BORED PILE NOTES

1. MATERIAL AND WORKMANSHIP OF BORED PILES ARE TO BE IN ACCORDANCE WITH MRTS63.

2. BORED PILES SHALL BE LOCATED IN THE POSITIONS SHOWN ON THE PROJECT DRAWINGS, WITHIN THE FOLLOWING TOLERANCE (WHICHEVER MINIMUM)
   - THE MAXIMUM LATERAL DISPLACEMENT OF THE PILE HEAD IN ANY DIRECTION FROM ITS CORRECT POSITION SHALL NOT EXCEED 75mm
   - MAXIMUM VARIATION FROM VERTICAL SHALL NOT EXCEED 20mm PER METER.

3. THE CONTRACTOR SHALL DETERMINE THE REQUIREMENT FOR A TEMPORARY OR PERMANENT LINER FOR THE PILE BORE PRIOR TO EXCAVATION. THE PILE LENGTH SHOWN IN THE TABLE IN DRG BSD-4312 SHEET 5 IS THE LENGTH COMMENCING BELOW THE BOTTOM OF THE PERMANENT LINER.

4. BOTTOM OF PILE IS TO BE CLEANED BEFORE CONCRETING BY THE CONTRACTOR TO THE SATISFACTION OF A REGISTERED GEOTECHNICAL ENGINEER (RPEQ) APPOINTED BY THE CONTRACTOR.

5. CONCRETE SHALL BE PLACED, AS SOON AS POSSIBLE AFTER DRILLING AND APPROVAL HAS BEEN GIVEN, THROUGH A SUITABLE LENGTH AND DIAMETER DELIVERY PIPE AND SHALL BE COMPACTED AS SPECIFIED IN MRTS63.

6. BORED HOLES SHALL BE KEPT FREE OF WATER AT ALL TIMES BY BAILING AND PUMPING IF NECESSARY, PARTICULARLY PRIOR TO CONCRETING. CONCRETE SHALL NOT BE PLACED IN WATER UNLESS APPROVED BY THE DESIGNER. THE TOP OF HOLE SHALL BE PROPERLY COVERED TO PREVENT SURFACE WATER OR RAINFALL FROM ENTERING THE HOLES.

7. SAFETY PRECAUTIONS SHALL BE TAKEN TO AVOID INJURY TO PEOPLE. THE UNATTENDED HOLE SHALL BE COVERED OR FENCED OFF AT ALL TIMES.

8. PILE SHALL NOT BE FOUNDED HIGHER THAN THE LEVELS SHOWN ON DRG BSD-4312 SHEET 5 UNLESS APPROVED BY THE DESIGNER.

9. REFER DRG BSD-4312 SHEET 5 FOR ADDITIONAL NOTES AND INSTRUCTIONS TO THE CONTRACTOR.

HOLD DOWN BOLT NOTES

1. EACH EXPOSED THREAD PROJECTION SHALL BE SUPPLIED WITH ONE HOLD DOWN BOLT NUT, ONE HALF HEIGHT LOCK NUT, ONE LEVELLING NUT AND TWO FLAT WASHERS ASSEMBLED AS SHOWN IN THE DETAILS ON THIS DRAWING SET. ALL NUTS SHALL BE STANDARD HEIGHT AND SHALL COMPLY WITH AS 1112. ALL SCREW THREADS SHALL BE TO AS1275, BOLTS AND NUTS TO BE HOT DIP GALVANISED TO AS1214 AND WASHER HOT DIP GALVANISED TO AS/NZS4680.

2. THE LOCATION OF THE BOLTS SHALL BE CONFIRMED BY ON SITE MEASUREMENT BEFORE CONCRETE PLACEMENT.

3. ALL HOLD DOWN BOLTS SHALL BE GRADE 4.6/S UNLESS OTHERWISE NOTED.

4. HOLD DOWN BOLTS AND ALL OTHER METALLIC CAST-IN ITEMS ARE NOT TO BE IN CONTACT WITH THE STEEL REINFORCEMENT.

5. THE CAST-IN PORTION OF THE BOLT SHALL BE COATED WITH MEGAPOXY HT (1.0mm DRY FILM THICKNESS), IMMEDIATELY PRIOR TO CONCRETE PLACEMENT.

