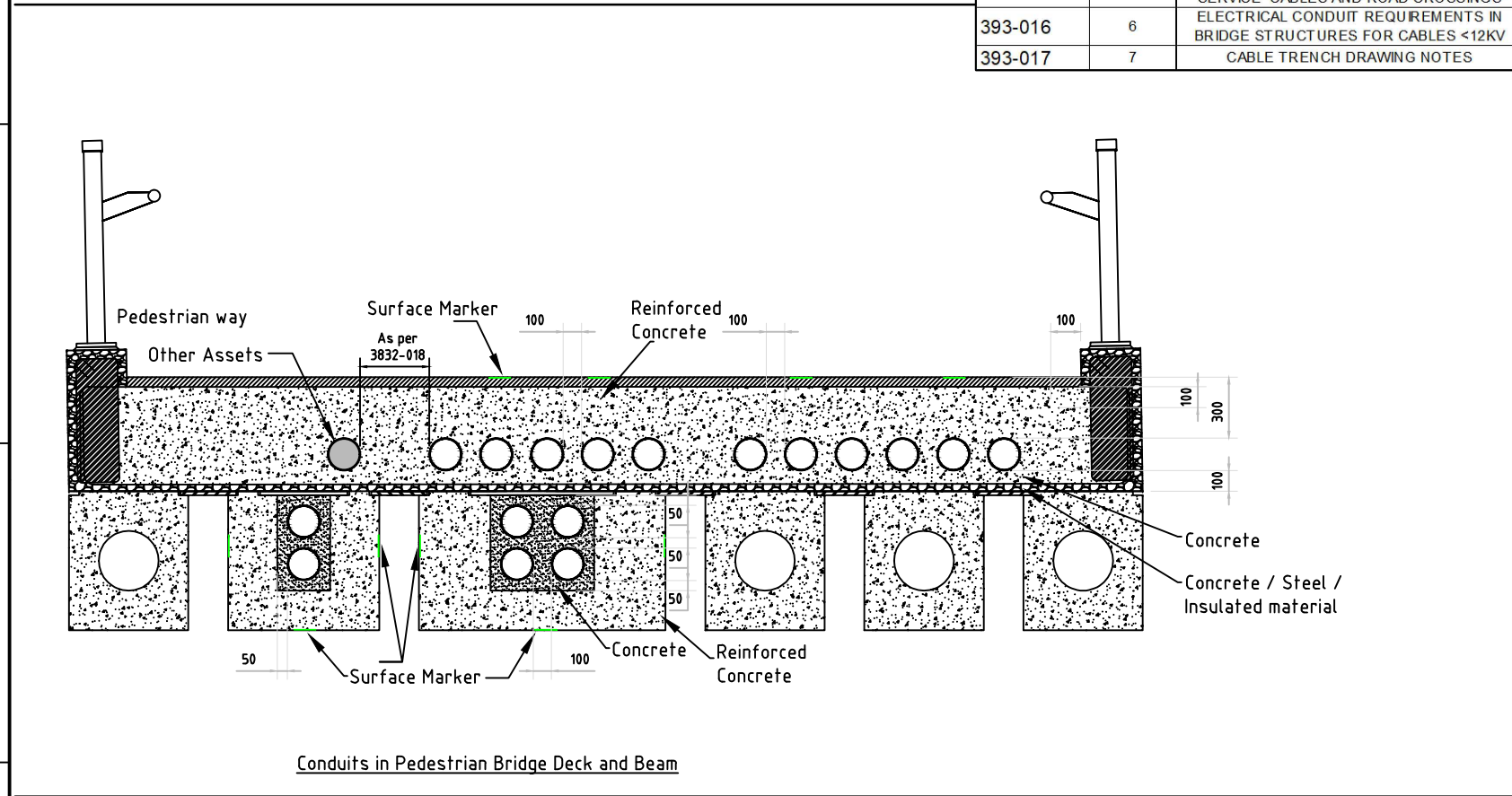


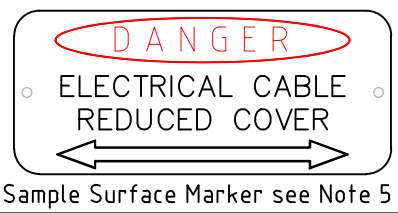
FOR ADDITIONAL INFORMATION AND OTHER RELEVANT DRAWINGS, REFER TO THE DRAWING TABLE.

