

Inter-Office Memo

December 3, 1990

To: Steve Varela, P.E., City Engineer
Via: Bob Gottsacker, P.E., Senior Engineer *W*
From: Michael Einweck, Assistant Civil Engineer *ME*
RE: Request For Service # 79
Lake Street Bridge Replacement

A request for service was made to the Capital Projects Planning Section earlier in September regarding the proposed replacement of the Lake Street Bridge. This bridge was identified by the Army Corps of Engineer's study as needing to be raised to a low chord elevation of 4489. Therefore a study of the bridge was made to determine the impacts to the surrounding areas (properties and roadways) along with developing a preliminary profile of the bridge at the new elevation.

In researching the existing structure a set of the construction plans was located in the files. These plans were developed by the State of Nevada Department of Highways and are dated December 1936. This would indicate that the bridge was most probably constructed in 1937. In addition to a file search, NDOT's Bridge Section was contacted with respect to the height of the superstructure required to support the bridge deck. They informed us that typically bridges are designed with a 4 - 4.5% depth to length factor for the superstructure size and an eight inch concrete deck is used. For the 64' center span with this bridge, a 2.5' section would be required. The bridge deck's cross slope of 2% will also increase the centerline pavement elevation by 0.6' from the 60' width.

In addition, the Survey Section was asked to shoot the existing elevations of the structure since the State had changed datums in the 1950's and the plan elevations may be in error. Terry McHenry contacted the Sacramento, CA office of the Corps to determine the benchmark from which the elevation in the report was taken from. It turned out that the elevations shown on the old plans are still relatively accurate with no datum change.

In conclusion, the attached profile plan shows the current centerline pavement profile along with the existing back of sidewalk grades for each side of Lake Street. Also shown is the new bridge deck and superstructure at the required elevations.

Attachments



CITY OF RENO

REQUEST FOR SERVICE

No. 79

OFFICE OF CITY ENGINEER

To : RB

Date : 9-4-90

- Information
- Reply
- Draft Letter
- Action
- See Me

Date Required 10-1-90

Coordinate With _____

Request : Attached is pg. 6 of the most recent COE project summary for the Truckee River project. As you can note the proposal is to replace the Lake St. bridge and raise it to low cord of 4489. Please prepare a prelim. profile of the bridge and approach roadways to determine impacts to adjacent streets and properties. (ie 1st st., Bundy etc). If you need to discuss let me know, NDOT may be able to help with a bridge section thickness (bridge section)

(54?)

Thank you SE

Reply : Please see attached information. ME

12-03-90

LAKE ST. BRIDGE

- CENTER LINE + BACK OF SW ELEVATIONS

<u>STA</u>	<u>BK SW - LT</u>	<u>E</u>	<u>BK SW - RT</u>
10+50	89.93	89.83	89.86
11+00	89.13	89.07	89.39
11+23.95	88.81	88.76	88.98
11+50	88.66	88.51	88.58
12+00	88.28	88.20	88.04
12+53.54	88.19	88.04	88.11
12+93.40	88.36	87.93	88.41
13+00	—	87.89	88.37
13+50	88.12	87.50	88.00
14+00	87.84	87.33	87.92
14+43.40	87.64	87.20	87.63
14+50	87.54	87.15	87.53
15+00	87.06	86.82	87.09
15+50	—	86.51	86.73
16+00	85.93	86.59	—
16+50	86.97	87.48	—

