



CIVIL

Project No 3262332

OMĀRORO RESERVIOR

Prepared for



By
Beca

30 NOVEMBER 2020

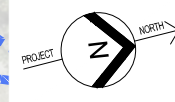
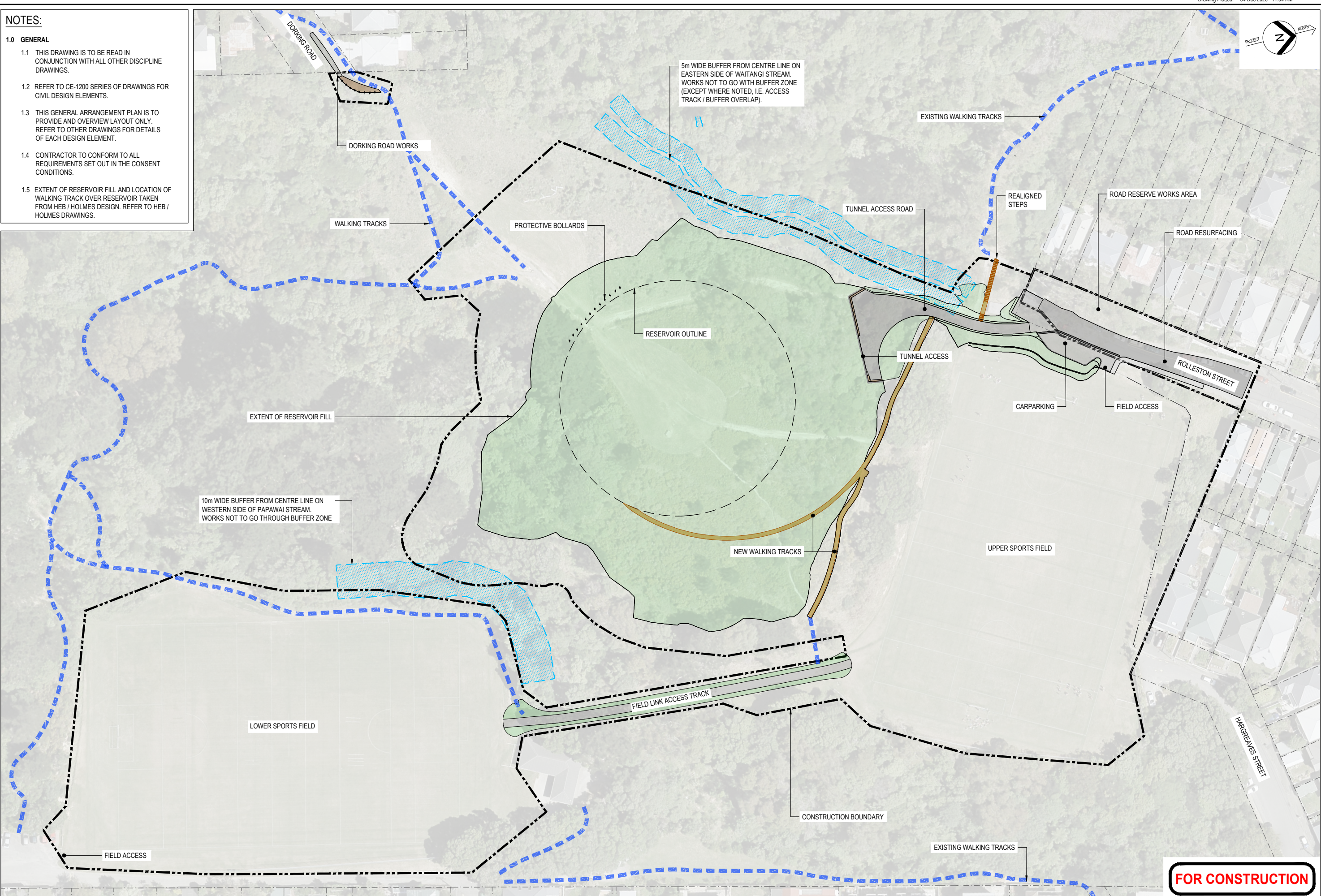
DRAWING LIST	
DRAWING NO.	DRAWING TITLE
GENERAL	
3262332-CE-1000	TITLE SHEET / DRAWING LIST
3262332-CE-1101	WORKING GENERAL ARRANGEMENT PLAN
3262332-CE-1102	FINAL GENERAL ARRANGEMENT PLAN
3262332-CE-1103	WAITANGI STREAM WORK WITHIN BUFFER ZONE
SITE CLEARANCE	
3262332-CE-1105	SITE CLEARANCE PLAN SHEET 1 OF 2
3262332-CE-1106	SITE CLEARANCE PLAN SHEET 2 OF 2
EARTHWORKS	
3262332-CE-1200	RESERVOIR PLATFORM AND BULK EXCAVATION AND SET-OUT PLAN
3262332-CE-1201	RESERVOIR EARTHWORKS FINISHED LEVEL PLAN
3262332-CE-1202	RESERVOIR CROSS SECTIONS SHEET 1 OF 2
3262332-CE-1203	RESERVOIR CROSS SECTIONS SHEET 2 OF 2
3262332-CE-1210	RESERVOIR SLOPE STABILISATION PLAN
3262332-CE-1211	RESERVOIR SLOPE STABILISATION DETAILS SHEET 1 OF 2
3262332-CE-1212	RESERVOIR SLOPE STABILISATION DETAILS SHEET 2 OF 2
SPORTS FIELDS	
3262332-CE-1401	UPPER SPORTS FIELD FINISHED LEVEL AND DRAINAGE PLAN
3262332-CE-1402	UPPER SPORTS FIELD CROSS SECTIONS
3262332-CE-1403	UPPER SPORTS FIELD SURFACE DRAINAGE DETAILS
3262332-CE-1421	UPPER SPORTS FIELD STOCK PILE PLAN
3262332-CE-1422	UPPER SPORTS FIELD STOCK PILE SECTIONS
3262332-CE-1501	LOWER SPORTS FIELD FINISHED LEVEL AND DRAINAGE PLAN
3262332-CE-1502	LOWER SPORTS FIELD CROSS SECTIONS
3262332-CE-1503	LOWER SPORTS FIELD SURFACE DRAINAGE DETAILS
3262332-CE-1521	LOWER SPORTS FIELD STOCK PILE PLAN
