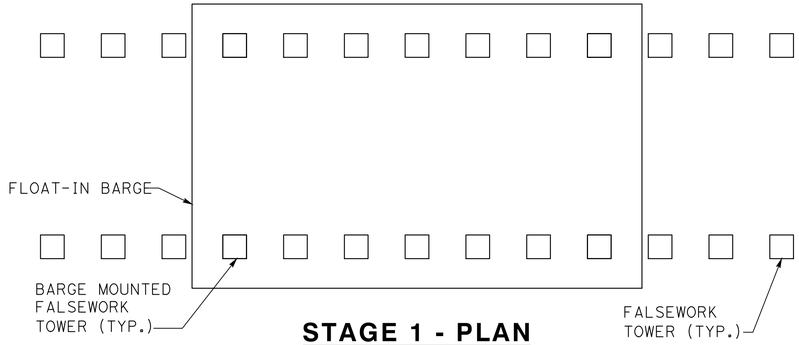
REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SUGGESTED CONSTRUCTION STAGING - 3
(Date: 11/03/2025)

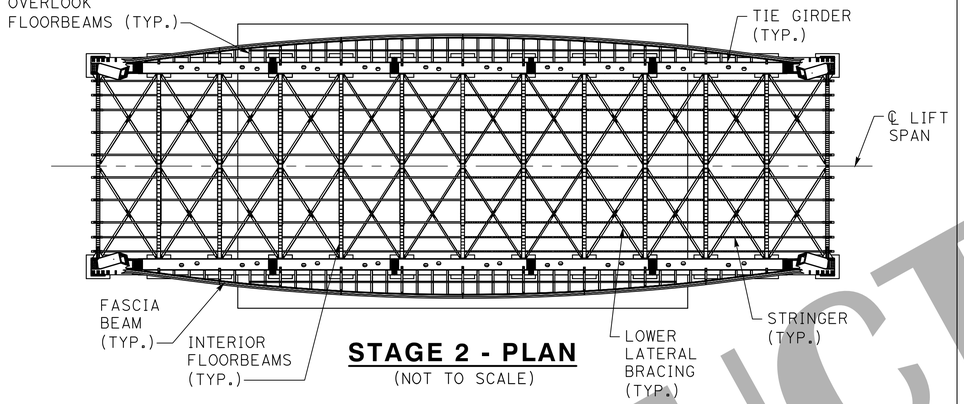
PN: T15136000
DWG NO.: MS-169
SHT NO.: 489 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

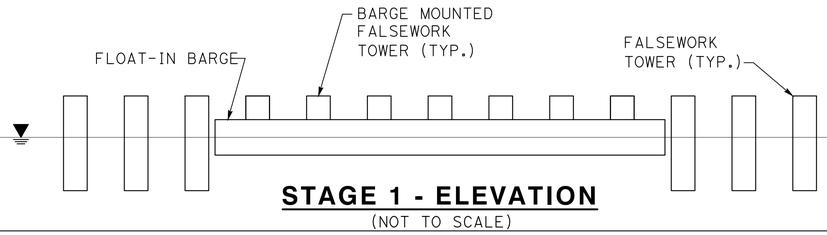
p:\3326.01\CADD\Structural\MS-167 SUGGESTED CONSTRUCTION STAGING - 3.dwg LAST PLOTTED: 11/3/2025 1:58:05 PM



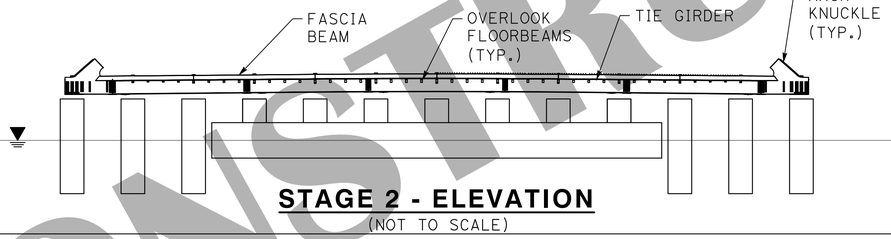
STAGE 1 - PLAN
(NOT TO SCALE)



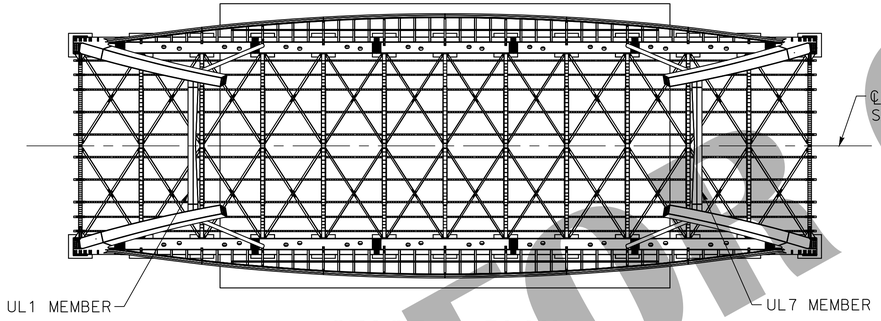
STAGE 2 - PLAN
(NOT TO SCALE)



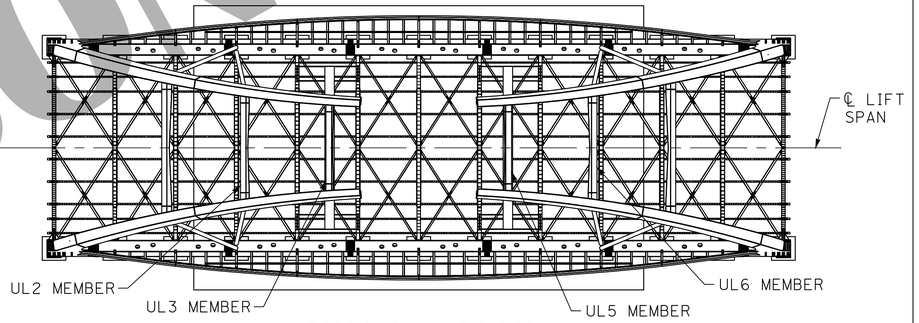
STAGE 1 - ELEVATION
(NOT TO SCALE)



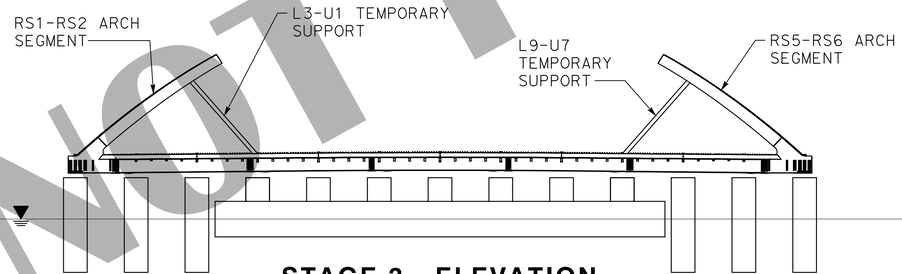
STAGE 2 - ELEVATION
(NOT TO SCALE)



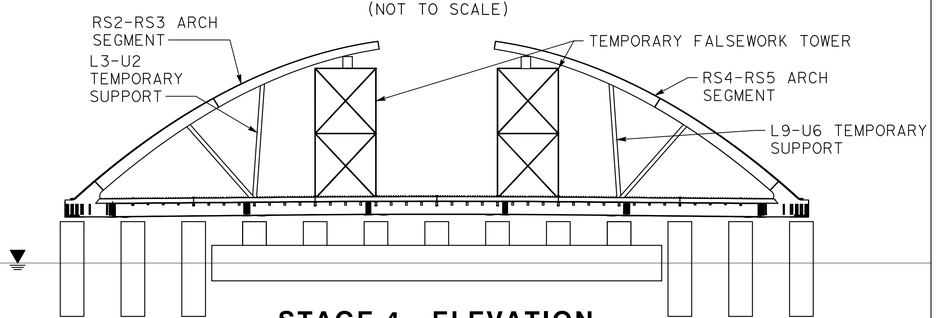
STAGE 3 - PLAN
(NOT TO SCALE)



STAGE 4 - PLAN
(NOT TO SCALE)



STAGE 3 - ELEVATION
(NOT TO SCALE)



STAGE 4 - ELEVATION
(NOT TO SCALE)

STAGE 1:

ERECT FALSEWORK TO PROVIDE TEMPORARY SUPPORTS TO THE LIFT SPAN. SEE DWG. NO. MS-127 FOR ROTATION CAMBERING REQUIREMENTS FOR THE TIE GIRDERS.

STAGE 2:

ERECT THE TIE GIRDERS, ARCH KNUCKLES, INTERIOR FLOORBEAMS, CANTILEVER FLOORBEAMS, LOWER LATERAL BRACING, STRINGERS AND FASCIA BEAMS. SEE DWG. NO. MS-140 FOR ADDITIONAL INFORMATION REGARDING STRINGER CONNECTIONS.

STAGE 3:

INSTALL RS1-RS2/RS5-RS6 ARCH SEGMENTS, UL1/UL7 MEMBERS, AND TEMPORARY SUPPORTS BETWEEN L3-U1/L9-U7.

STAGE 4:

INSTALL RS2-RS3/RS4-RS5 ARCH SEGMENTS, UL2/UL6 MEMBERS, UL3/UL5 MEMBERS, UL3/UL5 MEMBERS, TEMPORARY FALSEWORK TOWER, AND TEMPORARY SUPPORTS BETWEEN L3-U2/L9-U6.

NOTES:

1. WORK THIS DRAWING WITH DRAWING NO. MS-171.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

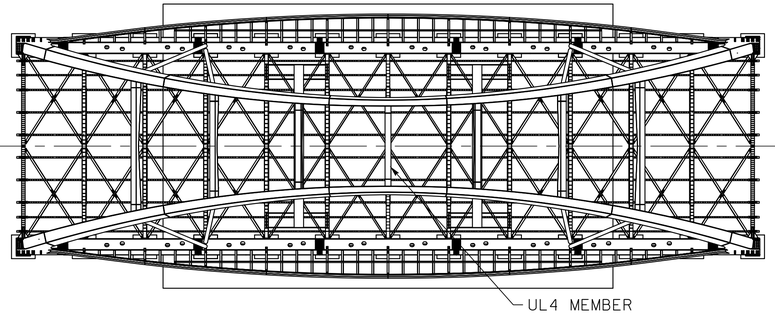
REGISTERED PROFESSIONAL ENGINEER — TODD J. STEPHENS — No. 97725 — Exp. 09-30-27 — CIVIL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SUGGESTED LIFT SPAN STAGING - 1
(Date: 11/03/2025)

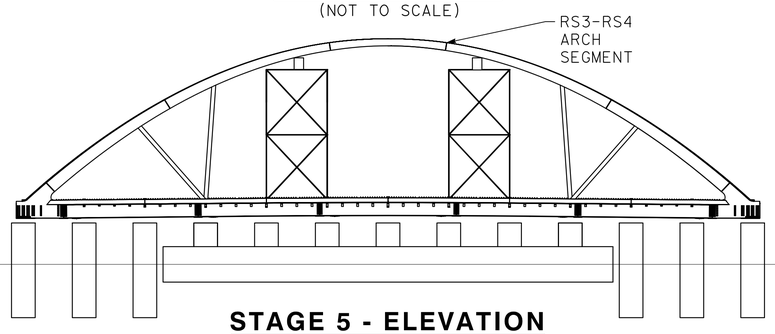
PN: T15136000
DWG NO.: MS-170
SHT NO.: 490 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

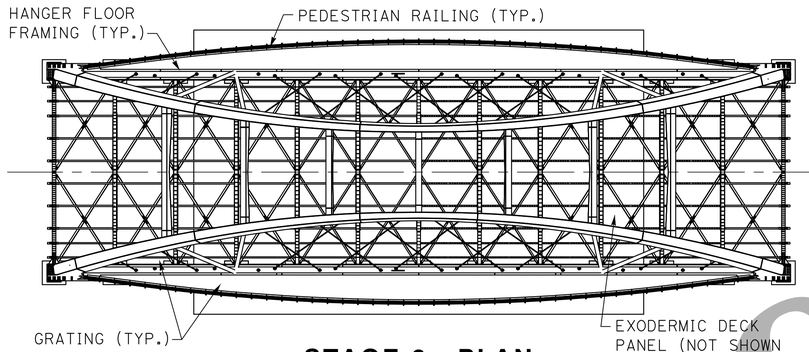
p:\3326.01\CADD\Structural\MS-168 SUGGESTED LIFT SPAN STAGING - 1.dwg LAST PLOTTED: 11/3/2025 1:58:17 PM



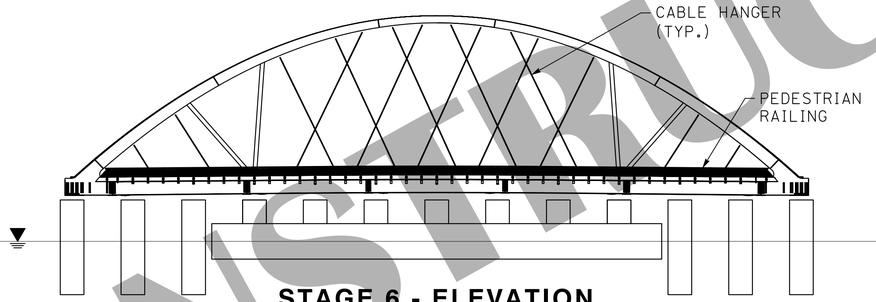
STAGE 5 - PLAN
(NOT TO SCALE)



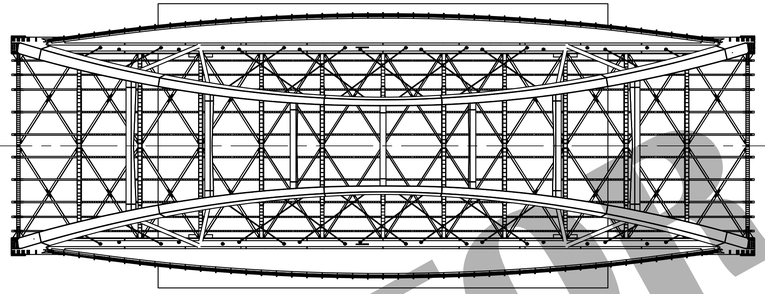
STAGE 5 - ELEVATION
(NOT TO SCALE)



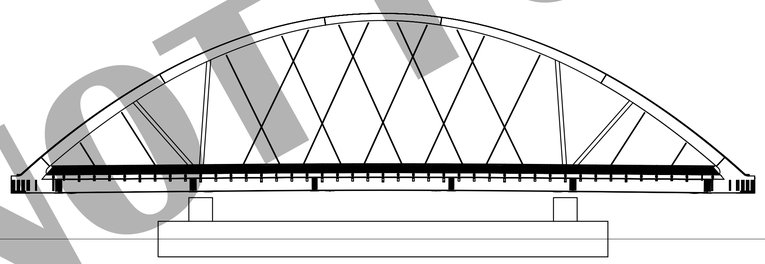
STAGE 6 - PLAN
(NOT TO SCALE)



STAGE 6 - ELEVATION
(NOT TO SCALE)



STAGE 7 - PLAN
(NOT TO SCALE)



STAGE 7 - ELEVATION
(NOT TO SCALE)

STAGE 5:

INSTALL RS3-RS4 ARCH SEGMENTS AND UL4 MEMBER

STAGE 6:

1. REMOVE TEMPORARY FALSEWORK TOWERS.
2. INSTALL HANGERS C1, C3, C6-15, C18 AND C20.
3. INSTALL EXODERMIC DECK PANELS WITHOUT CONCRETE OR STEEL REINFORCEMENT.
4. INSTALL HANGER FLOOR FRAMING MEMBERS NOT CONFLICTING WITH TEMPORARY SUPPORTS, GRATING, AND PEDESTRIAN RAILING.

STAGE 7:

1. JACK LIFT SPAT AT L3 AND L9 TO PREPARE FOR FLOAT-IN.
2. REMOVE FALSEWORK TOWERS AND BARGE MOUNTED FALSEWORK TOWERS NOT IN USE.

STAGE 8 - FLOAT-IN:

1. SEE DRAWINGS MS-167 THRU MS-169 FOR FLOAT-IN STAGING.

NOTES:

1. WORK THIS DRAWING WITH DRAWING NO. MS-170.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. STEPHENS DATE: 11/03/2025
DESIGN BY: T. STEPHENS DATE: 11/03/2025
CHECKED BY: M. ALESTRA DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
TODD J. STEPHENS
No. 97725
Exp. 09-30-27
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SUGGESTED LIFT SPAN STAGING - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: MS-171
SHT NO.: 491 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Structural\MS-169 SUGGESTED LIFT SPAN STAGING - 2.dwg LAST PLOTTED: 11/3/2025 1:58:33 PM

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

I-STREET BRIDGE REPLACEMENT PROJECT
SACRAMENTO, CA

MOVABLE SPAN MECHANICAL

INDEX OF DRAWINGS	
DRAWING NUMBER	DRAWING TITLE
M-001	TITLE SHEET - MECHANICAL
M-002	MECHANICAL GENERAL PLAN AND ELEVATION
M-003	MECHANICAL GENERAL NOTES
M-004	MECHANICAL EQUIPMENT SCHEDULE
M-005	PRIMARY MACHINERY LAYOUT
M-006	SECONDARY MACHINERY
M-007	PRIMARY REDUCER DETAIL
M-008	PRIMARY MACHINERY DETAILS - 1
M-009	FLOATING SHAFT ASSEMBLY
M-010	FLOATING SHAFT ASSEMBLY DETAILS - 1
M-011	SECONDARY MACHINERY SUPPORT
M-012	SECONDARY REDUCER DETAIL
M-013	OPERATING ROPE DRUM ASSEMBLY
M-014	BOTTOM INBOARD DEFLECTOR SHEAVE ASSEMBLY
M-015	BOTTOM OUTBOARD DEFLECTOR SHEAVE ASSEMBLY
M-016	COUNTERWEIGHT IDLER SHEAVE ASSEMBLIES
M-017	OPERATING ROPES, TOWER DEFLECTOR SHEAVES
M-018	BOTTOM OPERATING ROPE TAKEUP ASSEMBLY
M-019	BOTTOM OPERATING ROPE TAKEUP DETAILS
M-020	TOWER TOP OPERATING ROPE TAKEUP ASSEMBLY
M-021	TOWER TOP OPERATING ROPE TAKEUP DETAILS
M-022	DYNAMIC TENSIONER

INDEX OF DRAWINGS	
DRAWING NUMBER	DRAWING TITLE
M-023	COUNTERWEIGHT SHEAVE ASSEMBLY
M-024	COUNTERWEIGHT SHEAVE ASSEMBLY DETAILS - 1
M-025	SPAN POSITION ASSEMBLY
M-026	COUNTERWEIGHT ROPES
M-027	COUNTERWEIGHT ROPE CONNECTIONS
M-028	COUNTERWEIGHT ROPE CONNECTIONS DETAILS - 1
M-029	LIFTING GIRDER ROPE CONNECTION
M-030	LIFTING GIRDER ROPE CONNECTION DETAILS - 1
M-031	LIFTING GIRDER ROPE CONNECTION DETAILS - 2
M-032	SPAN LOCK ASSEMBLY
M-033	SPAN LOCK DETAILS - 1
M-034	SPAN LOCK DETAILS - 2
M-035	SPAN LOCK HYDRAULICS
M-036	SHOCK ABSORBERS
M-037	SPAN GUIDES
M-038	SPAN GUIDES DETAILS - 1
M-039	SPAN GUIDES DETAILS - 2
M-040	INSPECTION TRAVELER DETAILS - 1
M-041	INSPECTION TRAVELER DETAILS - 2
M-042	INSPECTION TRAVELER DETAILS - 3

NOT FOR CONSTRUCTION

P:\3326.01\CADD\Mechanical\M-001 TITLE SHEET - MECHANICAL.dwg LAST PLOTTED: 11/3/2025 4:19:37 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

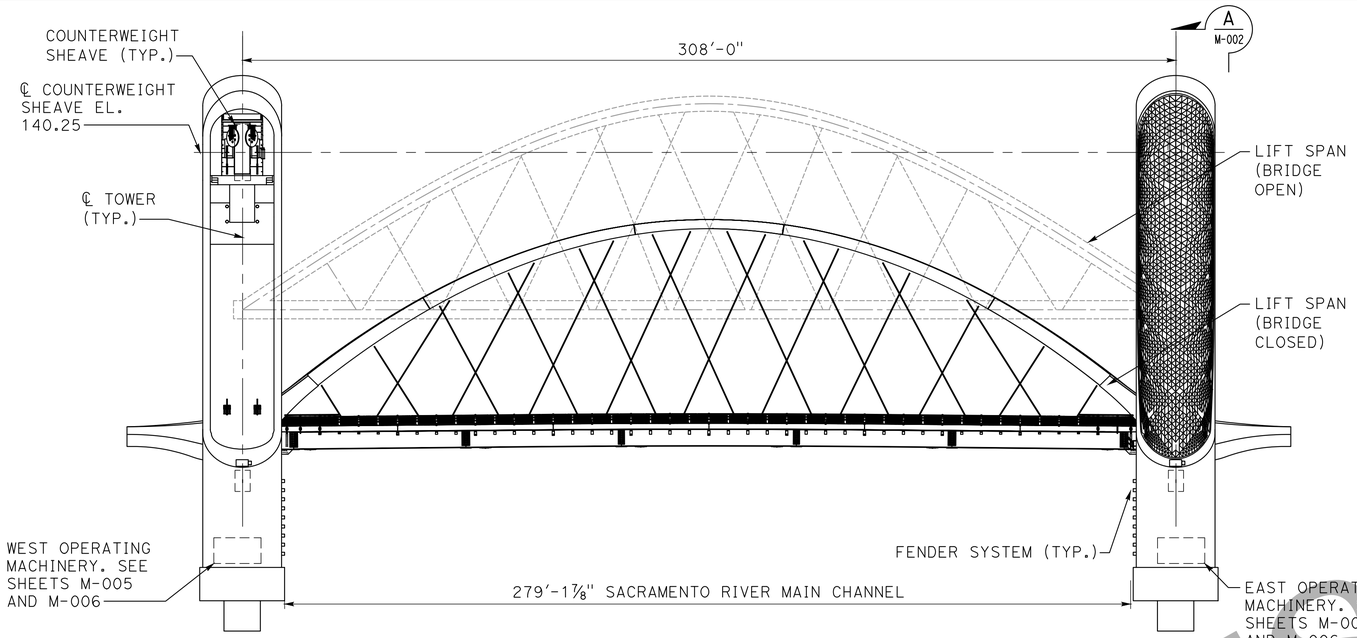
DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

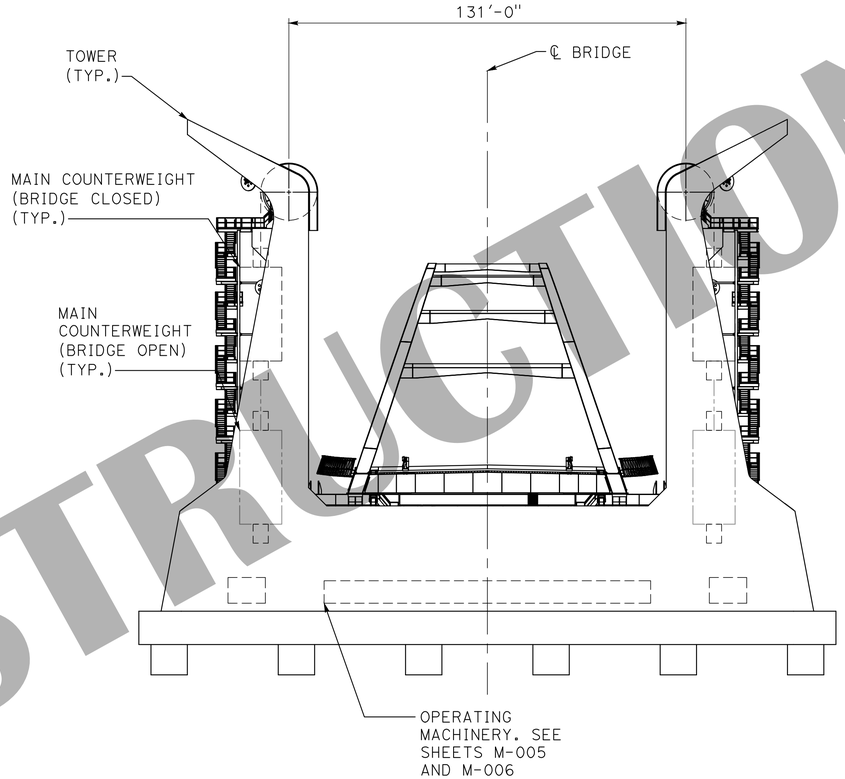
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TITLE SHEET - MECHANICAL
(Date: 11/03/2025)

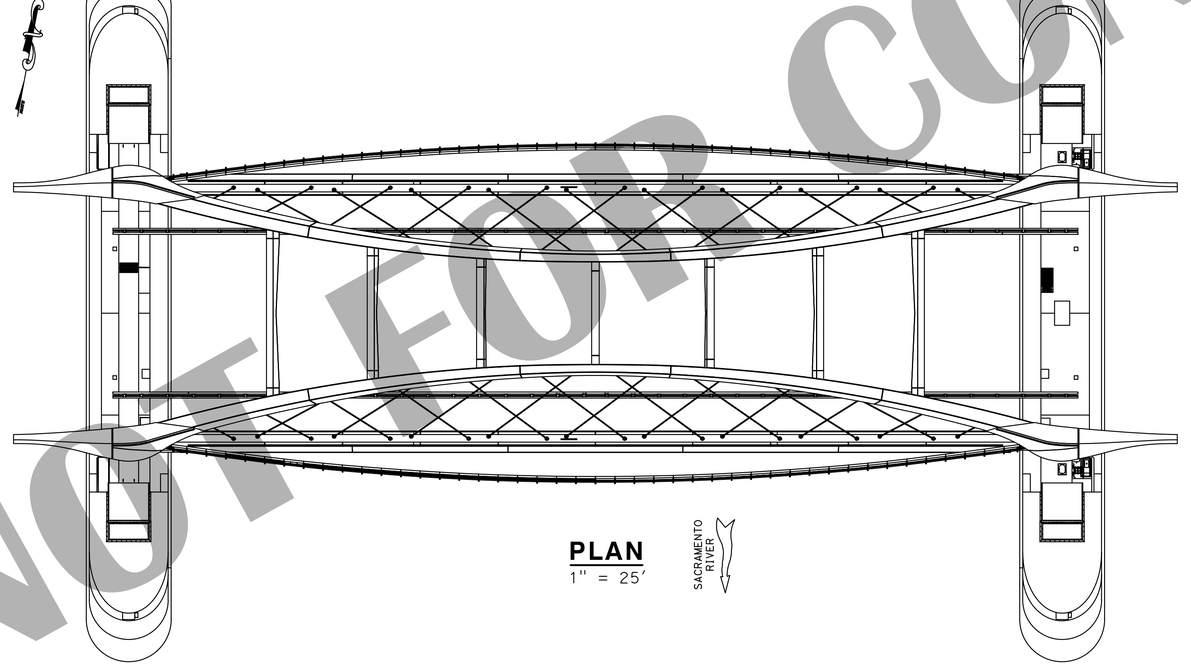
PN: T15136000

DWG NO.: M-001
SHT NO.: 492 OF 648



ELEVATION
1" = 25'





PLAN
1" = 25'

A M-002 **EAST PIER**
1" = 25'-0"
NOTE: WEST PIER SYMETRICAL ABOUT CENTERLINE OF CHANNEL

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP	DESIGN BY: J. SHOUP	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MECHANICAL GENERAL PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-002
SHT NO.: 493 OF 648

p:\3326.01\CADD\Mechanical\M-002 GENERAL PLAN AND ELEVATION - MECHANICAL.dwg LAST PLOTTED: 11/3/2025 1:58:48 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

GENERAL NOTES:

ALL MECHANICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF AASHTO MOVABLE HIGHWAY BRIDGE DESIGN SPECIFICATIONS (AASHTO MHBDS), EXCEPT AS MODIFIED HEREIN.

THE CONTRACTOR SHALL SUPPLY ALL APPARATUS, TOOLS, DEVICES, MATERIALS AND LABOR TO MANUFACTURE, SHIP, INSTALL, ERECT, ALIGN, ADJUST, LUBRICATE, TEST AND PAINT MACHINERY FOR THE MECHANICAL MACHINERY OF THE VERTICAL LIFT BRIDGE, AND ANY APPARATUS, TOOLS, DEVICES, MATERIALS AND LABOR, NOT SPECIFICALLY STATED OR INCLUDED, WHICH MAY BE NECESSARY FOR THE WORK, SHALL ALSO BE FURNISHED BY THE CONTRACTOR.

ALL PARTS FURNISHED BY THE CONTRACTOR SHALL BE NEW, AND SHALL BE AS SHOWN OR AN APPROVED EQUAL. IN CASES WHERE A SUBSTITUTION IS PROPOSED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVE EQUALITY OF THE SUBSTITUTION WITH THE ORIGINAL CONTRACT PLANS, INCLUDING THE SUBMISSION OF A SAMPLE FOR THE ENGINEER'S EXAMINATION AND/OR A VISIT BY THE ENGINEER OR HIS CHOSEN REPRESENTATIVE TO THE PROPOSED MANUFACTURING FACILITY, ALL AT THE COST OF THE CONTRACTOR. THE CONTRACTOR WILL ALSO PROVIDE, AT NO ADDITIONAL COST, WHATEVER ENGINEERING ANALYSIS, AND DESIGN MODIFICATIONS AS MAY BE NECESSITATED BY HIS PROPOSED SUBSTITUTION.

ALL QUANTITIES LISTED ON THESE PLANS ARE APPROXIMATE AND INCLUDED AS REFERENCE ONLY. THE CONTRACTOR SHALL CREATE HIS OWN DETAILED LIST OF QUANTITIES AND MATERIALS AS THE BASIS FOR BIDDING AND PURCHASING.

APPLICABLE STANDARDS:

THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED. THE PUBLICATIONS ARE REFERRED TO IN THE TEXT BY BASIC DESIGNATION ONLY. THE LATEST REVISIONS ONLY SHALL BE USED FOR ALL REFERENCES.

WHERE NOT OTHERWISE SPECIFIED HEREIN, WORKMANSHIP, MATERIALS, FABRICATION, AND ERECTION OF THE BRIDGE COMPONENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO MHBDS.

- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
- AMERICAN GEAR MANUFACTURER'S ASSOCIATION (AGMA)
- SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)
- AMERICAN WELDING SOCIETY (AWS), BRIDGE WELDING CODE, D1.5
- AMERICAN BEARING MANUFACTURERS ASSOCIATION (ABMA)
- AMERICAN IRON AND STEEL INSTITUTE (AISI)
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
- ASSOCIATION FOR MATERIALS PROTECTION & PERFORMANCE (AMPP, FORMERLY SSPC & NACE)

SOURCE QUALITY CONTROL:

MATERIALS AND FABRICATION PROCEDURES ARE SUBJECT TO INSPECTION AND TESTING IN THE MILL, SHOP AND FIELD BY THE ENGINEER. SUCH INSPECTIONS AND TESTS WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PROVIDING MATERIALS AND FABRICATION PROCEDURES IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

ALL DETAILS SHOWN ON THE CONTRACT PLANS ARE TYPICAL AND APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. ALL DIMENSIONS AND DETAILS SHALL BE VERIFIED AT THE SITE BEFORE PROCEEDING WITH ANY WORK AND TO AVOID CAUSING SUBSEQUENT DELAY IN WORK.

THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION WHENEVER ANY PORTION OF WORK IS NOT CLEARLY DEFINED OR UNDERSTOOD.

DELIVERY, STORAGE, AND HANDLING

ALL MACHINERY, MATERIALS AND CONTINGENT ITEMS SHALL BE PROPERLY PROTECTED FOR SHIPMENT AND STORAGE.

ALL MACHINERY ITEMS AND MATERIAL SHALL BE DELIVERED TO THE SITE IN ACCORDANCE WITH THE APPROVED SCHEDULE OF WORK.

MATERIAL SHALL BE STORED SO AS TO PERMIT EASY ACCESS FOR INSPECTION AND IDENTIFICATION. MATERIALS AND ITEMS SHALL BE PROTECTED FROM THE GROUND BY THE USE OF PALLETS, PLATFORMS OR OTHER MEANS. MATERIAL SHALL NOT BE STORED IN A MANNER THAT WOULD CAUSE DISTORTION OR DAMAGE.

ALL FINISHED METAL SURFACES AND UNPAINTED METAL SURFACES THAT WOULD BE DAMAGED BY CORROSION, SHALL BE COATED WITH A 1/32 INCH MINIMUM FILM THICKNESS AS SOON AS PRACTICAL AFTER FINISHING WITH NO-OX-ID, A-SPECIAL, AS MANUFACTURED BY SANCHEM INC., CHICAGO, ILLINOIS, OR EQUAL. MATERIAL SHALL BE PREPARED FOR SHIPPING BY COATING INTERIOR SURFACES WITH A PROTECTIVE FILM OF OIL, INSTALLING WOODEN PLUGS IN ALL OPENINGS AND COVERING THEM WITH VISQUEEN HELD IN PLACE BY STEEL BANDS. THIS COATING SHALL BE REMOVED FROM ALL SURFACES PRIOR TO LUBRICATION FOR OPERATION AND FROM ALL SURFACES PRIOR TO PAINTING AFTER ERECTION. ALL FINISHED SURFACES SHALL BE PROTECTED BY WOODEN LAGGING. ALL UNFINISHED SURFACES SHALL BE PAINTED WITH PRIME AND INTERMEDIATE COATS AT THE SHOP.

ASSEMBLED UNITS SHALL BE MOUNTED ON SKIDS OR OTHERWISE CRATED FOR PROTECTION FROM WEATHER, DIRT AND ALL OTHER INJURIOUS CONDITIONS DURING SHIPMENT AND STORAGE AS DIRECTED BY THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT ADVANCE INFORMATION AS TO METHODS AND MATERIALS WHICH WILL BE USED FOR PROTECTION FOR APPROVAL BY THE ENGINEER. ALL MACHINERY UNITS SHALL HAVE LIFTING EYE BOLTS OR LIFTING HOLES PROPERLY SIZED FOR SAFE WORKING LOADS AND LOCATED TO PROVIDE A BALANCED LIFT.

DETAILS AND WORKMANSHIP

TOLERANCES FOR MACHINED SURFACES:

UNLESS OTHERWISE NOTED ON THESE PLANS, X.XXX TO ±0.003", X.XX TO ±0.005", X.X TO ±0.010", FRACTIONAL ±1/32", ANGULAR ± 1/2°, BETWEEN MACHINED SURFACES ±0.010", LOCATION OF BOLT HOLES ±1/64".

FASTENERS:
BOLT LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR TO ACCOMMODATE THE SPECIFIED QUANTITY OF WASHERS, NUTS, AND FULL VARIABILITY OF ANY SHIM PACKS, AND PROVIDE SUFFICIENT THREAD STICK-THROUGH.

FITS AND FINISHES:

FITS AND SURFACE FINISHES, WHEN NOT INCLUDED ON THESE PLANS, SHALL BE AS LISTED BELOW OR VENDORS' RECOMMENDED SPECIFICATIONS.

SURFACE FINISHES ARE GIVEN AS THE ROUGHNESS HEIGHT IN MICROINCHES.

PART	FIT	FINISH
MACHINERY BASE ON STEEL	-	250
MACHINERY BASE ON MASONRY	-	500
SHAFT JOURNALS	RC6	8
JOURNAL BUSHINGS	RC6	16
SPLIT BUSHING IN BASE	LC1	125
SOLID BUSHING IN BASE (TO 1/4" WALL)	FN1	63
SOLID BUSHING IN BASE (OVER 1/4" WALL)	FN2	63
HUBS ON SHAFTS (TO 2" BORE)	FN2	32
HUBS ON SHAFTS (OVER 2" BORE)	FN2	63
TURNED BOLTS IN FINISHED HOLES	LC6	63
HUBS ON MAIN TRUNNIONS	FN2	63
SLIDING BEARINGS	RC6	32
KEYS AND KEYWAYS (TOP AND BOTTOM)	LC4	63
KEYS AND KEYWAYS (SIDES)	FN2	63
MACHINERY PARTS IN FIXED CONTACT	-	125

THE ABOVE FITS FOR CYLINDRICAL PARTS SHALL ALSO APPLY TO THE MAJOR DIMENSIONS OF NON-CYLINDRICAL PARTS.

ALL SHARP EDGES SHALL BE REMOVED AFTER FINAL MACHINING.

ERECTION

THE MACHINERY SHALL BE ERECTED AND ADJUSTED BY COMPETENT MILLWRIGHTS SKILLED IN THE TYPE OF WORK INVOLVED. PREVIOUS WORK EXPERIENCE FOR MILLWRIGHTS WORKING ON THE MOVABLE BRIDGE MACHINERY MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE MILLWRIGHTS SHALL BE PROVIDED WITH ALL NECESSARY MEASURING AND LEVELING INSTRUMENTS AS MAY BE REQUIRED. THE MACHINERY SHALL BE ERECTED WITH EXACTNESS SO THE VARIOUS PARTS ARE TRULY ALIGNED IN THEIR PROPER POSITIONS AND, WHEN ENTIRELY ASSEMBLED, WILL OPERATE SMOOTHLY WITHOUT BINDING OR UNDUE LOOSENESS OF THE PARTS.

THROUGHOUT THE INSTALLATION, BOLTS AND NUTS SHALL BE ADJUSTED OR TIGHTENED ONLY WITH WRENCHES THAT FIT; TIGHTENING WITH CHISELS AND HAMMERS WILL NOT BE PERMITTED. INSTALLATION AND ALIGNMENT OF ALL MECHANICALLY CONNECTED MACHINERY AND ELECTRICAL EQUIPMENT SHALL BE CONDUCTED UNDER SUPERVISION OF THE MACHINERY MANUFACTURER'S FIELD ENGINEER.

THE MACHINERY AND ALL MACHINE-LIKE ELEMENTS OR PARTS SHALL BE ASSEMBLED, ERECTED, ALIGNED, AND ADJUSTED AT THE BRIDGE SITE UNDER THE DIRECT AND CONTINUOUS SUPERVISION OF THE ENGINEER TO WHOM THE CONTRACTOR SHALL AFFORD EVERY OPPORTUNITY AND FACILITY TO SATISFY HIMSELF THAT THE WORK IS BEING DONE IN ACCORDANCE WITH THESE PLANS.

LUBRICATION:

DURING INSTALLATION, THE CONTRACTOR SHALL LUBRICATE ALL ROTATING AND SLIDING PARTS OF THE BRIDGE MACHINERY, AND FILL ALL MACHINERY WITH LUBRICANTS AS INDICATED ON THE NEW LUBRICATION DIAGRAM CREATED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

AFTER ERECTION IS COMPLETE, THE CONTRACTOR SHALL MAKE A THOROUGH INSPECTION TO ENSURE THAT ALL MOVING PARTS ARE CLEAN AND FREE OF OBSTRUCTION, THAT ALL PARTS ARE ALIGNED AS CLOSELY AS PRACTICAL WITHOUT ACTUAL OPERATION, AND THAT ALL BOLTS ARE PROPERLY TIGHTENED. ALL LUBRICATION REQUIREMENTS LISTED ON THE LUBRICATION CHARTS SHALL BE PERFORMED BY THE CONTRACTOR UNTIL THE FINAL ACCEPTANCE BY THE OWNER.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Mechanical\M-003 GENERAL NOTES - MECHANICAL.dwg LAST PLOTTED: 11/3/2025 1:58:52 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

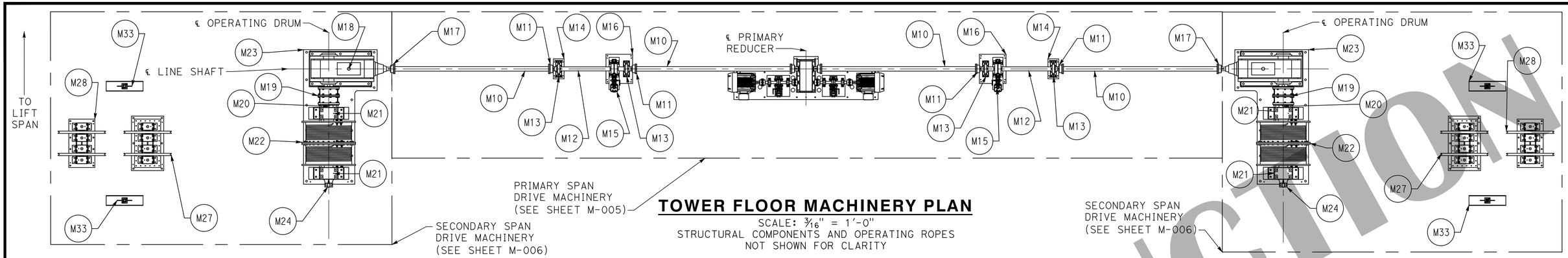
DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MECHANICAL GENERAL NOTES
(Date: 11/03/2025)

PN: T15136000

DWG NO.: M-003
SHT NO.: 494 OF 648



TOWER FLOOR MACHINERY PLAN

SCALE: 3/16" = 1'-0"
STRUCTURAL COMPONENTS AND OPERATING ROPES NOT SHOWN FOR CLARITY

MACHINERY SCHEDULE (ALL ITEMS PER PIER, 2 PIERS TOTAL)

ITEM NO.	QTY	DESCRIPTION	DETAILS
M01	2	SPAN DRIVE MOTOR	SEE ELECTRICAL SPECIFICATIONS, 100 HP, 1200 RPM
M02	2	MOTOR COUPLING	DOUBLE ENGAGEMENT COUPLING, THE FALK CORPORATION, GEAR TYPE G20, SIZE 1030G, 107,100 IN*LB TORQUE RATING, BORES AND KEYWAYS TO MATCH COMPONENTS
M03	4	BRAKE SHAFT BEARING	PILLOW BLOCK BEARING WITH SPLIT ROLLER BEARING
M04	2	MOTOR BRAKE SHAFT	3" DIAMETER; ASTM A668, CLASS D
M05	2	MOTOR BRAKE	DESIGN BASED ON DELLNER BUBENZER MODEL NO. EBA 8" - 30/5; 8 INCH DIAMETER DRUM BRAKE; WITH ELECTRO-HYDRAULIC ACTUATOR WITH ADJUSTABLE DELAY ON SETTING AND EXTERNAL TORQUE SPRING; LOW FORCE, LATCHING MANUAL RELEASE LEVER; 3 LIMIT SWITCHES; FACTORY TORQUE SETTING 210 FT-LB; WITH SYMMETRIC BRAKEWHEEL TYPE WS8, BORE AND KEY TO MATCH MOTOR BRAKE SHAFT. ONE (1) RH, ONE (1) LH, WITH STAINLESS STEEL COVER
M6	2	PRIMARY REDUCER INPUT COUPLING	DOUBLE ENGAGEMENT COUPLING, THE FALK CORPORATION, GEAR TYPE G20, SIZE 1030G, 107,100 IN*LB TORQUE RATING, BORES AND KEYWAYS TO MATCH COMPONENTS
M7	1	PRIMARY REDUCER	PARALLEL SHAFT REDUCER, RATIO 20.93:1, TORQUE RATING 111,601 IN-LB MINIMUM OUTPUT TORQUE RATING, 1.5 SERVICE FACTOR
M8	2	PRIMARY REDUCER OUTPUT COUPLING	SINGLE ENGAGEMENT COUPLING, THE FALK CORPORATION, GEAR TYPE G52, SIZE 1040G, 270,900 IN*LB TORQUE RATING, FLEXIBLE HALF ONLY, BORES AND KEYWAYS TO MATCH COMPONENTS
M9	1	PRIMARY MACHINERY WELDMENT	ASTM A709, GRADE 50
M10	4	TUBE LINE SHAFT	6" O.D., 4¾" I.D. TUBE
M11	4	LINE SHAFT COUPLING	SINGLE ENGAGEMENT COUPLING, THE FALK CORPORATION, GEAR TYPE G52, SIZE 1040G, 270,900 IN*LB TORQUE RATING, FLEXIBLE HALF ONLY, BORES AND KEYWAYS TO MATCH COMPONENTS
M12	2	SOLID LINE SHAFT	5⅜" DIAMETER, ASTM A668, CLASS D
M13	4	LINE SHAFT BEARINGS	PILLOW BLOCK BEARING WITH SPLIT ROLLER BEARING
M14	2	LINE SHAFT BEARING SUPPORT WELDMENT	ASTM A709, GRADE 50

MACHINERY SCHEDULE (ALL ITEMS PER PIER, 2 PIERS TOTAL)

ITEM NO.	QTY	DESCRIPTION	DETAILS
M15	2	MACHINERY BRAKE	DESIGN BASED ON DELLNER BUBENZER MODEL NO. EBA 16" - 201/6; 16 INCH DIAMETER DRUM BRAKE WITH ELECTRO-HYDRAULIC ACTUATOR WITH ADJUSTABLE DELAY ON SETTING AND EXTERNAL TORQUE SPRING; LOW FORCE, LATCHING MANUAL RELEASE LEVER; 3 LIMIT SWITCHES; FACTORY TORQUE SETTING 2100 FT-LB; WITH 16" SOLID SYMMETRIC BRAKEWHEEL, BORE AND KEY TO MATCH SOLID LINE SHAFT. ONE (1) RH, ONE (1) LH, WITH STAINLESS STEEL COVER
M16	2	MACHINERY BRAKE SUPPORT WELDMENT	ASTM A709, GRADE 50; ONE (1) RH, ONE (1) LH
M17	2	SECONDARY REDUCER INPUT COUPLING	SINGLE ENGAGEMENT COUPLING, THE FALK CORPORATION, GEAR TYPE G52, SIZE 1040G, 270,900 IN*LB TORQUE RATING, FLEXIBLE HUB ONLY, BORES AND KEYWAYS TO MATCH COMPONENTS
M18	2	SECONDARY REDUCER	RIGHT ANGLE SHAFT REDUCER, 13.95:1 RATIO, 934,100 IN-LB MINIMUM OUTPUT TORQUE RATING, 1.5 SERVICE FACTOR, ONE (1) RH, ONE (1) LH
M19	2	OPERATING DRUM COUPLING	DOUBLE ENGAGEMENT COUPLING, THE FALK CORPORATION, GEAR TYPE G20, SIZE 1100G, 2,747,000 IN*LB TORQUE RATING, BORES AND KEYWAYS TO MATCH COMPONENTS
M20	2	OPERATING DRUM SHAFT	ASTM A668, CLASS E
M21	4	OPERATING DRUM BEARING	CAST STEEL PILLOW BLOCK WITH SPHERICAL ROLLER BEARING (SKF 23064 CCK/W33 OR EQUIVALENT), TWO (2) FIXED BEARINGS WITH END COVERS, TWO (2) FLOAT BEARINGS
M22	2	OPERATING DRUM ASSEMBLY	ONE (1) RH, ONE (1) LH
M23	2	SECONDARY MACHINERY SUPPORT	ASTM A709, GRADE 50; ONE (1) RH, ONE (1) LH
M24	2	SPAN CONTROL ASSEMBLY	
M25	4	COUNTERWEIGHT DOWNHAUL OPERATING ROPES	ø1¼" DIAMETER WIRE ROPE, 6X26 WARRINGTON SEAL WIRE WITH INDEPENDENT WIRE ROPE CORE, EXTRA EXTRA IMPROVED PLOW STEEL, RIGHT REGULAR LAY MAX. LENGTH 6.75 DIAMETERS, 87.9 TON MIN. BREAKING STRENGTH. SEE SHEET M-017 FOR DETAILS.
M26	4	COUNTERWEIGHT UPHAUL OPERATING ROPES	ø1¼" DIAMETER WIRE ROPE, 6X26 WARRINGTON SEAL WIRE WITH INDEPENDENT WIRE ROPE CORE, EXTRA EXTRA IMPROVED PLOW STEEL, RIGHT REGULAR LAY MAX. LENGTH 6.75 DIAMETERS, 87.9 TON MIN. BREAKING STRENGTH. SEE SHEET M-017 FOR DETAILS.
M27	2	BOTTOM INBOARD DEFLECTOR SHEAVE ASSEMBLY	SEE SHEET M-014

MACHINERY SCHEDULE (ALL ITEMS PER PIER, 2 PIERS TOTAL)

ITEM NO.	QTY	DESCRIPTION	DETAILS
M28	2	BOTTOM OUTBOARD DEFLECTOR SHEAVE ASSEMBLY	SEE SHEET M-015
M29	4	COUNTERWEIGHT BOTTOM IDLER SHEAVE ASSEMBLY	SEE SHEET M-016
M30	4	TOWER TOP DEFLECTOR SHEAVE ASSEMBLY	SEE SHEET M-017
M31	4	COUNTERWEIGHT TOP IDLER SHEAVE ASSEMBLY	SEE SHEET M-016
M32	4	TOWER TOP OPERATING ROPE TAKE-UP ASSEMBLY	SEE SHEET M-020
M33	4	BOTTOM OPERATING ROPE TAKE-UP ASSEMBLY	SEE SHEET M-018
M34	2	COUNTERWEIGHT SHEAVE ASSEMBLY	SEE SHEET M-023
M35	1	SPAN POSITION ASSEMBLY	SEE SHEET M-025
M36	44	COUNTERWEIGHT ROPES	ø2⅜" DIAMETER WIRE ROPE, 6X25 FILLER WIRE WITH INDEPENDENT WIRE ROPE CORE, EXTRA EXTRA IMPROVED PLOW STEEL, RIGHT REGULAR LAY MAX LENGTH 7.5 DIAMETERS, 302 TON MIN. BREAKING STRENGTH.
M37	2	COUNTERWEIGHT ROPE ATTACHMENTS - COUNTERWEIGHT	SEE SHEET M-027
M38	2	COUNTERWEIGHT ROPE ATTACHMENTS - LIFTING GIRDER	SEE SHEET M-029
M39	2	SPAN LOCK ASSEMBLY	SEE SHEET M-032
M40	2	SHOCK ABSORBER ASSEMBLY	SEE SHEET M-036
M41	2	LONGITUDINAL SPAN GUIDE ASSEMBLY	SEE SHEET M-039
M42	2	TRANSVERSE SPAN GUIDE ASSEMBLY	SEE SHEET M-039

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Mechanical\M-004 MECHANICAL EQUIPMENT SCHEDULE.dwg LAST PLOTTED: 11/3/2025 1:59:07 PM

REVISIONS
NO. | DESCRIPTION | DATE | BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

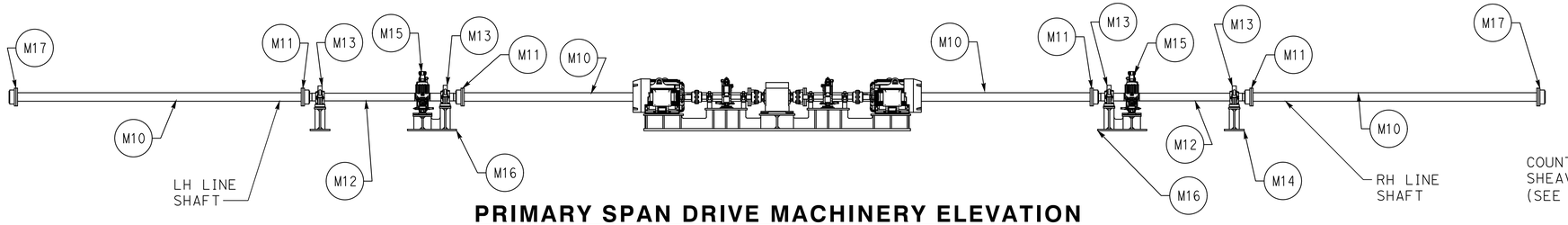
DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MECHANICAL EQUIPMENT SCHEDULE
(Date: 11/03/2025)

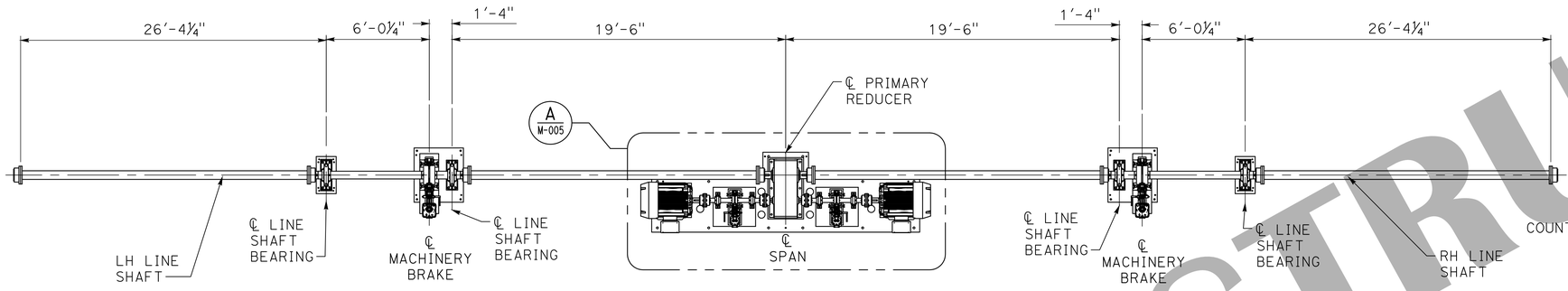
PN: T15136000
DWG NO.: M-004
SHT NO.: 495 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



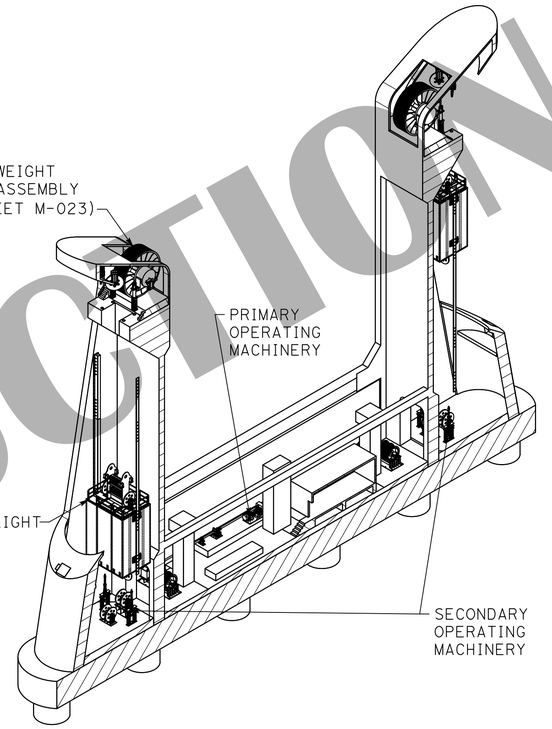
PRIMARY SPAN DRIVE MACHINERY ELEVATION

SCALE: ¼" = 1'-0"



PRIMARY SPAN DRIVE MACHINERY PLAN

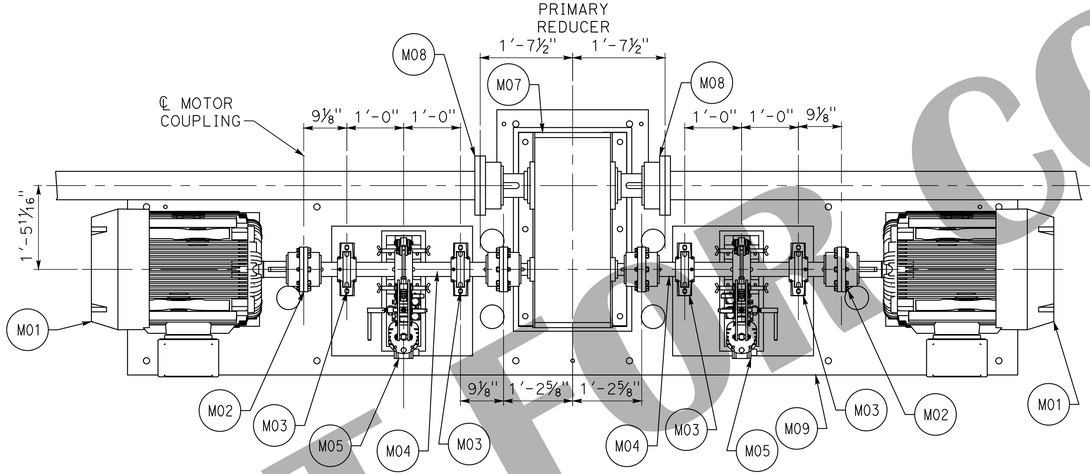
SCALE: ¼" = 1'-0"



SPAN DRIVE MACHINERY ISOMETRIC VIEW

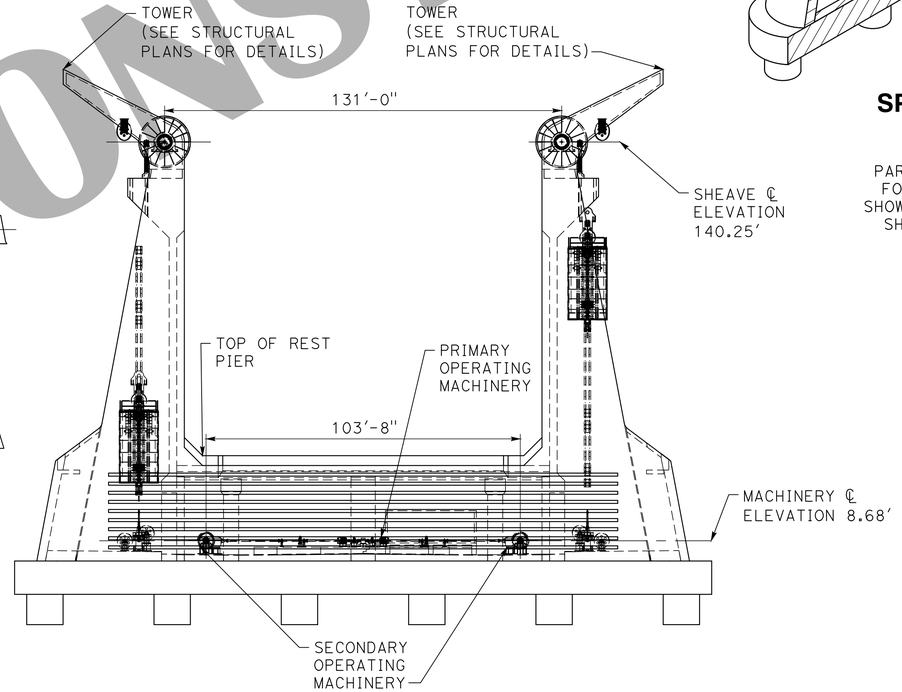
SCALE: 1" = 25'-0"

PART OF TOWER AND PIER CUT AWAY FOR CLARITY. ONE COUNTERWEIGHT SHOWN IN SPAN RAISED POSITION, ONE SHOWN IN SPAN SEATED POSITION.



A M-005 **PRIMARY SPAN DRIVE MACHINERY**

SCALE: ¾" = 1'-0"



SPAN DRIVE MACHINERY ELEVATION (EAST PIER SHOWN)

SCALE: 1" = 25'-0"

ONE COUNTERWEIGHT SHOWN WITH BRIDGE SEATED, ONE WITH BRIDGE RAISED

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

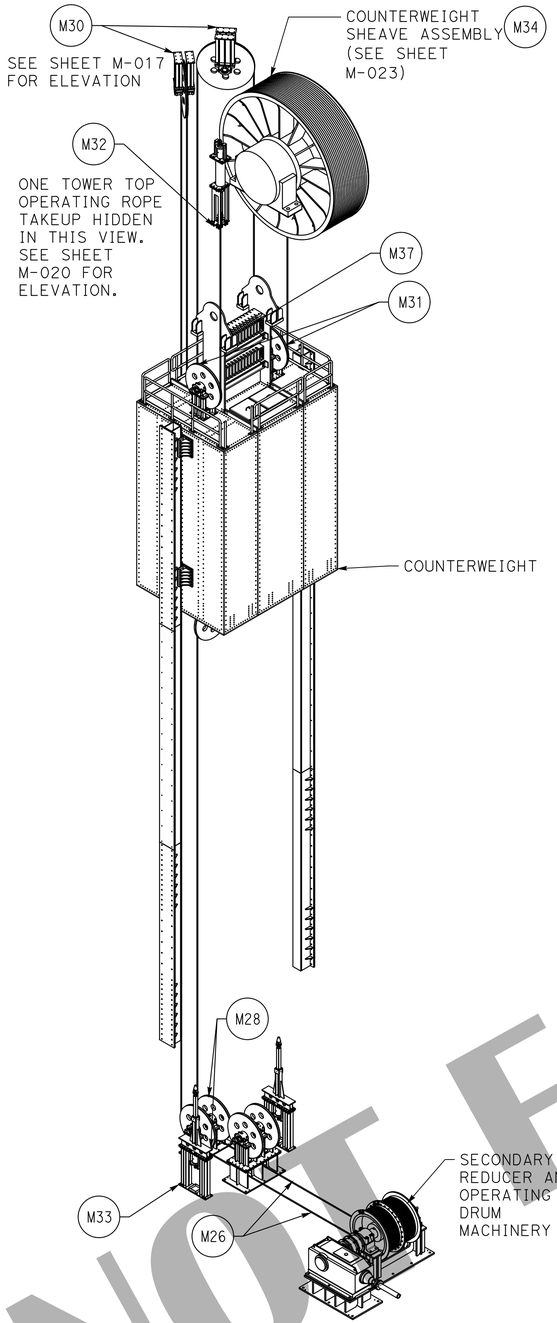
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PRIMARY MACHINERY LAYOUT
(Date: 11/03/2025)

PN: T15136000

DWG NO.: M-005
SHT NO.: 496 OF 648

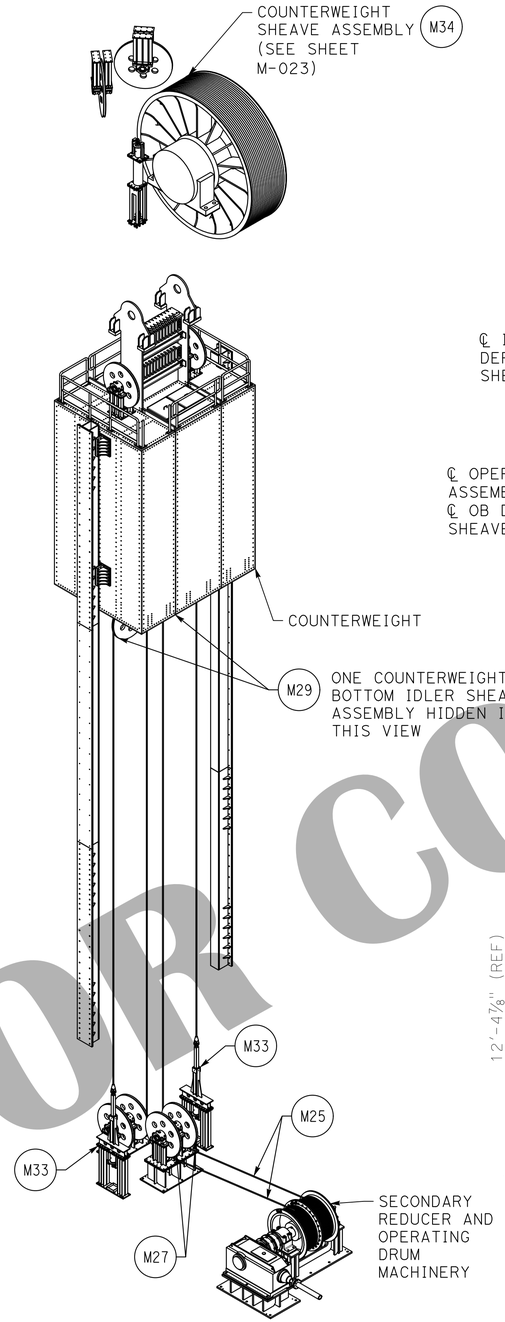
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

\\MMDC10\Projects\3326.01\CADD\Mechanical\M-005 PRIMARY MACHINERY LAYOUT.dwg LAST PLOTTED: 11/3/2025 2:57:49 PM



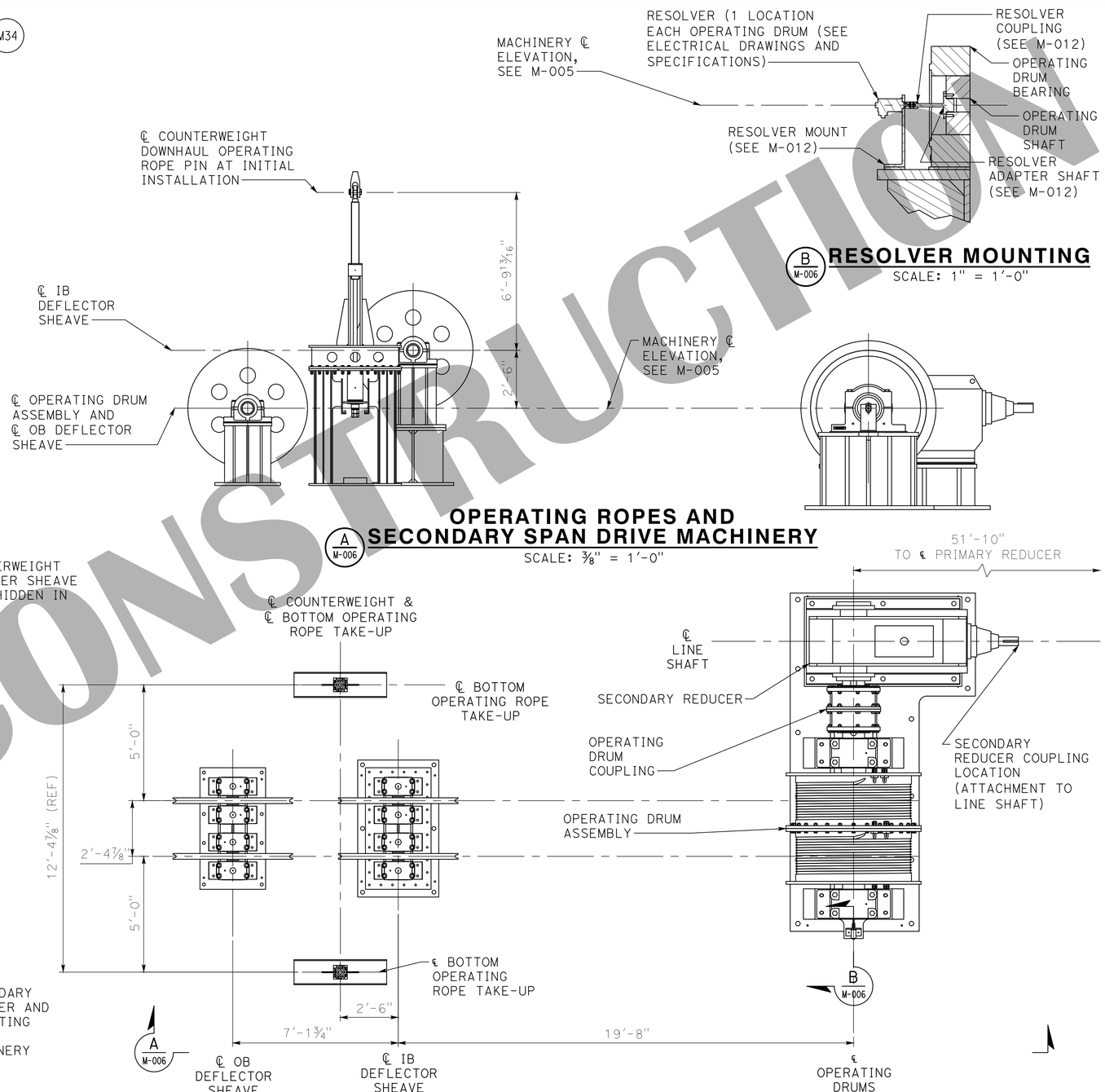
SECONDARY OPERATING MACHINERY ROPE REEVING LAYOUT

(LOCATED AT EACH TOWER, COUNTERWEIGHT UPHAUL ROPES ONLY)
SCALE: NTS
COUNTERWEIGHT ROPES
NOT SHOWN FOR CLARITY



SECONDARY OPERATING MACHINERY ROPE REEVING LAYOUT

(LOCATED AT EACH TOWER, COUNTERWEIGHT DOWNHAUL ROPES ONLY)
SCALE: NTS
COUNTERWEIGHT ROPES
NOT SHOWN FOR CLARITY



SECONDARY REDUCER AND OPERATING DRUM PLAN VIEW

SCALE: 3/8" = 1'-0"
OPERATING ROPES NOT SHOWN FOR CLARITY

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP	DESIGN BY: J. SHOUP	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SECONDARY MACHINERY
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-006
SHT NO.: 497 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

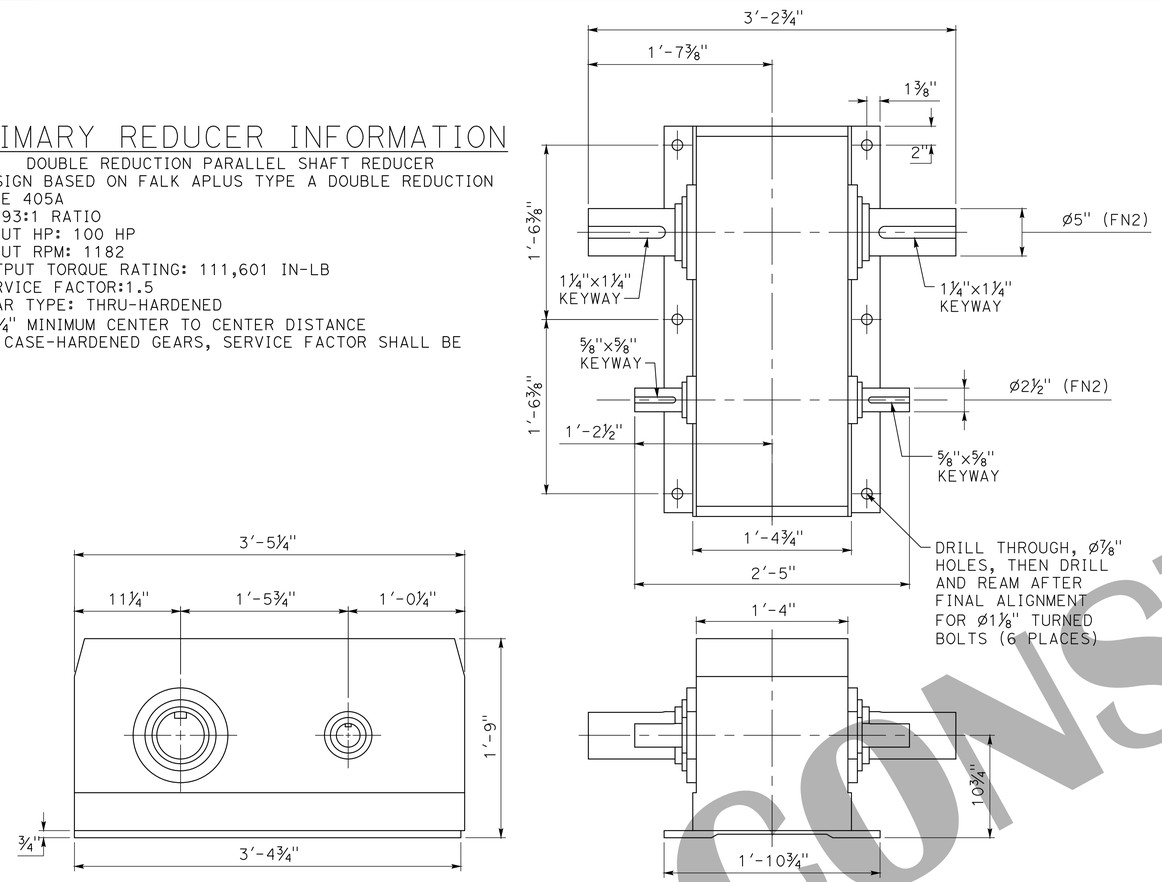
p:\3326.01\CADD\Mechanical\M-006 SECONDARY MACHINERY.dwg LAST PLOTTED: 11/3/2025 1:59:29 PM

PRIMARY REDUCER INFORMATION

DOUBLE REDUCTION PARALLEL SHAFT REDUCER

- DESIGN BASED ON FALK APLUS TYPE A DOUBLE REDUCTION SIZE 405A
- 20.93:1 RATIO
- INPUT HP: 100 HP
- INPUT RPM: 1182
- OUTPUT TORQUE RATING: 111,601 IN-LB
- SERVICE FACTOR:1.5
- GEAR TYPE: THRU-HARDENED
- 17¾" MINIMUM CENTER TO CENTER DISTANCE

* FOR CASE-HARDENED GEARS, SERVICE FACTOR SHALL BE 1.875



PRIMARY REDUCER

SCALE: 1½" = 1'-0"

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Mechanical\M-007 PRIMARY REDUCER DETAIL.dwg LAST PLOTTED: 11/3/2025 1:59:33 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

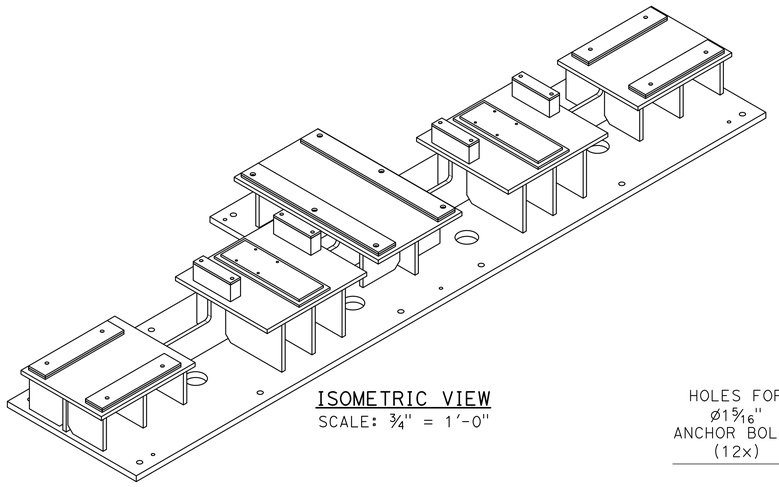
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICSBURG STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PRIMARY REDUCER DETAIL
(Date: 11/03/2025)

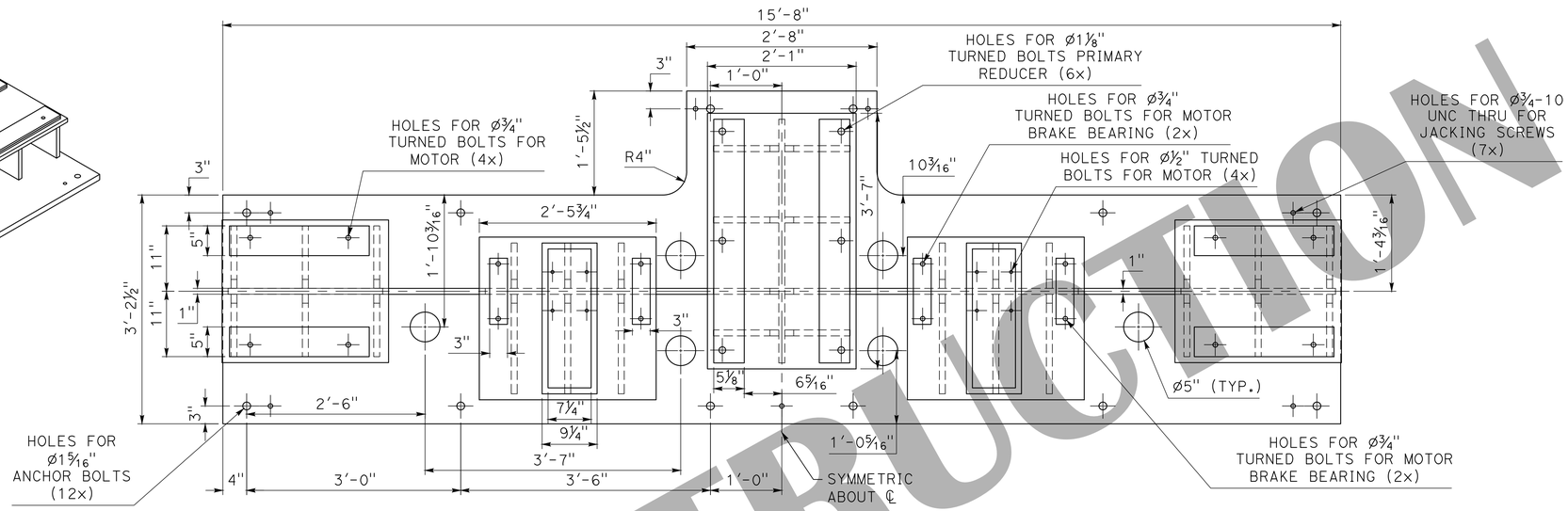
PN: T15136000

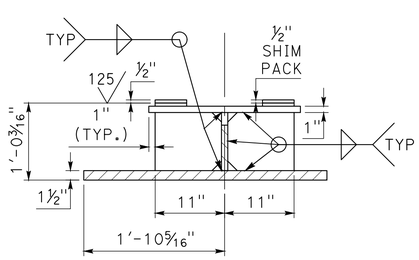
DWG NO.: M-007

SHT NO.: 498 OF 648

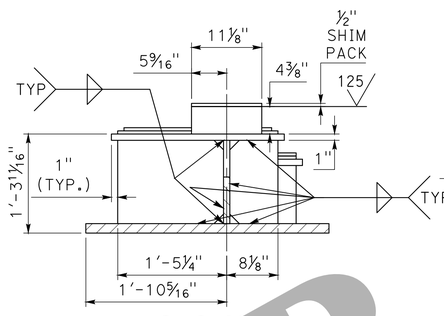


ISOMETRIC VIEW
SCALE: ¾" = 1'-0"

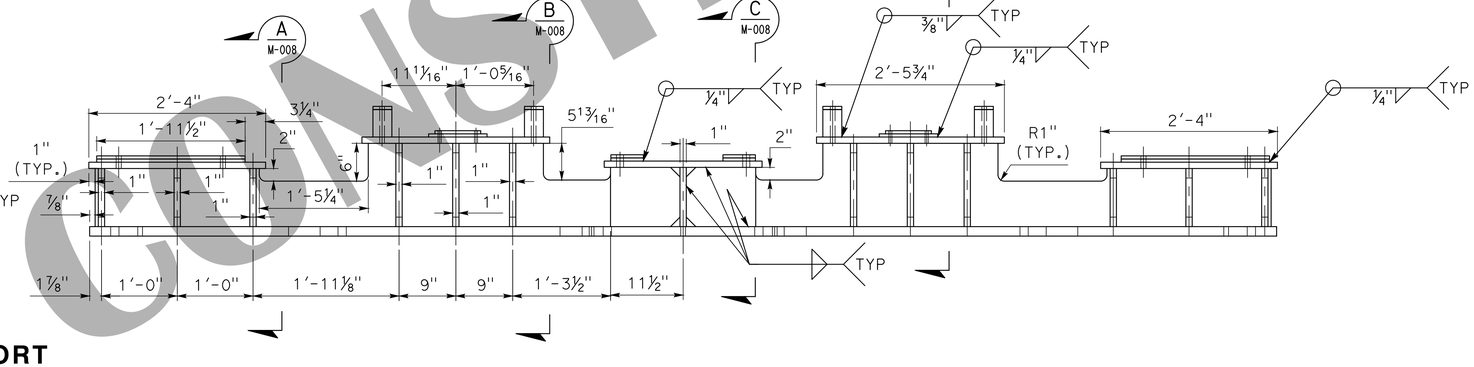




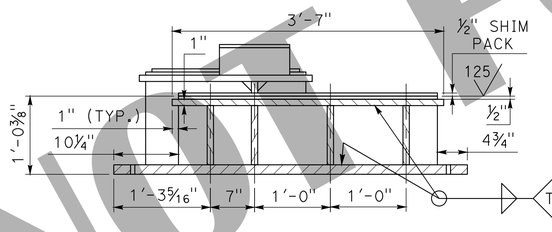
SECTION A
A M-008 MOTOR SUPPORT
SCALE: 1" = 1'-0"



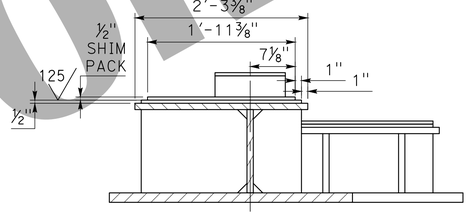
SECTION B
B M-008 MOTOR BRAKE BEARING SUPPORT
SCALE: 1" = 1'-0"



PRIMARY MACHINERY SUPPORT
SCALE: 1" = 1'-0"
MATERIAL: ASTM A709 GRADE 50

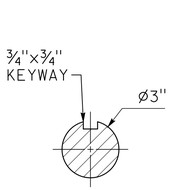


SECTION C
C M-008 PRIMARY REDUCER SUPPORT
SCALE: 1" = 1'-0"

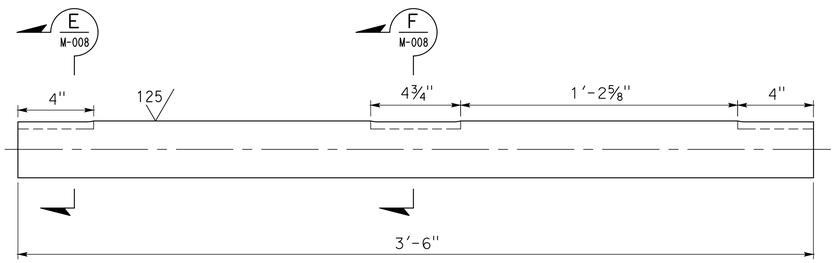


SECTION D
D M-008 MOTOR BRAKE SUPPORT
SCALE: 1" = 1'-0"

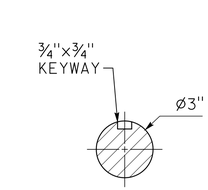
NOTES:
1. ALL WELDS SHALL BE DOUBLE-SIDED FILLET WELDS THAT DEVELOP THE FULL STRENGTH OF THE PLATE UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.



SECTION
E M-008
SCALE: 3" = 1'-0"



MOTOR BRAKE SHAFT
SCALE: 3" = 1'-0"
MATERIAL: ASTM A668 CLASS D



SECTION
F M-008
SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

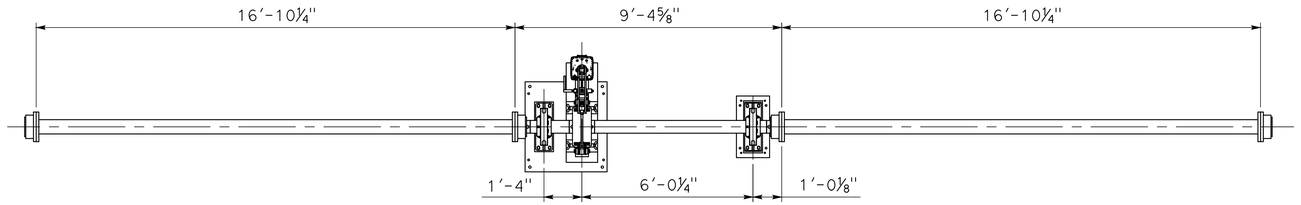
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

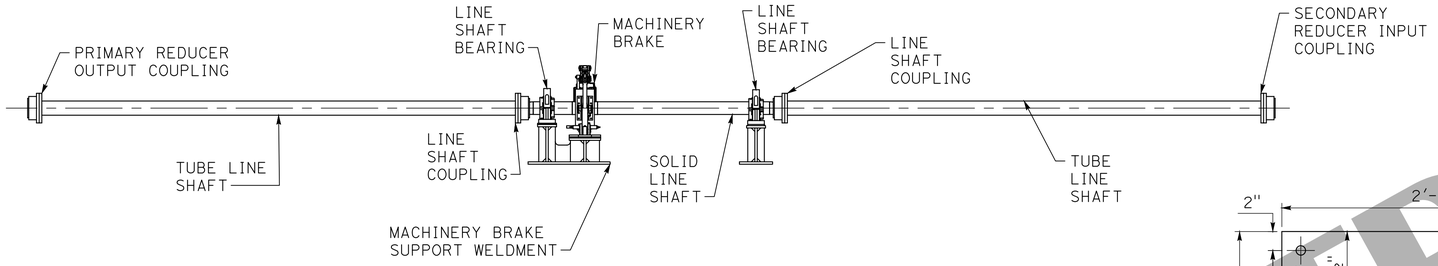
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PRIMARY MACHINERY DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-008
SHT NO.: 499 OF 648

p:\3326.01\CADD\Mechanical\M-008 PRIMARY MACHINERY DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:59:40 PM

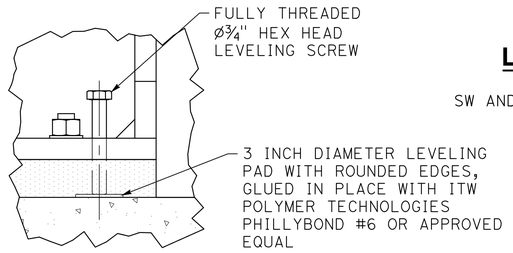
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER





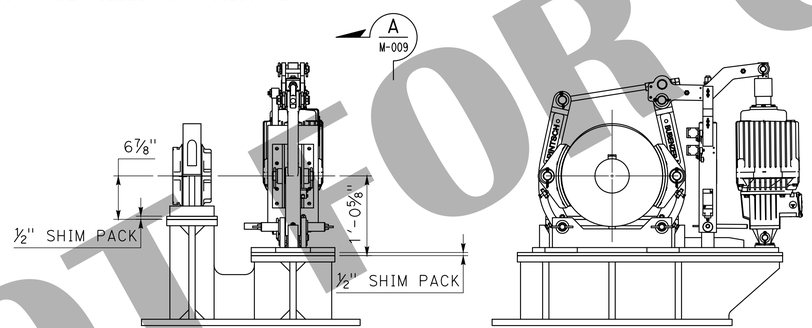
LH LINE SHAFT ASSEMBLY

SCALE: ⅜" = 1′-0"
SW AND NE SHOWN, SE AND NW SIMILAR BUT OPPOSITE



TYPICAL MACHINERY JACKING SCREW DETAIL

SCALE: NTS
NOTE: LEVELING SCREWS TO BE REMOVED AFTER GROUT PAD HAS COMPLETELY CURED AND HOLES TO BE FILLED WITH SILICONE

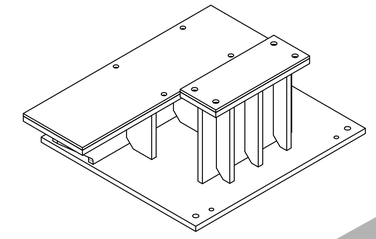


LH MACHINERY BRAKE ASSEMBLY

SCALE: 1" = 1′-0"

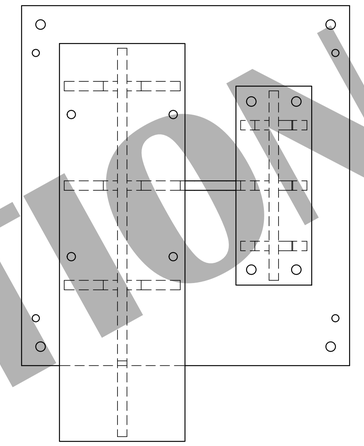
SECTION A

A / M-009
SCALE: 1" = 1′-0"



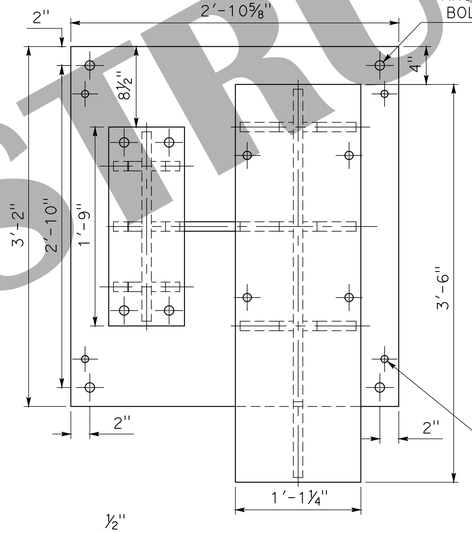
RH MACHINERY BRAKE WELDMENT ISOMETRIC VIEW

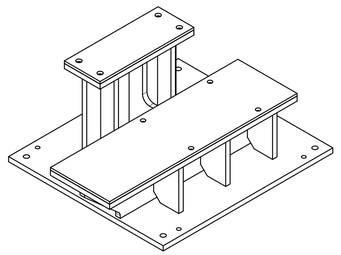
SCALE: 1" = 1′-0"



RH MACHINERY BRAKE WELDMENT LAYOUT

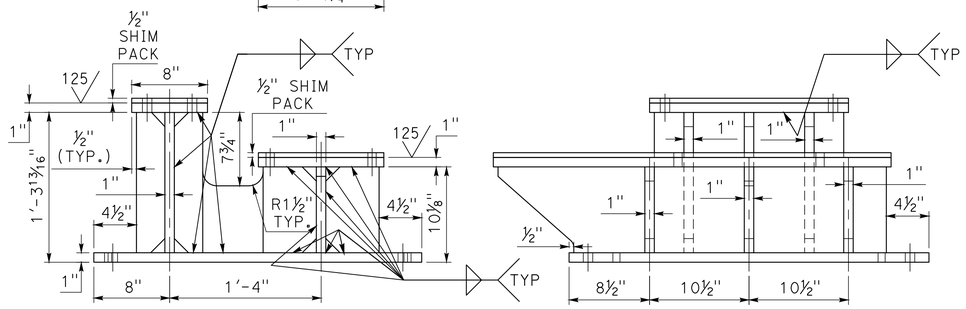
SCALE: 1½" = 1′-0"





LH MACHINERY BRAKE WELDMENT ISOMETRIC VIEW

SCALE: 1" = 1′-0"



LH MACHINERY BRAKE WELDMENT

SCALE: 1½" = 1′-0"
MATERIAL: ASTM A709, GRADE 50

NOTES:

1. ALL WELDS SHALL BE FILLET WELDS BOTH SIDES THAT DEVELOP THE FULL STRENGTH OF THE PLATE, UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

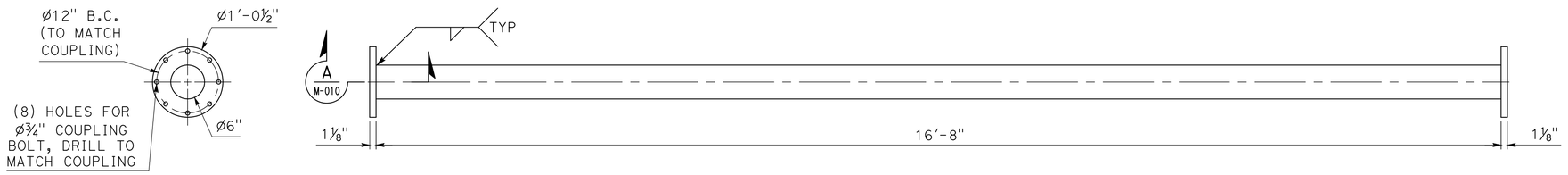
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICS STATE OF CALIFORNIA Date: 11/03/2025

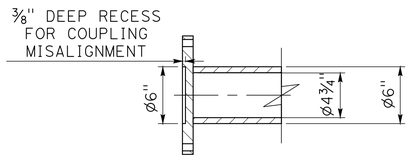
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
FLOATING SHAFT ASSEMBLY
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-009
SHT NO.: 500 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

\\MMDC10\Projects\3326.01\CADD\Mechanical\M-009 FLOATING SHAFT ASSEMBLY.dwg LAST PLOTTED: 11/3/2025 2:59:08 PM

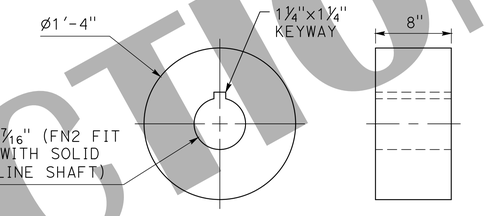




A M-010 **SECTION**
SCALE: 1½" = 1'-0"

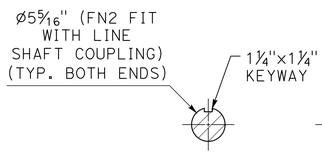
TUBE FLOATING LINE SHAFT

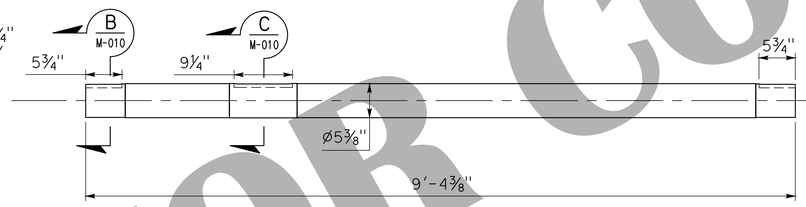
SCALE: 1" = 1'-0"
MATERIAL: ASTM A668, CLASS D



SOLID MACHINERY BRAKE WHEEL

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A536 GRADE 65-45-12 DUCTILE IRON

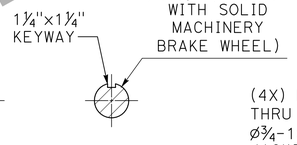




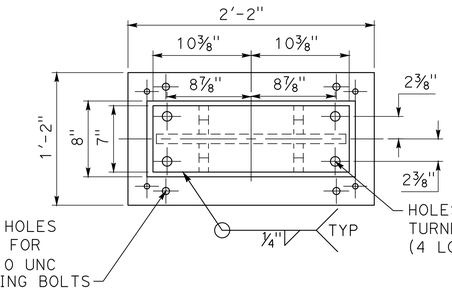
B M-010 **SECTION**
SCALE: 1" = 1'-0"

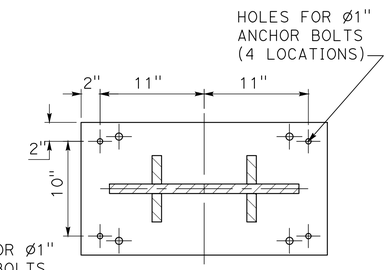
SOLID LINE SHAFT

SCALE: 1" = 1'-0"
MATERIAL: ASTM A668, CLASS D

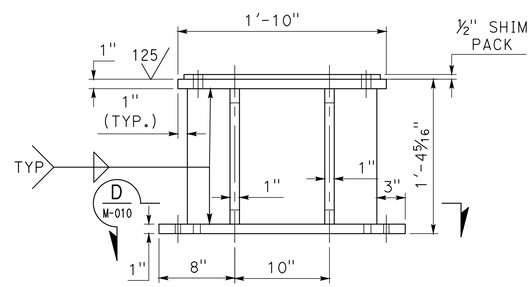


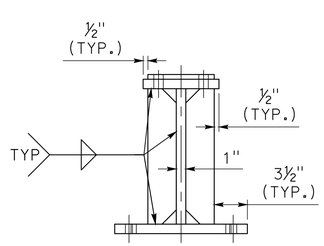
C M-010 **SECTION**
SCALE: 1" = 1'-0"





D M-010 **SECTION**
SCALE: 1½" = 1'-0"





LINE SHAFT BEARING SUPPORT

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709 GRADE 50

NOTES:

1. ALL WELDS SHALL BE DOUBLE-SIDED FILLET WELDS THAT DEVELOP THE FULL STRENGTH OF THE PLATE UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

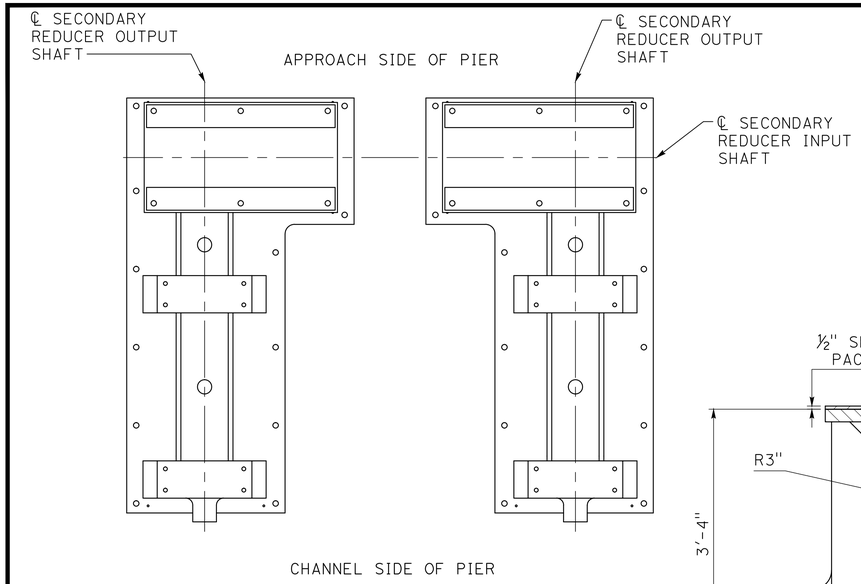
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
FLOATING SHAFT ASSEMBLY DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-010
SHT NO.: 501 OF 648

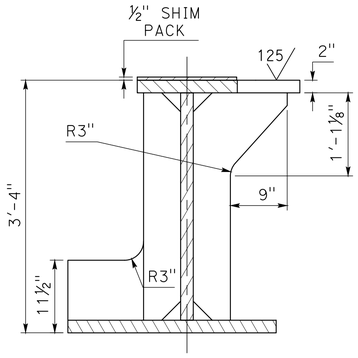
p:\3326.01\CADD\Mechanical\M-010 FLOATING SHAFT ASSEMBLY DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 1:59:50 PM

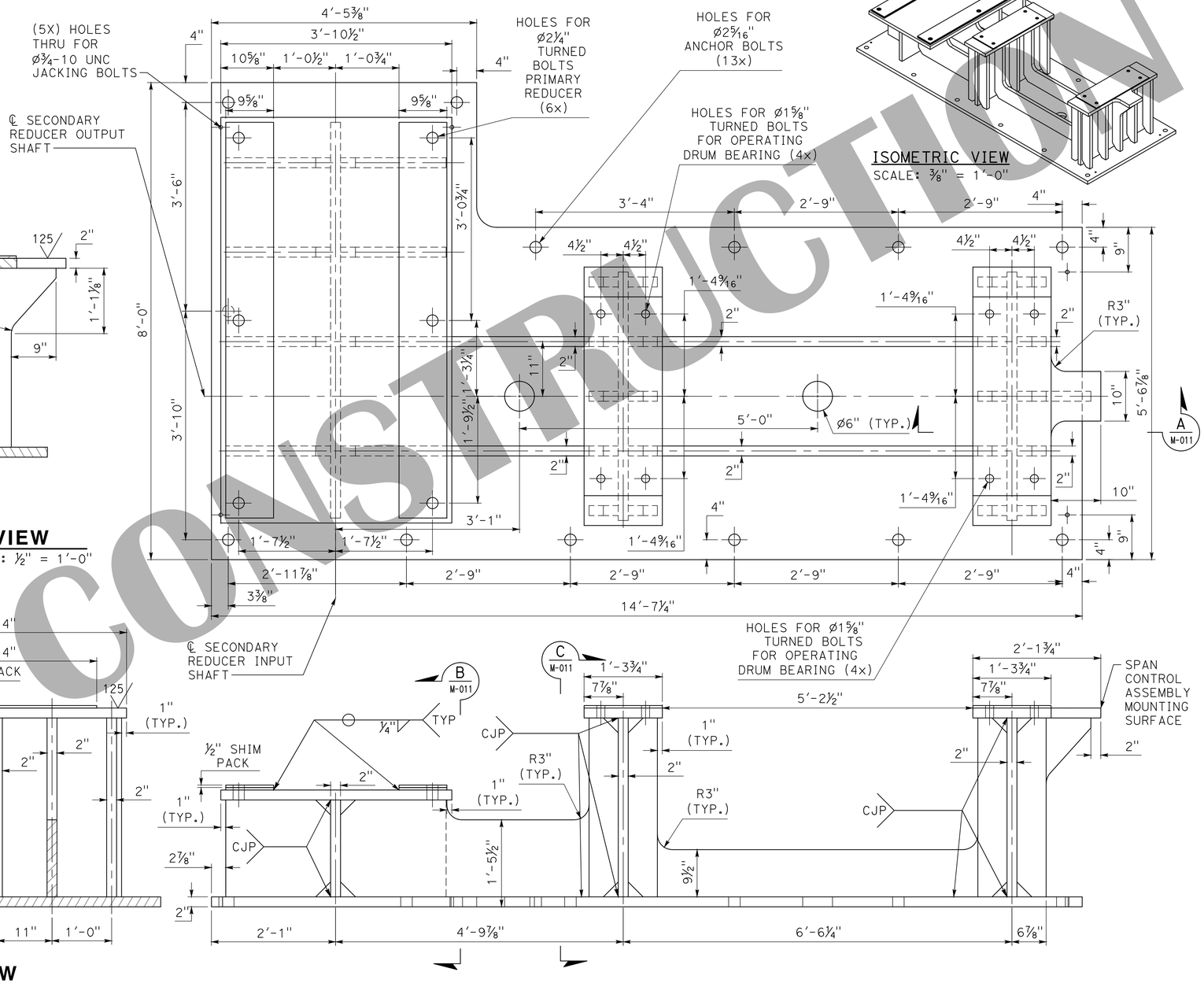
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



SECONDARY MACHINERY SUPPORTS SHOWN IN REQUIRED ORIENTATION

SCALE: ⅜" = 1'-0"





ISOMETRIC VIEW

SCALE: ⅜" = 1'-0"

A M-011 VIEW

SCALE: ½" = 1'-0"

B M-011 VIEW

SCALE: ½" = 1'-0"

C M-011 VIEW

SCALE: ½" = 1'-0"

SECONDARY MACHINERY SUPPORT

SCALE: ½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50
EAST PIER - SOUTH CORNER SHOWN.
NORTH CORNER OPPOSITE HAND

NOTES:

1. ALL WELDS SHALL BE CJP WELDS UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

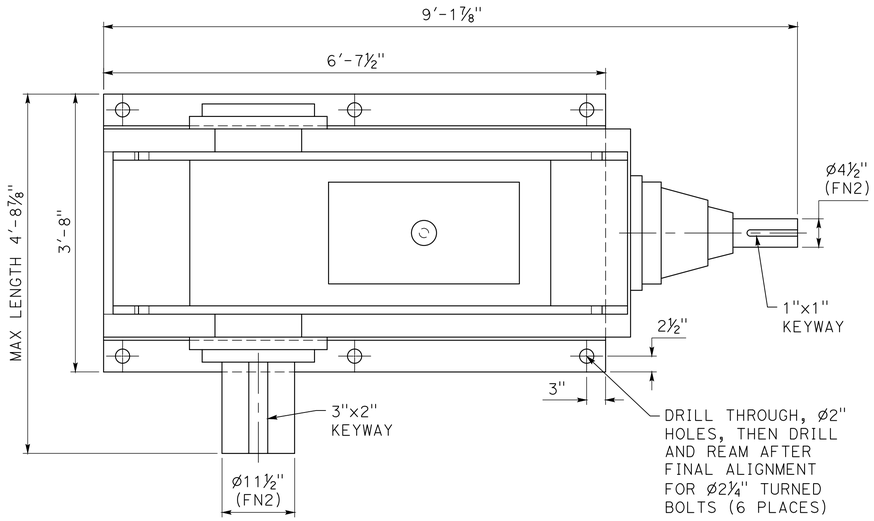
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

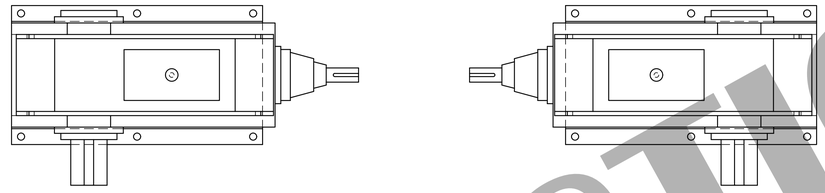
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SECONDARY MACHINERY SUPPORT
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-011
SHT NO.: 502 OF 648

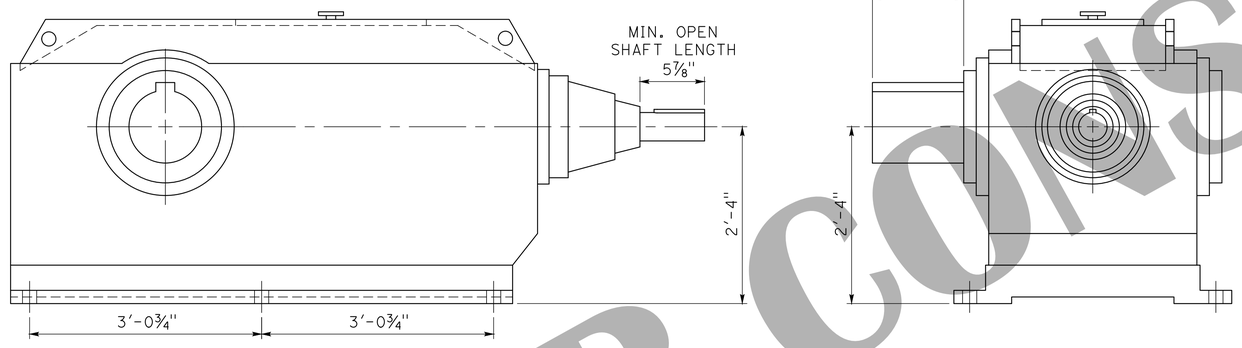
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-011 SECONDARY MACHINERY ASSEMBLY.dwg LAST PLOTTED: 11/3/2025 1:59:54 PM





SECONDARY REDUCERS
SHOWN IN REQUIRED ORIENTATION
SCALE: ½" = 1'-0"



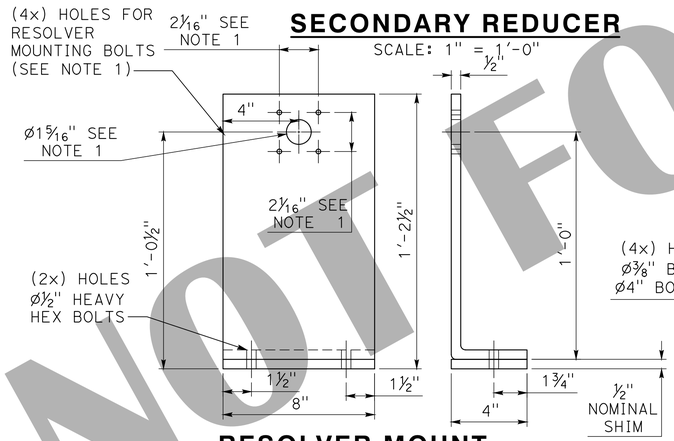
SECONDARY REDUCER
SCALE: 1" = 1'-0"

SECONDARY REDUCER INFORMATION

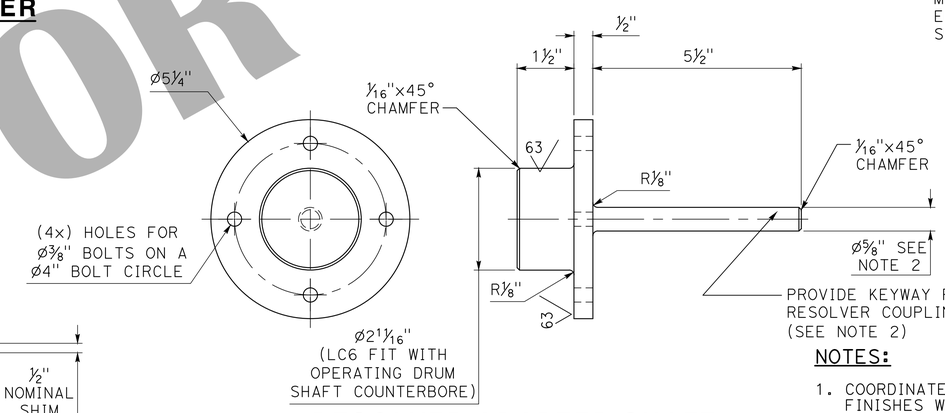
TRIPLE REDUCTION RIGHT-ANGLE REDUCER

- DESIGN BASED ON FALK APLUS TYPE AB TRIPLE REDUCTION SIZE 545AB
- 13.95:1 RATIO
- INPUT HP: 60 HP
- INPUT RPM: 57 RPM
- OUTPUT TORQUE RATING: 934,100 IN-LB
- SERVICE FACTOR:1.5
- GEAR TYPE: THRU-HARDENED

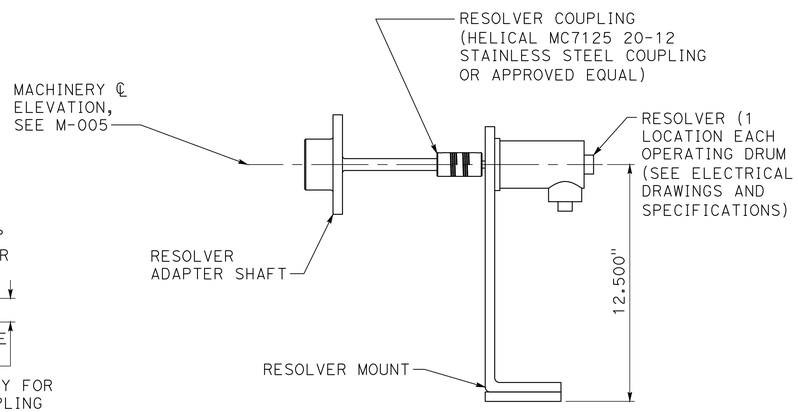
* FOR CASE-HARDENED GEARS, SERVICE FACTOR SHALL BE 1.875



RESOLVER MOUNT
SCALE: 3" = 1'-0"
MATERIAL: ASTM A276, TYPE 316



RESOLVER ADAPTER SHAFT
SCALE: 6" = 1'-0"
MATERIAL: ASTM A276, TYPE 316



NOTES:

1. COORDINATE ALL DIMENSIONS, FITS, AND FINISHES WITH RESOLVER MANUFACTURER.
2. COORDINATE ALL DIMENSIONS, FITS, AND FINISHES WITH COUPLING MANUFACTURER.

RESOLVER ASSEMBLY
SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP	DESIGN BY: J. SHOUP	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

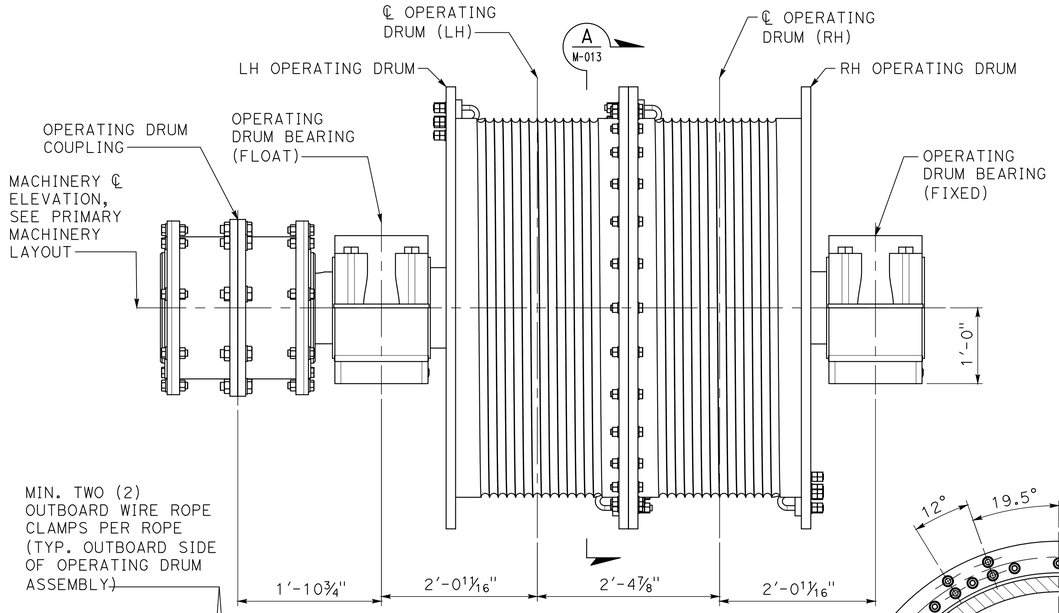
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SECONDARY REDUCER DETAIL
(Date: 11/03/2025)

PN: T15136000

DWG NO.: M-012
SHT NO.: 503 OF 648

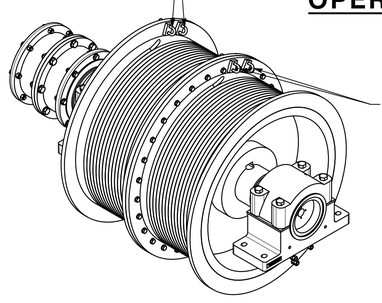
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-012 SECONDARY REDUCER DETAIL.dwg LAST PLOTTED: 11/3/2025 1:59:59 PM



OPERATING DRUM ASSEMBLY

SCALE: 1" = 1'-0"

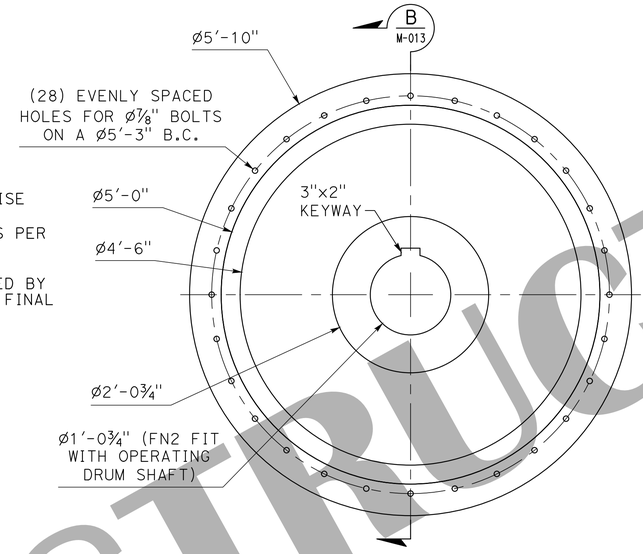


ISOMETRIC VIEW OF ASSEMBLY

SCALE: ½" = 1'-0"

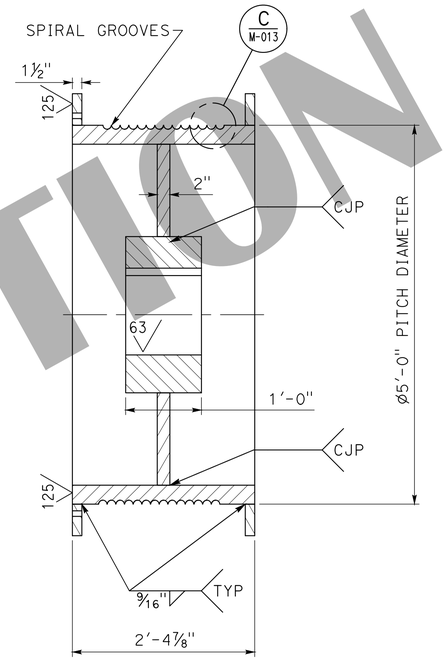
NOTES:

1. ALL WELDS CJP UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.
3. ALL WELDMENTS STRESS RELIEVED BY HEAT PRIOR TO FINAL MACHINING.



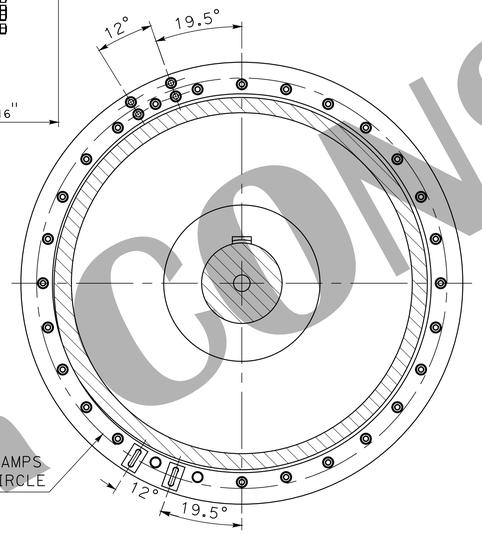
OPERATING DRUM

SCALE: 1" = 1'-0"
HUB MATERIAL: ASTM A668, CLASS G
WEB MATERIAL:ASTM A709, GRADE 50
RIM MATERIAL: ASTM A668, CLASS D
ROPE KEEPER MATERIAL:ASTM A709, GRADE 50



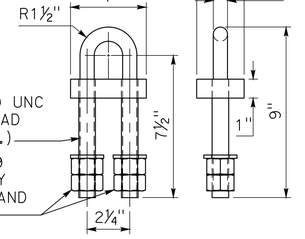
B M-013 **SECTION**

SCALE: 1" = 1'-0"



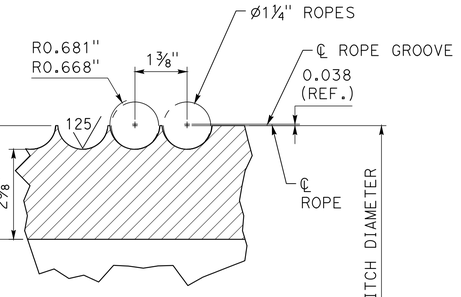
A M-013 **SECTION**

SCALE: 1" = 1'-0"



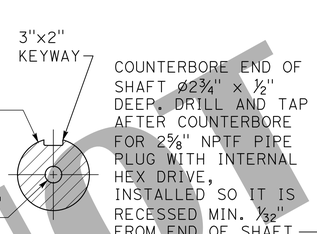
INBOARD ROPE CLAMP

SCALE: 3" = 1'-0"
MATERIAL: FORGED STEEL



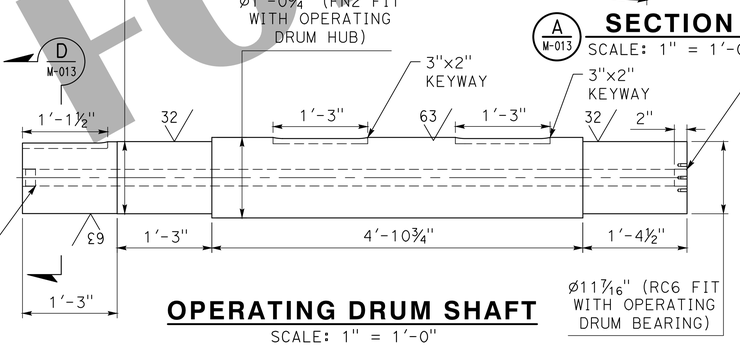
C M-013 **DETAIL**

6" = 1'-0"



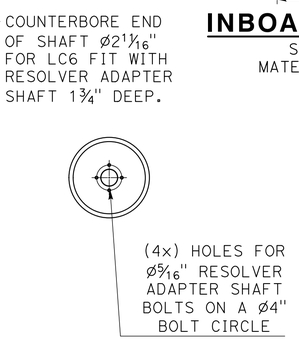
D M-013 **SECTION**

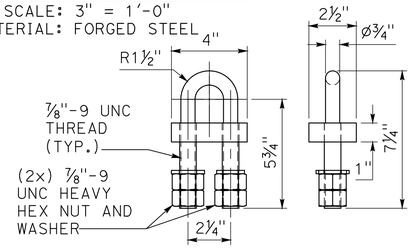
SCALE: 1" = 1'-0"



OPERATING DRUM SHAFT

SCALE: 1" = 1'-0"
MATERIAL: ASTM A668, CLASS E





OUTBOARD ROPE CLAMP

SCALE: 3" = 1'-0"
MATERIAL: FORGED STEEL

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

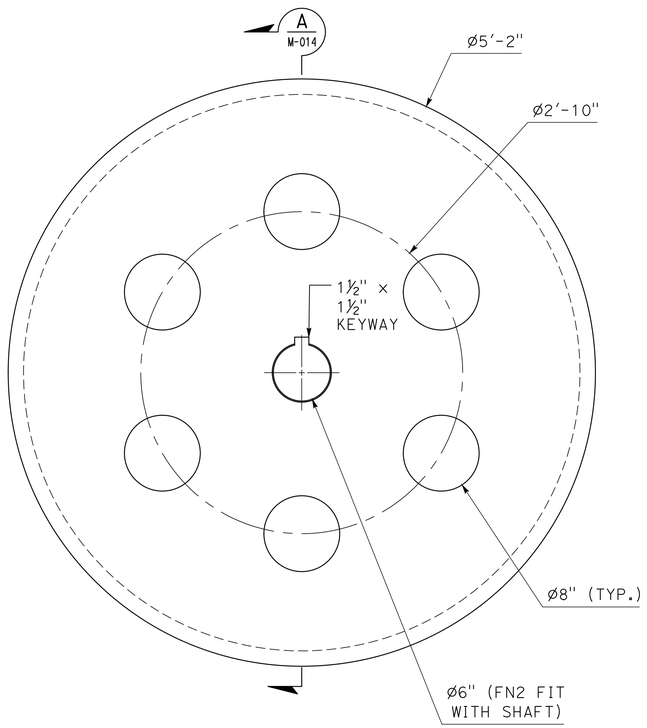
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
OPERATING ROPE DRUM ASSEMBLY
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-013
SHT NO.: 504 OF 648

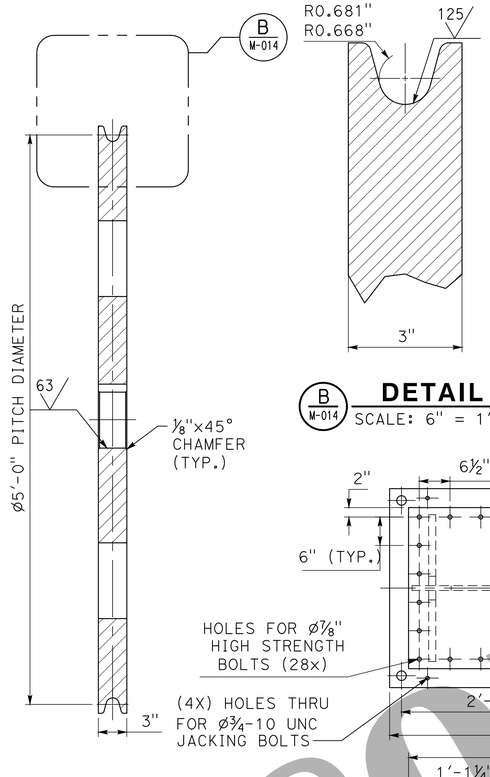
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-013 OPERATING ROPE DRUM ASSEMBLY.dwg LAST PLOTTED: 11/3/2025 2:00:04 PM



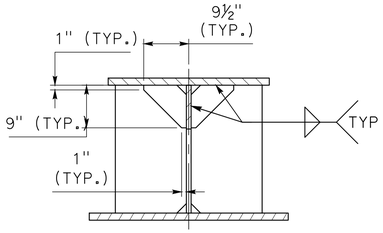
DEFLECTOR SHEAVE

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A668, CLASS D



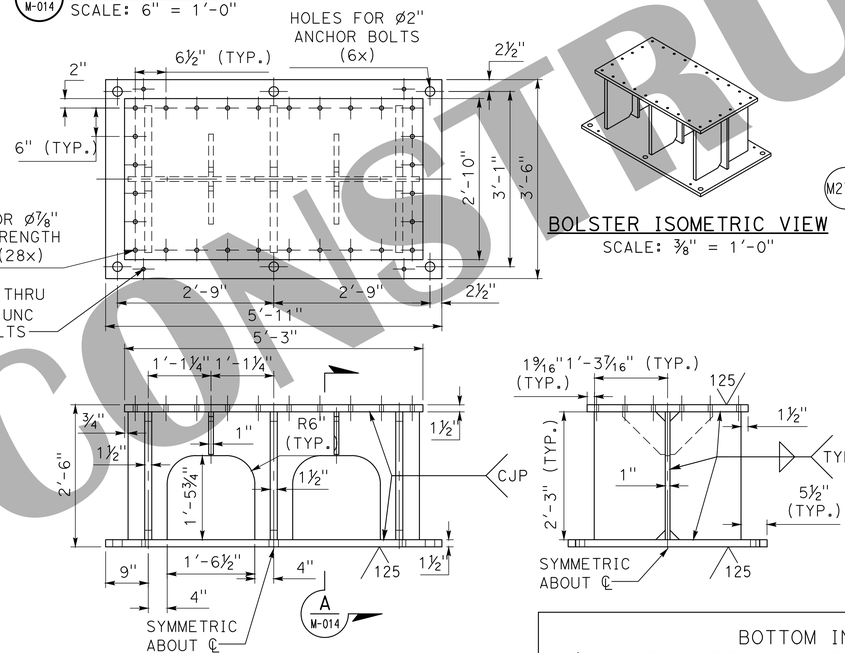
B M-014 DETAIL

SCALE: 6" = 1'-0"



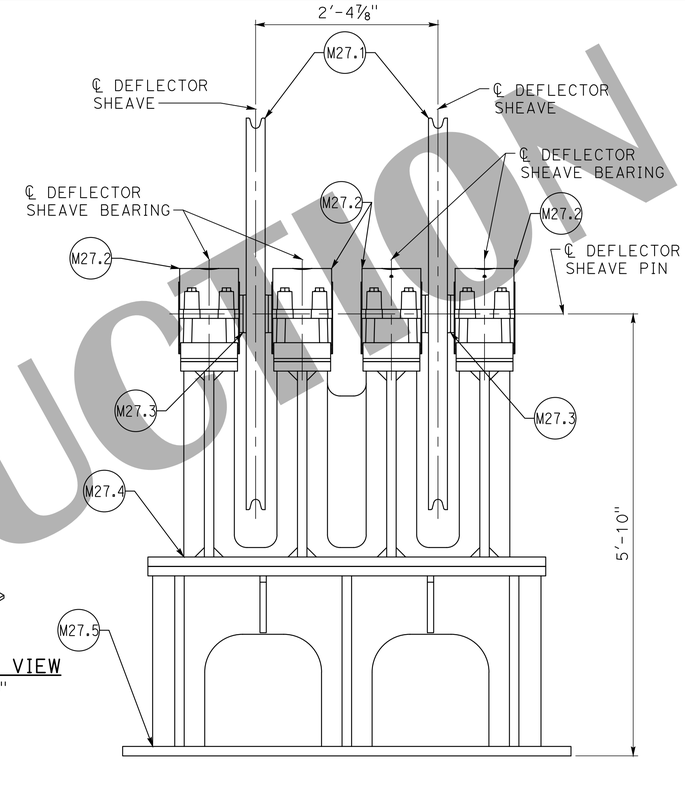
A M-014 SECTION

SCALE: ¾" = 1'-0"



A M-014 SECTION

SCALE: 1½" = 1'-0"



BOTTOM INBOARD DEFLECTOR SHEAVE ASSEMBLY

SCALE: 1" = 1'-0"

DEFLECTOR SHEAVE PIN

SCALE: 3" = 1'-0"
MATERIAL: ASTM A668, CLASS D

C M-014 SECTION

SCALE: 3" = 1'-0"

BOLSTER ISOMETRIC VIEW

SCALE: ⅜" = 1'-0"

DEFLECTOR SHEAVE BOLSTER

SCALE: ¾" = 1'-0"
MATERIAL: ASTM A709, GRADE 50

NOTES:

1. ALL WELDS SHALL BE DOUBLE-SIDED FILLET WELDS THAT DEVELOP THE FULL STRENGTH OF THE PLATE UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.
3. ALL WELDMENTS SHALL BE STRESS RELIEVED BY HEAT PRIOR TO FINAL MACHINING.

BOTTOM INBOARD DEFLECTOR SHEAVE ASSEMBLY
(ALL ITEMS PER ASSEMBLY, 2 ASSEMBLIES PER PIER, 4 ASSEMBLIES TOTAL)

ITEM NO.	QTY.	DESCRIPTION	DETAILS
M27.1	2	DEFLECTOR SHEAVE	MATERIAL: ASTM A668, CLASS D
M27.2	4	DEFLECTOR SHEAVE BEARING	CAST STEEL PILLOW BLOCK HOUSING (SSDAF 22634 OR APPROVED EQUAL) WITH SPHERICAL ROLLER BEARING (SKF 22634 CCK/W33 OR APPROVED EQUAL), ONE (1) FIXED BEARING WITH END COVER, ONE (1) FLOAT BEARING WITH END COVER
M27.3	2	DEFLECTOR SHEAVE PIN	MATERIAL: ASTM A668, CLASS D
M27.4	1	DEFLECTOR SHEAVE SUPPORT	MATERIAL: ASTM A709, GRADE 50
M27.5	1	DEFLECTOR SHEAVE BOLSTER	MATERIAL: ASTM A709, GRADE 50

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

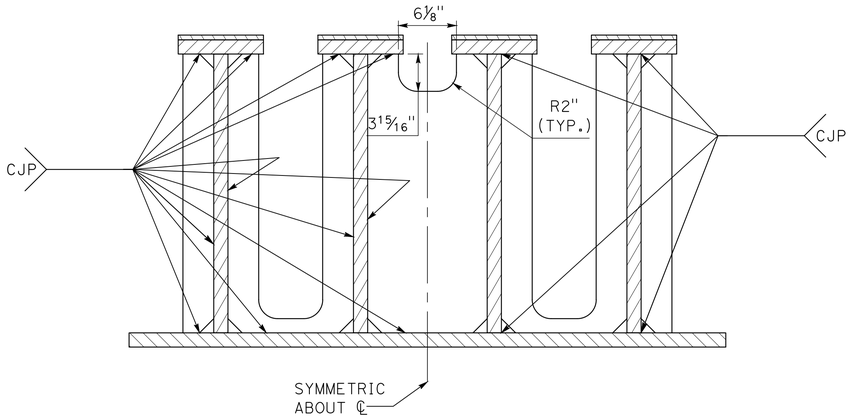
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BOTTOM INBOARD DEFLECTOR SHEAVE ASSEMBLY
(Date: 11/03/2025)

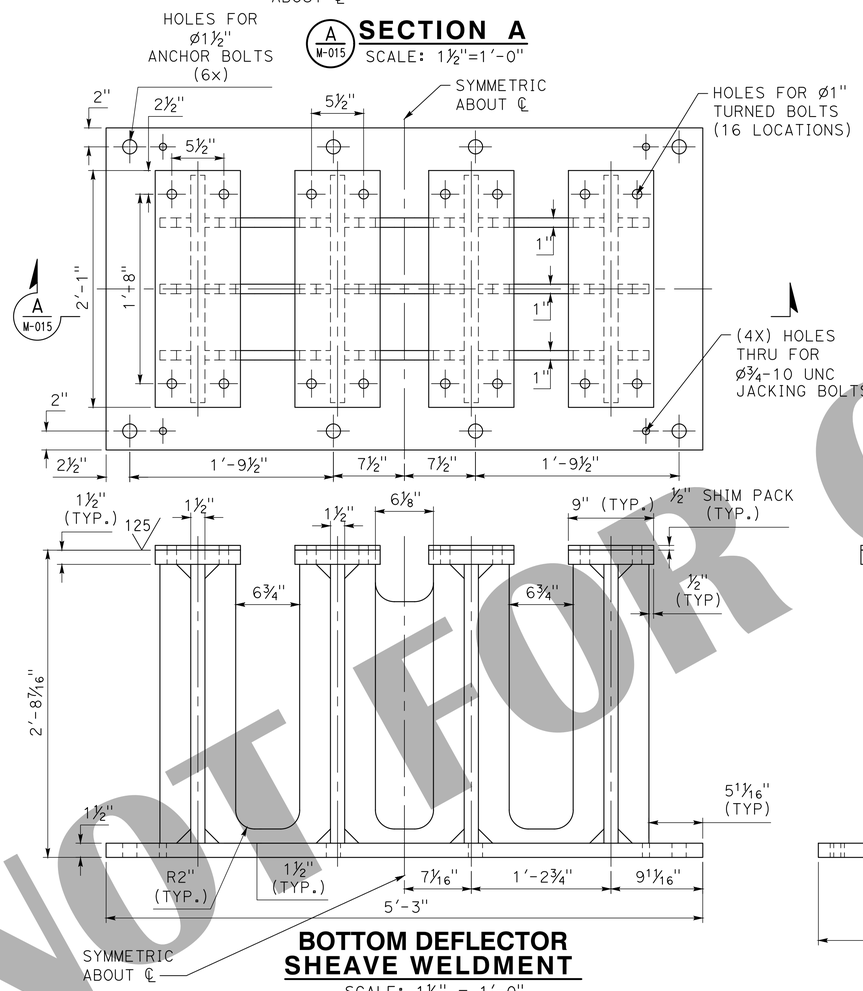
PN: T15136000
DWG NO.: M-014
SHT NO.: 505 OF 648

p:\3326.01\CADD\Mechanical\M-014 DEFLECTOR SHEAVE ASSEMBLY.dwg LAST PLOTTED: 11/3/2025 2:00:08 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



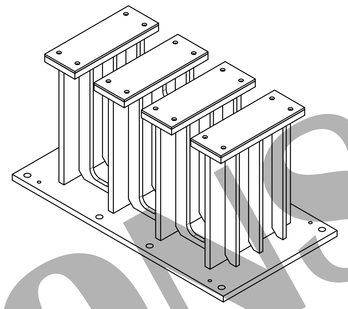
SECTION A
A / M-015 — SCALE: 1½"=1'-0"



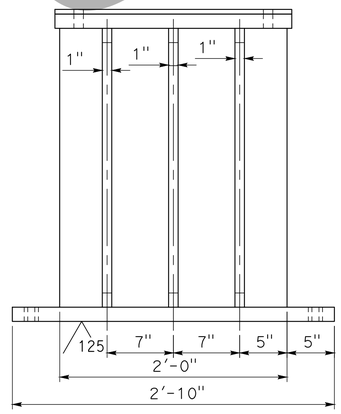
BOTTOM DEFLECTOR SHEAVE WELDMENT
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50
OUTBOARD SHOWN, INBOARD SIMILAR EXCEPT FOR BOTTOM PLATE

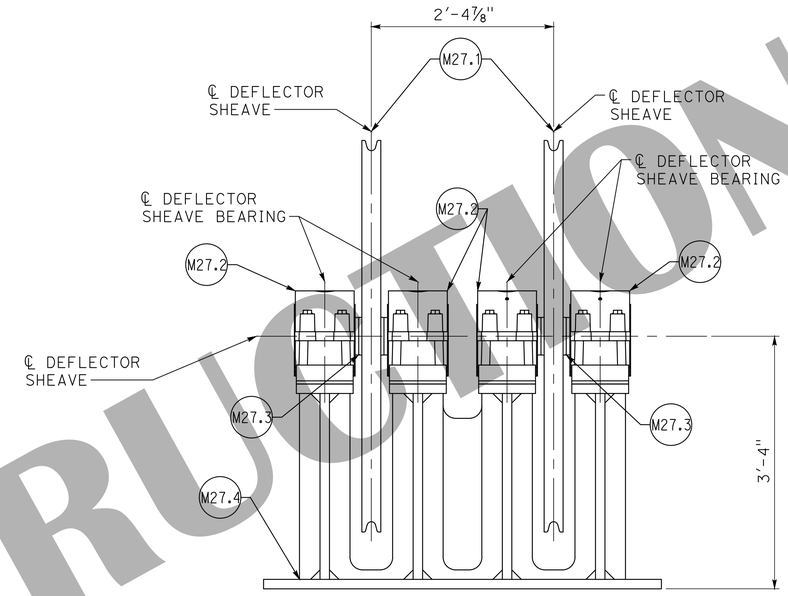
NOTES:

1. ALL WELDS CJP UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.
3. ALL WELDMENTS SHALL BE STRESS RELIEVED BY HEAT PRIOR TO FINAL MACHINING.

