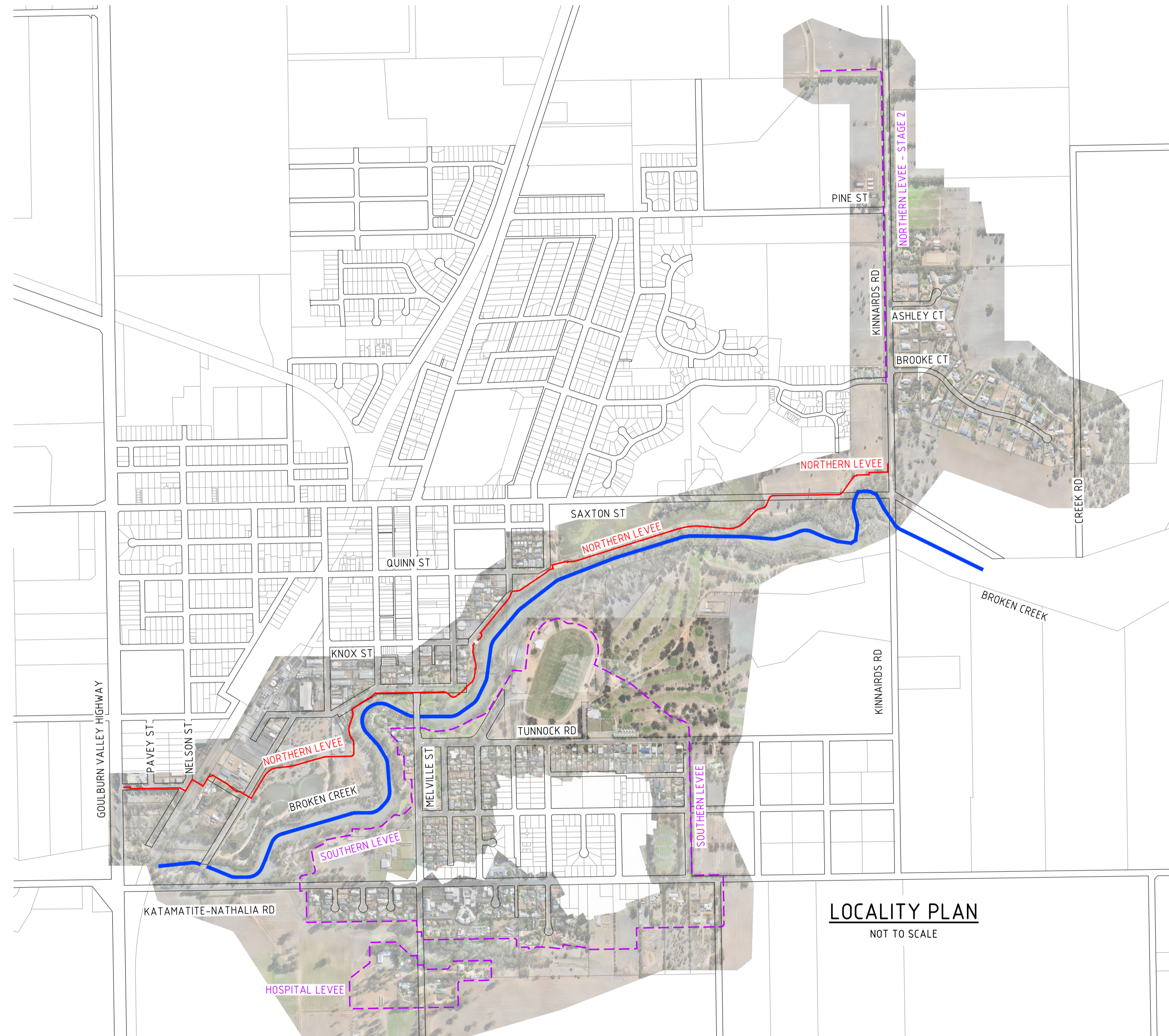


# MOIRA SHIRE COUNCIL NUMURKAH FLOOD PLAN LEVEE BANK SURVEY AND DESIGN

## LEGEND

	APPROXIMATE TITLE		GAS MAIN
	BANK TOP (EXISTING)		GAS MARKER POST
	BANK TOE (EXISTING)		GAS VALVE
	BANK TOP (PROPOSED)		SEWER MAIN
	BANK TOE (PROPOSED)		SEWER MAIN ABANDONED
	PROPOSED DEMOUNTABLE FLOOD WALL		SEWER PIT
	PROPOSED TEMPORARY SANDBAG LEVEE		SEWER RISING MAIN
	PROPOSED CONCRETE WALL		ELECTRICITY CABINET
	BITUMEN CENTERLINE		ELECTRICITY OVERHEAD
	BITUMEN EDGE		ELECTRICITY PIT
	BITUMEN FORMATION EDGE		ELECTRICITY POLE
	BOLLARD		ELECTRICITY POLE WITH LIGHT
	BUILDING EDGE		ELECTRICITY POLE STAY
	CHECKBANK		ELECTRICITY UNDERGROUND
	FENCE		TELECOMMUNICATION MAIN
	GATE		COMMUNICATIONS MARKER POST
	PROPOSED FENCE		COMMUNICATIONS PILLAR
	PROPOSED GATE		COMMUNICATIONS PIT
	PROPOSED BOLLARD		COMMUNICATIONS POLE
	GUIDE POST		WATERCOURSE
	KERB & CHANNEL		WATER ELECTROLYSIS POINT
	PROPOSED KERB & CHANNEL		WATER HYDRANT
	FOOTPATH		WATER ISOLATION VALVE
	TRACK		WATER MAIN
	PROPOSED TRACK		WATER MAIN ABANDONED
	LETTER BOX		WATER MARKER POST
	MONUMENT		WATER METER
	PERMANENT SURVEY MARK		EDGE OF VEGETATION
	SEAT		TREE
	SIGN		RETAIN TECHNICALLY LOST TREE
	STORM WATER GRATED PIT		REMOVE TREE
	STORM WATER JUNCTION PIT		CONTOURS (MAJOR)
	STORM WATER SIDE ENTRY PIT		CONTOURS (MINOR)
	STORM WATER PIPE		PROPOSED ASPHALT PAVEMENT
	PROPOSED STORM WATER PIPE		PROPOSED CONCRETE PAVEMENT
	PROPOSED STORM WATER PIT		PROPOSED GRASS LANDSCAPING
	PROPOSED PIT NUMBER		PROPOSED GRANITIC SAND
	PROPOSED PAVEMENT SAWCUT		
	PROPOSED LINEMARKING		



DRAWING REGISTER		
DRAWING No.	DRAWING TITLE	REVISION
3112-R01-01	FACE SHEET	I
3112-R01-02	GENERAL NOTES	I
3112-R01-03	NORTHERN LEVEE - STAGE 1 KEY SHEET	I
3112-R01-04	NORTHERN LEVEE - STAGE 2 KEY SHEET	I
3112-R01-05	SOUTHERN AND HOSPITAL LEVEE KEY SHEET	I
3112-R01-06	TYPICAL DETAILS	I
3112-R02-01	NORTHERN LEVEE STAGE 1	I
3112-R02-02	NORTHERN LEVEE STAGE 1	I
3112-R02-03	NORTHERN LEVEE STAGE 1	I
3112-R02-04	NORTHERN LEVEE STAGE 1	I
3112-R02-05	NORTHERN LEVEE STAGE 1	I
3112-R02-06	NORTHERN LEVEE STAGE 1	I
3112-R02-07	NORTHERN LEVEE STAGE 1	I
3112-R02-08	NORTHERN LEVEE STAGE 1	I
3112-R02-09	NORTHERN LEVEE STAGE 1	I
3112-R02-10	NORTHERN LEVEE STAGE 1	I
3112-R02-11	NORTHERN LEVEE STAGE 1	I
3112-R02-12	NORTHERN LEVEE STAGE 1	I
3112-R03-01	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-02	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-03	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-04	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-05	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-06	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-07	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-08	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-09	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-10	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-11	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-12	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I
3112-R03-13	NORTHERN LEVEE STAGE 1 CROSS SECTIONS	I

NOTE!  
BEWARE OF EXISTING OVERHEAD  
ELECTRICAL CABLES!