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



Lake Street Bridge

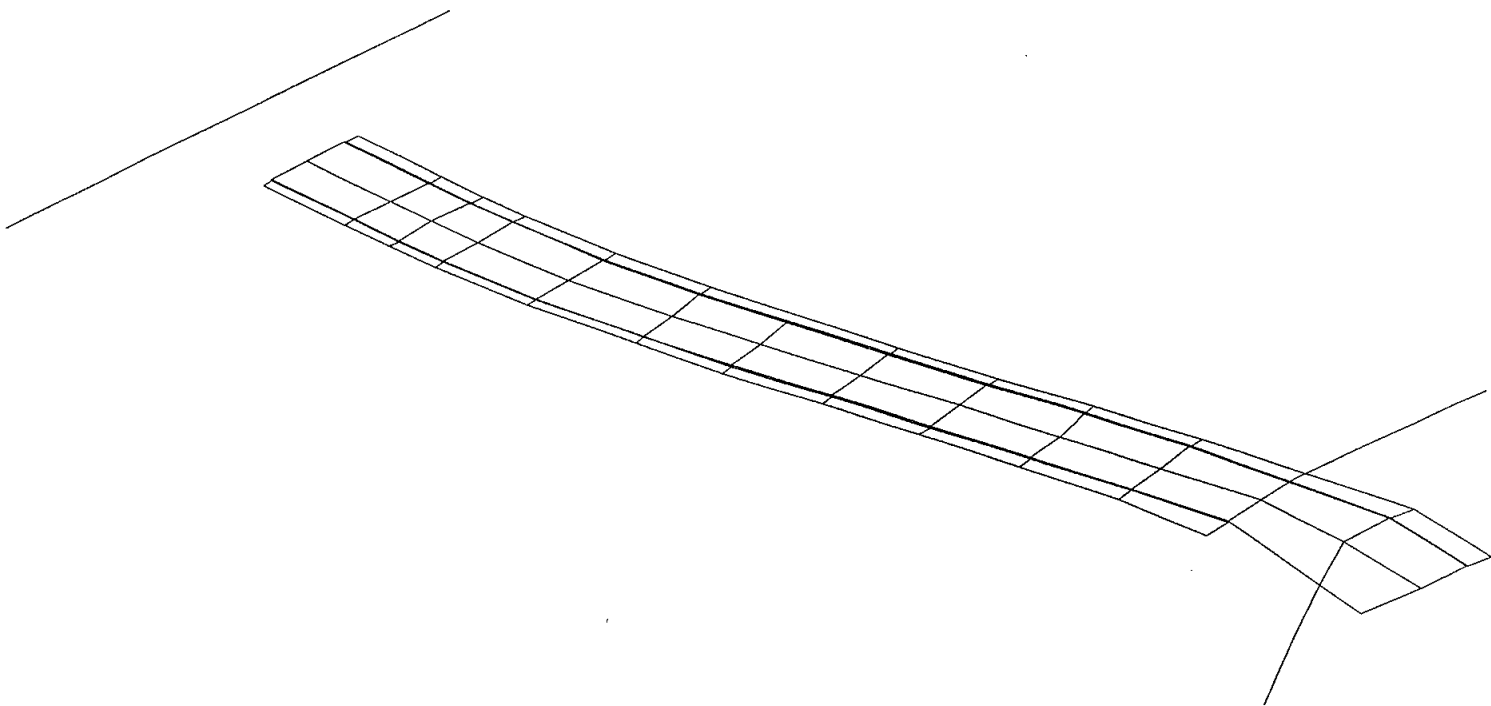
9-4-90 3:45

Parviz Norri. 687-5540

Bill ~~Call~~ ~~Crawford~~

Bill Crawford

called T. McHenry on 9-4-90
@ 4:35^P, not in left
message





PROJECT _____

1561.50
- 117.00

1444.50 N END

151.40

1293.1 S END

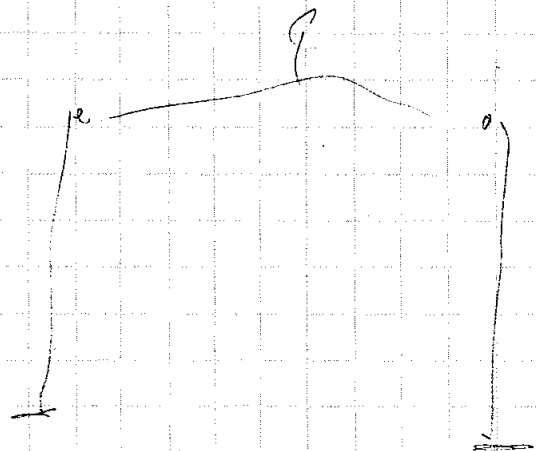
BRIDGE DIST = 151.4

10-23-90

met w/ T. McHenry re. survey,
he will get additional info.

