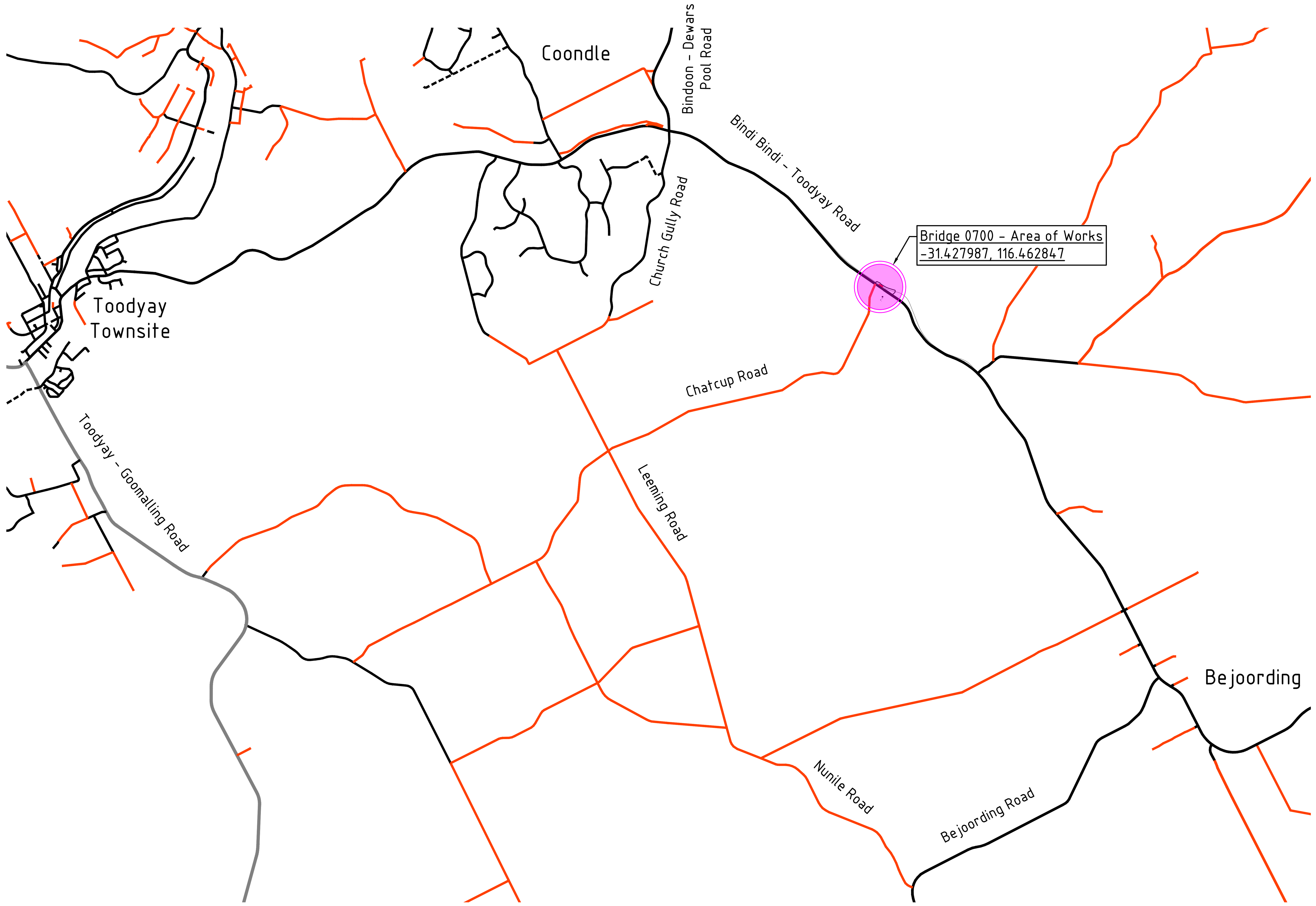
BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
BRIDGE DEMOLITION AND CULVERT WORKS

DRAWING NUMBER	DRAWING TITLE
C-21-0197-00	COVER PAGE
C-21-0197-01	DEMOLITION DETAILS
C-21-0197-02	GENERAL ARRANGEMENT
C-21-0197-03	TYPICAL SECTIONS
C-21-0197-04	CONCRETE DETAILS
C-21-0197-05	REINFORCEMENT DETAILS
C-21-0197-06	GUARDRAIL DETAILS

MRWA STANDARD DRAWINGS

DRAWING NUMBER	DRAWING TITLE
0430-0772	"W"BEAM & "THRIEBEAM" FABRICATION DETAILS
0430-0773	"W"BEAM & "THRIEBEAM" COMPONENT DETAILS
0430-0774	LOW PERFORMANCE LEVEL BARRIER 0 STEEL POST FABRICATION DETAILS
0430-0775	STEEL POST COMPONENTS, BLOCKOUT AND BACKING PLATE DETAILS
0530-1100	REGULAR PERFORMANCE LEVEL BARRIER (THRIEBEAM) "THRIEBEAM" COMPONENT DETAILS



No.	REVISION	ENGINEER	APPROVED	DATE
0	ISSUED FOR ENGINEERING SIGN OFF	RN	SP	12/20

SHIRE OF toodyay
place of plenty
T : (08) 9574 9360 F: (08) 9574 9360
E : records@toodyay.wa.gov.au
W : www.toodyay.wa.gov.au

Drawn:	R. Ness	Design:	R. Ness
Draft Check:	M. Gill	Engineer Check:	M. Gill
Approved:	AVON CIVIL ENGINEERING Michael Gill 15/01/21		
Scale:		Datum:	MGA 94, AHD

In the absence of the APPROVED signature this drawing shall be treated as PRELIMINARY.

Project: BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
SLK 13.46 -31.427987, 116.462847