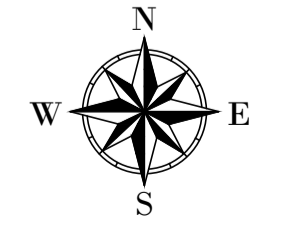


WARNING!  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATIONS OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY & THEIR EXACT POSITION  
SHOULD BE PROVEN ON SITE. NO GUARANTEE IS  
GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	REF	DESCRIPTION	DATE	APVD
I	-	ISSUED FOR TENDER	05/04/2024	S.G.
H	-	DETAILED DESIGN	21/12/2023	S.G.
G	-	DETAILED DESIGN	03/09/2021	S.G.
F	-	ISSUED FOR DISCUSSION	06/07/2021	K.T.
E	-	ISSUED FOR DISCUSSION	03/04/2020	K.T.
D	-	ISSUED FOR DISCUSSION	03/04/2020	K.T.
C	-	ISSUED FOR DESIGN APPROVAL	06/09/2019	K.T.
B	-	ISSUED FOR INFORMATION	24/06/2019	K.T.
A	-	ISSUED FOR INFORMATION	16/05/2019	K.T.



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SCALE: 1:500 @ A1

DESIGNED:	N.Y.	08/04/2019	APPROVED:	S.G.	22/12/2023
DRAWN:	N.Y.	08/04/2019			
CHECKED:	S.G.	16/05/2019			

**TENDER**

THIS DRAWING IS SUBJECT TO CHANGE WITHOUT NOTICE AND MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS COMMISSIONED. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON THE PROJECT BEFORE COMMENCING ANY WORKS ON SITE. DIMENSIONS TAKE PRIORITY OVER SCALED MEASUREMENTS.



MOIRA SHIRE COUNCIL  
NUMURKAH FLOOD PLAN  
LEVEE BANK SURVEY & DESIGN  
3112-R01-01 - FACE SHEET  
DRAWING NO.: CAD19/8  
PROJECT NO.: F13/1427/001  
REVISION: I  
SHEET NO.: 1



**GENERAL**

- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- ALL COORDINATES ARE TO MAP GRID OF AUSTRALIA (MGA 94) ZONE 55.
- ALL WORKS TO BE ACCURATELY SETOUT BEFORE COMMENCING EXCAVATION WORK.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL GENERAL SPECIFICATION AND LATEST ADOPTED VERSION OF THE INFRASTRUCTURE DESIGN MANUAL.
- CIVIL PLANS ARE TO BE READ IN CONJUNCTION WITH SUB-CONSULTANT PLANS, AS REFERENCED ON THIS SHEET.
- TEMPORARY BENCH MARKS (TBM) TO BE RE-ESTABLISHED BY A SUITABLY QUALIFIED SURVEYOR IF FOUND TO BE MISSING AT THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR CARE AND MAINTENANCE OF TBMS THEREAFTER.
- ALL EXISTING SURFACE LEVELS SHOWN ON THE ENGINEERING DRAWINGS HAVE BEEN INTERPOLATED FROM A DIGITAL TERRAIN MODEL. THESE LEVELS HAVE BEEN USED AS THE BASIS FOR ALL ENGINEERING DESIGN AND DETERMINATION OF QUANTITIES AND ARE ACCURATE TO WITHIN ±0.05m.

**SERVICES**

- ALL STATUTORY AUTHORITY SERVICES MUST BE MAINTAINED AND PROTECTED BY THE CONTRACTOR AT ALL TIMES UNLESS OTHERWISE SHOWN.
- ANY EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
- THE LOCATION OF ALL UNDERGROUND SERVICES ARE TO BE PHYSICALLY LOCATED BY NON-DESTRUCTIVE EXCAVATION PRIOR TO THE COMMENCEMENT OF ANY WORKS.
- ALL EXISTING PROPERTY SERVICES SHOULD BE LOCATED NON-DESTRUCTIVE EXCAVATION PRIOR TO THE COMMENCEMENT OF ANY WORKS.
- ANY ALTERATIONS TO PROPERTY SERVICES SHOULD BE UNDERTAKEN BY LICENSED CONTRACTORS.
- ALL SERVICE CONDUIT TRENCHES UNDER ROAD PAVEMENTS, FOOTPATHS AND KERB TO BE BACKFILLED IN ACCORDANCE WITH IDM SD310 AND MANUFACTURER'S SPECIFICATIONS.
- ALL EXISTING PITS AND SERVICE FITTINGS THAT ARE TO REMAIN WITHIN THE PAVEMENT AREAS SHALL BE REBUILT TO MATCH PROPOSED LEVELS AND WHERE APPLICABLE FITTED WITH AN APPROPRIATE HEAVY DUTY, AUTHORITY APPROVED, COVER. ELSEWHERE EXISTING SERVICES SHALL BE ADJUSTED TO SUIT NEW ADJACENT LEVELS. THE RELEVANT AUTHORITY IS TO BE NOTIFIED PRIOR TO ANY WORKS ON THEIR ASSETS AND SERVICES ARE TO BE ADJUSTED BY OR TO THE RELEVANT AUTHORITY REQUIREMENTS

**DEMOLITION**

- EXISTING STORMWATER DRAINAGE PIPE WORK LOCATIONS SHOWN ARE AS IDENTIFIED THROUGH PIT INVESTIGATIONS. TRUE ALIGNMENT MAY DIFFER FROM WHAT IS SHOWN.
- WHERE EXISTING FEATURES AND REDUNDANT SERVICES ARE TO BE REMOVED, EXCAVATIONS ARE TO BE BACKFILLED WITH SUITABLE FOR OR APPROVED MATERIAL AND BACKFILLED TO EXISTING SURFACE LEVEL.
- EXISTING TREES TO BE REMOVED ARE TO BE SAW CUT, GRUBBED AND REMOVED OFF SITE TO AN APPROVED LOCATION.

**TRAFFIC MANAGEMENT**

- TRAFFIC MANAGEMENT SHALL BE ARRANGED BY THE CONTRACTOR FOR THE DURATION OF THE WORKS TO THE SATISFACTION OF COUNCIL, RRV AND RAIL AUTHORITY INCLUDING PROVISION OF ALL NECESSARY SIGNAGE, LIGHTING AND BARRICADING.
- A TRAFFIC MANAGEMENT PLAN SHALL BE SUBMITTED TO COUNCIL AND RRV FOR APPROVAL PRIOR TO COMMENCEMENT OF WORKS.

**LINE MARKING**

- LINE MARKING AND RRPMS ARE TO BE INSTALLED AS SPECIFIED AND SHOWN ON THESE PLANS AND IN ACCORDANCE WITH AS 1742 SERIES UNLESS NOTED OTHERWISE.
- REDUNDANT LINE MARKING SHALL BE PERMANENTLY REMOVED BY GRINDING.
- LINE MARKING TO BE APPROVED LONG LIFE ROAD MARKING PAINT.
- LONGITUDINAL LINENWORK TO BE EXTRUDED THERMAL PLASTIC MARKINGS.
- LATERAL WORKS AND SYMBOLS TO BE COLD APPLIED PLASTIC TROWELLED INTO PLACE.