3262332-CE-1522	LOWER SPORTS FIELD STOCK PILE SECTIONS
FIELD LINK TRACK	
3262332-CE-1601	FIELD ACCESS LINK TRACK TEMPORARY WORKS SHEET 1 OF 2
3262332-CE-1602	FIELD ACCESS LINK TRACK TEMPORARY WORKS SHEET 2 OF 2
3262332-CE-1603	FIELD ACCESS LINK TRACK FINAL WORKS SHEET 1 OF 2
3262332-CE-1604	FIELD ACCESS LINK TRACK FINAL WORKS SHEET 2 OF 2
UTILITIES	
3262332-CE-2001	DRAINAGE NOTES
3262332-CE-2002	EXISTING UTILITIES PLAN
3262332-CE-2011	WASTE WATER RELOCATION PLAN AND LONG SECTION
3262332-CE-3001	RESERVOIR SUBSOIL DRAINAGE AND DUCTING
3262332-CE-3002	RESERVOIR SUBSOIL DRAINAGE SECTIONS AND DETAILS
3262332-CE-3003	RESERVOIR SUBSOIL DRAINAGE CREST DETAIL
3262332-CE-3101	TUNNEL ACCESS ROAD AND ROLLESTON STREET STORMWATER PLAN
3262332-CE-3102	NEW STORMWATER LONG SECTIONS
3262332-CE-3301	DRAINAGE DETAILS SHEET 1 OF 3
3262332-CE-3302	DRAINAGE DETAILS SHEET 2 OF 3
3262332-CE-3303	DRAINAGE DETAILS SHEET 3 OF 3
PAVEMENT	
3262332-CE-4001	ACCESS ROAD AND ROLLESTON ST PAVEMENT PLAN
3262332-CE-4002	ROLLESTON STREET AREA SIGNAGE AND MARKINGS PLAN
3262332-CE-4003	DORKING ROAD ACCESS PLAN
3262332-CE-4004	DORKING ROAD ACCESS RETAINING DETAILS
3262332-CE-4101	PAVEMENT DETAILS SHEET 1 OF 2
3262332-CE-4102	PAVEMENT DETAILS SHEET 2 OF 2
3262332-CE-4103	SIGNAGE, PAINT MARKING AND BOLLARD DETAILS
3262332-CE-4104	TWO RAIL PARKS FENCE STANDARD DETAIL
3262332-CE-4105	STANDARD VEHICLE BARRIER GATE
3262332-CE-4106	STANDARD BOX TIMBER STEPS
REFERENCE	
3262332-WS-1001	POT HOLE PLAN SHEET 1 OF 2
3262332-WS-1002	POT HOLE PLAN SHEET 2 OF 2