6. BASE PLATE SHALL BE GROUTED USING GOOD QUALITY FLOWABLE, SELF LEVELLING, NON SHRINK GROUT ("EPIREZ" SUPER-GROUT 65 OR APPROVED EQUIVALENT) HAVING A MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH F'c=65 MPa. THE CONTRACTOR SHALL ENSURE THAT H.D. BOLTS ARE FULL ENCAPSULATED WITH GROUT.

STEELWORK NOTES

1. ALL WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH DTMR SPECIFICATION MRTS 78.

2. THE CONTRACTOR SHALL SUBMIT MILL AND TEST CERTIFICATES FOR STRUCTURAL STEEL PRODUCTS TOGERTHER WITH RPEQ CERTIFICATION CONFIRMING THE FOLLOWING, FOR APPROVAL OF THE SUPERINTENDANT PRIOR TO COMMENCEMENT OF FABRICATION;
   - THAT THE STRUCTURAL STEEL PRODUCTS SUPPLIED BY EITHER AN AUSTRALIAN OR OVERSEAS SUPPLIER ARE ACRS CERTIFIED. REFER www.steelcertification.com FOR CURRENT CERTIFICATE HOLDERS. ACRS REFERS TO "AUSTRALIAN CERTIFICATION AUTHORITY FOR REINFORCING AND STRUCTURAL STEELS".
   - THAT WHERE STRUCTURAL STEEL PRODUCTS ARE SOURCED FROM OVERSEAS FOR THE PROJECT, THE CERTIFYING ENGINEER HAS REVIEWED THE MILL AND TEST CERTIFICATES FROM THE SUPPLIERS OF THE STEEL PRODUCTS AND CONFIRMS THAT THEY COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS IN RELATION TO MATERIAL COMPOSITION AND STRENGTH.
   - THAT ALL BOLTS USED COMPLY WITH AS1252 AND THE CURRENT REQUIREMENTS OF THE AUSTRALIAN STEEL INSTITUTE – ASI TECHNICAL NOTE TN001 VERSION 3.

STEELWORK NOTES – CONTINUED

3. THE CONTRACTOR SHALL SUBMIT A SEPARATE RPEQ CERTIFICATION CONFIRMING THAT ALL WELDING WORKS HAVE BEEN INSPECTED AND CERTIFIED AS COMPLYING WITH AS1554 BY A QUALIFIED WELDING INSPECTOR APPOINTED BY THE CONTRACTOR,TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO THE STEELWORK BEING GALVANISED.

4. ALL STEELWORK SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH AS/NZS 4680 AFTER FABRICATION. PROTECTIVE COATING SYSTEM AND SURFACE FINISH FOR STRUCTURAL ELEMENTS AS FOLLOWS:
   1. VMS SUPPORT POST – HOT DIP GALVANISED TO HDG600 SPECIFICATION IN AS/NZS 2312.
   2. VMS CANTILEVER FRAME –
      (i) HOT DIP GALVANISED TO HDG600 SPECIFICATION IN AS/NZS 2312
      (ii) POWDER COATED IN MATT BLACK. POWDER COATING TO LAST MIN. 10 YEARS. PRETREAT HDG SURFACES AS PER AS4506 PRIOR TO POWDER COATING.

5. THE STEELWORK FABRICATION CONTRACTOR SHALL PREPARE AND SUBMIT DETAILED FABRICATION DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. ALLOW MINIMUM TEN (10) WORKING DAYS FOR ENGINEERS APPROVAL.

6. PRIOR TO COMMENCING WORK, THE STEELWORK FABRICATION CONTRACTOR SHALL VERIFY ALL DESIGN SETOUT INFORMATION ON SITE. THE SUPPORT POST SHALL BE LOCATED CONCENTRICALLY OVER THE FOOTING.

7. UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE STEEL SHALL COMPLY WITH THE FOLLOWING:
   * HOT ROLLED STEEL SECTIONS – GRADE 300 TO AS3679.1
   * HOT ROLLED STEEL PLATE – GRADE 300 TO AS3678
   * SQUARE AND RECTANGULAR HOLLOW SECTIONS – GRADE C350L0 TO AS1163
   * CIRCULAR HOLLOW SECTIONS – GRADE C350L0 TO AS1163

8. CARRY OUT WELDING IN ACCORDANCE WITH AS1554 AND AS FOLLOWS:
   * ALL WELDS TO BE COMPLETE PENETRATION BUTT WELDS U.N.O.
   * WELDS TO BE SHOP WELDED U.N.O.
   * WELDS TO BE CATEGORY SP
   * BUTT WELD DENOTED AS CPBW ON THE DRAWINGS SHALL BE COMPLETE PENETRATION U.N.O.
   * ELECTRODES TO BE CLASSIFICATION E48XX U.N.O., PRE-APPROVED TO AS1554
   * EXTENT OF WELD INSPECTION AND TESTING TO BE AS PER MRTS78

