

Civil and Structural Standards for ITS

Version 2.1

Release Note

Background

The Civil and Structural Standards for ITS package was first formally issued for review on 13 June 2013. Since then one update has been issued to Ashghal for comments as follows:

- Version 2.0; issued 16 July 2013

Now, following a review of ITS provisions on specific projects, an interim update (Version 2.1) is proposed.

The proposed revisions concern duct and chamber details on the standard drawings. In addition, the above revised drawings has been updated based on QCS 2014. The drawing numbers for these drawings have been modified to SD-6-16-xxx to reflect the QCS update. The interim update includes nine revised and seventeen withdrawn drawings as follows:

Old Drawing Number	Revised Drawing Number	Remark
Cover Page	Cover Page	Revised (Version 2.1)
SD-6-13-101	SD-6-16-101	Revised (Revision 2.1)
SD-6-13-126	SD-6-16-126	Revised (Revision 2.1)
SD-6-13-127	SD-6-16-127	Revised (Revision 2.1)
SD-6-13-130	SD-6-16-130	Revised (Revision 2.1)
SD-6-13-131	SD-6-16-131	Revised (Revision 2.1)
SD-6-13-132	SD-6-16-132	Revised (Revision 2.1)
SD-6-13-139	SD-6-16-139	Revised (Revision 2.1)
SD-6-13-140	SD-6-16-140	Revised (Revision 2.1)

The principle amendments are summarised as follows:

Drawing – Cover Page

- Released as Version 2.1 dated, December 2015.

Drawing SD 6-16-101 – Index of ITS Standards

- Revised as per changes to drawings listed herewith (**Index**)

Drawing SD 6-13-110 – ITS Typical CCTV Camera Installation on Mast Arm

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly **(Drawing)**

Drawing SD-6-16-126 – 6-Way Precast ITS Chamber Details

- Contractor design reinforcement clarified and relevant notes revised **(Note 5)**
- Waterproofing requirements clarified and relevant notes revised **(Sections A & B and Note 21)**
- Foundation, screed and waterproof membrane requirements clarified **(Sections A & B)**
- Internal chamber size shown with minimum dimensions **(Plan and Sections)**
- Specification of chamber covers clarified **(Sections A & B and Note 15)**
- Specification of steel runs clarified as galvanized type **(Plan and Sections)**
- Details of drainage hole clarified to ensure drainage directly to gravel bed **(Sections A & B and Note 11)**
- Grade of fall to sump specified **(Sections A & B)**
- Lifting eye locations specified **(Plan and Sections)**
- Finished ground level requirements around completed chamber specified **(Note 12)**
- Draw cord installation clarified **(Note 18)**
- Drawing Notes rationalized and reordered **(Notes)**
- Amended drawing title **(Drawing)**
- Section viewpoints corrected **(Plan)**
- 6-way duct crossing requirements clarified **(Note 26)**
- Spacing of spacer clarified **(Note 24)**
- Wall bearer/ cable bearers specified **(Section A)**
- Duct section modified proportionally **(Duct Section)**
- Section view of chamber are swapped **(Sections A & B)**
- Chamber bed falls clarified **(Plan)**
- Strapping details are clarified **(Note 25)**
- Hatching for compacted soil clarified **(Duct Section)**

Drawing SD-6-16-127 – 8-Way Precast ITS Chamber Details

- Principle amendments as per Drawing SD-6-13-126
- Duct section is labelled to align with the recommendations in the ITS Telecommunications Strategy - Version 1.0 - 2014. **(Duct Section)**

Drawing SD 6-16-130 – ITS Duct and Chamber Detail - 5

- Detail added showing section through roadway crossing ducts **(Drawing)**

- Depth of ducts crossing amended to coordinate with chamber depths **(Drawing)**
- Chamber lid details amended and lid label added **(Drawing)**
- Internal chamber labels deleted **(Drawing)**
- Drawing Notes rationalized to exclude superfluous items **(Notes)**
- Notes referring to uPVC have been amended to show HDPE **(Drawing)**
- Thickness of concrete surround clarified **(Drawing)**

