

Memorandum

To: MR. MICHAEL KEEVER
Structure Design
Office of Bridge Design South
Bridge Design Branch 15

Date: March 18, 2002

File: 11-SD-15-KP 20.7/26.1
11-232600

Attention: Lisa Tanaka



Sound Wall on Retaining Wall
RW - 80

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design - South
Structure Foundations Branch F

Subject: Amended Final Foundation Recommendations

This memorandum contains amended foundation recommendations to the December 4, 2001 Foundation Report. These amended foundation recommendations have been prepared to address revised wall stationing, heights and bottom of footing elevations.

Foundation Recommendations

The following recommendations are for the proposed soundwall on retaining wall, RW 80, as shown on the General Plan dated January 21, 2002, and the Bridge Standard Detail Sheets, April 2000, XS 3-51. Spread footings are recommended for the support of the proposed Wall. Refer to the recommendations provided in Table 1 below for the maximum bottom of footing elevation, minimum footing width and the recommended Gross Allowable Soil bearing pressure to be used in design.

**Table No. 1
 Spread Footing Data**

Support Location	Wall Height (m)	Minimum Footing Width (m)	Maximum Bottom of Footing Elevation (m)	Bearing Pressures To Be Used For Design	
				WSD ¹	LFD ²
				Gross Allowable Soil Bearing Pressure	Ultimate soil Bearing Pressure
C/L sta. 255+40.0 To C/L sta. 255+58	1.8	1.85	148.5	140 kPa	N/A
C/L sta. 255+58 To C/L sta. 255+99	3.0	2.3	148.5	150 kPa	N/A
C/L sta. 255+99 To C/L sta. 257+03	5.5	4.1	147.6	150 kPa	N/A
C/L sta. 257+03 To C/L sta. 257+44	6.7	5.4	146.7	150 kPa	N/A
C/L sta. 257+44 To C/L sta. 257+85.9	7.3	6.2	146.7	150 kPa	N/A
C/L sta. 257+85.9 To C/L sta. 258+27.4	6.7	5.4	148.0	150- kPa	N/A
C/L sta. 258+27.4 To C/L sta. 258+50	5.5	4.1	148.0	150 kPa	N/A

Notes: 1) For Working Stress Design, the Maximum Applied Pressure, (q_{applied}), is not to exceed the specified Gross Allowable Soil Bearing Pressure, (q_{all}). The Ultimate Soil Bearing Capacity, (q_{ult}), will equal or exceed 3 times the specified Gross Allowable Soil Bearing Pressure, (q_{all}).
 2) For Load Factor Design, The Maximum Applied Pressure, (q_{applied}), is not to exceed the Ultimate Soil Bearing Pressure, (q_u) times the Strength Reduction Factor, (ϕ). The Ultimate Soil Bearing Capacity, (q_{ult}), will equal or exceed the specified Ultimate Soil Bearing Pressure, (q_u).

General Notes

Support locations for the spread footings are to be plotted on the Log of Test Borings in plan view as stated in "Memos to Designers" 4-2. The plotting of support locations should be made prior to requesting a foundation review.

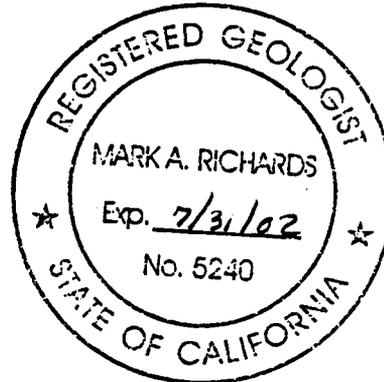
Construction Considerations

- 1) Footing concrete shall be placed neat on the undisturbed material of the bottom of the excavation. If the material at the bottom of the footing is disturbed, the material shall be compacted to a relative compaction of 95% in accordance with Standard Specifications (1999) 19-5.03.
- 2) Should there be any reduction in the spread footing dimensions, or increase in the wall heights or increase if the maximum bottom of footing elevation, the Structure Foundations, South Branch must be notified to reevaluate the recommended gross allowable soil bearing pressures to be used for design.

The recommendations contained in this report are based on specific project information regarding retaining wall heights, final grade and wall locations that have been provided to Office of Geotechnical Design - South, Structure Foundation - South Branch. If any conceptual changes are made during final project design, the Office of Geotechnical Design, Structure Foundation - South Branch, should review those changes to determine if the foundation recommendations contained in this report are still applicable. Any questions regarding the above recommendations should be directed to Mark Richards, (916) 227-5393 (CALNET 498-5393)

Prepared by: Date: 3/18/02

Mark A. Richards



MARK A. RICHARDS, RG, #5240
Associate Engineering Geologist
Office of Geotechnical Design - South
Structure Foundations - South Branch

c: R.E. Pending File
 DBarlow - Specs & Estimates
 TRuckman - Specs & Estimates
 OAlcantara - Proj Mgmt
 A. Padilla - Materials & Investigation (D11)
 LCarr - Proj Mgr (D11)
 YDeng - Structure PCE
 Geology Bridge File (LA)
 Geology Bridge File (Sac)
 JChai
 MDesalvatore *MD*
 RGES.30