**GEOTECHNICAL**

- GEOTECHNICAL INVESTIGATION COMPLETED BY BM CIVIL ENGINEERS. REFER TO REPORT 50441-3

**DRAINAGE**

- REFER TO PIT SCHEDULE FOR SETOUT DETAILS.
- PRIOR TO COMMENCING WORK THE CONTRACTOR SHALL ESTABLISH A SEDIMENT CONTROL PERIMETER, USING AN APPROVED DIVERSION OR INTERCEPTION METHOD.
- ALL WORKS TO BE ACCURATELY SETOUT BEFORE COMMENCING EXCAVATION WORK.
- ALL PITS AND/OR HEADWALLS SHALL BE CAST IN-SITU OR AN APPROVED PRECAST EQUIVALENT.
- CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF AS1379.
- CONCRETE PIPES TO BE CLASS A AND RUBBER RING JOINT. PIPES SHALL CONFORM WITH AS/NZS 4058:2007 PRECAST CONCRETE PIPES UNLESS OTHERWISE STATED.
- PIPES SHALL BE INSTALLED IN ACCORDANCE WITH AS/NZS 3725: 2007 DESIGN FOR INSTALLATION OF BURIED CONCRETE PIPES.
- THE SUPERINTENDENT MAY REQUIRE ADDITIONAL COVER MAY BE PLACED OVER DRAINAGE PIPE TO PROTECT THEM FROM CONSTRUCTION TRAFFIC WHERE REQUIRED.
- ALL TRENCHES SHALL BE CUT IN A MANNER THAT PIPES WILL BE LAID LEVELED WITHOUT SAG POINTS. CULVERT LENGTHS ARE PIPE INLET TO PIPE OUTLET
- THE BEDDING ADJACENT TO THE PIPE JOINTS SHALL BE RECESSED AS NECESSARY TO ENSURE THAT THE WHOLE OF THE BARREL LENGTH OF THE PIPE MAKES UNIFORM CONTACT WITH THE PREPARED BEDDING.
- BACKFILLING SHALL BE BUILT UP IN 150mm LAYERS AND MECHANICALLY COMPACTED EVENLY ON BOTH SIDES OF THE PIPE IN ORDER TO EFFECT BALANCED LOADING.
- ALL PIPES TO BE BACKFILLED IN ACCORDANCE WITH IDM SD310 .
- UNSUITABLE MATERIAL GENERATED FROM EXCAVATION SHALL NOT BE USED IN BACKFILLING WORKS AND SHALL BE DISPOSED OF AT AN APPROVED LOCATION.
- ALL EXCAVATED MATERIALS SHALL BE STACKED AT LEAST 4m AWAY FROM THE EDGE OF THE SHOULDER.
- ALL TRENCHING WORKS SHALL BE SUITABLY BARRICADED FOR ROAD USERS.
- ALL PITS TO BE TRAFFICABLE CLASS 'D' LIDS
- HEADWALL JOINTS SHALL BE A FLEXIBLE DURABLE SEALANT.
- BATTERS TO THE TOP OF THE END WALLS SHALL BE PROPERLY FILLED.
- EXPPOSED EDGES OF THE STRUCTURE SHALL HAVE 20mm X 20mm CHAMFERS.

**CONCRETE NOTES**

- ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS, CCAA LITERATURE AND VICROADS SPECIFICATIONS.
- ALL CONCRETE TO BE COMPRESSIVE STRENGTH AS SPECIFIED.
- CONCRETE TO BE THOROUGHLY COMPACTED USING EITHER SURFACE AND/OR IMMERSION VIBRATORS, PARTICULARLY AROUND REINFORCEMENT AND IN CORNERS OF FORMS.
- PRIOR TO CASTING, THE UNBOUND GRANULAR SUBBASE MUST BE DAMP TO ENSURE NO EARLY "DRYING OUT" OF THE CONCRETE.
- CURING OF CONCRETE IS ESSENTIAL - IDEALLY BY MAINTAINING WET HESSIAN OR SEALING WITH PLASTIC SHEETING.
- SAW CUTTING OF CONCRETE SHOULD BE COMMENCED AS SOON AS CONCRETE PERMITS BY EXPERIENCED CONTRACTORS, BUT NO LATER THAN 12 HOURS AFTER POUR.
- ALL DOWELS TO BE GRADE 250R STEEL BARS, 800mm LONG AND PLACED AT 300mm CENTERS. REFER CCA4- CONCRETE PAVEMENT DESIGN FOR RESIDENTIAL STREETS FOR DOWEL DIAMETERS. DOWELS MUST BE ACCURATELY PLACED TO ENSURE THE JOINT DOES NOT "LOCK".
- INSERTION OF DOWELS DURING THE PLACING OF CONCRETE IS NOT ACCEPTABLE. DOWELS MUST BE SAWN AND NOT CROPPED.
- ALL JOINTS TO BE APPROPRIATELY SEALED TO RESIST THE INTRUSION OF SAND AND GRAVEL AND TO MINIMISE THE INGRESS OF WATER.
- PEDESTRIAN CROSSINGS IN ACCORDANCE WITH IDM SD200, SD270 AND AS 1428 SET.
- FOOTPATHS IN ACCORDANCE WITH IDM SD205.
- CONCRETE JOINTS IN ACCORDANCE WITH IDM SD210, SD220 & SD225.

**KERB & CHANNEL**

- CONCRETE SHALL BE NORMAL CLASS N25 STANDARD STRENGTH GRADE COMPLYING WITH THE REQUIREMENTS OF AS. 1379. REFER TO VICROADS STANDARD SPECIFICATION 703 FOR REQUIREMENTS OF CONCRETE TO BE USED IN EXTRUSION MACHINES
- CONCRETE TO BE SMOOTH TROWELLED FINISHED ON TRAY AND KERB, SPONGE FINISHED ON LAYBACK.
- CONSTRUCTION JOINTS LOCATED AT 2500mm MAXIMUM SPACING WITH 75mm MINIMUM DEPTH.
- KERB BEDDING TO BE FULL DEPTH IN ACCORDANCE WITH IDM SD10, BEDDING TO TRAVERSE 150mm PAST BACK OF KERB.

**TGSI**

- TGSI'S ARE TO BE INSTALLED IN ACCORDANCE WITH VICROADS ROAD DESIGN NOTE RDN 06-06. THE TGSI'S ARE TO BE SETBACK 300mm FROM THE LINE OF KERB OR EDGE OF HAZARD. WHERE THE KERB RAMP IS SKWEWD, THE CLOSEST CORNER OF THE WARNING TGSI MUST BE SETBACK 300mm FROM THE LINE OF KERB.
- WHERE THIS SETBACK CAN BE ACHIEVED - TACTILE GROUND SURFACE INDICATORS (TGSI) AS LISTED ON VICROADS DESIGN NOTE RDN 06-05 OF WHICH (ONLY THOSE THAT ARE TO BE MOUNTED WITH BOTH AN ADHESIVE PRODUCT AND A MECHANICAL FIXING, ARE TO BE USED) AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. NO PEEL AND STICK
- WHERE THIS SETBACK CANNOT BE ACHIEVED - CERAMIC TYPE, INTEGRATED TACTILE GROUND SURFACE INDICATORS (TGSI) AS LISTED ON VICROADS DESIGN NOTE RDN 06-05 ARE TO BE USED, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. NO PEEL AND STICK
- FOR STRAIGHT LOCATIONS - TACTILE GROUND SURFACE INDICATORS (TGSI) AS LISTED ON VICROADS DESIGN NOTE RDN 06-05 OF WHICH (ONLY THOSE THAT ARE TO BE MOUNTED WITH BOTH AN ADHESIVE PRODUCT AND A MECHANICAL FIXING, ARE TO BE USED) AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. NO PEEL AND STICK