9. BOLTS AT SPLICE CONNECTION SHALL BE GRADE 8.8/TF HIGH STRENGTH STRUCTURAL BOLTS, NUTS AND WASHERS TO AS/NZS1252

S	–	DENOTES SNUG TIGHT
TB	–	DENOTES BEARING MODE JOINT, BOLTS FULLY TENSIONED
TF	–	DENOTES FRICTION MODE JOINT, BOLTS FULLY TENSIONED (CONTACT SURFACES OF CONNECTIONS TO BE UNCOATED)

10. THE BOLT TYPE AND TIGHTENING PROCEDURE ARE DESIGNATED: NUMBER, SIZE STRENGTH GRADE / TIGHTENING PROCEDURES, eg: 4M24 8.8/TF = 4 OFF, 24 DIAMETER, METRIC HIGH STRENGTH STRUCTURAL BOLTS, FULLY TENSIONED IN FRICTION MODE.

11. U.N.O., ON THE DRAWINGS, HOT DIP GALVANISE BOLTS, SCREWS, NUTS AND WASHERS TO AS1214. TAP NUTS OVERSIZE TO SUIT GALVANISED THREADS AND OIL FOR PROTECTION. INSTALL WASHERS UNDER BOLT HEAD AND NUT.

12. FRICTION GRIP BOLTS SHALL BE TENSIONED TO THE FORCES SPECIFIED USING METHODS DESCRIBED IN MRTS78. SLIP FACTOR ASSUMED FOR FRICTION TYPE BOLTS = 0.35.

13. ENSURE MEMBERS ARE CONCENTRIC AT CONNECTIONS (GRAVITY OR GAUGE LINES TO INTERSECT) U.N.O.

14. STEEL MEMBERS SHALL BE MADE FROM WHOLE LENGTHS.

15. PROVIDE VENT/DRAIN HOLES IN ACCORDANCE WITH AS/NZS4680 AS REQUIRED. VENT / DRAIN HOLES ARE TO BE DETAILED ON THE WORKSHOP DRAWINGS FOR APPROVAL BY THE ENGINEER. ALL VENT/DRAIN HOLES ARE TO BE SEALED WITH APPROVED PLASTIC PLUGS PRIOR TO DELIVERY OF THE STEELWORK TO SITE.

STRUCTURAL DESIGN CERTIFICATION

DESIGN	DESIGN CHECK	AUTHORISED FOR ISSUE
Dilan Rowel RPEQ:8455 2013.10.29 16:09:14 +10'00'	santo.patane@brisbane.qld.gov.au 2013.10.22 16:28:54+10'00'	bala.balakumar@brisbane.qld.gov.au 2013.10.30 08:25:42 +10'00'

ISSUE	AMENDMENT	DRAWN DATE	CHK'D DATE	APPR'D DATE
C	Drawing Title Amended	JAN '16	JUL '16	JUL '16
B	NOTES AMENDED	SEPT '14	SEPT '14	SEPT '14
A	ORIGINAL ISSUE	Oct '13	Oct '13	Oct '13

DRAWING AUTHORISED FOR PUBLICATION
Signature on Original
Inga Condric Dated 15/04/14
FOR ASSET ENGINEERING MANAGER
STRATEGIC ASSET MANAGEMENT

DESIGN APPROVED
Eric Bradley Signature on Original
Dec 2013
Intelligent Transport Systems Manager

DESIGN	D.R.	DATE	Oct '13
DRAWN	D.M.	DATE	Oct '13
CHECKED	S.P.	DATE	Oct '13
DRAWING FILENAME	BSD-4312 (C) VMS support structure type BCCVA - Notes - Sheet 2 of 5.dwg		
ASSOCIATED PLANS	BSD-4312 SHEETS 1,3, 4& 5		

BRISBANE CITY

BRISBANE CITY COUNCIL STANDARD DRAWING

VMS SUPPORT STRUCTURE TYPE BCCVA – NOTES SHEET 2 OF 5

SCALE: NOT TO SCALE
DWG No.: BSD-4312
ORIGINAL SIZE: A3
REVISION: C