ME

137.50





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Thanks [Signature]

Reply : Please see attached report...

1. Lake Street Bridge. - Lake Street bridge will be replaced by the City of Reno as a local cooperation item of work. This bridge is on the National Register of Historic Places and cultural resource mitigation will be coordinated with the Nevada State Historic Preservation Officer. The minimum low chord elevation will be approximately 4489 feet. This is approximately three feet higher than the existing bridge.

m. Lake Street to Kuenzli Street. - The existing channel through this reach is very narrow. This constriction causes a 1.8-foot increase in the water surface elevation through downtown Reno. It will be widened to a bottom width of 75 feet, which will require removal of several trees along the south bank. Any trees removed will be replaced. This work was not specifically identified in the Feasibility Report. The channel bottom will be natural cobbles.

n. Kuenzli Street to Highway 395. - Intermittent levees or other floodproofing measures may be required through this reach. The local sponsor is investigating flooding in this area. Floodproofing will be a local responsibility.

o. Highway 395 to Glendale Avenue. - A setback levee along the south bank is required as proposed in the Feasibility Report Recommended Plan. The rock diversion dam at Glendale will be reconstructed upstream of its present location and perpendicular to the flow. The existing rocked levee under Glendale Bridge will have to be relocated to increase flow capacity under the bridge.

p. Glendale Avenue to South McCarran Boulevard. - The setback levees and floodwalls through this reach will be very close to the size and alignment shown in the Feasibility Report.

q. University of Nevada Agricultural Experimental Station (UNAES). - A detention basin to reduce the peak flow downstream of Vista to preproject levels was proposed on the UNAES in the Feasibility Report Recommended Plan. As an alternative, the local sponsors proposed a detention dam on Steamboat Creek at Huffaker Narrows. The Corps studied the alternative and found that a detention dam at that site would eliminate the need for the UNAES detention basin. The north and east levees around the UNAES basin proposed in the Feasibility Report could be eliminated (see Plate 5). The local sponsors requested that the Corps consider protecting the UNAES land by constructing the north and east levees and eliminating the west and south levees (along South McCarran and Pembroke Lane, respectively). This alternative to protect the UNAES land would require approximately 125,000 cubic yards of additional fill for the north and east levees. The levees