Title: DEMOLITION AND CULVERT WORKS
COVER PAGE

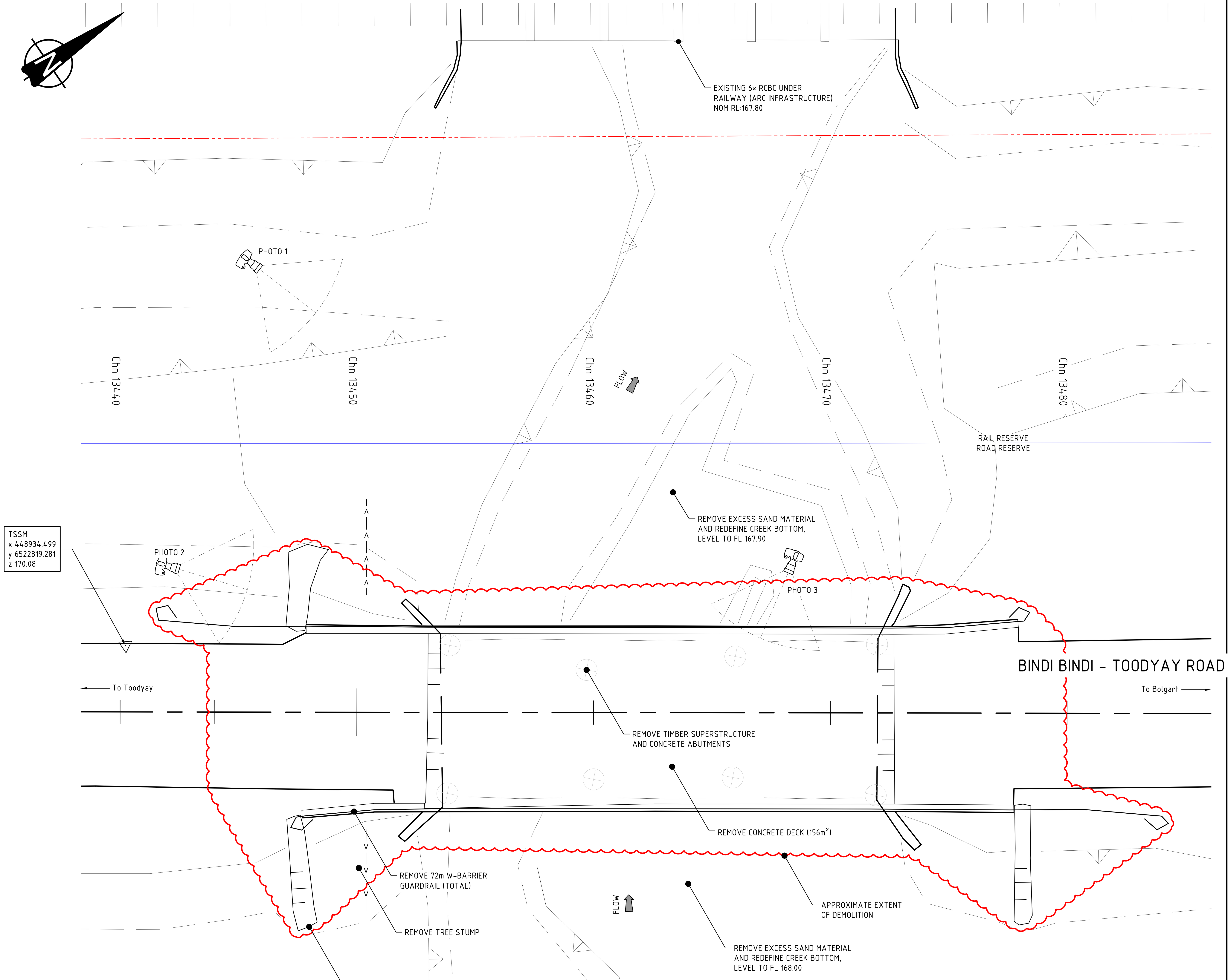
Size: A1 oversize | Drg. No. C-21-0197-00 | Rev 0

Cadfile: G:\ETO\Design\Other\Toodyay Bindi Bindi Bridge 0700\Bridge 0700 DesignRev2.dwg

PHOTO 1

PHOTO 2

PHOTO 3



DEMOLITION NOTES:

1. STOCKPILE AND DISPOSAL SITE TO BE APPROVED BY SHIRE OF TOODYAY
2. EXISTING STEEL PROPS TO BE RETURNED TO SHIRE OF TOODYAY DEPOT
3. TIMBER PILES ARE TO BE REMOVED ENTIRELY

PLAN VIEW
SCALE 1:100

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A	PRELIMINARY	X	X	X

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W : www.toodyay.wa.gov.au

0 0.1 0.2 0.25 0.3 0.4m
1 : 10

0 1 2 2.5 3 4m
1 : 100

Drawn:	R. Ness	Design:	R. Ness
Draft Check:	M. Gill	Engineer Check:	M. Gill
Approved:	AVON CIVIL ENGINEERING Michael Gill 15/01/21		
Scale:	1:100	Datum:	MGA 94, AHD

In the absence of the APPROVED signature this drawing shall be treated as PRELIMINARY.

Project BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
SLK 13.45 -31.427987, 116.462847

Title BOX CULVERT REPLACEMENT WORKS
DEMOLITION DETAILS

Size A1 oversize | Drg. No. C-21-0197-01 | Rev 0

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GENERAL

1. A COPY OF THESE DRAWINGS ARE TO BE ONSITE DURING CONSTRUCTION.
2. PLANS TO BE READ IN CONJUNCTION WITH MRWA SPECIFICATION 404 (CULVERTS), AND STANDARD DRAWING NO'S. 201131-0064, 0065, 0066
3. PLANS TO BE READ IN CONJUNCTION WITH SHIRE OF TOODYAY CIVIL WORKS SPECIFICATION
4. THE LATEST ADDITIONS OF AUSTRALIAN STANDARDS SHALL APPLY
5. MATERIAL STOCKPILE AND MACHINERY PARKING AREAS TO BE DETERMINED AT PRE-START MEETING
6. SURVEY CONTROLS TO BE PROTECTED AT ALL TIMES
7. LEVELS ARE DESIGNED TO FINISH LEVEL UNLESS OTHERWISE SPECIFIED
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED
9. REFER TO MANUFACTURERS SPECIFICATION FOR DETAILED DIMENTIONS AND PLACEMENT TOLERANCES FOR CULVERT UNITS TO DETERMINE OVERALL DIMENSIONS OF APRON SLAB AND WINGWALL LOCATIONS
10. PLASTIC CEMENT MORTAR SHALL BE 0.4 W/C RATION & 3:1 SAND CEMENT RATIO
11. BACKFILL SHALL BE DONE IN EVEN LIFTS BEHIND CULVERTS. MAXUMUM LEVEL DIFFERENCE ON EITHER SIDE OF CULVERTS SHALL BE 300mm

HEAVY VEHICLES

1. TOODYAY BINDI BINDI ROAD IS RAV NETWORK 4 ACCESSIBLE. MRWA HEAVY VEHICLE SERVICES IS TO BE MADE AWARE OF ANY SCHEDULED WORKS THAT MAY IMPAIR HEAVY VEHICLE PASSAGE

GENERAL COMPACTION NOTES

1. ALL AREAS TO BE FILLED SHALL BE COMPLETELY CLEARED OF ALL TREES, ROOTS AND OTHER DECAYED VEGETATION
2. PRIOR TO THE COMMENCEMENT OF ANY CIVIL OR STRUCTURAL CONSTRUCTION, THE ENTIRE SITE AREA IS TO BE COMPACTED AND TESTED IN ACCORDANCE WITH MRWA SPECIFICATION 501: PAVEMENTS TO PRODUCE THE FOLLOWING:
   - 98% STANDARD COMPACTION AT THE SURFACE AND AT 300mm BELOW SURFACE LEVEL, WHEN PAVEMENTS AND STRUCTURES ARE TO BE CONSTRUCTED, ELSEWHERE 95%.
   - TESTING SHALL BE CARRIED OUT A RATE OF 1 TEST PER 150 Sq/m AT EACH 250mm LAYER OF FILL (MIN 4 TESTS PER LAYER).
   - TESTING SHALL BE EVENLY SPACED OVER THE ENTIRE SITE, AND AT RANDOM LOCATIONS.
   - TEST RESULTS SHALL BE FORWARDED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO COMMENCEMENT OF WORKS.
3. ALL NEW FILL SHALL BE COMPACTED TO PRODUCE 98% OF THE STANDARD COMPACTION TO AS 1289.5.1.1 (U.N.O.) WHEN BENEATH PAVING AND STRUCTURES, ELSEWHERE 95%.
4. FILL MATERIAL TO BE APPROVED BY SOT. THE LOOSE THICKNESS OF EACH LAYER BEFORE COMPACTION SHOULD NOT EXCEED 200mm WITHOUT THE APPROVAL OF SOT.
5. BASECOURSE MATERIAL SHALL BE WORKED IN COMPACTED LAYERS NOT MORE THAN 250mm NOR LESS THAN 100mm COMPACTED THICKNESS