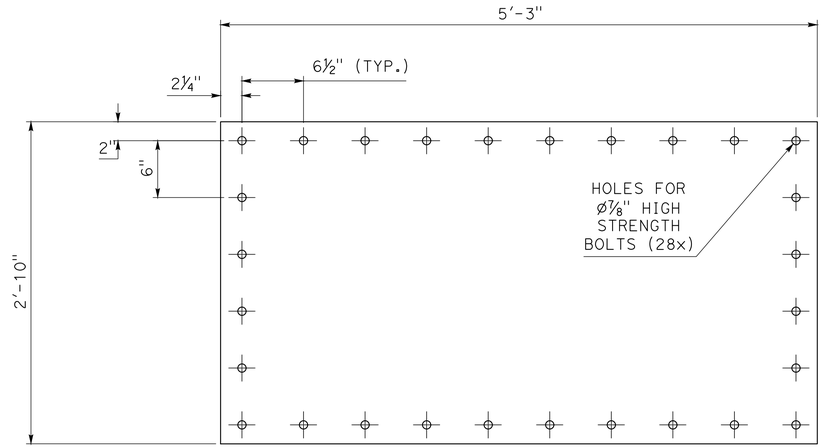


DEFLECTOR SHEAVE SUPPORT ISOMETRIC VIEW
SCALE: ⅜" = 1'-0"





BOTTOM OUTBOARD DEFLECTOR SHEAVE ASSEMBLY
SCALE: 1" = 1'-0"
OUTBOARD SHOWN, INBOARD SIMILAR EXCEPT FOR BOTTOM PLATE



INBOARD BOTTOM DEFLECTOR SHEAVE SUPPORT BOTTOM PLATE
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP	DESIGN BY: J. SHOUP	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — JEFFREY W. NEWMAN — No. 38975 — Exp. 09-30-26 — MECHANICAL — STATE OF CALIFORNIA — Date: 11/03/2025

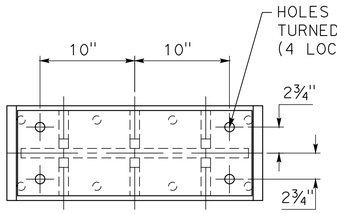
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BOTTOM OUTBOARD DEFLECTOR SHEAVE ASSEMBLY
(Date: 11/03/2025)

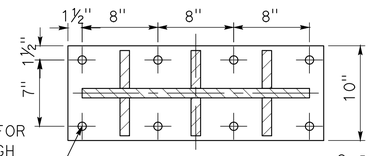
PN: T15136000

DWG NO.: M-015
SHT NO.: 506 OF 648

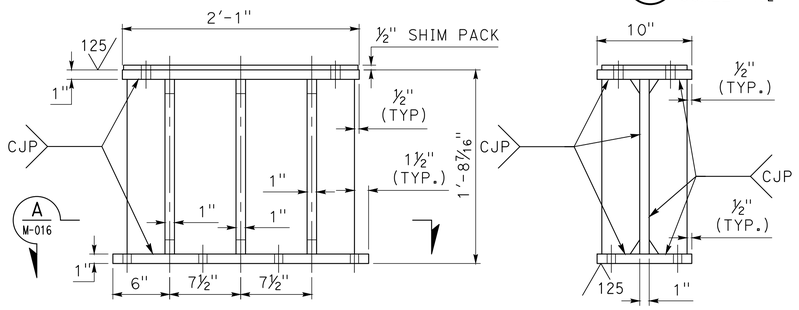
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-015 BOTTOM DEFLECTOR SHEAVE ASSEMBLY DETAILS.dwg LAST PLOTTED: 11/3/2025 2:00:12 PM



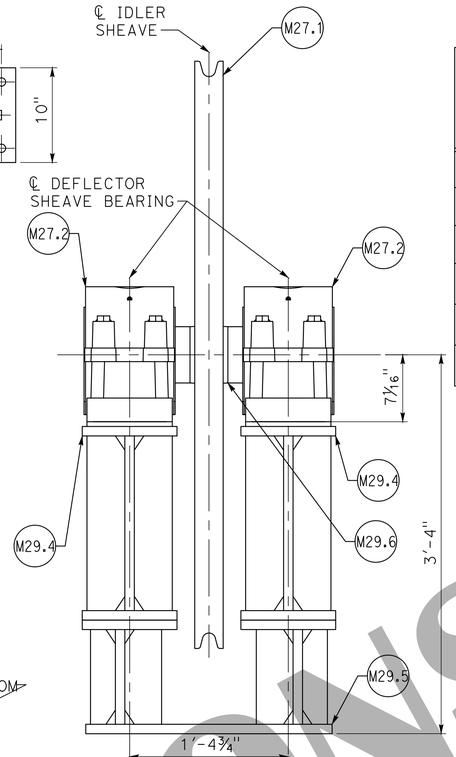


A M-016 **SECTION**
SCALE: 1½" = 1'-0"



COUNTERWEIGHT BOTTOM IDLER SHEAVE SUPPORT

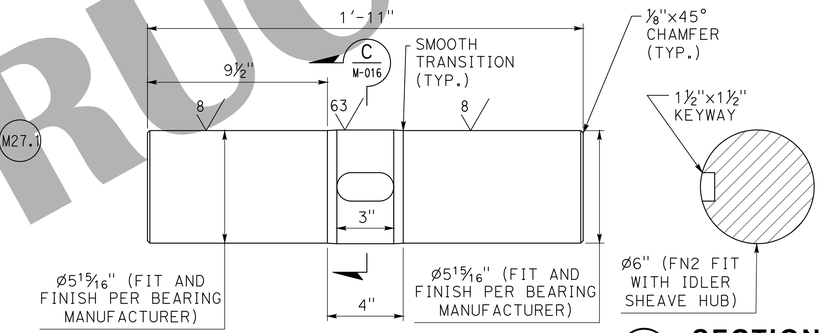
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50



COUNTERWEIGHT BOTTOM LH IDLER SHEAVE ASSEMBLY

SCALE: 1½" = 1'-0"
ASSEMBLY SHOWN INVERTED FROM INSTALLED ORIENTATION

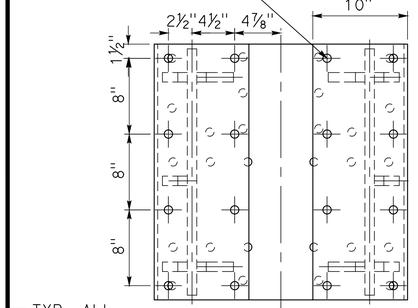
COUNTERWEIGHT BOTTOM IDLER SHEAVE ASSEMBLY (ALL ITEMS PER ASSEMBLY, 2 ASSEMBLIES PER COUNTERWEIGHT (1 LH, 1 RH), 4 ASSEMBLIES PER PIER, 8 ASSEMBLIES TOTAL)			
ITEM NO.	QTY.	DESCRIPTION	DETAILS
M27.1	2	IDLER SHEAVE	SEE SHEET M-014
M27.2	4	IDLER SHEAVE BEARING	SEE SHEET M-014
M29.4	1	IDLER SHEAVE SUPPORT	MATERIAL: ASTM A709, GRADE 50
M29.5	1	IDLER SHEAVE BOLSTER	MATERIAL: ASTM A709, GRADE 50
M29.6	1	IDLER SHEAVE PIN	MATERIAL: ASTM A668, CLASS D

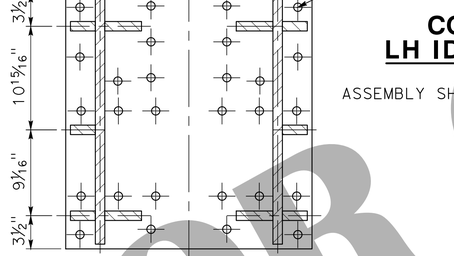


DEFLECTOR SHEAVE PIN

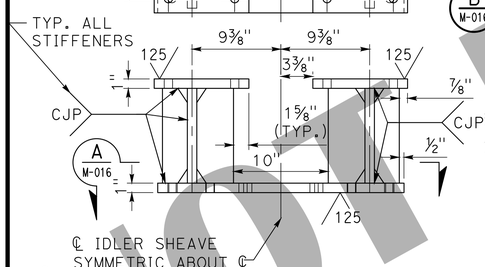
SCALE: 3" = 1'-0"
MATERIAL: ASTM A668, CLASS D

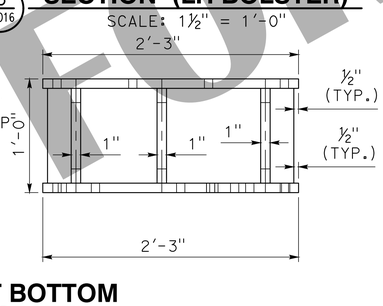
C M-016 **SECTION**
SCALE: 3" = 1'-0"





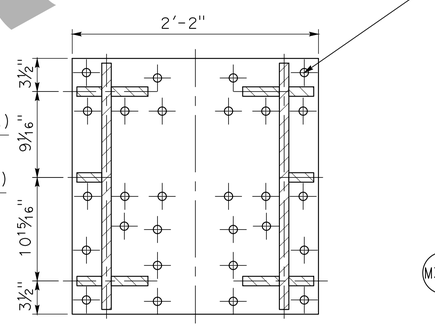
B M-016 **SECTION (LH BOLSTER)**
SCALE: 1½" = 1'-0"



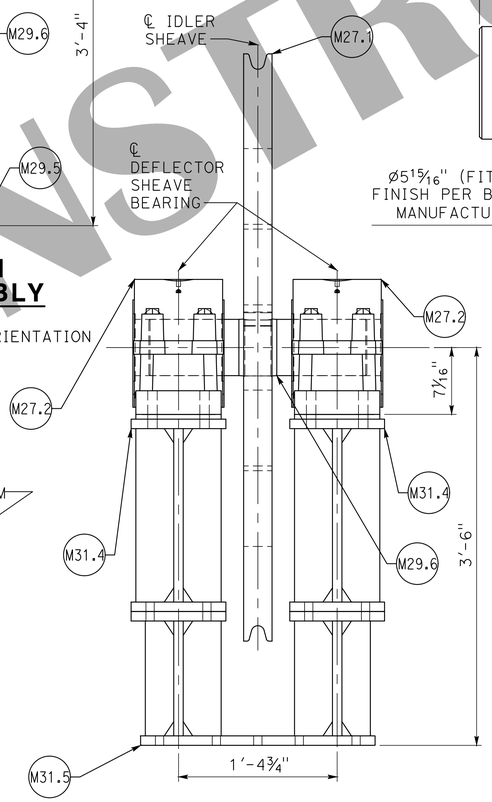


COUNTERWEIGHT BOTTOM IDLER SHEAVE BOLSTER

SCALE: 1 1/2" = 1'-0"
MATERIAL: ASTM A709, GRADE 50
LH SHOWN, RH SIMILAR BUT OPPOSITE. ENSURE BOTTOM BOLT HOLES ALIGN WITH COUNTERWEIGHT BOTTOM BOLT HOLES.



B M-016 **SECTION (RH BOLSTER)**
SCALE: 1½" = 1'-0"



COUNTERWEIGHT TOP IDLER SHEAVE ASSEMBLY

SCALE: 11/2" = 1'-0"

COUNTERWEIGHT TOP IDLER SHEAVE ASSEMBLY (ALL ITEMS PER ASSEMBLY, 4 ASSEMBLIES PER PIER, 8 ASSEMBLIES TOTAL)			
ITEM NO.	QTY.	DESCRIPTION	DETAILS
M27.1	2	IDLER SHEAVE	SEE SHEET M-014
M27.2	4	IDLER SHEAVE BEARING	SEE SHEET M-014
M31.4	2	COUNTERWEIGHT TOP IDLER SHEAVE SUPPORT	MATERIAL: ASTM A709, GRADE 50
M31.5	1	COUNTERWEIGHT TOP IDLER SHEAVE BOLSTER	MATERIAL: ASTM A709, GRADE 50
M29.6	1	IDLER SHEAVE PIN	MATERIAL: ASTM A668, CLASS D

NOTES:

1. ALL WELDS CJP UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.
3. ALL WELDMENTS STRESS RELIEVED BY HEAT PRIOR TO FINAL MACHINING.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Mechanical\M-016 COUNTERWEIGHT IDLER SHEAVE ASSEMBLIES.dwg LAST PLOTTED: 11/3/2025 2:00:17 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS
NO. | DESCRIPTION | DATE | BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

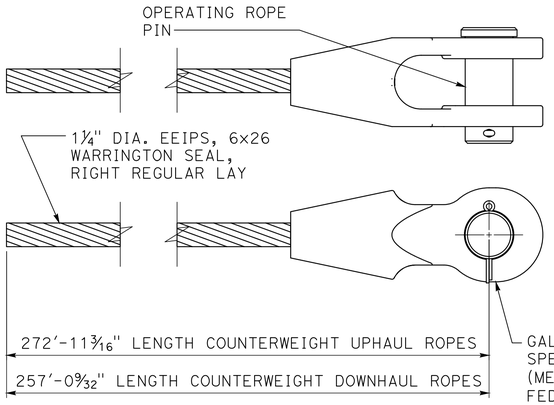
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

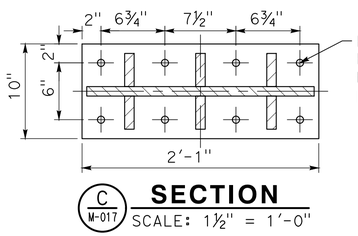
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT IDLER SHEAVE ASSEMBLIES
(Date: 11/03/2025)

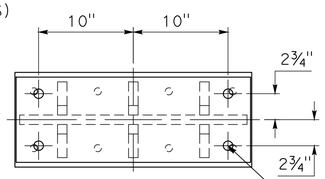
PN: T15136000
DWG NO.: M-016
SHT NO.: 507 OF 648

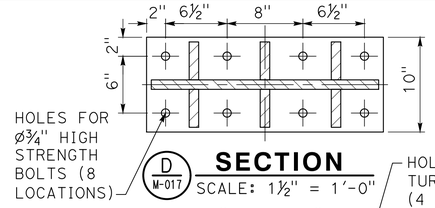


OPERATING ROPE
SCALE: 3" = 1'-0"

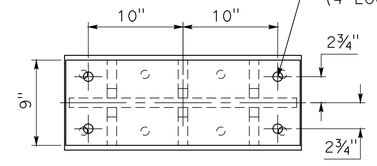


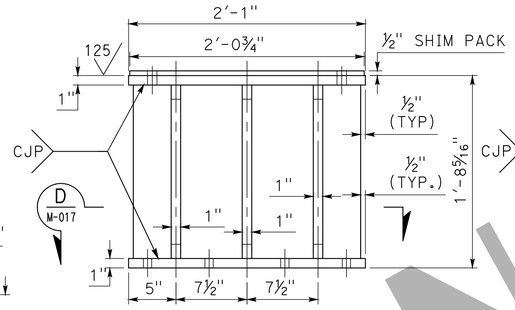
C M-017 **SECTION**
SCALE: 1½" = 1'-0"



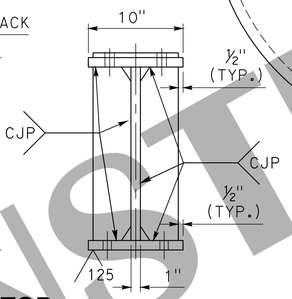


D M-017 **SECTION**
SCALE: 1½" = 1'-0"

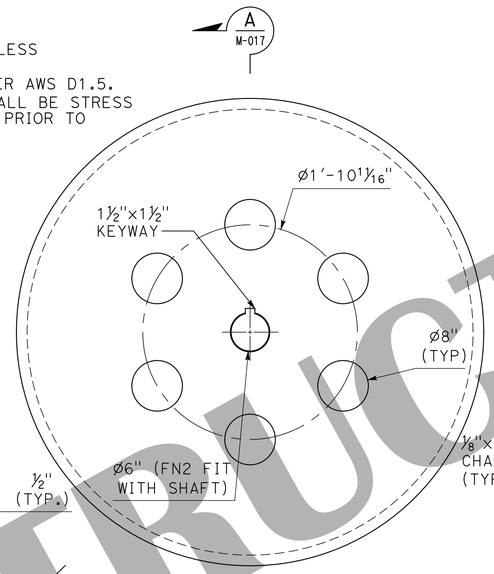




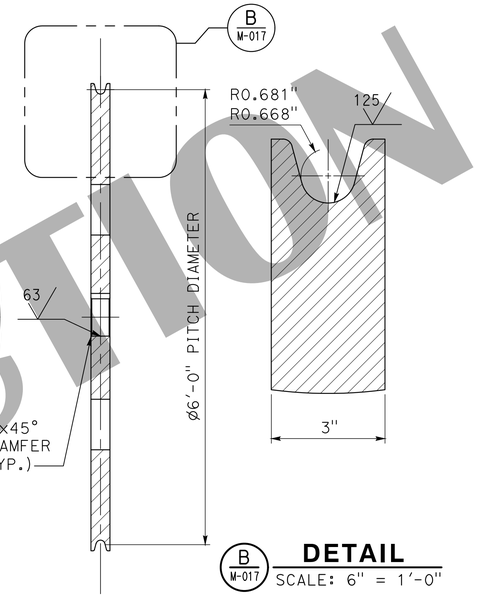
D M-017



COUNTERWEIGHT TOP IDLER SHEAVE SUPPORT
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50

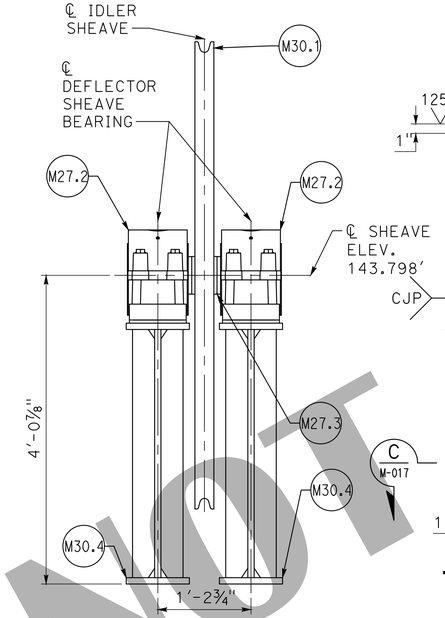


TOWER TOP DEFLECTOR SHEAVE
SCALE: 1" = 1'-0"
MATERIAL: ASTM A668, CLASS D

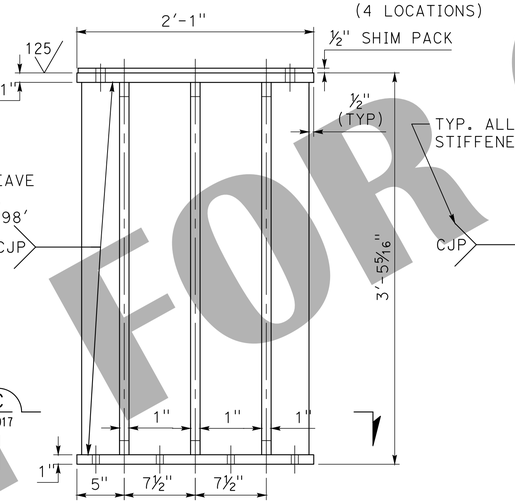


B M-017 **DETAIL**
SCALE: 6" = 1'-0"

A M-017 **SECTION**
SCALE: 1" = 1'-0"

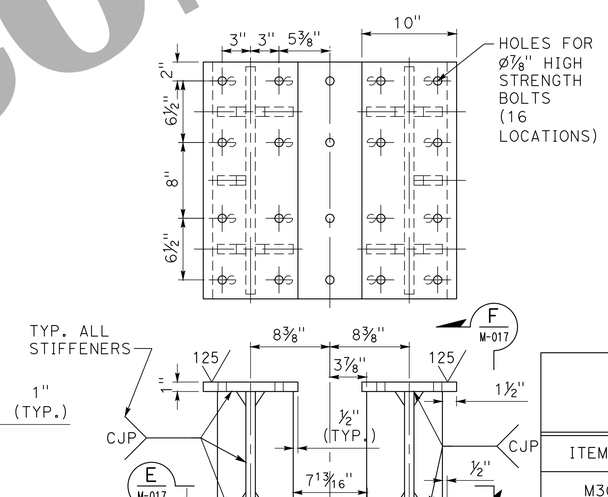


TOWER TOP DEFLECTOR SHEAVE ASSEMBLY
SCALE: 1" = 1'-0"
(ASSEMBLY SHOWN INVERTED FROM INSTALLED ORIENTATION)



C M-017

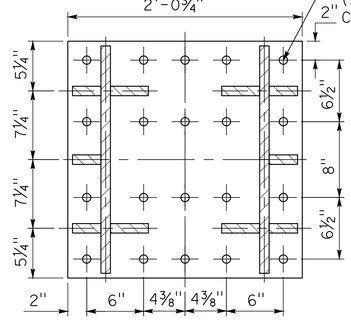
TOWER TOP DEFLECTOR SHEAVE SUPPORT
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50



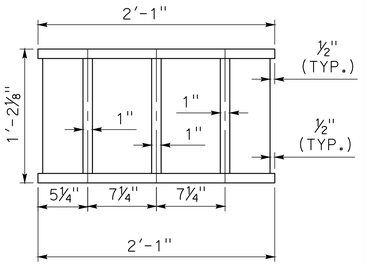
E M-017

F M-017

COUNTERWEIGHT TOP IDLER SHEAVE BOLSTER
SCALE: 1 1/2" = 1'-0"
MATERIAL: ASTM A709, GRADE 50



E M-017 **SECTION**
SCALE: 1½" = 1'-0"



F M-017 **SECTION**
SCALE: 1½" = 1'-0"

TOWER TOP DEFLECTOR SHEAVE ASSEMBLY (ALL ITEMS PER ASSEMBLY, 4 ASSEMBLIES PER PIER, 8 ASSEMBLIES TOTAL)			
ITEM NO.	QTY.	DESCRIPTION	DETAILS
M30.1	1	TOWER TOP DEFLECTOR SHEAVE	ASTM A668, CLASS D
M27.2	2	DEFLECTOR SHEAVE BEARING	SEE SHEET M-014
M27.3	1	DEFLECTOR SHEAVE PIN	SEE SHEET M-014
M30.4	2	TOWER TOP DEFLECTOR SHEAVE SUPPORT	MATERIAL: ASTM A709, GRADE 50

NOTES:
1. ALL WELDS CJP UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.
3. ALL WELDMENTS SHALL BE STRESS RELEIVED BY HEAT PRIOR TO FINAL MACHINING.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Mechanical\M-017 OPERATING ROPES AND ROPE TAKEUPS.dwg LAST PLOTTED: 11/3/2025 2:00:22 PM

REVISIONS
NO. | DESCRIPTION | DATE | BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK ----
SCALE AS SHOWN

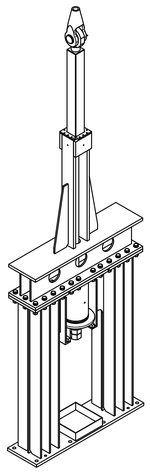
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS
DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

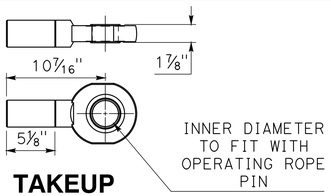
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
OPERATING ROPES, TOWER DEFLECTOR SHEAVES
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-017
SHT NO.: 508 OF 648

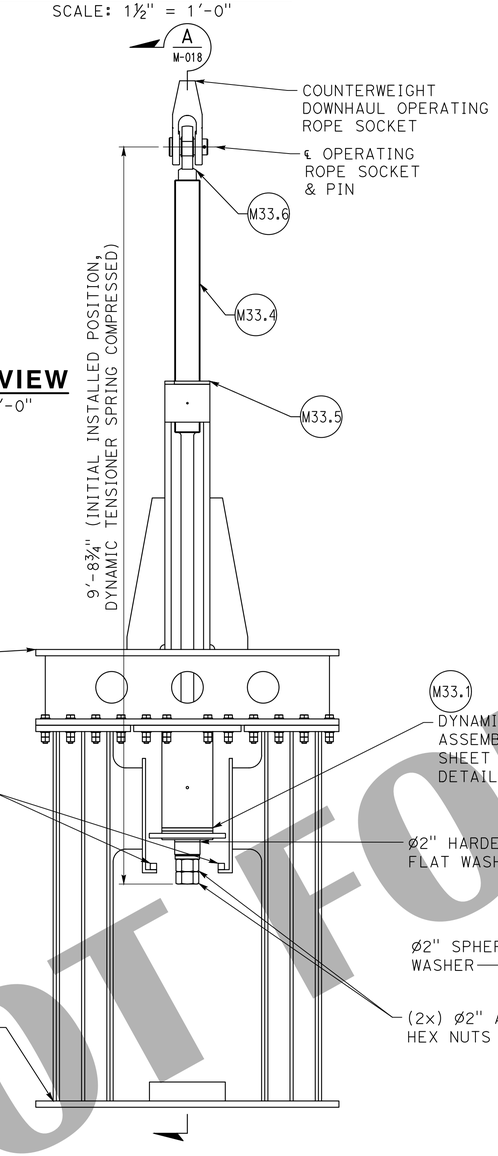
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



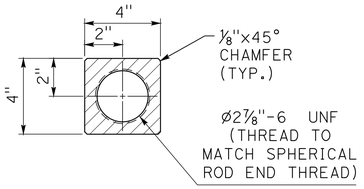
ISOMETRIC VIEW
SCALE: ½" = 1'-0"



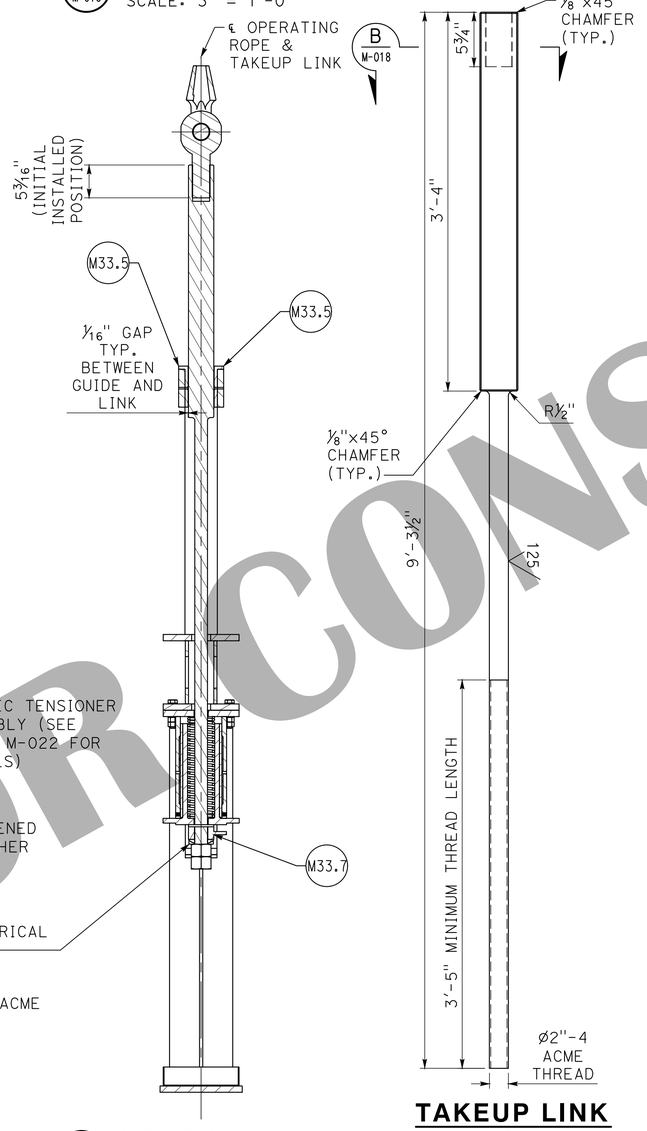
TAKEUP SPHERICAL ROD END
SCALE: 1½" = 1'-0"



BOTTOM OPERATING ROPE TAKEUP ASSEMBLY
SCALE: 1" = 1'-0"

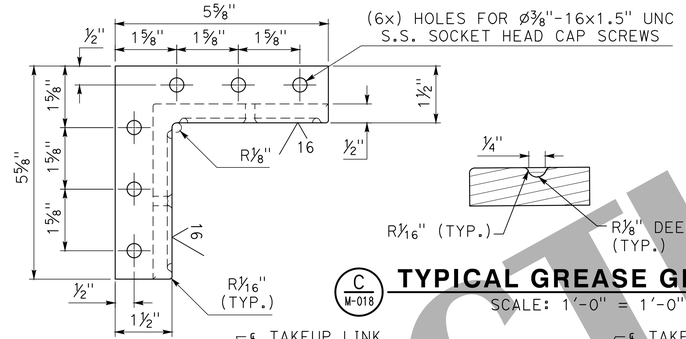


B M-018 SECTION B
SCALE: 3" = 1'-0"

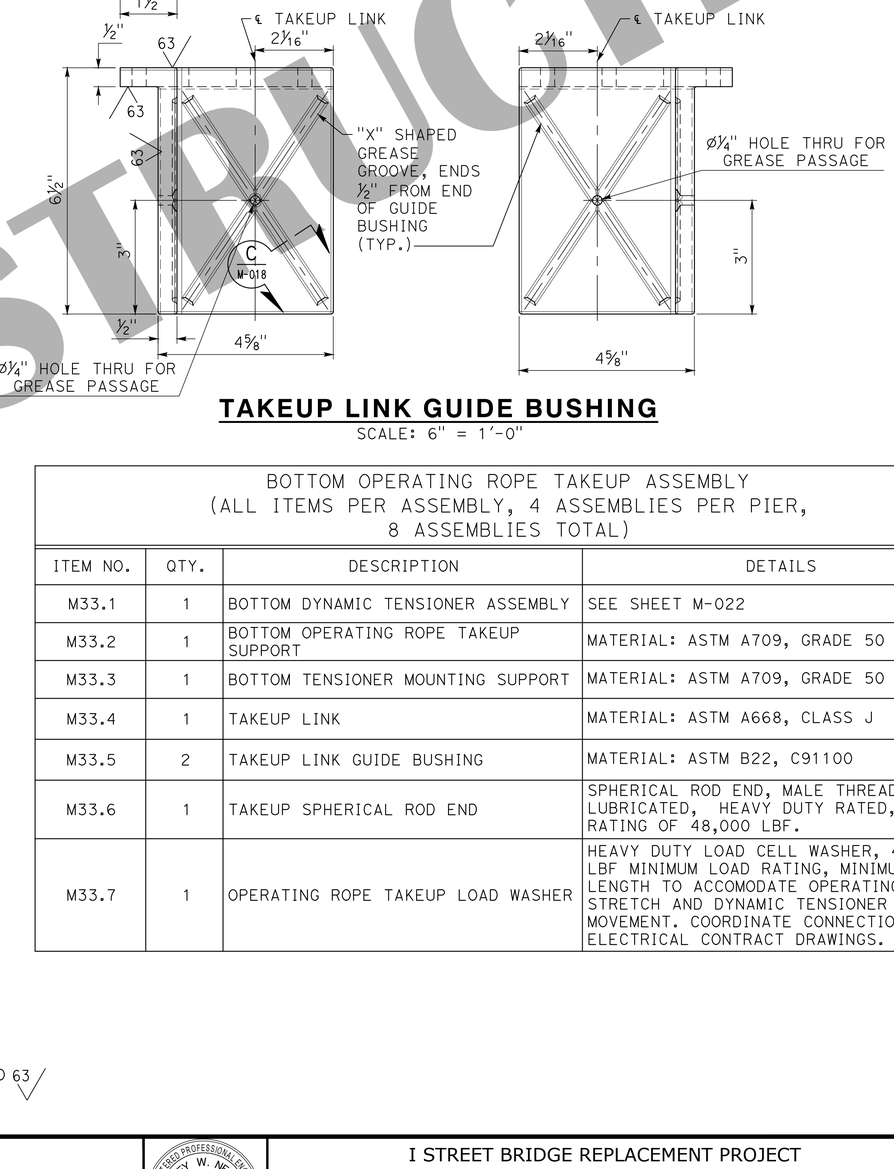


A M-018 SECTION A
SCALE: 1" = 1'-0"

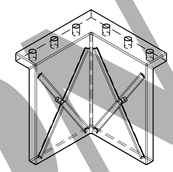
TAKEUP LINK
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A668, CLASS J
FINISH SQUARE PORTION OF LINK TO 63 UNLESS OTHERWISE NOTED



C M-018 TYPICAL GREASE GROOVE
SCALE: 1'-0" = 1'-0"



TAKEUP LINK GUIDE BUSHING
SCALE: 6" = 1'-0"



ISOMETRIC VIEW
SCALE: 3" = 1'-0"

BOTTOM OPERATING ROPE TAKEUP ASSEMBLY
(ALL ITEMS PER ASSEMBLY, 4 ASSEMBLIES PER PIER, 8 ASSEMBLIES TOTAL)

ITEM NO.	QTY.	DESCRIPTION	DETAILS
M33.1	1	BOTTOM DYNAMIC TENSIONER ASSEMBLY	SEE SHEET M-022
M33.2	1	BOTTOM OPERATING ROPE TAKEUP SUPPORT	MATERIAL: ASTM A709, GRADE 50
M33.3	1	BOTTOM TENSIONER MOUNTING SUPPORT	MATERIAL: ASTM A709, GRADE 50
M33.4	1	TAKEUP LINK	MATERIAL: ASTM A668, CLASS J
M33.5	2	TAKEUP LINK GUIDE BUSHING	MATERIAL: ASTM B22, C91100
M33.6	1	TAKEUP SPHERICAL ROD END	SPHERICAL ROD END, MALE THREAD, LUBRICATED, HEAVY DUTY RATED, MINIMUM RATING OF 48,000 LBF.
M33.7	1	OPERATING ROPE TAKEUP LOAD WASHER	HEAVY DUTY LOAD CELL WASHER, 48,000 LBF MINIMUM LOAD RATING, MINIMUM CABLE LENGTH TO ACCOMODATE OPERATING ROPE STRETCH AND DYNAMIC TENSIONER MOVEMENT. COORDINATE CONNECTION WITH ELECTRICAL CONTRACT DRAWINGS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

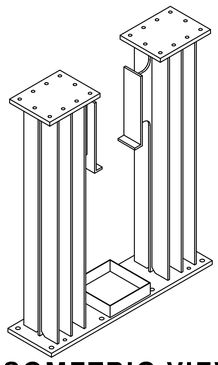
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BOTTOM OPERATING ROPE TAKEUP ASSEMBLY
(Date: 11/03/2025)

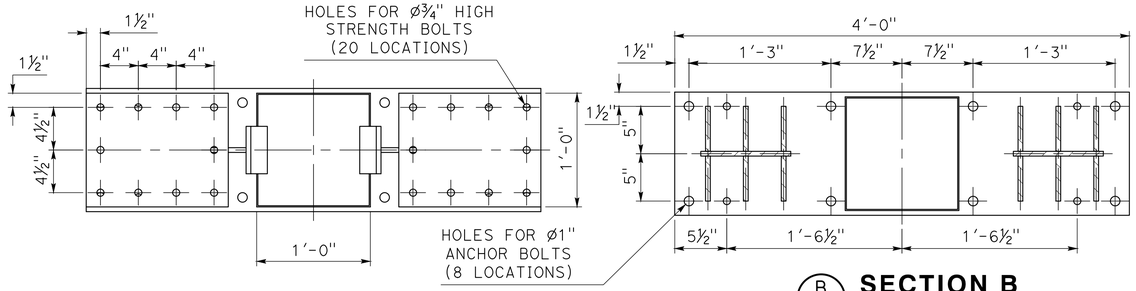
PN: T15136000
DWG NO.: M-018
SHT NO.: 509 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

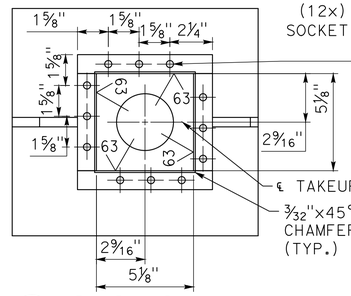
p:\3326.01\CADD\Mechanical\M-018 OPERATING ROPE TAKEUPS.dwg LAST PLOTTED: 11/3/2025 2:00:27 PM



ISOMETRIC VIEW
SCALE: ¾" = 1'-0"

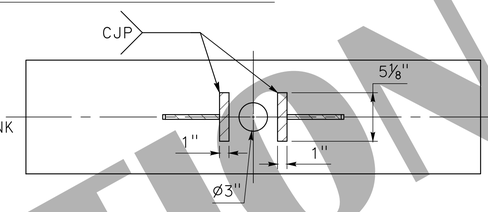


B M-019 **SECTION B**
SCALE: 1½" = 1'-0"

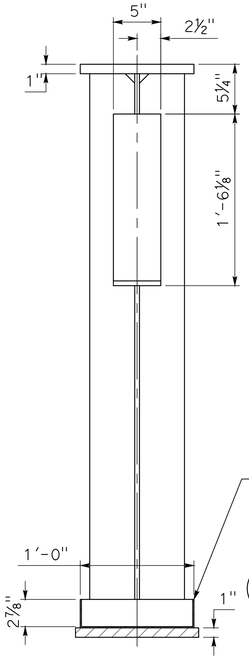


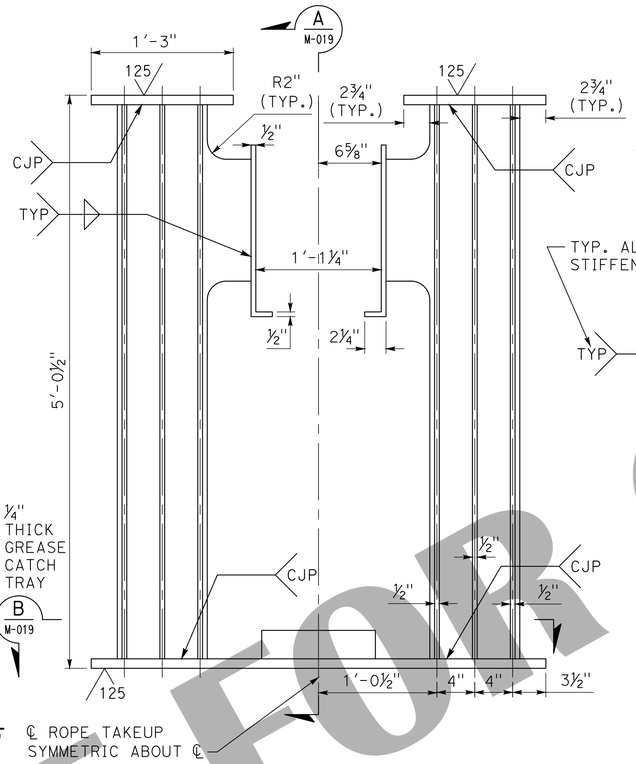
D M-019 **SECTION D**
SCALE: 3" = 1'-0"

(12x) HOLES FOR Ø⅜"-16x1.5" UNC S.S SOCKET HEAD CAP SCREWS, 1¼" INCH DEEP (12 LOCATIONS)



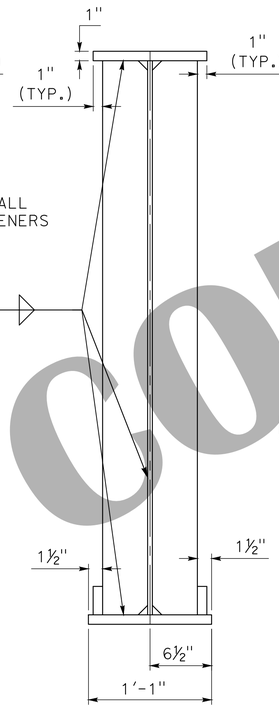
C M-019 **SECTION C**
SCALE: 1½" = 1'-0"

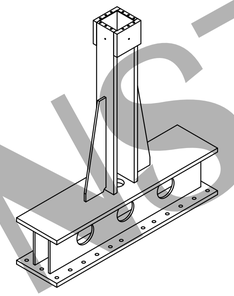




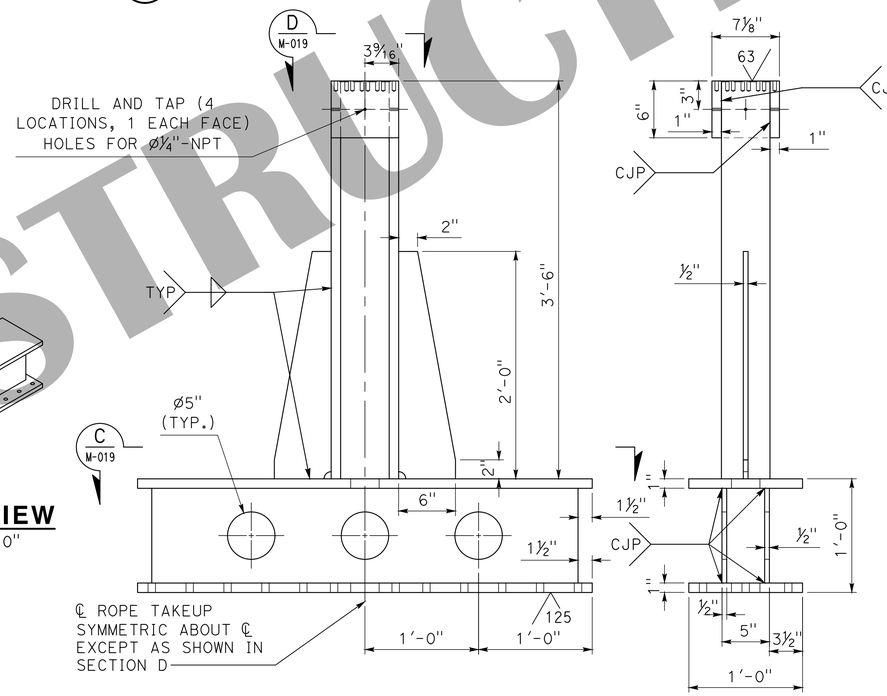
A M-019 **SECTION A**
SCALE: 1½" = 1'-0"

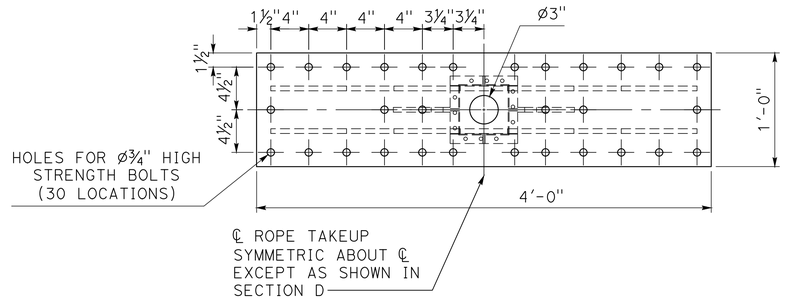
℄ ROPE TAKEUP SYMMETRIC ABOUT ℄





ISOMETRIC VIEW
SCALE: ¾" = 1'-0"





BOTTOM BOTTOM TENSIONER MOUNTING SUPPORT
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50

BOTTOM OPERATING ROPE TAKEUP SUPPORT
SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50

NOTES:

1. ALL WELDS SHALL BE DOUBLE-SIDED FILLET WELDS THAT DEVELOP THE FULL STRENGTH OF THE PLATE UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP	DESIGN BY: J. SHOUP	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

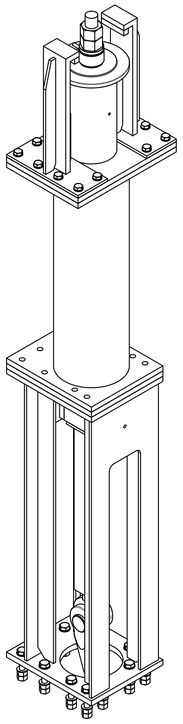
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BOTTOM OPERATING ROPE TAKEUP DETAILS
(Date: 11/03/2025)

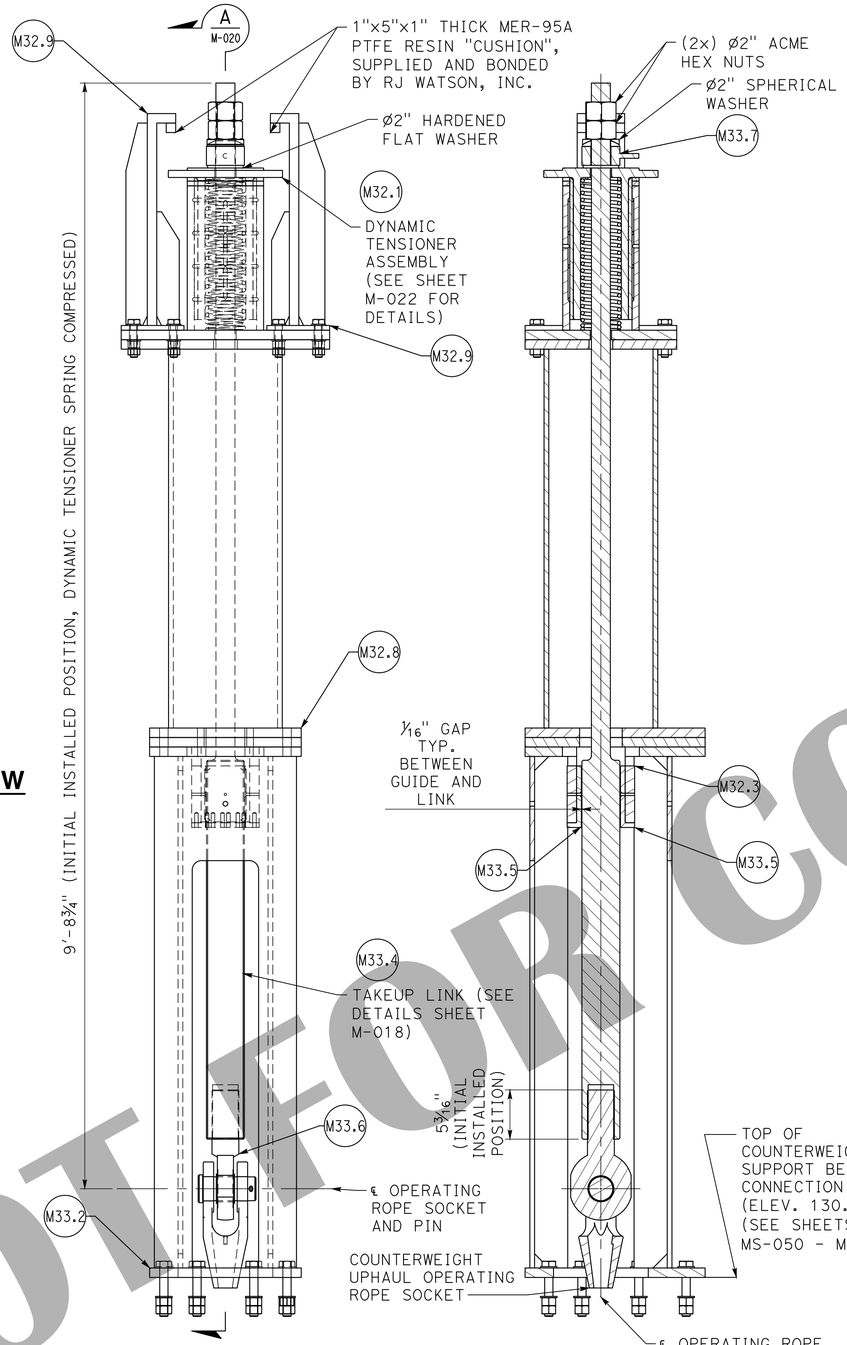
PN: T15136000
DWG NO.: M-019
SHT NO.: 510 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

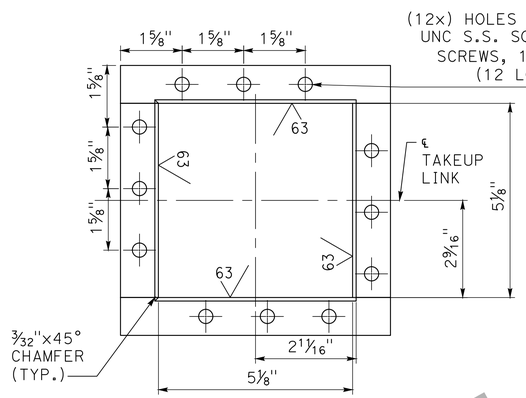
p:\3326.01\CADD\Mechanical\M-018A BOTTOM OPERATING ROPE TAKEUP DETAILS.dwg LAST PLOTTED: 11/3/2025 2:00:32 PM



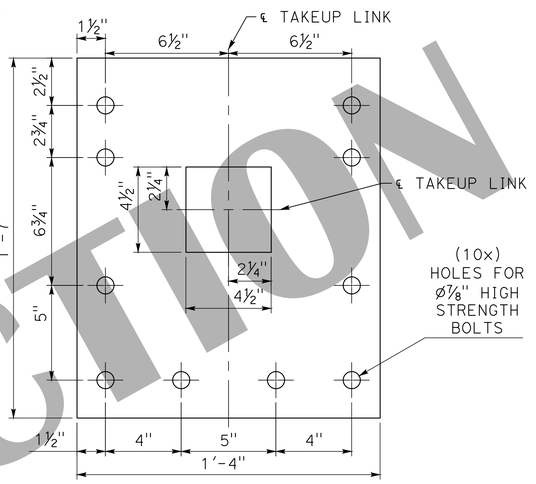
ISOMETRIC VIEW
SCALE: 1" = 1'-0"



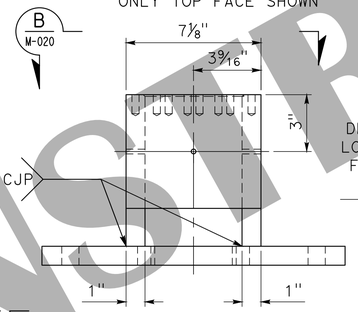
TOWER TOP OPERATING ROPE TAKEUP ASSEMBLY
SCALE: 1½" = 1'-0"



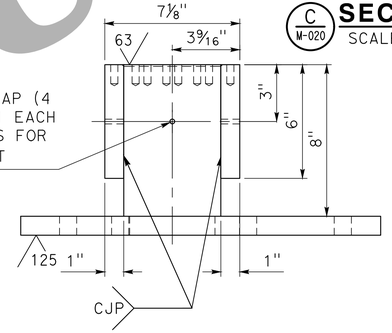
B M-020 **SECTION B**
SCALE: 6" = 1'-0"
ONLY TOP FACE SHOWN

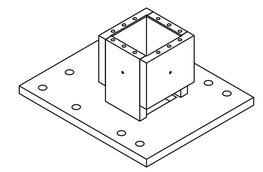


C M-020 **SECTION C**
SCALE: 3" = 1'-0"



TOP OPERATING ROPE TAKEUP GUIDE
SCALE: 3" = 1'-0"





ISOMETRIC VIEW
SCALE: 1½" = 1'-0"

TOP OPERATING ROPE TAKEUP ASSEMBLY
(ALL ITEMS PER ASSEMBLY, 4 ASSEMBLIES PER PIER, 8 ASSEMBLIES TOTAL)

ITEM NO.	QTY.	DESCRIPTION	DETAILS
M32.1	1	TOP DYNAMIC TENSIONER ASSEMBLY	SEE SHEET M-022
M32.2	1	TOP OPERATING ROPE TAKEUP SUPPORT	MATERIAL: ASTM A709, GRADE 50
M32.3	1	TOP OPERATING ROPE TAKEUP GUIDE	MATERIAL: ASTM A709, GRADE 50
M33.4	1	TAKEUP LINK	MATERIAL: ASTM A668, CLASS J
M33.5	2	TAKEUP LINK GUIDE BUSHING	MATERIAL: ASTM B22, C91100
M33.6	1	TAKEUP SPHERICAL ROD END	SPHERICAL ROD END, MALE THREAD, LUBRICATED, HEAVY DUTY RATED, MINIMUM RATING OF 48,000 LBF.
M33.7	1	OPERATING ROPE TAKEUP LOAD WASHER	HEAVY DUTY LOAD CELL WASHER, 48,000 LBF MINIMUM LOAD RATING, MINIMUM CABLE LENGTH TO ACCOMODATE OPERATING ROPE STRETCH AND DYNAMIC TENSIONER MOVEMENT. COORDINATE CONNECTION WITH ELECTRICAL CONTRACT DRAWINGS.
M32.8	1	TOP OPERATING ROPE TAKEUP ROUND BOLSTER	MATERIAL: ASTM A709, GRADE 50
M32.9	2	TOP OPERATING ROPE TAKEUP DYNAMIC TENSIONER RESTRAINT	MATERIAL: ASTM A709, GRADE 50

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

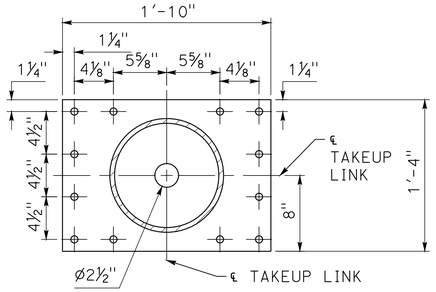
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER TOP OPERATING ROPE TAKEUP ASSEMBLY
(Date: 11/03/2025)

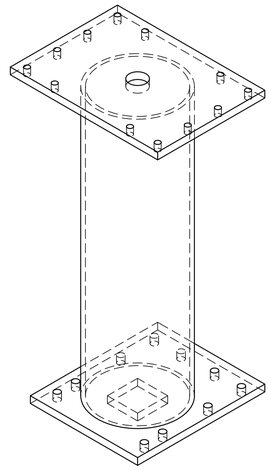
PN: T15136000
DWG NO.: M-020
SHT NO.: 511 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

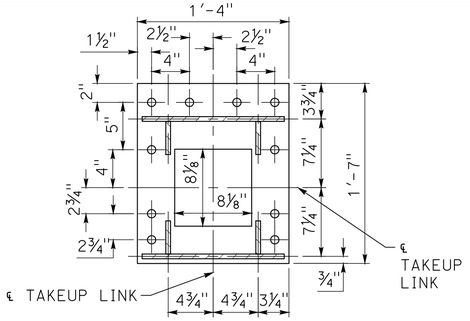
p:\3326.01\CADD\Mechanical\M-019 OPERATING ROPE TAKEUPS - 1.dwg LAST PLOTTED: 11/3/2025 2:00:39 PM



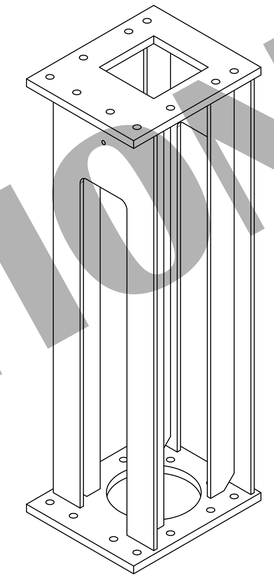
C M-021 **SECTION C**
SCALE: 1½" = 1'-0"



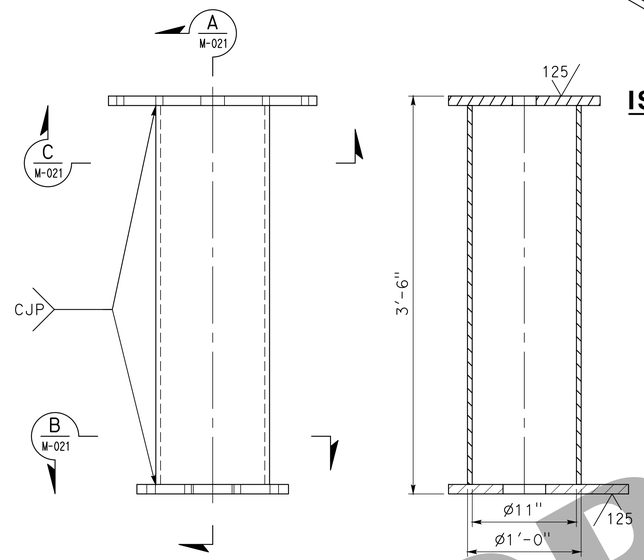
ISOMETRIC VIEW
SCALE: 1½" = 1'-0"



E M-021 **SECTION E**
SCALE: 1½" = 1'-0"

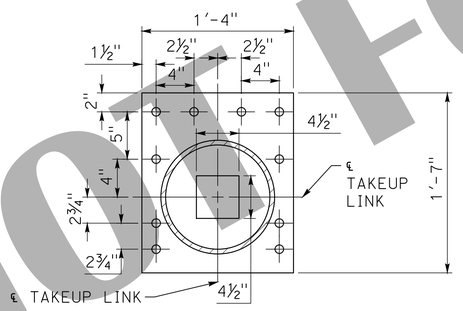


ISOMETRIC VIEW
SCALE: 1½" = 1'-0"

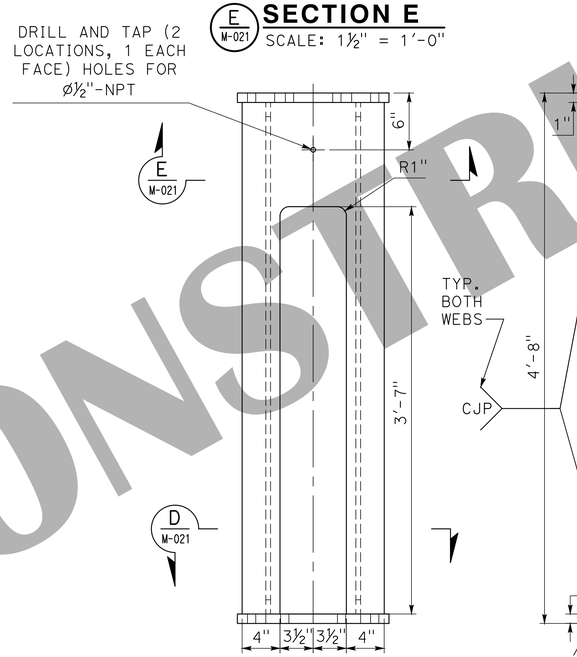


TOP OPERATING ROPE TAKEUP ROUND BOLSTER
SCALE: 1½" = 1'-0"

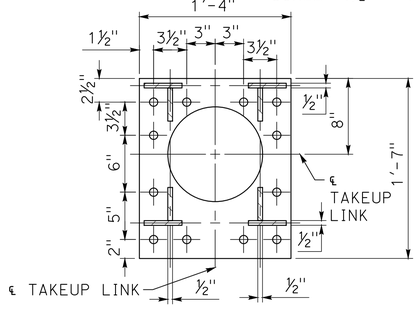
A M-021 **SECTION A**
SCALE: 1½" = 1'-0"



B M-021 **SECTION B**
SCALE: 1½" = 1'-0"



TOP OPERATING ROPE TAKEUP SUPPORT
SCALE: 1½" = 1'-0"



D M-021 **SECTION D**
SCALE: 1½" = 1'-0"

NOTES:

1. ALL WELDS SHALL BE DOUBLE-SIDED FILLET WELDS THAT DEVELOP THE FULL STRENGTH OF THE PLATE UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP	DESIGN BY: J. SHOUP	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

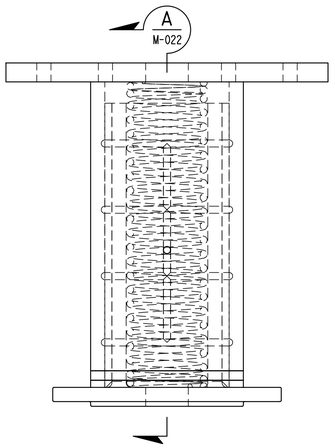
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER TOP OPERATING ROPE TAKEUP DETAILS
(Date: 11/03/2025)

PN: T15136000

DWG NO.: M-021
SHT NO.: 512 OF 648

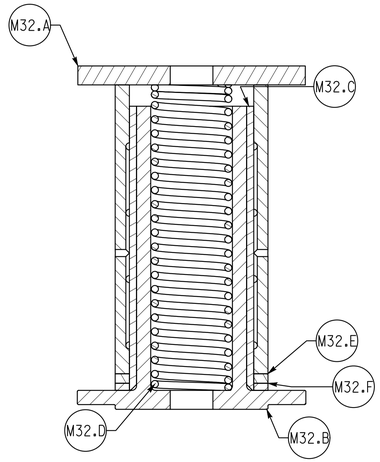
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-019A TOWER TOP TAKEUP DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:00:44 PM



OPERATING ROPE TAKEUP DYNAMIC TENSIONER

SCALE: 3" = 1'-0"

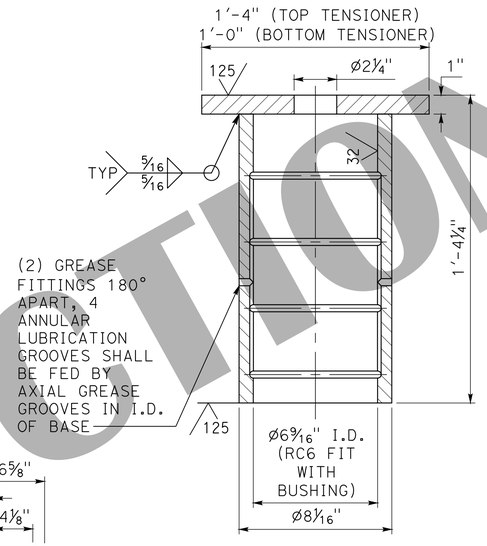


A M-022 **SECTION**

SCALE: 3" = 1'-0"

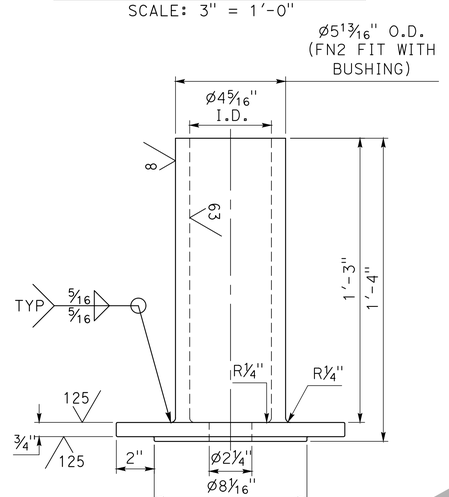
DYNAMIC TENSIONER ASSEMBLY
(ALL ITEMS PER ASSEMBLY, 8 ASSEMBLIES PER PIER, 16 ASSEMBLIES TOTAL)

ITEM NO.	QTY.	DESCRIPTION	DETAILS
M32.A	1	DYNAMIC TENSIONER BASE (BASE DIFFERENT FOR TOP TAKEUP AND BOTTOM TAKEUP)	MATERIAL: ASTM A709, GRADE 50
M32.B	1	DYNAMIC TENSIONER CAP	MATERIAL: ASTM A709, GRADE 50
M32.C	1	DYNAMIC TENSIONER BUSHING	ASTM B22 ALLOY C91300
M32.D	1	DYNAMIC TENSIONER SPRING	SPRINGS SUPPLIED BY ACE WIRE SPRING AND FORM CO. INC, OR EQUAL. SEE SPRING TABLE.
M32.E	1	CAP CUSHION	¾" WIDE x 8 1/16" O.D. x ½" THICK MER-95A PTFE RESIN "CUSHION", BONDED TO TENSIONER BASE AND BASE WEAR RING
M32.F	1	BASE WEAR RING	6 9/16" O.D. x 8 1/16" O.D. x ⅜" THICK STAINLESS STEEL



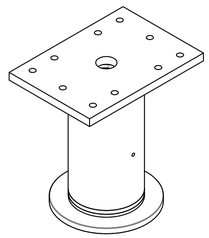
B M-022 **SECTION**

SCALE: 3" = 1'-0"



DYNAMIC TENSIONER CAP

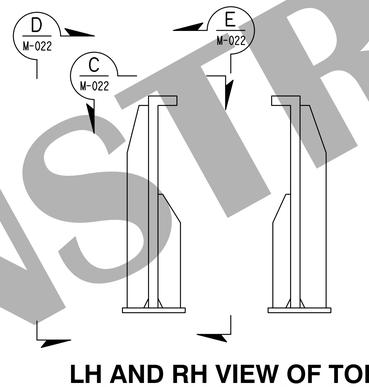
SCALE: 3" = 1'-0"



ISOMETRIC VIEW OF BOTTOM DYNAMIC TENSIONER

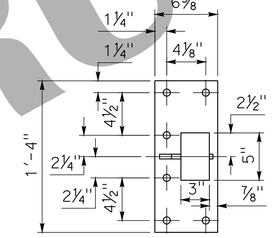
SCALE: 1½" = 1'-0"

SPRING TABLE	
CHARACTERISTIC	SPRING
CONSTANT	400 #/IN.
FREE LENGTH	2'-6"
INSTALLED LENGTH	1'-4 1/8"
MAX. LENGTH AT CAP KEEPER	2'-4 1/4"
END TREATMENT	SQUARED AND GROUND
OUTSIDE DIAMETER	0'-4 1/4"



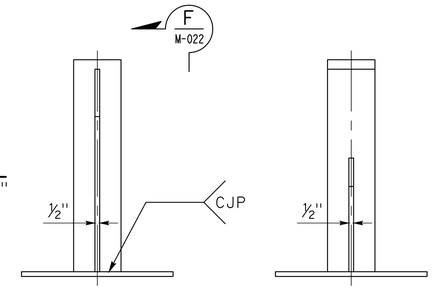
LH AND RH VIEW OF TOP DYNAMIC TENSIONER RESTRAINT

SCALE: 1½" = 1'-0"



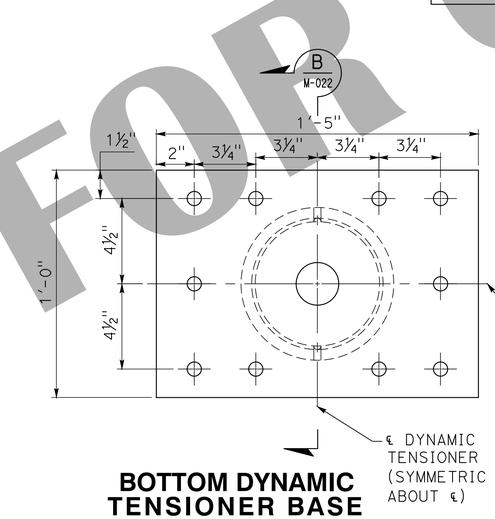
C M-022 **SECTION**

SCALE: 1½" = 1'-0"



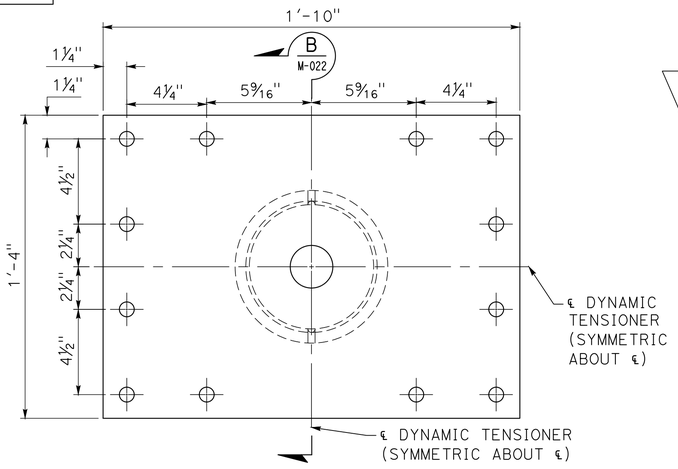
F M-022 **SECTION**

SCALE: 1½" = 1'-0"



BOTTOM DYNAMIC TENSIONER BASE

SCALE: 3" = 1'-0"



TOP DYNAMIC TENSIONER BASE

SCALE: 3" = 1'-0"

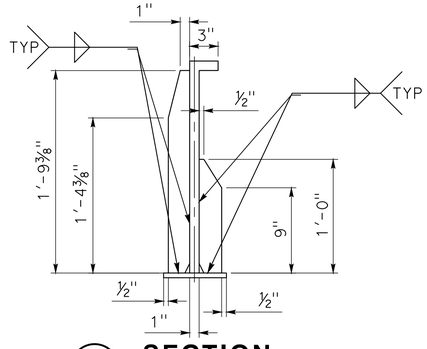
TYP. ALL STIFFENERS

D M-022 **SECTION**

SCALE: 1½" = 1'-0"

E M-022 **SECTION**

SCALE: 1½" = 1'-0"



F M-022 **SECTION**

SCALE: 1½" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP	DESIGN BY: J. SHOUP	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

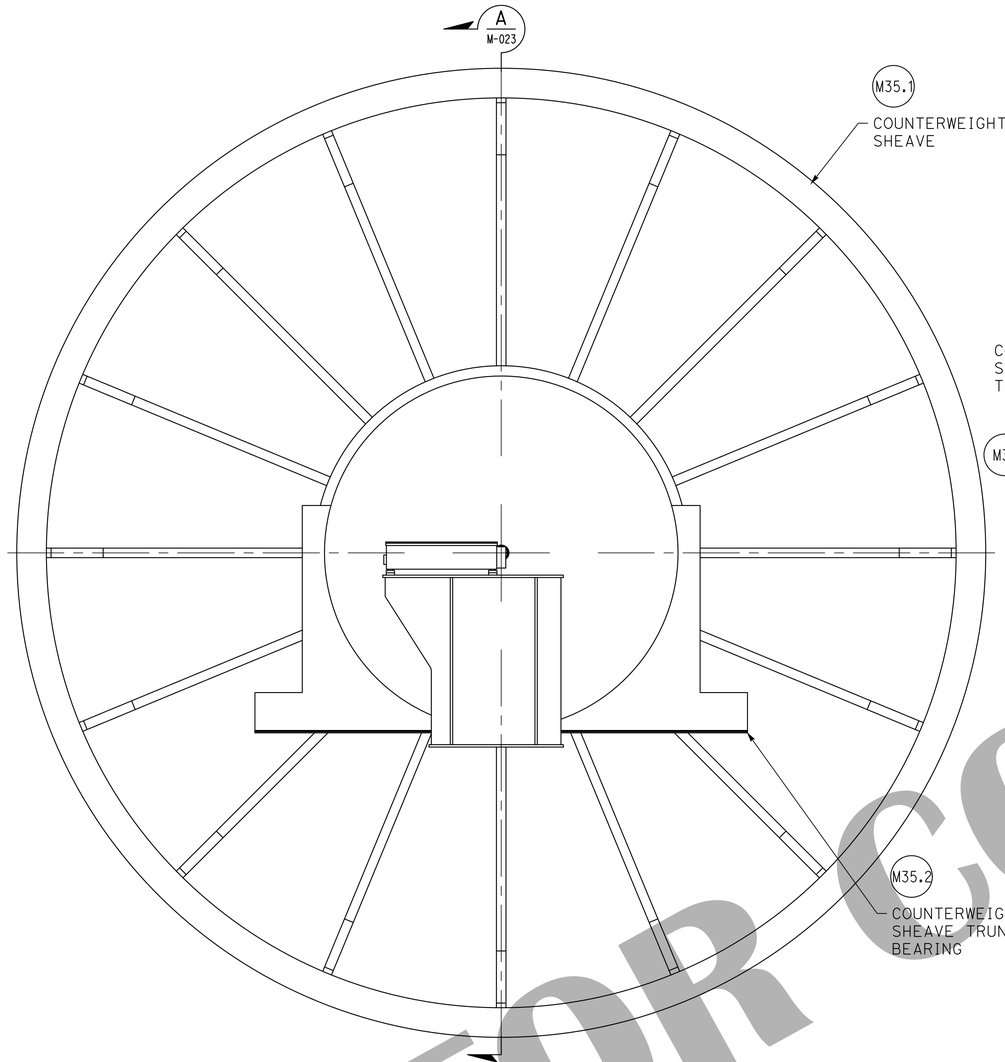
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
DYNAMIC TENSIONER
(Date: 11/03/2025)

PN: T15136000

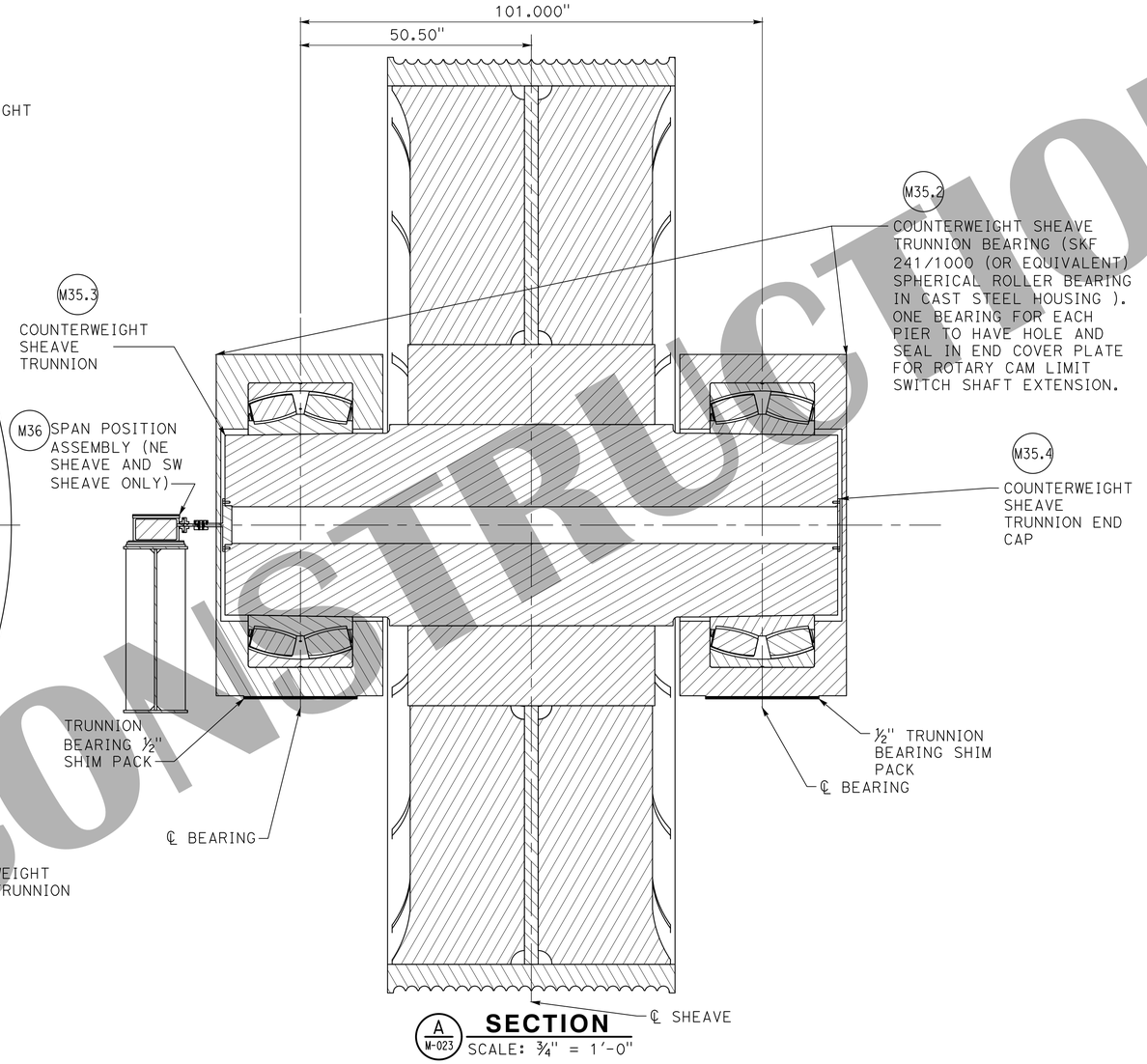
DWG NO.: M-022
SHT NO.: 513 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-020 DYNAMIC TENSIONER.dwg LAST PLOTTED: 11/3/2025 2:00:49 PM



COUNTERWEIGHT SHEAVE ASSEMBLY
SCALE: ¾" = 1'-0"



A M-023 **SECTION**
SCALE: ¾" = 1'-0"

COUNTERWEIGHT SHEAVE ASSEMBLY
(ALL ITEMS PER ASSEMBLY, 2 ASSEMBLIES PER PIER, 4 ASSEMBLIES TOTAL)

ITEM NO.	QTY.	DESCRIPTION	DETAILS
M35.1	1	COUNTERWEIGHT SHEAVE	MATERIALS: AS SHOWN ON SHEET M-024
M35.2	2	TRUNNION BEARING	SKF 241/1000 (OR EQUIVALENT) SPHERICAL ROLLER BEARING IN CAST STEEL HOUSING. ONE BEARING FOR EACH PIER TO HAVE HOLE AND SEAL IN END COVER PLATE FOR ROTARY CAM LIMIT SWITCH SHAFT EXTENSION.
M35.3	1	COUNTERWEIGHT SHEAVE TRUNNION	MATERIAL: ASTM A291, GRADE 2. SEE SHEET M-024
M35.4	2	TRUNNION SHAFT END CAP	MATERIAL: ASTM A276, TYPE 316, ½" THICK
M35.5	4	VENTED DOWEL	MATERIAL: ASTM A434, CLASS BD

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

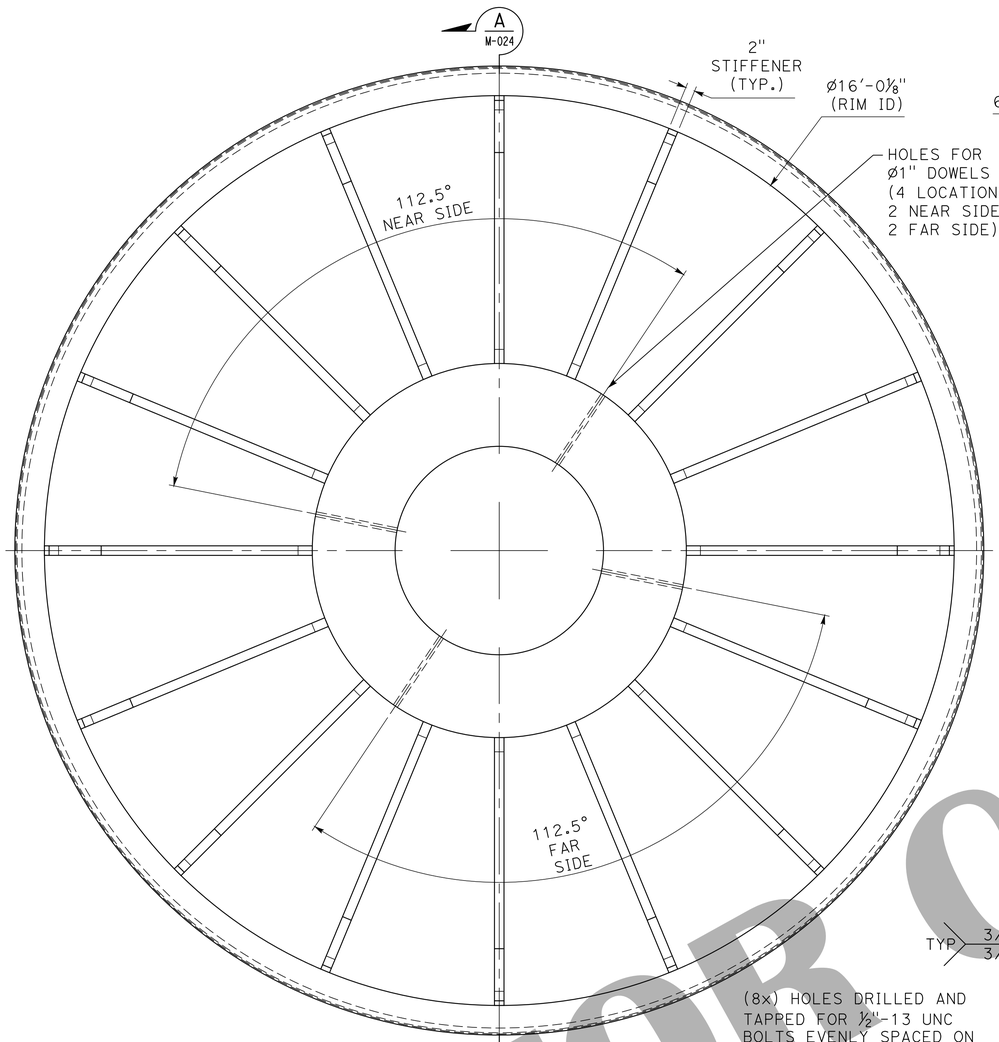
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT SHEAVE ASSEMBLY
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-023
SHT NO.: 514 OF 648

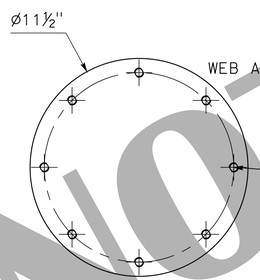
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-021 COUNTERWEIGHT SHEAVE ASSEMBLY.dwg LAST PLOTTED: 11/3/2025 2:00:53 PM



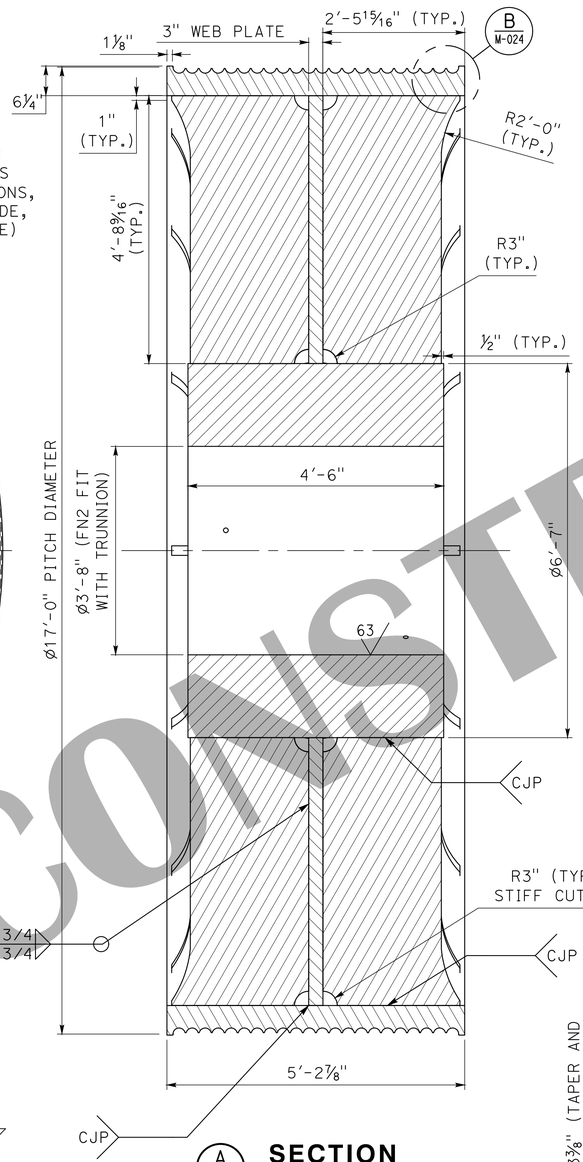
COUNTERWEIGHT SHEAVE

SCALE: ¾" = 1'-0"
HUB MATERIAL: ASTM A668, CLASS F
RIM MATERIAL: ASTM A668, CLASS F
WEB AND STIFFENERS MATERIAL: ASTM A709, GRADE 50

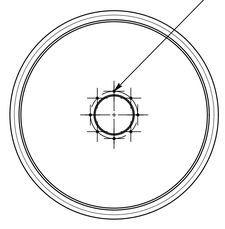


TRUNNION SHAFT END CAP

SCALE: 3" = 1'-0"
MATERIAL: ASTM A276, TYPE 316, ½" THICK



(8x) HOLES DRILLED AND TAPPED FOR ½"-13 UNC BOLTS EVENLY SPACED ON A Ø10.00" BOLT CIRCLE FOR TRUNNION SHAFT CAP (ONE SIDE) AND ROTARY CAM LIMIT SWITCH SHAFT EXTENSION ON THE OTHER



D M-024 SECTION

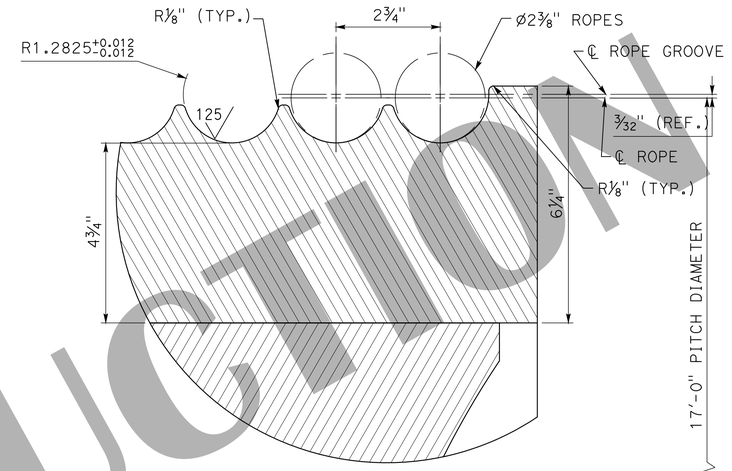
SCALE: ¾" = 1'-0"

A M-024 SECTION

SCALE: ¾" = 1'-0"

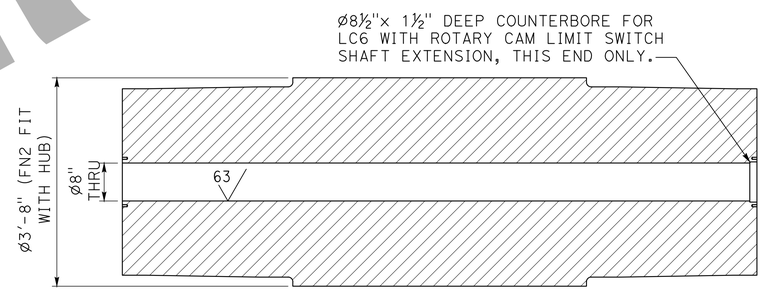
NOTES:

1. ALL WELD CLIPS PER AWS D1.5.
2. DOWELS MAY BE INSERTED AT AN ANGLE OF NO GREATER THAN 15 DEGREES.
3. DRILL DOWEL HOLES AFTER THE SHEAVE HUB HAS BEEN SHRUNK ONTO THE TRUNNION.
4. AFTER ASSEMBLY OF SHEAVE, TRUNNION, AND DOWELS, FILL VOIDS OVER DOWELS WITH BELZONA 1111 (SUPER METAL) OR APPROVED EQUAL.



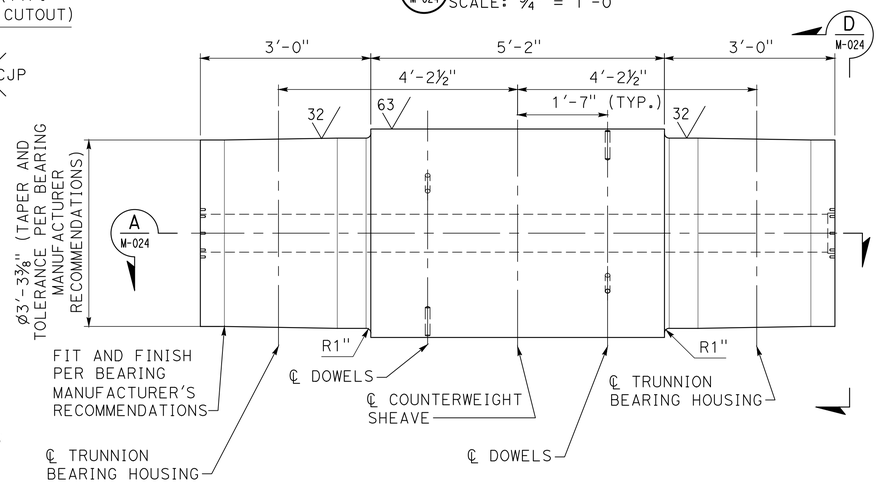
B M-024 DETAIL

SCALE: 6" = 1'-0"



C M-024 DETAIL

SCALE: ¾" = 1'-0"



COUNTERWEIGHT SHEAVE TRUNNION

SCALE: ¾" = 1'-0"
MATERIAL: ASTM A291, GRADE 2

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

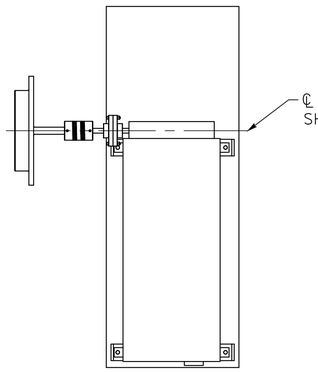
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT SHEAVE ASSEMBLY DETAILS - 1
(Date: 11/03/2025)

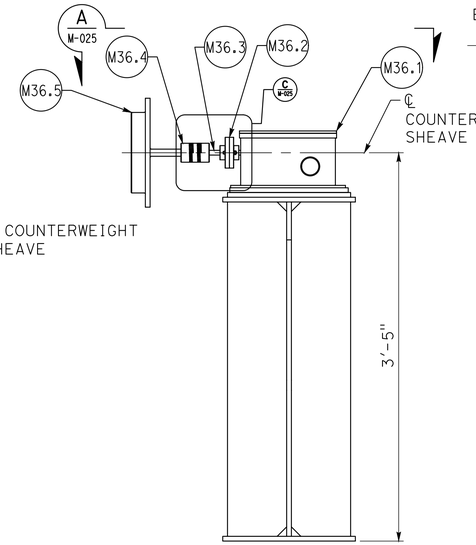
PN: T15136000
DWG NO.: M-024
SHT NO.: 515 OF 648

p:\3326.01\CADD\Mechanical\M-022 COUNTERWEIGHT SHEAVE ASSEMBLY DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:00:58 PM

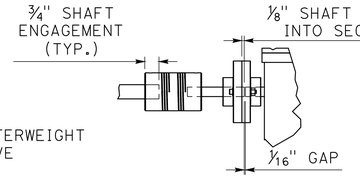
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



A M-025 **SECTION A**
SCALE: 1½" = 1'-0"



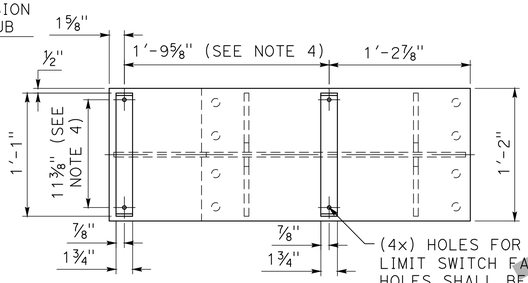
SPAN POSITION ASSEMBLY
SCALE: 1½" = 1'-0"

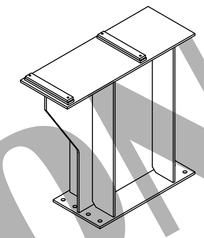


C M-025 **SECTION C**
SCALE: 1½" = 1'-0"

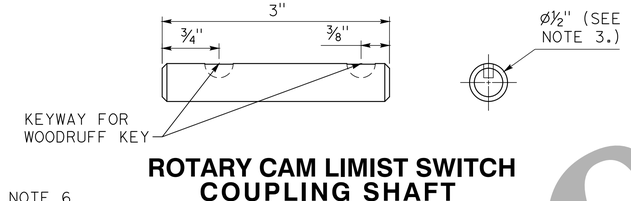
NOTES:

1. ALL WELDS SHALL BE DOUBLE-SIDED FILLET WELDS THAT DEVELOP THE FULL STRENGTH OF THE PLATE UNLESS OTHERWISE NOTED.
2. ALL WELD CLIPS PER AWS D1.5.
3. FIT AND FINISH PER COUPLING MANUFACTURER RECOMMENDATIONS.
4. HOLES TO MATCH ROTARY CAM LIMIT SWITCH COMPONENT.
5. ALL WELDMENTS SHALL BE STRESS RELIEVED BY HEAT PRIOR TO FINAL MACHINING.
6. ENSURE LENGTH OF ROTARY CAM LIMIT SWITCH SHAFT EXTENSION IS SUFFICIENT TO PROVIDE CLEARANCE TO THE TRUNNION BEARING.

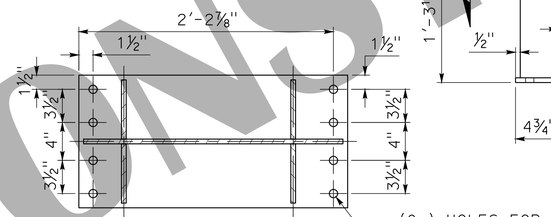




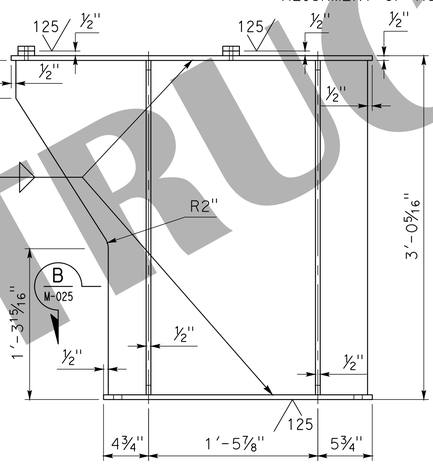
ISOMETRIC VIEW
SCALE: 3" = 1'-0"

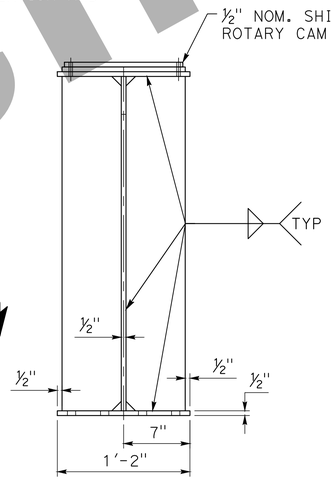


ROTARY CAM LIMIST SWITCH COUPLING SHAFT
SCALE: 1'-0" = 1'-0"

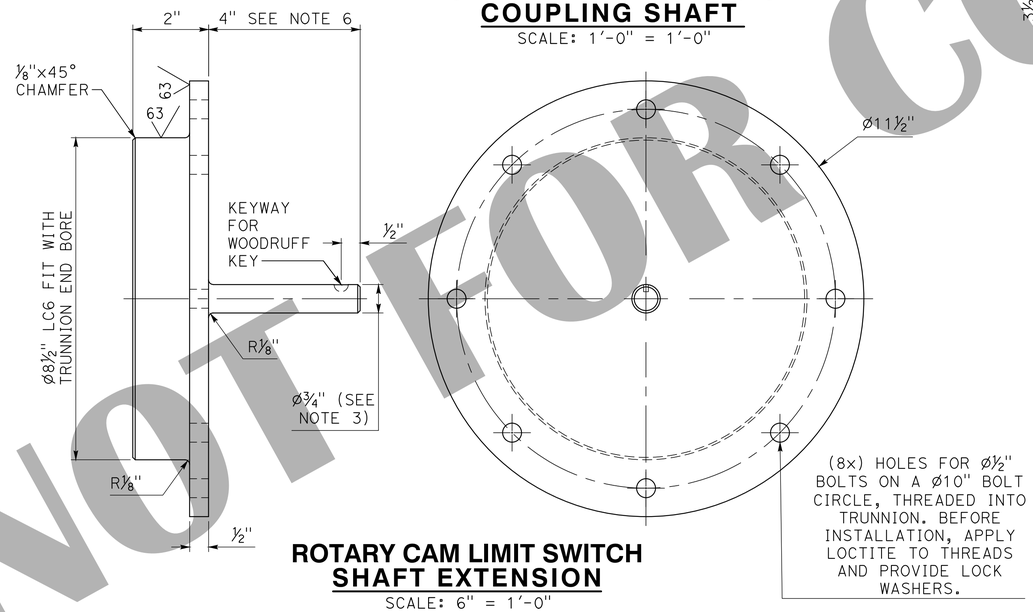


B M-025 **SECTION B**
SCALE: 1½" = 1'-0"





SPAN POSITION SUPPORT
SCALE: 1½" = 1'-0"



ROTARY CAM LIMIT SWITCH SHAFT EXTENSION
SCALE: 6" = 1'-0"

SPAN POSITION ASSEMBLY
(ALL ITEMS PER ASSEMBLY, 1 ASSEMBLIES PER PIER, 2 ASSEMBLIES TOTAL)

ITEM NO.	QTY.	DESCRIPTION	DETAILS
M36.1	1	ROTARY CAM LIMIT SWITCH (RCLS)	SEE ELECTRICAL PLANS
M36.2	1	TIMING HUB	CANDY TIMING HUB TH3 OR APPROVED EQUAL, ALLOWING FOR ⅔° INCREMENTAL ADJUSTMENT
M36.3	1	ROTARY CAM LIMIT SWITCH COUPLING SHAFT	PROVIDE WOODRUFF KEY FOR MATING COMPONENTS. MATERIAL: ASTM A276, TYPE 316
M36.4	1	ROTARY CAM LIMIT SWITCH COUPLING	HELICAL MC7200 24-16 STAINLESS STEEL COUPLING OR APPROVED EQUAL
M36.5	1	ROTARY CAM LIMIT SWITCH SHAFT EXTENSION	MATERIAL: ASTM A276, TYPE 316, SEE SHEET M-024. PROVIDE WOODRUFF KEY FOR MATING COMPONENT.
M36.6	1	SPAN POSITION SUPPORT	MATERIAL: ASTM A709, GRADE 50

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025
DESIGN BY: J. SHOUP DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

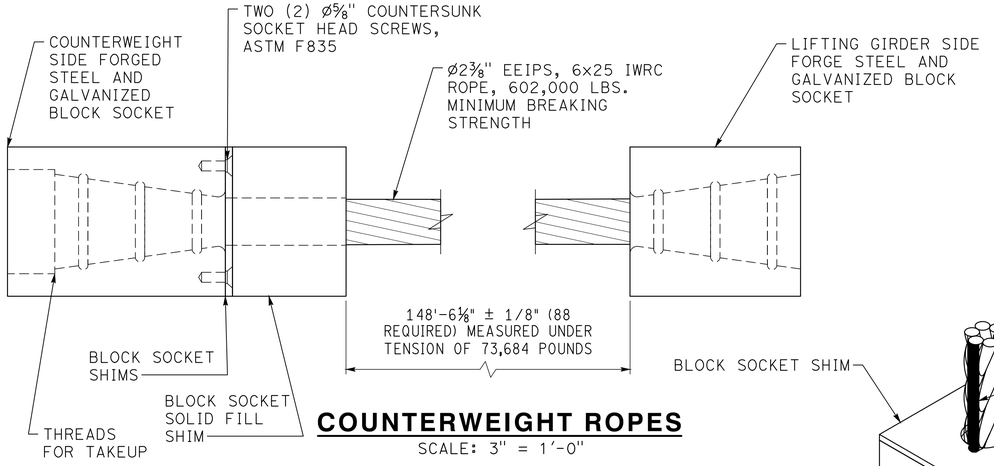
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN POSITION ASSEMBLY
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-025
SHT NO.: 516 OF 648

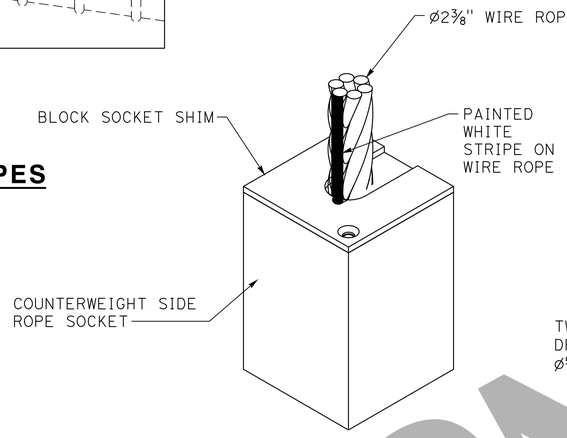
p:\3326.01\CADD\Mechanical\M022-A SPAN POSITION ASSEMBLY.dwg LAST PLOTTED: 11/3/2025 2:01:02 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



COUNTERWEIGHT ROPES

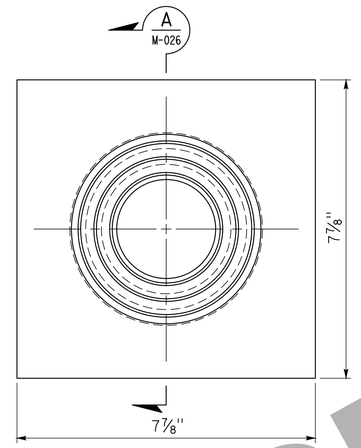
SCALE: 3" = 1'-0"



ROPE SOCKET AND SHIM (COUNTERWEIGHT SIDE)

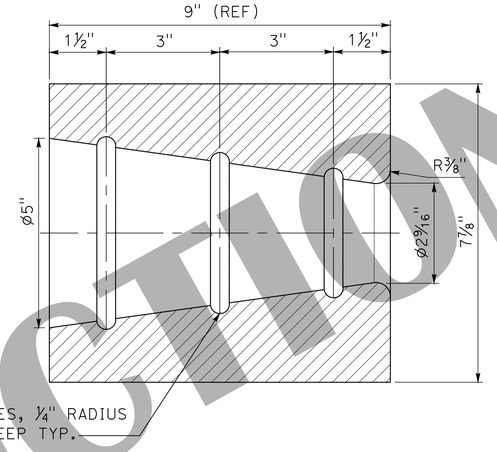
SCALE: N.T.S.

WIRE ROPE ASSEMBLIES MUST BE SOCKETED AND ASSEMBLED TO MATCH THE ORIENTATION SHOWN ABOVE



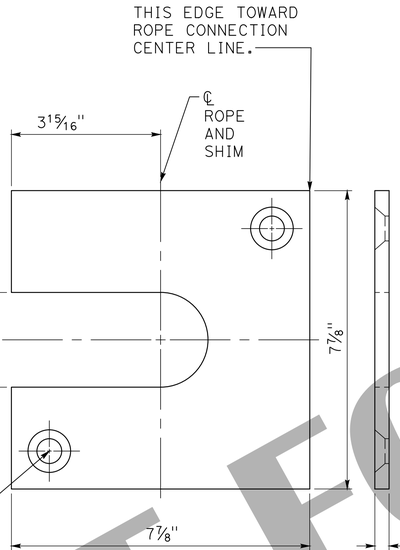
LIFTING GIRDER SIDE BLOCK SOCKET

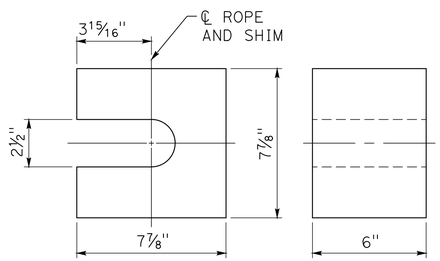
SCALE: 6" = 1'-0"



A M-026 **SECTION**

SCALE: 6" = 1'-0"





3⁄8" TO 1 1⁄2" SHIM FOR SHOP ADJUSTMENT AS REQUIRED TO PROVIDE EQUAL AND ACCURATE LENGTHS FACE TO FACE OF BEARING SURFACES

BLOCK SOCKET SHIM

SCALE: 6" = 1'-0"

MATERIAL: ASTM A572 GRADE 50 STEEL PLATE (GALVANIZED)

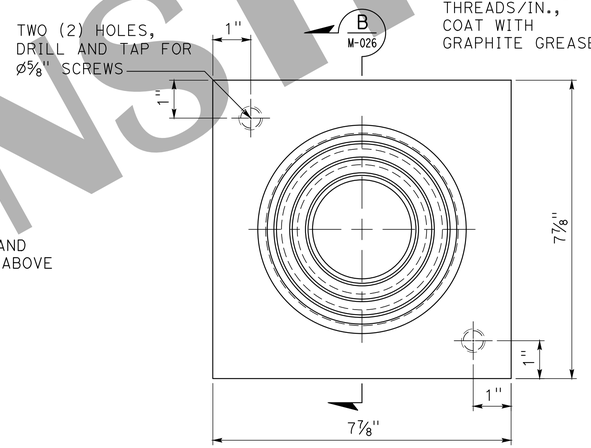
QUANTITY: AS REQUIRED TO PROVIDE EQUAL AND ACCURATE LENGTHS FACE TO FACE OF BEARING SURFACES

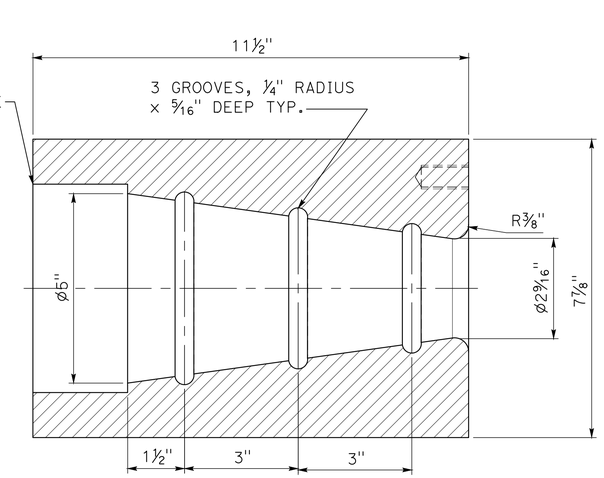
BLOCK SOCKET SOLID FILL SHIM

SCALE: 3" = 1'-0"

MATERIAL: ASTM A572 GRADE 50 STEEL PLATE (GALVANIZED)

QUANTITY: 88





COUNTERWEIGHT SIDE BLOCK SOCKET

SCALE: 6" = 1'-0"

B M-026 **SECTION**

SCALE: 6" = 1'-0"

NOTES:

1. ROPE SOCKETS SHALL BE FORGED WITHOUT WELDS, OF STEEL CONFORMING TO ASTM A668 CLASS H (FORGED) NORMALIZED AND TEMPERED.
2. SOCKETS TO BE ASSEMBLED AND TESTED IN ACCORDANCE WITH AASHTO LRFD MOVABLE HIGHWAY DESIGN SPECIFICATION 2ND EDITION (2007), SECTION 6.8.3.3.7.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: J. SHOUP DATE: 11/03/2025

DESIGN BY: J. SHOUP DATE: 11/03/2025

CHECKED BY: A. BRODSKY DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT ROPES
(Date: 11/03/2025)

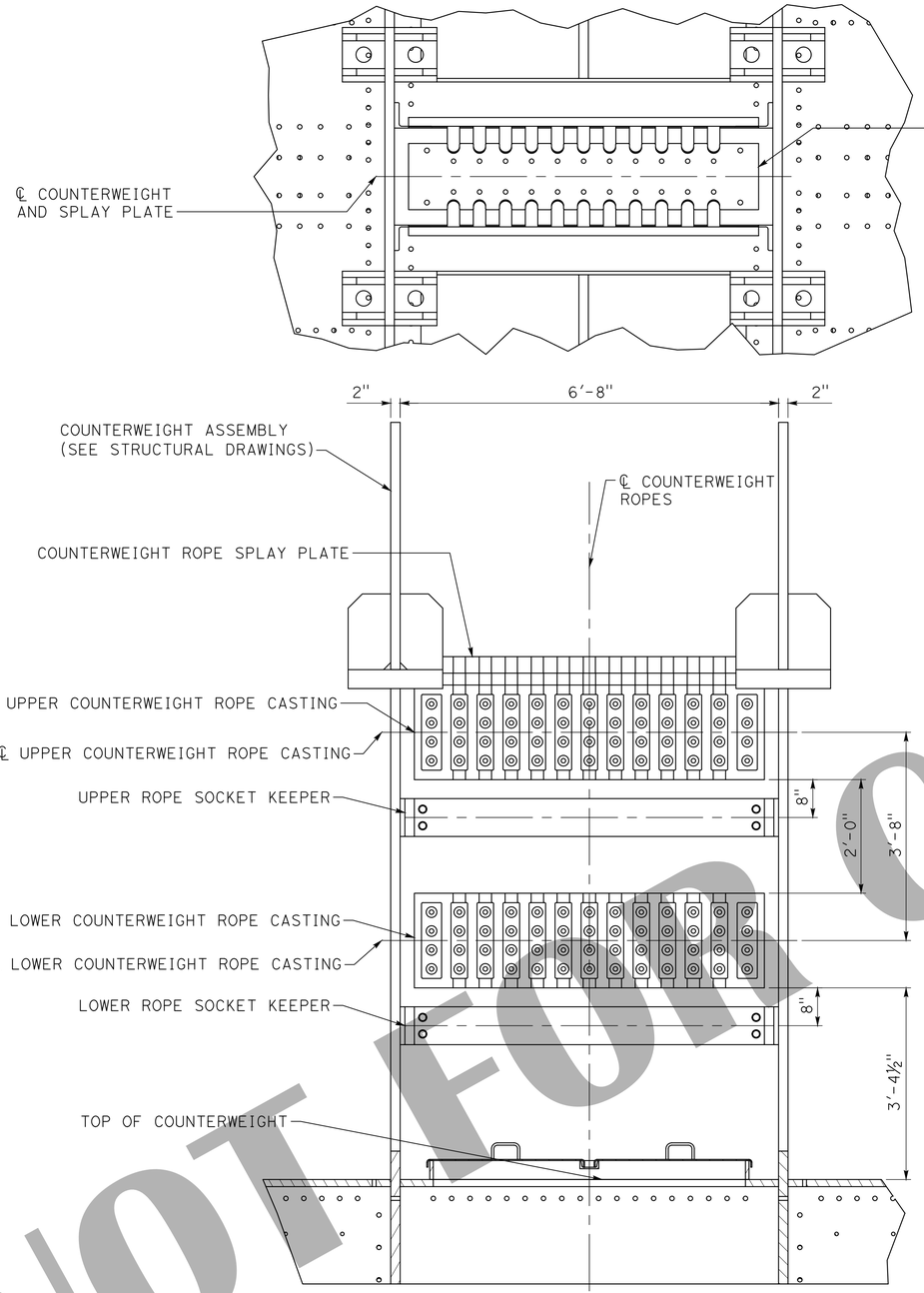
PN: T15136000

DWG NO.: M-026

SHT NO.: 517 OF 648

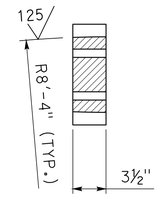
p:\3326.01\CADD\Mechanical\M-023 COUNTERWEIGHT ROPES.dwg LAST PLOTTED: 11/3/2025 2:01:07 PM

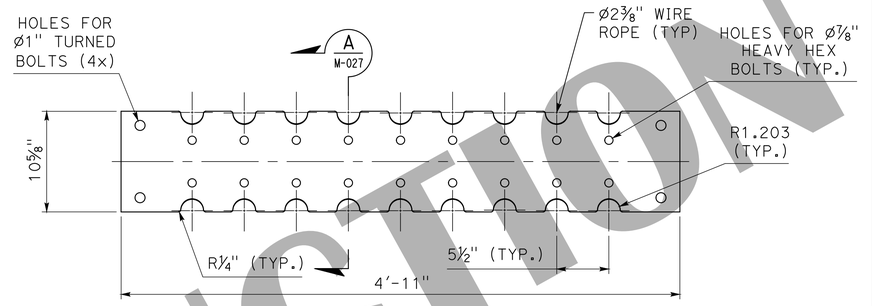
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



COUNTERWEIGHT ROPE CONNECTION ASSEMBLY

SCALE: ¾" = 1'-0"
NOTE: 4 TOTAL ASSEMBLIES REQUIRED
(1 PER COUNTERWEIGHT)





A M-027 **SECTION**
SCALE: 1½" = 1'-0"

COUNTERWEIGHT ROPE SPLAY PLATE

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A668 CLASS K
QUANTITY: 8 REQUIRED

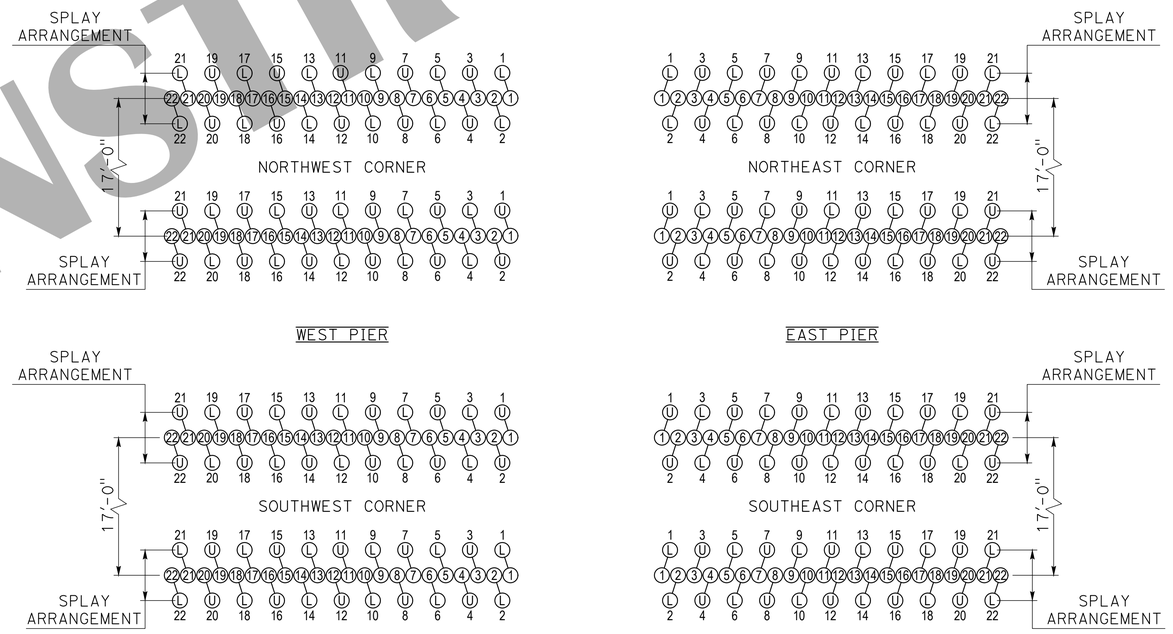


DIAGRAM OF ROPE CONNECTION

(VIEW NOTES)

NOTES:

1. DIMENSIONS SHOWN FOR CASTINGS ARE DIMENSIONS AFTER FINISHING.
2. ALL CASTING SURFACES IN CONTACT WITH STEEL AND ROPE SOCKETS SHALL BE FINISHED TO 125/.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. BRODSKY DATE: 11/03/2025
DESIGN BY: A. BRODSKY DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

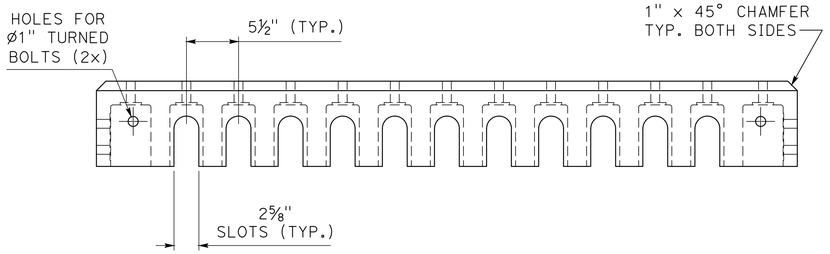
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

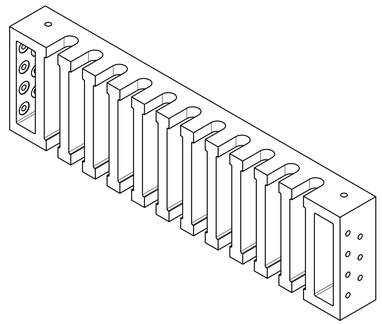
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT ROPE CONNECTIONS
(Date: 11/03/2025)

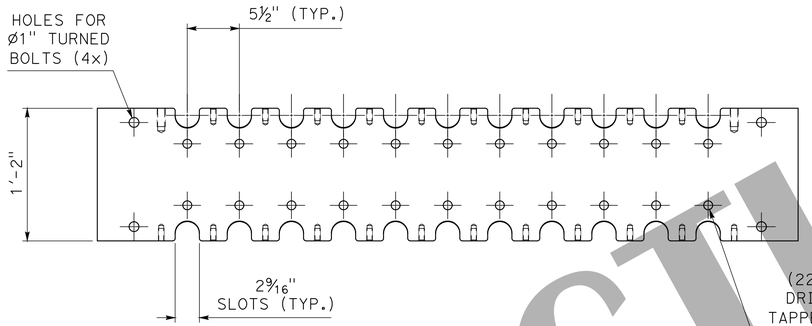
PN: T15136000
DWG NO.: M-027
SHT NO.: 518 OF 648

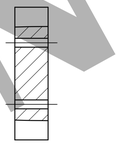
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\13326.01\CADD\Mechanical\M-024 COUNTERWEIGHT ROPE CONNECTIONS.dwg LAST PLOTTED: 11/3/2025 2:01:12 PM

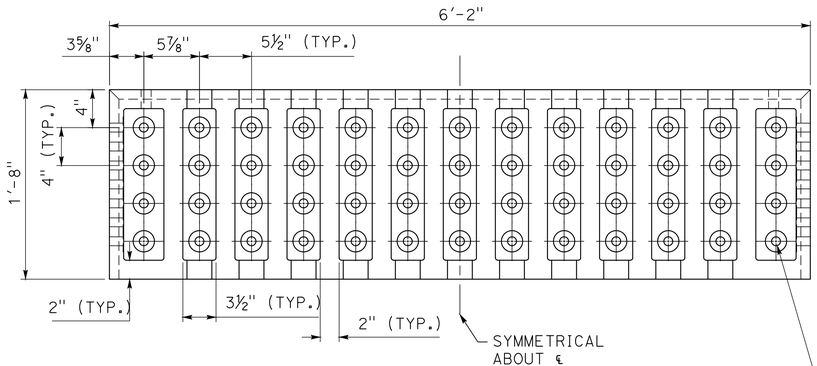


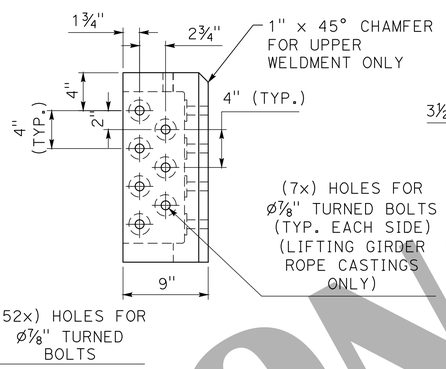


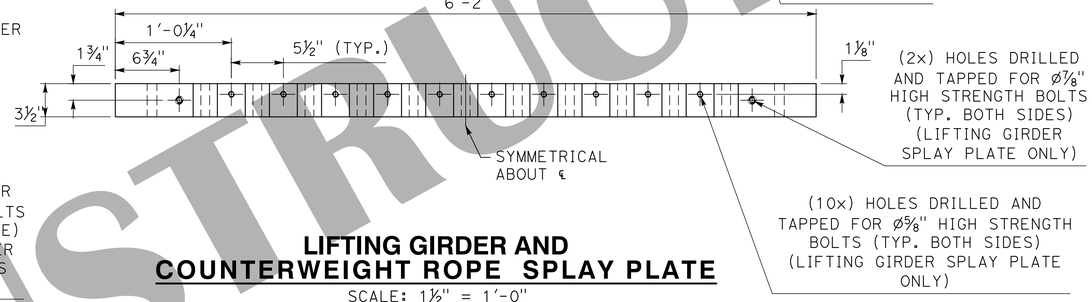




A M-028 **SECTION**
SCALE: ¾" = 1'-0"





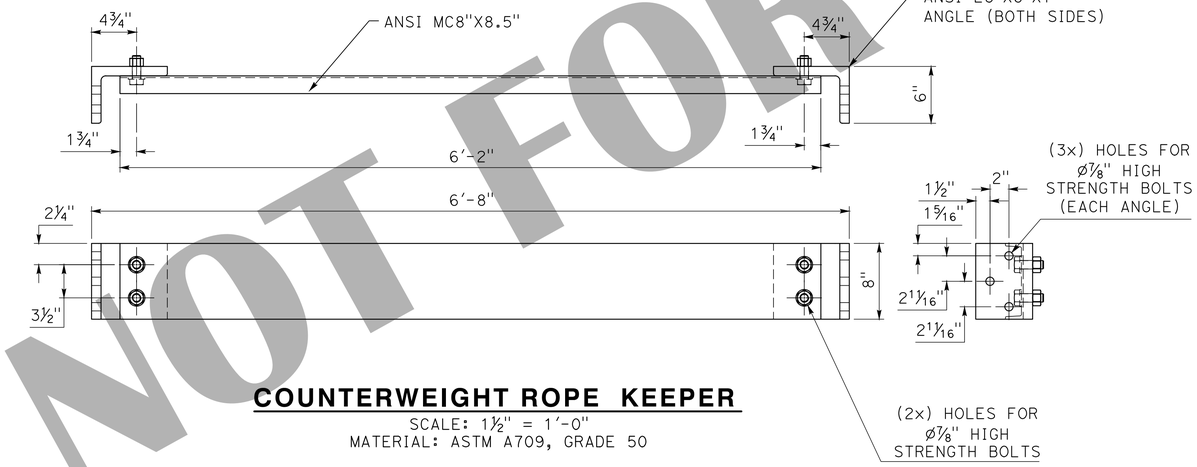


LIFTING GIRDER AND COUNTERWEIGHT ROPE SPLAY PLATE

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A668, CLASS K

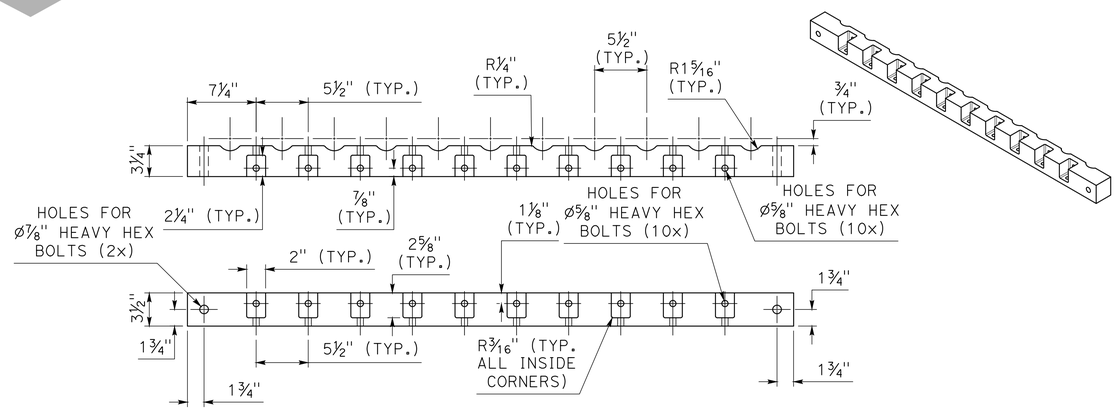
COUNTERWEIGHT ROPE CASTING

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A148, GRADE 80-50, WITH SUPPLEMENTS S1, S2, S6, AND S9
OR ASTM A668, CLASS G
ROUND ENDS OF ALL ROPE SLOTS TO ¼" RADIUS.
LIFTING GIRDER AND COUNTERWEIGHT SIDE ROPE CASTINGS.



