COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANES - 8m SPAN

NEW BRIDGE †
BRIDGE No: †
DESIGN FILE No: †
DESIGN STANDARD: AS 5100 SET 2007 - BRIDGE DESIGN SET
AS/RMS 5100.5 INTERIM - MAY 2015
MAXIMUM No OF VEHICLES PER DAY: 1000
CARRIAGEWAY WIDTH: 8500mm

ROAD TRAFFIC LOADING: SM1600

NUMBER OF DESIGN LANES: 2
DESIGN TRAFFIC SPEED: †
ACCOMPANYING LANE FACTORS: 1 AND 0.8
FATIGUE LOADING:
NUMBER OF HEAVY VEHICLES PER LANE PER DAY: MAXIMUM 200
ROUTE FACTOR: 0.5

TRAFFIC BARRIER PERFORMANCE LEVEL: LOW

THE DESIGN BARRIER PERFORMANCE LEVEL IS LOW. IF ANY OTHER PERFORMANCE LEVEL IS REQUIRED FOR A SPECIFIC SITE, THE DESIGN SHALL BE ADJUSTED IN ACCORDANCE WITH AS 5100.

EARTHQUAKE LOADING

BRIDGE CLASSIFICATION: †
IMPORTANCE FACTOR: †
ACCELERATION COEFFICIENT: †
SITE FACTOR (AS 1170-1993): †
DESIGN CATEGORY: †

WIND LOADING

DESIGN SPEED = m/sec at SLS †
= m/sec at ULS †

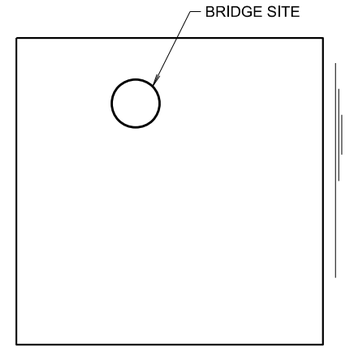
WATER FLOW DATA †

	SLS	ULS
ARI		
FLOW VELOCITY (m/s)		
FLOOD LEVEL (m)		
SCOUR DEPTH (m)		
(i) ABUTMENT A		
(ii) PIER 1		
(iii) ABUTMENT B		

DEPTH OF DEBRIS MATTRESS mm †

† DIFFERENTIAL SETTLEMENT:

mm TOTAL BETWEEN BRIDGE SUPPORTS



†

LOCALITY PLAN

REFERENCE DOCUMENTS:

CBS OVERARCHING GUIDE
CBS SUITABILITY AND INVESTIGATION GUIDE
CBS DESIGN GUIDE
CBS CONSTRUCTION GUIDE
CBS OPERATION AND MAINTENANCE GUIDE
GEOTECHNICAL INVESTIGATION REPORT No : †
HYDRAULIC INVESTIGATION REPORT No : †
DURABILITY INVESTIGATION REPORT No : †

NOTE:

THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ABOVE REFERENCE DOCUMENTS PARTICULARLY THE DESIGN GUIDE AND TO BE CONSTRUCTED IN ACCORDANCE WITH RMS QA CONSTRUCTION SPECIFICATIONS. ANY VARIATION TO THIS STANDARD DRAWING SHALL NOT BE USED WITHOUT THE APPROVAL OF THE RMS PRINCIPAL ENGINEER BRIDGES.

† DENOTES DESIGN DATA RELEVANT TO THE SPECIFIC SITE TO BE DETERMINED BY THE DESIGNER.

CBS MODULAR BRIDGE DESIGN REQUIREMENTS

1. THE FOLLOWING STRUCTURAL ELEMENTS ARE NOT COVERED IN THIS STANDARD DESIGN AND SHALL BE DESIGNED, VERIFIED AND CERTIFIED IN ACCORDANCE WITH AS 5100 AND RMS REFERENCE DOCUMENTS BY SUITABLY QUALIFIED ENGINEERS EXPERIENCED IN BRIDGE DESIGN WITH A LEVEL OF EXPERIENCE DETERMINED BY THE COUNC
   - PILES, PILE CAPS, COLUMNS, WALL UNDER ABUTMENT SILL BEAM AND FOOTINGS.
   - ANCHORAGE REINFORCEMENT FROM PILES, COLUMNS, FOOTINGS, WALLS AND PILE CAPS INTO HEADSTOCK AND SILL BEAM RECESSES.
   - DECK MODULE HOLDING DOWN BRACKETS FOR BRIDGES WHERE THE ULTIMATE WATER FLOW VELOCITY EXCEEDS 4m/s AND WHERE THE OVERTOPPING EXCEEDS 5m.
   - THE PIER HEADSTOCK SUPPORTING UNEQUAL SPANS ON EACH SIDE.
   - TRAFFIC BARRIER, RAILING, ATTACHMENTS, REINFORCEMENTS IN THE PRECAST MODULES AND WINGWALLS FOR BARRIERS WITH HIGHER PERFORMANCE LEVEL THAN LOW.
   - TEMPORARY SUPPORTS AND BRACINGS FOR ALL PRECAST ELEMENTS.
   - ANY REQUIRED EMBANKMENT/SCOUR PROTECTION.
2. THE SUBSTRUCTURES ARE DESIGNED FOR MAXIMUM OUT OF POSITION OF PILES MEASURED AT CUT OFF LEVELS OF PILES OF ±75mm.
3. THE STRUCTURE HAS BEEN DESIGNED FOR THE WEIGHT OF WATERPROOF MEMBRANE WHICH IS REQUIRED TO BE INSTALLED IN ACCORDANCE WITH RMS QA SPECIFICATION B344, WHEN CRACKS WIDER THAN 0.2mm DEVELOP ON THE DECK SURFACE OR ALONG THE CONSTRUCTION JOINTS

JACKING OF BRIDGE DECK FOR BEARING REPLACEMENT

JACKING PLATE (FOR INFORMATION ONLY) TO BE 120mm x 16PL x 120mm FOR 10 TONNES JACK.
FOR JACKING LOCATIONS REFER SHEET Nos 7, 14, 16, 18 AND 20.
MAXIMUM LOADS PER JACK ARE 40kN (SLS) AND 50kN (ULS).
THE MAXIMUM LIFT DURING JACKING SHALL BE LIMITED TO 10mm.
NO TRAFFIC LOAD IS PERMITTED ON THE BRIDGE DURING JACKING.
ALL JACKS AT ENDS OF GIRDERS SHALL BE HYDRAULICALLY LINKED AND HAVE A CENTRAL MECHANISM TO ENSURE THAT THE SAME VERTICAL DISPLACEMENT OCCURS AT EACH JACKING POINT AT ALL TIMES DURING THE JACKING OPERATION.
AT PIERS BOTH ENDS OF GIRDERS SHALL BE JACKED SIMULTANEOUSLY.
STEEL PLATES SHALL BE PLACED BETWEEN CONCRETE BEARING SURFACES AND JACK TO ENSURE CONCRETE BEARING STRESS AT SLS DOES NOT EXCEED 18 MPa.

Transport Roads & Maritime Services
PREPARED BY
BRIDGE ENGINEERING
110 GEORGE STREET
PARRAMATTA NSW 2150
PHONE (02) 8837-0811
FACSIMILE (02) 8837-0055

DESIGNED AND PRODUCED UNDER A QUALITY SYSTEM CERTIFIED AS COMPLYING WITH ISO/AS 9001 BY AN ACCREDITED CERTIFICATION BODY

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

REGISTRATION No OF PLANS
ISSUE STATUS:
SHEET No MB08DL01 | No OF SHEETS 42 | ISSUE

SCHEDULE OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE
MB08DL01	COVER SHEET
MB08DL02	SCHEDULE OF DRAWINGS AND LIST OF SPECIFICATIONS
MB08DL03	GENERAL ARRANGEMENT - SHEET A
MB08DL04	GENERAL ARRANGEMENT - SHEET B
MB08DL05	GENERAL ARRANGEMENT - SHEET C
MB08DL06	GENERAL ARRANGEMENT - SHEET D
MB08DL07	PRECAST ABUTMENT SILL BEAMS CONCRETE
MB08DL08	PRECAST ABUTMENT WINGWALL CONCRETE - SHEET A
MB08DL09	PRECAST ABUTMENT WINGWALL CONCRETE - SHEET B
MB08DL10	PRECAST ABUTMENT SILL BEAMS REINFORCEMENT
MB08DL11	PRECAST ABUTMENT WINGWALL REINFORCEMENT - SHEET A
MB08DL12	PRECAST ABUTMENT WINGWALL REINFORCEMENT - SHEET B
MB08DL13	PRECAST ABUTMENT WINGWALL REINFORCEMENT - SHEET C
MB08DL14	PIERS PRECAST HEADSTOCK - 3 COLUMNS - CONCRETE
MB08DL15	PIERS PRECAST HEADSTOCK - 3 COLUMNS - REINFORCEMENT
MB08DL16	PIERS PRECAST HEADSTOCK - 4 COLUMNS - CONCRETE
MB08DL17	PIERS PRECAST HEADSTOCK - 4 COLUMNS - REINFORCEMENT
MB08DL18	PIERS PRECAST HEADSTOCK - 5 PILES - CONCRETE
MB08DL19	PIERS PRECAST HEADSTOCK - 5 PILES - REINFORCEMENT
MB08DL20	PIERS PRECAST HEADSTOCK - 6 PILES - CONCRETE
MB08DL21	PIERS PRECAST HEADSTOCK - 6 PILES - REINFORCEMENT
MB08DL22	NOT USED
MB08DL23	PIER COLUMNS - CONCRETE
MB08DL24	PIER COLUMNS - REINFORCEMENT
MB08DL50	BEARINGS - SHEET A
MB08DL51	BEARINGS - SHEET B
MB08DL52	PRECAST MODULE CONCRETE - SHEET A
MB08DL53	PRECAST MODULE CONCRETE - SHEET B
MB08DL54	PRECAST MODULE CONCRETE - SHEET C
MB08DL55	PRECAST MODULE REINFORCEMENT - SHEET A
MB08DL56	PRECAST MODULE REINFORCEMENT - SHEET B
MB08DL57	PRECAST MODULE REINFORCEMENT - SHEET C
MB08DL58	DECK CONCRETE - SHEET A
MB08DL59	DECK CONCRETE - SHEET B
MB08DL60	DECK CONCRETE - SHEET C
MB08DL61	HOLDING DOWN BRACKET DETAILS
MB08DL62	DECK REINFORCEMENT - SHEET A
MB08DL63	DECK REINFORCEMENT - SHEET B
MB08DL64	TRAFFIC BARRIER RAILING - SHEET A
MB08DL65	TRAFFIC BARRIER RAILING - SHEET B
MB08DL66	TRAFFIC BARRIER RAILING - SHEET C
MB08DL67	TRAFFIC BARRIER RAILING - SHEET D
MB08DL68	BAR SHAPES DIAGRAM

NOTE: SHEETS No MB08DL22, MB08DL25 TO MB08DL49 NOT USED

LIST OF RMS QA CONSTRUCTION SPECIFICATIONS

No.	SPECIFICATION TITLE
B30	EXCAVATION AND BACKFILL FOR BRIDGEWORKS.
B50	DRIVEN REINFORCED CONCRETE PILES.
B58	BORED CAST-IN-PLACE REINFORCED CONCRETE PILES (WITH PERMANENT CASING).
B59	BORED CAST-IN-PLACE REINFORCED CONCRETE PILES (WITHOUT PERMANENT CASING).
B80	CONCRETE WORK FOR BRIDGES.
B110	SUPPLY OF PRESTENSIONED PRECAST CONCRETE MEMBERS.
B115	PRECAST CONCRETE MEMBERS (NOT PRETENSIONED).
B150	ERECTION OF PRETENSIONED PRECAST CONCRETE MEMBERS.
B153	ERECTION OF PRECAST CONCRETE MEMBERS (NOT PRETENSIONED).
B204	WELDING OF BRIDGES AND OTHER ROAD STRUCTURES.
B220	PROTECTIVE TREATMENT OF BRIDGE STEELWORK.
B240	SUPPLY OF BOLTS, NUTS, SCREWS AND WASHERS.
B241	MANUFACTUREAND SUPPLY OF MINOR STEEL ITEMS.
B264	ERECTION OF BARRIER RAILINGS AND MINOR COMPONENTS.
B281	LAMINATED ELASTOMERIC BEARINGS.
B284	INSTALLATION OF BRIDGE BEARINGS.
B312	COLD APPLIED ELASTOMERIC JOINT SEALANTS.
B344	SPRAYED BITUMENOUS WATERPROOFING MEMBRANES.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

SCHEDULE OF DRAWINGS AND LIST OF SPECIFICATIONS

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

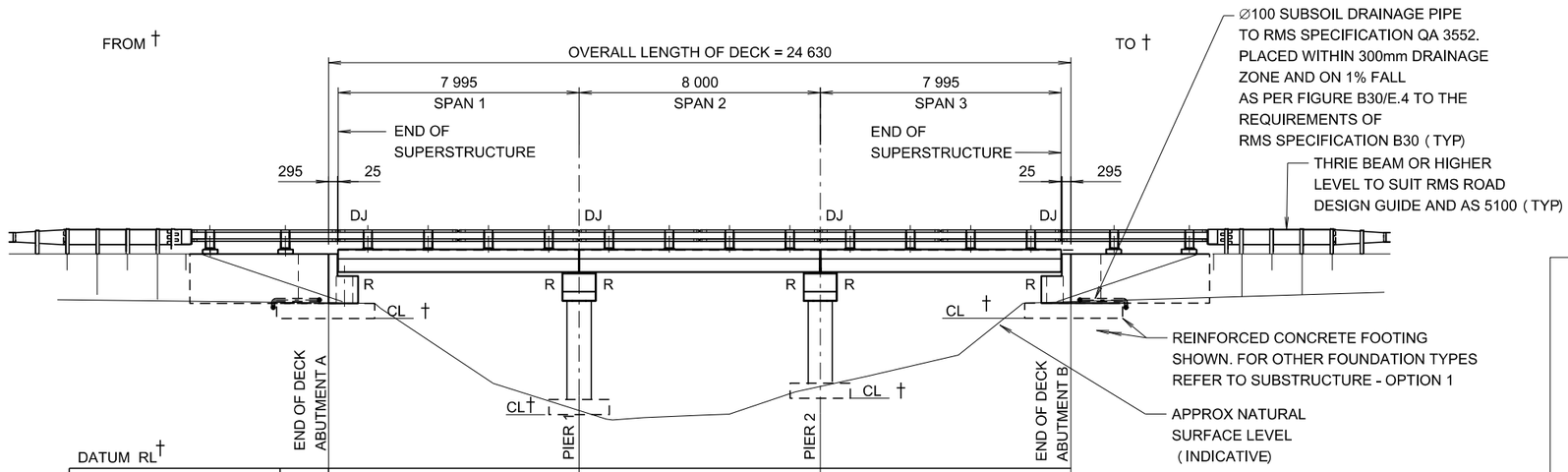
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

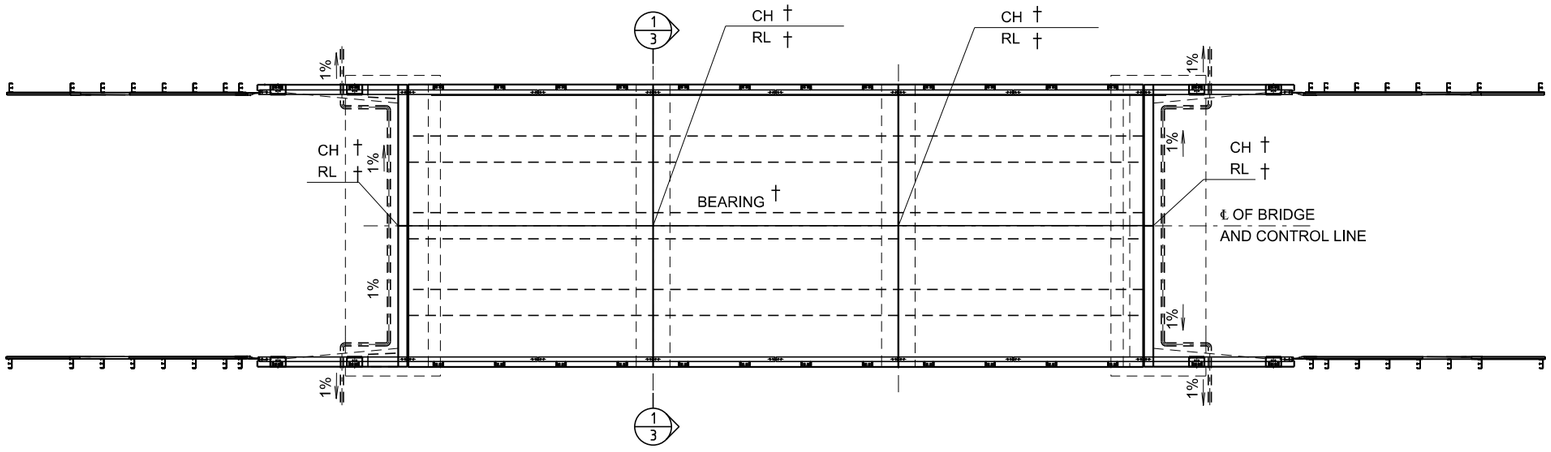
REGISTRATION
No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL02

CAD No 8MCONT.dgn



DATUM RL †				
DESIGN SURFACE LEVEL ALONG CONTROL LINE	†	†	†	†
EXISTING SURFACE LEVEL ALONG CONTROL LINE	†	†	†	†
CHAINAGE ALONG CONTROL LINE	†	†	†	†

ELEVATION



PLAN

SPILL THROUGH BATTER, CONTOURS, WATER FLOW DIRECTION AND NORTH DIRECTION TO BE ADDED TO SUIT BRIDGE LOCATION

SITE PLAN †

GENERAL NOTES

SCALE 0 1 2 3 4 5m (1 0.5) OR AS SHOWN.

DIMENSIONS ARE IN MILLIMETRES.
CHAINAGES AND REDUCED LEVELS ARE IN METRES.
REDUCED LEVELS ARE RELATED TO AN ASSUMED DATUM
R DENOTES RESTRAINED BEARING.
DJ DENOTES DECK JOINT.
BRIDGE WITH 3/8m SPAN SHOWN. BRIDGES WITH 1/8m SPAN OR MULTIPLE EQUAL 8m SPANS ARE SIMILAR UNLESS SPECIFIED OTHERWISE.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.

SUBSTRUCTURE - OPTION 1

CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTINGS/PILE CAPS AND PILES AT PIERS AND REINFORCED CONCRETE FOOTINGS/PILE CAPS AND PILES AT ABUTMENTS.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

GENERAL ARRANGEMENT - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

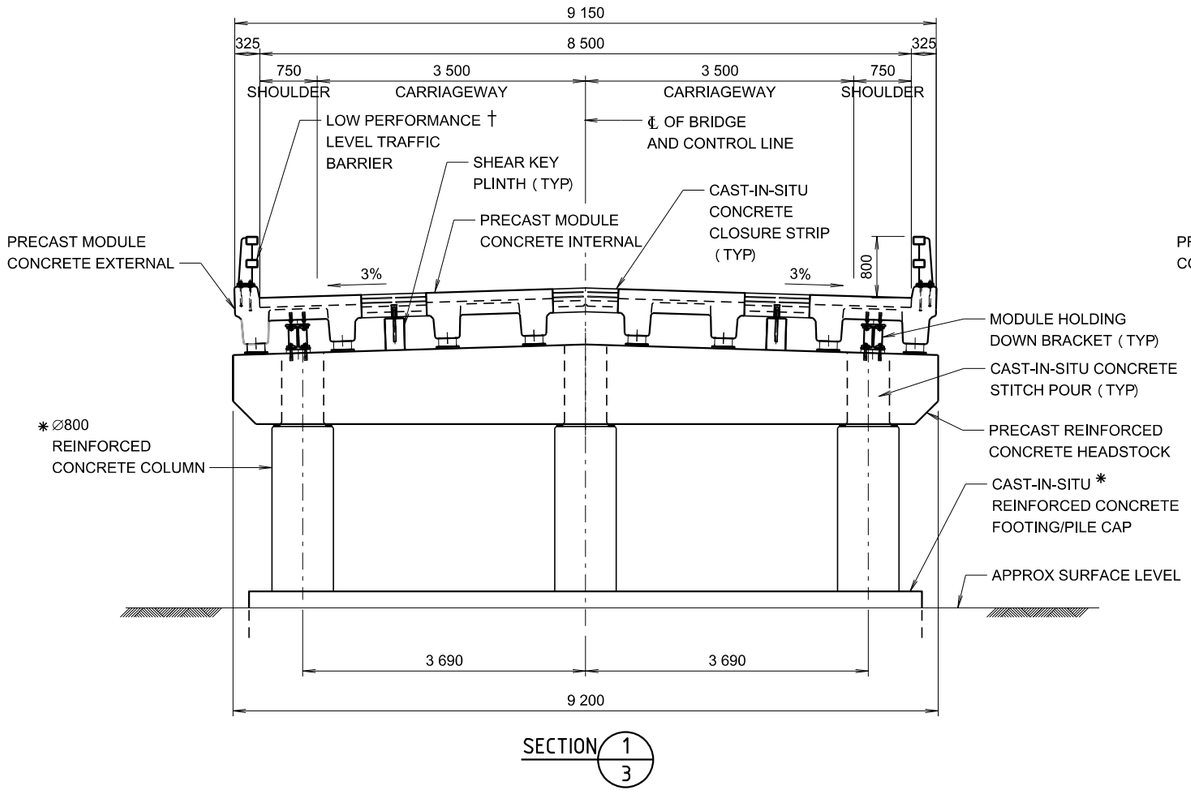
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

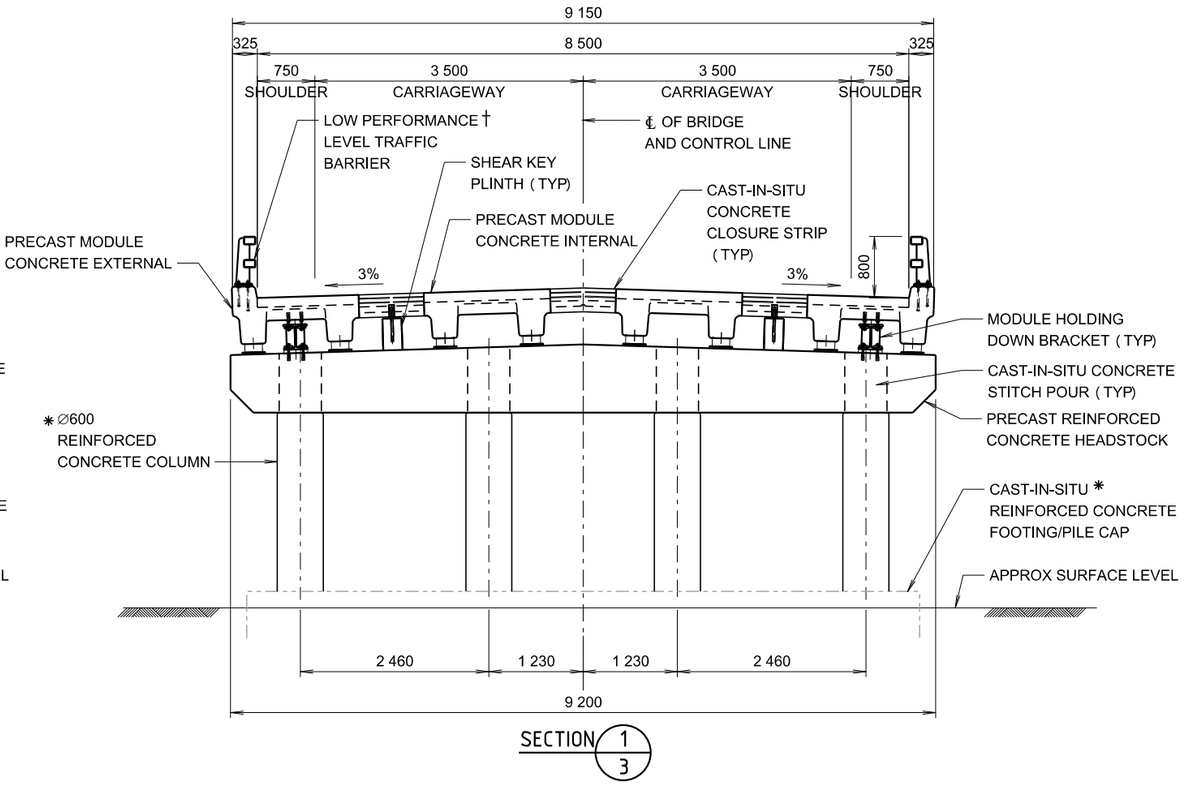
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL03

CAD No 8MGA.dgn

11:11:03 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGES\8m MODULE\8MGA.dgn



OPTION 1 WITH THREE CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTING/PILE CAP AND PILES



OPTION 1 WITH FOUR CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTING/PILE CAP AND PILES

GENERAL NOTES

SCALE 0 500 1 000 1 500mm (500 250) OR AS SHOWN

∗ DENOTES COLUMNS AND FOOTINGS OR PILE CAP AND PILES TO BE DESIGNED BY SUITABLY QUALIFIED ENGINEER TO SUIT SPECIFIC BRIDGE SITE.

† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 3.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

GENERAL ARRANGEMENT - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

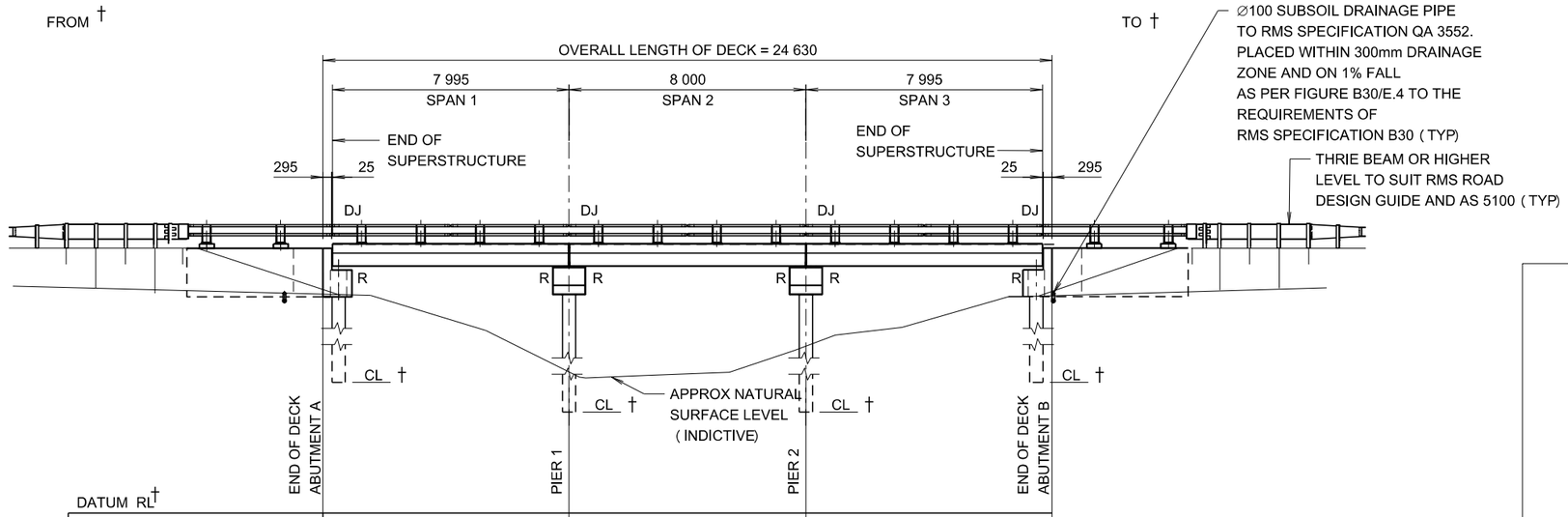
REGISTRATION No OF PLANS

BRIDGE No

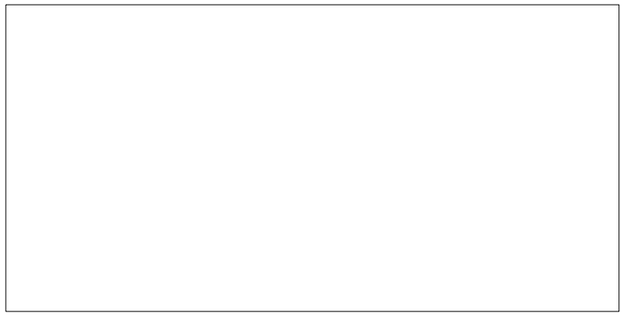
ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL04

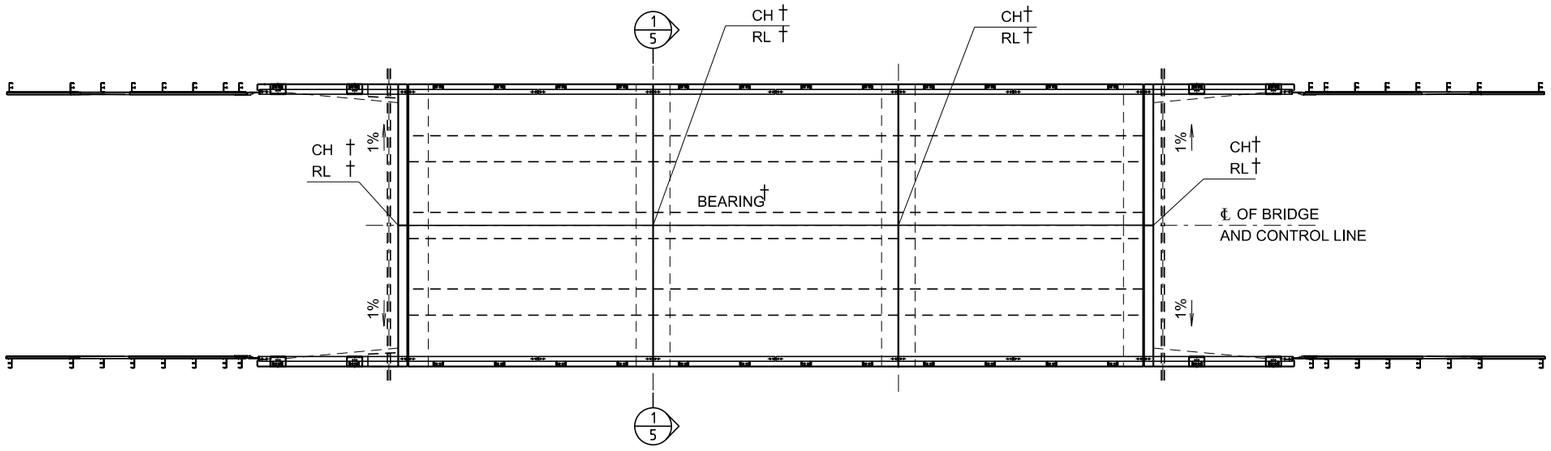
CAD No 8MGB.dgn



ELEVATION



SITE PLAN †



PLAN

SPILL THROUGH BATTER, CONTOURS, WATER FLOW DIRECTION AND NORTH DIRECTION
TO BE ADDED TO SUIT BRIDGE LOCATION

SUBSTRUCTURE - OPTION 2

PRECAST REINFORCED CONCRETE PILES AT PIERS AND ABUTMENTS

GENERAL NOTES

SCALE 1 0.5 0 1 2 3 4 5m OR AS SHOWN.

DIMENSIONS ARE IN MILLIMETRES.
CHAINAGES AND REDUCED LEVELS ARE IN METRES.
REDUCED LEVELS ARE RELATED TO AN ASSUMED DATUM
▲ CL DENOTES CONTRACT LEVEL. TO BE DETERMINED BY BRIDGE DESIGNER.
R DENOTES RESTRAINED BEARING.
DJ DENOTES DECK JOINT
BRIDGE WITH 3/8m SPANS SHOWN. BRIDGES WITH 1/8m SPAN OR MULTIPLE EQUAL 8m SPANS ARE SIMILAR UNLESS SPECIFIED OTHERWISE
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

GENERAL ARRANGEMENT - SHEET C

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

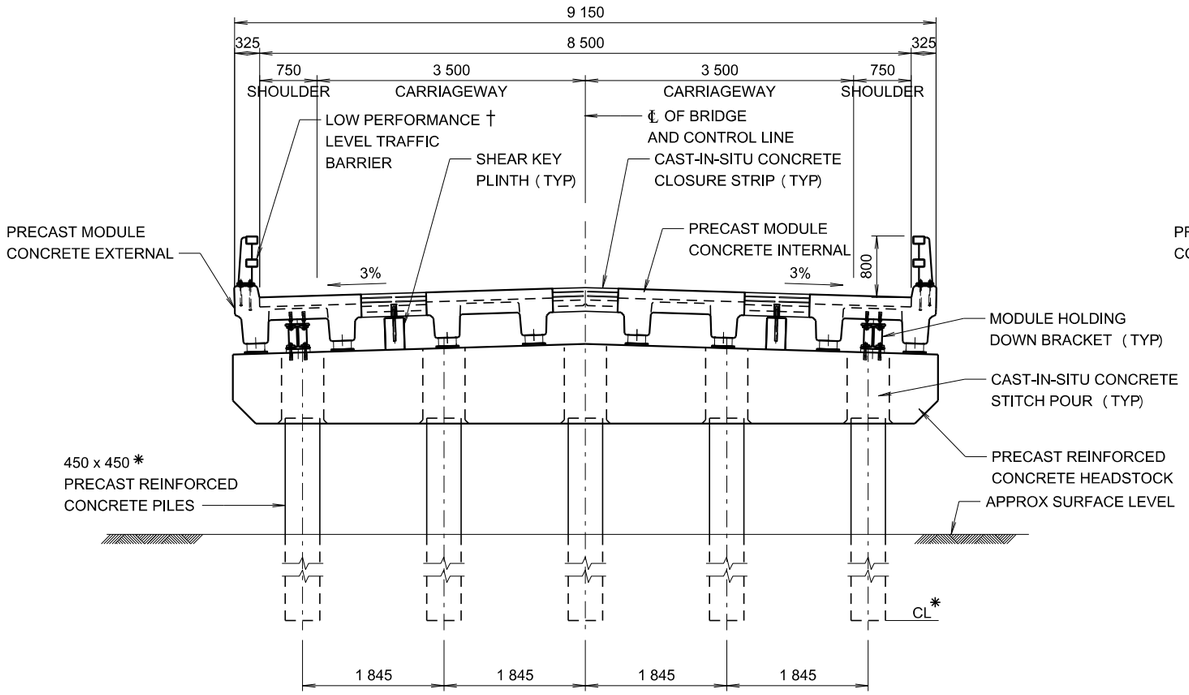
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

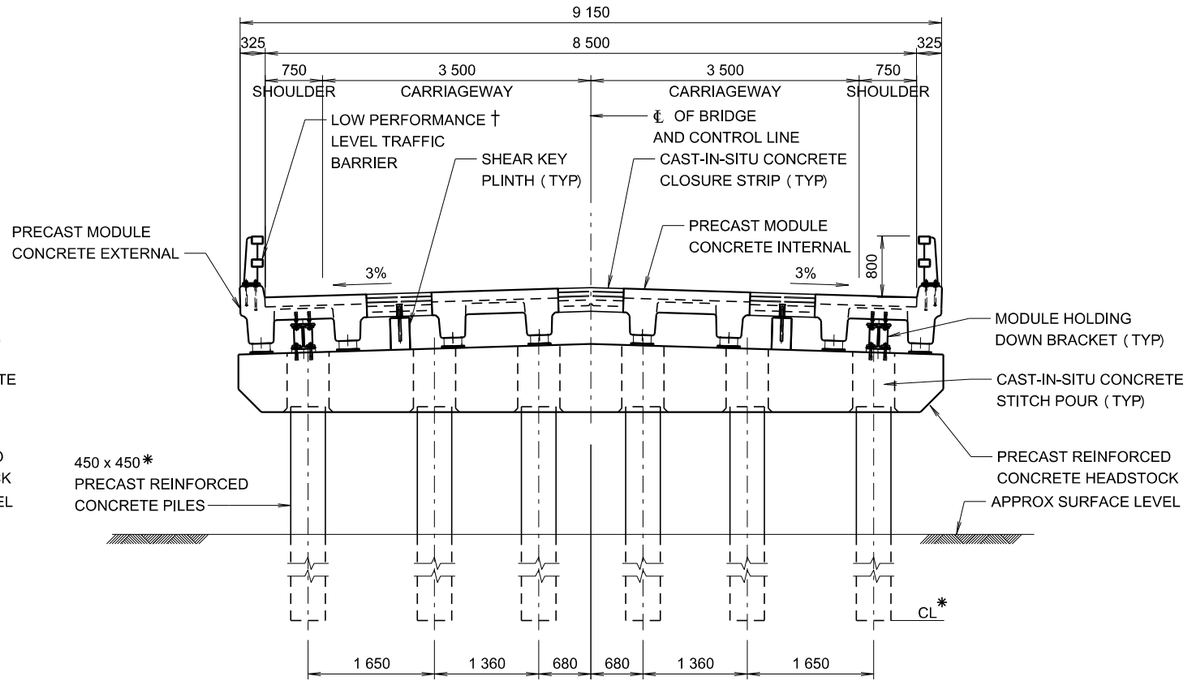
REGISTRATION
No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE
No SHEETS 42
SHEET No MB08DL05

CAD No 8MGC.dgn



SECTION 2/5

OPTION 2 WITH FIVE PRECAST REINFORCED CONCRETE PILES



SECTION 2/5

OPTION 2 WITH SIX PRECAST REINFORCED CONCRETE PILES

GENERAL NOTES

SCALE 0 500 1 000 1 500mm (500 250) OR AS SHOWN

✳ DENOTES THE CONTRACT LEVEL AND THE DESIGN OF THE PRECAST REINFORCED CONCRETE PILES SHALL BE CARRIED OUT BY SUITABLY QUALIFIED ENGINEER TO SUIT SPECIFIC BRIDGE SITE AND SHALL BE DETAILED TO COMPLY WITH RMS STANDARD DRAWINGS.

† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 5.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

GENERAL ARRANGEMENT - SHEET D

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

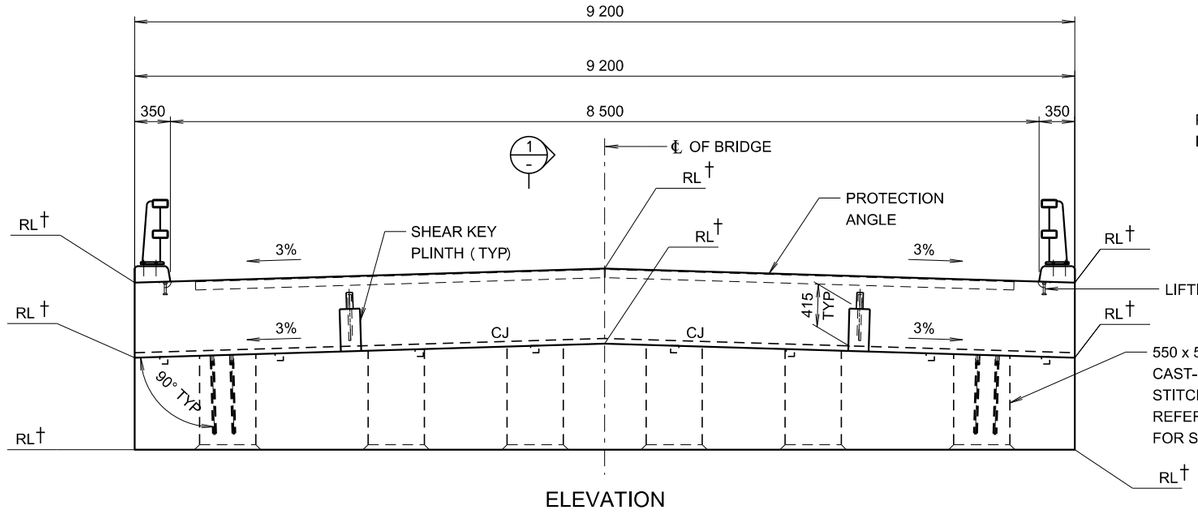
REGISTRATION No OF PLANS

BRIDGE No

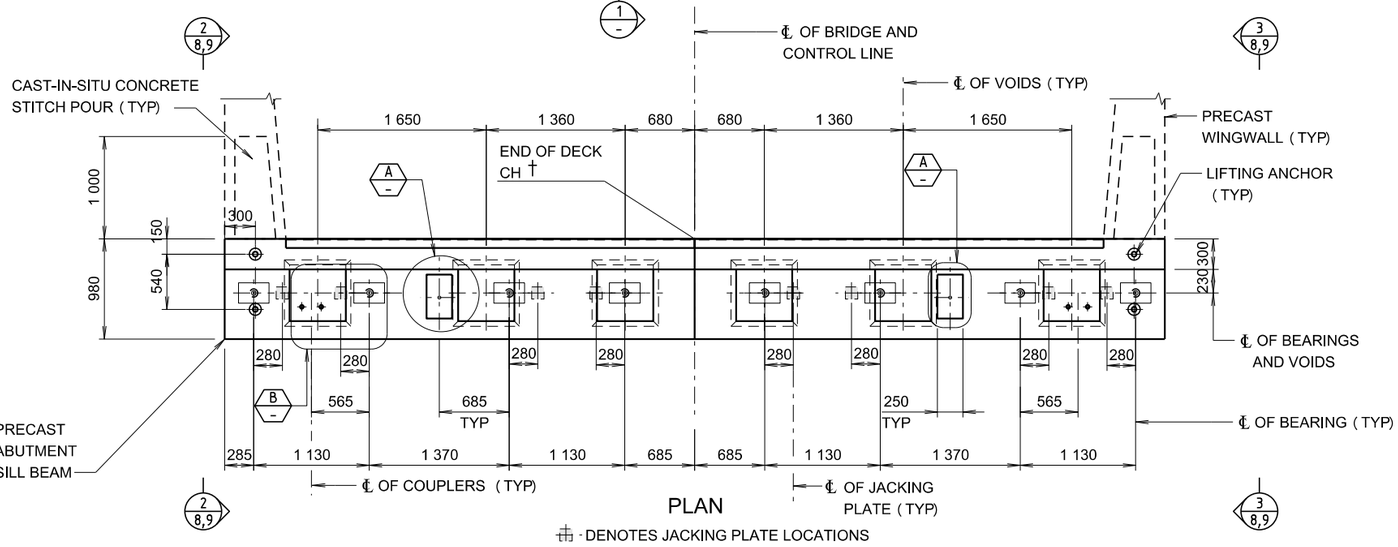
ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL06

CAD No 8MGD.dgn

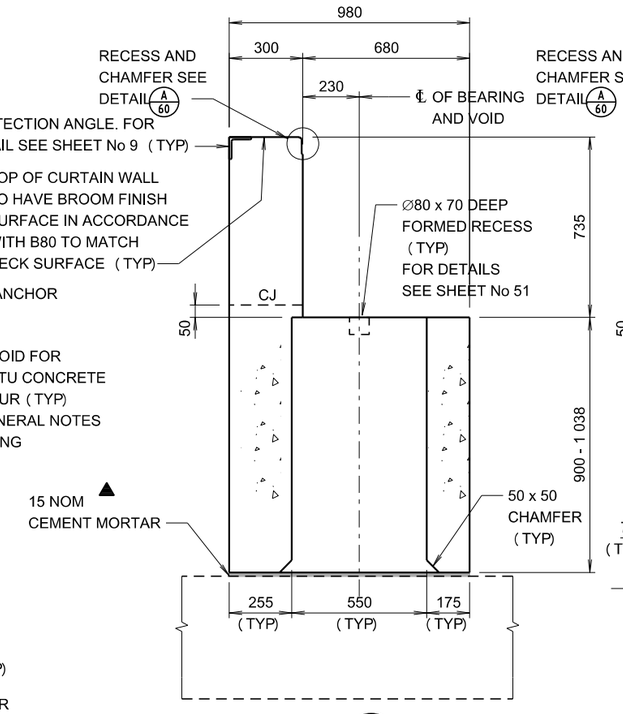


ELEVATION



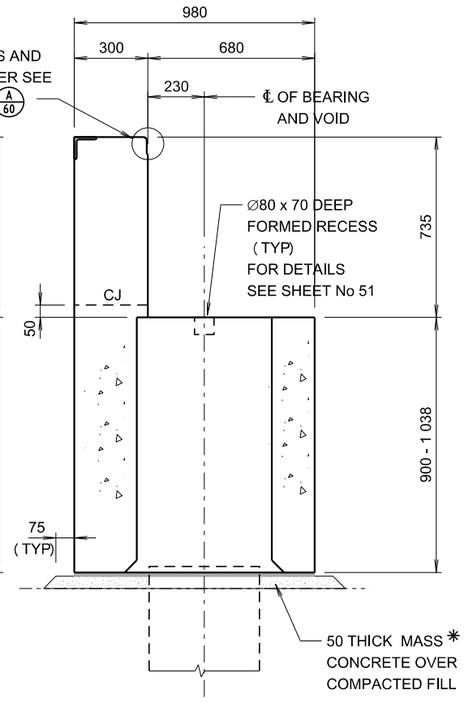
PLAN

· DENOTES JACKING PLATE LOCATIONS



SECTION 1 –

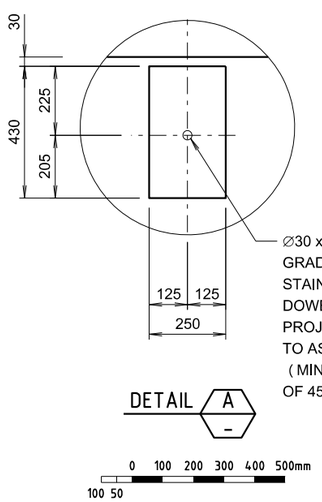
OPTION 1 - WITH REINFORCED † CONCRETE FOOTING/PILE CAP AND PILES



SECTION 1 –

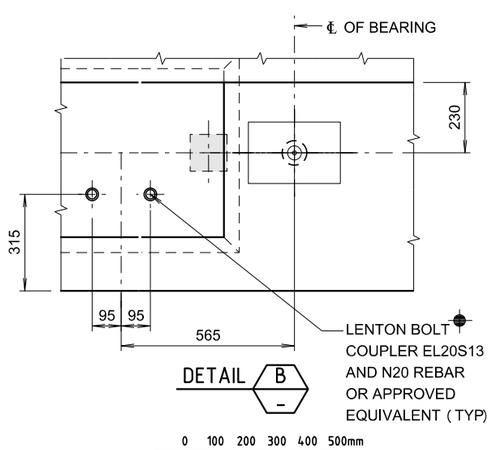
OPTION 2 WITH PRECAST † REINFORCED CONCRETE PILES

0 250 500 750mm
250 125



DETAIL A –

0 100 200 300 400 500mm
100 50



DETAIL B –

0 100 200 300 400 500mm
100 50

GENERAL NOTES

SCALE 0 500 1000 1500m
500 250
OR AS SHOWN

VOIDS ARE SHOWN FOR THE OPTIONS OF SIX PILES/COLUMNS OR SIX ANCHORAGE GROUPS FROM FOOTING/WALL.
VOIDS FOR OTHER OPTIONS ARE SIMILAR EXCEPT AS SHOWN IN THE TABLE BELOW:

No OF PILES/COLUMNS/ANCHORAGE GROUPS	VOID/PILE SPACING
4	2460
5	1 845

† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
✱ DENOTES TYPICAL SUPPORT UNDER PRECAST SILL BEAM, EXCEPT FOR AREAS UNDER VOIDS, AND WINGWALLS OR SUITABLE ALTERNATIVE TEMPORARY SUPPORT METHOD.
⊕ DENOTES HOT DIP GALVANIZED IN ACCORDANCE WITH RMS SPECIFICATION B241.
FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 8.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST ABUTMENT SILL BEAMS CONCRETE

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

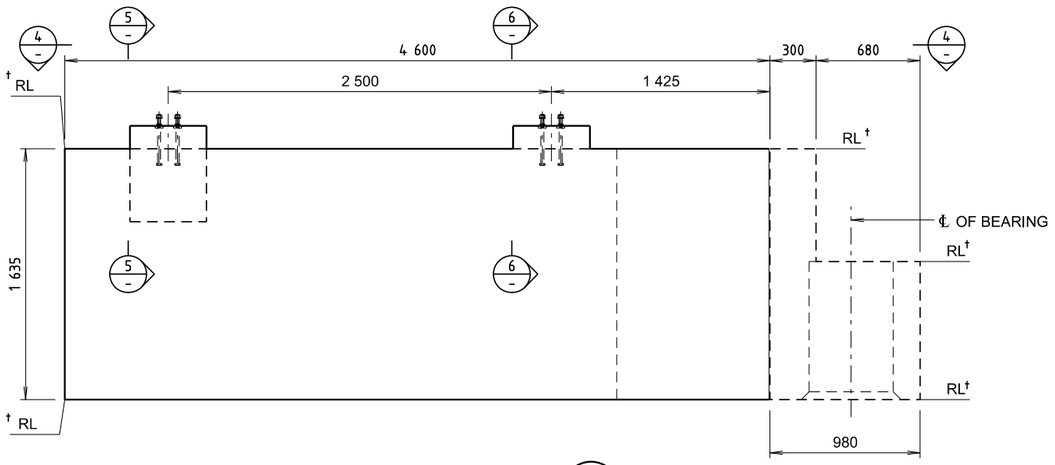
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL07

CAD No 8MAA1.dgn

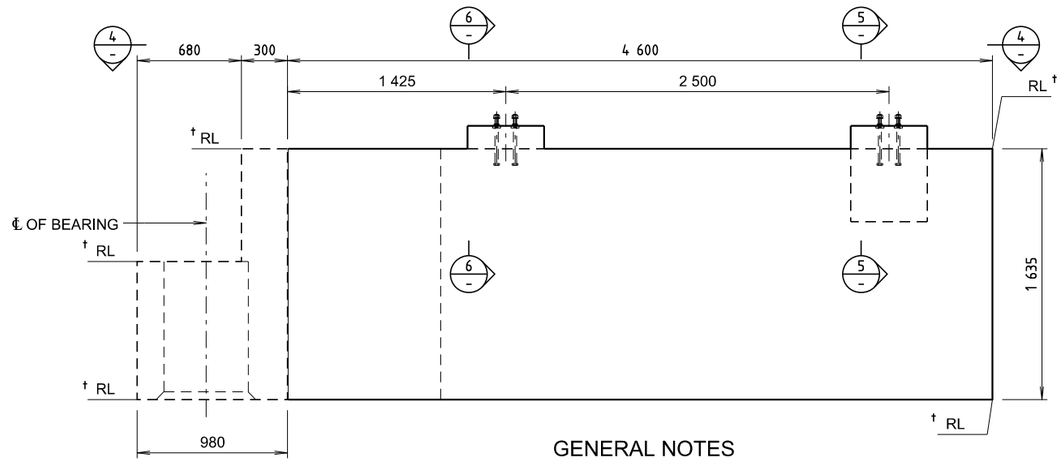
11:11:07 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGE\8m MODULE\STANDARD DRAWINGS\8MAA1.dgn



VIEW 2/7

TRAFFIC BARRIER NOT SHOWN

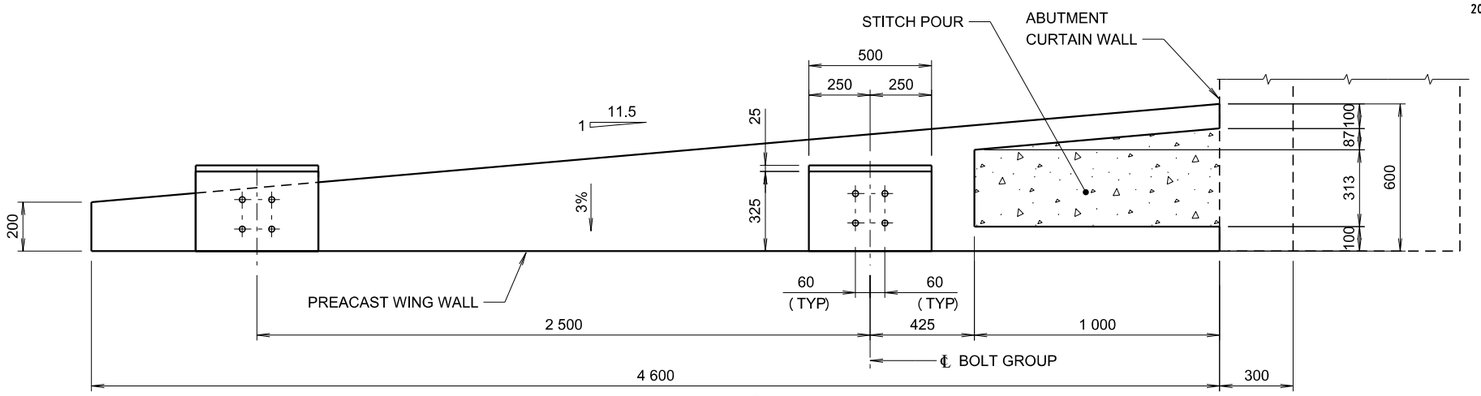
0 200 400 600 800 1 000mm
200 100



VIEW 3/7

TRAFFIC BARRIER NOT SHOWN

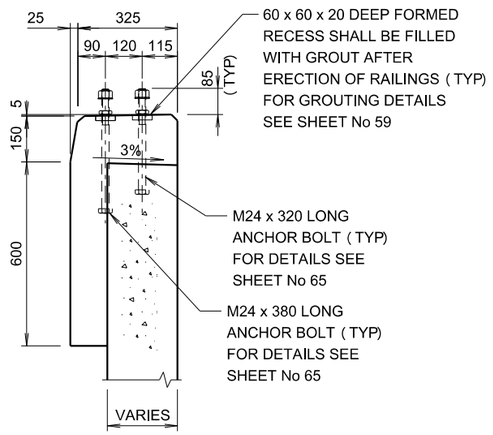
0 200 400 600 800 1 000mm
200 100



VIEW 4/-

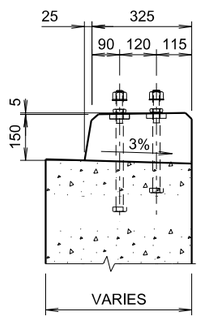
4.6m PRECAST WINGWALL

2 REQUIRED AS SHOWN
2 REQUIRED OPPOSITE HAND



SECTION 5/-

0 100 200 300 400 500mm
100 50



SECTION 6/-

0 100 200 300 400 500mm
100 50

GENERAL NOTES

SCALE 0 250 500 750mm (250 125) OR AS SHOWN.

CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40 MPa.
EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.
ALL SURFACES OF VOIDS IN PRECAST SILL BEAM AND IN WINGWALL IN CONTACT WITH CONCRETE STITCH POUR SHALL BE ROUGHENED DURING MANUFACTURE AS CONSTRUCTION JOINT, IN ACCORDANCE WITH RMS SPECIFICATION B80.
THE PROPOSED METHOD OF MANUFACTURE OF PRECAST SILL BEAM AND WING WALL SHALL BE AS SUBMITTED TO THE PRINCIPAL MINIMUM 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK ON THESE MEMBERS.
MASS OF PRECAST SILL BEAM IS APPROXIMATELY 23.2 TONNES.
MASS OF PRECAST 4.6m LONG WINGWALL IS APPROXIMATELY 6.3 TONNES.
MASS OF PRECAST 3.7m LONG WINGWALL IS APPROXIMATELY 5.4 TONNES.
MASSES BASED ON DENSITY OF CONCRETE OF 2550kg/m^3.
DURING STORAGE, TRANSPORT AND HANDLING, PRECAST SILL BEAMS AND WINGWALLS SHALL BE IN AN UPRIGHT POSITION AND SUPPORTED AT NOT MORE THAN 600mm FROM EACH END.
LIFTING ANCHORS SHALL BE SWIFT LIFT OR APPROVED EQUIVALENT DESIGNED BY THE PRECAST ITEM MANUFACTURE TO THE SATISFACTION OF THE PRINCIPLE.
THE LOCATIONS MAY VARY TO SUIT THIS DESIGN.
▲ DENOTES LEVELING MORTAR PLACED, EXCEPT FOR AREA UNDER VOIDS, IN ACCORDANCE WITH AS 1597.2 OR APPROVED ALTERNATIVE METHOD SUCH AS PLACING THE HEADSTOCK ON SHIMS AND FILL GAP WITH NON-SHRINK HIGH STRENGTH GROUT CONBEXTRA HS OR APPROVED EQUIVALENT.
THE MORTAR SHOULD BE SUFFICIENTLY STIFF TO PROVIDE A LAYER NO LESS THAN 15mm THICK AFTER THE SILL BEAM IS PLACED IN POSITION.
THE SILL BEAM SHALL BE PLACED IN POSITION BEFORE THE MORTAR HAS SET SO THAT UNIFORM BEARING IS OBTAINED.
ALL FASTENERS AND STAINLESS STEEL DOWELS SHALL CONFORM TO THE REQUIREMENTS OF RMS SPECIFICATION B240.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 7.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST ABUTMENT WINGWALL CONCRETE - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

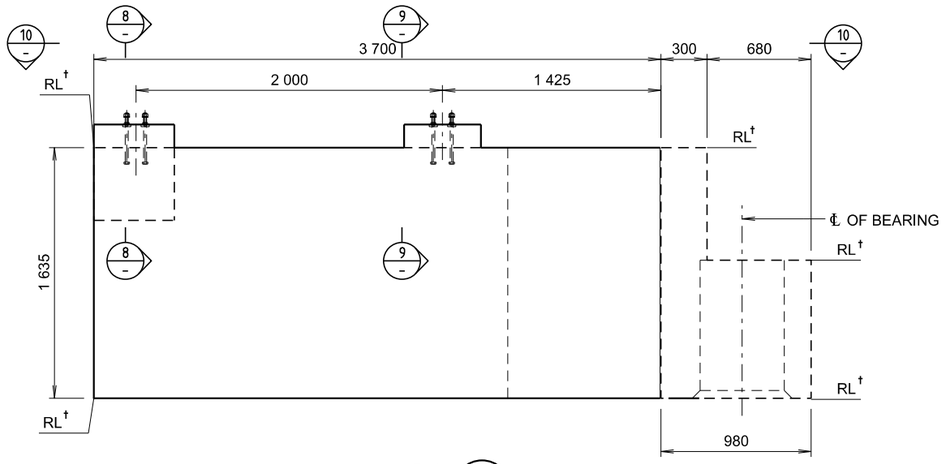
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL08

CAD No 8MAA2.dgn

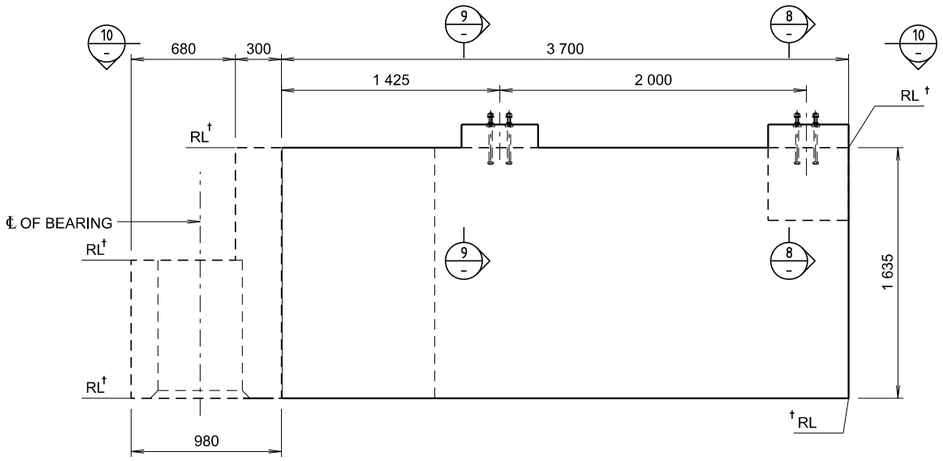
11:11:08 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGE\8m MODULE\STANDARD DRAWINGS\8MAA2.dgn



VIEW 2/7

TRAFFIC BARRIER NOT SHOWN

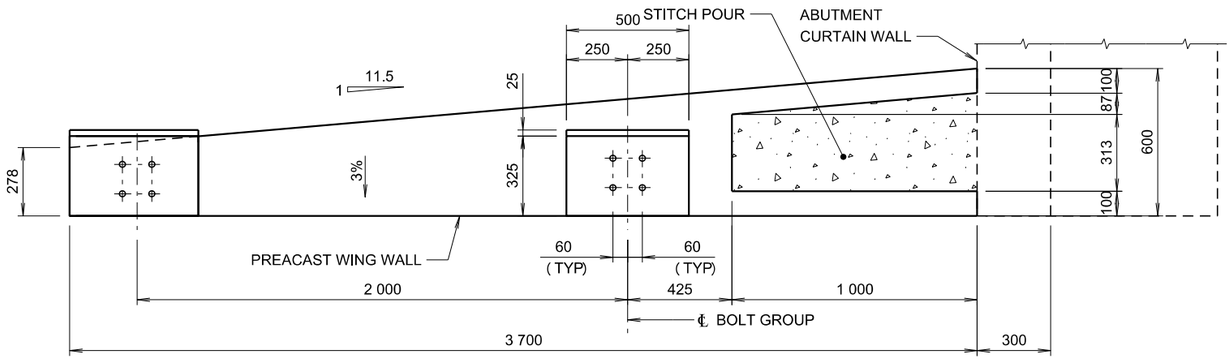
0 200 400 600 800 1 000mm
200 100



VIEW 3/7

TRAFFIC BARRIER NOT SHOWN

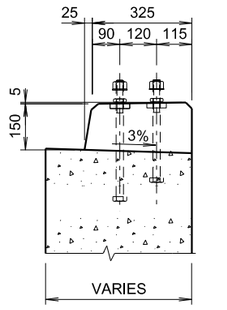
0 200 400 600 800 1 000mm
200 100



VIEW 10/–

3.7m PRECAST WINGWALL

2 REQUIRED AS SHOWN
2 REQUIRED OPPOSITE HAND



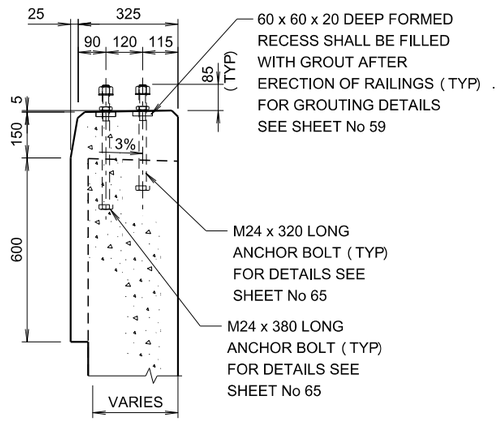
SECTION 9/–

0 100 200 300 400 500mm
100 50

GENERAL NOTES

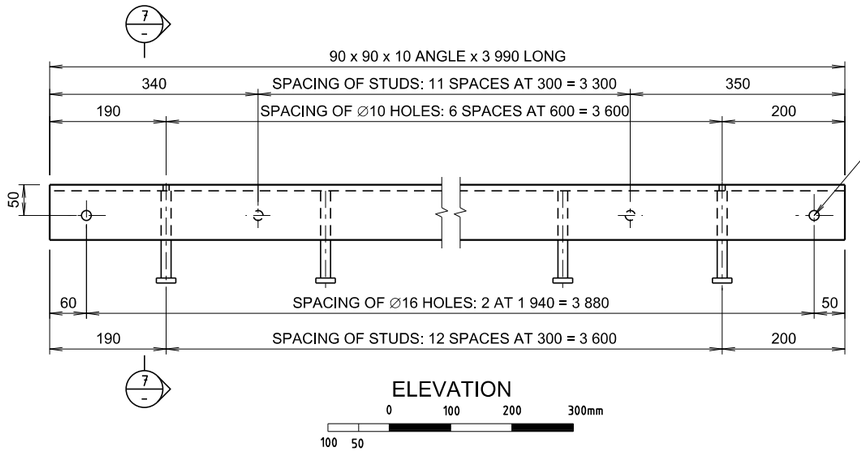
SCALE 0 250 500 750mm (250 125) OR AS SHOWN

STEEL SECTIONS SHALL CONFORM TO AS/NZS 3679.1-300.
STEEL DOWELS SHALL CONFORM TO AS/NZS 4671-R250N.
THE WELD CATEGORY SHALL BE SP IN ACCORDANCE WITH AS/NZS 1554.1.
WELDING SYMBOLS COMPLY WITH AS 1101.3.
PROTECTION ANGLE ASSEMBLIES SHALL BE HOT-DIP GALVANISED AFTER FABRICATION.
EDGES TO BE PROTECTIVE TREATED SHALL BE ROUNDED TO A RADIUS OF 1.5mm UNLESS NOTED OTHERWISE.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEETS No 7 AND 8.



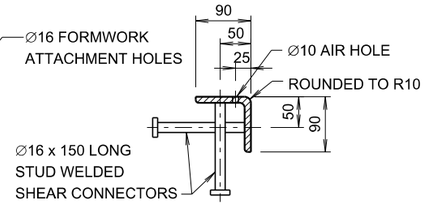
SECTION 8/–

0 100 200 300 400 500mm
100 50



ELEVATION

0 100 200 300mm
100 50



SECTION 7/–

0 100 200 300mm
100 50

PROTECTION ANGLE ASSEMBLY

4 REQUIRED

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST ABUTMENT WINGWALL CONCRETE - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

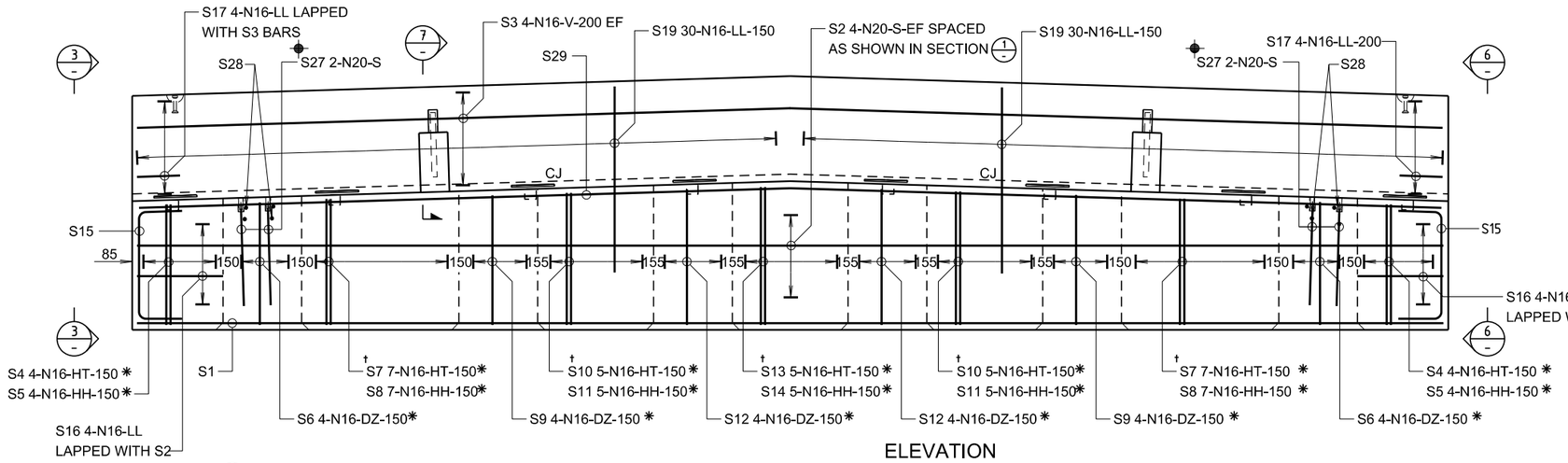
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS

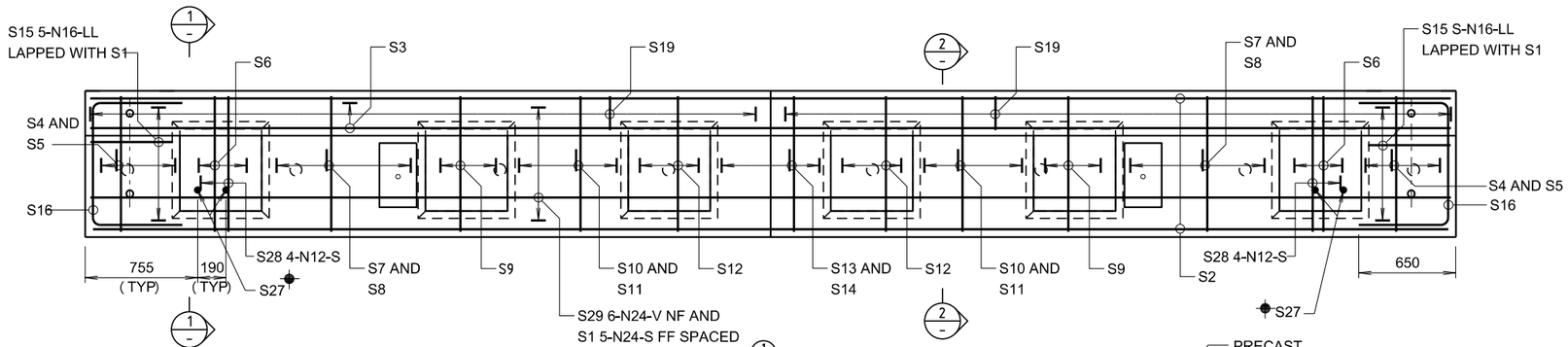
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

ISSUE | No SHEETS 42 | SHEET No MB08DL09

CAD No 8MAA3.dgn



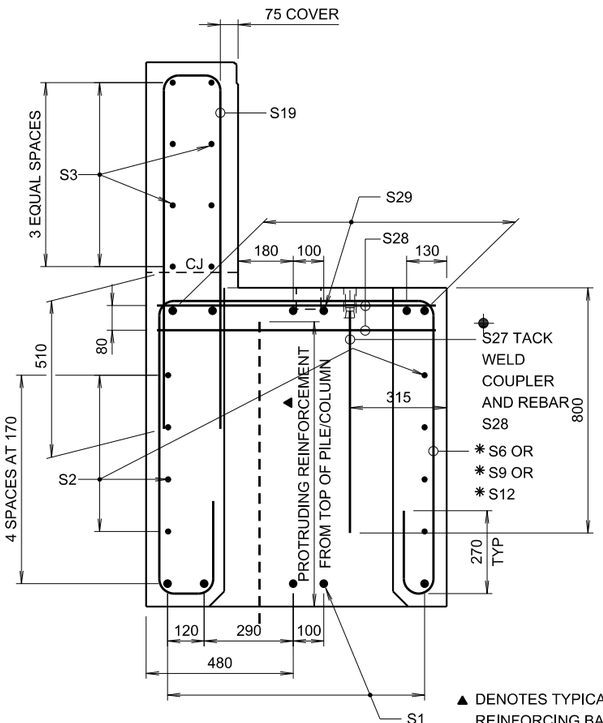
ELEVATION



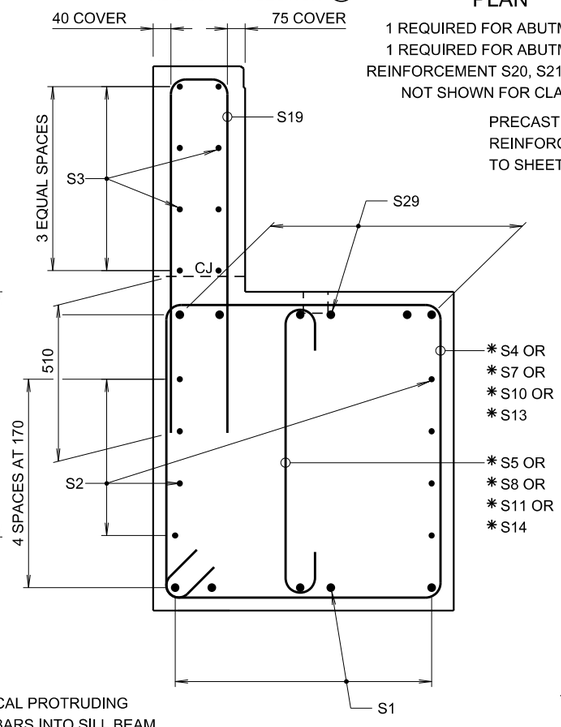
PLAN

1 REQUIRED FOR ABUTMENT A
1 REQUIRED FOR ABUTMENT B
REINFORCEMENT S20, S21, S22, S23 NOT SHOWN FOR CLARITY

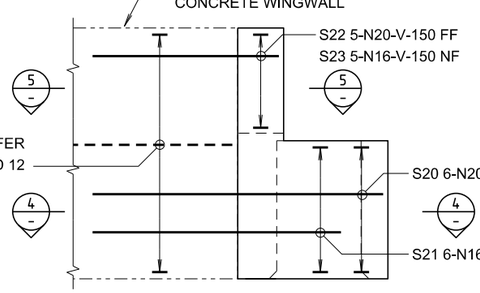
PRECAST WINGWALL REINFORCEMENT REFER TO SHEETS No 11 AND 12



SECTION 1

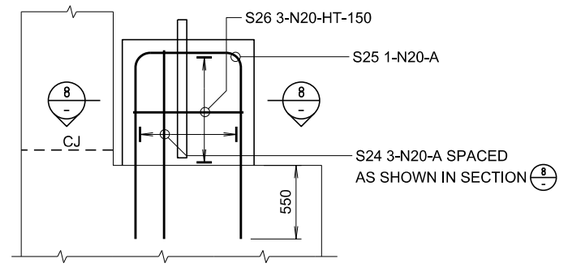


SECTION 2

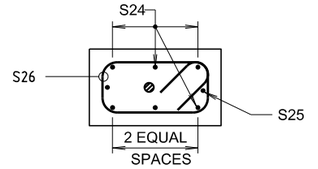


VIEW 3 SHOWN

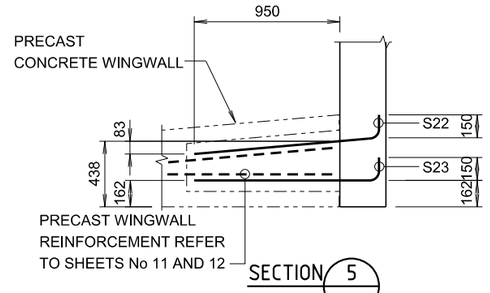
VIEW 6 SIMILAR BUT OPPOSITE HAND



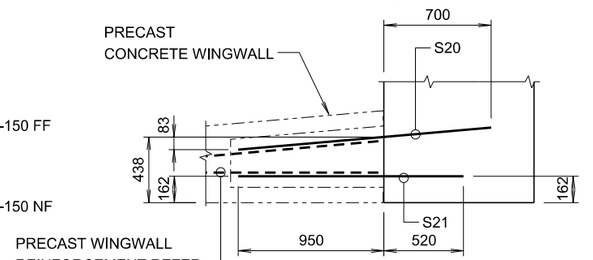
SECTION 7



SECTION 8



SECTION 5



SECTION 4

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm / 200 100 OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 35 mm UNLESS SPECIFIED OTHERWISE.

UNLESS OTHERWISE SPECIFIED, THE LAP LENGTH SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	510	650	880	1190	1520	1870	2760
b) OTHER BARS:	430	530	690	910	1170	1440	1740

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED ABOVE.

* DENOTES VARIABLE LENGTH BAR.
REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR COUPLERS, DOWELS, ANCHOR BOLTS, HOLES AND RECESSES.
REINFORCEMENT FOR OPTION 1 WITH SIX PILES/COLUMNS IS SHOWN.
REINFORCEMENT FOR OTHER OPTIONS ARE SIMILAR EXCEPT AS NOTED OTHERWISE.

† DENOTES NUMBER OF BARS TO BE ADJUSTED TO SUIT THE NUMBER OF VOIDS.

◆ DENOTES LENTON BOLT COUPLER EL20S13 AND N20 REBAR TO BE THREADED AT ONE END AND TIGHTENED INTO COUPLERS IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS OR APPROVED EQUIVALENT.

▲ DENOTES TYPICAL PROTRUDING REINFORCING BARS INTO SILL BEAM ARE INDICATIVE ONLY. THE NUMBER AND DEVELOPMENT LENGTH OF THESE BARS SHALL BE DETERMINED BY THE DESIGNER TO SUIT SUBSTRUCTURE DESIGN.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST ABUTMENT SILL BEAMS REINFORCEMENT

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

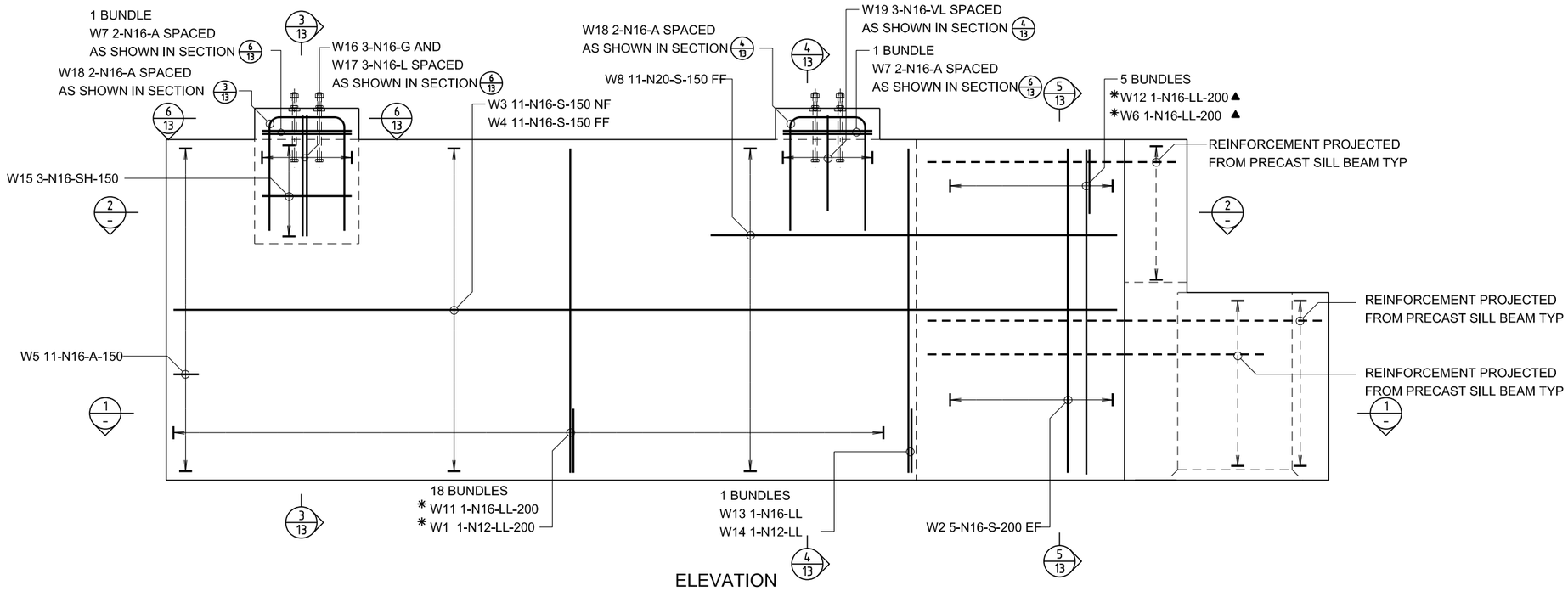
REGISTRATION No OF PLANS

BRIDGE No

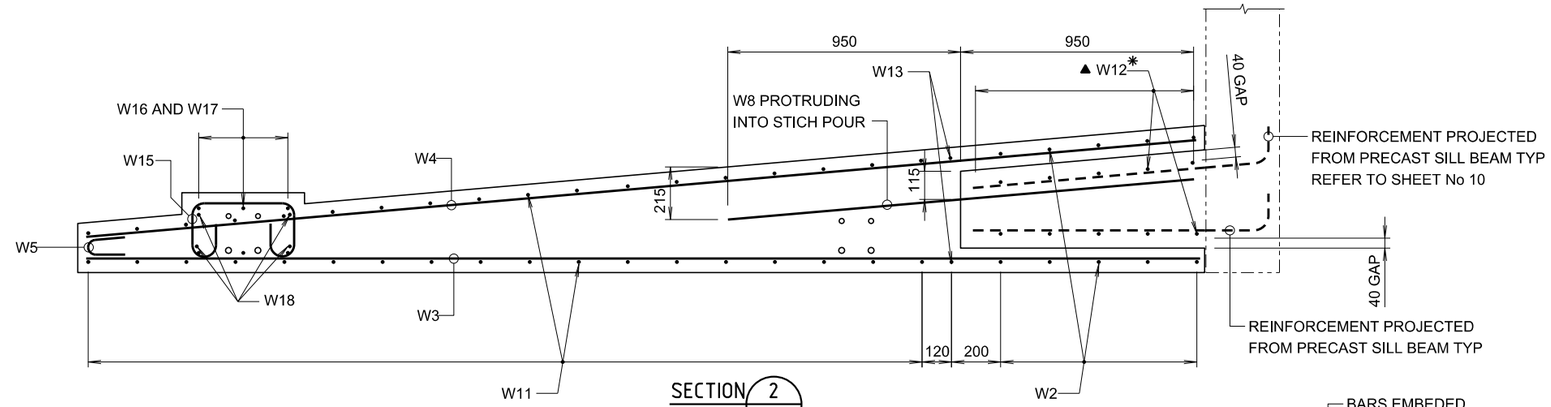
ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL10