CONCRETE

1. BASE SLABS, APRON SLABS, WINGWALLS AND HEADWALLS SHALL BE S50 CONCRETE IN ACCORDANCE WITH MRWA SPECIFICATION 820
2. THE MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE:
   2.1. ALL EXPOSED FACES 50
   2.2. BURIED FACES- HEADWALLS AND WINGWALLS 50
   2.3. FACES IN CONTACT WITH WPM - APRONS AND SLAB 50
3. ALL EXPOSED CONCRETE EDGES SHALL HAVE 20x20mm CHAMFER
4. UNFORMED SURFACE FINISHES ARE TO BE U2 HIGH QUALITY STEEL TROWEL FINISH WITHOUT PITTING OR CAVITIES
5. CUTTING AND BENDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH AS 5100:2017
   5.1. REINFORCEMENT SHALL CONFORM TO:
   N - 500MPa REINFORCING BARS TO AS/NZS 4671
   SL - 500MPa MESH TO AS/NZS 4671
   R - 250MPa PLAIN BARS TO AS/NZS
6. PRECAST CONCRETE CULVERT SECTIONS SHALL BE SUPPLIED IN ACCORDANCE WITH MAINROADS CURRENT SPECIFICATION FOR THE SUPPLY OF PRECAST CONCRETE BOX CULVERTS AND AS 5100:2017 BRIDGE DESIGN CODE

WATER PROOF MEMBRANE

1. WATER PROOF MEMBRANE (WPM) SHALL BE 0.2mm POLYTHENE MEMBRANE SHEET

SETOUT

POINT	NOTE	EASTING	NORTHING	HEIGHT
UA74	BENCHMARK	448971.310	6522883.896	168.83
9000	TSSM	448893.134	6522758.561	170.08
9001	TSSM	448934.499	6522819.281	170.08
9002	TSSM	448986.923	6522896.924	170.02
1	OUTLET REFERENCE PT	448944.2282	6522838.1509	167.91
2	INLET REFERENCE PT	448953.1526	6522832.0686	167.98
3	FL CONCRETE BASE SLAB	448940.1844	6522833.2828	167.90
4	FL CONCRETE BASE SLAB	448947.2803	6522843.6947	167.90
5	FL CONCRETE BASE SLAB	448957.1964	6522836.9367	167.99
6	FL CONCRETE BASE SLAB	448950.1004	6522826.5248	167.99
7	ROAD FINISHED LEVEL	448942.6684	6522843.9516	170.14
8	ROAD CL FINISHED LEVEL	448954.7163	6522843.9516	170.20

ROCKPITCHING

CLASS ROCK	MIN THICKNESS	MIN LENGTH	ROCK SIZE (m)	ROCK MASS (Kg)	% OF ROCK LARGER THAN
LIGHT	750	3000	0.55 0.40 0.20	250 100 10	0 50 90
1/4 TONNE	1000	5000	0.75 0.55 0.30	500 250 35	0 50 90

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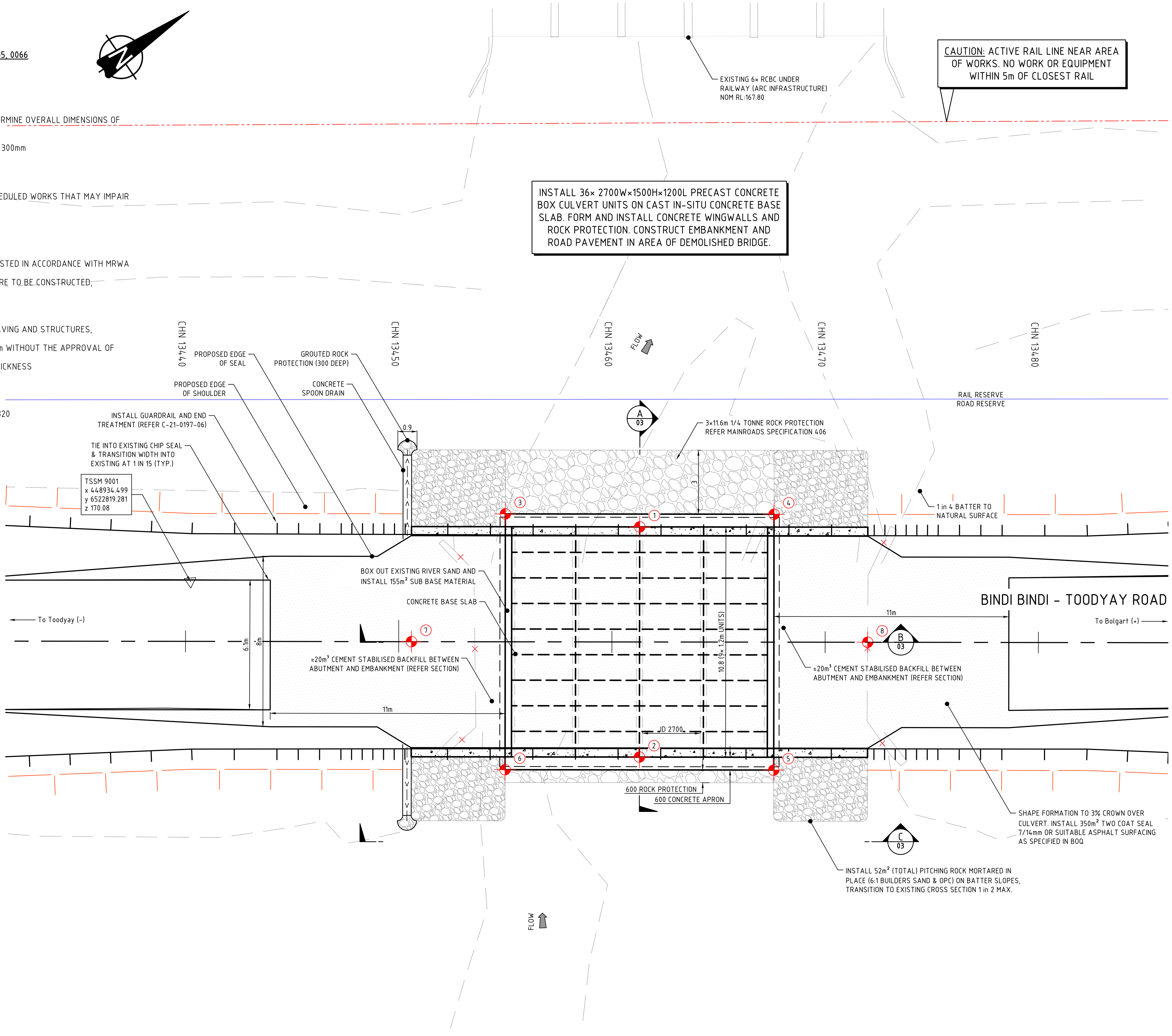