6 1/2
32
4

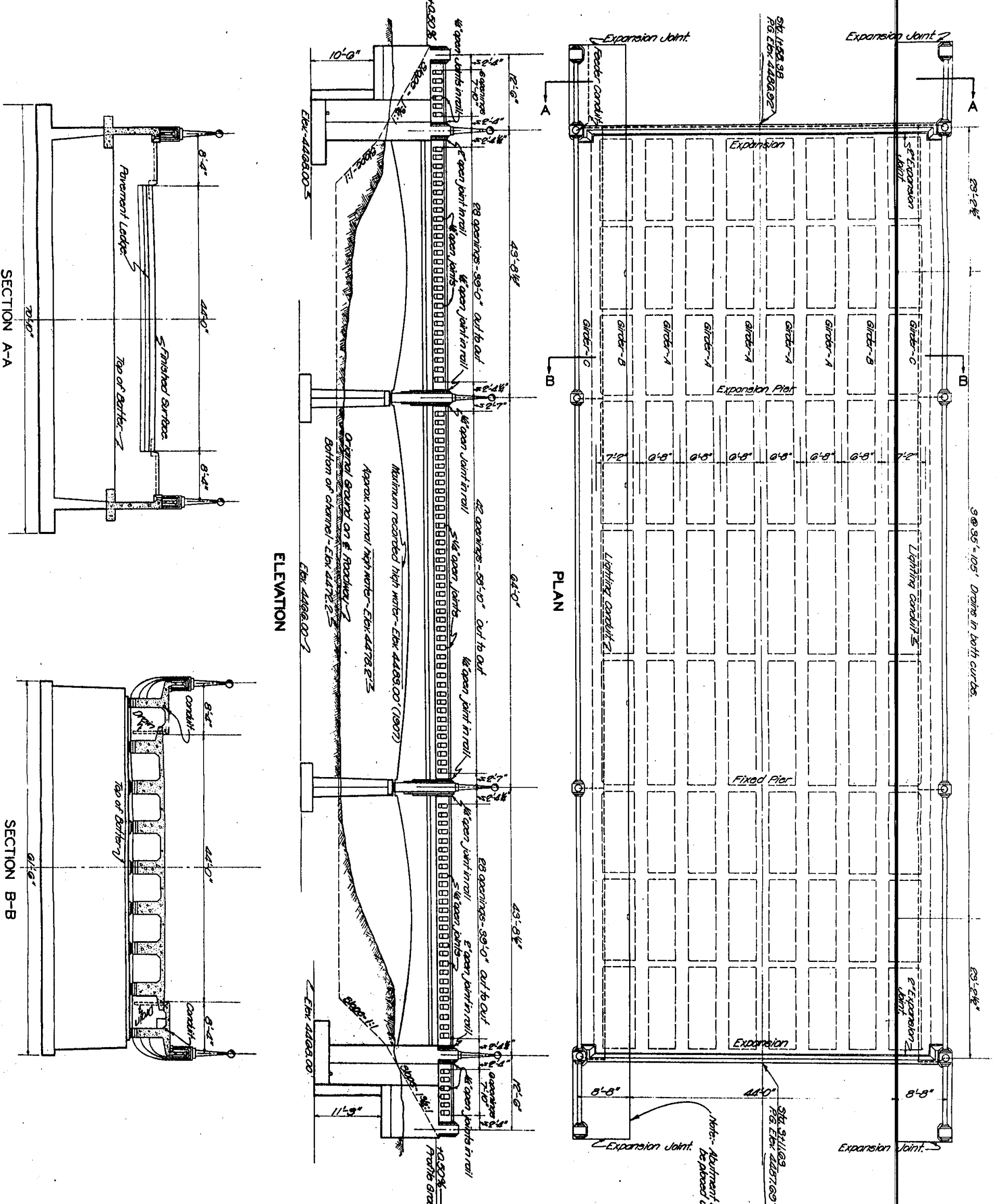
Teel Carriody
or replace.
Ron Mueller

Have Terry M. check the
plans under SV's
lab

(916)-551-3253

6

Truckee Meadows
Development Report
7-90



3 @ 35' - 105' Drains in both curbs.

29'-2 1/2"

29'-2 1/2"

PROJECT	DATE	BY	CHKD	APP'D
STATE	1996	WMS	FE	2
NEW	1996	WMS	FE	2

Revised March 13, 1997

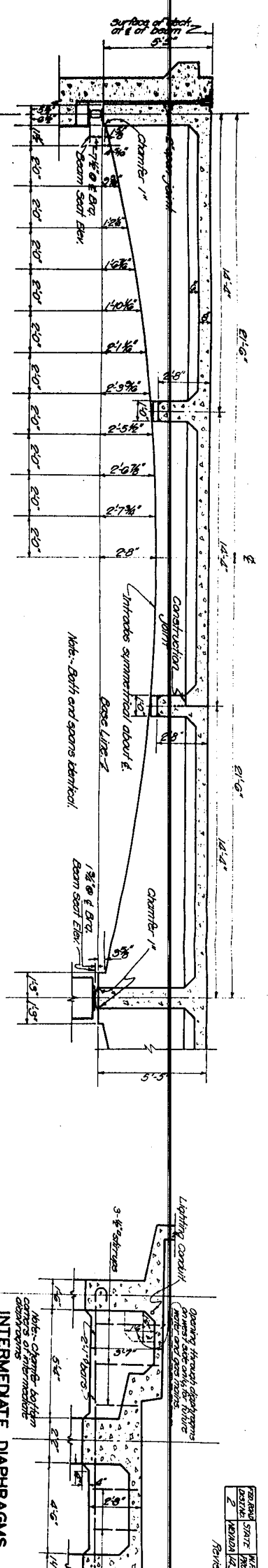
check elev.
later change
structure
cross slope