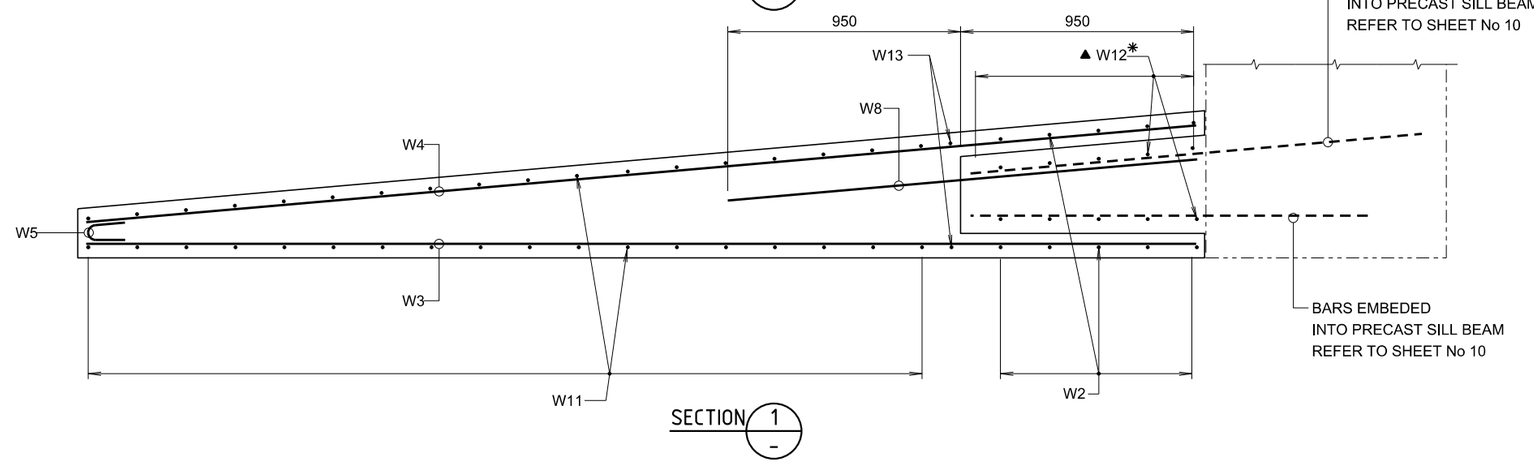
CAD No 8MSR1.dgn



ELEVATION



SECTION 2/-



SECTION 1/-

4.6m PRECAST WINGWALL

GENERAL NOTES

SCALE 0 250 500 750mm (250 125) OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 35 mm UNLESS SPECIFIED OTHERWISE.
UNLESS OTHERWISE SPECIFIED, THE LAP LENGTH SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	510	650	880	1190	1520	1870	2760
b) OTHER BARS:	430	530	690	910	1170	1440	1740

THE DEVELOPMENT LENGTHS SHALL BE 80% OF THE VALUE TABULATED ABOVE.
* DENOTES VARIABLE LENGTH BAR.
▲ DENOTES STITCH POUR REINFORCEMENT
REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR DOWELS, ANCHOR BOLTS, HOLES AND RECESSES.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST ABUTMENT WINGWALL REINFORCEMENT - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

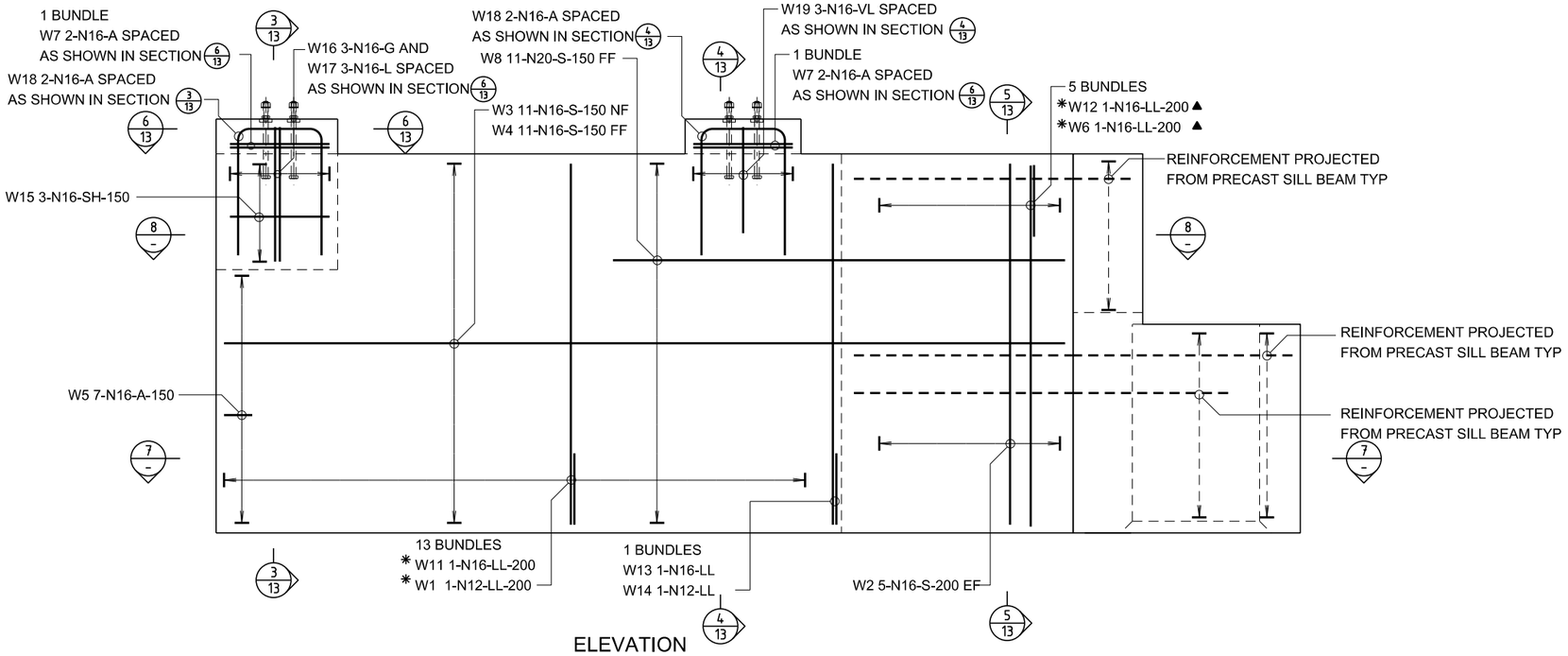
REGISTRATION
No OF PLANS

BRIDGE No

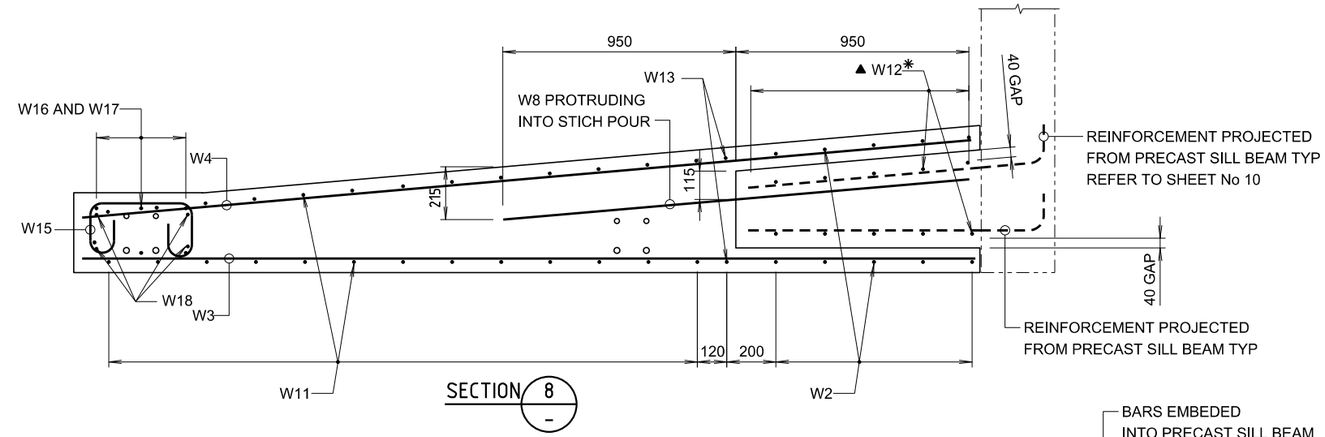
ISSUE STATUS

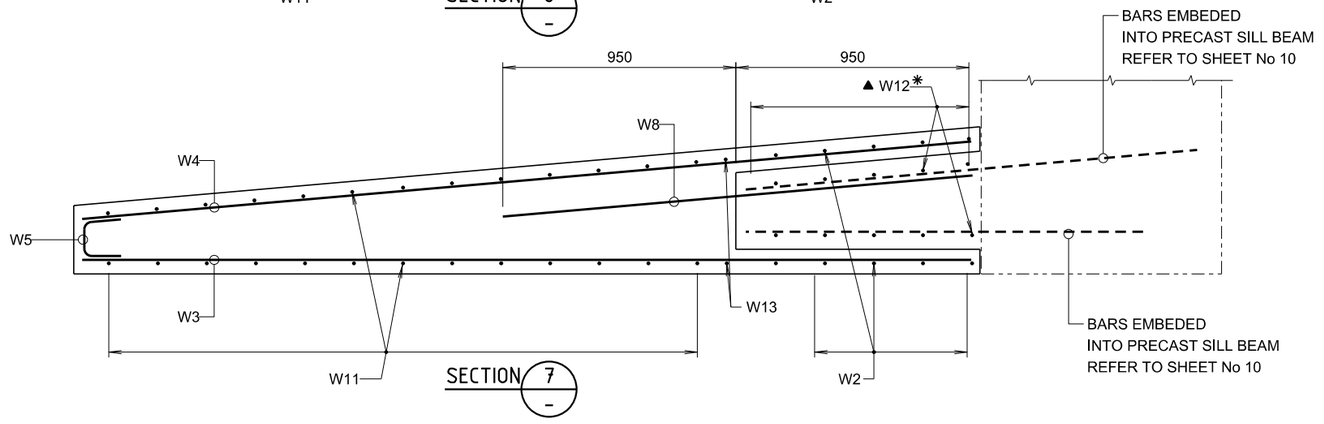
ISSUE | No SHEETS 42 | SHEET No MB08DL11

CAD No 8MWA.dgn



ELEVATION





3.7m PRECAST WINGWALL

GENERAL NOTES

SCALE 0 250 500 750mm (250 125) OR AS SHOWN

▲ DENOTES STITCH POUR REINFORCEMENT
FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 11.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST ABUTMENT WINGWALL REINFORCEMENT - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

REGISTRATION No OF PLANS

BRIDGE No

ISSUE STATUS

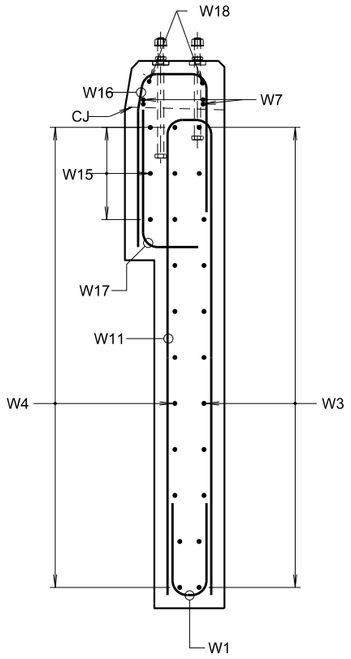
ISSUE | No SHEETS 42 | SHEET No MB08DL12

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

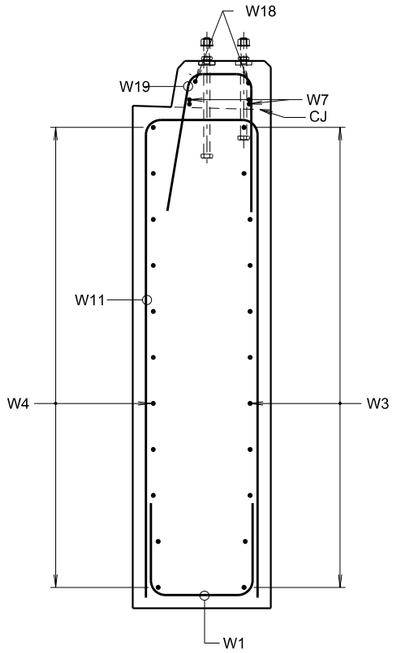
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

CAD No 8MWB.dgn

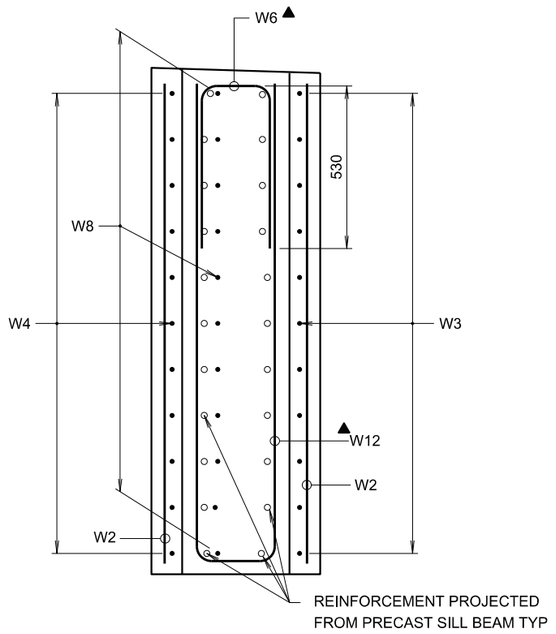
11:11:11 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGES\8m MODULE\STANDARD DRAWINGS\8MWB.dgn



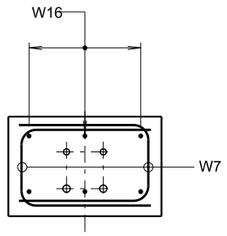
SECTION 3 11,12



SECTION 4 11,12



SECTION 5 11,12



SECTION 6 11,12

GENERAL NOTES

SCALE 0 100 200 300 400 500mm / 100 50 OR AS SHOWN

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 11.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST ABUTMENT WINGWALL REINFORCEMENT - SHEET C

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

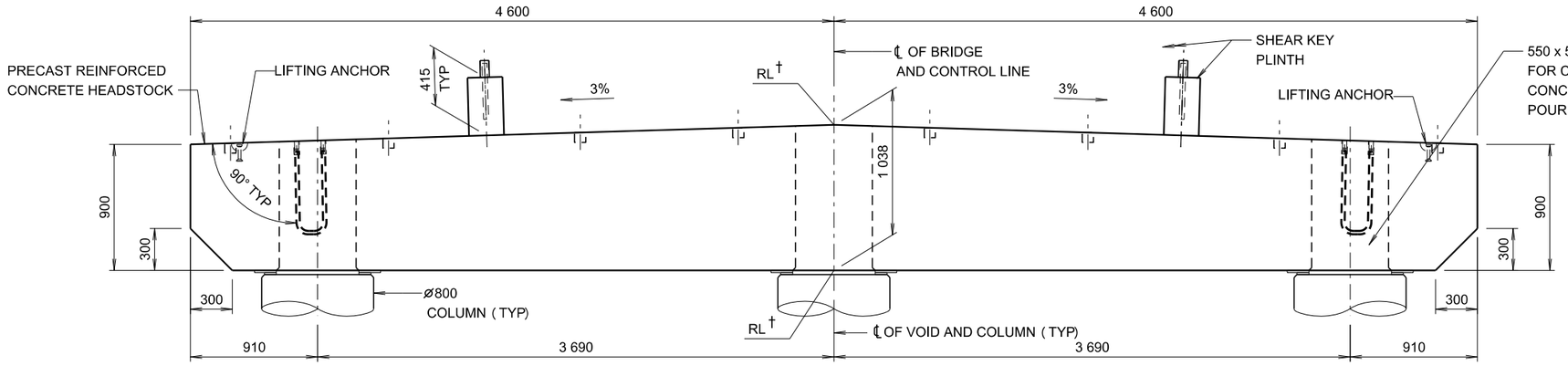
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

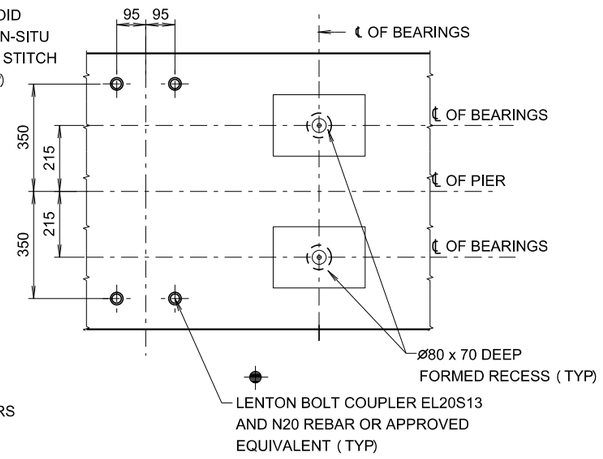
REGISTRATION
No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL13

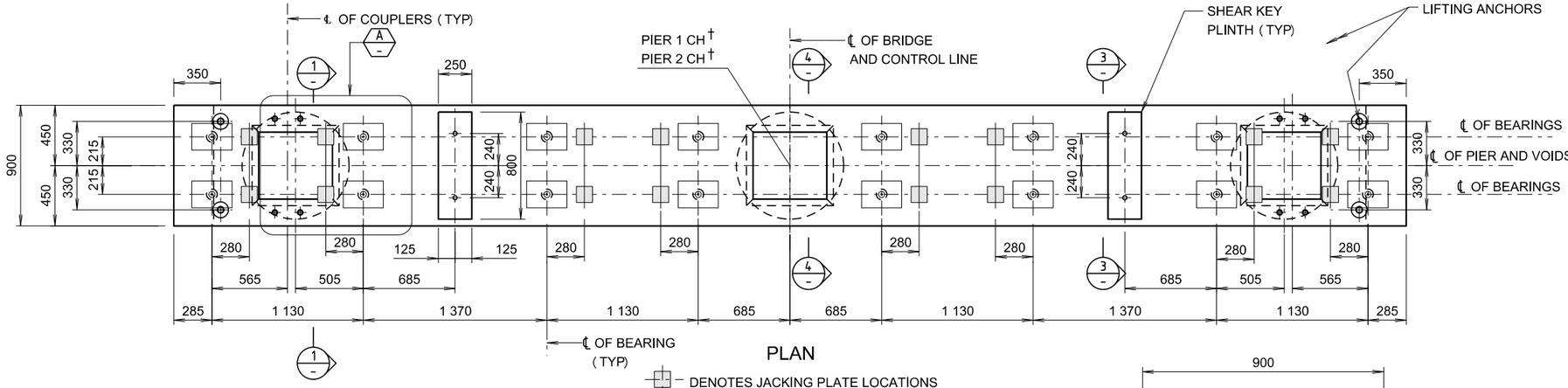
CAD No 8MWC.dgn

11:11:12 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGE\8m MODULE\STANDARD DRAWINGS\8MWC.dgn



ELEVATION





PLAN

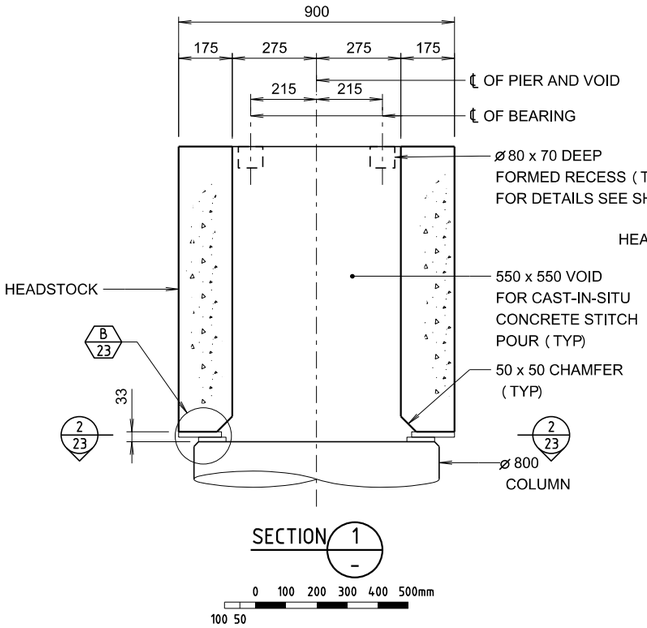
DETAIL A

0 100 200 300 400 500mm
100 50

GENERAL NOTES

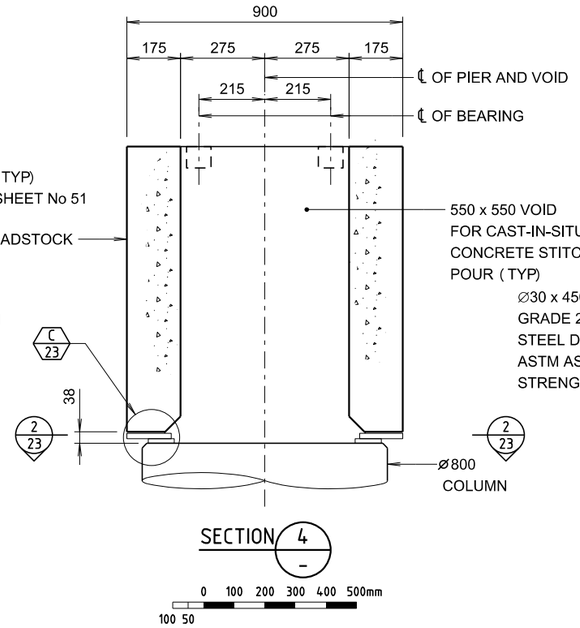
SCALE 0 200 400 600 800 1 000mm / 200 100 OR AS SHOWN.

CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40 MPa.
EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.
ALL SURFACES OF VOIDS IN PRECAST HEADSTOCK IN CONTACT WITH CONCRETE STITCH POUR SHALL BE ROUGHENED DURING MANUFACTURE AS CONSTRUCTION JOINT, IN ACCORDANCE WITH RMS SPECIFICATION B80.
THE PROPOSED METHOD OF MANUFACTURE OF PRECAST HEADSTOCK SHALL BE AS SUBMITTED TO THE PRINCIPAL MIN 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK ON THESE MEMBERS.
MASS OF PRECAST HEADSTOCK IS APPROXIMATELY 18.4 TONNES BASED ON DENSITY OF CONCRETE OF 2550kg/m^3.
DURING STORAGE, TRANSPORT AND HANDLING, PRECAST HEADSTOCKS SHALL BE IN AN UPRIGHT POSITION AND SUPPORTED AT NOT MORE THAN 600mm FROM EACH END.
LIFTING ANCHORS SHALL BE SWIFT LIFT OR APPROVED EQUIVALENT DESIGNED BY THE PRECAST ITEM MANUFACTURE TO THE SATISFACTION OF THE PRINCIPLE.
THE LOCATIONS MAY VARY TO SUIT THIS DESIGN.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
✳ DENOTES DOWELS TO CONFORM TO THE REQUIREMENTS OF RMS SPECIFICATION B240.
⊕ DENOTES HOT DIP GALVANIZED IN ACCORDANCE WITH RMS SPECIFICATION B241



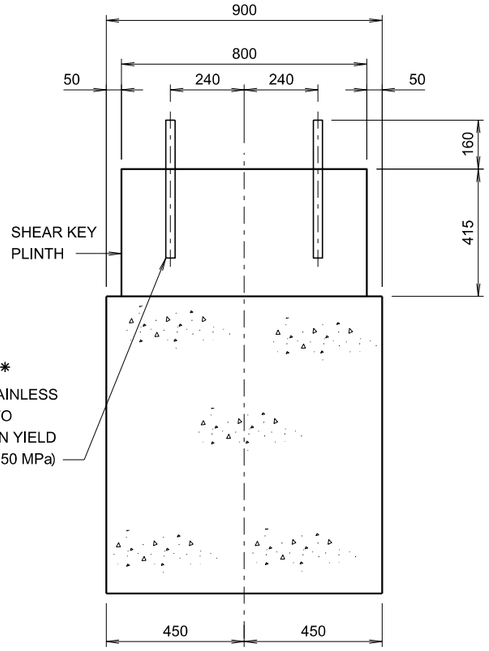
SECTION 1

0 100 200 300 400 500mm
100 50



SECTION 4

0 100 200 300 400 500mm
100 50



SECTION 3

0 100 200 300 400 500mm
100 50

OPTION 1 WITH THREE CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTING/PILE CAP AND PILES

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PIERS PRECAST HEADSTOCK - 3 COLUMNS - CONCRETE

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

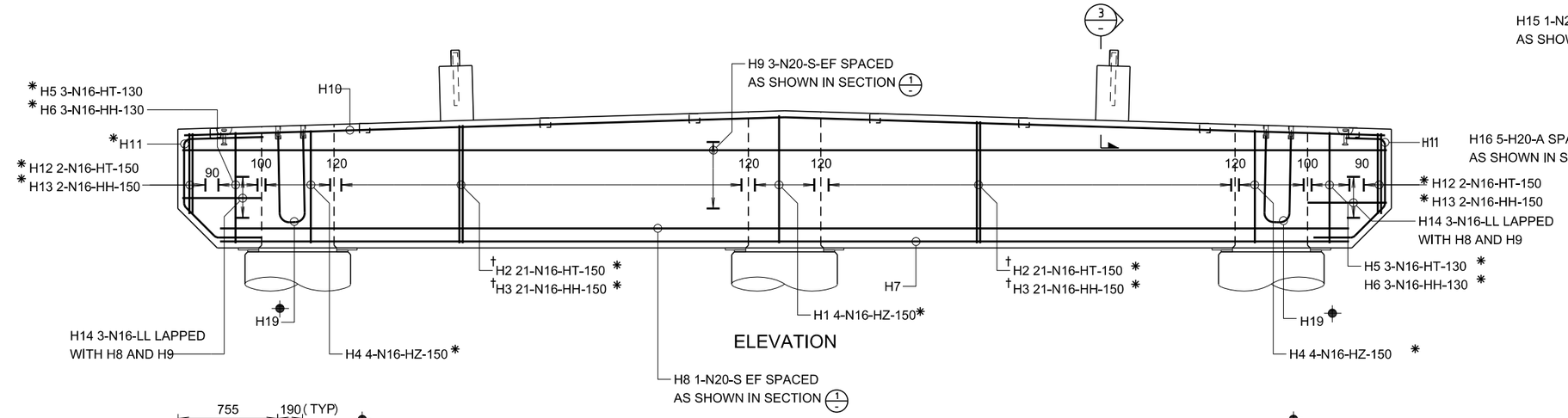
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

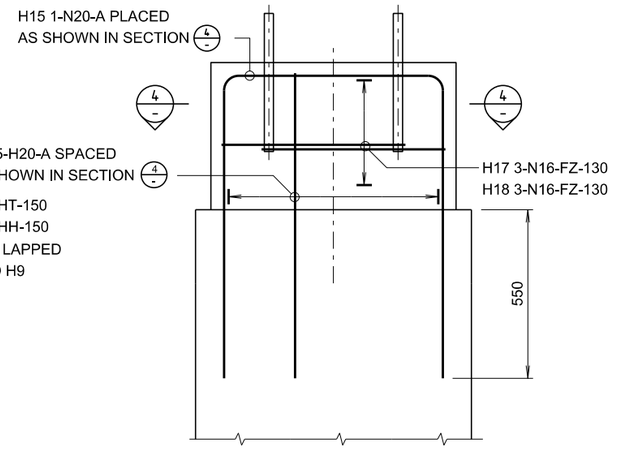
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

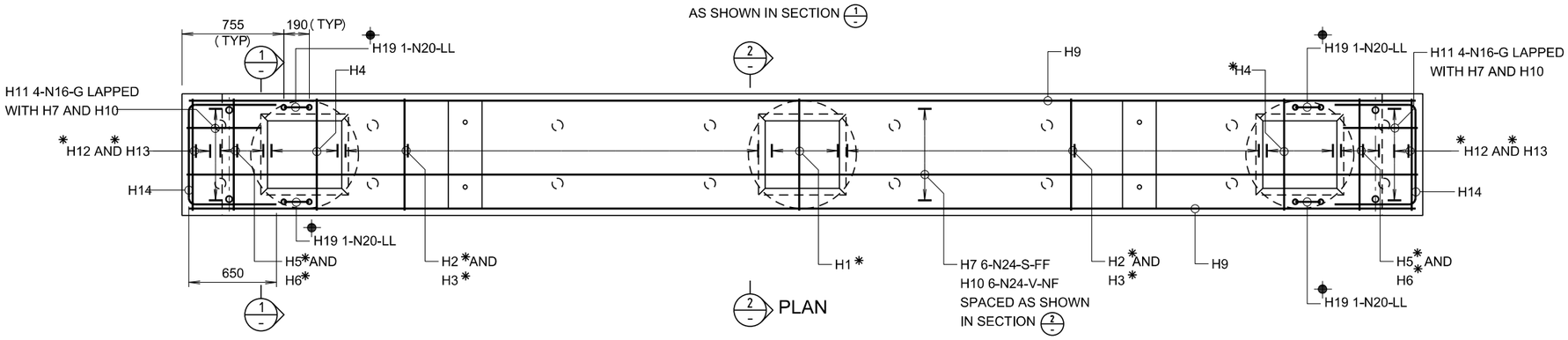
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

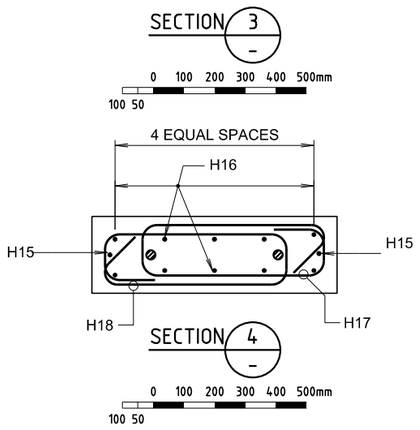
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL14

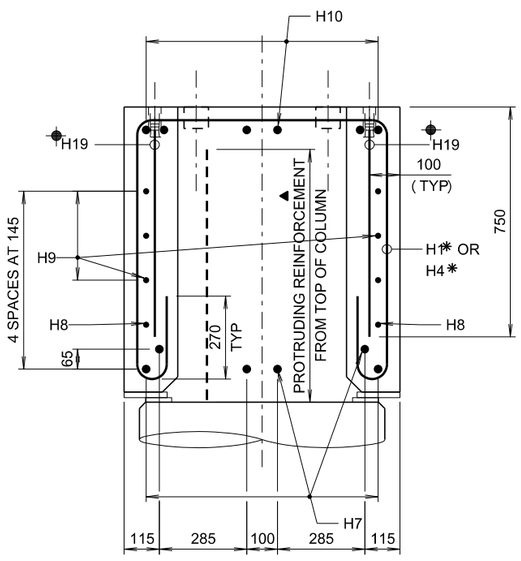
CAD No 8M3CP.dgn



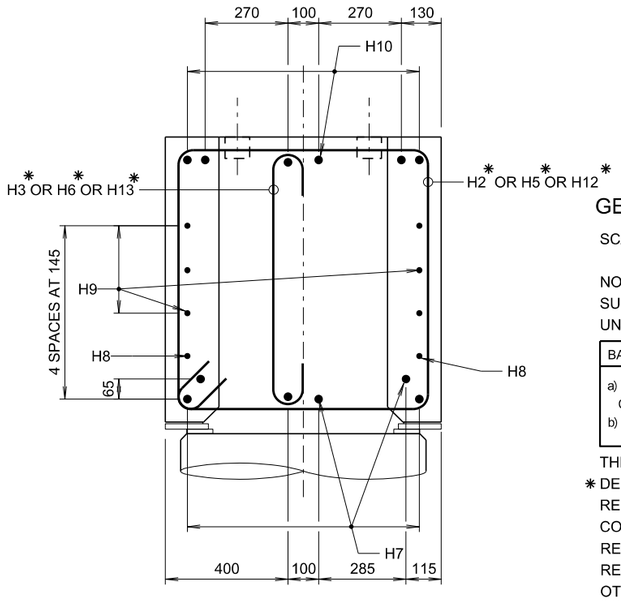








▲ DENOTES TYPICAL PROTRUDING REINFORCING BARS INTO HEADSTOCK ARE INDICATIVE ONLY. THE NUMBER AND DEVELOPMENT LENGTH OF THESE BARS SHALL BE DETERMINED BY THE DESIGNER TO SUIT SUBSTRUCTURE DESIGN.



GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm (200 100) OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 35 mm UNLESS SPECIFIED OTHERWISE.
UNLESS OTHERWISE SPECIFIED, THE LAP LENGTH SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	510	650	880	1190	1520	1870	2760
b) OTHER BARS:	430	530	690	910	1170	1440	1740

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED ABOVE.

✱ DENOTES VARIABLE LENGTH BAR.
REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR COUPLERS, DOWELS, ANCHOR BOLTS, HOLES AND RECESSES.
REINFORCEMENT FOR OPTION 1 WITH THREE COLUMNS IS SHOWN.
REINFORCEMENT FOR OTHER OPTIONS ARE SIMILAR EXCEPT AS NOTED OTHERWISE.

† DENOTES NUMBER OF BARS TO BE ADJUSTED TO SUIT THE NUMBER OF VOIDS.

⌖ DENOTES LENTON BOLT COUPLER EL20S13 AND N20 REBAR TO BE THREADED AT ENDS AND TIGHTENED INTO COUPLERS IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS OR APPROVED EQUIVALENT.

OPTION 1 WITH THREE CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTING/PILE CAP AND PILES

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS
MODULAR BRIDGE DRAWINGS
TYPE 1 - 2 LANE - 8m SPAN
PIERS PRECAST HEADSTOCK - 3 COLUMNS - REINFORCEMENT

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

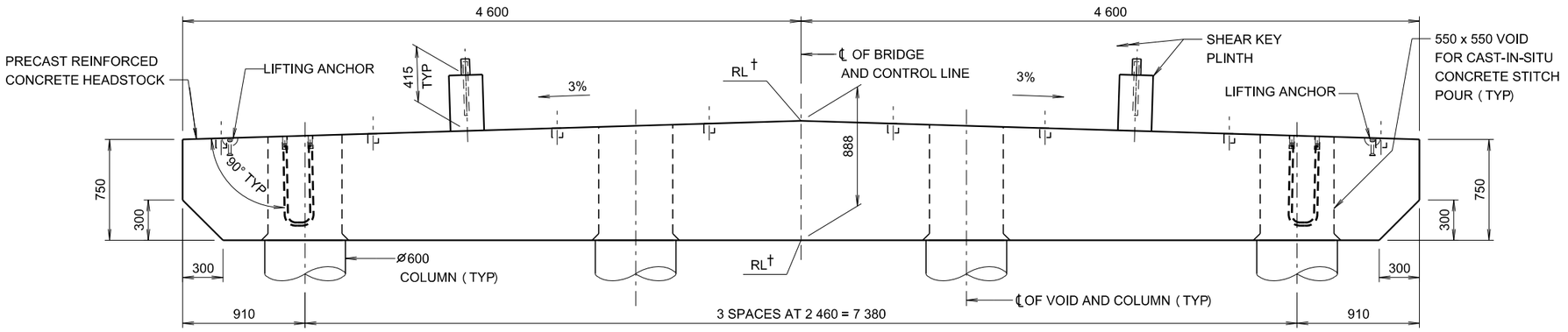
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

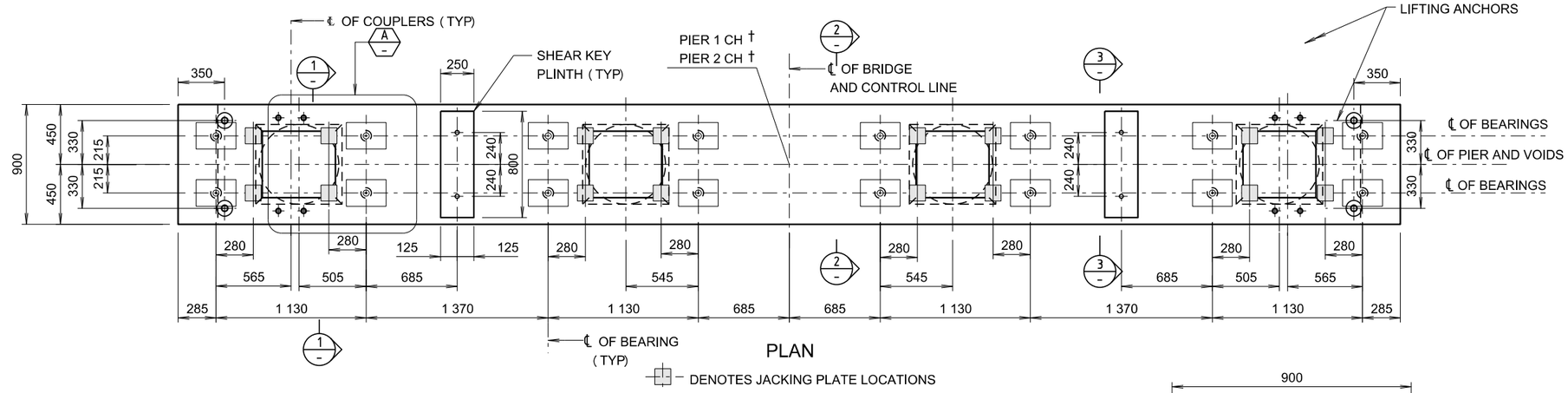
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL15

CAD No 8M3CR.dgn

11:11:14 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGE\8m MODULE\STANDARD DRAWINGS\8M3CR.dgn

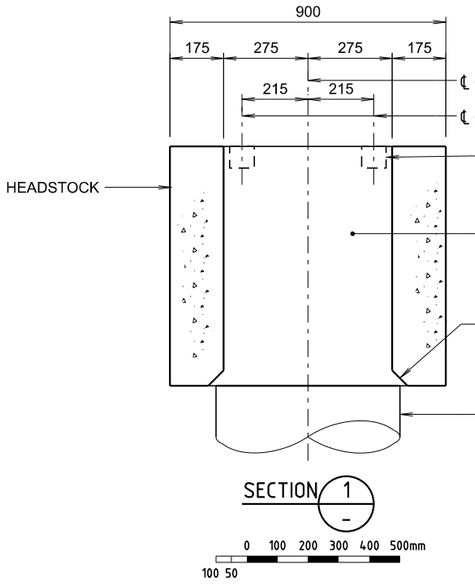


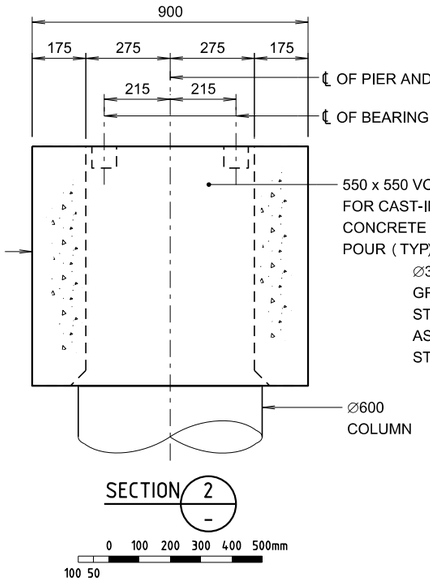
ELEVATION

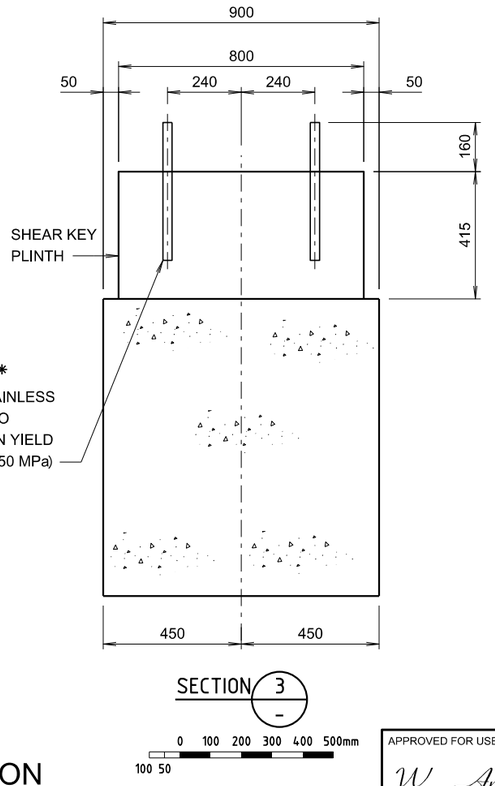


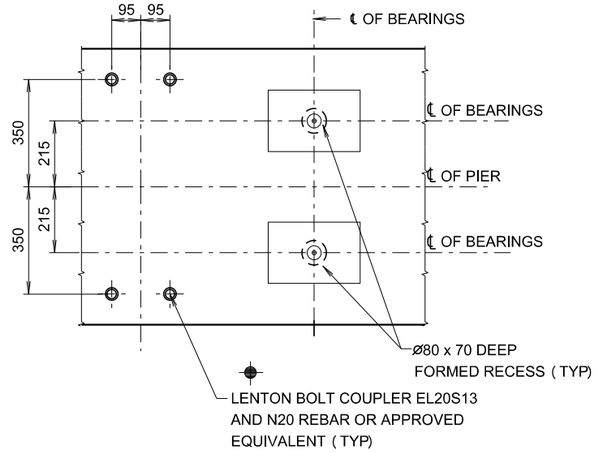
PLAN

DENOTES JACKING PLATE LOCATIONS









DETAIL A

0 100 200 300 400 500mm
100 50

GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm
200 100 OR AS SHOWN.

CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40 MPa.
EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.
ALL SURFACES OF VOIDS IN PRECAST HEADSTOCK IN CONTACT WITH CONCRETE STITCH POUR SHALL BE ROUGHENED DURING MANUFACTURE AS CONSTRUCTION JOINT, IN ACCORDANCE WITH RMS SPECIFICATION B80.
THE PROPOSED METHOD OF MANUFACTURE OF PRECAST HEADSTOCK SHALL BE AS SUBMITTED TO THE PRINCIPAL MIN 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK ON THESE MEMBERS.
MASS OF PRECAST HEADSTOCK IS APPROXIMATELY 15 TONNES BASED ON DENSITY OF CONCRETE OF 2550kg/m^3.
DURING STORAGE, TRANSPORT AND HANDLING, PRECAST HEADSTOCKS SHALL BE IN AN UPRIGHT POSITION AND SUPPORTED AT NOT MORE THAN 600mm FROM EACH END.
LIFTING ANCHORS SHALL BE SWIFT LIFT OR APPROVED EQUIVALENT DESIGNED BY THE PRECAST ITEM MANUFACTURE TO THE SATISFACTION OF THE PRINCIPLE.
THE LOCATIONS MAY VARY TO SUIT THIS DESIGN.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
✱ DENOTES DOWELS TO CONFORM TO THE REQUIREMENTS OF RMS SPECIFICATION B240.
⊕ DENOTES HOT DIP GALVANIZED IN ACCORDANCE WITH RMS SPECIFICATION B241

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PIERS PRECAST HEADSTOCK - 4 COLUMNS - CONCRETE

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

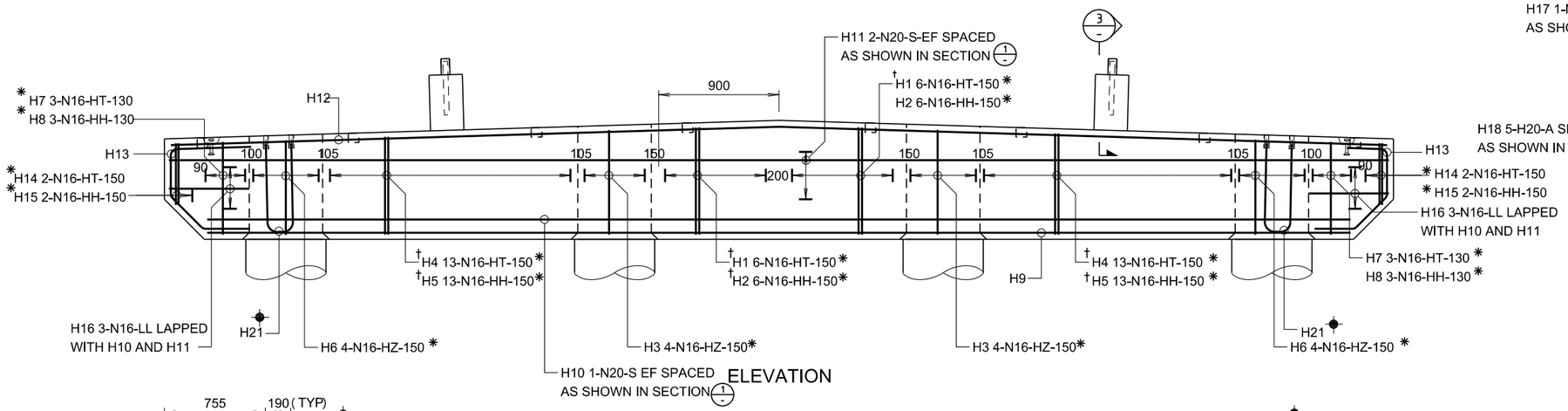
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL16

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

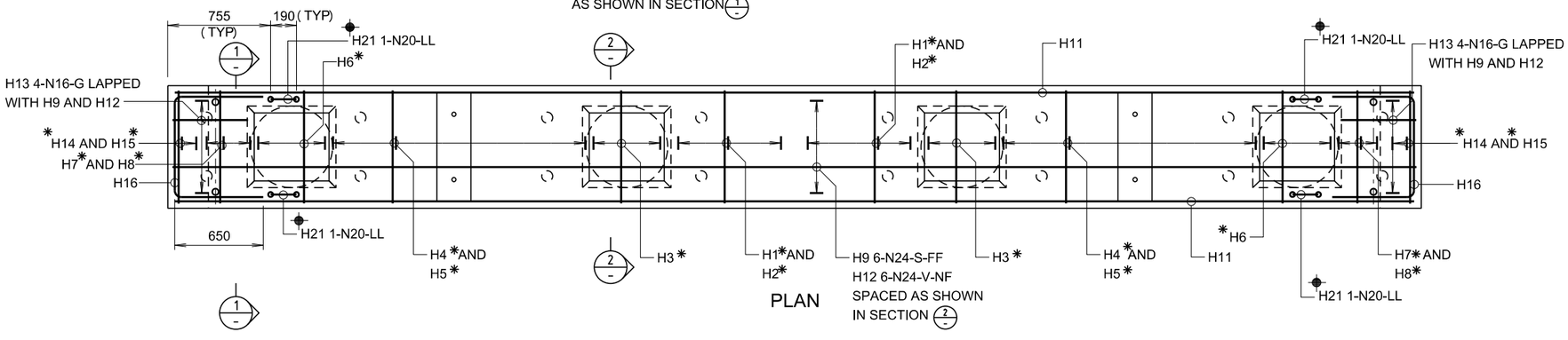
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

CAD No 8M4CP.dgn

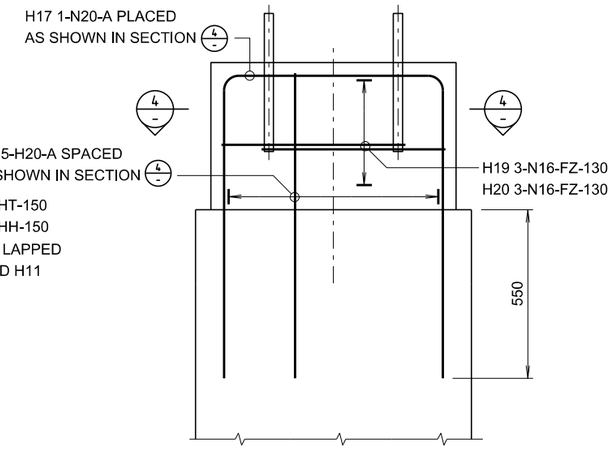
OPTION 1 WITH FOUR CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTING/PILE CAP AND PILES

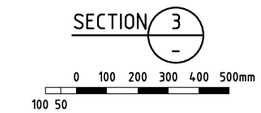


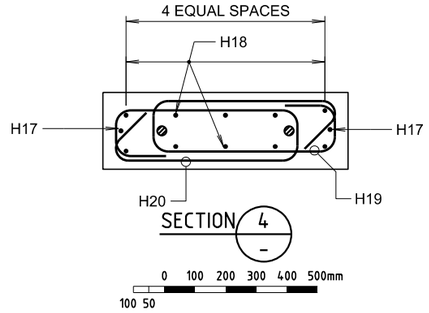
ELEVATION

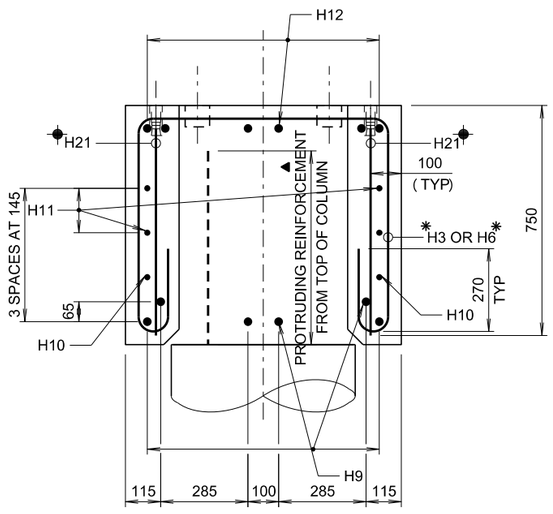


PLAN

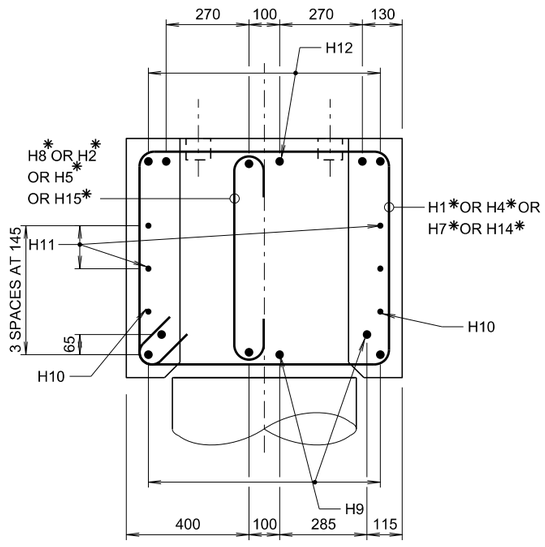








▲ DENOTES TYPICAL PROTRUDING REINFORCING BARS INTO HEADSTOCK ARE INDICATIVE ONLY. THE NUMBER AND DEVELOPMENT LENGTH OF THESE BARS SHALL BE DETERMINED BY THE DESIGNER TO SUIT SUBSTRUCTURE DESIGN.



GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm (200 100) OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 35 mm UNLESS SPECIFIED OTHERWISE.

UNLESS OTHERWISE SPECIFIED, THE LAP LENGTH SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	510	650	880	1190	1520	1870	2760
b) OTHER BARS:	430	530	690	910	1170	1440	1740

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED ABOVE.

✱ DENOTES VARIABLE LENGTH BAR. REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR COUPLERS, DOWELS, ANCHOR BOLTS, HOLES AND RECESSES. REINFORCEMENT FOR OPTION 1 WITH FOUR COLUMNS IS SHOWN. REINFORCEMENT FOR OTHER OPTIONS ARE SIMILAR EXCEPT AS NOTED OTHERWISE.

† DENOTES NUMBER OF BARS TO BE ADJUSTED TO SUIT THE NUMBER OF VOIDS.

⌖ DENOTES LENTON BOLT COUPLER EL20S13 AND N20 REBAR TO BE THREADED AT ENDS AND TIGHTENED INTO COUPLERS IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS OR APPROVED EQUIVALENT.

OPTION 1 WITH FOUR CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTING/PILE CAP AND PILES

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PIERS PRECAST HEADSTOCK - 4 COLUMNS - REINFORCEMENT

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

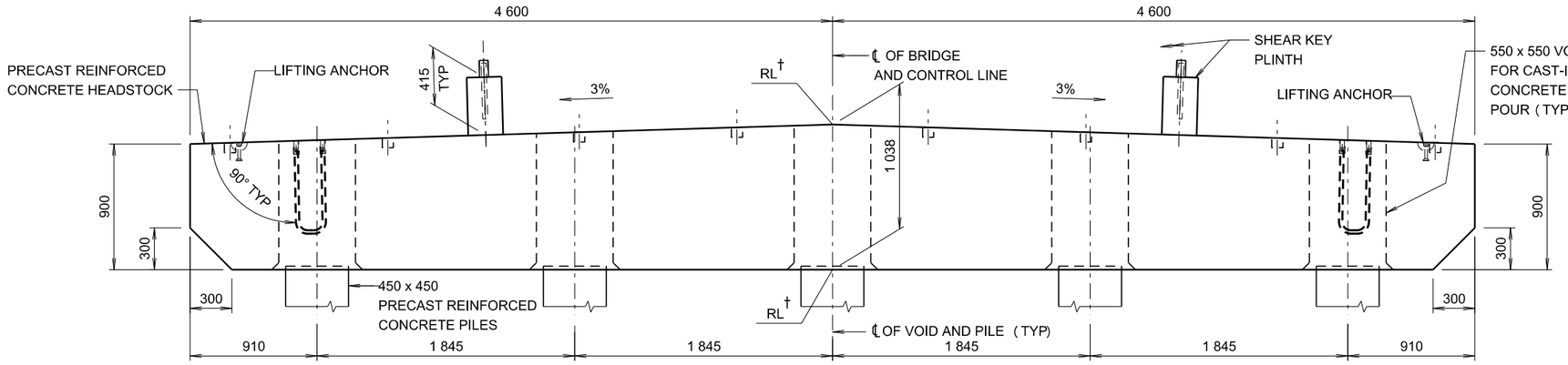
Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

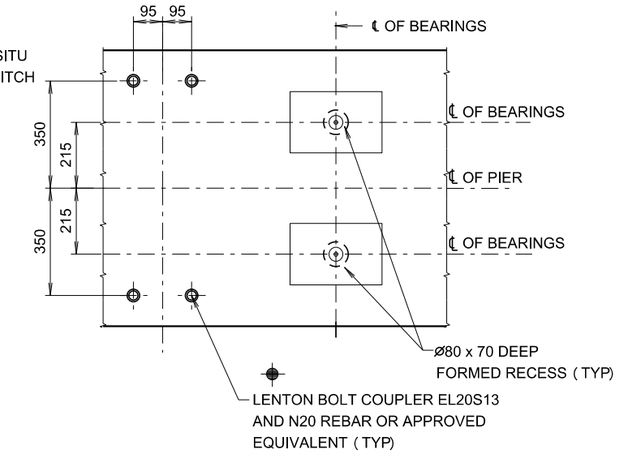
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

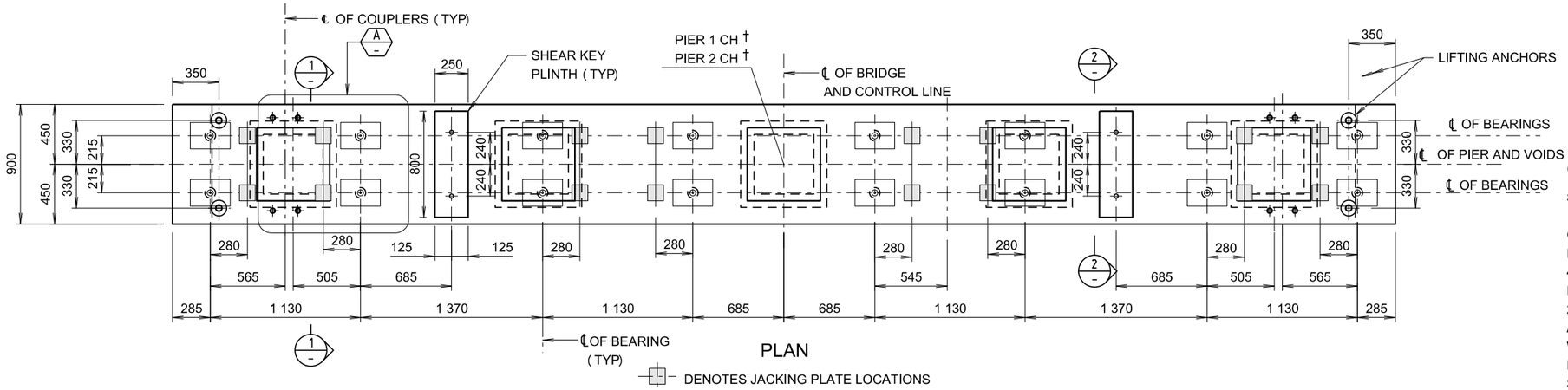
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL17

CAD No 8M4CR.dgn



ELEVATION





PLAN

DENOTES JACKING PLATE LOCATIONS

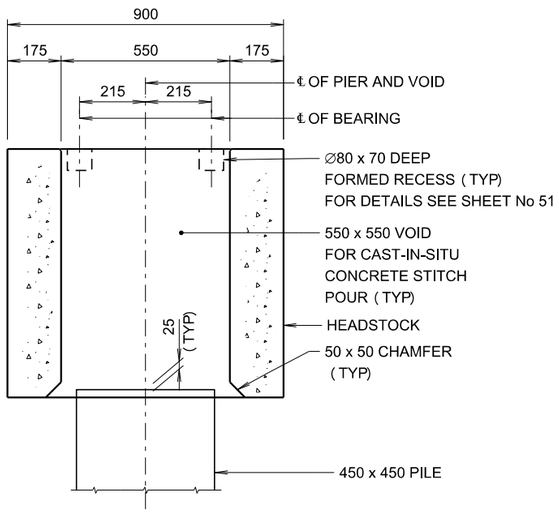
DETAIL A

0 100 200 300 400 500mm
100 50

GENERAL NOTES

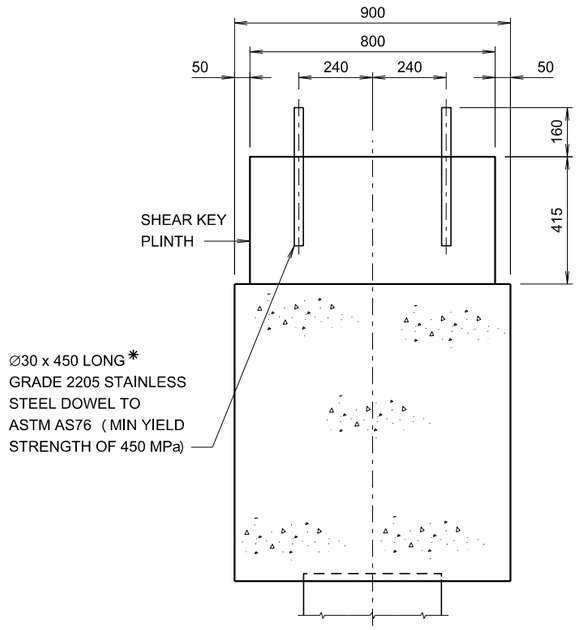
SCALE 0 200 400 600 800 1 000mm
200 100
OR AS SHOWN.

CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40 MPa.
EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.
ALL SURFACES OF VOIDS IN PRECAST HEADSTOCK IN CONTACT WITH CONCRETE STITCH POUR SHALL BE ROUGHENED DURING MANUFACTURE AS CONSTRUCTION JOINT, IN ACCORDANCE WITH RMS SPECIFICATION B80.
THE PROPOSED METHOD OF MANUFACTURE OF PRECAST HEADSTOCK SHALL BE AS SUBMITTED TO THE PRINCIPAL MIN 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK ON THESE MEMBERS.
MASS OF PRECAST HEADSTOCK IS APPROXIMATELY 17 TONNES BASED ON DENSITY OF CONCRETE OF 2550kg/m^3.
DURING STORAGE, TRANSPORT AND HANDLING, PRECAST HEADSTOCKS SHALL BE IN AN UPRIGHT POSITION AND SUPPORTED AT NOT MORE THAN 600mm FROM EACH END.
LIFTING ANCHORS SHALL BE SWIFT LIFT OR APPROVED EQUIVALENT DESIGNED BY THE PRECAST ITEM MANUFACTURE TO THE SATISFACTION OF THE PRINCIPLE.
THE LOCATIONS MAY VARY TO SUIT THIS DESIGN.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
✱ DENOTES DOWELS TO CONFORM TO THE REQUIREMENTS OF RMS SPECIFICATION B240.
⊕ DENOTES HOT DIP GALVANIZED IN ACCORDANCE WITH RMS SPECIFICATION B241



SECTION 1

0 100 200 300 400 500mm
100 50



SECTION 2

0 100 200 300 400 500mm
100 50

OPTION 2 WITH FIVE PRECAST REINFORCED CONCRETE PILES

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PIERS PRECAST HEADSTOCK - 5 PILES - CONCRETE

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

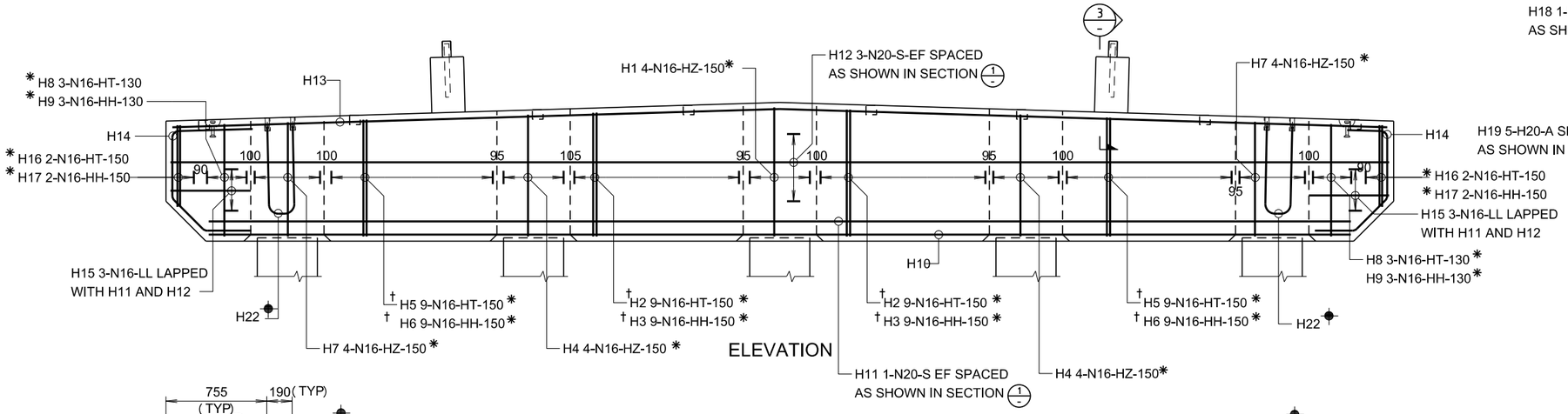
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

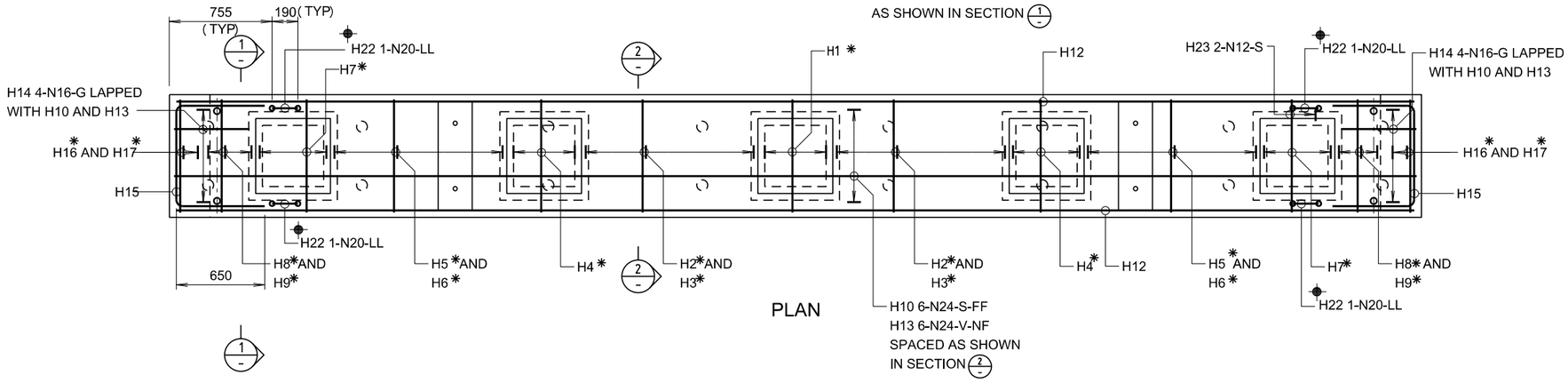
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

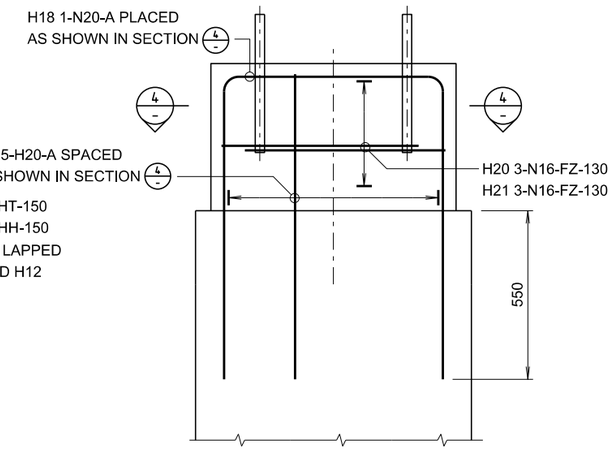
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL18

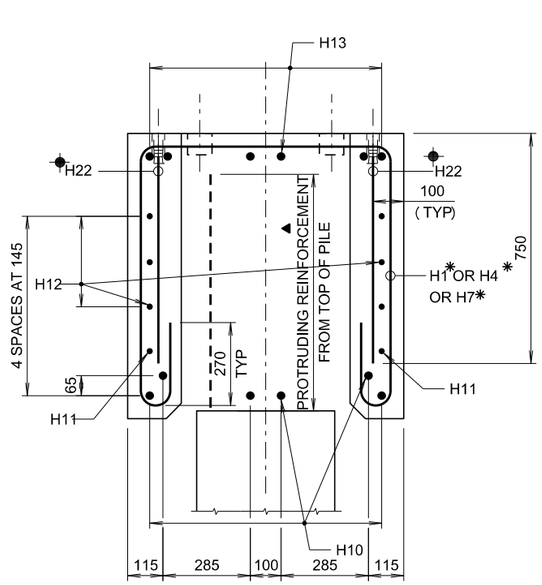
CAD No 8M5PP.dgn

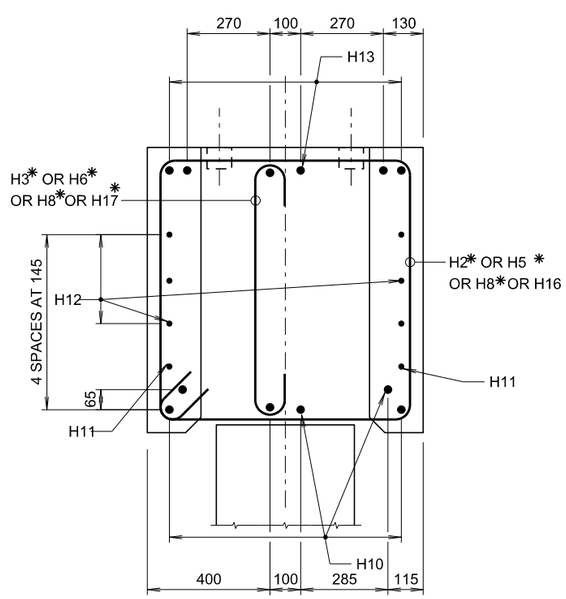
11:11:16 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGES\8m MODULE\STANDARD DRAWINGS\8M5PP.dgn











▲ DENOTES TYPICAL PROTRUDING REINFORCING BARS INTO HEADSTOCK ARE INDICATIVE ONLY. THE NUMBER AND DEVELOPMENT LENGTH OF THESE BARS SHALL BE DETERMINED BY THE DESIGNER TO SUIT SUBSTRUCTURE DESIGN.

GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm / 200 100 OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 35 mm UNLESS SPECIFIED OTHERWISE.
UNLESS OTHERWISE SPECIFIED, THE LAP LENGTH SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	510	650	880	1190	1520	1870	2760
b) OTHER BARS:	430	530	690	910	1170	1440	1740

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED ABOVE.
✱ DENOTES VARIABLE LENGTH BAR.
REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR COUPLERS, DOWELS, ANCHOR BOLTS, HOLES AND RECESSES.
REINFORCEMENT FOR OPTION 2 WITH FIVE PILES IS SHOWN.
REINFORCEMENT FOR OTHER OPTIONS ARE SIMILAR EXCEPT AS NOTED OTHERWISE.
† DENOTES NUMBER OF BARS TO BE ADJUSTED TO SUIT THE NUMBER OF VOIDS.
✦ DENOTES LENTON BOLT COUPLER EL20S13 AND N20 REBAR TO BE THREADED AT ENDS AND TIGHTENED INTO COUPLERS IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS OR APPROVED EQUIVALENT.

OPTION 2 WITH FIVE PRECAST REINFORCED CONCRETE PILES

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS
MODULAR BRIDGE DRAWINGS
TYPE 1 - 2 LANE - 8m SPAN
PIERS PRECAST HEADSTOCK - 5 PILES - REINFORCEMENT

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

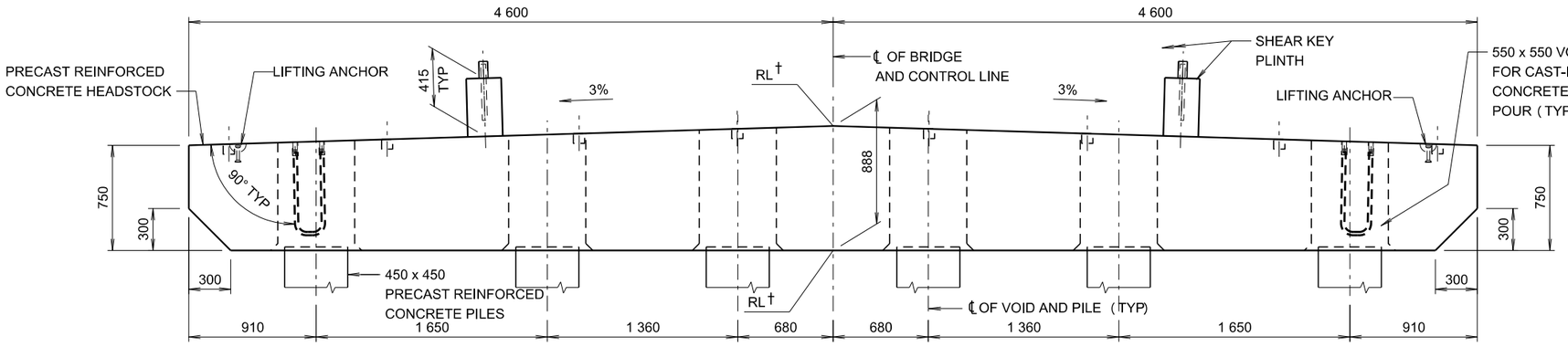
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

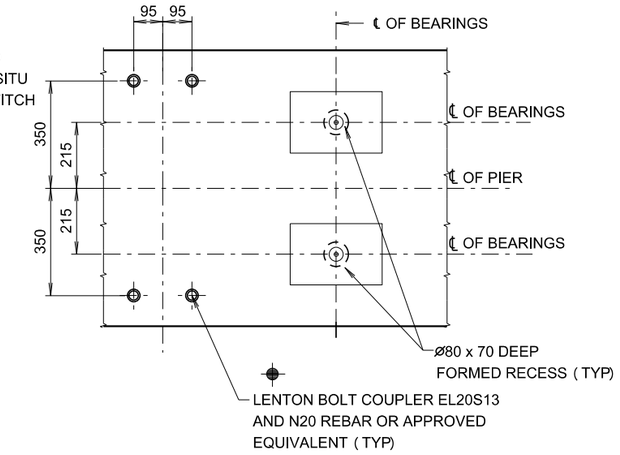
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL19

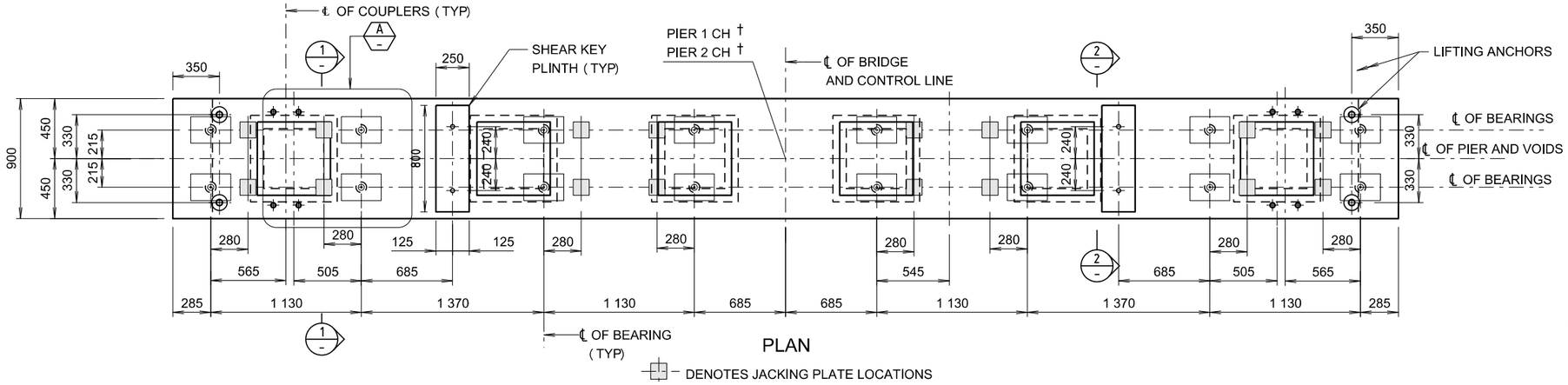
CAD No 8M5PR.dgn

11:11:18 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGE\8m MODULE\STANDARD DRAWINGS\8M5PR.dgn



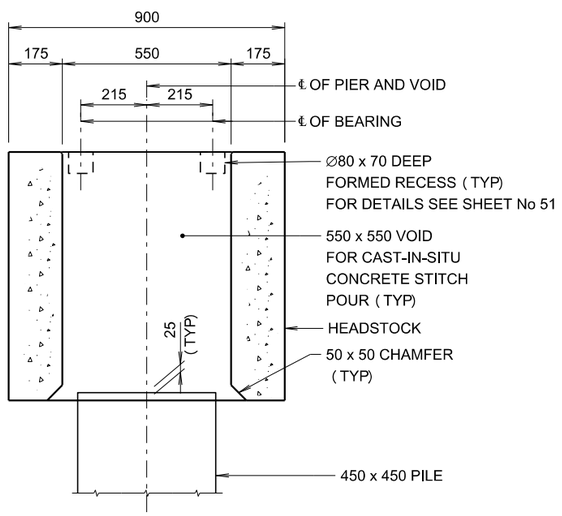
ELEVATION



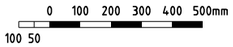


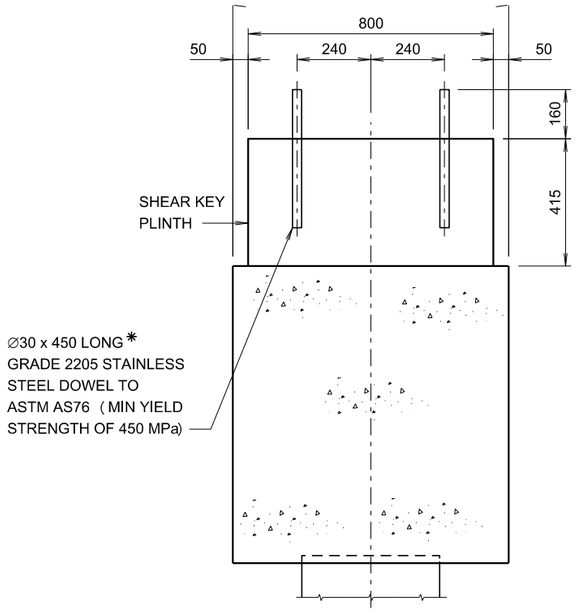
PLAN

DENOTES JACKING PLATE LOCATIONS

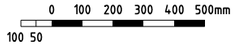


SECTION 1



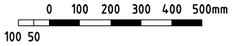


SECTION 2

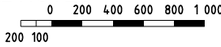


OPTION 2 WITH SIX PRECAST REINFORCED CONCRETE PILES

DETAIL A



GENERAL NOTES

SCALE 

OR AS SHOWN.

CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40 MPa.
EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.
ALL SURFACES OF VOIDS IN PRECAST HEADSTOCK IN CONTACT WITH CONCRETE STITCH POUR SHALL BE ROUGHENED DURING MANUFACTURE AS CONSTRUCTION JOINT, IN ACCORDANCE WITH RMS SPECIFICATION B80.
THE PROPOSED METHOD OF MANUFACTURE OF PRECAST HEADSTOCK SHALL BE AS SUBMITTED TO THE PRINCIPAL MIN 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK ON THESE MEMBERS.
MASS OF PRECAST HEADSTOCK IS APPROXIMATELY 13.8 TONNES BASED ON DENSITY OF CONCRETE OF 2550kg/m^3.
DURING STORAGE, TRANSPORT AND HANDLING, PRECAST HEADSTOCKS SHALL BE IN AN UPRIGHT POSITION AND SUPPORTED AT NOT MORE THAN 600mm FROM EACH END.
LIFTING ANCHORS SHALL BE SWIFT LIFT OR APPROVED EQUIVALENT DESIGNED BY THE PRECAST ITEM MANUFACTURE TO THE SATISFACTION OF THE PRINCIPLE.
THE LOCATIONS MAY VARY TO SUIT THIS DESIGN.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
* DENOTES DOWELS TO CONFORM TO THE REQUIREMENTS OF RMS SPECIFICATION B240.
⊕ DENOTES HOT DIP GALVANIZED IN ACCORDANCE WITH RMS SPECIFICATION B241

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PIERS PRECAST HEADSTOCK - 6 PILES - CONCRETE

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

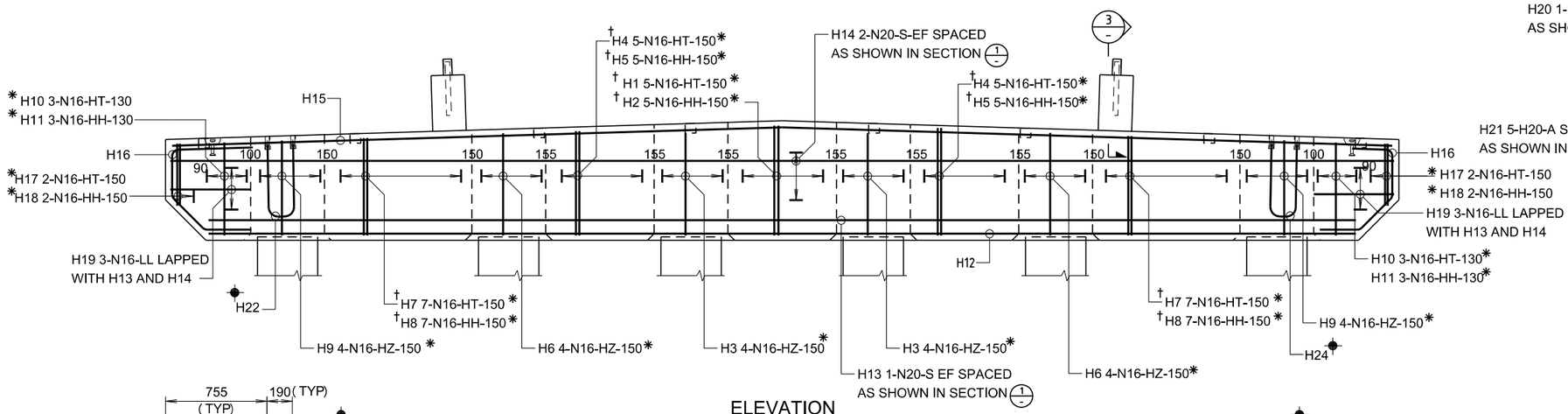
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

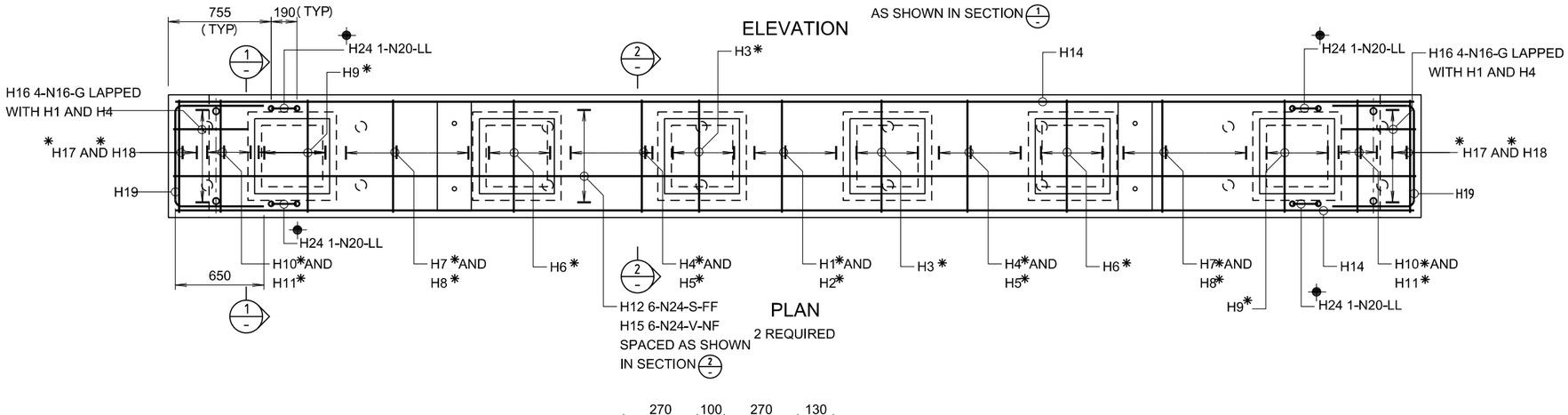
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL20

CAD No 8M6PP.dgn

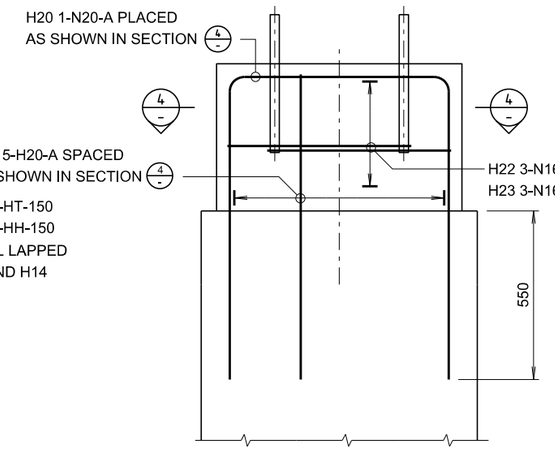
11:11:19 AM 7/10/2016 K:\Bridge\Standards_2015\Standards In Development\B1000_MODULAR BRIDGE\8m MODULE\STANDARD DRAWINGS\8M6PP.dgn



ELEVATION

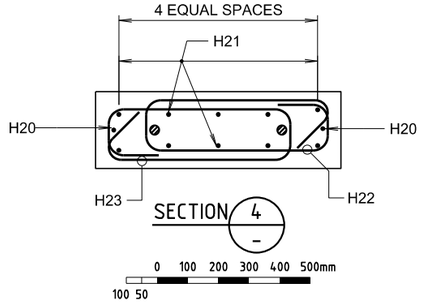


PLAN



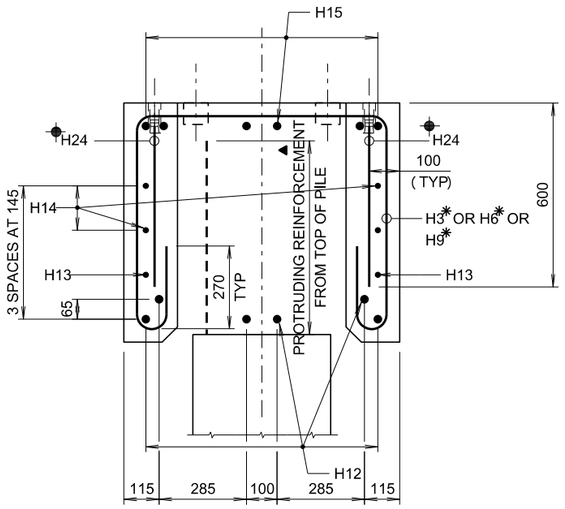
SECTION 3

0 100 200 300 400 500mm
100 50



SECTION 4

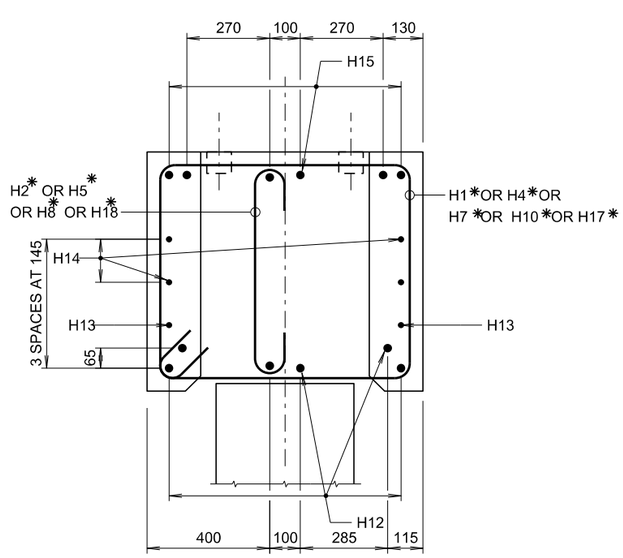
0 100 200 300 400 500mm
100 50



SECTION 1

0 100 200 300 400 500mm
100 50

▲ DENOTES TYPICAL PROTRUDING REINFORCING BARS INTO HEADSTOCK ARE INDICATIVE ONLY. THE NUMBER AND DEVELOPMENT LENGTH OF THESE BARS SHALL BE DETERMINED BY THE DESIGNER TO SUIT SUBSTRUCTURE DESIGN.