PLAN VIEW
SCALE 1:100

No.	REVISION	ENGINEER	APPROVED	DATE
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A	PRELIMINARY	X	X	X

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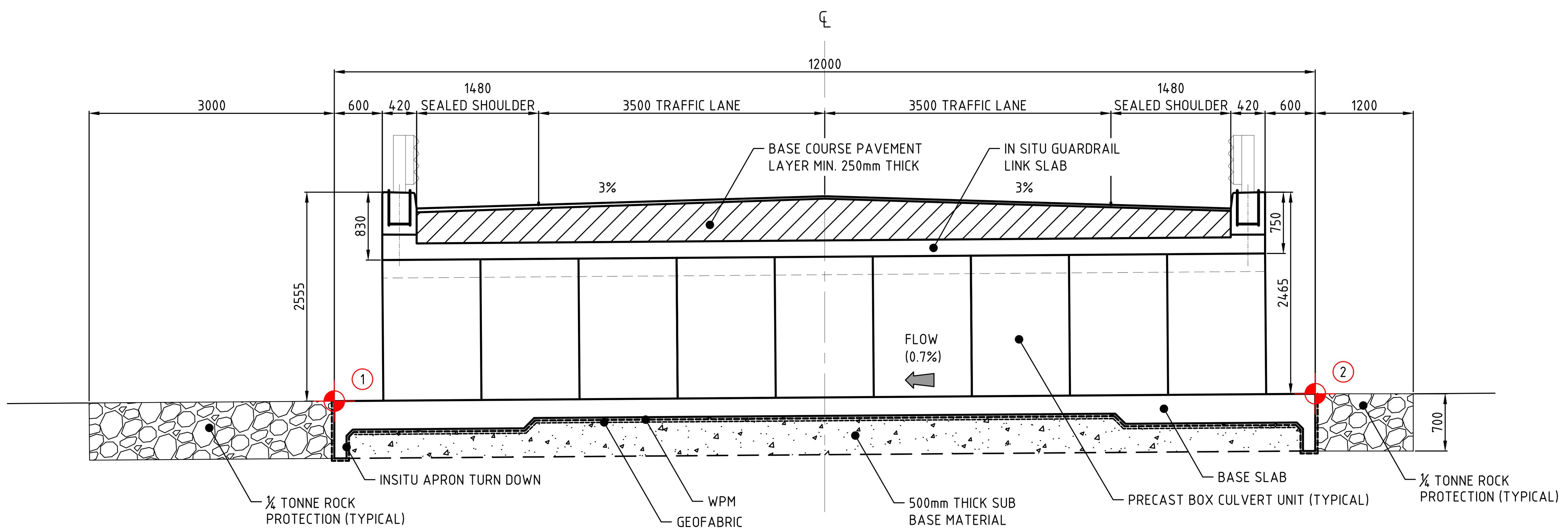
E : records@toodyay.wa.gov.au
W : www.toodyay.wa.gov.au

1 : 10
1 : 100

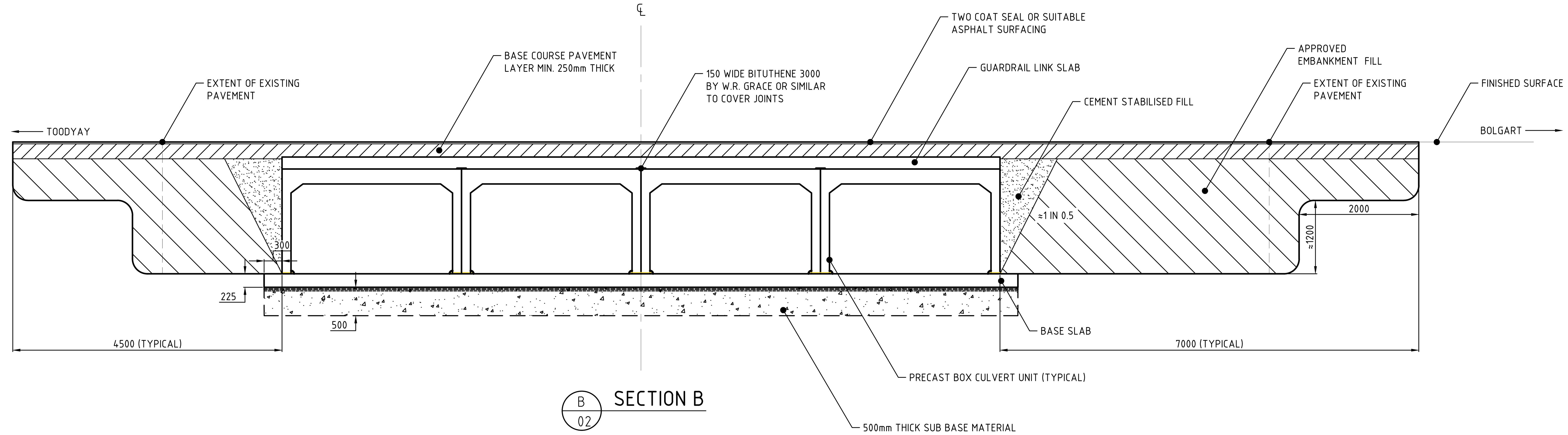
Drawn: R. Ness | Design: R. Ness
Draft Check: M. Gill | Engineer Check: M. Gill
Approved: AVON CIVIL ENGINEERING Michael Gill 15/01/21
Scale: 1:100 | Datum: MGA 94, AHD
In the absence of the APPROVED signature this drawing shall be treated as PRELIMINARY.

Project: BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
SLK 13.45 -31.427987, 116.462847
Title: BOX CULVERT REPLACEMENT WORKS GENERAL ARRANGEMENT
Size: A1 oversize | Drg. No. C-21-0197-02 | Rev 0

Cadfile: G:\ETO\Design\Other\Toodyay Bindi Bindi Bridge 0700\Bridge 0700 DesignRev2.dwg



A 02 SECTION A



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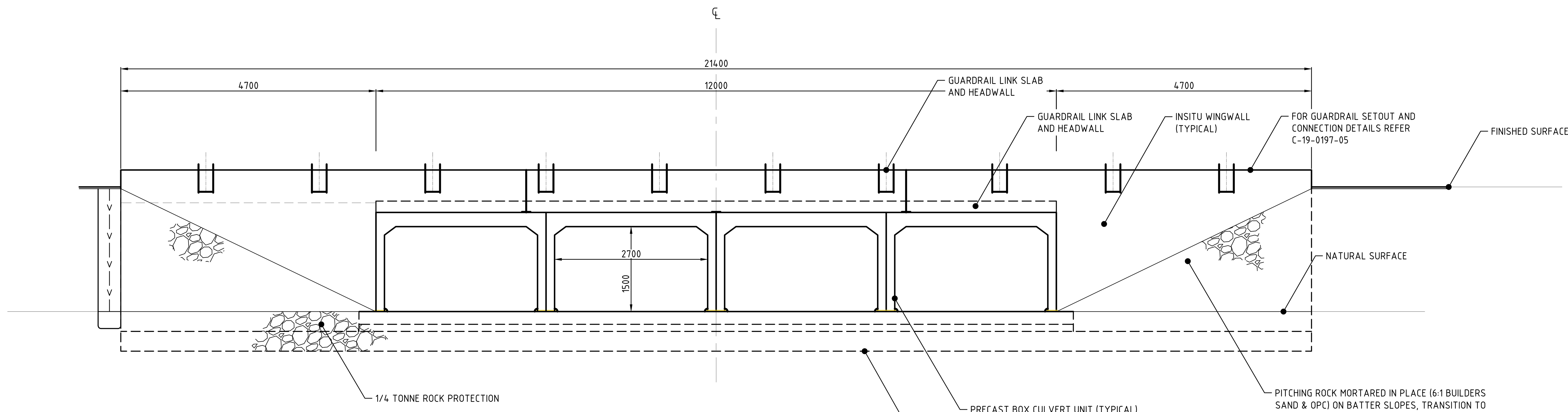