COUNTERWEIGHT ROPE KEEPER

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709, GRADE 50



LIFTING GIRDER ROPE SPLAY RETAINER PLATE

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A668, CLASS K

NOTES:

1. SPOTFACE ALL UNFINISHED SURFACES OF CASTINGS AND FORGINGS FOR BOLT ASSEMBLIES. SPOTFACES SHALL BE 1⁄16" DEEP WITH A DIAMETER OF AT LEAST ¼" LARGER THAN WASHER DIAMETER TO ALLOW FIRM, TIGHT CONTACT ACROSS THE ENTIRE WASHER FACE UPON ASSEMBLY.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. BRODSKY DATE: 11/03/2025
DESIGN BY: A. BRODSKY DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

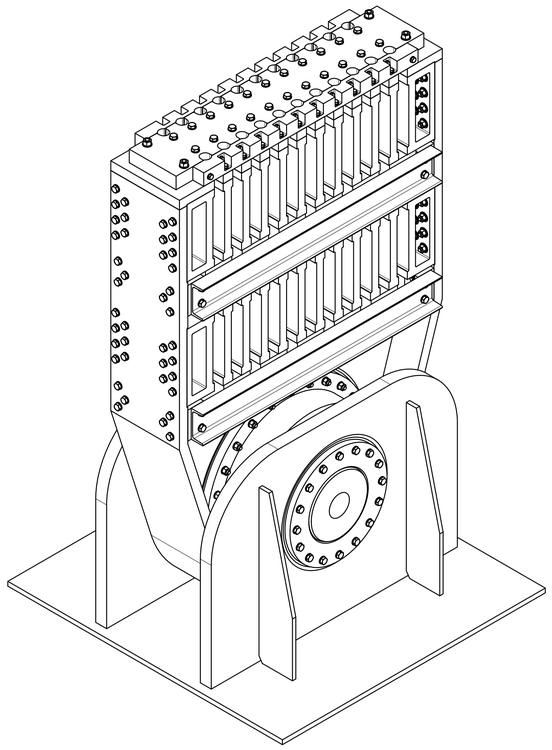
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICS STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
COUNTERWEIGHT ROPE CONNECTIONS DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-028
SHT NO.: 519 OF 648

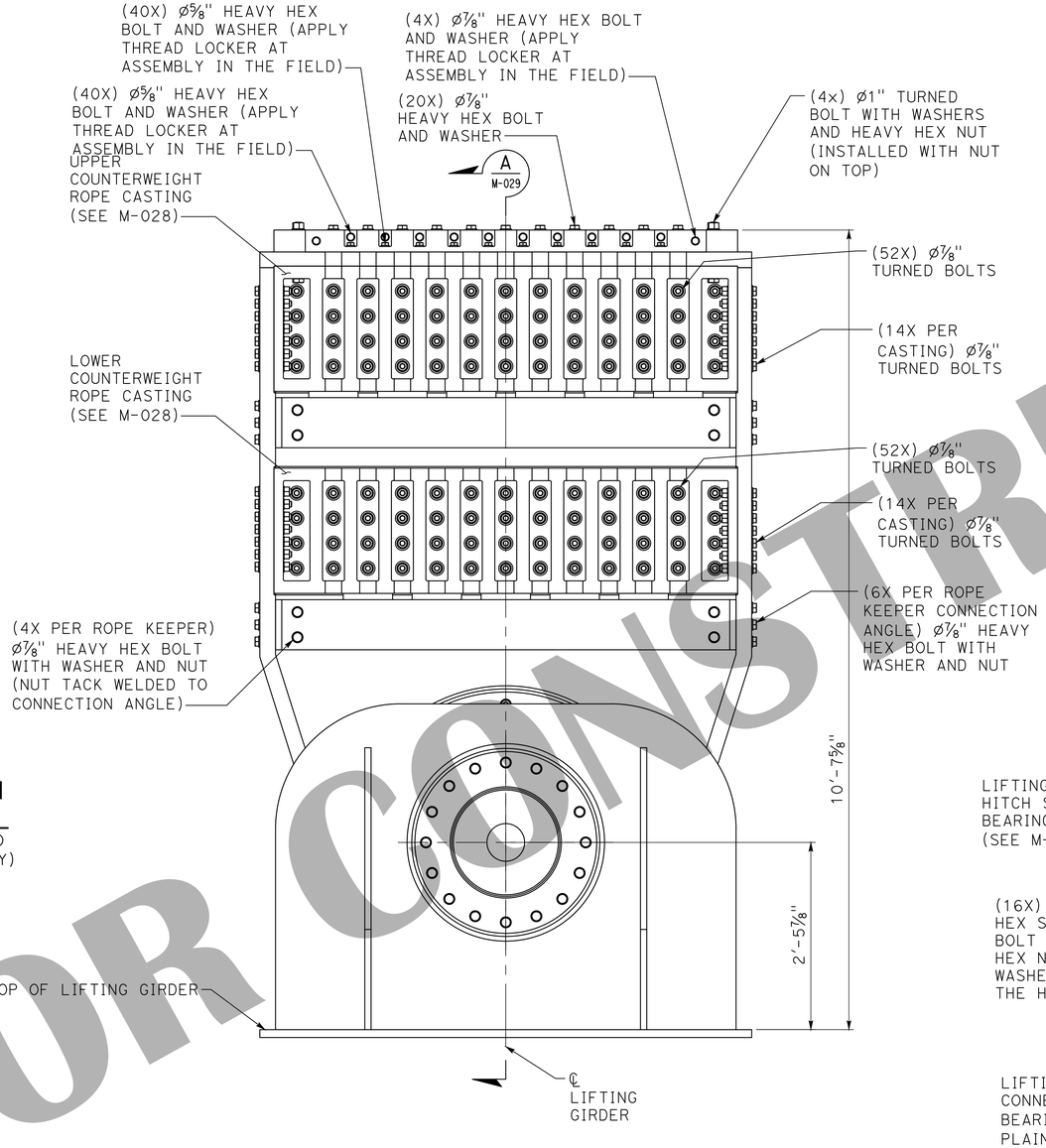
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-025 COUTNERWEIGHT ROPE CONNECTION CASTINGS.dwg LAST PLOTTED: 11/3/2025 2:01:16 PM



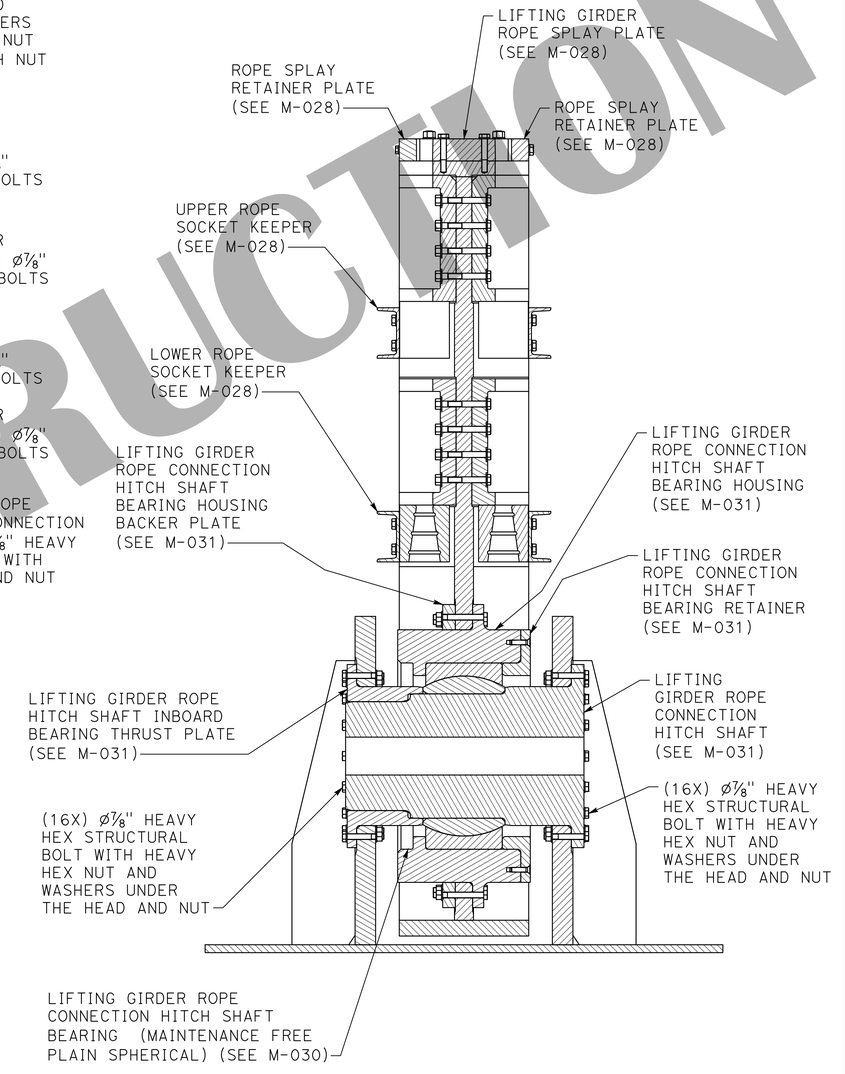
LIFTING GIRDER ROPE CONNECTION (INBOARD END ISOMETRIC VIEW)

(LIFTING GIRDER NOT SHOWN FOR CLARITY, CONNECTION TO LIFTING GIRDER IS SIMPLIFIED FOR THIS VIEW FOR CLARITY)



A / M-029 LIFTING GIRDER ROPE CONNECTION HITCH SHAFT

SCALE: 1" = 1'-0"
2 ASSEMBLIES PER LIFTING GIRDER
(4 TOTAL ASSEMBLIES)



A / M-029 SECTION

SCALE: 1" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. BRODSKY DATE: 11/03/2025
DESIGN BY: A. BRODSKY DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

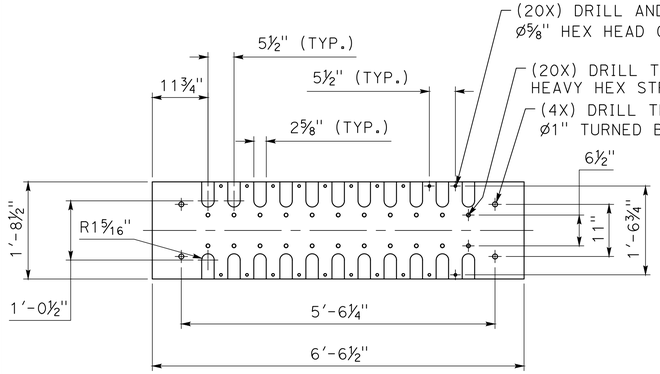
REGISTERED PROFESSIONAL ENGINEER — JEFFREY W. NEWMAN — No. 38975 — Exp. 09-30-26 — MECHANICSBURG — STATE OF CALIFORNIA — Date: 11/03/2025

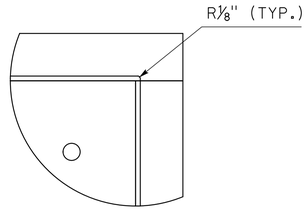
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFTING GIRDER ROPE CONNECTION
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-029
SHT NO.: 520 OF 648

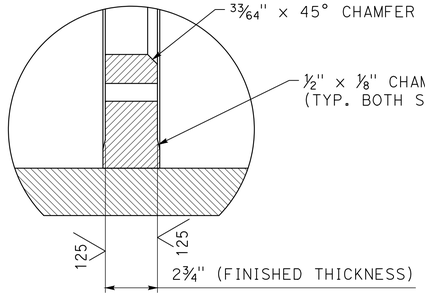
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-026 LIFTING GIRDER ROPE CONNECTION.dwg LAST PLOTTED: 11/3/2025 2:01:21 PM

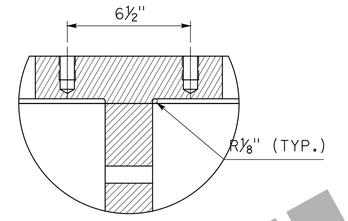




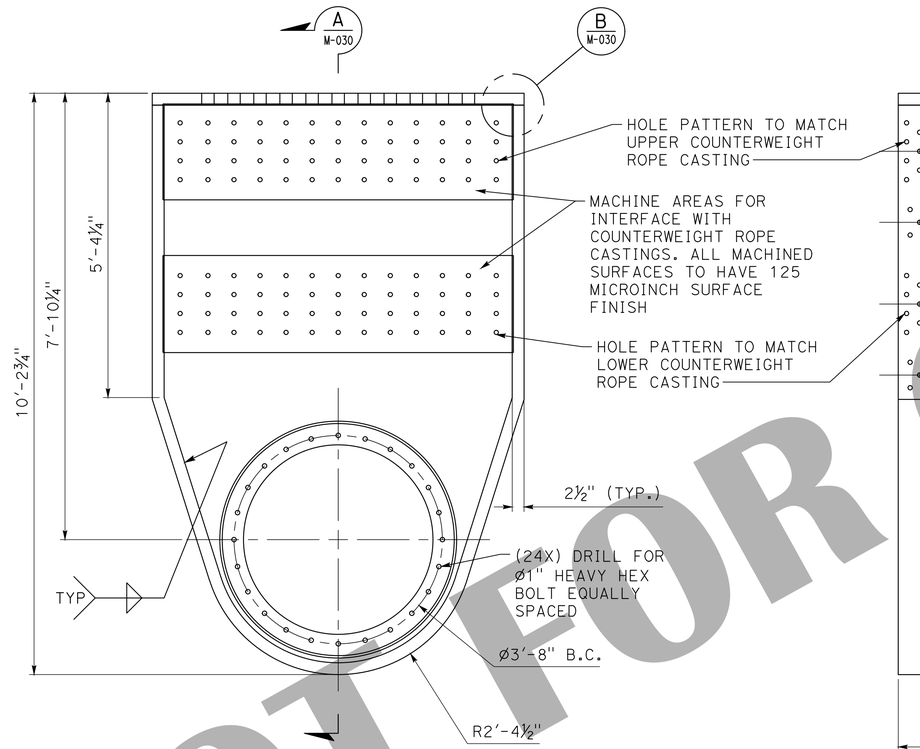
B M-030 **DETAIL**
SCALE: 3" = 1'-0"

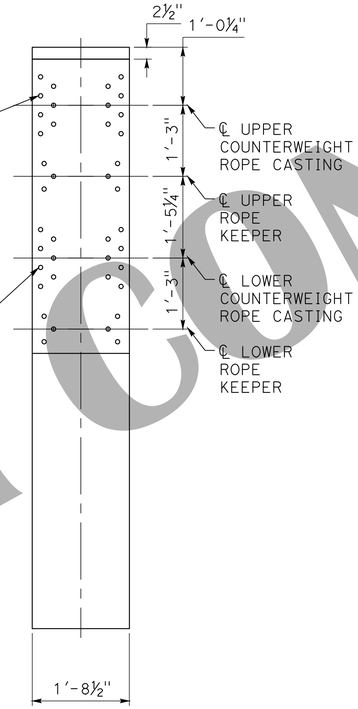


C M-030 **DETAIL**
SCALE: 3" = 1'-0"



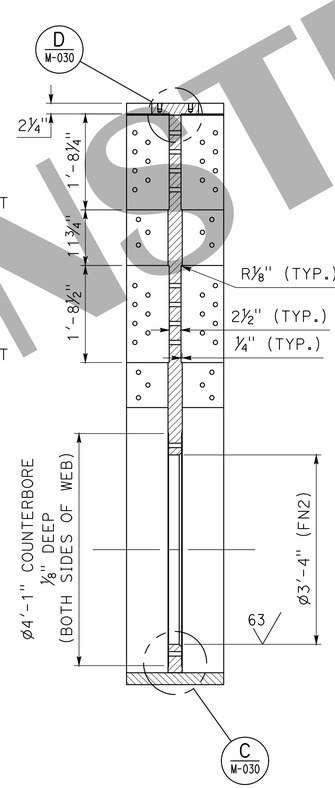
D M-030 **DETAIL**
SCALE: 3" = 1'-0"



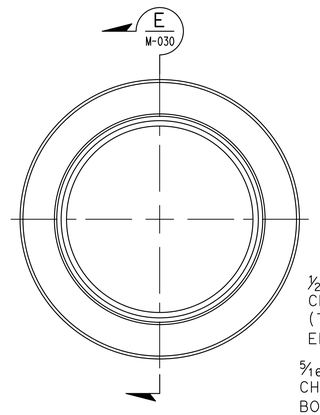


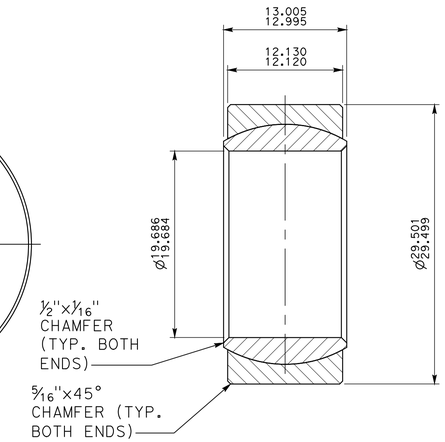
LIFTING GIRDER COUNTERWEIGHT ROPE CONNECTION HITCH SHAFT WELDMENT

SCALE: ¾" = 1'-0"
MATERIAL: ASTM A709. GRADE 50
NOTES: ALL WELDS TO BE COMPLETE JOINT PENETRATION WELDS WITH 5/16" FILLET REINFORCEMENTS AND SHALL BE GROUND FLUSH AS NECESSARY FOR ASSEMBLY WITH OTHER COMPONENTS



A M-030 **SECTION**
SCALE: ¾" = 1'-0"





E M-030 **SECTION**
SCALE: ¾" = 1'-0"

LIFTING GIRDER ROPE CONNECTION HITCH SHAFT BEARING

SCALE: 1½" = 1'-0"
MAINTENANCE FREE PLAIN SPHERICAL BEARING,
±2.0 DEGREES MISALIGNMENT CAPACITY
MANUFACTURER RATING FOR BEARING RADIAL LOAD: 1,550 KIPS MIN.
MANUFACTURER RATING FOR BEARING AXIAL LOAD: 18.8 KIPS MIN.
MATERIAL: HOUSING: 17-4 PH STAINLESS STEEL COND. H1150
GIMBAL: 17-4 PH STAINLESS STEEL COND. H1150
PROVIDE HYTREL SCRAPER SEAL OR EQUAL.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. BRODSKY DATE: 11/03/2025
DESIGN BY: A. BRODSKY DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

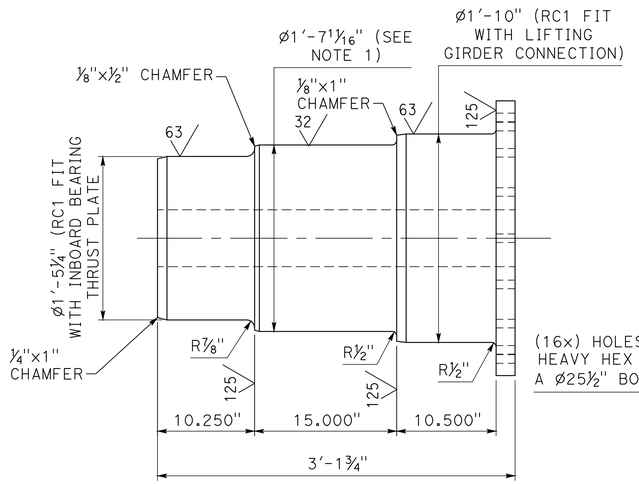
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICSBURG STATE OF CALIFORNIA Date: 11/03/2025

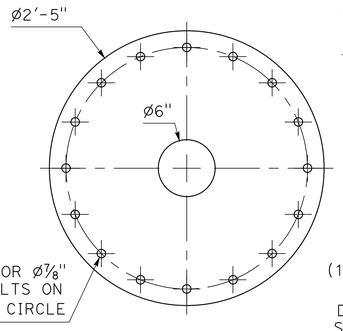
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFTING GIRDER ROPE CONNECTION DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-030
SHT NO.: 521 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

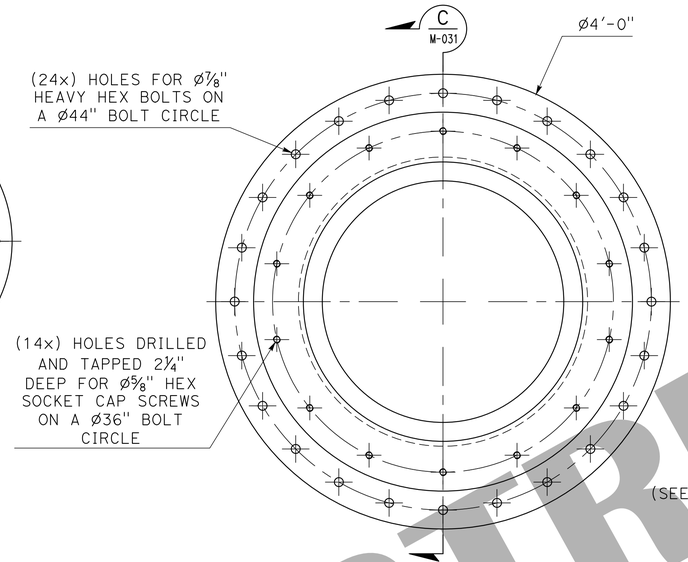
p:\3326.01\CADD\Mechanical\M-027 LIFTING GIRDER ROPE CONNECTION - DETAILS 1.dwg LAST PLOTTED: 11/3/2025 2:01:26 PM





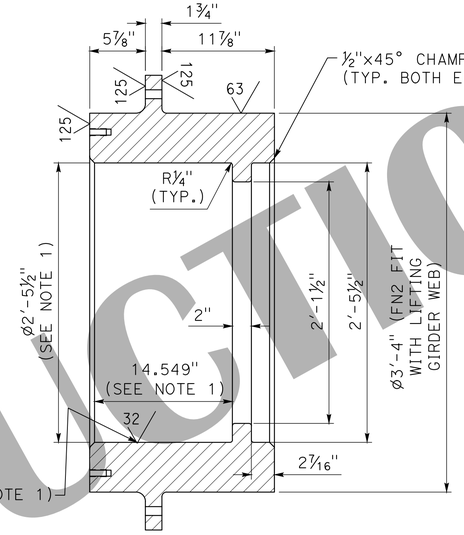
LIFTING GIRDER ROPE CONNECTION HITCH SHAFT

SCALE: 1 1/2" = 1'-0"
MATERIAL: ASTM A668, CLASS G



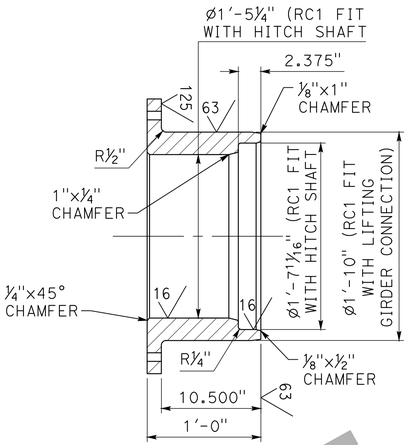
LIFTING GIRDER ROPE CONNECTION BEARING HUB

SCALE: 1 1/2" = 1'-0"
MATERIAL: ASTM A668, CLASS G



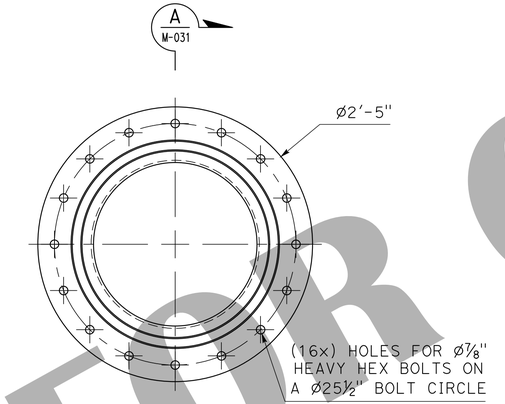
C M-031 SECTION

SCALE: 1 1/2" = 1'-0"



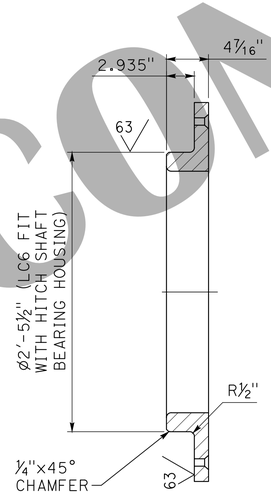
A M-031 SECTION

SCALE: 1 1/2" = 1'-0"



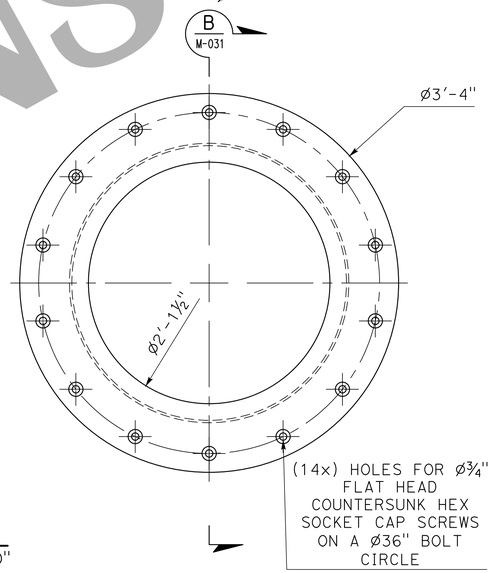
LIFTING GIRDER ROPE HITCH SHAFT INBOARD BEARING THRUST PLATE

SCALE: 1 1/2" = 1'-0"
MATERIAL: ASTM A668, CLASS G



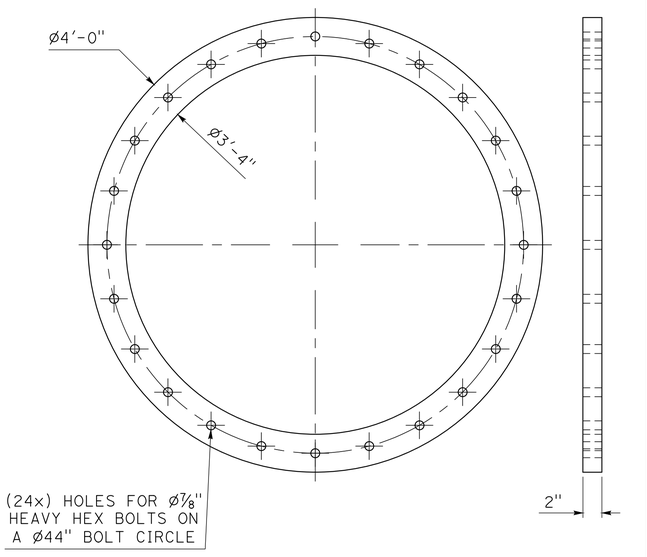
B M-031 SECTION

SCALE: 1 1/2" = 1'-0"



LIFTING GIRDER ROPE CONNECTION HITCH SHAFT BEARING RETAINER

SCALE: 1 1/2" = 1'-0"
MATERIAL: ASTM A668, CLASS G



LIFTING GIRDER ROPE CONNECTION HITCH SHAFT BEARING HOUSING BACKER PLATE

SCALE: 1 1/2" = 1'-0"
MATERIAL: ASTM A668, CLASS G

NOTES:

1. COORDINATE ALL DIMENSIONS, FITS, AND FINISHES WITH BEARING MANUFACTURER.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. BRODSKY	DESIGN BY: A. BRODSKY	CHECKED BY: G. FORREST
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

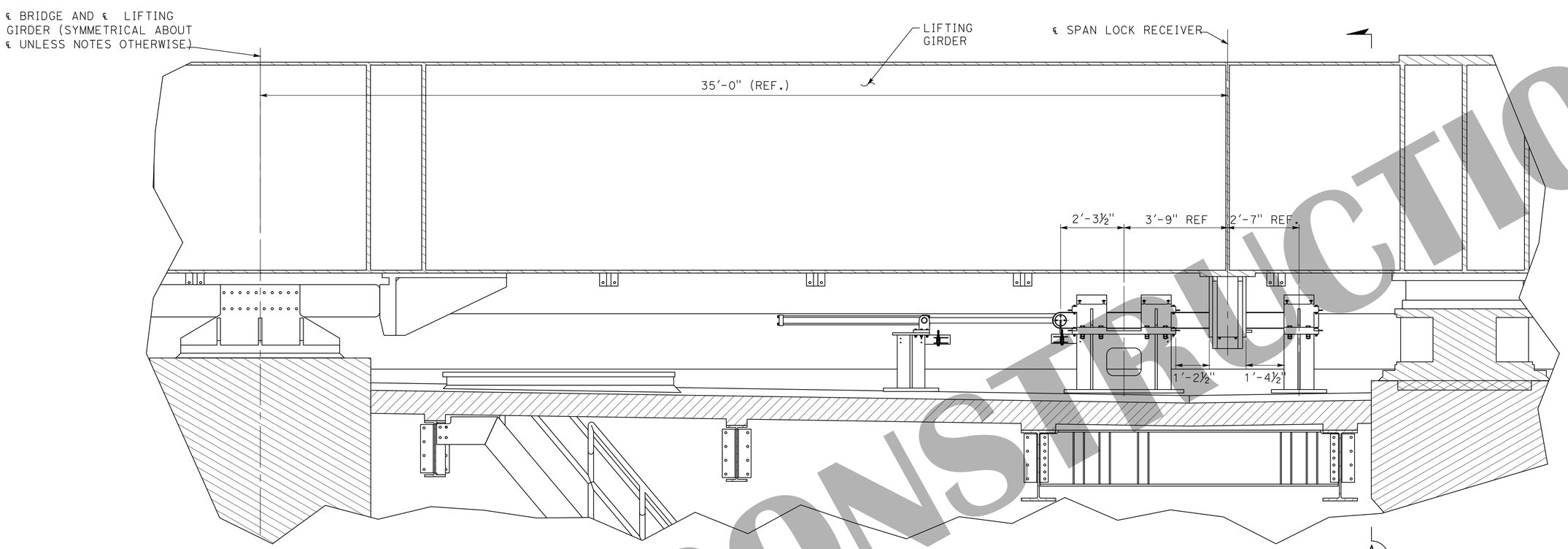
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38809
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIFTING GIRDER ROPE CONNECTION DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-031
SHT NO.: 522 OF 648

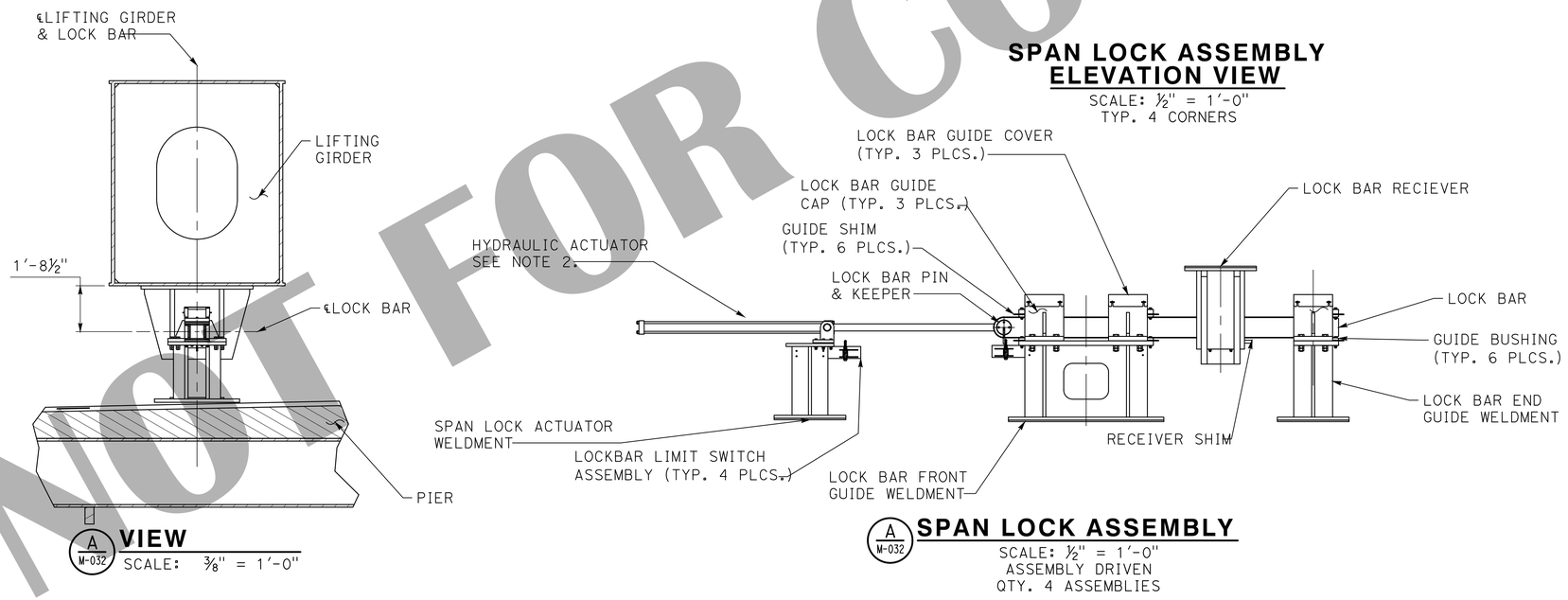
p:\3326.01\CADD\Mechanical\M-027A LIFTING GIRDER ROPE CONNECTION DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 2:01:30 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



SPAN LOCK ASSEMBLY ELEVATION VIEW

SCALE: ½" = 1'-0"
TYP. 4 CORNERS



A M-032 **VIEW**
SCALE: ⅜" = 1'-0"

A M-032 **SPAN LOCK ASSEMBLY**
SCALE: ½" = 1'-0"
ASSEMBLY DRIVEN
QTY. 4 ASSEMBLIES

NOTES:

1. ALIGN THE LOCK BAR ACTUATOR, LOCK BAR, AND GUIDES ON THE SPAN LOCK ASSEMBLY WELDMENT PRIOR TO INSTALLING ON THE BRIDGE AND ALIGNING WITH THE RECEIVER.
2. HYDRAULIC COMPONENT DETAILS ON SHEET M-35.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: G. LUMADUE DATE: 11/03/2025
DESIGN BY: G. LUMADUE DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

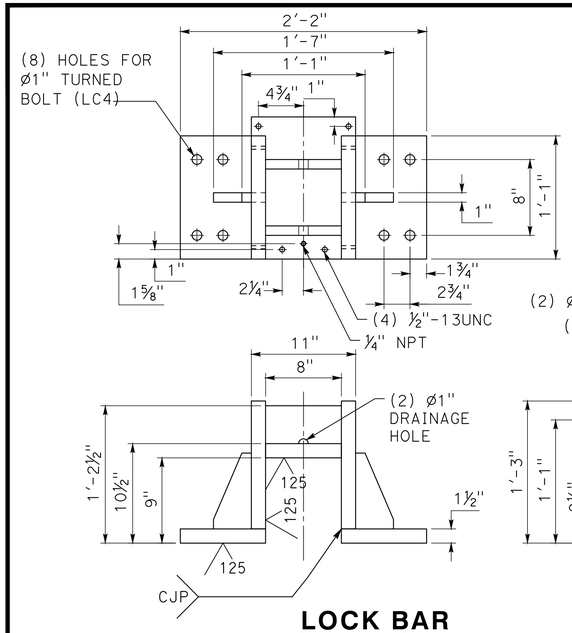
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICSBURG STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN LOCK ASSEMBLY
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-032
SHT NO.: 523 OF 648

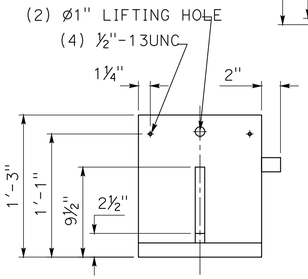
p:\3326.01\CADD\Mechanical\M-028 SPAN LOCK ASSEMBLY.dwg LAST PLOTTED: 11/3/2025 2:01:36 PM

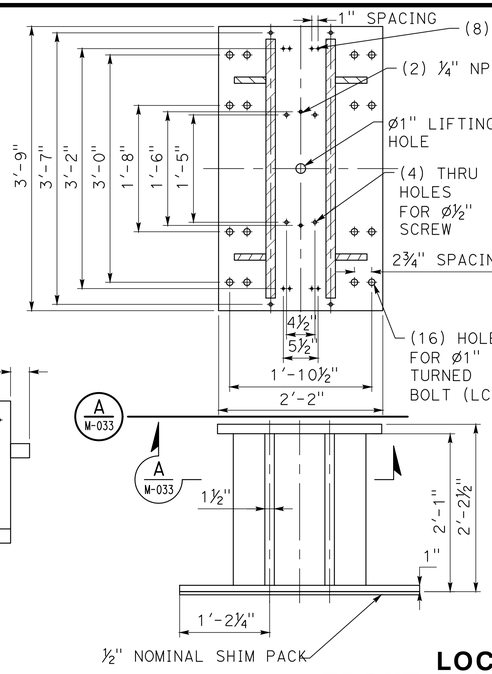
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

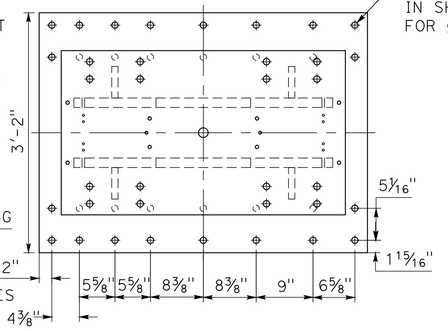


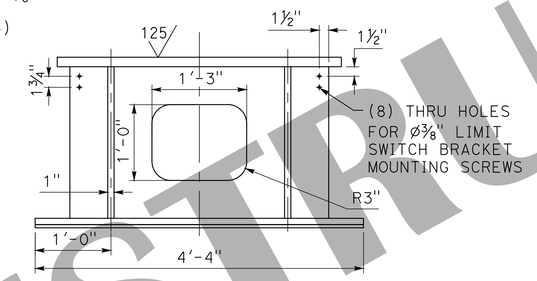
LOCK BAR GUIDE CAP

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 12





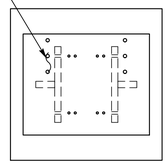


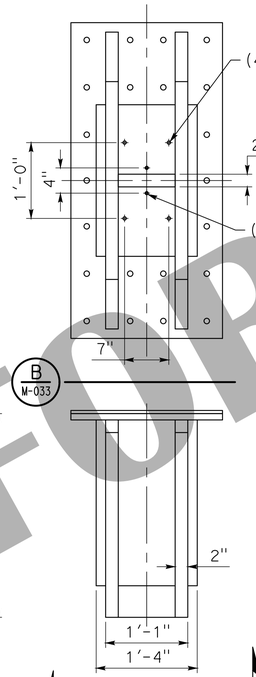


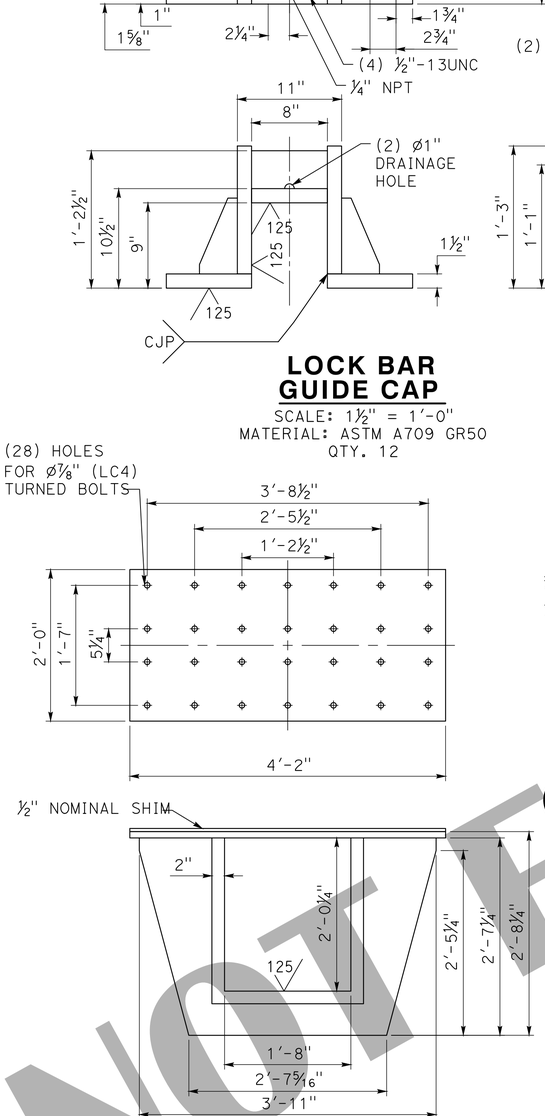
LOCK BAR FRONT GUIDE WELDMENT

SCALE: 1" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 4

BOLT PATTERN ON UPPER PLATE TO MATCH SUPPLIED SPAN LOCK HYDRAULIC CYLINDER/ACTUATOR MOUNT

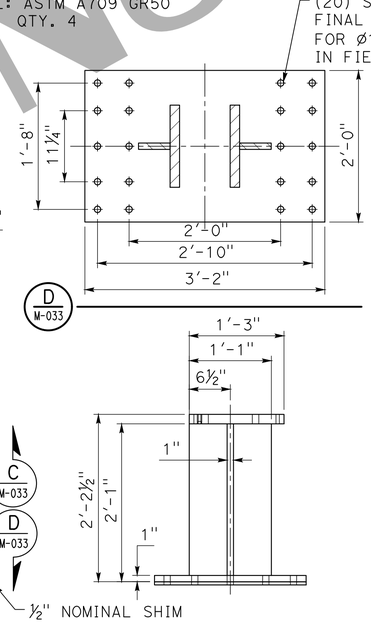






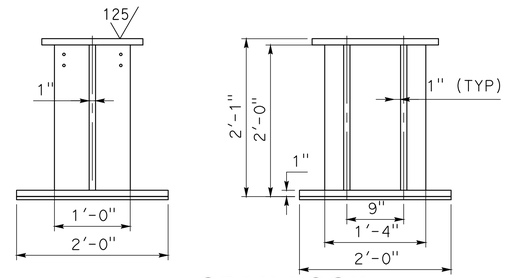
LOCKBAR RECEIVER ASSEMBLY

SCALE: 1" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 4



LOCK BAR END GUIDE WELDMENT

SCALE: 1" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 4



SPAN LOCK ACTUATOR WELDMENT

SCALE: 1" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 4

NOTES:

1. ALIGN THE LOCK BAR ACTUATOR, LOCK BAR, AND GUIDES ON THE SPAN LOCK ASSEMBLY WELDMENT PRIOR TO INSTALLING ON THE BRIDGE AND ALIGNING WITH THE RECEIVER.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: G. LUMADUE DATE: 11/03/2025
DESIGN BY: G. LUMADUE DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

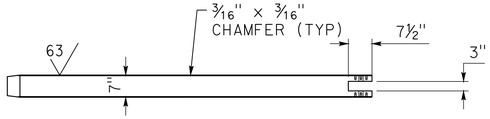
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

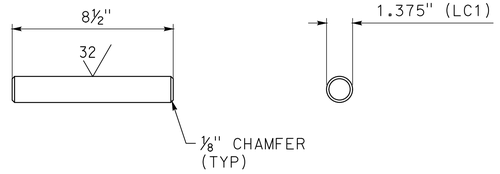
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN LOCK DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-033
SHT NO.: 524 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

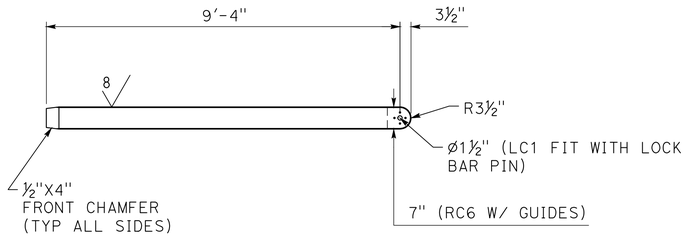
p:\3326.01\CADD\Mechanical\M-029 SPAN LOCK ASSEMBLY DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:01:41 PM





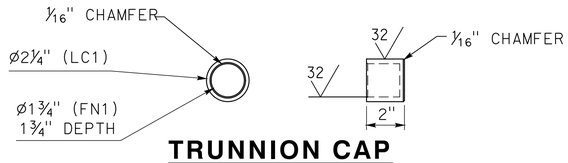
LOCK BAR PIN

SCALE: 6" = 1'-0"
MATERIAL: ASTM A668 CLASS L, 260 TO 302 BHN
QTY. 4



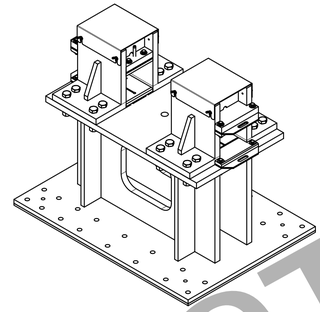
LOCK BAR

SCALE: 1" = 1'-0"
MATERIAL: ASTM A668 CLASS L
260 TO 302 BHN
QTY. 4



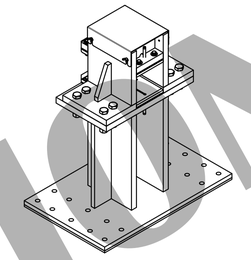
TRUNNION CAP

SCALE: 3" = 1'-0"
MATERIAL: ASTM A276 316SS
QTY. 8
PRIOR TO FABRICATION, VERIFY FITMENT WITH SPAN LOCK HYDRAULIC CYLINDER TRUNNION



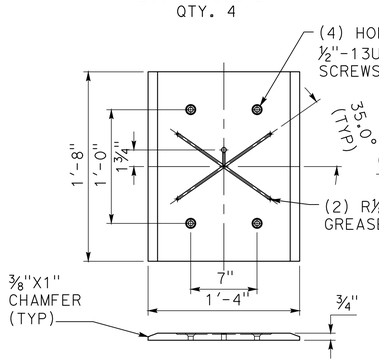
LOCK BAR FRONT GUIDE

SCALE: NTS
QTY. 4



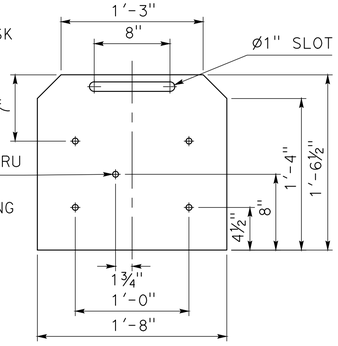
LOCK BAR END GUIDE

SCALE: NTS
QTY. 4



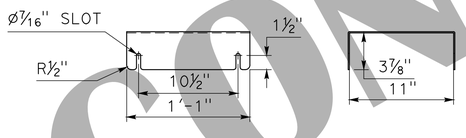
RECEIVER BUSHING

SCALE: 1½" = 1'-0"
MATERIAL: ASTM B148 C95800
BHN. 160 MAX
QTY. 4



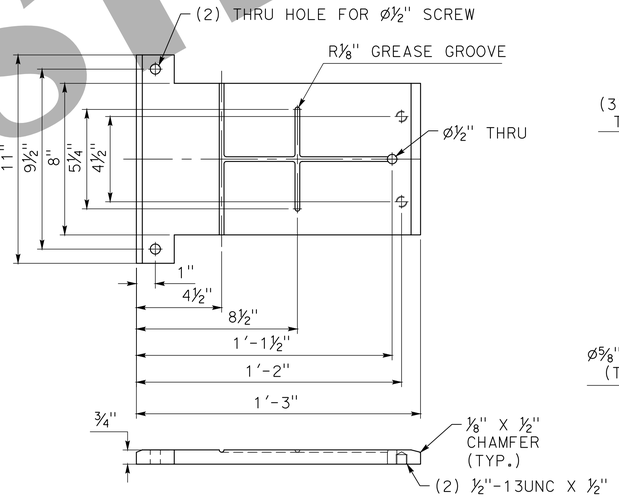
RECEIVER SHIM

SCALE: 1½" = 1'-0"
MATERIAL: A240 316 SS
QTY. 4 SHIM PACKS



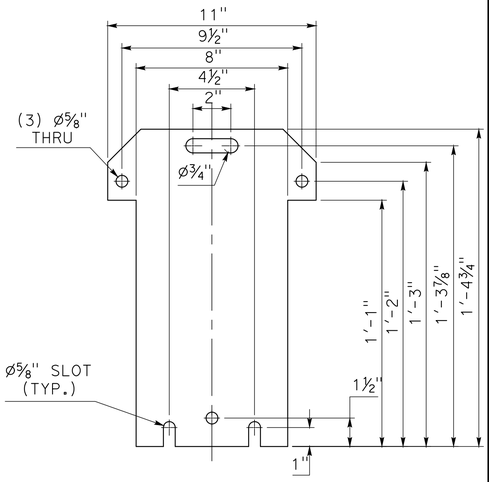
LOCK BAR GUIDE COVER

SCALE: 1½" = 1'-0"
MATERIAL: 14 GA. ASTM A240 316 SS
QTY. 12



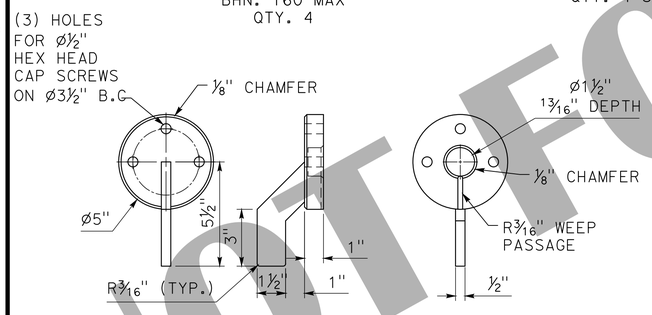
GUIDE BUSHING

SCALE: 3" = 1'-0"
MATERIAL: ASTM B148 C95800
BHN. 160 MAX
QTY. 24



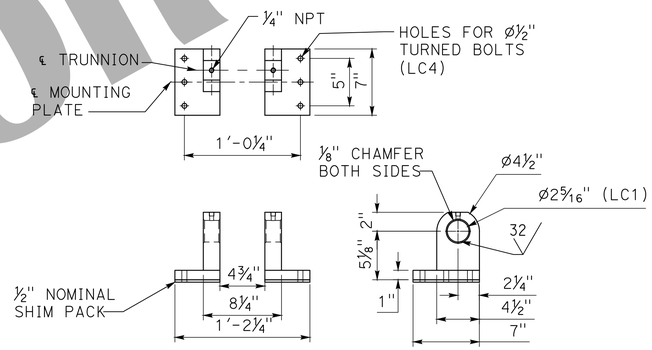
GUIDE SHIM

SCALE: 3" = 1'-0"
MATERIAL: ASTM A240 316SS
QTY. 24 SHIM PACKS



LOCKBAR PIN KEEPER

SCALE: 3" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 8



SPAN LOCK CYLINDER TRUNNION MOUNT

SCALE: 3" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 4 SETS

NOTES:

1. ALIGN THE LOCK BAR ACTUATOR, LOCK BAR, AND GUIDES ON THE SPAN LOCK ASSEMBLY WELDMENT PRIOR TO INSTALLING ON THE BRIDGE AND ALIGNING WITH THE RECEIVER.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

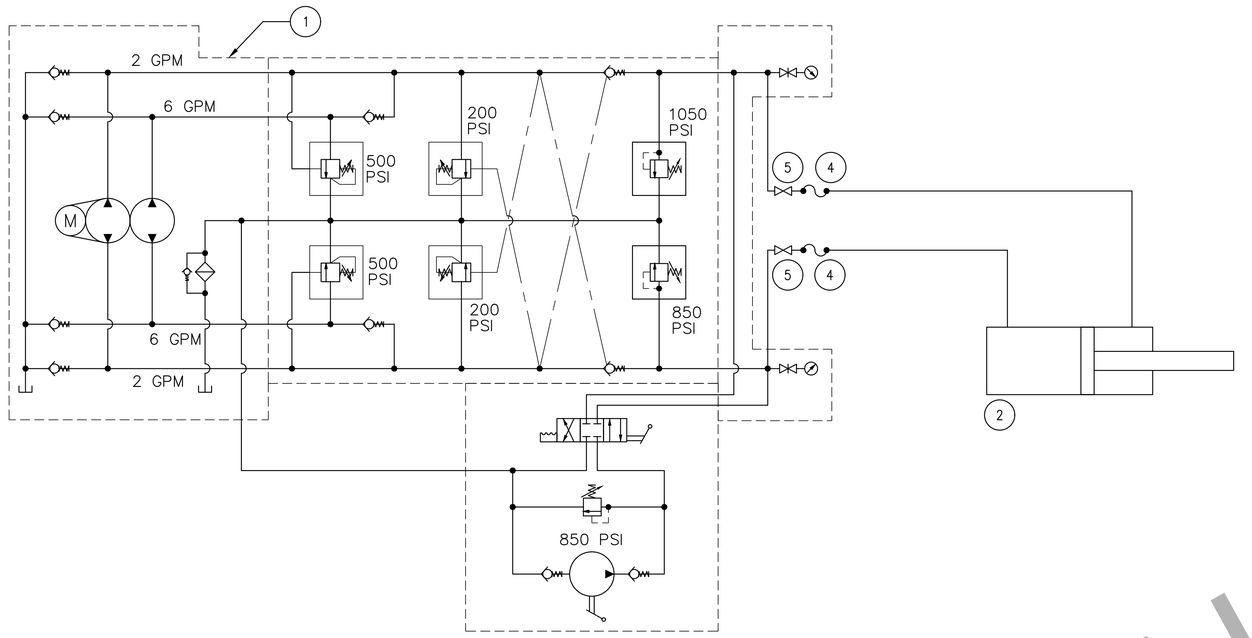
DRAWN BY: G. LUMADUE	DESIGN BY: G. LUMADUE	CHECKED BY: G. FORREST
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN LOCK DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-034
SHT NO.: 525 OF 648

p:\13326.01\CADD\Mechanical\M-030 SPAN LOCK ASSEMBLY DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 2:01:46 PM



SPAN LOCK HYDRAULIC CIRCUIT – BILL OF MATERIALS		
ITEM	QTY.	DESCRIPTION
1	4	SPAN LOCK HYDRAULIC POWER UNIT, EHM HILO BIRO POWER UNIT (HPV2DASS0000) OR APPROVED EQUAL WITH, 5HP, 8 GPM, 3000PSI, MAXIMUM SYSTEM PRESSURE SET AT 850PSI, MIN. 3 GALLON TANK, AUXILIARY HAND PUMP, STAINLESS STEEL DRIP PAN AND COVER, WITH PRESSURE GAUGES.
2	4	SPAN LOCK HYDRAULIC CYLINDER, MIKWAUKEE (H01532–71–2/4–7X58.5(52.5)–S) OR APPROVED EQUAL WITH, ROD END TRUNNION MOUNT, ø3¼" BORE WITH ø2" ROD, CUSHIONS ON BOTH ENDS, ø1⅜" ROD EYE END, 6" STOP TUBE.
3	200 FT**	SEAMLESS RIGID PIPE, TYPE 316L STAINLESS STEEL, 3000 PSI MINIMUM PRESSURE RATING
4	8	½" HOSE, STAINLESS STEEL END FITTINGS, 3000 PSI MINIMUM PRESSURE RATING
5	8	SHUT–OFF VALVE: BALL VALVE, QUARTER TURN; 5,000 PSI MAX PRESSURE, ALL STAINLESS STEEL CONSTRUCTION, SAE CODE 62 FLANGE, LOCKABLE HANDLE
6	4	SPAN LOCK HYDRALUIC POWER UNIT SUPPORT PEDESTAL; ASTM A709 GRADE 50W, ⅝" MIMIMUM PLATE THICKNESS, HEIGHT SUFFICIENT TO ALLOW FOR DRAINING FLUID FROM HPU (CONTRACTOR TO DESIGN SUPPORT AND SUBMIT FOR APPROVAL)

*QUANTITIES SHOWN ARE FOR THE COMPLETE SPAN LOCK SYSTEM
**ESTIMATED TOTAL LENGTH OF RIGID PIPE REQUIRED

NOT FOR CONSTRUCTION

SPAN LOCK HYDRAULICS:

HYDRAULIC POWER UNIT MANUFACTURER TO DETERMINE COMPONENT MODELS AND SIZES TO ENSURE THAT THE SYSTEM OPERATING PRESSURES CAN BE ACHIEVED WITH THE SELECTED MOTOR SIZE, AND THAT THE HIGH/LOW FLOW RATE FUNCTIONALITY CHARACTERISTIC OF THIS TYPE OF SYSTEM FUNCTIONS AS INTENDED. I.E., THE FLOW RATE IS HIGH AT LOW SYSTEM PRESSURES, AND THE FLOW RATE IS LOW AT HIGHER SYSTEM PRESSURES.

POWER UNITS:
PROVIDE 5 HP HYDRAULIC POWER UNIT (HPU) OF SIMPLE DESIGN AND SUBSTANTIAL CONSTRUCTION FOR OPERATION OF SPAN LOCK ASSEMBLIES. UNITS MUST BE OF HEAVY DUTY DESIGN, INTENDED TO WITHSTAND DIRECT RAIN AND OTHER EFFECTS OF A WET MARINE ENVIRONMENT. ARRANGE PARTS TO PERMIT EASY ERECTION, ADJUSTMENT, AND REPLACEMENT OF TYPICAL MAINTENANCE PARTS. ARRANGE PARTS TO PERMIT EASY ACCESS FOR INSPECTION, LUBRICATION, MAINTENANCE AND REPAIRS. PROVIDE FASTENERS ADEQUATE TO HOLD PARTS IN PLACE UNDER ALL CONDITIONS OF TRANSPORT AND SERVICE. MOUNT ALL PARTS, MOTORS, PUMPS, ETC., OVER A STAINLESS–STEEL DRIP PAN TO CONTAIN OIL SPILLS WHEN SERVICING OR REPLACING THE UNIT. DRIP PAN SHALL HAVE A MINIMUM VOLUME THAT CAN PREVENT THE LOSS OF OIL IN THE EVENT OF A RESERVOIR FAILURE. PROVIDE A STAINLESS STEEL COVER WITH LIFTING HANDLES THAT COVERS THE ENTIRE HPU AND DRIP PAN.

PROVIDE DUAL HYDRAULIC PUMPS WITH SINGLE INPUT DRIVE SHAFT. PUMPS MUST BE POSITIVE DISPLACEMENT TYPE, CAPABLE OF BI–DIRECTIONAL ROTATION. DO NOT USE SOLENOID VALVES TO CHANGE DIRECTION OF FLOW. PROVIDE PUMPS WITH THE FOLLOWING:

1. RATED FOR CONTINUOUS DUTY AT 3000 PSI OR HIGHER
2. MAXIMUM TOTAL DISPLACEMENT OF BOTH PUMPS AT 8 GPM
3. THE HIGH FLOW PUMP SHALL BE CAPABLE OF APPROXIMATELY 6 GPM AT 900PSI.
4. THE LOW FLOW PUMP SHALL BE CAPABLE OF APPROXIMATELY 2 GPM AT 3000PSI.
5. DRIVE PUMPS WITH A 1200RPM ELECTRIC MOTOR. ELECTRIC MOTOR SHALL BE TEFC WITH SEALS AND RAIN SHIELD TO PREVENT MOISTURE FROM ENTERING THE MOTOR.

THE POWER UNIT TO HAVE A 3–GALLON STAINLESS STEEL RESERVOIR WITH SIGHT GAUGE AND WATER REMOVAL BREATHER. FABRICATE RESERVOIR FROM ASTM A276 TYPE 316 – ¼" PLATE. THE RESERVOIR MUST BE SEALED AGAINST THE INGRESS OF WATER. PROVIDE TWO PRESSURE GAUGES CLEARLY VISIBLE FOR MAINTENANCE PURPOSES. GAUGES SHALL BE 2.5–INCH GLYCERIN FILLED TYPE IN STAINLESS STEEL HOUSING.

SUPPLY WITH A RETURN FILTER AND VISUAL CLOGGING INDICATOR. FILTER ELEMENTS MUST HAVE AT LEAST A 10–MICRON RATING OF BETA 10 = 200 OR BETTER. PROVIDE LOW LEVEL SHUT DOWN FLOAT SWITCH.

HYDRAULIC FLUID SHALL BE MINERAL OIL TYPE AW32.

VALVING:
PROVIDE ALL NECESSARY VALVING REQUIRED THAT WILL PROVIDE TWO STAGE HIGH/LOW SYSTEM PERFORMANCE IN BOTH DIRECTIONS OF PUMP ROTATION. SUPPLY ALL NECESSARY RELIEF, SEQUENCE, AND CHECK VALVES TO ALLOW AN INDEPENDENT MAXIMUM RELIEF SETTING PROTECTION IN EACH DIRECTION OF PUMP FLOW. VALVES SHOULD BE SCREW–IN CARTRIDGE TYPE ARRANGED IN A COMPACT ALUMINUM MANIFOLD.

VALVE STEM ADJUSTING SCREWS SHALL HAVE A STAINLESS STEEL CAP TO PROTECT THE ADJUSTING SCREW FROM CORROSION.

HAND PUMP:
PROVIDE AN AUXILIARY HYDRAULIC HAND PUMP FOR MANUAL OPERATION OF THE SPAN LOCK IN THE EVENT OF HYDRAULIC POWER UNIT FAILURE. HAND PUMP SHALL DELIVER 0.35 CUBIC INCHES OF FLUID PER STROKE, AND HAVE ITS OWN RELIEF VALVE SET AT 2000 PSI. HAND PUMP SHALL BE EQUIPPED WITH A FOUR–WAY DIRECTIONAL CONTROL VALVE SUCH THAT IT CAN CYCLE THE HYDRAULIC ACTUATOR IN BOTH DIRECTIONS.

PLUMBING AND FITTINGS:
USE MECHANICAL CONNECTIONS THAT INCORPORATE FKM O–RINGS AS THE PRIMARY PRESSURE SEALING COMPONENT. ALL EXPOSED FITTINGS AND TUBING SHALL BE 316 STAINLESS STEEL AND USE SAE STRAIGHT THREAD WITH O–RING. PIPE THREAD NPT TYPE FITTING CONNECTIONS ARE NOT ALLOWED. PROVIDE ½" FLEXIBLE HOSE WITH TYPE 316 STAINLESS STEEL ENDS OF THE PROPER SAE RATING, CONSISTENT WITH RATED WORKING PRESSURES OF 3000 PSI. USE FLEXIBLE HOSES BETWEEN THE HPU AND RIGID PIPING, AND ALSO AT EACH HYDRAULIC CYLINDER FROM THE RIGID PIPING. FLEXIBLE HOSES SHALL BE KEPT AS SHORT AS POSSIBLE AT THE HPU AND CYLDINERS. USE O–RING FACE SEAL (ORFS) TYPE FITTINGS FOR HPU CONNECTIONS AND CODE 62 FLANGE FOR ALL OTHER HOSE CONNECTIONS.

ALL RIGID LINES TO SPAN LOCK CYLINDERS TO BE 0.840" O.D. X 0.109" WALL THICKNESS, MINIMUM. ALL LINES SHALL BE SEAMLESS STAINLESS STEEL PIPE, TYPE 316L. ALL FITTINGS AND HOSE ENDS SHALL BE 316 STAINLESS STEEL. THE WORKING PRESSURE RATING OF ALL FITTINGS, PIPE AND HOSES SHALL BE 3000 PSI MINIMUM.

TWO RIGID LINES SHALL EXTEND FROM INSIDE THE WATCHMAN'S HOUSE AND PENETRATE DOWN THROUGH THE FLOOR OF THE HOUSE. THE RIGID LINES SHALL BE ROUTED ALONG AND ATTACHED TO THE SOUTH APPROACH END BEAM. RIGID LINES SHALL TEE AT THE EAST SPAN LOCK WITH LINES CONTINUING TO THE WEST SPAN LOCK ALONG THE SOUTH APPROACH END BEAM. LINES EXTENDING TO THE EAST AND WEST SPAN LOCKS SHALL BE ROUTED AS CLOSE TO THE UNDERSIDE OF THE DECK PLATE BUT SHALL NOT BE ATTACHED TO THE DECK PLATE. ALL MOUNTING BRACKETS AND HARDWARE FOR HYDRAULIC HOSES AND RIGID LINES SHALL BE 316 STAINLESS STEEL. SUBMIT ALL HYDRAULIC HOSE AND RIGID LINE ROUTING AND MOUNTING DETAILS TO THE ENGINEER FOR APPROVAL.

SUBMIT SHOP TEST PROCEDURE FOR COMPLETE SPAN LOCK ASSEMBLY TESTING WITH HPU TESTING IN BOTH DIRECTIONS. RECORD PRESSURES, MOTOR AMPERAGE, AND SPAN LOCK ASSEMBLY CYCLE TIMES. EACH SPAN LOCK ASSEMBLY SHALL BE OPERATED THROUGH NOT LESS THAN 6 CYCLES IN THE SHOP. ALL SHOP TESTING SHALL BE COMPLETED IN THE PRESENCE OF THE ENGINEER. DEMONSTRATE EMERGENCY OPERATION WITH AUXILIARY HAND PUMP CIRCUIT.

SPAN LOCK HYDRAULIC CYLINDERS:

PROVIDE HYDRAULIC CYLINDERS WITH ROD END TRUNNION MOUNT AS SHOWN IN THE PLANS. SUBMIT COMPLETE DETAILS AND CALCULATIONS FOR CYLINDER AND MOUNTING ARRANGEMENT AS DESCRIBED BELOW.

HYDRAULIC CYLINDERS SHALL BE ALL STAINLESS STEEL CONSTRUCTION. CYLINDERS SHALL BE OF HEAVY DUTY TIE ROD TYPE DESIGN CONFORMING TO AASHTO MOVABLE SPECIFICATIONS AND ASME B31.1. PROVIDE CYLINDERS' DESIGN RATED FOR A MINIMUM OF 3000 PSI. CYLINDERS SHALL HAVE 3¼"" BORE, AND 2" ROD DIAMETER AS INDICATED IN THE PLANS WITH SAE CODE 62 FOUR BOLT FLANGE FITTINGS WITH O–RING SEALS. SPAN LOCK CYLINDERS SHALL HAVE A 52½" STROKE. CYLINDERS TO HAVE ADJUSTABLE CUSHIONS AT BOTH ENDS. CYLINDER SHALL EXTEND AT A RATE OF 3.71 IN./SEC. AND RETRACT AT 5.98 IN./SEC..

DESIGN AND CONSTRUCT CYLINDER ACTUATOR PISTON RODS TO PROVIDE A MINIMUM FACTOR OF SAFETY OF 3.0 AGAINST BUCKLING PER AASHTO BUCKLING REQUIREMENTS. FACTORS OF SAFETY SHALL BE BASED ON A MAXIMUM WORKING PRESSURE EQUAL TO THE MAXIMUM PRESSURE PROTECTION SETTING AT THE CYLINDER RELIEF VALVES. PROVIDE PISTON RODS OF 17–4PH STAINLESS STEEL WITH CHROME PLATING.

ROD SEALS AND BEARINGS:
PROVIDE A SEALING SYSTEM THAT INCLUDES DYNAMIC SEALS CAPABLE OF NEAR ZERO LEAK AT BOTH LOW AND DYNAMIC HIGH PRESSURE. SUITABLE WEAR–RINGS OR GLAND BUSHINGS SHALL BE PROVIDED TO INSURE PROPER GUIDANCE OF THE ROD, TO INSURE ALIGNMENT, AND PROVIDE AMPLE BEARING AREA TO PREVENT SIDE–LOADING.

SHOP TEST THE HYDRAULIC CYLINDER TO 3000 PSI IN BOTH DIRECTIONS AND HOLD FOR 30 MINUTES. NO INTERNAL OR EXTERNAL LEAKAGE WILL BE ACCEPTED.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: G. LUMADUE	DESIGN BY: G. LUMADUE	CHECKED BY: G. FORREST
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

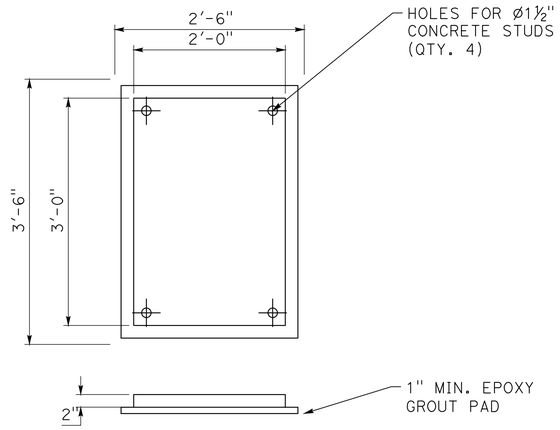
PROFESSIONAL ENGINEER — JEFFREY WM. NEWMAN — No. 38808 — Exp. 09-30-26 — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN LOCK HYDRAULICS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-035
SHT NO.: 526 OF 648

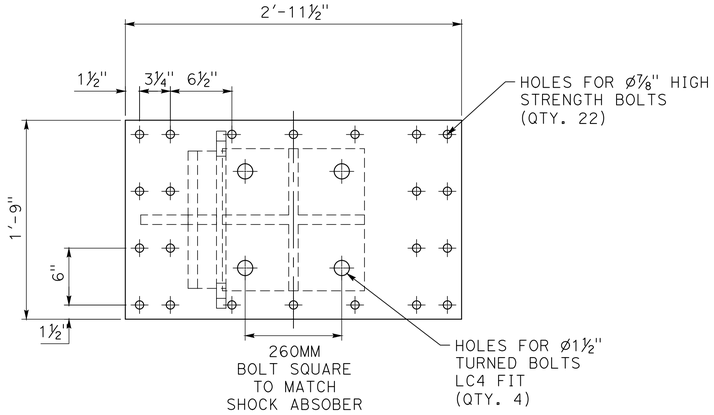
P:\3326.01\CADD\Mechanical\M-30A SPAN LOCK HYDRAULICS.dwg LAST PLOTTED: 11/3/2025 3:29:36 PM

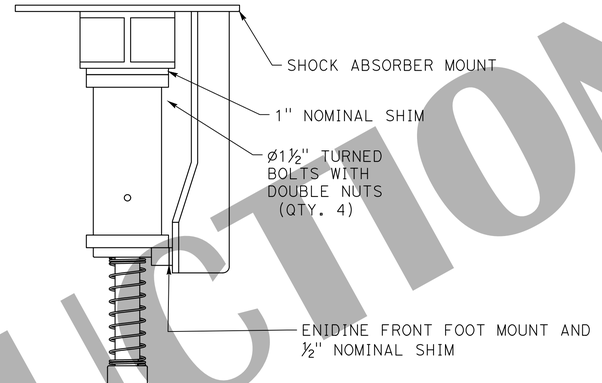
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



STRIKE PLATE WITH GROUT PAD

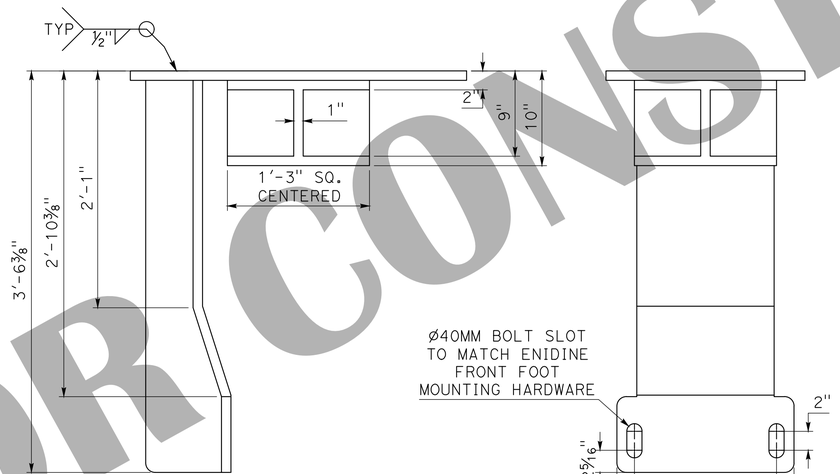
SCALE: 1" = 1'-0"
STRIKE PLATE MATERIAL: ASTM A709 GR50
TYPICAL OF ALL LOCATIONS (QTY. 4)

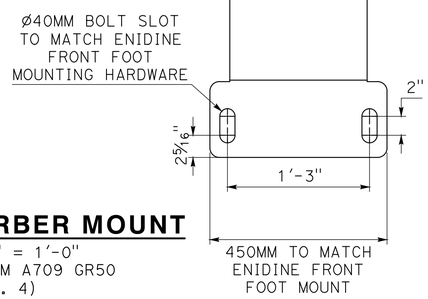




SHOCK ABSORBER

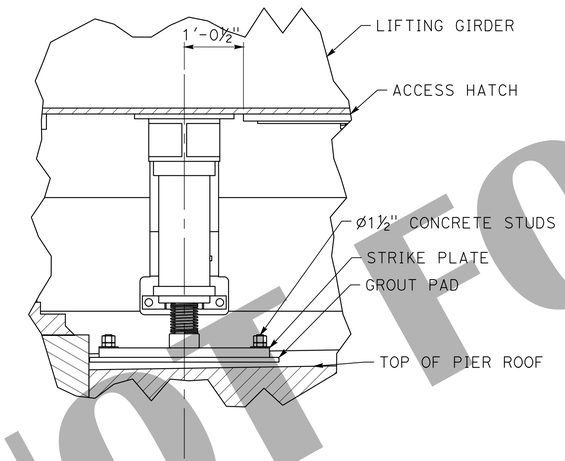
SCALE: 1" = 1'-0"
TYPICAL OF ALL LOCATIONS (QTY. 4)
SEE NOTE 3.





SHOCK ABSORBER MOUNT

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A709 GR50
(QTY. 4)



SHOCK ABSORBER INSTALLATION

SCALE: 3/4" = 1'-0"
SHOCK ABSORBER TO BE CENTERED ON MACHINERY ROOF I BEAM TYPICAL OF ALL LOCATIONS (QTY. 4)

NOTE:

1. ENSURE SUFFICIENT SHIM HEIGHT FOR EACH LOCATION. SHIMS SHALL HAVE SUFFICIENT VARYING THICKNESSES TO PROVIDE $\frac{1}{16}$" VARIATIONS.
2. SHOCK ABSORBERS ARE TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. LEAVE 1" RESERVE STROKE EXPOSED IN SPAN FULLY SEATED POSITION.
3. SHOCK ABSORBER SHALL BE ENIDINE HD 6.0 X 16 OR APPROVED EQUAL. IT SHALL HAVE A 16" STROKE AND BE RATED FOR 2,708,000 IN-LBS PER CYCLE, 37,465,000 IN-LBS PER HOUR, 202,250 LBS SHOCK FORCE, WITH 625 LBS RETURN FORCE, SAFTEY CABLE, AND TM MOUNTING STYLE (REAR FLANGE FRONT FOOT MOUNT). THE SHOCK ABSORBER SHALL HANDLE ROUTINE OPERATING CONDITIONS OF 6,175 KIP IMPACT WEIGHT, WITH 0.638 IN/SEC IMPACT VELOCITY AND 91,500 LBS OF PROPELLING FORCE. THE SHOCK ABSORBER SHALL ALSO BE RATED FOR AN IMPACT VELOCITY OF 6.375 IN/SEC.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: G. LUMADUE DATE: 11/03/2025
DESIGN BY: G. LUMADUE DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

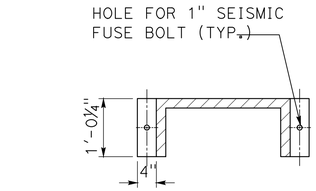
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICSBURG, STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SHOCK ABSORBERS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-036
SHT NO.: 527 OF 648

p:\3326.01\CADD\Mechanical\M-031 SHOCK ABSORBER.dwg LAST PLOTTED: 11/3/2025 2:01:55 PM

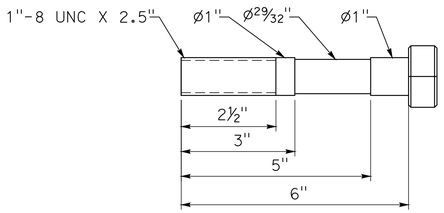
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



SEISMIC FUSE RAIL CONNECTION

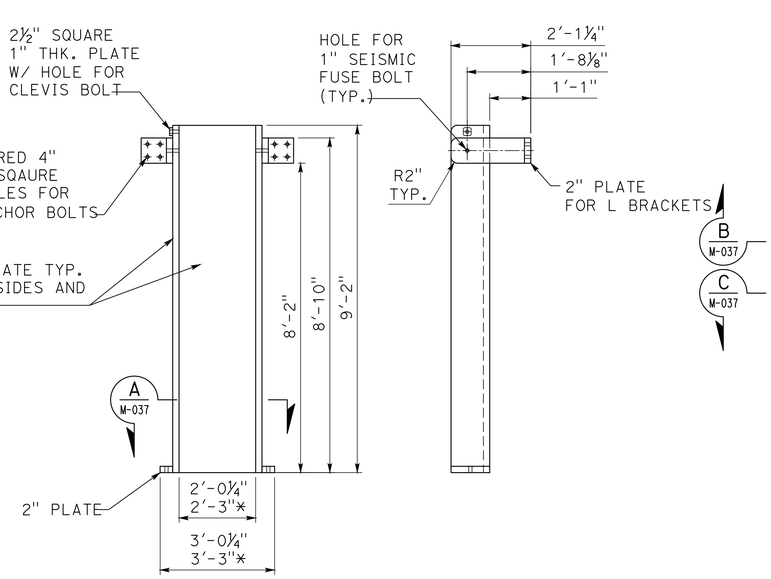
A / M-037

SCALE: ¾" = 1'-0"



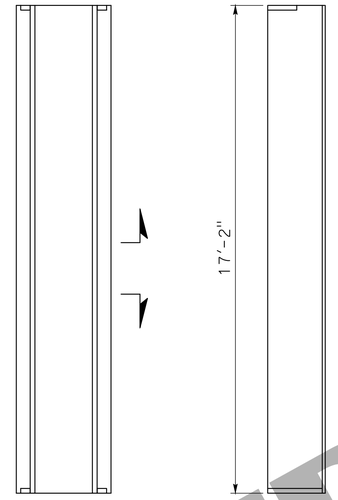
SEISMIC FUSE BOLT

SCALE: 6" = 1'-0"
MATERIAL: A325 BOLT BLANK
SEE NOTE 1



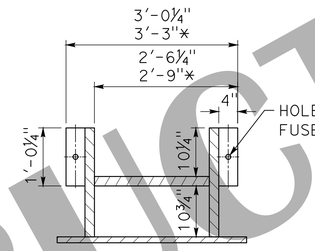
SEISMIC FUSE RAIL

SCALE: ½" = 1'-0"
MATERIAL: ASTM A36 2" THK.
QTY. 2 FIXED SIDE, 2 EXPANSION SIDE
*EXPANSION SIDE



UPPER GUIDE RAIL

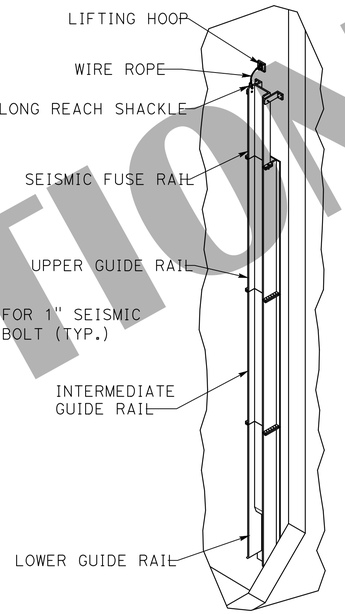
SCALE: ⅜" = 1'-0"
MATERIAL: ASTM A36
QTY. 2 FIXED SIDE, 2 EXPANSION SIDE
*EXPANSION SIDE



UPPER GUIDE RAIL CONNECTION

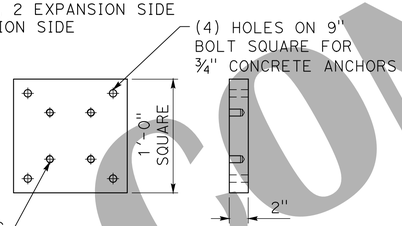
C / M-037

SCALE: ¾" = 1'-0"



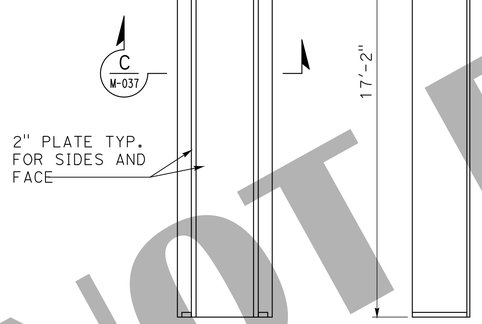
GUIDE RAIL ASSEMBLY

SCALE: ⅛" = 1'-0"
MATERIAL: ASTM A36
NE/SW SHOWN, NW/SE MIRRORED
QTY. 2 FIXED SIDE, 2 EXPANSION SIDE



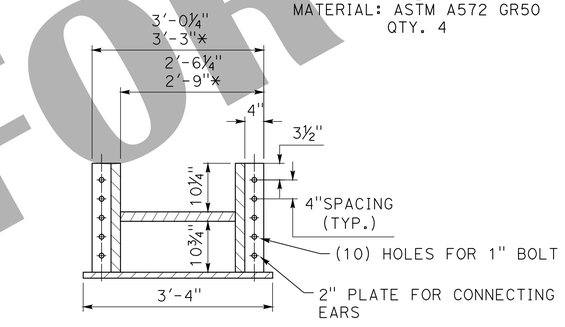
LIFTING HOOP MOUNTING PLATE

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A572 GR50
QTY. 4



INTERMEDIATE GUIDE RAIL

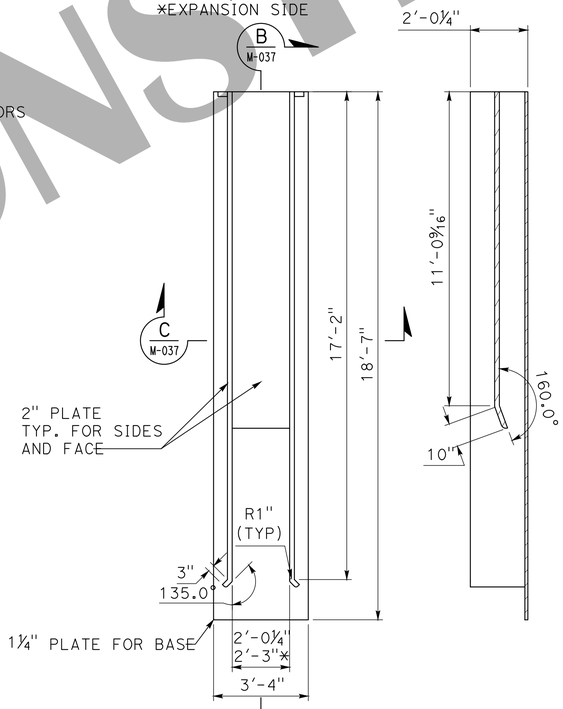
SCALE: ⅜" = 1'-0"
MATERIAL: ASTM A36
QTY. 2 FIXED SIDE, 2 EXPANSION SIDE
*EXPANSION SIDE



TYPICAL GUIDE RAIL CONNECTION

C / M-037

SCALE: ¾" = 1'-0"



LOWER GUIDE RAIL

SCALE: ⅜" = 1'-0"
MATERIAL: ASTM A36
QTY. 2 FIXED SIDE, 2 EXPANSION SIDE
*EXPANSION SIDE

LOWER GUIDE RAIL

B / M-037

SCALE: ⅜" = 1'-0"

NOTES:

1. A TOTAL OF 36 FUSE RAIL TURNED BOLTS SHALL BE FABRICATED ASSUMING TWO ROUNDS OF TESTING. 10 BOLTS SHALL BE TESTED TO FAILURE IN SHEAR. THE SHEAR LOAD-STRAIN CURVE AND ULTIMATE SHEAR LOAD SHALL BE RECORDED AND SUBMITTED TO THE ENGINEER FOR REVIEW. BOLT SHALL BREAK WITHIN REDUCED AREA AT A SHEAR LOAD OF 142-154KSI. REDUCED BOLT DIAMETER MAY NEED TO BE ADJUSTED PENDING RESULTS OF BREAK TEST.
2. EXPANSION SIDE GUIDE RAILS ON PIER 4 ARE 2¾" WIDER TO ALLOW FOR 4" MIN. LONGITUDINAL CLEARANCE DURING THERMAL EXPANSION.
3. INSTALL GUIDE RAILS PLUMB IN BOTH LONGITUDINAL AND TRANSVERSE DIRECTIONS. ROLLING SUFACES OF RAILS SHALL VARY NO MORE THAN 35/64 1/16" FOR FULL LENGTH OF RAILS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: G. LUMADUE DATE: 11/03/2025
DESIGN BY: G. LUMADUE DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

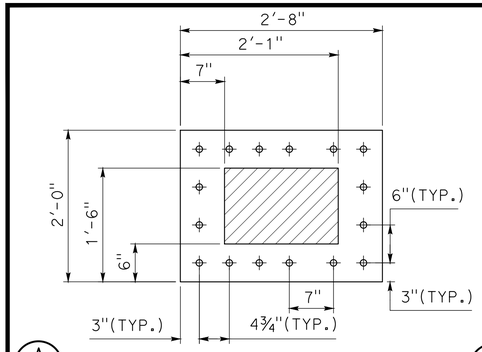
REGISTERED PROFESSIONAL ENGINEER — JEFFREY W. NEWMAN — No. 38975 — Exp. 09-30-26 — MECHANICSBURG — STATE OF CALIFORNIA — Date: 11/03/2025

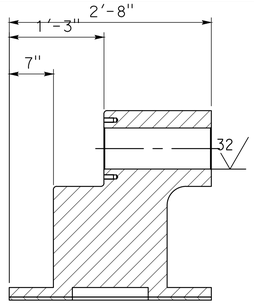
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN GUIDES
(Date: 11/03/2025)

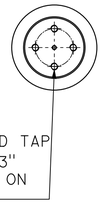
PN: T15136000
DWG NO.: M-037
SHT NO.: 528 OF 648

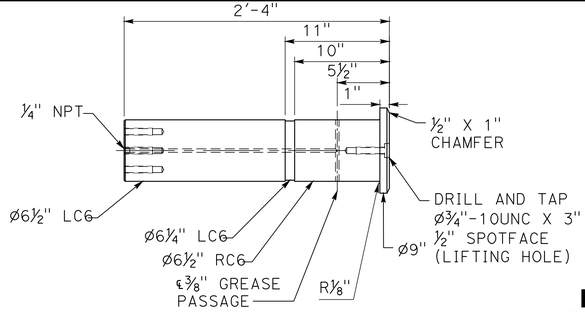
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-031A SPAN GUIDE DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:02:00 PM



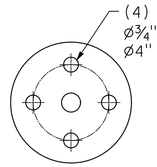






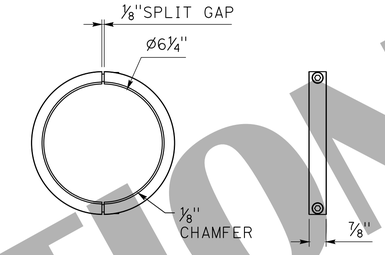
LONGITUDINAL TRUNNION

SCALE: 1½" = 1'-0"
MATERIAL: ASTM A668 CLASS E
QTY. 2



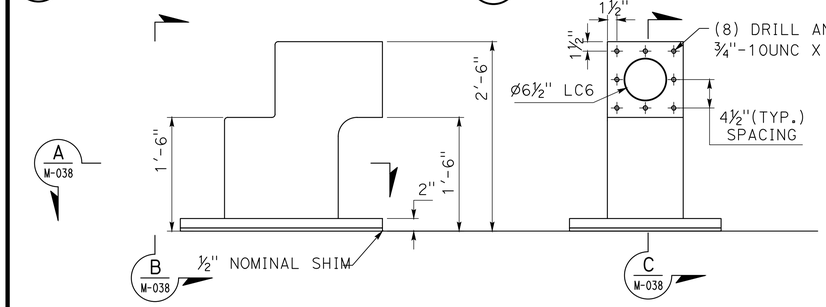
LONGITUDINAL TRUNNION SHIM

SCALE: 3" = 1'-0"
MATERIAL: A276 316 STAINLESS STEEL
QTY. 2
1" NOMINAL SHIM PACK



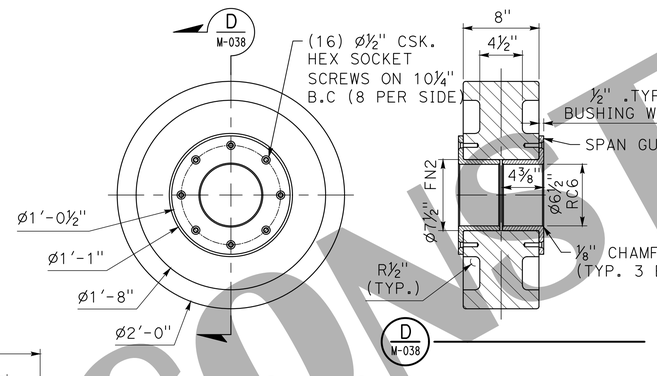
LONGITUDINAL THRUST COLLAR

SCALE: 3" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 2



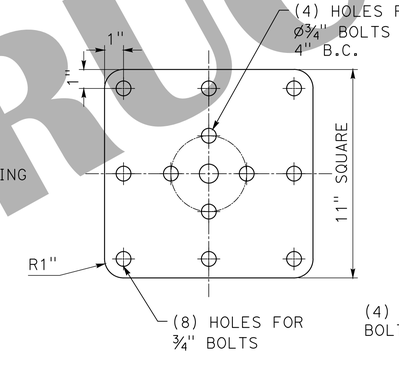
LONGITUDINAL GUIDE BASE

SCALE: 1" = 1'-0"
MATERIAL: ASTM A148 GR80-50
QTY. 2



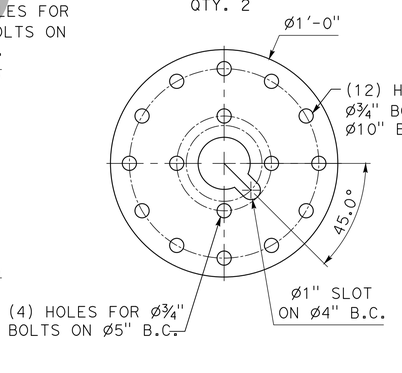
SPAN GUIDE ROLLER AND BUSHINGS

SCALE: 1½" = 1'-0"
ROLLER MATERIAL: ASTM A668 CLASS H
BUSHING MATERIAL: LUBRON SC30
QTY. 6 ASSEMBLIES



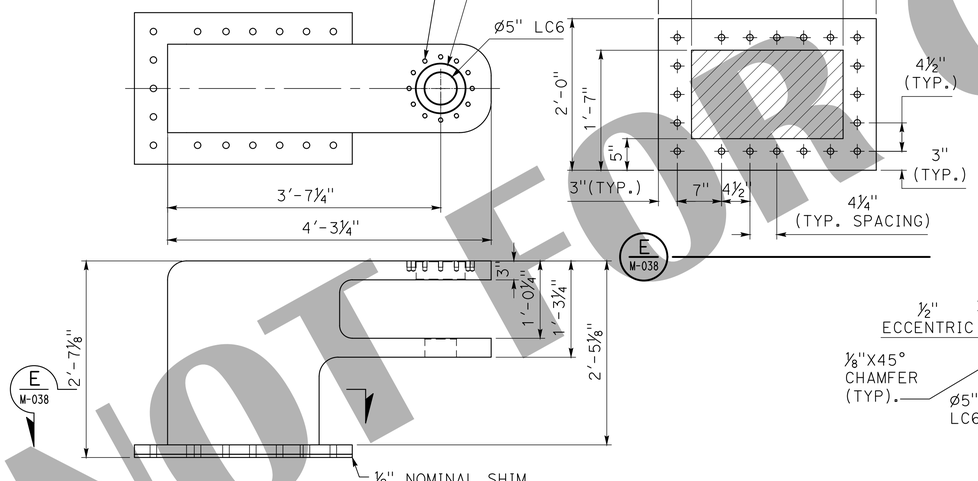
LONGITUDINAL TRUNNION PLATE

SCALE: 3" = 1'-0"
MATERIAL: ¾" ASTM A709, GR50
QTY. 2



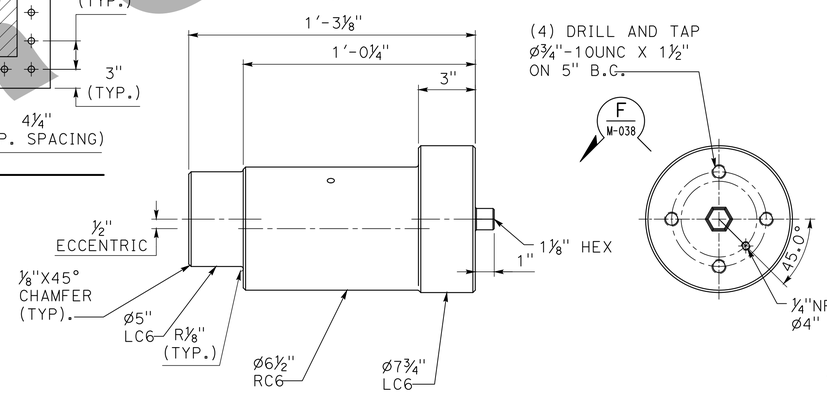
TRANSVERSE THRUST COLLAR

SCALE: 3" = 1'-0"
MATERIAL: ASTM A709 GR50
QTY. 4



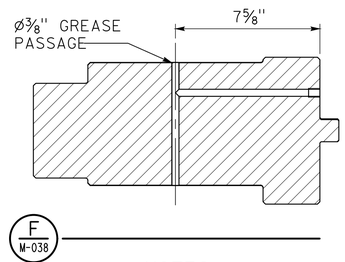
TRANSVERSE GUIDE BASE

SCALE: 1" = 1'-0"
MATERIAL: ASTM A 148 GR80-50
QTY. 4



TRANSVERSE TRUNNION

SCALE: 3" = 1'-0"
MATERIAL:ASTM A668 CLASS E
QTY. 4
SEE NOTE 1



TRANSVERSE TRUNNION PLATE

SCALE: 3" = 1'-0"
MATERIAL: ½" ASTM A709, GR50
QTY. 4

NOTES:

1. DURING ASSEMBLY ALL STEEL ON STEEL INTERFACES SHALL BE LUBRICATED WITH ANTI SEIZE TO ALLOW FOR MOVEMENT AND ADJUSTMENT IN THE FIELD.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: G. LUMADUE DATE: 11/03/2025
DESIGN BY: G. LUMADUE DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

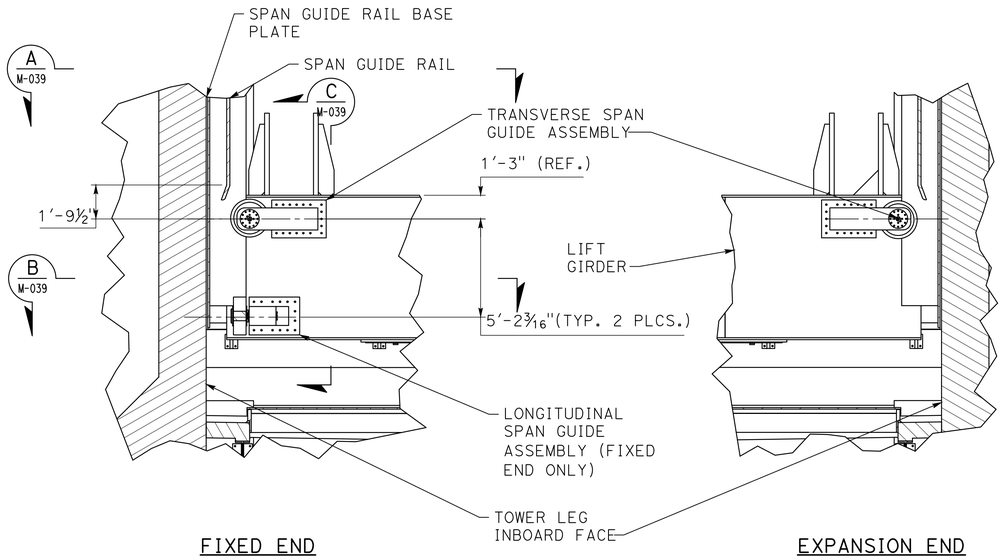
REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICS
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN GUIDES DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-038
SHT NO.: 529 OF 648

p:\3326.01\CADD\Mechanical\M-031B SPAN GUIDE DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 2:02:05 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

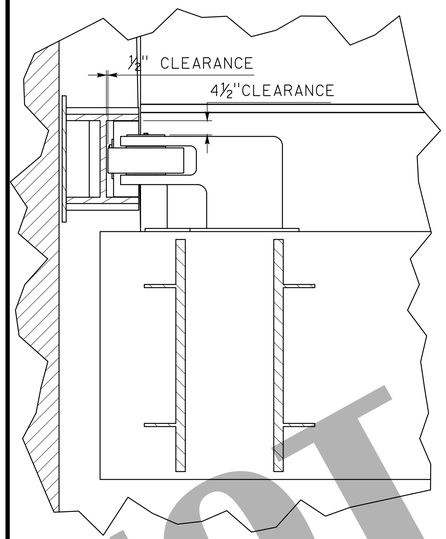


FIXED END (PIER 3)

EXPANSION END (PIER 4)

SPAN GUIDES GENERAL ELEVATION

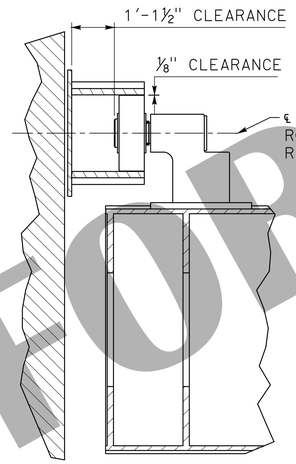
SCALE: ¼" = 1'-0"
COUNTERWEIGHT ROPE HITCH AND LIFT SPAN STRUCTURE NOT SHOWN FOR CLARITY. GUIDES SHALL BE INSTALLED ON THE OUTBOARD (APPROACH) SIDE OF THE LIFT GIRDERS.



SECTION TRANSVERSE GUIDE

A M-039

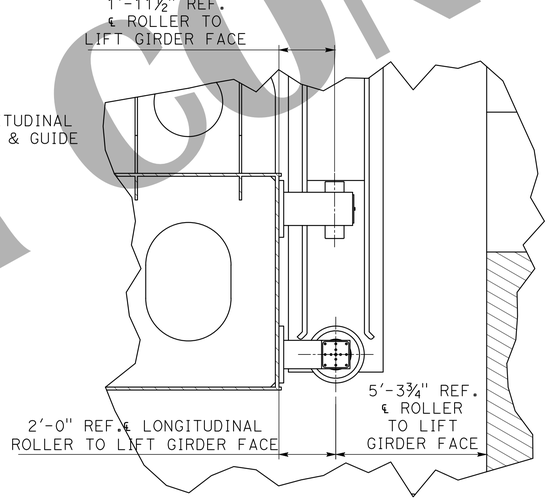
SCALE: ½" = 1'-0"
ALL DIMENSIONS ARE NOMINAL
SEE NOTE 2



SECTION LONGITUDINAL GUIDE

B M-039

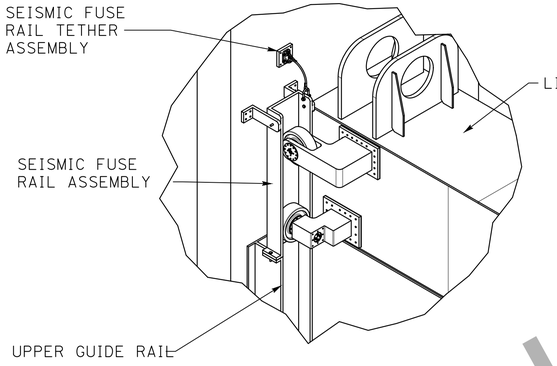
SCALE: ½" = 1'-0"
ALL DIMENSIONS ARE NOMINAL
SEE NOTE 2



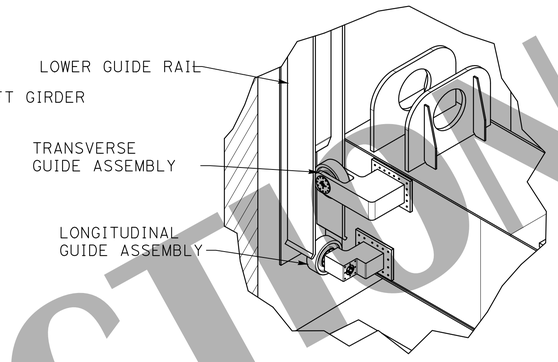
SECTION LONGITUDINAL GUIDE

C M-039

SCALE: ⅜" = 1'-0"
DIMENSIONS FOR REFRENCE ONLY



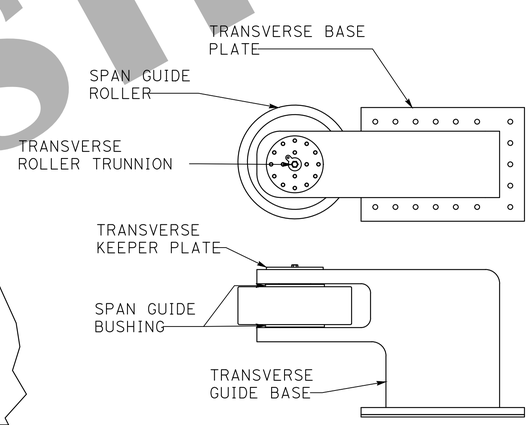
SPAN RAISED



SPAN SEATED

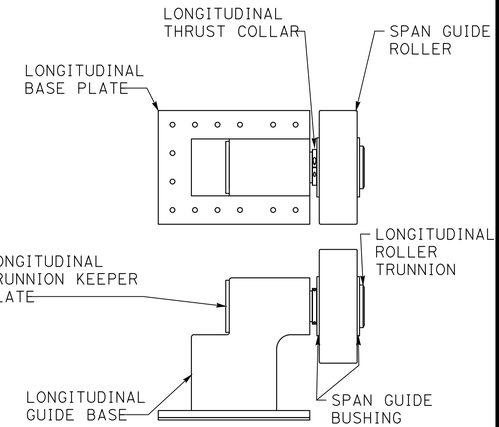
SPAN GUIDES ASSEMBLY VIEW

COUNTERWEIGHT ROPE HITCH AND LIFT SPAN STRUCTURE NOT SHOWN FOR CLARITY
FIXED END SHOWN



TRANSVERSE GUIDE ASSEMBLY

SCALE: ¾" = 1'-0"
TYPICAL OF ALL LOCATIONS
QTY. 4



LONGITUDINAL GUIDE ASSEMBLY

SCALE: ¾" = 1'-0"
TYPICAL OF ALL LOCATIONS
QTY. 2

NOTES:

1. SEE SHEET M01 FOR GENERAL REQUIREMENTS.
2. ADJUST ROLLER POSITION WITH THE LIFT SPAN IN THE SEATED POSITION TO ACHIEVE NOMINAL CLEARANCES WITH GUIDE RAILS. ADJUST LONGITUDINAL GUIDES USING SHIMS. ADJUST TRANSVERSE GUIDES USING ECCENTRIC ROLLER SHAFT. ROLLER CLEARANCES PROVIDED ARE AT AMBIENT TEMPERATURE (70°F).
3. SPAN GUIDE RAIL SHALL BE INSTALLED CENTERED WITH THE SPAN GUIDE ROLLERS

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: G. LUMADUE DATE: 11/03/2025
DESIGN BY: G. LUMADUE DATE: 11/03/2025
CHECKED BY: G. FORREST DATE: 11/03/2025

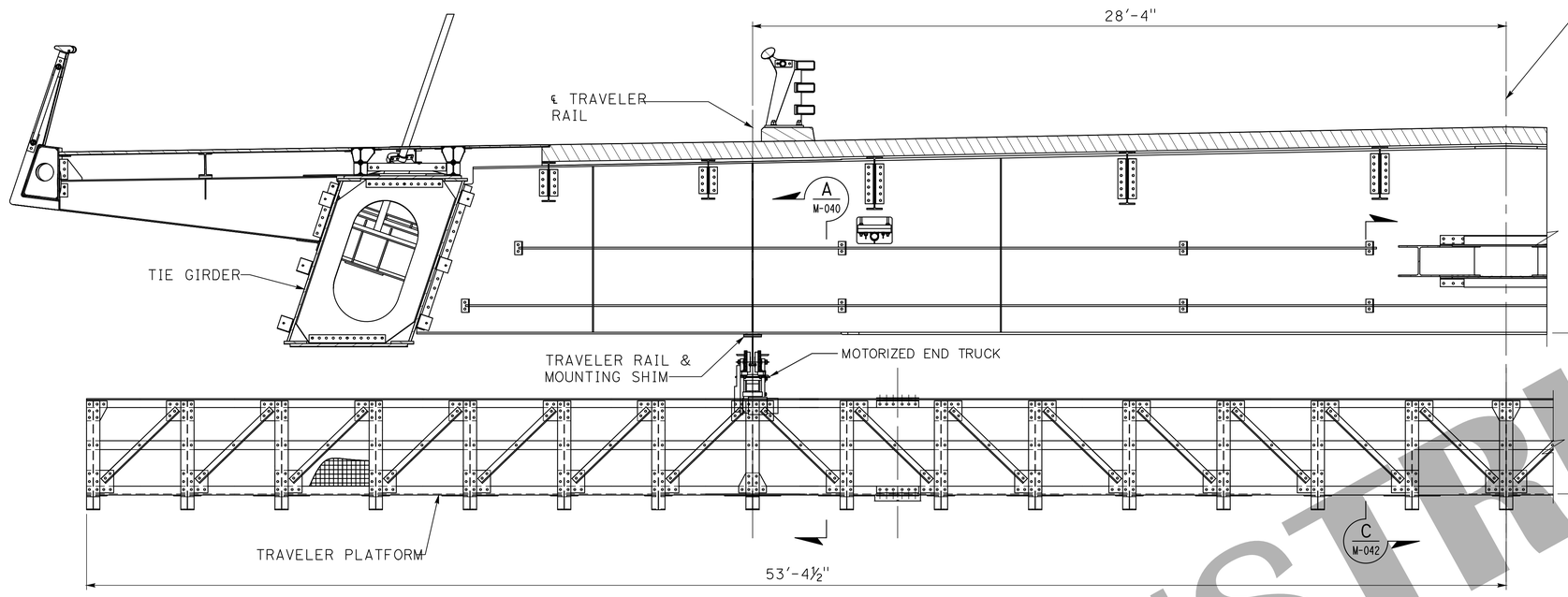
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SPAN GUIDES DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-039
SHT NO.: 530 OF 648

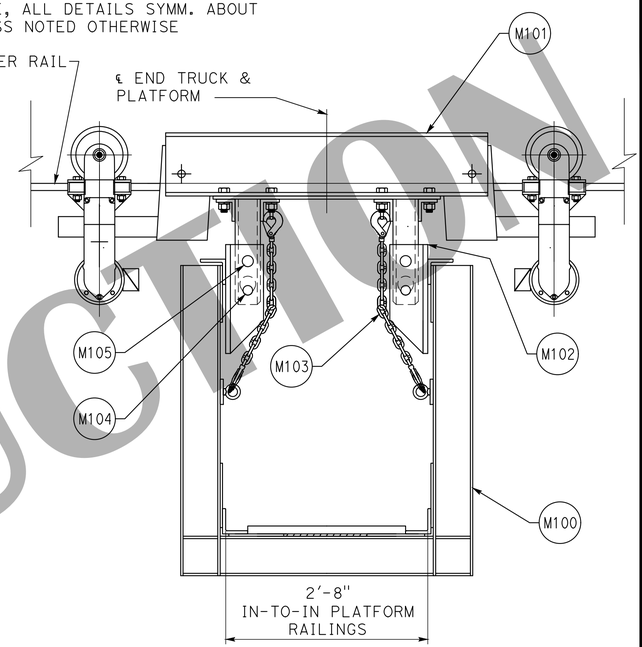
p:\3326.01\CADD\Mechanical\M-032 SPAN GUIDES.dwg LAST PLOTTED: 11/3/2025 2:02:14 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

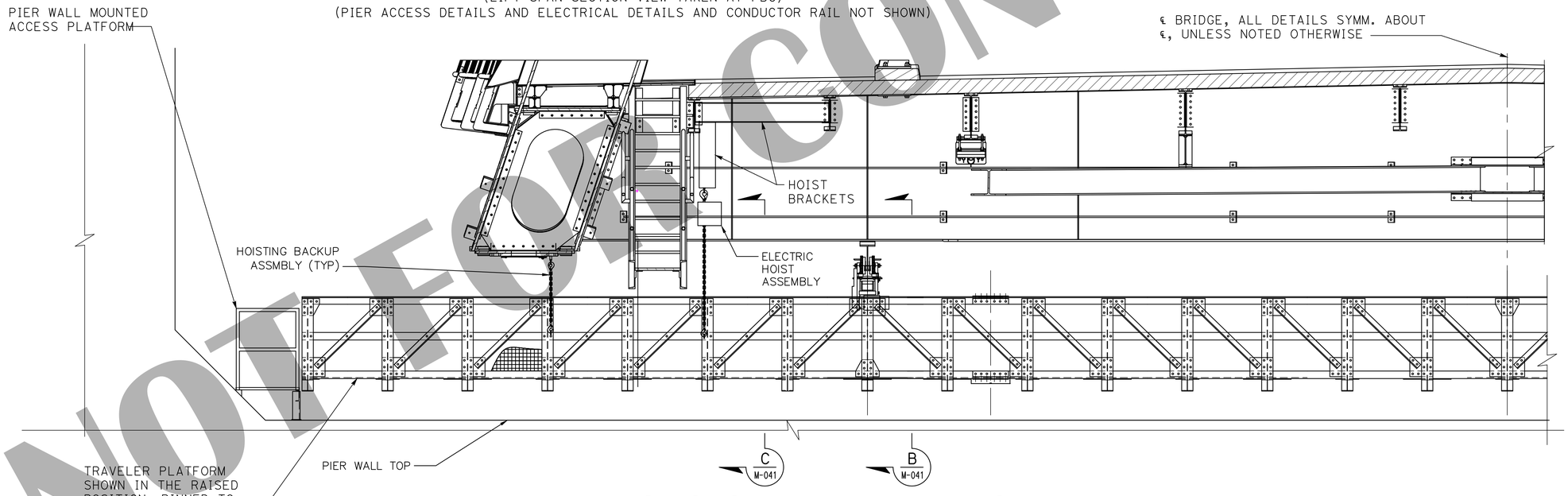


INSPECTION TRAVELER ELEVATION

SCALE: ⅜″ = 1′-0″
(LIFT SPAN SECTION VIEW TAKEN AT FB6)
(PIER ACCESS DETAILS AND ELECTRICAL DETAILS AND CONDUCTOR RAIL NOT SHOWN)



A M-040 **SECTION**
SCALE 1″ = 1′-0″



INSPECTION TRAVELER ELEVATION

SCALE: ⅜″ = 1′-0″
(LIFT SPAN SECTION VIEW TAKEN ABOVE THE PIER WALL TRAVELER STORAGE LOCATION)
(PIER RAILINGS, ACCESS, ELECTRICAL DETAILS, AND CONDUCTOR RAIL NOT SHOWN FOR CLARITY)

NOTES:

1. DETAILS ON THIS SHEET ARE ONLY CONCEPTUAL. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS TO DESIGN AND DETAIL THE TRAVELER SYSTEM. SUBMIT COMPLETE DESIGN CALCULATIONS, MANUFACTURER RECOMMENDATIONS, SHOP DRAWINGS, INSTALLATION PROCEDURES, AND TRAINING DETAILS AND PROCEDURES SIGNED AND SEALED BY STRUCTURAL, MECHANICAL, AND ELECTRICAL PROFESSIONAL ENGINEERS REGISTERED IN THE STATE OF CALIFORNIA, TO THE ENGINEER FOR REVIEW AND APPROVAL.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. MILLER DATE: 11/03/2025
DESIGN BY: T. MILLER DATE: 11/03/2025
CHECKED BY: A. BRODSKY DATE: 11/03/2025

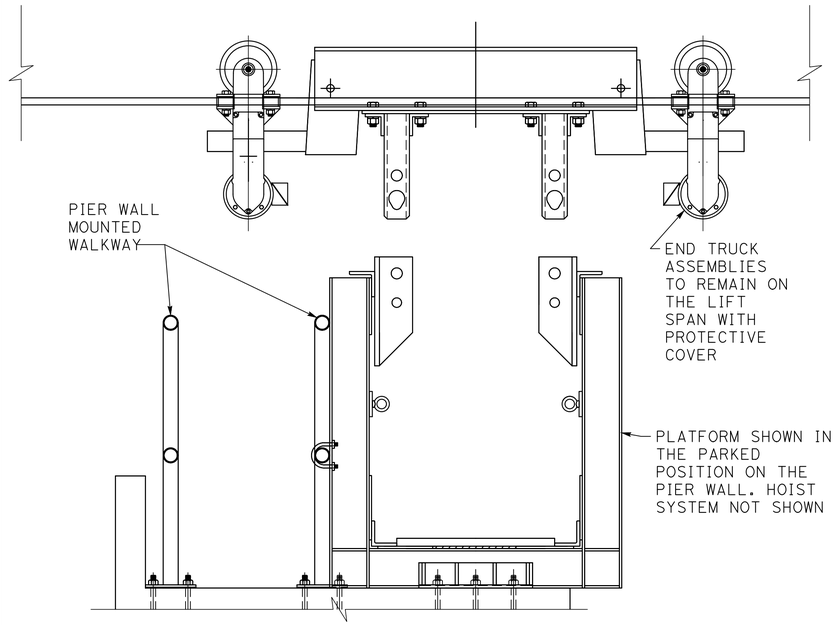
REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: M-040
SHT NO.: 531 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Mechanical\M-034 INSPECTION TRAVELER DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:02:26 PM



B / M-040 **INSPECTION TRAVELER PIER TRANSFER**

SCALE: 1" = 1'-0"

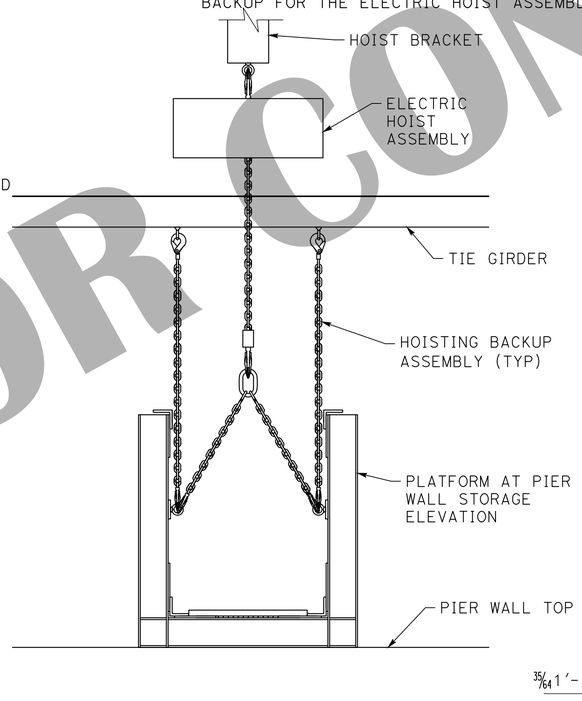
(TRAVELER PLATFORM SHOWN IN THE PIER WALL STORAGE LOCATION)

CONCEPTUAL PLATFORM LIFTING AND CONNECTING PROCEDURE:

1. THE CONTRACTOR SHALL DEVELOP FINAL PROCEDURES AS PART OF THE DESIGN AND SUBMIT FOR REVIEW AND APPROVAL.
2. ENSURE THAT VERTICAL LIFT SPAN DRIVE MACHINERY IS LOCKED AND TAGGED OUT OF SERVICE.
3. CONNECT HOISTING BACKUP ASSEMBLY BETWEEN THE PLATFORM AND THE TIE GIRDER (4 PLACES).
4. CONNECT THE ELECTRIC HOIST ASSEMBLIES TO THE PLATFORM (2 PLACES).
5. DISCONNECT THE SYSTEM THAT SECURES THE PLATFORM TO THE PIER AND PIER RAILING (NOT SHOWN).
6. ENSURE THAT THE END TRUCKS ARE LOCATED DIRECTLY ABOVE THE PLATFORM AT THE PROPER LOCATION.
7. PLUG IN THE ELECTRIC HOIST POWER CABLES TO OUTLETS ON THE PIER WALL (NOT SHOWN).
8. RAISE THE PLATFORM SIMULTANEOUSLY AND EVENLY WITH THE TWO ELECTRIC HOISTS (REQUIRES TWO PEOPLE STANDING ON THE PIER). DO NOT STAND ON THE PLATFORM WHILE HOISTING.
9. ONCE THE PLATFORM IS RAISED, CONNECT THE SECONDARY HANGER ASSEMBLIES TO THE END TRUCKS (4 PLACES).
10. ALIGN THE BORES FOR ALL FOUR ALIGNMENT PINS IN THE PLATFORM HANGER ASSEMBLIES. RAISE THE PLATFORM UP AND DOWN AS NECESSARY WITH THE ELECTRIC HOISTS TO ALIGN THE PINS. INSERT AND SECURE THE ALIGNMENT PINS (4 PLACES).
11. WITH THE ALIGNMENT PINS INSTALLED, SLOWLY AND EVENLY LOWER THE ELECTRIC HOISTS TO LOAD THE ALIGNMENT PINS. THIS WILL BRING THE MAIN PIN BORES INTO PROPER ALIGNMENT. INSTALL AND SECURE THE MAIN PINS. MAIN PINS, ALIGNMENT PINS, AND SECONDARY HANGER ASSEMBLIES SHOULD ALL BE INSTALLED AT EACH END OF EACH END TRUCK (4 PLACES). TRAINED PERSONNEL TO INSPECT AND ENSURE ALL PROPER CONNECTIONS HAVE BEEN COMPLETED.
12. RELEASE ALL LOAD FROM THE ELECTRIC HOISTS TO TRANSFER THE PLATFORM DEAD LOAD ONTO THE END TRUCKS.
13. ENSURE NO LOAD REMAINS IN THE ELECTRIC HOISTS AND DISCONNECT THEM FROM THE PLATFORM. SECURE THE ELECTRIC HOIST HOOKS TO THE LIFT SPAN ABOVE THE PLATFORM RAILINGS (CONNECTION LOCATIONS NOT SHOWN).
14. DISCONNECT THE HOISTING BACKUP ASSEMBLIES AND STORE ON THE PLATFORM.
15. PLUG IN ELECTRICAL AND CONTROL CABLE CONNECTIONS BETWEEN THE PLATFORM AND THE END TRUCKS.
16. TURN ON THE ELECTRICAL DISCONNECT SWITCH AND PROCEED WITH TRAVELER MOVEMENT ALONG THE UNDERSIDE OF THE LIFT SPAN.

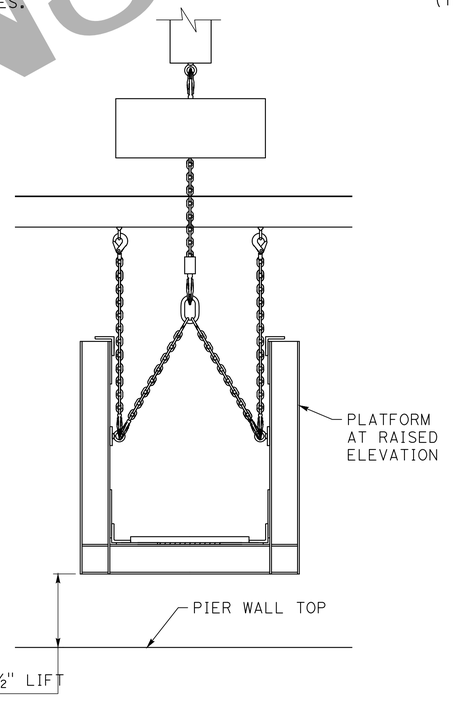
NOTES:

1. DETAILS ON THIS SHEET ARE ONLY CONCEPTUAL. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS TO DESIGN AND DETAIL THE TRAVELER SYSTEM. SUBMIT COMPLETE DESIGN CALCULATIONS, MANUFACTURER RECOMMENDATIONS, SHOP DRAWINGS, INSTALLATION PROCEDURES, AND TRAINING DETAILS AND PROCEDURES SIGNED AND SEALED BY STRUCTURAL, MECHANICAL, AND ELECTRICAL PROFESSIONAL ENGINEERS REGISTERED IN THE STATE OF CALIFORNIA, TO THE ENGINEER FOR REVIEW AND APPROVAL.
2. LOCKED-OUT & TAGGED-OUT THE LIFT SPAN OPERATING MACHINERY BEFORE CONNECTING, HOISTING, ASSEMBLING, AND USING THE TRAVELER.
3. PERSONNEL SHALL NOT RIDE ON THE PLATFORM WHILE HOISTING THE PLATFORM. IN THE PLATFORM RAISED POSITION, ALL FOUR SECONDARY HANGER ASSEMBLIES SHALL BE CONNECTED TO THE END TRUCKS BEFORE PERSONNEL WALK ONTO OR OFF OF THE PLATFORM DURING ASSEMBLY. THE SECONDARY HANGER ASSEMBLIES SHALL BE CONNECTED AND/OR DISCONNECTED BY PERSONNEL STANDING ON THE PIER. WITH ALL FOUR SECONDARY HANGER ASSEMBLIES CONNECTED TO THE END TRUCKS, MINOR VERTICAL HOISTING MOVEMENTS OF THE PLATFORM ARE PERMITTED, WITH A MAXIMUM OF 2 PERSONS ONBOARD, IN ORDER TO ALIGN AND INSTALL THE MAIN AND ALIGNMENT PINS. PLATFORM FALL PROTECTION ANCHORS SHALL NOT BE USED UNLESS ALL FOUR SECONDARY HANGER ASSEMBLIES ARE CONNECTED TO THE END TRUCKS.
4. THE PLATFORM SHALL NOT BE HOISTED OR OPERATED IN WINDS IN EXCESS OF 20 MILES PER HOUR. A PORTABLE ANEMOMETER SHALL BE STORED ON THE TRAVELER WITH A BRACKET TO BE TEMPORARILY MOUNTED ON THE PLATFORM DURING USE. THE CONTRACTOR SHALL PROCURE AND INSTALL THE ANEMOMETER AND MOUNTING BRACKET.
5. THE CONTRACTOR SHALL DEVELOP AN EMERGENCY ACTION PLAN AND INCLUDE IT IN THE OPERATIONS AND MAINTENANCE MANUAL. REFER TO THE SPECIAL PROVISIONS FOR MORE DETAILS.
6. REFER TO THE SPECIAL PROVISIONS FOR REQUIRED WARNING AND CAPACITY SIGNS TO BE MOUNTED ON THE TRAVELER AND PIER.
7. THE TRAVELER SHALL BE HOISTED, CONNECTED, AND OPERATED ONLY BY PERSONS WHO HAVE BEEN TRAINED AND ARE PROFICIENT IN THE OPERATION, SAFE USE, AND INSPECTION OF THE TRAVELER AND HOIST COMPONENTS.
8. A COMPETENT PERSON SHALL CONDUCT A VISUAL INSPECTION OF ALL TRAVELER AND HOIST COMPONENTS PRIOR TO ASSEMBLING AND OPERATING THE TRAVELER. CONDUCT A TEST LIFT OF THE PLATFORM A FEW INCHES TO ENSURE THAT IT IS BALANCED.
9. PROVIDE MANUAL HOIST ASSEMBLIES AND PROCEDURES TO USE AS A BACKUP FOR THE ELECTRIC HOIST ASSEMBLIES.



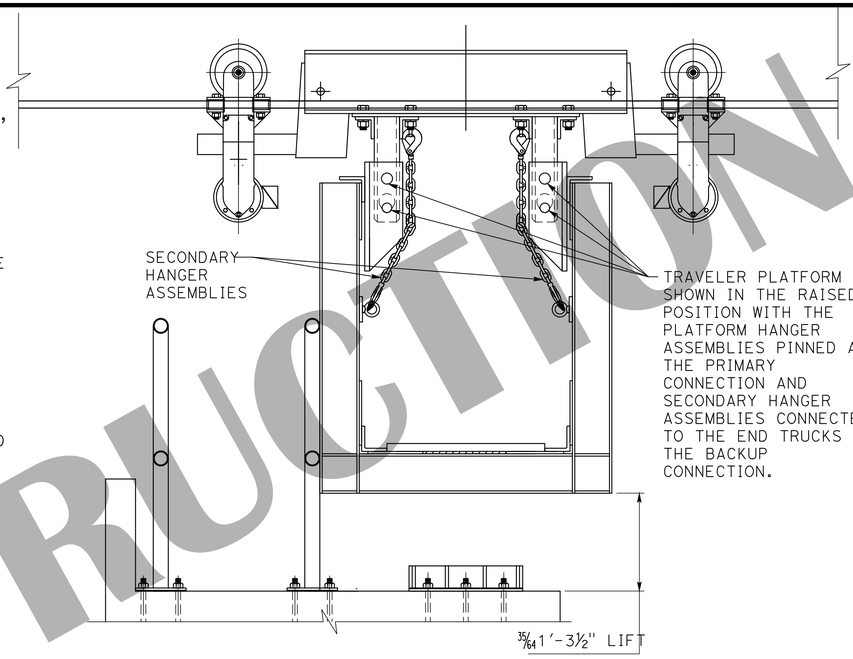
C / M-040 **SECTION**

SCALE 3/4" = 1'-0"



C / M-040 **SECTION**

SCALE 3/4" = 1'-0"



B / M-040 **INSPECTION TRAVELER PIER TRANSFER**

SCALE: 1" = 1'-0"

(TRAVELER PLATFORM SHOWN IN THE RAISED & PINNED POSITION, SECURED TO THE END TRUCKS)

PLATFORM DISCONNECTING AND LOWERING PROCEDURE:

1. THE CONTRACTOR SHALL DEVELOP FINAL PROCEDURES AS PART OF THE DESIGN AND SUBMIT FOR REVIEW AND APPROVAL.
2. PARK THE END TRUCKS AT THE LOCATION DIRECTLY BELOW THE ELECTRIC HOISTS AND DIRECTLY ABOVE THE PIER SEATED POSITION.
3. TURN OFF THE PLATFORM ELECTRICAL DISCONNECT SWITCH. DISCONNECT ELECTRICAL AND CONTROL CABLE CONNECTIONS BETWEEN THE PLATFORM AND THE END TRUCKS.
4. CONNECT HOISTING BACKUP ASSEMBLIES BETWEEN THE PLATFORM AND THE TIE GIRDER EYE BOLTS (4 PLACES).
5. CONNECT THE ELECTRIC HOIST ASSEMBLIES TO THE PLATFORM (2 PLACES).
6. ENSURE THAT THE END TRUCKS ARE DIRECTLY ABOVE THE PLATFORM PARKED POSITION ON THE PIER.
7. PLUG IN THE ELECTRIC HOIST POWER CABLES TO OUTLETS ON THE PIER (NOT SHOWN).
8. REMOVE THE MAIN PINS (4 PLACES). OPERATE THE TWO ELECTRIC HOISTS SIMULTANEOUSLY AND EVENLY WITH SMALL MOVEMENTS, IF NECESSARY, TO UNLOAD THE MAIN PINS (REQUIRES TWO PEOPLE). AVOID PLACING THE END TRUCK HANGERS INTO COMPRESSION WITH THE ELECTRIC HOISTS.
9. OPERATE THE ELECTRIC HOISTS FURTHER, IF NECESSARY, TO UNLOAD AND REMOVE THE ALIGNMENT PINS (4 PLACES).
10. WITH ALL PLATFORM DEAD LOAD TRANSFERRED TO THE ELECTRIC HOISTS, REMOVE THE SECONDARY HANGER ASSEMBLIES FROM THE END TRUCKS (4 PLACES).
11. LOWER THE ELECTRIC HOISTS SIMULTANEOUSLY AND EVENLY TO TRANSFER THE PLATFORM ONTO THE PIER.
12. ENSURE NO LOAD REMAINS IN THE ELECTRIC HOISTS AND DISCONNECT FROM THE PLATFORM. SECURE THE ELECTRIC HOIST HOOKS TO THE LIFT SPAN (CONNECTION LOCATIONS NOT SHOWN). INSTALL END TRUCK PROTECTIVE COVERS (NOT SHOWN).
13. CONNECT THE PLATFORM SECURING SYSTEM TO THE PIER (NOT SHOWN).
14. REMOVE THE HOISTING BACKUP ASSEMBLIES.
15. LOCK OUT ELECTRICAL COMPONENTS FROM UNAPPROVED USE.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. MILLER	DESIGN BY: T. MILLER	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JEFFREY W. NEWMAN No. 38975 Exp. 09-30-26 MECHANICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 2
(Date: 11/03/2025)

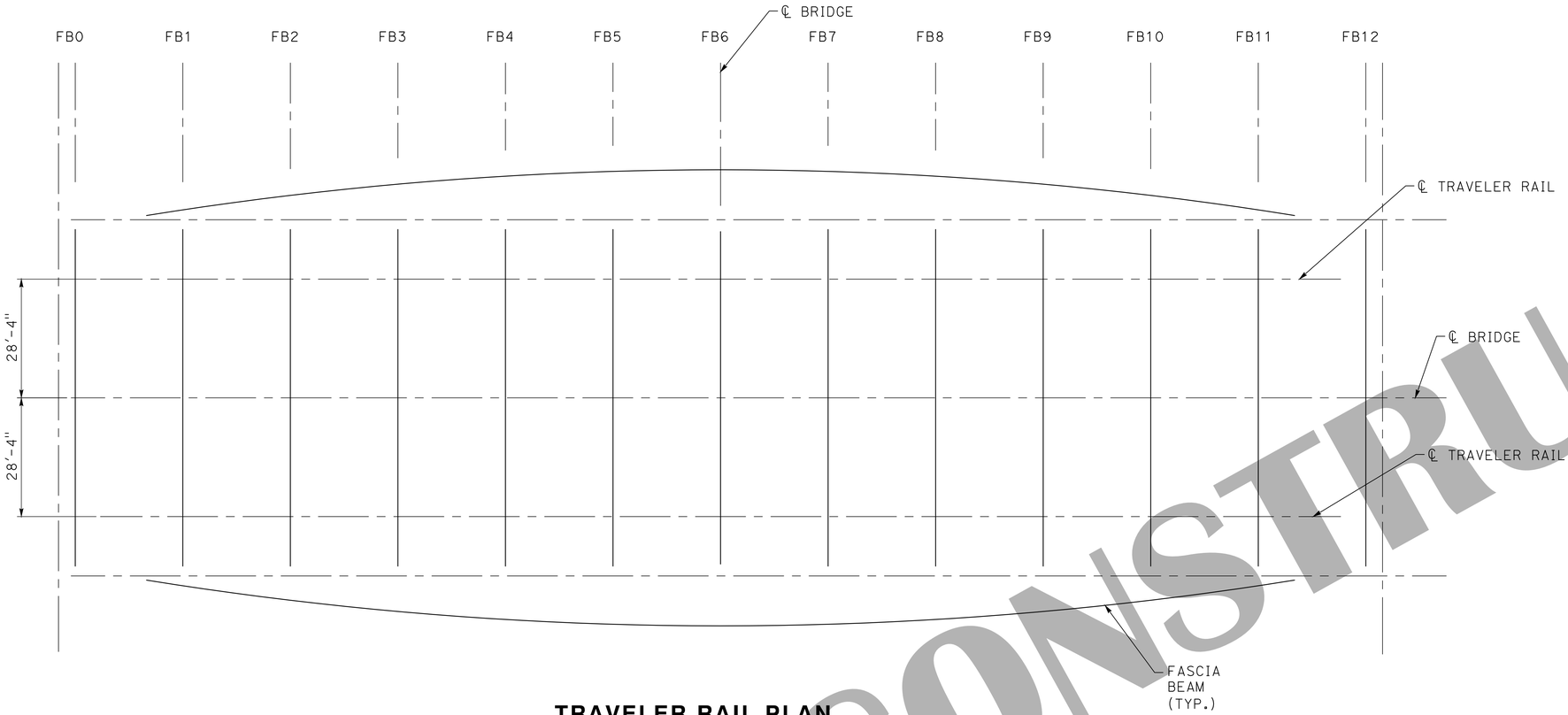
PN: T15136000

DWG NO.: M-041

SHT NO.: 532 OF 648

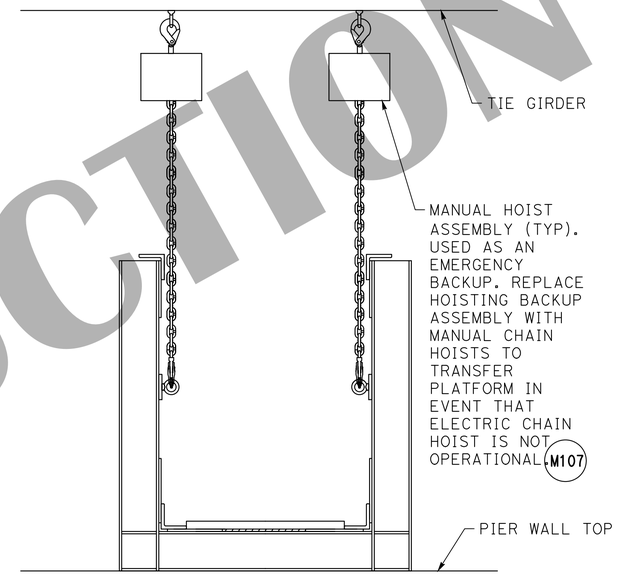
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

\\mmdc10\Projects\3326.01\CADD\Mechanical\M-035 INSPECTION TRAVELER DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 3:32:02 PM



TRAVELER RAIL PLAN

SCALE: 1/16" = 1'-0"



C / M-040 SECTION

SCALE 1" = 1'-0"

TRAVELER MACHINERY SCHEDULE		
ITEM NO.	QTY.	DESCRIPTION
M100	1	TRAVELER PLATFORM
M101	2	MOTORIZED END TRUCK ASSEMBLY, WITH MOTOR BRAKES AND MANUAL RELEASE LEVERS, WITH REAR SHAFT EXTENSION FOR MANUAL BACKUP HAND CRANK OPERATION, WITH HAND CRANKS, WITH REAR SHAFT COVER PLATE, WITH CUSTOM REINFORCING PLATES FOR PLATFORM HANGER CONNECTIONS
M102	4	PLATFORM HANGER ASSEMBLY
M103	4	SECONDARY HANGER ASSEMBLY
M104	4	ALIGNMENT PIN ASSEMBLY
M105	4	MAIN PIN ASSEMBLY
M106	2	ELECTRIC HOIST ASSEMBLY TO TRANSFER PLATFORM FROM THE PIER TO THE MOTORIZED END TRUCKS
M107	4	HOISTING BACKUP ASSEMBLY
M108	4	BACKUP MANUAL HOIST ASSEMBLY TO BE LEFT IN STORAGE AT THE BRIDGE AS A TEMPORARY BACKUP TO ELECTRIC CHAIN HOISTS

NOTES:

1. DETAILS ON THIS SHEET ARE ONLY CONCEPTUAL. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS TO DESIGN AND DETAIL THE TRAVELER SYSTEM. SUBMIT COMPLETE DESIGN CALCULATIONS, MANUFACTURER RECOMMENDATIONS, SHOP DRAWINGS, INSTALLATION PROCEDURES, AND TRAINING DETAILS AND PROCEDURES SIGNED AND SEALED BY STRUCTURAL, MECHANICAL, AND ELECTRICAL PROFESSIONAL ENGINEERS REGISTERED IN THE STATE OF CALIFORNIA, TO THE ENGINEER FOR REVIEW AND APPROVAL.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: T. MILLER	DESIGN BY: T. MILLER	CHECKED BY: A. BRODSKY
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JEFFREY W. NEWMAN
No. 38975
Exp. 09-30-26
MECHANICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: M-042
SHT NO.: 533 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

LAST PLOTTED: 11/3/2025 3:38:35 PM

\\mmdc10\Projects\3326.01\CADD\Mechanical\M-036 INSPECTION TRAVELER DETAILS - 3.dwg

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

I-STREET BRIDGE REPLACEMENT PROJECT
SACRAMENTO, CA

MOVABLE SPAN ELECTRICAL

NOT FOR CONSTRUCTION

INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE
E-001	TITLE SHEET - ELECTRICAL
E-002	ELECTRICAL GENERAL PLAN AND ELEVATION
E-003	ELECTRICAL GENERAL NOTES - 1
E-004	ELECTRICAL GENERAL NOTES - 2
E-005	SEQUENCE OF OPERATION
E-006	SYMBOLS AND ABBREVIATIONS
E-007	MACHINERY ROOM LAYOUTS
E-008	ELECTRICAL ROOM LAYOUTS
E-009	CCTV PLAN AND ELEVATION
E-010	CCTV CAMERA FIELD OF VIEWS - 1
E-011	CCTV CAMERA FIELD OF VIEWS - 2
E-012	CCTV SYSTEM DIAGRAM
E-013	PA SYSTEM PLAN AND ELEVATION
E-014	PA SYSTEM DIAGRAM
E-015	BDS PLAN AND ELEVATION
E-016	CONTROL SYSTEM DIAGRAM
E-017	CONTROL CONSOLE DETAILS - 1
E-018	CONTROL CONSOLE DETAILS - 2
E-019	CONTROL CONSOLE DETAILS - 3
E-020	CONTROL CONSOLE DETAILS - 4
E-021	CABINET DETAILS
E-022	MOTOR CONTROL CENTER LAYOUTS
E-023	SINGLE LINE DIAGRAM
E-024	THREE LINE DIAGRAM - 1
E-025	THREE LINE DIAGRAM - 2
E-026	THREE LINE DIAGRAM - 3
E-027	THREE LINE DIAGRAM - 4
E-028	THREE LINE DIAGRAM - 5
E-029	SUMP PUMP WIRING DIAGRAM
E-030	NE MAIN DRIVE WIRING DIAGRAM
E-031	SE MAIN DRIVE WIRING DIAGRAM
E-032	NW MAIN DRIVE WIRING DIAGRAM
E-033	SW MAIN DRIVE WIRING DIAGRAM
E-034	PANELBOARD SCHEDULES
E-035	CIRCUIT DIAGRAMS
E-036	HARDWIRED CONTROL CIRCUITS - 1
E-037	HARDWIRED CONTROL CIRCUITS - 2
E-038	HARDWIRED CONTROL CIRCUITS - 3
E-039	HARDWIRED CONTROL CIRCUITS - 4
E-040	HARDWIRED CONTROL CIRCUITS - 5
E-041	HARDWIRED CONTROL CIRCUITS - 6
E-042	HARDWIRED CONTROL CIRCUITS - 7
E-043	HARDWIRED CONTROL CIRCUITS - 8
E-044	HARDWIRED CONTROL CIRCUITS - 9
E-045	HARDWIRED CONTROL CIRCUITS - 10
E-046	HARDWIRED CONTROL CIRCUITS - 11
E-047	HARDWIRED PLC INPUTS - 1
E-048	HARDWIRED PLC INPUTS - 2
E-049	HARDWIRED PLC INPUTS - 3
E-050	HARDWIRED PLC INPUTS - 4
E-051	HARDWIRED PLC INPUTS - 5
E-052	HARDWIRED PLC INPUTS - 6
E-053	HARDWIRED PLC INPUTS - 7
E-054	HARDWIRED PLC OUTPUTS - 1
E-055	HARDWIRED PLC OUTPUTS - 2
E-056	HARDWIRED PLC OUTPUTS - 3
E-057	HARDWIRED PLC OUTPUTS - 4
E-058	HARDWIRED PLC OUTPUTS - 5
E-059	INTERNAL PLC LOGIC - 1
E-060	INTERNAL PLC LOGIC - 2
E-061	INTERNAL PLC LOGIC - 3
E-062	INTERNAL PLC LOGIC - 4
E-063	INTERNAL PLC LOGIC - 5
E-064	INTERNAL PLC LOGIC - 6
E-065	INTERNAL PLC LOGIC - 7
E-066	INTERNAL PLC LOGIC - 8
E-067	INTERNAL PLC LOGIC - 9
E-068	INTERNAL PLC LOGIC - 10
E-069	INTERNAL PLC LOGIC - 11
E-070	INTERNAL PLC LOGIC - 12
E-071	INTERNAL PLC LOGIC - 13
E-072	INTERNAL PLC LOGIC - 14
E-073	INTERNAL PLC LOGIC - 15
E-074	INTERNAL PLC LOGIC - 16
E-075	INTERNAL PLC LOGIC - 17
E-076	INTERNAL PLC LOGIC - 18
E-077	INTERNAL PLC LOGIC - 19
E-078	INTERNAL PLC LOGIC - 20
E-079	LIMIT SWITCH TRIP SCHEDULES
E-080	LIMIT SWITCH DETAILS
E-081	CABLE CHAIN CARRIER DETAILS
E-082	INSPECTION TRAVELER DETAILS - 1
E-083	INSPECTION TRAVELER DETAILS - 2
E-084	INSPECTION TRAVELER DETAILS - 3
E-085	MISCELLANEOUS ELECTRICAL DETAILS - 1
E-086	MISCELLANEOUS ELECTRICAL DETAILS - 2
E-087	MISCELLANEOUS ELECTRICAL DETAILS - 3
E-088	CONDUIT LAYOUT - 1
E-089	CONDUIT LAYOUT - 2
E-090	CONDUIT SCHEDULE - 1
E-091	CONDUIT SCHEDULE - 2
E-092	CONDUIT SCHEDULE - 3
E-093	ELECTRICAL EQUIPMENT SCHEDULE - 1
E-094	ELECTRICAL EQUIPMENT SCHEDULE - 2
E-095	ELECTRICAL EQUIPMENT SCHEDULE - 3
E-096	ELECTRICAL EQUIPMENT SCHEDULE - 4

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TITLE SHEET - ELECTRICAL
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-001
SHT NO.: 534 OF 648

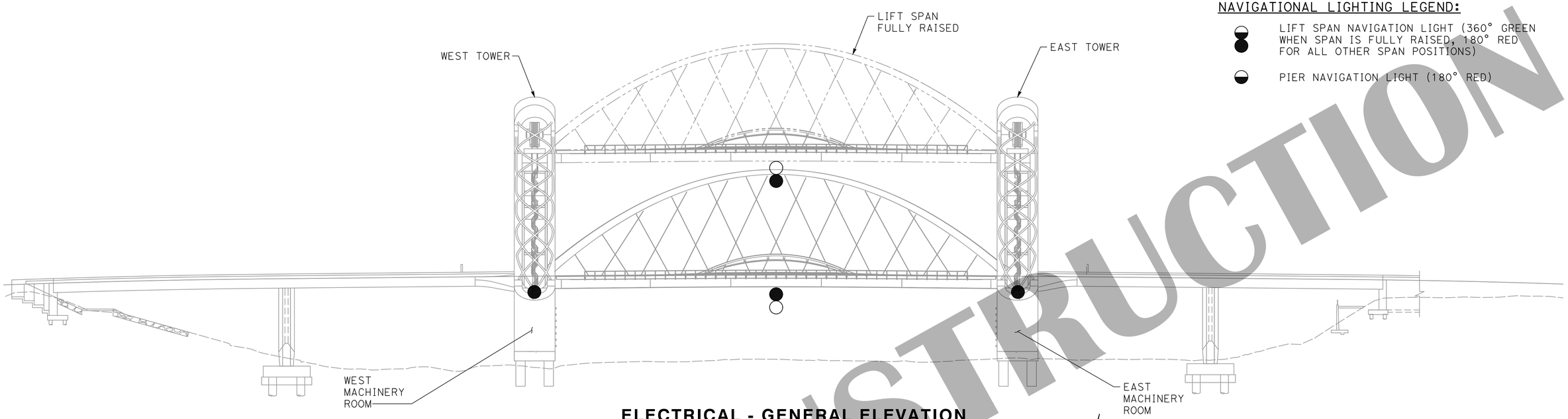
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-001 TITLE SHEET - ELECTRICAL.dwg LAST PLOTTED: 11/3/2025 2:02:56 PM

NAVIGATIONAL LIGHTING LEGEND:

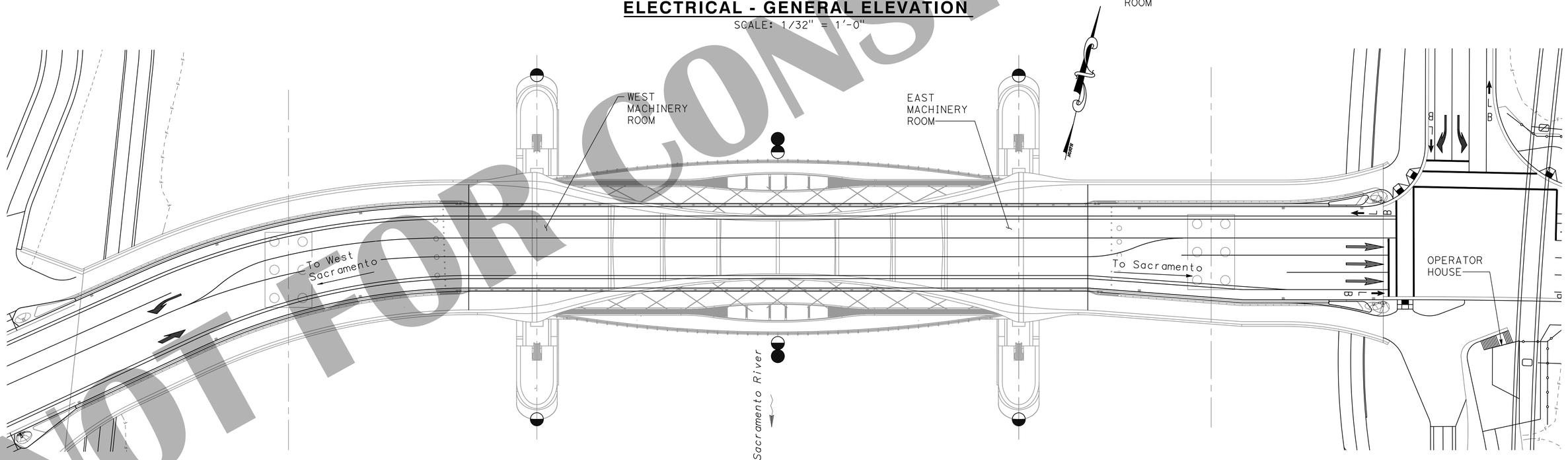
LIFT SPAN NAVIGATION LIGHT (360° GREEN WHEN SPAN IS FULLY RAISED, 180° RED FOR ALL OTHER SPAN POSITIONS)

PIER NAVIGATION LIGHT (180° RED)



ELECTRICAL - GENERAL ELEVATION

SCALE: 1/32" = 1'-0"



ELECTRICAL - GENERAL PLAN

SCALE: 1/32" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STRENKOSKI
No. 21568
Exp. 09.30.26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL GENERAL PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-002
SHT NO.: 535 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-002 ELECTRICAL GENERAL PLAN AND ELEVATION.dwg LAST PLOTTED: 11/3/2025 2:03:22 PM

ELECTRICAL NOTES:

GENERAL:

ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE IN EFFECT AT THE BID OPENING TIME, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGTH EDITION WITH CALIFORNIA AMENDMENTS, 2019, AND ALL APPLICABLE STATE AND LOCAL CODES.

THESE PLANS WERE PREPARED BASED ON THE ASSUMPTION THAT THE CONTRACTOR, OR SUB-CONTRACTOR, PERFORMING THE ELECTRICAL WORK DEPICTED HEREIN IS COMPETENT, PROPERLY QUALIFIED, SKILLED, EXPERIENCED IN THE TRADE, CAPABLE OF UNDERSTANDING THE INTENT OF THE PLANS AND SPECIFICATIONS, AND CAPABLE OF CONSTRUCTING THE WORK DEPICTED IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE.