SECTION 2

0 100 200 300 400 500mm
100 50

GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm (200 100) OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 35 mm UNLESS SPECIFIED OTHERWISE.

UNLESS OTHERWISE SPECIFIED, THE LAP LENGTH SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	510	650	880	1190	1520	1870	2760
b) OTHER BARS:	430	530	690	910	1170	1440	1740

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED ABOVE.

* DENOTES VARIABLE LENGTH BAR. REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR COUPLERS, DOWELS, ANCHOR BOLTS, HOLES AND RECESSES. REINFORCEMENT FOR OPTION 2 WITH SIX PILES IS SHOWN. REINFORCEMENT FOR OTHER OPTIONS ARE SIMILAR EXCEPT AS NOTED OTHERWISE.

† DENOTES NUMBER OF BARS TO BE ADJUSTED TO SUIT THE NUMBER OF VOIDS.

⊕ DENOTES LENTON BOLT COUPLER EL20S13 AND N20 REBAR TO BE THREADED AT ENDS AND TIGHTENED INTO COUPLERS IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS OR APPROVED EQUIVALENT.

OPTION 2 WITH SIX PRECAST REINFORCED CONCRETE PILES

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PIERS PRECAST HEADSTOCK -6 PILES - REINFORCEMENT

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

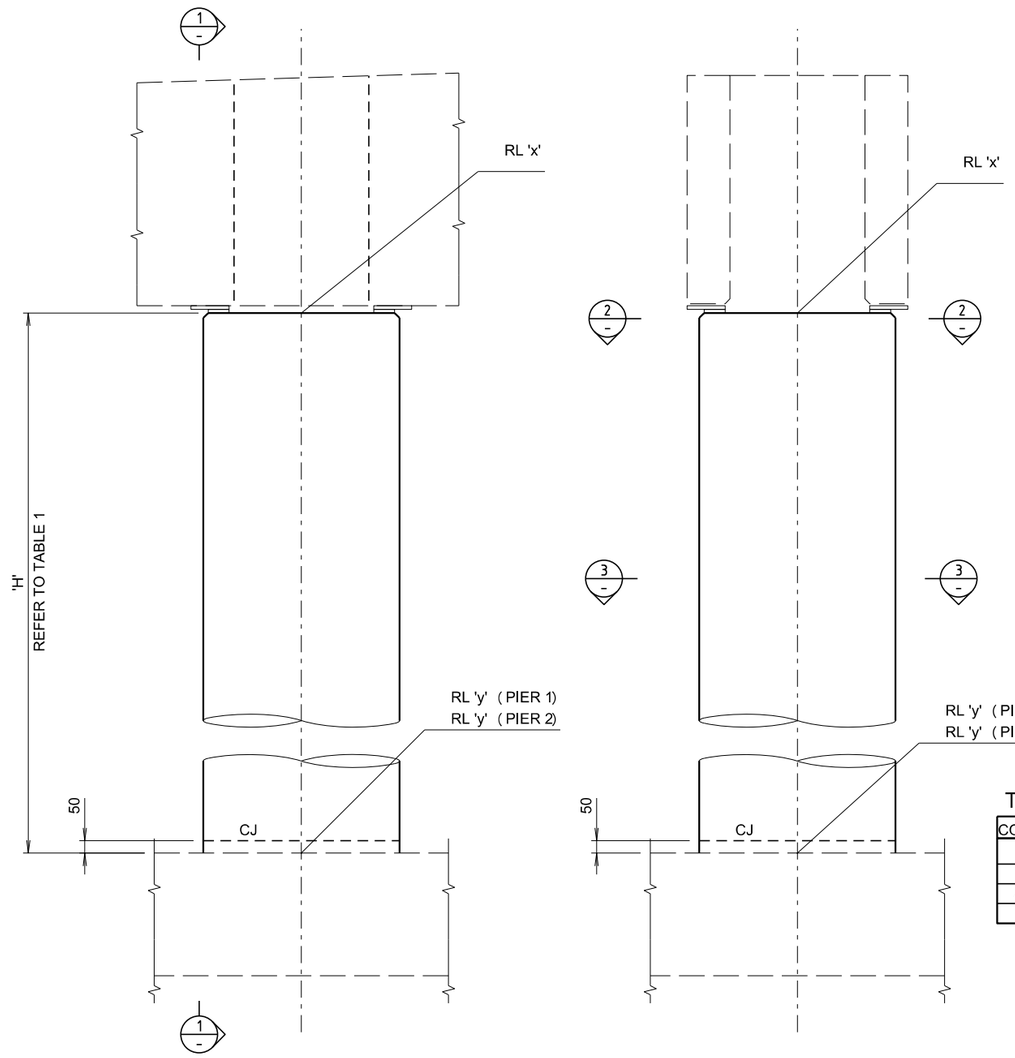
REGISTRATION No OF PLANS

BRIDGE No

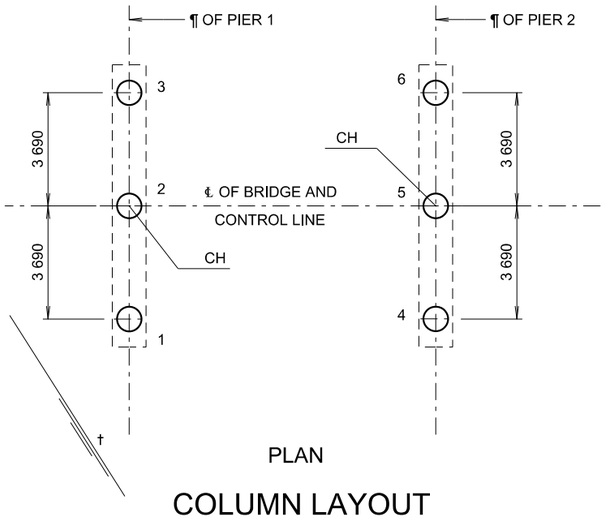
ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL21

CAD No 8M6PR.dgn



ELEVATION

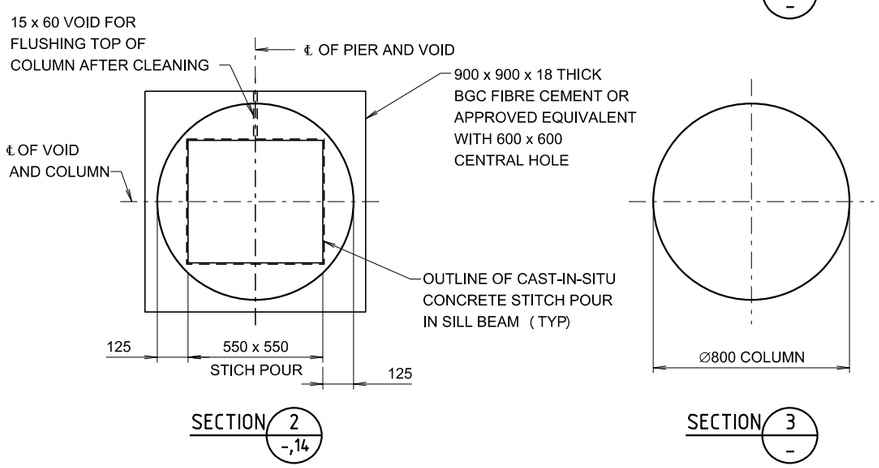


PLAN

COLUMN LAYOUT

TABLE 1 †

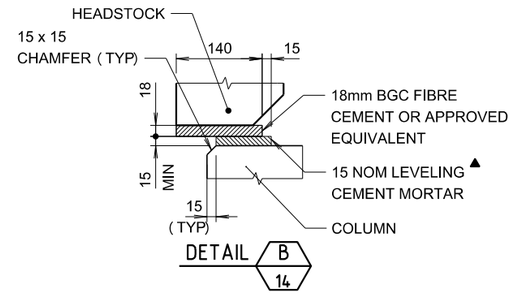
COLUMN No.	RL 'x'	RL 'y'	H
1 AND 3			
2			
4 AND 6			
5			



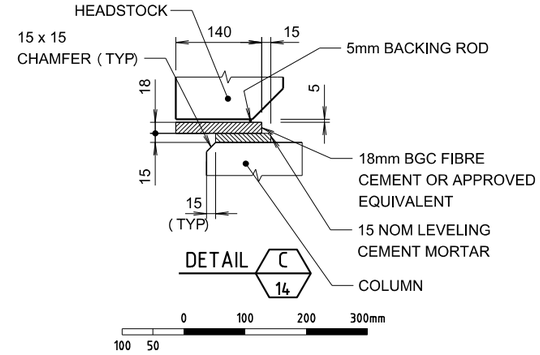
SECTION 1 -

SECTION 2 -,14

SECTION 3 -



THE TEMPORARY SUPPORTS DETAILED ON THIS DRAWING IS APPLICABLE FOR SUBSTRUCTURE WITH ∅800 COLUMNS.



GENERAL NOTES

SCALE 0 250 500 750mm (250 125) OR AS SHOWN.

CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40MPa.
EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.
THE PLACING OF CONCRETE IN THE COLUMNS SHALL BE CARRIED OUT IN ONE CONTINUOUS OPERATION UNLESS SPECIFIED OTHERWISE.
† DENOTES DATA TO BE SPECIFIED TO SUIT BRIDGE DESIGN.
▲ DENOTES LEVELING MORTAR PLACED, EXCEPT FOR AREA UNDER VOIDS, IN ACCORDANCE WITH AS 1597.2 OR APPROVED ALTERNATIVE MATERIAL. THE MORTAR SHOULD BE SUFFICIENTLY STIFF TO PROVIDE A LAYER NO LESS THAN 15mm THICK AFTER THE HEADSTOCK IS PLACED IN POSITION. THE HEADSTOCK SHALL BE PLACED IN POSITION BEFORE THE MORTAR HAS SET SO THAT UNIFORM BEARING IS OBTAINED.

OPTION 1 WITH THREE CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTING/PILE CAP AND PILES

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS
MODULAR BRIDGE DRAWINGS
TYPE 1 - 2 LANE - 8m SPAN
PIER COLUMNS - CONCRETE

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL23

CAD No 8MP2.dgn

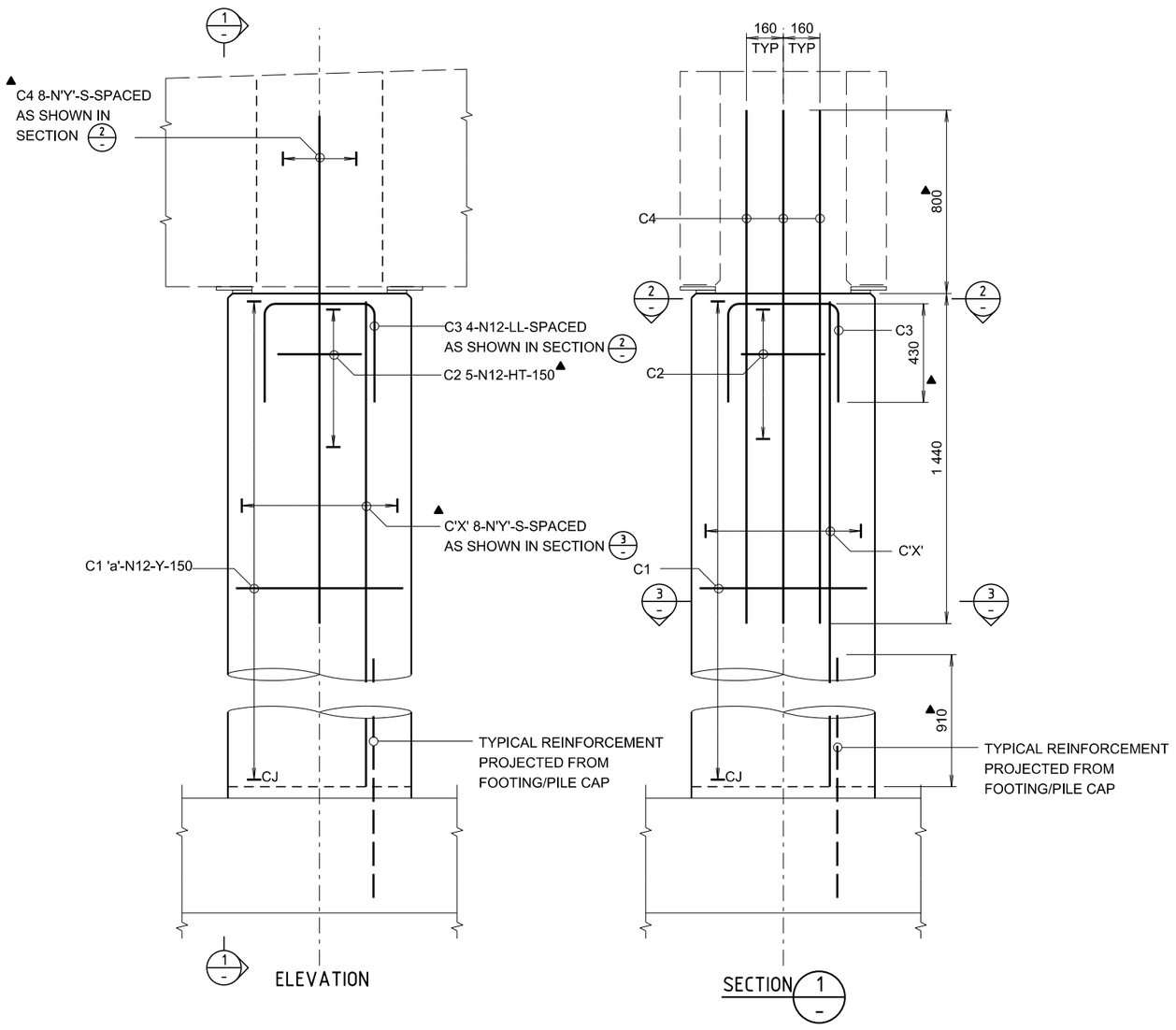
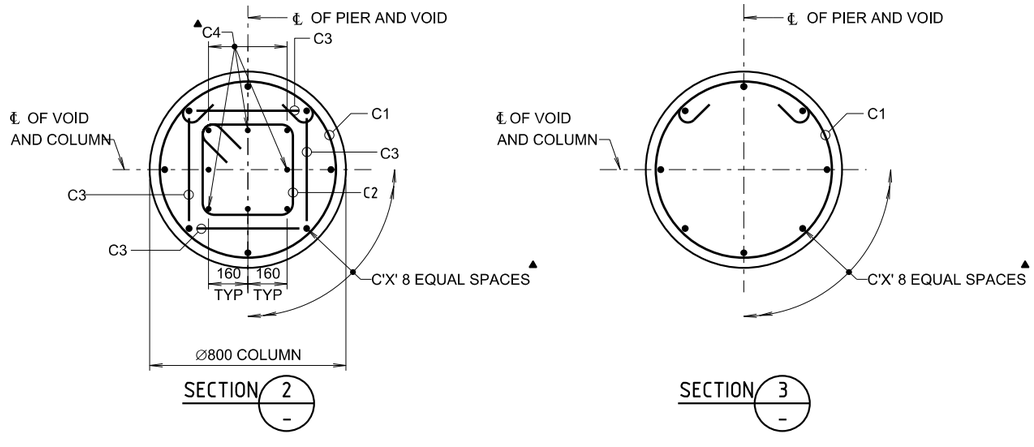


TABLE 1

COLUMN LOCATION	'X'	'Y'	'a'
PIER 1			
PIER 2			



GENERAL NOTES

SCALE 0 250 500 750mm (250 125) OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 40mm UNLESS SPECIFIED OTHERWISE.

UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS THE LAP LENGTHS SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	510	650	880	1190	1520	1870	2760
b) OTHER BARS:	430	530	690	910	1170	1440	1740

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED ABOVE.

✳ DENOTES VARIABLE LENGTH BAR.
REINFORCEMENT IN THE FOOTING AND HEADSTOCK MAY BE DISPLACED TO AVOID COLUMN REINFORCEMENT AND DOWELS AS NECESSARY.

▲ DENOTES NUMBER AND DIAMETER OF BARS, EMBEDMENT LENGTHS INTO HEADSTOCK AND COLUMNS AND LAP LENGTHS ARE INDICATIVE ONLY AND SHALL BE DETERMINED BY THE DESIGNER TO SUIT SUBSTRUCTURE DESIGN OF SPECIFIC BRIDGE SITE.

OPTION 1 WITH CIRCULAR COLUMNS ON REINFORCED CONCRETE FOOTINGS/PILE CAPS AND PILES

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS
MODULAR BRIDGE DRAWINGS
TYPE 1 - 2 LANE - 8m SPAN
PIER COLUMNS - REINFORCEMENT

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

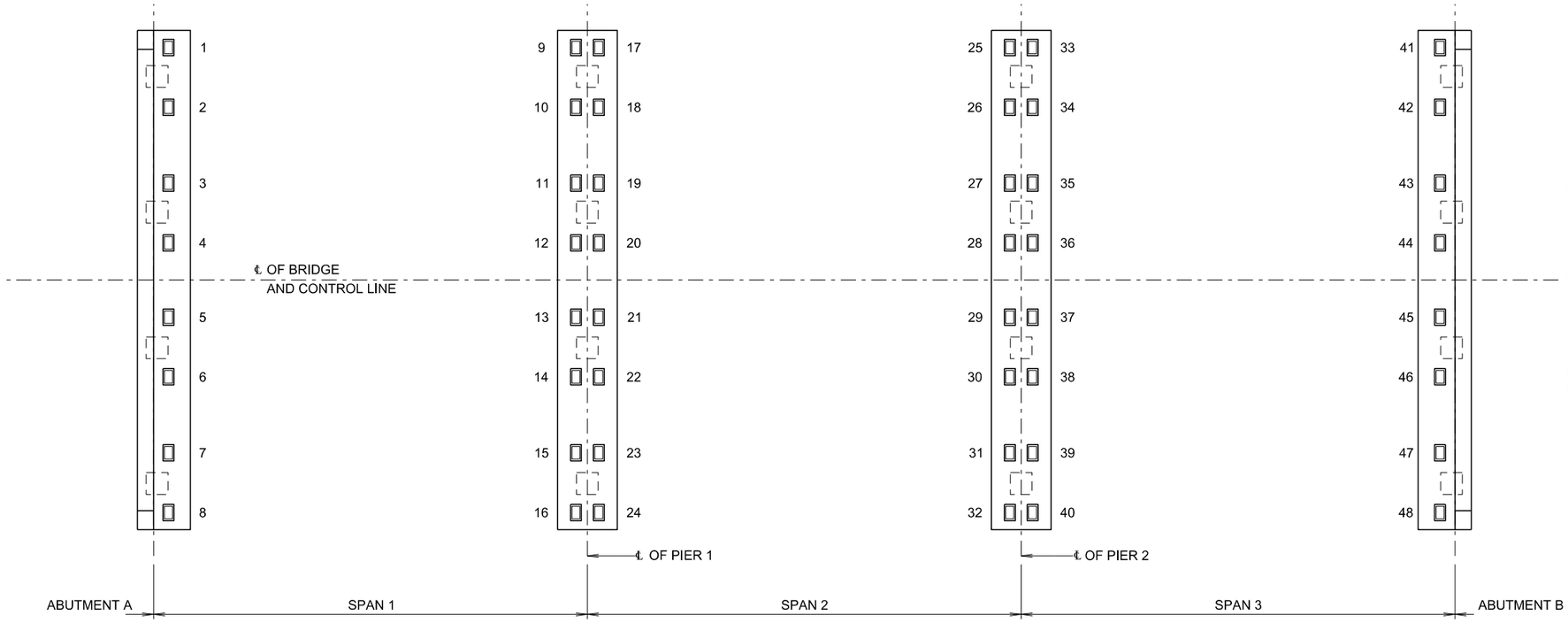
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

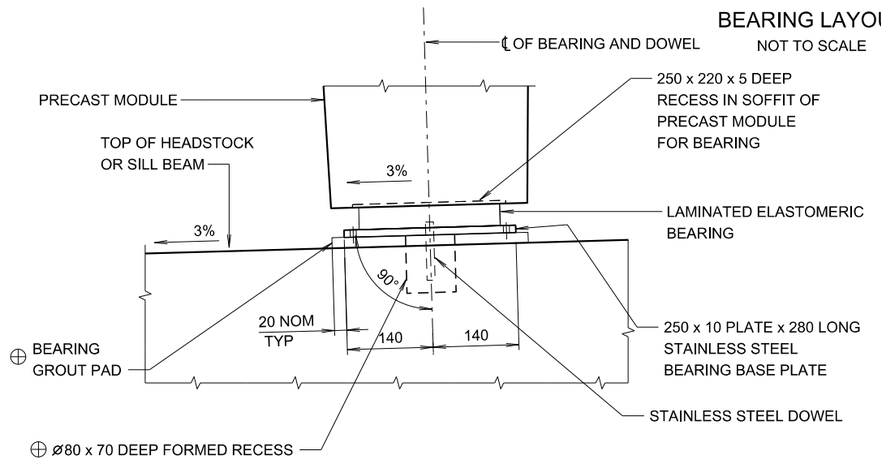
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL24

CAD No 8MPCR.dgn



BEARING LAYOUT

NOT TO SCALE



TYPICAL BEARING ASSEMBLY

0 100 200 300mm

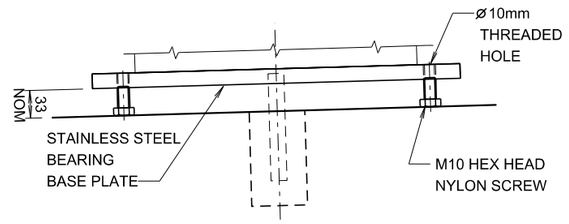
100 50

TABLE 1

LOCATION		BEARING No.	TOP OF BEARING RL "X"	LOCATION		BEARING No.	TOP OF BEARING RL "X"	LOCATION		BEARING No.	TOP OF BEARING RL "X"
ABUTMENT A	SPAN 1	1		PIER 1	SPAN 2	17		PIER 2	SPAN 3	33	
		2				18				34	
		3				19				35	
		4				20				36	
		5				21				37	
		6				22				38	
		7				23				39	
		8				24				40	
PIER 1		9		PIER 2		25		ABUTMENT B		41	
		10				26				42	
		11				27				43	
		12				28				44	
		13				29				45	
		14				30				46	
		15				31				47	
		16				32				48	

BEARING INSTALLATION PROCEDURE

1. INSERT NYLON SCREWS TO PLATE WITH HEADS DOWNWARDS AND PROTRUDING 15mm.
2. PLACE BEARING PLATE ON HEADSTOCK/ABUTMENT SILL BEAM WITH DOWEL PLACED INTO FORMED HOLE.
3. PLACE BEARINGS ON PLATES.
4. HOIST PRECAST MODULE INTO POSITION, RESTING ON TEMPORARY SUPPORTS.
5. THE TEMPORARY SUPPORT MUST BE STABLE AND ACCURATELY PLACED (REFER CONSTRUCTION GUIDE) . THE TEMPORARY SUPPORT MAY BE HYDRAULIC JACKS, SCREW JACKS OR TEMPORARY PACKERS; HOWEVER THE METHODOLOGY USED MUST ENSURE THAT THE DECK MODULES ARE STABLE AND PLACED ACCURATELY.
6. ADJUST AND SUPPORT PRECAST MODULE IN PERMANENT POSITION OVER TEMPORARY SUPPORTS.
7. ADJUST NYLON SCREWS UNDER EACH BEARING PLATE SO THAT BEARING IS PRESSED FIRMLY AND EVENLY UP INTO THE RECESS IN SOFFIT OF MODULE AND BEARING PLATE AND SOFFIT OF MODULE ARE PARALLEL.
8. FORM AND GROUT UNDER BEARING PLATE.
9. ONCE GROUT HAS REACHED MINIMUM STRENGTH OF 30 MPa AND IT IS AT LEAST 7 DAYS OLD TRANSFER LOAD TO PERMANENT BEARINGS AND REMOVE TEMPORARY SUPPORTS.



GENERAL NOTES

SCALE AS SHOWN

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 51.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

BEARINGS - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE

W Ariyaratne
PRINCIPAL ENGINEER BRIDGES

07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

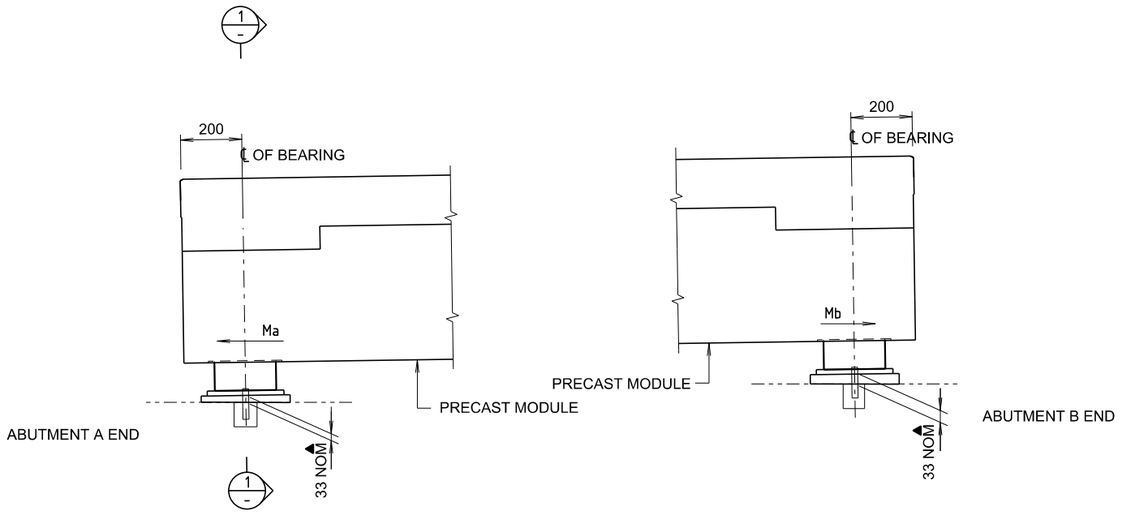
REGISTRATION
No OF PLANS

BRIDGE No

ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL50

CAD No 8MBA.dgn



ELEVATION OF PRECAST MODULE AFTER DECK CONSTRUCTION

0 100 200 300 400 500mm
100 50

TABLE 2

LONGITUDINAL GRADE ON TOP OF BEARING BASEPLATE

	MEASURED HOG	Ma	Mb
SPAN No 1 - 3	5	0.24%	0.24%
	10	0.48%	0.48%
	15	0.71%	0.71%
	20	0.95%	0.95%

HOGS SHALL BE MEASURED TWO WEEKS PRIOR TO THE ERECTION OF THE PRECAST MODULE AND THE GRADE OF THE TOP OF BASEPLATES SHALL BE DETERMINED FROM THE FIGURES IN TABLE 2 ACCORDINGLY.

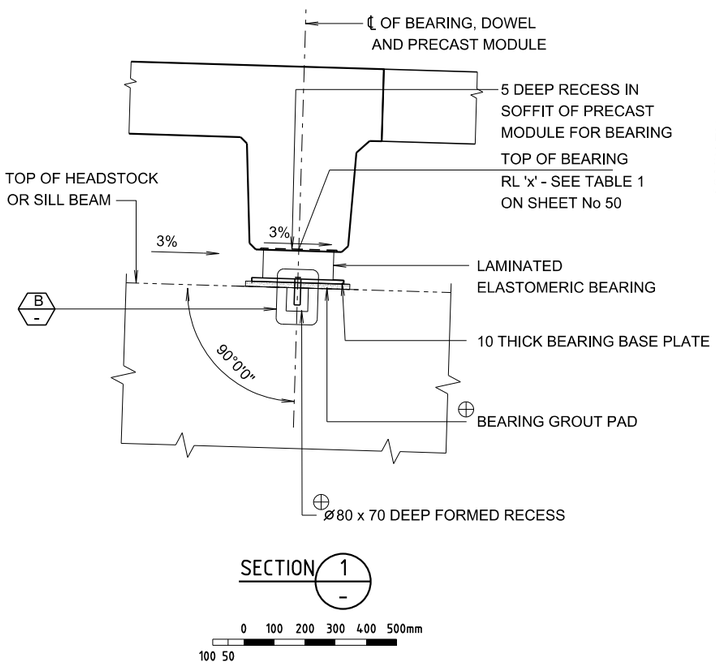
GENERAL NOTES

SCALE 0 100 200 300 400 500mm / 100 50 OR AS SHOWN.

THE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF GROUT SHALL BE 40MPa.
STEEL PLATE SHALL BE STAINLESS STEEL GRADE 304 TO ASTM A276.
THE WELD CATEGORY SHALL BE 1C, III IN ACCORDANCE WITH AS/NZS 1554.6.
WELDNG SYMBOLS COMPLY WITH AS 1101.3.

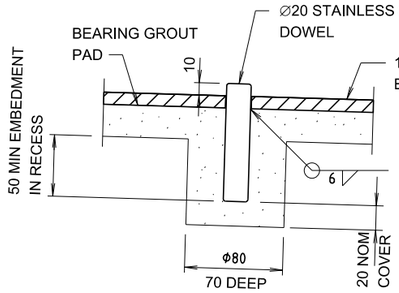
▲ DENOTES THE MINIMUM AND MAXIMUM THICKNESS OF GROUT SHALL BE 15mm AND 70mm AT ANY LOCATION.

⊕ DENOTES THE GROUT USED TO FILL FORMED RECESSES AND CONSTRUCT GROUT PADS AND SHALL BE SHRINKAGE COMPENSATED HIGH FLOW CEMENTITIOUS GROUT EPIREZ SUPERFLOW HF OR CONBEXTRA HS OR APPROVED EQUIVALENT.
MINIMUM COMPRESSIVE STRENGTH OF GROUT SHALL BE 40MPa.
GROUTING SHALL BE CARRIED OUT TO ENSURE THAT THE FORMED RECESSES ARE COMPLETELY FILLED AND THAT THERE ARE NO VOIDS UNDER THE BASE PLATES.
SIDE FACES OF GROUT PADS SHALL BE VERTICAL.
THE FORMWORK FOR THE GROUT PADS MUST REMAIN IN PLACE FOR A MINIMUM OF 3 DAYS AND CURING COMPOUNDS SHALL BE APPLIED TO THE SIDES OF THE GROUT PADS AFTER THE REMOVAL OF FORMWORK.



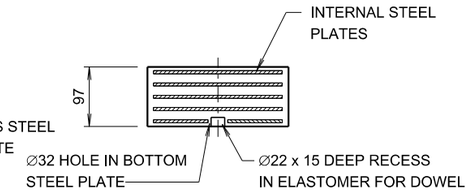
SECTION 1

0 100 200 300 400 500mm
100 50

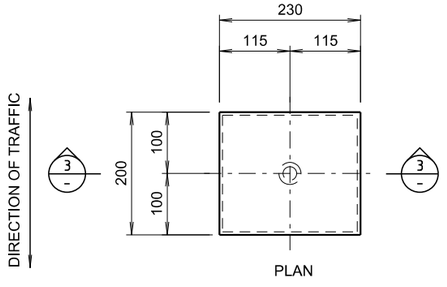


DETAIL B

0 50 100 150mm
50 25

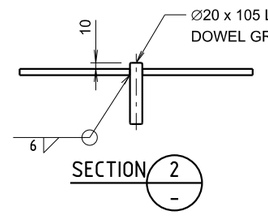


SECTION 3

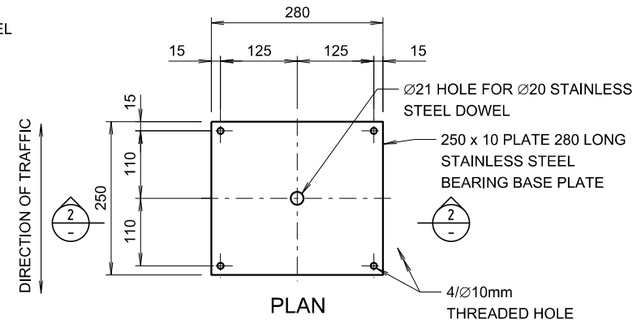


LAMINATED ELASTOMERIC BEARING
AS PART No 020906R-5
48 REQUIRED - MODIFIED AS SHOWN

0 100 200 300mm
100 50



SECTION 2



BEARING BASE PLATE ASSEMBLY

0 100 200 300mm
100 50

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

BEARINGS - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

REGISTRATION No OF PLANS

BRIDGE No

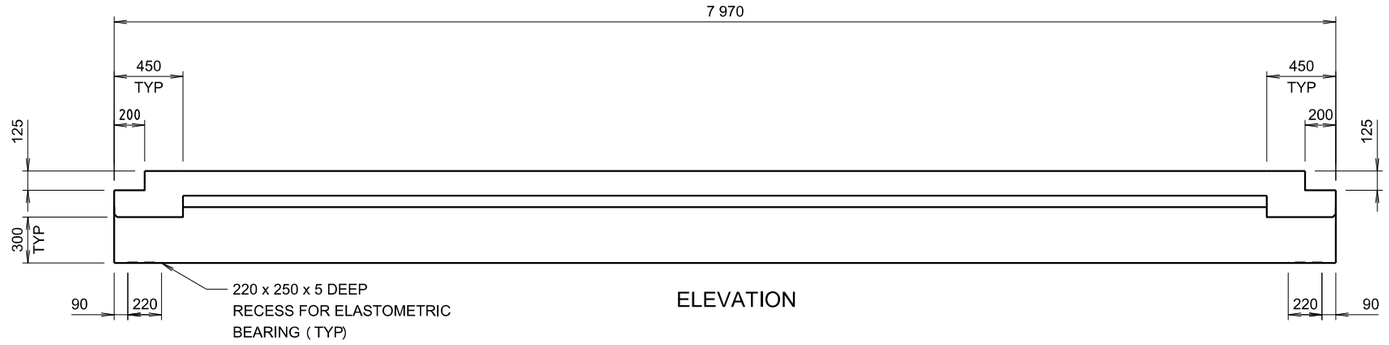
ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL51

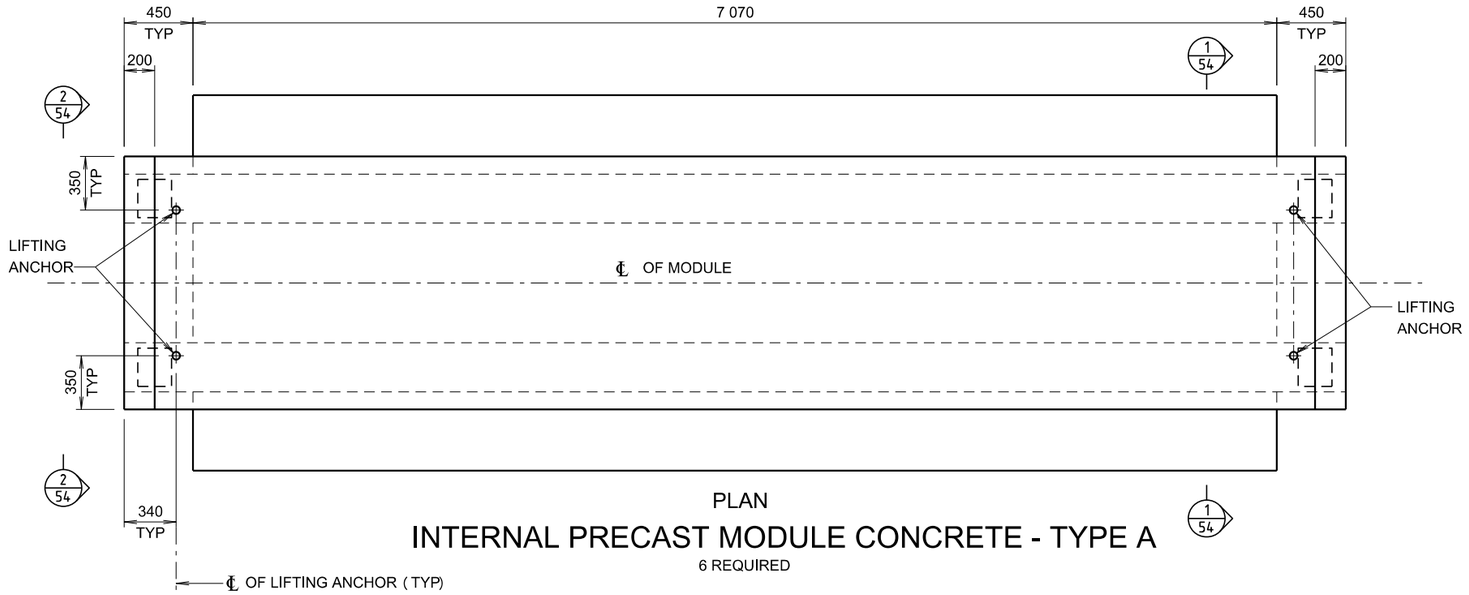
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

CAD No 8MBB.dgn



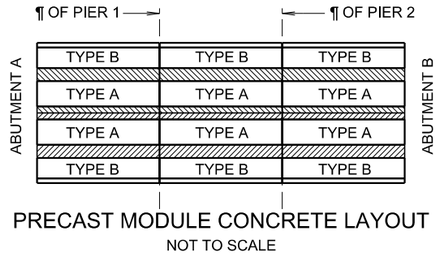
ELEVATION



PLAN

INTERNAL PRECAST MODULE CONCRETE - TYPE A

6 REQUIRED



PRECAST MODULE CONCRETE LAYOUT

NOT TO SCALE

GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm (200 100) OR AS SHOWN

CONCRETE EXPOSURE CLASSIFICATION: B1

MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 50 MPa.

MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT TRANSFER OF PRESTRESS SHALL BE 35 MPa.

STRANDS SHALL BE 7-WIRE, ORDINARY, DIAMETER 12.7mm, TENSILE STRENGTH 1870 MPa, RELAX 2, TO AS/NZS 4672.1 WITH MINIMUM BREAKING FORCE OF 184 kN.

THE FORCE IN EACH 12.7mm DIA STRAND AT THE MID-SPAN OF THE MODULE IMMEDIATELY AFTER THE RELEASE OF THE TENSIONING JACK SHALL BE 138 kN.

