

**PARSONS BRINCKERHOFF**

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**RFI Response**

**To:** Caltrans  
**Attn:** Bill Shedd, Martin Chandrawinata, Stanley Ku  
**Project:** 04-0120F4 - SAS  
**RFI Date:** 08/02/2013  
**RFI No:** 3429R00  
**Subject:** **Pier W2: Existing Ground System**

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**Background:**

Contractor is requesting confirmation that the requirement for verification and testing of the existing ground system at Pier W2 per Sheet Note 11 on contract plan sheet 105R4 is not necessary and can be waived. This is based on the contractor's postulation that the grounding system design depicted in CCO 75 is adequate for Bridge grounding.

**Response:**

PB defers to Caltrans for confirmation of the waiver of the verification and testing requirement for ground resistance specified per Sheet Note 11 on contract plan sheet 105R4 per contractor's request.

PB notes that it is not necessary to verify and perform tests on the existing ground system at Pier W2 considering the factors noted as follows. The requirement to perform a ground test at Pier W2 per IEEE-81 guidelines as specified in Sheet Note 11 of contract plan sheet 105R4 was not a design requirement and was not part of the original design contract. The inclusion of Pier W2 ground test requirement using the IEEE-81 guidelines in CCO 75 was requested by Caltrans (Michael Travis). PB understands that the intent to perform the specified ground test was to determine whether the existing grounding pigtailed embedded inside the Pier W2 concrete are intact and can accommodate the potential ground current since a visual inspection is not feasible. The purpose of IEEE-81 test is to provide a guide for measuring earth resistivity, ground impedance, and earth surface potentials of a ground system which is not applicable to test the existing Pier W2 grounding pigtailed.

PB recommends waiver of the requirement for verification and testing of the existing ground system at Pier W2 per Sheet Note 11 on contract plan sheet 105R4 since sufficient grounding electrodes (ground rods and bare copper conductors) embedded in the soil have been provided under CCO 75 to allow and maintain the ground potential on conductors connected to it, and to dissipate fault current into the earth.

**Referenced Document(s):**

- Contract Plan Sheet(s): 105R4/1204

**Potential Design/Cost Impact from this RFI:**

- No Change.
- Change with no cost.
- Change with cost.
- Change with Credit.
- Change, but cost cannot be determined at this time.

**Date:** 08/08/2013

**Respondent:** Rocky Garcia  
**QA/QC:** Jens Erlingsson

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