Christopher Stevick

From: "Christopher Stevick" <livingart@comcast.net>
To: "Paul Marangella" <paulm@ci.petaluma.ca.us>
Sent: Monday, September 12, 2005 4:20 PM
Subject: Water Street Trestle

Petaluma Redevelopment,

These engineered drawings* show just two of the many ways the Water Street Trestle can be repaired or rebuilt. It is my opinion that to date you have seriously underestimated the significance of this structure, the possibilities for its restoration, and the possibilities for varied sources of funding.

Thank you,
Christopher Stevick
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*Copies left at the front desk

MKM & Associates
structural engineering

PETALUMA WATER ST. TRESTLE

Job # 042153
Date 7 APR 05
PE JMC | 1 of 2

ASSUMPTIONS (TO BE VERIFIED) PRELIMINARY

MAX. TROLLEY WT. 80,000#
MAX. PASSENGER WT. 8,000#
* MIN. PILE CAPACITY 10 TON (DEAD + LIVE) WORKING LOADS
20 TON (DEAD + ½ LIVE + EQ) WORKING LOADS
* UBC SEISMIC VALUE - NEED SITE SPECIFIC VALUE FROM GEOTECH. VALUES WILL NEED TO BE MODIFIED TO COMPLY WITH REAMA STDS. THIS IS THE NATIONALLY ACCEPTED ORGANIZATION, WHICH HAS DEVELOPED STANDARDS FOR RAILWAY DESIGN.

* REQUIRES ADDITIONAL GEOTECHNICAL INVESTIGATION AND EVALUATION

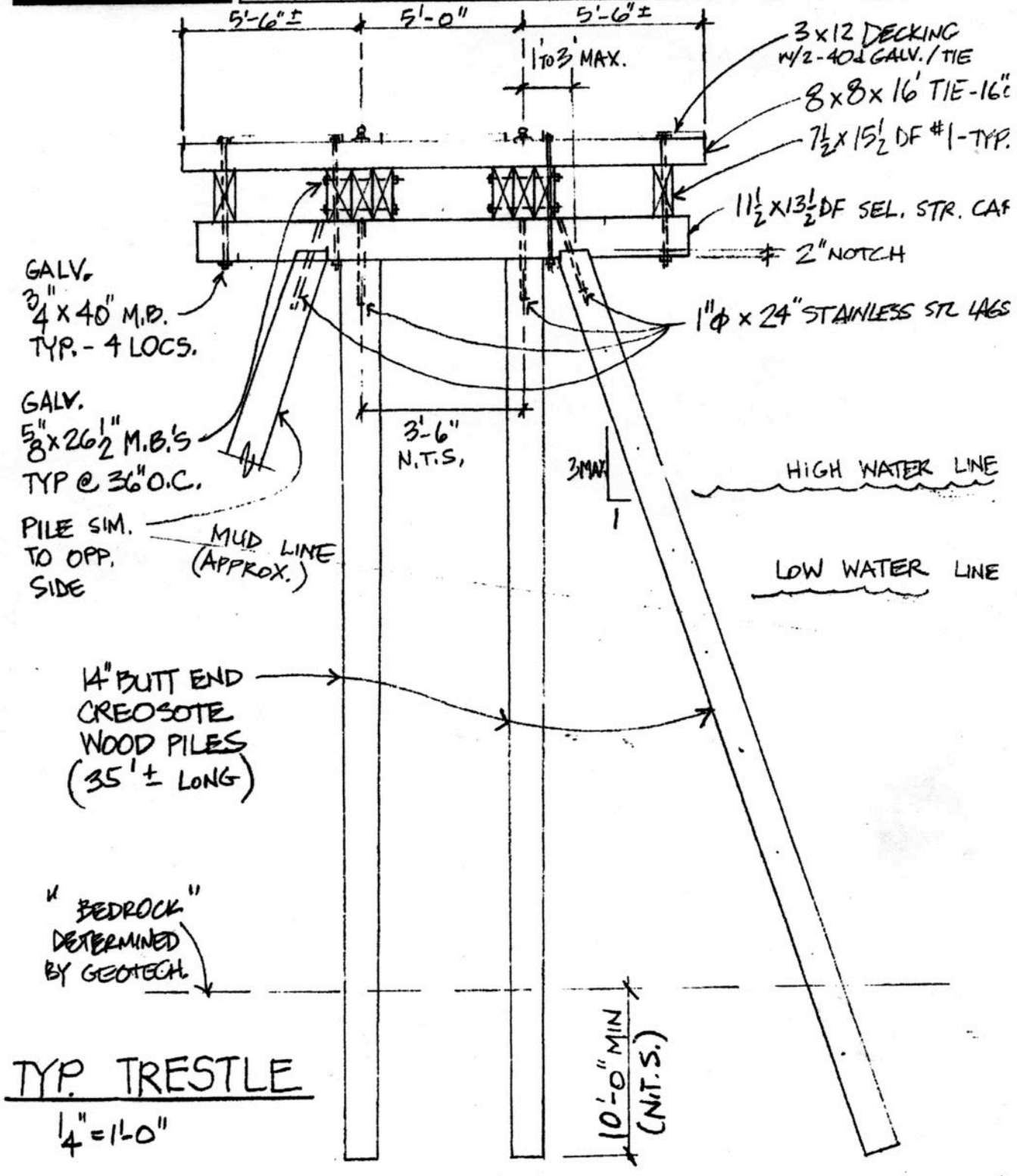
NOTE: IT MAY NOT BE POSSIBLE TO ACHIEVE 20 TON WORKING LOAD, IN WHICH CASE ADD'L PILES WILL BE ADDED, OR TRESTLE SPACING WILL BE REDUCED.