AFTER TRANSFER OF PRESTRESS, STRANDS SHALL BE CUT FLUSH WITH THE END OF MODULE AND EXPOSED STRANDS SEALED AGAINST CORROSION BY THE APPLICATION OF EPOXY RESIN.

THE SEQUENCE OF RELEASE OF PRESTRESS STRANDS SHALL BE SYMMETRICAL ABOUT THE CENTRELINE OF THE PRECAST MODULE.

CALCULATED HOG OF MODULE AT TRANSFER IS 3mm
AND IS 5mm AT 28 DAYS, ASSUMING:

- DENSITY = 2550 kg/m³
- ELASTIC MODULUS AT TRANSFER = 32 800 MPa
- STEAM CURING AT 70 deg C FOR 8 HOURS AFTER CASTING
- STORAGE IN OPEN AIR, AFTER STEAM CURING, AT 20 deg C AVERAGE TEMPERATURE AND RELATIVE HUMIDITY IN RANGE 50% - 75%
- NO LOADS EXCEPT MODULE SELF WEIGHT

MASS OF MODULE IS APPROXIMATELY 13.1 TONNES FOR INTERNAL PRECAST CONCRETE MODULE AND 13.5 TONNES FOR EXTERNAL PRECAST CONCRETE MODULE.

DURING STORAGE, TRANSPORT AND HANDLING, MODULE SHALL BE IN AN UPRIGHT POSITION AND SUPPORTED AT NOT MORE THAN 600mm FROM EACH END.

SCUPPERS TO BE CUT FROM 125 x 75 x 4 RHS, HOT DIP GALVANISED AFTER FABRICATION.

LIFTING ANCHORS SHALL BE SWIFT LIFT OR APPROVED EQUIVALENT DESIGNED BY THE PRECAST MODULE MANUFACTURE TO THE SATISFACTION OF THE PRINCIPLE.

THE LOCATIONS MAY VARY TO SUIT THIS DESIGN.

THE PROPOSED METHOD FOR MANUFACTURE OF THE PRECAST MODULE AND RELEASE OF PRESTRESS STRANDS SHALL BE SUBMITTED TO THE PRINCIPLE, MINIMUM 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK ON THE PRECAST MODULE.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST MODULE CONCRETE - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

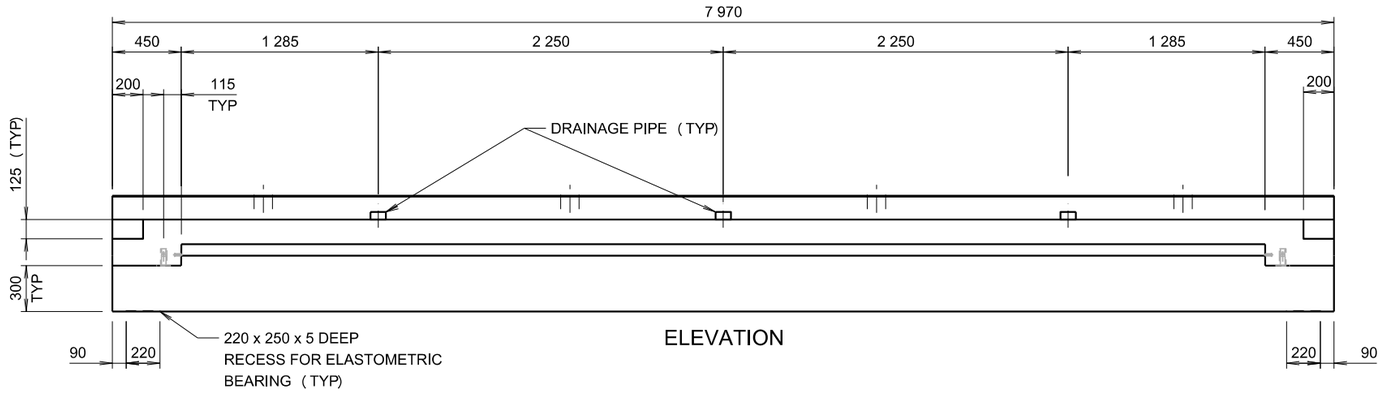
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

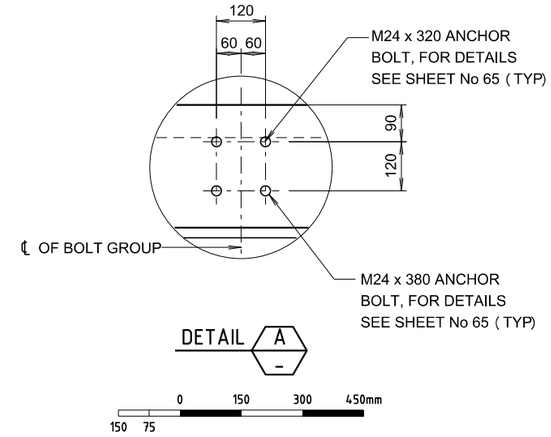
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL52

CAD No 8MC1A.dgn

11:11:23 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGES\8m MODULE\8MC1A.dgn

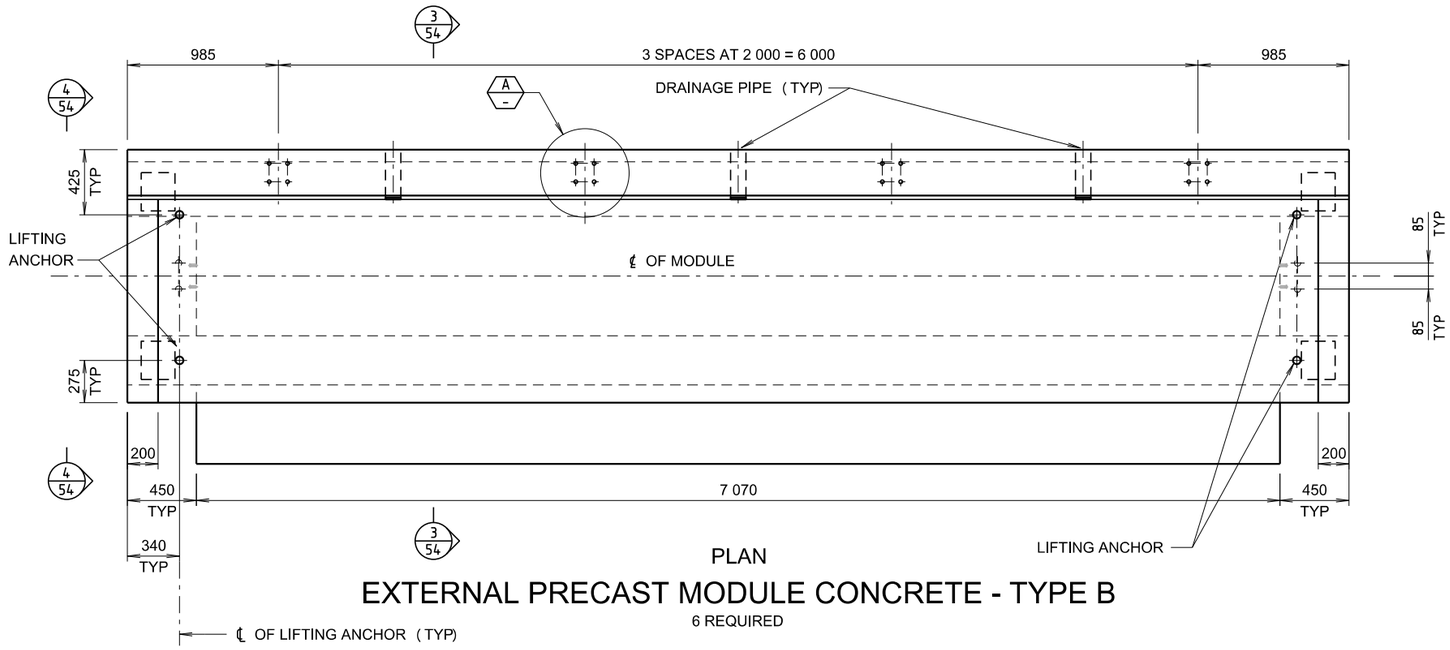


ELEVATION



DETAIL A

0 150 300 450mm
150 75



PLAN

EXTERNAL PRECAST MODULE CONCRETE - TYPE B

6 REQUIRED

GENERAL NOTES

SCALE 0 150 300 450mm (150 75) OR AS SHOWN

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 52.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST MODULE CONCRETE - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS

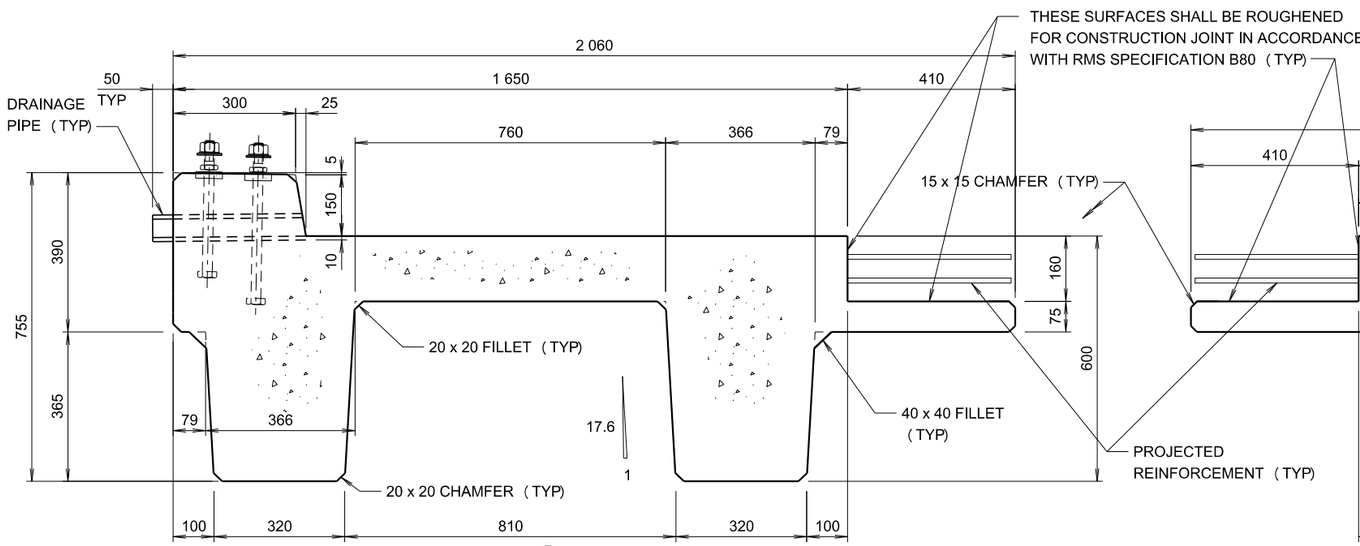
BRIDGE No

ISSUE STATUS

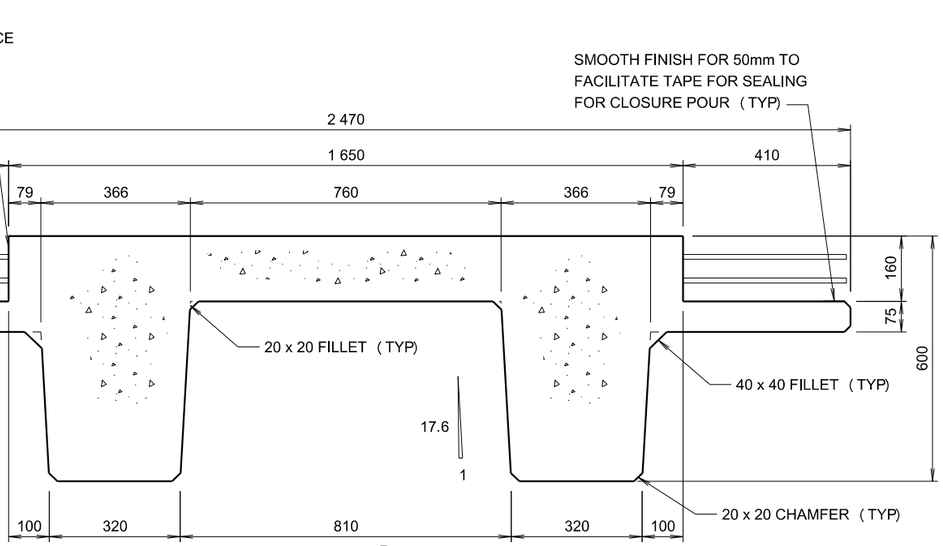
ISSUE | No SHEETS 42 | SHEET No MB08DL53

CAD No 8MC1B.dgn

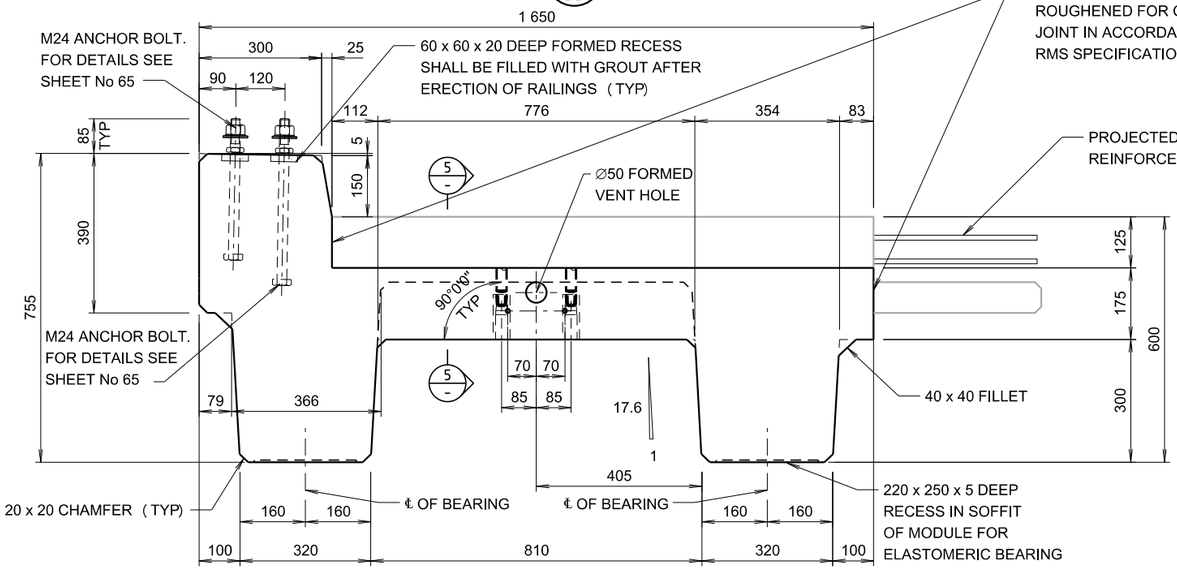
11:11:23 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGES\8m MODULE\8MC1B.dgn



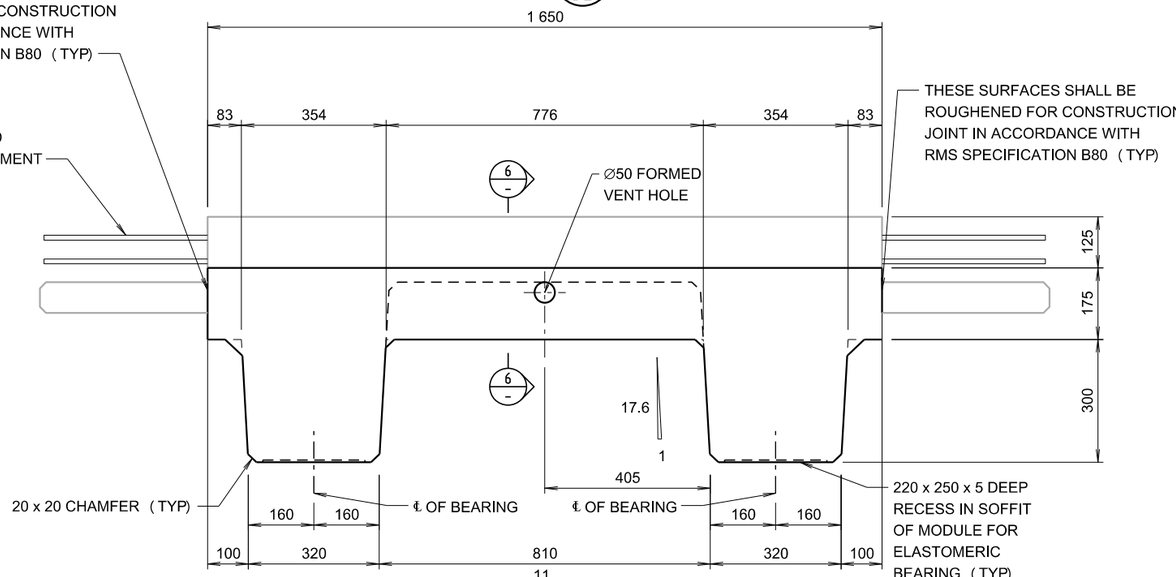
SECTION 3/53



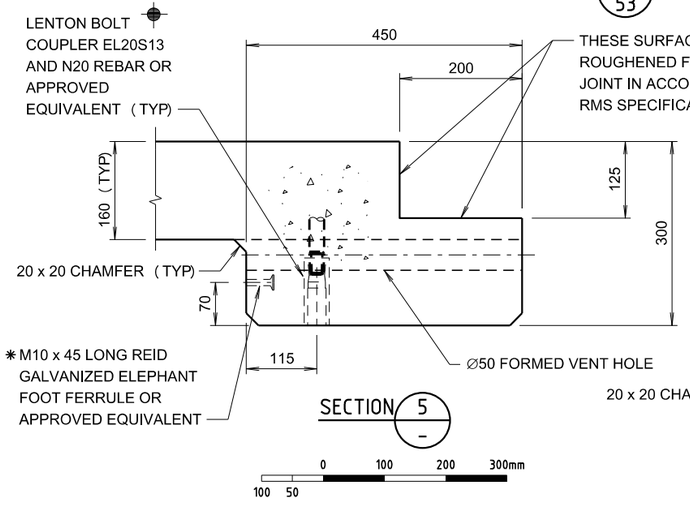
SECTION 1/52



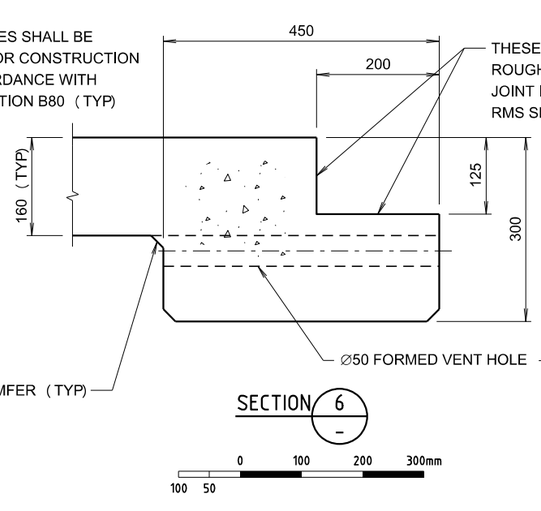
VIEW 4/53



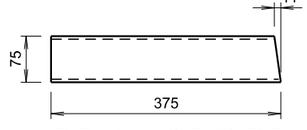
VIEW 2/52



SECTION 5/-



SECTION 6/-



DRAINAGE PIPE

125 x 75 x 4 RHS
18 REQUIRED

0 100 200 300mm
100 50

GENERAL NOTES

SCALE 0 150 300 450mm
150 75
OR AS SHOWN

LOCATION OF VENT HOLES MAY BE DISPLACED SLIGHTLY TO CLEAR REINFORCEMENT AND TO PROVIDE FOR THE REQUIRED COVER

✳ DENOTES FOR TEMPORARY FIXING MODULE HOLD DOWN BRACKET IN CASTING YARD AS DETAILED ON SHEET 61.

⌖ DENOTES HOT DIP GALVANIZED IN ACCORDANCE WITH RMS SPECIFICATION B241.

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 52.

APPROVED FOR USE

W Ariyaratne
PRINCIPAL ENGINEER BRIDGES

07.10.2016
DATE

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST MODULE CONCRETE - SHEET C

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

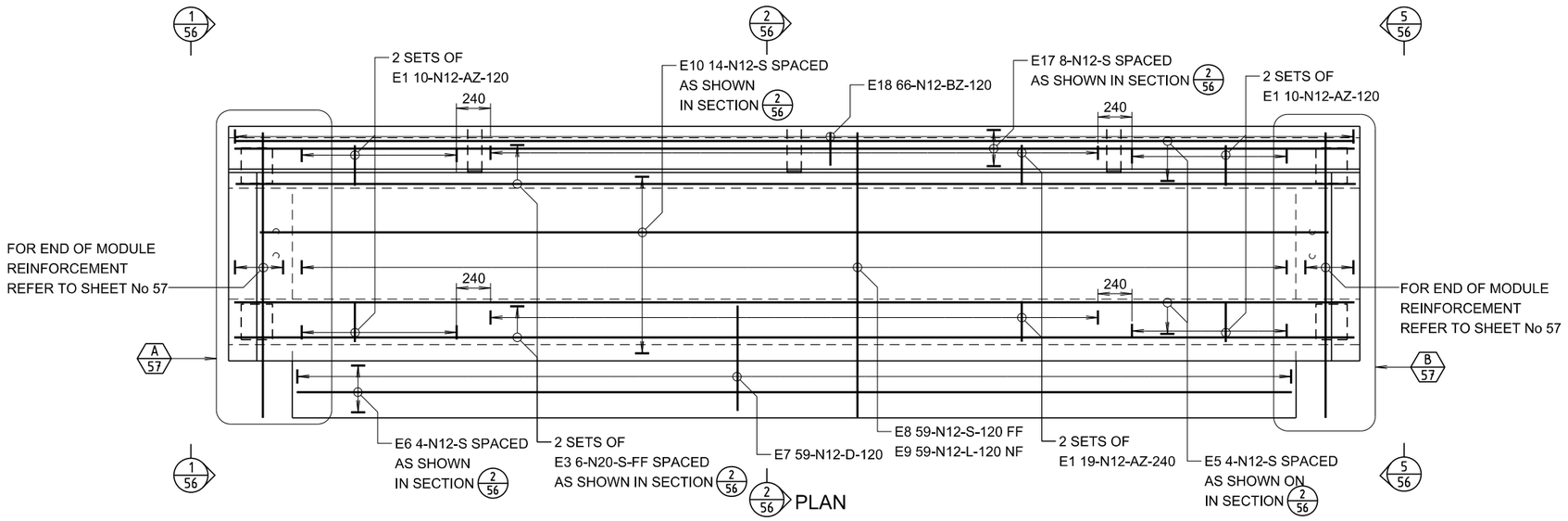
REGISTRATION No OF PLANS

BRIDGE No

ISSUE STATUS

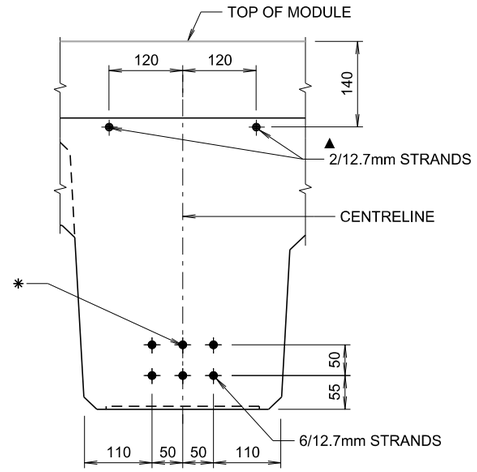
ISSUE | No SHEETS 42 | SHEET No MB08DL54

CAD No 8MC1C.dgn



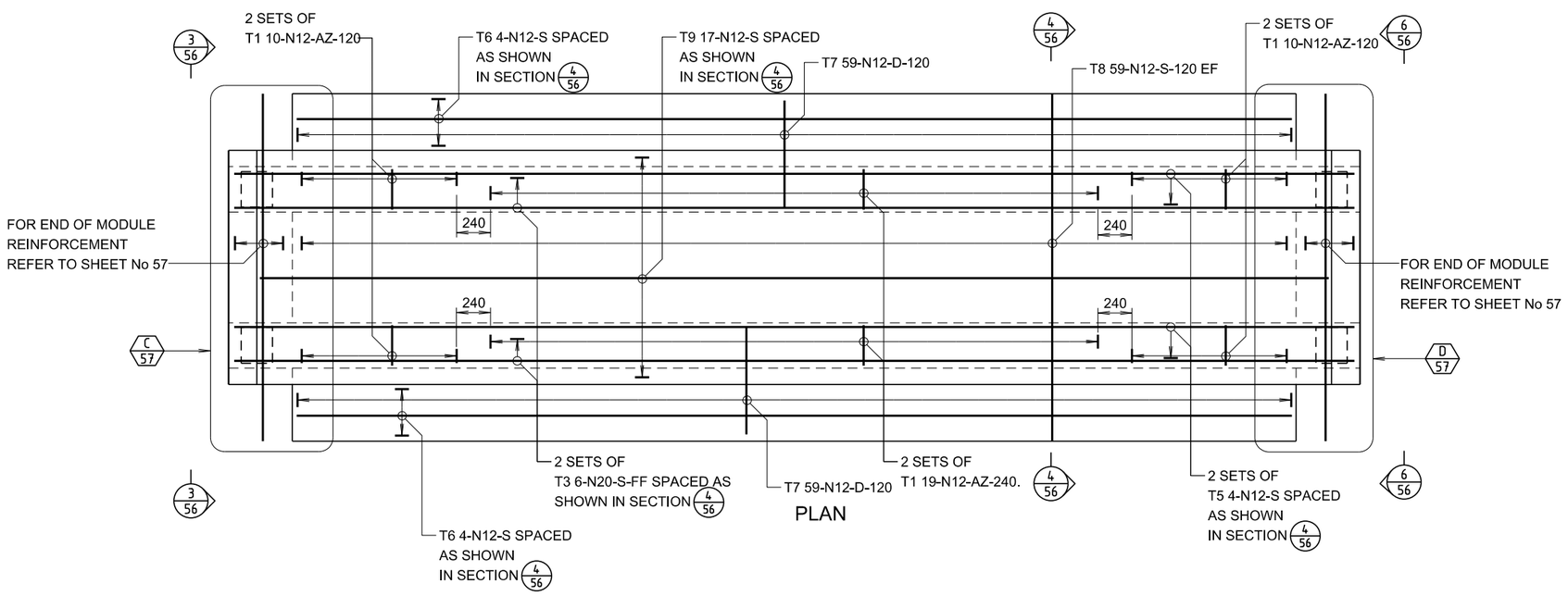
EXTERNAL PRECAST MODULE REINFORCEMENT - TYPE B

STRANDS NOT SHOWN
REINFORCEMENT AT END OF MODULE NOT SHOWN FOR CLARITY



TYPICAL STRAND LAYOUT

0 100 200 300mm
100 50



INTERNAL PRECAST MODULE REINFORCEMENT - TYPE A

STRANDS NOT SHOWN
REINFORCEMENT AT END OF MODULE NOT SHOWN FOR CLARITY

GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm
200 100
OR AS SHOWN

▲ DENOTES STRANDS SHALL BE DEBONDED FOR A LENGTH OF 450mm AT EACH END OF PRECAST MODULE.

✳ DENOTES STRANDS SHALL BE DEBONDED FOR A LENGTH OF 800mm AT EACH END OF PRECAST MODULE.

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 57.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST MODULE REINFORCEMENT - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

REGISTRATION No OF PLANS

BRIDGE No

ISSUE STATUS

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

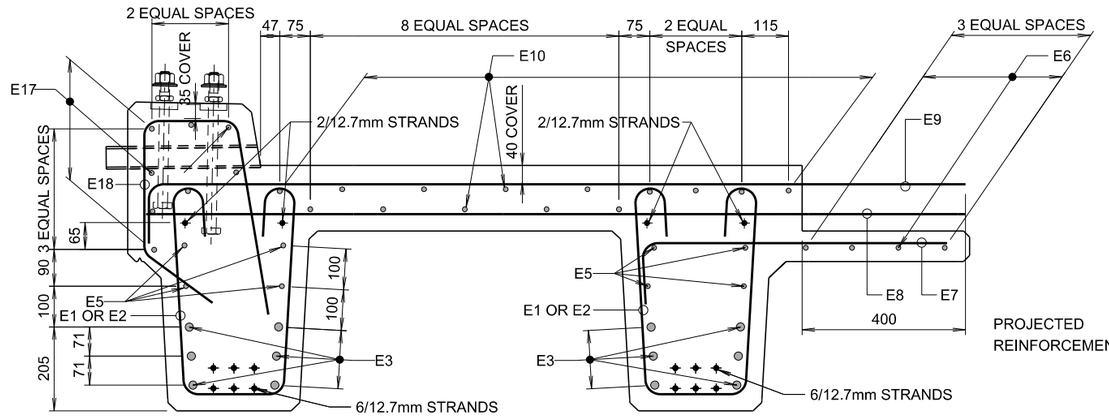
ISSUE | No SHEETS 42 | SHEET No MB08DL55

APPROVED FOR USE

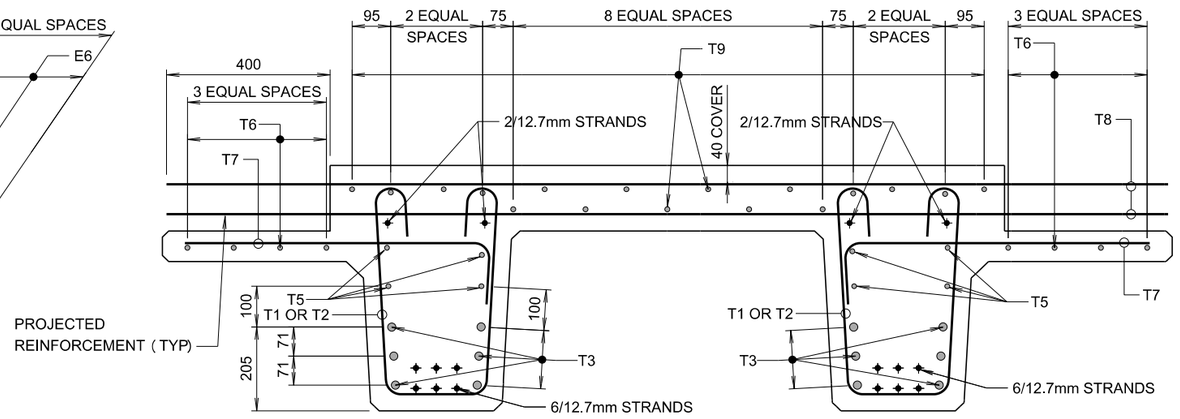
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES

07.10.2016
DATE

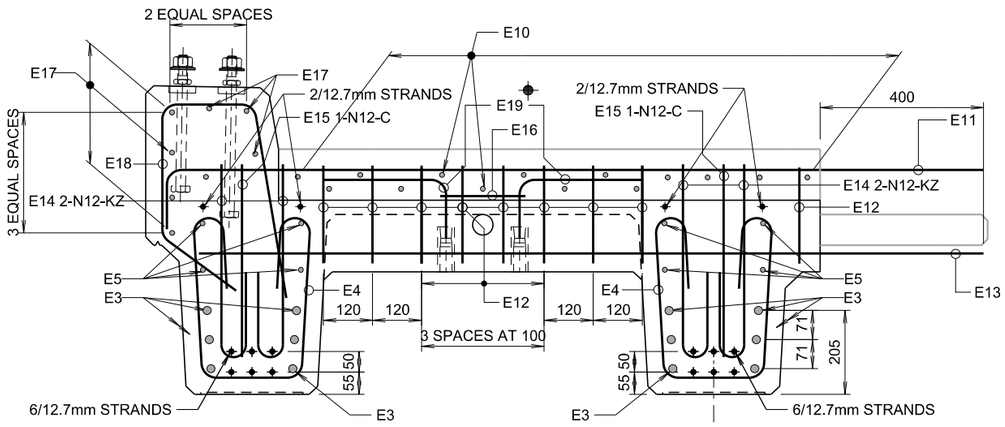
CAD No 8MR1A.dgn



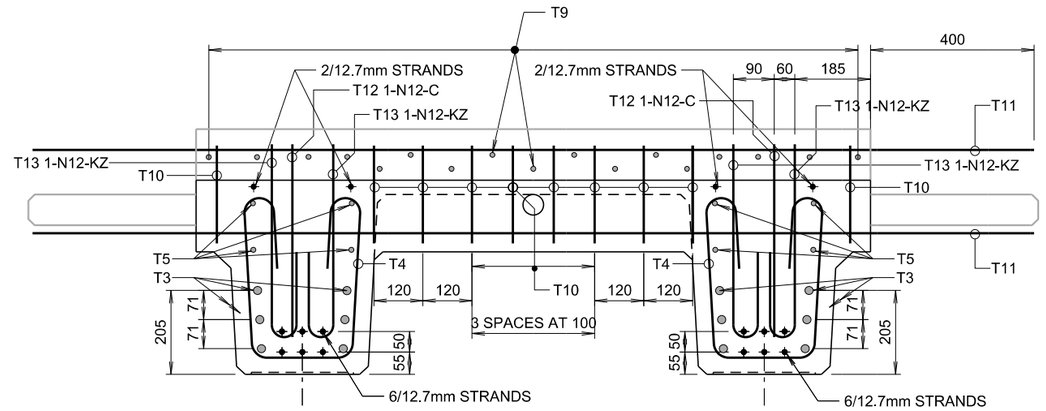
SECTION 2/55



SECTION 4/55



VIEW 1/55



VIEW 3/55 6/55

VIEW 5/55 SIMILAR BUT OPPOSITE HAND

STANDARD BAR SHAPES DIAGRAM

S	A	HT	B, C, FITMENT BENDS, A	AZ	A, C C, FITMENT BENDS, B
L	A, B	LL	A, C, B	BZ	B, E, C, A, D, F, H, G, FITMENT BENDS
D	C, D = INTERNAL DIA, A, B	Q	FITMENT BENDS AND HOOKS, A, B, C, D	CZ	175, A, FITMENT BENDS, B
KZ	B, FITMENT BENDS, 175, A; ELEVATION; END VIEW	C	A, B, C, D, E		

BAR MARKING LEGEND

THE METHOD USED TO LABEL REINFORCEMENT ON THE DRAWINGS IS AS FOLLOWS:

E1 10-N16-S-300EF

- E — STRUCTURE ELEMENT DENOTATION
- 1 — BAR NUMBER IN SEQUENCE
- 10 — NUMBER OF BARS IN THE SET
- N — BAR STRUCTURAL PROPERTIES
- 16 — BAR SIZE IN MILLIMETRES
- S — BAR SHAPE CODE
- 300 — SPACING ALONG LIMIT LINE
- EF — INFORMATION FOR PLACING

WHERE THE BAR SPACING IS APPROXIMATE ONLY, THE FOLLOWING FORMAT SHALL BE USED:
E1 10-N16-S-300EF APPROX

GENERAL NOTES

SCALE 0 150 300 450mm (150 75) OR AS SHOWN

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 57

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST MODULE REINFORCEMENT - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

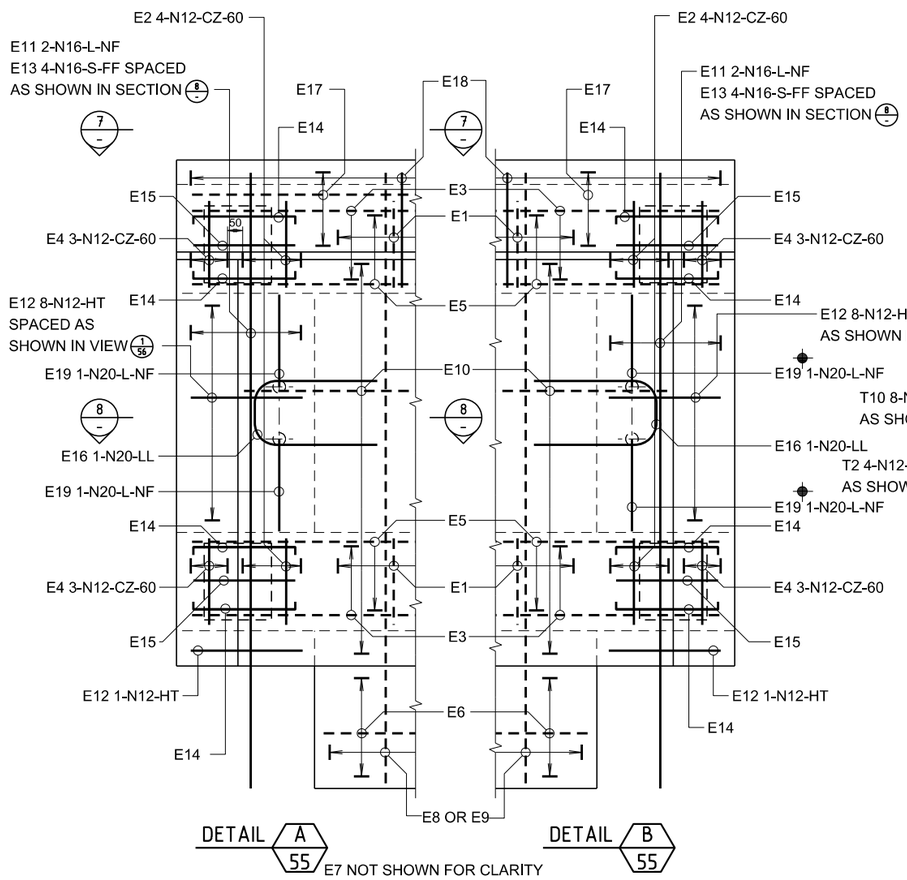
CAD No 8MR1B.dgn

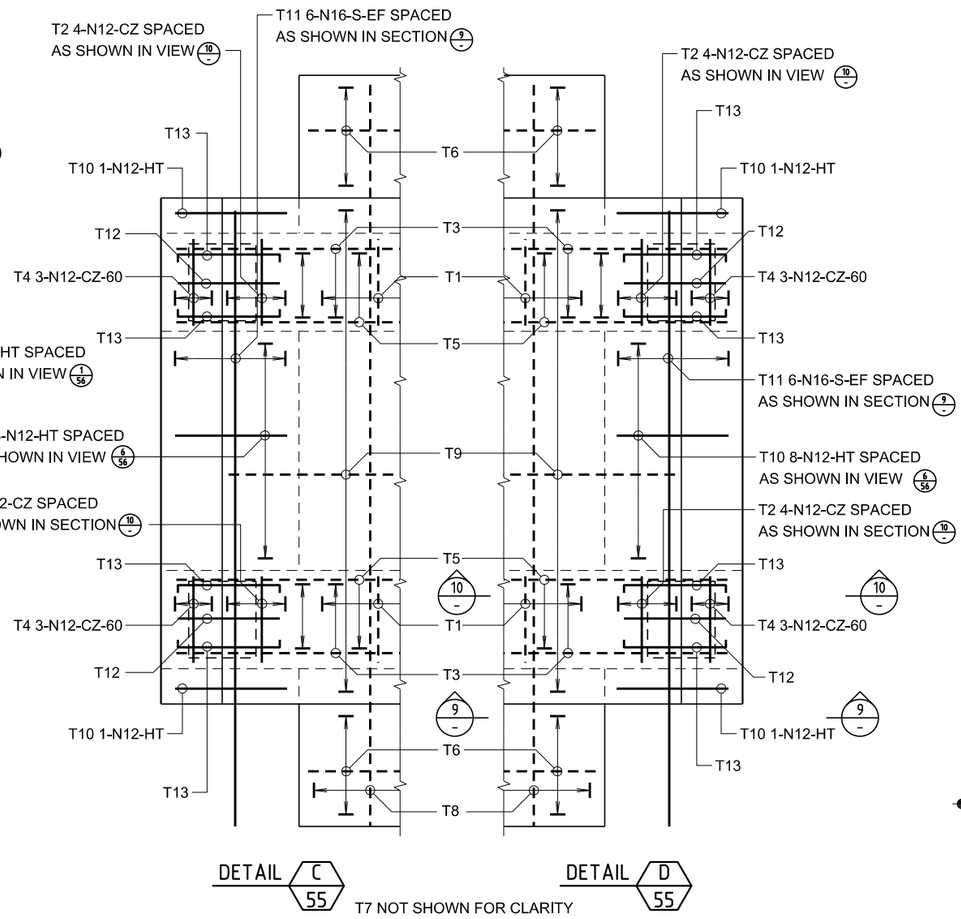
REGISTRATION No OF PLANS

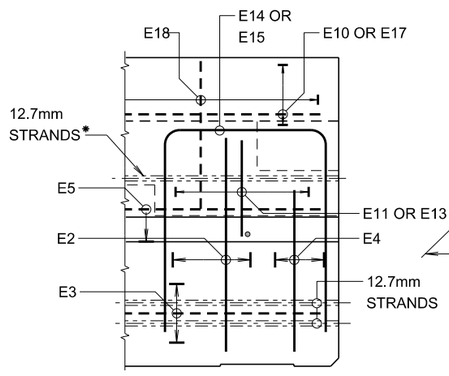
BRIDGE No

ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL56

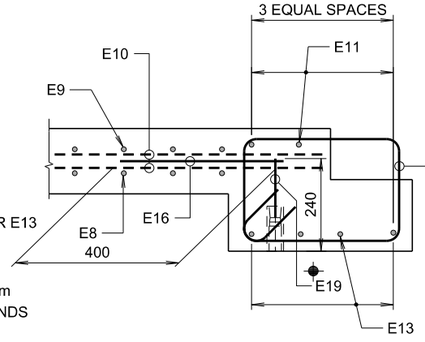






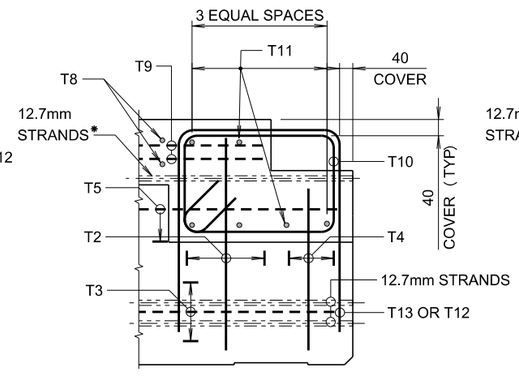
VIEW 7/-

0 150 300 450mm
150 75



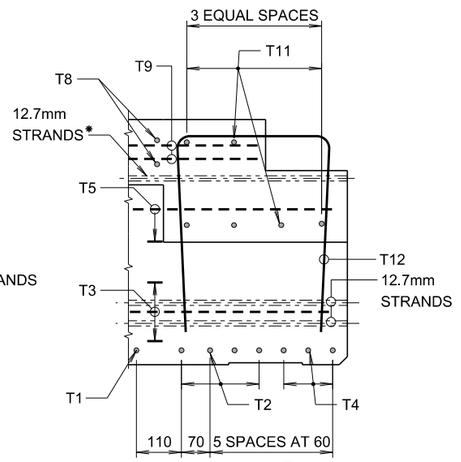
SECTION 8/-

0 150 300 450mm
150 75



SECTION 9/-

0 150 300 450mm
150 75



SECTION 10/-

0 150 300 450mm
150 75

GENERAL NOTES

SCALE 0 100 200 300 400 500mm (100 50) OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 35 mm UNLESS SPECIFIED OTHERWISE.
THE COVER SPECIFIED IS BASED ON THE MODULE BEING CAST IN A RIGID STEEL FORMWORK MOULD WITH INTENSE COMPACTION USING A VIBRATING TABLE OR FORM VIBRATORS.
REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR FORMED HOLES, RECESSES, COUPLERS AND BOLTS.
UNLESS OTHERWISE SPECIFIED, THE MINIMUM LENGTHS OF LAPS SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	460	620	820	...	...	...	...
b) OTHER BARS:	350	470	630	...	...	...	...