Drawing SD 6-16-131 – ITS Duct and Chamber Detail - 6

- Dimensions removed from existing duct and concrete surround on the section showing an addition of 1-way duct **(Drawing)**
- Excavation requirements clarified on the section showing an addition of 1-way duct **(Drawing)**
- Typical duct trench details relocated to drawing SD 6-13-132 **(Drawing)**
- Drawing Notes rationalized to exclude superfluous items **(Notes)**
- Minimum duct radii requirements clarified **(Note 7)**

Drawing SD 6-16-132 – ITS Duct and Chamber Detail - 7

- Splice Chamber detail removed **(Drawing)**
- Amended drawing title **(Drawing)**
- Typical duct trench details relocated from drawing SD 6-13-131 **(Drawing)**
- Contractor design reinforcement clarified and relevant notes revised **(Note 5)**
- Waterproofing requirements clarified and relevant notes revised **(Section and Note 22)**
- Foundation, screed and waterproof membrane requirements clarified **(Section)**
- Internal chamber size shown with minimum dimensions **(Plan and Section)**
- Specification of chamber covers clarified **(Section and Note 15)**
- Details of drainage hole clarified to ensure drainage directly to gravel bed **(Section and Note 11)**
- Grade of fall to sump specified **(Section)**
- Lifting eyes added and specified **(Plan and Section)**
- Finished ground level requirements around completed chamber specified **(Note 12)**
- Draw cord installation clarified **(Note 18)**
- Drawing Notes rationalized and reordered **(Notes)**
- Dimensions removed from existing duct and concrete surround on the section showing an addition of 1-way duct **(Drawing)**
- Excavation requirements clarified on the section showing an addition of 1-way duct **(Drawing)**
- Drawing Notes rationalized to exclude superfluous items **(Notes)**
- Duct sections transferred from Drawing SD 6-13-131 and modified proportionally **(Duct Section)**
- Chamber bed falls clarified **(Plan)**

Drawing SD 6-16-139 – DMS General Notes - 1

- Drawing updated generally to reflect revised gantry drawings already accepted and published (**Drawing**)

Drawing SD 6-16-140 – DMS General Notes - 2

- Drawing updated generally to reflect revised gantry drawings already accepted and published (**Drawing**)

Drawing SD 6-13-141 – Sample Plan for Center- Mount Structures

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (**Drawing**)

Drawing SD 6-13-142 – Sample Plan for 4-Chord Truss Structures

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (**Drawing**)

Drawing SD 6-13-143 – Sample Plan for Cantilever Structures

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (**Drawing**)

Drawing SD 6-13-144 – DMS Connection Details

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (**Drawing**)

Drawing SD 6-13-145 – Center-Mount and Cantilever Structures Foundation Details

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (**Drawing**)

Drawing SD 6-13-146 – Center-Mount and Cantilever Structures Column Details

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (**Drawing**)

Drawing SD 6-13-147 – Center-Mount and Cantilever Structures Details

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-148 – Cantilever Structures Details - 1

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-149 – Cantilever Structures Details - 2

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-150 – 4 Post 4 Chord Truss Foundation Details

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-151 – 4 Post 4 Chord Truss Column Base Details

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-152 – 4 Post 4 Chord Truss Column Details

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-153 – 4 Post 4 Chord Truss. Truss Details - 1

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-154 – 4 Post 4 Chord Truss. Truss Details - 2

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-155 – 4 Post 4 Chord Truss Details - 3

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Drawing SD 6-13-156 – Structural Loading Criteria

- Drawing withdrawn in entirety and Index Sheet (Drawing SD-6-13-101) updated accordingly (Drawing)

Civil and Structural Standards for ITS – Version 2.1

The changes outlined above constitute Version 2.1 of the Civil and Structural Standards for ITS (“The Standards”) package, which is available for download at <http://www.ashghal.gov.qa/>.

It should be noted that the changes outlined in this document constitute clarification and relatively minor changes and have been derived through the process of feedback and review in order to provide accurate, clear and up-to-date details for construction of civil and structural elements in Qatar.