**PAVEMENT**

- PRIOR TO PLACEMENT OF SUBBASE MATERIAL THE SUBGRADE SHALL BE PROOF ROLLED AND APPROVED BY THE SUPERINTENDENT.
- AT THE CONCLUSION OF EACH DAYS WORK THE SITE SHALL BE LEFT FREELY DRAINING TO A DESIGNATED POINT. NO SURFACE RUNOFF WILL BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST DRAINING VIA A SEDIMENT CONTROL MEASURE.
- ANY SOFT AREAS WILL BE INSPECTED BY THE SUPERINTENDENT. THE SUPERINTENDENT MAY DETERMINE THAT THE SOFT MATERIAL IS TO BE EXCAVATED AND REMOVED FROM THE SITE.
- WHERE THE MATERIALS WITHIN THE SOFT SPOT IS DEEMED TO BE RECOVERABLE THE SUPERINTENDENT MAY ALSO DETERMINE A METHODOLOGY FOR TREATING THE UNSUITABLE MATERIALS.
- THE CONTRACTOR SHALL KEEP AND MAINTAIN DETAILED RECORDS OF THE PLACEMENT OF ALL MATERIALS AND COMPACTION METHODOLOGY.
- PAVEMENT DEPTHS MAY BE MODIFIED AS DIRECTED BY THE SUPERINTENDENT. PAVEMENT TO BE BOXED OUT TO MINIMUM DEPTH DENOTED, INSPECTED AND IF SUBGRADE IS IN QUESTION, FURTHER TESTING CARRIED OUT TO DETERMINE FINAL PAVEMENT DEPTH.
- PAVEMENT DEPTHS MAY BE MODIFIED AS DIRECTED BY THE SUPERINTENDENT.
- PAVEMENT TO BE BOXED OUT TO MINIMUM DEPTH DENOTED, INSPECTED AND SUBGRADE PROOF ROLLED AND APPROVED BY THE SUPERINTENDENT PRIOR TO PLACEMENT OF SUBBASE MATERIAL.
- NO CEMENT STABILISATION WORKS OR ANY OTHER MODIFIED MATERIALS TO BE INCORPORATED WITHIN THE WORKS WITHOUT THE SUPERINTENDENT'S APPROVAL.
- PRIOR TO COMMENCING WORK THE CONTRACTOR SHALL ESTABLISH A SEDIMENT CONTROL PERIMETER, USING AN APPROVED DIVERSION OR INTERCEPTION METHOD.
- ALL WORKS TO BE ACCURATELY SETOUT BEFORE COMMENCING EXCAVATION WORK.
- CONTRACTOR SHALL CONFIRM WITH COUNCIL ARBORIST BEFORE COMMENCING ANY WORKS AROUND EXISTING TREES AND WITHIN TREE ROOT PROTECTION ZONE.

**ENVIRONMENTAL**

- NO WORKS SHALL COMMENCE WITHIN TREE ROOT PROTECTION ZONE UNTIL CONTRACTOR IS FAMILIAR WITH ARBORIST CONSTRUCTION IMPACT REPORT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENVIRONMENTAL PROTECTION AND THE IMPLEMENTATION OF A SITE ENVIRONMENTAL MANAGEMENT PLAN (SEMP) PREPARED IN ACCORDANCE WITH THE EPA'S "ENVIRONMENTAL GUIDELINES FOR MAJOR CONSTRUCTION SITES" AND "CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL".
- ALL PERSONNEL ON SITE INCLUDING SUBCONTRACTORS ARE TO BE INDUCTED ON THE REQUIREMENTS OF THE SEMP.
- THE SEMP IS TO BE DISPLAYED ON SITE AND REGULAR TOOLBOX MEETINGS HELD TO REINFORCE REQUIREMENTS.
- ENVIRONMENTAL PROTECTION MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR A MINIMUM OF 2 TIMES PER WEEK AND PRIOR TO AND AFTER ANY STORM EVENT. ANY DEFICIENCIES IN PROTECTION MEASURES ARE TO BE RECORDED AND RECTIFIED WITHIN 24 HOURS OF IDENTIFICATION.
- THE CONTRACTOR SHALL MAINTAIN DOCUMENTATION INCLUDING BUT NOT LIMITED TO RECORDS OF INSPECTION OF PROTECTION MEASURES, IDENTIFICATION AND RECTIFICATION OF DEFICIENCIES, INCIDENT REPORTS, INDUCTION CHECKLISTS AND MINUTES OF TOOLBOX MEETINGS.

**EARTHWORKS NOTES**

- EXISTING DRAINS & DAMS TO BE DE-WATERED & BACKFILLED TO SUPERINTENDENT'S SPECIFICATION.
- DE-WATERING TO BE CARRIED OUT IN ACCORDANCE WITH THE EPA'S GUIDELINE "CONSTRUCTION GUIDELINES FOR MAJOR CONSTRUCTION SITES" DECEMBER 1995.
- ANY ADDITIONAL PERMITS, FEES OR CHARGES REQUIRED BY THE LOCAL AUTHORITIES WILL BE PAID FOR BY THE CONTRACTOR.
- PRIOR TO THE COMMENCEMENT OF FILLING THE SITE SHALL BE STRIPPED AND STOCKPILED AS DIRECTED BY SUPERINTENDENT.
- FILL TO BE PLACED AND COMPACTED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS STATED IN THE GEOTECHNICAL REPORT AND FILL SPECIFICATION PREPARED BY GEOTECHNICAL ENGINEER.
- RECORDS SHALL BE KEPT OF ALL EARTHWORK CONSTRUCTION AS CONTAINED IN AS3798-2007 CLAUSE 3.4 AND A COPY MADE AVAILABLE TO THE ENGINEER AND COUNCIL UPON COMPLETION.
- NO FILL OR STOCKPILING OF MATERIAL IS TO BE PLACED ON ANY RESERVE FOR PUBLIC OPEN SPACE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- FINAL SUBGRADE COMPACTION TEST AND ALLOTMENT COMPACTION & SOIL TESTS ARE TO BE PROVIDED AT THE COMPLETION OF THE FILLING WORKS.
- ALL BATTERS NOT TO BE STEEPER THAN 1:3.
- ON COMMENCEMENT OF EARTHWORKS IN THE OUTFALL AREA, STRAW BALES ARE TO BE SECURELY PLACED AROUND THE INLET STRUCTURE TO TRAP SEDIMENT ON SITE.
- PRIOR TO STRIPPING, ALL TOPSOIL TO BE SPRAYED WITH A PRE-EMERGENT HERBICIDE.
- ALL EARTHWORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENVIRONMENTAL MANAGEMENT PLAN.
- STRIP ALL TOP SOIL AND VEGETABLE MATERIAL AND STOCKPILE AT DESIGNATED LOCATIONS CLEAR OF THE WORKS FOR REUSE.
- EXCESS TOPSOIL SHALL BECOME THE PROPERTY OF THE PRINCIPAL & STORED ON SITE AS DIRECTED FOR FUTURE USE.
- PRIOR TO PLACEMENT OF ANY FILL THE SUBGRADE SHALL BE PROOF ROLLED AND APPROVED BY THE SUPERINTENDENT.
- ALL LOOSE FILL MATERIAL SHALL BE SPREAD BEFORE COMPACTION TO FORM AN EVEN LAYER THICKNESS. WHERE PRACTICABLE THE LAYERS SHALL BE PARALLEL TO THE FINISHED SURFACE OR HORIZONTAL.
- ALL EXPOSED SURFACES SHALL BE DRAINED TO A DESIGNATED POINT.
- THE MOISTURE CONTENT OF THE FILL MATERIAL WILL BE MONITORED AT ALL TIMES, WHERE NECESSARY ADDITIONAL WATER WILL BE BROUGHT TO THE SITE AND ADDED TO THE FILL MATERIAL AT A CONTROLLED RATE. THE WATER WILL BE CLEAN AND CARTED/DISTRIBUTED USING APPROVED EQUIPMENT.
- DUST SUPPRESSION SHALL BE ACHIEVED USING AN APPROVED METHOD.
- ANY SOFT AREAS WILL BE INSPECTED BY THE SUPERINTENDENT. THE SUPERINTENDENT MAY DETERMINE THAT THE SOFT MATERIAL IS TO BE EXCAVATED AND REMOVED FROM THE SITE.
- HAULAGE ROUTES AND ALIGNMENTS WILL BE SUBJECT TO THE PRIOR APPROVAL AND REVIEW OF THE SUPERINTENDENT.
- UNSUITABLE MATERIALS, INCLUDING BUILDING WASTES, LITTER, DEBRIS, STONE AND RUBBLE, ORGANIC AND VEGETABLE MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK. SUCH MATERIALS SHALL BE REGULARLY COLLECTED AND STOCKPILED CLEAR OF THE WORKS FOR DISPOSAL BY THE CONTRACTOR TO AN APPROVED LOCATION WITHIN 5KM OF THE SITE.