FOR THE PURPOSES OF APPLYING THE NATIONAL ELECTRICAL CODE (NEC), THE FOLLOWING LOCATION DEFINITIONS SHALL APPLY:
DRY LOCATIONS: INSIDE THE OPERATOR HOUSE AND ELECTRICAL EQUIPMENT ROOMS.
DAMP LOCATIONS: MACHINERY AREAS.
WET LOCATIONS: ANY LOCATION NOT DEFINED AS DRY OR DAMP.

IN NO WAY SHALL THESE PLANS BE INTERPRETED AS REQUIRING A VIOLATION OF THE NATIONAL ELECTRICAL CODE, OR ANY OTHER APPLICABLE FEDERAL, STATE, OR LOCAL CODE OR REGULATION. IN ANY CASE OF DISPUTE BETWEEN THESE PLANS, THE NATIONAL ELECTRICAL CODE, THE STANDARD SPECIFICATIONS, AND THE SPECIAL PROVISIONS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR ALL COORDINATION WITH THE CONCERNED AUTHORITIES, INCLUDING OBTAINING ALL REQUIRED PERMITS AND ANY FINES AND PENALTIES RESULTING FROM SUCH WORK.

COORDINATE WITH SUPPLIERS, VENDORS, SUB-CONTRACTORS, UTILITY COMPANIES, AND THE UNITED STATES COAST GUARD (USCG). ENSURE PROPER INTERFACING BETWEEN ELECTRICAL SYSTEMS AND SUBSYSTEMS, AND THE BRIDGE OPERATING MACHINERY, THE BRIDGE STRUCTURE, AND MISCELLANEOUS EQUIPMENT.

IN ADDITION TO THE MATERIALS, COMPONENTS, AND EQUIPMENT SHOWN ON THE PLANS, PROVIDE ALL RACEWAYS, JUNCTION AND PULL BOXES, FITTINGS, CONDUCTORS, CONNECTORS, AND OTHER MISCELLANEOUS ITEMS AND APPURTENANCES REQUIRED TO PROVIDE A COMPLETE, FUNCTIONAL, AND SAFE INSTALLATION.

THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR VERIFICATIONS OF ALL RELEVANT DIMENSIONS, EQUIPMENT SPECIFICATIONS, ELECTRICAL LOADS, CIRCUIT LOADS, AND SIMILAR INFORMATION PRIOR TO PURCHASE AND/OR FABRICATION OF EQUIPMENT AND MATERIALS. EQUIPMENT RATINGS AND/OR WIRE SIZES SHOWN ON THE PLANS SHALL BE INCREASED WHERE REQUIRED BY THE LOADS SERVED.

THE CONTRACTOR SHALL CAREFULLY AND THOROUGHLY INVESTIGATE AND/OR VERIFY THE LOCATIONS AND CHARACTERISTICS OF ALL EXISTING FEATURES AND FACILITIES, ABOVEGROUND AND UNDERGROUND, PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING FEATURES OR FACILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR, AS DIRECTED BY THE PROJECT ENGINEER. ANY SUCH REPAIRS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.

LOCATIONS OF RACEWAYS, CONDUIT, WIRING, CABLES, AND OTHER EQUIPMENT SHOWN ON THE PLANS ARE DIAGRAMMATIC ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND SUBJECT TO THE APPROVAL BY THE ENGINEER.

THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ANY TEMPORARY POWER REQUIRED TO SUPPORT BRIDGE OPERATIONS DURING CONSTRUCTION AND TO SUPPORT THE OVERALL CONSTRUCTION EFFORT.

WHERE DETAILS ARE NOT PROVIDED OR FULLY DEVELOPED, THE CONTRACTOR SHALL PROVIDE THE ADDITIONAL DETAIL DEVELOPMENT NECESSARY TO PROVIDE AND SUBMIT LAYOUT DRAWINGS AND SHOP DRAWINGS FOR REVIEW.

PROVIDE WORKSPACE CLEARANCE FOR ALL ELECTRICAL EQUIPMENT ACCORDING TO THE NEC.

(E) NUMBERS IN PARENTHESIS, (EXXX), ASSOCIATED WITH EQUIPMENT REFER TO ITEM NUMBERS IN THE EQUIPMENT SCHEDULE.

THE IDENTIFICATION OF PRODUCTS BY BRAND NAME OR EQUAL DESCRIPTION IS INTENDED TO BE DESCRIPTIVE AND TO INDICATE THE CHARACTERISTICS, PERFORMANCE, AND QUALITY OF PRODUCTS THAT ARE SATISFACTORY.

WIRING MATERIALS & METHODS:

UNLESS EXPLICITLY INDICATED OTHERWISE, ONLY THE FOLLOWING WIRING METHODS ARE PERMITTED:

1. ALL LOCATIONS
   PVC COATED RIGID GALVANIZED STEEL CONDUIT
   LIQUID-TIGHT FLEXIBLE METAL CONDUIT

2. DAMP LOCATIONS
   ANY METHOD PERMITTED IN (1)
   RIGID GALVANIZED STEEL CONDUIT

3. DRY LOCATIONS
   ANY METHOD PERMITTED IN (2)
   PVC JACKETED TYPE MC OR TC CABLES IN ALUMINUM CABLE TRAY

4. UNDERGROUND & CONCRETE ENCASED
   PVC SCHEDULE 80 CONDUIT

ALL CONDUIT CONNECTIONS TO MOTORS AND SIMILAR EQUIPMENT SHALL BE MADE WITH FLEXIBLE CONDUIT. LENGTH OF FLEXIBLE CONDUIT SHALL BE NOT LESS THAN 18 INCHES BUT NOT MORE THAN 36 INCHES. DO NOT USE FLEXIBLE CONDUIT IN LIEU OF BENDS IN RIGID CONDUIT.

RIGID CONDUITS SHALL BE SUPPORTED WITHIN 18 INCHES OF ALL TERMINATIONS AND AT REGULAR INTERVALS NOT TO EXCEED 6 FEET. FLEXIBLE CONDUITS SHALL BE SUPPORTED WITHIN 12 INCHES OF ALL TERMINATIONS AND AT REGULAR INTERVALS NOT TO EXCEED 3 FEET.

GALVANIZED CONDUITS, BOXES, ENCLOSURES, FIXTURES, ETC. SHALL BE ISOLATED FROM UNPAINTED STEEL WITH NEOPRENE SHIMS OF ⅛ INCH MINIMUM THICKNESS.

ALUMINUM CONDUITS, BOXES, ENCLOSURES, FIXTURES, ETC. SHALL BE ISOLATED FROM CONCRETE AND/OR STRUCTURAL STEEL WITH NEOPRENE SHIMS OF ⅛ INCH MINIMUM THICKNESS.

ALL RACEWAYS SHALL BE ARRANGED TO DRAIN. CONDUIT DRAINS SHALL BE INSTALLED IN A CONDUIT BODY AT THE LOW POINT OF ALL RUNS.

ALL CONDUIT CONNECTIONS TO BOXES AND ENCLOSURES WHICH DO NOT HAVE INTEGRAL THREADED HUBS SHALL UTILIZE WEATHERPROOF GROUNDING TYPE HUBS OR CONNECTORS. ALL HUBS AND CONNECTORS SHALL HAVE INSULATED THROATS OR BE PROVIDED WITH INSULATED BUSHINGS.

SUPPORT CABLES IN VERTICAL RACEWAYS IN ACCORDANCE WITH (NEC 300.19) WITH CABLE SUPPORTS INSTALLED AT TERMINAL CABINETS AND/OR PULL BOXES.

NEUTRAL CONDUCTORS SHALL NOT BE SHARED BETWEEN MULTIPLE BRANCH CIRCUITS, EXCEPT FOR DESIGNATED MULTIWIRE LIGHTING AND RECEPTACLE CIRCUITS WHERE CLEARLY SHOWN ON THE PLANS.

CONDUCTOR FILL IN RACEWAYS SHALL NOT EXCEED 40%. MINIMUM CONDUIT SIZE SHALL BE ¾ INCH EXCEPT THAT ½ INCH SHALL BE PERMITTED FOR FLEXIBLE CONDUIT CONNECTIONS TO LUMINAIRES.

WIRING IN ENCLOSURES, CABINETS, BOXES, ETC. SHALL BE NEATLY ROUTED AND BUNDLED WITH PVC CABLE TIES OR PLACED IN NON-METALLIC WIRING TROUGHS.

SPARE AND UN-TERMINATED CONDUCTORS SHALL BE CAPPED, OR CONNECTED TO SPARE TERMINAL BLOCKS WHERE AVAILABLE, AND CLEARLY IDENTIFIED AS SPARES.

ONE FULL TURN OF SLACK SHALL BE PROVIDED FOR ALL CONDUCTORS IN ALL PULL BOXES, JUNCTION BOXES, TERMINAL CABINETS, EQUIPMENT CABINETS, AND ENCLOSURES.

RACEWAYS CROSSING EXPANSION JOINTS, OR OTHERWISE SUBJECT TO MOVEMENT, SHALL BE PROVIDED WITH EXPANSION AND/OR DEFLECTION FITTINGS, OR OTHER APPROVED MEANS. TO COMPENSATE FOR SUCH MOVEMENT, EACH SUCH EXPANSION AND/OR DEFLECTION MEANS SHALL BE PROVIDED WITH AN EXTERNAL COPPER BONDING JUMPER, SIZED 6 AWG MINIMUM. PROVIDE ADEQUATE SLACK IN CONDUCTORS TO ACCOMMODATE THE EXPANSION.

CONDUCTOR SPLICES SHALL BE MADE ONLY IN JUNCTION BOXES, OUTLET OR DEVICE BOXES, TERMINAL CABINETS, AND EQUIPMENT ENCLOSURES. SPLICES SHALL UTILIZE INSULATED SET-SCREW TYPE, COMPRESSION TYPE, OR SIMILAR APPROVED, CONNECTORS.

LIMIT USE OF SET-SCREW TYPE CONNECTORS TO DEVICES TO BE REPLACED DURING LONG TERM MAINTENANCE. TWIST-ON (WIRE NUT) TYPE CONNECTORS SHALL NOT BE USED. TERMINAL BLOCKS SHALL NOT HAVE MORE THAN TWO CONDUCTORS PER TERMINAL.

LAYOUT OF TERMINAL BLOCKS IN JUNCTION BOXES AND TERMINAL CABINETS SHALL COMPLY WITH THE REQUIREMENTS FOR WIRE BENDING SPACE GIVEN IN NEC 312.6, EXCEPT THAT THE MINIMUM SPACE PERMITTED SHALL BE 2 INCHES. PROPOSED LAYOUTS, INCLUDING ANTICIPATED LOCATIONS AND SIZES OF KNOCKOUTS, SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.

A CONDUIT BODY OR BOX SHALL BE PROVIDED ON AT LEAST ONE SIDE OF ALL FLEXIBLE CONDUITS.

UNLESS SPECIFICALLY INDICATED OTHERWISE, CONDUIT AND CABLE ENTRANCES IN DAMP AND WET LOCATIONS SHALL BE MADE IN THE BOTTOM OF CABINETS AND/OR ENCLOSURES.

TERMINAL BLOCKS, POWER DISTRIBUTION BLOCKS, AND CRIMP TYPE CONNECTORS, SHALL BE RATED FOR 90° CELSIUS.

CONDUCTORS WITH GREEN COLORED INSULATION SHALL BE USED ONLY FOR GROUNDING CONDUCTORS. RE-IDENTIFICATION OF CONDUCTORS WITH GREEN COLORED INSULATION, SUCH AS WITH COLORED TAPE, IS NOT PERMITTED.

PVC COATED GALVANIZED STEEL CONDUIT SHALL BE PAINTED TO MATCH THE COLOR OF THE STRUCTURE(S), OR AS OTHERWISE DIRECTED BY THE CITY.

USE OF FLEXIBLE CONDUITS SHALL BE LIMITED TO: WHERE EXPLICITLY SHOWN ON THE PLANS, OR WHERE FLEXIBILITY IS REQUIRED.

MISCELLANEOUS MATERIALS & METHODS:

ALL EQUIPMENT AND MATERIALS SHALL BE SUITABLE FOR THE INTENDED USE AND SHALL BE FURNISHED WITH ALL NECESSARY HARDWARE AND COMPONENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MODIFICATIONS OR FABRICATIONS NECESSARY FOR PROPER INSTALLATION AND OPERATION OF THE EQUIPMENT. ALL LIKE EQUIPMENT AND MATERIALS SHALL BE OF THE SAME MANUFACTURER UNLESS INDICATED OTHERWISE IN THE PLANS.

ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH NECA 1, STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION.

THE INSTALLATION OF ALL EQUIPMENT AND MATERIALS SHALL COMPLY WITH THE RECOMMENDATIONS AND INSTALLATION PROCEDURES OF THEIR RESPECTIVE MANUFACTURERS.

ALL BOLTED AND SIMILAR CONNECTIONS SHALL UTILIZE LOCK WASHERS. CONNECTIONS WHICH DO NOT PERMIT THE USE OF LOCK WASHERS SHALL UTILIZE AN APPROVED MEDIUM STRENGTH THREAD LOCKING ADHESIVE.

THE OPERATING HANDLE(S) OF ALL MANUALLY OPERABLE DEVICES SHALL NOT BE LESS THAN 2 FEET, NOR MORE THAN 6'-7", ABOVE THE FLOOR.

EQUIPMENT ENCLOSURES, CABINETS, BOXES, AND SIMILAR ITEMS SHALL BE INSTALLED PLUMB AND SECURELY FASTENED IN PLACE. LARGE FREE-STANDING CABINETS, MOTOR CONTROL CENTERS, ETC. SHALL BE MOUNTED ON VIBRATION ISOLATION NEOPRENE PADS.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-003 ELECTRICAL GENERAL NOTES - 1.dwg LAST PLOTTED: 11/3/2025 2:03:26 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL GENERAL NOTES - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-003
SHT NO.: 536 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

ELECTRICAL NOTES CONTINUED:

IDENTIFICATION:

ALL CONDUCTORS, INCLUDING SPARES, SHALL BE UNIQUELY IDENTIFIED AND CLEARLY LABELED WITH MACHINE PRINTED LABELS. EACH CONDUCTOR SHALL BE ASSIGNED ONLY ONE IDENTIFICATION NUMBER THROUGHOUT ITS ENTIRE ROUTING FROM ORIGIN TO DESTINATION POINT(S).

ALL TERMINAL BLOCKS SHALL BE CLEARLY LABELED, AT EACH TERMINAL POSITION, WITH MACHINE PRINTED LABELS.

ALL ELECTRICAL EQUIPMENT ENCLOSURES, PULL AND JUNCTION BOXES, LOAD PANELS, AND SIMILAR ITEMS SHALL BE CLEARLY LABELED WITH ENGRAVED PLASTIC WEATHERPROOF LABELS (WHITE TEXT ON BLACK BACKGROUND) ATTACHED WITH STAINLESS STEEL HARDWARE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING A COMPREHENSIVE WIRE NUMBERING SYSTEM AND SHALL LABEL ALL WIRES, CABLES, AND TERMINAL BLOCKS. IDENTIFICATION NUMBERS SHALL BE COORDINATED FOR CONSISTENCY AND ACCURACY WITH NUMBERS SHOWN ON THE CONTRACTOR'S WIRING DIAGRAMS AND SHOP DRAWINGS, FIELD WIRING DIAGRAMS, AND ANY OTHER DIAGRAMS SHOWING THE SAME ITEM.

ALL CONDUIT AND CABLE RUNS SHALL BE LABELED AT EACH TERMINATION POINT. LABELS SHALL BE STAMPED 19-GAUGE BRASS TAGS. MINIMUM SIZE SHALL BE 1-INCH DIAMETER. TAGS SHALL BE FASTENED WITH UV RESISTANT PVC CABLE TIES.

GROUNDING & BONDING:

PROVIDE GROUNDING AND BONDING OF ALL SYSTEMS PER NEC ARTICLE 250.

ALL CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR. EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED EQUAL TO THE CIRCUIT CONDUCTORS, EXCEPT WHERE SHOWN OTHERWISE ON THE PLANS OR PERMITTED OTHERWISE BY THE NEC.

ALL GROUNDING TYPE HUBS AND CONNECTORS IN A BOX OR ENCLOSURE SHALL BE BONDED TOGETHER AND TO THE BOX OR ENCLOSURE WITH A STRANDED COPPER BONDING JUMPER SIZED EQUAL TO THE LARGEST EQUIPMENT GROUNDING CONDUCTOR IN THE BOX OR ENCLOSURE.

ALL GROUNDING CONDUCTORS WITHIN AN EQUIPMENT ENCLOSURE OR TERMINAL CABINET SHALL BE TERMINATED ON A COMMON UNINSULATED GROUNDING BAR.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: 1"=1'-0" AS SHOWN 1"=1'-0"

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 05-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL GENERAL NOTES - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-004
SHT NO.: 537 OF 648

p:\3326.01\CADD\Electrical\E-004 ELECTRICAL GENERAL NOTES - 2.dwg LAST PLOTTED: 11/3/2025 2:03:30 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

SEQUENCE OF OPERATION:

1. NORMAL OPERATION
   - 1.1. THE OPERATOR WILL SWITCH THE CONTROL POWER SELECTOR SWITCH TO ON.
   - 1.2. THE CONTROL MODE SELECTOR SWITCH WILL BE IN THE AUTO POSITION AND THE MANUAL SPAN LEVELING SELECTOR SWITCH WILL BE IN THE OFF POSITION.
   - 1.3. RAISE
     - 1.3.1. THE OPERATOR WILL UTILIZE THE PA SYSTEM AND SIGNAL HORN TO NOTIFY PEDESTRIANS THAT A BRIDGE OPERATION IS FORTHCOMING AND LOWER THE PEDESTRIAN GATES VIA THE RESPECTIVE SELECTOR SWITCHES AT HIS/HER DISCRETION TO CLEAR THE AREA OF ALL PEDESTRIANS. THE PEDESTRIAN GATES ARE NOT INTERLOCKED WITH THE OTHER TRAFFIC DEVICES AND MAY BE LOWERED ANY TIME PRIOR TO PULLING THE SPAN LOCKS.
     - 1.3.2. THE OPERATOR WILL SWITCH THE TRAFFIC SIGNALS SELECTOR SWITCHES (EASTBOUND AND WESTBOUND) TO RED.
       - 1.3.2.1. THE EASTBOUND TRAFFIC SIGNAL(S) WILL SWITCH FROM GREEN TO YELLOW AND WILL REMAIN YELLOW FOR FOUR (4) SECONDS.
       - 1.3.2.2. AFTER FOUR (4) SECONDS, THE EASTBOUND TRAFFIC SIGNAL(S) WILL AUTOMATICALLY SWITCH FROM YELLOW TO RED, AND WILL REMAIN RED UNTIL THE SPAN IS FULLY SEATED, THE SPAN LOCKS ARE DRIVEN, ALL GATES ARE RAISED, AND THE TRAFFIC SIGNALS SELECTOR SWITCH IS SWITCHED TO GREEN.
       - 1.3.2.3. WESTBOUND TRAFFIC WILL BE CONTROLLED SEPARATELY BY THE INTERSECTION OF JIBBOOM STREET AND RAILYARDS BLVD TRAFFIC CONTROLLER. THE BRIDGE CONTROL SYSTEM WILL SEND A DISCRETE OUTPUT TO THE TRAFFIC CONTROLLER WHEN THE WESTBOUND TRAFFIC SIGNALS SELECTOR SWITCH IS SWITCHED TO RED. THE BRIDGE CONTROL SYSTEM WILL RECEIVE A DISCRETE INPUT FROM THE TRAFFIC CONTROLLER WHEN THE INTERSECTION TRAFFIC SIGNALS ARE READY FOR BRIDGE OPERATION.
     - 1.3.3. AFTER VERIFYING THAT ALL TRAFFIC AND PEDESTRIANS ARE CLEAR OF THE AREA, THE OPERATOR WILL LOWER THE ONCOMING WARNING GATES VIA THE RESPECTIVE SELECTOR SWITCHES.
     - 1.3.4. AFTER VERIFYING THAT ALL TRAFFIC AND PEDESTRIANS ARE CLEAR OF THE AREA AND OFF OF THE LIFT SPAN, THE OPERATOR WILL LOWER THE OFF-GOING WARNING GATES VIA THE RESPECTIVE SELECTOR SWITCHES.
     - 1.3.5. THE OPERATOR WILL LOWER THE BARRIER BOLLARDS VIA THE RESPECTIVE SELECTOR SWITCHES.
     - 1.3.6. THE OPERATOR WILL PULL THE SPAN LOCKS VIA THE RESPECTIVE SELECTOR SWITCHES.
     - 1.3.7. THE OPERATOR WILL PRESS THE SIGNAL HORN PUSHBUTTON.
     - 1.3.8. THE OPERATOR WILL MOMENTARILY SWITCH THE SPAN CONTROL SELECTOR SWITCH TO RAISE.
       - 1.3.8.1. THE ACTIVE MAIN DRIVES WILL ENERGIZE (RAISE) AND THE MOTOR AND MACHINERY BRAKES WILL RELEASE.
       - 1.3.8.2. THE MAIN DRIVES WILL ACCELERATE TO THE SELECTED SPEED.
       - 1.3.8.3. WHEN THE SPAN REACHES THE NEARLY RAISED POSITION, THE MAIN DRIVES WILL DECELERATE TO CREEP SPEED.
       - 1.3.8.4. WHEN THE SPAN REACHES THE FULLY RAISED POSITION, THE MAIN DRIVES WILL DE-ENERGIZE, ALL BRAKES WILL SET, AND THE SPAN NAVIGATION LIGHTS WILL SWITCH FROM RED TO GREEN.
   - 1.4. LOWER
     - 1.4.1. THE OPERATOR WILL VERIFY THAT BOAT TRAFFIC IS CLEAR OF THE AREA.
     - 1.4.2. THE OPERATOR WILL PRESS THE SIGNAL HORN PUSHBUTTON.
     - 1.4.3. THE OPERATOR WILL MOMENTARILY SWITCH THE SPAN CONTROL SELECTOR SWITCH TO LOWER.
       - 1.4.3.1. THE ACTIVE MAIN DRIVES WILL ENERGIZE (LOWER) AND THE MOTOR AND MACHINERY BRAKES WILL RELEASE.
       - 1.4.3.2. THE MAIN DRIVES WILL ACCELERATE TO THE SELECTED SPEED.
       - 1.4.3.3. WHEN THE SPAN LEAVES THE FULLY RAISED POSITION, THE SPAN NAVIGATION LIGHTS WILL SWITCH FROM GREEN TO RED.
       - 1.4.3.4. WHEN THE SPAN REACHES THE NEARLY SEATED POSITION, THE MAIN DRIVES WILL DECELERATE TO CREEP SPEED.
       - 1.4.3.5. WHEN THE SPAN REACHES THE FULLY SEATED POSITION:
         - 1.4.3.5.1. THE MOTORS WILL STALL IN REDUCED TORQUE MODE.
         - 1.4.3.5.2. TWO (2) SECONDS AFTER THE SPAN HAS REACHED THE FULLY SEATED POSITION, ALL BRAKES WILL SET.
         - 1.4.3.5.3. FOUR (4) SECONDS AFTER THE SPAN HAS REACHED THE FULLY SEATED POSITION, THE MAIN DRIVES WILL DE-ENERGIZE.
     - 1.4.4. THE OPERATOR WILL DRIVE THE SPAN LOCKS VIA THE RESPECTIVE SELECTOR SWITCHES.
     - 1.4.5. RAISE GATES
       - 1.4.5.1. THE OPERATOR WILL RAISE THE PEDESTRIAN GATES VIA THE RESPECTIVE SELECTOR SWITCHES OR THE PEDESTRIAN GATES GROUP RAISE PUSHBUTTON.
       - 1.4.5.2. THE OPERATOR WILL RAISE THE BARRIER BOLLARDS VIA THE RESPECTIVE SELECTOR SWITCHES OR THE BARRIER BOLLARDS GROUP RAISE PUSHBUTTON.
       - 1.4.5.3. THE OPERATOR WILL RAISE THE OFF-GOING WARNING GATES, THEN RAISE THE ONCOMING WARNING GATES VIA THE RESPECTIVE SELECTOR SWITCHES, OR;
         - 1.4.5.3.1. THE OPERATOR WILL PRESS THE WARNING GATES GROUP RAISE PUSHBUTTON.
     - 1.4.6. THE OPERATOR WILL SWITCH THE TRAFFIC SIGNALS SELECTOR SWITCHES (EASTBOUND AND WESTBOUND) TO GREEN.
       - 1.4.6.1. THE EASTBOUND TRAFFIC SIGNALS WILL SWITCH FROM RED TO GREEN.
       - 1.4.6.2. WESTBOUND TRAFFIC WILL BE CONTROLLED SEPARATELY BY THE INTERSECTION OF JIBBOOM STREET AND RAILYARDS BLVD TRAFFIC CONTROLLER. THE BRIDGE CONTROL SYSTEM WILL NO LONGER SEND THE DISCRETE OUTPUT TO THE TRAFFIC CONTROLLER WHEN THE WESTBOUND TRAFFIC SIGNALS SELECTOR SWITCH IS SWITCHED TO GREEN, AND THE TRAFFIC CONTROLLER WILL RETURN THE INTERSECTION TO NORMAL OPERATIONS.
   - 1.5. THE OPERATOR WILL SWITCH THE CONTROL POWER SELECTOR SWITCH TO OFF.
   - 1.6. BOAT DETECTION
     - 1.6.1. IF A BOAT IS DETECTED UNDERNEATH THE SPAN WHILE THE SPAN IS LOWERING, THE MAIN DRIVES WILL DECELERATE TO 10% SPEED, THEN THE MAIN DRIVES WILL DE-ENERGIZE AND ALL BRAKES WILL SET. AFTER A SHORT TIME DELAY, THE SPAN WILL AUTOMATICALLY RAISE (STEPS 1.3.8.1 TO 1.3.8.4) TO THE FULLY RAISED POSITION.
   - 1.7. NORMAL STOP
     - 1.7.1. THE OPERATOR MAY PRESS THE NORMAL STOP PUSHBUTTON AT ANY POINT WHILE THE SPAN IS RAISING OR LOWERING TO STOP THE SPAN.
       - 1.7.1.1. WHEN THE OPERATOR PRESSES THE NORMAL STOP PUSHBUTTON, THE MAIN DRIVES WILL DECELERATE TO 10% SPEED, THEN THE MAIN DRIVES WILL DE-ENERGIZE AND ALL BRAKES WILL SET.
   - 1.8. BYPASSES
     - 1.8.1. THE VARIOUS BYPASS SWITCHES ALLOW FOR THE TEMPORARY REMOVAL OF A BRIDGE CONTROL SYSTEM INTERLOCK IN ORDER TO PERMIT THE CONTINUED OPERATION IN THE EVENT OF A LIMIT SWITCH FAILURE.
     - 1.8.2. ONLY ONE BYPASS SWITCH MAY BE USED AT A ANY GIVEN TIME; THE USE OF MORE THAN ONE SWITCH WILL RESULT IN A FAULT.
     - 1.8.3. NOTE THAT THE USE OF BYPASS SWITCHES CARRIES SIGNIFICANT INHERIT RISKS. IMPROPER USE MAY RESULT IN INJURY OR DEATH.
2. MANUAL OPERATION (MANUAL MODE SERVES AS A TROUBLESHOOTING, INSPECTION, AND/OR BYPASS MODE AND SHOULD BE USED WITH CAUTION)
   - 2.1. THE OPERATOR WILL SWITCH THE CONTROL POWER SELECTOR SWITCH TO ON.
   - 2.2. THE OPERATOR WILL SWITCH THE CONTROL MODE SELECTOR SWITCH TO MANUAL. THE SPAN SPEED WILL BE RESTRICTED TO JOG OR CREEP SPEED, THE BOAT DETECTION SYSTEM IS BYPASSED, AND THE SPAN LOCKS MAY BE DRIVEN AND PULLED AT ANY BRIDGE POSITION WITH THE SPAN STOPPED AND THE BRAKES SET. THE SPAN LOCKS MUST BE PULLED TO LOWER OR RAISE THE SPAN.
   - 2.3. RAISE
     - 2.3.1. FOLLOW STEPS 1.3.1 TO 1.3.7.
     - 2.3.2. THE OPERATOR WILL SWITCH THE SPAN CONTROL SELECTOR SWITCH TO RAISE AND MUST HOLD THE SWITCH IN POSITION TO CONTINUE THE RAISE COMMAND. IF AT ANY TIME DURING RAISING, THE OPERATOR RETURNS THE SWITCH TO THE CENTER POSITION, A NORMAL STOP WILL INITIATE.
       - 2.3.2.1. THE ACTIVE MAIN DRIVES WILL ENERGIZE (RAISE) AND THE MOTOR AND MACHINERY BRAKES WILL RELEASE.
       - 2.3.2.2. THE MAIN DRIVES WILL ACCELERATE TO JOG SPEED (OR CREEP SPEED IF SELECTED).
       - 2.3.2.3. SEE STEPS 1.3.8.3 TO 1.3.8.4.
   - 2.4. LOWER
     - 2.4.1. FOLLOW STEPS 1.4.1 TO 1.4.2.
     - 2.4.2. THE OPERATOR WILL SWITCH THE SPAN CONTROL SELECTOR SWITCH TO LOWER AND MUST HOLD THE SWITCH IN POSITION TO CONTINUE THE LOWER COMMAND. IF AT ANY TIME DURING LOWERING, THE OPERATOR RETURNS THE SWITCH TO THE CENTER POSITION, A NORMAL STOP WILL INITIATE.
       - 2.4.2.1. THE ACTIVE MAIN DRIVES WILL ENERGIZE (LOWER) AND THE MOTOR AND MACHINERY BRAKES WILL RELEASE.
       - 2.4.2.2. THE MAIN DRIVES WILL ACCELERATE TO JOG SPEED (OR CREEP SPEED IF SELECTED).
         - 2.4.2.2.1. SEE STEPS 1.4.3.3 TO 1.4.3.5.
     - 2.4.3. FOLLOW STEPS 1.4.4 TO 1.4.6.
   - 2.5. MANUAL SPAN LEVELING
     - 2.5.1. THE OPERATOR WILL SWITCH THE MANUAL SPAN LEVELING SELECTOR SWITCH TO WEST OR EAST. THE SPAN SPEED WILL BE RESTRICTED TO CREEP SPEED.
     - 2.5.2. THE OPERATOR WILL SWITCH THE SPAN CONTROL SELECTOR SWITCH TO RAISE OR LOWER THE SELECTED END OF THE LIFT SPAN AND MUST HOLD THE SWITCH IN POSITION TO CONTINUE THE SELECTED COMMAND.
3. EMERGENCY STOP
   - 3.1.1. THE OPERATOR MAY PRESS THE EMERGENCY STOP PUSHBUTTON AT ANY POINT WHILE THE SPAN IS RAISING OR LOWERING OR DURING THE OPERATION OF OTHER DEVICES TO INITIATE AN EMERGENCY STOP.
     - 3.1.1.1. WHEN THE OPERATOR PRESSES THE EMERGENCY STOP PUSHBUTTON, POWER WILL BE REMOVED FROM THE CIRCUIT(S) FEEDING THE MAIN DRIVE INPUT CONTACTORS AND THE OPERATING COILS OF ALL BRAKES, SPAN LOCKS, WARNING GATES, AND BARRIER GATES. THE CONTROL LOGIC SEQUENCE(S) WILL ALSO BE DISABLED TO THESE DEVICES.
4. OTHER
   - 4.1. EASTBOUND TRAFFIC SIGNALS MAY BE SWITCHED TO RED VIA THE SELECTOR SWITCH AT THE WEST CONTROL CABINET, AND GATES, SPAN LOCKS, AND BRAKES MAY BE OPERATED VIA THE SWITCHES AT THE RESPECTIVE MCC UNITS.
   - 4.2. WEST MAIN DRIVE SELECT AND EAST MAIN DRIVE SELECT SELECTOR SWITCHES ARE PROVIDED TO SELECT THE DRIVE TO BE USED FOR OPERATION. WHEN THE SELECTOR SWITCH(ES) ARE SWITCHED TO AUTO, THE TWO DRIVES AT THE RESPECTIVE END OF THE LIFT SPAN WILL AUTOMATICALLY ALTERNATE AS CONTROLLED BY THE PLC. THE OPERATOR MAY ALTERNATIVELY SELECT A SPECIFIC DRIVE TO BE USED FOR OPERATION BY SWITCHING THE APPROPRIATE SELECTOR SWITCH(ES) TO THE RESPECTIVE POSITION(S).

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-005 SEQUENCE OF OPERATION.dwg LAST PLOTTED: 11/3/2025 2:03:33 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SEQUENCE OF OPERATION
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-005
SHT NO.: 538 OF 648

POWER AND CONTROL CIRCUIT SCHEMATIC SYMBOLS

- CIRCUIT BREAKER (CB)
- CONTROL RELAY (CR), INTERPOSING RELAY (IR), TIMING RELAY (TR), OR MOTOR CONTACTOR (MC) COIL
- CONTROL/INTERPOSING RELAY OR CONTACTOR CONTACT - NO
- CONTROL/INTERPOSING RELAY OR CONTACTOR CONTACT - NC
- DEVICE AUXILIARY CONTACT - NO
- DEVICE AUXILIARY CONTACT - NC
- DISCONNECT SWITCH (DS)
- FUSE
- LIMIT SWITCH (LS) - NO
- LIMIT SWITCH (LS) - NC
- LIMIT SWITCH (LS) - NO HELD CLOSED
- LIMIT SWITCH (LS) - NC HELD OPEN
- MOTOR (MTR), # = HP
- OVERLOAD (OL)
- PUSHBUTTON (PB) - NO
- PUSHBUTTON (PB) - NC
- PUSHBUTTON (PB) WITH MUSHROOM HEAD - NO
- PUSHBUTTON (PB) WITH MUSHROOM HEAD - NC
- SELECTOR SWITCH (SS) - MAINTAINED, NO
- SELECTOR SWITCH (SS) - MAINTAINED, NC
- SELECTOR SWITCH (SS) - SPRING RETURN TO CENTER, NO
- SELECTOR SWITCH (SS) - SPRING RETURN TO CENTER, NC
- KEYED SELECTOR SWITCH - NO
- KEYED SELECTOR SWITCH - NC
- SELECTOR SWITCH CONTACT - NO
- SELECTOR SWITCH CONTACT - NC
- TIMING RELAY CONTACT - NO, CLOSES ON DELAY
- TIMING RELAY CONTACT - NC, OPENS ON DELAY
- 2-WAY LIGHT SWITCH
- 3-WAY LIGHT SWITCH
- INDICATOR LIGHT (IL) - A=AMBER, B=BLUE, G=GREEN, R=RED, W=WHITE
- LIGHTING FIXTURE
- TRANSFORMER
- CURRENT TRANSFORMER

GENERAL SYMBOLS

- HEAVY LINES INDICATE PROPOSED COMPONENTS
- LIGHT LINES INDICATE EXISTING COMPONENTS

WIRE SYMBOLS

- E — ETHERNET CABLE, PROPOSED
- FO — FIBER OPTIC CABLE, PROPOSED
- FIELD WIRE, PROPOSED
- PANEL WIRE, PROPOSED

TERMINAL BLOCK SYMBOLS

- TERMINAL BLOCK IN OPERATOR HOUSE CONTROL CABINET
- TERMINAL BLOCK IN EAST CONTROL CABINET
- TERMINAL BLOCK IN WEST CONTROL CABINET
- TERMINAL BLOCK IN NE MAIN DRIVE CABINET
- TERMINAL BLOCK IN SE MAIN DRIVE CABINET
- TERMINAL BLOCK IN NW MAIN DRIVE CABINET
- TERMINAL BLOCK IN SW MAIN DRIVE CABINET
- TERMINAL BLOCK IN CONTROL CONSOLE
- TERMINAL BLOCK IN MOTOR CONTROL CENTER
- TERMINAL BLOCK FOR MISCELLANEOUS DEVICES
- TERMINAL BLOCK FOR MISC. POWER DISTRIBUTION

ABBREVIATIONS

A	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
BDS	BOAT DETECTION SYSTEM
CC	CONTROL CONSOLE
CCTV	CLOSED CIRCUIT TELEVISION
CT	CONTROL TRANSFORMER
EER	EAST ELECTRICAL ROOM
EMR	EAST MACHINERY ROOM
ES	EMERGENCY STOP
ESW	ETHERNET SWITCH
FO	FIBER OPTIC
G, GND	GROUND (EARTH)
HP	HORSEPOWER
I:XX/XX	PLC INPUT:MODULE/SLOT
I/O	INPUT/OUTPUT
KCM	KCMIL
KVA	KILOVOLT-AMPERES
LOC	LOCAL
MCC	MOTOR CONTROL CENTER
MS	MOVABLE SPAN
NC	NORMALLY CLOSED
NE	NORTHEAST
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN
NVR	NETWORK VIDEO RECORDER
NW	NORTHWEST
OH	OPERATOR HOUSE
O:XX/XX	PLC OUTPUT:MODULE/SLOT
PA	PUBLIC ADDRESS
PLC	PROGRAMMABLE LOGIC CONTROLLER
PTZ	PAN/TILT/ZOOM
REM	REMOTE
SE	SOUTHEAST
SEC	SECONDS
SPD	SURGE PROTECTIVE DEVICE
SW	SOUTHWEST
TYP.	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT-AMPERES
VAC	VOLTS ALTERNATING CURRENT
WER	WEST ELECTRICAL ROOM
WMR	WEST MACHINERY ROOM
XFMR	TRANSFORMER

INTERNAL PLC LOGIC SYMBOLS

- ( ) PLC INTERNAL LOGIC COIL
-][PLC INTERNAL LOGIC CONTACT - NO
- PLC INTERNAL LOGIC CONTACT - NC

SCHEMATIC AND CONTROL CIRCUIT CROSS REFERENCE NUMBERING

XX####

- LADDER/DRAWING LINE NUMBER
- DRAWING TYPE NUMBER (ABBREVIATION FOR MAIN DRIVE WIRING DIAGRAMS (NE, SE, NW, OR SW))
- DRAWING TYPE ABBREVIATION

TL: THREE LINE DIAGRAM
MD: MAIN DRIVE WIRING DIAGRAM
HC: HARDWIRED CONTROL CIRCUITS
PI: HARDWIRED PLC INPUTS
PO: HARDWIRED PLC OUTPUTS
IP: INTERNAL PLC LOGIC

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-006 SYMBOLS AND ABBREVIATIONS.dwg LAST PLOTTED: 11/3/2025 2:03:37 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

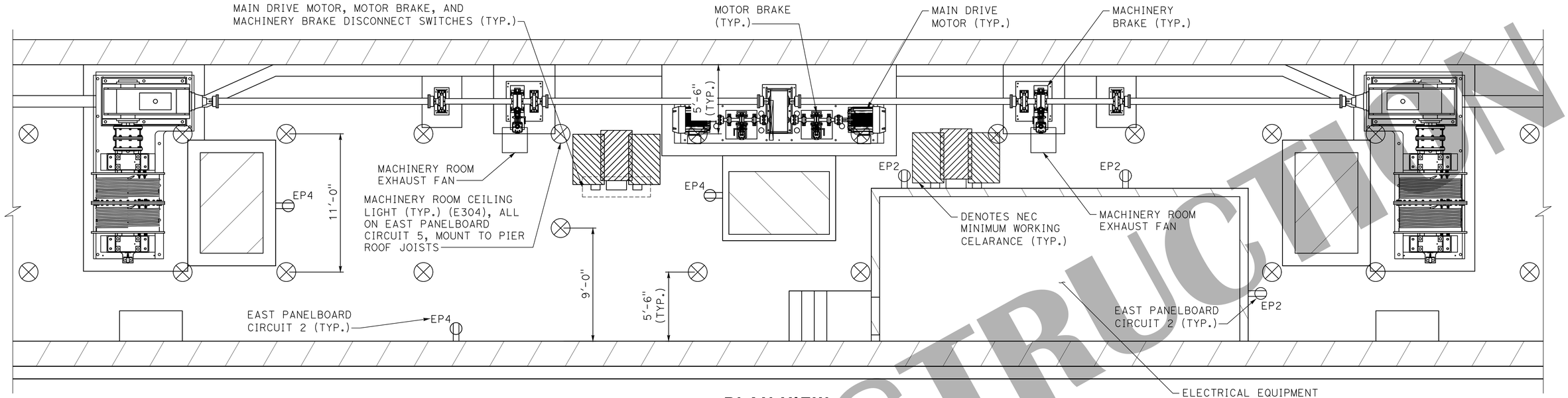
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

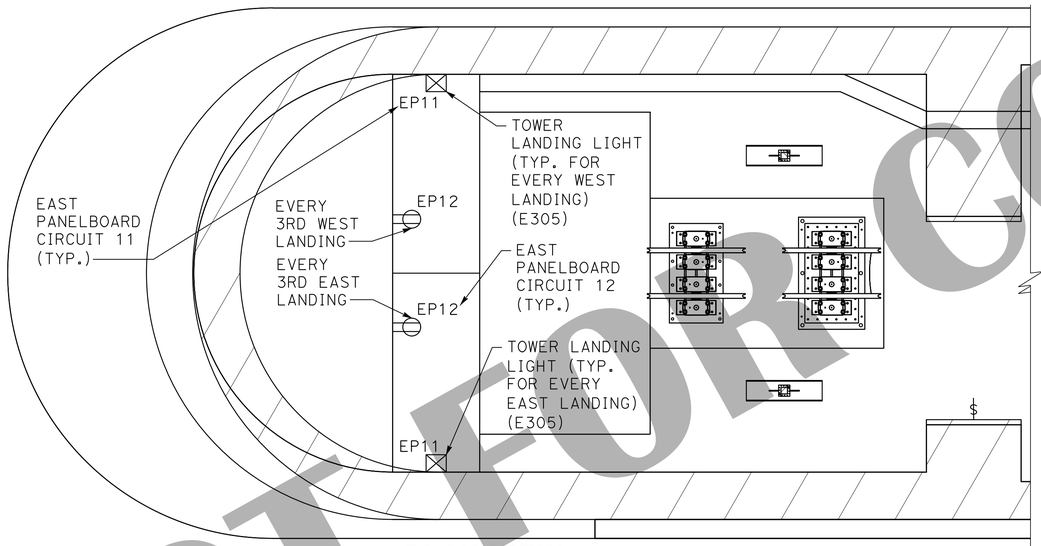
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STRENKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SYMBOLS AND ABBREVIATIONS
(Date: 11/03/2025)

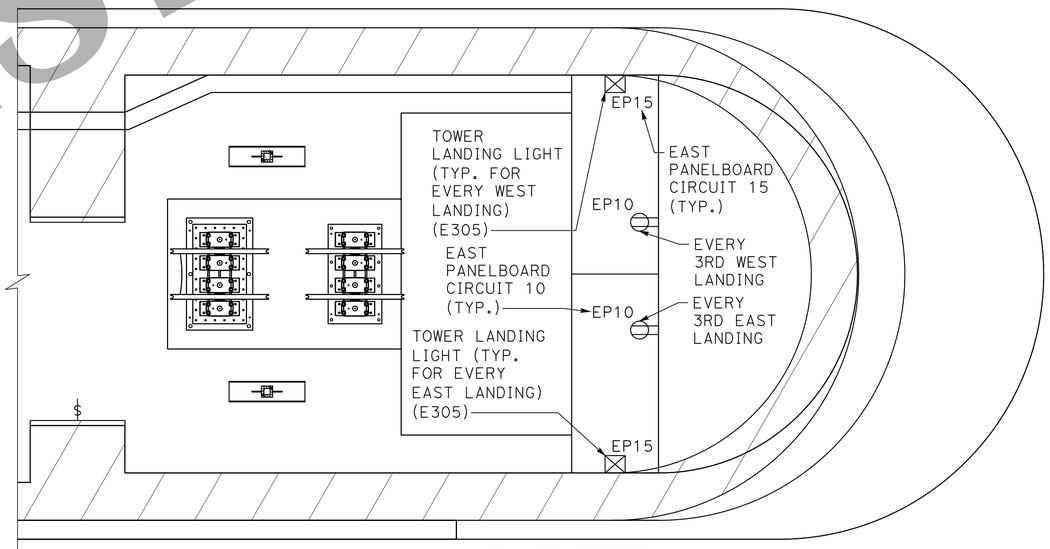
PN: T15136000
DWG NO.: E-006
SHT NO.: 539 OF 648



PLAN VIEW
EAST MACHINERY ROOM LAYOUT
SCALE: 1/4" = 1'-0"



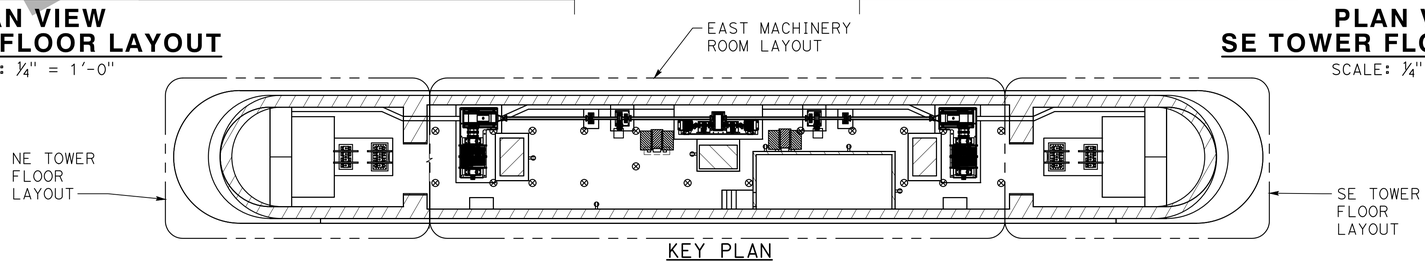
PLAN VIEW
NE TOWER FLOOR LAYOUT
SCALE: 1/4" = 1'-0"



PLAN VIEW
SE TOWER FLOOR LAYOUT
SCALE: 1/4" = 1'-0"

LEGEND

- DUPLEX RECEPTACLE (E306)
- $ LIGHT SWITCH (E307)



KEY PLAN

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

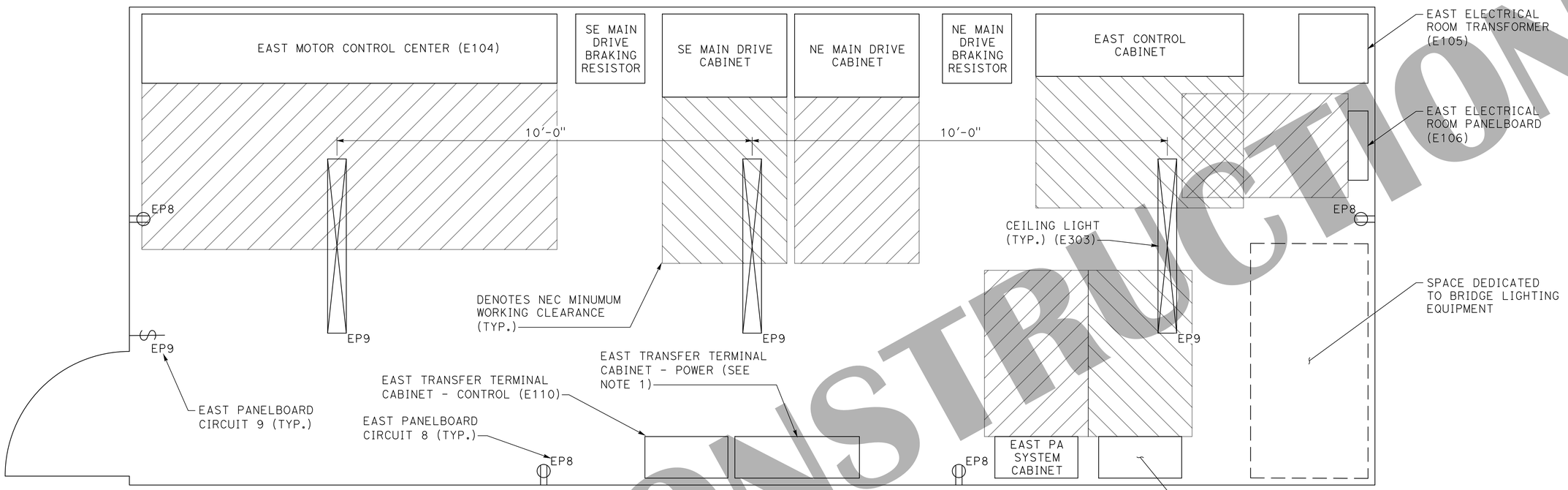
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STRENKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MACHINERY ROOM LAYOUTS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-007
SHT NO.: 540 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-007 MACHINERY ROOM LAYOUTS.dwg LAST PLOTTED: 11/3/2025 2:03:57 PM



EAST ELECTRICAL ROOM LAYOUT

SCALE: ¾" = 1'-0"
(WEST ELECTRICAL ROOM LAYOUT SIMILAR)

NOT FOR CONSTRUCTION

LEGEND

- $ LIGHT SWITCH (E309)
- ⊕ DUPLEX RECEPTACLE (E308)

NOTES:

1. EAST TRANSFER TERMINAL CABINET - POWER (E109);
   WEST TRANSFER TERMINAL CABINET - POWER (E111).

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

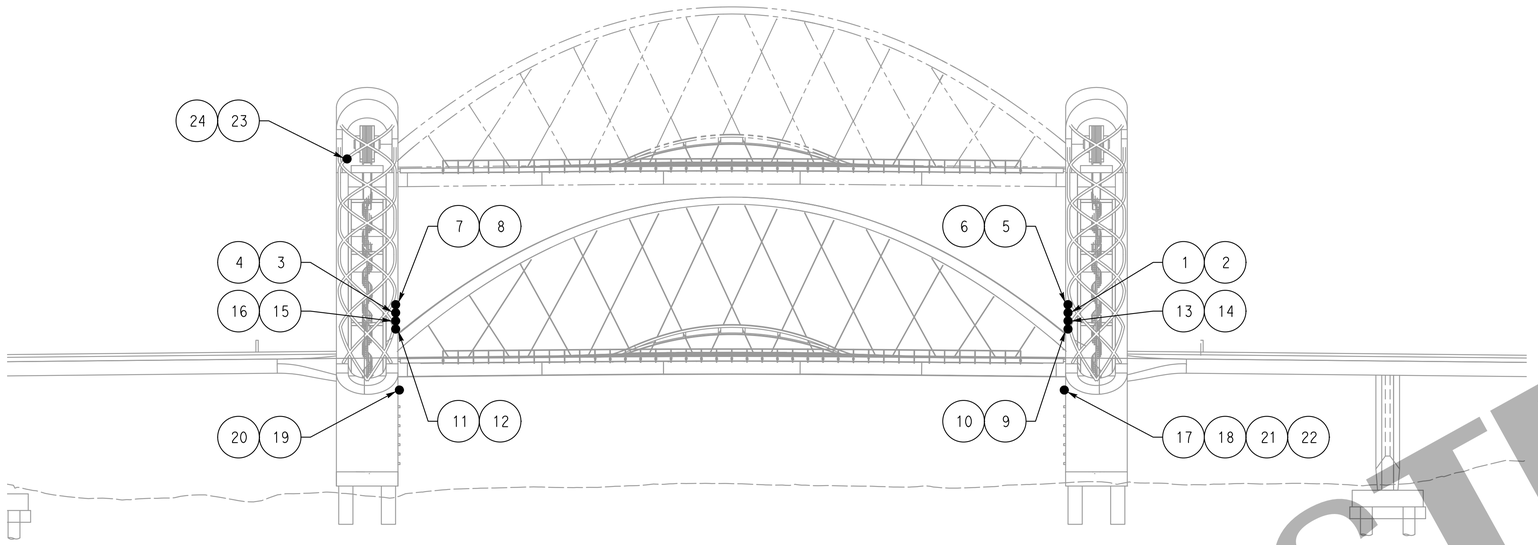
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL ROOM LAYOUTS
(Date: 11/03/2025)

PN: T15136000

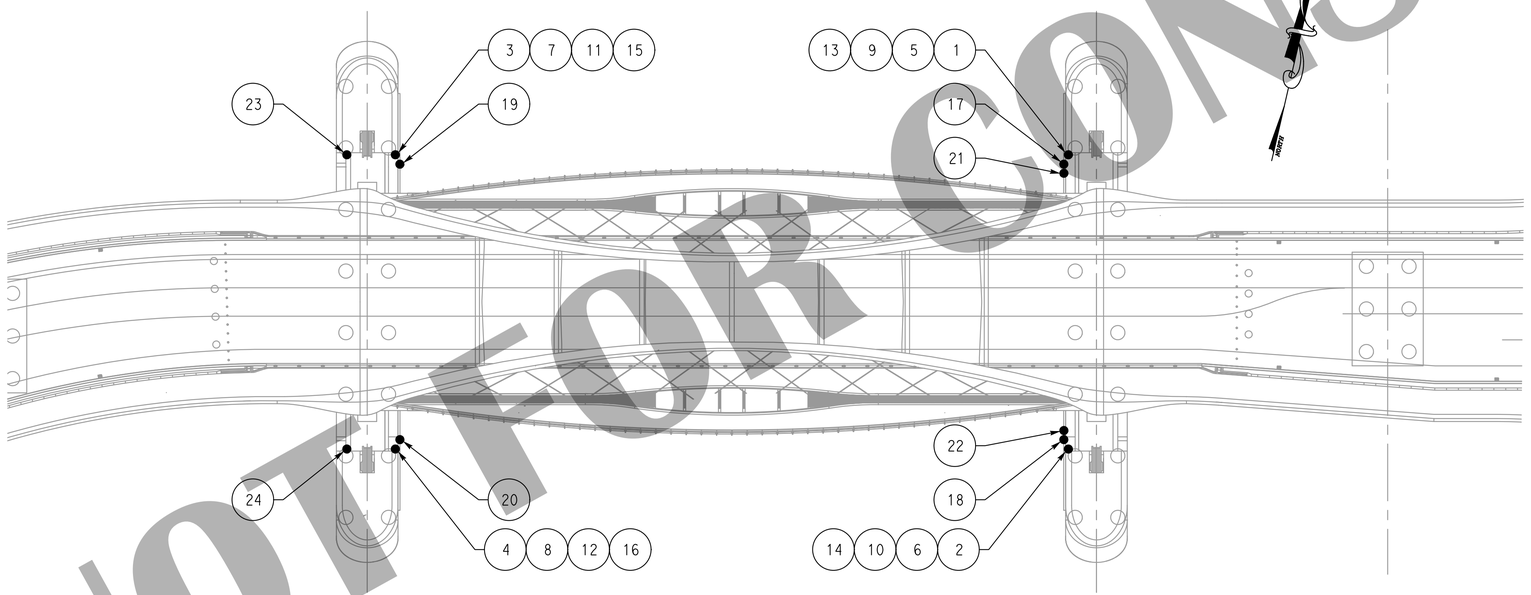
DWG NO.: E-008
SHT NO.: 541 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-008 ELECTRICAL ROOM LAYOUTS.dwg LAST PLOTTED: 11/3/2025 2:04:01 PM



ELEVATION
SCALE: 1/32" = 1'-0"



PLAN
CCTV CAMERA LAYOUT
SCALE: 1/32" = 1'-0"

CAMERA MOUNTING SCHEDULE			
CAMERA NO.	(ITEM NO.)	MOUNTING LOCATION	APPROXIMATE MOUNTING HEIGHT
1	(E403A)	NE TOWER (SOUTH FACE)	19 FEET ABOVE ROADWAY LEVEL
2	(E403A)	SE TOWER (NORTH FACE)	19 FEET ABOVE ROADWAY LEVEL
3	(E403A)	NW TOWER (SOUTH FACE)	19 FEET ABOVE ROADWAY LEVEL
4	(E403A)	SW TOWER (NORTH FACE)	19 FEET ABOVE ROADWAY LEVEL
5	(E403A)	NE TOWER (SOUTH FACE)	21 FEET ABOVE ROADWAY LEVEL
6	(E403A)	SE TOWER (NORTH FACE)	21 FEET ABOVE ROADWAY LEVEL
7	(E403A)	NW TOWER (SOUTH FACE)	21 FEET ABOVE ROADWAY LEVEL
8	(E403A)	SW TOWER (NORTH FACE)	21 FEET ABOVE ROADWAY LEVEL
9	(E403A)	NE TOWER (SOUTH FACE)	15 FEET ABOVE ROADWAY LEVEL
10	(E403A)	SE TOWER (NORTH FACE)	15 FEET ABOVE ROADWAY LEVEL
11	(E403A)	NW TOWER (SOUTH FACE)	15 FEET ABOVE ROADWAY LEVEL
12	(E403A)	SW TOWER (NORTH FACE)	15 FEET ABOVE ROADWAY LEVEL
13	(E403A)	NE TOWER (SOUTH FACE)	17 FEET ABOVE ROADWAY LEVEL
14	(E403A)	SE TOWER (NORTH FACE)	17 FEET ABOVE ROADWAY LEVEL
15	(E403A)	NW TOWER (SOUTH FACE)	17 FEET ABOVE ROADWAY LEVEL
16	(E403A)	SW TOWER (NORTH FACE)	17 FEET ABOVE ROADWAY LEVEL
17	(E403A)	NE TOWER (WEST FACE)	ELEVATION 36.00
18	(E403A)	SE TOWER (WEST FACE)	ELEVATION 36.00
19	(E403A)	NW TOWER (EAST FACE)	ELEVATION 36.00
20	(E403A)	SW TOWER (EAST FACE)	ELEVATION 36.00
21	(E403B)	NE TOWER (WEST FACE)	ELEVATION 36.00
22	(E403B)	SE TOWER (WEST FACE)	ELEVATION 36.00
23	(E403C)	NW TOWER (SOUTH FACE)	84 FEET ABOVE ROADWAY LEVEL
24	(E403C)	SW TOWER (NORTH FACE)	84 FEET ABOVE ROADWAY LEVEL

NOTES:

1. REFER TO DRAWINGS E-093 TO E-096 FOR EQUIPMENT SCHEDULES.
2. REFER TO DRAWINGS E-085 TO E-087 FOR MOUNTING DETAILS.
3. CAMERAS 17 TO 22 SHALL BE ACCESSIBLE FROM THE TOP OF THE PIER WALL (TRAVELER SEAT ON THE EAST SIDE).
4. CAMERAS 23 AND 24 SHALL BE ACCESSIBLE FROM HATCH IN SHEAVE COVER.

LEGEND:

(#) CAMERA NUMBER

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

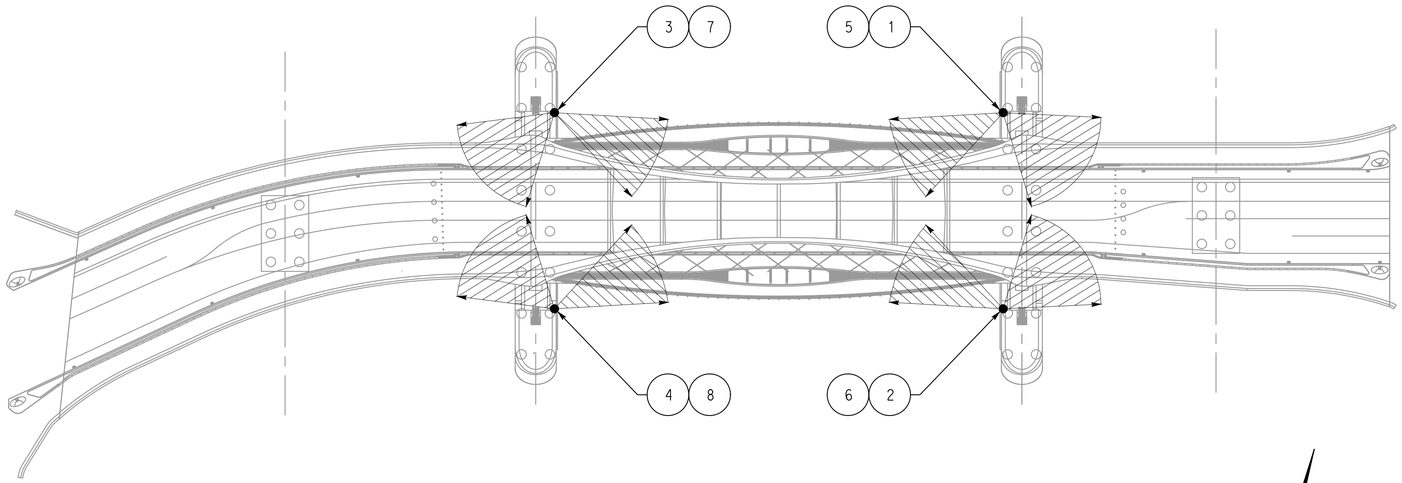
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STRENKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CCTV PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-009
SHT NO.: 542 OF 648

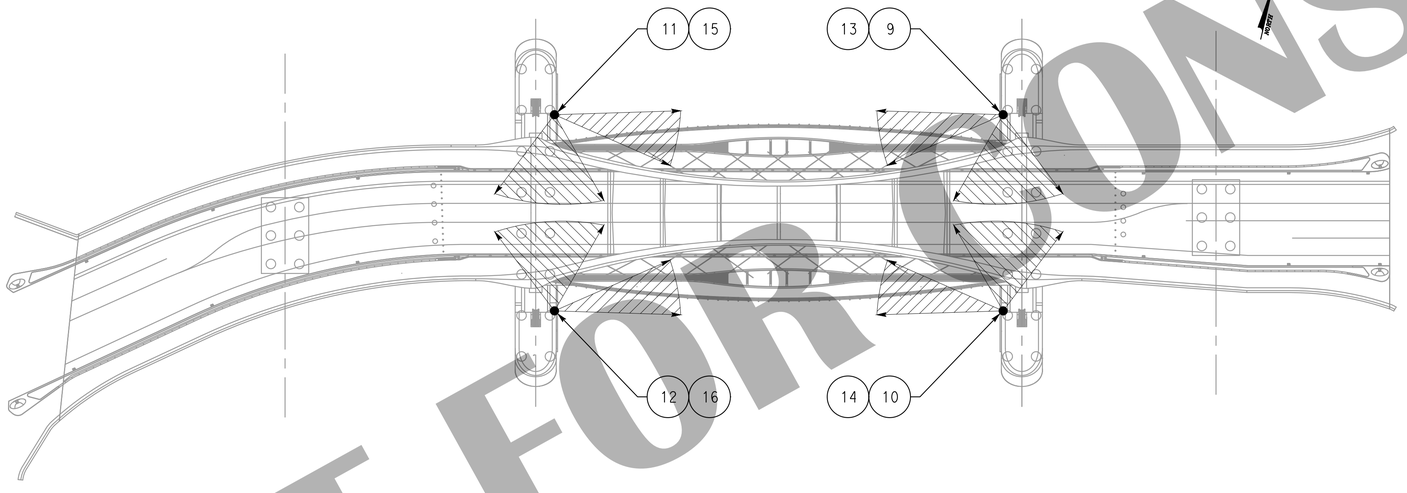
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-009 CCTV PLAN AND ELEVATION.dwg LAST PLOTTED: 11/3/2025 2:04:22 PM



CAMERAS 1 TO 8 FIELD OF VIEWS

SCALE: 1/48" = 1'-0"



CAMERAS 9 TO 16 FIELD OF VIEWS

SCALE: 1/48" = 1'-0"

NOTES:

1. CAMERA FIELD OF VIEWS ILLUSTRATE THE ANTICIPATED GENERAL AIM OF FOCUS OF EACH CAMERA. THE VIEWS ARE NOT INTENDED TO ILLUSTRATE THE ACTUAL RANGE OR ANGLE. ADJUSTMENTS SHALL BE MADE IN THE FIELD TO ENSURE OPTIMAL COVERAGE.

LEGEND:

CAMERA FIELD OF VIEW

(#) CAMERA NUMBER

CAMERA FIELD OF VIEW SCHEDULE

CAMERA NO.	PRIMARY AREA OF COVERAGE (PRESET A)	SECONDARY AREA OF COVERAGE (PRESET B)	DESCRIPTION
1	SW ROADWAY & INNER WALKWAY	EAST APPROACH (SEE CAMERA NO. 5 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE ROADWAY AND PEDESTRIAN (INNER) WALKWAY OF THE SW QUADRANT OF THE LIFT SPAN (PRESET A).
2	NW ROADWAY & INNER WALKWAY	EAST APPROACH (SEE CAMERA NO. 6 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE ROADWAY AND PEDESTRIAN (INNER) WALKWAY OF THE NW QUADRANT OF THE LIFT SPAN (PRESET A).
3	SE ROADWAY & INNER WALKWAY	WEST APPROACH (SEE CAMERA NO. 7 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE ROADWAY AND PEDESTRIAN (INNER) WALKWAY OF THE SE QUADRANT OF THE LIFT SPAN (PRESET A).
4	NE ROADWAY & INNER WALKWAY	WEST APPROACH (SEE CAMERA NO. 8 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE ROADWAY AND PEDESTRIAN (INNER) WALKWAY OF THE NE QUADRANT OF THE LIFT SPAN (PRESET A).
5	EAST APPROACH	SW ROADWAY & INNER WALKWAY (SEE CAMERA NO. 1 DESCRIPTION)	THE VIEWS OF CAMERAS 5 AND 6 SHALL PROVIDE COMPLETE COVERAGE OF THE EAST APPROACH INCLUDING THE TRAFFIC BARRIER BOLLARDS, PEDESTRIAN BARRIER GATES, TRAFFIC WARNING GATES, ROADWAY, AND SIDEWALKS (PRESET A).
6	EAST APPROACH	NW ROADWAY & INNER WALKWAY (SEE CAMERA NO. 2 DESCRIPTION)	THE VIEWS OF CAMERAS 5 AND 6 SHALL PROVIDE COMPLETE COVERAGE OF THE EAST APPROACH INCLUDING THE TRAFFIC BARRIER BOLLARDS, PEDESTRIAN BARRIER GATES, TRAFFIC WARNING GATES, ROADWAY, AND SIDEWALKS (PRESET A).
7	WEST APPROACH	SE ROADWAY & INNER WALKWAY (SEE CAMERA NO. 3 DESCRIPTION)	THE VIEWS OF CAMERAS 7 AND 8 SHALL PROVIDE COMPLETE COVERAGE OF THE WEST APPROACH INCLUDING THE TRAFFIC BARRIER BOLLARDS, PEDESTRIAN BARRIER GATES, ROADWAY, AND SIDEWALKS (PRESET A).
8	WEST APPROACH	NE ROADWAY & INNER WALKWAY (SEE CAMERA NO. 4 DESCRIPTION)	THE VIEWS OF CAMERAS 7 AND 8 SHALL PROVIDE COMPLETE COVERAGE OF THE WEST APPROACH INCLUDING THE TRAFFIC BARRIER BOLLARDS, PEDESTRIAN BARRIER GATES, ROADWAY, AND SIDEWALKS PRESET A).
9	NW LIFT SPAN SIDEWALK	SE GAP (SEE CAMERA NO. 13 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE NW QUADRANT OF THE LIFT SPAN SIDEWALK (PRESET A).
10	SW LIFT SPAN SIDEWALK	NE GAP (SEE CAMERA NO. 14 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE SW QUADRANT OF THE LIFT SPAN SIDEWALK (PRESET A).
11	NE LIFT SPAN SIDEWALK	SW GAP (SEE CAMERA NO. 15 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE NE QUADRANT OF THE LIFT SPAN SIDEWALK (PRESET A).
12	SE LIFT SPAN SIDEWALK	NW GAP (SEE CAMERA NO. 16 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE SE QUADRANT OF THE LIFT SPAN SIDEWALK (PRESET A).
13	SE GAP	NW LIFT SPAN SIDEWALK (SEE CAMERA NO. 9 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE TRANSITION BETWEEN THE APPROACH SPAN AND LIFT SPAN (GAP) AT THE SE CORNER (PRESET A).
14	NE GAP	SW LIFT SPAN SIDEWALK (SEE CAMERA NO. 10 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE TRANSITION BETWEEN THE APPROACH SPAN AND LIFT SPAN (GAP) AT THE NE CORNER (PRESET A).
15	SW GAP	NE LIFT SPAN SIDEWALK (SEE CAMERA NO. 11 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE TRANSITION BETWEEN THE APPROACH SPAN AND LIFT SPAN (GAP) AT THE SW CORNER (PRESET A).
16	NW GAP	SE LIFT SPAN SIDEWALK (SEE CAMERA NO. 12 DESCRIPTION)	CAMERA SHALL PROVIDE A VIEW OF THE TRANSITION BETWEEN THE APPROACH SPAN AND LIFT SPAN (GAP) AT THE NW CORNER (PRESET A).

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CCTV CAMERA FIELD OF VIEWS - 1
(Date: 11/03/2025)

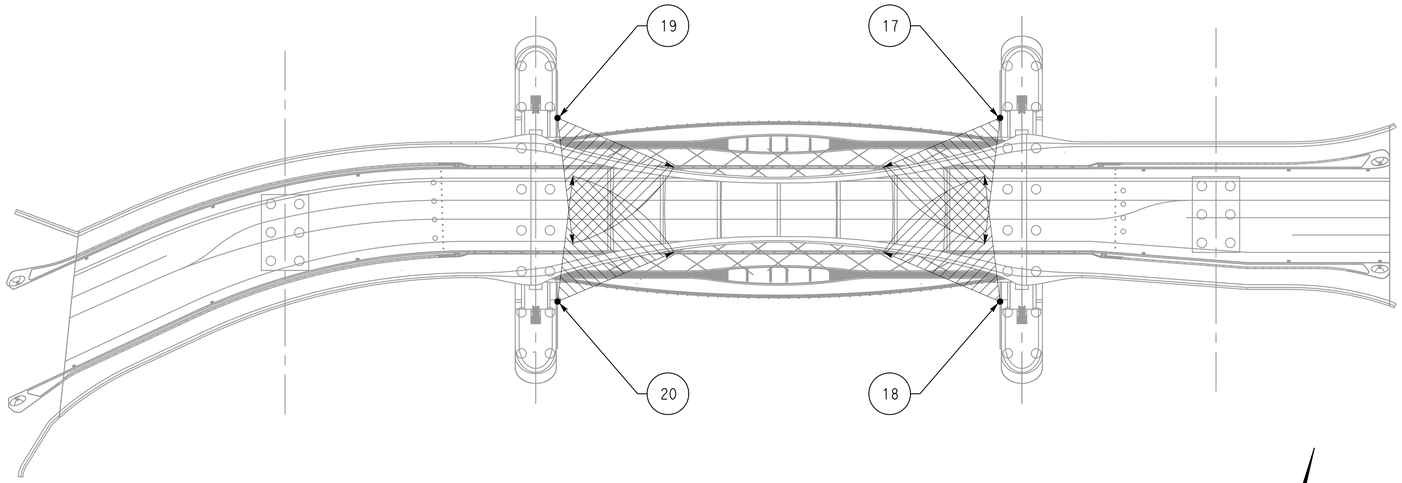
PN: T15136000

DWG NO.: E-010

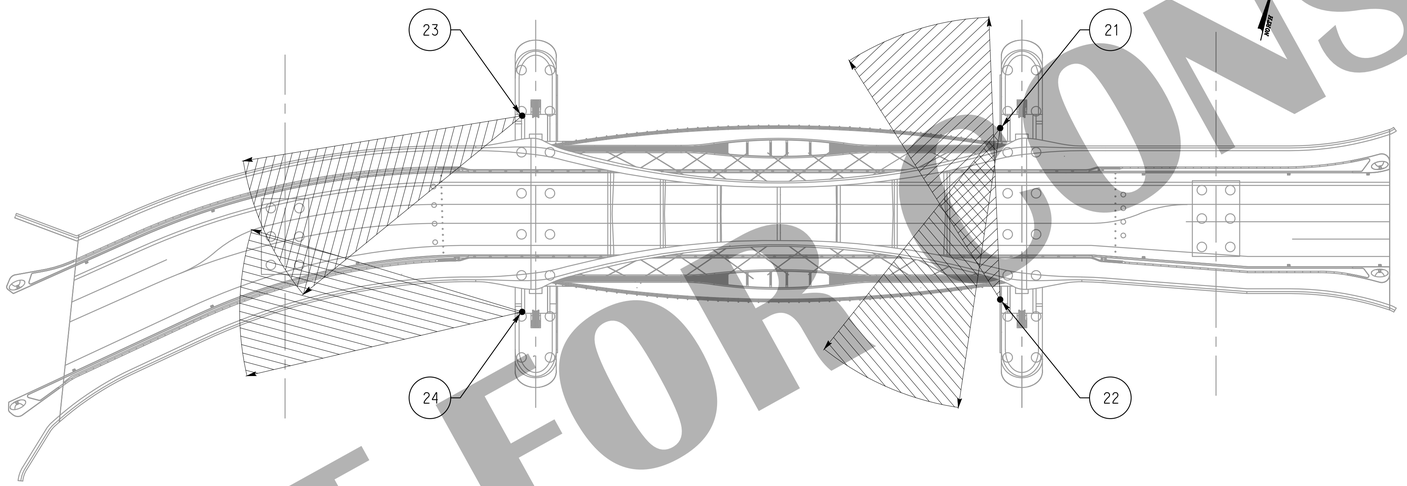
SHT NO.: 543 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-010 CCTV CAMERA FIELD OF VIEWS - 1.dwg LAST PLOTTED: 11/3/2025 2:04:42 PM



CAMERAS 17 TO 20
FIELD OF VIEWS
SCALE: 1/48" = 1'-0"



CAMERAS 21 TO 24
FIELD OF VIEWS
SCALE: 1/48" = 1'-0"

CAMERA FIELD OF VIEW SCHEDULE

CAMERA NO.	PRIMARY AREA OF COVERAGE (PRESET A)	SECONDARY AREA OF COVERAGE (PRESET B)	DESCRIPTION
17	DOWNSTREAM & SW QUADRANT OF WATERWAY UNDER LIFT SPAN	AS REQUESTED BY THE OWNER	CAMERA SHALL PROVIDE A VIEW DOWNSTREAM AND OF THE SW QUADRANT OF THE WATERWAY UNDERNEATH THE LIFT SPAN (PRESET A).
18	UPSTREAM & NW QUADRANT OF WATERWAY UNDER LIFT SPAN	AS REQUESTED BY THE OWNER	CAMERA SHALL PROVIDE A VIEW UPSTREAM AND OF THE NW QUADRANT OF THE WATERWAY UNDERNEATH THE LIFT SPAN (PRESET A).
19	DOWNSTREAM & SE QUADRANT OF WATERWAY UNDER LIFT SPAN	AS REQUESTED BY THE OWNER	CAMERA SHALL PROVIDE A VIEW DOWNSTREAM AND OF THE SE QUADRANT OF THE WATERWAY UNDERNEATH THE LIFT SPAN (PRESET A).
20	UPSTREAM & NE QUADRANT OF WATERWAY UNDER LIFT SPAN	AS REQUESTED BY THE OWNER	CAMERA SHALL PROVIDE A VIEW UPSTREAM AND OF THE NE QUADRANT OF THE WATERWAY UNDERNEATH THE LIFT SPAN (PRESET A).
21	DOWNSTREAM	N/A	CAMERA SHALL PROVIDE A THERMAL VIEW OF THE DOWNSTREAM WATERWAY.
22	UPSTREAM	N/A	CAMERA SHALL PROVIDE A THERMAL VIEW OF THE UPSTREAM WATERWAY.
23	WEST APPROACH	N/A	CAMERA SHALL PROVIDE A VIEW OF THE WEST TRAFFIC WARNING GATES AND EASTBOUND TRAFFIC SIGNALS.
24	WEST APPROACH	N/A	CAMERA SHALL PROVIDE A VIEW OF THE WEST TRAFFIC WARNING GATES AND EASTBOUND TRAFFIC SIGNALS.

NOTES:

1. CAMERA FIELD OF VIEWS ILLUSTRATE THE ANTICIPATED GENERAL AIM OF FOCUS OF EACH CAMERA. THE VIEWS ARE NOT INTENDED TO ILLUSTRATE THE ACTUAL RANGE OR ANGLE. ADJUSTMENTS SHALL BE MADE IN THE FIELD TO ENSURE OPTIMAL COVERAGE.

LEGEND:

CAMERA FIELD OF VIEW

(#) CAMERA NUMBER

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

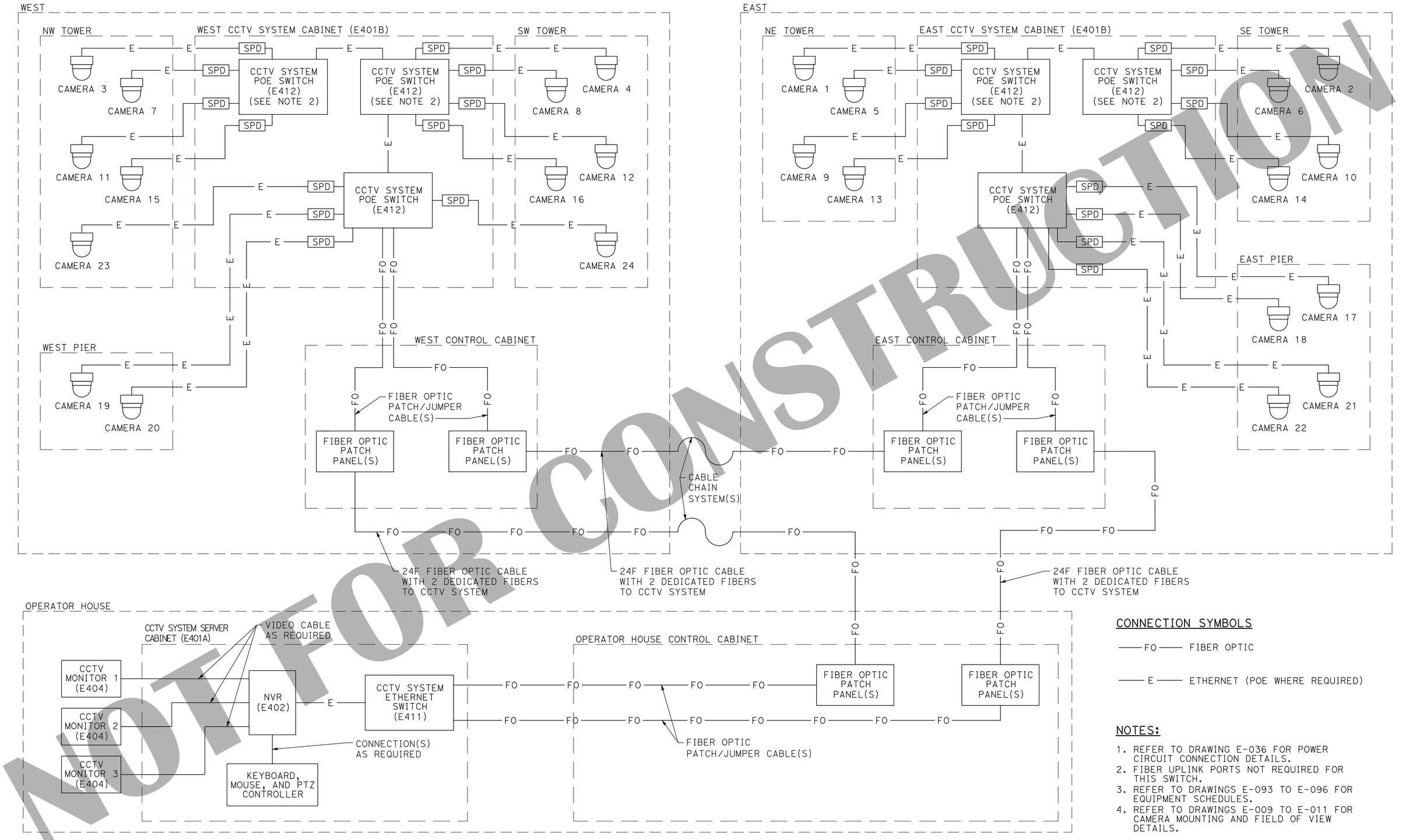
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CCTV CAMERA FIELD OF VIEWS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-011
SHT NO.: 544
OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-011 CCTV CAMERA FIELD OF VIEWS - 2.dwg LAST PLOTTED: 11/3/2025 2:05:08 PM



CONNECTION SYMBOLS

—— FO —— FIBER OPTIC

—— E —— ETHERNET (POE WHERE REQUIRED)

NOTES:

1. REFER TO DRAWING E-036 FOR POWER CIRCUIT CONNECTION DETAILS.
2. FIBER UPLINK PORTS NOT REQUIRED FOR THIS SWITCH.
3. REFER TO DRAWINGS E-093 TO E-096 FOR EQUIPMENT SCHEDULES.
4. REFER TO DRAWINGS E-009 TO E-011 FOR CAMERA MOUNTING AND FIELD OF VIEW DETAILS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOWSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CCTV SYSTEM DIAGRAM
(Date: 11/03/2025)

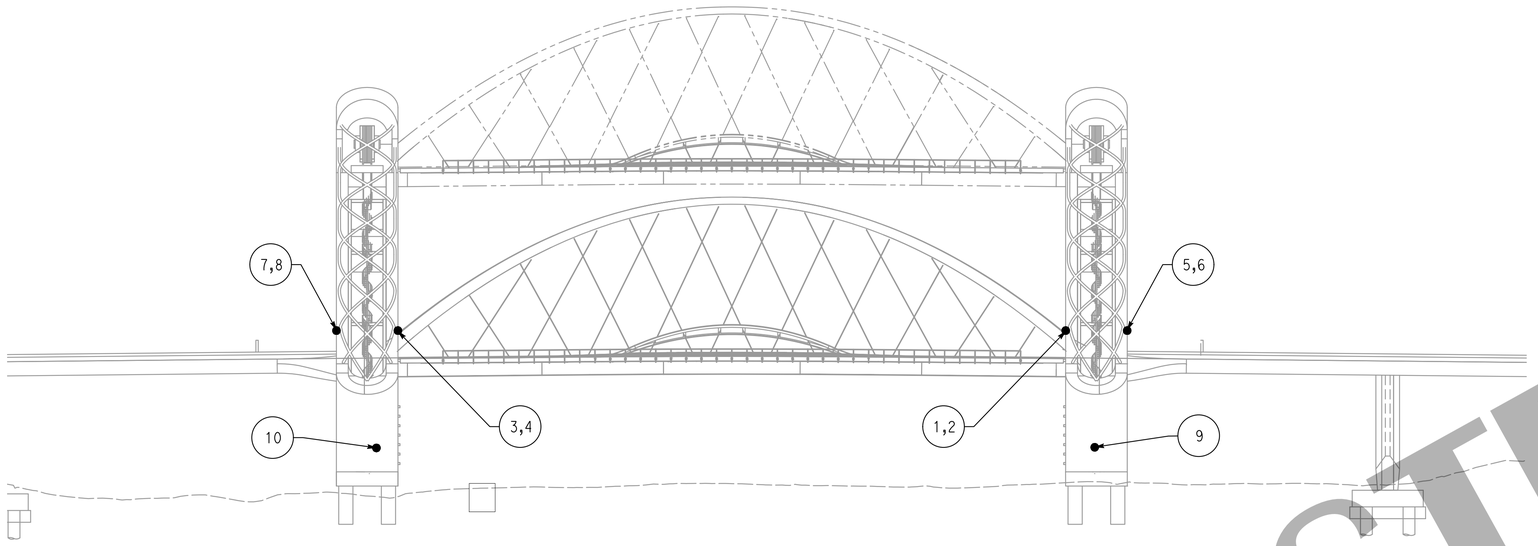
PN: T15136000

DWG NO.: E-012

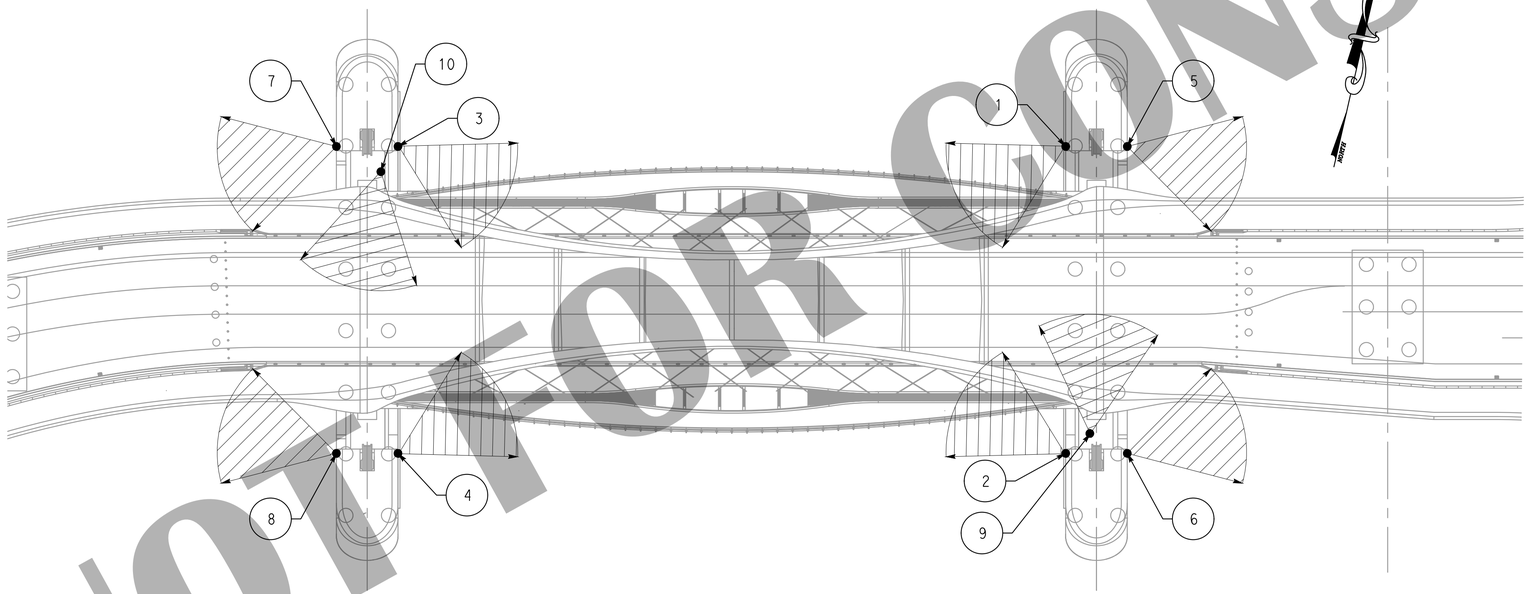
SHT NO.: 545 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-012 CCTV SYSTEM DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:05:18 PM



ELEVATION
SCALE: 1/32" = 1'-0"



PLAN
PA SYSTEM SPEAKER LAYOUT
SCALE: 1/32" = 1'-0"

SPEAKERS AND LOCATIONS	
SPEAKER NO.	DESCRIPTION
1	NE LIFT SPAN SPEAKER: HORN SPEAKER MOUNTED ON THE NE TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE EAST END OF THE NORTH LIFT SPAN SIDEWALK.
2	SE LIFT SPAN SPEAKER: HORN SPEAKER MOUNTED ON THE SE TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE EAST END OF THE SOUTH LIFT SPAN SIDEWALK.
3	NW LIFT SPAN SPEAKER: HORN SPEAKER MOUNTED ON THE NW TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE WEST END OF THE NORTH LIFT SPAN SIDEWALK.
4	SW LIFT SPAN SPEAKER: HORN SPEAKER MOUNTED ON THE SW TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE WEST END OF THE SOUTH LIFT SPAN SIDEWALK.
5	NE APPROACH SPEAKER: HORN SPEAKER MOUNTED ON THE NE TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE EAST END OF THE NORTH APPROACH SIDEWALK.
6	SE APPROACH SPEAKER: HORN SPEAKER MOUNTED ON THE SE TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE EAST END OF THE SOUTH APPROACH SIDEWALK.
7	NW APPROACH SPEAKER: HORN SPEAKER MOUNTED ON THE NW TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE WEST END OF THE NORTH APPROACH SIDEWALK.
8	SW APPROACH SPEAKER: HORN SPEAKER MOUNTED ON THE SW TOWER AND POSITIONED TO ADDRESS PEDESTRIANS ON THE WEST END OF THE SOUTH APPROACH SIDEWALK.
9	EAST MACHINERY ROOM SPEAKER: HORN SPEAKER MOUNTED ON THE EAST ELECTRICAL ROOM AND POSITIONED TO ADDRESS MAINTENANCE WORKERS INSIDE THE EAST MACHINERY ROOM.
10	WEST MACHINERY ROOM SPEAKER: HORN SPEAKER MOUNTED ON THE WEST ELECTRICAL ROOM AND POSITIONED TO ADDRESS MAINTENANCE WORKERS INSIDE THE WEST MACHINERY ROOM.

LEGEND:

FIELD OF PRIMARY PROJECTION

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

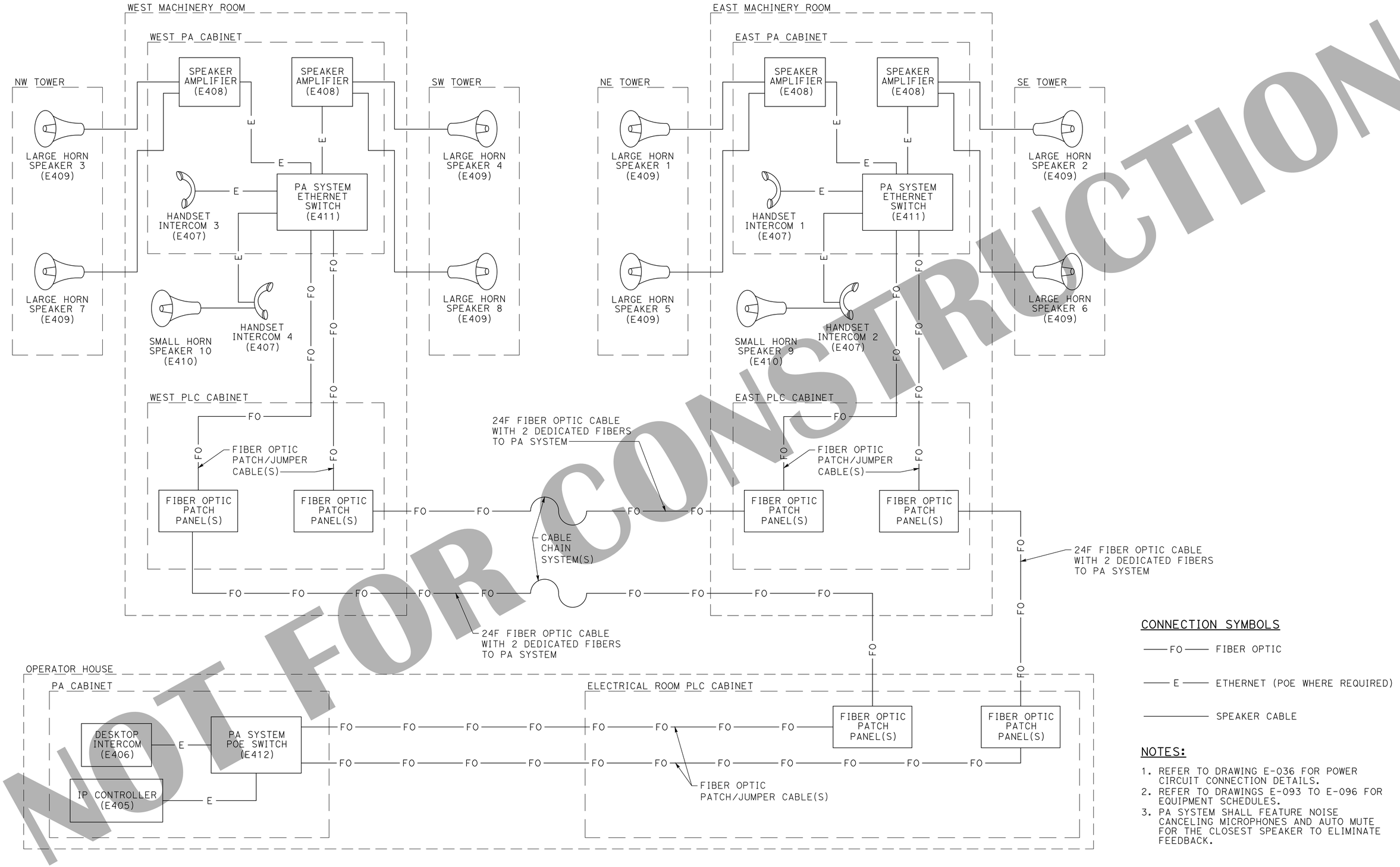
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PA SYSTEM PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-013
SHT NO.: 546 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-013 PA SYSTEM PLAN AND ELEVATION.dwg LAST PLOTTED: 11/3/2025 2:05:38 PM



CONNECTION SYMBOLS

FO — FIBER OPTIC

E — ETHERNET (POE WHERE REQUIRED)

SPEAKER CABLE

NOTES:

1. REFER TO DRAWING E-036 FOR POWER CIRCUIT CONNECTION DETAILS.
2. REFER TO DRAWINGS E-093 TO E-096 FOR EQUIPMENT SCHEDULES.
3. PA SYSTEM SHALL FEATURE NOISE CANCELING MICROPHONES AND AUTO MUTE FOR THE CLOSEST SPEAKER TO ELIMINATE FEEDBACK.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWKOSKY No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PA SYSTEM DIAGRAM
(Date: 11/03/2025)

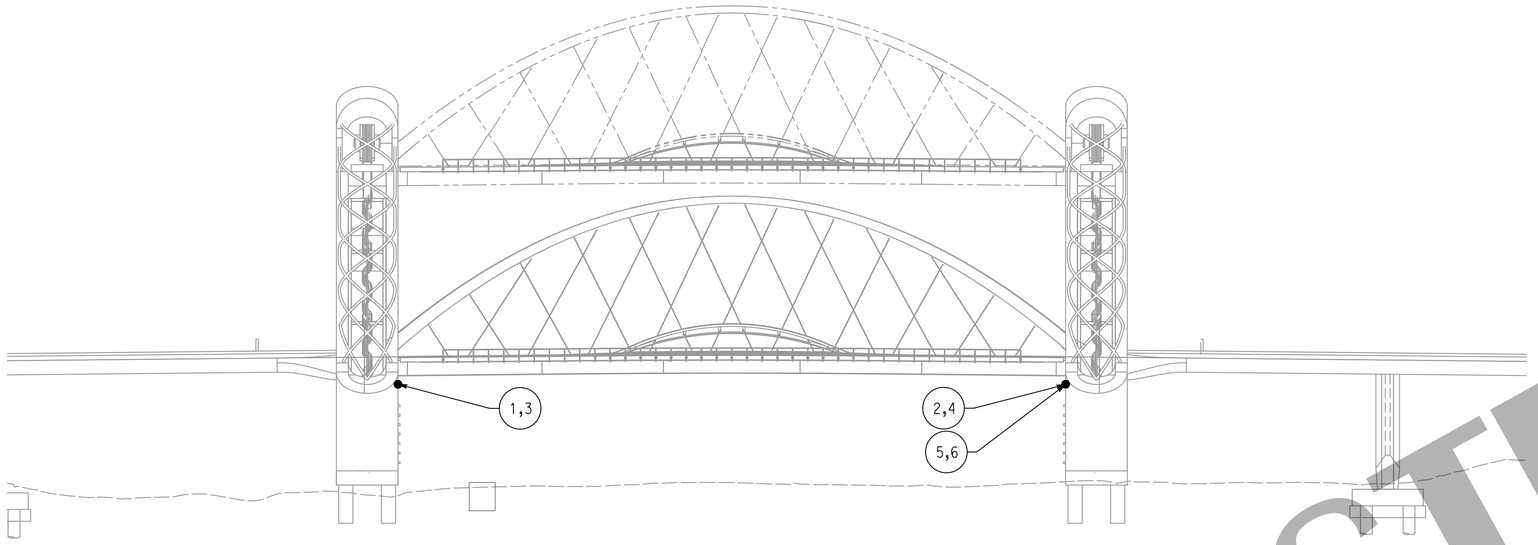
PN: T15136000

DWG NO.: E-014

SHT NO.: 547 OF 648

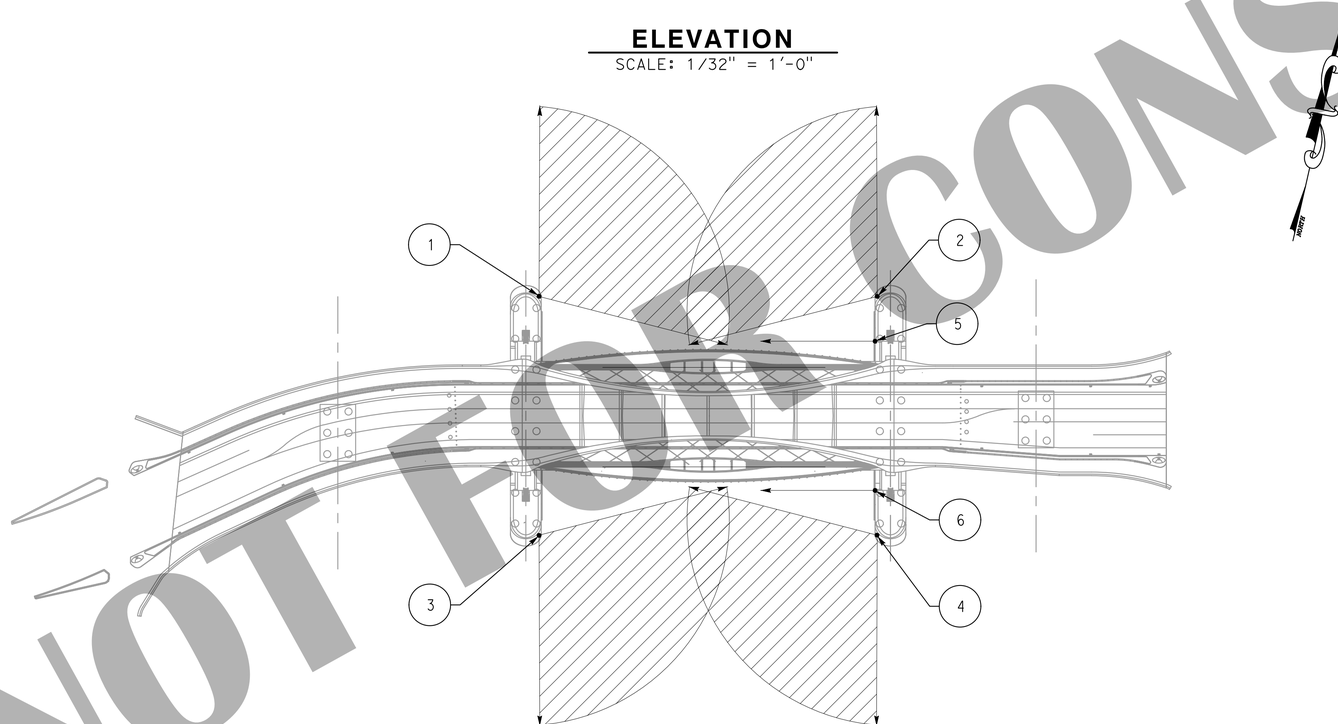
p:\3326.01\CADD\Electrical\E-014 PA SYSTEM DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:05:42 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



ELEVATION
SCALE: 1/32" = 1'-0"

SENSORS AND LOCATIONS	
SENSOR NO.	DESCRIPTION
1	NW PIER BDS SENSOR: BOAT DETECTION SENSOR MOUNTED ON THE NW TOWER AND POSITIONED FACING THE NAVIGABLE WATERWAY.
2	NE PIER BDS SENSOR: BOAT DETECTION SENSOR MOUNTED ON THE NE TOWER AND POSITIONED TOWARD THE NAVIGABLE WATERWAY.
3	SW PIER BDS SENSOR: BOAT DETECTION SENSOR MOUNTED ON THE SW TOWER AND POSITIONED FACING THE NAVIGABLE WATERWAY.
4	SE PIER BDS SENSOR: BOAT DETECTION SENSOR MOUNTED ON THE SE TOWER AND POSITIONED TOWARD THE NAVIGABLE WATERWAY.
5	NORTH BDS SENSOR: BOAT DETECTION SENSOR MOUNTED ON THE NW TOWER AND POSITIONED FACING THE NAVIGABLE WATERWAY.
6	SOUTH BDS SENSOR: BOAT DETECTION SENSOR MOUNTED ON THE SW TOWER AND POSITIONED FACING THE NAVIGABLE WATERWAY.



PLAN
BOAT DETECTION SYSTEM LAYOUT
SCALE: 1/64" = 1'-0"

LEGEND:

FIELD OF PRIMARY PROJECTION

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

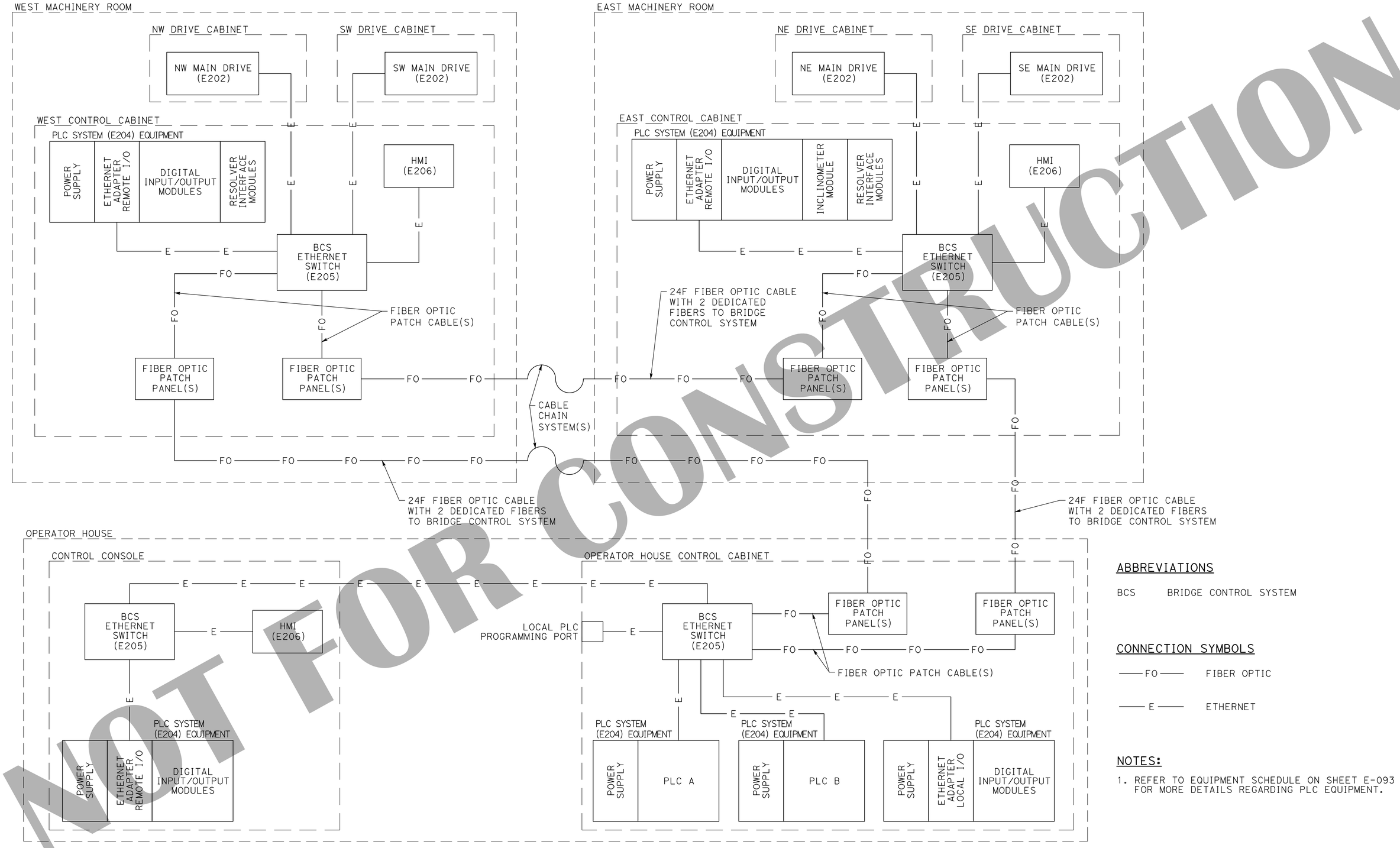
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BDS PLAN AND ELEVATION
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-015
SHT NO.: 548 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-015 BDS PLAN AND ELEVATION.dwg LAST PLOTTED: 11/3/2025 2:06:01 PM



ABBREVIATIONS

BCS BRIDGE CONTROL SYSTEM

CONNECTION SYMBOLS

—— FO —— FIBER OPTIC

—— E —— ETHERNET

NOTES:

1. REFER TO EQUIPMENT SCHEDULE ON SHEET E-093 FOR MORE DETAILS REGARDING PLC EQUIPMENT.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

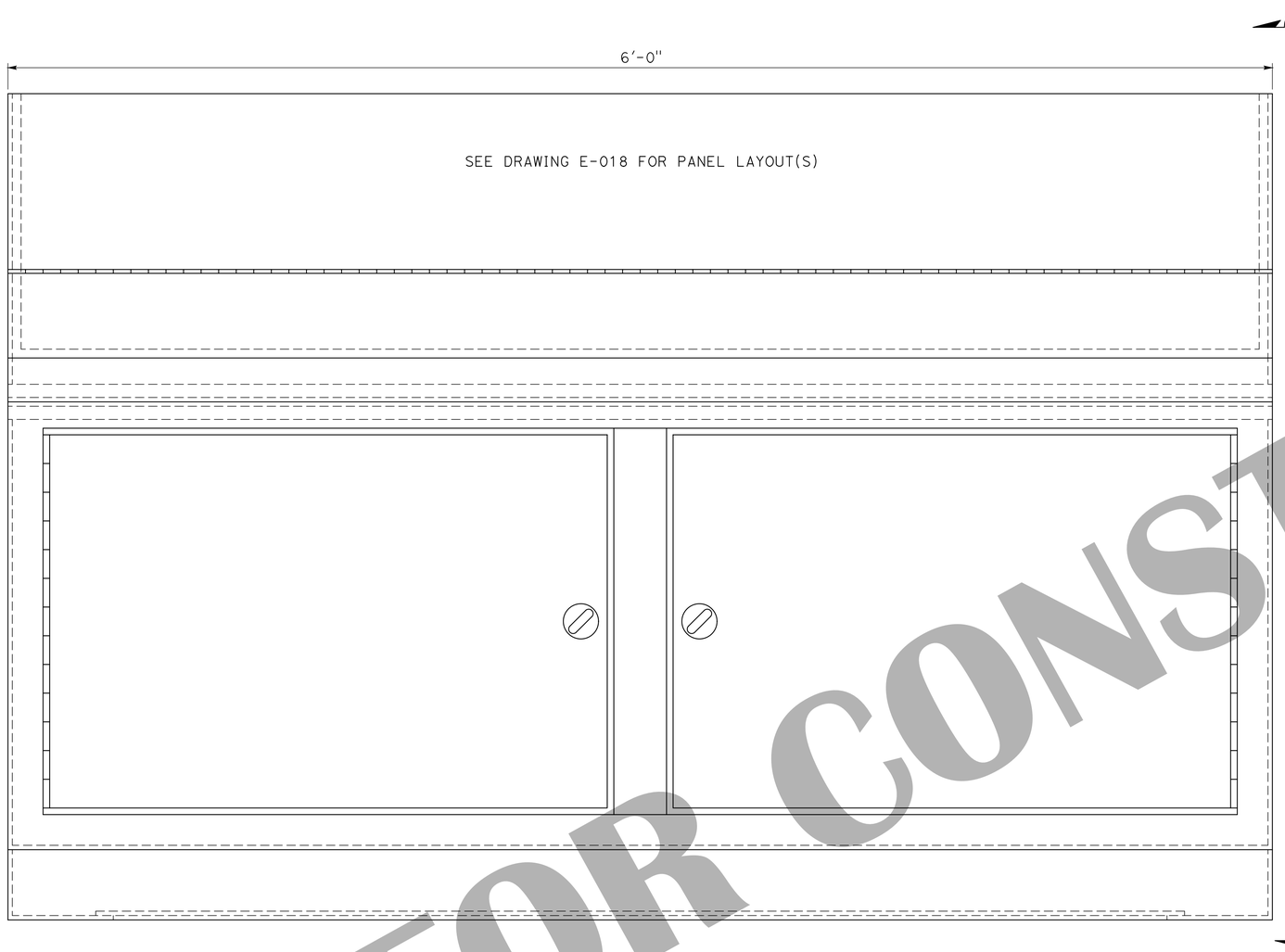
REGISTERED PROFESSIONAL ENGINEER — JOSEPH G. STRENKOSKI — No. 21568 — Exp. 09.30.26 — ELECTRICAL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONTROL SYSTEM DIAGRAM
(Date: 11/03/2025)

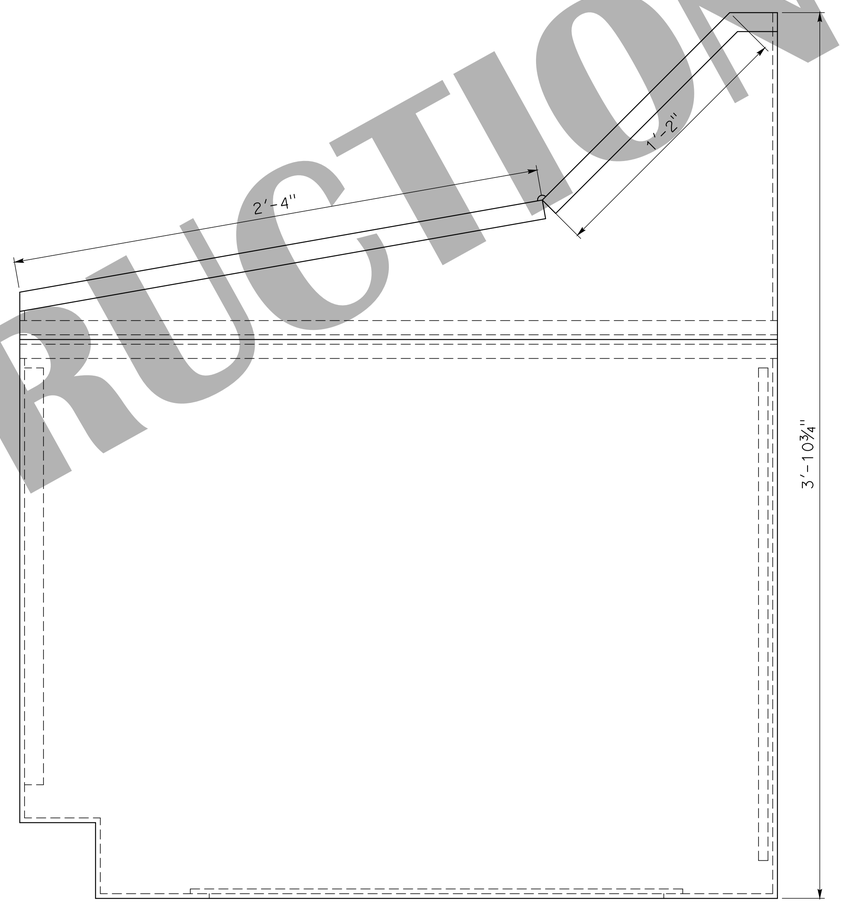
PN: T15136000
DWG NO.: E-016
SHT NO.: 549 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-016 CONTROL SYSTEM DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:06:05 PM



ELEVATION
CONTROL CONSOLE
SCALE: 3"=1'-0"



A
E-017
VIEW
SCALE: 3"=1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

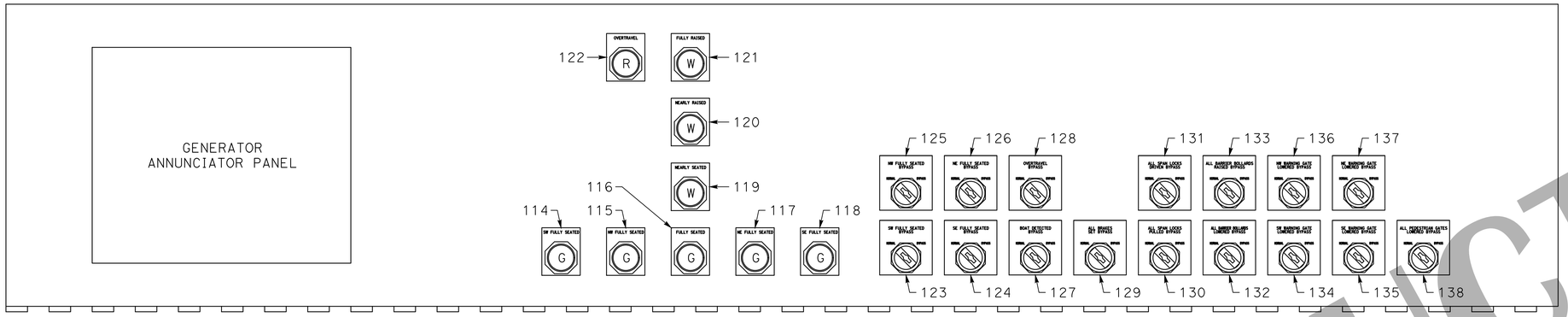
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONTROL CONSOLE DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-017
SHT NO.: 550 OF 648

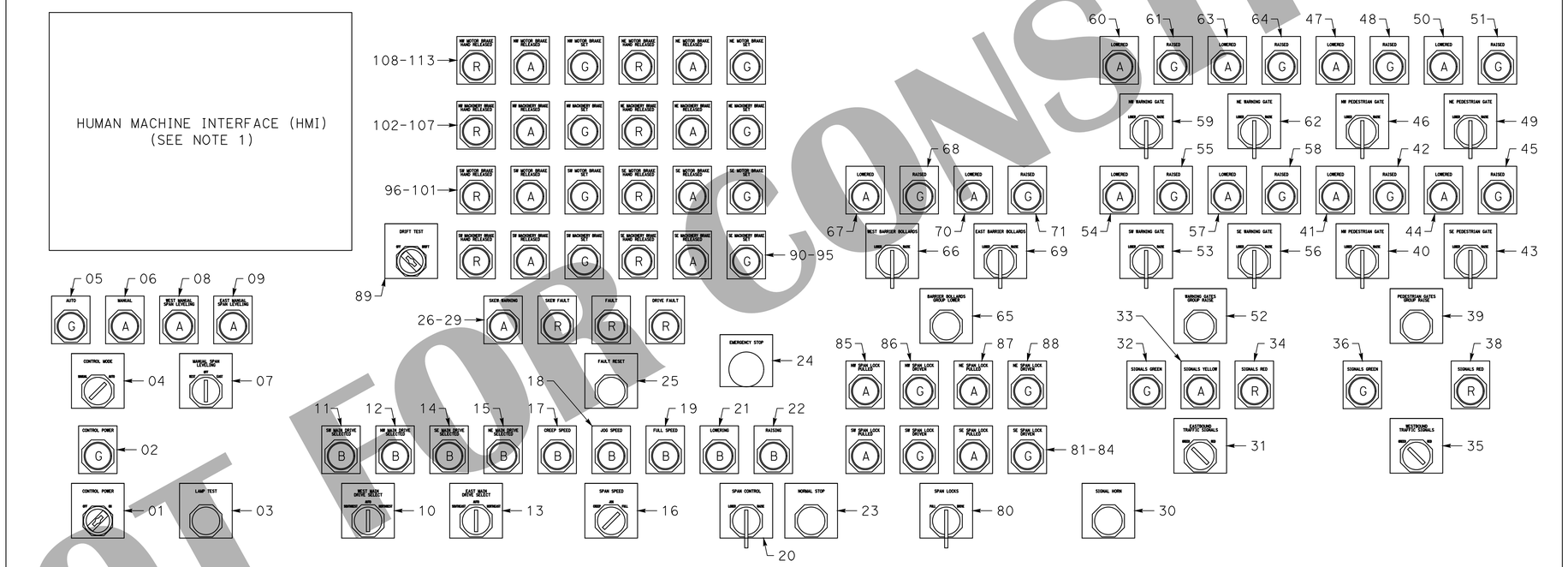
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-017 CONTROL CONSOLE DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:06:09 PM



CONTROL CONSOLE - INDICATOR PANEL LAYOUT

SCALE: 4" = 1'-0"



CONTROL CONSOLE - CONTROL PANEL LAYOUT

SCALE: 4" = 1'-0"

NOTES:

1. PROGRAM HMI WITH SCADA SYSTEM. REFER TO SPECIFICATIONS FOR COMPLETE DETAILS ON SCADA SYSTEM AND HMI SCREEN REQUIREMENTS.

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKY No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONTROL CONSOLE DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-018
SHT NO.: 551 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-018 CONTROL CONSOLE DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 2:06:13 PM

CONTROL CONSOLE DEVICE LEGEND

DEVICE NO.	TAG NAME	TAG DESCRIPTION	DEVICE DESCRIPTION
1	SS-CP	CONTROL POWER OFF ON	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
2	IL-CP	CONTROL POWER	GREEN INDICATOR LIGHT - PRESS TO TEST
3	PB-LT	LAMP TEST	BLACK PUSH BUTTON - MOMENTARY
4	SS-CM	CONTROL MODE MANUAL AUTO	SELECTOR SWITCH - 2 POSITION, MAINTAINED
5	IL-AUTO	AUTO	GREEN INDICATOR LIGHT - PRESS TO TEST
6	IL-MAN	MANUAL	AMBER INDICATOR LIGHT - PRESS TO TEST
7	SS-MSL	MANUAL SPAN LEVELING WEST OFF EAST	SELECTOR SWITCH - 3 POSITION, MAINTAINED
8	IL-MSLW	WEST MANUAL SPAN LEVELING	AMBER INDICATOR LIGHT - PRESS TO TEST
9	IL-MSLE	EAST MANUAL SPAN LEVELING	AMBER INDICATOR LIGHT - PRESS TO TEST
10	SS-MDSW	WEST MAIN DRIVE SELECT SOUTHWEST AUTO NORTHWEST	SELECTOR SWITCH - 3 POSITION, MAINTAINED
11	IL-MDSWS	SW MAIN DRIVE SELECTED	BLUE INDICATOR LIGHT - PRESS TO TEST
12	IL-MDNWS	NW MAIN DRIVE SELECTED	BLUE INDICATOR LIGHT - PRESS TO TEST
13	SS-MDSE	EAST MAIN DRIVE SELECT SOUTHEAST AUTO NORTHEAST	SELECTOR SWITCH - 3 POSITION, MAINTAINED
14	IL-MDSES	SE MAIN DRIVE SELECTED	BLUE INDICATOR LIGHT - PRESS TO TEST
15	IL-MDNES	NE MAIN DRIVE SELECTED	BLUE INDICATOR LIGHT - PRESS TO TEST
16	SS-SS	SPAN SPEED CREEP JOG FULL	SELECTOR SWITCH - 3 POSITION, MAINTAINED
17	IL-CS	CREEP SPEED	BLUE INDICATOR LIGHT - PRESS TO TEST
18	IL-JS	JOG SPEED	BLUE INDICATOR LIGHT - PRESS TO TEST
19	IL-FUS	FULL SPEED	BLUE INDICATOR LIGHT - PRESS TO TEST
20	SS-SC	SPAN CONTROL LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
21	IL-L	LOWERING	BLUE INDICATOR LIGHT - PRESS TO TEST
22	IL-R	RAISING	BLUE INDICATOR LIGHT - PRESS TO TEST
23	PB-NOS	NORMAL STOP	BLACK PUSH BUTTON - MOMENTARY
24	PB-ES(CC)	EMERGENCY STOP	RED PUSH BUTTON - MAINTAINED, MUSHROOM HEAD
25	PB-FLTRES	FAULT RESET	BLACK PUSH BUTTON - MOMENTARY
26	IL-SKW	SKEW WARNING	AMBER INDICATOR LIGHT - PRESS TO TEST
27	IL-SKFLT	SKEW FAULT	RED INDICATOR LIGHT - PRESS TO TEST
28	IL-FLT	FAULT	RED INDICATOR LIGHT - PRESS TO TEST
29	IL-DF	DRIVE FAULT	RED INDICATOR LIGHT - PRESS TO TEST
30	PB-SH	SIGNAL HORN	BLACK PUSH BUTTON - MOMENTARY
31	SS-EBTS(CC)	EASTBOUND TRAFFIC SIGNALS GREEN RED	SELECTOR SWITCH - 2 POSITION, MAINTAINED
32	IL-EBTSG	SIGNALS GREEN	GREEN INDICATOR LIGHT - PRESS TO TEST
33	IL-EBTSY	SIGNALS YELLOW	AMBER INDICATOR LIGHT - PRESS TO TEST
34	IL-EBTSR	SIGNALS RED	RED INDICATOR LIGHT - PRESS TO TEST
35	SS-WBTS	WESTBOUND TRAFFIC SIGNALS GREEN RED	SELECTOR SWITCH - 2 POSITION, MAINTAINED
36	IL-WBTSG	SIGNALS GREEN	GREEN INDICATOR LIGHT - PRESS TO TEST
37 NOT USED			
38	IL-WBTSR	SIGNALS RED	RED INDICATOR LIGHT - PRESS TO TEST
39	PB-PGGR	PEDESTRIAN GATES GROUP RAISE	BLACK PUSH BUTTON - MOMENTARY
40	SS-PGSW	NW PEDESTRIAN GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
41	IL-PGSWL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
42	IL-PGSWR	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
43	SS-PGSE	SE PEDESTRIAN GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
44	IL-PGSEL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
45	IL-PGSER	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST

CONTROL CONSOLE DEVICE LEGEND

DEVICE NO.	TAG NAME	TAG DESCRIPTION	DEVICE DESCRIPTION
46	SS-PGNW	NW PEDESTRIAN GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
47	IL-PGNWL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
48	IL-PGNWR	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
49	SS-PGNE	NE PEDESTRIAN GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
50	IL-PGNEL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
51	IL-PGNER	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
52	PB-WGGR	WARNING GATES GROUP RAISE	BLACK PUSH BUTTON - MOMENTARY
53	SS-WGSW	SW WARNING GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
54	IL-WGSWL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
55	IL-WGSWR	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
56	SS-WGSE	SE WARNING GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
57	IL-WGSEL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
58	IL-WGSER	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
59	SS-WGNW	NW WARNING GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
60	IL-WGNWL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
61	IL-WGNWR	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
62	SS-WGNE	NE WARNING GATE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
63	IL-WGNEL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
64	IL-WGNER	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
65	PB-BGGR	BARRIER GATES GROUP RAISE	BLACK PUSH BUTTON - MOMENTARY
66	SS-BBW	WEST BARRIER BOLLARDS LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
67	IL-BBWL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
68	IL-BBWR	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
69	SS-BBE	EAST BARRIER BOLLARDS LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
70	IL-BBEL	LOWERED	AMBER INDICATOR LIGHT - PRESS TO TEST
71	IL-BBER	RAISED	GREEN INDICATOR LIGHT - PRESS TO TEST
72 TO 79 NOT USED			
80	SS-SL	SPAN LOCKS PULL DRIVE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
81	IL-SLSWP	SW SPAN LOCK PULLED	AMBER INDICATOR LIGHT - PRESS TO TEST
82	IL-SLSWD	SW SPAN LOCK DRIVEN	GREEN INDICATOR LIGHT - PRESS TO TEST
83	IL-SLSEP	SE SPAN LOCK PULLED	AMBER INDICATOR LIGHT - PRESS TO TEST
84	IL-SLSED	SE SPAN LOCK DRIVEN	GREEN INDICATOR LIGHT - PRESS TO TEST
85	IL-SLNWP	NW SPAN LOCK PULLED	AMBER INDICATOR LIGHT - PRESS TO TEST
86	IL-SLNWD	NW SPAN LOCK DRIVEN	GREEN INDICATOR LIGHT - PRESS TO TEST
87	IL-SLNEP	NE SPAN LOCK PULLED	AMBER INDICATOR LIGHT - PRESS TO TEST
88	IL-SLNED	NE SPAN LOCK DRIVEN	GREEN INDICATOR LIGHT - PRESS TO TEST
89	SS-DT	DRIFT TEST OFF DRIFT	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
90	IL-MABSWH	SW MACHINERY BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
91	IL-MABSWR	SW MACHINERY BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST
92	IL-MABSWS	SW MACHINERY BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
93	IL-MABSEH	SE MACHINERY BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
94	IL-MABSER	SE MACHINERY BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST
95	IL-MABSES	SE MACHINERY BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
96	IL-MOBSWH	SW MOTOR BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
97	IL-MOBSWR	SW MOTOR BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-019 CONTROL CONSOLE DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 2:06:17 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09.30.26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONTROL CONSOLE DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-019
SHT NO.: 552 OF 648

CONTROL CONSOLE DEVICE LEGEND

DEVICE NO.	TAG NAME	TAG DESCRIPTION	DEVICE DESCRIPTION
98	IL-MOBSWS	SW MOTOR BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
99	IL-MOBSEH	SE MOTOR BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
100	IL-MOBSER	SE MOTOR BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST
101	IL-MOBSES	SE MOTOR BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
102	IL-MABNWH	NW MACHINERY BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
103	IL-MABNWR	NW MACHINERY BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST
104	IL-MABNWS	NW MACHINERY BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
105	IL-MABNEH	NE MACHINERY BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
106	IL-MABNER	NE MACHINERY BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST
107	IL-MABNES	NE MACHINERY BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
108	IL-MOBNWH	NW MOTOR BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
109	IL-MOBNWR	NW MOTOR BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST
110	IL-MOBNWS	NW MOTOR BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
111	IL-MOBNEH	NE MOTOR BRAKE HAND RELEASED	RED INDICATOR LIGHT - PRESS TO TEST
112	IL-MOBNER	NE MOTOR BRAKE RELEASED	AMBER INDICATOR LIGHT - PRESS TO TEST
113	IL-MOBNES	NE MOTOR BRAKE SET	GREEN INDICATOR LIGHT - PRESS TO TEST
114	IL-FSSW	SW FULLY SEATED	GREEN INDICATOR LIGHT - PRESS TO TEST
115	IL-FSNW	NW FULLY SEATED	GREEN INDICATOR LIGHT - PRESS TO TEST
116	IL-FS	FULLY SEATED	GREEN INDICATOR LIGHT - PRESS TO TEST
117	IL-FSNE	NE FULLY SEATED	GREEN INDICATOR LIGHT - PRESS TO TEST
118	IL-FSSE	SE FULLY SEATED	GREEN INDICATOR LIGHT - PRESS TO TEST
119	IL-NS	NEARLY SEATED	WHITE INDICATOR LIGHT - PRESS TO TEST
120	IL-NR	NEARLY RAISED	WHITE INDICATOR LIGHT - PRESS TO TEST
121	IL-FR	FULLY RAISED	WHITE INDICATOR LIGHT - PRESS TO TEST
122	IL-OT	OVERTRAVEL	RED INDICATOR LIGHT - PRESS TO TEST
123	SS-FSSWBP	SW FULLY SEATED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
124	SS-FSSEBP	SE FULLY SEATED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
125	SS-FSNWBP	NW FULLY SEATED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
126	SS-FSNEBP	NE FULLY SEATED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
127	SS-BDBP	BOAT DETECTED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
128	SS-OTBP	OVERTRAVEL BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
129	SS-ABSBP	ALL BRAKES SET BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
130	SS-ASLPBP	ALL SPAN LOCKS PULLED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
131	SS-ASLDBP	ALL SPAN LOCKS DRIVEN BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
132	SS-ABBLBP	ALL BARRIER BOLLARDS LOWERED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
133	SS-ABBRBP	ALL BARRIER BOLLARDS RAISED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
134	SS-WGSWLBP	SW WARNING GATE LOWERED NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
135	SS-WGSELBP	SE WARNING GATE LOWERED NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
136	SS-WGNWLBP	NW WARNING GATE LOWERED NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
137	SS-WGNELBP	NE WARNING GATE LOWERED NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
138	SS-APGLBP	ALL PEDESTRIAN GATES LOWERED BYPASS NORMAL BYPASS	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-020 CONTROL CONSOLE DETAILS - 4.dwg LAST PLOTTED: 11/3/2025 2:06:22 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

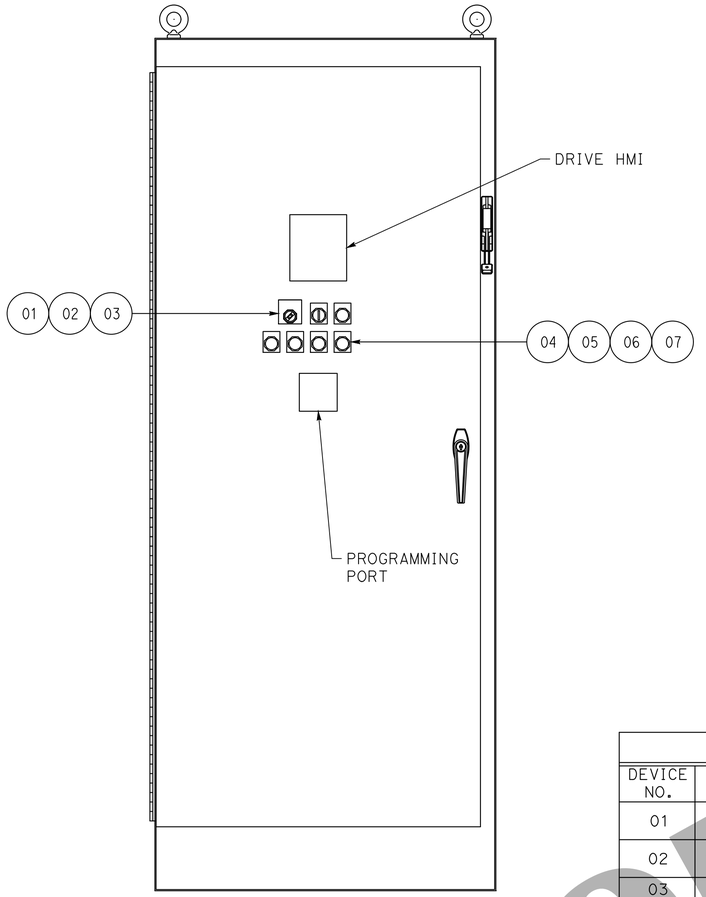
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWOSKY No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONTROL CONSOLE DETAILS - 4
(Date: 11/03/2025)

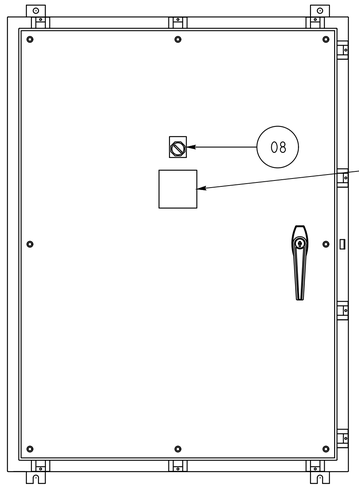
PN: T15136000

DWG NO.: E-020
SHT NO.: 553 OF 648



CABINET LAYOUT (FRONT)
TYPICAL DRIVE CABINET

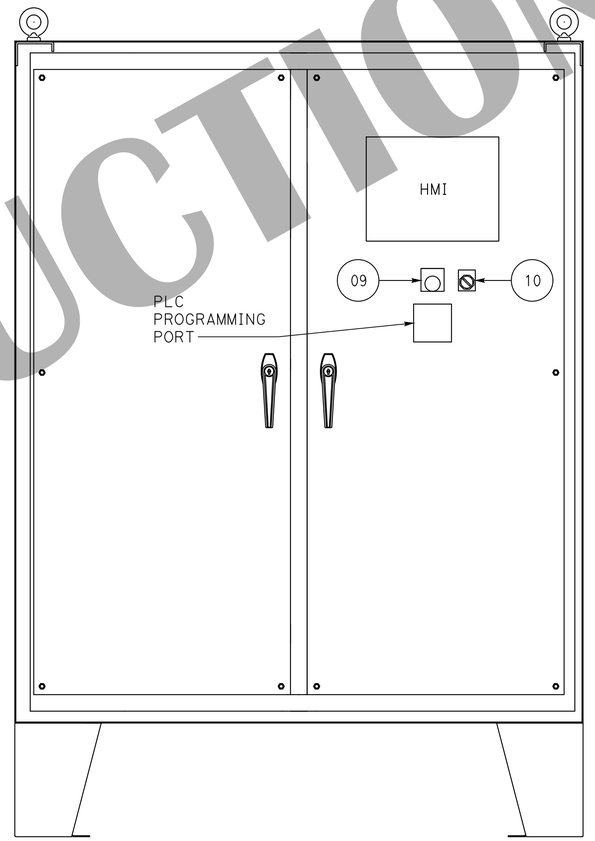
(TYPICAL OF MDNE, MDSE, MDNW, AND MDSW)
(90"H x 36"W x 24"D FLOOR MOUNT)



CABINET LAYOUT (FRONT)
OPERATOR HOUSE CONTROL CABINET

(48"H x 36"W x 18"D WALL MOUNT)

DEVICE LEGEND			
DEVICE NO.	TAG NAME	TAG DESCRIPTION	DEVICE DESCRIPTION
01	SS-MDXX(LOC)	NE/SE/NW/SW DRIVE LOCAL AUTO/REMOTE	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED
02	SS-MDXX(LOC2)	NE/SE/NW/SW DRIVE LOWER RAISE	SELECTOR SWITCH - 3 POSITION, SPRING RETURN TO CENTER FROM BOTH
03	N/A	ENABLE	BLUE INDICATOR LIGHT - PRESS TO TEST
04	N/A	REDUCED TORQUE	AMBER INDICATOR LIGHT - PRESS TO TEST
05	N/A	JOG	BLUE INDICATOR LIGHT - PRESS TO TEST
06	N/A	LOWER	BLUE INDICATOR LIGHT - PRESS TO TEST
07	N/A	RAISE	BLUE INDICATOR LIGHT - PRESS TO TEST
08	SS-PLC	PLC PLCA PLC B	SELECTOR SWITCH - 2 POSITION, MAINTAINED
09	PB-ES(EER/WER)	EMERGENCY STOP	RED PUSH BUTTON - MAINTAINED, MUSHROOM HEAD
10	SS-EBTS(WER)	EASTBOUND TRAFFIC SIGNALS GREEN RED	KEYED SELECTOR SWITCH - 2 POSITION, MAINTAINED



CABINET LAYOUT (FRONT)
EAST & WEST CONTROL CABINETS

(TYPICAL OF EAST AND WEST CONTROL CABINETS, EXCEPT AS NOTED)
(72"H x 60"W x 18"D FLOOR MOUNT)

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

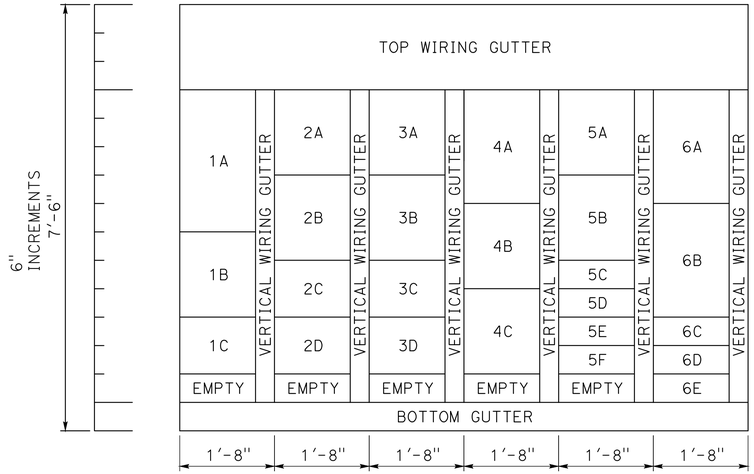
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSN
No. 21568
Exp. 05-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CABINET DETAILS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-021
SHT NO.: 554 OF 648

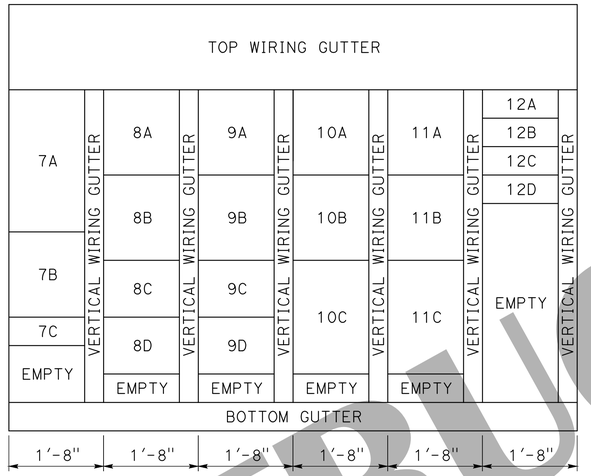
p:\3326.01\CADD\Electrical\E-021 CABINET DETAILS.dwg LAST PLOTTED: 11/3/2025 2:06:27 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



EAST MCC LAYOUT

SCALE: 3/4" = 1'-0"



WEST MCC LAYOUT

SCALE: 3/4" = 1'-0"

EAST MOTOR CONTROL CENTER (EMCC)

VOLTAGE: 480 VOLTS
PHASE: 3
WIRE: 3
MAIN: CIRCUIT BREAKER
BUS HORIZONTAL AMPERES: 600A
SHORT CIRCUIT: 65,000 AMPS
LOCATION: EAST ELECTRICAL EQUIPMENT ROOM
FED FROM: AUTOMATIC TRANSFER SWITCH

UNIT NO.	UNIT TYPE	DESCRIPTION	MOTOR HP	NEMA STARTER SIZE	POLES	BREAKER TRIP AMPS	TYPE
1A	MCB	EAST MAIN CIRCUIT BREAKER	-	-	3	500	TM
1B	SPD	SURGE PROTECTIVE DEVICE	-	-	3	-	-
1C	PM	POWER MONITOR	-	-	3	-	-
2A	FVR	NE PEDESTRIAN GATE	1	1	3	15	TM
2B	FVR	SE PEDESTRIAN GATE	1	1	3	15	TM
2C	FVNR	NE MOTOR BRAKE	½	1	3	15	TM
2D	FVNR	NE MACHINERY BRAKE	¾	1	3	15	TM
3A	FVR	NE WARNING GATE	1	1	3	15	TM
3B	FVR	SE WARNING GATE	1	1	3	15	TM
3C	FVNR	SE MOTOR BRAKE	½	1	3	15	TM
3D	FVNR	SE MACHINERY BRAKE	¾	1	3	15	TM
4A	FCB	MAIN POWER TO WMCC	-	-	3	350	TM
4B	FCB	EAST BARRIER BOLLARDS	-	-	3	20*	TM
4C	-	SPACE	-	-	-	-	-
5A	FVR	NE SPAN LOCK	5	1	3	20	TM
5B	FVR	SE SPAN LOCK	5	1	3	20	TM
5C	FCB	EAST ELECTRICAL ROOM XFMR	-	-	3	70	TM
5D	BCB	NE SUMP PUMP	1½	-	3	15	TM
5E	BCB	SE SUMP PUMP	1½	-	3	15	TM
5F	BCB	TRAVELER	-	-	3	35	TM
6A	BCB	NE MAIN DRIVE	100	-	3	350	TM
6B	BCB	SE MAIN DRIVE	100	-	3	350	TM
6C	FCB	EAST MACHINERY ROOM CRANES	-	-	3	25	TM
6D	FCB	BRIDGE LIGHTING XFMR LET1	-	-	3	50	TM
6E	BCB	TRAVELER HOIST	-	-	3	15	TM

* ADJUST SIZE OF BREAKER AS REQUIRED PER BOLLARD MANUFACTURER RECOMMENDATIONS.

