

PARSONS BRINCKERHOFF

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RFI Response

To: Caltrans
Attn: Bill Shedd, Martin Chandrawinata, Stanley Ku
Project: 04-0120F4 - SAS
RFI Date: 03/13/2013
RFI No: 3226R00
Subject: **Tower Movement**

Background:

Contractor states that the installation details shown on contract plan sheets for conduits spanning between Tower shafts and Tower structural elements do not address potential differential movement between the Tower shafts. Contractor is requesting details for installation of conduits to accommodate potential differential movement between the Tower shafts. Contractor is also requesting clarification for following areas where the revised details would be applicable:

- a) Conduit runs from Tower face of one shaft to Tower face of another shaft.
- b) Conduit runs between Tower face of a shaft and strut façade plate.
- c) Conduits spanning from Tower face of a shaft to equipment/box located on another shaft, e.g. Seismic Recorder Cabinet, BASE cameras and motion sensors, junction boxes, etc.
- d) Conduits spanning between Tower shafts at Tower elevations 89m, 127m, 139m-144m.

Contractor is requesting galvanized malleable material painted white for rigid fittings in lieu of RGS-PVC coated white fittings in order to prevent delay to the construction schedule.

Response:

PB response is based on the correspondence received from Caltrans and DJV. Per email from Parviz Boozarpour (Caltrans) dated 3/11/13, Caltrans waived the requirement of supporting the conduits at five (5) feet interval for conduits spanning between Tower shafts at Tower elevations 89m, 127m, and 139m – 144m. Per email from Nhan Vo (DJV) dated 3/8/13, DJV confirmed that the lateral differential movement between Tower shafts in a seismic event is less than 13mm at the aforementioned Tower elevations.

PB offers following response to the contractor's queries in the same order as listed in the RFI:

- a) Contractor shall install O-Z Gedney Type DX or equal conduit deflection/expansion fitting (see attached product data sheet) in the horizontal run of the conduits spanning from Tower face of one shaft to Tower face of another shaft at all elevations. The conduits shall be supported adjacent to the deflection/expansion fitting to prevent sagging of the conduits. Conduit clamps at this support shall be oversized to accommodate 19mm of conduit movement in lateral direction. Contractor has the option to support the conduits as shown in attached sketches SK-RFI3226R0-1 and SK-RFI3226R0-2 or per Detail 1 on sketch SK-RFI3226R0-3.

- b) Contractor shall install a section of Liquidtight Flexible Metal Conduit (LTFMC) in the horizontal run of the conduits spanning between Tower face of a shaft and strut façade plate at all elevations. The conduits shall be supported adjacent to the LTFMC section as shown in Detail 2 of sketch SK-RFI3226R0-3. The LTFMC section shall be installed with 19mm minimum sag to allow for differential movement.
- c) Contractor shall install a section of LTFMC in the conduit run for the conduits spanning from Tower face of a shaft to equipment/box located on another shaft at all elevations as shown in Detail 3 and Detail 4 of sketch SK-RFI3226R0-3. The conduits shall be supported adjacent to the LTFMC section as shown in Detail 3 and Detail 4 of sketch SK-RFI3226R0-3. The LTFMC section shall be installed with 19mm minimum sag to allow for differential movement.
- d) Contractor shall install O-Z Gedney Type DX or equal conduit deflection/expansion fitting (see attached product data sheet) in the horizontal run of the conduits spanning between Tower shafts at Tower elevations 89m, 127m, 139m-144m. The conduits shall be supported as shown in attached sketches SK-RFI3226R0-1 and SK-RFI3226R0-2.

PB defers to Caltrans/METS for response to contractor's proposal to use galvanized malleable material painted white for rigid fittings in lieu of RGS-PVC coated white fittings.

Referenced Document(s):

- None

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: 03/22/2013

Respondent: Rocky Garcia
QA/QC: Adil Mohammed

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