- ANY BORROW FILL MATERIALS WILL BE SOURCED FROM AN APPROVED LOCATION AND OF A TYPE AND QUALITY APPROVED BY THE SUPERINTENDENT.
- SURPLUS FILL MATERIALS OR MATERIALS DESIGNATED AS SPOIL NOT REQUIRED, SHALL BE REGULARLY COLLECTED AND STOCKPILED CLEAR OF THE WORKS FOR DISPOSAL BY THE CONTRACTOR TO AN APPROVED LOCATION WITHIN 10KM OF THE SITE.
- NO FILL MATERIAL SHALL BE PLACED AGAINST OR IN CLOSE PROXIMITY OF ANY STRUCTURES, PITS, TREES OR BUILDINGS WITHOUT THE APPROVAL OF THE SUPERINTENDENT.
- NO FILL MATERIAL SHALL BE PLACED AGAINST OR IN CLOSE PROXIMITY OF FENCES OR OTHER NON-STRUCTURAL OBJECTS WITHOUT THE APPROVAL OF THE SUPERINTENDENT.
- THE CONTRACTOR SHALL KEEP AND MAINTAIN DETAILED RECORDS OF THE PLACEMENT OF ALL FILL MATERIALS AND COMPACTION METHODOLOGY.
- THE SUPERINTENDENT MAY REQUIRE THE WORK TO BE ROLLED WITH PNEUMATIC TYRES AS AN ADDED PROTECTION AGAINST RAIN DAMAGE OR SCOUR.
- NO CEMENT STABILISATION WORKS OR ANY OTHER MODIFIED MATERIALS TO BE INCORPORATED WITHIN THE WORKS WITHOUT THE SUPERINTENDENT'S APPROVAL.

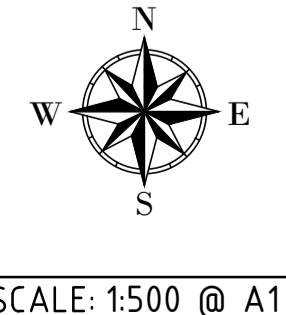
**ROCKWORK NOTES**

- PRIOR TO COMMENCING ANY ROCK WORK, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE SUPERINTENDENT TO THE PROPOSED SOURCE OF ROCK MATERIAL DURING THE WORK.
- THE SUPERINTENDENT MAY REJECT ANY MATERIAL SUPPLIED WHICH, IN HIS OPINION, DOES NOT CONFORM WITH THE SPECIFICATION.
- ROCK PLACEMENT SHALL COMMENCE AFTER EXCAVATION AND COMPACTION OF THE SURFACES TO BE BEACHED. A TRIAL AREA OF ROCK LINING SHALL BE CONSTRUCTED AND INSPECTED BY THE SUPERINTENDENT AND DIRECTIONS GIVEN ONCE A SATISFACTORY APPEARANCE IS ACHIEVED. AFTER APPROVAL OF THIS AREA, THE SAME METHODOLOGY SHALL BE APPLIED TO THE REMAINDER OF THE PROPOSED ROCK LINED SURFACES.

I	-	ISSUED FOR TENDER	05/04/2024	S.G.
H	-	DETAILED DESIGN	21/12/2023	S.G.
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B	-	ISSUED FOR INFORMATION	24/06/2019	K.T.
A	-	ISSUED FOR INFORMATION	16/05/2019	K.T.
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SCALE: 1:500 @ A1

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 DRAWN: N.Y. 08/04/2019 22/12/2023  
 CHECKED: S.G. 16/05/2019

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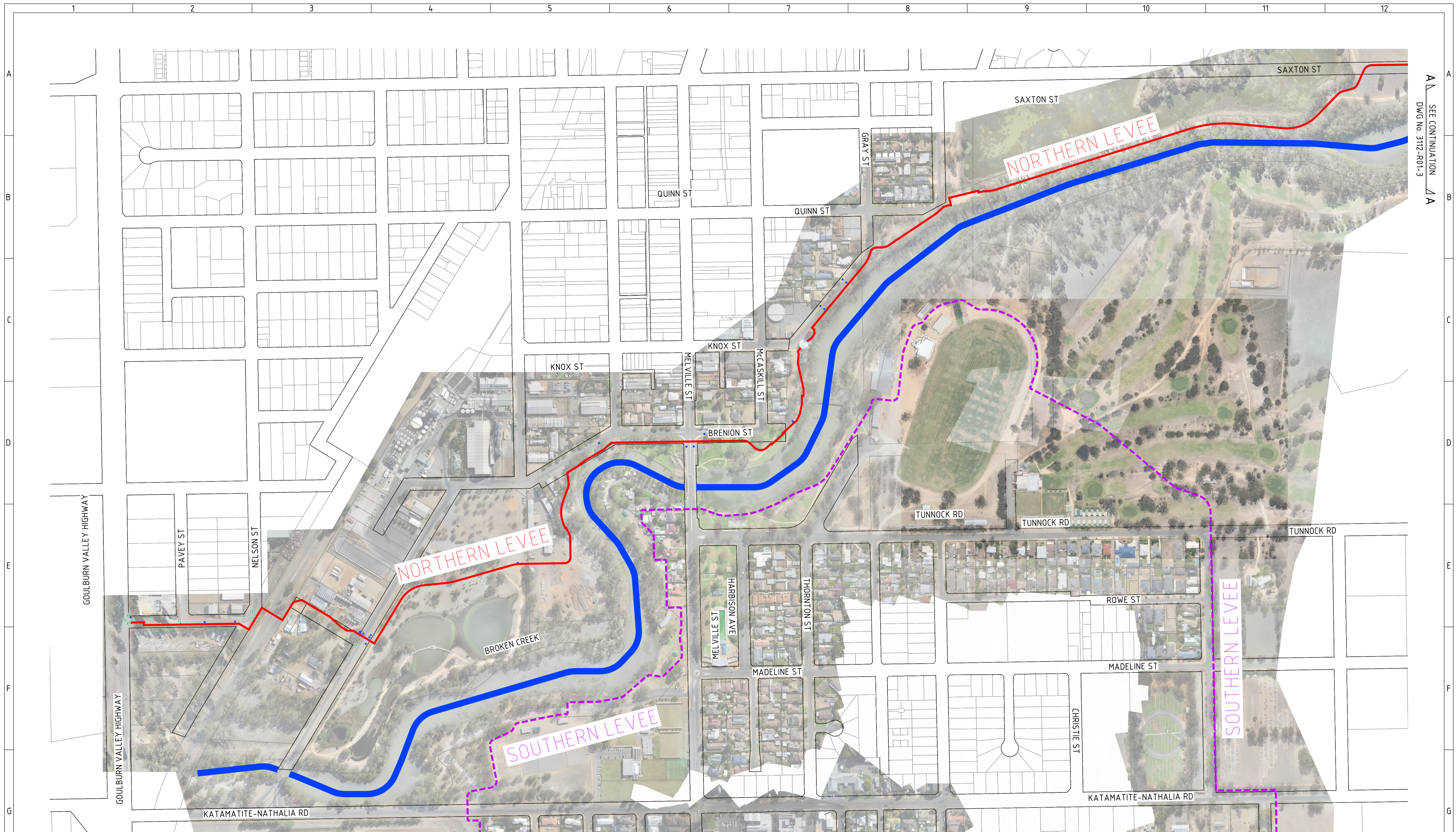


**moira SHIRE**

**MOIRA SHIRE COUNCIL**

NUMURKAH FLOOD PLAN  
 LEVEE BANK SURVEY & DESIGN  
 3112-R01-02 - GENERAL NOTES  
 DRAWING NO.: CAD19/8 REVISION: 1  
 PROJECT NO.: F13/1427/001 SHEET NO.: 2