WEST MOTOR CONTROL CENTER (WMCC)

VOLTAGE: 480 VOLTS
PHASE: 3
WIRE: 3
MAIN: CIRCUIT BREAKER
BUS HORIZONTAL AMPERES: 600A
SHORT CIRCUIT: 65,000 AMPS
LOCATION: WEST ELECTRICAL EQUIPMENT ROOM
FED FROM: EAST MOTOR CONTROL CENTER

UNIT NO.	UNIT TYPE	DESCRIPTION	MOTOR HP	NEMA STARTER SIZE	POLES	BREAKER TRIP AMPS	TYPE
7A	MCB	WEST MAIN CIRCUIT BREAKER	-	-	3	400	TM
7B	SPD	SURGE PROTECTIVE DEVICE	-	-	3	-	-
7C	FCB	WEST TRANSFORMER	-	-	3	70	TM
8A	FVR	NW PEDESTRIAN GATE	1	1	3	15	TM
8B	FVR	SW PEDESTRIAN GATE	1	1	3	15	TM
8C	FVNR	SW MOTOR BRAKE	½	1	3	15	TM
8D	FVNR	SW MACHINERY BRAKE	¾	1	3	15	TM
9A	FVR	NW WARNING GATE	1	1	3	15	TM
9B	FVR	SW WARNING GATE	1	1	3	15	TM
9C	FVNR	NW MOTOR BRAKE	½	1	3	15	TM
9D	FVNR	NW MACHINERY BRAKE	¾	1	3	15	TM
10A	-	SPACE	-	-	-	-	-
10B	FCB	WEST BARRIER BOLLARDS	-	-	3	20*	TM
10C	BCB	SW MAIN DRIVE	100	-	3	350	TM
11A	FVR	NW SPAN LOCK	5	1	3	20	TM
11B	FVR	SW SPAN LOCK	5	1	3	20	TM
11C	BCB	NW MAIN DRIVE	100	-	3	350	TM
12A	BCB	NW SUMP PUMP	1½	-	3	15	TM
12B	BCB	SW SUMP PUMP	1½	-	3	15	TM
12C	FCB	WEST MACHINERY ROOM CRANES	-	-	3	25	TM
12D	FCB	BRIDGE LIGHTING XFMR LWT1	-	-	3	50	TM

* ADJUST SIZE OF BREAKER AS REQUIRED PER BOLLARD MANUFACTURER RECOMMENDATIONS.

BCB = BRANCH CIRCUIT BREAKER
FCB = FEEDER CIRCUIT BREAKER
MCB = MAIN CIRCUIT BREAKER
FVR = FULL VOLTAGE REVERSING
FVNR = FULL VOLTAGE NON-REVERSING
TM = THERMAL-MAGNETIC

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MOTOR CONTROL CENTER LAYOUTS
(Date: 11/03/2025)

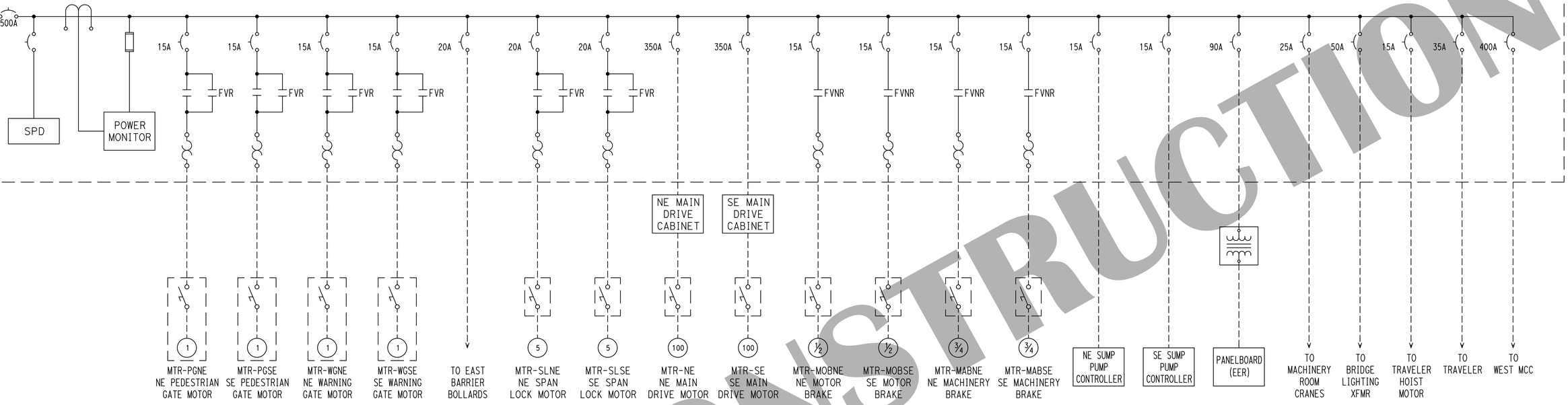
PN: T15136000
DWG NO.: E-022
SHT NO.: 555 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

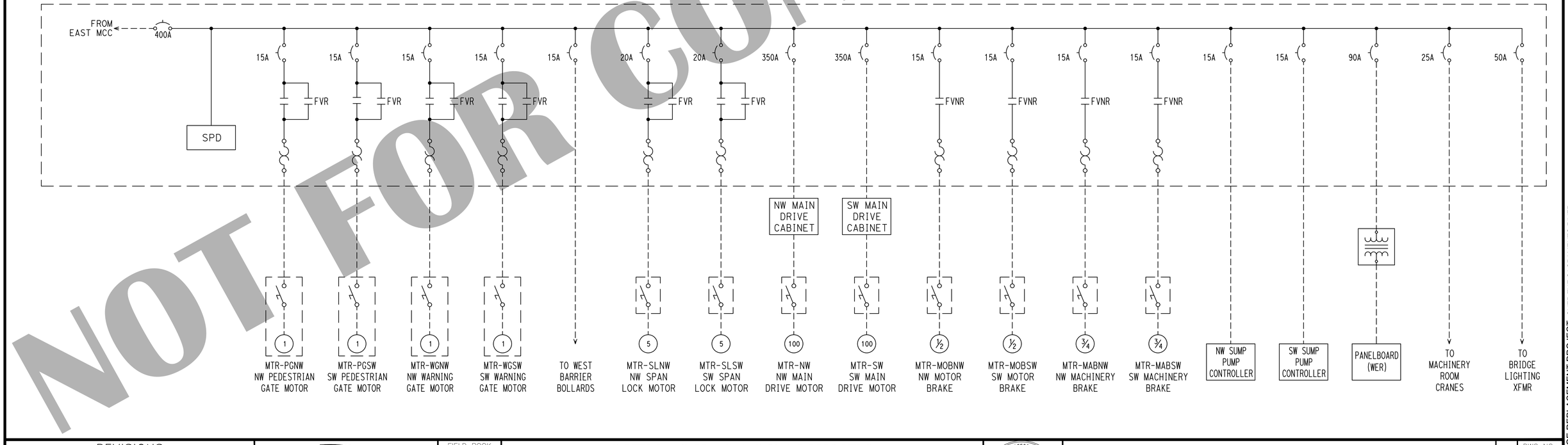
p:\3326.01\CADD\Electrical\E-022 MOTOR CONTROL CENTER LAYOUTS.dwg LAST PLOTTED: 11/3/2025 2:06:30 PM

FROM OPERATOR HOUSE POWER DISTRIBUTION PANEL
(SEE OPERATOR HOUSE PLANS FOR DETAILS)

EAST MOTOR CONTROL CENTER



WEST MOTOR CONTROL CENTER



NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

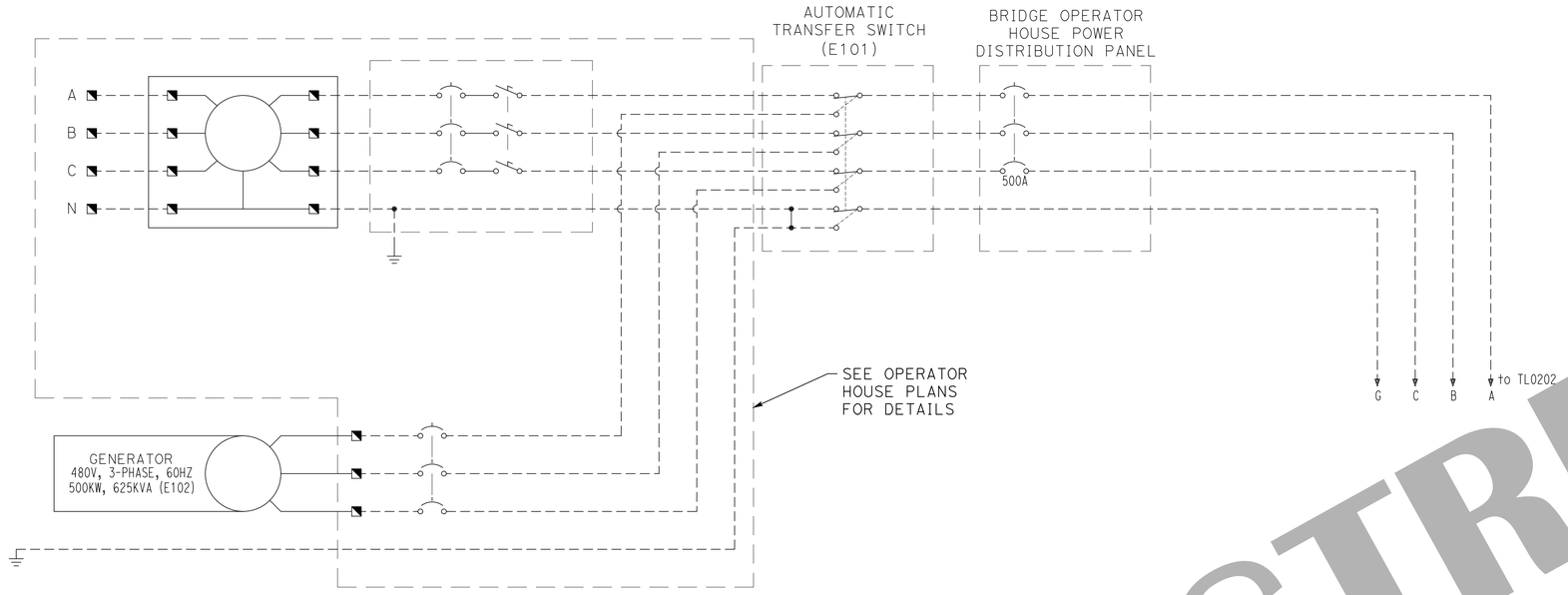
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWOSKI
No. 21568
Exp. 09.30.26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SINGLE LINE DIAGRAM
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-023
SHT NO.: 556 OF 648

p:\3326.01\CADD\Electrical\E-023 SINGLE LINE DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:06:34 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOT FOR CONSTRUCTION

0101 0102 0103 0104 0105 0106 0107 0108 0109 0110 0111 0112 0113 0114 0115 0116 0117 0118 0119 0120 0121 0122 0123 0124 0125 0126 0127 0128 0129 0130 0131 0132 0133 0134

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

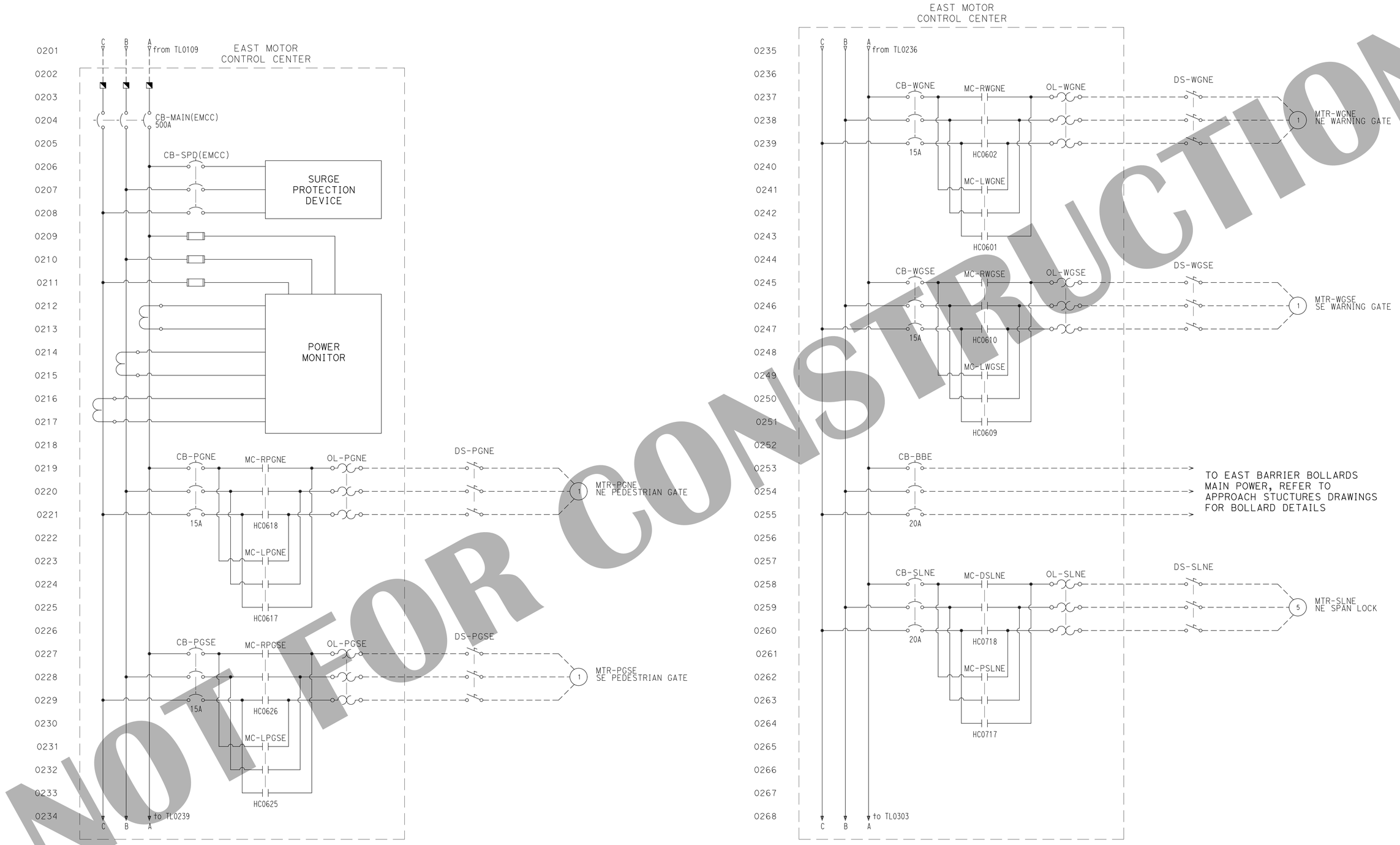
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
THREE LINE DIAGRAM - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-024
SHT NO.: 557 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-024 THREE LINE DIAGRAM - 1.dwg LAST PLOTTED: 11/3/2025 2:06:39 PM



NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

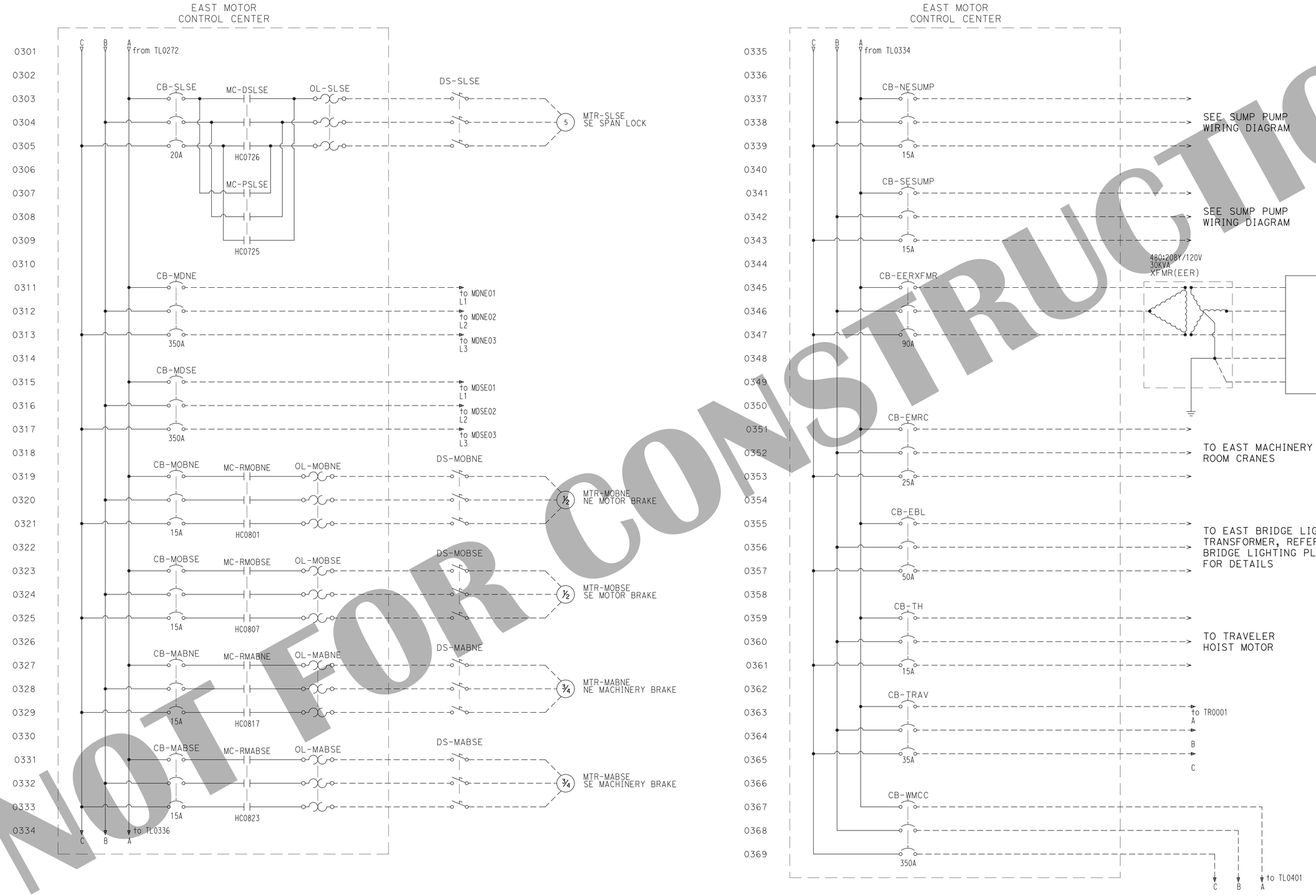
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STRENKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
THREE LINE DIAGRAM - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-025
SHT NO.: 558 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-025 THREE LINE DIAGRAM - 2.dwg LAST PLOTTED: 11/3/2025 2:06:43 PM



NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

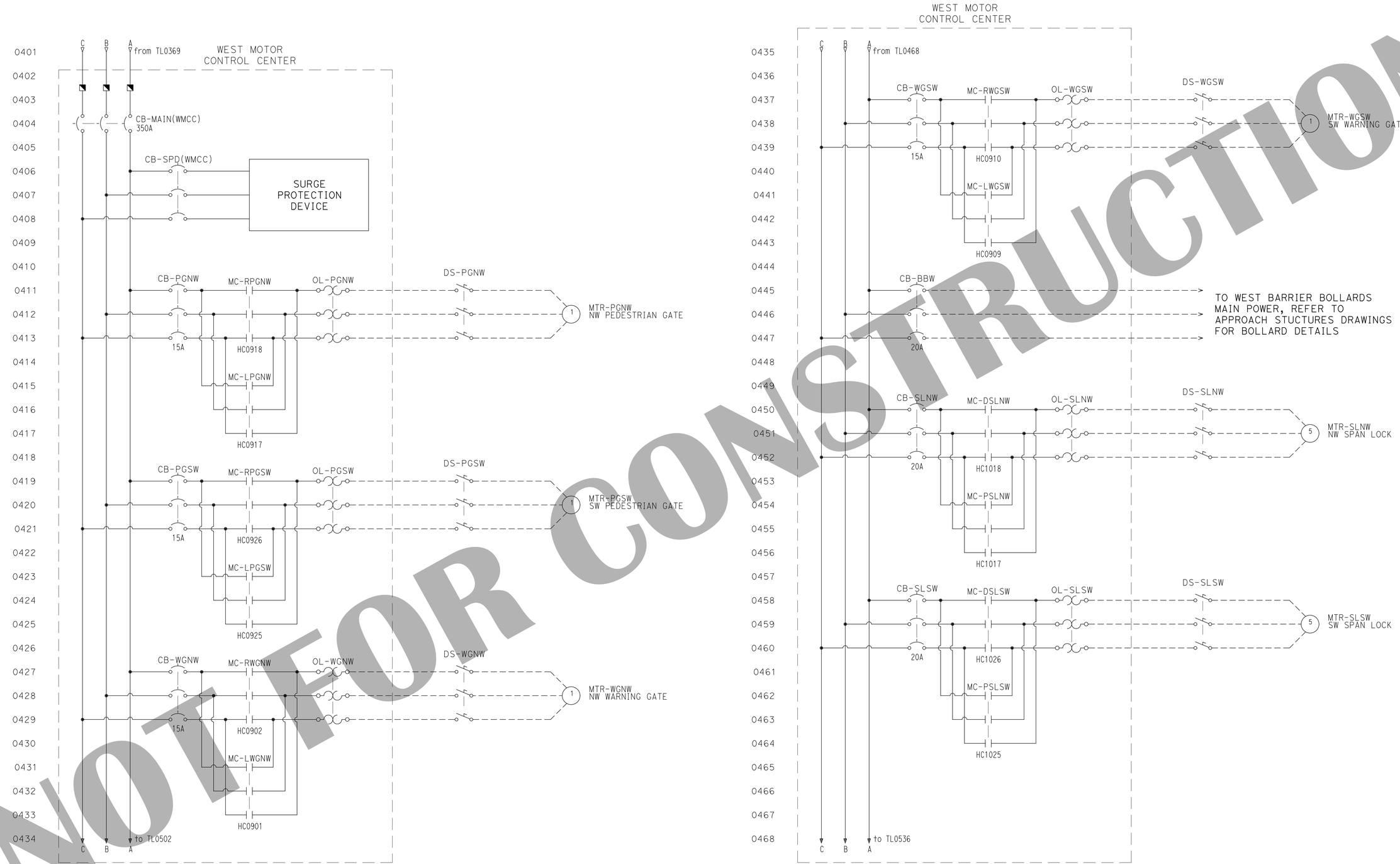
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOWSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
THREE LINE DIAGRAM - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-026
SHT NO.: 559 OF 648

p:\3326.01\CADD\Electrical\E-026 THREE LINE DIAGRAM - 3.dwg LAST PLOTTED: 11/3/2025 2:06:47 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

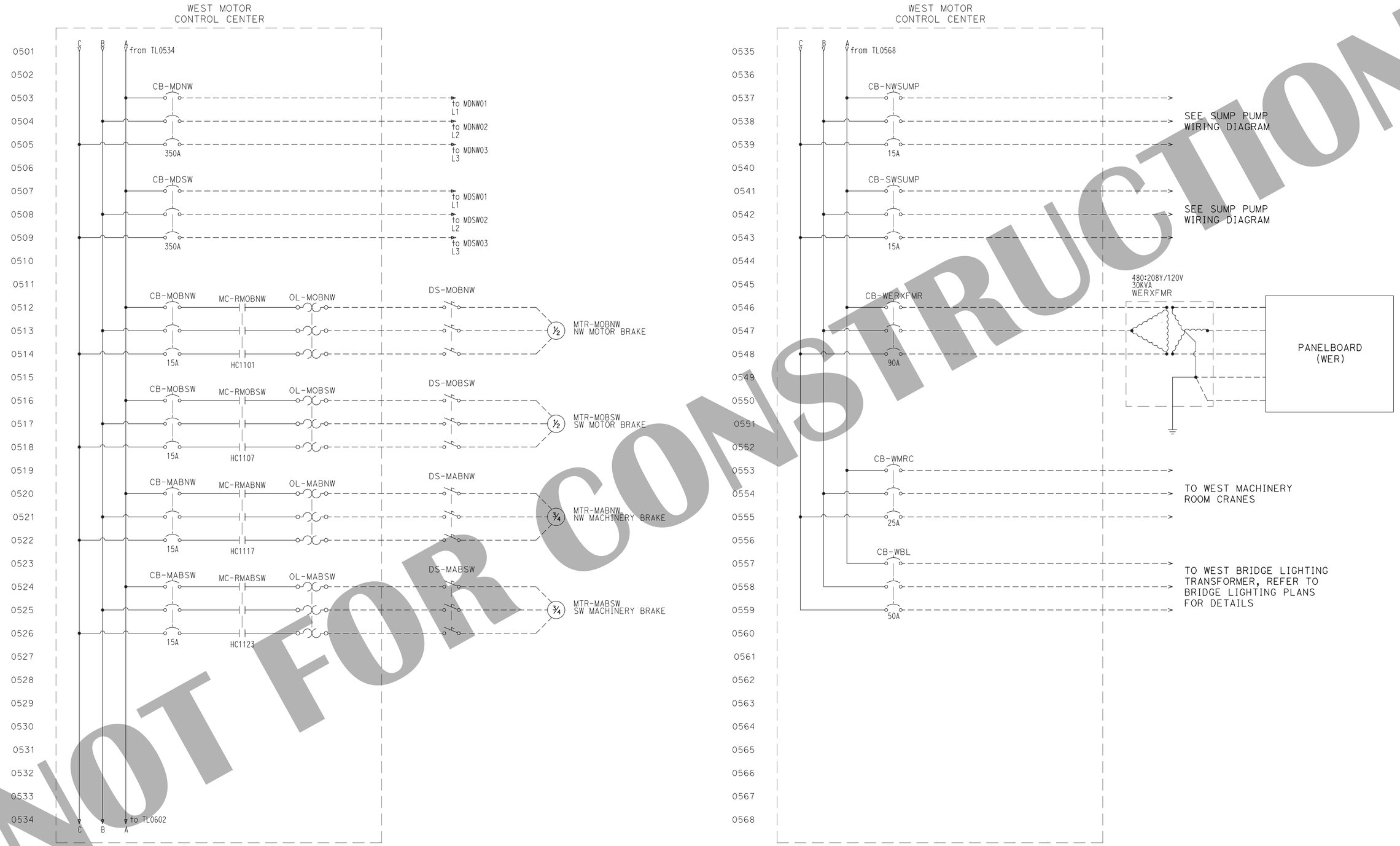
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
THREE LINE DIAGRAM - 4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-027
SHT NO.: 560 OF 648

p:\3326.01\CADD\Electrical\E-027 THREE LINE DIAGRAM - 4.dwg LAST PLOTTED: 11/3/2025 2:06:51 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-028 THREE LINE DIAGRAM - 5.dwg LAST PLOTTED: 11/3/2025 2:06:55 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

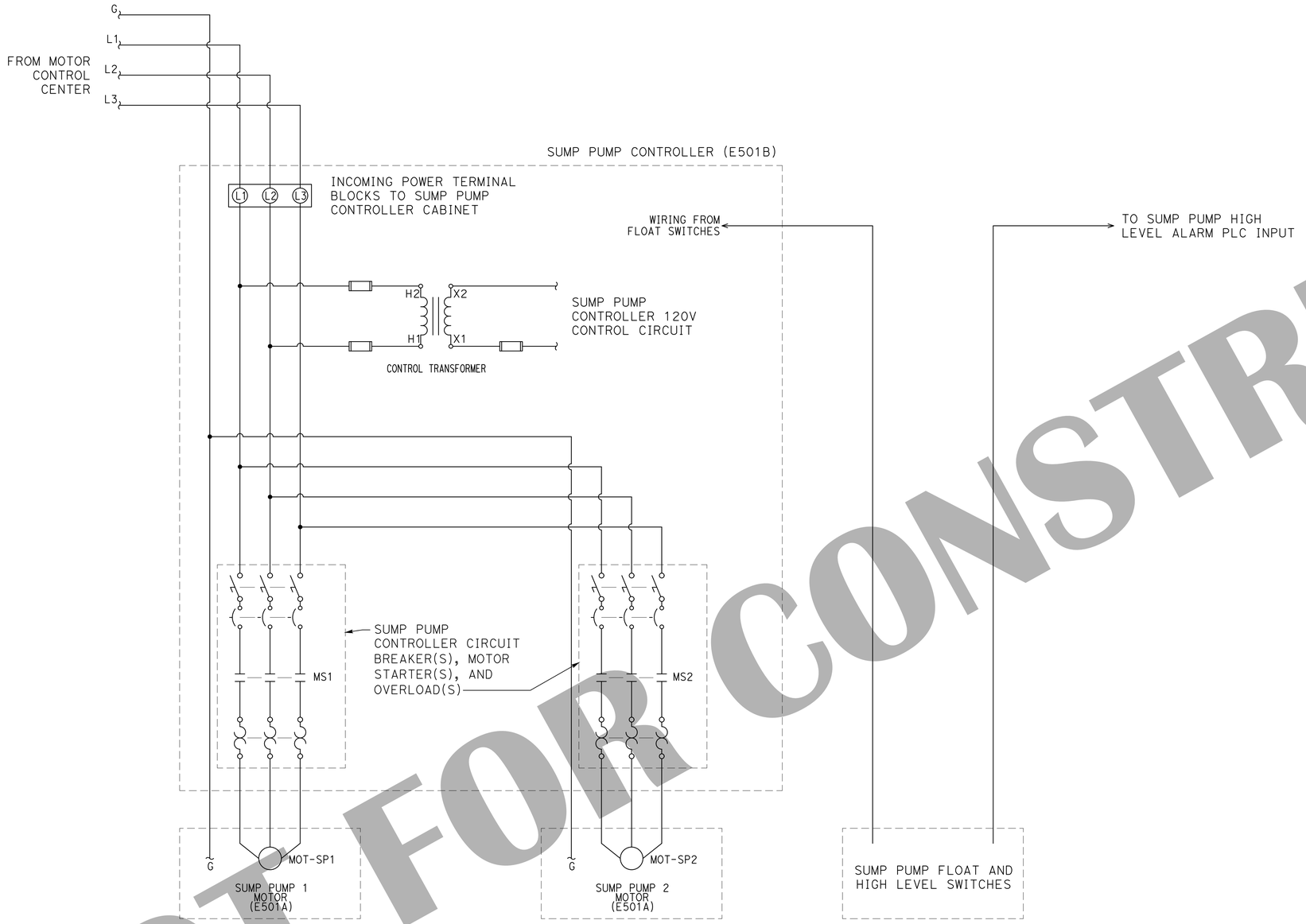
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
THREE LINE DIAGRAM - 5
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-028

SHT NO.: 561 OF 648



NOT FOR CONSTRUCTION

NOTES:

1. SUMP PUMP WIRING IS TYPICAL OF ALL 4 LOCATIONS.

p:\3326.01\CADD\Electrical\E-029 SUMP PUMP WIRING DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:07:00 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

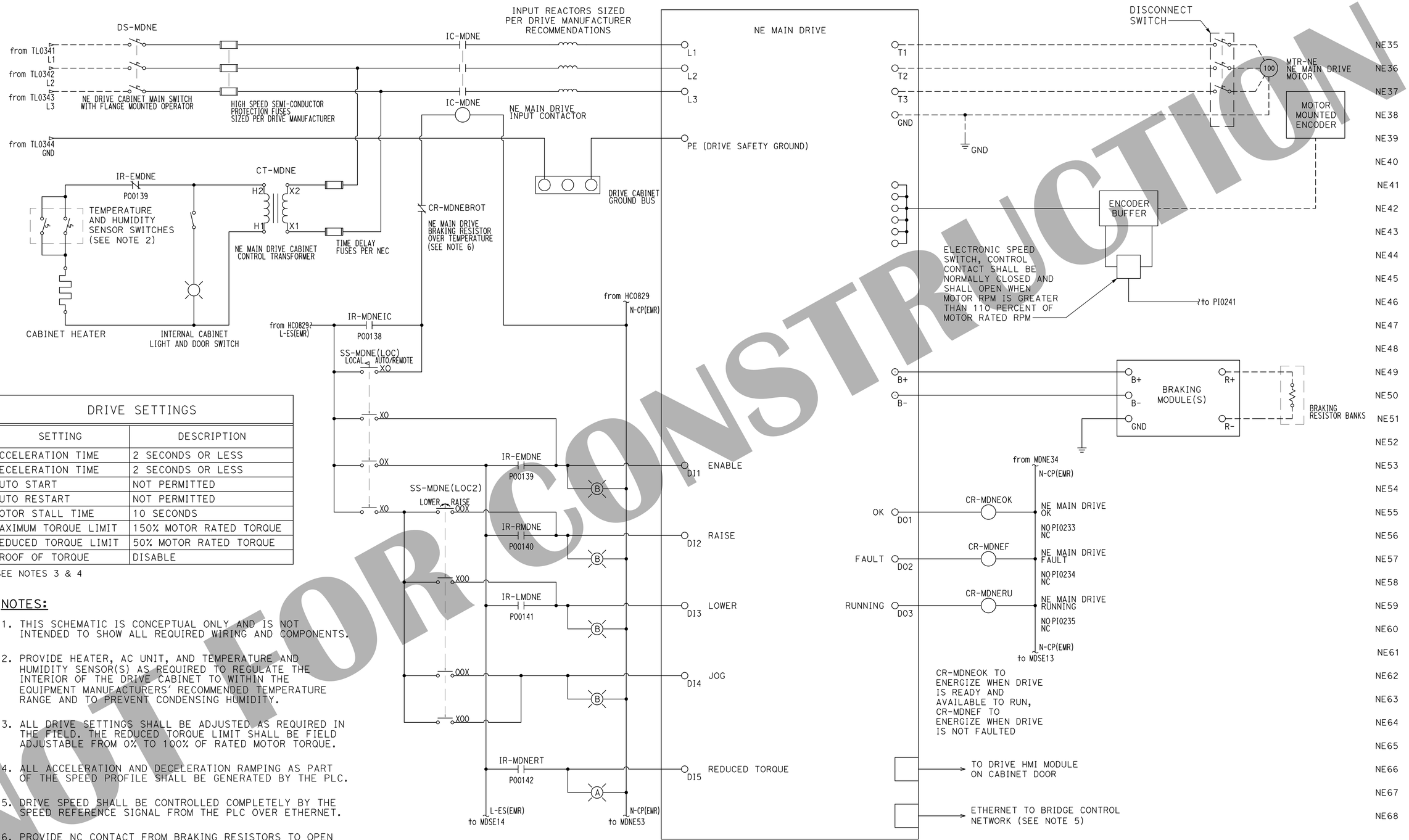
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SUMP PUMP WIRING DIAGRAM
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-029
SHT NO.: 562 OF 648



DRIVE SETTINGS

SETTING	DESCRIPTION
ACCELERATION TIME	2 SECONDS OR LESS
DECELERATION TIME	2 SECONDS OR LESS
AUTO START	NOT PERMITTED
AUTO RESTART	NOT PERMITTED
MOTOR STALL TIME	10 SECONDS
MAXIMUM TORQUE LIMIT	150% MOTOR RATED TORQUE
REDUCED TORQUE LIMIT	50% MOTOR RATED TORQUE
PROOF OF TORQUE	DISABLE

SEE NOTES 3 & 4

NOTES:

1. THIS SCHEMATIC IS CONCEPTUAL ONLY AND IS NOT INTENDED TO SHOW ALL REQUIRED WIRING AND COMPONENTS.
2. PROVIDE HEATER, AC UNIT, AND TEMPERATURE AND HUMIDITY SENSOR(S) AS REQUIRED TO REGULATE THE INTERIOR OF THE DRIVE CABINET TO WITHIN THE EQUIPMENT MANUFACTURERS' RECOMMENDED TEMPERATURE RANGE AND TO PREVENT CONDENSING HUMIDITY.
3. ALL DRIVE SETTINGS SHALL BE ADJUSTED AS REQUIRED IN THE FIELD. THE REDUCED TORQUE LIMIT SHALL BE FIELD ADJUSTABLE FROM 0% TO 100% OF RATED MOTOR TORQUE.
4. ALL ACCELERATION AND DECELERATION RAMPING AS PART OF THE SPEED PROFILE SHALL BE GENERATED BY THE PLC.
5. DRIVE SPEED SHALL BE CONTROLLED COMPLETELY BY THE SPEED REFERENCE SIGNAL FROM THE PLC OVER ETHERNET.
6. PROVIDE NC CONTACT FROM BRAKING RESISTORS TO OPEN WHEN OVER TEMPERATURE DETECTED.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

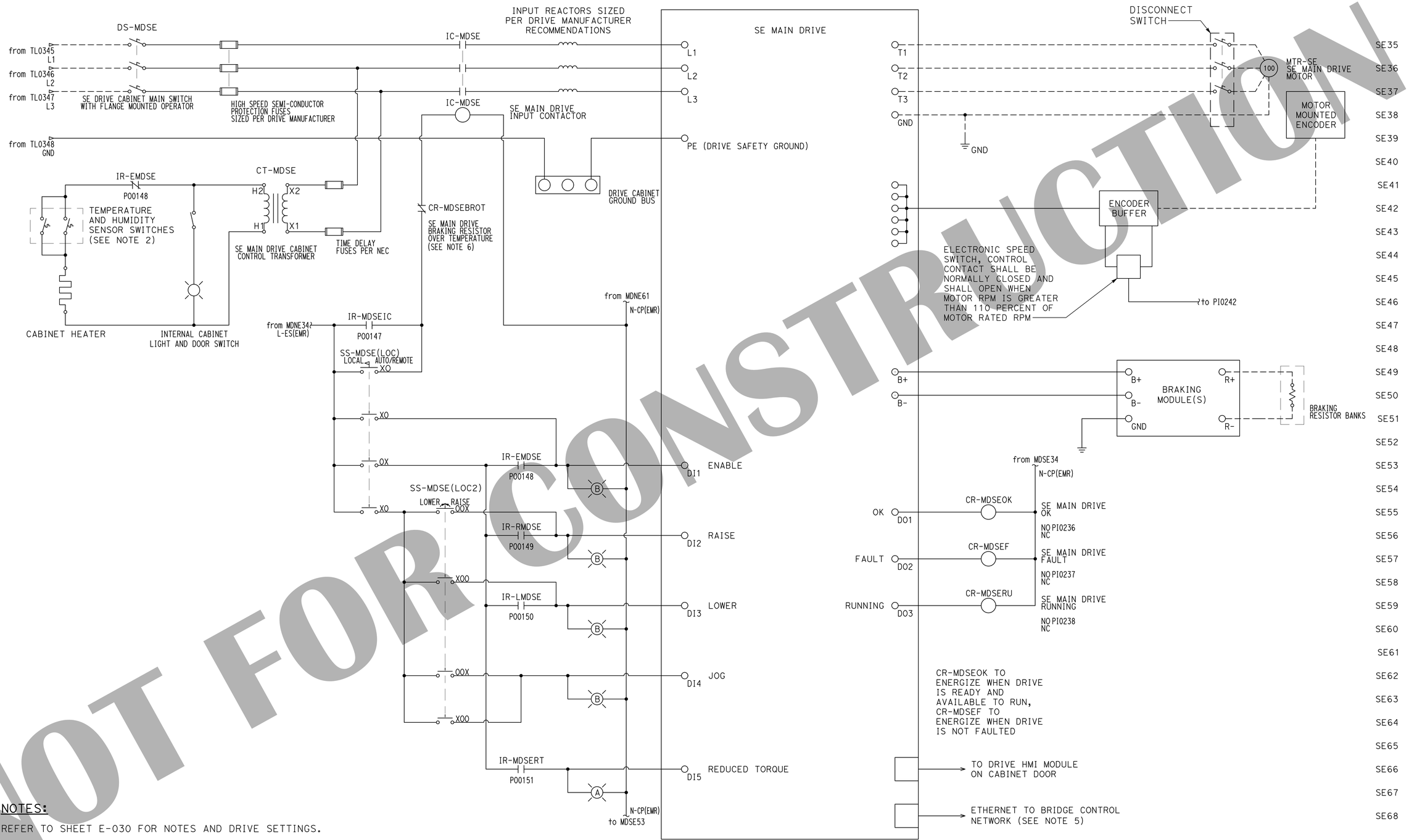
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
NE MAIN DRIVE WIRING DIAGRAM
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-030
SHT NO.: 563 OF 648

p:\3326.01\CADD\Electrical\E-030 NE MAIN DRIVE WIRING DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:07:04 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOTES:

REFER TO SHEET E-030 FOR NOTES AND DRIVE SETTINGS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SE MAIN DRIVE WIRING DIAGRAM
(Date: 11/03/2025)

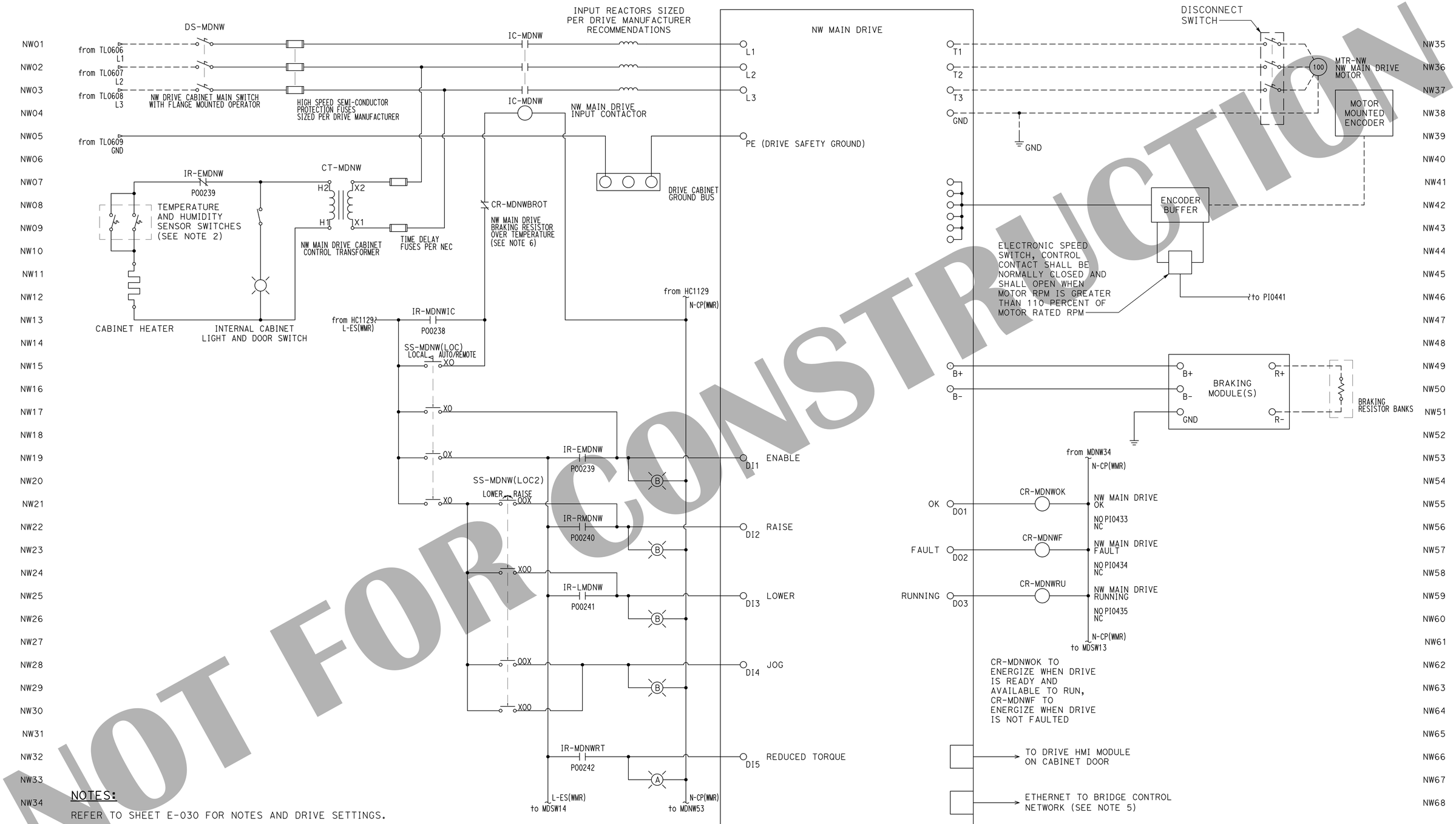
PN: T15136000

DWG NO.: E-031

SHT NO.: 564 OF 648

p:\3326.01\CADD\Electrical\E-031 SE MAIN DRIVE WIRING DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:07:08 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOTES:

REFER TO SHEET E-030 FOR NOTES AND DRIVE SETTINGS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
NW MAIN DRIVE WIRING DIAGRAM
(Date: 11/03/2025)

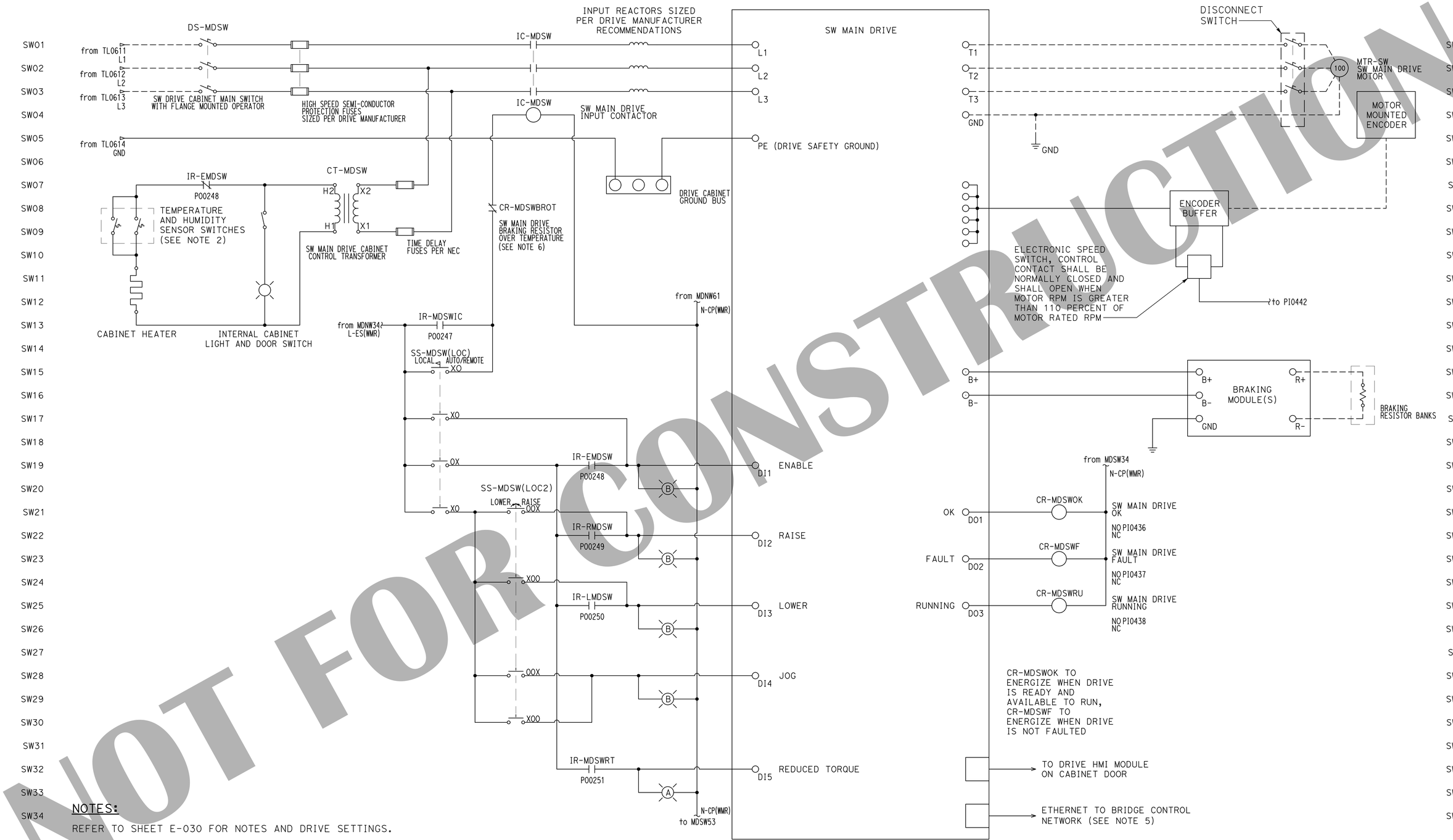
PN: T15136000

DWG NO.: E-032

SHT NO.: 565 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-032 NW MAIN DRIVE WIRING DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:07:13 PM



NOTES:

REFER TO SHEET E-030 FOR NOTES AND DRIVE SETTINGS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
SW MAIN DRIVE WIRING DIAGRAM
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-033

SHT NO.: 566 OF 648

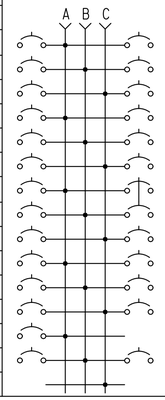
p:\3326.01\CADD\Electrical\E-033 SW MAIN DRIVE WIRING DIAGRAM.dwg LAST PLOTTED: 11/3/2025 2:07:17 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

EAST ELECTRICAL ROOM PANELBOARD

VOLTAGE: 120/208 VOLTS | BUS AMPERES: 225 AMPS | LOCATION: EAST ELECTRICAL EQUIPMENT ROOM
PHASE: 3 | MAIN CIRCUIT BREAKER: 100 AMPS | FED FROM: 30 KVA EAST XFMR
WIRE: 4 | INTERRUPTING CURRENT: 22 KAIC | MOUNTING/ENCLOSURE: SURFACE/NEMA 12

CIRCUIT NO.	DESCRIPTION	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	BREAKER POLES	BREAKER AMPS
1	PUBLIC ADDRESS SYSTEM	600			1	15
3	CCTV SYSTEM		1080		1	20
5	EAST MACHINERY ROOM LIGHTING			2344	1	30
7	EAST CONTROL POWER	1520			1	20
9	EAST ELECTRICAL ROOM LIGHTING		140		1	15
11	NE TOWER LIGHTING			800	1	20
13	GATE FLASHERS/GONG	278			1	15
15	SE TOWER LIGHTING		800		1	20
17	EAST EXHAUST FAN 1			696	1	15
19	PIER NAVIGATION LIGHTS	222			1	15
21	SPAN NAVIGATION LIGHTS		222		1	15
23	EAST MAIN MOTOR HEATERS			444	1	15
25	NE BRAKE HEATERS	444			1	15
27	SE BRAKE HEATERS		444		1	15
29	SPACE WITH COVER					



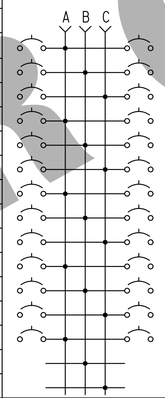
BREAKER POLES	BREAKER AMPS	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	DESCRIPTION	CIRCUIT NO.
1	20	540			EAST MACHINERY ROOM RECEPTACLES 1	2
1	20		540		EAST MACHINERY ROOM RECEPTACLES 2	4
1	20			360	A/V RACK RECEPTACLES	6
1	20	720			EAST ELECTRICAL ROOM RECEPTACLES	8
1	20		1080		SE TOWER RECEPTACLES	10
1	20			1080	NE TOWER RECEPTACLES	12
2	35	1861			EAST ELECTRICAL ROOM AC UNIT	14
			1861			16
1	15			696	EAST EXHAUST FAN 2	18
1	20	-			SPARE	20
1	20		-		SPARE	22
1	20			-	SPARE	24
					SPACE WITH COVER	26
1	20		556		SIGNAL HORN	28
					SPACE WITH COVER	30

SUBTOTAL CONNECTED VA PER PHASE — PHASE A: 6185 | PHASE B: 6723 | PHASE C: 6420

WEST ELECTRICAL ROOM PANELBOARD

VOLTAGE: 120/208 VOLTS | BUS AMPERES: 225 AMPS | LOCATION: WEST ELECTRICAL EQUIPMENT ROOM
PHASE: 3 | MAIN CIRCUIT BREAKER: 100 AMPS | FED FROM: 30 KVA WEST XFMR
WIRE: 4 | INTERRUPTING CURRENT: 22 KAIC | MOUNTING/ENCLOSURE: SURFACE/NEMA 12

CIRCUIT NO.	DESCRIPTION	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	BREAKER POLES	BREAKER AMPS
1	PUBLIC ADDRESS SYSTEM	600			1	15
3	CCTV SYSTEM		1080		1	20
5	WEST MACHINERY ROOM LIGHTING			2344	1	30
7	WEST CONTROL POWER	1414			1	20
9	WEST ELECTRICAL ROOM LIGHTING		140		1	15
11	NW TOWER LIGHTING			800	1	20
13	GATE FLASHERS/GONG	278			1	20
15	SW TOWER LIGHTING		800		1	20
17	WEST EXHAUST FAN 1			696	1	15
19	PIER NAVIGATION LIGHTS	222			1	15
21	WEST MAIN MOTOR HEATERS		444		1	15
23	NW BRAKE HEATERS			444	1	15
25	SW BRAKE HEATERS	444			1	15
27	SPACE WITH COVER					
29	SPACE WITH COVER					



BREAKER POLES	BREAKER AMPS	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	DESCRIPTION	CIRCUIT NO.
1	20	540			WEST MACHINERY ROOM RECEPTACLES 1	2
1	20		540		WEST MACHINERY ROOM RECEPTACLES 2	4
1	20			360	A/V RACK RECEPTACLES	6
1	20	720			WEST ELECTRICAL ROOM RECEPTACLES	8
1	20		1080		SW TOWER RECEPTACLES	10
1	15			1080	NW TOWER RECEPTACLES	12
2	35	1861			WEST ELECTRICAL ROOM AC UNIT	14
			1861			16
1	15			696	WEST EXHAUST FAN 2	18
1	15	56			WEST TRAFFIC SIGNALS	20
1	20		-		SPARE	22
1	20			-	SPARE	24
1	20	-			SPARE	26
					SPACE WITH COVER	28
					SPACE WITH COVER	30

SUBTOTAL CONNECTED VA PER PHASE — PHASE A: 6135 | PHASE B: 5945 | PHASE C: 6420

NOTES:

1. THE CONTRACTOR SHALL PROVIDE A COMPUTER-PRINTED CIRCUIT LEGEND WITH CIRCUIT DESCRIPTIONS FOR EACH LOAD PANEL.
2. THE CONTRACTOR SHALL ARRANGE CIRCUIT ASSIGNMENTS AS REQUIRED TO PROVIDE BALANCED LOADING.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE — DATE: 11/03/2025
DESIGN BY: K. GABLE — DATE: 11/03/2025
CHECKED BY: R. PETERS — DATE: 11/03/2025

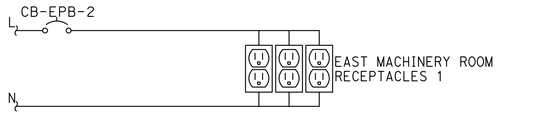
REGISTERED PROFESSIONAL ENGINEER — JOSEPH G. STREMOSKI — No. 21568 — Exp. 09-30-26 — ELECTRICAL — STATE OF CALIFORNIA — Date: 11/03/2025

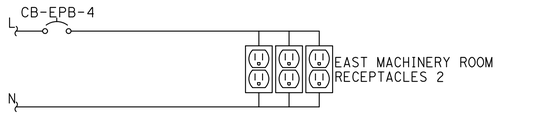
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
PANELBOARD SCHEDULES
(Date: 11/03/2025)

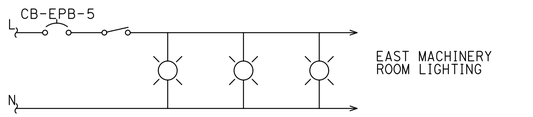
PN: T15136000
DWG NO.: E-034
SHT NO.: 567 OF 648

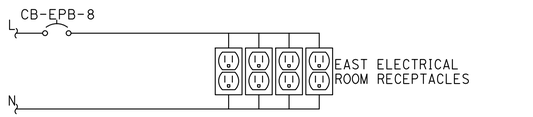
p:\3326.01\CADD\Electrical\E-034 PANELBOARD SCHEDULES.dwg LAST PLOTTED: 11/3/2025 2:07:21 PM

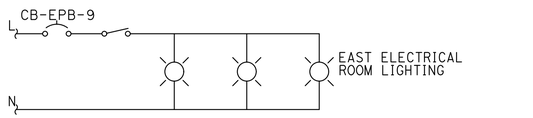
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

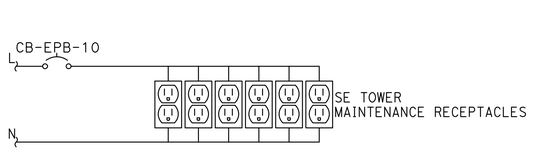


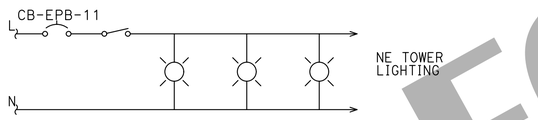


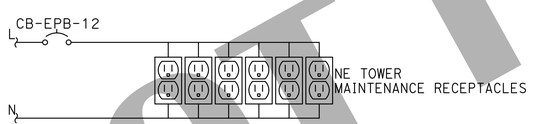


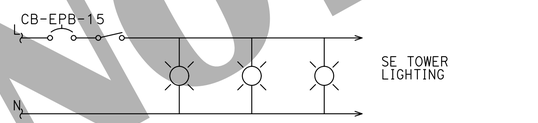


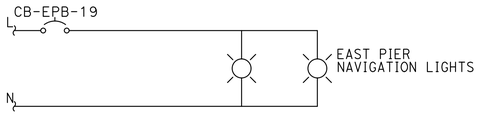


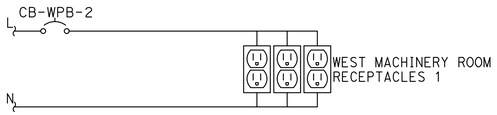


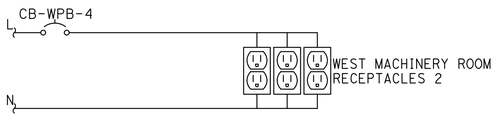


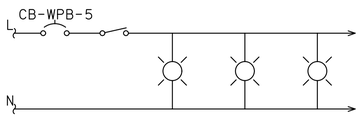


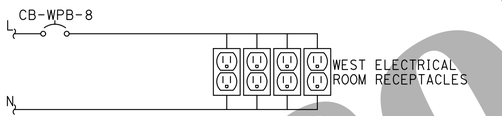


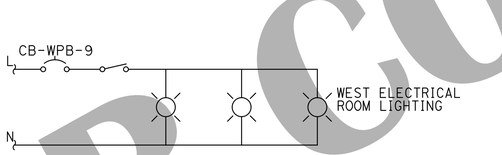


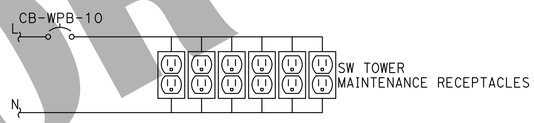


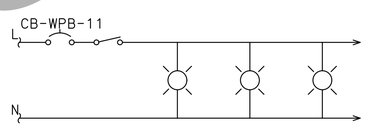


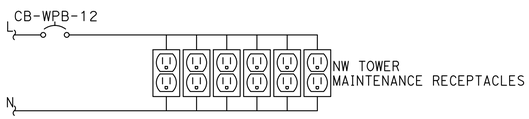


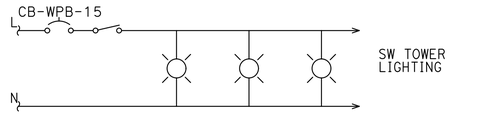


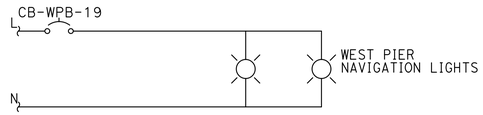












NOTES:

CB-XPB-X: CIRCUIT BREAKER-(EAST OR WEST) PANELBOARD-CIRCUIT #

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CIRCUIT DIAGRAMS
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-035
SHT NO.: 568 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-035 CIRCUIT DIAGRAMS.dwg LAST PLOTTED: 11/3/2025 2:07:25 PM

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-036 HARDWIRED CONTROL CIRCUITS - 1.dwg LAST PLOTTED: 11/3/2025 2:07:30 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

L — 120VAC POWER FROM OPERATOR HOUSE PANELBOARD (SEE OPERATOR HOUSE DRAWINGS FOR CIRCUIT DETAILS) — N

0101 SS-PLC (PLC A, PLC B, XO) — CR-PLCA — PLC A
NO HC0104, NC

0102 OX — CR-PLCB — PLC B
NO HC0105, NC

0103 UPS(OH) — CONTROL CABINET (OH) UNINTERRUPTIBLE POWER SUPPLY

0104 CR-PLCA (HC0101) — PLC A — CONTROL CABINET (OH) PLC PROCESSOR A

0105 CR-PLCB (HC0102) — PLC B — CONTROL CABINET (OH) PLC PROCESSOR B

0106 LOC I/O — CONTROL CABINET (OH) LOCAL I/O

0107 ESW(OH) — CONTROL CABINET (OH) ETHERNET SWITCH (CONTROL SYSTEM)

0108 L-CP to HC0201 — N-CP to HC0201

L — 120VAC POWER FROM OPERATOR HOUSE PANELBOARD (SEE OPERATOR HOUSE DRAWINGS FOR CIRCUIT DETAILS) — N

0109

0110 UPS(CC) — CONTROL CONSOLE UNINTERRUPTIBLE POWER SUPPLY

0111 REM I/O(CC) — CONTROL CONSOLE REMOTE I/O

0112 ESW(CC) — CONTROL CONSOLE ETHERNET SWITCH (CONTROL SYSTEM)

0113 HMI — CONTROL CONSOLE HUMAN MACHINE INTERFACE

0114 L-CC to PI0501 — N-CC to PI0501

L — 120VAC POWER FROM OPERATOR HOUSE PANELBOARD (SEE OPERATOR HOUSE DRAWINGS FOR CIRCUIT DETAILS) — N

0115

0116 UPS(CCTVSSC) — CCTV SYSTEM SERVER CABINET UNINTERRUPTIBLE POWER SUPPLY

0117 ESW(CCTVSSC) — CCTV SYSTEM SERVER CABINET ETHERNET SWITCH (CCTV SYSTEM)

0118 NVR — CCTV SYSTEM SERVER CABINET NETWORK VIDEO RECORDER

L — 120VAC POWER FROM OPERATOR HOUSE PANELBOARD (SEE OPERATOR HOUSE DRAWINGS FOR CIRCUIT DETAILS) — N

0119 UPS(OHPA) — OPERATOR HOUSE PA SYSTEM UNINTERRUPTIBLE POWER SUPPLY

0120 POESW(PA) — PA CABINET (OH) POE SWITCH (PA SYSTEM)

L — 120VAC POWER FROM EAST ELECTRICAL ROOM PANELBOARD (CIRCUIT NO. 5) — N

0121

0122 UPS(E) — EAST CONTROL CABINET UNINTERRUPTIBLE POWER SUPPLY

0123 REM I/O(E) — EAST CONTROL CABINET REMOTE I/O

0124 ESW(E) — EAST CONTROL CABINET ETHERNET SWITCH (CONTROL SYSTEM)

0125 BDSPS2 — EAST CONTROL CABINET BOAT DETECTION SYSTEM POWER SUPPLY 2

0126 BDSPS4 — EAST CONTROL CABINET BOAT DETECTION SYSTEM POWER SUPPLY 4

0127 BDSPS5 — EAST CONTROL CABINET BOAT DETECTION SYSTEM POWER SUPPLY 5

0128 BDSPS6 — EAST CONTROL CABINET BOAT DETECTION SYSTEM POWER SUPPLY 6

0129 L-CP(EER) to HC0301 — N-CP(EER) to HC0301

L — 120VAC POWER FROM EAST ELECTRICAL ROOM PANELBOARD (CIRCUIT NO. 3) — N

0130

0131 UPS(ECCTV) — EAST CCTV CABINET UNINTERRUPTIBLE POWER SUPPLY

0132 POESW1(ECCTV) — EAST CCTV CABINET POE SWITCH 1 (CCTV SYSTEM)

0133 POESW2(ECCTV) — EAST CCTV CABINET POE SWITCH 2 (CCTV SYSTEM)

0134 POESW3(ECCTV) — EAST CCTV CABINET POE SWITCH 3 (CCTV SYSTEM)

0135

0136

L — 120VAC POWER FROM EAST ELECTRICAL ROOM PANELBOARD (CIRCUIT NO. 6) — N

0137 UPS(EPA) — EAST PA CABINET UNINTERRUPTIBLE POWER SUPPLY

0138 ESW(EPA) — EAST PA CABINET ETHERNET SWITCH (PA SYSTEM)

L — 120VAC POWER FROM WEST ELECTRICAL ROOM PANELBOARD (CIRCUIT NO. 5) — N

0139

0140 UPS(W) — WEST CONTROL CABINET UNINTERRUPTIBLE POWER SUPPLY

0141 REM I/O(W) — WEST CONTROL CABINET REMOTE I/O

0142 ESW(W) — WEST CONTROL CABINET ETHERNET SWITCH (CONTROL SYSTEM)

0143 BDSPS1 — WEST CONTROL CABINET BOAT DETECTION SYSTEM POWER SUPPLY 1

0144 BDSPS3 — WEST CONTROL CABINET BOAT DETECTION SYSTEM POWER SUPPLY 3

0145 L-CP(WER) to HC0217 — N-CP(WER) to HC0217

L — 120VAC POWER FROM WEST ELECTRICAL ROOM PANELBOARD (CIRCUIT NO. 3) — N

0146

0147 UPS(WCCTV) — WEST CCTV CABINET UNINTERRUPTIBLE POWER SUPPLY

0148 POESW1(WCCTV) — WEST CCTV CABINET POE SWITCH 1 (CCTV SYSTEM)

0149 POESW2(WCCTV) — WEST CCTV CABINET POE SWITCH 2 (CCTV SYSTEM)

0150 POESW3(WCCTV) — WEST CCTV CABINET POE SWITCH 3 (CCTV SYSTEM)

L — 120VAC POWER FROM WEST ELECTRICAL ROOM PANELBOARD (CIRCUIT NO. 4) — N

0151

0152 UPS(WPA) — WEST PA CABINET UNINTERRUPTIBLE POWER SUPPLY

0153 ESW(WPA) — WEST PA CABINET ETHERNET SWITCH (PA SYSTEM)

0154

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

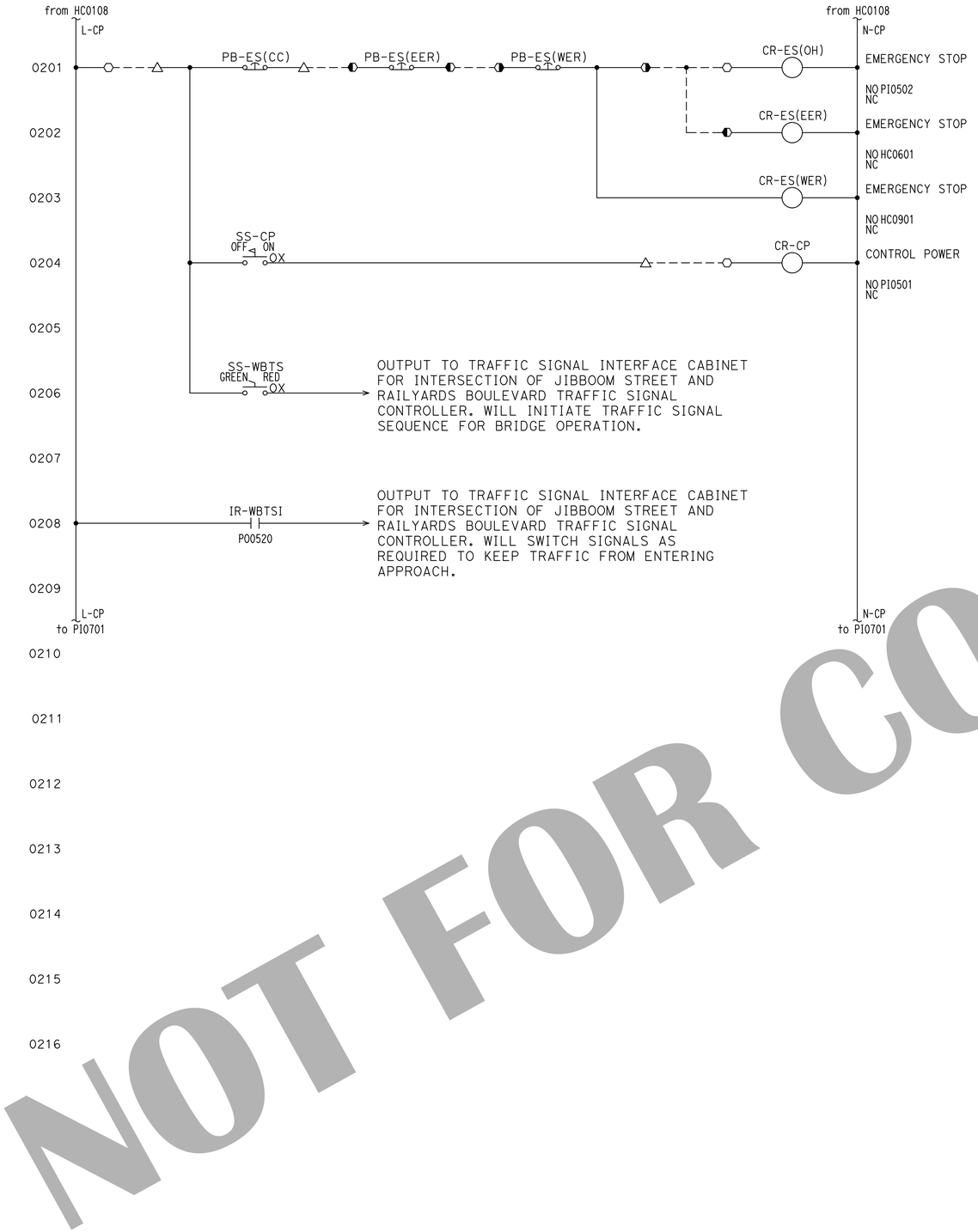
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

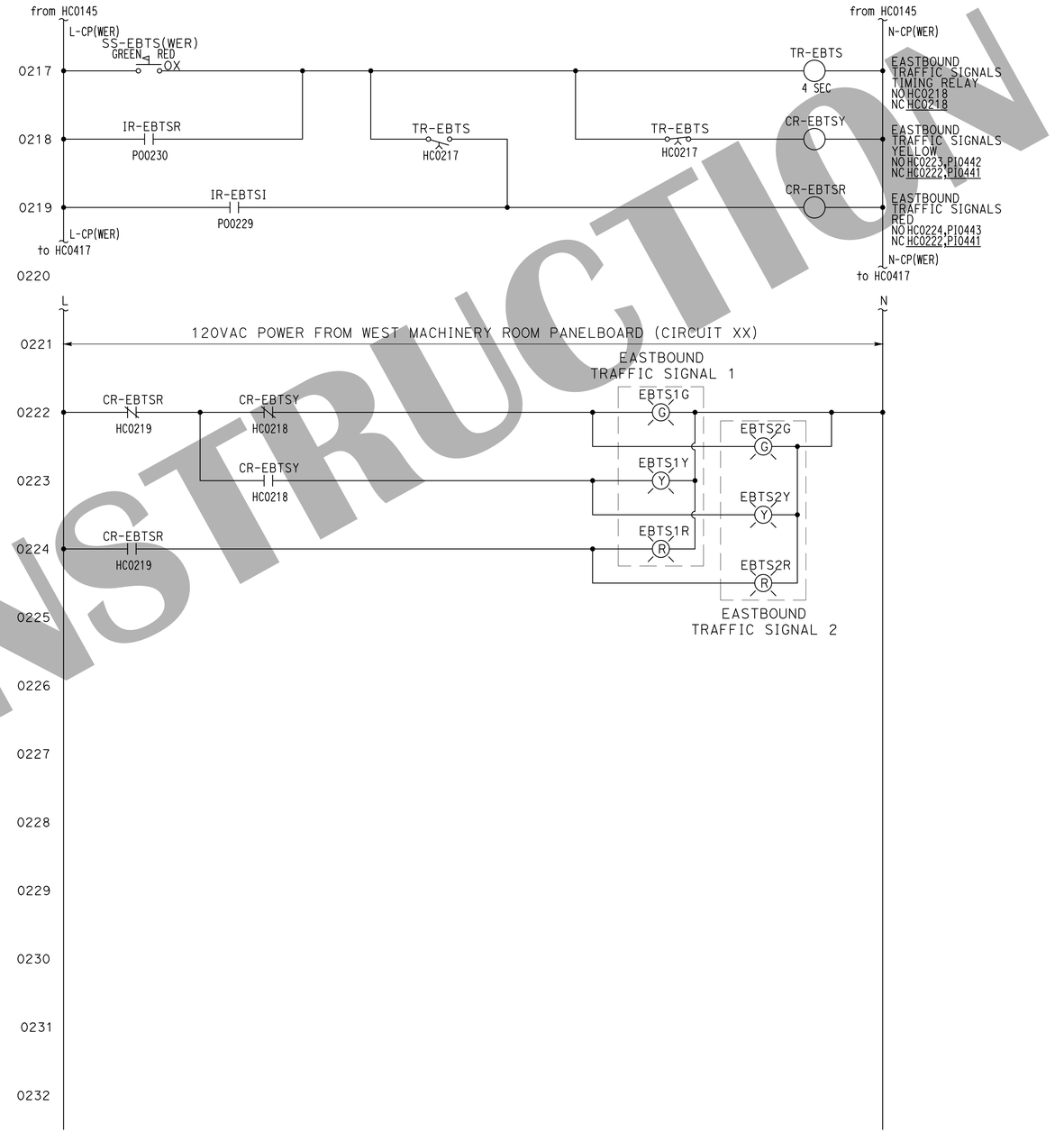
REGISTERED PROFESSIONAL ENGINEER — JOSEPH G. STRENKOSKI — No. 21568 — Exp. 09-30-26 — ELECTRICAL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-036
SHT NO.: 569 OF 648





NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

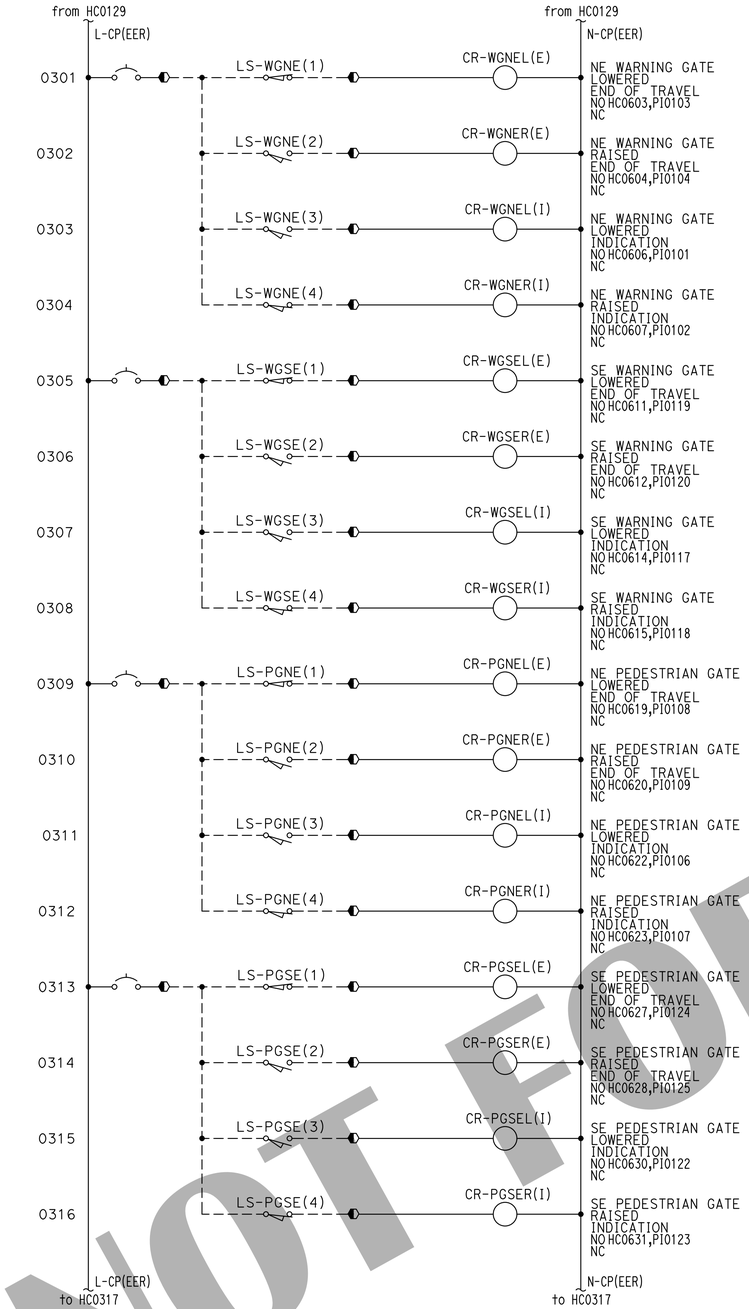
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 2
(Date: 11/03/2025)

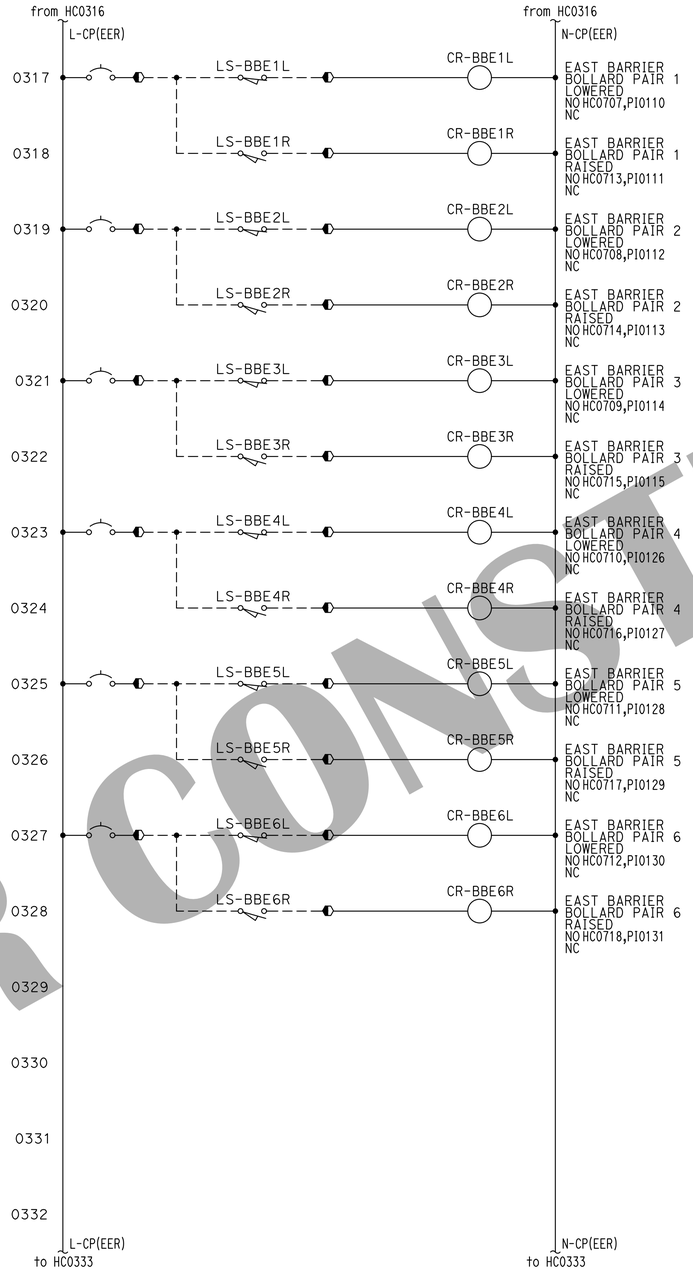
PN: T15136000

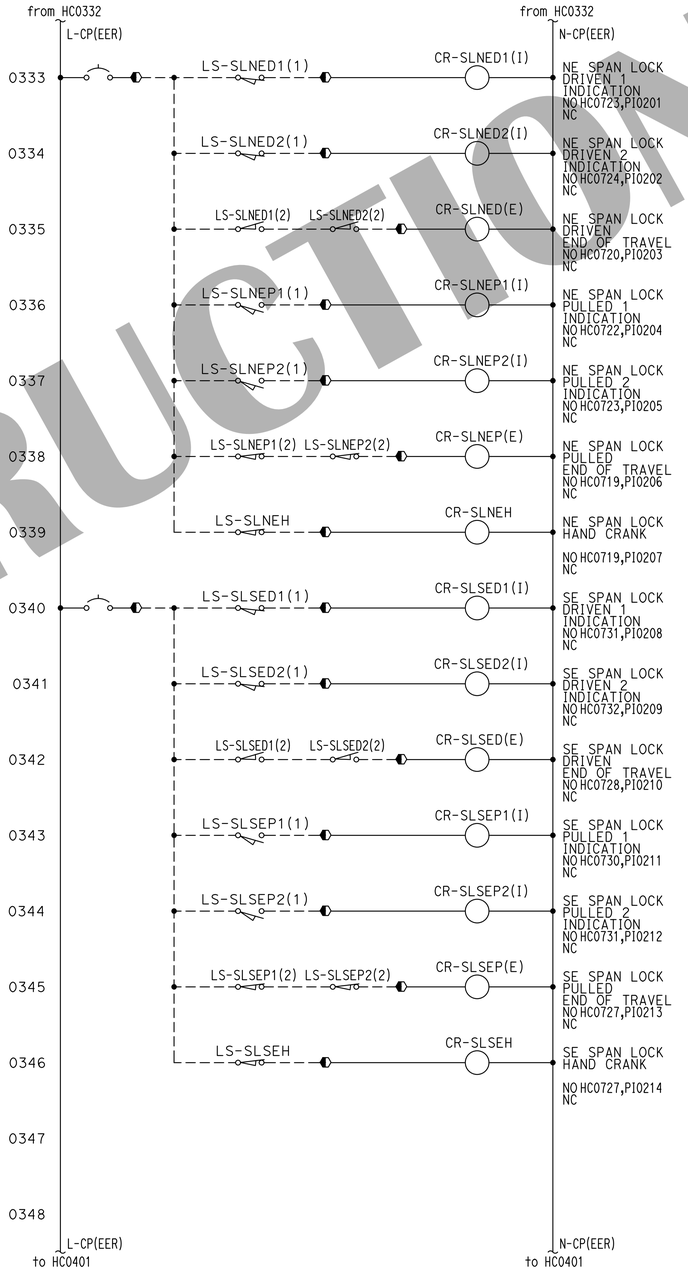
DWG NO.: E-037
SHT NO.: 570 OF 648

p:\3326.01\CADD\Electrical\E-037 HARDWIRED CONTROL CIRCUITS - 2.dwg LAST PLOTTED: 11/3/2025 2:07:35 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER







NOT FOR CONSTRUCTION

NOTES:

1. (E) INDICATES LIMIT SWITCH USED FOR "END OF TRAVEL" AND (I) INDICATES LIMIT SWITCH USED FOR "INDICATION".
2. REFER TO "APPROACH STRUCTURES" DRAWINGS FOR WARNING GATE, PEDESTRIAN GATE, AND BARRIER BOLLARD DETAILS.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STRENKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-038
SHT NO.: 571 OF 648

p:\3326.01\CADD\Electrical\E-038 HARDWIRED CONTROL CIRCUITS - 3.dwg LAST PLOTTED: 11/3/2025 2:07:40 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

NOTES:

1. (E) INDICATES LIMIT SWITCH USED FOR "END OF TRAVEL" AND (I) INDICATES LIMIT SWITCH USED FOR "INDICATION".
2. REFER TO "APPROACH STRUCTURES" DRAWINGS FOR WARNING GATE, PEDESTRIAN GATE, AND BARRIER BOLLARD DETAILS.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

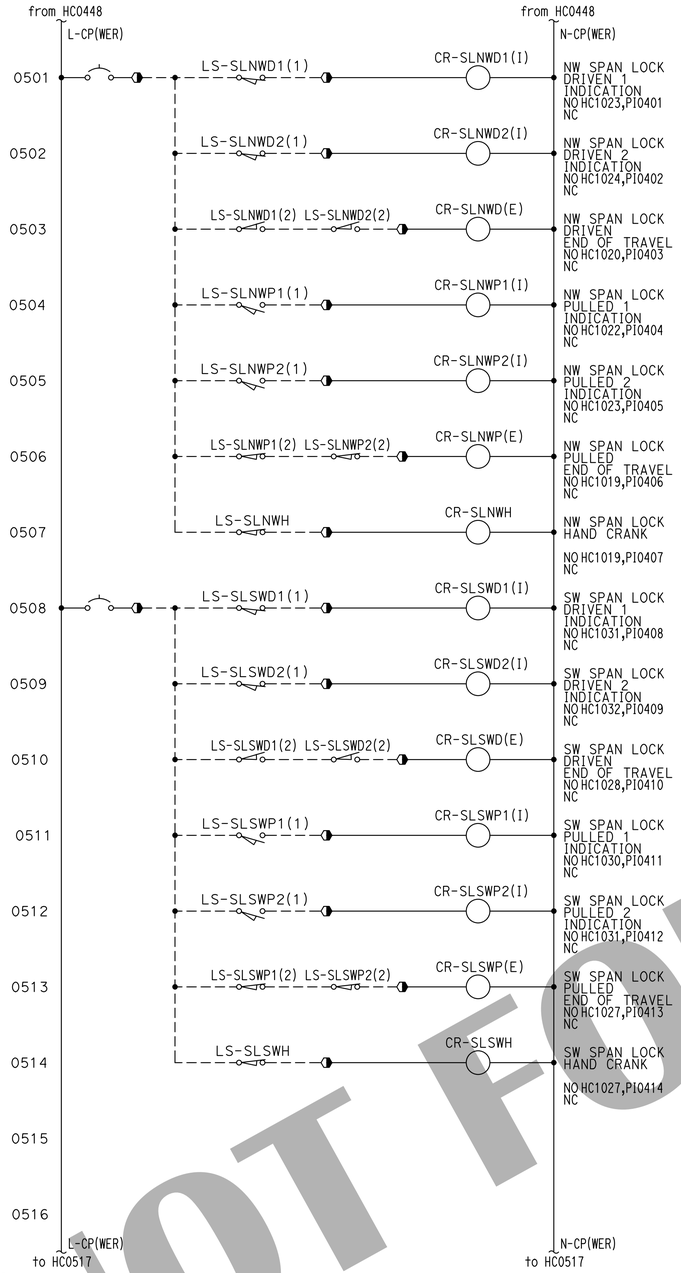
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STRENKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

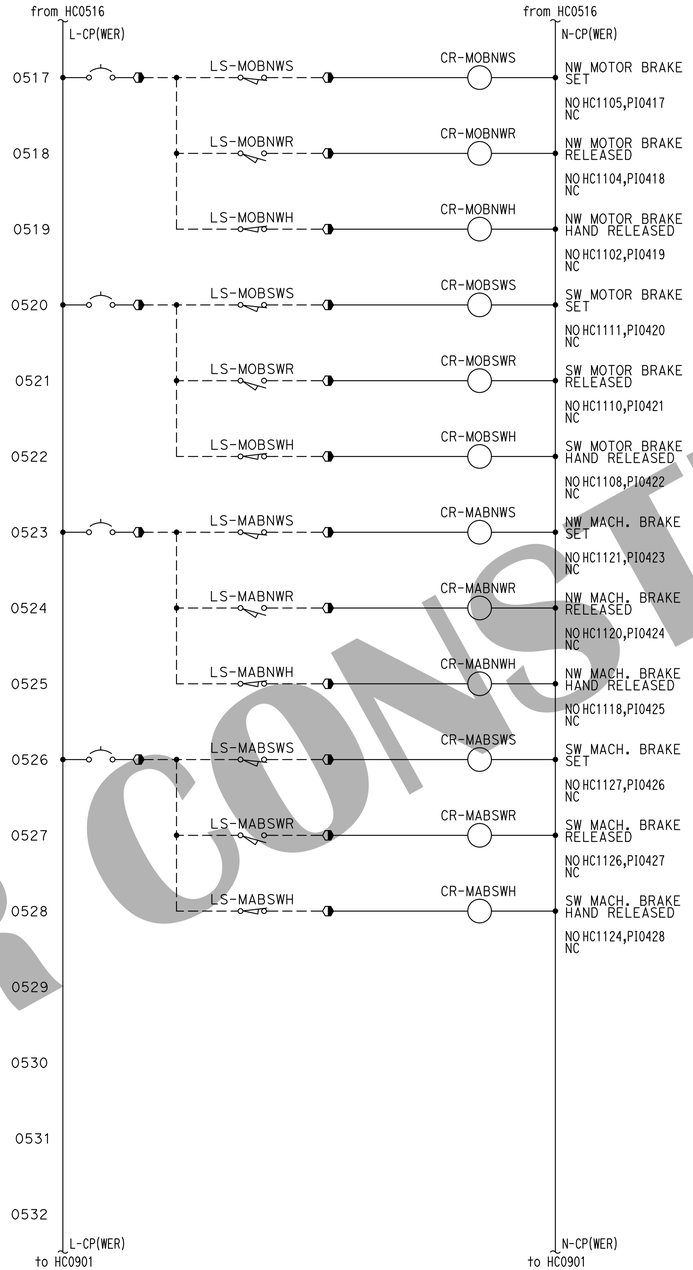
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 4
(Date: 11/03/2025)

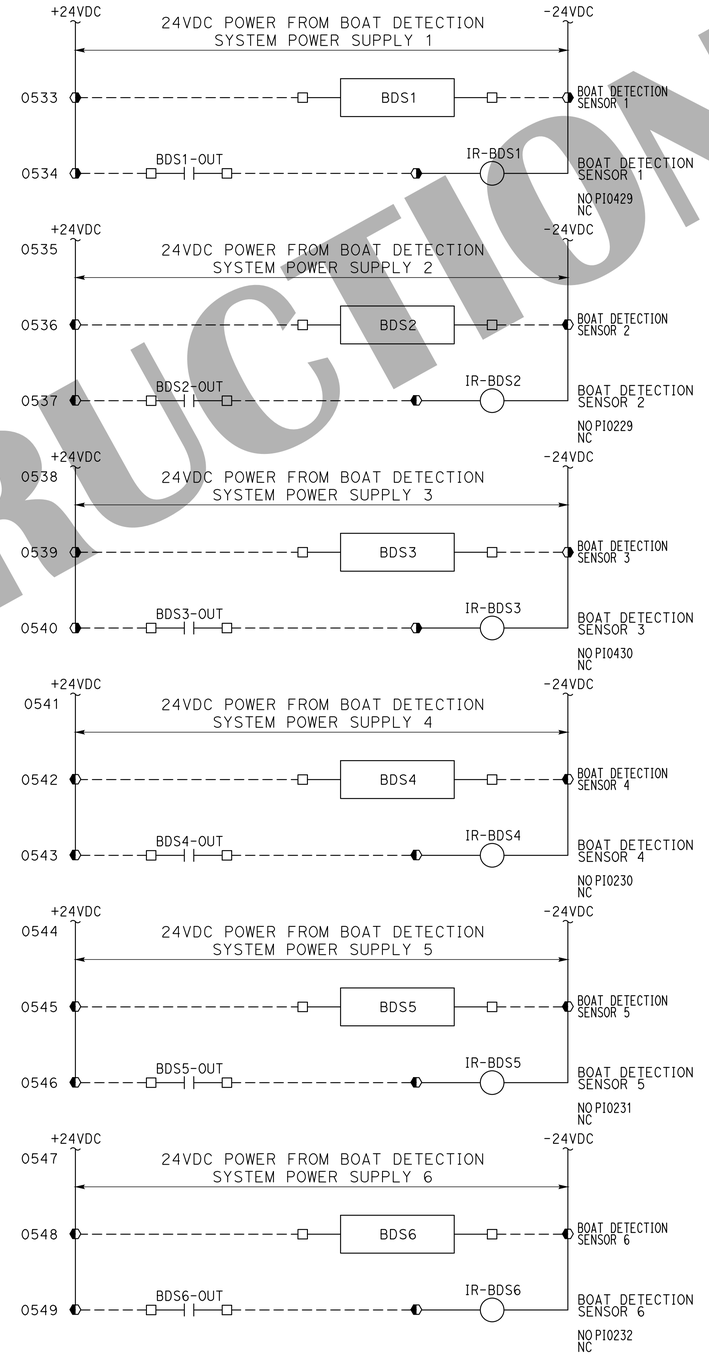
PN: T15136000
DWG NO.: E-039
SHT NO.: 572 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-039 HARDWIRED CONTROL CIRCUITS - 4.dwg LAST PLOTTED: 11/3/2025 2:07:45 PM







NOTES:

1. (E) INDICATES LIMIT SWITCH USED FOR "END OF TRAVEL" AND (I) INDICATES LIMIT SWITCH USED FOR "INDICATION".

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-040 HARDWIRED CONTROL CIRCUITS - 5.dwg LAST PLOTTED: 11/3/2025 2:07:50 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

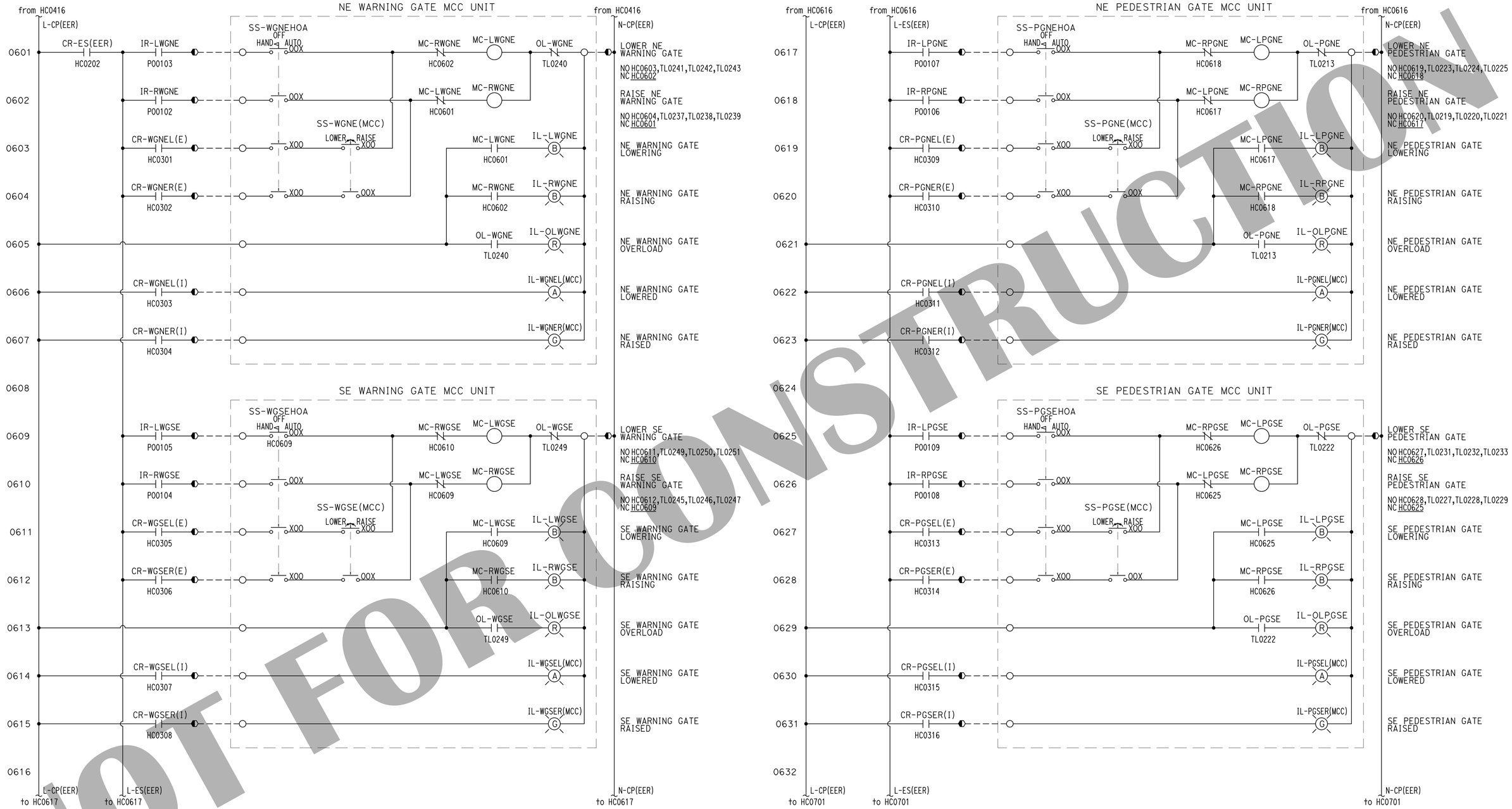
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STRENKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 5
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-040

SHT NO.: 573 OF 648



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-041 HARDWIRED CONTROL CIRCUITS - 6.dwg LAST PLOTTED: 11/3/2025 2:07:55 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

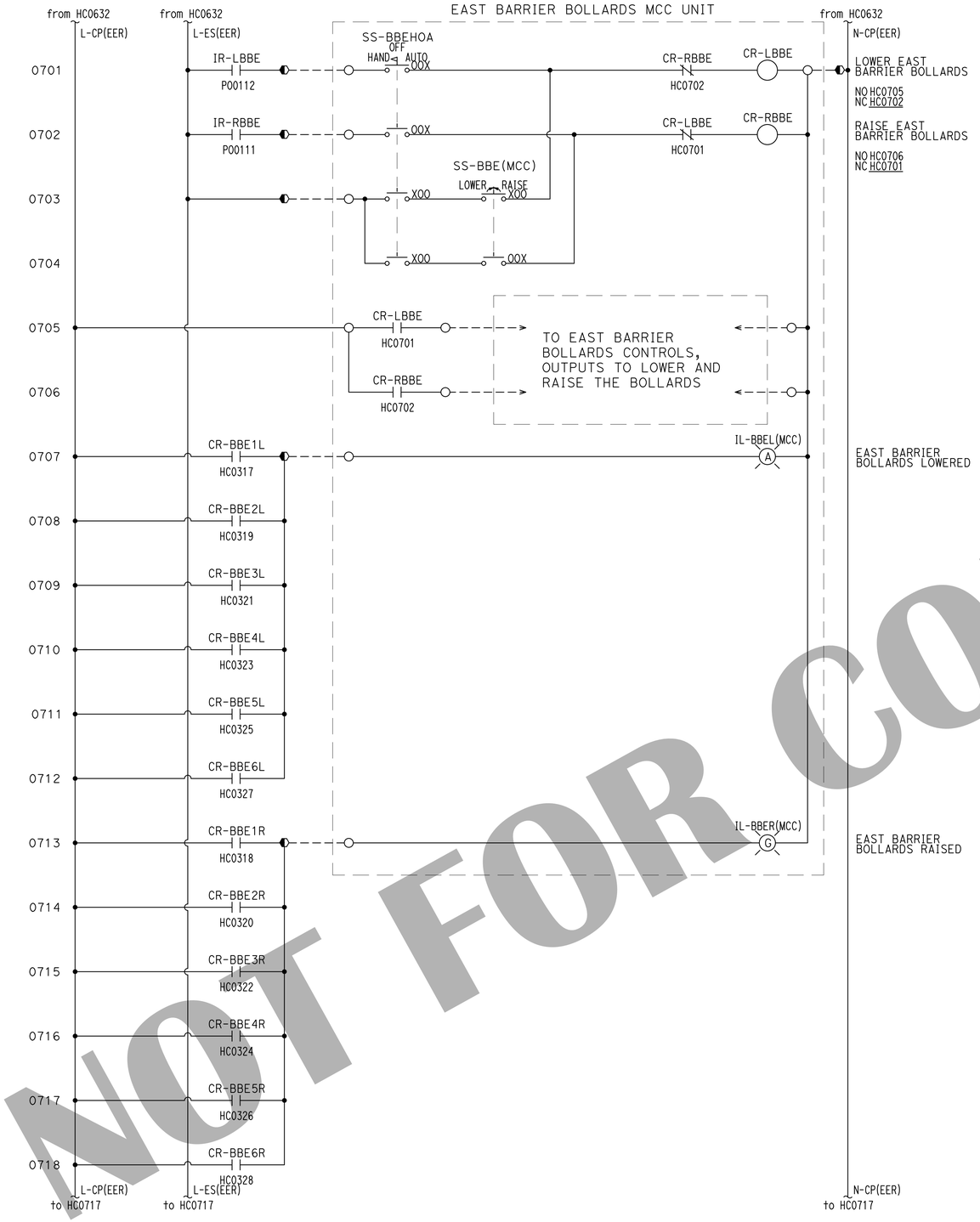
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STRENKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

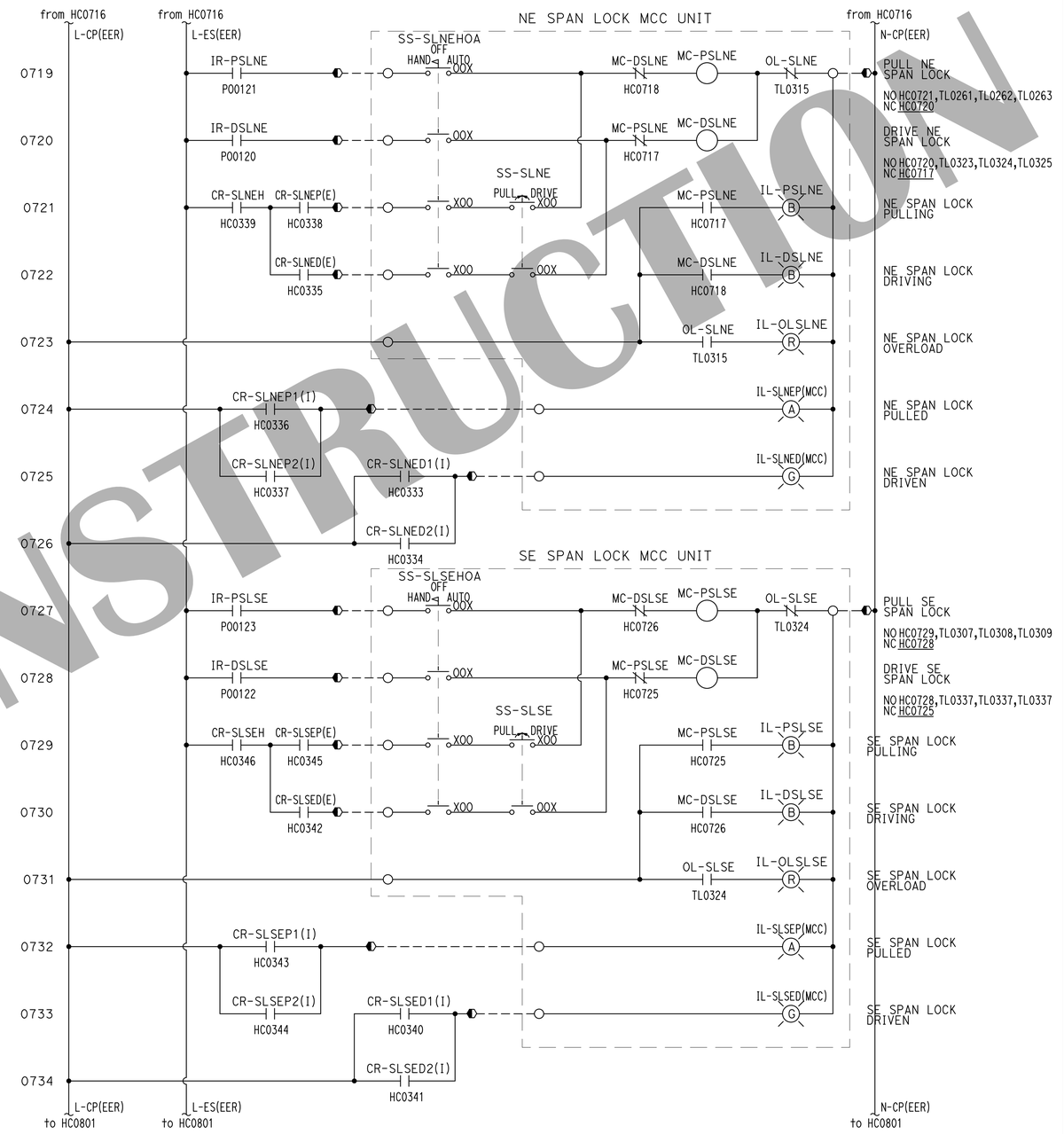
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 6
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-041

SHT NO.: 574 OF 648





NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-042 HARDWIRED CONTROL CIRCUITS - 7.dwg LAST PLOTTED: 11/3/2025 2:08:00 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

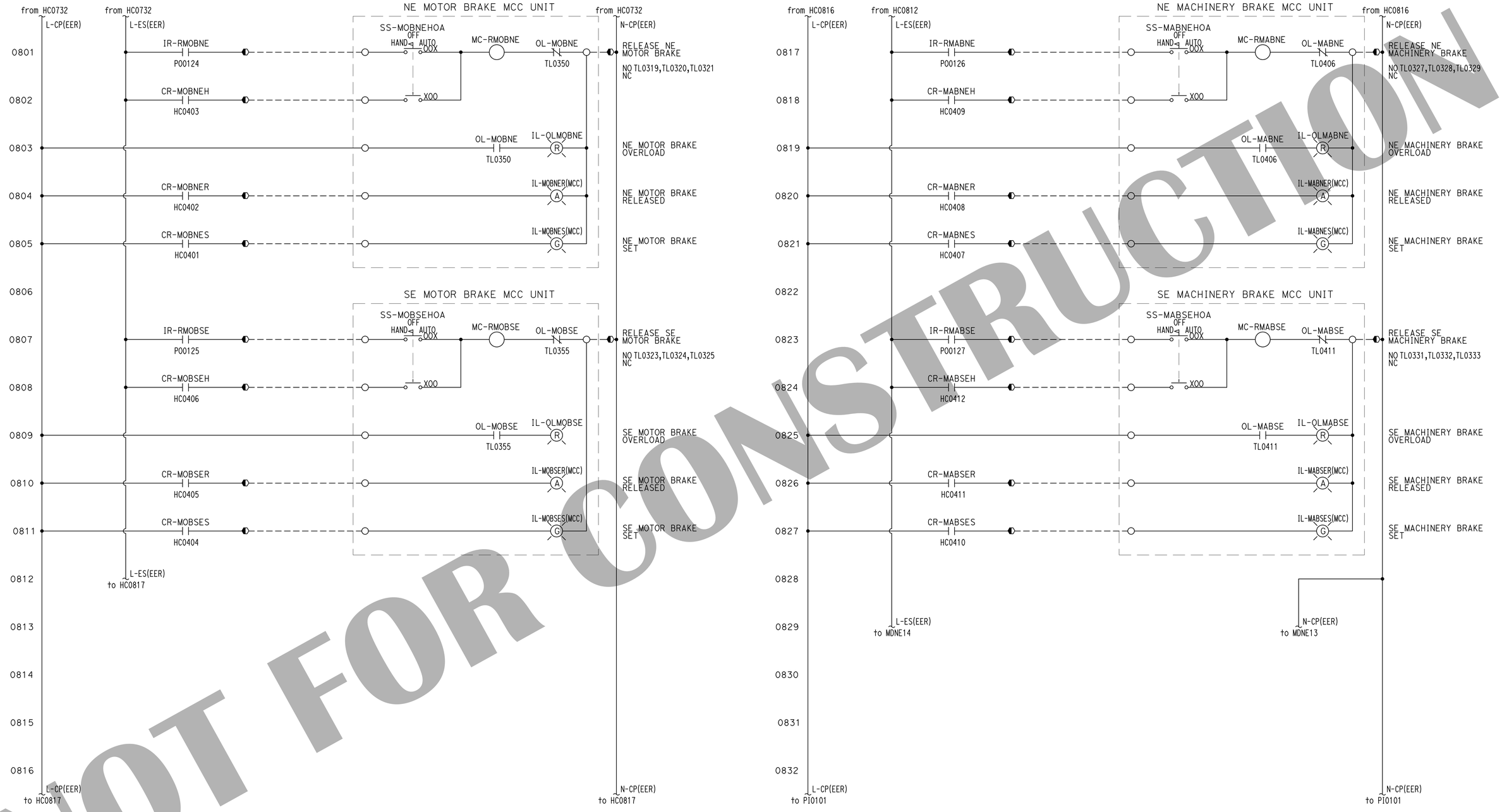
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STRENKOSKI
No. 21568
Exp. 09.30.26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 7
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-042
SHT NO.: 575 OF 648



NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWOSKI
No. 21568
Exp. 09.30.26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

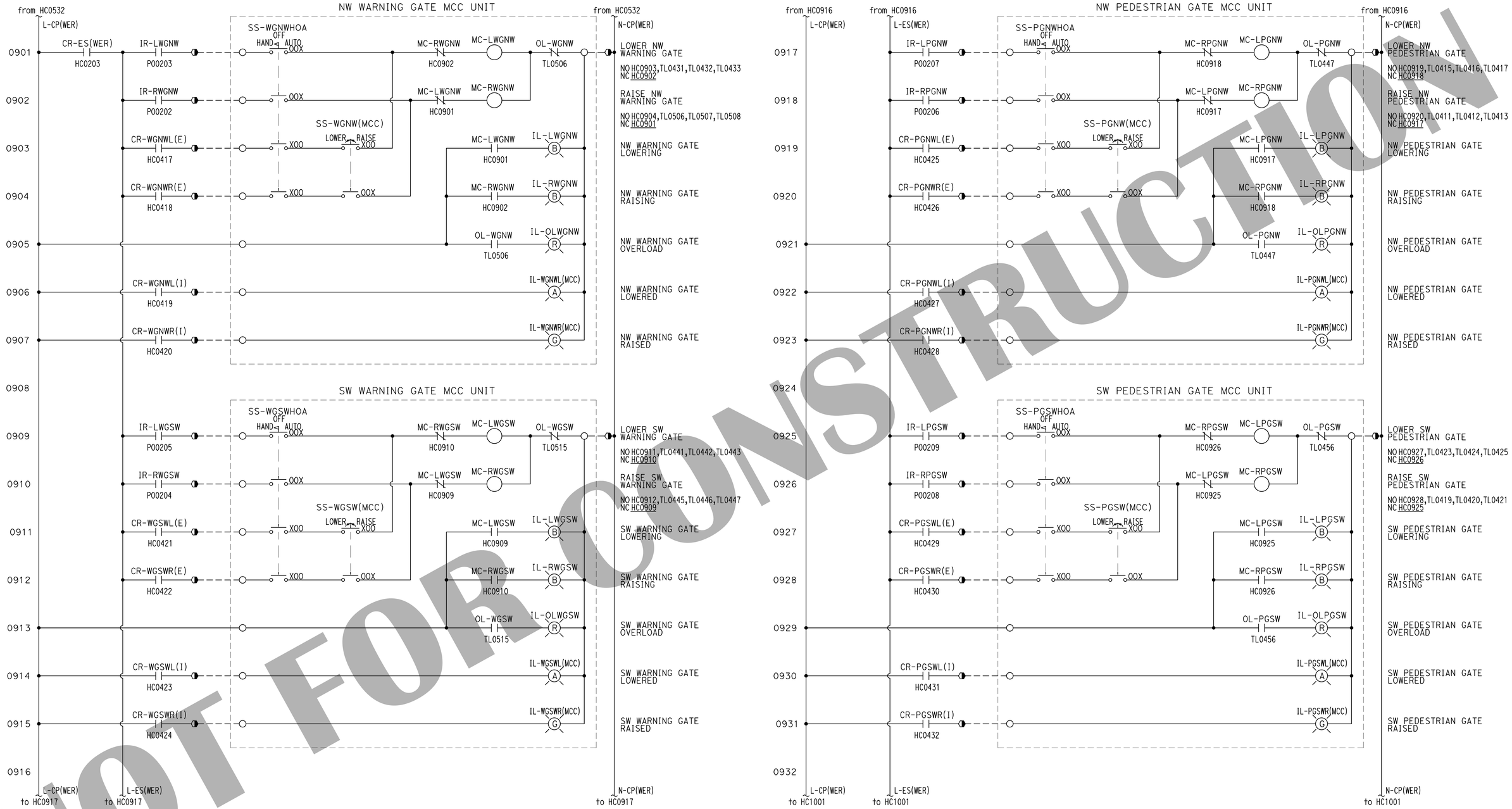
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 8
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-043
SHT NO.: 576 OF 648

p:\3326.01\CADD\Electrical\E-043 HARDWIRED CONTROL CIRCUITS - 8.dwg LAST PLOTTED: 11/3/2025 2:08:05 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-044 HARDWIRED CONTROL CIRCUITS - 9.dwg LAST PLOTTED: 11/3/2025 2:08:10 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025

DESIGN BY: K. GABLE DATE: 11/03/2025

CHECKED BY: R. PETERS DATE: 11/03/2025

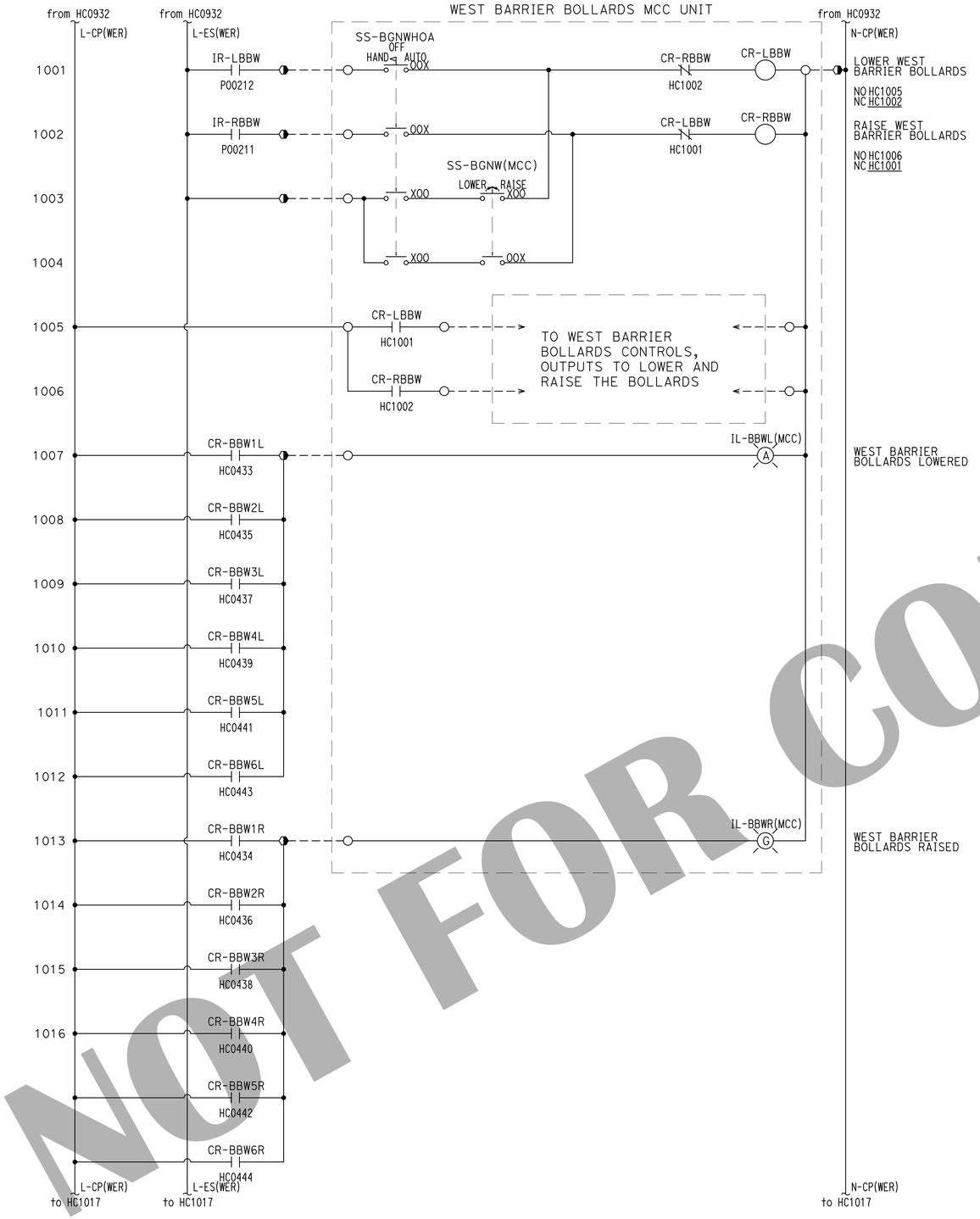
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STRENKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

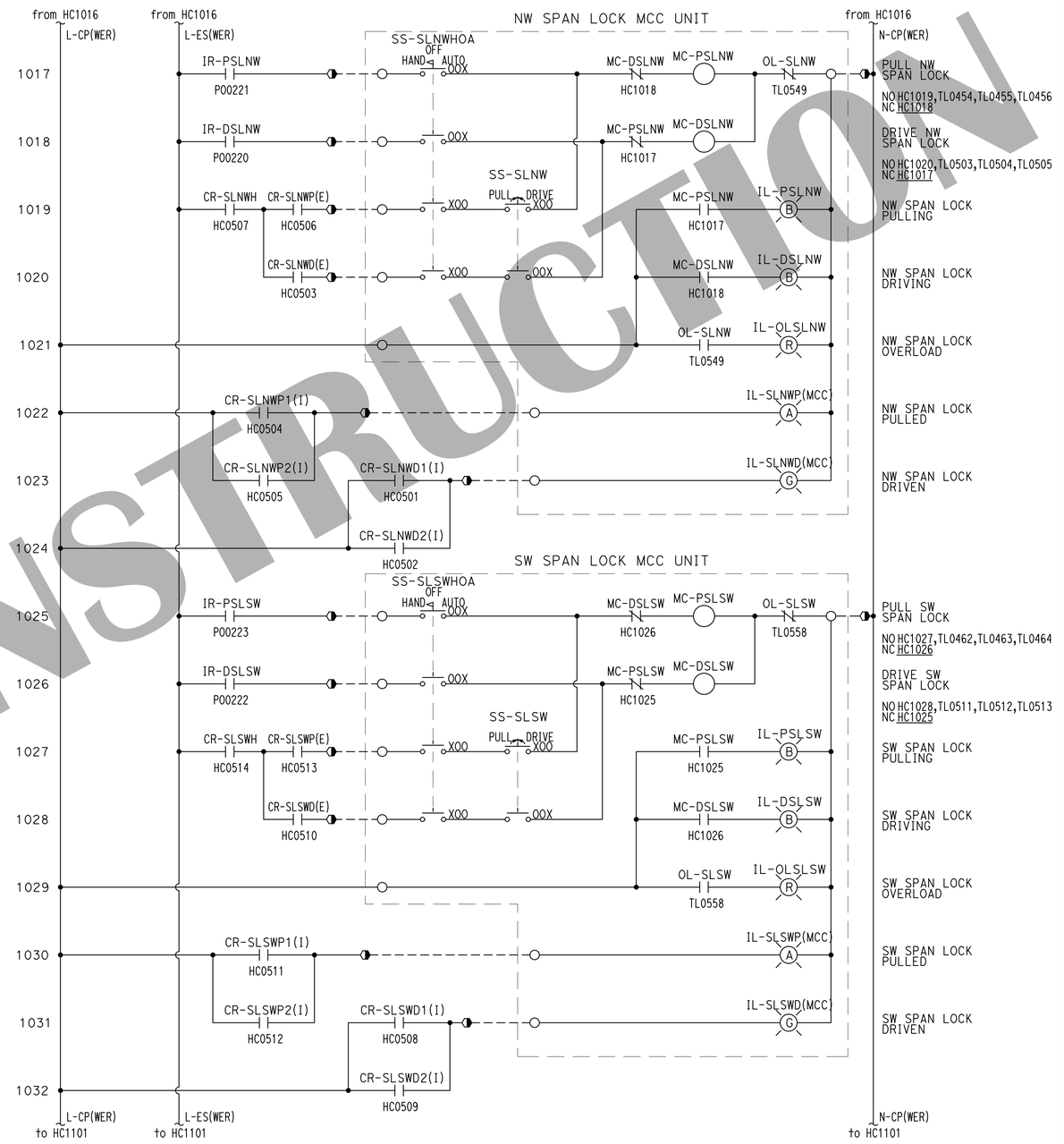
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 9
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-044

SHT NO.: 577 OF 648





NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-045 HARDWIRED CONTROL CIRCUITS - 10.dwg LAST PLOTTED: 11/3/2025 2:08:15 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

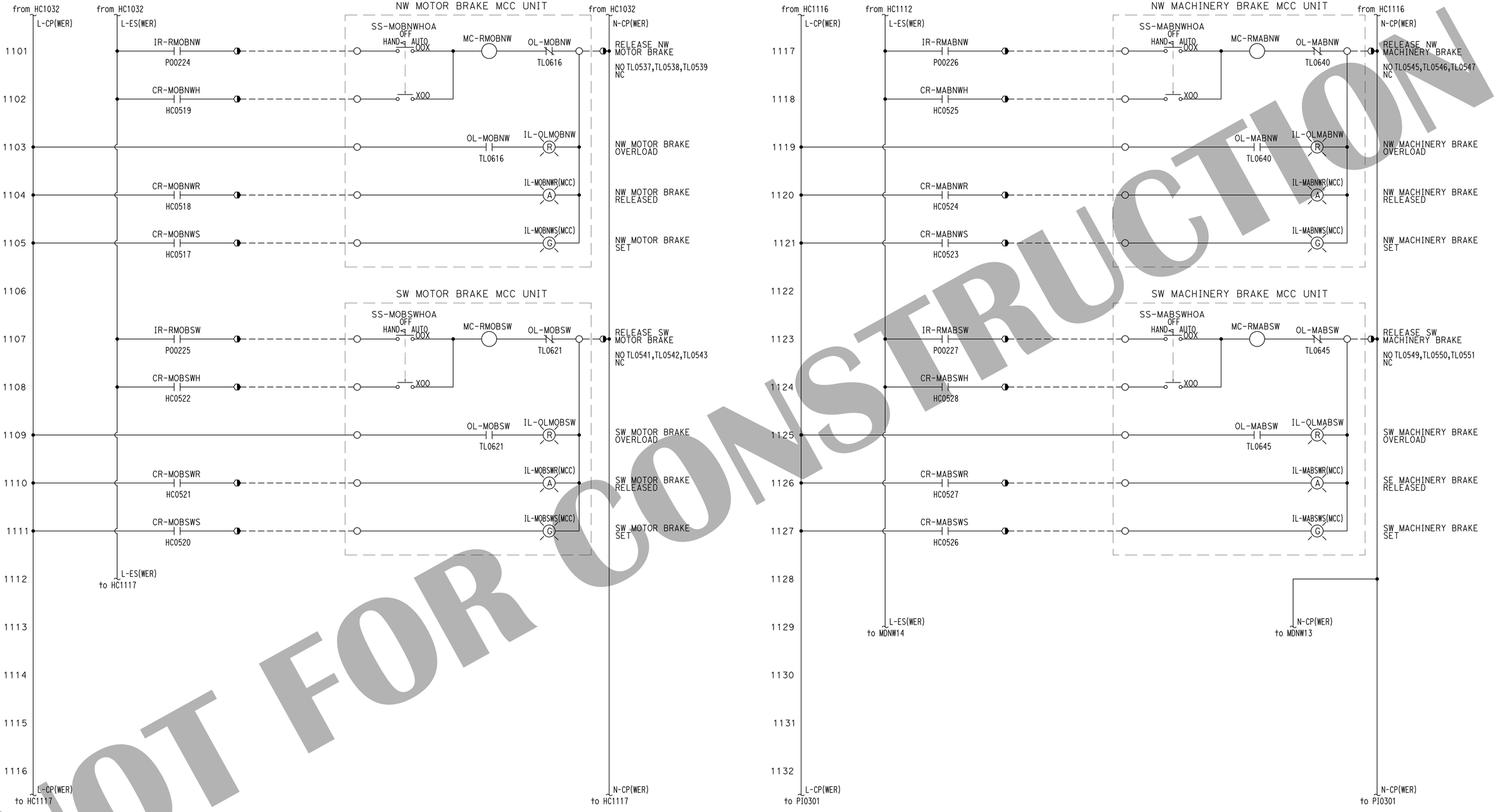
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 10
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-045
SHT NO.: 578 OF 648

NOT FOR CONSTRUCTION



REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

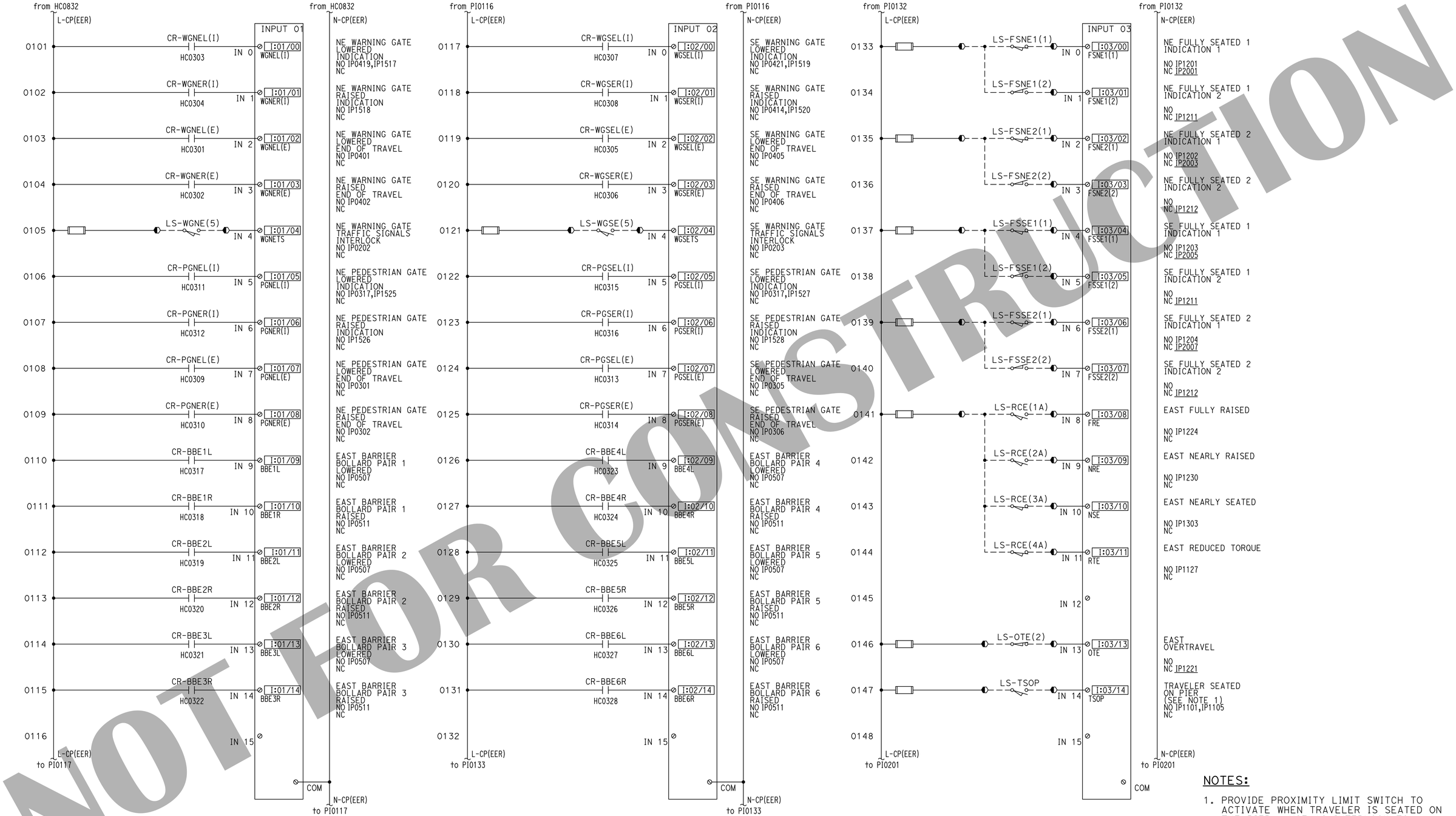
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWKOSKI
No. 21568
Exp. 09.30.26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED CONTROL CIRCUITS - 11
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-046
SHT NO.: 579 OF 648

p:\3326.01\CADD\Electrical\E-046 HARDWIRED CONTROL CIRCUITS - 11.dwg LAST PLOTTED: 11/3/2025 2:08:20 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOTES:

1. PROVIDE PROXIMITY LIMIT SWITCH TO ACTIVATE WHEN TRAVELER IS SEATED ON THE PIER. USE AS INTERLOCK TO REQUIRE SWITCH ACTIVATION TO ALLOW SPAN OPERATION.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-047 HARDWIRED PLC INPUTS - 1.dwg LAST PLOTTED: 11/3/2025 2:08:25 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC INPUTS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-047

SHT NO.: 580 OF 648

NOT FOR CONSTRUCTION

from PI0148
L-CP(EER)

INPUT 04

0201	CR-SLNED1(I) HC0333	IN 0	I:04/00	SLNED1(I)
0202	CR-SLNED2(I) HC0334	IN 1	I:04/01	SLNED2(I)
0203	CR-SLNED(E) HC0335	IN 2	I:04/02	SLNED(E)
0204	CR-SLNEP1(I) HC0336	IN 3	I:04/03	SLNEP1(I)
0205	CR-SLNEP2(I) HC0337	IN 4	I:04/04	SLNEP2(I)
0206	CR-SLNEP(E) HC0338	IN 5	I:04/05	SLNEP(E)
0207	CR-SLNEH HC0339	IN 6	I:04/06	SLNEH
0208	CR-SLSED1(I) HC0340	IN 7	I:04/07	SLSED1(I)
0209	CR-SLSED2(I) HC0341	IN 8	I:04/08	SLSED2(I)
0210	CR-SLSED(E) HC0342	IN 9	I:04/09	SLSED(E)
0211	CR-SLSEP1(I) HC0343	IN 10	I:04/10	SESLP1(I)
0212	CR-SLSEP2(I) HC0344	IN 11	I:04/11	SLSEP2(I)
0213	CR-SLSEP(E) HC0345	IN 12	I:04/12	SLSEP(E)
0214	CR-SLSEH HC0346	IN 13	I:04/13	SLSEH
0215		IN 14		
0216		IN 15		

L-CP(EER) to PI0217

COM

from PI0148
N-CP(EER)

