LEWIS & CLARK BRIDGE NO. 433/1
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BRIDGE REHAB DESIGN:               WSDOT
CONTRACTOR/PRECASTER:               MAX. J KUNEY
LIFTING OPERATIONS:                 MAMMOET INC.
ADT ON BRIDGE:                      20,000
TRAFFIC CONSTRAINTS:                120 - 8 hr night closures
                                      (9:30 pm – 5:30 am)
                                      200 - single lane closures
Total Length of Bridge - 5476 ft
Thru Truss - 2720 ft - 65 precast panels
WA approach Deck Truss - 168 ft - 7 precast panels
Oregon approach Deck Truss - 955 ft - 31 precast panels
TOTAL - 103

Panel were 36ft wide and varied in length from 25ft to 45ft
46 - Partial width panels were 3ft wide and varying in
lengths from 58ft to 70ft in the WA approach.
MAIN SPAN TRUSS EXISTING ROADWAY DECK
SECTION - EXISTING DECK

Floorbeam flanges had a 25% loss in section

SECTION - NEW DECK INSTALLED

MAIN SPAN ROADWAY DECK REPLACEMENT
SYMM. ABOUT ø BRIDGE

ø STRINGER

TYPICAL DECK PANEL SECTION
NEW C15 X 33.9
NEW W33 X 201
NEW BEAM SEAT

CONSTRUCTION JOINT
EXISTING FLOORBEAM

TIE PLATES
EXISTING FLOORBEAM

1"

NEW C15 X 33.9
NEW BEAM SEAT

OLD STRINGER TO FLOORBEAM CONNECTIONS

MODIFIED CONNECTION TYPICAL MAIN SPAN FLOORBEAM
OUTSIDE FACE OF NORTH WEB CL BENT CD

OUTSIDE FACE OF SOUTH WEB CL BENT AB

37'-6¾"

38'-9" 26'-8" 4 SPA. @ 28'-1" = 112'-4" 29'-2"

CL FLOORBEAM AT PIER 1

CL BENT CD

DECK PANEL LAYOUT

WASHINGTON APPROACH

TYPICAL EXPANSION JOINT
DECK PANEL LAYOUT

MAIN SPAN
DECK PANEL LAYOUT

OREGON APPROACH
DECK PANEL CONSTRUCTION
<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity (per cyd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Cement</td>
<td>600 lb.</td>
</tr>
<tr>
<td>Fly Ash</td>
<td>80 lb.</td>
</tr>
<tr>
<td>Fine Aggregate</td>
<td>1158 lb.</td>
</tr>
<tr>
<td>Coarse Aggregate (utilite)</td>
<td>1114 lb.</td>
</tr>
<tr>
<td>Total Water</td>
<td>270 lb.</td>
</tr>
<tr>
<td>Air Entrainment (Daravair)</td>
<td>3.2 oz.</td>
</tr>
<tr>
<td>Water Reducer (WRDA 64)</td>
<td>34 oz.</td>
</tr>
<tr>
<td>H₂O/Cement Ratio</td>
<td>0.40</td>
</tr>
<tr>
<td>Slump</td>
<td>4 +/- 1”</td>
</tr>
<tr>
<td>Unit weight</td>
<td>119 pcf</td>
</tr>
</tbody>
</table>
Total Load:
8 x 19,500 lbs = 156,000 lbs
4 x 13,855 lbs. = 193,370 lbs.
349,370 lbs.

SPMT Axle Line
- MAX LOAD/LINE: 8.8 T
- MAX LOAD/WHEEL: 2.2 T
- MAX LOAD PER LAT. INCH: 0.16 T

Dolly Axle Line
- MAX LOAD/LINE: 6.3 T
- MAX LOAD/WHEEL: 1.6 T
- MAX LOAD PER LAT. INCH: 0.21 T

MIN. 1200 MM
MAX. 1800 MM

61'-6 3/4" (1875.0)
TRANSPORT VEHICLE
NEW DECK PANEL

SPECIALLy DESIGNED LIFTING TRUSS (WT. = 108k)

SELF PROPELLED MODULAR TRANSPORTER
(WT. = 106k)

1. BRING IN NEW DECK PANEL POSITION TRUCK FOR LIFTING OF OLD DECK PANEL. (TOTAL LOAD = 508k)

OLD DECK PANEL

2. LIFT OLD DECK PANEL (TOTAL LOAD = 700k)

3. MOVE NEW DECK PANEL INTO POSITION FOR PLACEMENT (TOTAL LOAD = 700k)

4. PLACE NEW DECK PANEL SECTION (TOTAL LOAD = 516k)

5. DRIVE OFF WITH OLD DECK PANEL (TOTAL LOAD = 516k)

DECK PLACEMENT SEQUENCE
WASHINGTON APPROACH
WASHINGTON APPROACH WIDENING

EXISTING 36WF X 230

TYPICAL SECTION -- EXISTING CROSS FRAMES AT TOWERS

MATCH EXISTING SLOPE

GROUTED CLOSURE STRIP

TOP OF OVERLAY

TYPICAL SECTION -- MODIFIED CROSS FRAMES AT TOWERS

W36 X 230 (TYP.)
WASHINGTON APPROACH X BEAM EXTENSION