NORTH LEVEE KEY PLAN

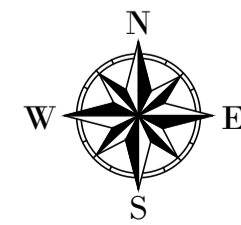
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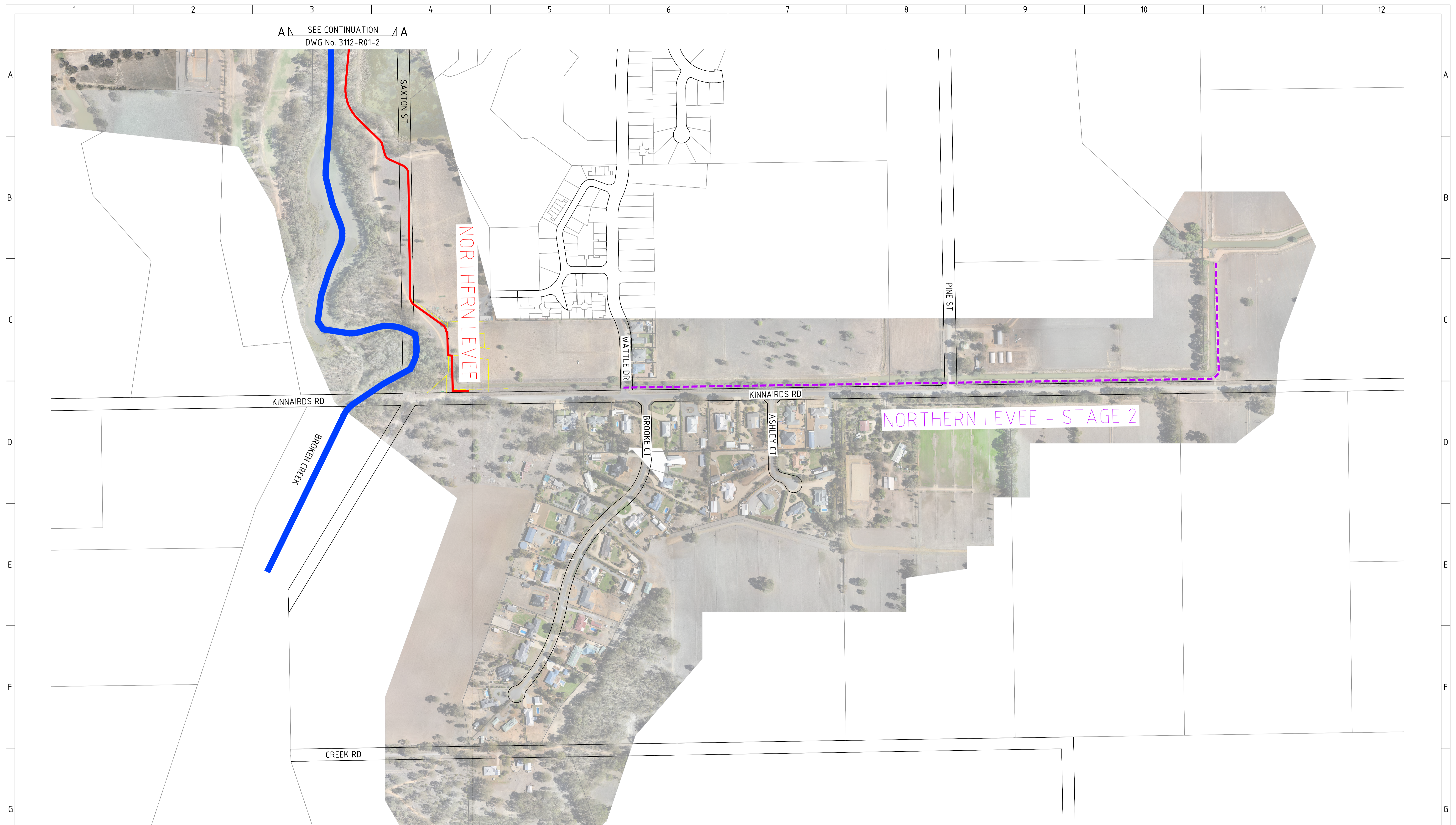


**MOIRA SHIRE COUNCIL**  
 NUMURKAH FLOOD PLAN  
 LEVEE BANK SURVEY & DESIGN  
 3112-R01-03 - NORTHERN LEVEE - STAGE 1 KEY SHEET  
 DRAWING NO.: CAD19/8 REVISION: 1  
 PROJECT NO.: F13/1427/001 SHEET NO.: 3

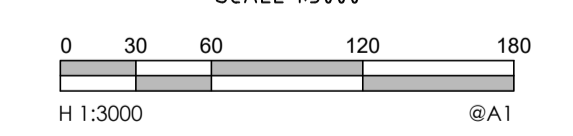
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A \ SEE CONTINUATION / A  
DWG No. 3112-R01-2



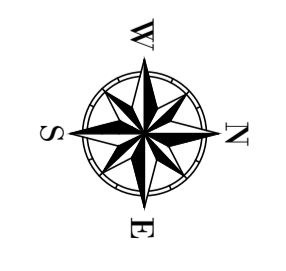
**NORTH LEVEE KEY PLAN**  
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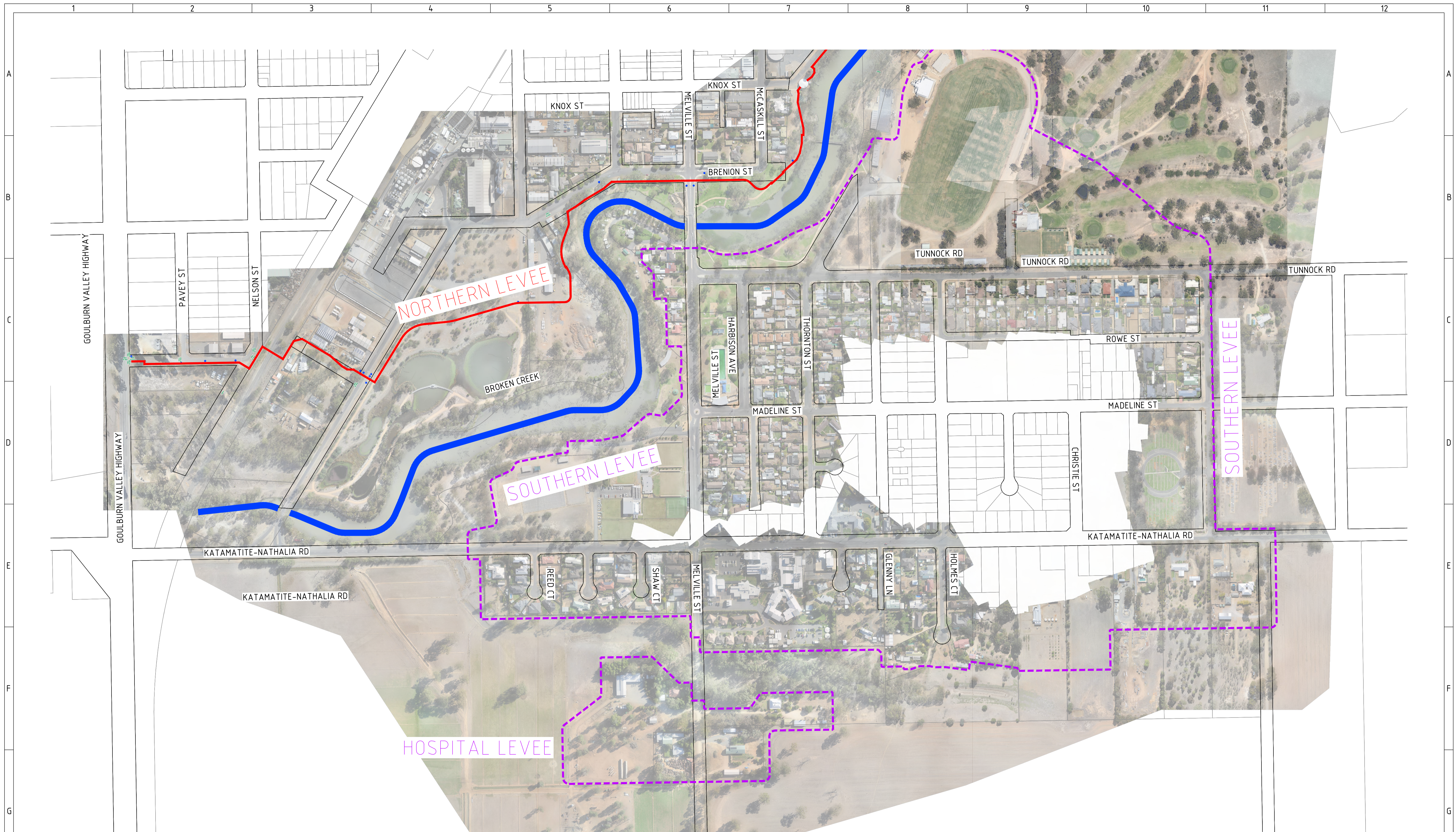
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**MOIRA SHIRE COUNCIL**  
NUMURKAH FLOOD PLAN  
LEVEE BANK SURVEY & DESIGN  
3112-R01-04 - NORTHERN LEVEE - STAGE 2 KEY SHEET  
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PROJECT NO.: F13/1427/001 SHEET NO.: 4