C 02 SECTION C

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W : www.toodyay.wa.gov.au

0 0.5 1 1.25 1.5 2 m
1 : 50

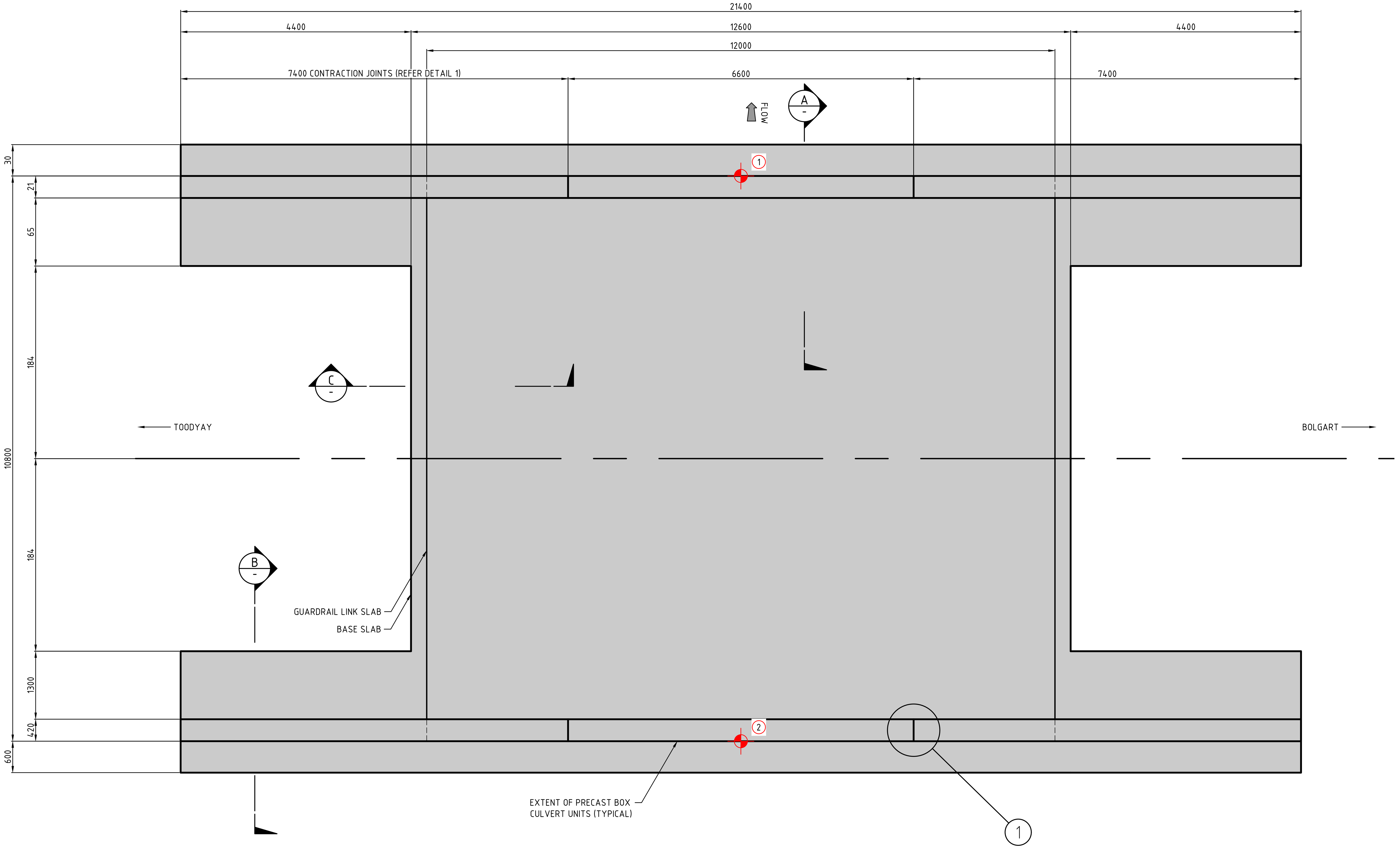
Drawn: R. Ness
Design: R. Ness
Draft Check: M. Gill
Engineer Check: M. Gill
Approved: AVON CIVIL ENGINEERING Michael Gill 15/01/21
Scale: 1:50
Datum: MGA 94, AHD
In the absence of the APPROVED signature this drawing shall be treated as PRELIMINARY.

Project: BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
SLK 13.45 -31.427987, 116.462847

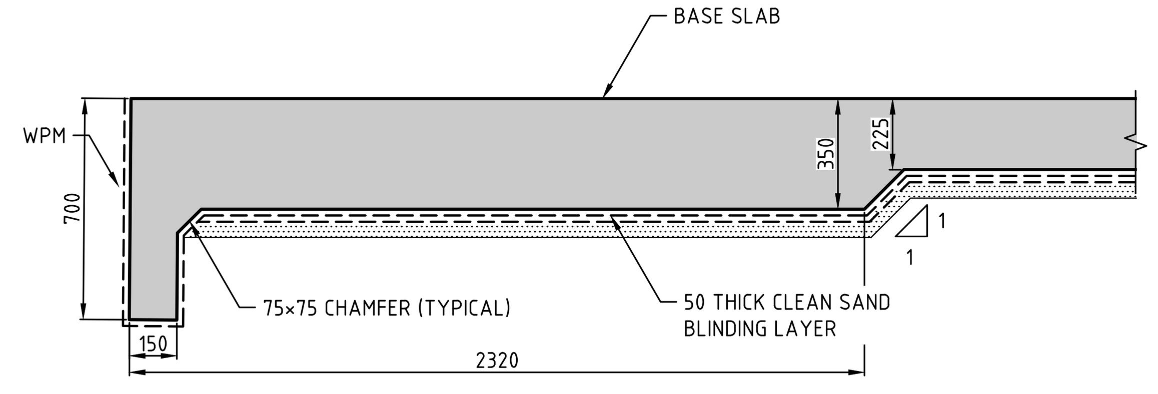
Title: BOX CULVERT REPLACEMENT WORKS
TYPICAL SECTIONS