FOR CONSTRUCTION

Drawing No.	3262332-CE-1000	Rev.	1
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NOTES:

- 1.0 GENERAL**
- 1.1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DISCIPLINE DRAWINGS.
 - 1.2 REFER TO CE-1200 SERIES OF DRAWINGS FOR CIVIL DESIGN ELEMENTS.
 - 1.3 THIS GENERAL ARRANGEMENT PLAN IS TO PROVIDE AND OVERVIEW LAYOUT ONLY. REFER TO OTHER DRAWINGS FOR DETAILS OF EACH DESIGN ELEMENT.
 - 1.4 CONTRACTOR TO CONFORM TO ALL REQUIREMENTS SET OUT IN THE CONSENT CONDITIONS.
 - 1.5 EXTENT OF RESERVOIR FILL AND LOCATION OF WALKING TRACK OVER RESERVOIR TAKEN FROM HEB / HOLMES DESIGN. REFER TO HEB / HOLMES DRAWINGS.



FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	26.04.19

Drawing Originator:

Original Scale (A1)	Design	A.GARDNER	26.04.19	Approved For Construction*	R.HICKMAN
1:500	Drawn	R.McLEAN	26.04.19	Date	30.11.20
Reduced Scale (A3)	Verifier	W.MAGUIRE	16.05.19		
1:1000	Draw Check	G.DOWN	16.05.19		

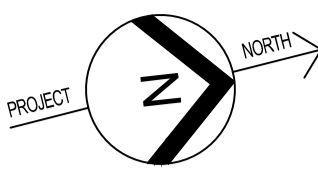
* Refer to Revision 1 for Original Signature

Client:

Project: **OMĀRORO RESERVOIR**

FINAL GENERAL ARRANGEMENT PLAN

Discipline	CIVIL
Drawing No.	3262332-CE-1102
Rev.	1

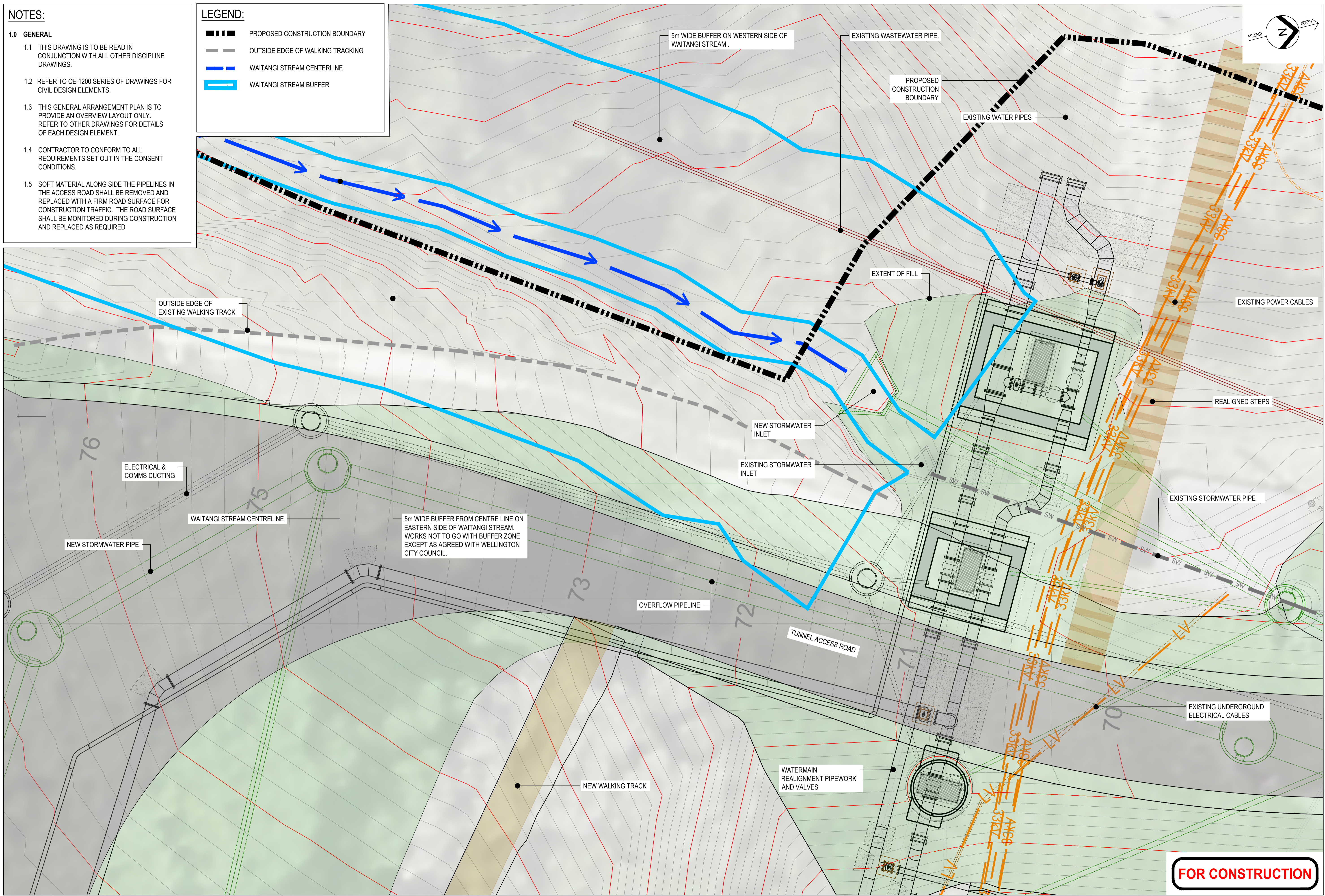


NOTES:

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- 1.1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DISCIPLINE DRAWINGS.
 - 1.2 REFER TO CE-1200 SERIES OF DRAWINGS FOR CIVIL DESIGN ELEMENTS.
 - 1.3 THIS GENERAL ARRANGEMENT PLAN IS TO PROVIDE AN OVERVIEW LAYOUT ONLY. REFER TO OTHER DRAWINGS FOR DETAILS OF EACH DESIGN ELEMENT.
 - 1.4 CONTRACTOR TO CONFORM TO ALL REQUIREMENTS SET OUT IN THE CONSENT CONDITIONS.
 - 1.5 SOFT MATERIAL ALONG SIDE THE PIPELINES IN THE ACCESS ROAD SHALL BE REMOVED AND REPLACED WITH A FIRM ROAD SURFACE FOR CONSTRUCTION TRAFFIC. THE ROAD SURFACE SHALL BE MONITORED DURING CONSTRUCTION AND REPLACED AS REQUIRED

LEGEND:

- PROPOSED CONSTRUCTION BOUNDARY
- OUTSIDE EDGE OF WALKING TRACKING
- WAITANGI STREAM CENTERLINE
- WAITANGI STREAM BUFFER



FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	DJB	DS	30.11.20
0	ISSUE FOR TENDER	RM	DJB	DS	18.09.19
0A	FOR RESOURCE CONSENT	RH	CF	DS	20.02.20

Drawing Originator:

Original Scale (A1)	Design	Drawn	Verified	Design Check	Date
1:50	A. GARDNER	R. HANCOCK	D. BRACEY	C. FLYNN	26.04.19
1:100					22.08.19
					28.08.19

* Refer to Revision 1 for Original Signature

Client:

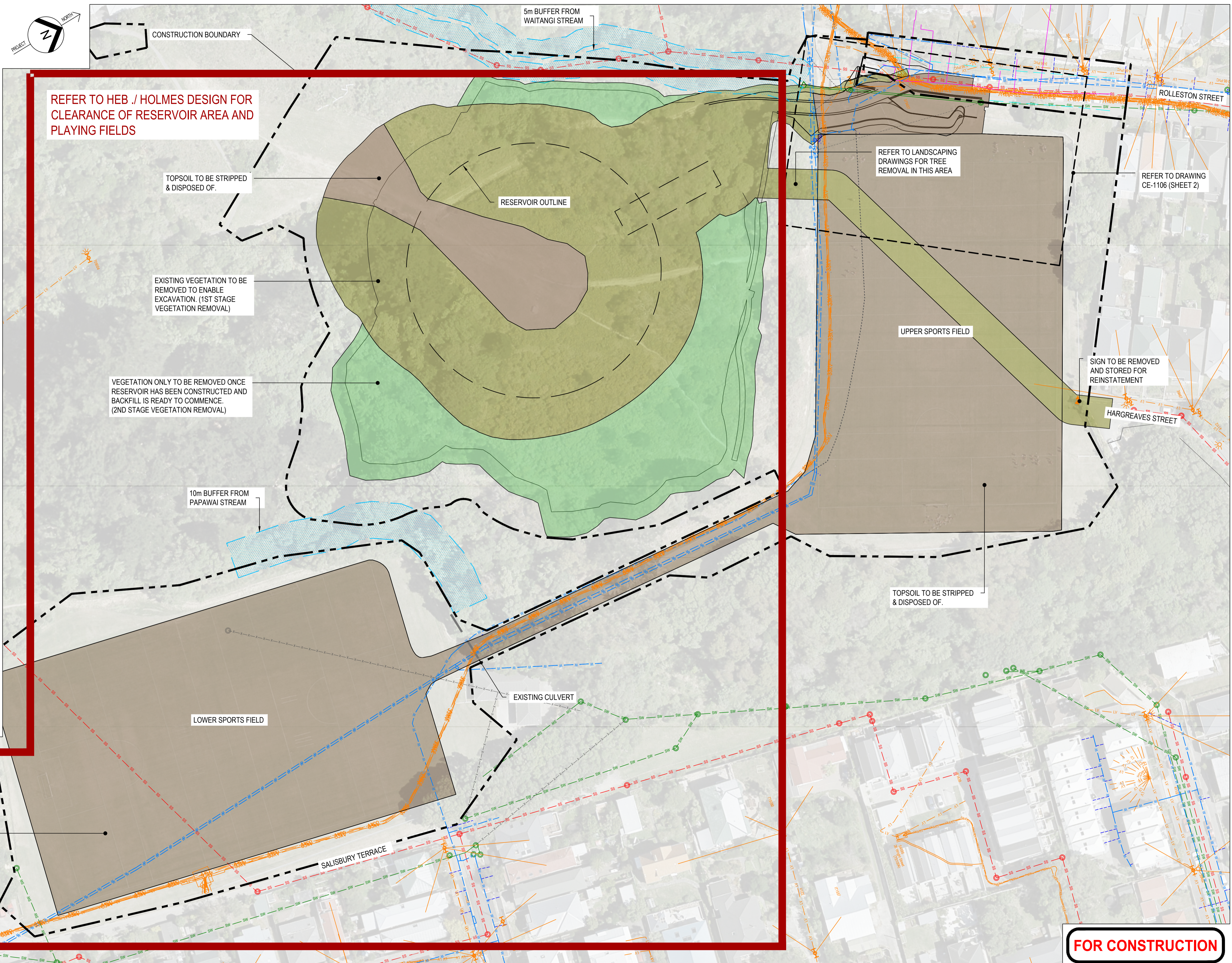
Project: **OMĀRORO RESERVOIR**

**WAITANGI STREAM
WORK WITHIN BUFFER ZONE**

Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-1103	1

LEGEND	
	EXISTING WATER MAIN
	EXISTING STORMWATER
	EXISTING WASTEWATER
	ABANDONED SERVICE
	PRIVATE WATER
	PRIVATE STORMWATER
	PRIVATE WASTEWATER
	KERBS
	GAS CABLES
	GAS CABLES NO PRESSURE
	CHORUS CABLE
	PARCEL BOUNDARY
	STREAMS
	EXISTING SW SUMP
	33kV U/G POWER
	33kV U/G POWER
	EXISTING SS/SW MANHOLE
	LIGHT POLES
	POWER POLE
	EXISTING VALVE
	LINZ SURVEY MARK