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED IN THE TABLE UNLESS NOTED OTHERWISE.
STRUCTURE ELEMENT DENOTATIONS ARE:
E FOR EXTERNAL MODULE
T FOR INTERNAL MODULE
◆ DENOTES LENTON BOLT COUPLER EL20S13 AND N20 REBAR TO BE THREADED AT ENDS AND TIGHTENED INTO COUPLERS IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS OR APPROVED EQUIVALENT.

REINFORCEMENT NOTES

1 AUSTRALIAN STANDARD BAR SHAPES ARE IN ACCORDANCE WITH AS 1100.501.
2 BAR SIZE IS THE NOMINAL DIAMETER IN MILLIMETRES, OR THE AS/NZS 4671 FABRIC NUMBER.
3 THE GRADE OF REINFORCEMENT, IF NOT STATED ON THE DRAWINGS, SHALL BE D500N TO AS/NZS 4671.
4 WHERE SHOWN ON THE DRAWINGS, "W" SHALL DENOTE PLAIN ROUND REINFORCING BARS EQUIVALENT TO GRADE R500L TO AS/NZS 4671.
5 WHERE SHOWN ON THE DRAWINGS, RL AND SL SHALL DENOTE WELDED REINFORCING FABRIC (RECTANGULAR AND SQUARE) , RESPECTIVELY.
6 DIMENSIONS SHOWN ON BAR SHAPES DIAGRAMS ARE MEASURED FROM THE OUTSIDE FACES OF THE BARS AND ARE IN MILLIMETRES.
7 THE INCLUDED ANGLE OF ANY BEND SHALL BE A RIGHT ANGLE IF NO DIMENSION SHOWN.
8 BARS OF DIAMETER GREATER THAN 24mm SHALL NOT BE REBENT.
9 BAR BENDING AND HOOK DETAILS SHALL BE IN ACCORDANCE WITH SECTION 5.13 OF AS 5100-BRIDGE DESIGN.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

PRECAST MODULE REINFORCEMENT - SHEET C

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

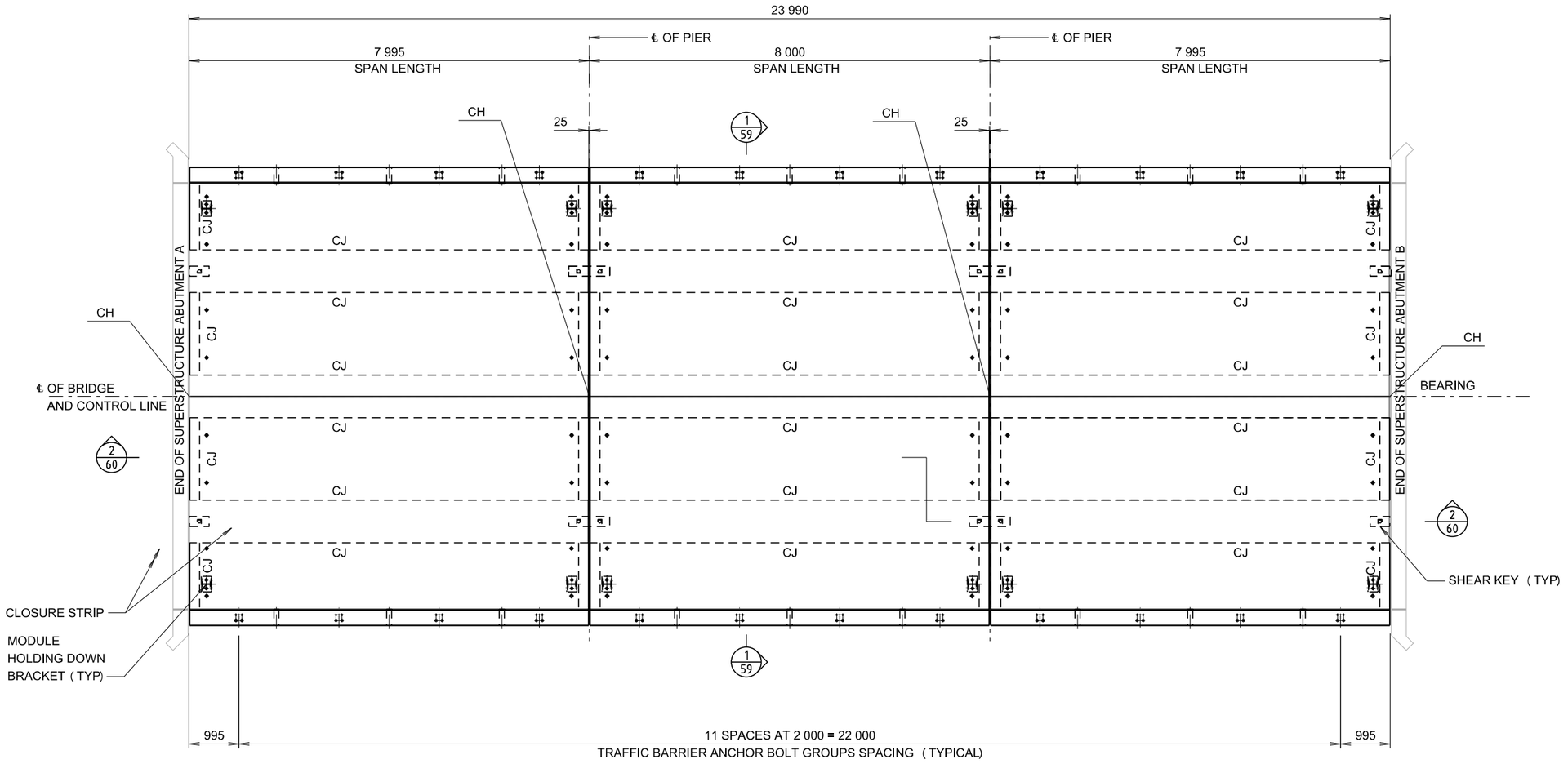
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

ISSUE | No SHEETS 42 | SHEET No MB08DL57

CAD No 8MR1C.dgn



PLAN

GENERAL NOTES

SCALE 0 1 000 2 000 3 000mm (1 000 500) OR AS SHOWN.

CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40 MPa.
EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20x20 UNLESS SPECIFIED OTHERWISE.
NCF DENOTES NO CHAMFER OR FILLET.
FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 59.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

DECK CONCRETE - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

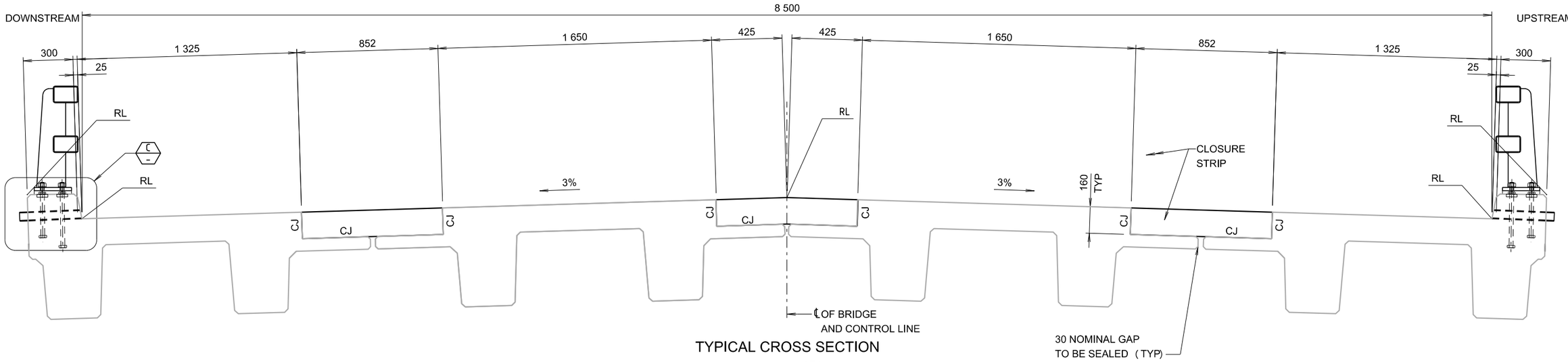
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

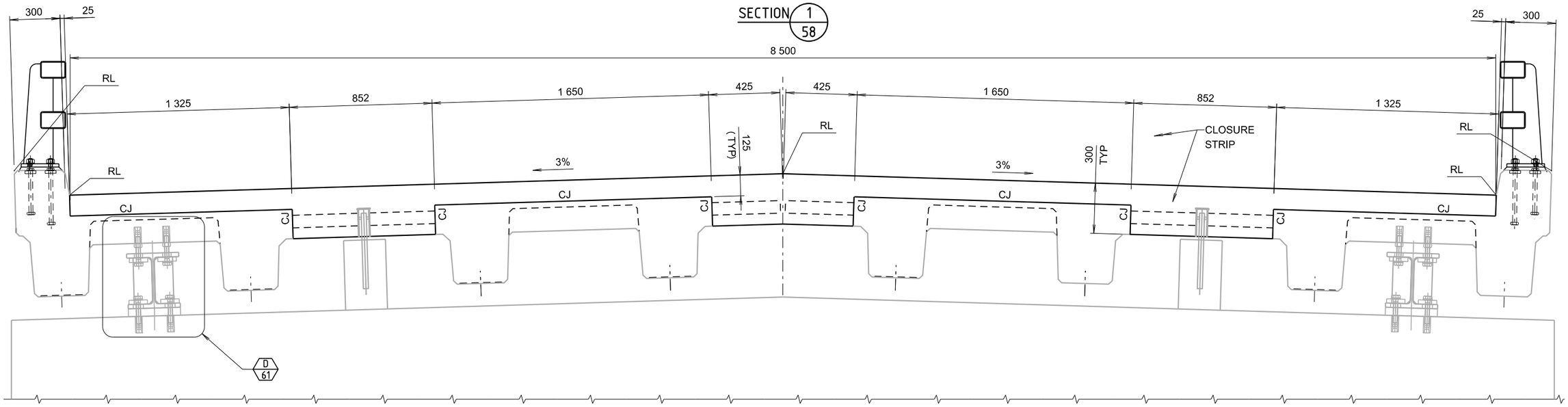
REGISTRATION
No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL58

CAD No 8MDCA.dgn

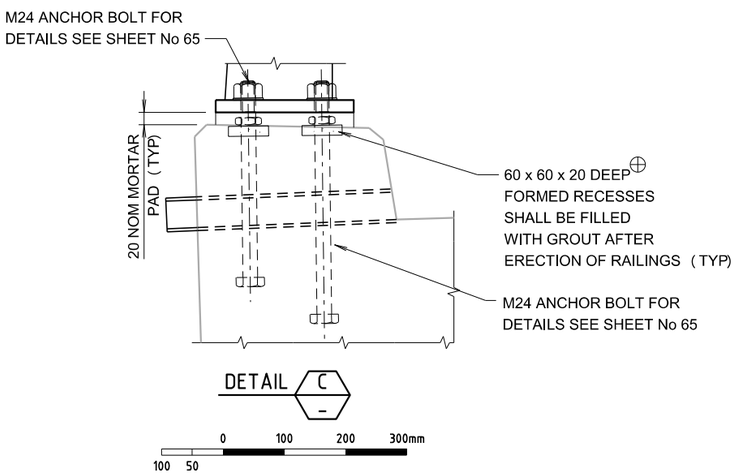


TYPICAL CROSS SECTION

SECTION 1/58



TYPICAL CROSS SECTION
AT ABUTMENTS AND PIERS



GENERAL NOTES

SCALE 0 250 500 750mm (250 125) OR AS SHOWN

REINFORCEMENT PROJECTED FROM PRECAST MODULE ARE NOT SHOWN FOR CLARITY.

⊕ DENOTES THE GROUT USED TO CONSTRUCT MORTAR PADS AND FILL FORMED RECESSES SHALL BE SHRINKAGE COMPENSATED HIGH FLOW CEMENTITIOUS GROUT EPIREZ SUPERFLOW HF OR CONBEXTRA HS OR APPROVE EQUIVALENT.
MINIMUM COMPRESSIVE STRENGTH OF GROUT SHALL BE 40MPa.
GROUTING SHALL BE CARRIED OUT TO ENSURE THAT THE FORMED RECESSES ARE COMPLETELY FILLED AND THAT THERE ARE NO VOIDS UNDER THE BASE PLATES.
SIDE FACES OF GROUT PADS SHALL BE VERTICAL AND FLUSH WITH EDGES OF BASE PLATES.
THE FORMWORK FOR THE GROUT PADS SHALL REMAIN IN PLACE FOR A MINIMUM OF 3 DAYS AND CURING COMPOUNDS SHALL BE APPLIED TO THE SIDES OF THE GROUT PADS AFTER THE REMOVAL OF FORMWORK.
THE UNDERSIDE OF THE BASE PLATES AND SIDE FACES OF SLOTTED HOLES SHALL BE PAINTED WITH TWO PACK SURFACE TOLERANT EPOXY PAINT WITH A MINIMUM DRY FILM THICKNESS OF 100µm.
FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 58.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

DECK CONCRETE - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

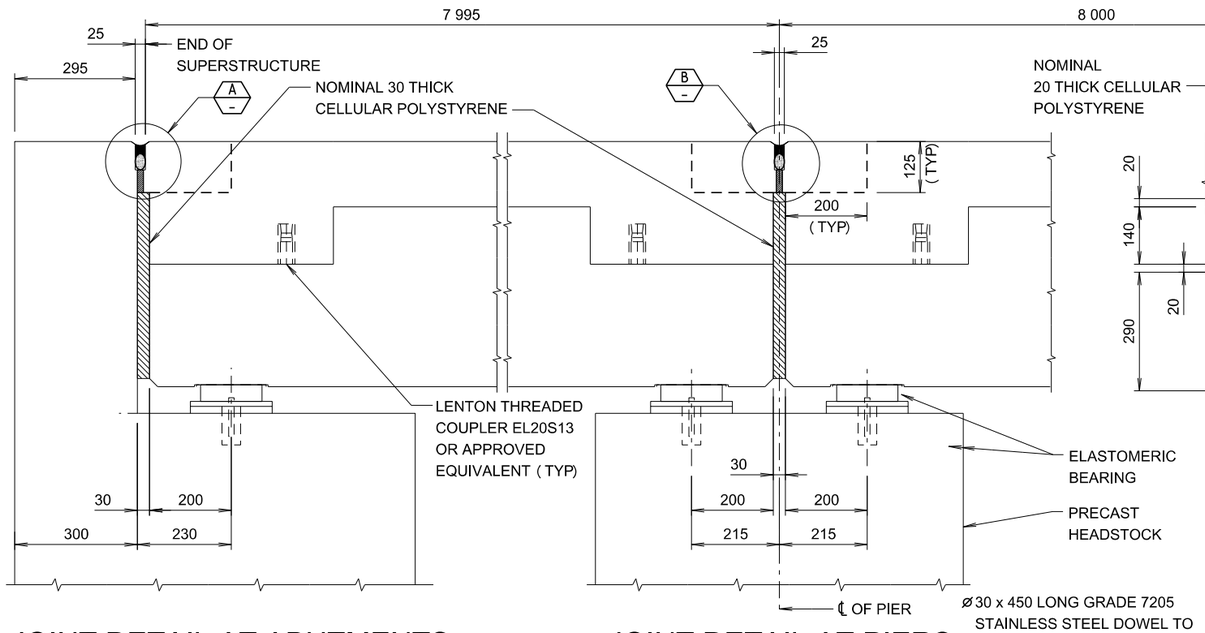
CAD No 8MDCB.dgn

REGISTRATION No OF PLANS

BRIDGE No

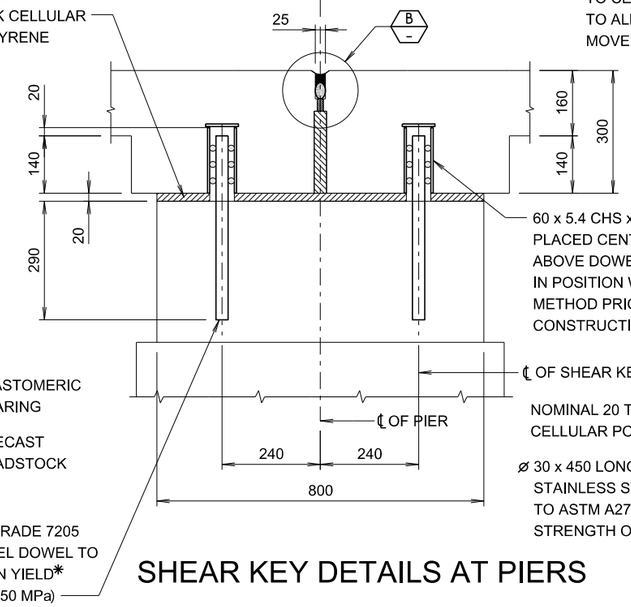
ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL59

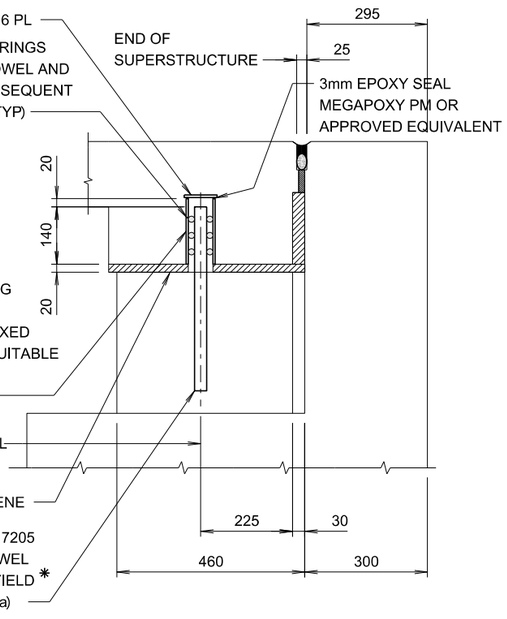


JOINT DETAIL AT ABUTMENTS

JOINT DETAIL AT PIERS



SHEAR KEY DETAILS AT PIERS



SHEAR KEY DETAILS AT ABUTMENTS

SECTION 2 / 58

JOINT DETAIL AT PARAPET

DETAIL A -,7

0 20 40 60 80 100mm
20 10

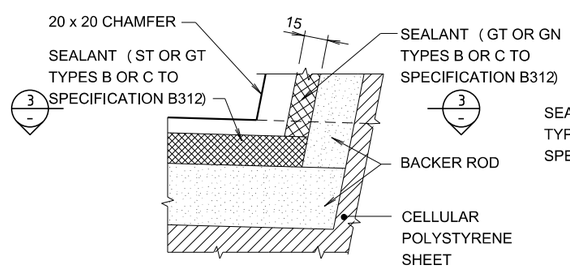
DETAIL B -

0 20 40 60 80 100mm
20 10

GENERAL NOTES

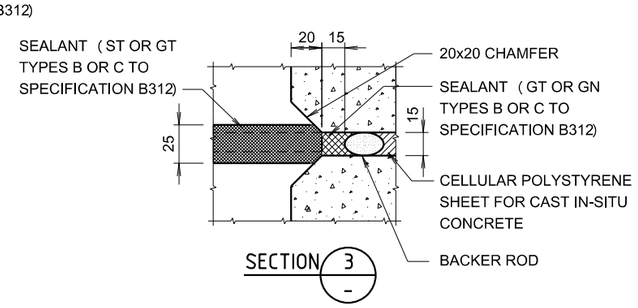
SCALE 0 150 300 450mm OR AS SHOWN.
150 75

MAXIMUM JOINT MOVEMENT ± 10mm.
ALL SEALANTS SHALL CONFORM TO ROADS AND MARITIME SERVICES QA SPECIFICATION B312.
SINGLE COMPONENT SEALANTS SHALL NOT BE USED IN ARID OR SEMI-ARID REGIONS WEST OF THE GREAT DIVIDING RANGE. UNLESS COMPLETE CURING IS GUARANTEED BEFORE OPENING TRAFFIC.
PLATES AND CHS SHALL BE STAINLESS STEEL GRADE 304, TO ASTM A276.
BACKER RODS SHALL BE NON ABSORBENT, CLOSED CELL POLYETHYLENE OR NEOPRENE (PARBURY'S EXPANDAFOAM BACKER ROD OR APPROVED EQUIVALENT) INSTALLED WITH 25% COMPRESSION.
THE SEALANT SHALL BE APPLIED BETWEEN 7:00am AND 11:00am, AT TEMPERATURES NOT LESS THAN 10 deg C OR NOT MORE THAN 35 deg C.
JOINT MOVEMENT FROM INSTALLATION SHALL NOT INDUCE STRAIN MORE THAN THE ALLOWABLE STRAIN SPECIFIED IN RMS AS SPECIFICATION B312.
* DENOTES DOWELS TO COMFORM TO THE REQUIREMENTS OF RMS QA SPECIFICATION B240.



DETAIL C -

0 20 40 60 80 100mm
20 10



SECTION 3 -

0 20 40 60 80 100mm
20 10

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

DECK CONCRETE - SHEET C

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

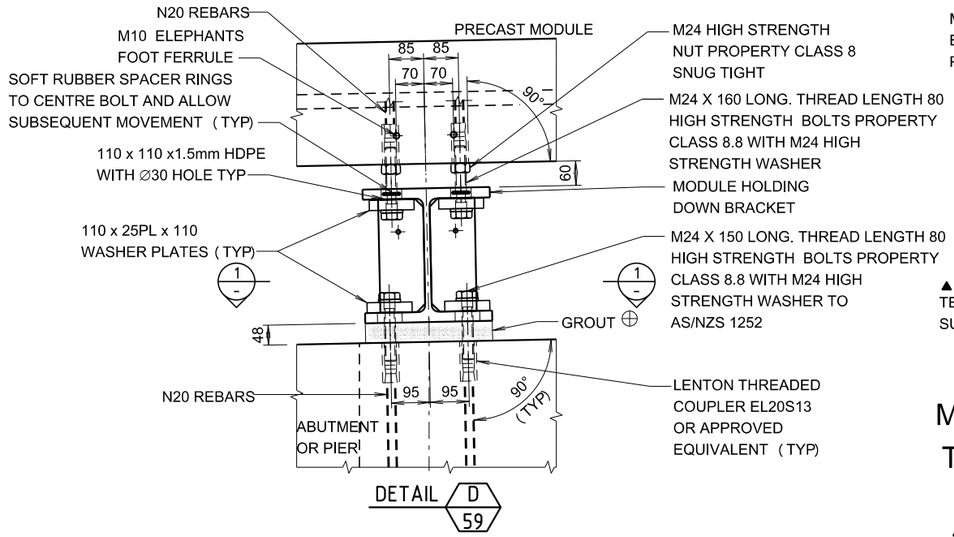
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

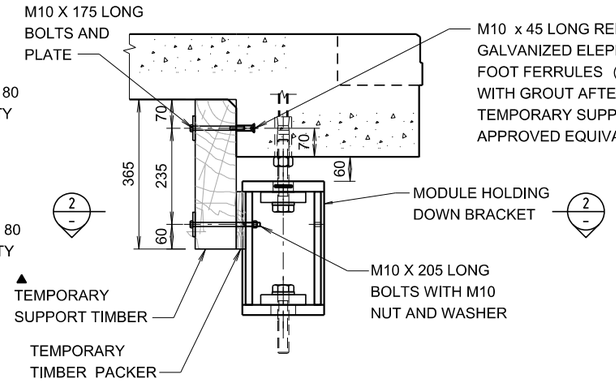
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL60

CAD No 8MDCC.dgn

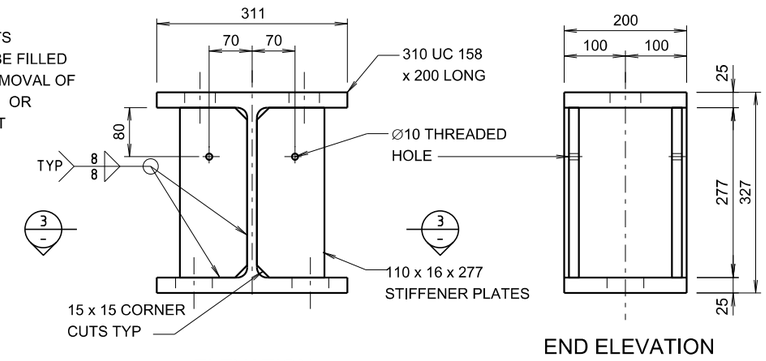


DETAIL D 59



MODULE HOLDING DOWN BRACKET TEMPORARY SUPPORT ASSEMBLY

TO BE FIXED TO THE MODULE IN THE CASTING YARD AND SHALL NOT BE USED FOR TEMPORARY SUPPORT OF PRECAST MODULE.
▲ DENOTES OR SUITABLE ALTERNATIVE TEMPORARY SUPPORT AND TO BE REMOVED AFTER GROUTING AND FIXING BRACKET ON SITE

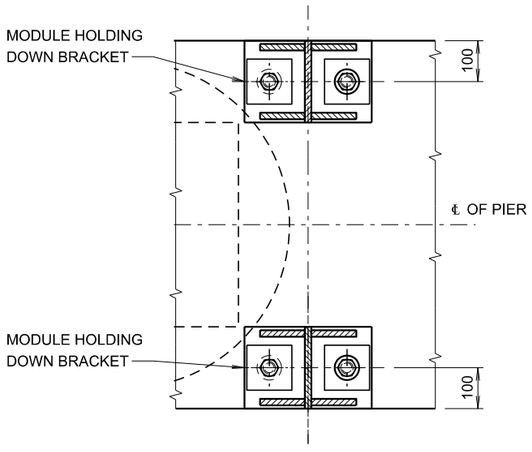


ELEVATION

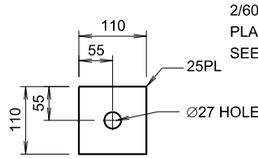
END ELEVATION

MODULE HOLDING DOWN BRACKET

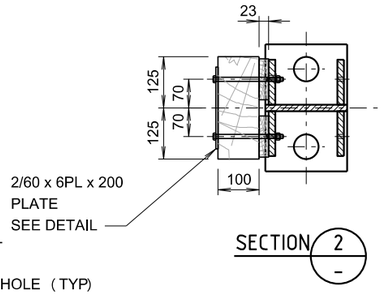
TO BE FIXED TO THE MODULE IN THE CASTING YARD AND SHALL NOT BE USED FOR TEMPORARY SUPPORT
12 REQUIRED



SECTION 1



WASHER PLATE
48 REQUIRED



SECTION 2

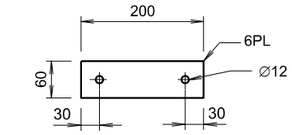
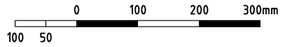
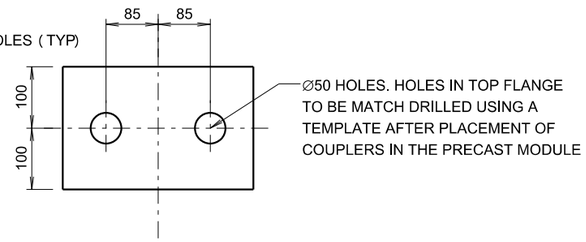
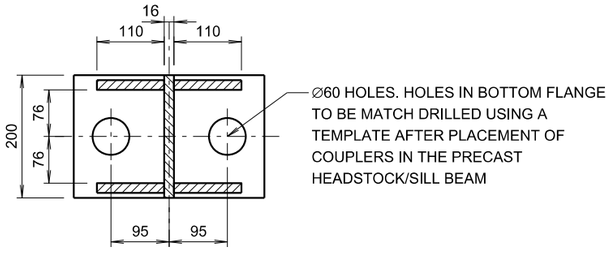


PLATE
24 REQUIRED

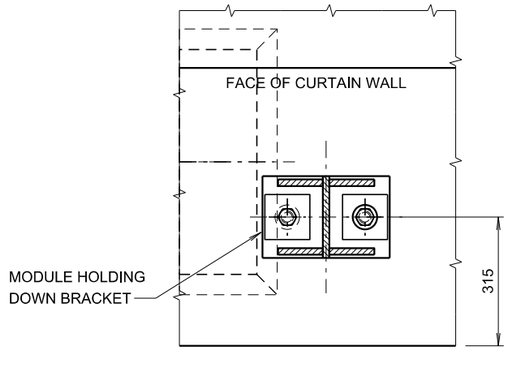




TOP VIEW



SECTION 3



SECTION 1

MODULE HOLDING DOWN BRACKET LAYOUT AT PIERS

MODULE HOLDING DOWN BRACKET LAYOUT AT ABUTMENTS

GENERAL NOTES

SCALE 0 150 300 450mm (150 75) OR AS SHOWN

STEEL PLATES SHALL CONFORM TO AS/NZS 3678-250.
STEEL SECTIONS SHALL CONFORM TO AS/NZS 3679.1-300.
BOLTING CATEGORY FOR HIGH STRENGTH STEEL BOLTS SHALL BE 8.8/S IN ACCORDANCE WITH AS 5100.6.
HIGH STRENGTH STEEL NUTS FOR STRUCTURAL BOLTING SHALL BE PROPERTY CLASS 8 TO AS/NZS 1252.
THE WELD CATEGORY SHALL BE SP IN ACCORDANCE WITH AS/NZS 1554.1
ALL WELDING SHALL CONFORM TO AS/NZS 1554.1 WITH ADDITIONAL REQUIREMENTS AS GIVEN IN ROADS AND MARITIME SERVICES SPECIFICATION B204.
AREA OF ANCHOR BOLT TO BE IN CONTACT WITH GROUT SHALL BE WRAPED WITH DENSO TAPE.
ALL FASTENERS TO COMPLY WITH THE REQUIREMENTS OF RMS SPECIFICATION B240.
EDGES TO BE PROTECTIVE TREATED SHALL BE ROUNDED TO A RADIUS OF 1.5mm UNLESS SPECIFIED OTHERWISE.
AFTER ASSEMBLY DAMAGED GALVANISED SURFACES SHALL BE RENOVATED WITH TWO PACK ORGANIC ZINC-RICH PRIMER.
ALL STEEL COMPONENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ROADS AND MARITIME SERVICES SPECIFICATION B241.
BOLTS NUTS AND WASHERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AS 1214.
⊕ DENOTES THE GROUT USED SHALL BE SHRINKAGE COMPENSATED HIGH FLOW CEMENTITIOUS GROUT EPIREZ SUPERFLOW HF OR CONBEXTRA HS OR APPROVED EQUIVALENT.
FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 59.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

HOLDING DOWN BRACKET DETAILS

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

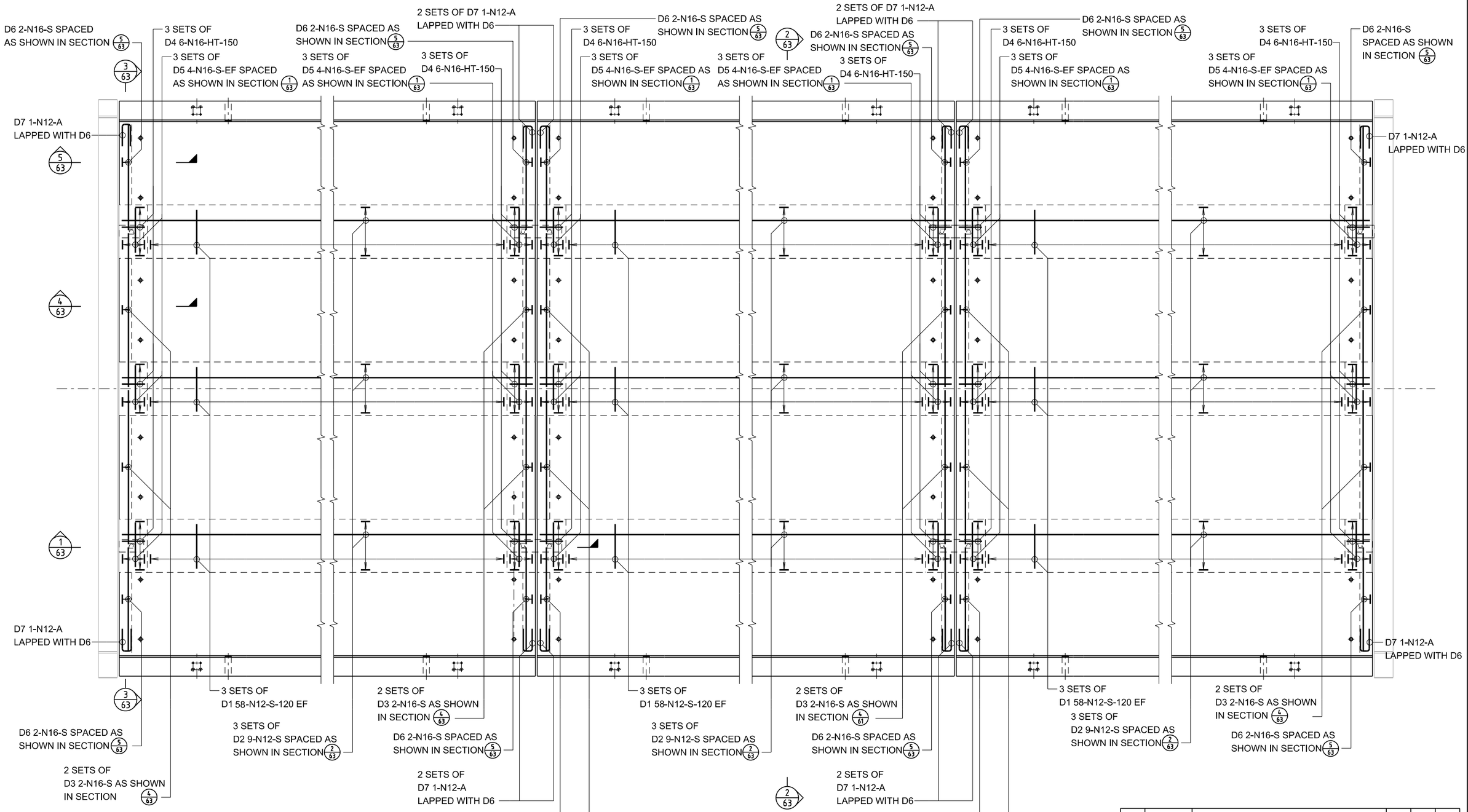
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL61

CAD No 8MDT.dgn



GENERAL NOTES

SCALE 0 500 1000 1500 (500 250) OR AS SHOWN.

NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 40 mm UNLESS SPECIFIED OTHERWISE.
UNLESS OTHERWISE SPECIFIED, THE MINIMUM LENGTHS OF LAPS SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20	N24	N28	N32	N36
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	460	620	820	...	...	...	...
b) OTHER BARS:	350	470	630	...	...	...	...

THE DEVELOPMENT LENGTH SHALL BE 80% OF THE VALUE TABULATED IN THE TABLE UNLESS NOTED OTHERWISE.
REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR DOWELS, ANCHOR BOLTS, CHS, FORMED HOLES AND RECESSES.