Size: A1 oversize
Drg. No. C-21-0197-03
Rev 0

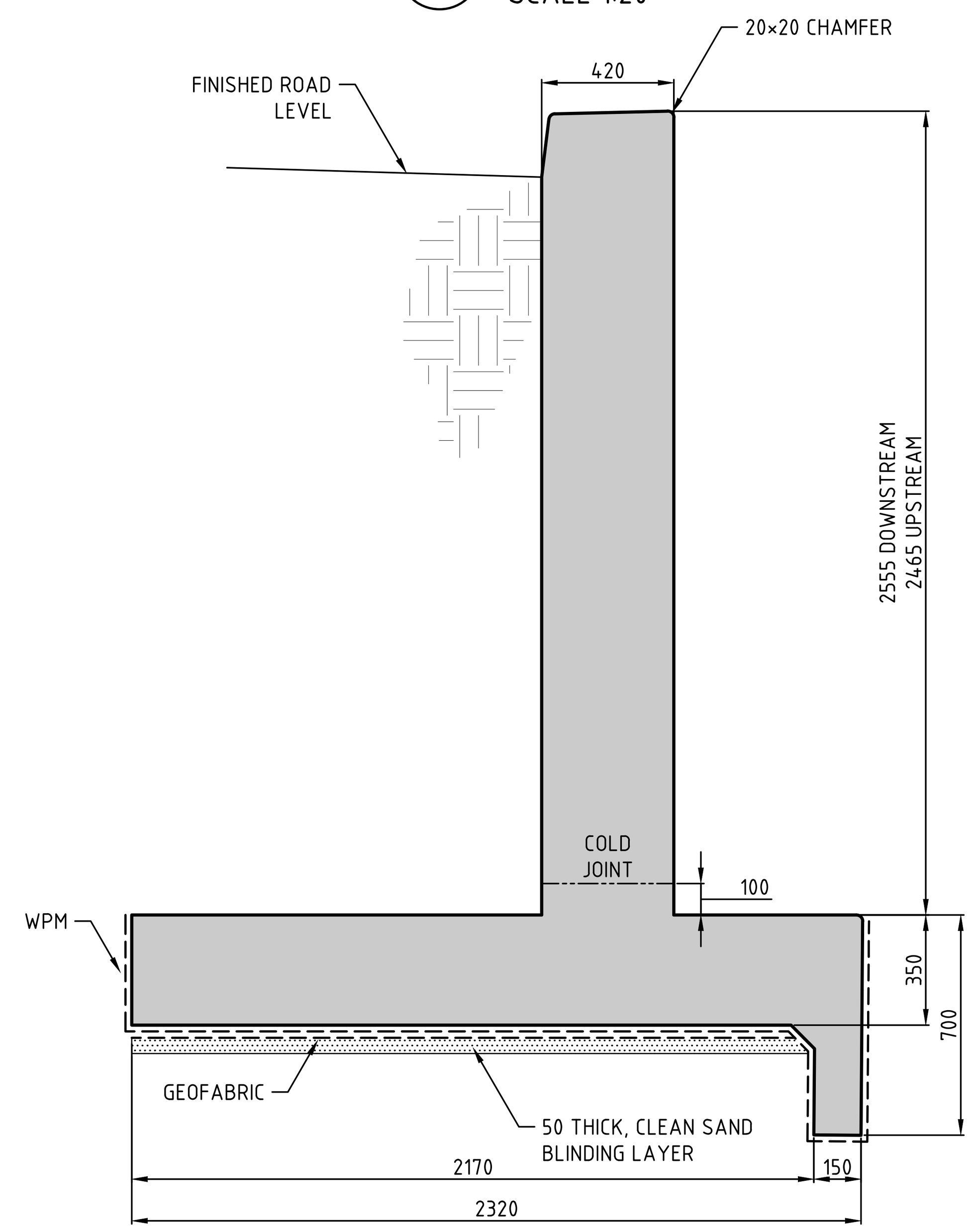
Cadfile: G:\ETO\Design\Other\Toodyay Bindi Bindi Bridge 0700\Bridge 0700 DesignRev2.dwg



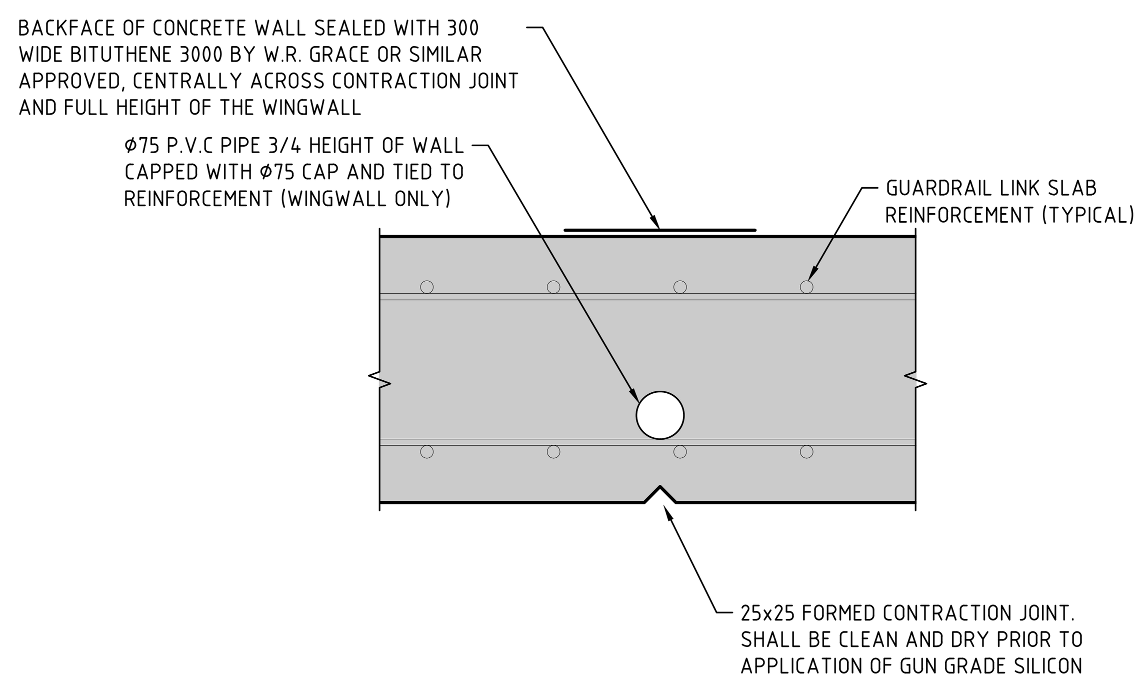
PLAN VIEW
SCALE 1:50



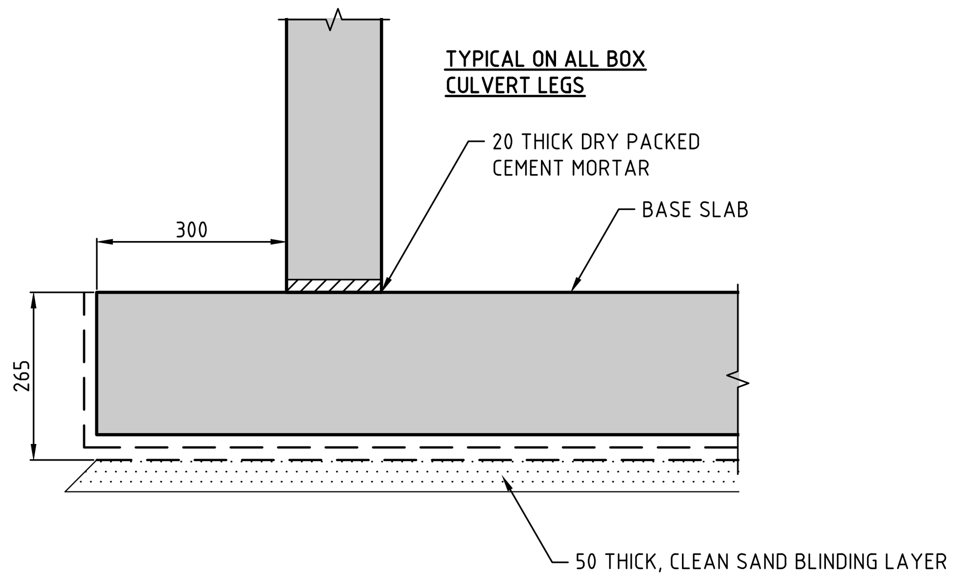
SECTION A
SCALE 1:20



SECTION B
SCALE 1:20



DETAIL 1
SCALE 1:10



SECTION C
SCALE 1:10

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THIS DRAWING SHALL BE READ IN CONJUNCTION WITH MRWA STANDARD DRAWING NO. 9548-106, 0430-0772 TO 0430-0775 & 0530-1100