WARNING: GEOTECHNICAL INFO IS VERY SKETCHY. FURTHER INVESTIGATION WILL BE REQUIRED PRIOR TO FINAL DESIGN. THIS TYP. CROSS SECTION IS PRELIMINARY. DEPTH OF PENETRATION W/ WOOD PILES IS UNKNOWN.

MKM & Associates
structural engineering

PETALUMA WATER ST. TRESTLE
15'-0" O.C.
PRELIMINARY

Job #	04 2153
Date	7 APR 05
PE JMC	2 of 2



TYP. TRESTLE

1/4" = 1'-0"

C.S. 1636

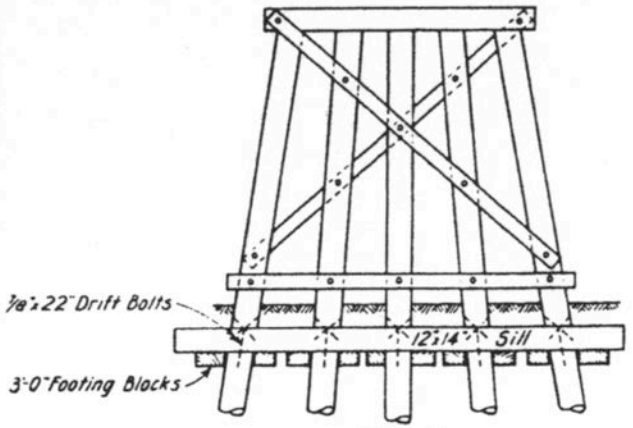


FIG. 1
ALL PILES CUT AND FRAME BENT INSTALLED

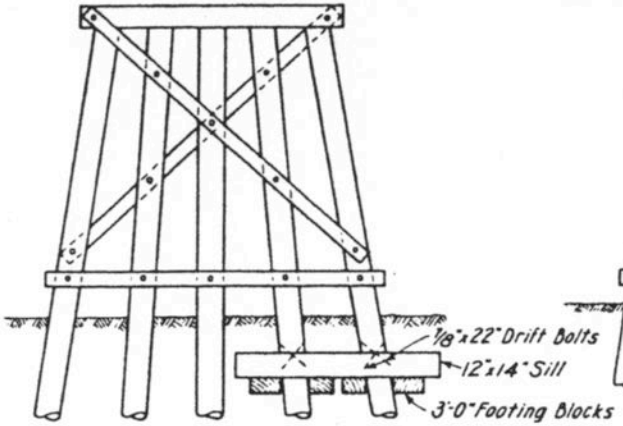


FIG. 2
TWO ADJACENT PILES CUT

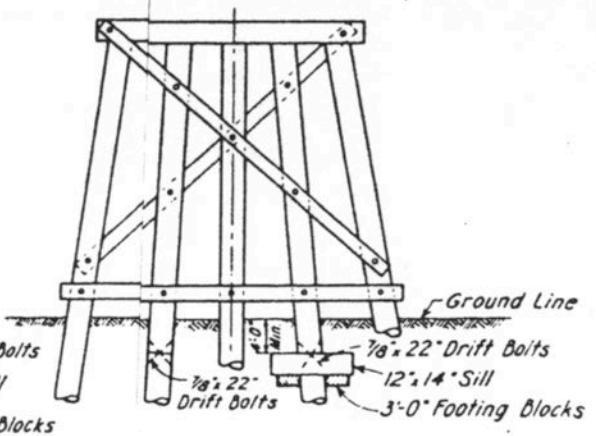


FIG. 3
PILE SPLICE

FIG. 4
SINGLE PILE CUT

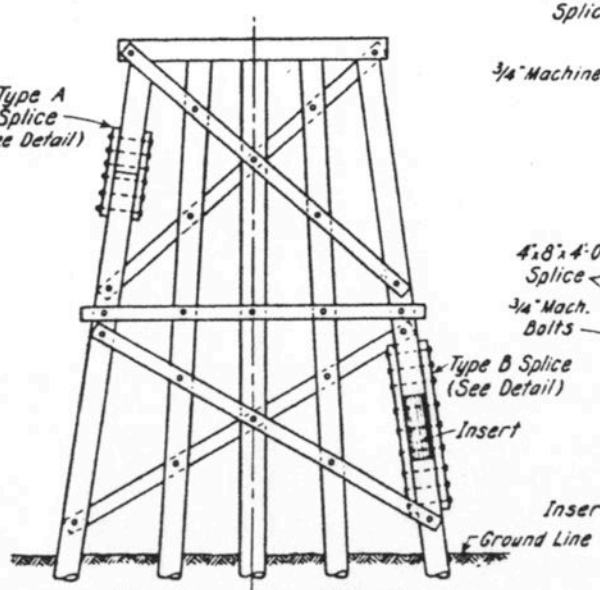
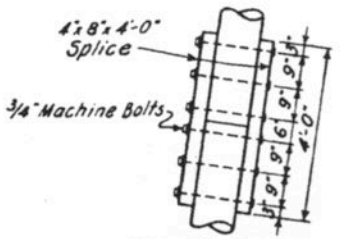
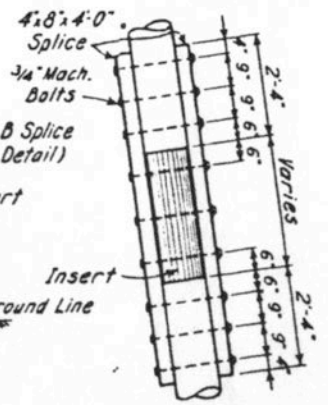


FIG. 5 FIG. 6
PILE SPLICE ABOVE GROUND



TYPE A SPLICE



TYPE B SPLICE

NOTES

1. (a) The maximum number of piles that may be spliced or cut off and framed before replacement of entire bent is necessary shall be as follows, provided that no two adjacent piles are spliced:

4-Pile Bents	
Main Lines	1
Light Traffic Branch Lines	2
5-Pile Bents	2
6-Pile Bents	3
7-Pile Bents	4

(b) When more than the above number of piles in any bent require splicing, the entire bent shall be cut off and a frame bent (with same number of posts as the piles cut off) shall be installed, as illustrated in Fig. 1.

2. When two or more adjacent piles require splicing, they shall be cut off and a short sill and partial frame bent (with same number of posts as the piles cut off) shall be installed, as illustrated in Fig. 2.