GENERAL NOTES-

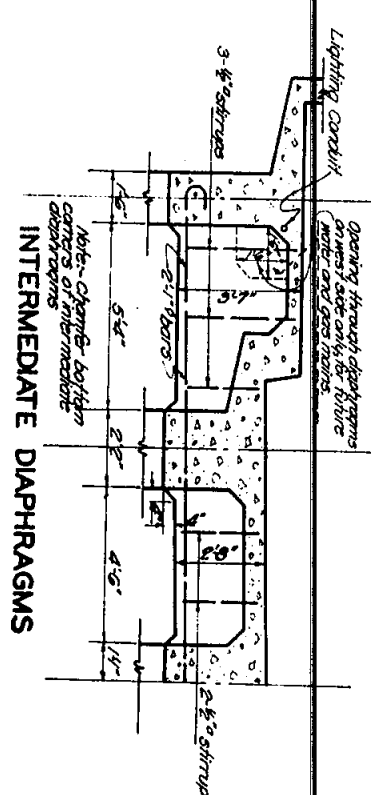
- Design Specifications - A.A.S.H.O. Standard Specifications for Highway Bridges, 1995, except as noted below.
- Construction Specifications - State of Nevada, Department of Highways Standard Specifications, 1993, except as noted below, and in Special Provisions for this contract.
- Dead Load - Concrete 150 pcf; earth 120 pcf; paving 95 pcf; steel 490 pcf; light poles 300 each.
- Live Load - Standard H-20 loading.
- Impact - 1.25.
- Concrete - All made compression 4000 pounds per square inch. Concrete for retaining walls, abutments and girders to be Class II. Concrete for bridge deck and curbs to be Class I. Edges of concrete not to be chamfered except as noted.
- Reinforcing steel - Allowable tension 18,000 pcf square inch. All reinforcing to be intermediate grade, deformed bars. High yield or high strength bars and supports by metal chairs.
- Roofing Decks are minimum and may be tapered, if indicated by the Engineer. Soil bearing power tests to be made by the Engineer of retaining structures of each pier and abutment by testing a 12"x12" core with load of 10,000 pounds. Minimum settlement to be 1/8 inch in 48 hours.
- Structural Steel to conform to steel designation A7-34 of the A.S.T.M. Special Specifications for Structural Steel for Bridges.
- Lighting Equipment - See Special Provisions.