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0 0.1 0.2 0.25 0.3 0.4 m
1 : 10
0 0.5 1 1.25 1.5 2 m
1 : 50

Drawn: R. Ness
Design: R. Ness
Draft Check: M. Gill
Engineer Check: M. Gill
Approved: AVON CIVIL ENGINEERING Michael Gill 15/01/21
Scale: AS SHOWN
Datum: MGA 94, AHD
In the absence of the APPROVED signature this drawing shall be treated as PRELIMINARY.

Project: BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
SLK 13.45 -31.427987, 116.462847

Title: BOX CULVERT REPLACEMENT WORKS
CONCRETE DETAILS

Size: A1 oversize
Drg. No. C-21-0197-04
Rev 0

Cadfile: G:\ETO\Design\Other\Toodyay Bindi Bindi Bridge 0700\Bridge 0700 DesignRev2.dwg

No.	REVISION	ENGINEER	APPROVED	DATE
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A	PRELIMINARY	X	X	X

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Design: R. Ness
Draft Check: M. Gill
Engineer Check: M. Gill
Approved: AVON CIVIL ENGINEERING Michael Gill 15/01/21
Scale: AS SHOWN
Datum: MGA 94, AHD
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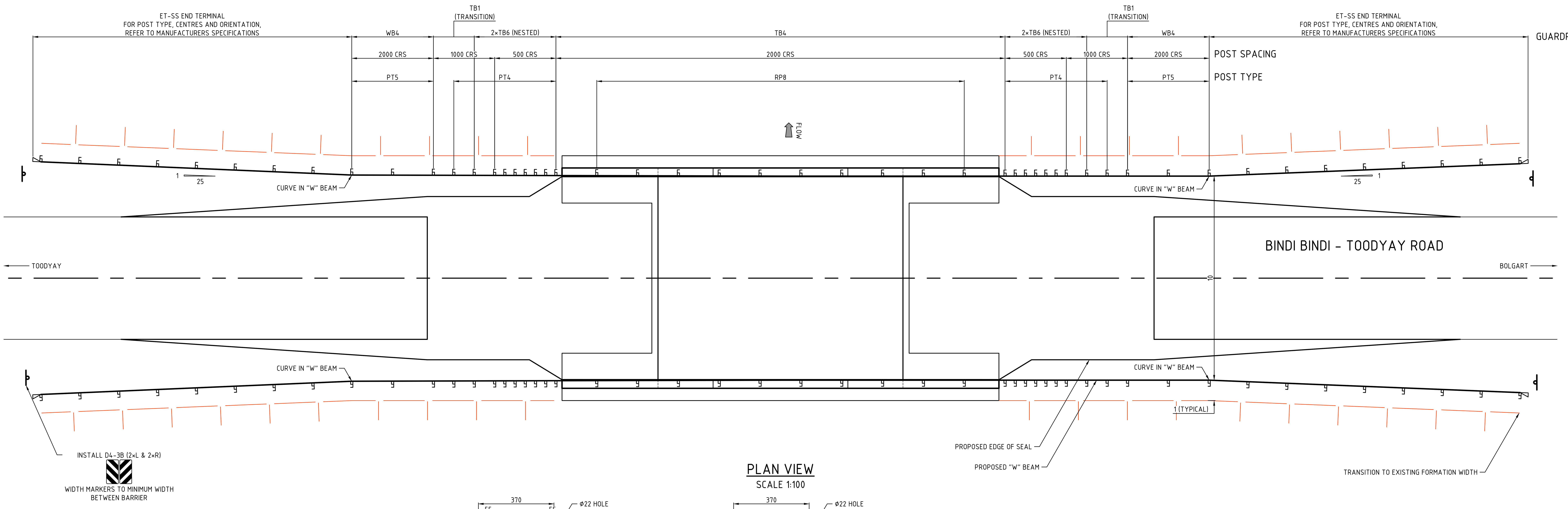
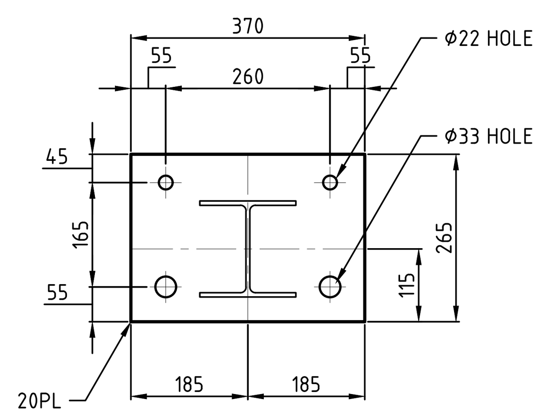
Project: BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
SLK 13.45 -31.427987, 116.462847

Title: BOX CULVERT REPLACEMENT WORKS
REINFORCEMENT DETAILS

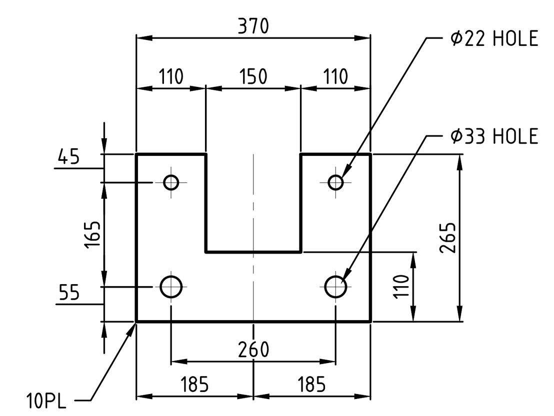
Size A1 oversize
Drg. No. C-21-0197-05
Rev 0