SUITE OF CABLE TRENCH DRAWINGS TABLE		
DRAWING NO.	SHEET NO.	DESCRIPTION
393-011	1	SHARED TRENCH AND ELECTRICAL PIT DETAILS FOR URD WITH GAS
393-012	2	SHARED TRENCH AND ELECTRICAL PIT DETAILS FOR URD WITHOUT GAS
393-013	3	DEDICATED ELECTRICAL OPEN TRENCH DETAILS 3, 4 & 6 WAY CONDUIT CROSS SECTIONS DEDICATED ELECTRICAL UNDER BORE DETAILS
393-014	4	2, 3, 4 & 6 WAY CONDUIT CROSS SECTIONS DEDICATED ELECTRICAL OPEN TRNCH FOR DIRECT BURIED CABLES, CONDUIT SERVICE CABLES AND ROAD CROSSINGS
393-015	5	ELECTRICAL CONDUIT REQUIREMENTS IN BRIDGE STRUCTURES FOR CABLES <12KV
393-016	6	ELECTRICAL CONDUIT REQUIREMENTS IN BRIDGE STRUCTURES FOR CABLES <12KV
393-017	7	CABLE TRENCH DRAWING NOTES



**NOTES:**

- THIS DRAWING DOES NOT REPLACE ANY SEPARATION, COVER REQUIREMENT, TRENCH AND/OR CONDUIT ARRANGEMENT DRAWING. THIS DRAWING IS ONLY APPLICABLE FOR CONDUITS IN A BRIDGE.
- CABLE/CONDUITS UNDER BRIDGE CARRIAGEWAY ARE NOT ACCEPTABLE, HOWEVER, INSTALLATION UNDER THE PEDESTRIAN WAY IS ACCEPTABLE, PROVIDED REQUIREMENT DETAILED IN THIS DRAWINGS ARE MET.
- THE CONDUIT SIZE, IN ALL CASES, MUST BE 150mm UPVC IN LINE WITH P00793 CIVIL WORKS MANUAL VOL2.
- SEPARATION BETWEEN THE EDGES OF THE CONDUIT MUST BE 100mm MINIMUM UNLESS NOTED.
- THE TRANSITION BETWEEN STANDARD DEPTH AND REDUCED DEPTH MUST BE GRADUAL WITHOUT USE OF 90° CONDUIT BENDS. DUE TO SITE SPECIFIC REQUIREMENT, THE EVOENERGY OFFICIALS COORDINATOR MAY ACCEPT ≤ 45° CONDUIT BENDS, SUBJECT TO NO INCREASED RISK DURING CABLE HAULING.
- VISIBLE PERMANENT SURFACE MARKERS MUST BE INSTALLED AT 3 METER INTERVALS ALONG THE CABLE ROUTE IN THE BRIDGE. THE MARKERS SHOULD BE CENTRALLY AFFIXED ABOVE AND/OR BELOW THE CONDUITS (BY STAINLESS STEEL MUSHROOM HEAD STRIKE ANCHOR) TO ALL SURFACES (INCLUDING FLOOR, CEILINGS, CABLE RISERS, WALLS AND BEAMS). SUITABLE MARKING CONSIST A MINIMUM 150mm X 65mm STAINLESS STEEL WARNING PLATE WITH THE WORDS "DANGER, ELECTRICAL CABLE. REDUCED COVER".
- FOLLOWING EARTHING NOTES MUST BE CONVEYED TO DEVELOPER AND MUST BE CONSIDERED IN THEIR RISK ASSESSMENT:
  - ANY REQUIRED EARTHING MUST BE ASSESSED, DESIGNED AND VALIDATED IN ACCORDANCE WITH THE EVOENERGY DOCUMENT "P007127-DISTRIBUTION EARTHING DESIGN AND CONSTRUCTION MANUAL".
  - MINIMUM SEPARATION REQUIREMENTS FROM ANY CONDUCTIVE BURIED ITEM OR CONDUCTIVE STRUCTURE ABOVE THE GROUND TO ANY EVOENERGY 11kV NETWORK EARTHING MUST BE DETERMINED ON A CASE BY CASE BASIS BY A DESIGNER OR NETWORK SERVICES SECTION MANAGER.