3 1/2 70 2 1/4

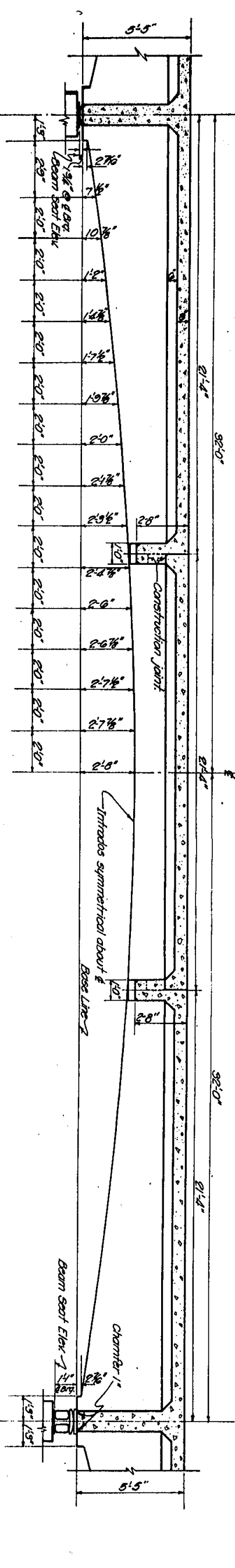
GENERAL PLANS



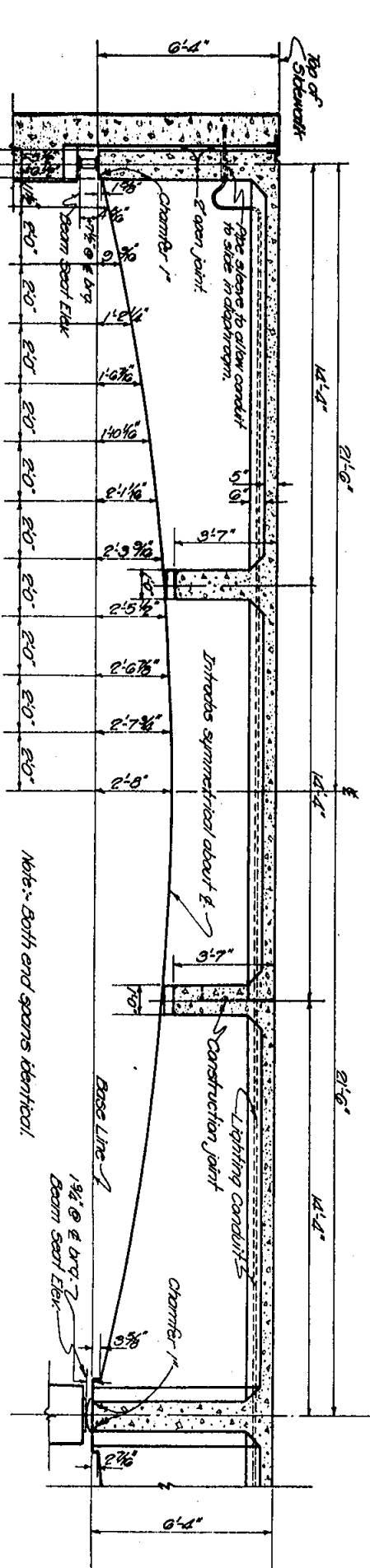
GIRDERS A & B - END SPANS



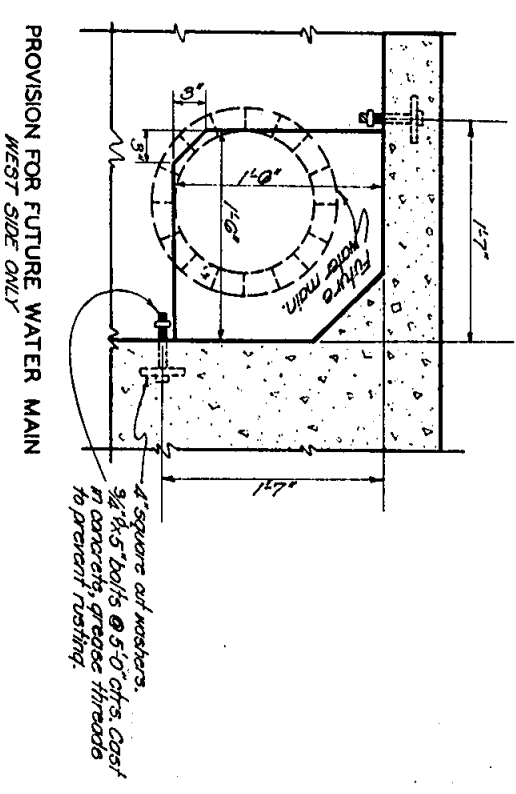
INTERMEDIATE DIAPHRAGMS



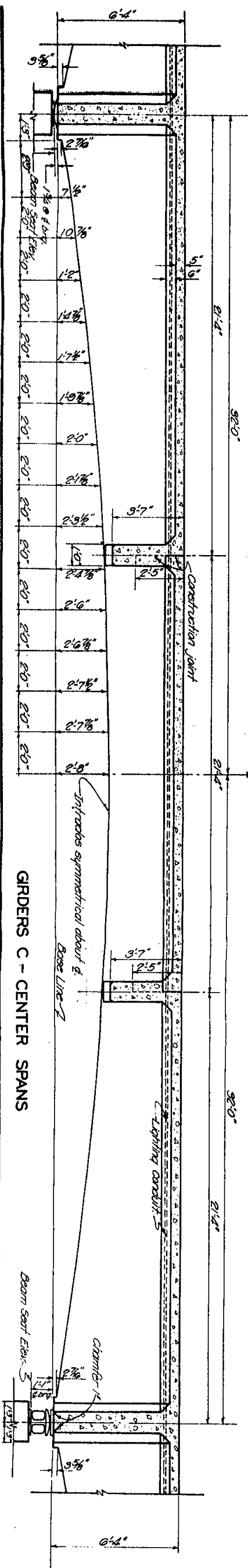
GIRDERS A & B - CENTER SPANS



GIRDERS C - END SPANS



PROVISION FOR FUTURE WATER MAIN WEST SIDE ONLY

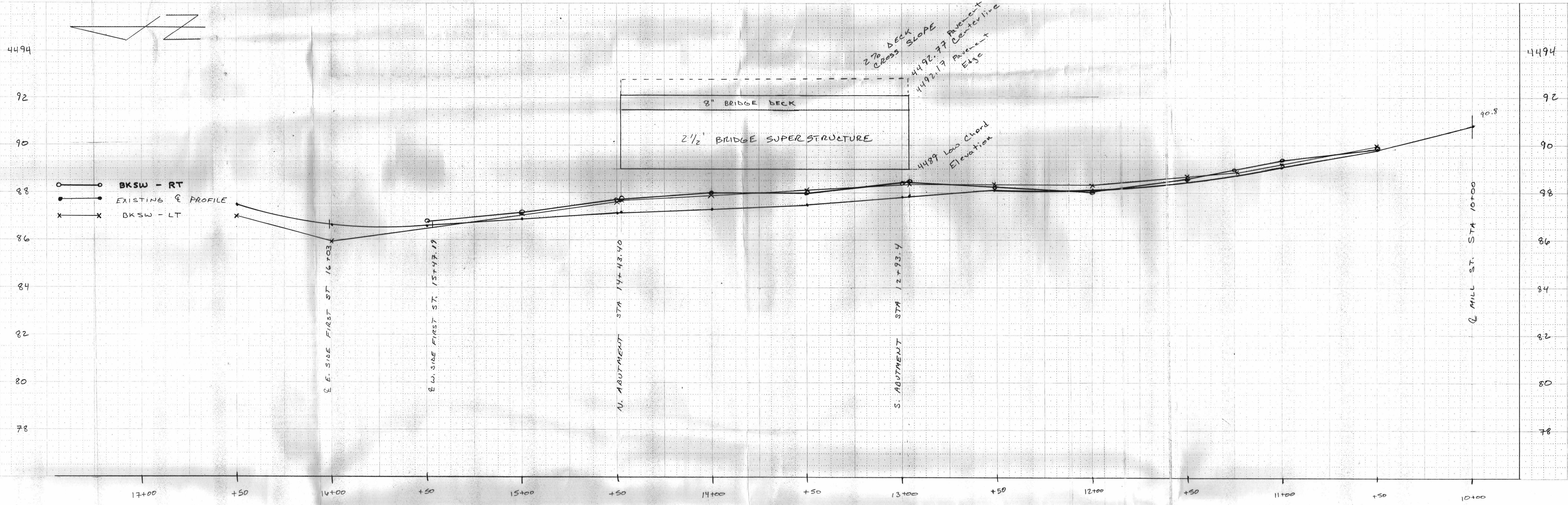


GIRDERS C - CENTER SPANS

GIRDER DETAILS

NO.	DATE	BY	CHKD.	QTY.	REV.	SECTION	SHEET	TOTAL
2	12/30/36	WASH.	FEEDER	7	12			

Revised Dec 30, 1936



REVISIONS		
No.	DESCRIPTION	Date

CITY OF RENO
DEPARTMENT of PUBLIC WORKS
ENGINEERING DIVISION

LAKE ST. BRIDGE
REPLACEMENT

PROJ. No. 72004-0015

DESIGN Date

DRAWN *ME* Date 12-3-82

TRACED Date

CHECKED Date

SCALE V-1"=2' H-1"=25'

FILE No.

DWG. No.

Project approved By Date

STEVE VARELA CITY ENGINEER

SHEET 1 OF 2