- NOTES:**
- 1.0 GENERAL**
- 1.1 EXISTING STORMWATER, WASTEWATER AND WATER SERVICES INFORMATION HAS BEEN COLLATED FROM WELLINGTON CITY COUNCIL DATABASE AND ALTERED TO MATCH SURVEY FEATURES OR POTHOLE INFORMATION.
 - 1.2 WELLINGTON ELECTRICITY SERVICES COLLATED FROM ASBUILT INFORMATION AND ALTERED TO MATCH POTHOLE INFORMATION, DEPTH VARIES BETWEEN 0.4M AND 1.7M
 - 1.3 SOME SERVICES HAVE RESTRICTIONS ON STOCKPILING (REFER TO STOCKPILE PLANS CE-1421 & CE-1521), AND VIBRATION. THESE INCLUDE:
 - 1.3.1 STOCKPILE IS NOT PERMITTED OVER THE EXISTING 4 x 33 KV CABLES. CLEARANCE OF 3m IS REQUIRED. SOME POWER CABLES ARE FLUID INSULATED AND SUSCEPTIBLE TO DAMAGE FROM NEARBY MOVEMENT AND VIBRATION.
 - 1.3.1 STOCKPILING ON WATER PIPES NOT PERMITTED.
 - 1.4 ACCURACY OF UNDERGROUND SERVICES IS UNKNOWN AWAY FROM POTHOLE LOCATIONS.
 - 1.5 ALL SERVICES ARE TO BE LOCATED & MARKED OUT PRIOR TO CONSTRUCTION BEGINNING.



FOR CONSTRUCTION

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1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:

Original Scale (A1)	Design	Drawn	Dwg Verifier	Dwg Check	Approved For Construction*	Date
1:500	R.HANCOCK	R. McLEAN	W.MAGUIRE	G.DOWN	R HICKMAN	26.04.19
Reduced Scale (A3): 1:1000						26.04.19
						16.05.19
						16.05.19