**SOUTH AND HOSPITAL LEVEE KEY PLAN**

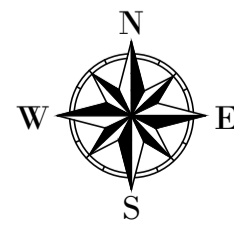
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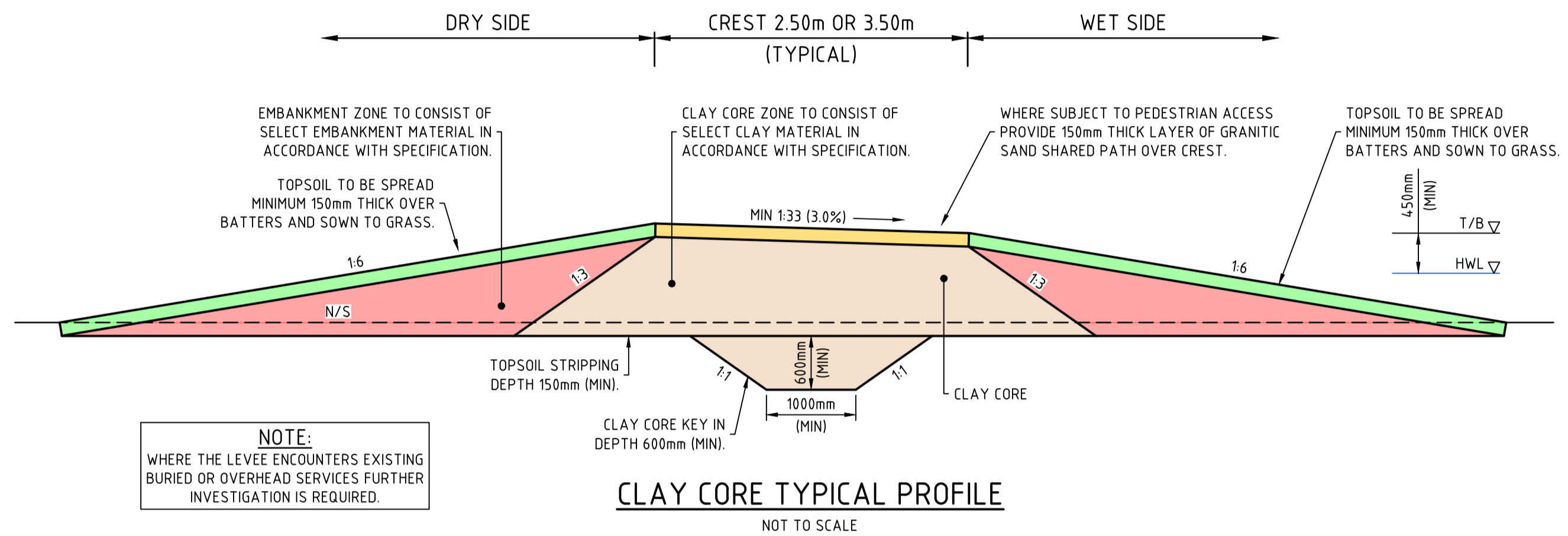
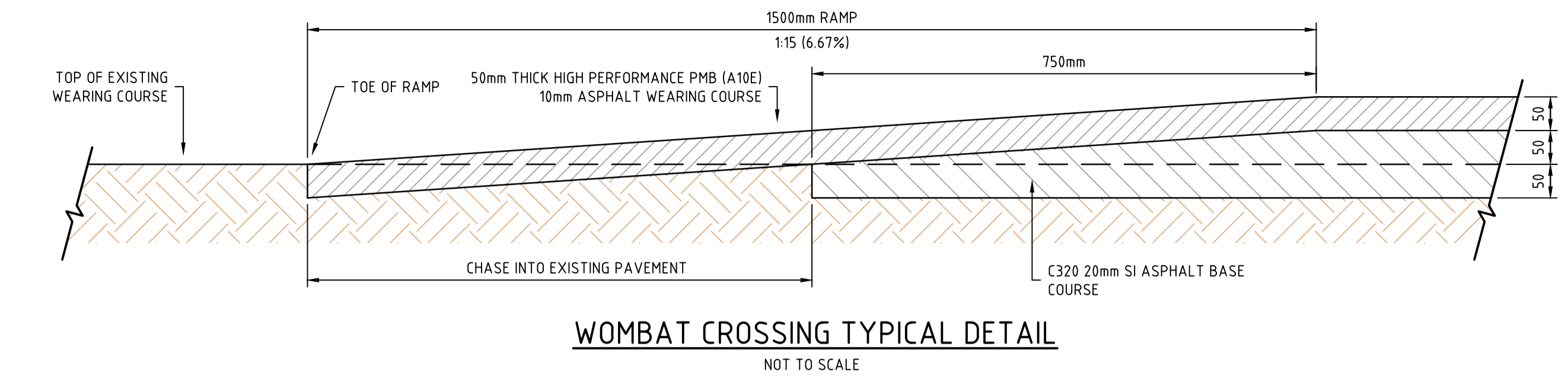