PLAN

REINFORCEMENT PROJECTED FROM PRECAST MODULE ARE NOT SHOWN FOR CLARITY

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

DECK REINFORCEMENT - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

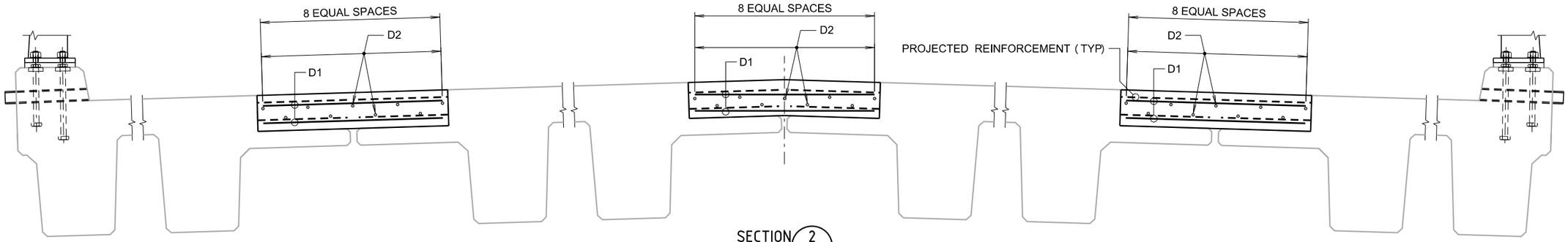
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

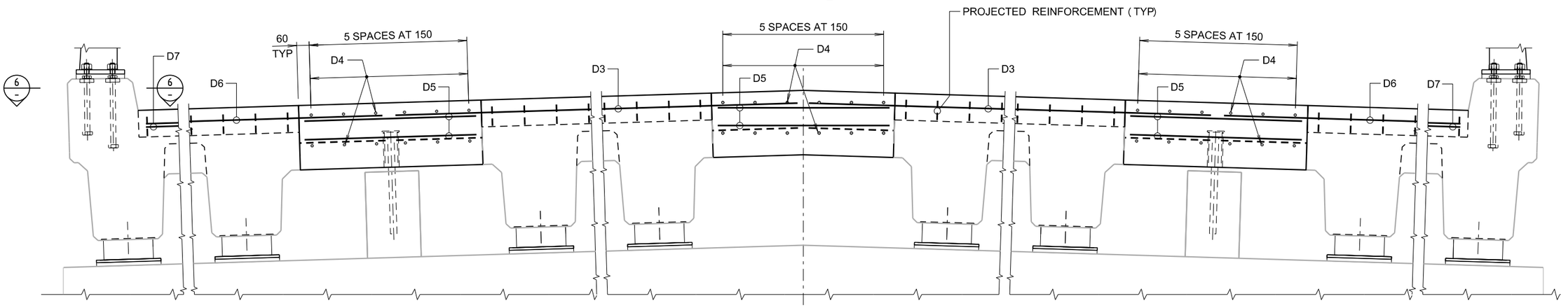
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL62

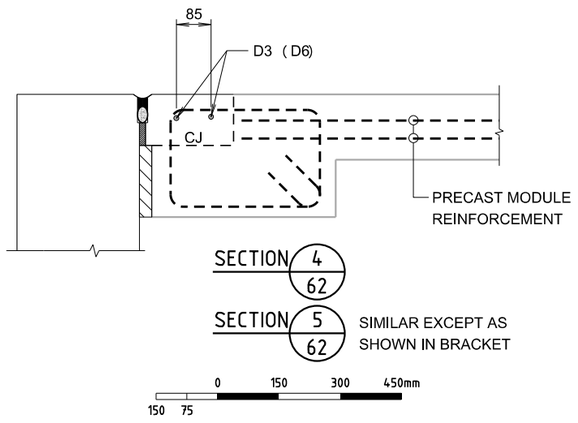
CAD No 8MDRA.dgn



SECTION 2 / 62

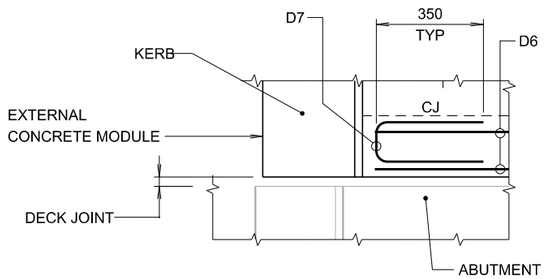


SECTION 3 / 62

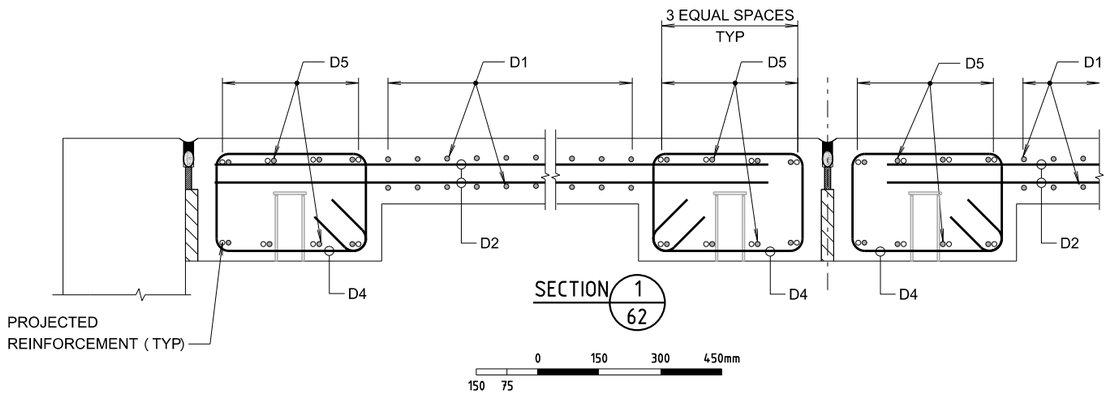


SECTION 4 / 62

SECTION 5 / 62 SIMILAR EXCEPT AS SHOWN IN BRACKET



SECTION 6 / –



SECTION 1 / 62

GENERAL NOTES

SCALE 0 100 200 300 400 500mm / 100 50 OR AS SHOWN

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 62.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

DECK REINFORCEMENT - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

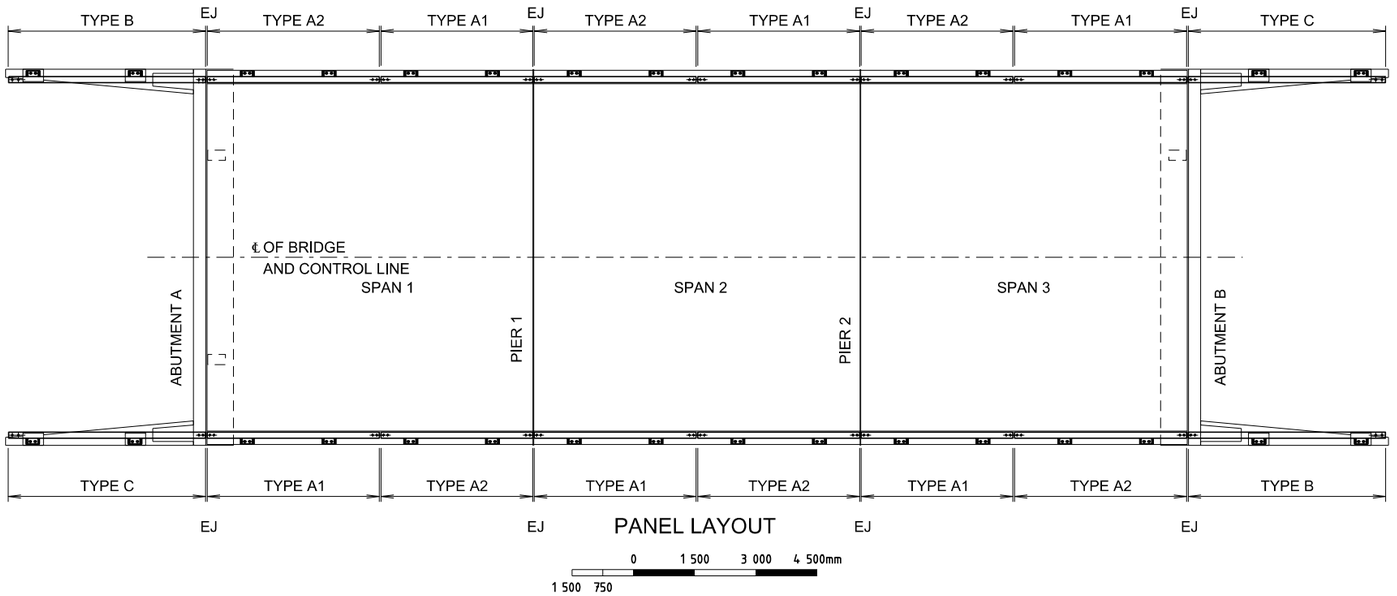
REGISTRATION No OF PLANS

BRIDGE No

ISSUE STATUS

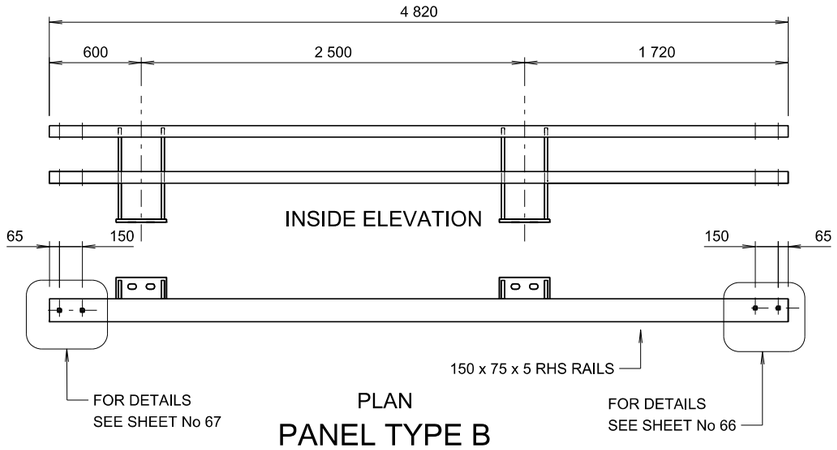
ISSUE | No SHEETS 42 | SHEET No MB08DL63

CAD No 8MDRB.dgn



PANEL LAYOUT

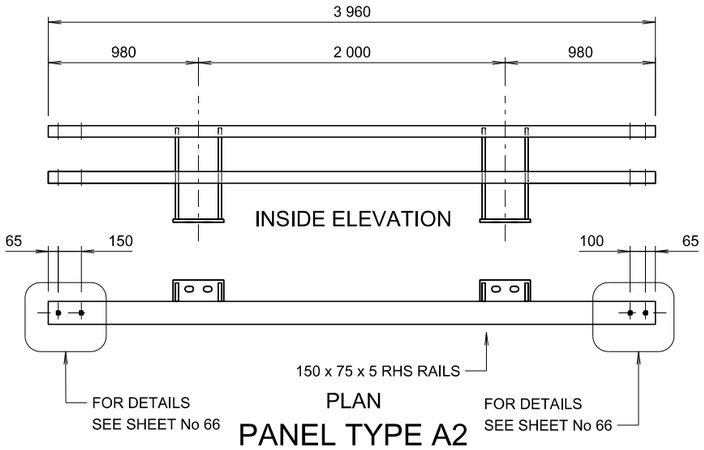
0 1 500 3 000 4 500mm
1 500 750



PLAN

PANEL TYPE B

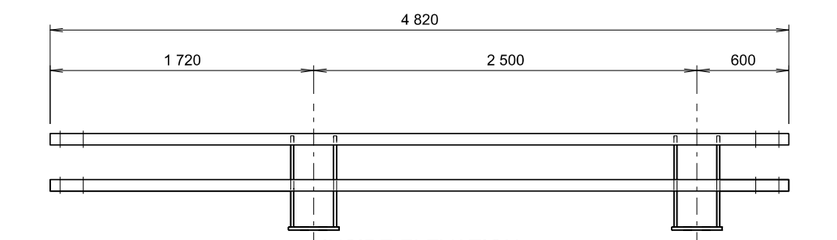
2 REQUIRED



PLAN

PANEL TYPE A2

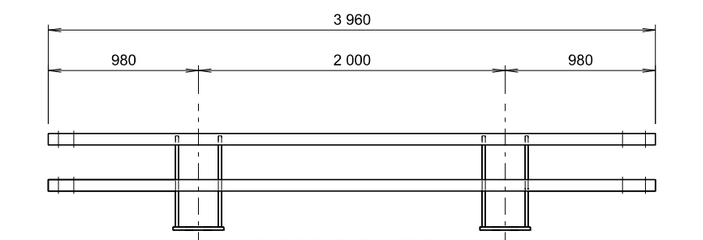
6 REQUIRED



PLAN

PANEL TYPE C

2 REQUIRED



PLAN

PANEL TYPE A1

6 REQUIRED

GENERAL NOTES

SCALE 0 200 400 600 800 1 000mm
200 100
OR AS SHOWN

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 65.

ISSUE	DATE	AMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

TRAFFIC BARRIER RAILING - SHEET A

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

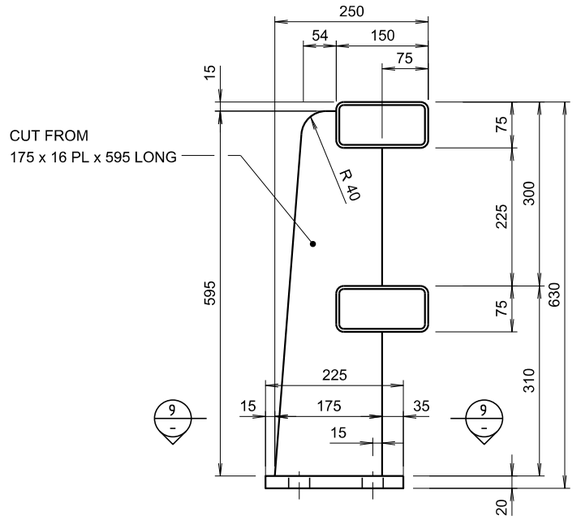
	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

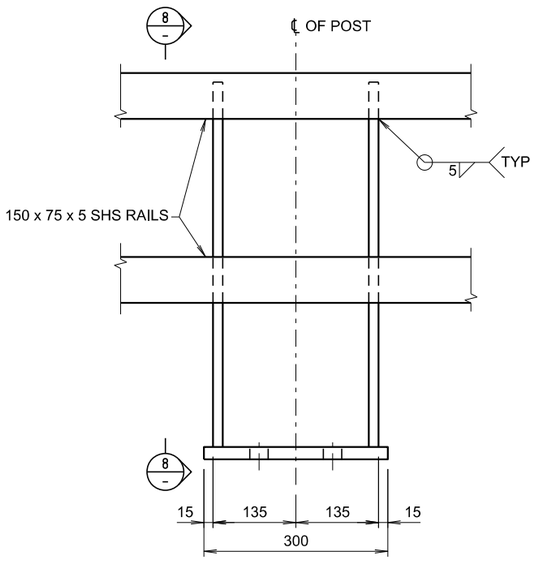
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION
No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE
No SHEETS 42
SHEET No MB08DL64

CAD No 8MBRA.dgn

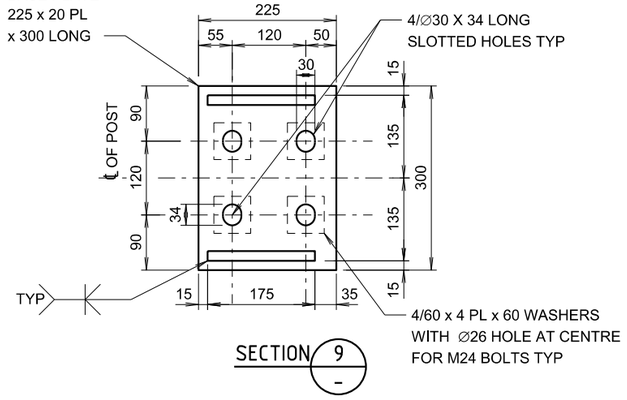


SECTION 8

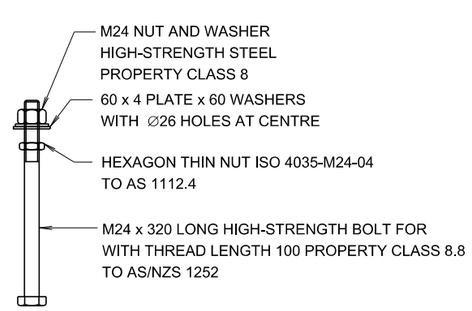


INSIDE ELEVATION

POST SHALL BE PERPENDICULAR TO BASE PLATE

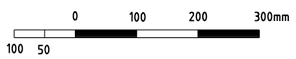


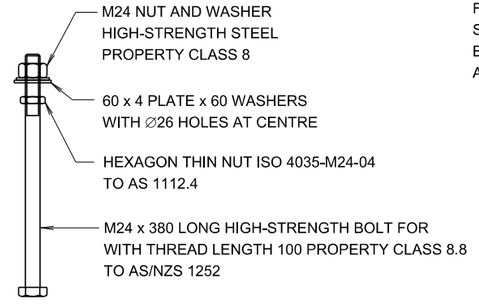
SECTION 9



M24 ANCHOR BOLT ASSEMBLY

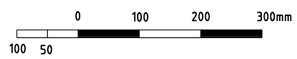
64 REQUIRED



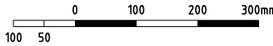


M24 ANCHOR BOLT ASSEMBLY

64 REQUIRED



GENERAL NOTES

SCALE 

OR AS SHOWN

ALL STEEL PLATE SHALL CONFORM TO AS/NZS 3678-250.
RECTANGULAR HOLLOW SECTIONS SHALL CONFORM TO AS/NZS 1163-C350LO.
ALL FASTENERS MUST CONFORM TO THE REQUIREMENTS OF ROADS AND MARITIME SERVICES QA SPECIFICATION B240.
DIMENSIONS AND SHAPE FOR CUP HEAD BOLTS SHALL BE IN ACCORDANCE WITH AS/NZS 1390.
HIGH STRENGTH STEEL CUP HEAD BOLTS SHALL BE PROPERTY CLASS 8.8 WITH MATERIAL AND MECHANICAL PROPERTIES IN ACCORDANCE WITH AS/NZS 1252 AND SHALL BE MARKED DURING MANUFACTURE TO DESIGNATE THEM AS HIGH STRENGTH STEEL BOLTS.
HIGH STRENGTH STEEL NUTS FOR STRUCTURAL BOLTING SHALL BE PROPERTY CLASS 8 TO AS/NZS 1252.
BOLTING CATEGORY FOR HIGH STRENGTH STEEL CUP HEAD BOLTS AND FOR HIGH STRENGTH STEEL BOLTS SHALL BE 8.8/S IN ACCORDANCE WITH AS 5100.6.
THE WELD CATEGORY SHALL BE SP IN ACCORDANCE WITH AS/NZS 1554.1
ALL WELDING SHALL CONFORM TO AS/NZS 1554.1 WITH ADDITIONAL REQUIREMENTS AS GIVEN IN ROADS AND MARITIME SERVICES SPECIFICATION B204.
WELDING SYMBOLS COMPLY WITH AS 1101.3.
RAILINGS AND CONNECTORS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
PTFE SPACER SHALL BE 100% VIRGIN POLYTETRAFLUOROETHYLENE CONFORMING TO ISO 13000-1 GRADE 1 AND SHALL BE UNFILLED, NOT LUBRICATED AND NOT DIMPLED.
SEAM WELD INSIDE RHS TO BE GROUND OFF FOR 250mm MINIMUM FROM END OF RAIL.
CONNECTORS TO BE TRIAL FITTED BEFORE GALVANIZING TO ENSURE LOOSE FIT.
THE LONGITUDINAL SEAM IN RHS MEMBERS SHALL BE ON THE UNDERSIDE OF THE RAILS.
STEEL WASHER SHALL CONFORM TO AS 1237.1 PRODUCT GRADE A.
SUPPLY OF BOLTS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH ROADS AND MARITIME SERVICES SPECIFICATION B240.
EDGES TO BE PROTECTIVE TREATED SHALL BE ROUNDED TO A RADIUS OF 1.5mm UNLESS SPECIFIED OTHERWISE.
AFTER ASSEMBLY DAMAGED GALVANISED SURFACES SHALL BE RENOVATED WITH TWO PACK ORGANIC ZINC-RICH PRIMER.
ALL STEEL COMPONENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ROADS AND MARITIME SERVICES SPECIFICATION B241.
BOLTS NUTS AND WASHERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AS 1214.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

TRAFFIC BARRIER RAILING - SHEET B

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

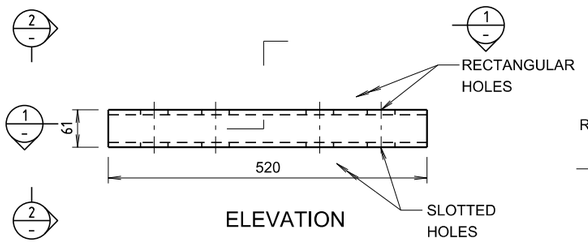
APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

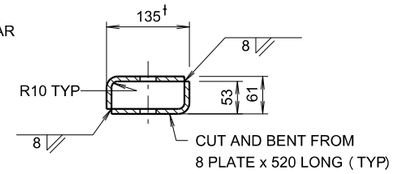
Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

CAD No 8MBRB.dgn

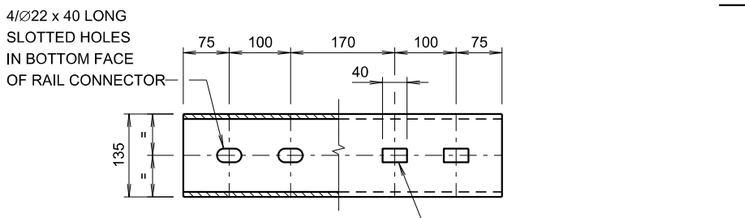
REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS
ISSUE | No SHEETS 42 | SHEET No MB08DL65



ELEVATION

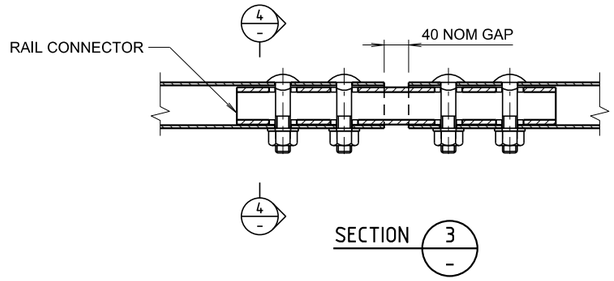


VIEW 2

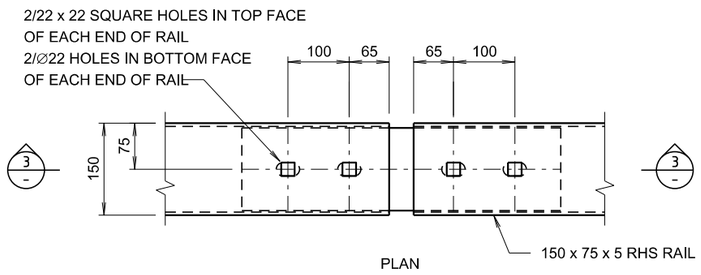


VIEW 1

RAIL CONNECTOR REQUIRED



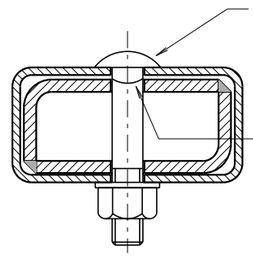
SECTION 3



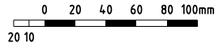
PLAN

ASSEMBLY AT RAIL CONNECTION

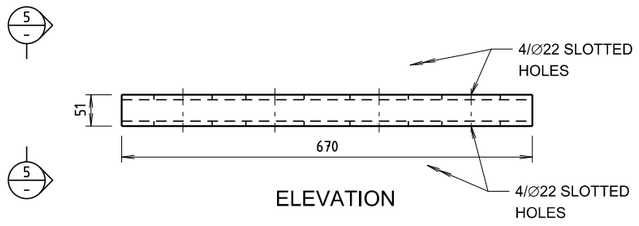
CUP HEAD BOLTS NOT SHOWN



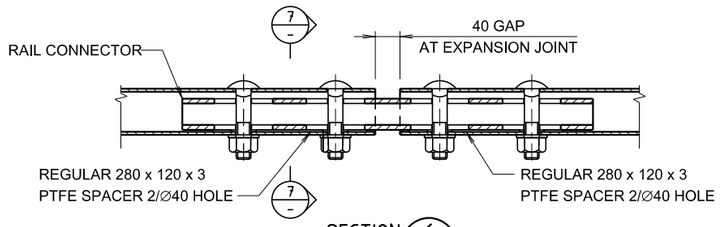
SECTION 4



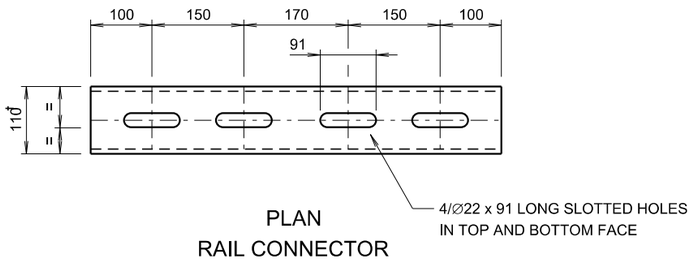
JOINT DETAILS - TYPICAL JOINT



ELEVATION

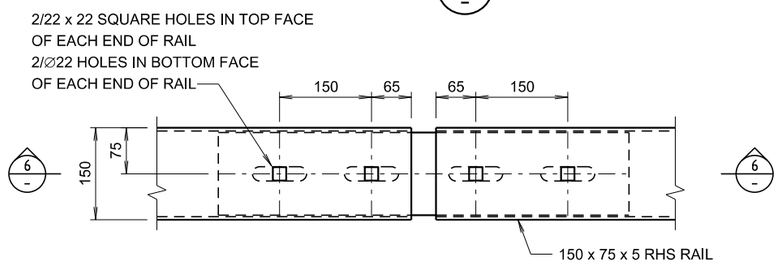


SECTION 6



PLAN

RAIL CONNECTOR REQUIRED

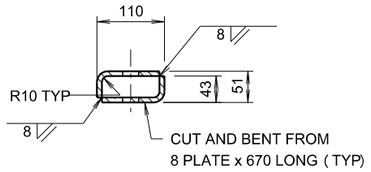


PLAN

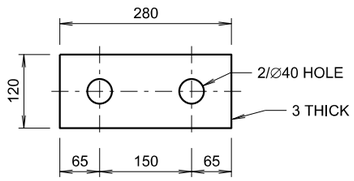
ASSEMBLY AT RAIL CONNECTION

CUP HEAD BOLTS NOT SHOWN

SECTION 7



VIEW 5



PTFE SPACER

JOINT DETAILS - EXPANSION JOINT

GENERAL NOTES

SCALE 0 100 200 300mm (100 50) OR AS SHOWN

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 65.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

TRAFFIC BARRIER RAILING - SHEET C

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

NSW GOVERNMENT Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

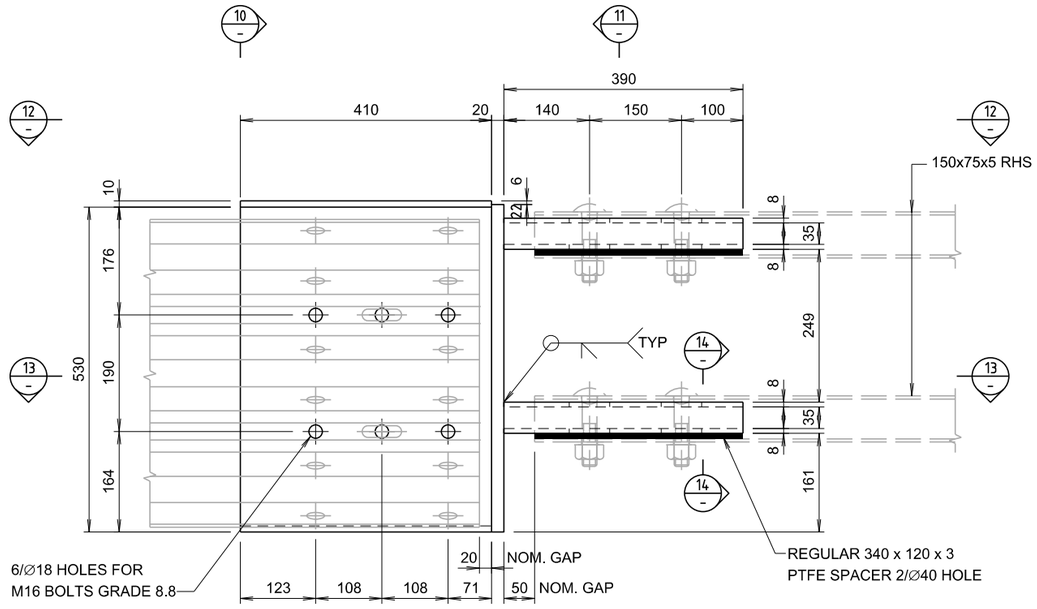
CAD No 8MBRC.dgn

REGISTRATION No OF PLANS

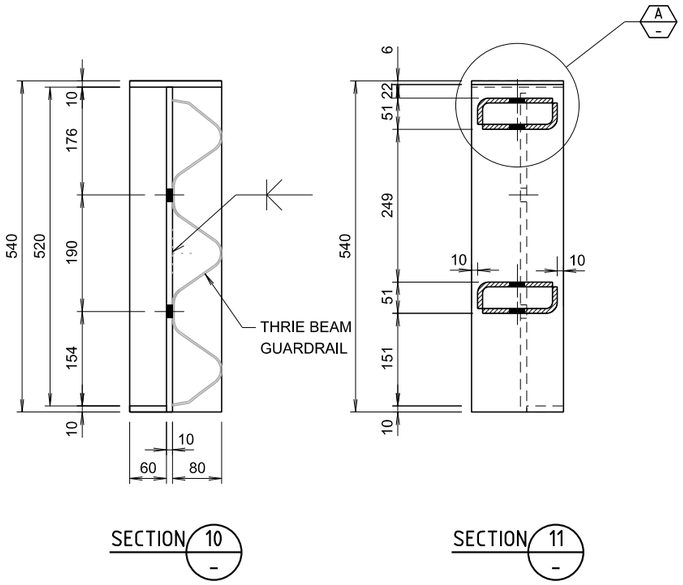
BRIDGE No

ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL66

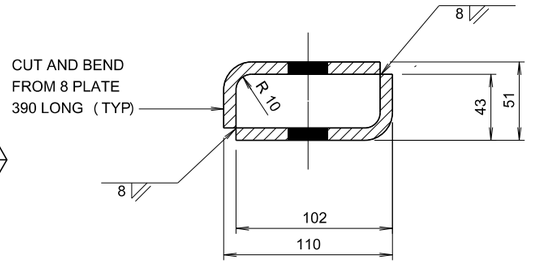


ELEVATION



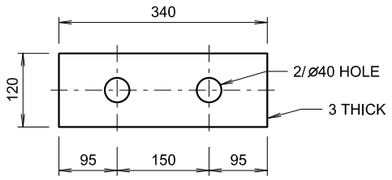
SECTION 10

SECTION 11

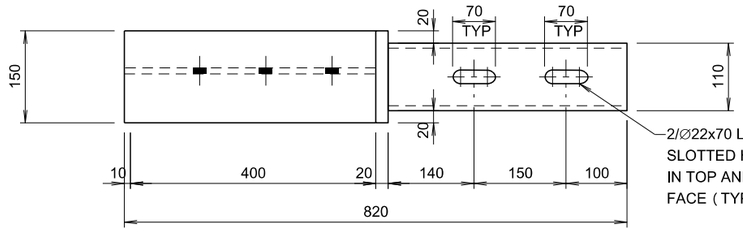


DETAIL A

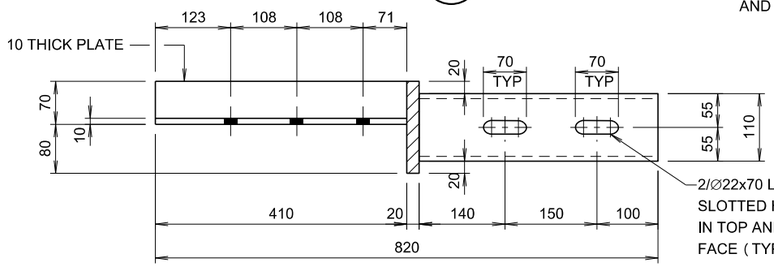
0 20 40 60 80 100mm
20 10



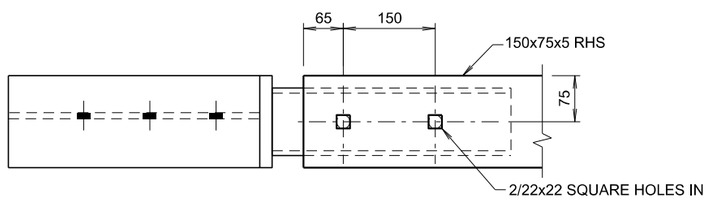
PTFE SPACER



VIEW 12

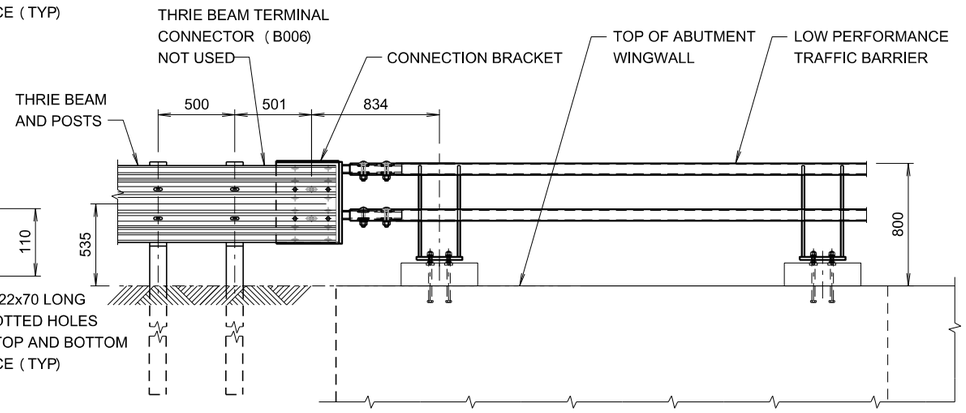


SECTION 13



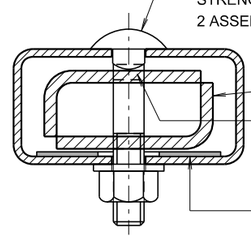
PLAN

ASSEMBLY AT END CONNECTION



TYPICAL END CONNECTION AT APPROACHES

0 200 400 600 800 1 000mm
200 100



SECTION 14

0 20 40 60 80 100mm
20 10

GENERAL NOTES

SCALE 0 100 200 300mm OR AS SHOWN
100 50

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 65.

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

TRAFFIC BARRIER RAILING- SHEET D

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

REGISTRATION No OF PLANS

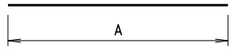
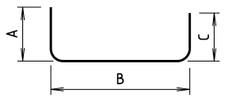
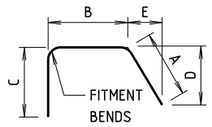
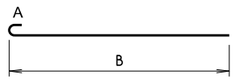
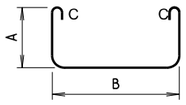
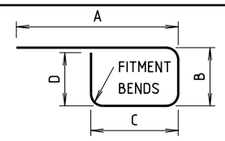
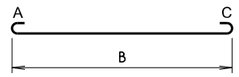
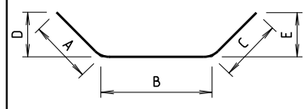
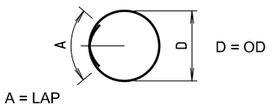
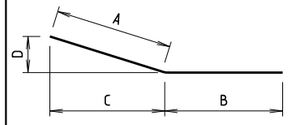
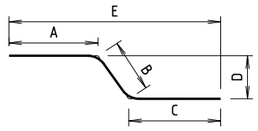
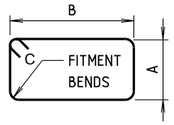
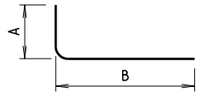
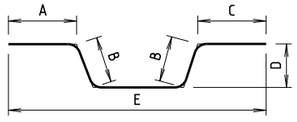
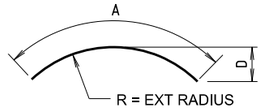
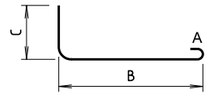
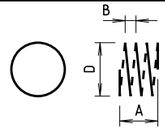
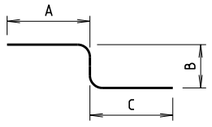
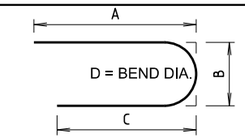
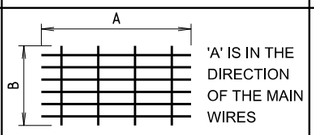
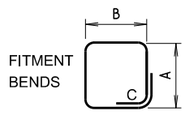
BRIDGE No

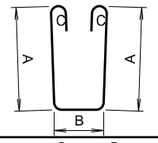
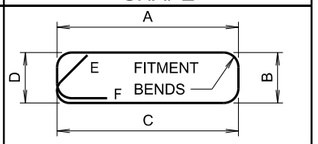
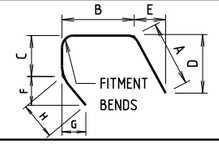
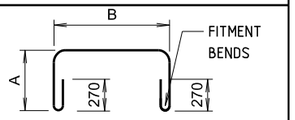
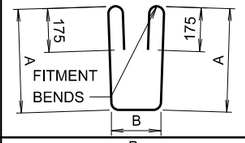
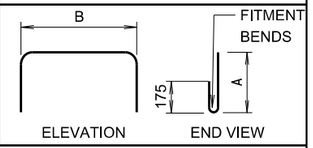
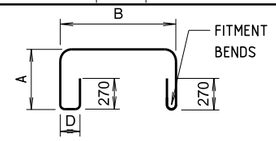
ISSUE STATUS

ISSUE | No SHEETS 42 | SHEET No MB08DL67

CAD No 8MBRD.dgn

11:11:34 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGE\8m MODULE\STANDARD DRAWINGS\8MBRD.dgn

SHAPE CODE	AUSTRALIAN STANDARD SHAPE	SHAPE CODE	AUSTRALIAN STANDARD SHAPE	SHAPE CODE	AUSTRALIAN STANDARD SHAPE
S		LL		VL	
H		SH		XT	
HH		VV		CT	
V		J		HT	
L		JJ		R	
LH		SP		RC	
U		F		T	

SHAPE CODE	NON STANDARD SHAPE	SHAPE CODE	NON STANDARD SHAPE
AZ		FZ	
BZ		HZ	
CZ		KZ	
DZ			

BAR MARKING LEGEND

THE METHOD USED TO LABEL REINFORCEMENT ON THE DRAWINGS IS AS FOLLOWS:

A1 10-N16-S-300EF

- A1 — STRUCTURE ELEMENT DENOTATION
- 10 — NUMBER OF BARS IN THE SET
- N — BAR STRUCTURAL PROPERTIES
- 16 — BAR SIZE IN MILLIMETRES
- S — BAR SHAPE CODE
- 300 — SPACING ALONG LIMIT LINE
- EF — INFORMATION FOR PLACING

WHERE THE BAR SPACING IS APPROXIMATE ONLY, THE FOLLOWING FORMAT SHALL BE USED:

A1 10-N16-S-300EF APPROX

STRUCTURE ELEMENT DENOTATIONS USED FOR PRECAST MODULES ARE:

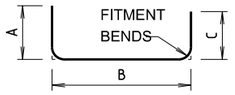
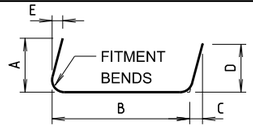
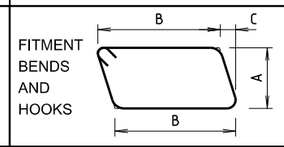
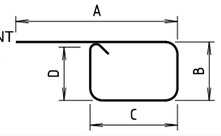
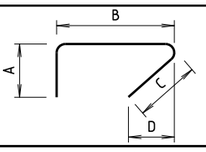
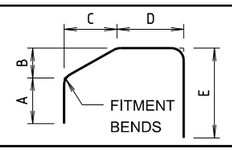
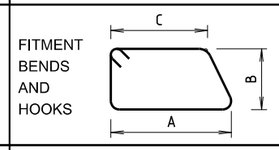
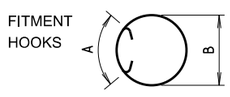
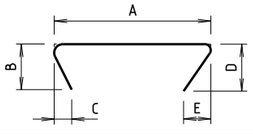
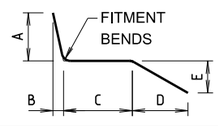
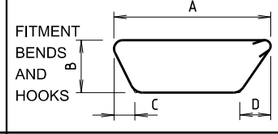
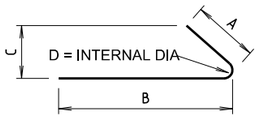
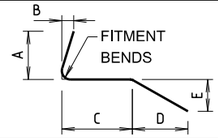
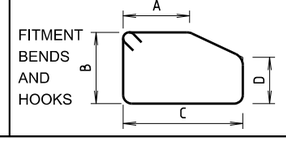
E FOR EXTERNAL PRECAST MODULE
T FOR INTERNAL PRECAST MODULE

STRUCTURE ELEMENT DENOTATIONS USED ELSEWHERE ARE :

A FOR ABUTMENT A FOOTINGS INCLUDING STITCH POUR
B FOR ABUTMENT B FOOTINGS INCLUDING STITCH POUR
R FOR ABUTMENT B RETAINING WALLS
F FOR FOOTING AT PIERS
C FOR COLUMNS AT PIERS
W FOR WINGWALLS INCLUDING STITCH POUR
H FOR PIER HEADSTOCK
S FOR ABUTMENT SILL BEAMS
D FOR DECK

REINFORCEMENT NOTES

1 AUSTRALIAN STANDARD BAR SHAPES ARE IN ACCORDANCE WITH AS 1100.501.
2 BAR SIZE IS THE NOMINAL DIAMETER IN MILLIMETRES, OR THE AS/NZS 4671 FABRIC NUMBER.
3 THE GRADE OF REINFORCEMENT, IF NOT STATED ON THE DRAWINGS, SHALL BE D500N TO AS/NZS 4671.
4 WHERE SHOWN ON THE DRAWINGS, "W" SHALL DENOTE PLAIN ROUND REINFORCING BARS EQUIVALENT TO GRADE R500L TO AS/NZS 4671.
5 WHERE SHOWN ON THE DRAWINGS, RL AND SL SHALL DENOTE WELDED REINFORCING FABRIC (RECTANGULAR AND SQUARE) , RESPECTIVELY.
6 DIMENSIONS SHOWN ON BAR SHAPES DIAGRAMS ARE MEASURED FROM THE OUTSIDE FACES OF THE BARS AND ARE IN MILLIMETRES.
7 THE INCLUDED ANGLE OF ANY BEND SHALL BE A RIGHT ANGLE IF NO DIMENSION SHOWN.
8 BARS OF DIAMETER GREATER THAN 24mm SHALL NOT BE REBENT.
9 BAR BENDING AND HOOK DETAILS SHALL BE IN ACCORDANCE WITH SECTION 5.13 OF AS 5100-BRIDGE DESIGN.

SHAPE CODE	ROADS AND MARITIME SERVICES STANDARD SHAPE	SHAPE CODE	ROADS AND MARITIME SERVICES STANDARD SHAPE	SHAPE CODE	ROADS AND MARITIME SERVICES STANDARD SHAPE	SHAPE CODE	ROADS AND MARITIME SERVICES STANDARD SHAPE
A		E		N		XH	
B		G		P		Y	
C		K		Q			
D		M		W			

ISSUE	DATE	ADMENDMENT DESCRIPTION	PREP	CHECK	AUTH

COUNTRY BRIDGE SOLUTIONS

MODULAR BRIDGE DRAWINGS

TYPE 1 - 2 LANE - 8m SPAN

BAR SHAPES DIAGRAM

PREPARED BY
BRIDGE ENGINEERING SECTION
PHONE (02) 8837-0811

Transport Roads & Maritime Services
NSW GOVERNMENT
www.rms.gov.au

	PREPARED	CHECKED
DESIGN	S Assi	A Dey
DRAWING	D.G.C.	A Dey

REGISTRATION No OF PLANS
BRIDGE No
ISSUE STATUS

APPROVED FOR USE
W Ariyaratne
PRINCIPAL ENGINEER BRIDGES
07.10.2016
DATE

Salah Assi 07.10.2016
BRIDGE ENGINEER (NEW DESIGN)

ISSUE | No SHEETS 42 | SHEET No MB08DL68

CAD No 8MBARSHAPE.dgn

11:11:35 AM 7/10/2016 K:\Bridge\Standards_2015\Standards in Development\B1000_MODULAR BRIDGES\8m MODULE\STANDARD DRAWINGS\8MBARSHAPE.dgn