NE SPAN LOCK DRIVEN 1 INDICATION
NO IP0623
NC IP1905

NE SPAN LOCK DRIVEN 2 INDICATION
NO IP0624
NC IP1907

NE SPAN LOCK DRIVEN END OF TRAVEL
NO IP0526,IP0602
NC

NE SPAN LOCK PULLED 1 INDICATION
NO IP0613
NC IP1901

NE SPAN LOCK PULLED 2 INDICATION
NO IP0614
NC IP1903

NE SPAN LOCK PULLED END OF TRAVEL
NO IP0522,IP0601
NC

NE SPAN LOCK HAND CRANK
NO IP0525
NC

SE SPAN LOCK DRIVEN 1 INDICATION
NO IP0625
NC IP1913

SE SPAN LOCK DRIVEN 2 INDICATION
NO IP0626
NC IP1915

SE SPAN LOCK DRIVEN END OF TRAVEL
NO IP0527,IP0604
NC

SE SPAN LOCK PULLED 1 INDICATION
NO IP0615
NC IP1909

SE SPAN LOCK PULLED 2 INDICATION
NO IP0616
NC IP1911

SE SPAN LOCK PULLED END OF TRAVEL
NO IP0523,IP0603
NC

SE SPAN LOCK HAND CRANK
NO IP0526
NC

N-CP(EER) to PI0217

from PI0216
L-CP(EER)

INPUT 05

0217	CR-MOBNES HC0401	IN 0	I:05/00	MOBNES
0218	CR-MOBNER HC0402	IN 1	I:05/01	MOBNER
0219	CR-MOBNEH HC0403	IN 2	I:05/02	MOBNEH
0220	CR-MOBSES HC0404	IN 3	I:05/03	MOBSES
0221	CR-MOBSER HC0405	IN 4	I:05/04	MOBSER
0222	CR-MOBSEH HC0406	IN 5	I:05/05	MOBSEH
0223	CR-MABNES HC0407	IN 6	I:05/06	MABNES
0224	CR-MABNER HC0408	IN 7	I:05/07	MABNER
0225	CR-MABNEH HC0409	IN 8	I:05/08	MABNEH
0226	CR-MABSES HC0410	IN 9	I:05/09	MABSES
0227	CR-MABSER HC0411	IN 10	I:05/10	MABSER
0228	CR-MABSEH HC0412	IN 11	I:05/11	MABSEH
0229	IR-BDS2 HC0537	IN 12	I:05/12	BDS2
0230	IR-BDS4 HC0543	IN 13	I:05/13	BDS4
0231	IR-BDS5 HC0546	IN 14	I:05/14	BDS5
0232	IR-BDS6 HC0548	IN 15	I:05/15	BDS6

L-CP(EER) to PI0233

COM

from PI0216
N-CP(EER)

NE MOTOR BRAKE SET
NO IP0722,IP1701
NC

NE MOTOR BRAKE RELEASED
NO IP1702
NC IP0724

NE MOTOR BRAKE HAND RELEASED
NO IP0724
NC IP1703

SE MOTOR BRAKE SET
NO IP0722,IP1704
NC

SE MOTOR BRAKE RELEASED
NO IP1705
NC IP0725

SE MOTOR BRAKE HAND RELEASED
NO IP0725
NC IP1706

NE MACHINERY BRAKE SET
NO IP0722,IP1707
NC

NE MACHINERY BRAKE RELEASED
NO IP1708
NC IP0726

NE MACHINERY BRAKE HAND RELEASED
NO IP0726
NC IP1709

SE MACHINERY BRAKE SET
NO IP0722,IP1710
NC

SE MACHINERY BRAKE RELEASED
NO IP1711
NC IP0727

SE MACHINERY BRAKE HAND RELEASED
NO IP0727
NC IP1712

BOAT DETECTION SENSOR 2
NO IP0130
NC

BOAT DETECTION SENSOR 4
NO IP0132
NC

BOAT DETECTION SENSOR 5
NO IP0125
NC

BOAT DETECTION SENSOR 6
NO IP0124
NC

N-CP(EER) to PI0233

from PI0232
L-CP(EER)

INPUT 06

0233	CR-MDNEOK MDNE55	IN 0	I:06/00	MDNEOK
0234	CR-MDNEF MDNE57	IN 1	I:06/01	MDNEF
0235	CR-MDNERU MDNE59	IN 2	I:06/02	MDNERU
0236	CR-MDSEOK MDSE55	IN 3	I:06/03	MDSEOK
0237	CR-MDSEF MDSE57	IN 4	I:06/04	MDSEF
0238	CR-MDSERU MDSE59	IN 5	I:06/05	MDSERU
0239		IN 6		
0240		IN 7		
0241	from MDNE46	IN 8	I:06/08	OSNE
0242	from MDSE46	IN 9	I:06/09	OSSE
0243	PF CONTACT IN POWER MONITOR	IN 10	I:06/10	PF
0244	EIC1 INTRUSION CONTACT 1	IN 11	I:06/11	EIC1
0245	EIC2 INTRUSION CONTACT 2	IN 12	I:06/12	EIC2
0246	EIC3 INTRUSION CONTACT 3	IN 13	I:06/13	EIC3
0247	EIC4 INTRUSION CONTACT 4	IN 14	I:06/14	EIC4
0248		IN 15		

L-CP(EER) to P00101

COM

from PI0232
N-CP(EER)

NE MAIN DRIVE OK
NO IP0901
NC

NE MAIN DRIVE FAULT
NO
NC IP0921

NE MAIN DRIVE RUNNING
NO
NC IP1001

SE MAIN DRIVE OK
NO IP0902
NC

SE MAIN DRIVE FAULT
NO
NC IP0922

SE MAIN DRIVE RUNNING
NO
NC IP1003

NE OVERSPEED
NO
NC IP1407

SE OVERSPEED
NO
NC IP1408

PHASE FAILURE
NO
NC IP1403

EAST INTRUSION CONTACT 1
NO IP2017
NC

EAST INTRUSION CONTACT 2
NO IP2018
NC

EAST INTRUSION CONTACT 3
NO IP2019
NC

EAST INTRUSION CONTACT 4
NO IP2020
NC

N-CP(EER) to P00101

ANALOG INPUT (CURRENT)
INPUT 06A

INCLINOMETER (SEE NOTE 2)
V IN 0+
V/I IN 0-
I IN 0+ — I:06A/00
COM

EAST ROTARY CAM RESOLVER

EAST RESOLVER INPUT CARD (SPECIALTY)

NE OPERATING DRUM RESOLVER*

NE OPERATING DRUM RESOLVER INPUT CARD (SPECIALTY)

* NE OPERATING DRUM RESOLVER SHOWN, ALSO TYPICAL OF SE (SEE NOTE 3)

NOTES:

1. PROVIDE INCLINOMETER, RESOLVER, PLC CARDS AND ASSOCIATED CABLING WITH THE CHARACTERISTICS AS REQUIRED FOR PROPER INTERFACING BETWEEN DEVICES AND THE PLC.
2. INCLINOMETER SHALL BE 2 AXIS TO MONITOR TRANSVERSE AND LONGITUDINAL SKEW.
3. OPERATING DRUM RESOLVERS SHALL BE MULTI-TURN TO MONITOR TRANSVERSE SKEW.
4. POWER MONITOR CONTACT SHALL OPEN ON PHASE FAILURE AND/OR PHASE REVERSAL.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK ----
SCALE AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

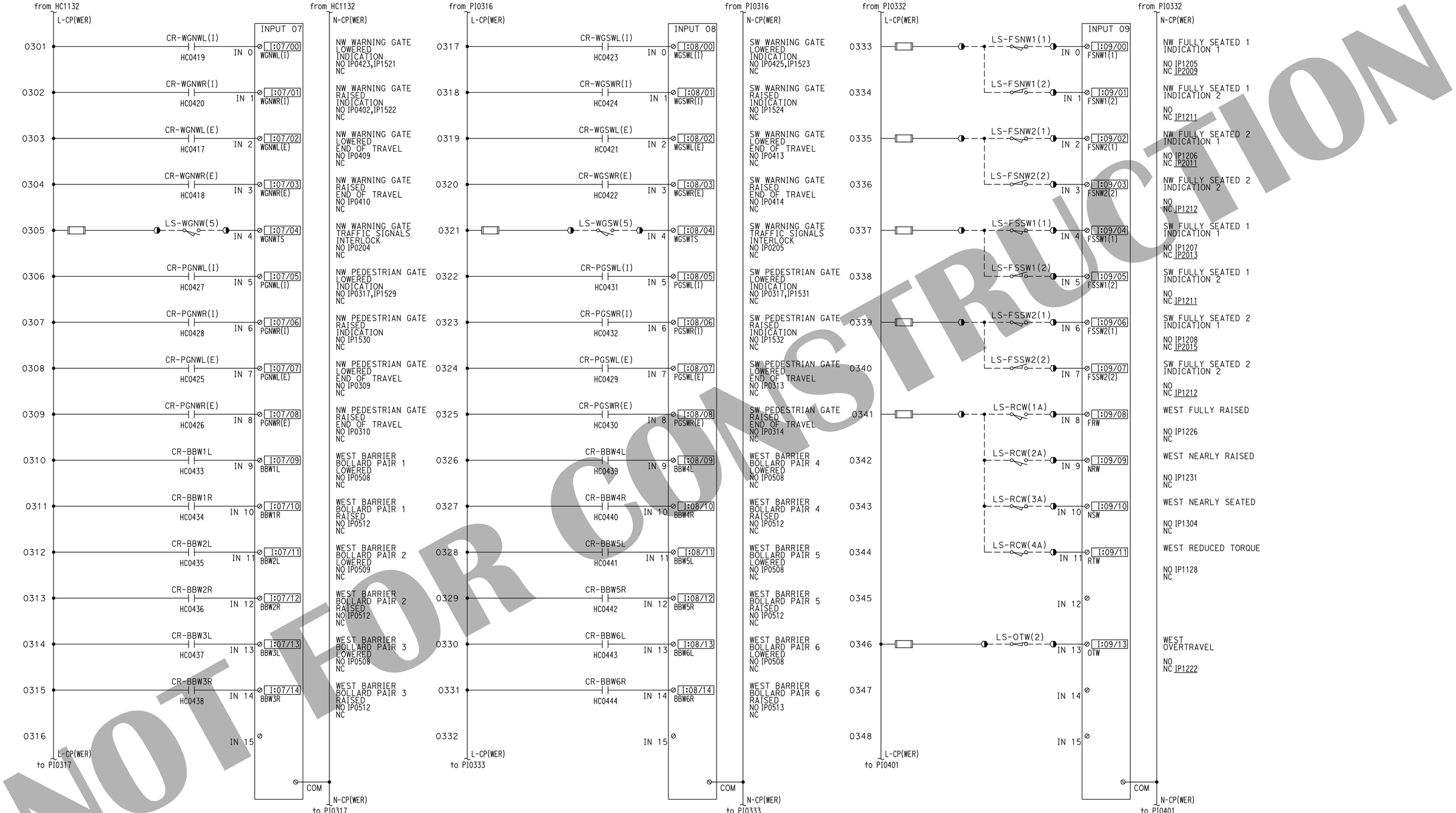
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC INPUTS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-048
SHT NO.: 581 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-048 HARDWIRED PLC INPUTS - 2.dwg LAST PLOTTED: 11/3/2025 2:08:30 PM



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-049 HARDWIRED PLC INPUTS - 3.dwg LAST PLOTTED: 11/3/2025 2:08:34 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

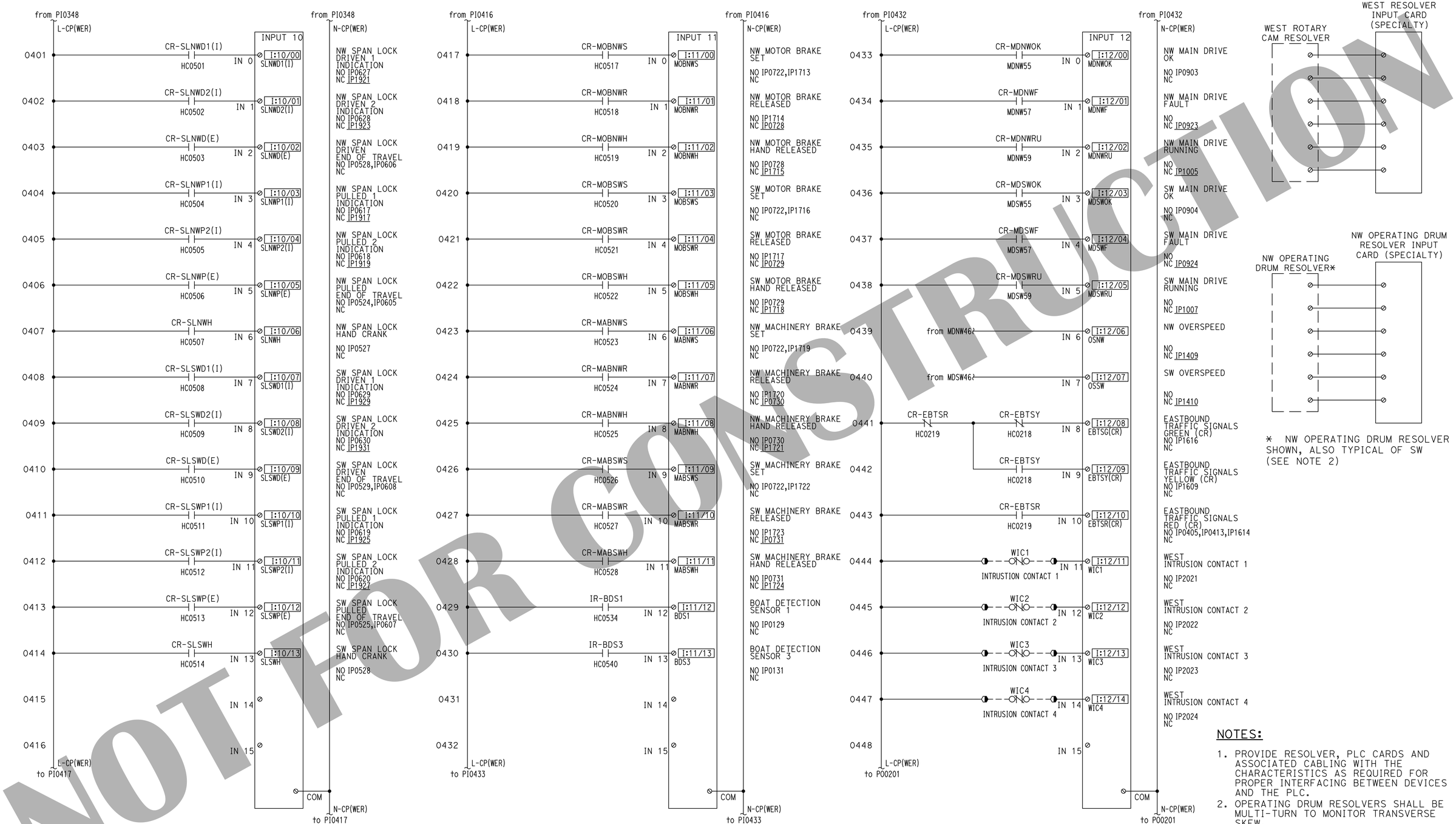
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKI No. 21568 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC INPUTS - 3
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-049
SHT NO.: 582 OF 648

NOT FOR CONSTRUCTION



p:\3326.01\CADD\Electrical\E-050 HARDWIRED PLC INPUTS - 4.dwg LAST PLOTTED: 11/3/2025 2:08:39 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

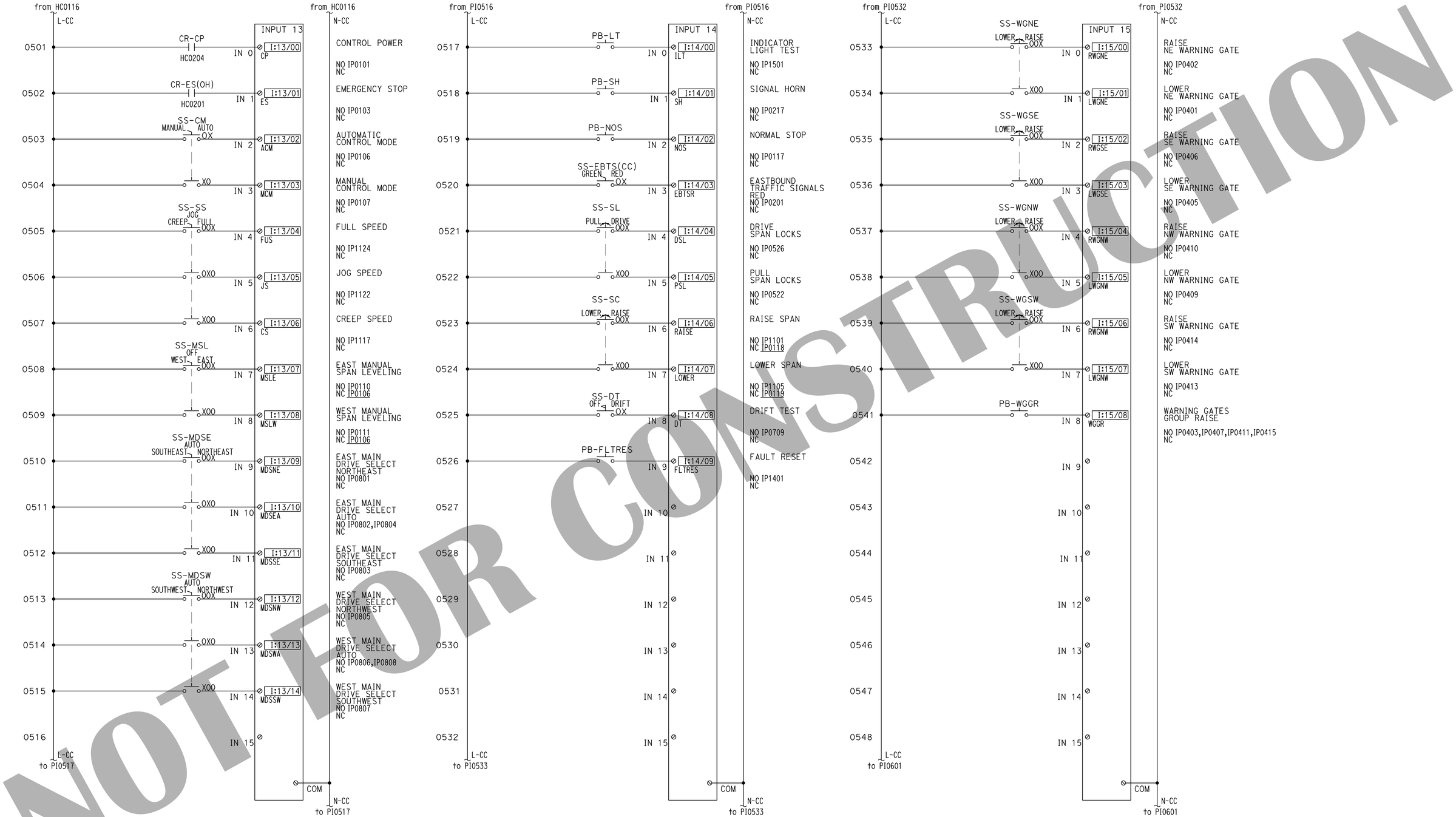
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC INPUTS - 4
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-050

SHT NO.: 583 OF 648



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-051 HARDWIRED PLC INPUTS - 5.dwg LAST PLOTTED: 11/3/2025 2:08:43 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

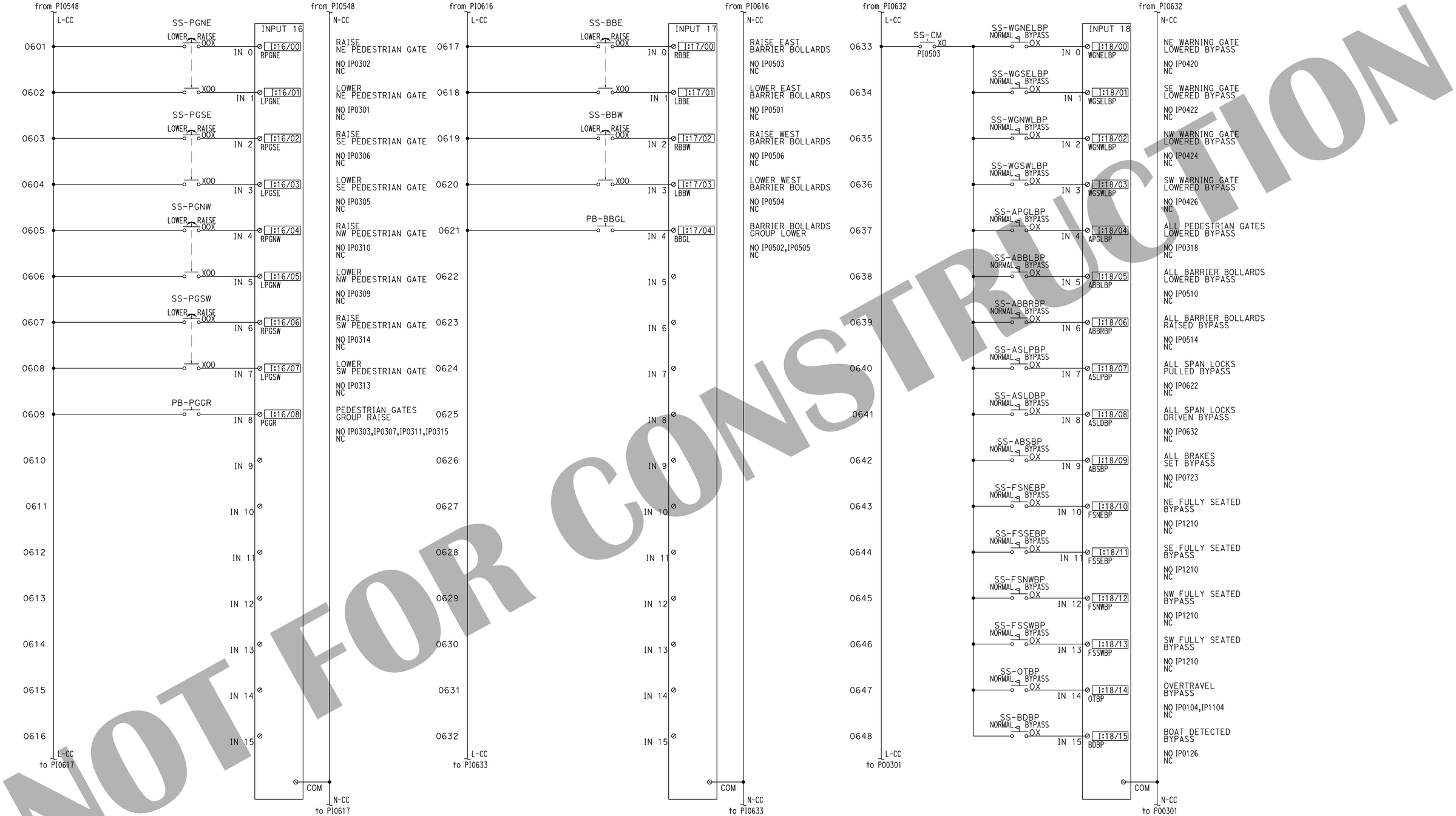
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC INPUTS - 5
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-051

SHT NO.: 584 OF 648



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-052 HARDWIRED PLC INPUTS - 6.dwg LAST PLOTTED: 11/3/2025 2:08:48 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

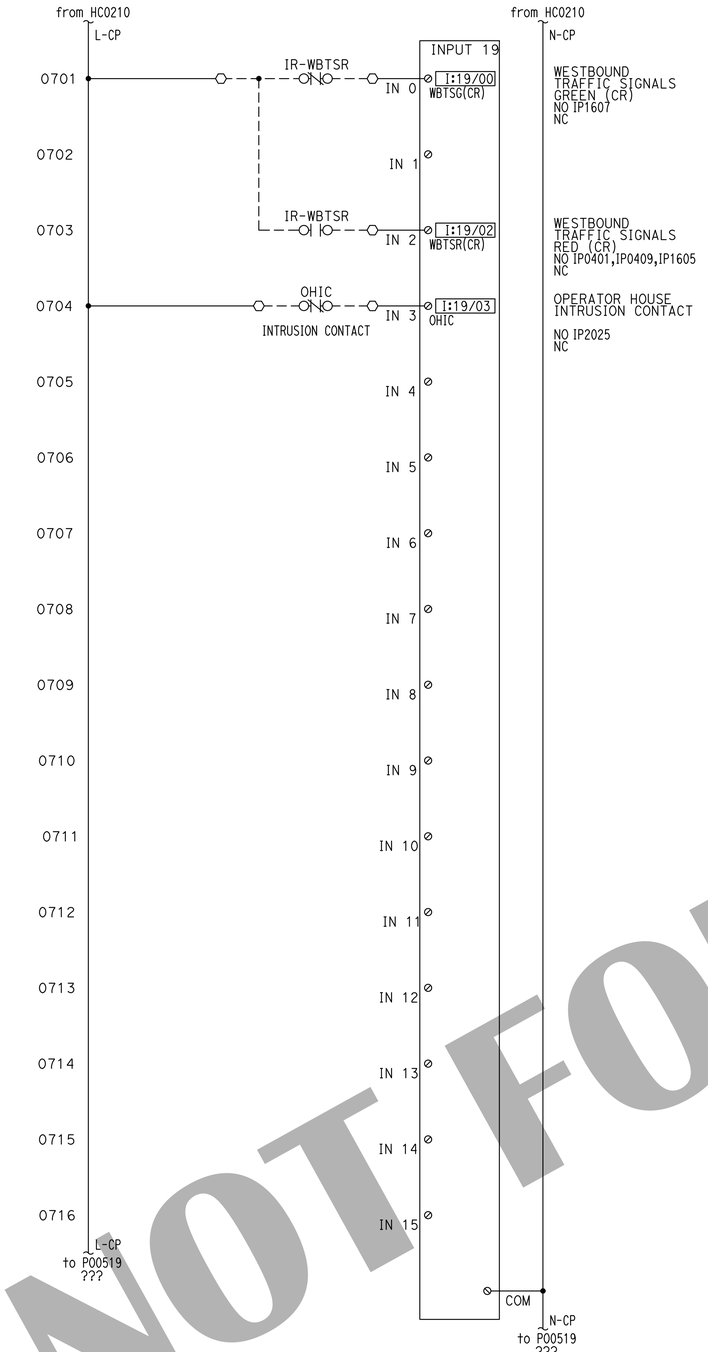
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC INPUTS - 6
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-052
SHT NO.: 585 OF 648



NOT FOR CONSTRUCTION

NOTES:

1. INTERPOSING RELAY IR-WBTSR TO BE LOCATED IN TRAFFIC SIGNAL INTERFACE CABINET. SIGNAL TO BE PROVIDED FROM TRAFFIC SIGNAL CONTROLLER WHEN INTERSECTION TRAFFIC SIGNALS ARE RED (PREVENT TRAFFIC FROM ENTERING SPAN).

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

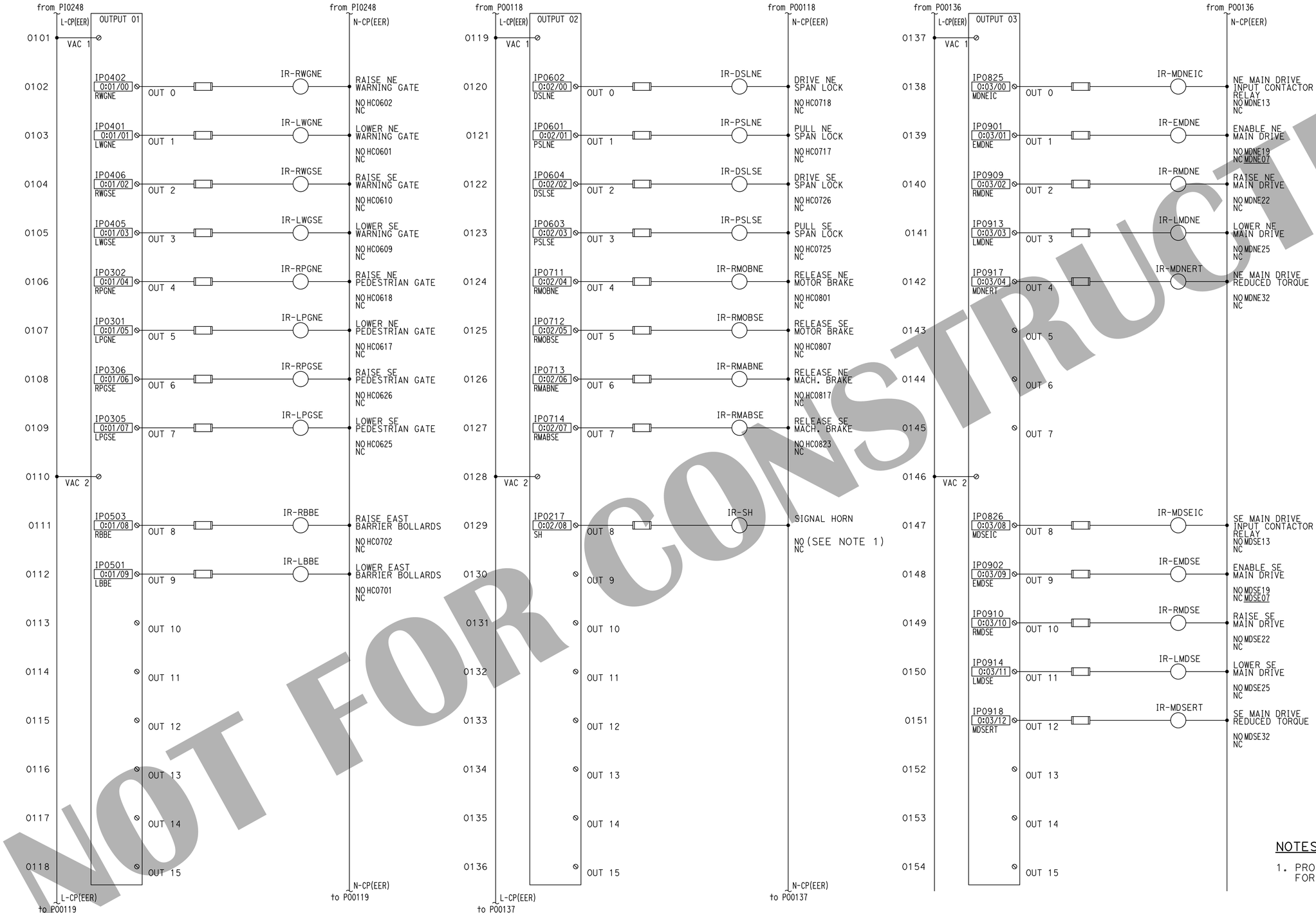
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC INPUTS - 7
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-053
SHT NO.: 586 OF 648

p:\3326.01\CADD\Electrical\E-053 HARDWIRED PLC INPUTS - 7.dwg LAST PLOTTED: 11/3/2025 2:08:52 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOTES:

1. PROVIDE CR-SH NORMALLY OPEN CONTACT FOR SIGNAL HORN CIRCUIT.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

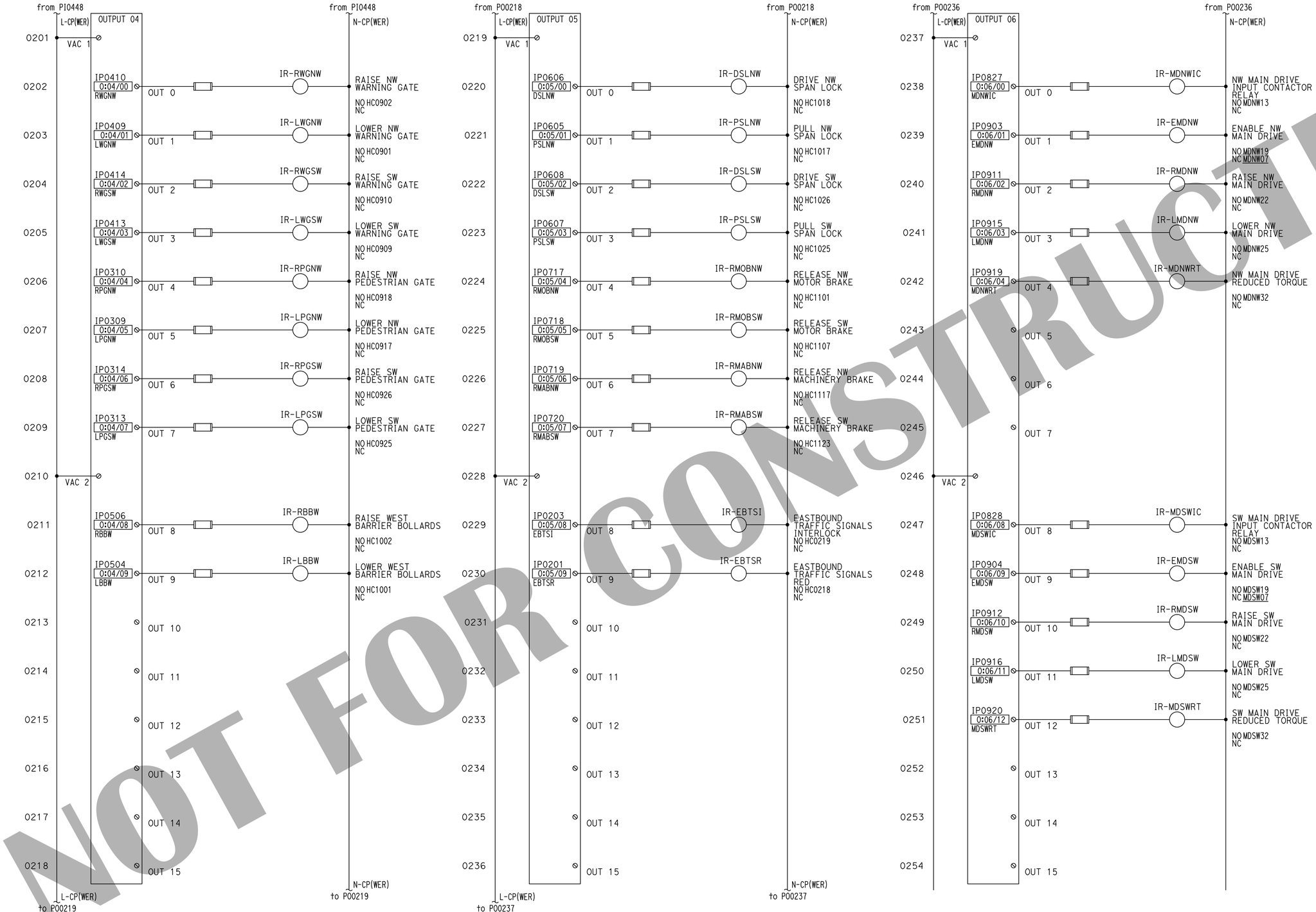
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC OUTPUTS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-054
SHT NO.: 587 OF 648

p:\3326.01\CADD\Electrical\E-054 HARDWIRED PLC OUTPUTS - 1.dwg LAST PLOTTED: 11/3/2025 2:08:57 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-055 HARDWIRED PLC OUTPUTS - 2.dwg LAST PLOTTED: 11/3/2025 2:09:01 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

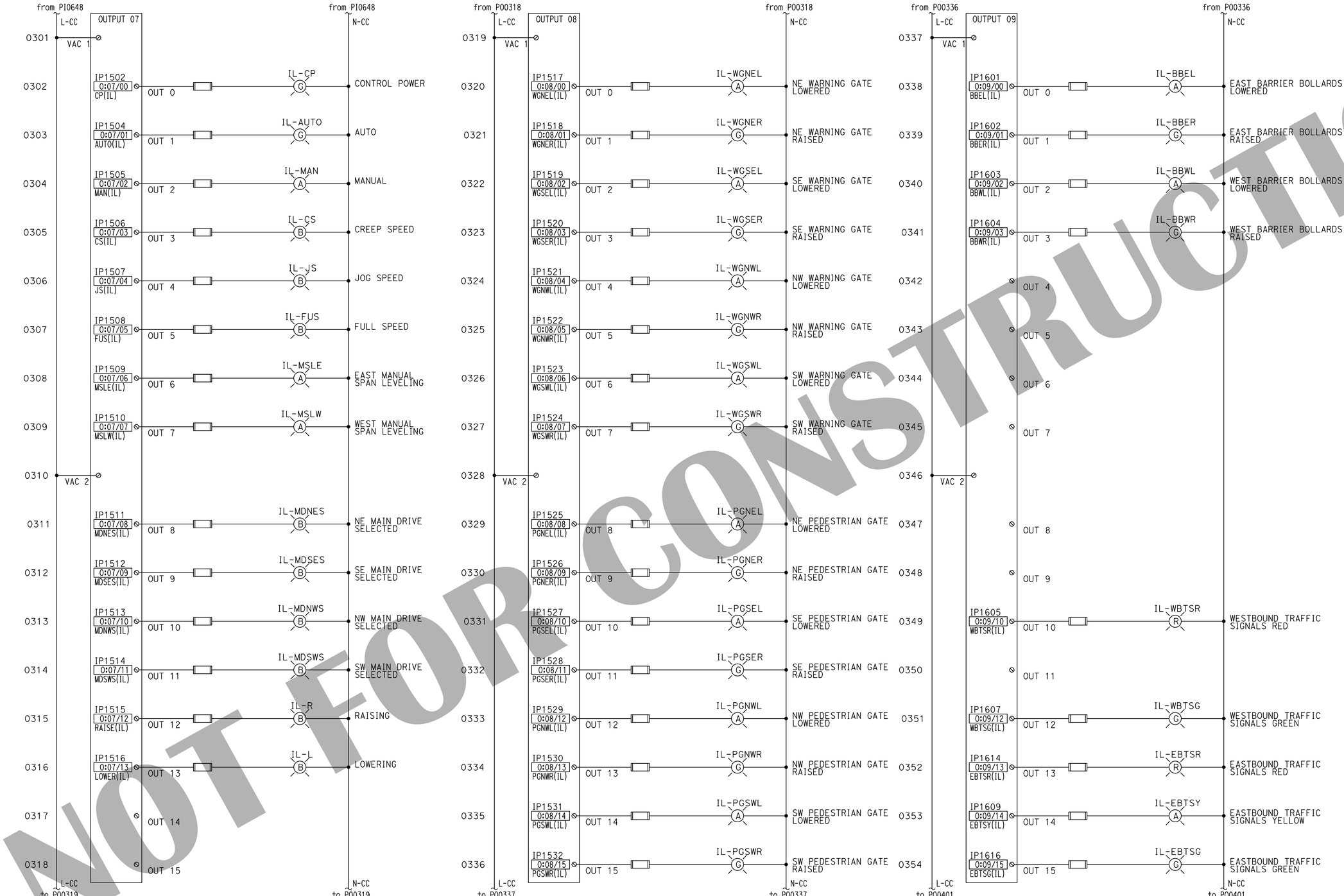
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC OUTPUTS - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-055
SHT NO.: 588 OF 648



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-056 HARDWIRED PLC OUTPUTS - 3.dwg LAST PLOTTED: 11/3/2025 2:09:06 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

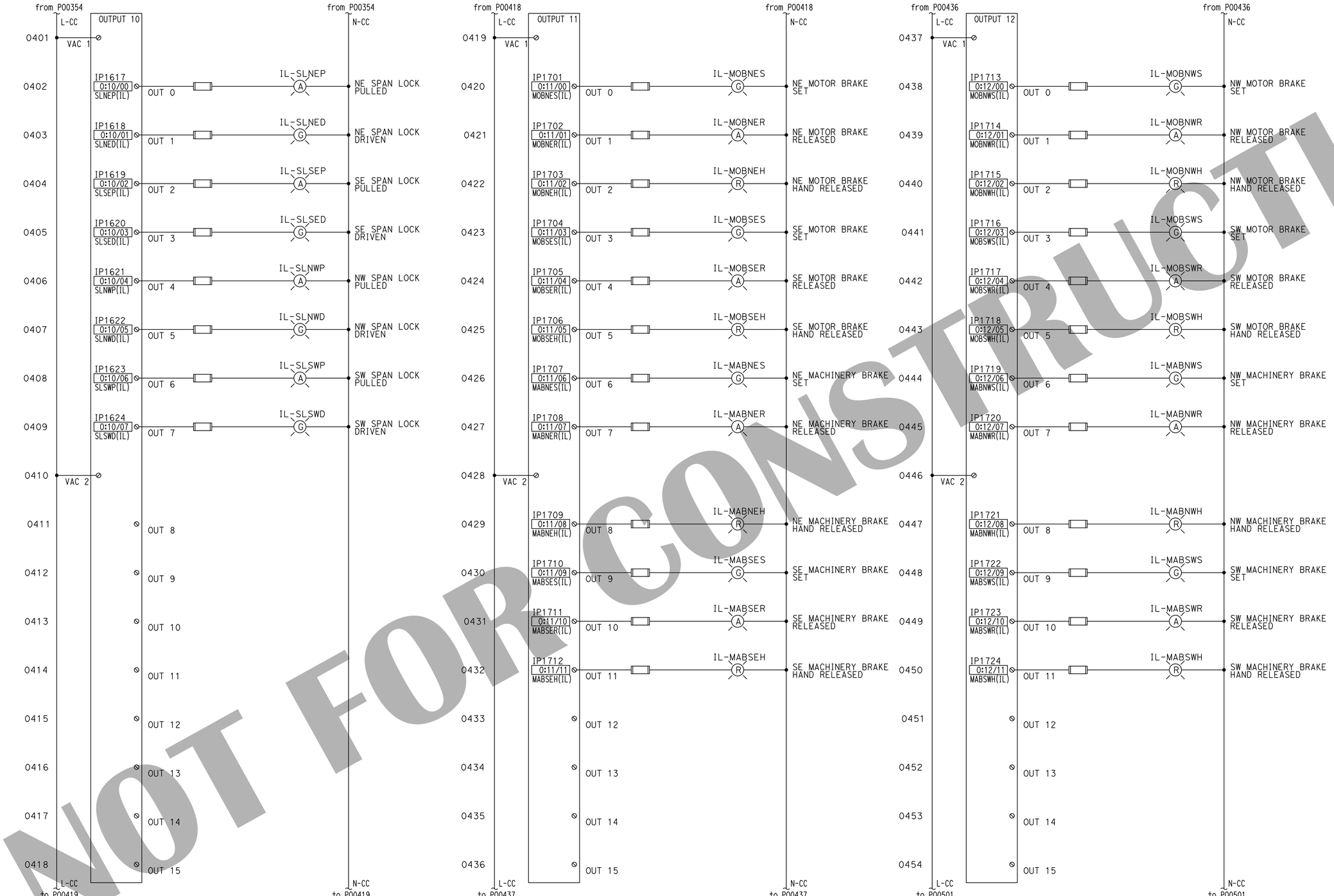
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKI No. 21568 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC OUTPUTS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-056
SHT NO.: 589 OF 648



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-057 HARDWIRED PLC OUTPUTS - 4.dwg LAST PLOTTED: 11/3/2025 2:09:10 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

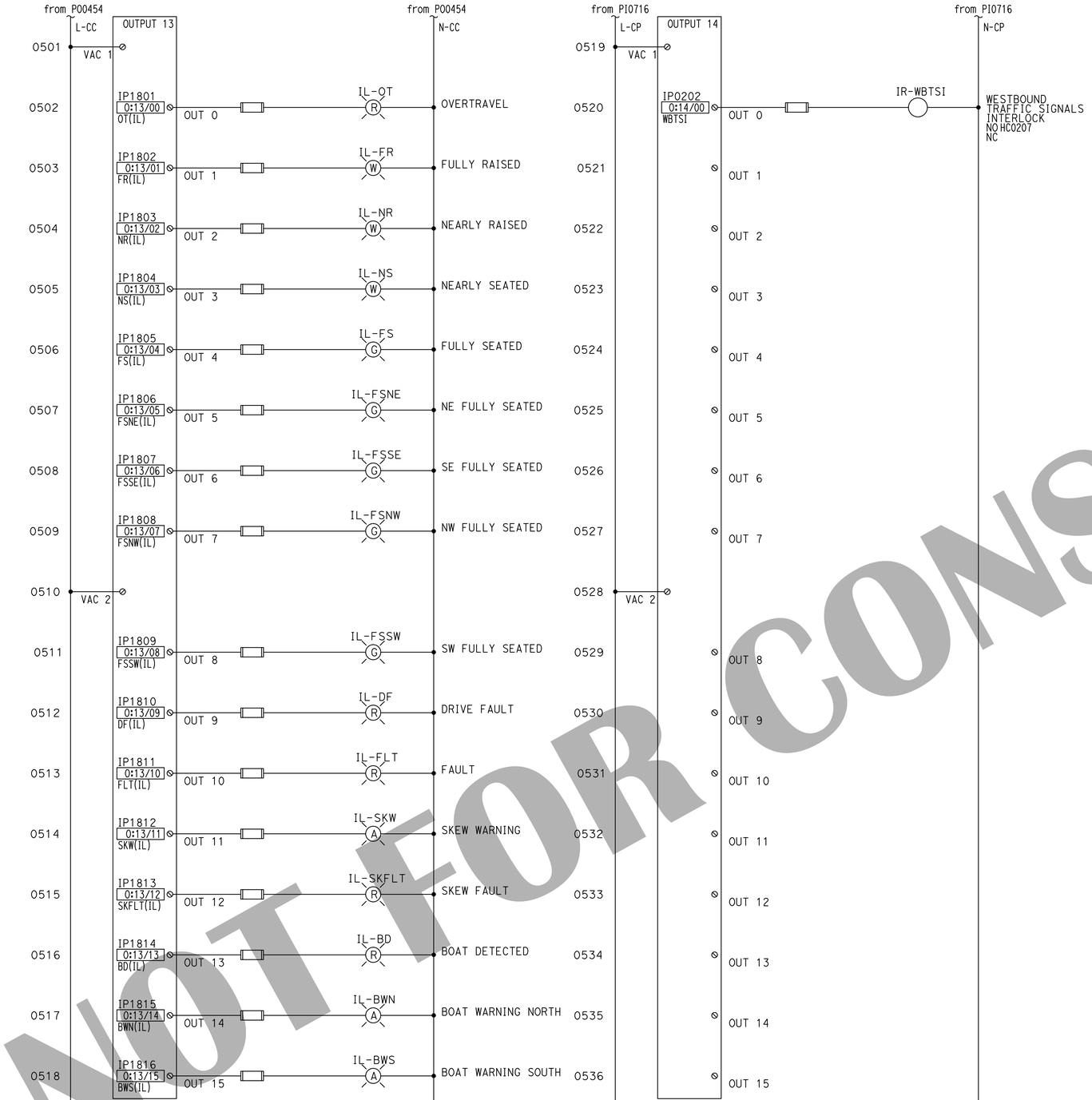
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
CIVIL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC OUTPUTS - 4
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-057
SHT NO.: 590 OF 648



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-058 HARDWIRED PLC OUTPUTS - 5.dwg LAST PLOTTED: 11/3/2025 2:09:14 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSN
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
HARDWIRED PLC OUTPUTS - 5
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-058
SHT NO.: 591 OF 648

CONTROL POWER LOGIC

0101 — I:13/00 CP (PI0501) → CP

CONTROL POWER
NO IP0103,IP1501,IP1502,IP1504
NC

EMERGENCY STOP LOGIC

0103 — CP (IP0101) · I:13/01 ES (PI0502) · OT (IP1219) · I:18/14 OTBP (PI0647) · MDF (IP0925) · DECF (IP1414) · SKFLT (IP1418) · TMR-BRF(DN) (IP0724) → ES

EMERGENCY STOP
NO IP0301,IP0401,IP0501,IP0520,
IP0701,IP1101,IP1105
NC

CONTROL MODE LOGIC

0106 — I:13/02 ACM (PI0503) · I:13/07 MSLE (PI0508) · I:13/08 MSLW (PI0509) · MCM (IP0108) → ACM

AUTOMATIC
CONTROL MODE
NO IP0125,IP0522,IP0526,IP1103,
IP1107,IP1124,IP1504
NC IP0108

0108 — I:13/03 MCM (PI0504) · ACM (IP0106) → MCM

MANUAL
CONTROL MODE
NO IP0110,IP0118,IP0523,IP0527,
IP0709,IP1123,IP1331,IP1505
NC IP0106

0110 — MCM (IP0108) · I:13/07 MSLE (PI0508) → MSLE

EAST MANUAL
SPAN LEVELING
NO IP0820,IP0907,IP1118,IP1509
NC IP0705,IP0821,IP0903,IP1122

0111 — I:13/08 MSLW (PI0509) → MSLW

WEST MANUAL
SPAN LEVELING
NO IP0820,IP0907,IP1119,IP1510
NC IP0701,IP0817,IP0901,IP1122

NORMAL STOP LOGIC

0117 — I:14/02 NOS (PI0519) → NOS

NORMAL STOP
NO IP0122,IP1102,IP1106
NC IP0522,IP1122

0118 — MCM (IP0108) · RAISE (IP1103) · I:14/06 RAISE (PI0523)

0119 — LOWER (IP1107) · I:14/07 LOWER (PI0524)

0120 — MIF (IP1426)

0121 — BD (IP0125) · BDBP (IP0126) · LOWER (IP1107)

0122 — NOS (IP0117) · RAISE (IP1103) · TMR-NOS (TON, TIMER ON DELAY, PRESET 10 SEC, ACCUM 0) → TMR-NOS(DN)

NORMAL STOP
TIMER (DONE)
NO
NC IP1101,IP1105

0123 — LOWER (IP1107)

BOAT DETECTED LOGIC

0124 — I:05/15 BDS6 (PI0232) · I:05/14 BDS5 (PI0231)

0125 — ACM (IP0106) → BD

BOAT DETECTED
NO IP0121,IP0127,IP1814
NC IP1107

0126 — I:18/15 BDBP (PI0648) → BDBP

BOAT DETECTED
BYPASS
NO IP1108
NC IP0121,IP0127

0127 — BD (IP0125) · BDBP (IP0126) · LOWER (IP1107) · FR (IP1227) · TMR-BDR (TON, TIMER ON DELAY, PRESET 5 SEC, ACCUM 0) → TMR-BDR(EN)

BOAT DETECTED
RAISE TIMER
(ENABLE)
NO IP0128
NC

0128 — TMR-BDR(EN) (IP0127) → TMR-BDR(DN)

BOAT DETECTED
RAISE TIMER
(DONE)
NO IP1104
NC

0129 — I:11/12 BDS1 (PI0429) → BWN

BOAT WARNING
NORTH
NO IP1815
NC

0130 — I:05/12 BDS2 (PI0229)

0131 — I:11/13 BDS3 (PI0430) → BWS

BOAT WARNING
SOUTH
NO IP1816
NC

0132 — I:05/13 BDS4 (PI0230)

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-059 INTERNAL PLC LOGIC - 1.dwg LAST PLOTTED: 11/3/2025 2:09:19 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

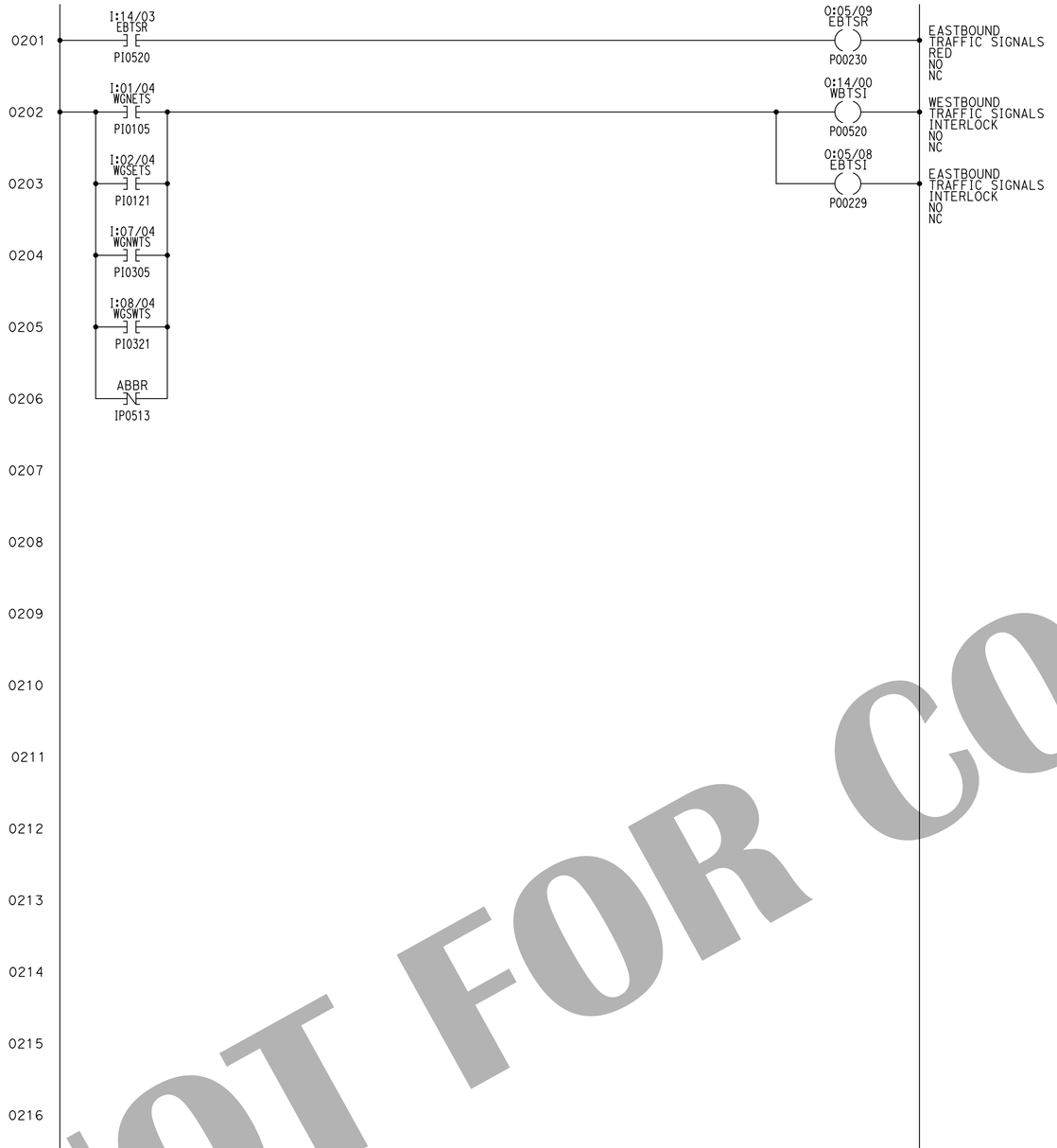
DRAWN BY: K. GABLE — DATE: 11/03/2025
DESIGN BY: K. GABLE — DATE: 11/03/2025
CHECKED BY: R. PETERS — DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER — JOSEPH G. STREWKOSKI — No. 21568 — Exp. 09-30-26 — ELECTRICAL — STATE OF CALIFORNIA — Date: 11/03/2025

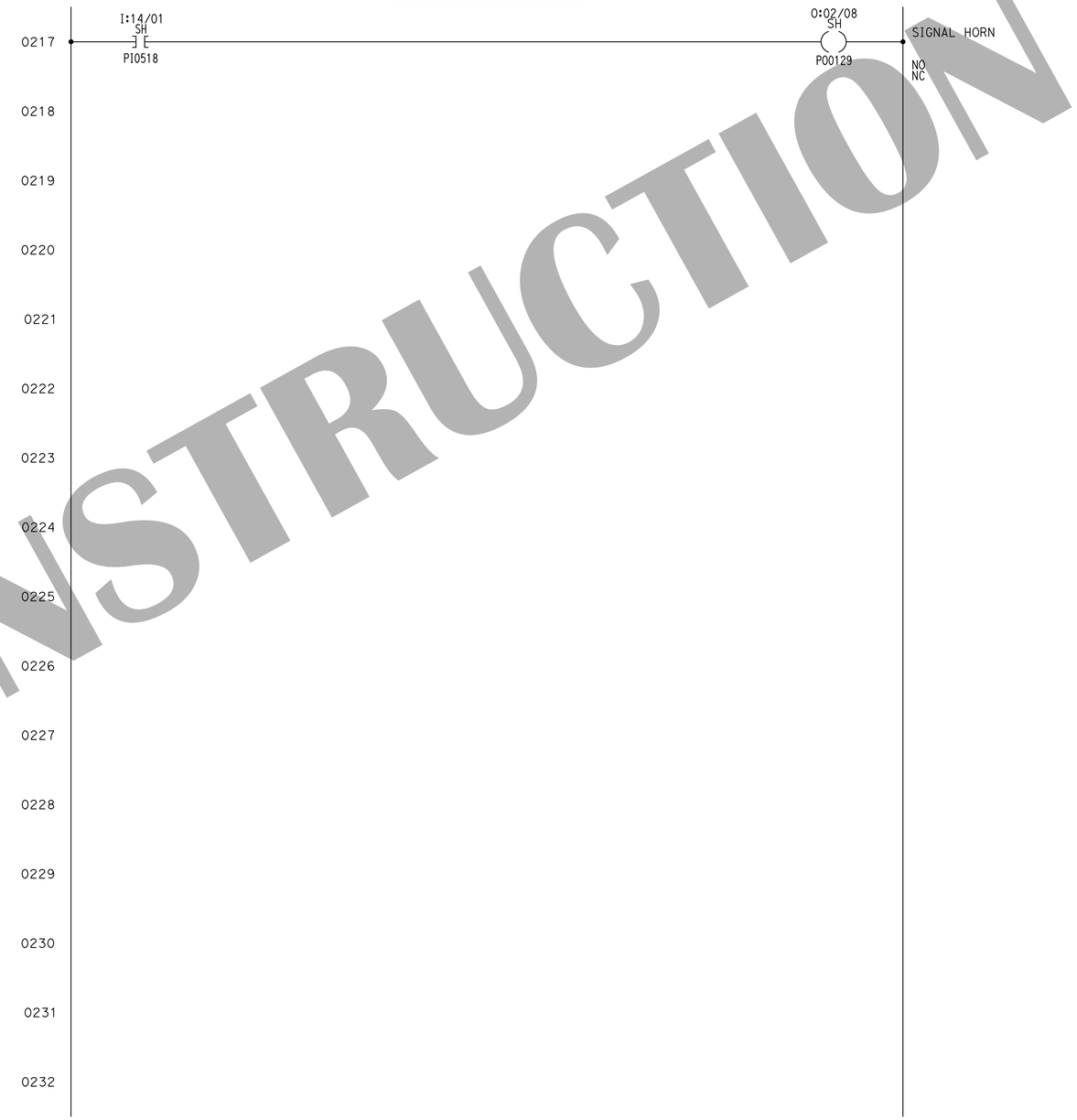
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-059
SHT NO.: 592 OF 648

TRAFFIC SIGNALS LOGIC



SIGNAL HORN LOGIC



NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 2
(Date: 11/03/2025)

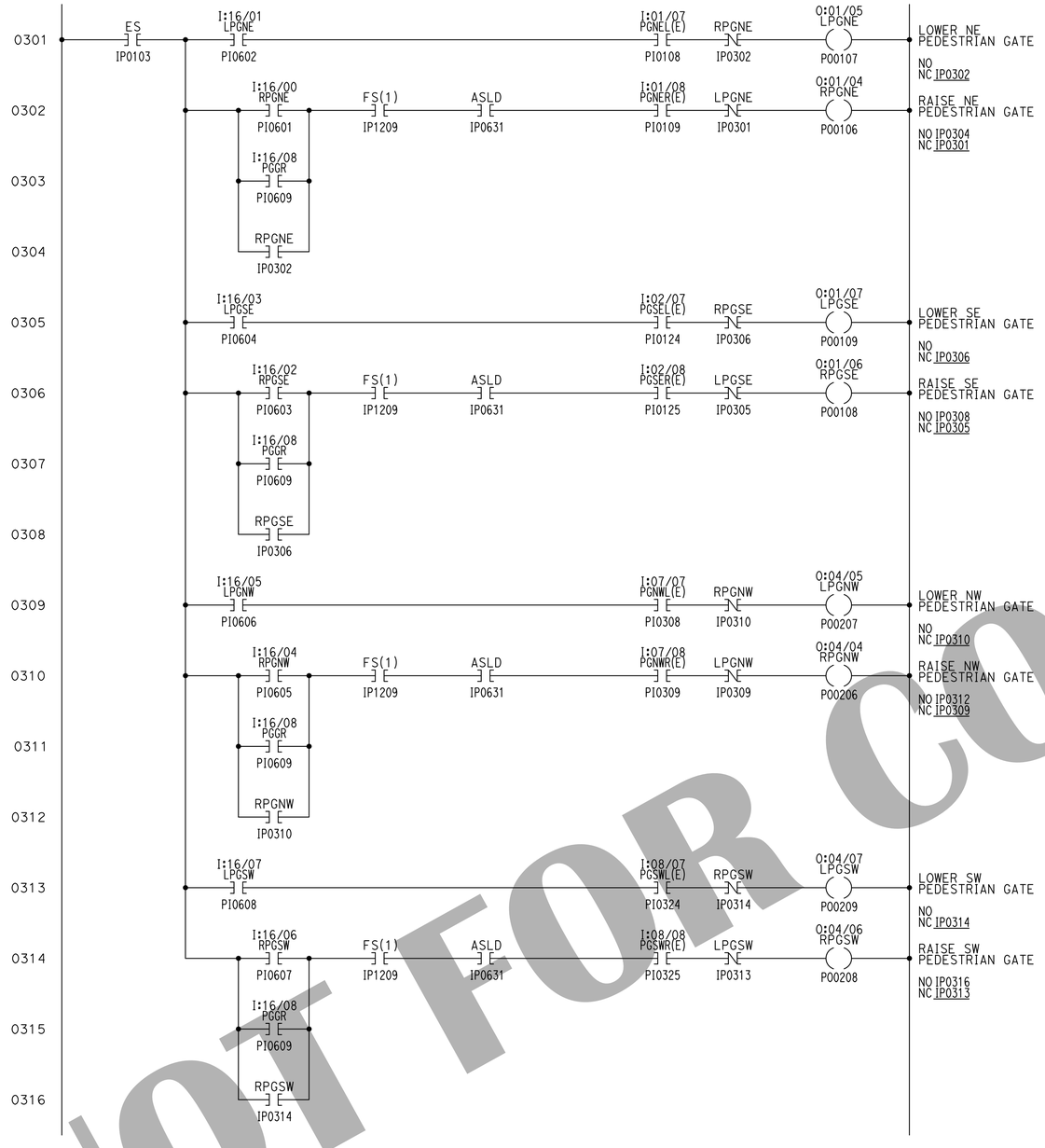
PN: T15136000

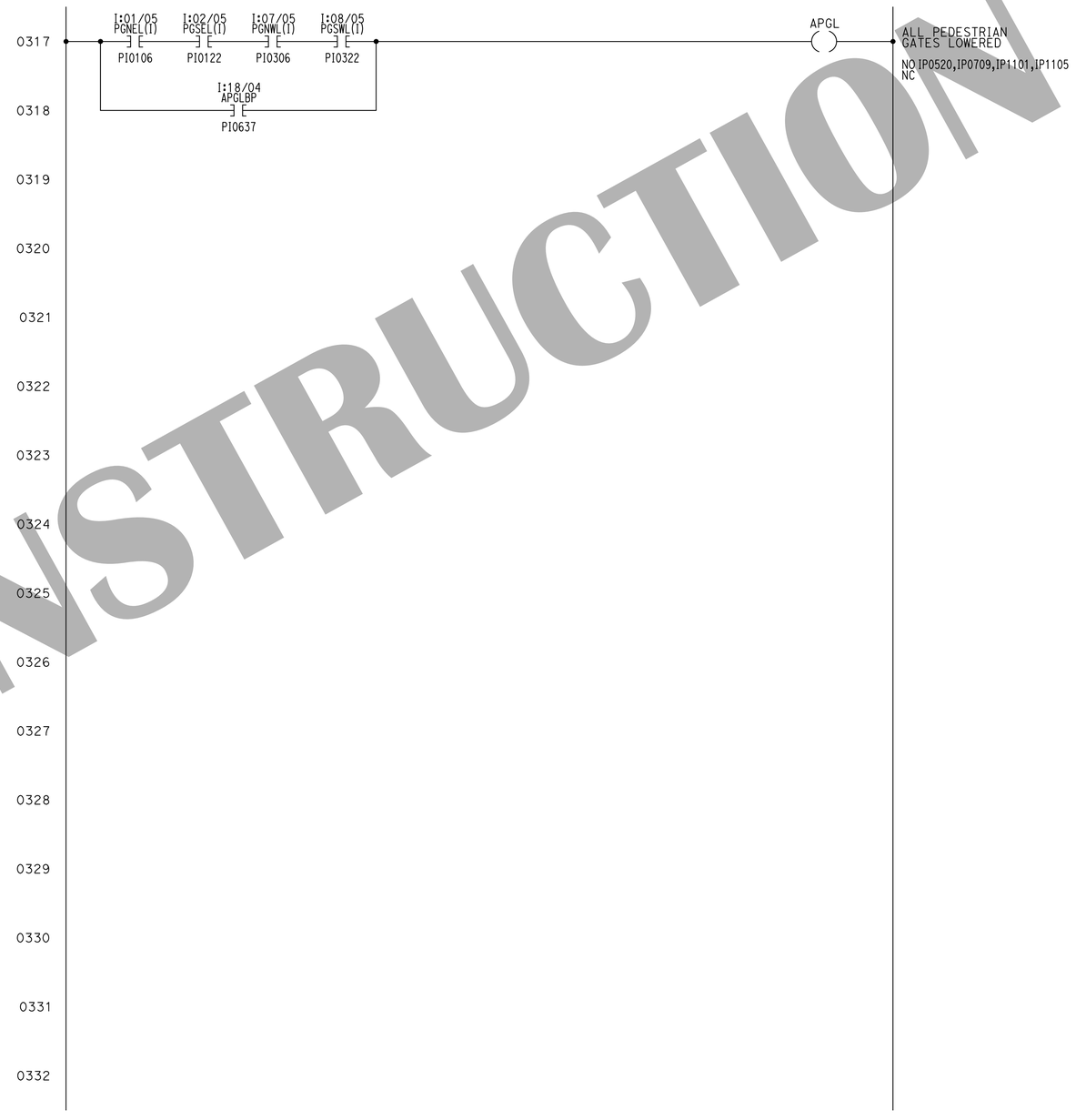
DWG NO.: E-060
SHT NO.: 593 OF 648

p:\3326.01\CADD\Electrical\E-060 INTERNAL PLC LOGIC - 2.dwg LAST PLOTTED: 11/3/2025 2:09:24 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

PEDESTRIAN GATES LOGIC





NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

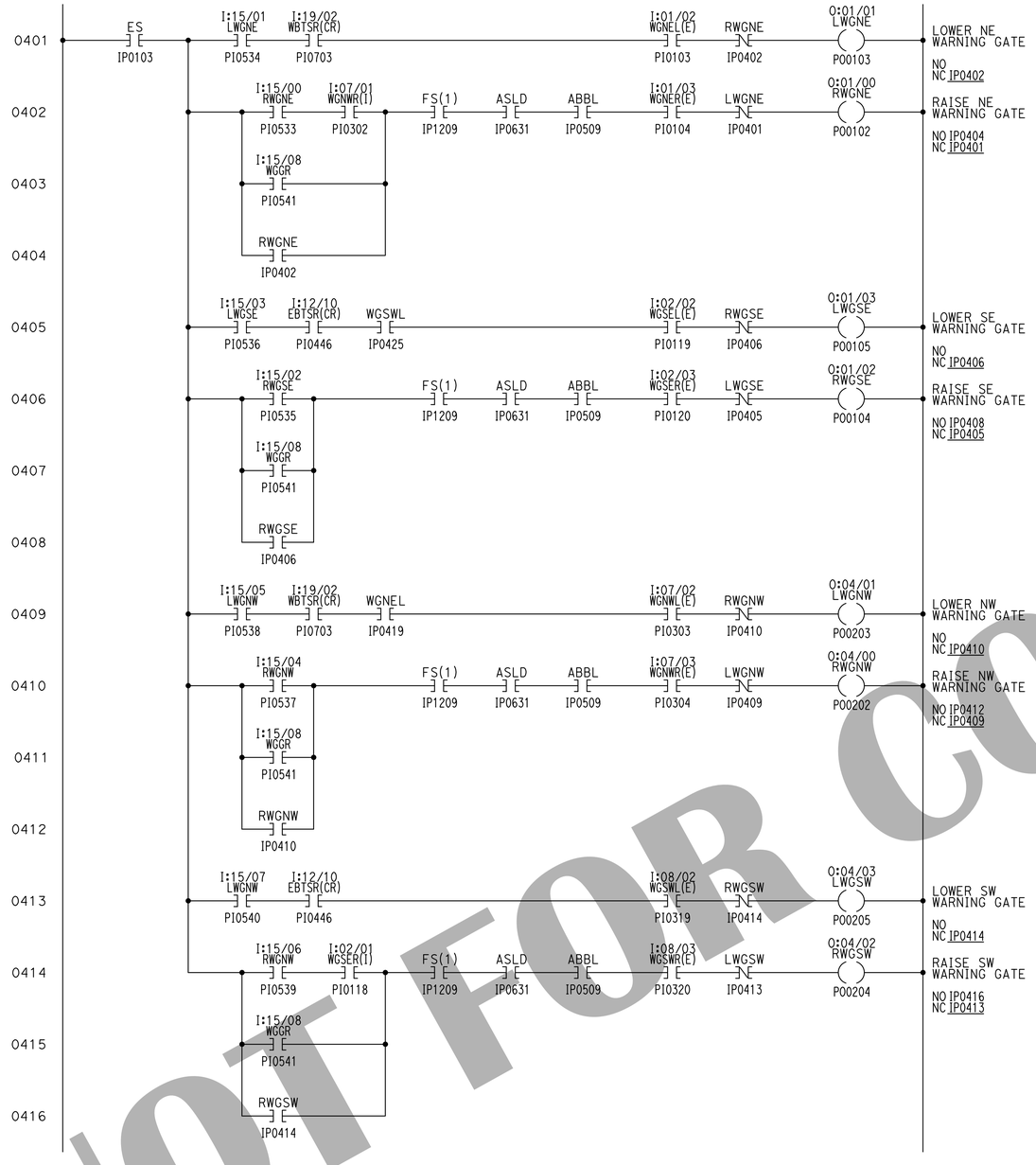
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 3
(Date: 11/03/2025)

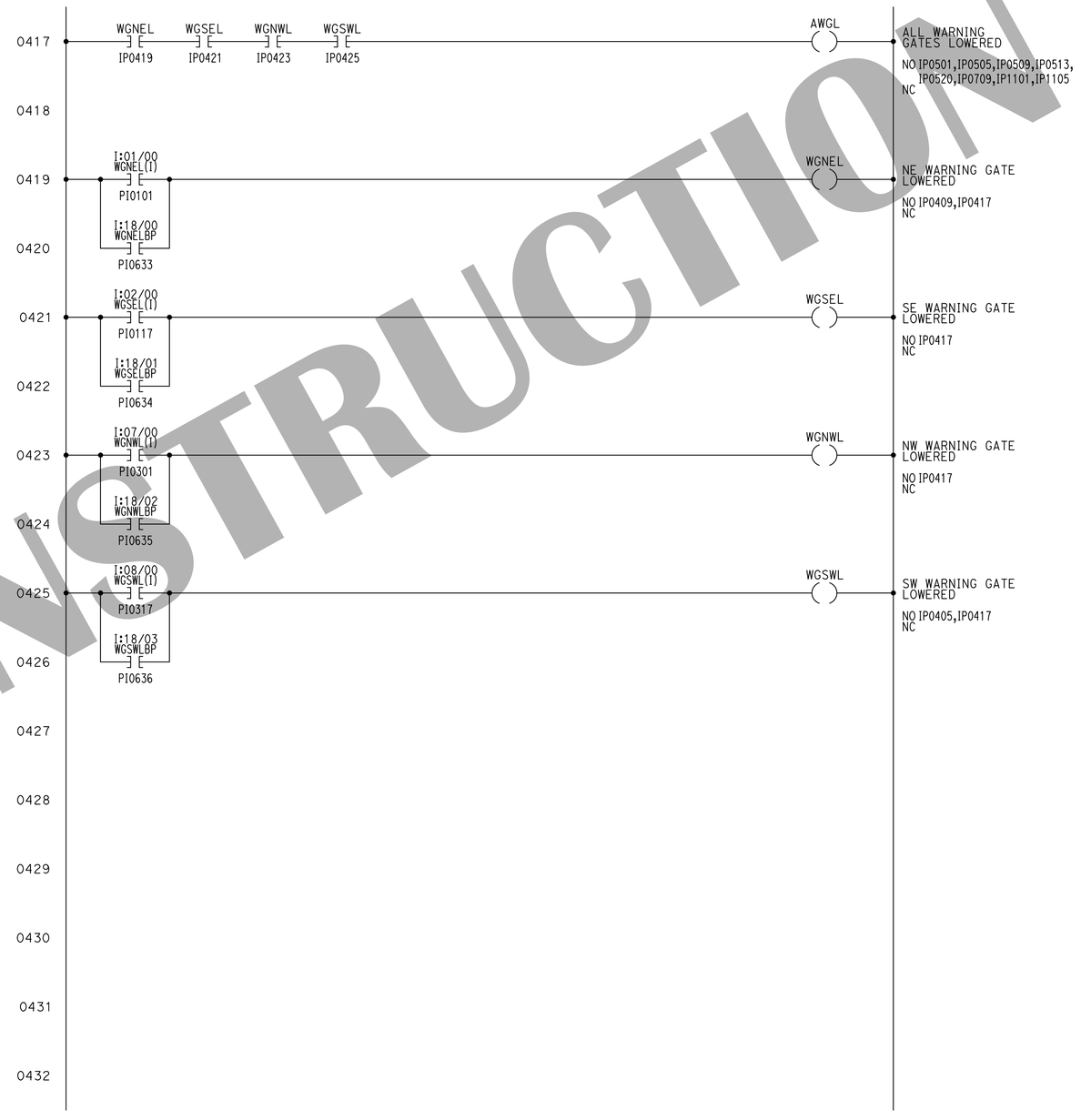
PN: T15136000
DWG NO.: E-061
SHT NO.: 594 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-061 INTERNAL PLC LOGIC - 3.dwg LAST PLOTTED: 11/3/2025 2:09:29 PM

WARNING GATES LOGIC





NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

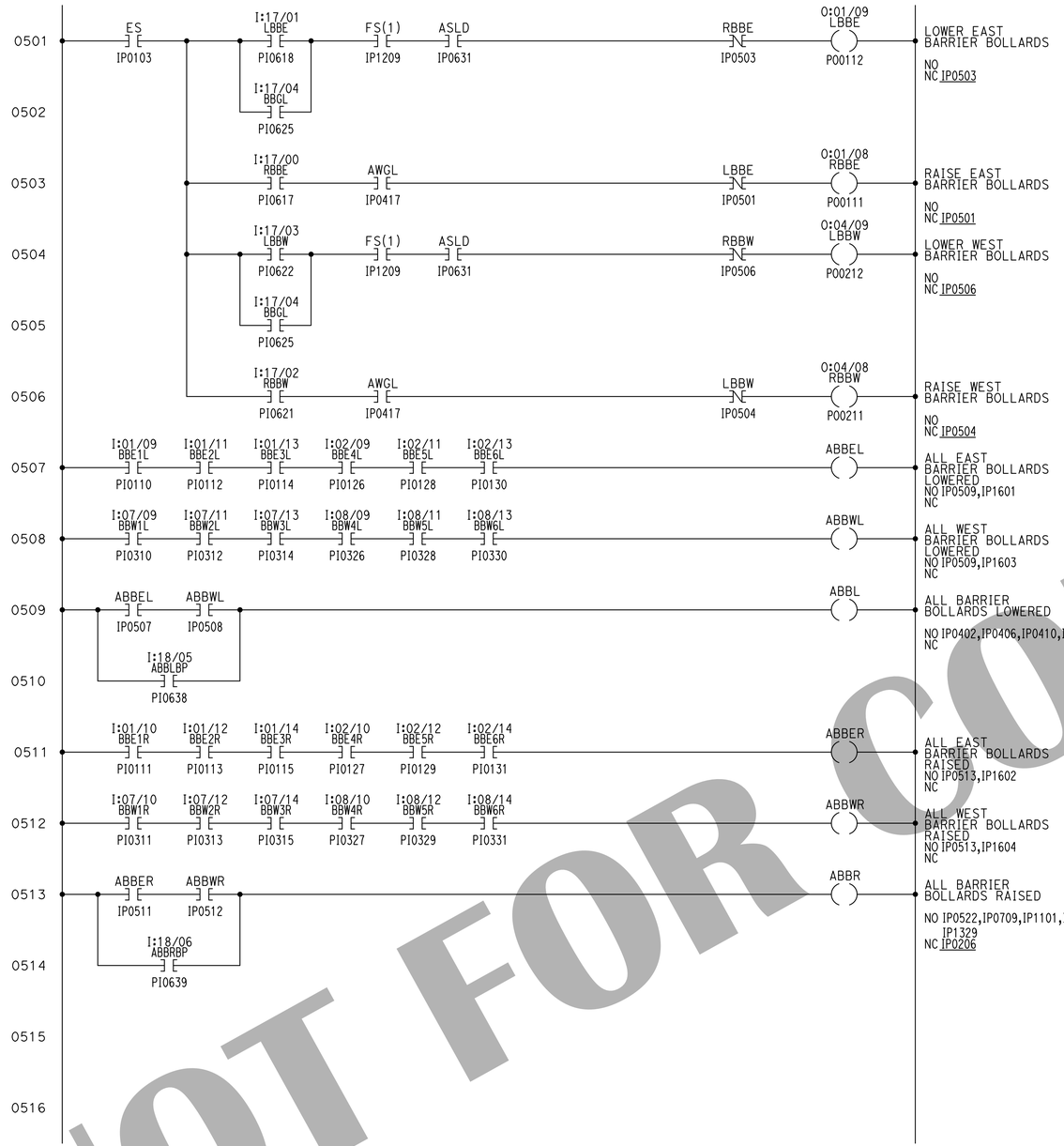
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 4
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-062
SHT NO.: 595 OF 648

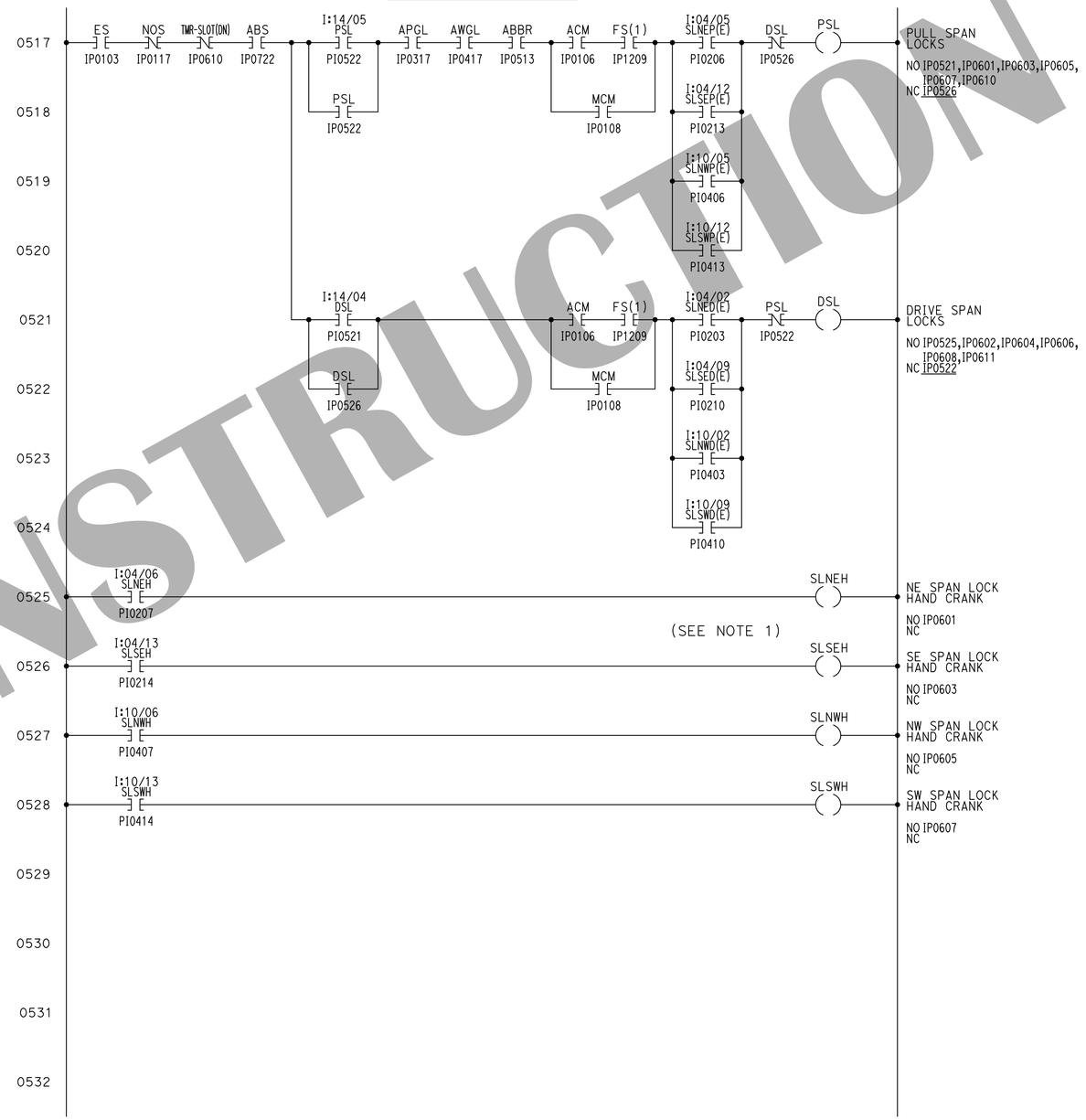
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-062 INTERNAL PLC LOGIC - 4.dwg LAST PLOTTED: 11/3/2025 2:09:34 PM

BARRIER BOLLARDS LOGIC



SPAN LOCKS LOGIC



NOTES:

1. GENERATE ALARM(S) ON GUI/HMI WHEN SPAN LOCK HAND CRANK(S) ARE INSERTED.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

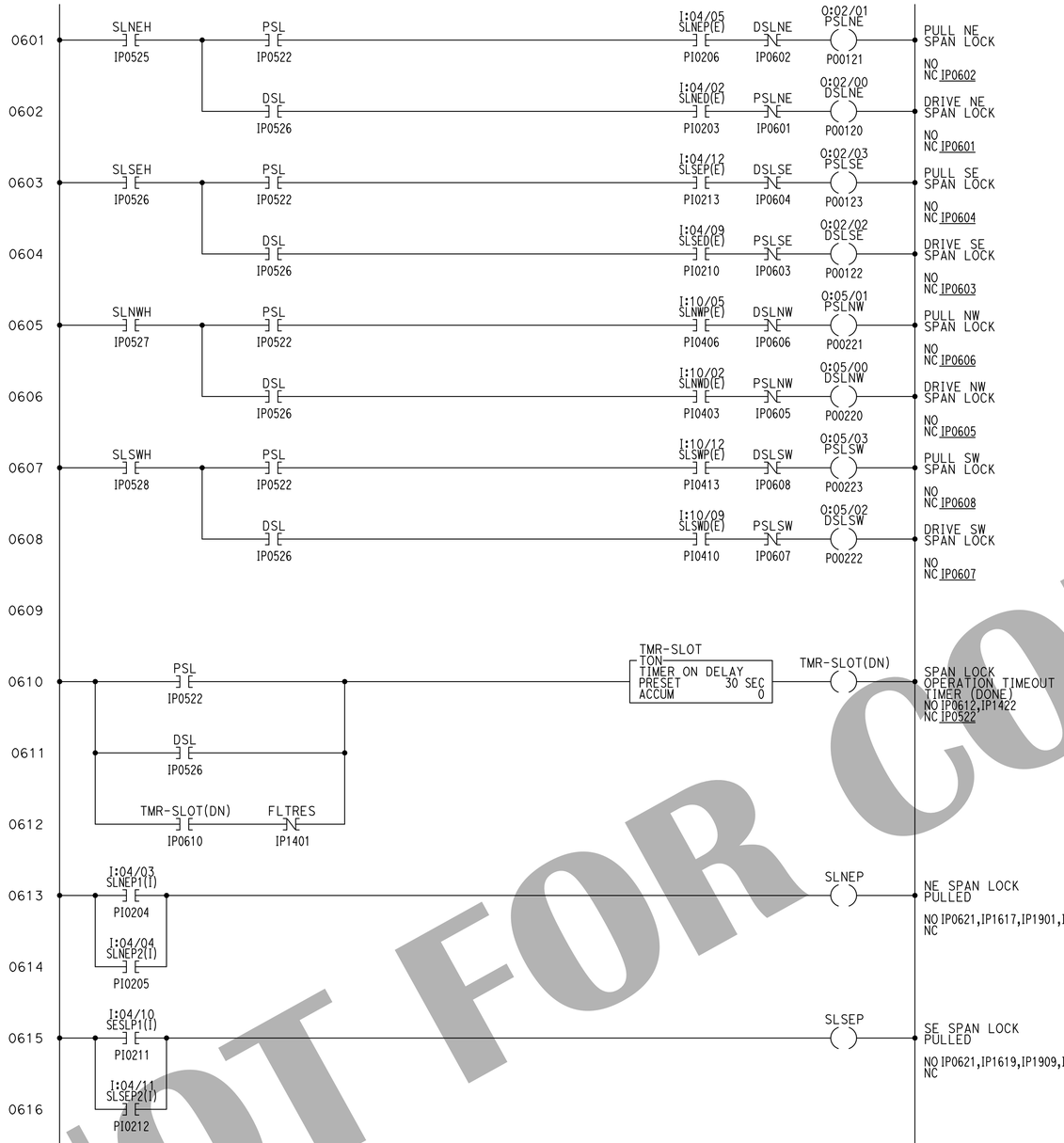
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 5
(Date: 11/03/2025)

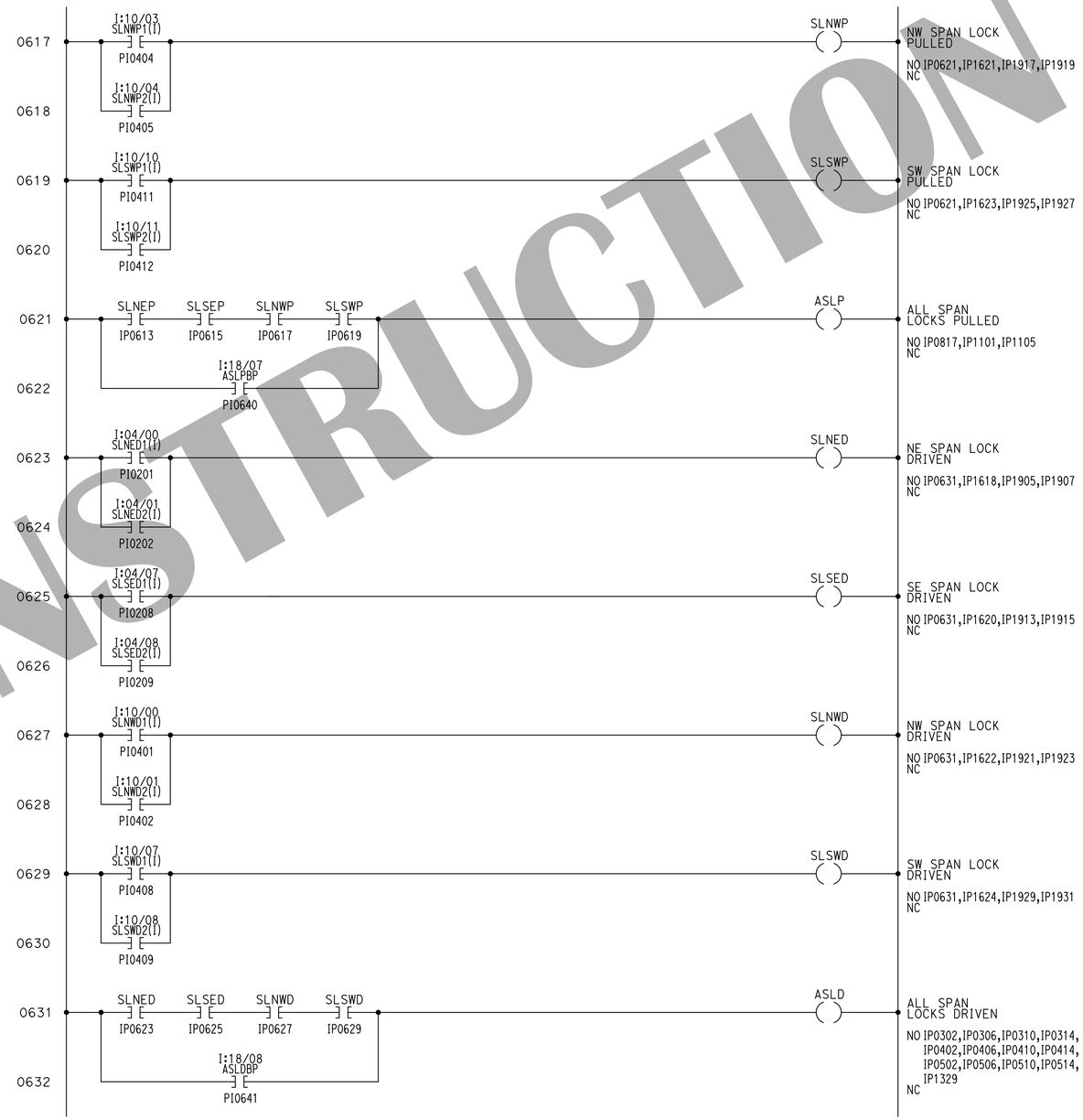
PN: T15136000
DWG NO.: E-063
SHT NO.: 596 OF 648

p:\3326.01\CADD\Electrical\E-063 INTERNAL PLC LOGIC - 5.dwg LAST PLOTTED: 11/3/2025 2:09:39 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

SPAN LOCKS LOGIC (CONTINUED)





NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-064 INTERNAL PLC LOGIC - 6.dwg LAST PLOTTED: 11/3/2025 2:09:44 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

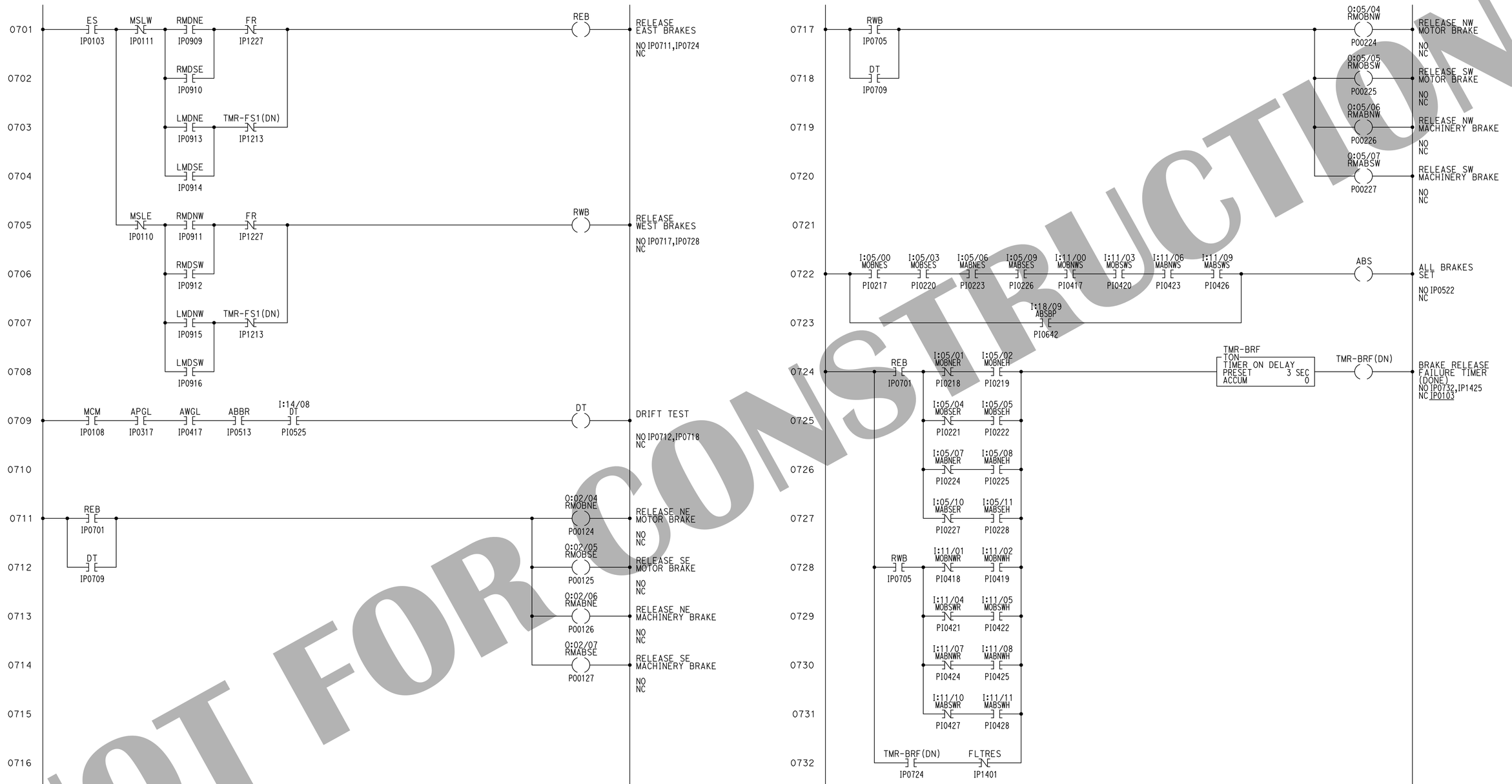
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STRENKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 6
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-064
SHT NO.: 597 OF 648

BRAKES LOGIC



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-065 INTERNAL PLC LOGIC - 7.dwg LAST PLOTTED: 11/3/2025 2:09:49 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKY No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

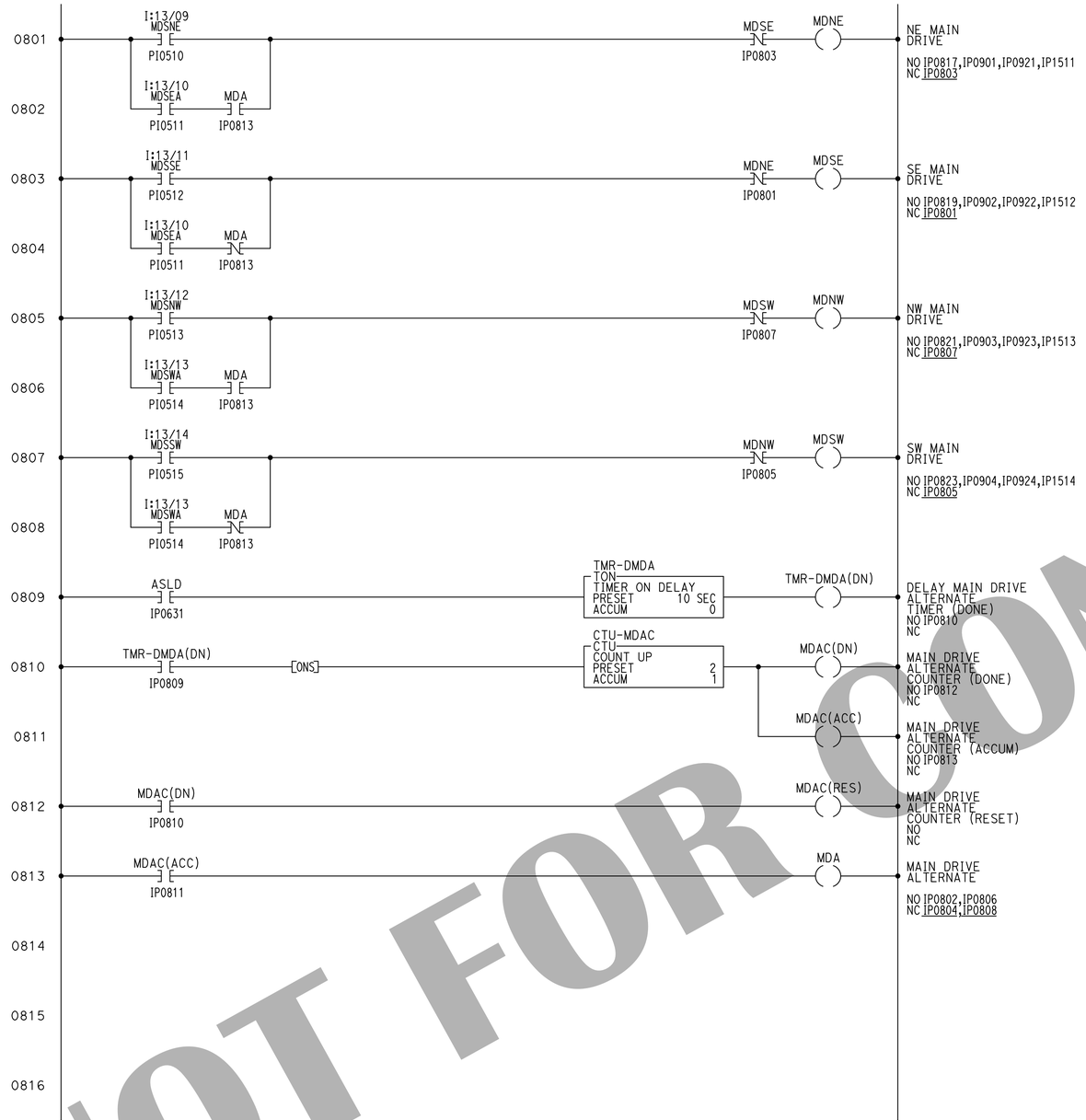
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 7
(Date: 11/03/2025)

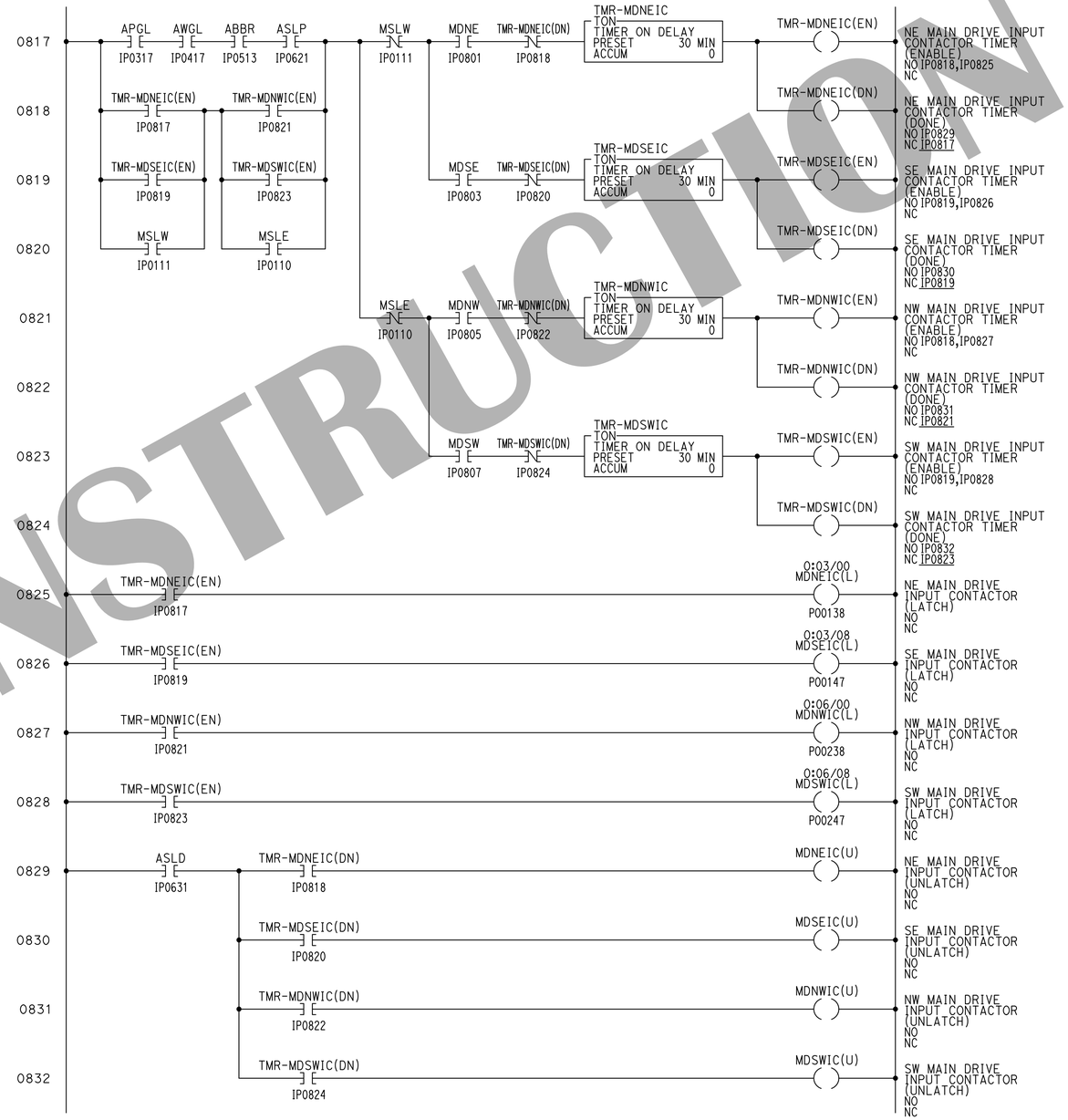
PN: T15136000

DWG NO.: E-065

SHT NO.: 598 OF 648

MAIN DRIVES LOGIC





NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-066 INTERNAL PLC LOGIC - 8.dwg LAST PLOTTED: 11/3/2025 2:09:54 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

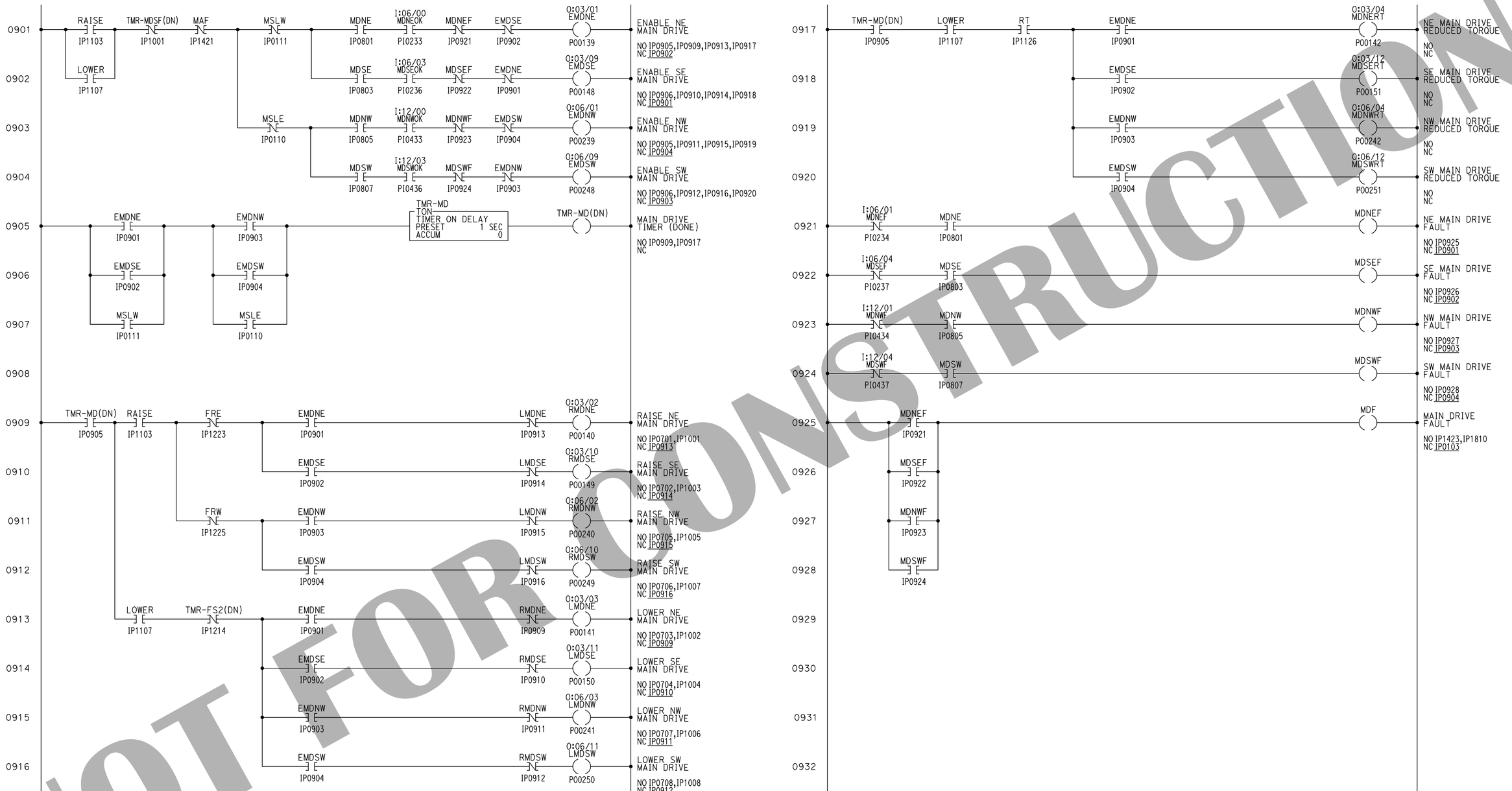
REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 8
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-066
SHT NO.: 599 OF 648

MAIN DRIVES LOGIC (CONTINUED)



NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-067 INTERNAL PLC LOGIC - 9.dwg LAST PLOTTED: 11/3/2025 2:09:59 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

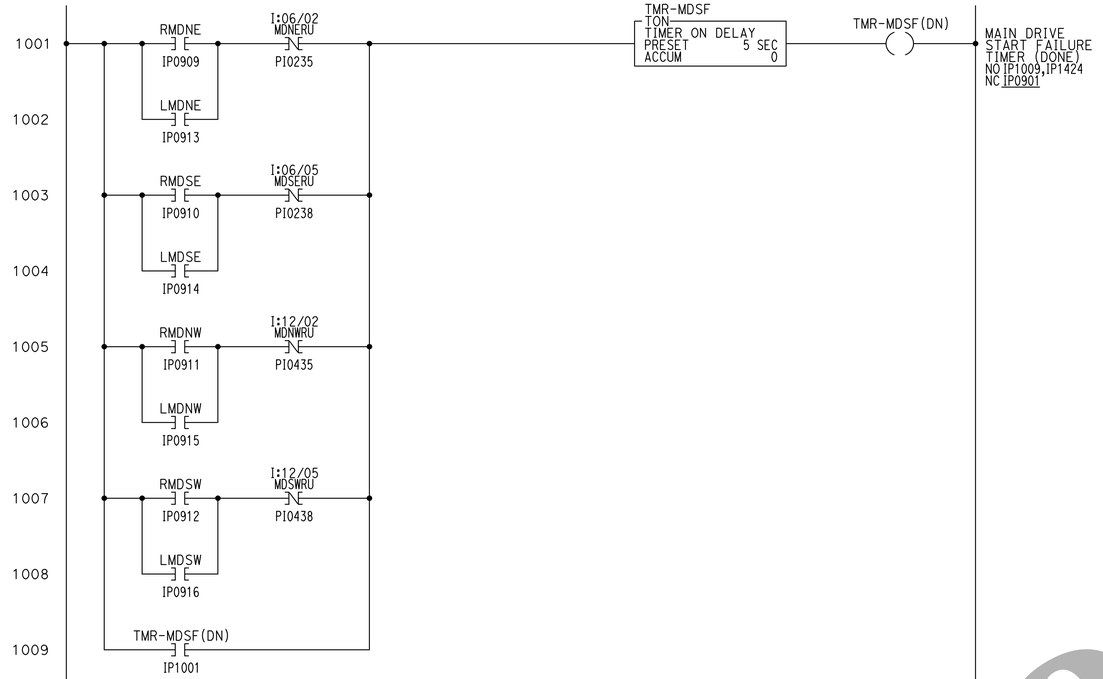
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKY No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

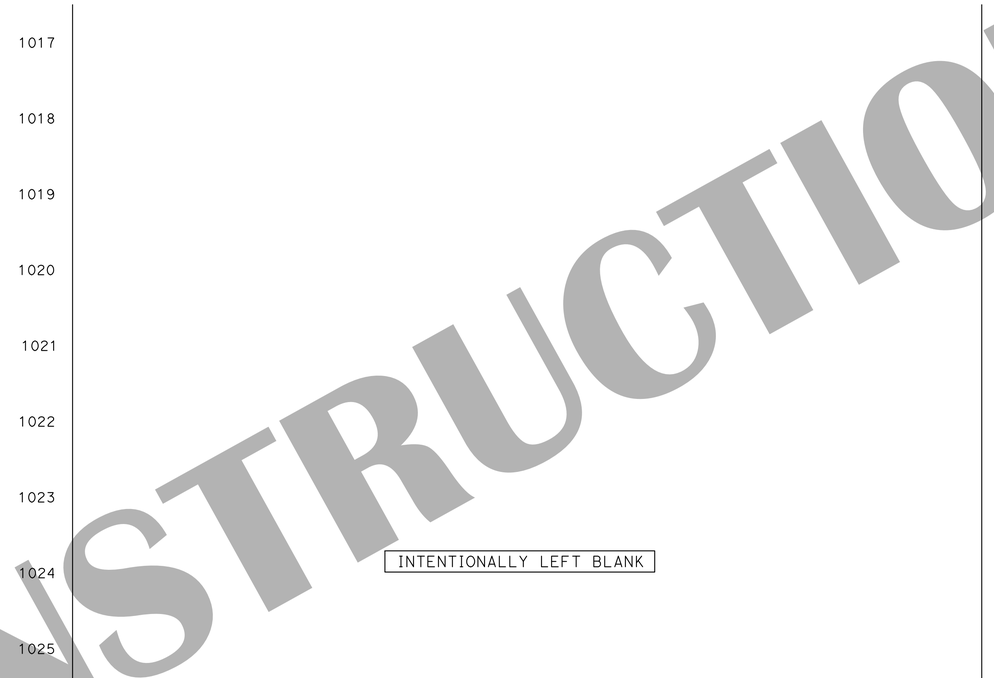
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 9
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-067
SHT NO.: 600 OF 648

MAIN DRIVES LOGIC (CONTINUED)





NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 10
(Date: 11/03/2025)

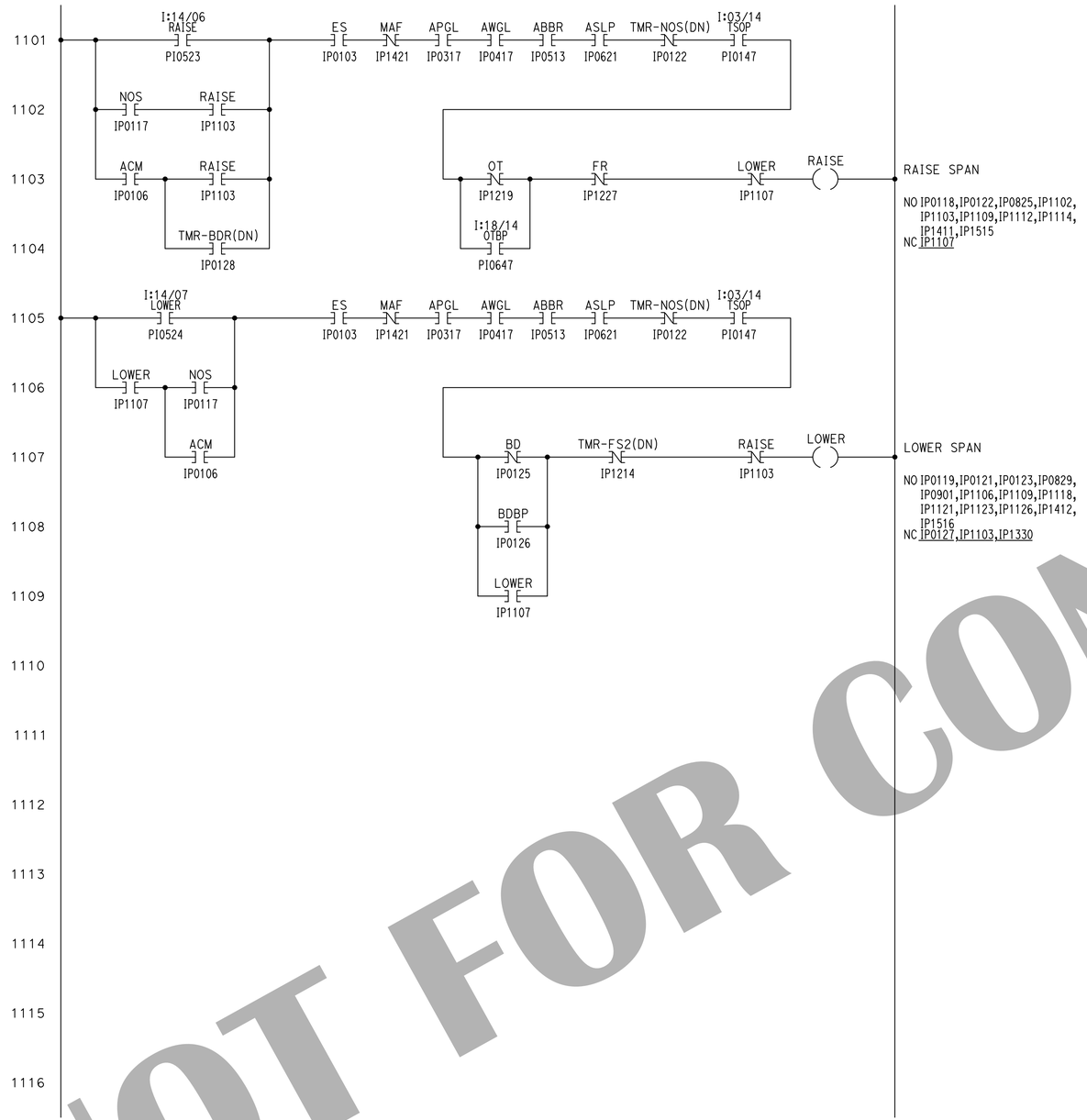
PN: T15136000

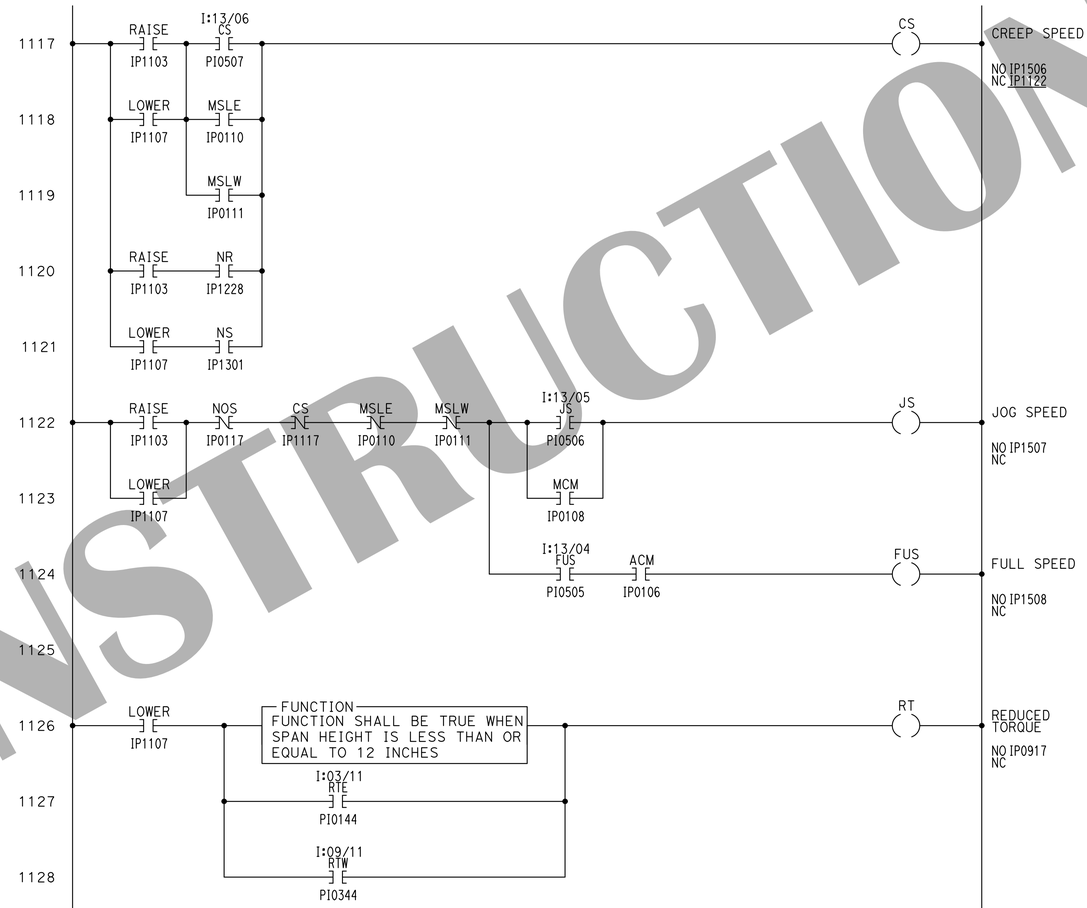
DWG NO.: E-068
SHT NO.: 601 OF 648

p:\3326.01\CADD\Electrical\E-068 INTERNAL PLC LOGIC - 10.dwg LAST PLOTTED: 11/3/2025 2:10:05 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

SPAN CONTROL LOGIC





NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-069 INTERNAL PLC LOGIC - 11.dwg LAST PLOTTED: 11/3/2025 2:10:10 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

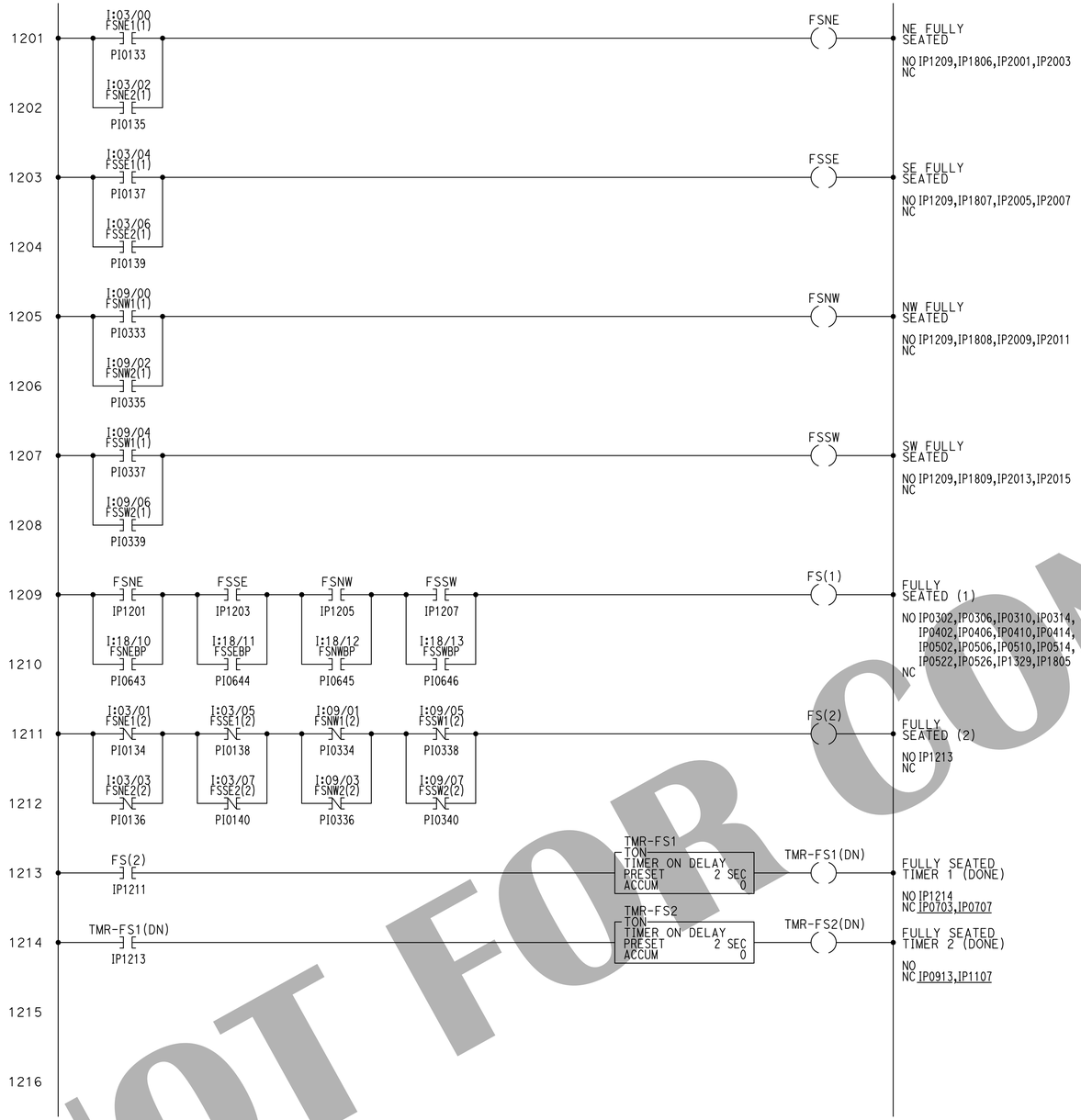
DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

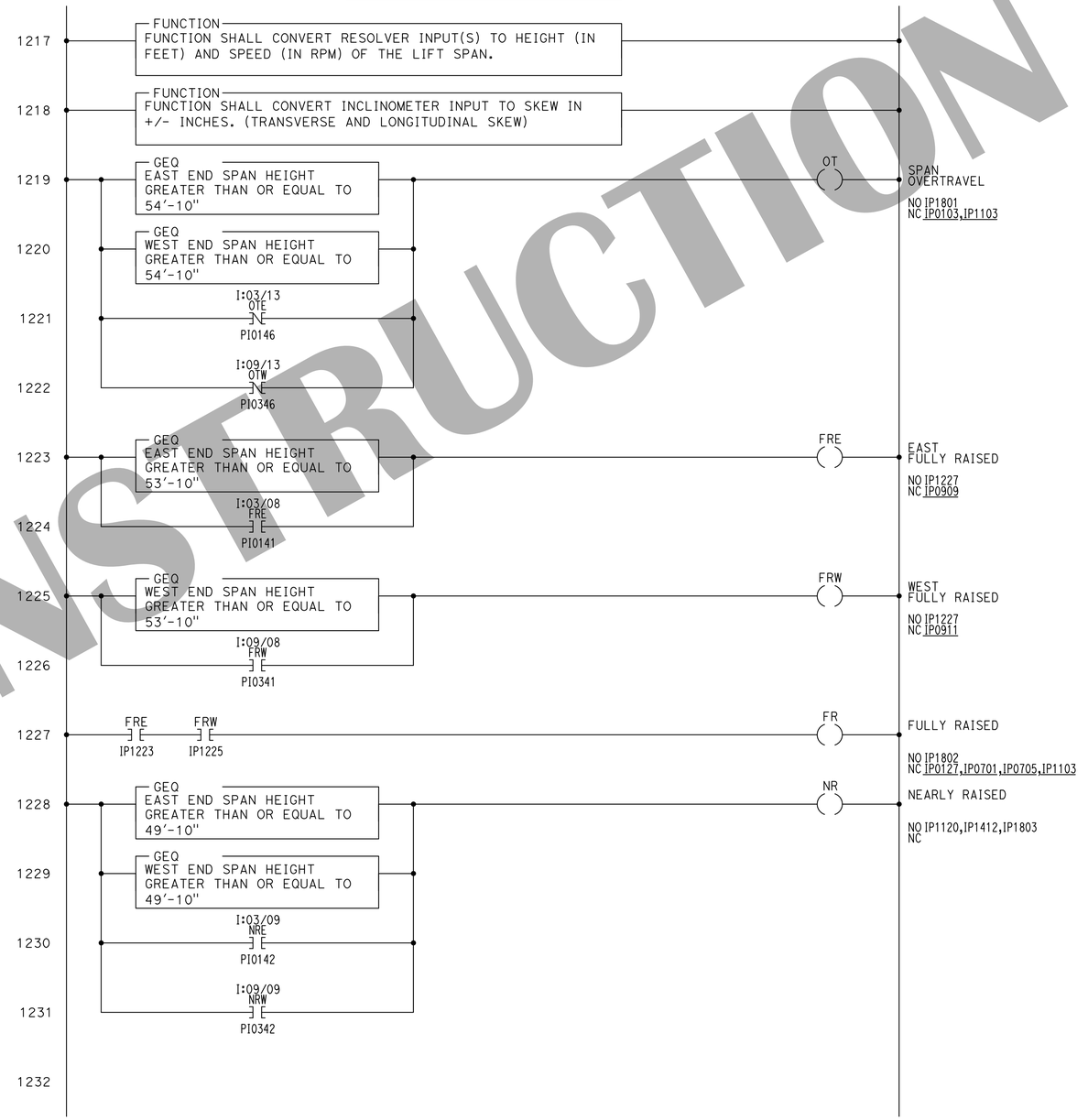
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 11
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-069
SHT NO.: 602 OF 648

SPAN SEATING LOGIC



POSITION INDICATOR LOGIC



NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STRENKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

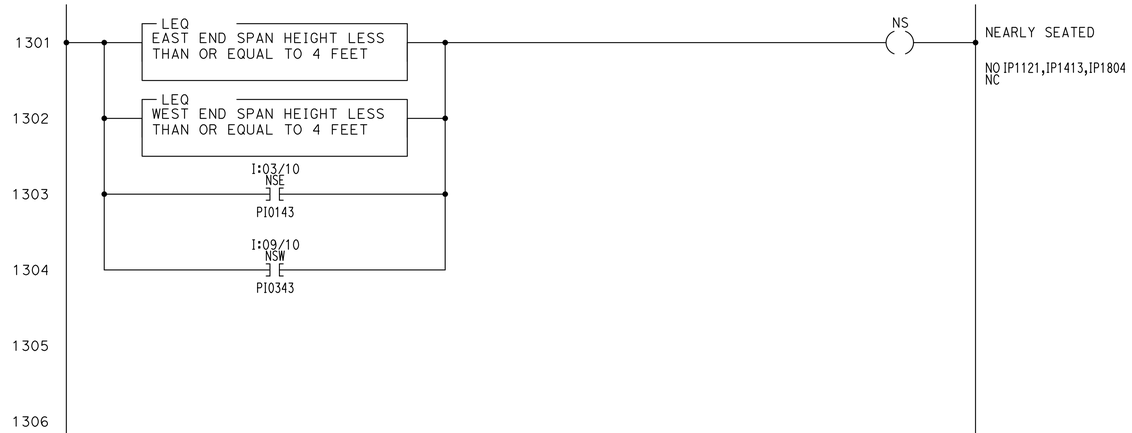
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 12
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-070
SHT NO.: 603 OF 648

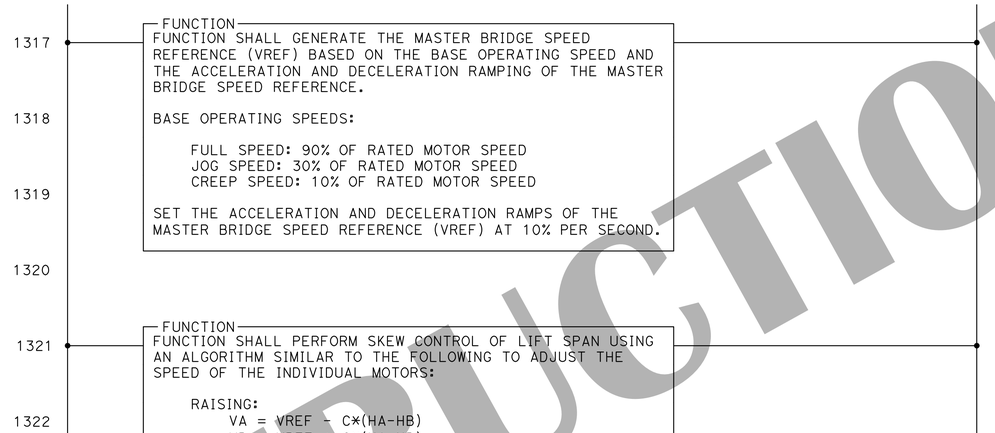
p:\3326.01\CADD\Electrical\E-070 INTERNAL PLC LOGIC - 12.dwg LAST PLOTTED: 11/3/2025 2:10:15 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

POSITION INDICATOR LOGIC (CONTINUED)



SPEED/SKEW CONTROL LOGIC



NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

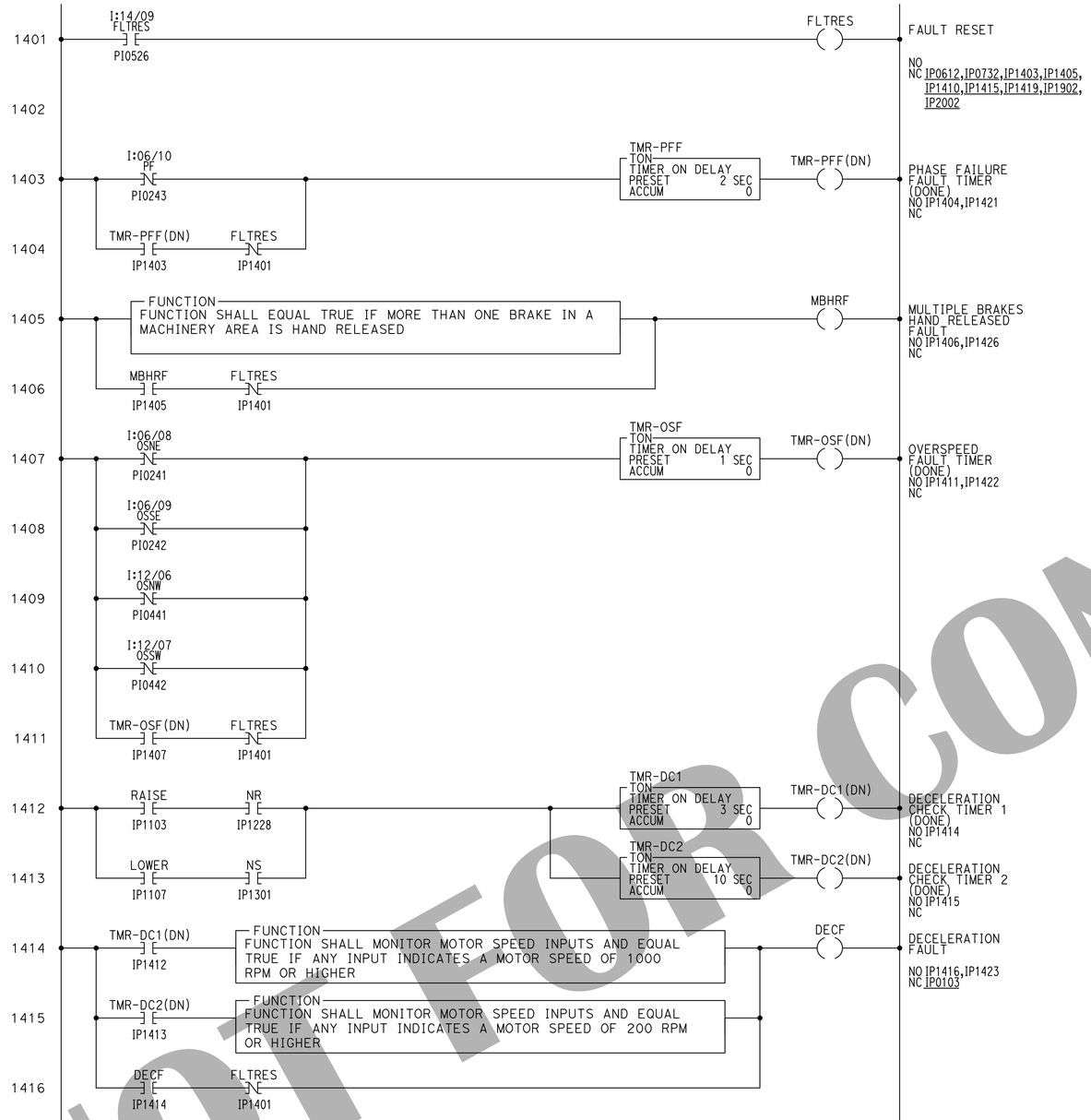
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 13
(Date: 11/03/2025)

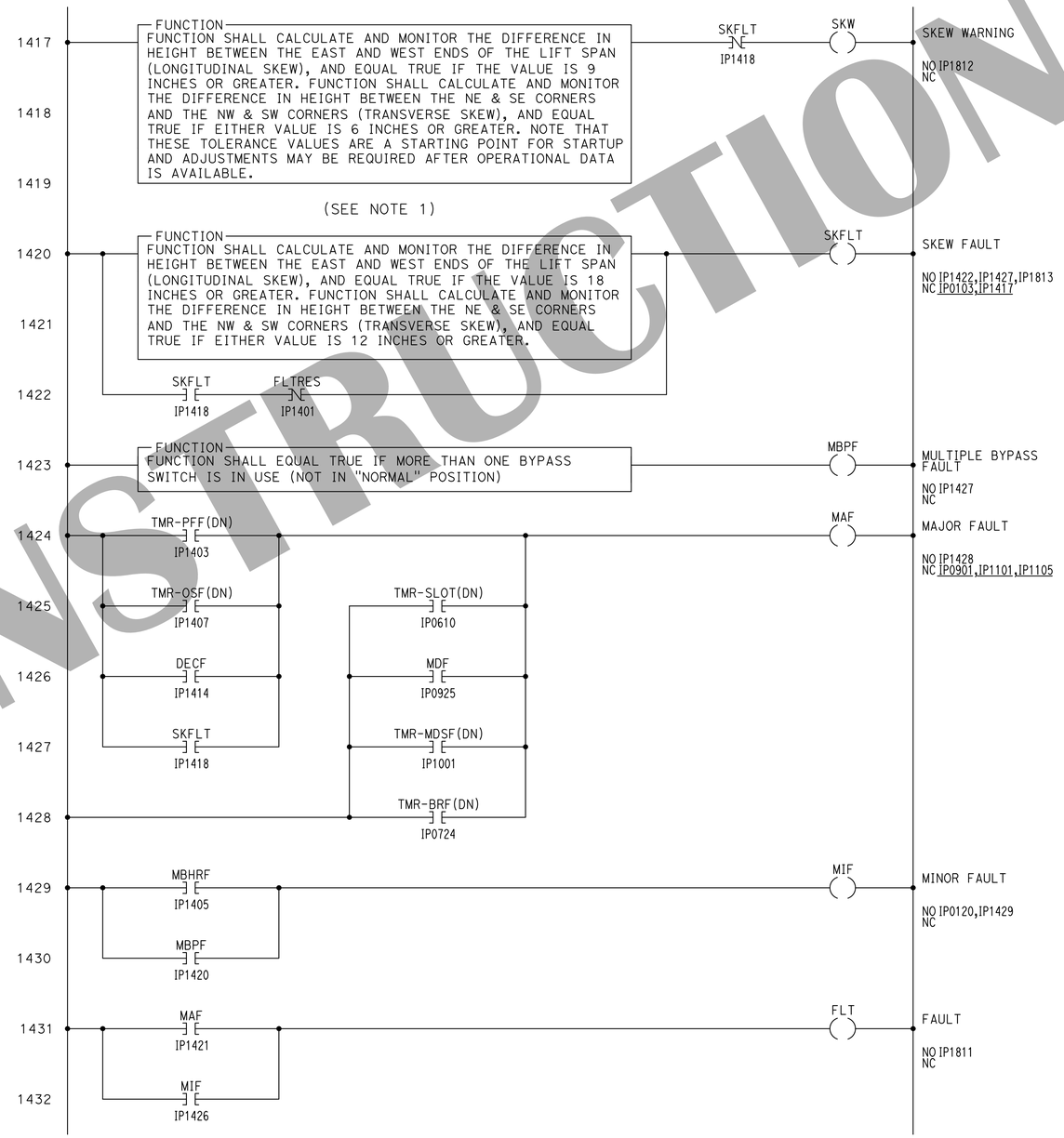
PN: T15136000
DWG NO.: E-071
SHT NO.: 604 OF 648

p:\3326.01\CADD\Electrical\E-071 INTERNAL PLC LOGIC - 13.dwg LAST PLOTTED: 11/3/2025 2:10:20 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

FAULT LOGIC





NOTES:

1. SKEW WARNING AND SKEW FAULT FUNCTIONS SHALL MONITOR LONGITUDINAL SKEW AND TRANSVERSE SKEW. THE HMI SHALL BE PROGRAMMED TO INDICATE IF THE SKEW WARNING/FAULTS (WHEN TRUE) ARE LONGITUDINAL OR TRANSVERSE, OR BOTH.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKY No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

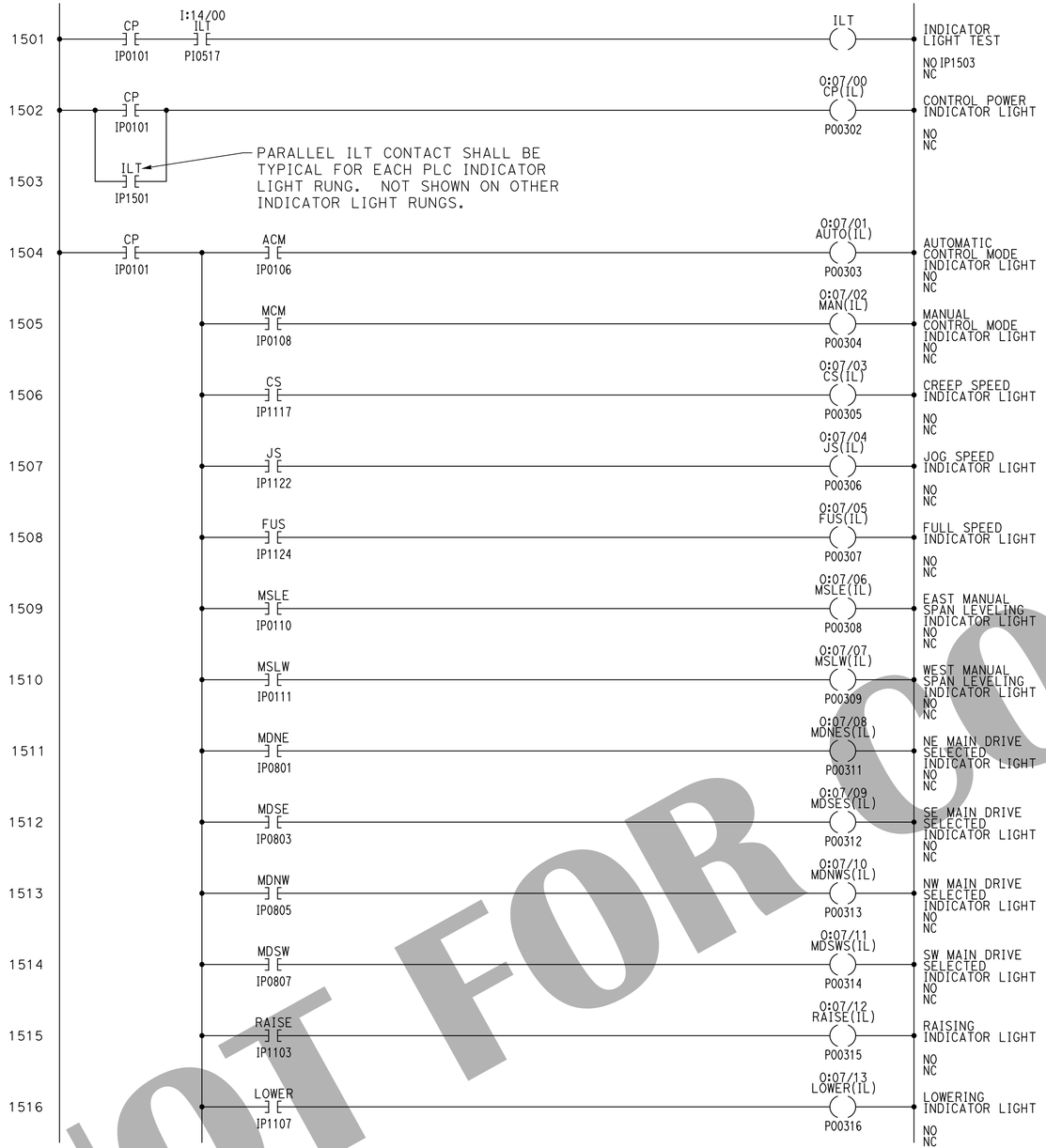
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 14
(Date: 11/03/2025)

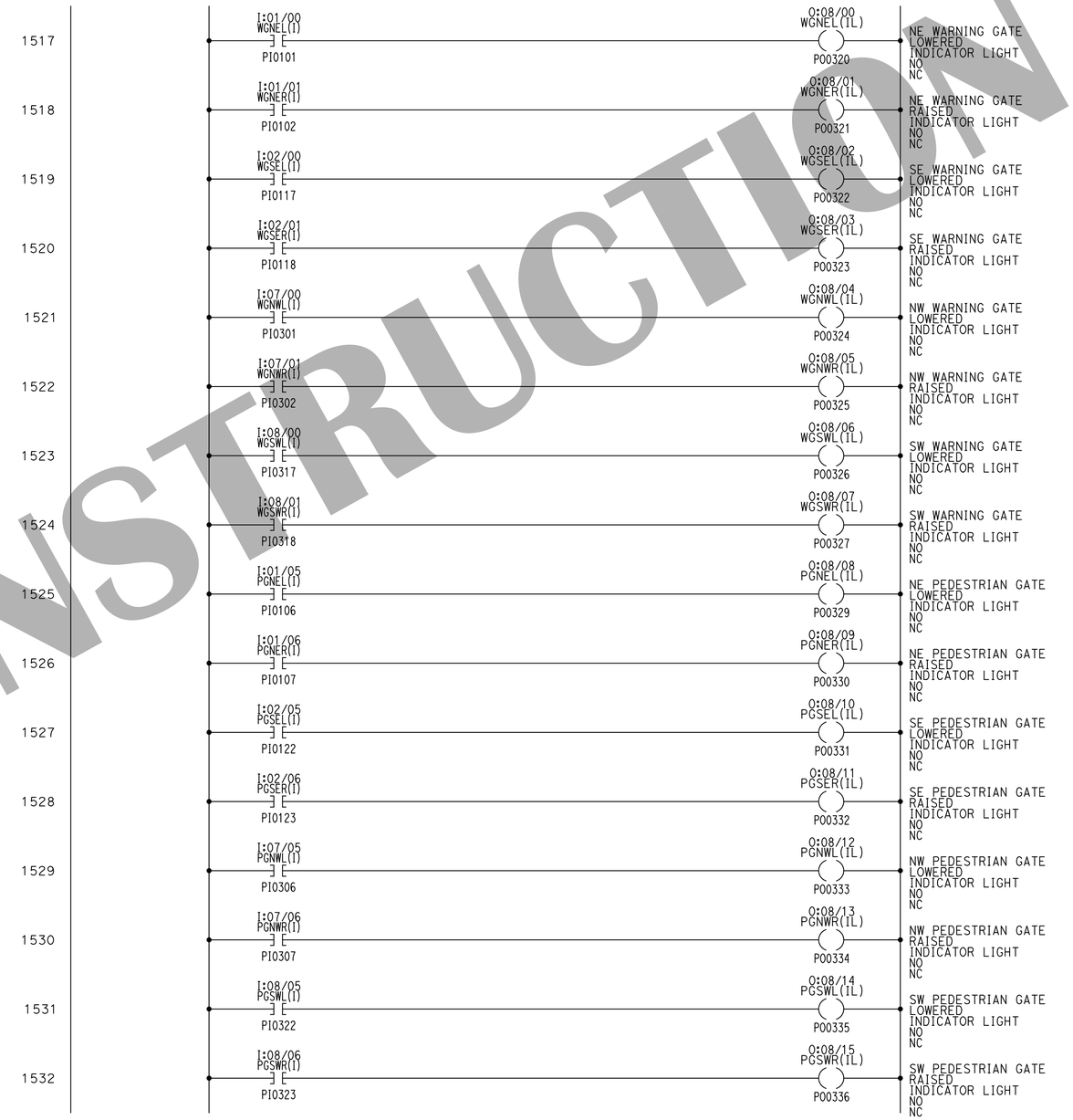
PN: T15136000
DWG NO.: E-072
SHT NO.: 605 OF 648

p:\3326.01\CADD\ElectricalIE-072 INTERNAL PLC LOGIC - 14.dwg LAST PLOTTED: 11/3/2025 2:10:24 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

INDICATOR LIGHT LOGIC





NOTES:

1. PARALLEL ILT CONTACT SHALL BE INCLUDED FOR EACH PLC INDICATOR LIGHT RUNG.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 15
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-073
SHT NO.: 606 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-073 INTERNAL PLC LOGIC - 15.dwg LAST PLOTTED: 11/3/2025 2:10:29 PM

INDICATOR LIGHT LOGIC (CONTINUED)

1601	ABBEL	IP0507	0:09/00 BBEL(IL)	P00338	EAST BARRIER BOLLARDS LOWERED INDICATOR LIGHT NO NC		
1602	ABBER	IP0511	0:09/01 BBER(IL)	P00339	EAST BARRIER BOLLARDS RAISED INDICATOR LIGHT NO NC		
1603	ABBWL	IP0508	0:09/02 BBWL(IL)	P00340	WEST BARRIER BOLLARDS LOWERED INDICATOR LIGHT NO NC		
1604	ABBWR	IP0512	0:09/03 BBWR(IL)	P00341	WEST BARRIER BOLLARDS RAISED INDICATOR LIGHT NO NC		
1605	I:19/02 WBTSR(CR)	PI0703	0:09/10 WBTSR(IL)	P00349	WESTBOUND TRAFFIC SIGNALS RED INDICATOR LIGHT NO NC		
1606							
1607	I:19/00 WBTSG(CR)	PI0701	0:09/12 WBTSG(IL)	P00351	WESTBOUND TRAFFIC SIGNALS GREEN INDICATOR LIGHT NO NC		
1608	I:12/10 EBTSR(CR)	PI0446	0:09/13 EBTSR(IL)	P00352	EASTBOUND TRAFFIC SIGNALS RED INDICATOR LIGHT NO NC		
1609	I:12/09 EBTSY(CR)	PI0445	0:09/14 EBTSY(IL)	P00353	EASTBOUND TRAFFIC SIGNALS YELLOW INDICATOR LIGHT NO NC		
1610	I:12/08 EBTSG(CR)	PI0444	0:09/15 EBTSG(IL)	P00354	EASTBOUND TRAFFIC SIGNALS GREEN INDICATOR LIGHT NO NC		
1611							
1612							
1613							
1614							
1615							
1616							
1617	SLNEP	IP0613	0:10/00 SLNEP(IL)	P00402	NE SPAN LOCK PULLED INDICATOR LIGHT NO NC		
1618	SLNED	IP0623	0:10/01 SLNED(IL)	P00403	NE SPAN LOCK DRIVEN INDICATOR LIGHT NO NC		
1619	SLSEP	IP0615	0:10/02 SLSEP(IL)	P00404	SE SPAN LOCK PULLED INDICATOR LIGHT NO NC		
1620	SLSED	IP0625	0:10/03 SLSED(IL)	P00405	SE SPAN LOCK DRIVEN INDICATOR LIGHT NO NC		
1621	SLNWP	IP0617	0:10/04 SLNWP(IL)	P00406	NW SPAN LOCK PULLED INDICATOR LIGHT NO NC		
1622	SLNWD	IP0627	0:10/05 SLNWD(IL)	P00407	NW SPAN LOCK DRIVEN INDICATOR LIGHT NO NC		
1623	SLSWP	IP0619	0:10/06 SLSWP(IL)	P00408	SW SPAN LOCK PULLED INDICATOR LIGHT NO NC		
1624	SLSWD	IP0629	0:10/07 SLSWD(IL)	P00409	SW SPAN LOCK DRIVEN INDICATOR LIGHT NO NC		
1625							
1626							
1627							
1628							
1629							
1630							
1631							
1632							

NOTES:

1. PARALLEL ILT CONTACT SHALL BE INCLUDED FOR EACH PLC INDICATOR LIGHT RUNG.

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STRENKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 16
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-074
SHT NO.: 607 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-074 INTERNAL PLC LOGIC - 16.dwg LAST PLOTTED: 11/3/2025 2:10:34 PM

INDICATOR LIGHT LOGIC (CONTINUED)

1701	I:05/00 MOBNES PI0217	O:11/00 MOBNES(IL) P00420	NE MOTOR BRAKE SET INDICATOR LIGHT NO NC	
1702	I:05/01 MOBNER PI0218	O:11/01 MOBNER(IL) P00421	NE MOTOR BRAKE RELEASED INDICATOR LIGHT NO NC	
1703	I:05/02 MOBNEH PI0219	O:11/02 MOBNEH(IL) P00422	NE MOTOR BRAKE HAND RELEASED INDICATOR LIGHT NO NC	
1704	I:05/03 MOBSES PI0220	O:11/03 MOBSES(IL) P00423	SE MOTOR BRAKE SET INDICATOR LIGHT NO NC	
1705	I:05/04 MOBSER PI0221	O:11/04 MOBSER(IL) P00424	SE MOTOR BRAKE RELEASED INDICATOR LIGHT NO NC	
1706	I:05/05 MOBSEH PI0222	O:11/05 MOBSEH(IL) P00425	SE MOTOR BRAKE HAND RELEASED INDICATOR LIGHT NO NC	
1707	I:05/06 MABNES PI0223	O:11/06 MABNES(IL) P00426	NE MACHINERY BRAKE SET INDICATOR LIGHT NO NC	
1708	I:05/07 MABNER PI0224	O:11/07 MABNER(IL) P00427	NE MACHINERY BRAKE RELEASED INDICATOR LIGHT NO NC	
1709	I:05/08 MABNEH PI0225	O:11/08 MABNEH(IL) P00429	NE MACHINERY BRAKE HAND RELEASED INDICATOR LIGHT NO NC	
1710	I:05/09 MABSES PI0226	O:11/09 MABSES(IL) P00430	SE MACHINERY BRAKE SET INDICATOR LIGHT NO NC	
1711	I:05/10 MABSER PI0227	O:11/10 MABSER(IL) P00431	SE MACHINERY BRAKE RELEASED INDICATOR LIGHT NO NC	1727
1712	I:05/11 MABSEH PI0228	O:11/11 MABSEH(IL) P00432	SE MACHINERY BRAKE HAND RELEASED INDICATOR LIGHT NO NC	1728
1713	I:11/00 MOBNWS PI0417	O:12/00 MOBNWS(IL) P00438	NW MOTOR BRAKE SET INDICATOR LIGHT NO NC	1729
1714	I:11/01 MOBNWR PI0418	O:12/01 MOBNWR(IL) P00439	NW MOTOR BRAKE RELEASED INDICATOR LIGHT NO NC	1730
1715	I:11/02 MOBNWH PI0419	O:12/02 MOBNWH(IL) P00440	NW MOTOR BRAKE HAND RELEASED INDICATOR LIGHT NO NC	1731
1716	I:11/03 MOBSWS PI0420	O:12/03 MOBSWS(IL) P00441	SW MOTOR BRAKE SET INDICATOR LIGHT NO NC	1732
1717	I:11/04 MOBSWR PI0421	O:12/04 MOBSWR(IL) P00442	SW MOTOR BRAKE RELEASED INDICATOR LIGHT NO NC	
1718	I:11/05 MOBSWH PI0422	O:12/05 MOBSWH(IL) P00443	SW MOTOR BRAKE HAND RELEASED INDICATOR LIGHT NO NC	
1719	I:11/06 MABNWS PI0423	O:12/06 MABNWS(IL) P00444	NW MACHINERY BRAKE SET INDICATOR LIGHT NO NC	
1720	I:11/07 MABNWR PI0424	O:12/07 MABNWR(IL) P00445	NW MACHINERY BRAKE RELEASED INDICATOR LIGHT NO NC	
1721	I:11/08 MABNWH PI0425	O:12/08 MABNWH(IL) P00447	NW MACHINERY BRAKE HAND RELEASED INDICATOR LIGHT NO NC	
1722	I:11/09 MABSWS PI0426	O:12/09 MABSWS(IL) P00448	SW MACHINERY BRAKE SET INDICATOR LIGHT NO NC	
1723	I:11/10 MABSWR PI0427	O:12/10 MABSWR(IL) P00449	SW MACHINERY BRAKE RELEASED INDICATOR LIGHT NO NC	
1724	I:11/11 MABSWH PI0428	O:12/11 MABSWH(IL) P00450	SW MACHINERY BRAKE HAND RELEASED INDICATOR LIGHT NO NC	
1725				
1726				

NOT FOR CONSTRUCTION

NOTES:

1. PARALLEL ILT CONTACT SHALL BE INCLUDED FOR EACH PLC INDICATOR LIGHT RUNG.

INDICATOR LIGHT LOGIC (CONTINUED)

1801	OT IP1219	0:13/00 OT(IL) P00502	OVERTRAVEL INDICATOR LIGHT NO NC	1817	
1802	FR IP1227	0:13/01 FR(IL) P00503	FULLY RAISED INDICATOR LIGHT NO NC	1818	
1803	NR IP1228	0:13/02 NR(IL) P00504	NEARLY RAISED INDICATOR LIGHT NO NC	1819	
1804	NS IP1301	0:13/03 NS(IL) P00505	NEARLY SEATED INDICATOR LIGHT NO NC	1820	
1805	FS(1) IP1209	0:13/04 FS(IL) P00506	FULLY SEATED INDICATOR LIGHT NO NC	1821	
1806	FSNE IP1201	0:13/05 FSNE(IL) P00507	NE FULLY SEATED INDICATOR LIGHT NO NC	1822	
1807	FSSE IP1203	0:13/06 FSSE(IL) P00508	SE FULLY SEATED INDICATOR LIGHT NO NC	1823	
1808	FSNW IP1205	0:13/07 FSNW(IL) P00509	NW FULLY SEATED INDICATOR LIGHT NO NC	1824	INTENTIONALLY LEFT BLANK
1809	FSSW IP1207	0:13/08 FSSW(IL) P00511	SW FULLY SEATED INDICATOR LIGHT NO NC	1825	
1810	MDF IP0925	0:13/09 DF(IL) P00512	DRIVE FAULT INDICATOR LIGHT NO NC	1826	
1811	FLT IP1428	0:13/10 FLT(IL) P00513	FAULT INDICATOR LIGHT NO NC	1827	
1812	SKW IP1417	0:13/11 SKW(IL) P00514	SKEW WARNING INDICATOR LIGHT NO NC	1828	
1813	SKFLT IP1418	0:13/12 SKFLT(IL) P00515	SKEW FAULT INDICATOR LIGHT NO NC	1829	
1814	BD IP0125	0:13/13 BD(IL) P00516	BOAT DETECTED INDICATOR LIGHT NO NC	1830	
1815	BWN IP0129	0:13/14 BWN(IL) P00517	BOAT WARNING NORTH INDICATOR LIGHT NO NC	1831	
1816	BWS IP0131	0:13/15 BWS(IL) P00518	BOAT WARNING SOUTH INDICATOR LIGHT NO NC	1832	

NOTES:

1. PARALLEL ILT CONTACT SHALL BE INCLUDED FOR EACH PLC INDICATOR LIGHT RUNG.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-076 INTERNAL PLC LOGIC - 18.dwg LAST PLOTTED: 11/3/2025 2:10:43 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKY No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 18
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-076
SHT NO.: 609 OF 648

SPAN LOCKS LIMIT SWITCH ALARMS LOGIC

1901 SLNEP I:04/03 SLNEP1(I) IP0613 PI0204 → TMR-LS-SLNEP1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLNEP1A(DN) → NE SPAN LOCK PULLED 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1902 NC

1902 TMR-LS-SLNEP1A(DN) IP1901 FLTRES IP1401

FAULT RESET CONTACT SHALL BE TYPICAL FOR EACH SPAN LOCK LIMIT SWITCH ALARM RUNG. NOT SHOWN ON OTHER RUNGS.