**MOIRA SHIRE COUNCIL**  
 NUMURKAH FLOOD PLAN  
 LEVEE BANK SURVEY & DESIGN  
 3112-R01-05 - SOUTHERN AND HOSPITAL LEVEE KEY SHEET  
 DRAWING NO.: CAD19/8  
 PROJECT NO.: F13/1427/001  
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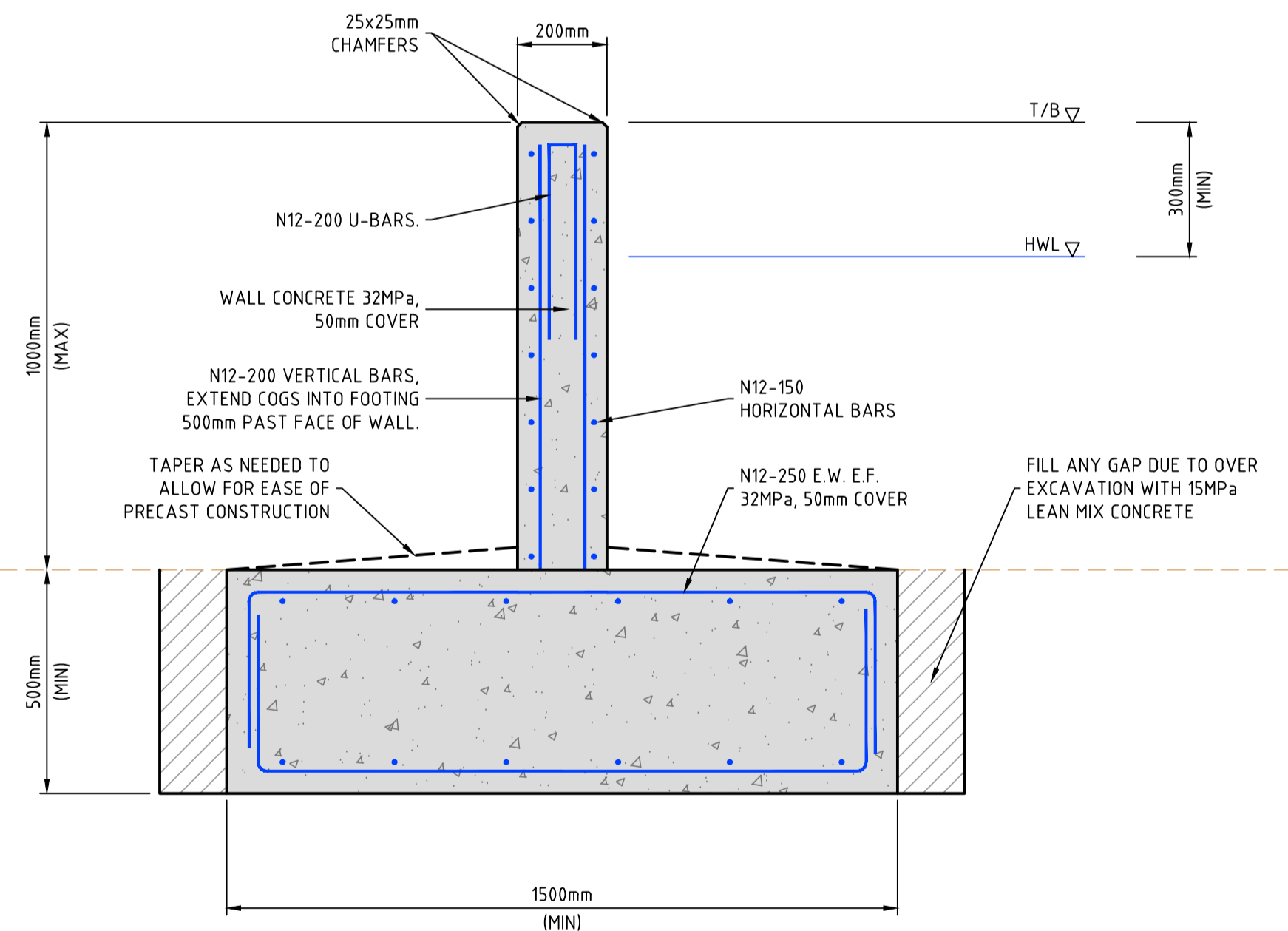


**TYPICAL TEMPORARY SANDBAG LEVEE**  
NOT TO SCALE

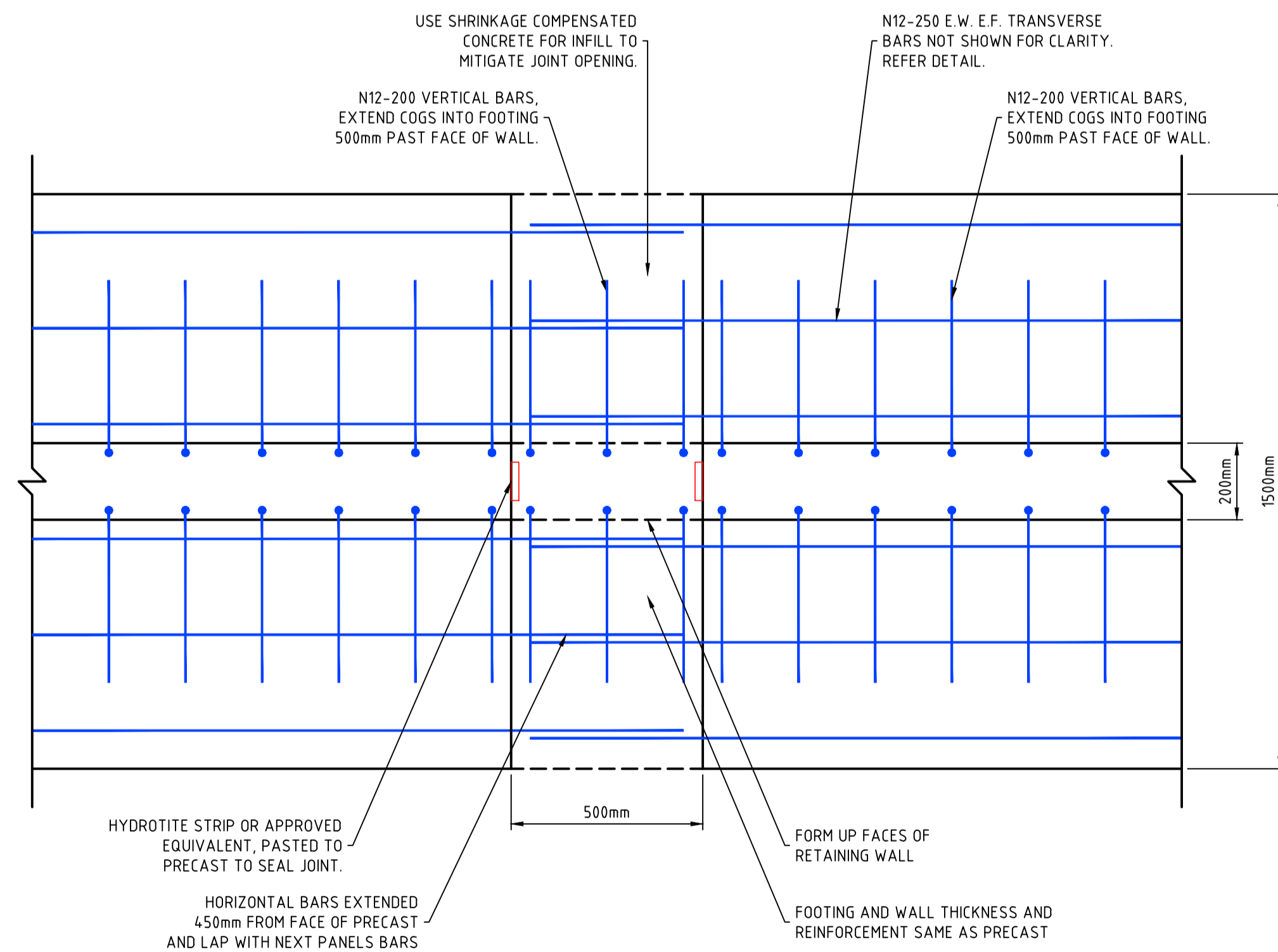


**NOTE:**  
WHERE THE LEVEE ENCOUNTERS EXISTING BURIED OR OVERHEAD SERVICES FURTHER INVESTIGATION IS REQUIRED.

**CLAY CORE TYPICAL PROFILE**  
NOT TO SCALE



**CONCRETE RETAINING WALL TYPICAL PROFILE**  
NOT TO SCALE



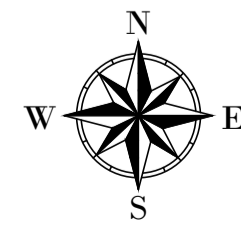
**PLAN VIEW OF CONCRETE RETAINING WALL JOINT**  
NOT TO SCALE

- CONCRETE RETAINING WALL NOTES:**
- SYSTEM IS INTENDED TO BE PRECAST UPSIDE DOWN FOR EASE OF CONSTRUCTION
  - MUST FILL ALL GAPS BETWEEN EXCAVATED SOIL WITH LEAN MIX CONCRETE AS THE STRUCTURE RELIES ON FULL LATERAL BEARING
  - CAST IN 5 METER LONG SEGMENTS MAX. LIFTING, TRANSPORT AND CONSTRUCTION LIMITATIONS MAY DICTATE SMALLER SEGMENTS
  - INFILL WITH INSITU CONCRETE AND REINFORCEMENT BETWEEN SEGMENTS
  - CAN BE CAST FULLY IN-SITU PROVIDED THE EDGE OF THE FOOTING BEARS DIRECTLY AGAINST UNDISTURBED SOIL

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NUMURKAH FLOOD PLAN  
LEVEE BANK SURVEY & DESIGN  
3112-R01-06 - TYPICAL DETAILS  
DRAWING NO.: CAD19/8  
PROJECT NO.: F13/1427/001  
REVISION: 1  
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