3. (a) Single piles shall be spliced as illustrated in Figs. 3 and 5. On branch lines, two alternate piles in a 4-pile bent may be spliced as shown in Fig. 3 when trestle is not over 12 feet high and on tangent track, and in other cases when authorized by Chief Engineer.

(b) When condition of pile below ground is not satisfactory for making splice per Fig. 3, method shown in Fig. 4 will be permitted, one to a bent.

4. Splice as shown in Fig. 6 will be permitted on branch lines, one to a bent, in high trestles where decay or other defects are spotty.

5. Except for splices above ground (Figs. 5 and 6) piles shall be cut off at the ground line or at a sufficient depth below to obtain solid wood.

6. (a) When cutting a single pile preparatory to installing a splice, the cut shall be made square with the pile.

(b) When cutting two or more piles preparatory to installing a frame bent, the cut shall be level and shall be made in such a manner that the sill will be level when placed and will have full bearing on the pile heads.

7. All cut pile heads shall be thoroughly saturated with hot creosote oil.

8. When pile heads are soft or piles are settling, footing blocks shall be installed under the sill as shown in Figs. 1, 2 and 4. Footing blocks will be used only where condition of the piles does not provide an adequate bearing for the frame bent.

9. Sills and footing blocks shall be made of rough Oregon fir or pine. They shall be creosoted before installation and shall be securely anchored to prevent movement.

10. In frame bents, longitudinal bracing is to be provided in accordance with current instructions.

SOUTHERN PACIFIC LINES
COMMON STANDARD

METHOD OF SPLICING TRESTLE PILES

1:10 SCALE ADOPTED DEC. 2, 1954