1903 SLNEP I:04/04 SLNEP2(I) IP0613 PI0205 → TMR-LS-SLNEP2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLNEP2A(DN) → NE SPAN LOCK PULLED 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1904 NC

1904 TMR-LS-SLNEP2A(DN) IP1903

1905 SLNED I:04/00 SLNED1(I) IP0623 PI0201 → TMR-LS-SLNED1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-LSNED1A(DN) → NE SPAN LOCK DRIVEN 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1906 NC

1906 TMR-LS-LSNED1A(DN) IP1905

1907 SLNED I:04/01 SLNED2(I) IP0623 PI0202 → TMR-LS-SLNED2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLNED2A(DN) → NE SPAN LOCK DRIVEN 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1908 NC

1908 TMR-LS-SLNED2A(DN) IP1907

1909 SLSEP I:04/10 SESLP1(I) IP0615 PI0211 → TMR-LS-SLSEP1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSEP1A(DN) → SE SPAN LOCK PULLED 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1910 NC

1910 TMR-LS-SLSEP1A(DN) IP1909

1911 SLSEP I:04/11 SLSEP2(I) IP0615 PI0212 → TMR-LS-SLSEP2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSEP2A(DN) → SE SPAN LOCK PULLED 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1912 NC

1912 TMR-LS-SLSEP2A(DN) IP1911

1913 SLSED I:04/07 SLSED1(I) IP0625 PI0208 → TMR-LS-SLSED1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSED1A(DN) → SE SPAN LOCK DRIVEN 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1914 NC

1914 TMR-LS-SLSED1A(DN) IP1913

1915 SLSED I:04/08 SLSED2(I) IP0625 PI0209 → TMR-LS-SLSED2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSED2A(DN) → SE SPAN LOCK DRIVEN 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1916 NC

1916 TMR-LS-SLSED2A(DN) IP1915

1917 SLNWP I:10/03 SLNWP1(I) IP0617 PI0404 → TMR-LS-SLNWP1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLNWP1A(DN) → NW SPAN LOCK PULLED 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1918 NC

1918 TMR-LS-SLNWP1A(DN) IP1917

1919 SLNWP I:10/04 SLNWP2(I) IP0617 PI0405 → TMR-LS-SLNWP2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLNWP2A(DN) → NW SPAN LOCK PULLED 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1920 NC

1920 TMR-LS-SLNWP2A(DN) IP1919

1921 SLNWD I:10/00 SLNWD1(I) IP0627 PI0401 → TMR-LS-SLNWD1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLNWD1A(DN) → NW SPAN LOCK DRIVEN 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1922 NC

1922 TMR-LS-SLNWD1A(DN) IP1921

1923 SLNWD I:10/01 SLNWD2(I) IP0627 PI0402 → TMR-LS-SLNWD2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLNWD2A(DN) → NW SPAN LOCK DRIVEN 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1924 NC

1924 TMR-LS-SLNWD2A(DN) IP1923

1925 SLSWP I:10/10 SLSWP1(I) IP0619 PI0411 → TMR-LS-SLSWP1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSWP1A(DN) → SW SPAN LOCK PULLED 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1926 NC

1926 TMR-LS-SLSWP1A(DN) IP1925

1927 SLSWP I:10/11 SLSWP2(I) IP0619 PI0412 → TMR-LS-SLSWP2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSWP2A(DN) → SW SPAN LOCK PULLED 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1928 NC

1928 TMR-LS-SLSWP2A(DN) IP1927

1929 SLSWD I:10/07 SLSWD1(I) IP0629 PI0408 → TMR-LS-SLSWD1A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSWD1A(DN) → SW SPAN LOCK DRIVEN 1 LIMIT SWITCH ALARM TIMER (DONE) NO IP1930 NC

1930 TMR-LS-SLSWD1A(DN) IP1929

1931 SLSWD I:10/08 SLSWD2(I) IP0629 PI0409 → TMR-LS-SLSWD2A TON TIMER ON DELAY PRESET 2 SEC ACCUM 0 → TMR-LS-SLSWD2A(DN) → SW SPAN LOCK DRIVEN 2 LIMIT SWITCH ALARM TIMER (DONE) NO IP1932 NC

1932 TMR-LS-SLSWD2A(DN) IP1931

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-077 INTERNAL PLC LOGIC - 19.dwg LAST PLOTTED: 11/3/2025 2:10:48 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKY No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

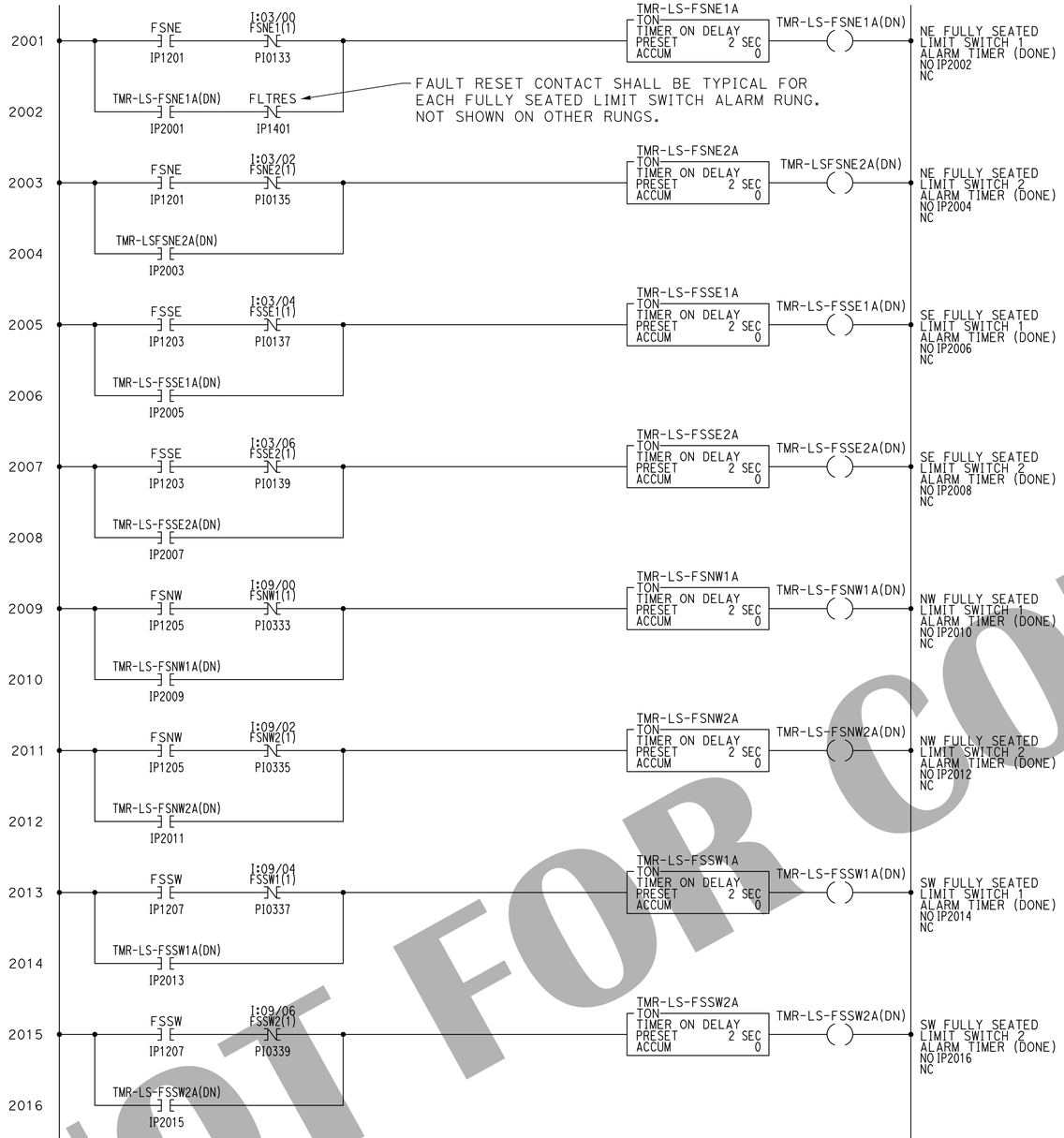
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 19
(Date: 11/03/2025)

PN: T15136000

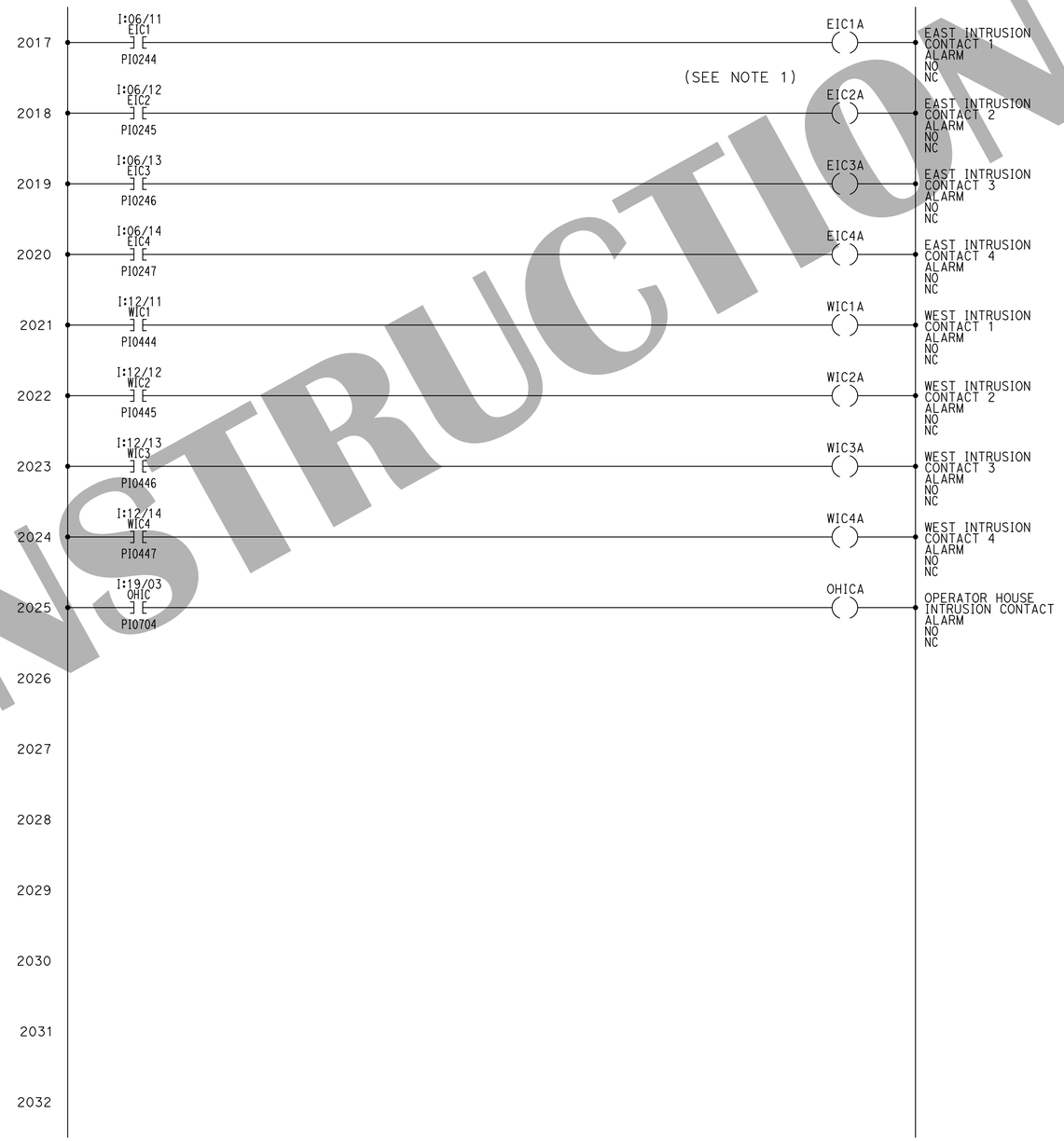
DWG NO.: E-077

SHT NO.: 610 OF 648

FULLY SEATED LIMIT SWITCH ALARMS LOGIC



INTRUSION ALARMS LOGIC



NOTES:

1. GENERATE ALARM(S) ON GUI/HMI WHEN INTRUSION SWITCHES ARE ACTIVATED.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

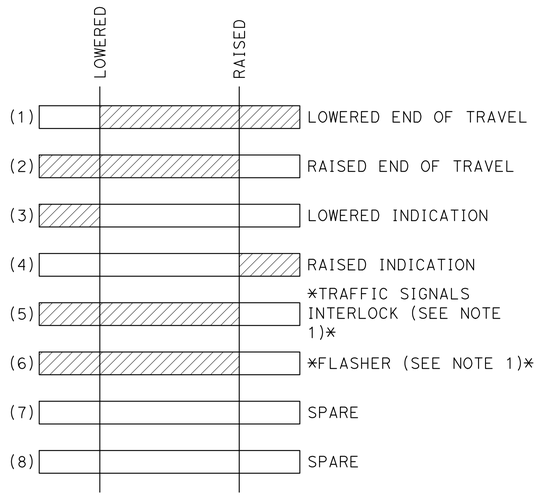
REGISTERED PROFESSIONAL ENGINEER — JOSEPH G. STREMOSKY — No. 21568 — Exp. 09-30-26 — ELECTRICAL — STATE OF CALIFORNIA — Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INTERNAL PLC LOGIC - 20
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-078
SHT NO.: 611 OF 648

p:\3326.01\CADD\Electrical\E-078 INTERNAL PLC LOGIC - 20.dwg LAST PLOTTED: 11/3/2025 2:10:53 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

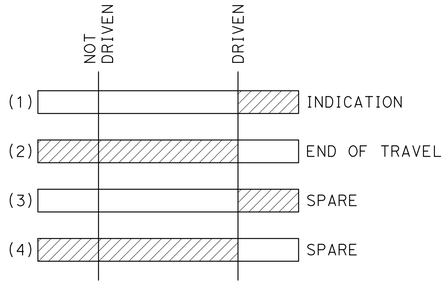


GATE ROTARY CAM LIMIT SWITCH

SCALE: NONE

(LS-WGNE, LS-WGSE, LS-WGNW, LS-WGSW, LS-PGNE, LS-PGSE, LS-PGNW, LS-PGSW)

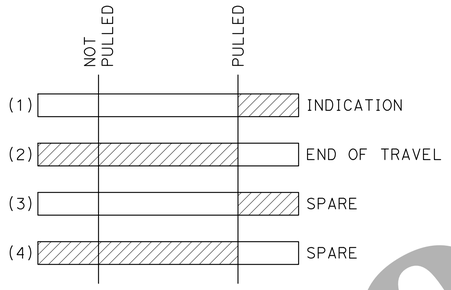
TYPICAL ONLY FOR WARNING GATES



SPAN LOCK DRIVEN LIMIT SWITCH

SCALE: NONE

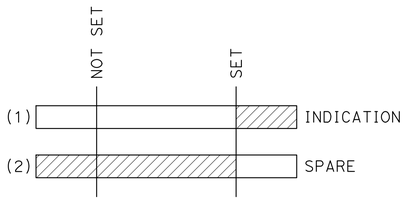
(LS-SLNED1, LS-SLNED2, LS-SLSED1, LS-SLSED2, LS-SLNWD1, LS-SLNWD2, LS-SLSWD1, LS-SLSWD2)



SPAN LOCK PULLED LIMIT SWITCH

SCALE: NONE

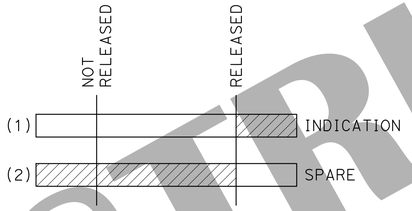
(LS-SLNEP1, LS-SLNEP2, LS-SLSEP1, LS-SLSEP2, LS-SLNWP1, LS-SLNWP2, LS-SLSWP1, LS-SLSWP2)



BRAKE SET LIMIT SWITCH

SCALE: NONE

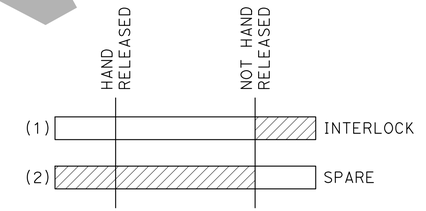
(LS-MOBNES, LS-MOBSES, LS-MOBNWS, LS-MOBSWS, LS-MABNES, LS-MABSES, LS-MABNWS, LS-MABSWS)



BRAKE RELEASED LIMIT SWITCH

SCALE: NONE

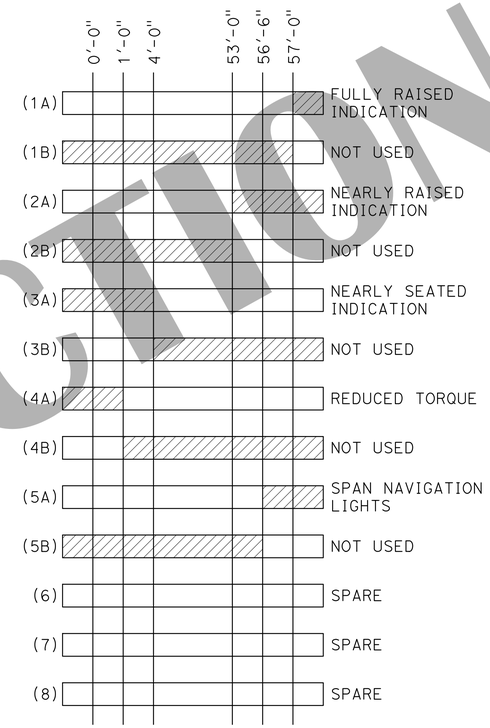
(LS-MOBNER, LS-MOBSER, LS-MOBNWR, LS-MOBSWR, LS-MABNER, LS-MABSER, LS-MABNWR, LS-MABSWR)



BRAKE HAND RELEASED LIMIT SWITCH

SCALE: NONE

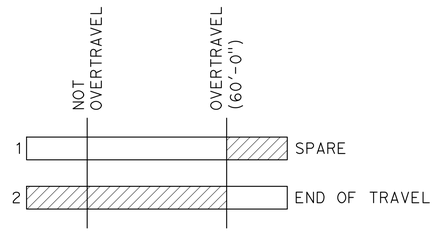
(LS-MOBNEH, LS-MOBSEH, LS-MOBNWH, LS-MOBSWH, LS-MABNEH, LS-MABSEH, LS-MABNWH, LS-MABSWH)



ROTARY CAM LIMIT SWITCH

SCALE: NONE

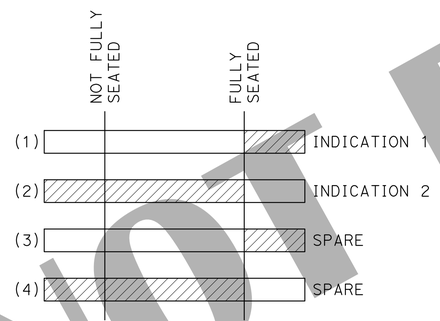
(LS-RCE, LS-RCW)



OVERTRAVEL LIMIT SWITCH

SCALE: NONE

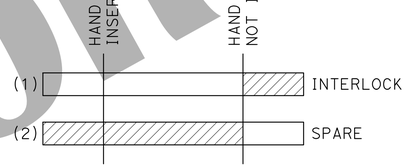
(LS-OTE, LS-OTW)



FULLY SEATED LIMIT SWITCH

SCALE: NONE

(LS-FSNE1, LS-FSNE2, LS-FSSE1, LS-FSSE2, LS-FSNW1, LS-FSNW2, LS-FSSW1, LS-FSSW2)



SPAN LOCK HAND CRANK LIMIT SWITCH

SCALE: NONE

(LS-SLNEH, LS-SLSEH, LS-SLNWH, LS-SLSWH)

CONTACT LEGEND:

CONTACT CLOSED

CONTACT OPEN

NOTES:

1. TRAFFIC SIGNALS INTERLOCK AND FLASHER CAM LIMIT SWITCHES REQUIRED ONLY FOR WARNING GATES.

NOT FOR CONSTRUCTION

REVISIONS NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKY No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

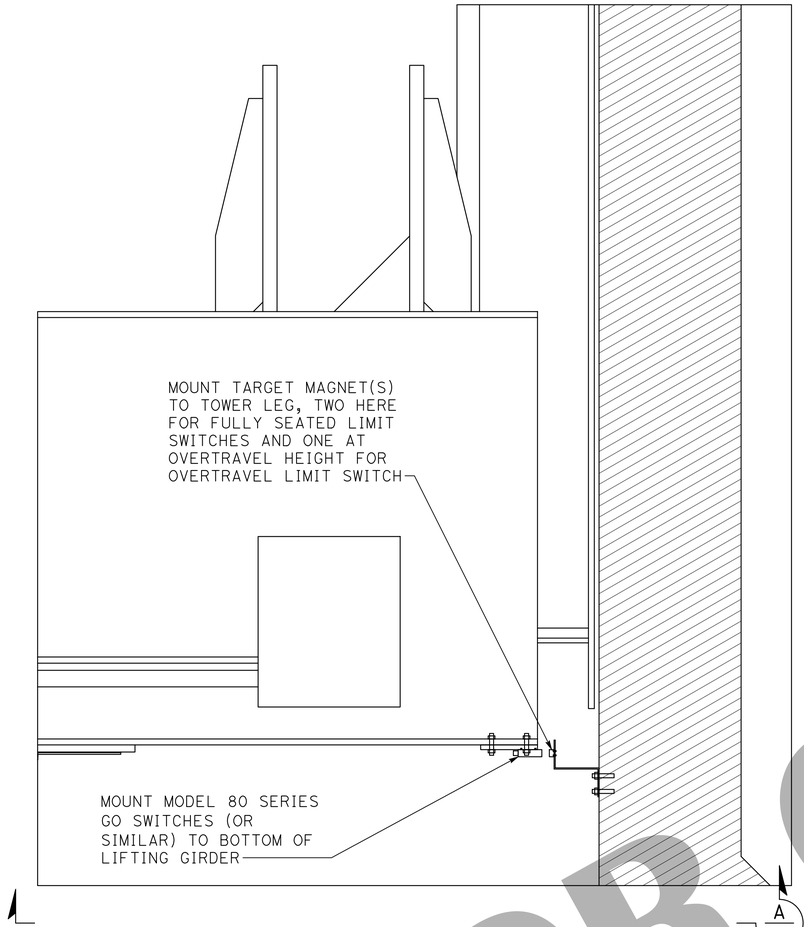
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIMIT SWITCH TRIP SCHEDULES
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-079
SHT NO.: 612 OF 648

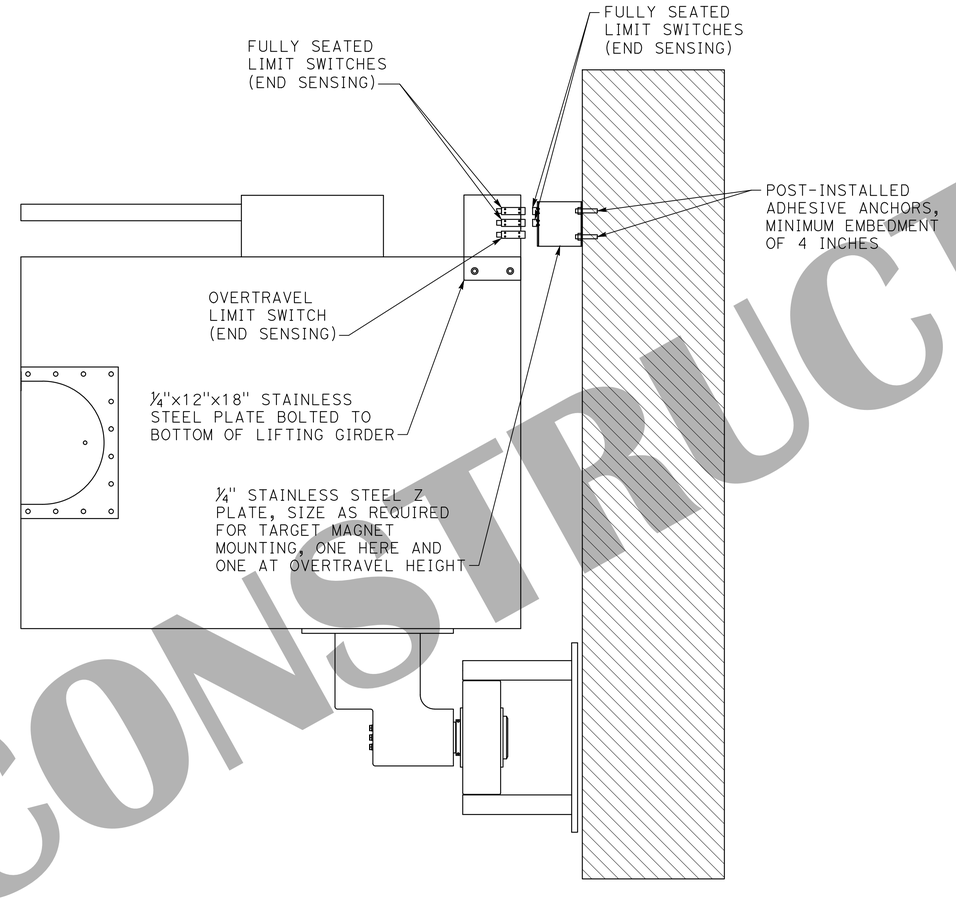
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-079 LIMIT SWITCH TRIP SCHEDULES.dwg LAST PLOTTED: 11/3/2025 2:10:57 PM



FULLY SEATED AND OVERTRAVEL LIMIT SWITCH MOUNTING DETAIL

SCALE: 3/4" = 1'-0"



A/E-080 SECTION

SCALE: 3/4" = 1'-0"

NOTES:

1. ALL MOUNTING DETAILS ARE CONCEPTUAL ONLY AND MAY REQUIRE ADJUSTMENTS BASED ON SITE CONDITIONS. SUBMIT ALL MOUNTING DETAILS TO THE ENGINEER FOR APPROVAL.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

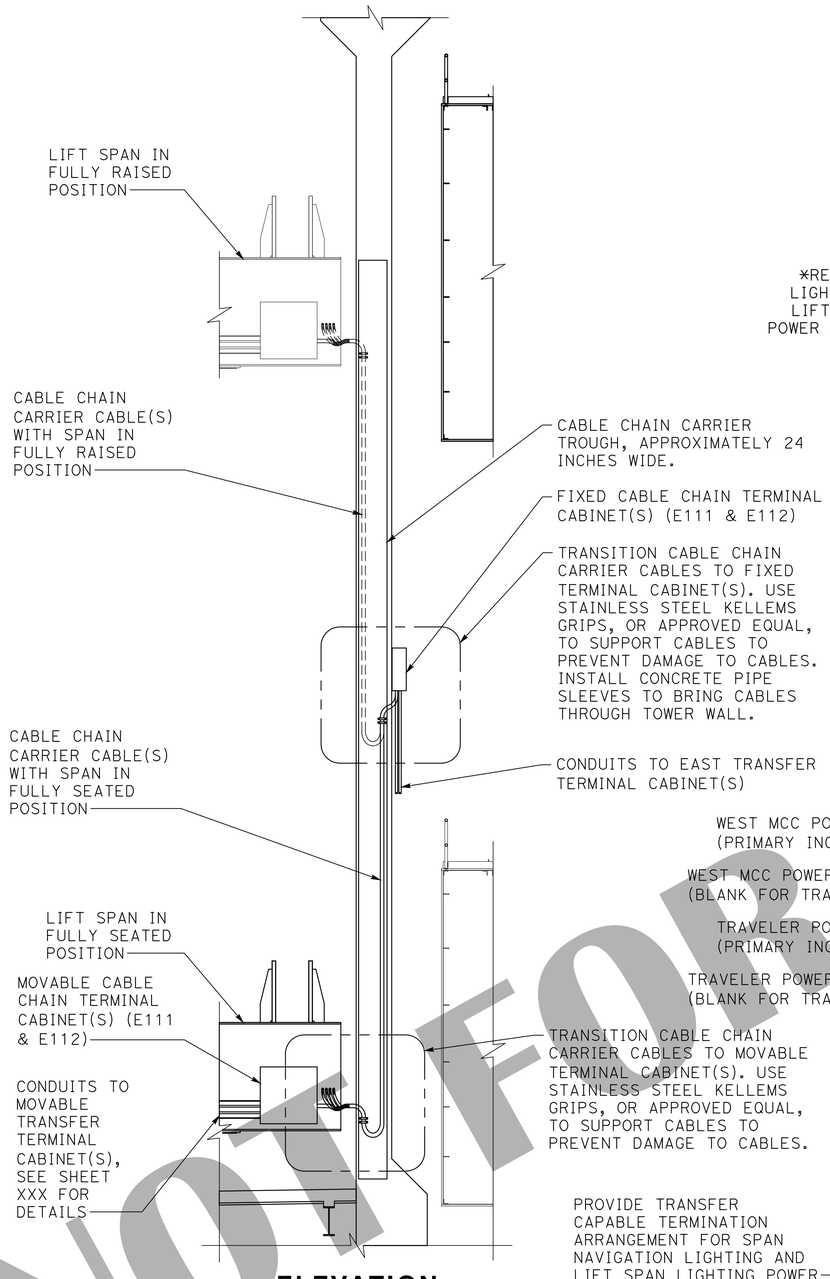
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
LIMIT SWITCH DETAILS
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-080
SHT NO.: 613 OF 648

P:\3326.01\CADD\Electrical\E-080 LIMIT SWITCH DETAILS.dwg LAST PLOTTED: 11/3/2025 2:11:51 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



ELEVATION
CABLE CHAIN CARRIER

(SE TOWER SHOWN, NE, NW, AND SW TOWERS SIMILAR)

*REFER TO BRIDGE LIGHTING PLANS FOR LIFT SPAN LIGHTING POWER AND DATA DETAILS

SE CABLE CHAIN CARRIER CABLES

CABLE		DESCRIPTION/FUNCTION
COUNT	SIZE	
3	500 KCMIL	POWER FEEDER TO WEST MCC
3	6 AWG	POWER FEEDER TO TRAVELER
2	10 AWG	SPAN NAVIGATION LIGHTING
1	2/0 AWG	GROUND
4	12 AWG	BRIDGE E-STOP CONTROL CIRCUIT
2	18 TSP	INCLINOMETER (SEE NOTE 3)
1	24 FIBER	BRIDGE CONTROL, CCTV, PUBLIC ADDRESS
6	10 AWG	LIFT SPAN LIGHTING POWER (NE QUADRANT)*
6	10 AWG	LIFT SPAN LIGHTING POWER (SE QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (NE QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (SE QUADRANT)*

NE CABLE CHAIN CARRIER CABLES (REDUNDANT TO SE)

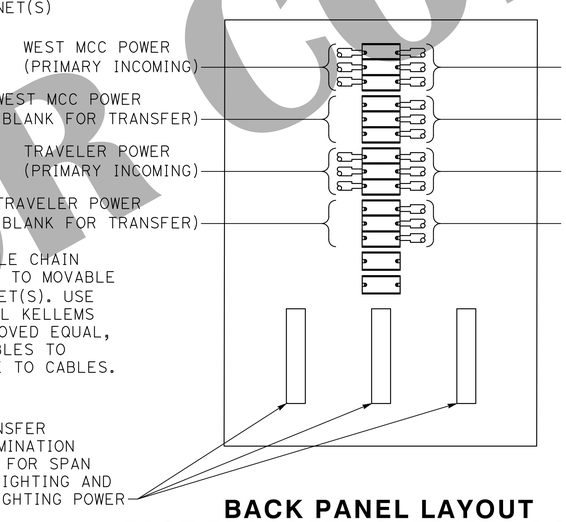
CABLE		DESCRIPTION/FUNCTION
COUNT	SIZE	
3	500 KCMIL	POWER FEEDER TO WEST MCC
3	6 AWG	POWER FEEDER TO TRAVELER
2	10 AWG	SPAN NAVIGATION LIGHTING
1	2/0 AWG	GROUND
4	12 AWG	BRIDGE E-STOP CONTROL CIRCUIT
2	18 TSP	INCLINOMETER (SEE NOTE 3)
1	24 FIBER	BRIDGE CONTROL, CCTV, PUBLIC ADDRESS
6	10 AWG	LIFT SPAN LIGHTING POWER (NE QUADRANT)*
6	10 AWG	LIFT SPAN LIGHTING POWER (SE QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (NE QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (SE QUADRANT)*

NW CABLE CHAIN CARRIER CABLES

CABLE		DESCRIPTION/FUNCTION
COUNT	SIZE	
3	500 KCMIL	POWER FEEDER TO WEST MCC
1	2/0 AWG	GROUND
4	12 AWG	BRIDGE E-STOP CONTROL CIRCUIT
1	24 FIBER	BRIDGE CONTROL, CCTV, PUBLIC ADDRESS
6	10 AWG	LIFT SPAN LIGHTING POWER (NW QUADRANT)*
6	10 AWG	LIFT SPAN LIGHTING POWER (SW QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (NW QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (SW QUADRANT)*

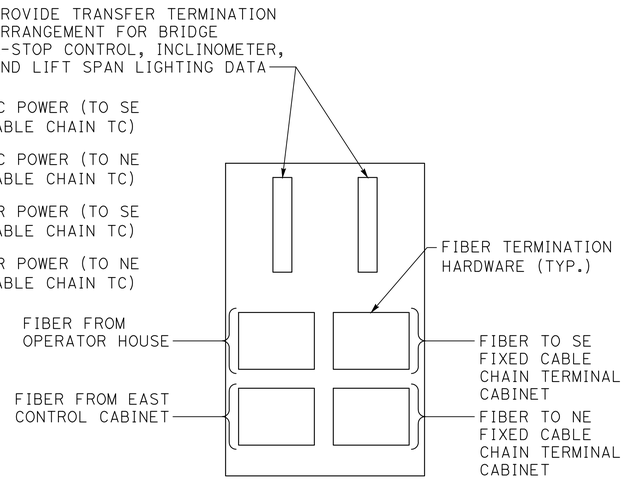
SW CABLE CHAIN CARRIER CABLES (REDUNDANT TO NW)

CABLE		DESCRIPTION/FUNCTION
COUNT	SIZE	
3	500 KCMIL	POWER FEEDER TO WEST MCC
1	2/0 AWG	GROUND
4	12 AWG	BRIDGE E-STOP CONTROL CIRCUIT
1	24 FIBER	BRIDGE CONTROL, CCTV, PUBLIC ADDRESS
6	10 AWG	LIFT SPAN LIGHTING POWER (NW QUADRANT)*
6	10 AWG	LIFT SPAN LIGHTING POWER (SW QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (NW QUADRANT)*
1	CAT6	LIFT SPAN LIGHTING DATA (SW QUADRANT)*



BACK PANEL LAYOUT
EAST TRANSFER CABINET - POWER

(MOVABLE AND WEST TRANSFER TERMINAL CABINETS SIMILAR)



BACK PANEL LAYOUT
EAST TRANSFER CABINET - CONTROL

(MOVABLE AND WEST TRANSFER TERMINAL CABINETS SIMILAR)

NOTES:

1. THE ELEVATION DETAIL ON THIS SHEET IS ONLY INTENDED TO SHOW THE GENERAL LOCATION AND CONCEPT OF THE CHAIN CABLE CARRIER(S). SUBMIT SHOP DRAWINGS FOR LOCATION AND ALL DETAILS TO THE ENGINEER FOR APPROVAL.
2. ARRANGE POWER AND CONTROL CABLES WITHIN CABLE CHAIN CARRIERS TO PREVENT DISTURBANCE.
3. COORDINATE CABLE REQUIREMENT FOR INCLINOMETER WITH CONTROL SYSTEM VENDOR.
4. THE CABLE CHAIN CARRIER CABLES (NE/SE AND NW/SW) AT EACH TOWER ARE REDUNDANT. THE EAST, MOVABLE, AND WEST TRANSFER TERMINAL CABINETS ALLOW PRIMARY CABLE USE TO BE SWITCHED BETWEEN CABLE CHAIN CARRIERS. EXCEPT THE FIBER IS INTENDED TO FORM A LOOP TYPE FIBER TOPOLOGY. REFER TO SYSTEM DIAGRAMS FOR FIBER TOPOLOGY.
5. CABLE CONSTRUCTION OF CABLES WITHIN CABLE CHAIN CARRIER SHALL, AT A MINIMUM, BE EQUAL TO THE CABLE REQUIREMENTS LISTED IN SPECIFICATION SECTION "MOVABLE BRIDGE ELECTRICAL AND CONTROL SYSTEM" AND SHALL MEET MANUFACTURER RECOMMENDATIONS FOR FLEXIBILITY AND COMPATIBILITY WITH THE CABLE CHAIN CARRIER SYSTEM(S).

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

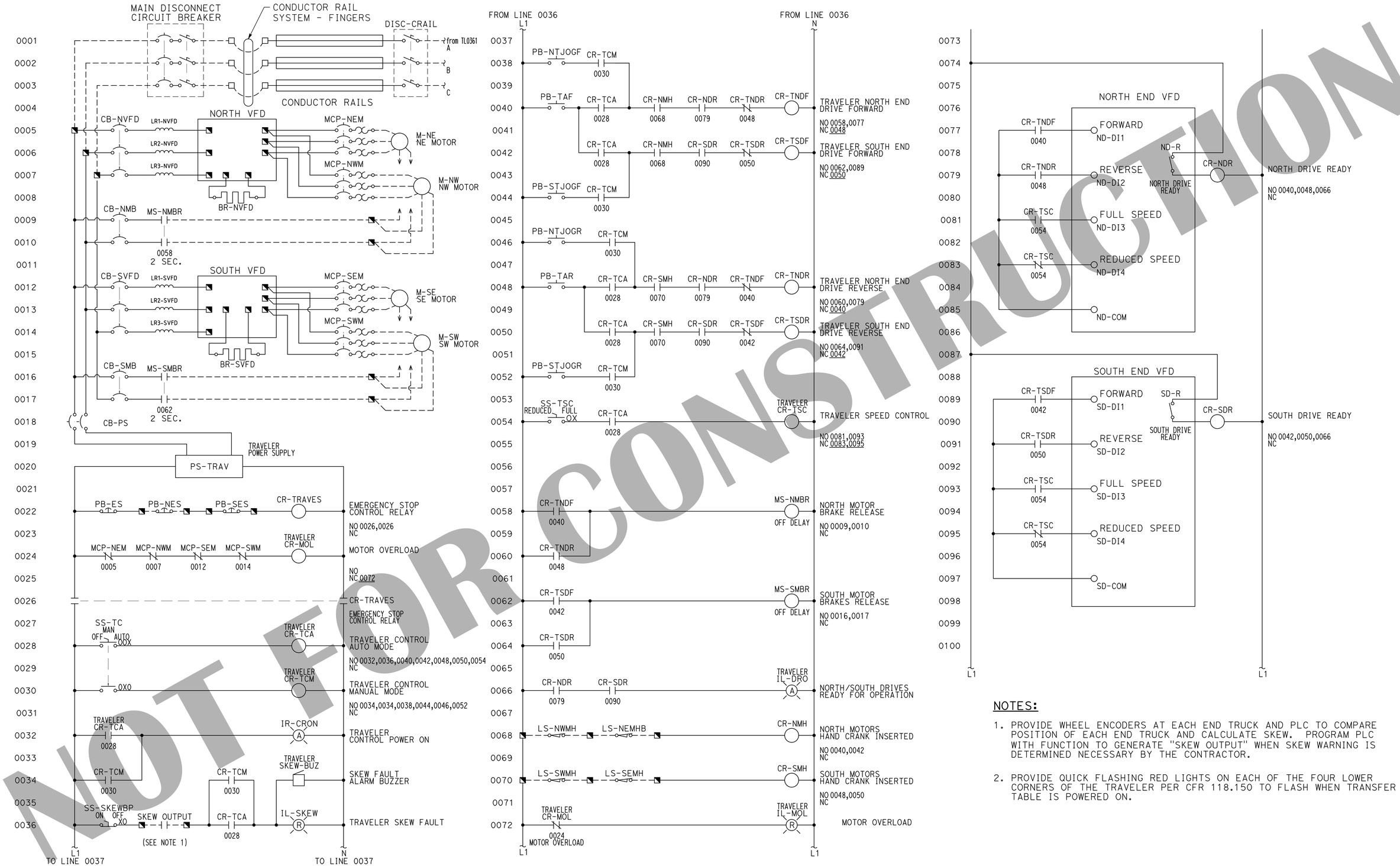
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CABLE CHAIN CARRIER DETAILS
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-081
SHT NO.: 614 OF 648

p:\3326.01\CADD\Electrical\E-081 CABLE CHAIN CARRIER DETAILS.dwg LAST PLOTTED: 11/3/2025 2:11:09 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



NOTES:

1. PROVIDE WHEEL ENCODERS AT EACH END TRUCK AND PLC TO COMPARE POSITION OF EACH END TRUCK AND CALCULATE SKEW. PROGRAM PLC WITH FUNCTION TO GENERATE "SKEW OUTPUT" WHEN SKEW WARNING IS DETERMINED NECESSARY BY THE CONTRACTOR.

2. PROVIDE QUICK FLASHING RED LIGHTS ON EACH OF THE FOUR LOWER CORNERS OF THE TRAVELER PER CFR 118.150 TO FLASH WHEN TRANSFER TABLE IS POWERED ON.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWOSW No. 21568 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

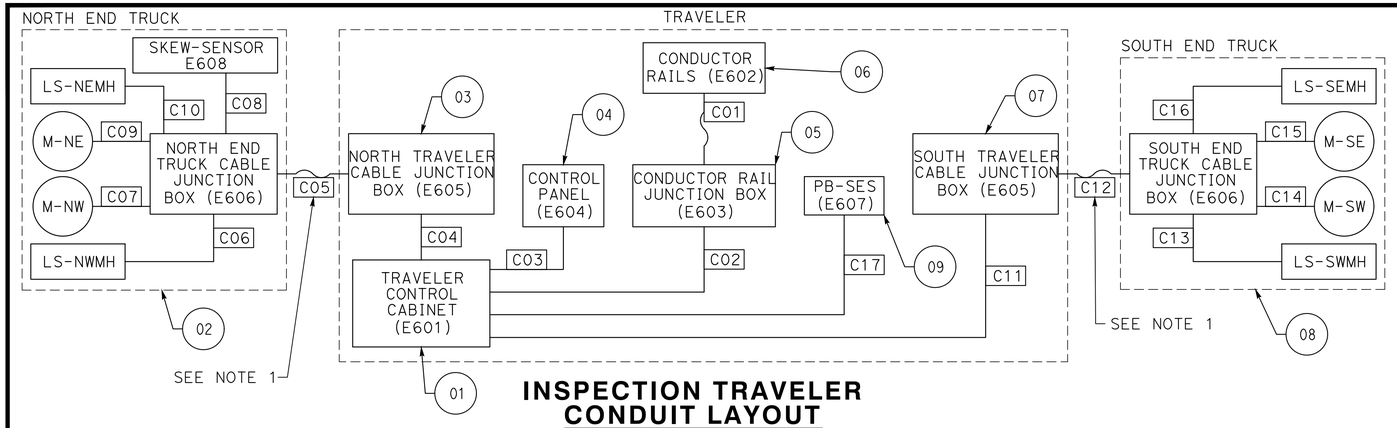
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-082
SHT NO.: 615 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-082 INSPECTION TRAVELER DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:11:14 PM



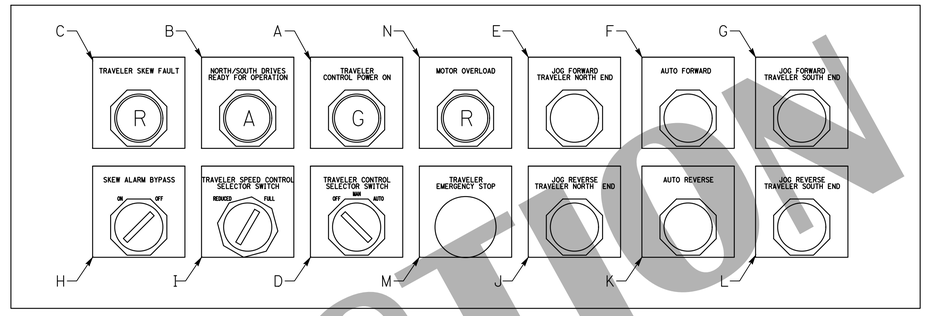
INSPECTION TRAVELER CONDUIT LAYOUT

TRAVELER CONDUIT SCHEDULE

RUN #	CONDUIT TERMINATIONS		CONDUIT		WIRE		
	FROM	TO	TYPE	SIZE	USE	COUNT	SIZE
C01	CONDUCTOR RAILS	CONDUCTOR RAIL JUNCTION BOX	CABLE	(E603)	480P	3	8 AWG
					GND	1	10 AWG
C02	CONDUCTOR RAIL JUNCTION BOX	TRAVELER CONTROL CABINET	PVC RGS	1"	480P	3	8 AWG
					GND	1	10 AWG
C03	TRAVELER CONTROL CABINET	CONTROL PANEL	PVC RGS	¾"	120C		
					GND	1	12 AWG
C04	TRAVELER CONTROL CABINET	NORTH TRAVELER CABLE JB	PVC RGS	1"	480P	10	12 AWG
					120C	6	12 AWG
					GND	1	12 AWG
C05	NORTH TRAVELER CABLE JB	NORTH END TRUCK CABLE JB	CABLE (SEE NOTE 1)	-	480P	10	12 AWG
					120C	6	12 AWG
					GND	1	12 AWG
C06	NORTH END TRUCK CABLE JB	NW MOTOR HAND CRANK LS	CABLE	-	120C	2	12 AWG
					GND	1	12 AWG
C07		NW DRIVE MOTOR AND BRAKE	CABLE	-	480P	5	12 AWG
					GND	1	12 AWG
C08		SKEW SENSOR	CABLE	-	120C	2	12 AWG
					GND	1	12 AWG
C09		NE DRIVE MOTOR AND BRAKE	CABLE	-	480P	5	12 AWG
					GND	1	12 AWG
C10		NE MOTOR HAND CRANK LS	CABLE	-	120C	2	12 AWG
					GND	1	12 AWG
C11	TRAVELER CONTROL CABINET	SOUTH TRAVELER CABLE JB	PVC RGS	1"	480P	10	12 AWG
					120C	4	12 AWG
					GND	1	12 AWG
C12	SOUTH TRAVELER CABLE JB	SOUTH END TRUCK CABLE JB	CABLE (SEE NOTE 1)	-	480P	10	12 AWG
					120C	4	12 AWG
					GND	1	12 AWG
C13	SOUTH END TRUCK CABLE JB	SW MOTOR HAND CRANK LS	CABLE	-	120C	2	12 AWG
					GND	1	12 AWG
C14		SW DRIVE MOTOR AND BRAKE	CABLE	-	480P	5	12 AWG
					GND	1	12 AWG
C15		SE DRIVE MOTOR AND BRAKE	CABLE	-	480P	5	12 AWG
					GND	1	12 AWG
C16		SE MOTOR HAND CRANK LS	CABLE	-	120C	2	12 AWG
					GND	1	12 AWG
C17	TRAVELER CONTROL CABINET	NORTH EMERGENCY STOP PB	PVC RGS	¾"	120C	2	12 AWG
					GND	1	12 AWG

LEGEND

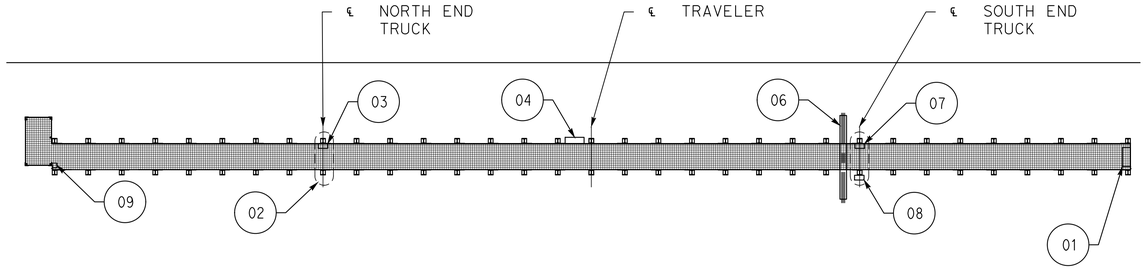
- [XX] CONDUIT RUN #
- (XX) ELECTRICAL EQUIPMENT NUMBER (SEE EQUIPMENT LAYOUT)
- XX— CONTROL CONSOLE DEVICE NUMBER
- (E6XX) ELECTRICAL EQUIPMENT ITEM NUMBER (SEE SHEET E-095 FOR SCHEDULE)



INSPECTION TRAVELER CONTROL CONSOLE LAYOUT

TRAVELER CONTROL PANEL DEVICE LEGEND

DEVICE LETTER	TAG NAME	TAG DESCRIPTION	DEVICE DESCRIPTION
A	IL-CP	CONTROL POWER	GREEN INDICATOR LIGHT
B	IL-NSDR	NORTH/SOUTH DRIVES READY FOR OPERATION	GREEN INDICATOR LIGHT
C	IL-TSF	TRAVELER SKEW FAULT	RED INDICATOR LIGHT
D	SS-TC	CONTROL MODE OFF MANUAL AUTO	SELECTOR SWITCH - 3 POSITION, MAINTAINED
E	PB-NTJOGF	JOG FORWARD NORTH END	BLACK PUSHBUTTON - MOMENTARY
F	PB-TAF	AUTO FORWARD	BLACK PUSHBUTTON - MOMENTARY
G	PB-STJOGF	JOG FORWARD SOUTH END	BLACK PUSHBUTTON - MOMENTARY
H	SS-SKEW	SKEW ALARM ON OFF	SELECTOR SWITCH - 2 POSITION, MAINTAINED
I	SS-TSC	SPEED CONTROL CREEP FULL	SELECTOR SWITCH - 2 POSITION, MAINTAINED
J	PB-NTJOGR	JOG REVERSE NORTH END	BLACK PUSHBUTTON - MOMENTARY
K	PB-TAR	AUTO REVERSE	BLACK PUSHBUTTON - MOMENTARY
L	PB-STJOGR	JOG REVERSE SOUTH END	BLACK PUSHBUTTON - MOMENTARY
M	PB-ES	EMERGENCY STOP	RED MUSHROOM PUSHBUTTON - MAINTAINED
N	IL-MOL	MOTOR OVERLOAD	RED INDICATOR LIGHT



INSPECTION TRAVELER ELECTRICAL EQUIPMENT LAYOUT

NOTES:

1. PROVIDE TWIST LOCK PLUGS AT ONE END OF CABLE CONNECTION TO ALLOW FOR DISCONNECTION WHEN TRAVELER IS NOT IN USE AND CONNECTION WHEN TRAVELER IS IN USE.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

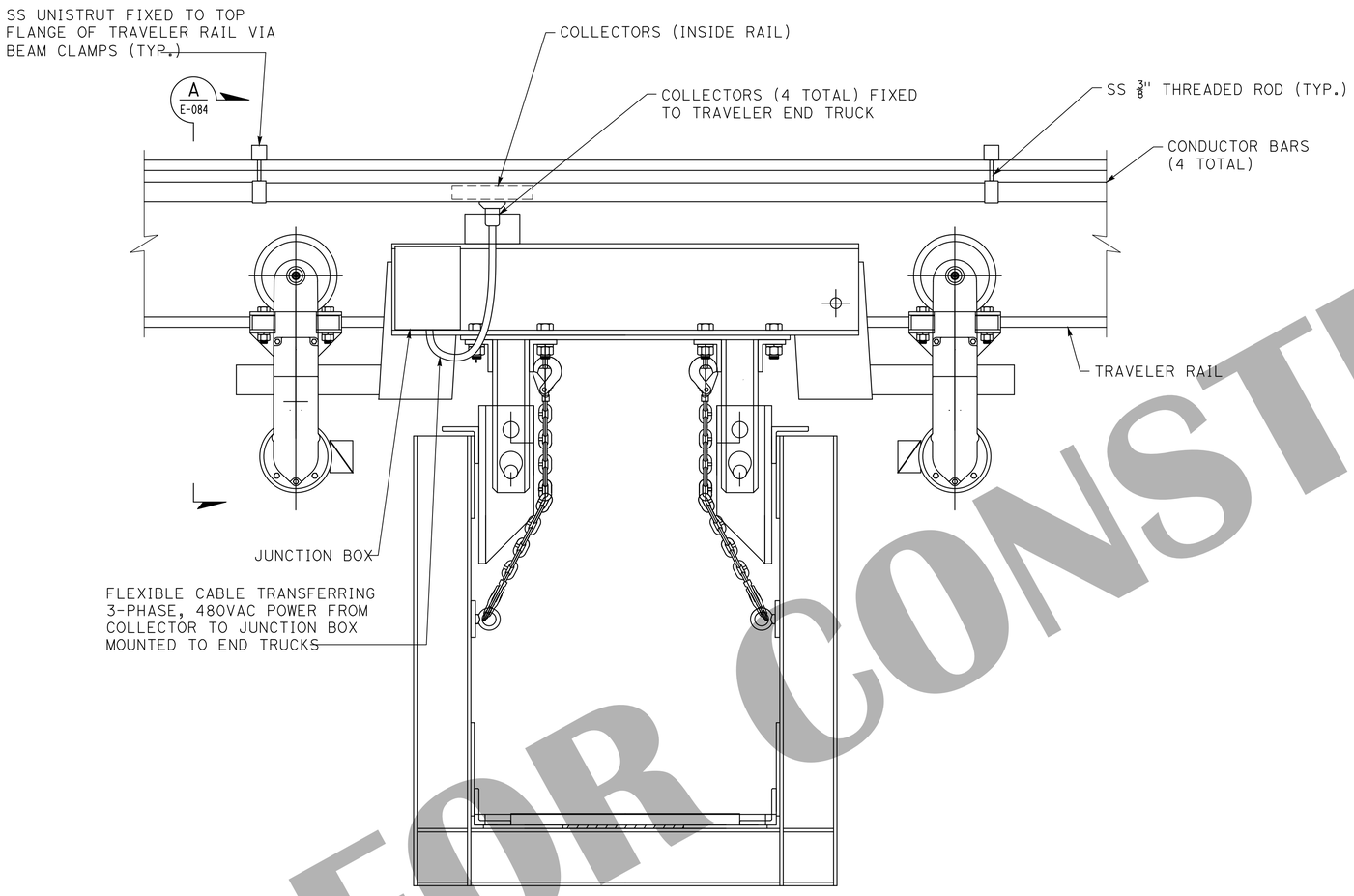
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 2
(Date: 11/03/2025)

PN: T15136000

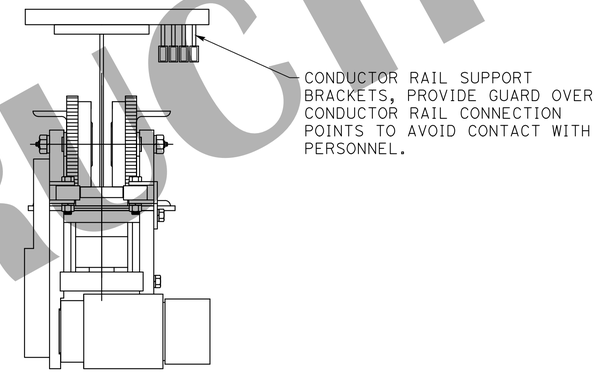
DWG NO.: E-083
SHT NO.: 616 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-083 INSPECTION TRAVELER DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 2:11:19 PM



ELEVATION
TRAVELER CONDUCTOR BAR



A
E-084 **SECTION**

NOTES:

1. THIS DRAWING IS ONLY INTENDED TO SHOW GENERAL CONCEPT OF CONDUCTOR BAR SYSTEM. NOT INTENDED TO SHOW SPECIFIC END TRUCK DETAILS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

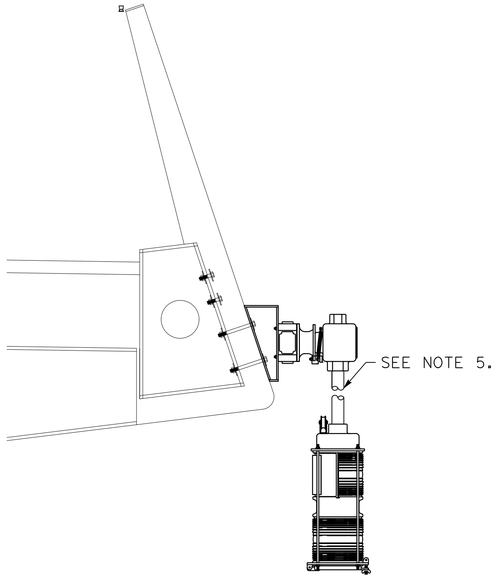
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
INSPECTION TRAVELER DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-084
SHT NO.: 617 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

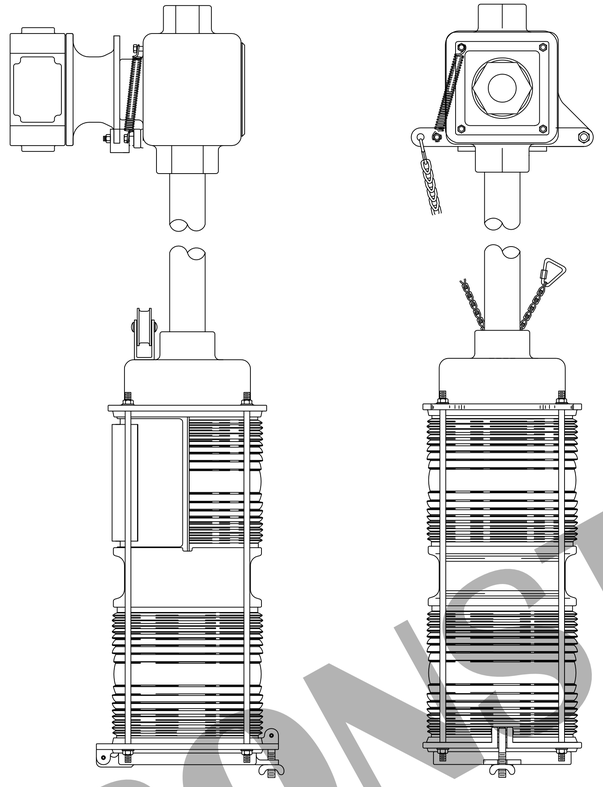
p:\3326.01\CADD\Electrical\E-084 INSPECTION TRAVELER DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 2:11:24 PM



SPAN NAVIGATION LIGHT - TYPICAL SECTION VIEW

(A / E-085)

(SCALE 1" = 1'
SEE NOTE 5.)

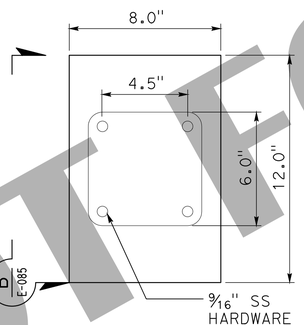


TYPICAL SPAN NAVIGATION LIGHT CROSS SECTION

(VIEW NOTES)

NOTES:

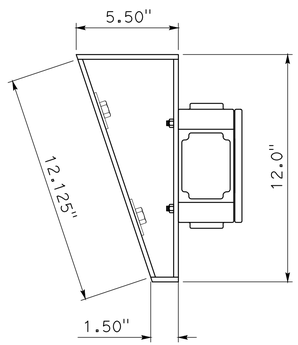
1. THE CONTRACTOR SHALL SUBMIT PROPOSED INSTALLATION LOCATIONS AND MOUNTING DETAILS FOR EACH NAVIGATION LIGHT FOR REVIEW AND APPROVAL
2. OUTLINES OF ACCESS LADDER AND SERVICE PLATFORM AT HIGHER LEVEL REMOVED FROM THIS LADDER VIEW FOR CLARITY. ° ø
3. ANCHOR BOLTS SHALL BE HIGH-STRENGTH ANCHOR BOLTS. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED. 4" AT EACH END OF ANCHOR BOLT SHALL BE THREADED. EACH ANCHOR BOLT SHALL BE SUPPLIED WITH 3 WASHERS AND 3 NUTS.
4. THE CONTRACTOR SHALL DETERMINE ALL DIMENSIONS AND DETAILS NECESSARY FOR INSTALLATION.
5. NAVIGATION LIGHT ARM LENGTH SHALL BE FIELD VERIFIED SUCH THAT THE BOTTOM OF THE LIGHT HOUSING IS IN LINE WITH BRIDGE LOW STEEL.



BASE PLATE DETAIL A

(A / E-085)

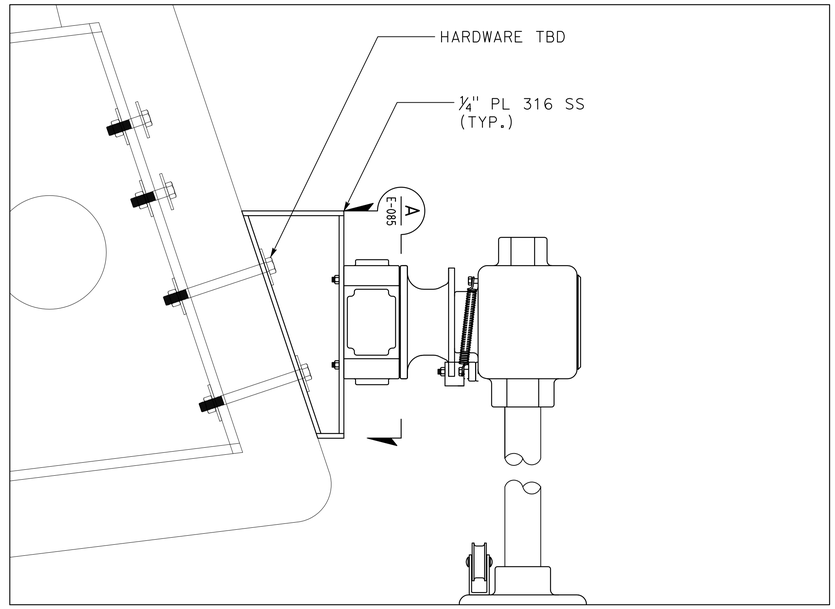
(JUNCTION BOX
NOT SHOWN FOR CLARITY)



BASE PLATE DETAIL B

(B / E-085)

(SEE NOTES)



SPAN NAVIGATION LIGHT - TYPICAL SECTION VIEW

(A / E-085)

(VIEW NOTES)

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

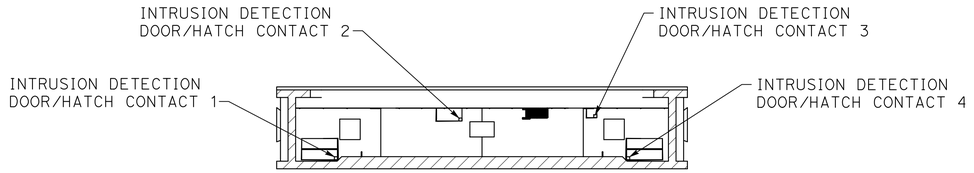
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MISCELLANEOUS ELECTRICAL DETAILS - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-085
SHT NO.: 618 OF 648

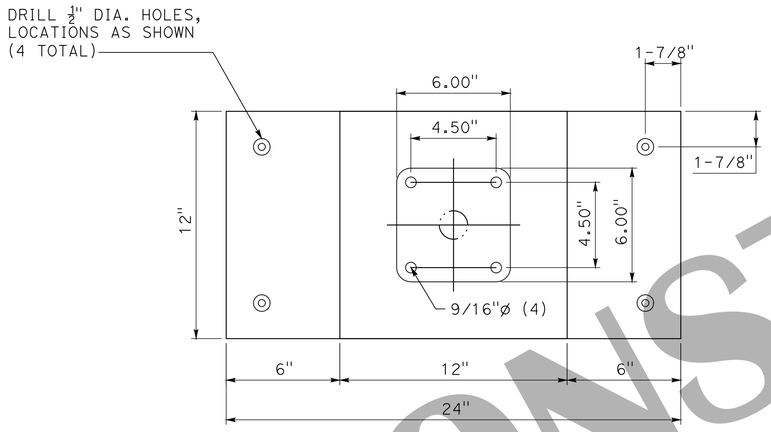
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-085 MISCELLANEOUS ELECTRICAL DETAILS - 1.dwg LAST PLOTTED: 11/3/2025 2:11:30 PM



PLAN, INTRUSION DETECTION DOOR/HATCH CONTACTS

(SCALE: NONE)
EAST SIDE SHOWN, WEST SIDE SIMILAR



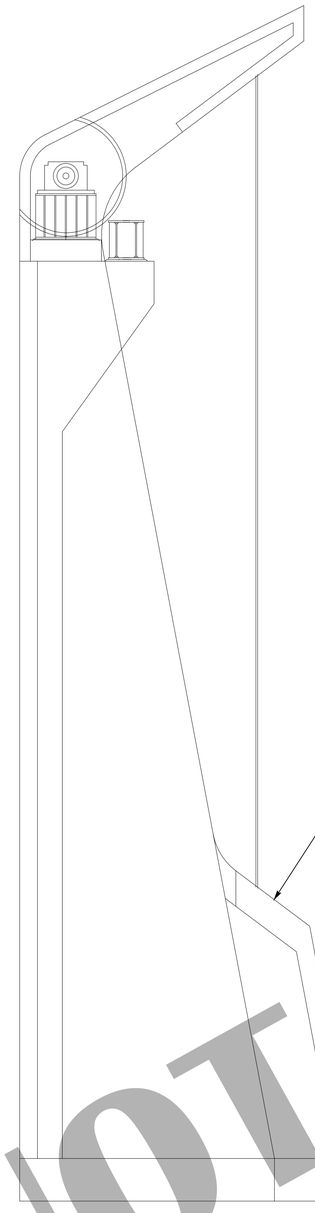
PLAN VIEW, MOUNTING PLATE, MFG MOUNTING DIMENSIONS

A / E-086

(SCALE: 3" = 1'-0")

NOTES:

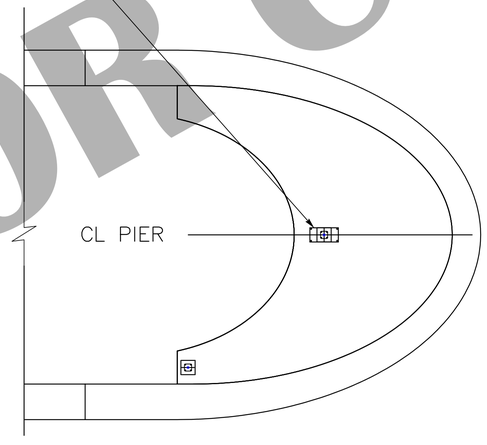
1. ELEVATIONS AND DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
2. THE CONTRACTOR SHALL SUBMIT PROPOSED INSTALLATION LOCATIONS AND MOUNTING DETAILS FOR EACH NAVIGATION LIGHT FOR REVIEW AND APPROVAL.
3. MOUNT NAVIGATION LIGHT TO MOUNTING PLATE USING ø" STAINLESS STEEL HARDWARE. ALL STAINLESS STEEL FASTENERS SHALL CONFORM TO ASTM A240, ASTM A276, OR ASTM A666.
4. POST INSTALLED ANCHOR RODS TO BE USED.
5. ALL WELDS SHALL BE ¼" FILLET (TYP.)



TOWER ELEVATION VIEW TYP. PIER NAVIGATION LIGHT

A / E-086

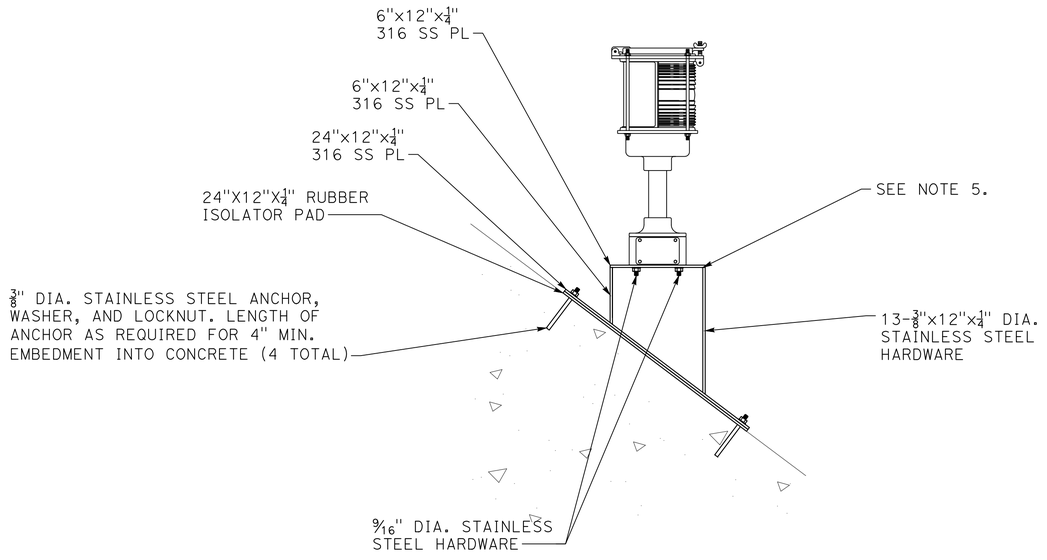
(SCALE: 3/32" = 1'-0")



PLAN VIEW - GENERAL LOCATION TOWER NAVIGATION LIGHT

A / E-086

(SCALE: 3/16" = 1'-0")



SECTION VIEW, TYPICAL PIER NAVIGATION LIGHT MOUNTING DETAIL

(SCALE: 1-1/2" = 1'-0")

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

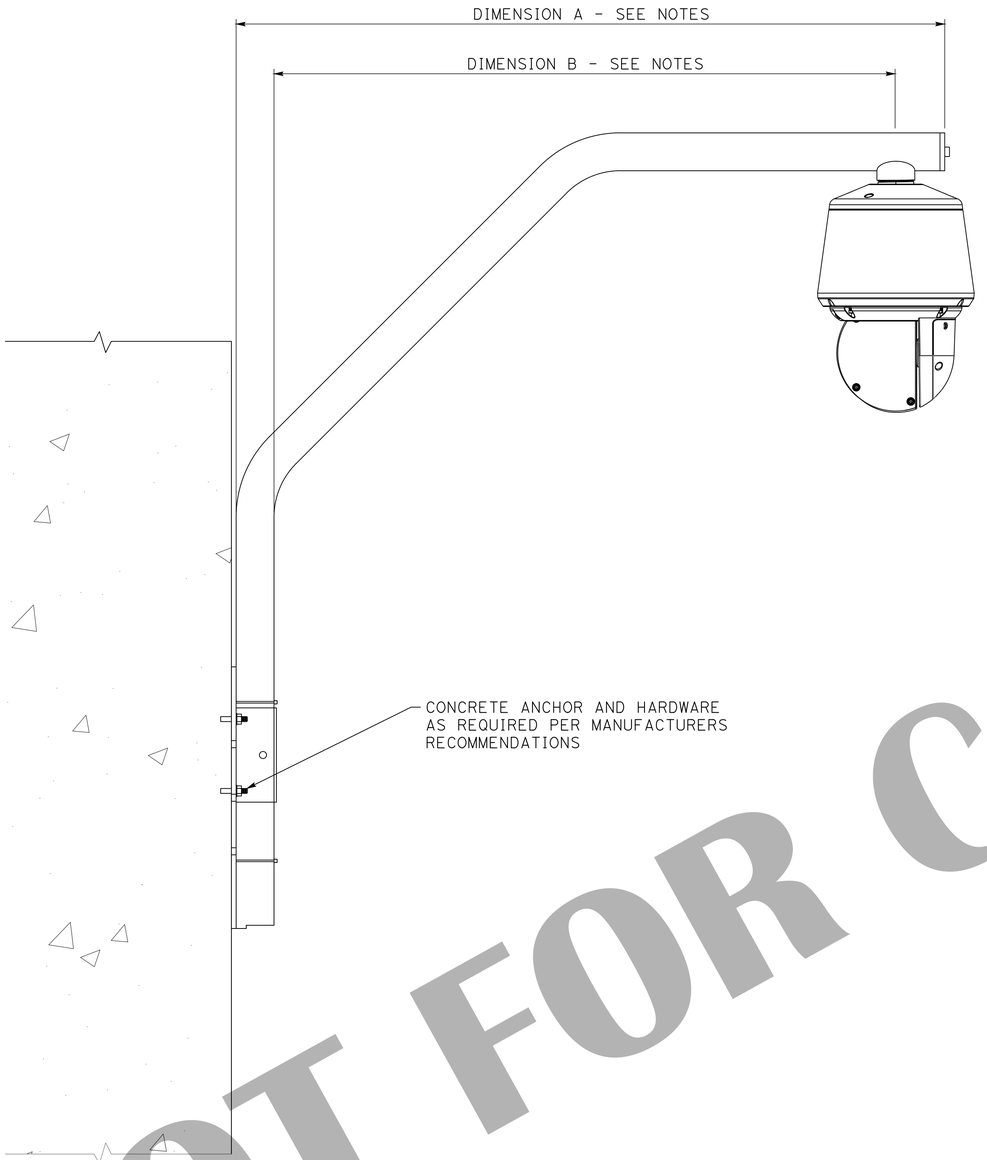
REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MISCELLANEOUS ELECTRICAL DETAILS - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-086
SHT NO.: 619 OF 648

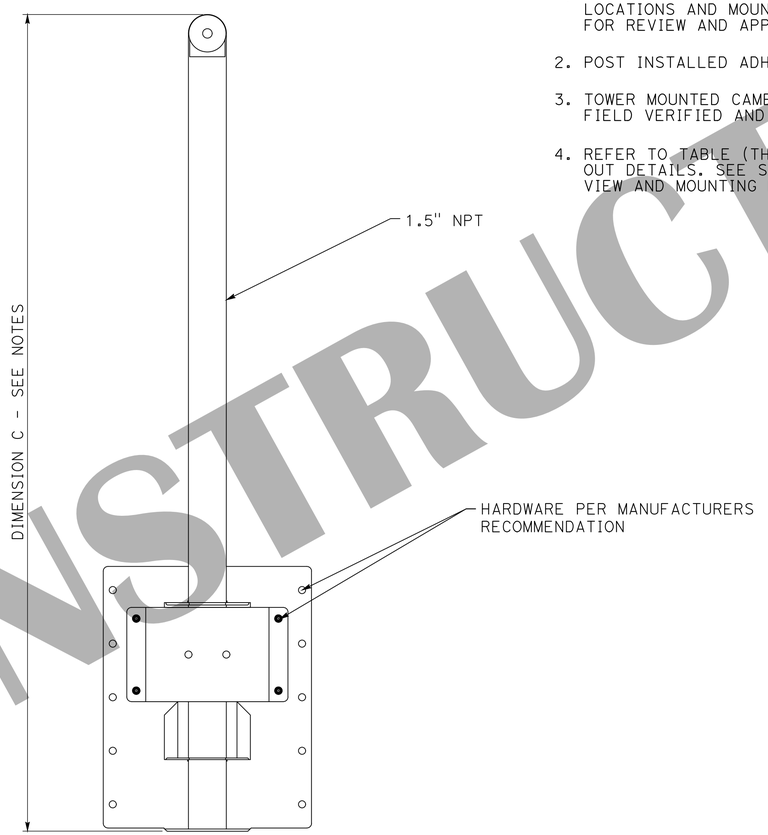
I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-086 MISCELLANEOUS ELECTRICAL DETAILS - 2.dwg LAST PLOTTED: 11/3/2025 2:11:35 PM



TYPICAL CAMERA MOUNTING BRACKET

(SCALE: 3" = 1')



TYPICAL MOUNTING BRACKET - SECTION

(SCALE: 3" = 1' CAMERA LENS NOT SHOWN FOR CLARITY)

NOTES:

1. THE CONTRACTOR SHALL SUBMIT PROPOSED INSTALLATION LOCATIONS AND MOUNTING DETAILS FOR EACH CAMERA FOR REVIEW AND APPROVAL.
2. POST INSTALLED ADHESIVE ANCOR RODS TO BE USED.
3. TOWER MOUNTED CAMERAS AND FIELDS OF VIEW SHALL BE FIELD VERIFIED AND APPROVED PRIOR TO INSTALLATION.
4. REFER TO TABLE (THIS SHEET) FOR DIMENSIONAL CALL OUT DETAILS. SEE SHEET E-012 FOR CAMERA FIELDS OF VIEW AND MOUNTING LOCATIONS.

DIMENSION NOTATIONS			
CAMERA NO.	A	B	C
1-20	25 1/2	20 7/16	35 1/16
21-24	37 11/16	33	42
NOTE: ALL VALUES IN INCHES.			

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKY
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

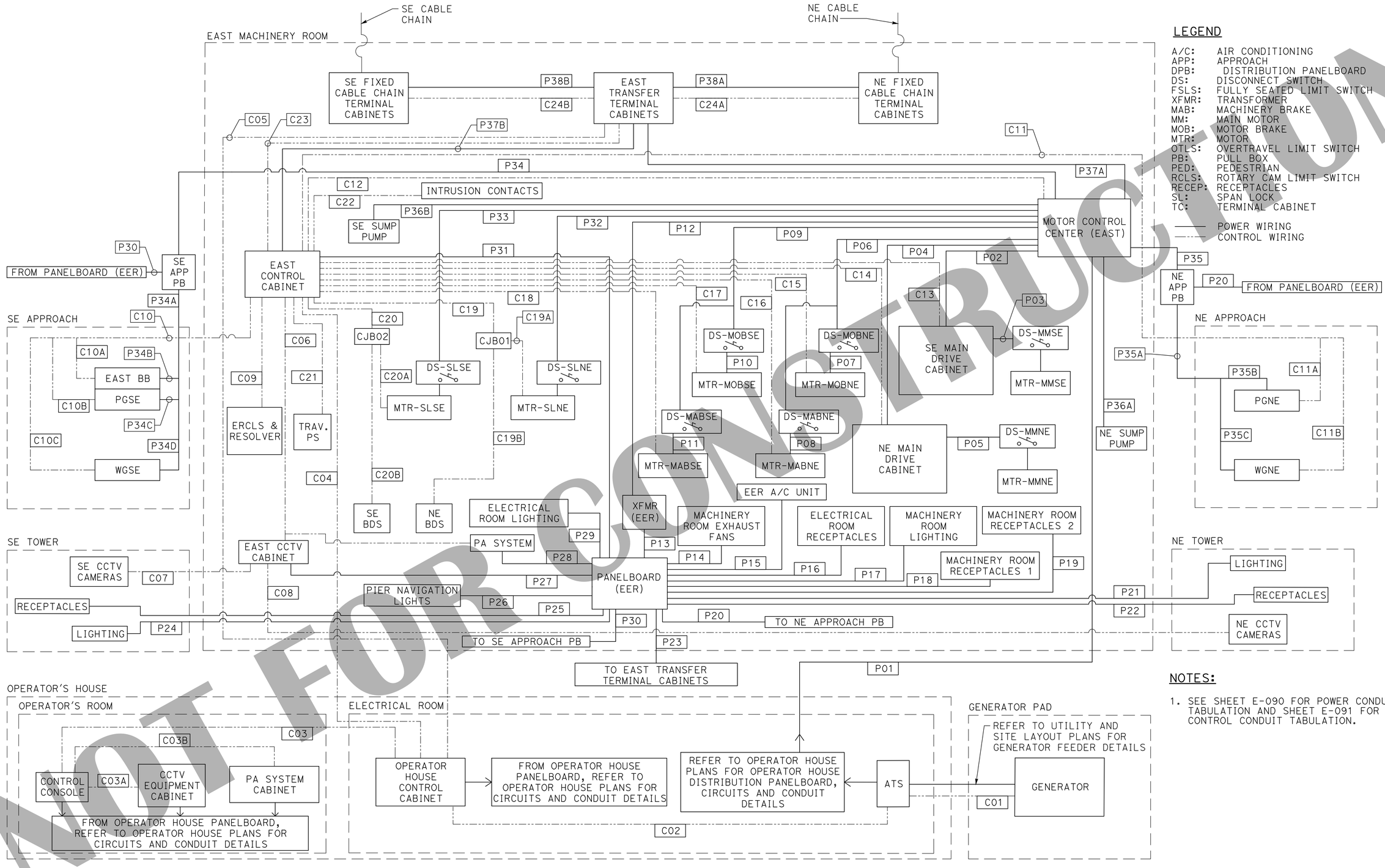
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
MISCELLANEOUS ELECTRICAL DETAILS - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-087
SHT NO.: 620 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-091 MISCELLANEOUS ELECTRICAL DETAILS - 3.dwg LAST PLOTTED: 11/3/2025 2:11:40 PM



LEGEND

A/C:	AIR CONDITIONING
APP:	APPROACH
DPB:	DISTRIBUTION PANELBOARD
DS:	DISCONNECT SWITCH
FSLS:	FULLY SEATED LIMIT SWITCH
XFMR:	TRANSFORMER
MAB:	MACHINERY BRAKE
MM:	MAIN MOTOR
MOB:	MOTOR BRAKE
MTR:	MOTOR
OTLS:	OVERTRAVEL LIMIT SWITCH
PB:	PULL BOX
PED:	PEDESTRIAN
RCLS:	ROTARY CAM LIMIT SWITCH
RECEP:	RECEPTACLES
SL:	SPAN LOCK
TC:	TERMINAL CABINET

——— POWER WIRING
– – – CONTROL WIRING

NOTES:

1. SEE SHEET E-090 FOR POWER CONDUIT TABULATION AND SHEET E-091 FOR CONTROL CONDUIT TABULATION.

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREWOSW
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

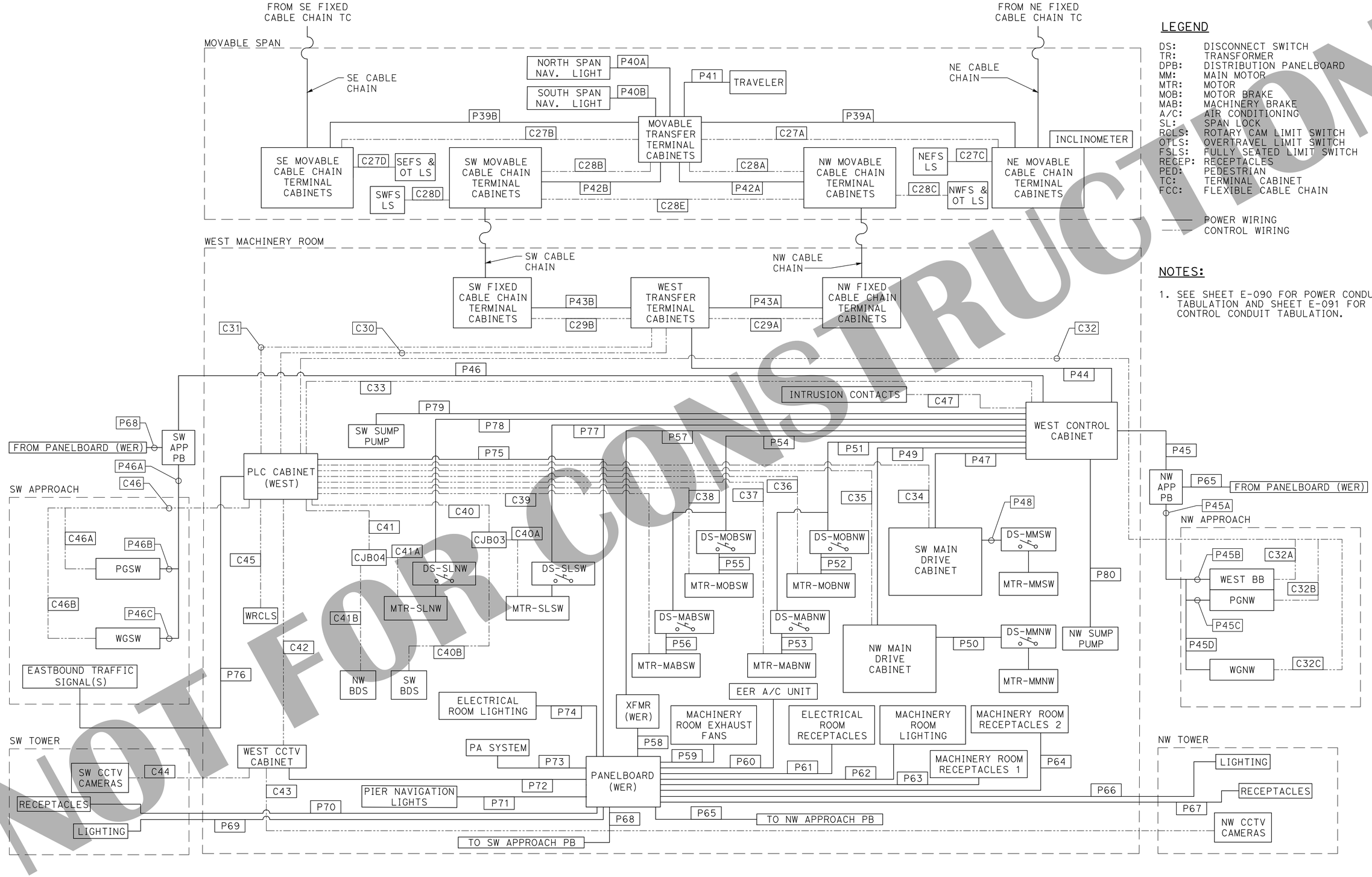
I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONDUIT LAYOUT - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-088
SHT NO.: 621 OF 648

p:\3326.01\CADD\Electrical\E-088 CONDUIT LAYOUT - 1.dwg LAST PLOTTED: 11/3/2025 2:11:45 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER



LEGEND

DS:	DISCONNECT SWITCH
TR:	TRANSFORMER
DPB:	DISTRIBUTION PANELBOARD
MM:	MAIN MOTOR
MTR:	MOTOR
MOB:	MOTOR BRAKE
MAB:	MACHINERY BRAKE
A/C:	AIR CONDITIONING
SL:	SPAN LOCK
RCLS:	ROTARY CAM LIMIT SWITCH
OTLS:	OVERTRAVEL LIMIT SWITCH
FSLS:	FULLY SEATED LIMIT SWITCH
RECEP:	RECEPTACLES
PED:	PEDESTRIAN
TC:	TERMINAL CABINET
FCC:	FLEXIBLE CABLE CHAIN

——— POWER WIRING
– – – CONTROL WIRING

NOTES:

1. SEE SHEET E-090 FOR POWER CONDUIT TABULATION AND SHEET E-091 FOR CONTROL CONDUIT TABULATION.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-089 CONDUIT LAYOUT - 2.dwg LAST PLOTTED: 11/3/2025 2:11:49 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMOSKY No. 21568 Exp. 09-30-26 CIVIL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONDUIT LAYOUT - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-089
SHT NO.: 622 OF 648

POWER CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
P01	4	OH-DPB	EMCC	480P	6	500 KCM
				GND	1	3/0 AWG
P02	1 1/2	EMCC	SE MAIN DRIVE CABINET	480P	3	1/0 AWG
				GND	1	3 AWG
P03	1 1/2	SE MAIN DRIVE CABINET	SE MAIN MOTOR	480P	1	2/0 VFD
P04	1 1/2	EMCC	NE MAIN DRIVE CABINET	480P	3	1/0 AWG
				GND	1	3 AWG
P05	1 1/2	NE MAIN DRIVE CABINET	NE MAIN MOTOR	480P	1	2/0 VFD
P06	3/4	EMCC	NE MOTOR & MACHINERY BRAKE DISC. SWITCHES	480P	6	10 AWG
				GND	1	10 AWG
P07	3/4	NE MOTOR BRAKE DISC. SWITCH	NE MOTOR BRAKE	480P	3	10 AWG
				GND	1	10 AWG
P08	3/4	NE MACHINERY BRAKE DISC. SWITCH	NE MACHINERY BRAKE	480P	3	10 AWG
				GND	1	10 AWG
P09	3/4	EMCC	SE MOTOR & MACHINERY BRAKE DISC. SWITCHES	480P	6	10 AWG
				GND	1	10 AWG
P10	3/4	SE MOTOR BRAKE DISC. SWITCH	SE MOTOR BRAKE	480P	3	10 AWG
				GND	1	10 AWG
P11	3/4	SE MACHINERY BRAKE DISC. SWITCH	SE MACHINERY BRAKE	480P	3	10 AWG
				GND	1	10 AWG
P12	1 1/2	EMCC	TRANSFORMER-EER	480P	3	2 AWG
				GND	1	8 AWG
P13	1 1/2	TRANSFORMER-EER	PANELBOARD-EER	208P	4	1 AWG
				GND	1	6 AWG
P14	3/4	PANELBOARD-EER	EXHAUST FANS	208P	4	10 AWG
				GND	1	10 AWG
P15	3/4	PANELBOARD-EER	A/C UNIT-EER	208P	2	8 AWG
				GND	1	10 AWG
P16	3/4	PANELBOARD-EER	ELECTRICAL ROOM RECEPTACLES	120P	2	10 AWG
				GND	1	10 AWG
P17	3/4	PANELBOARD-EER	MACHINERY ROOM LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P18	3/4	PANELBOARD-EER	MACHINERY ROOM RECEPTACLES 1	120P	2	10 AWG
				GND	1	10 AWG
P19	3/4	PANELBOARD-EER	MACHINERY ROOM RECEPTACLES 2	120P	2	10 AWG
				GND	1	10 AWG
P20	3/4	PANELBOARD-EER	NE APPROACH PB	120P	2	10 AWG
				GND	1	10 AWG
P21	3/4	PANELBOARD-EER	NE TOWER LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P22	3/4	PANELBOARD-EER	NE TOWER RECEPTACLES	120P	2	10 AWG
				GND	1	10 AWG
P23	3/4	PANELBOARD-EER	EAST TRANSFER TC	120P	2	10 AWG
				GND	1	10 AWG
P24	3/4	PANELBOARD-EER	SE TOWER LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P25	3/4	PANELBOARD-EER	SE TOWER RECEPTACLES	120P	2	10 AWG
				GND	1	10 AWG
P26	3/4	PANELBOARD-EER	EAST PIER NAVIGATION LIGHTS	120P	2	10 AWG
				GND	1	10 AWG
P27	3/4	PANELBOARD-EER	EAST CCTV CABINET	120P	2	10 AWG
				GND	1	10 AWG
P28	3/4	PANELBOARD-EER	EAST PA SYSTEM	120P	2	10 AWG
				GND	1	10 AWG

POWER CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
P29	3/4	PANELBOARD-EER	ELECTRICAL ROOM LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P30	3/4	PANELBOARD-EER	SE APPROACH PB	120P	2	10 AWG
				GND	1	10 AWG
P31	3/4	PANELBOARD-EER	EAST CONTROL CABINET	120P	4	10 AWG
				GND	1	10 AWG
P32	3/4	EMCC	NE SPAN LOCK	480P	3	10 AWG
				GND	1	10 AWG
P33	3/4	EMCC	SE SPAN LOCK	480P	3	10 AWG
				GND	1	10 AWG
P34	1	EMCC	SE APPROACH PB	480P	9	10 AWG
				GND	1	10 AWG
P34A	1 1/2	SE APPROACH PB	P34B, P34C, & P34D	480P	9	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P34B	1	P34A	EAST BARRIER BOLLARDS	480P	3	10 AWG
				GND	1	10 AWG
P34C	1	P34A	SE PEDESTRIAN GATE	480P	3	10 AWG
				GND	1	10 AWG
P34D	1	P34A	SE WARNING GATE	480P	3	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P35	1	EMCC	NE APPROACH PB	480P	6	10 AWG
				GND	1	10 AWG
P35A	1 1/2	NE APPROACH PB	P35B & P35C	480P	9	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P35B	1	P35A	NE PEDESTRIAN GATE	480P	3	10 AWG
				GND	1	10 AWG
P35C	1	P35A	NE WARNING GATE	480P	3	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P36A	3/4	EMCC	NE SUMP PUMP	480P	3	10 AWG
				GND	1	10 AWG
P36B	3/4	EMCC	SE SUMP PUMP	480P	3	10 AWG
				GND	1	10 AWG
P37A	3	EMCC	EAST TRANSFER TC	480P	3	500 KCM
				480P	3	6 AWG
				GND	1	2/0 AWG
P37B	3/4	EAST CONTROL CABINET	EAST TRANSFER TC	120P	2	10 AWG
				GND	1	10 AWG
P38A P38B	3	EAST TRANSFER TC	NE/SE FIXED CABLE CHAIN TC	480P	3	500 KCM
				480P	3	6 AWG
				120P	2	10 AWG
				GND	1	2/0 AWG
P39A P39B	3	NE/SE MOVABLE CABLE CHAIN TC	MOVABLE TRANSFER TC	480P	3	500 KCM
				480P	3	6 AWG
				120P	2	10 AWG
				GND	1	2/0 AWG
P40A P40B	3/4	MOVABLE TRANSFER TERMINAL CABINET	SPAN NAVIGATION LIGHTS	120P	2	10 AWG
				GND	1	10 AWG
P41	1	MOVABLE TRANSFER TERMINAL CABINET	TRAVELER	480P	3	6 AWG
				GND	1	6 AWG
P42A P42B	3	MOVABLE TRANSFER TERMINAL CABINET	NW/SW MOVABLE CABLE CHAIN TC	480P	3	500 KCM
				GND	1	2/0 AWG

POWER CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
P43A P43B	3	NW/SW FIXED CABLE CHAIN TC	WEST TRANSFER TC	480P	3	500 KCM
				GND	1	2/0 AWG
P44	3	WEST TRANSFER TC	WMCC	480P	3	500 KCM
				GND	1	2/0 AWG
P45	1	WMCC	NW APPROACH PB	480P	9	10 AWG
				GND	1	10 AWG
P45A	1 1/2	NW APPROACH PB	P45B, P45C, & P45D	480P	9	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P45B	1	P45A	WEST BARRIER BOLLARDS	480P	3	10 AWG
				GND	1	10 AWG
P45C	1	P45A	NW PEDESTRIAN GATE	480P	3	10 AWG
				GND	1	10 AWG
P45D	1	P45A	NW WARNING GATE	480P	3	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P46	1	WMCC	SW APPROACH PB	480P	9	10 AWG
				GND	1	10 AWG
P46A	1 1/2	SW APPROACH PB	P46B & P46C	480P	6	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P46B	1	P46A	SW PEDESTRIAN GATE	480P	3	10 AWG
				GND	1	10 AWG
P46C	1	P46A	SW WARNING GATE	480P	3	10 AWG
				120P	2	10 AWG
				GND	1	10 AWG
P47	1 1/2	WMCC	SW MAIN DRIVE CABINET	480P	3	1/0 AWG
				GND	1	3 AWG
P48	1 1/2	SW MAIN DRIVE CABINET	SW MAIN MOTOR	480P	1	2/0 VFD
P49	1 1/2	WMCC	NW MAIN DRIVE CABINET	480P	3	1/0 AWG
				GND	1	3 AWG
P50	1 1/2	NW MAIN DRIVE CABINET	NW MAIN MOTOR	480P	1	2/0 VFD
P51	3/4	WMCC	NW MOTOR & MACHINERY BRAKE DISC. SWITCHES	480P	6	10 AWG
				GND	1	10 AWG
P52	3/4	NW MOTOR BRAKE DISC. SWITCH	NW MOTOR BRAKE	480P	3	10 AWG
				GND	1	10 AWG

NOTES:

1. SEE SHEET E-088 AND E-089 FOR CONDUIT LAYOUT.
2. ABBREVIATION LIST IS APPLICABLE TO REMAINDER OF POWER CONDUIT SCHEDULE ON NEXT DRAWING.

ABBREVIATION LIST

480P - 480VAC POWER
208P - 208VAC POWER
120P - 120VAC POWER
MCC- MOTOR CONTROL CENTER
EER - EAST ELECTRICAL ROOM
WER - WEST ELECTRICAL ROOM
PB - PULL BOX
TC - TERMINAL CABINET
VFD - VFD CABLE WITH INTEGRAL SYMMETRICAL GROUNDS
GND - GROUND

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREKOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONDUIT SCHEDULE - 1
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-090
SHT NO.: 623 OF 648

p:\3326.01\CADD\Electrical\E-090 CONDUIT SCHEDULE - 1.dwg LAST PLOTTED: 11/3/2025 2:11:54 PM

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

POWER CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
P53	3/4	NW MACHINERY BRAKE DISC. SWITCH	NW MACHINERY BRAKE	480P	3	10 AWG
				GND	1	10 AWG
P54	3/4	WMCC	SW MOTOR & MACHINERY BRAKE DISC. SWITCHES	480P	6	10 AWG
				GND	1	10 AWG
P55	3/4	SW MOTOR BRAKE DISC. SWITCH	SW MOTOR BRAKE	480P	3	10 AWG
				GND	1	10 AWG
P56	3/4	SW MACHINERY BRAKE DISC. SWITCH	SW MACHINERY BRAKE	480P	3	10 AWG
				GND	1	10 AWG
P57	1 1/2	WMCC	TRANSFORMER-WER	480P	3	2 AWG
				GND	1	8 AWG
P58	1 1/2	TRANSFORMER-WER	PANELBOARD-WER	208P	4	1 AWG
				GND	1	6 AWG
P59	3/4	PANELBOARD-WER	EXHAUST FANS	208P	4	10 AWG
				GND	1	10 AWG
P60	3/4	PANELBOARD-WER	A/C UNIT-WER	208P	2	8 AWG
				GND	1	10 AWG
P61	3/4	PANELBOARD-WER	ELECTRICAL ROOM RECEPTACLES	120P	2	10 AWG
				GND	1	10 AWG
P62	3/4	PANELBOARD-WER	MACHINERY ROOM LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P63	3/4	PANELBOARD-WER	MACHINERY ROOM RECEPTACLES 1	120P	2	10 AWG
				GND	1	10 AWG
P64	3/4	PANELBOARD-WER	MACHINERY ROOM RECEPTACLES 2	120P	2	10 AWG
				GND	1	10 AWG
P65	3/4	PANELBOARD-WER	NW APPROACH PB	120P	2	10 AWG
				GND	1	10 AWG
P66	3/4	PANELBOARD-WER	NW TOWER LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P67	3/4	PANELBOARD-WER	NW TOWER RECEPTACLES	120P	2	10 AWG
				GND	1	10 AWG
P68	3/4	PANELBOARD-WER	SW APPROACH PB	120P	2	10 AWG
				GND	1	10 AWG
P69	3/4	PANELBOARD-WER	SW TOWER LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P70	3/4	PANELBOARD-WER	SW TOWER RECEPTACLES	120P	2	10 AWG
				GND	1	10 AWG
P71	3/4	PANELBOARD-WER	WEST PIER NAVIGATION LIGHTS	120P	2	10 AWG
				GND	1	10 AWG
P72	3/4	PANELBOARD-WER	WEST CCTV CABINET	120P	2	10 AWG
				GND	1	10 AWG
P73	3/4	PANELBOARD-WER	WEST PA SYSTEM	120P	2	10 AWG
				GND	1	10 AWG
P74	3/4	PANELBOARD-WER	ELECTRICAL ROOM LIGHTING	120P	2	10 AWG
				GND	1	10 AWG
P75	3/4	PANELBOARD-WER	WEST CONTROL CABINET	120P	4	10 AWG
				GND	1	10 AWG
P76	3/4	WEST CONTROL CABINET	EASTBOUND TRAFFIC SIGNAL(S)	120P	4	10 AWG
				GND	1	10 AWG
P77	3/4	WMCC	SW SPAN LOCK	480P	3	10 AWG
				GND	1	10 AWG
P78	3/4	WMCC	NW SPAN LOCK	480P	3	10 AWG
				GND	1	10 AWG
P79	3/4	WMCC	SW SUMP PUMP	480P	3	10 AWG
				GND	1	10 AWG
P80	3/4	WMCC	NW SUMP PUMP	480P	3	10 AWG
				GND	1	10 AWG

CONTROL CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
C01	1	GENERATOR	ATS	120C	12	12 AWG
				RS485	1	18 TSP
				GND	1	12 AWG
C02	1	ATS	OPERATOR HOUSE CONTROL CABINET	120C	12	12 AWG
				RS485	1	18 TSP
				ETH	1	CAT6
				GND	1	12 AWG
C03	1	OPERATOR HOUSE CONTROL CABINET	CONTROL CONSOLE	120C	8	12 AWG
				RS485	1	18 TSP
				ETH	1	CAT6
				FIBER	4	2-FO
				GND	1	12 AWG
C03A	3/4	CONTROL CONSOLE	CCTV EQUIP. CABINET	FIBER	2	2-FO
				GND	1	12 AWG
C03B	3/4	CONTROL CONSOLE	PA SYSTEM CABINET	FIBER	2	2-FO
				GND	1	12 AWG
C04	1 1/2	OPERATOR HOUSE CONTROL CABINET	EAST CONTROL CABINET	120C	4	12 AWG
				GND	1	12 AWG
				FIBER	1	24 FO
C05	1 1/2	OH CONTROL CABINET	EAST TRANSFER TC	FIBER	1	24 FO
				GND	1	12 AWG
C06	1	EAST CONTROL CABINET	EAST CCTV/PA CABINET	FIBER	4	2-FO
				GND	1	12 AWG
C07	1 1/2	EAST CCTV CABINET	SE CCTV CAMERAS	POE	6	CAT6
				GND	1	12 AWG
C08	1 1/2	EAST CCTV CABINET	NE CCTV CAMERAS	POE	6	CAT6
				GND	1	12 AWG
C09	1 1/2	EAST CONTROL CABINET	EAST RCLS & RESOLVER	120C	8	12 AWG
				RES	2	RES
				GND	1	12 AWG
C10	1 1/2	EAST CONTROL CABINET	C10A AND C10B	120C	28	12 AWG
				GND	1	12 AWG
C10A	1	C10	EAST BARRIER BOLLARDS	120C	18	12 AWG
				GND	1	12 AWG
C10B	1	C10	SE PEDESTRIAN GATE	120C	5	12 AWG
				GND	1	12 AWG
C10C	1	C10	SE WARNING GATE	120C	5	12 AWG
				GND	1	12 AWG
C11	1 1/2	EAST CONTROL CABINET	C11A AND C11B	120C	10	12 AWG
				GND	1	12 AWG
C11A	1	C11	NE PEDESTRIAN GATE	120C	5	12 AWG
				GND	1	12 AWG
C11B	1	C11	NE WARNING GATE	120C	5	12 AWG
				GND	1	12 AWG
C12	2 1/2	EAST CONTROL CABINET	EAST MCC	120C	80	12 AWG
				GND	1	12 AWG
C13	1	EAST CONTROL CABINET	SE MAIN DRIVE CABINET	120C	10	12 AWG
				GND	1	12 AWG
				ETH	1	CAT6
C14	1	EAST CONTROL CABINET	NE MAIN DRIVE CABINET	120C	10	12 AWG
				GND	1	12 AWG
				ETH	1	CAT6

CONTROL CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
C15	3/4	EAST CONTROL CABINET	NE MOTOR BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C16	3/4	EAST CONTROL CABINET	NE MACHINERY BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C17	3/4	EAST CONTROL CABINET	SE MOTOR BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C18	3/4	EAST CONTROL CABINET	SE MACHINERY BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C19	1	EAST CONTROL CABINET	CJB01	120C	16	12 AWG
				GND	1	12 AWG
C19A	3/4	CJB01	NE SPAN LOCK	120C	8	12 AWG
				GND	1	12 AWG
C19B	3/4	CJB01	NE BOAT DETECTION SENSORS	120C	8	12 AWG
				GND	1	12 AWG
C20	1	EAST CONTROL CABINET	CJB02	120C	16	12 AWG
				GND	1	12 AWG
C20A	3/4	CJB02	SE SPAN LOCK	120C	8	12 AWG
				GND	1	12 AWG
C20B	3/4	CJB02	SE BOAT DETECTION SENSORS	120C	8	12 AWG
				GND	1	12 AWG
C21	3/4	EAST CONTROL CABINET	TRAVELER SEATED PROXIMITY SWITCH	120C	2	12 AWG
				GND	1	12 AWG
C22	3/4	EAST CONTROL CABINET	INTRUSION CONTACTS	120C	8	12 AWG
				GND	1	12 AWG

NOTES:

1. SEE SHEET E-088 AND E-089 FOR CONDUIT LAYOUT.
2. PROVIDE A MIN. OF 2 SPARES OR 20% OF THE CONDUCTOR COUNT, WHICHEVER IS GREATER, FOR ALL CONDUITS WITH 120C.
3. ABBREVIATION LIST IS APPLICABLE TO REMAINDER OF CONTROL CONDUIT SCHEDULE ON NEXT DRAWING.

ABBREVIATION LIST

120C - 120VAC CONTROL
24VDC - 24VDC CONTROL
2-FO - 2-FIBER PATCH CABLE
CAT6 - CATEGORY 6 ETHERNET CABLE
CJB - CONTROL JUNCTION BOX
ETH - ETHERNET
FO - FIBER OPTIC
GND - GROUND
RCLS - ROTARY CAM LIMIT SWITCH
RES - RESOLVER
TSP - TWISTED SHIELDED PAIR

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-091 CONDUIT SCHEDULE - 2.dwg LAST PLOTTED: 11/3/2025 2:11:58 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONDUIT SCHEDULE - 2
(Date: 11/03/2025)

PN: T15136000
DWG NO.: E-091
SHT NO.: 624 OF 648

CONTROL CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
C23	1 1/2	EAST CONTROL CABINET	EAST TRANSFER TC	120C	18	12 AWG
				INCLI	2	18 TSP
				GND	1	12 AWG
				FIBER	1	24 FO
C24A	1 1/2	EAST TRANSFER TC	NE FIXED CABLE CHAIN TC	120C	18	12 AWG
				INCLI	2	18 TSP
				GND	1	12 AWG
				FIBER	1	24 FO
C24B	1 1/2	EAST TRANSFER TC	SE FIXED CABLE CHAIN TC	120C	18	12 AWG
				INCLI	2	18 TSP
				GND	1	12 AWG
				FIBER	1	24 FO
FOR CABLE CHAIN DETAILS AND CONDUCTORS SEE SHEET E-085						
C25 TO C26 NOT USED						
C27A	1 1/2	NE MOVABLE CABLE CHAIN TC	MOVABLE TRANSFER TC & INCLINOMETER	120C	12	12 AWG
				INCLI	2	18 TSP
				GND	1	12 AWG
				FIBER	1	24 FO
C27B	1 1/2	SE MOVABLE CABLE CHAIN TC	MOVABLE TRANSFER TC & INCLINOMETER	120C	10	12 AWG
				INCLI	2	18 TSP
				GND	1	12 AWG
				FIBER	1	24 FO
C27C	3/4	NE MOVABLE CABLE CHAIN TC	NE FULLY SEATED LIMIT SWITCHES	120C	6	12 AWG
				GND	1	12 AWG
C27D	3/4	SE MOVABLE CABLE CHAIN TC	SE FULLY SEATED LIMIT SWITCHES AND OVERTRAVEL LIMIT SWITCH	120C	8	12 AWG
				GND	1	12 AWG
C28A	1	MOVABLE TRANSFER TC	NW MOVABLE CABLE CHAIN TC	120C	4	12 AWG
				GND	1	12 AWG
				FIBER	1	24 FO
C28B	1	MOVABLE TRANSFER TC	SW MOVABLE CABLE CHAIN TC	120C	4	12 AWG
				GND	1	12 AWG
				FIBER	1	24 FO
C28C	3/4	NW MOVABLE CABLE CHAIN TC	NW FULLY SEATED LIMIT SWITCHES & NW OVERTRAVEL LS	120C	8	12 AWG
				GND	1	12 AWG
C28D	3/4	SW MOVABLE CABLE CHAIN TC	SW FULLY SEATED LIMIT SWITCHES	120C	6	12 AWG
				GND	1	12 AWG
C28E	1	SW MOVABLE CABLE CHAIN TC	NW MOVABLE CABLE CHAIN TC	120C	14	12 AWG
				GND	1	12 AWG
C29A	1 1/2	NW FIXED CABLE CHAIN TC	WEST TRANSFER TC	120C	18	12 AWG
				GND	1	12 AWG
				FIBER	1	24 FO
C29B	1 1/2	SW FIXED CABLE CHAIN TC	WEST TRANSFER TC	120C	18	12 AWG
				GND	1	12 AWG
				FIBER	1	24 FO
C30	1 1/2	WEST TRANSFER TC	WEST CONTROL CABINET	120C	18	12 AWG
				GND	1	12 AWG
				FIBER	1	24 FO
C31	1	WEST TRANSFER TC	WEST CONTROL CABINET	FBER	1	24 FO
				GND	1	12 AWG
C32	1 1/2	WEST CONTROL CABINET	C32A, C32B, & C32C	120C	28	12 AWG
				GND	1	12 AWG
C32A	1	C32	WEST BARRIER BOLLARDS	120C	18	12 AWG
				GND	1	12 AWG

CONTROL CONDUIT SCHEDULE

CONDUIT NO.	SIZE (INCH)	FROM	TO	WIRE		
				USE	COUNT	SIZE
C32B	1	C32	NW PEDESTRIAN GATE	120C	5	12 AWG
				GND	1	12 AWG
C32C	1	C32	NW WARNING GATE	120C	5	12 AWG
				GND	1	12 AWG
C33	2 1/2	WEST CONTROL CABINET	WEST MCC	120C	80	12 AWG
				GND	1	12 AWG
C34	1	WEST CONTROL CABINET	SW MAIN DRIVE CABINET	120C	10	12 AWG
				GND	1	12 AWG
				ETH	1	CAT6
C35	1	WEST CONTROL CABINET	NW MAIN DRIVE CABINET	120C	10	12 AWG
				GND	1	12 AWG
				ETH	1	CAT6
C36	3/4	WEST CONTROL CABINET	NW MOTOR BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C37	3/4	WEST CONTROL CABINET	NW MACHINERY BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C38	3/4	WEST CONTROL CABINET	SW MOTOR BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C39	3/4	WEST CONTROL CABINET	SW MACHINERY BRAKE	120C	4	12 AWG
				GND	1	12 AWG
C40	1	WEST CONTROL CABINET	CJB03	120C	12	12 AWG
				GND	1	12 AWG
C40A	3/4	CJB03	SW SPAN LOCK	120C	8	12 AWG
				GND	1	12 AWG
C40B	3/4	CJB03	SW BOAT DETECTION SENSOR	120C	4	12 AWG
				GND	1	12 AWG
C41	1	WEST CONTROL CABINET	CJB04	120C	12	12 AWG
				GND	1	12 AWG
C41A	3/4	CJB04	NW SPAN LOCK	120C	8	12 AWG
				GND	1	12 AWG
C41B	3/4	CJB04	NW BOAT DETECTION SENSOR	120C	4	12 AWG
				GND	1	12 AWG
C42	1	WEST CONTROL CABINET	WEST CCTV/PA CABINET	FIBER	4	2-FO
C43	1 1/2	WEST CCTV CABINET	NW CCTV CAMERAS	POE	6	CAT6
				GND	1	12 AWG
C44	1 1/2	WEST CCTV CABINET	SW CCTV CAMERAS	POE	6	CAT6
				GND	1	12 AWG
C45	1	WEST CONTROL CABINET	WEST RCLS & RESOLVER	120C	8	12 AWG
				RES	2	RES
				GND	1	12 AWG
C46	1 1/2	WEST CONTROL CABINET	C46A & C46B	120C	10	12 AWG
				GND	2	12 AWG
C46A	1	C46	SW PEDESTRIAN GATE	120C	5	12 AWG
				GND	1	12 AWG
C46B	1	C46	SW WARNING GATE	120C	5	12 AWG
				GND	1	12 AWG
C47	3/4	WEST CONTROL CABINET	INTRUSION CONTACTS	120C	8	12 AWG
				GND	1	12 AWG

NOT FOR CONSTRUCTION

NOTES:

1. SEE SHEET E-088 AND E-089 FOR CONDUIT LAYOUT.
2. PROVIDE A MIN. OF 2 SPARES OR 20% OF THE CONDUCTOR COUNT, WHICHEVER IS GREATER, FOR ALL CONDUITS WITH 120C.

ABBREVIATION LIST

120C - 120VAC CONTROL
24VDC - 24VDC CONTROL
2-FO - 2-FIBER PATCH CABLE
CAT6 - CATEGORY 6 ETHERNET CABLE
CJB - CONTROL JUNCTION BOX
ETH - ETHERNET
FO - FIBER OPTIC
GND - GROUND
RCLS - ROTARY CAM LIMIT SWITCH
RES - RESOLVER
TSP - TWISTED SHIELDED PAIR

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREWOSKI No. 21568 Exp. 09-30-26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
CONDUIT SCHEDULE - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-092
SHT NO.: 625 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-092 CONDUIT SCHEDULE - 3.dwg LAST PLOTTED: 11/3/2025 2:12:02 PM

ELECTRICAL EQUIPMENT SCHEDULE - GROUP 100 EQUIPMENT

ITEM NO.	QTY.	NAME	MANUFACTURER	TYPE (MODEL)	RATING AND DESCRIPTION (SEE NOTE 1)
E101	1	AUTOMATIC TRANSFER SWITCH	ASCO / SCHNEIDER ELECTRIC	7000 SERIES	480 VOLTS, 3-PHASE, 4-WIRE, 600A, NEMA 12 STEEL ENCLOSURE.
E102	1	DIESEL ENGINE GENERATOR SET	CUMMINS; OR CAT	-	SEE SPECIFICATIONS SECTION "MOVABLE BRIDGE ELECTRICAL AND CONTROL SYSTEM" FOR REQUIREMENTS.
E103	NOT USED				
E104	2	MOTOR CONTROL CENTER	EATON	FREEDOM	NEMA 12 RATED ENCLOSURE, 480 VOLT, 3-PHASE, 3-WIRE, 60 HZ, WITH OTHER RATINGS AS SPECIFIED ELSEWHERE HEREIN, PROVIDE ALL ACCESSORIES NECESSARY TO SERVE THE EQUIPMENT AS SHOWN.
E104A	2	SURGE PROTECTIVE DEVICE	EATON	SPD SERIES	UL 1449 LISTED AND UL96A MASTER LABEL COMPLIANT, TYPE 2 SPD WITH MINIMUM 200KA SHORT CIRCUIT RATING AND MINIMUM SURGE CURRENT CAPABILITY OF 150KA.
E104B	1	POWER MONITOR	EATON	PXM3000 SERIES	480 VOLT, 3-PHASE, AC POWER MONITOR CAPABLE OF MEASURING VOLTAGE, CURRENT, AND POWER.
E105	2	TRANSFORMER	EATON	TOTALLY ENCLOSED NON-VENTILATED	480:208Y/120 VOLT, 3-PHASE, 60 HZ, COPPER WINDINGS, 220 DEGREE CELSIUS INSULATION SYSTEM, 115 DEGREE CELSIUS TEMPERATURE RISE, STEEL NEMA 12 RATED ENCLOSURE.
E106	2	PANELBOARD	EATON	POW-R-LINE 1A	208Y/120 VOLT, 3-PHASE, 4-WIRE, PANELBOARD WITH MAIN AND BRANCH CIRCUIT BREAKERS AS SHOWN ELSEWHERE IN THE PLANS, COPPER BUS, INTEGRATED SURGE PROTECTIVE DEVICE, STEEL NEMA 12 RATED ENCLOSURE, AND OTHER RATINGS AS SPECIFIED ELSEWHERE WITHIN THE CONTRACT DOCUMENTS.
E107	12	DISCONNECT SWITCH	EATON	DH341	480 VOLT, 20 HP, 30 A, 3-POLE, HEAVY DUTY, NON-FUSIBLE DISCONNECT, STAINLESS STEEL NEMA 4X RATED ENCLOSURE.
E108	4	DISCONNECT SWITCH	EATON	DH344	480 VOLT, 125 HP, 200 A, 3-POLE, HEAVY DUTY, NON-FUSIBLE DISCONNECT, STAINLESS STEEL NEMA 4X RATED ENCLOSURE.
E109	2	TERMINAL CABINET A	SAGINAW CONTROLS	SCE-48EL3612SS6LPPL	48"Hx36"Wx12"D, NEMA 4X, TYPE 316 STAINLESS STEEL, STAINLESS STEEL CONCEALED HINGES AND HARDWARE, 3 POINT LATCHING MECHANISM.
E110	3	TERMINAL CABINET B	SAGINAW CONTROLS	SCE-36EL2412SS6LPPL	36"Hx24"Wx12"D, NEMA 4X, TYPE 316 STAINLESS STEEL, STAINLESS STEEL CONCEALED HINGES AND HARDWARE, 3 POINT LATCHING MECHANISM.
E111	9	TERMINAL CABINET C	SAGINAW CONTROLS	SCE-36EL3012SS6LPPL	36"Hx30"Wx12"D, NEMA 4X, TYPE 316 STAINLESS STEEL, STAINLESS STEEL CONCEALED HINGES AND HARDWARE, 3 POINT LATCHING MECHANISM.
E112	8	TERMINAL CABINET D	SAGINAW CONTROLS	SCE-24EL2412SS6LPPL	24"Hx24"Wx12"D, NEMA 4X, TYPE 316 STAINLESS STEEL, STAINLESS STEEL CONCEALED HINGES AND HARDWARE, 3 POINT LATCHING MECHANISM.