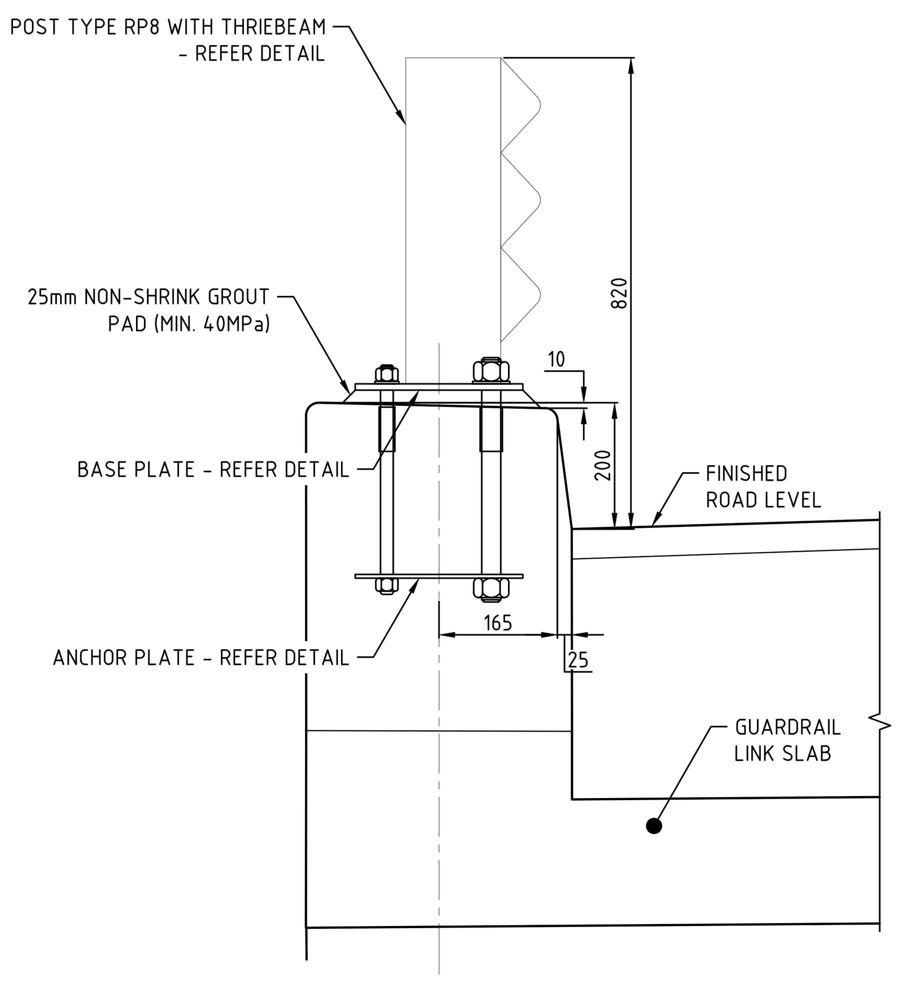
PLAN VIEW
SCALE 1:100



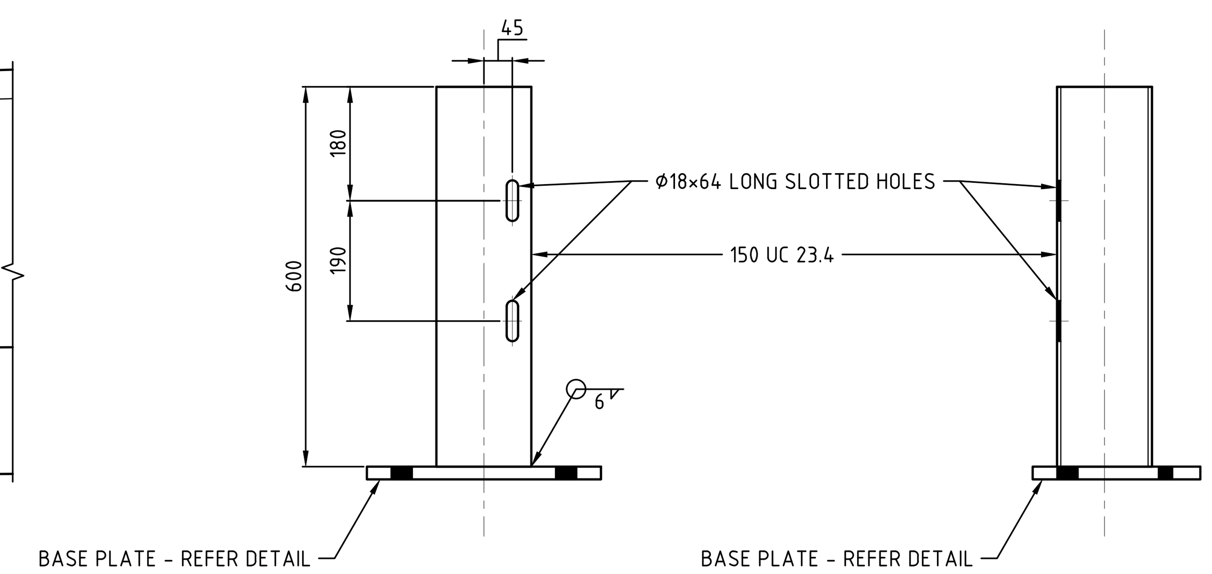
BASE PLATE DETAIL
SCALE 1:10



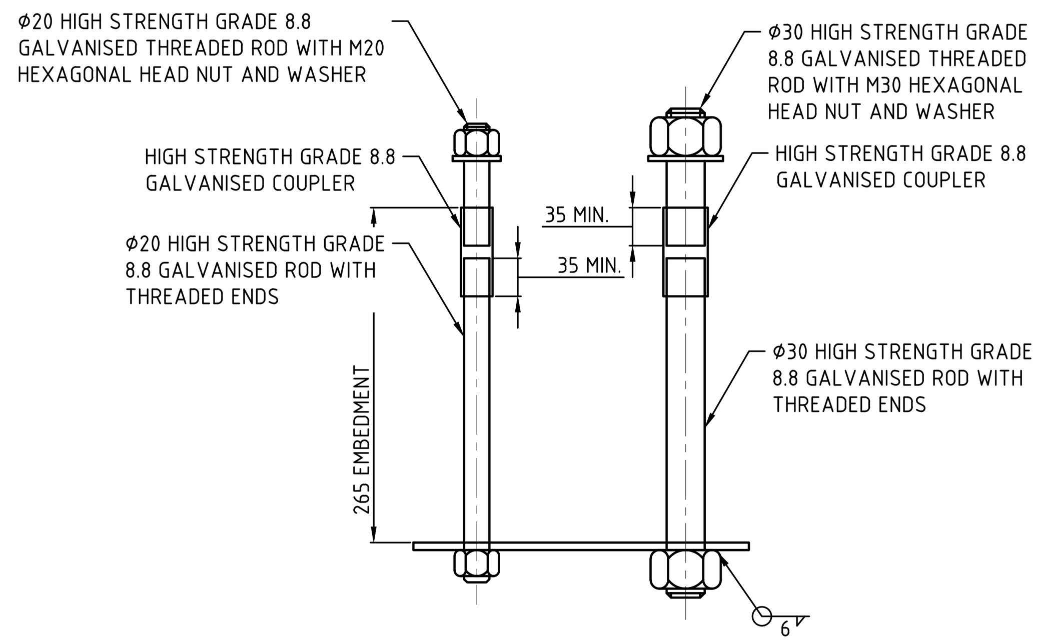
ANCHOR PLATE DETAIL
SCALE 1:10



POST CONNECTION DETAIL
SCALE 1:10



POST - TYPE RP8
POST ON STRUCTURE
SCALE 1:10



ANCHORAGE
ASSEMBLY DETAILS
SCALE 1:5

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No.	REVISION	ENGINEER	APPROVED	DATE
0	ISSUED FOR ENGINEERING SIGN OFF	MG	JA	01/21
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Approved: AVON CIVIL ENGINEERING Michael Gill 15/01/21			
Scale: AS SHOWN		Datum: MGA 94, AHD	

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Project: BRIDGE 0700, BINDI BINDI - TOODYAY ROAD
SLK 13.45 -31.427987, 116.462847

Title: BOX CULVERT REPLACEMENT WORKS
GUARDRAIL LAYOUT

Size: A1 oversize | Drg. No. C-21-0197-06 | Rev 0

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