  - ALL LOW VOLTAGE EARTHING MUST BE POSITIONED IN ACCORDANCE WITH EVOENERGY DOCUMENT P007127-DISTRIBUTION EARTHING DESIGN AND CONSTRUCTION MANUAL AND MAINTAIN A MINIMUM 4m SEPARATION TO ANY EVOENERGY 11kV EARTHING INFRASTRUCTURE, e.g. STREET LIGHT EARTHING.
- MINIMUM COVER ABOVE THE TOP OF THE CONDUIT MUST BE 300mm AND MAY CONSIST OF CONCRETE, STEEL, VOID OR MATERIAL SUBJECT TO BRIDGE DESIGN AND RISK ASSESSMENT/SAFETY IN DESIGN REPORT.
- IF LOCATION HAS OTHER ASSETS OR SERVICES, SEPARATION MUST COMPLY WITH DRAWING 3832-018.
- IF CONDUIT IS INSTALLED IN A VOID, CLEATS AND SPACERS MUST BE UTILISED TO PREVENT CABLE MOVEMENT, INCLUDING UNDER FAULT CONDITIONS AND TO ENSURE 100MM SEPARATION OF THE CONDUITS.
- VOIDS MUST INCLUDE MITIGATION TO PREVENT VERMIN ACCESS.
- VOIDS MUST HAVE SUITABLE DRAINAGE TO PREVENT ACCUMULATION OF LIQUIDS. ENCASEMENTS UTILISING CONCRETE, STEEL OR ANY OTHER MATERIAL MUST BE WATER SEALED
- VOIDS MUST BE ACCESSIBLE FROM THE TOP BY THE REMOVAL OF SLABS OR COVERS. THE CLASS OF COVER MUST BE COMPATIBLE WITH INTENDED USE I.E. IF PEDESTRIAN WAY ALLOWS USE OF EMERGENCY VEHICLES, COVERS MUST BE APPROPRIATELY RATED.
- IF SURFACE BENEATH CONDUITS IS ACCESSIBLE, MINIMUM COVER TO BENEATH OF CONDUIT MUST BE 200MM. IF SURFACE BENEATH CONDUITS IS INACCESSIBLE, MINIMUM COVER MAY BE REDUCED TO 100MM.
- MAXIMUM RUN AT REDUCED COVER IN A BRIDGE IS 450m WITH MAXIMUM 90° DEVIATION BY SINGLE 90° OR TWO 45° LARGE SWEEPING BENDS.
- SPARE CONDUIT REQUIREMENTS MUST BE CONSULTED WITH PLANNING SECTION.
- THE STRUCTURAL STRENGTH OF THE BRIDGE AND THE EFFECTS ON EVOENERGY CABLES AND CONDUITS BY BRIDGE EXPANSION, CONTRACTION, SETTLEMENT AND VIBRATION MUST BE ADEQUATELY ADDRESSED IN IN THE SAFETY IN DESIGN REPORT. MITIGATION SUCH AS CONDUIT SLIP JOINTS, FLEXIBLE JOINTS AND CABLE SNAKES MUST BE DETAILED.
- MODIFICATION TO CONDUITS IN EXISTING BRIDGES TO BE ASSESSED INDIVIDUALLY.
- IF CONDUITS AT THE BRIDGE APPROACHES ARE DEEPER THEN 1.5m, CABLE DERATING MUST BE ASSESSED AND CONDUIT SPACING MAY NEED TO BE INCREASED.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH EVOENERGY DRAWING 393-017.



Drawn:	J. Ryan	Designed:	N. Azizi	
Checked:	J. Primmer	24/09/2024		
Approved:	N. Azizi	24/09/2024		
Project No:				
No	Revision	Date	Checked	Approved
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**ELECTRICAL CONDUIT REQUIREMENTS IN BRIDGE STRUCTURES FOR CABLES <12KV**

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Status:	Current	
<b>A3</b>	<b>393-016</b>	Rev