ELECTRICAL EQUIPMENT SCHEDULE - GROUP 200 EQUIPMENT

ITEM NO.	QTY.	NAME	MANUFACTURER	TYPE (MODEL)	RATING AND DESCRIPTION (SEE NOTE 1)
E201	4	MAIN DRIVE MOTOR	BALDOR	SEVERE DUTY XEX SERIES	460 VOLT, 60 HZ, 3-PHASE, 100 HP, 1200 RPM SYNCHRONOUS SPEED, SEVERE DUTY MOTOR OF CAST IRON CONSTRUCTION, IP55 INGRESS PROTECTION, NEMA DESIGN B, INVERTER READY PER NEMA MG 1, PART 31.4.4.2, TEFC, CONTINUOUS DUTY, 1.15 SERVICE FACTOR, F INSULATION CLASS
E202	4	MAIN DRIVE	ALLEN BRADLEY	POWERFLEX 755 SERIES	FLUX VECTOR (CLOSED LOOP) TYPE VARIABLE FREQUENCY DRIVE, 480 VOLT AC, 3-PHASE, 100 HP, HEAVY DUTY, IP54 NEMA/UL TYPE 12, COMPLETE WITH ALL FEATURES, OPTIONS, AND COMPONENTS AS SHOWN AND AS REQUIRED.
E203	4	BRAKING RESISTORS	POWEROHM	PER DRIVE MANUFACTURER RECOMMENDATION	BRAKING RESISTORS SHALL BE SIZED FOR A 100% DUTY CYCLE AT 150% BRAKING TORQUE.
E204	1	PLC SYSTEM	ALLEN BRADLEY	COMPACT LOGIX	PROVIDE PLC SYSTEM WITH REDUNDANT PROCESSORS AND ALL COMMUNICATION, INPUT, OUTPUT, AND SPECIALTY MODULES AND ACCESSORIES AS REQUIRED HEREIN AND AS SPECIFIED IN THE SPECIAL PROVISIONS.
E205	4	BCS ETHERNET SWITCH	CISCO	IE3300 RUGGED SERIES	MANAGED INDUSTRIAL GIGABIT ETHERNET SWITCH WITH TWO DUAL FIBER UPLINK PORTS (UNLESS OTHERWISE NOTED) AND COPPER PORTS AS REQUIRED PLUS MINIMUM OF ONE SPARE COPPER PORT. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
E206	3	HUMAN MACHINE INTERFACE (HMI)	ALLEN BRADLEY	PANELVIEW 800	HMI WITH 10 INCH COLOR SCREEN WITH 600x800 RESOLUTION AND LED BACKLIGHT WITH MINIMUM LIFESPAN OF 40,000 HOURS.
E207	1	LAPTOP COMPUTER	PANASONIC	TOUGHBOOK 55	RUGGED LAPTOP (MIL-STD-810H), 3' DROP, SHOCK, VIBRATION, DUST, SAND, ETC. PROOF, IP53, WINDOWS 11 OR SOFTWARE AS REQUIRED TO RUN DRIVE AND PLC PROGRAMS, SSD 512GB MEMORY, LI-ION BATTERIE(S), INTEL CORE I5 10-CORE PROCESSOR UP TO 4.7GHZ WITH TURBO BOOST.

NOTES:

1. RATINGS AND DESCRIPTIONS IN THE EQUIPMENT SCHEDULES ARE MEANT TO ONLY SHOW THE BASIC ELECTRICAL RATINGS AND EQUIPMENT REQUIREMENTS. EQUIPMENT SHALL ALSO CONFORM TO ALL OTHER CONTRACT REQUIREMENTS AS SPECIFIED ELSEWHERE HEREIN AND IN THE SPECIFICATIONS.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE	DESIGN BY: K. GABLE	CHECKED BY: R. PETERS
DATE: 11/03/2025	DATE: 11/03/2025	DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMKOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL EQUIPMENT SCHEDULE - 1
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-093
SHT NO.: 626 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-093 ELECTRICAL EQUIPMENT SCHEDULE - 1.dwg LAST PLOTTED: 11/3/2025 2:12:05 PM

ELECTRICAL EQUIPMENT SCHEDULE - GROUP 300 EQUIPMENT

ITEM NO.	QTY.	NAME	MANUFACTURER	TYPE (MODEL)	RATING AND DESCRIPTION (SEE NOTE 1)
E301	4	PIER NAVIGATION LIGHT	B&B ROADWAY	PL-VR	VANDAL RESISTANT PIER LIGHT, CAST ALUMINUM HOUSING, 120 VOLT, RED LED LAMP WITH RATED LAMP LIFE OF 100,000 HOURS.
E302	2	LIFT SPAN NAVIGATION LIGHT	B&B ROADWAY	VL	VERTICAL LIFT SPAN LIGHT, CAST ALUMINUM HOUSING, 120 VOLT, RED OVER GREEN LED LAMPS WITH RATED LAMP LIFE OF 100,000 HOURS.
E303	6	ELECTRICAL ROOM CEILING LIGHT	LITHONIA LIGHTING	CSVT LED VAPOR TIGHT	4' LED VAPOR TIGHT, 120VAC, 4000K COLOR, 5000K LUMENS, UL LISTED
E304	26	LARGE MACHINERY ROOM CEILING LIGHT	LITHONIA LIGHTING	CSVT LED VAPOR TIGHT	8' LED VAPOR TIGHT, 120VAC, 4000K COLOR, 10000 LUMENS, UL LISTED
E305	60	TOWER LANDING LIGHT	LITHONIA LIGHTING	WDGE2 LED	LED WALLPACK, 120VAC, 4000K COLOR, 6000 LUMENS, TYPE III DISTRIBUTION
E306	44	DUPLEX RECEPTACLE	HUBBELL	HBL5362WWR	WEATHER RESISTANT DUPLEX RECEPTACLE, UL LISTED, 125VAC, 20A RATING
E307	8	LIGHT SWITCH	LEVITON	CSB1-20	SINGLE POLE LIGHT SWITCH, UL LISTED, 20A RATING

NOT FOR CONSTRUCTION

NOTES:

1. RATINGS AND DESCRIPTIONS IN THE EQUIPMENT SCHEDULES ARE MEANT TO ONLY SHOW THE BASIC ELECTRICAL RATINGS AND EQUIPMENT REQUIREMENTS. EQUIPMENT SHALL ALSO CONFORM TO ALL OTHER CONTRACT REQUIREMENTS AS SPECIFIED ELSEWHERE HEREIN AND IN THE SPECIFICATIONS.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL EQUIPMENT SCHEDULE - 2
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-094
SHT NO.: 627 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

p:\3326.01\CADD\Electrical\E-094 ELECTRICAL EQUIPMENT SCHEDULE - 2.dwg LAST PLOTTED: 11/3/2025 2:12:09 PM

ELECTRICAL EQUIPMENT SCHEDULE - GROUP 400 EQUIPMENT

ITEM NO.	QTY.	NAME	MANUFACTURER	TYPE (MODEL)	RATING AND DESCRIPTION (SEE NOTE 1)
E401A	1	CCTV SYSTEM SERVER CABINET	TRIPPLITE BY EATON	SMARTRACK	SMARTRACK RACK ENCLOSURE FOR HARSH ENVIRONMENTS, IP54, BUILT IN FANS AND FILTER FOR MOVING AIR THROUGH ENCLOSURE, ADJUSTABLE RACK RAILS, MINIMUM ENCLOSURE SIZE OF 12U, MINIMUM DEPTH AS REQUIRED FOR HOUSED EQUIPMENT.
E401B	2	CCTV SYSTEM CABINET	SAGINAW CONTROL & ENGINEERING	SCE-30EL2412LPPL	NEMA TYPE 12 CARBON STEEL, 30"H x 24"W x 12"D, WALL MOUNT ENCLOSURE WITH CONTINUOUSLY WELDED SEAMS, KEY OR PAD LOCKING HANDLE, 3-POINT LATCHING MECHANISM, AND POUR IN PLACE OIL & WATER RESISTANT GASKET.
E402	1	NETWORK VIDEO RECORDER (NVR)	PELCO	VIDEOXPERT PROFESSIONAL POWER 3 SERVER	SCALABLE VIDEO MANAGEMENT SYSTEM WITH SUPPORT FOR LIVE AND PLAYBACK OF 4K VIDEO AND ABILITY TO RECORD AND STORE VIDEO FOOTAGE.
E403A	20	PTZ CAMERA	PELCO	SPECTRA ENHANCED 7 SERIES IR LOOK-UP PTZ	HIGH-SPEED PTZ DOME CAMERA WITH PELCO SUREVISION, 4K AT 20+ FRAMES PER SECOND, RATED IP67, NEMA 4X, IK10 FOR IMPACT, AND NEMA TS 2 PARAGRAPHS 2.2.7-2.2.9 FOR ENVIRONMENTAL, VIBRATION AND SHOCK.
E403B	2	THERMAL CAMERA	PELCO	SARIX THERMAL ENHANCED 4	THERMAL CAMERA WITH UNCOOLED VOX MICROBOLOMETER IMAGE SENSOR, RATED IP67, NEMA 4X, AND IK10 FOR IMPACT.
E403C	2	FIXED CAMERA	PELCO	SARIX ENHANCED 4 SERIES DOME	FIXED DOME CAMERA WITH PELCO SUREVISION, 4K AT 20+ FRAMES PER SECOND, RATED IP67, NEMA 4X, IK10 FOR IMPACT, AND NEMA TS 2 PARAGRAPHS 2.2.7-2.2.9 FOR ENVIRONMENTAL, VIBRATION AND SHOCK.
E404	3	WALL MOUNT MONITOR	PELCO	PMCL600K SERIES	4K ULTRA HIGH DEFINITION LED MONITOR, 49 INCH, 178 DEGREE ULTRA WIDE VIEWING ANGLE, VESA MOUNTING, HDMI AND DISPLAYPORT SIGNALS.
E405	1	IP CONTROLLER	GAI-TRONICS	013-02-0096-001	MULTICAST-COMPATIBLE IP CONTROLLER, POWERED OVER ETHERNET, SIP TELEPHONE INTERFACE
E406	1	DESKTOP INTERCOM	GAI-TRONICS	319-02-HZ00200	DESKTOP INTERCOM PANEL, TOUCHSCREEN, INTEGRATED SPEAKER, POWER OVER ETHERNET, SIP TELEPHONE INTERFACE
E407	4	HANDSET INTERCOM	GAI-TRONICS	915-141S100	VOIP INDOOR HANDSET STATION, UL CERTIFIED, ETHERNET CONNECTION
E408	4	SPEAKER AMPLIFIER	GAI-TRONICS	910-320S100	VOIP INDOOR SPEAKER AMPLIFIER STATION, UL CERTIFIED, MULTICAST COMPATIBLE, ETHERNET CONNECTION, 8 OHM SPEAKER OUTPUT
E409A	8	LARGER HORN SPEAKER	GAI-TRONICS	13302-002	WEATHER RESISTANT ALUMINUM SPEAKER HORN
E409B	8	HORN SPEAKER DRIVER UNIT	GAI-TRONICS	13314-001	8 OHM OUTDOOR COMPRESSION DRIVER, NEMA 4X
E409C	8	SPEAKER MOUNTING ASSEMBLY	GAI-TRONICS	411AEP	HORN SPEAKER MOUNTING ASSEMBLY

ELECTRICAL EQUIPMENT SCHEDULE - GROUP 400 EQUIPMENT

ITEM NO.	QTY.	NAME	MANUFACTURER	TYPE (MODEL)	RATING AND DESCRIPTION (SEE NOTE 1)
E410	2	SMALL HORN SPEAKER	GAI-TRONICS	HP15-8	WEATHER RESISTANT SPEAKER HORN, INTEGRATED 8 OHM COMPRESSION DRIVER
E411	3	CCTV SYSTEM / PA SYSTEM ETHERNET SWITCH	OMNITRON	RUGGEDNET G/MI	MANAGED INDUSTRIAL GIGABIT ETHERNET SWITCH WITH TWO DUAL FIBER UPLINK PORTS AND COPPER PORTS AS REQUIRED PLUS MINIMUM OF ONE SPARE COPPER PORT. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
E412	5	CCTV SYSTEM / PA SYSTEM POE SWITCH	OMNITRON	RUGGEDNET GPOE+/MI GHPOEBT/MI	MANAGED INDUSTRIAL GIGABIT ETHERNET SWITCH WITH TWO DUAL FIBER UPLINK PORTS (UNLESS OTHERWISE NOTED) AND COPPER POWER OVER ETHERNET (POE) PORTS AS REQUIRED PLUS MINIMUM OF ONE SPARE COPPER POE PORT. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
E413	4	BOAT DETECTION SENSOR A	SICK	LMS511	IP 65 RATING, 24 VDC INPUT, DIGITAL OUTPUT, 2-DIMENSIONAL BEAM, 120-DEGREE MINIMUM SCANNING APERTURE, 210' MINIMUM HORIZONTAL MEASURING RANGE.
E414	2	BOAT DETECTION SENSOR B	SICK	DT1000	IP 65 RATING, 24 VDC INPUT, DIGITAL OUTPUT, LASER SENSING, 350' MINIMUM MEASURING RANGE.
E415	6	BOAT DETECTION SENSOR POWER SUPPLIES	PHOENIX CONTACT	2903148	120 VAC INPUT, 24 VDC OUTPUT, MINIMUM 3 A OUTPUT CURRENT, PROTECTION AGAINST SURGE VOLTAGE ON OUTPUT.

ELECTRICAL EQUIPMENT SCHEDULE - GROUP 500 EQUIPMENT

ITEM NO.	QTY.	NAME	MANUFACTURER	TYPE (MODEL)	RATING AND DESCRIPTION (SEE NOTE 1)
E501A	8	SUMP PUMP	LIBERTY PUMPS	FL154M-2	460 VOLT, 60 HZ, 3-PHASE, 1.5 HP SUBMERSIBLE EFFLUENT PUMP, 2" NPT DISCHARGE, 25' QUICK DISCONNECT POWER CORD, 100 GALLONS PER MINUTE AT 40 FOOT HEAD.
E501B	4	SUMP PUMP CONTROLLER	LIBERTY PUMPS	AE SERIES	PROVIDE DUAL PUMP CONTROLLER TO ALTERNATE OPERATION OF TWO PUMPS WITH AUTOMATIC OVERRIDE CONTROL. INCLUDE MAGNETIC MOTOR CONTACTORS, HOA SWITCHES, GREEN PUMP INDICATORS, CONTROL ON/OFF SWITCH, CONTROL/ALARM POWER ON INDICATOR, CIRCUIT BREAKERS, TERMINAL BLOCKS, VISUAL AND AUDIBLE ALARM, AUXILIARY CONTACTS, MAIN DISCONNECT, AND OTHER FEATURES AS REQUIRED WITHIN A NEMA 4X ENCLOSURE. PROVIDE FLOAT SWITCHES.
E502	2	ELECTRICAL ROOM AC UNIT	PIONEER	DIAMANTE ESSENSA WYT-17	208 VOLT, 60 HZ, SINGLE PHASE, HIGH EFFICIENCY (17 SEER2) MINI SPLIT AIR CONDITIONING UNIT, 3 TON (36000 BTU/HR) WITH COOLING, HEATING, DEHUMIDIFICATION, AND VENTILATION MODES OF OPERATION, AND DUCTLESS WALL MOUNT INSTALLATION.
E503	4	MACHINERY ROOM EXHAUST FAN	GREENHECK	AE-12-433-A4	1/4 HP AXIAL EXHAUST FAN, 1750 RPM, SINGLE-PHASE 120 VOLTS, 60 HZ, ALUMINUM HOUSING WITH BIRD SCREEN, MOTORS ISOLATED ON SHOCK MOUNTS, AND CORROSION RESISTANT FASTENERS.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-095 ELECTRICAL EQUIPMENT SCHEDULE - 3.dwg LAST PLOTTED: 11/3/2025 2:12:12 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----

SCALE: AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER
JOSEPH G. STREMOSKI
No. 21568
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA
Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL EQUIPMENT SCHEDULE - 3
(Date: 11/03/2025)

PN: T15136000

DWG NO.: E-095
SHT NO.: 628 OF 648

I STREET BRIDGE REPLACEMENT PROJECT: OVER THE SACRAMENTO RIVER

ELECTRICAL EQUIPMENT SCHEDULE - GROUP 600 EQUIPMENT (SEE NOTE 1)

ITEM NO.	QTY.	NAME	MANUFACTURER	TYPE (MODEL)	RATING AND DESCRIPTION (SEE NOTE 2)
E601	1	NORTH TRAVELER CONTROL CABINET	SAGINAW	SCE-30H2412SS6LP	316 SS ENCLOSURE, NEMA 3X, IP 66, 30"H x 24"W x 12"D, WITH SS INTERIOR PANEL AND CABINET GROUND STUDS, CONTINUOUS HINGE, POUR IN PLACE OIL AND WATER RESISTANCE DOOR GASKET, PAD LOCKABLE DOOR, BREATHER VENT AND DRAIN.
	2	VARIABLE FREQUENCY DRIVE	ALLEN-BRADLEY	POWERFLEX	SENSORLESS VECTOR (OPEN LOOP) VARIABLE FREQUENCY DRIVE, THREE-PHASE 480 VOLTS AC INPUT, THREE-PHASE 480 VOLTS AC OUTPUT, 3 HP, HEAVY DUTY, RATED FOR MULTIPLE MOTOR OUTPUT, IP66 NEMA/UL TYPE 4X, -20°C TO 40° OPERATING RANGE, DISCRETE INPUTS FOR DRIVE FORWARD, REVERSE, SPEED SET POINT 1, AND SPEED SETPOINT 2. DISCRETE OUTPUTS FOR READY FOR OPERATION, ADDITIONAL ANALOG AND DISCRETE OUTPUTS/INPUTS AS REQUIRED, COMPLETE WITH ALL FEATURES, OPTIONS, AND COMPONENTS AS SHOWN AND AS REQUIRED.
	2	BRAKING RESISTORS			BRAKING RESISTORS PROVIDED BY DRIVE MANUFACTURER, SIZED FOR A 100% DUTY CYCLE AT 150% BRAKING TORQUE, RATED FOR OUTDOOR INSTALLATION BELOW THE TRAVELER CONTROL CABINET
	4	LINE REACTORS			DRIVE INPUT LINE REACTORS, PROVIDED AND SIZED BY THE DRIVE MANUFACTURER.
	4	MOTOR CIRCUIT PROTECTORS	ALLEN-BRADLEY	140MT	MOTOR CIRCUIT PROTECTOR, FOR USE WITH EACH MOTOR AS A DISCONNECT AND PROVIDE THERMAL OVERLOAD PROTECTION IN ACCORDANCE WITH THE NEC, RATED FOR VFD OUTPUT IN MULT-MOTOR APPLICATIONS, PROVIDE ADJUSTABLE THERMAL TRIP SETTINGS WITH MAINTAINED TRIPPING MECHANISM, MIN. 1 NC CONTACT TO OPEN DURING OVERLOAD CONDITION. DIN RAIL MOUNTABLE
	2	CIRCUIT BREAKERS VFD	SQUARE D	POWERPACT B	THERMAL MAGNETIC MOLDED CASE CIRCUIT BREAKER, 15A TRIP RATING, 2-POLE, 25kA SCCR AT 240VAC, DIN RAIL MOUNTABLE, 240VAC, 60HZ.
	2	CIRCUIT BREAKERS MOTOR BRAKES			
	1	POWER SUPPLY CIRCUIT BREAKER	ALLEN-BRADLEY	FAZ-NA	THERMAL MAGNETIC MOLDED CASE MINIATURE CIRCUIT BREAKER, 2-POLE, TRIP RATING AS REQUIRED TO SERVE POWER SUPPLY, 240VAC, SCREW TERMINALS, DIN RAIL MOUNTABLE.
	1	TRAVELER POWER SUPPLY	ALLEN-BRADLEY	1606-XLE	SINGLE PHASE POWER SUPPLY, WATT RATING AS REQUIRED TO SERVE DEVICES SHOWN IN THE PLANS, 240VAC SINGLE PHASE INPUT, 24VDC OUTPUT, SCREW TERMINALS, OVERLOAD PROTECTION, DIN RAIL MOUNTABLE.
	10	CONTROL RELAYS	ALLEN-BRADLEY	700-HF	GENERAL-PURPOSE PLUG-IN STYLE RELAY, 24VDC COIL RATING, 4 NO AND 4 NC FORM C CONTACTS RATED AT 10A, PUSH-TO-TEST OVERIDE OPERATOR AND LED INDICATOR, WITH DIN RAIL MOUNTABLE BASE.
	2	CONTROL RELAYS (CR-TCA, CR-TCM)	SQUARE D	8501X	NEMA CONTROL RELAY, 24VDC COIL, MIN 8 NO OPEN CONTACTS RATED AT 10A AC AND 5A DC. ADDITIONAL NO/NC CARTRIDGES ARE REQUIRED, DIN RAIL MOUNTABLE.
	AS REQ'D	POWER DISTRIBUTION TERMINAL BLOCKS	SQUARE D	9080LB	3-POLE POWER DISTRIBUTION BLOCK, 1 LINE TERMINAL AND 6 LOAD TERMINALS PER POLE, LINE TERMINALS: 14-2/0 AWG CU. LOAD TERMINALS: 14-4AWG CU. TIN PLATED ALUMINUM LUGS, 600V AC/DC RATED AT 100A MIN. PANEL MOUNT
	AS REQ'D	CONTROL TERMINAL BLOCKS	SQUARE D	908G	CONTROL NEMA TERMINAL BLOCKS, 30A TERMINAL RATING, 10-22AWG CU TERMINAL SIZE, DIN RAIL MOUNTABLE, WITH END STOPS AND BRIDGES AS REQUIRED.
	AS REQ'D	WIREWAYS	PANDUIT	-	PVC SLOTTED WIRING DUCT WITH COVER, PANEL MOUNT, SIZE AND LENGTH AS REQUIRED TO NEATLY ORGANIZE CONTROL AND POWER WIRING WITHIN THE CONTROL CABINET.
E602	1	CONDUCTOR BAR SYSTEM	CONDUCTIX WAMPFLER	SAFE-LEC 2	CONDUCTOR BAR SYSTEM, 3-POLE + GROUND, IP2 FINGER SAFE RAILS, OUTDOOR RATED, 100 AMP RATING PER POLE, STAINLESS STEEL HARDWARE WITH EXPANSION JOINTS, INCLUDE ALL SUPPORTS AND ACCESSORIES FOR TRANSFERRING POWER FROM THE MOVABLE SPAN TO THE TRAVELER.
E603	1	MAIN DISCONNECT CIRCUIT BREAKER ENCLOSURE	SQUARE D	POWEPACT B	MAIN CIRCUIT BREAKER ENCLOSURE WITH EXTERNAL DISCONNECT SWITCH, NEMA 4X, 306 SS ENCLOSURE, WITH 2P 30A RATED B-FRAME THERMAL MAGNETIC MOLDED CASE CIRCUIT BREAKER. ENCLOSURE HANDLE SHALL FEATURE ON-OFF-TRIP POSITIONS AND BE LOCKABLE,
	1	FLEXIBLE POWER CABLE	AWC	SOOW 4/4 (1.010" OD)	SOOW PORTABLE CORD, COMPRISED OF (4) 4 AWG COPPER CONDUCTORS, 119/25 CONDUCTOR STRANDING, CHLORINATED POLYETHYLENE (CPE) AND THERMOPLASTIC ELASTOMER (TPE) JACKET, ETHYLENE PROPYLENE DIENE MONOMER RUBBER (EPDm) INSULATION, SUNLIGHT AND OIL RESISTANT CABLE, UL LISTED, 600VAC RATED.
	1	STRAIN RELIEF GRIP	KELLEMS	AS REQUIRED	AS REQUIRED.
E604	1	CONTROL PANEL ENCLOSURE	-	-	CUSTOM CONTROL PANEL ENCLOSURE, NEMA 4X, 316 SS CONSTRUCTION, WITH SS HINGED LOCKABLE COVER FOR ACCESSING CONTROLS, WITH DIMENSIONS AND FEATURES SHOWN IN THE PLANS AND SPECIFICATIONS
	4	INDICATOR LIGHTS	ALLEN-BRADLEY	800H	30MM INDICATING PILOT LIGHTS, NEMA 4X RATED, NEMA A600 CONTACTS, WITH STAINLESS STEEL ENGRAVED NAMEPLATE.
	2	2-POSITION SELECTOR SWITCHES		800H-HR2A	2-POSITION MAINTAINED 30MM SELECTOR SWITCH, NEMA 4X RATED, NEMA A600 1NO AND 1NC CONTACT RATED AT 10A, 24VDC, STANDARD KNOB, WITH STAINLESS STEEL ENGRAVED NAMEPLATE.
	1	3-POSITION SELECTOR SWITCHES		800H-JR2A	3-POSITION MAINTAINED 30MM SELECTOR SWITCH, NEMA 4X RATED, NEMA A600 1NO AND 1NC CONTACT RATED AT 10A, 24VDC, STANDARD KNOB, WITH STAINLESS STEEL ENGRAVED NAMEPLATE.
	6	MOMENTARY PUSHBUTTONS		800H-AR2A	MOMENTARY BLACK FLUSH HEAD 30MM PUSHBUTTON, NEMA 4X RATED, NEMA A600 1NO AND 1NC CONTACT RATED AT 10A, 24VDC, STANDARD KNOB, WITH STAINLESS STEEL ENGRAVED NAMEPLATE.
	1	EMERGENCY STOP PUSHBUTTON		800H-TFRXA	MAINTAINED RED E-STOP 30MM PUSHBUTTON, STANDARD 45MM MUSHROOM HEAD,, NEMA 4X RATED, NEMA A600 1NO AND 1NC CONTACT RATED AT 10A, 24VDC, STANDARD KNOB, WITH STAINLESS STEEL ENGRAVED NAMEPLATE.
	1	SKEW ALARM BUZZER			PANEL-MOUNT COMBINED SOUNDER WITH LED BEACON

NOTES:

1. EQUIPMENT SHOWN ON THIS SHEET PERTAIN TO THE UNDER-BRIDGE INSPECTION TRAVELER, SHOWN ON SHEETS E-082 THROUGH E-084
2. RATINGS AND DESCRIPTIONS IN THE EQUIPMENT SCHEDULES ARE MEANT TO ONLY SHOW THE BASIC ELECTRICAL RATINGS AND EQUIPMENT REQUIREMENTS. EQUIPMENT SHALL ALSO CONFORM TO ALL OTHER CONTRACT REQUIREMENTS AS SPECIFIED ELSEWHERE HEREIN AND IN THE SPECIFICATIONS.

NOT FOR CONSTRUCTION

p:\3326.01\CADD\Electrical\E-096 ELECTRICAL EQUIPMENT SCHEDULE - 4.dwg LAST PLOTTED: 11/3/2025 2:12:17 PM

REVISIONS

NO.	DESCRIPTION	DATE	BY

MODJESKI and MASTERS
MODJESKI AND MASTERS, INC.
100 STERLING PARKWAY, SUITE 302
MECHANICSBURG, PA 17050

FIELD BOOK: ----
SCALE: AS SHOWN

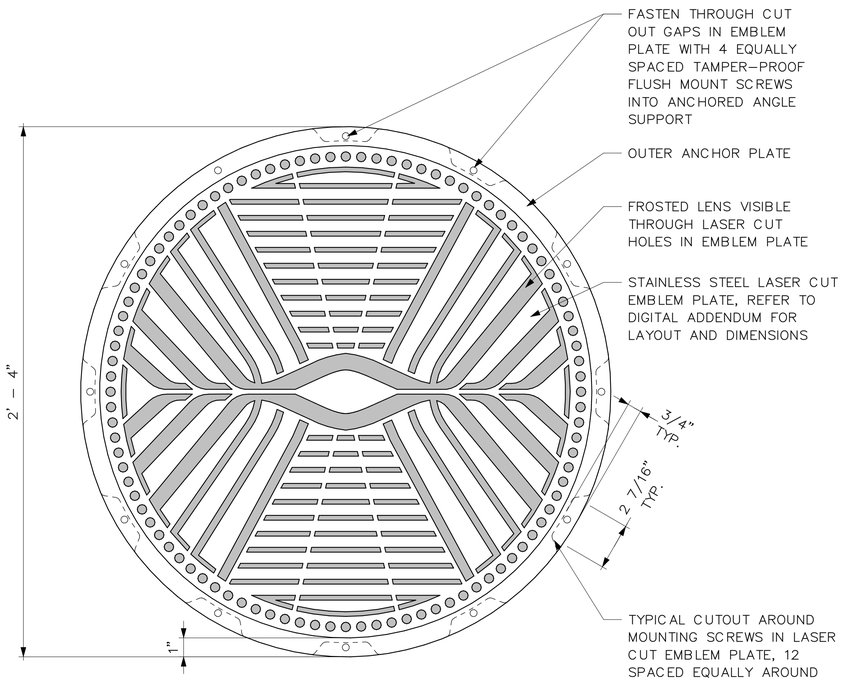
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. GABLE DATE: 11/03/2025
DESIGN BY: K. GABLE DATE: 11/03/2025
CHECKED BY: R. PETERS DATE: 11/03/2025

REGISTERED PROFESSIONAL ENGINEER JOSEPH G. STREMKOSKI No. 21568 Exp. 09.30.26 ELECTRICAL STATE OF CALIFORNIA Date: 11/03/2025

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
ELECTRICAL EQUIPMENT SCHEDULE - 4
(Date: 11/03/2025)

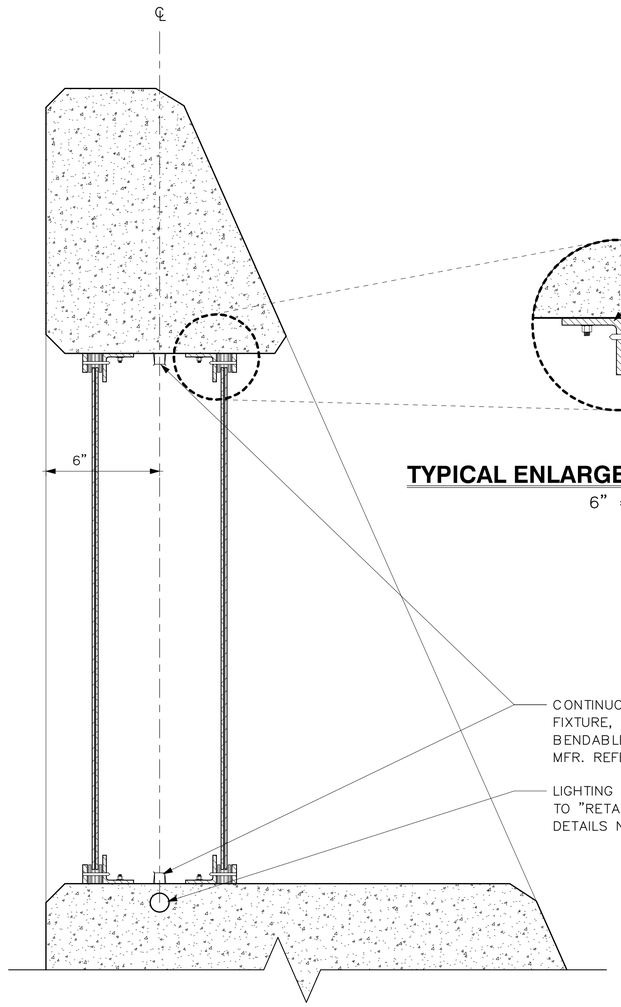
PN: T15136000
DWG NO.: E-096
SHT NO.: 629 OF 648

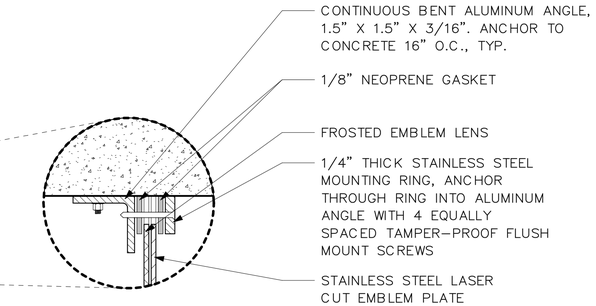


NOTE: FINAL LINEWORK SHOP DRAWINGS TO BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION

MONUMENT EMBLEM DETAIL

3" = 1'–0"





TYPICAL ENLARGED MOUNTING DETAIL

6" = 1'–0"

MONUMENT EMBLEM SECTION

3" = 1'–0"

LICENSED ARCHITECT
ALFRED NOEL SHAMBLE
C-39741
10/31/2027
RENEWAL DATE
STATE OF CALIFORNIA

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK ----

SCALE AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: M. SODERBERG DATE 11/03/2025
DESIGNED BY: N. SHAMBLE DATE 11/03/2025
CHECKED BY: N. SHAMBLE DATE 11/03/2025

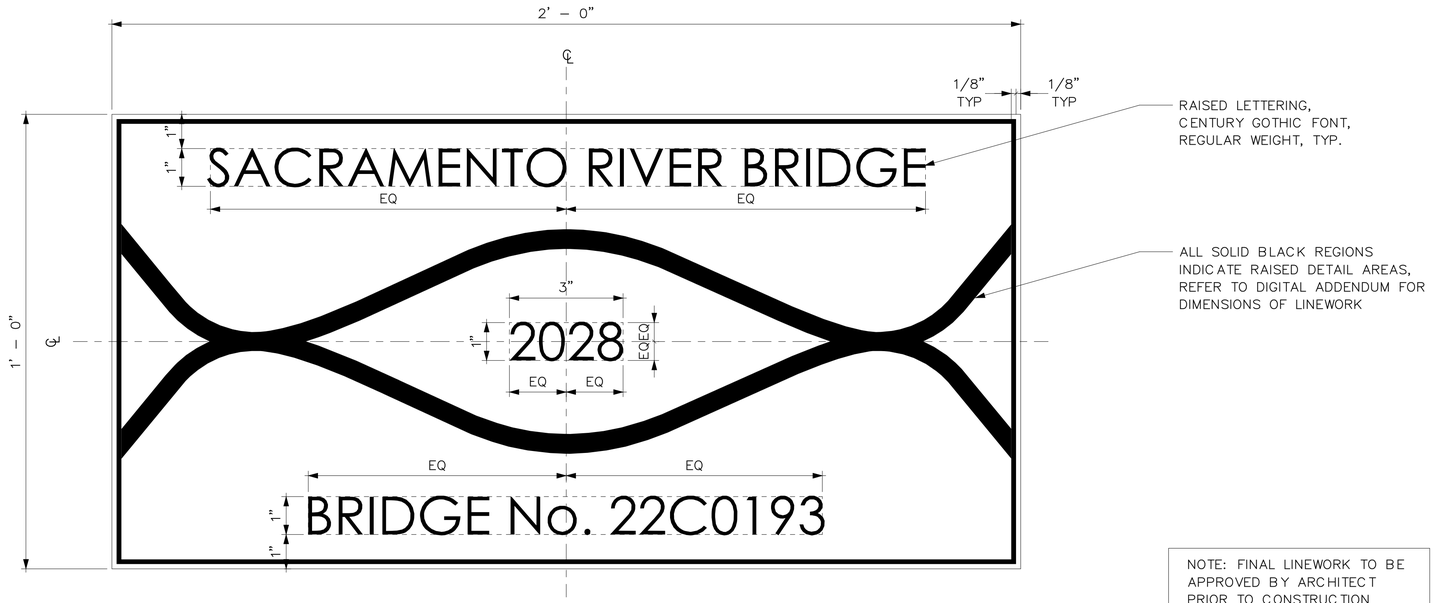
TYLin
UNDER THE SUPERVISION OF: ALFRED NOEL SHAMBLE
R.A. C–39741 EXP. 10/31/2027

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

MONUMENT EMBLEM DETAILS

T15136000

SHEET 630 — OF — 648



RAISED LETTERING, CENTURY GOTHIC FONT, REGULAR WEIGHT, TYP.

ALL SOLID BLACK REGIONS INDICATE RAISED DETAIL AREAS, REFER TO DIGITAL ADDENDUM FOR DIMENSIONS OF LINEWORK

NOTE: FINAL LINEWORK TO BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION

BRIDGE NUMBER PLAQUE DETAIL

6" = 1'–0"

LICENSED ARCHITECT
ALFRED NOEL SHAMBLE
C-39741
10/31/2027
RENEWAL DATE
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK ----

SCALE AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: M. SODERBERG DATE 09/11/25
DESIGNED BY: N. SHAMBLE DATE 09/11/25
CHECKED BY: N. SHAMBLE DATE 09/11/25

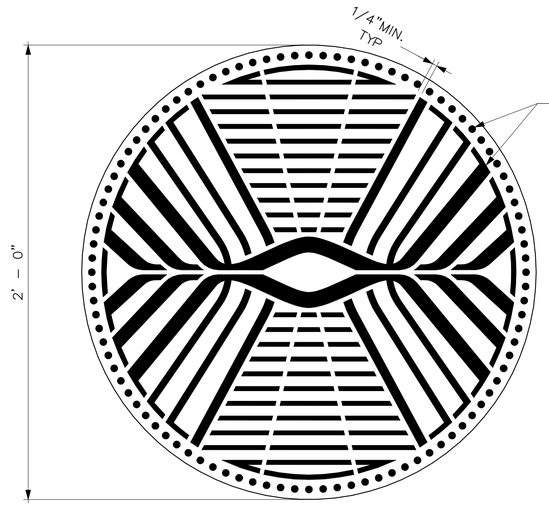
TYLin
A.N.Shamble
UNDER THE SUPERVISION OF: ALFRED NOEL SHAMBLE
R.A. C-39741 EXP. 10/31/2027

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

BRIDGE PLAQUE DETAILS

T15136000

SHEET 631 — OF — 648



ALL SOLID BLACK REGIONS INDICATE RAISED DETAIL AREAS, REFER TO DIGITAL ADDENDUM FOR DIMENSIONS OF LINEWORK

NOTE: FINAL LINEWORK SHOP DRAWINGS TO BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION

CUSTOM MANHOLE COVER DETAIL

3" = 1'–0"

LICENSED ARCHITECT
ALFRED NOEL SHAMBLE
C-39741
10/31/2027
RENEWAL DATE
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK ----

SCALE AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: M. SODERBERG DATE 09/11/25
DESIGNED BY: N. SHAMBLE DATE 09/11/25
CHECKED BY: N. SHAMBLE DATE 09/11/25

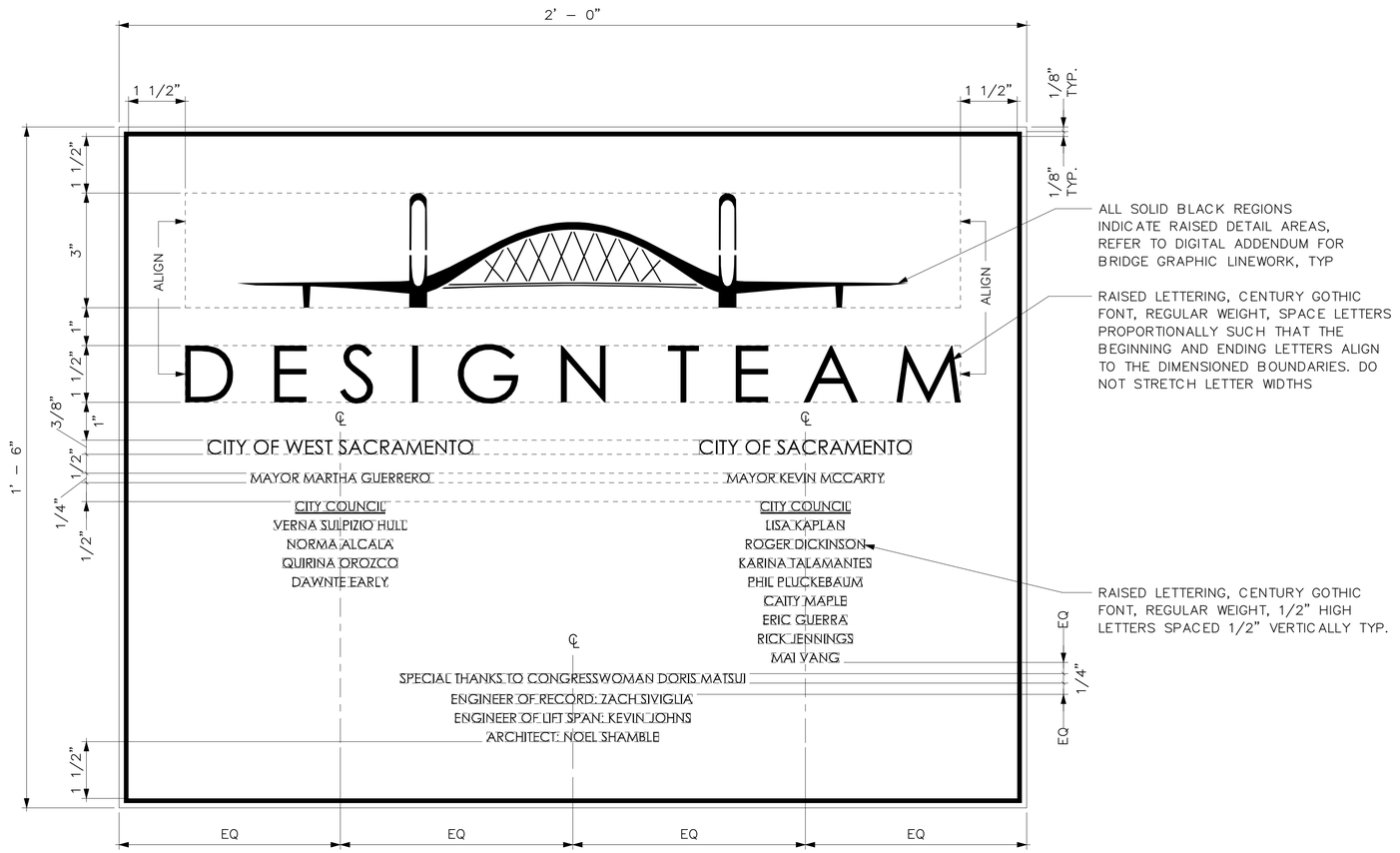
TYLin
UNDER THE SUPERVISION OF: ALFRED NOEL SHAMBLE
R.A. C–39741 EXP. 10/31/2027

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

CUSTOM MANHOLE COVER DETAILS

T15136000

SHEET 632 — OF — 648



NOTE: FINAL LINEWORK TO BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION

BRIDGE DESIGNERS PLAQUE DETAIL

6" = 1'–0"

LICENSED ARCHITECT
ALFRED NOEL SHAMBLE
C-39741
10/31/2027
RENEWAL DATE
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK ----

SCALE AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: M. SODERBERG DATE 09/11/25
DESIGNED BY: N. SHAMBLE DATE 09/11/25
CHECKED BY: N. SHAMBLE DATE 09/11/25

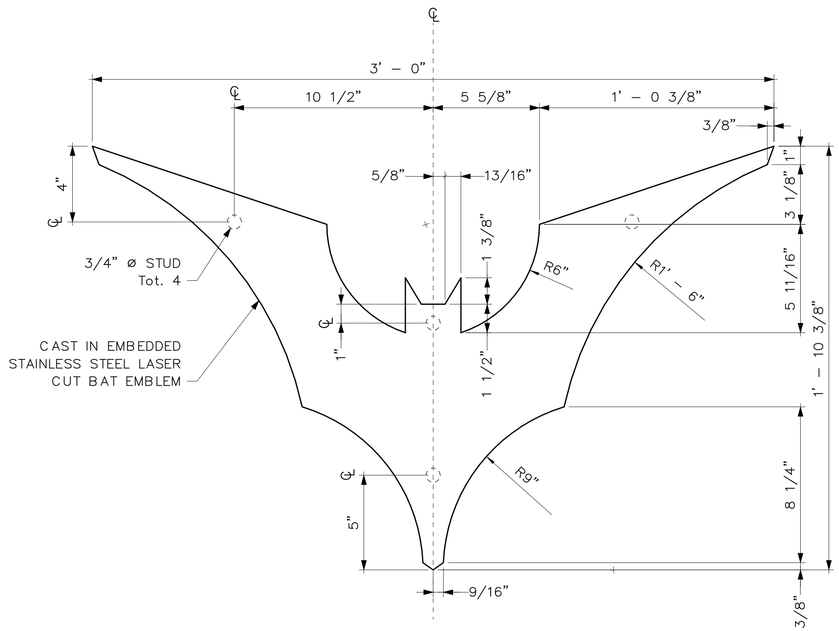
TYLin
UNDER THE SUPERVISION OF: ALFRED NOEL SHAMBLE
R.A. C-39741 EXP. 10/31/2027

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

DESIGN PLAQUE DETAILS

T15136000

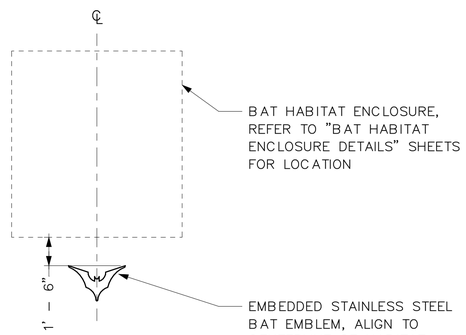
SHEET 633 OF 648



NOTE: ALL DIMENSIONS ARE SYMMETRIC ABOUT CENTERLINE

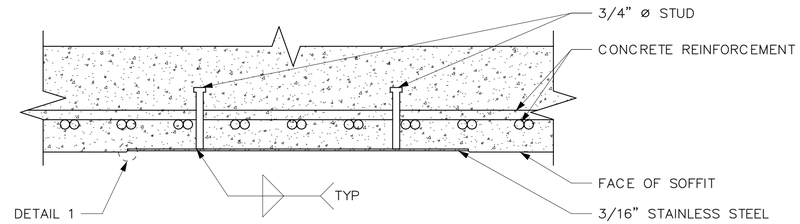
BAT EMBLEM DETAIL

6" = 1'–0"



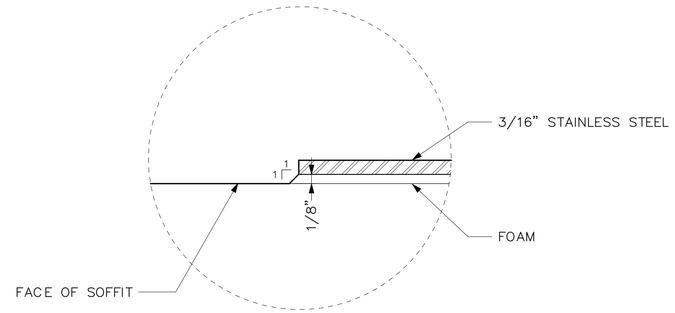
EMBLEM REFLECTED CEILING PLAN

1/4" = 1'–0"



SECTION A-A

1½" = 1'–0"



DETAIL 1

1" = 1'–0"

LICENSED ARCHITECT
ALFRED NOEL SHAMBLE
C-39741
10/31/2027
RENEWAL DATE
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. 37.81 FT
BENCHMARK# 297–B2E
DESCRIPTION: ELEVATIONS ARE BASED ON NAVD88. CITY OF SACRAMENTO BENCHMARK 297–B2E STAMPED "GAGING STATION" HAS A PUBLISHED NAVD88 ELEVATION OF 37.81 FEET AND A NGVD29 ELEVATION OF 35.78 FEET.

FIELD BOOK ----

SCALE AS SHOWN

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: M. SODERBERG DATE 09/11/25
DESIGNED BY: N. SHAMBLE DATE 09/11/25
CHECKED BY: N. SHAMBLE DATE 09/11/25

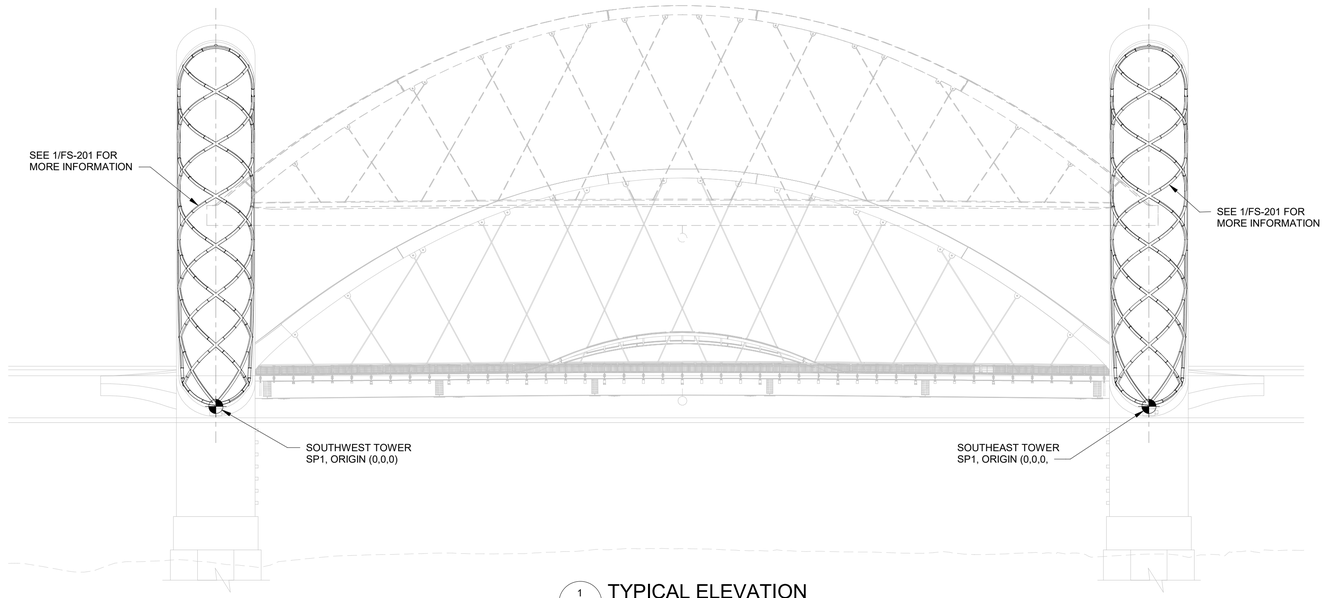
TYLin
A.N.Shamble
UNDER THE SUPERVISION OF: ALFRED NOEL SHAMBLE
R.A. C–39741 EXP. 10/31/2027

I STREET BRIDGE REPLACEMENT OVER SACRAMENTO RIVER

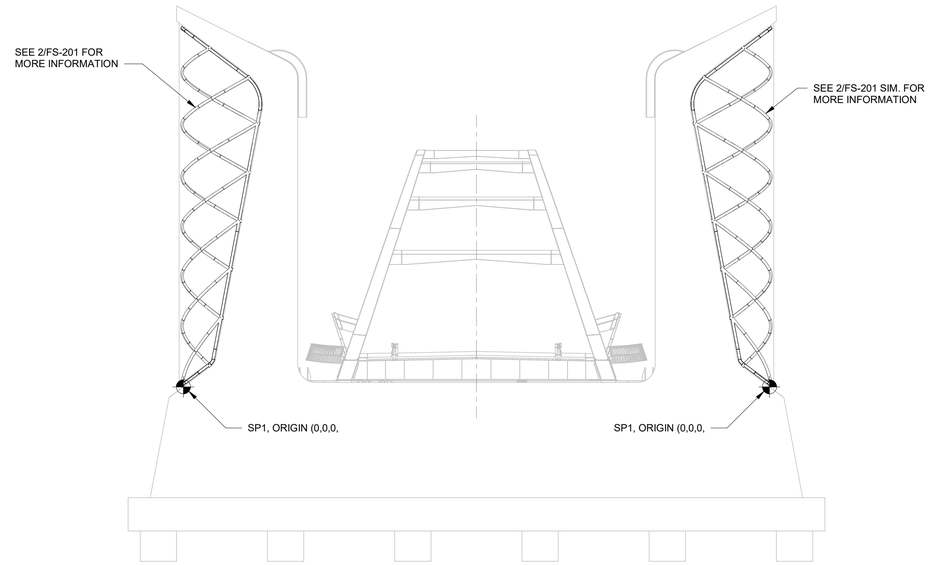
EMBEDDED BAT EMBLEM DETAILS

T15136000

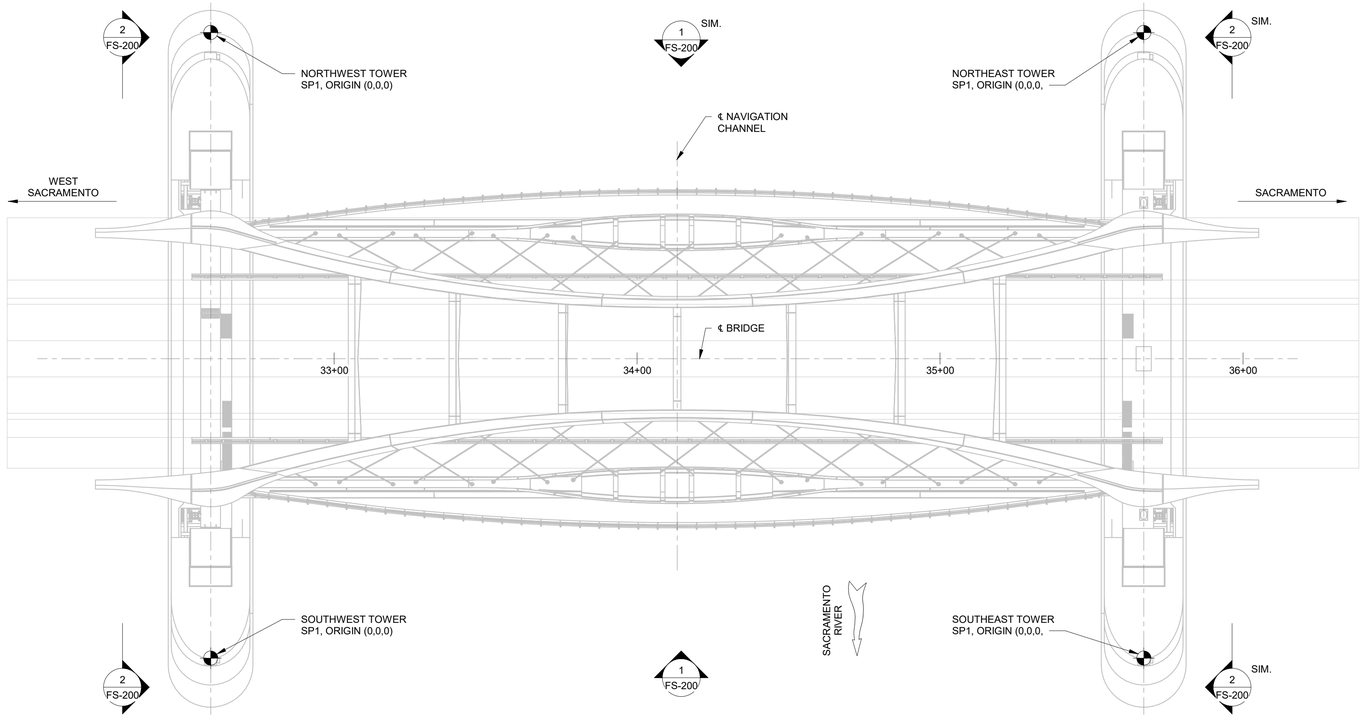
SHEET 634 — OF — 648



1 / FS-200 **TYPICAL ELEVATION**
1 : 300



2 / FS-200 **TYPICAL SECTION**
1 : 300



3 / FS-200 **TOWER LOCATION PLAN**
1 : 300

TOWER LOCATIONS:

SP1 (0,0,0) LOCATION:
(REFER TO DRAWING FS-201)

NORTHWEST TOWER
STATION: 32+59.255
OFFSET: 97.184' LEFT
ELEVATION: 33.90'

NORTHEAST TOWER
STATION: 35+67.244
OFFSET: 97.184' LEFT
ELEVATION: 33.90'

SOUTHWEST TOWER
STATION: 32+59.255
OFFSET: 97.184' RIGHT
ELEVATION: 33.90'

SOUTHEAST TOWER
STATION: 35+67.244
OFFSET: 97.184' RIGHT
ELEVATION: 33.90'

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
1 : 300

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE
DATE: 11/06/2024

DESIGN BY: E. SMITH
DATE: 11/06/2024

CHECKED BY: N. PRESCIUTTI
DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER

TOWER LOCATION PLAN, ELEVATION & SECTION

(Date:11/06/2024)

PN: [PROJ#]

DWG NO.: FS-200

SHT. NO.: 635 OF 648

11/7/2024 9:40:25 AM

I-STREET BRIDGE TOWERS FACADE

REACTION LOADS TO FOUNDATIONS

September 4, 2024

PREPARED BY T.Y. LIN INTERNATIONAL

LOAD CASES

LC 1. P Prestress and D.L.
LC 2. W Wind -y (30.00 psf)
LC 3. W Wind +y (30.00 psf)
LC 4. W Wind +x (30.00 psf)
LC 5. W Wind -x (30.00 psf)

Notes:

1. The 'Reaction Forces' tabulated below represent the loads exerted by the analyzed model onto its supports.
2. The forces tabulated are Unfactored Loads based on ASCE 7-16.
3. Forces act in the directions defined by a right hand cartesian coordinate system. X and Y are in the horizontal plane, Z is upward. (Positive Z force means that the foundation or support is subjected to uplift.)
4. The coordinates tabulated are for analysis modeling only. They do not represent final work point locations in the structure.

SP No	LC No	X-Force (kip)	Y-Force (kip)	Z-Force (kip)	X-Moment (kip-ft)	Y-Moment (kip-ft)	Z-Moment (kip-ft)
1	1	0	-1.457	-2.976	2.219	0	0
1	2	0	-0.563	0.406	0.194	0	0
1	3	0	0.087	0.485	-0.266	0	0
1	4	-0.01	-0.027	0.189	-0.064	0.015	-0.016
1	5	0.01	-0.355	-0.074	0.264	-0.018	0.019
2	1	-0.043	-1.318	-8.451	4.531	-0.028	-0.019
2	2	-0.696	-3.523	-1.808	3.096	-0.457	-0.302
2	3	1.255	5.281	8.115	-6.988	0.824	0.545
2	4	7.766	6.344	-23.513	6.054	5.099	3.374
2	5	-8.105	-6.172	25.957	-7.218	-5.314	-3.516
3	1	0.548	1.346	-0.286	0.003	0.076	0.409
3	2	0.137	-5.807	1.081	-0.004	0.019	0.102
3	3	-0.758	4.601	-0.86	0	-0.105	-0.566
3	4	2.929	5.851	-1.082	0.008	0.401	2.189
3	5	-3.115	-6.201	1.161	0	-0.436	-2.325
4	1	0.096	0.527	-0.133	0.003	0.013	0.072
4	2	1.236	-5.661	1.053	-0.003	0.171	0.923
4	3	-1.258	5.471	-1.023	0	-0.176	-0.94
4	4	1.311	2.12	-0.391	0.004	0.179	0.979
4	5	-1.367	-2.182	0.409	0.001	-0.192	-1.02
5	1	-0.014	0.667	-0.159	0.003	-0.002	-0.011
5	2	2.128	-5.876	1.092	-0.004	0.294	1.589
5	3	-2.111	5.518	-1.032	0	-0.295	-1.577
5	4	0.426	-0.482	0.09	0	0.058	0.319
5	5	-0.46	0.331	-0.063	-0.001	-0.065	-0.344
6	1	-0.091	0.647	-0.155	0.003	-0.013	-0.068
6	2	3.377	-5.365	0.998	-0.005	0.466	2.522
6	3	-3.404	4.615	-0.864	0.001	-0.474	-2.542
6	4	0.222	-4.418	0.816	-0.008	0.03	0.166
6	5	-0.26	4.309	-0.811	-0.002	-0.037	-0.194
7	1	-0.046	0.559	-0.139	0.003	-0.006	-0.034
7	2	3.737	-7.31	1.357	-0.003	0.517	2.792
7	3	-3.794	9.379	-1.749	-0.002	-0.53	-2.837
7	4	-0.203	-5.561	1.025	-0.007	-0.027	-0.151
7	5	0.184	5.493	-1.031	-0.005	0.026	0.136
8	1	-0.125	-2.023	-2.796	0.028	0.077	-0.057
8	2	2.262	-3.227	-4.391	0.045	-1.415	1.061
8	3	-2.12	1.981	2.702	-0.026	1.33	-0.989
8	4	-0.293	3.845	5.264	-0.045	0.187	-0.138
8	5	0.222	-3.747	-5.052	0.063	-0.141	0.106
9	1	-1.454	-0.707	-1.825	0.396	0.878	-0.667
9	2	1.564	-1.571	-1.145	-0.422	-0.947	0.72
9	3	-3.658	-0.139	-2.351	0.988	2.22	-1.673
9	4	3.915	5.364	9.426	-1.05	-2.382	1.796
9	5	-4.057	-5.345	-9.36	1.123	2.415	-1.87

SP No	LC No	X-Force (kip)	Y-Force (kip)	Z-Force (kip)	X-Moment (kip-ft)	Y-Moment (kip-ft)	Z-Moment (kip-ft)
10	1	-0.019	2.078	-3.483	2.853	0.01	-0.009
10	2	-0.042	-3.658	2.851	-3.522	0.026	-0.018
10	3	0.031	7.394	-6.751	7.573	-0.021	0.012
10	4	6.832	3.772	-3.439	3.861	-4.134	3.136
10	5	-8.416	-1.906	1.167	-1.689	5.092	-3.864
11	1	1.471	-0.704	-1.828	0.399	-0.889	0.676
11	2	-1.522	-1.557	-1.153	-0.41	0.921	-0.7
11	3	3.624	-0.152	-2.341	0.976	-2.199	1.657
11	4	7.695	-5.522	-11.758	2.09	-4.625	3.54
11	5	-5.473	3.767	8.219	-1.468	3.328	-2.505
12	1	0.124	-2.047	-2.733	0.002	-0.075	0.057
12	2	-2.255	-3.3	-4.341	0.004	1.363	-1.036
12	3	2.111	2.047	2.699	0	-1.28	0.965
12	4	1.851	-1.934	-2.537	0.005	-1.117	0.852
12	5	-2.026	0.617	0.803	-0.004	1.23	-0.924
13	1	0.046	0.58	-0.143	0.003	0.006	0.034
13	2	-3.743	-7.286	1.352	-0.003	-0.517	-2.795
13	3	3.8	9.367	-1.747	-0.002	0.53	2.839
13	4	3.57	15	-2.821	-0.017	0.505	2.667
13	5	-3.558	-12.691	2.333	-0.019	-0.483	-2.658
14	1	0.091	0.643	-0.155	0.003	0.013	0.068
14	2	-3.378	-5.364	0.998	-0.005	-0.466	-2.523
14	3	3.404	4.611	-0.863	0.001	0.474	2.542
14	4	3.593	9.039	-1.706	-0.007	0.508	2.682
14	5	-3.646	-9.628	1.774	-0.02	-0.494	-2.724
15	1	0.014	0.667	-0.159	0.003	0.002	0.011
15	2	-2.129	-5.873	1.091	-0.004	-0.294	-1.59
15	3	2.112	5.514	-1.031	0	0.295	1.578
15	4	2.522	6.02	-1.136	-0.007	0.357	1.882
15	5	-2.581	-6.209	1.143	-0.01	-0.35	-1.928
16	1	-0.098	0.526	-0.133	0.003	-0.014	-0.073
16	2	-1.238	-5.655	1.052	-0.003	-0.171	-0.924
16	3	1.26	5.465	-1.022	0	0.176	0.941
16	4	2.576	3.358	-0.634	-0.004	0.364	1.922
16	5	-2.572	-3.467	0.64	-0.005	-0.35	-1.921
17	1	-0.549	1.341	-0.285	0.003	-0.076	-0.41
17	2	-0.141	-5.807	1.081	-0.003	-0.019	-0.105
17	3	0.764	4.6	-0.86	0	0.106	0.57
17	4	3.707	-1.199	0.223	-0.001	0.521	2.767
17	5	-3.241	0.439	-0.079	0.002	-0.442	-2.422
18	1	0.047	-1.324	-8.487	4.511	0.031	0.02
18	2	0.699	-3.533	-1.849	3.105	0.457	0.301
18	3	-1.254	5.282	8.152	-6.958	-0.82	-0.539
18	4	6.516	-1.008	31.658	-12.943	4.257	2.799
18	5	-7.266	2.651	-27.424	10.066	-4.755	-3.126

NOTE:

1. THERE ARE FOUR FACADE STRUCTURES, ONE FOR EACH OF THE BRIDGE TOWERS. ONLY ONE IS SHOWN, HOWEVER ALL FOUR ARE PART OF THE BID.
2. PRIOR TO INSTALLATION OF THE STRUCTURES, THE SPECIALTY CONTRACTOR IS TO VERIFY ALL AS-BUILT GEOMETRY AND MAKE ANY ALTERATIONS NECESSARY TO ACCOMMODATE ANY VARIATIONS BETWEEN THE FOUR STRUCTURES AND THE DESIGN INTENT.
3. AT THE TIME OF BID THE SPECIALTY CONTRACTOR IS TO IDENTIFY ANY REQUIRED CHANGES TO THE INTERFACE DESIGN REQUIRED TO ACCOMMODATE FABRICATION TOLERANCES.
4. THIS DRAWING IS FOR STEEL LAYOUT. REFER TO DRAWING FS-505 FOR FABRIC LAYOUT.
5. DIABLO CONNECTION LOCATIONS SHOWN FOR DESIGN INTENT, FINAL LOCATIONS TO BE DETERMINED BY FABRICATOR.
6. BASED ON MEANS AND METHODS ALTERNATE STEEL SITE JOINT TYPES AND LOCATIONS CAN BE EXPLORED BY THE SPECIALTY FABRICATOR AND SUBMITTED FOR REVIEW BY THE DESIGN TEAM FOR APPROVAL.

LEGEND:

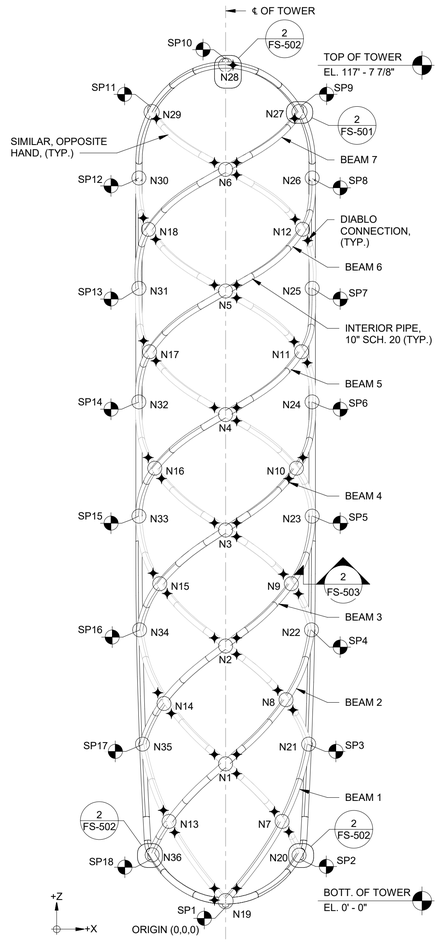
SPxx = SPOT COORDINATE LOCATION
Nxx = NODE LOCATION
= DIABLO CONNECTION LOCATION

SP COORDINATES

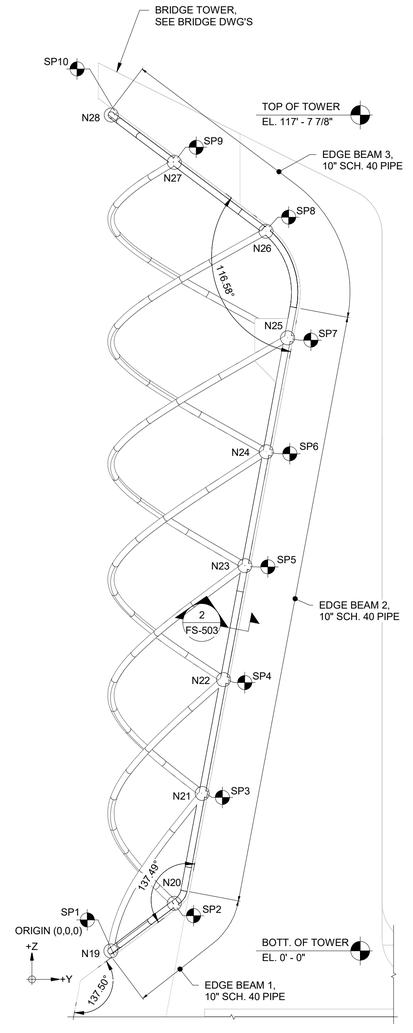
SP	X	Y	Z
SP1	0	0	0
SP2	10.50	8.92	6.69
SP3	11.66	13.19	22.68
SP4	12.09	16.19	38.71
SP5	12.20	19.20	54.75
SP6	12.20	22.21	70.79
SP7	12.20	25.22	86.83
SP8	12.20	21.88	102.62
SP9	10.50	8.97	112.32
SP10	0.00	0.08	118.99
SP11	-10.50	8.97	112.32
SP12	-12.20	21.88	102.62
SP13	-12.20	25.22	86.83
SP14	-12.20	22.21	70.79
SP15	-12.20	19.20	54.75
SP16	-12.10	16.19	38.71
SP17	-11.66	13.19	22.68
SP18	-10.50	8.92	6.69

NODE COORDINATES

NODE	X	Y	Z
N1	0.00	-0.42	20.02
N2	0.00	-0.41	36.63
N3	0.00	-0.40	52.95
N4	0.00	-0.39	69.20
N5	0.00	-0.38	86.48
N6	0.00	-0.38	103.73
N7	7.96	3.99	11.84
N8	8.51	4.73	28.99
N9	9.27	5.93	45.32
N10	9.95	7.25	61.54
N11	10.70	9.03	77.97
N12	10.85	9.44	95.22
N13	-7.98	3.99	11.84
N14	-8.51	4.73	28.99
N15	-9.27	5.93	45.32
N16	-9.96	7.25	61.54
N17	-10.70	9.03	77.97
N18	-10.85	9.45	95.22
N19	0.00	-0.43	0.65
N20	10.50	8.49	7.35
N21	11.66	12.44	22.82
N22	12.09	15.45	38.85
N23	12.20	18.46	54.89
N24	12.20	21.46	70.93
N25	12.20	24.47	86.97
N26	12.20	21.41	101.99
N27	10.49	8.51	111.72
N28	0.00	-0.38	118.38
N29	-10.50	8.51	111.72
N30	-12.20	21.42	102.01
N31	-12.20	24.47	86.97
N32	-12.20	21.46	70.93
N33	-12.20	18.46	54.89
N34	-12.10	15.45	38.85
N35	-11.66	12.44	22.82
N36	-10.50	8.49	7.35



1 FS-201 FRONT ELEVATION
3/32" = 1'-0"



2 FS-201 RIGHT ELEVATION
3/32" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
As indicated

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

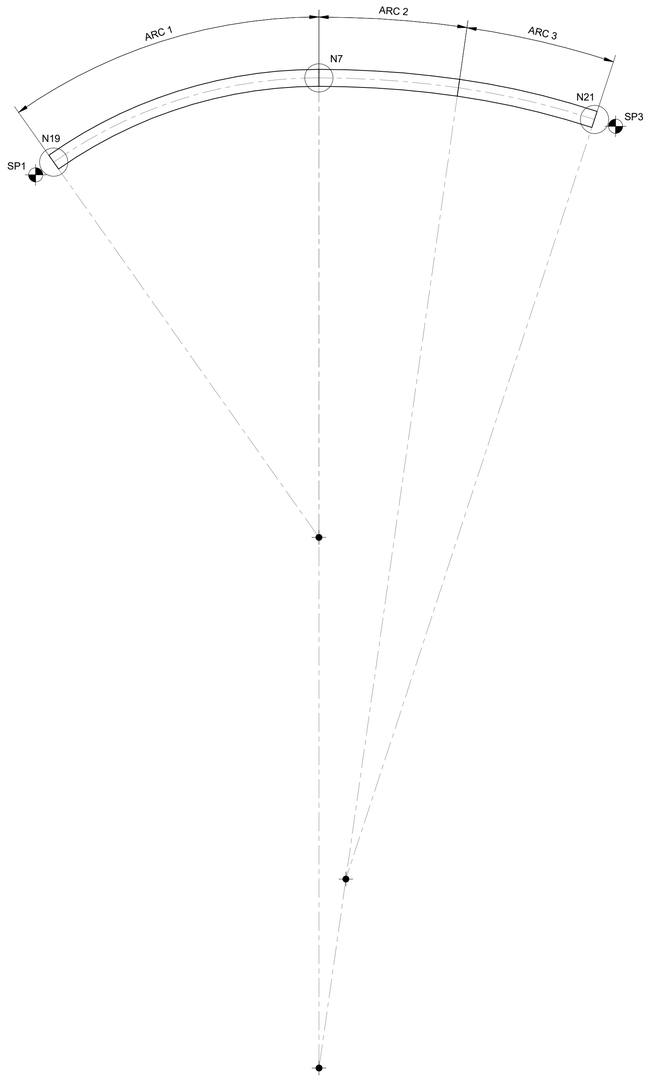
DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TOWER ELEVATIONS
(Date:11/06/2024)

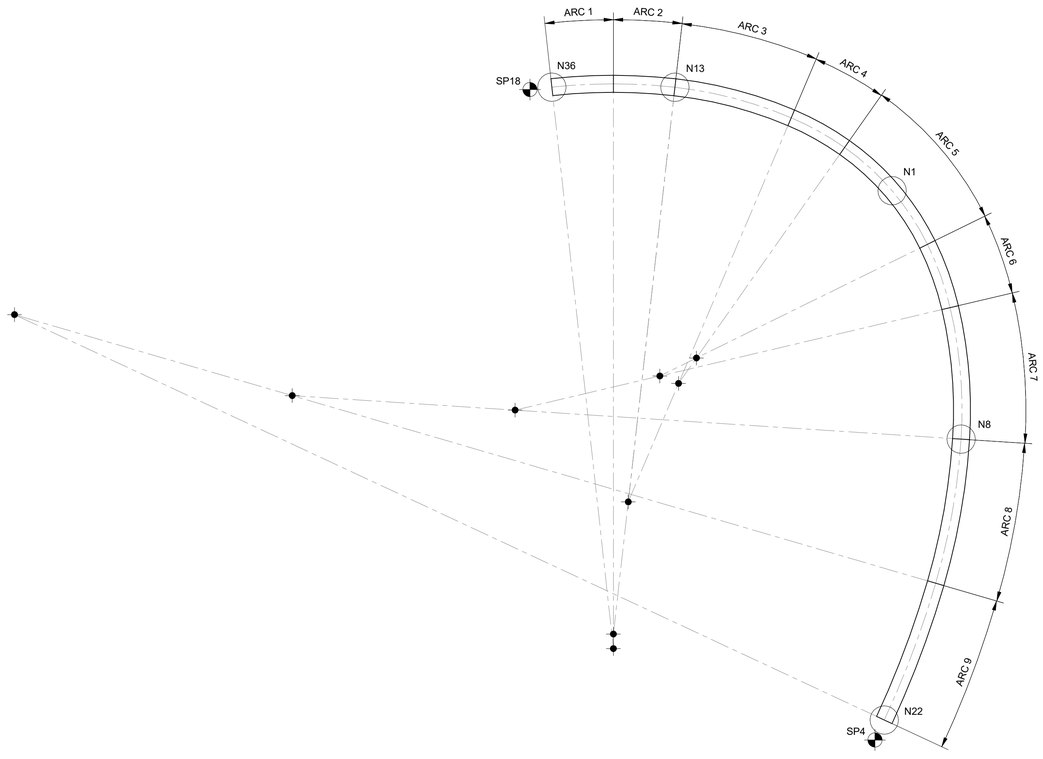
PN: [PROJ#]

DWG NO.: FS-201
SHT. NO.: 636 OF 648

11/7/2024 9:40:26 AM



1 FS-401 BEAM 1 LAYOUT
1/4" = 1'-0"

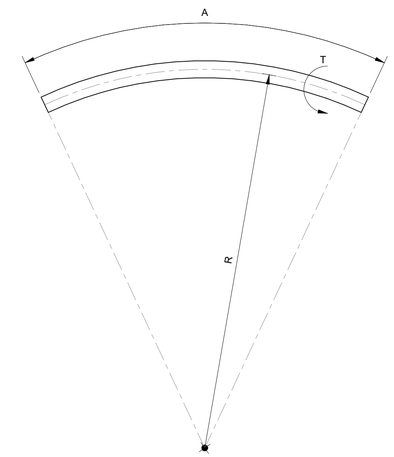


2 FS-401 BEAM 2 LAYOUT
1/4" = 1'-0"

BEAM GEOMETRY

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7
Arc 1	Arc Length, A	14.590339	6.549036	7.127909	6.358717	9.544864	10.758246	12.871916
	Radius, R	27.878367	42.342731	37.401526	43.545358	40.663270	54.579227	72.843324
	Twist, T	31.500742	5.410718	4.839556	8.355009	6.572417	7.670170	6.281246
Arc 2	Arc Length, A	7.545239	5.072156	3.261672	5.534994	3.741518	3.664699	4.387559
	Radius, R	42.766479	25.821897	23.944625	25.645433	21.743455	19.923750	21.619446
	Twist, T	13.364272	6.875823	7.458390	8.600802	6.868716	6.398841	7.993511
Arc 3	Arc Length, A	6.842231	5.611835	4.549761	5.096310	5.180648	5.480491	5.719576
	Radius, R	59.988201	26.402493	24.984991	25.587309	29.536988	38.233148	37.115365
	Twist, T		10.663829	8.863455	7.036709	6.167581	5.454992	4.689262
Arc 4	Arc Length, A		4.295456	5.104968	5.428754	6.307589	7.580853	7.635459
	Radius, R		16.540435	14.947295	14.291604	14.199101	15.079032	15.166832
	Twist, T		19.656918	19.909962	20.825274	21.860028	23.726623	23.312380
Arc 5	Arc Length, A		4.668857	6.878337	7.460296	8.217543	8.834012	8.615569
	Radius, R		14.556115	12.880257	11.898509	11.242497	11.114251	10.955726
	Twist, T		23.024987	23.049543	23.396663	23.972617	24.654115	23.274795
Arc 6	Arc Length, A		3.353754	6.059340	6.397390	7.818460	7.979103	8.093899
	Radius, R		16.928550	15.661160	15.084306	15.405086	15.352905	14.852259
	Twist, T		18.850144	22.248730	24.352687	29.377214	29.897025	32.107220
Arc 7	Arc Length, A		8.804973	4.921879	5.459046	5.351748	5.470252	4.410165
	Radius, R		29.657746	30.241263	30.839078	40.782441	42.301784	50.962330
	Twist, T		13.751671	10.740147	11.642671	2.879830	3.501218	
Arc 8	Arc Length, A		3.498823	6.918781	7.416135	7.027540	4.893290	
	Radius, R		30.596362	27.371875	27.011476	24.455517	21.387242	
	Twist, T		24.728944	16.760074	17.074798	23.192103	14.263628	
Arc 9	Arc Length, A		6.283411	9.224626	9.881454	10.985330	8.983319	
	Radius, R		67.205414	51.340396	64.298736	143.148145	73.725280	

LEGEND:



NOTES:

1. ANGLES AND RADII SHOWN ARE FOR DESIGN INTENT. IN CASE OF A CONFLICT , NODE COORDINATES SHOWN ON DRAWING FS-201 GOVERN.
2. FOR REFERENCE, 3D CENTERLINE MODEL WILL GOVERN THE GEOMETRY.

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
1/4" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BEAM LAYOUTS
(Date:11/06/2024)

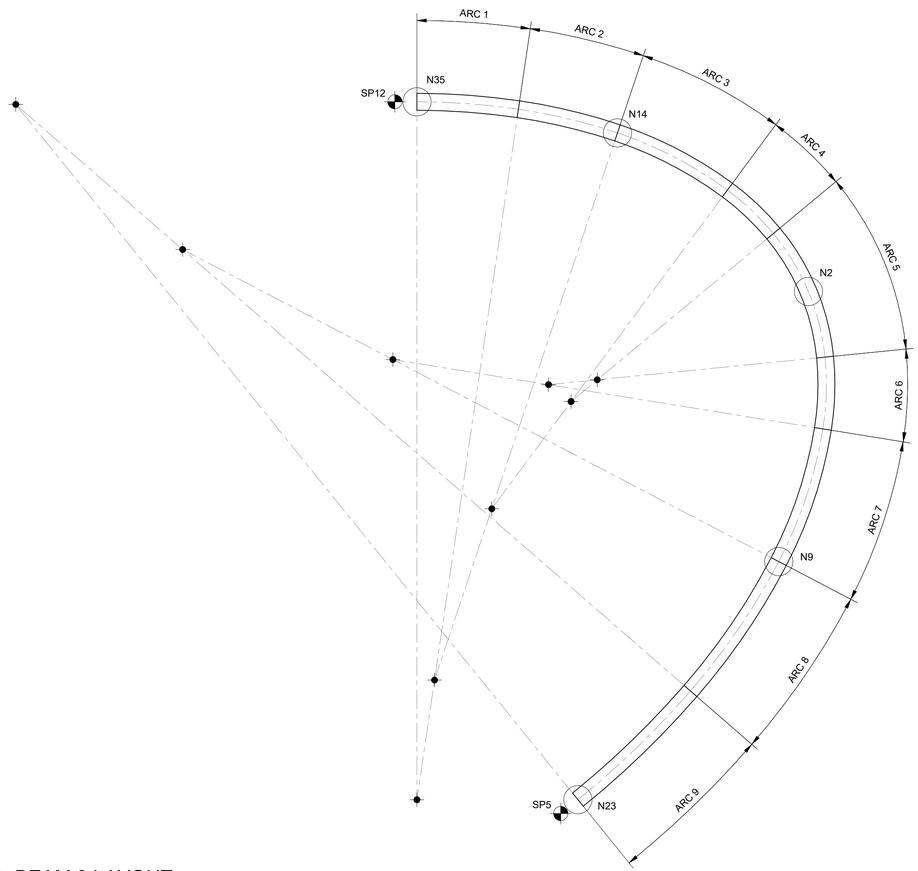
PN: [PROJ#]

DWG NO.: FS-401
SHT. NO.: 637 OF 648

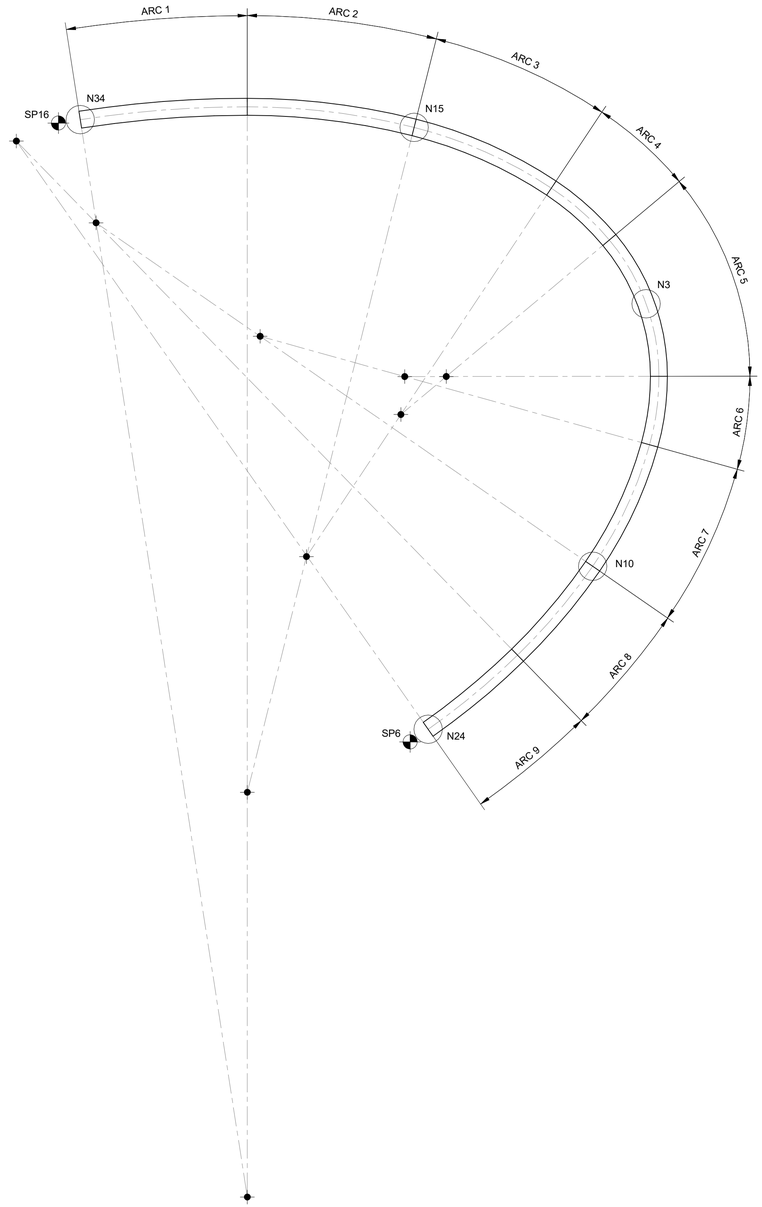
11/7/2024 9:40:26 AM

BEAM GEOMETRY

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7
Arc 1	Arc Length, A	14.590339	6.549036	7.127909	6.358717	9.544864	10.758246	12.871916
	Radius, R	27.878367	42.342731	37.401526	43.545358	40.663270	54.579227	72.843324
	Twist, T	31.500742	5.410718	4.839556	8.355009	6.572417	7.670170	6.281246
Arc 2	Arc Length, A	7.545239	5.072156	3.261672	5.534994	3.741518	3.664699	4.387559
	Radius, R	42.766479	25.821897	23.944625	25.645433	21.743455	19.923750	21.619446
	Twist, T	13.364272	6.875823	7.458390	8.600802	6.868716	6.398841	7.993511
Arc 3	Arc Length, A	6.842231	5.611835	4.549761	5.096310	5.180648	5.480491	5.719576
	Radius, R	59.988201	26.402493	24.984991	25.587309	29.536988	38.233148	37.115365
	Twist, T		10.663829	8.863455	7.036709	6.167581	5.454992	4.689262
Arc 4	Arc Length, A		4.295456	5.104968	5.428754	6.307589	7.580853	7.635459
	Radius, R		16.540435	14.947295	14.291604	14.199101	15.079032	15.166832
	Twist, T		19.656918	19.909962	20.825274	21.860028	23.726623	23.312380
Arc 5	Arc Length, A		4.668857	6.878337	7.460296	8.217543	8.834012	8.615569
	Radius, R		14.556115	12.880257	11.898509	11.242497	11.114251	10.955726
	Twist, T		23.024987	23.049543	23.396663	23.972617	24.654115	23.274795
Arc 6	Arc Length, A		3.353754	6.059340	6.397390	7.818460	7.979103	8.093899
	Radius, R		16.928550	15.661160	15.084306	15.405086	15.352905	14.852259
	Twist, T		18.850144	22.248730	24.352687	29.377214	29.897025	32.107220
Arc 7	Arc Length, A		8.804973	4.921879	5.459046	5.351748	5.470252	4.410165
	Radius, R		29.657746	30.241263	30.839078	40.782441	42.301784	50.962330
	Twist, T		13.751671	10.740147	11.642671	2.879830	3.501218	
Arc 8	Arc Length, A		3.498823	6.918781	7.416135	7.027540	4.893290	
	Radius, R		30.596362	27.371875	27.011476	24.455517	21.387242	
	Twist, T		24.728944	16.760074	17.074798	23.192103	14.263628	
Arc 9	Arc Length, A		6.283411	9.224626	9.881454	10.985330	8.983319	
	Radius, R		67.205414	51.340396	64.298736	143.148145	73.725280	



1 FS-402 BEAM 3 LAYOUT
1/4" = 1'-0"



2 FS-402 BEAM 4 LAYOUT
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
1/4" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BEAM LAYOUTS
(Date:11/06/2024)

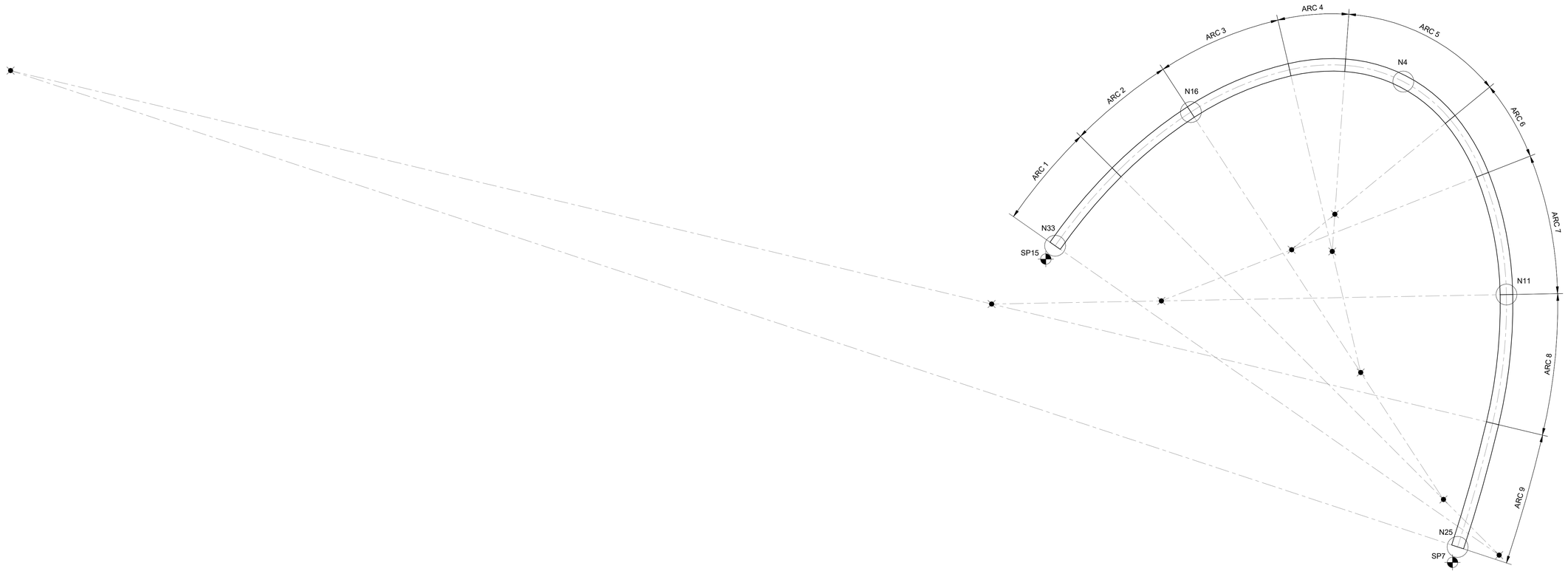
PN: [PROJ#]

DWG NO.: FS-402
SHT. NO.: 638 OF 648

11/7/2024 9:40:26 AM

BEAM GEOMETRY

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7
Arc 1	Arc Length, A	14.590339	6.549036	7.127909	6.358717	9.544864	10.758246	12.871916
	Radius, R	27.878367	42.342731	37.401526	43.545358	40.663270	54.579227	72.843324
	Twist, T	31.500742	5.410718	4.839556	8.355009	6.572417	7.670170	6.281246
Arc 2	Arc Length, A	7.545239	5.072156	3.261672	5.534994	3.741518	3.664699	4.387559
	Radius, R	42.766479	25.821897	23.944625	25.645433	21.743455	19.923750	21.619446
	Twist, T	13.364272	6.875823	7.458390	8.600802	6.868716	6.398841	7.993511
Arc 3	Arc Length, A	6.842231	5.611835	4.549761	5.096310	5.180648	5.480491	5.719576
	Radius, R	59.988201	26.402493	24.984991	25.587309	29.536988	38.233148	37.115365
	Twist, T		10.663829	8.863455	7.036709	6.167581	5.454992	4.689262
Arc 4	Arc Length, A		4.295456	5.104968	5.428754	6.307589	7.580853	7.635459
	Radius, R		16.540435	14.947295	14.291604	14.199101	15.079032	15.166832
	Twist, T		19.656918	19.909962	20.825274	21.860028	23.726623	23.312380
Arc 5	Arc Length, A		4.668857	6.878337	7.460296	8.217543	8.834012	8.615569
	Radius, R		14.556115	12.880257	11.898509	11.242497	11.114251	10.955726
	Twist, T		23.024987	23.049543	23.396663	23.972617	24.654115	23.274795
Arc 6	Arc Length, A		3.353754	6.059340	6.397390	7.818460	7.979103	8.093899
	Radius, R		16.928550	15.661160	15.084306	15.405086	15.352905	14.852259
	Twist, T		18.850144	22.248730	24.352687	29.377214	29.897025	32.107220
Arc 7	Arc Length, A		8.804973	4.921879	5.459046	5.351748	5.470252	4.410165
	Radius, R		29.657746	30.241263	30.839078	40.782441	42.301784	50.962330
	Twist, T		13.751671	10.740147	11.642671	2.879830	3.501218	
Arc 8	Arc Length, A		3.498823	6.918781	7.416135	7.027540	4.893290	
	Radius, R		30.596362	27.371875	27.011476	24.455517	21.387242	
	Twist, T		24.728944	16.760074	17.074798	23.192103	14.263628	
Arc 9	Arc Length, A		6.283411	9.224626	9.881454	10.985330	8.983319	
	Radius, R		67.205414	51.340396	64.298736	143.148145	73.725280	



1 FS-403 BEAM 5 LAYOUT
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
1/4" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BEAM LAYOUTS
(Date:11/06/2024)

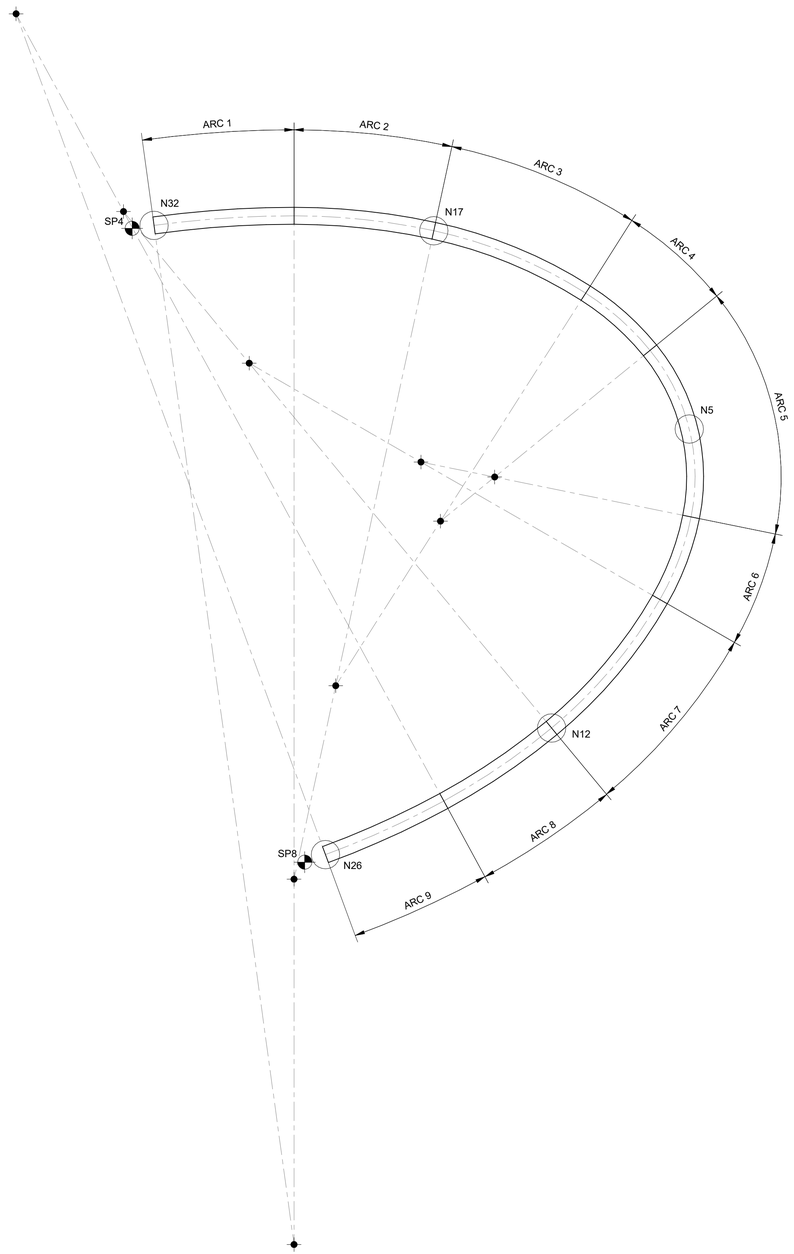
PN: [PROJ#]

DWG NO.: FS-403
SHT. NO.: 639 OF 648

11/7/2024 9:40:27 AM

BEAM GEOMETRY

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7
Arc 1	Arc Length, A	14.590339	6.549036	7.127909	6.358717	9.544864	10.758246	12.871916
	Radius, R	27.878367	42.342731	37.401526	43.545358	40.663270	54.579227	72.843324
	Twist, T	31.500742	5.410718	4.839556	8.355009	6.572417	7.670170	6.281246
Arc 2	Arc Length, A	7.545239	5.072156	3.261672	5.534994	3.741518	3.664699	4.387559
	Radius, R	42.766479	25.821897	23.944625	25.645433	21.743455	19.923750	21.619446
	Twist, T	13.364272	6.875823	7.458390	8.600802	6.868716	6.398841	7.993511
Arc 3	Arc Length, A	6.842231	5.611835	4.549761	5.096310	5.180648	5.480491	5.719576
	Radius, R	59.988201	26.402493	24.984991	25.587309	29.536988	38.233148	37.115365
	Twist, T		10.663829	8.863455	7.036709	6.167581	5.454992	4.689262
Arc 4	Arc Length, A		4.295456	5.104968	5.428754	6.307589	7.580853	7.635459
	Radius, R		16.540435	14.947295	14.291604	14.199101	15.079032	15.166832
	Twist, T		19.656918	19.909962	20.825274	21.860028	23.726623	23.312380
Arc 5	Arc Length, A		4.668857	6.878337	7.460296	8.217543	8.834012	8.615569
	Radius, R		14.556115	12.880257	11.898509	11.242497	11.114251	10.955726
	Twist, T		23.024987	23.049543	23.396663	23.972617	24.654115	23.274795
Arc 6	Arc Length, A		3.353754	6.059340	6.397390	7.818460	7.979103	8.093899
	Radius, R		16.928550	15.661160	15.084306	15.405086	15.352905	14.852259
	Twist, T		18.850144	22.248730	24.352687	29.377214	29.897025	32.107220
Arc 7	Arc Length, A		8.804973	4.921879	5.459046	5.351748	5.470252	4.410165
	Radius, R		29.657746	30.241263	30.839078	40.782441	42.301784	50.962330
	Twist, T		13.751671	10.740147	11.642671	2.879830	3.501218	
Arc 8	Arc Length, A		3.498823	6.918781	7.416135	7.027540	4.893290	
	Radius, R		30.596362	27.371875	27.011476	24.455517	21.387242	
	Twist, T		24.728944	16.760074	17.074798	23.192103	14.263628	
Arc 9	Arc Length, A		6.283411	9.224626	9.881454	10.985330	8.983319	
	Radius, R		67.205414	51.340396	64.298736	143.148145	73.725280	



1 FS-404 BEAM 6 LAYOUT

1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE 1/4" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BEAM LAYOUTS
(Date:11/06/2024)

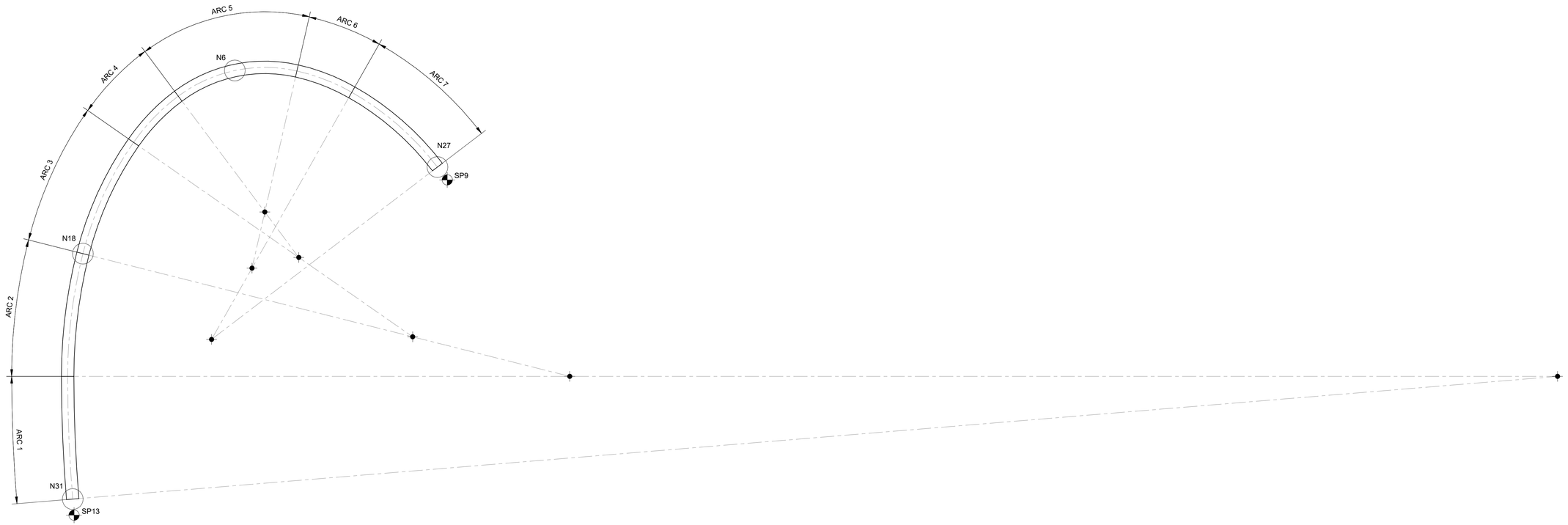
PN: [PROJ#]

DWG NO.: FS-404
SHT. NO.: 640 OF 648

11/7/2024 9:40:27 AM

BEAM GEOMETRY

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7
Arc 1	Arc Length, A	14.590339	6.549036	7.127909	6.358717	9.544864	10.758246	12.871916
	Radius, R	27.878367	42.342731	37.401526	43.545358	40.663270	54.579227	72.843324
	Twist, T	31.500742	5.410718	4.839556	8.355009	6.572417	7.670170	6.281246
Arc 2	Arc Length, A	7.545239	5.072156	3.261672	5.534994	3.741518	3.664699	4.387559
	Radius, R	42.766479	25.821897	23.944625	25.645433	21.743455	19.923750	21.619446
	Twist, T	13.364272	6.875823	7.458390	8.600802	6.868716	6.398841	7.993511
Arc 3	Arc Length, A	6.842231	5.611835	4.549761	5.096310	5.180648	5.480491	5.719576
	Radius, R	59.988201	26.402493	24.984991	25.587309	29.536988	38.233148	37.115365
	Twist, T		10.663829	8.863455	7.036709	6.167581	5.454992	4.689262
Arc 4	Arc Length, A		4.295456	5.104968	5.428754	6.307589	7.580853	7.635459
	Radius, R		16.540435	14.947295	14.291604	14.199101	15.079032	15.166832
	Twist, T		19.656918	19.909962	20.825274	21.860028	23.726623	23.312380
Arc 5	Arc Length, A		4.668857	6.878337	7.460296	8.217543	8.834012	8.615569
	Radius, R		14.556115	12.880257	11.898509	11.242497	11.114251	10.955726
	Twist, T		23.024987	23.049543	23.396663	23.972617	24.654115	23.274795
Arc 6	Arc Length, A		3.353754	6.059340	6.397390	7.818460	7.979103	8.093899
	Radius, R		16.928550	15.661160	15.084306	15.405086	15.352905	14.852259
	Twist, T		18.850144	22.248730	24.352687	29.377214	29.897025	32.107220
Arc 7	Arc Length, A		8.804973	4.921879	5.459046	5.351748	5.470252	4.410165
	Radius, R		29.657746	30.241263	30.839078	40.782441	42.301784	50.962330
	Twist, T		13.751671	10.740147	11.642671	2.879830	3.501218	
Arc 8	Arc Length, A		3.498823	6.918781	7.416135	7.027540	4.893290	
	Radius, R		30.596362	27.371875	27.011476	24.455517	21.387242	
	Twist, T		24.728944	16.760074	17.074798	23.192103	14.263628	
Arc 9	Arc Length, A		6.283411	9.224626	9.881454	10.985330	8.983319	
	Radius, R		67.205414	51.340396	64.298736	143.148145	73.725280	



1 FS-405 BEAM 7 LAYOUT

1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
1/4" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

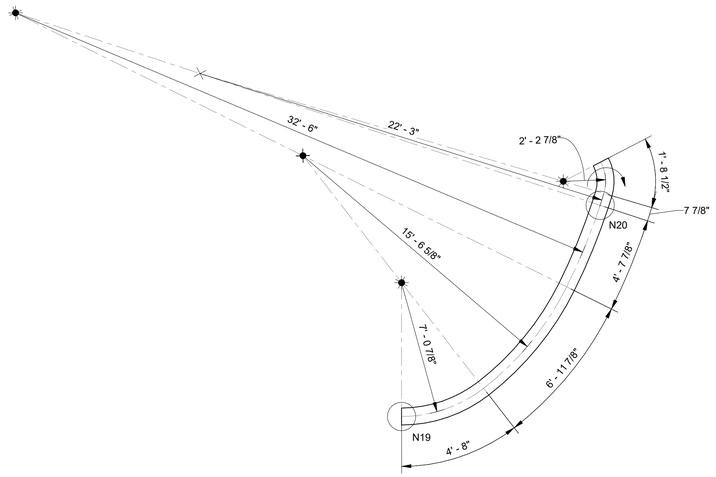
DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
BEAM LAYOUTS
(Date:11/06/2024)

PN: [PROJ#]

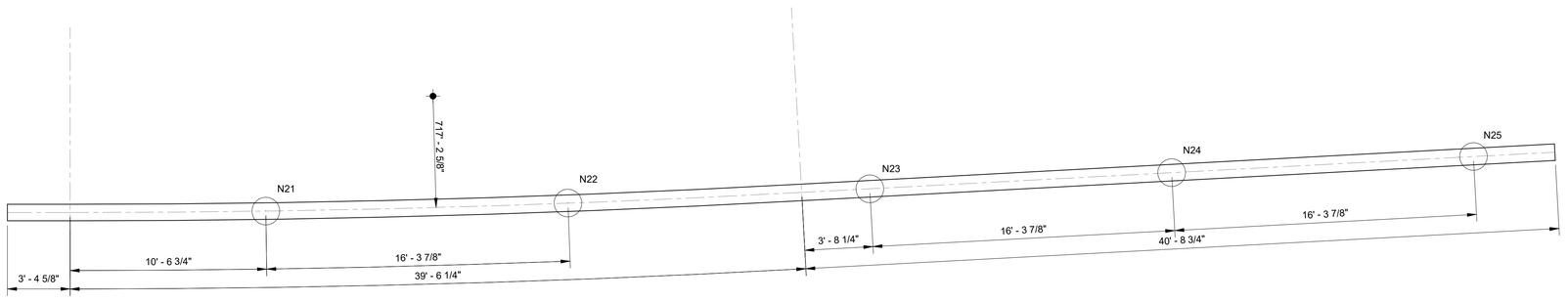
DWG NO.: FS-405
SHT. NO.: 641 OF 648

11/7/2024 9:40:27 AM



1 FS-406 EDGE BEAM LAYOUT 1

1/4" = 1'-0"



2 FS-406 EDGE BEAM LAYOUT 2

1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE 1/4" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

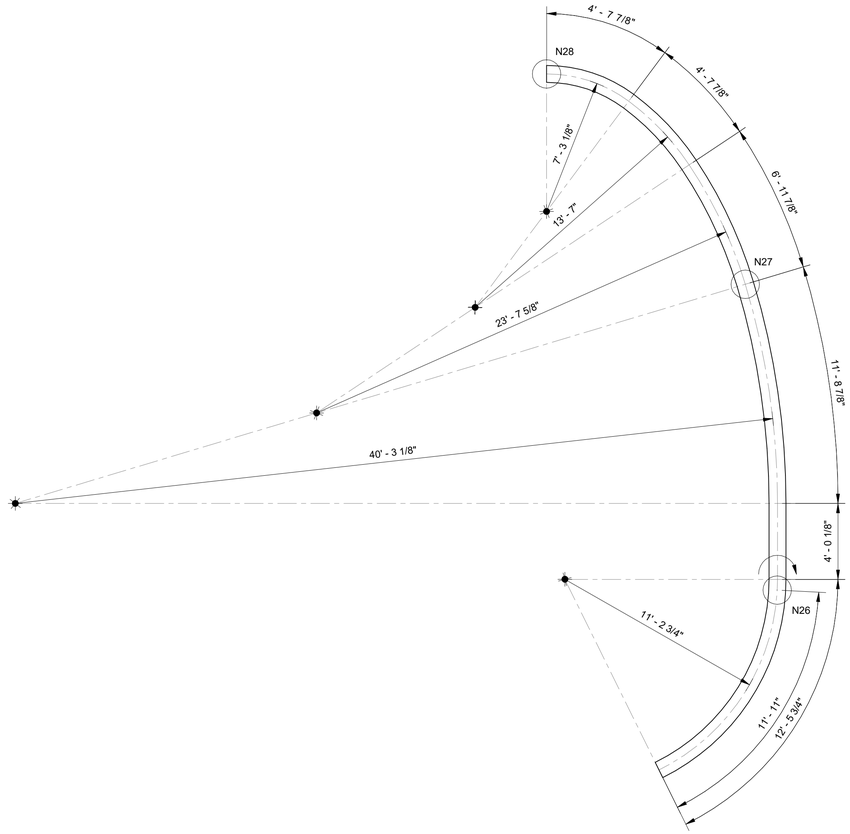
DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
EDGE BEAM LAYOUTS
(Date:11/06/2024)

PN: [PROJ#]

DWG NO.: FS-406
SHT. NO.: 642 OF 648

11/7/2024 9:40:27 AM



1 FS-407 EDGE BEAM LAYOUT 3

1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE: 1/4" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

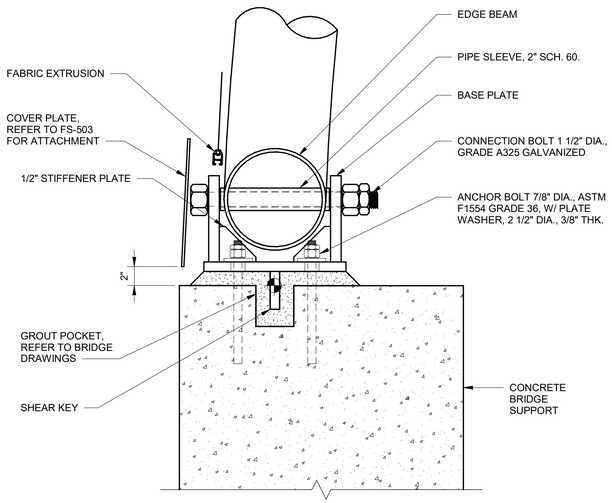
DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
EDGE BEAM LAYOUTS
(Date:11/06/2024)

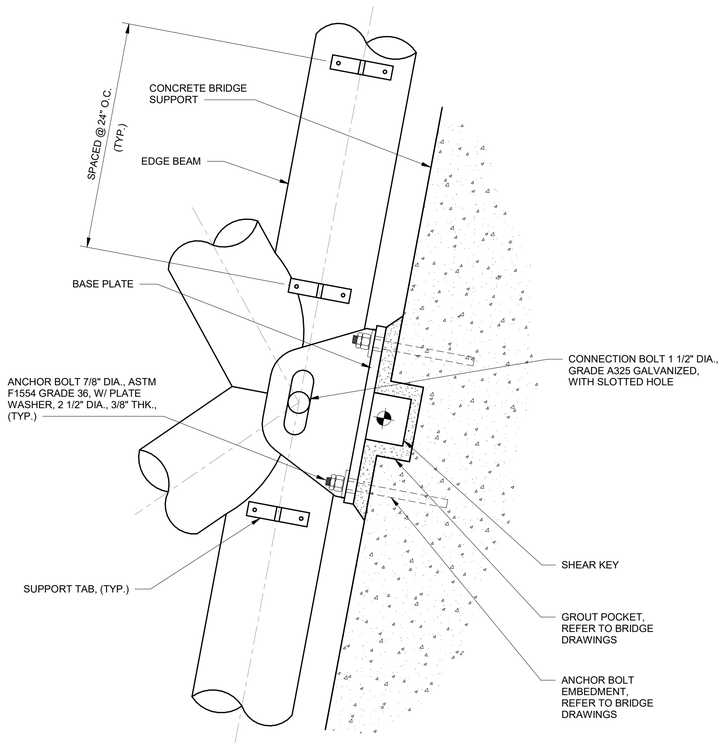
PN: [PROJ#]

DWG NO.: FS-407
SHT. NO.: 643 OF 648

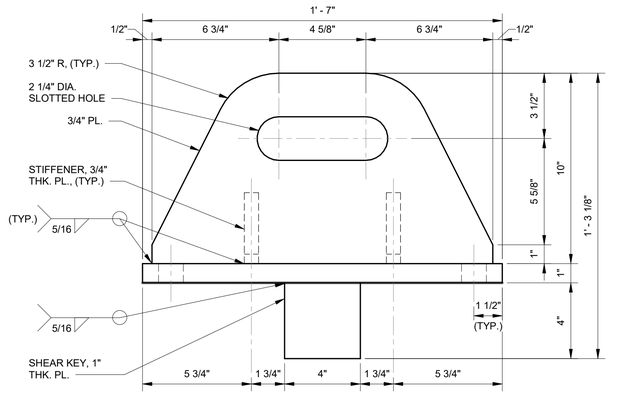
11/7/2024 9:40:27 AM



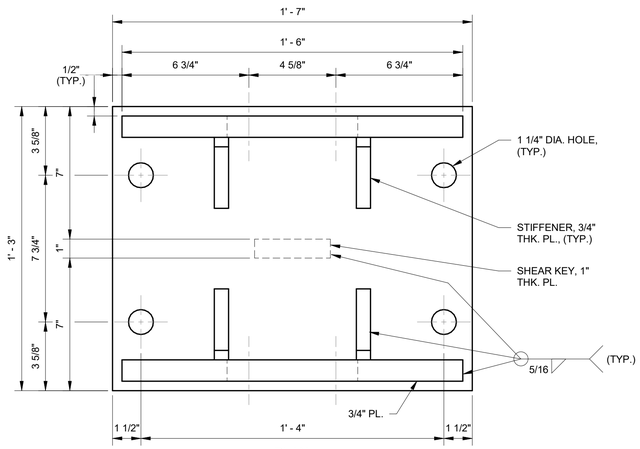
1 SLIDER CONNECTION: TYPICAL INTERFACE SECTION
FS-501 1 1/2" = 1'-0"



2 SLIDER CONNECTION: TYPICAL INTERFACE ELEVATION
FS-501 1 1/2" = 1'-0"



ELEVATION



PLAN

NOTE: GROUT HOLE NOT SHOWN, LOCATION TO BE DETERMINED BY FABRICATOR IF REQUIRED.

3 TYPICAL INTERFACE BASE PLATE DETAIL
FS-501 3" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
As indicated

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE
DATE: 11/06/2024

DESIGN BY: E. SMITH
DATE: 11/06/2024

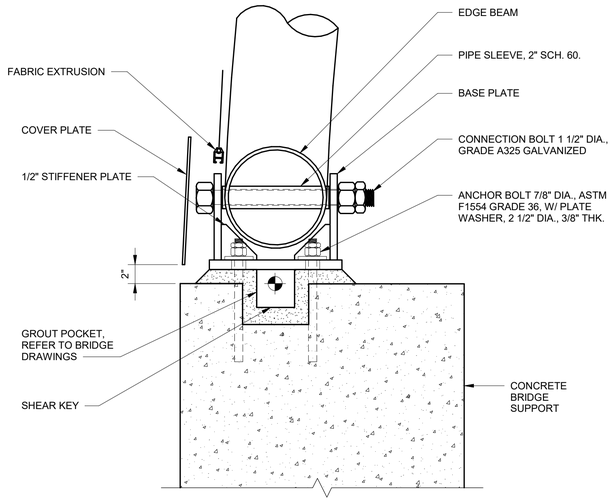
CHECKED BY: N. PRESCIUTTI
DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TYPICAL CONNECTION DETAILS
(Date:11/06/2024)

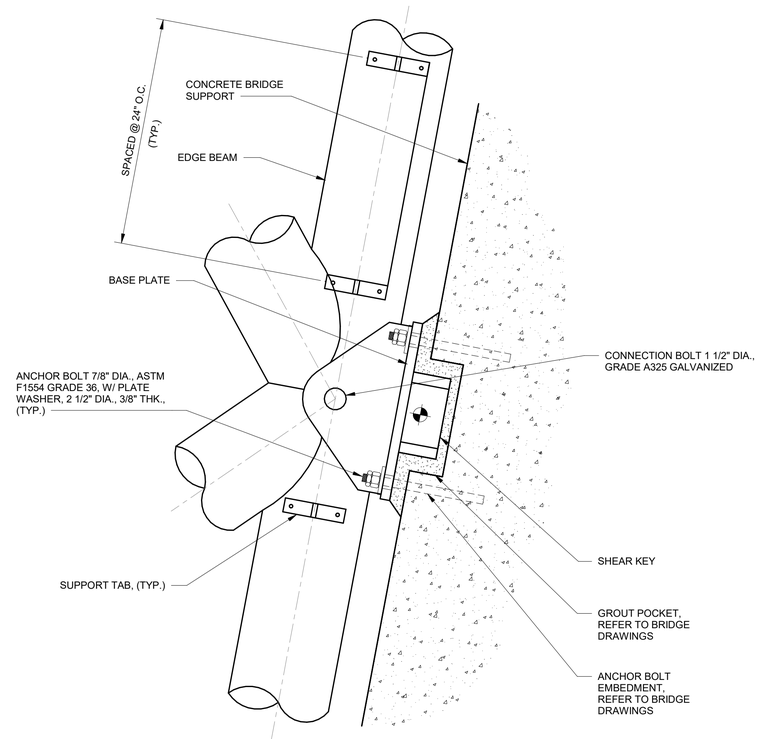
PN: [PROJ#]

DWG NO.: FS-501
SHT. NO.: 644 OF 648

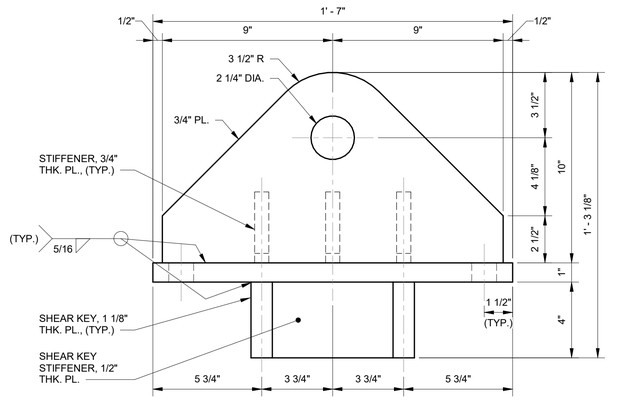
11/7/2024 9:40:27 AM



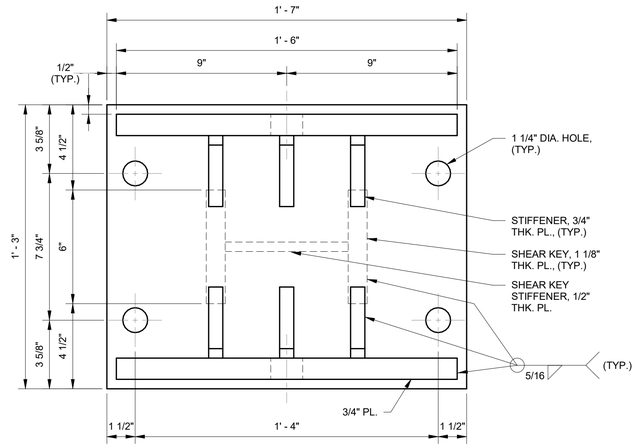
1 PIN CONNECTION SP2, SP10 & SP18 SECTION
FS-502 1 1/2" = 1'-0"



2 PIN CONNECTION: SP2, SP10 & SP18 ELEVATION
FS-502 1 1/2" = 1'-0"



ELEVATION



PLAN

NOTE: GROUT HOLE NOT SHOWN, LOCATION TO BE DETERMINED BY FABRICATOR IF REQUIRED.

3 TYPICAL PIN CONNECTION BASE PLATE DETAIL
FS-502 3" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE: As indicated

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

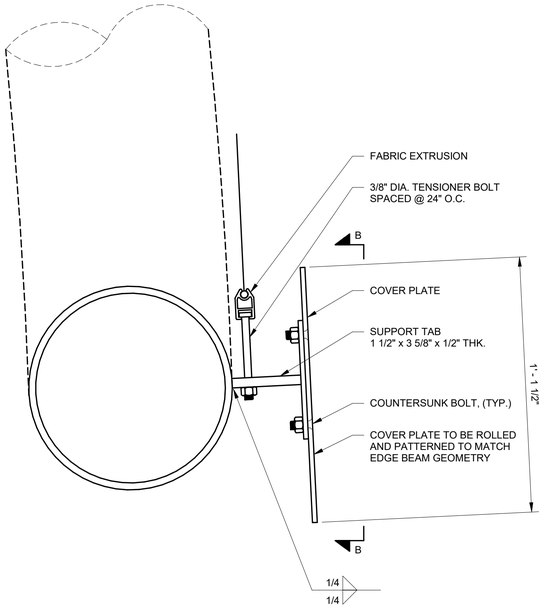
DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TYPICAL CONNECTION DETAILS
(Date:11/06/2024)

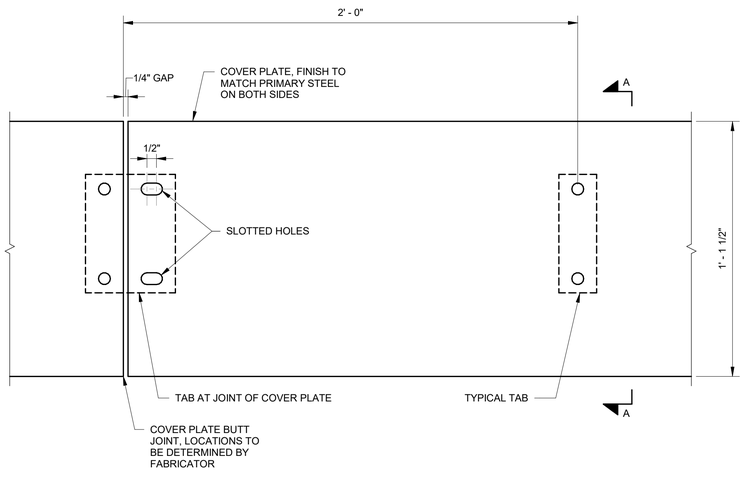
PN: [PROJ#]

DWG NO.: FS-502
SHT. NO.: 645 OF 648

11/7/2024 9:40:27 AM



SECTION A-A



ELEVATION B-B

2 FS-503 TENSIONING DETAIL

3" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
3" = 1'-0"

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE
DATE: 11/06/2024

DESIGN BY: E. SMITH
DATE: 11/06/2024

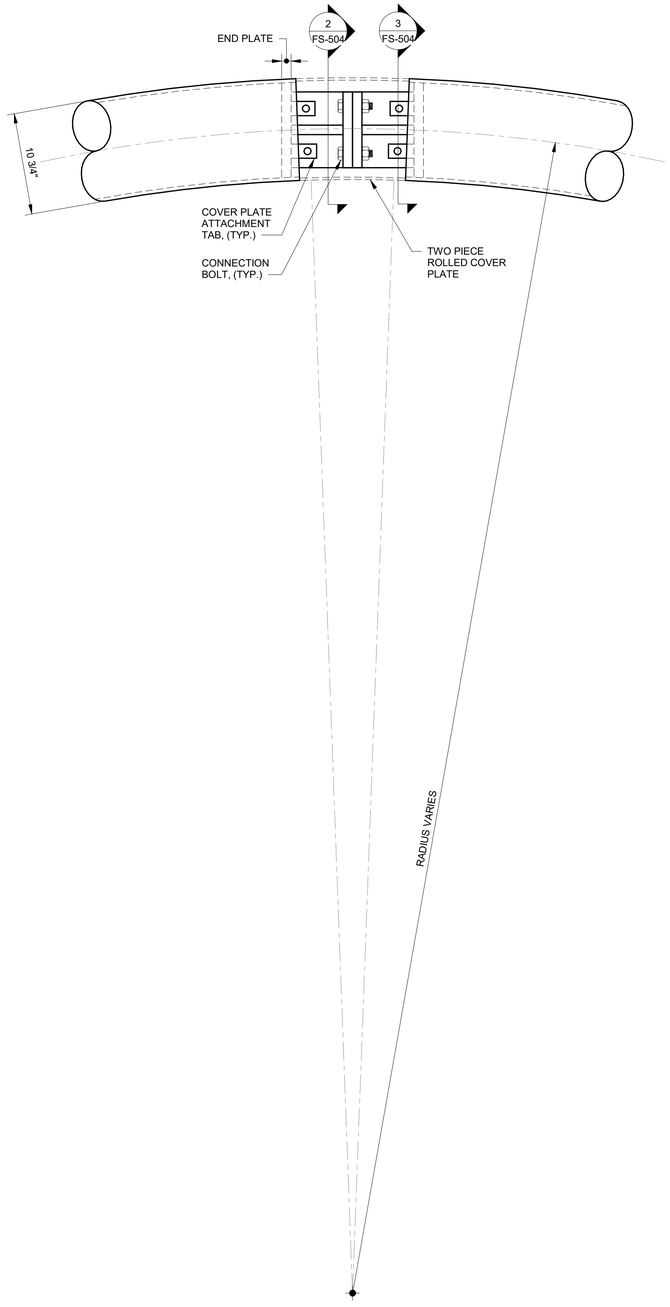
CHECKED BY: N. PRESCIUTTI
DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TYPICAL CONNECTION DETAILS
(Date:11/06/2024)

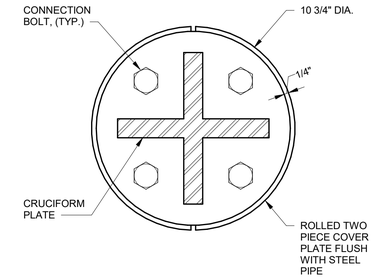
PN: [PROJ#]

DWG NO.: FS-503
SHT. NO.: 646 OF 648

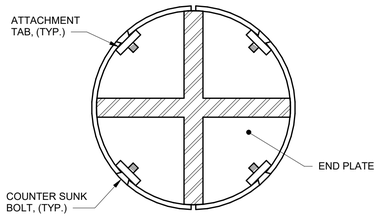
11/7/2024 9:40:28 AM



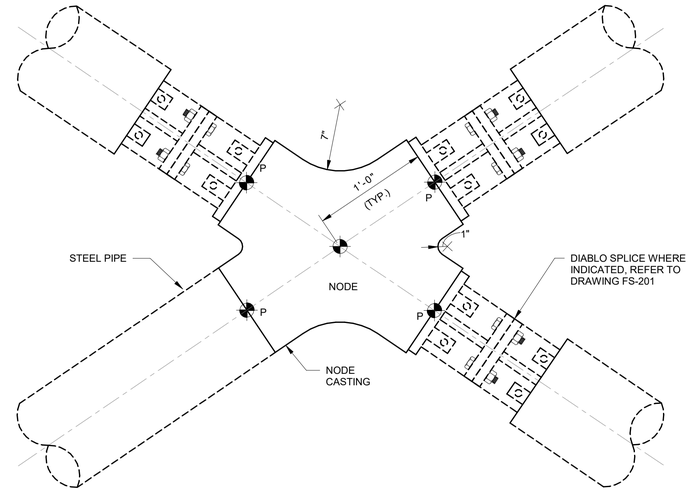
1 FS-504 DIABLO CONNECTION
1 1/2" = 1'-0"



2 FS-504 SECTION
3" = 1'-0"



3 FS-504 SECTION
3" = 1'-0"



4 FS-504 CAST NODE DETAIL
1 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
As indicated

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE
DATE: 11/06/2024

DESIGN BY: E. SMITH
DATE: 11/06/2024

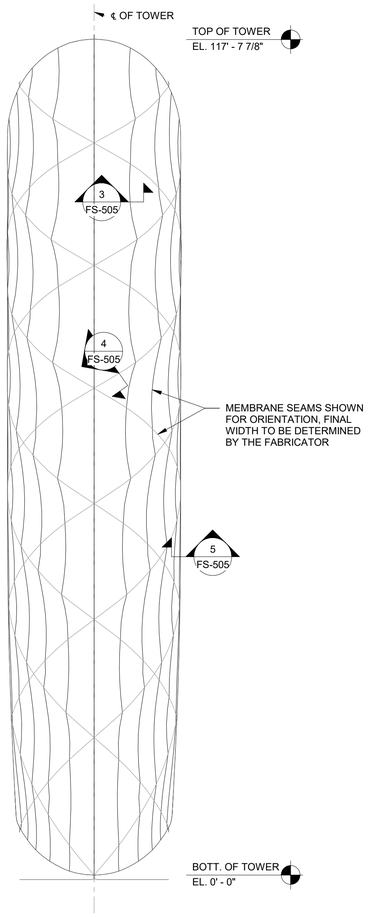
CHECKED BY: N. PRESCIUTTI
DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TYPICAL CONNECTION DETAILS
(Date:11/06/2024)

PN: [PROJ#]

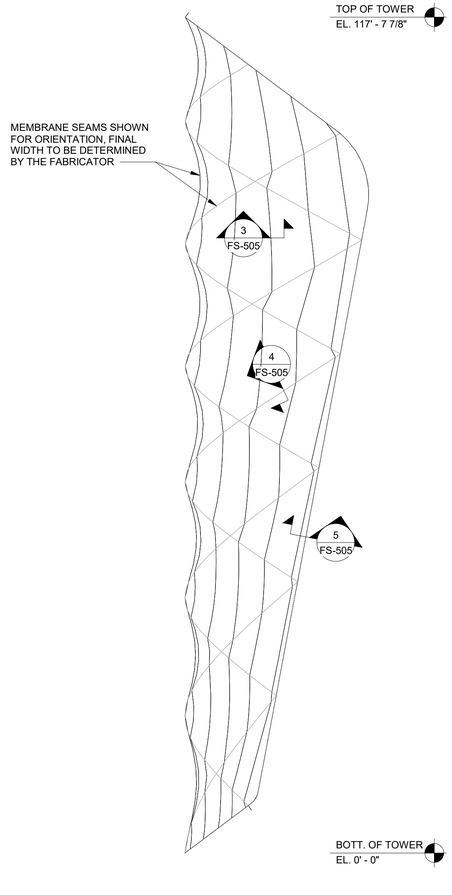
DWG NO.: FS-504
SHT. NO.: 647 OF 648

11/7/2024 9:40:28 AM



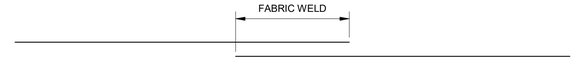
NOTE: STEEL NOT SHOWN, REFER TO DRAWING FS-201 FOR STEEL LAYOUT.

1 FS-505 FRONT ELEVATION - FABRIC SEAMS
3/32" = 1'-0"

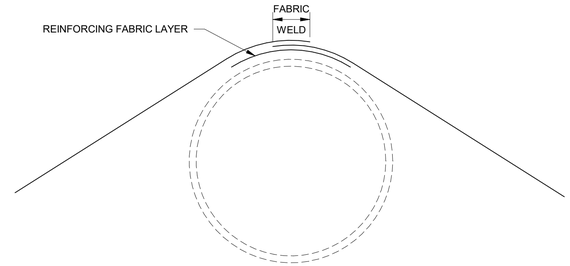


NOTE: STEEL NOT SHOWN, REFER TO DRAWING FS-201 FOR STEEL LAYOUT.

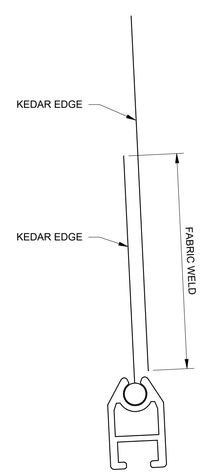
2 FS-505 RIGHT ELEVATION - FABRIC SEAMS
3/32" = 1'-0"



3 FS-505 FABRIC DETAIL 1
N.T.S.



4 FS-505 FABRIC DETAIL 2
N.T.S.



5 FS-505 FABRIC DETAIL 3
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
KIRK IAN METTAM
No. 56767
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

REVISIONS NO.	DESCRIPTION	DATE	BY

TYLin
255 East Avenue
Rochester | New York | 14604
585-512-200 | 585-697-3449 f

FIELD BOOK

SCALE
As indicated

THE CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: P. WHITE DATE: 11/06/2024
DESIGN BY: E. SMITH DATE: 11/06/2024
CHECKED BY: N. PRESCIUTTI DATE: 11/06/2024

I STREET BRIDGE REPLACEMENT PROJECT
OVER THE SACRAMENTO RIVER
TYPICAL FABRIC DETAILS
(Date:11/06/2024)

PN: [PROJ#]

DWG NO.: FS-505
SHT. NO.: 648 OF 648

11/7/2024 9:40:28 AM