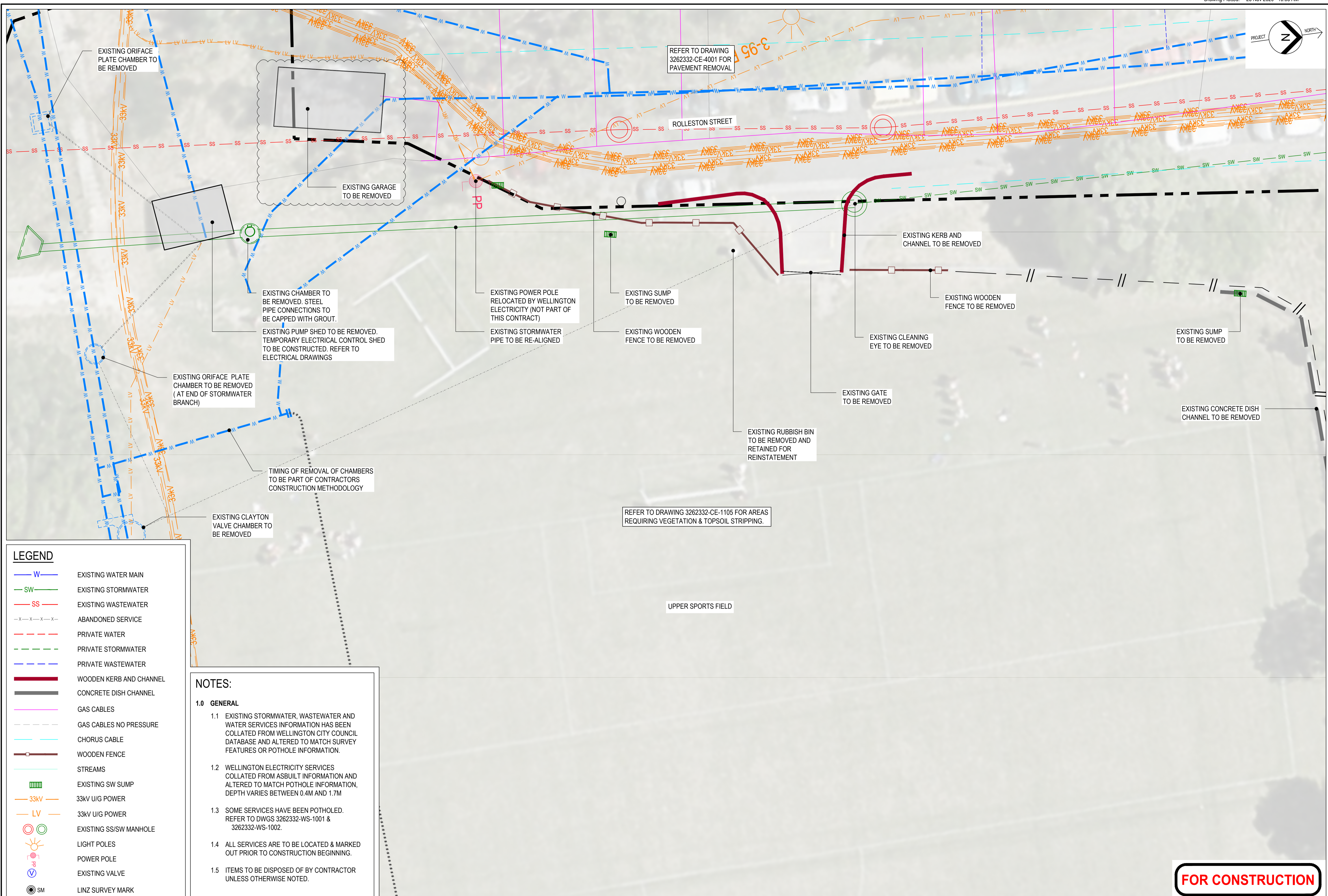
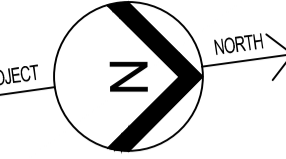
* Refer to Revision 1 for Original Signature

Client:

Project: **OMĀRORO RESERVOIR**

Title: **SITE CLEARANCE PLAN SHEET 1 OF 2**

Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-1105	1



REFER TO DRAWING 3262332-CE-4001 FOR PAVEMENT REMOVAL

ROLLESTON STREET

EXISTING KERB AND CHANNEL TO BE REMOVED

EXISTING WOODEN FENCE TO BE REMOVED

EXISTING CLEANING EYE TO BE REMOVED

EXISTING GATE TO BE REMOVED

EXISTING RUBBISH BIN TO BE REMOVED AND RETAINED FOR REINSTATEMENT

EXISTING SUMP TO BE REMOVED

EXISTING CONCRETE DISH CHANNEL TO BE REMOVED

REFER TO DRAWING 3262332-CE-1105 FOR AREAS REQUIRING VEGETATION & TOPSOIL STRIPPING.

UPPER SPORTS FIELD

LEGEND

	EXISTING WATER MAIN
	EXISTING STORMWATER
	EXISTING WASTEWATER
	ABANDONED SERVICE
	PRIVATE WATER
	PRIVATE STORMWATER
	PRIVATE WASTEWATER
	WOODEN KERB AND CHANNEL
	CONCRETE DISH CHANNEL
	GAS CABLES
	GAS CABLES NO PRESSURE
	CHORUS CABLE
	WOODEN FENCE
	STREAMS
	EXISTING SW SUMP
	33KV U/G POWER
	33KV U/G POWER
	EXISTING SS/SW MANHOLE
	LIGHT POLES
	POWER POLE
	EXISTING VALVE
	LINZ SURVEY MARK

NOTES:

1.0 GENERAL

1.1 EXISTING STORMWATER, WASTEWATER AND WATER SERVICES INFORMATION HAS BEEN COLLATED FROM WELLINGTON CITY COUNCIL DATABASE AND ALTERED TO MATCH SURVEY FEATURES OR POTHOLE INFORMATION.

1.2 WELLINGTON ELECTRICITY SERVICES COLLATED FROM ASBUILT INFORMATION AND ALTERED TO MATCH POTHOLE INFORMATION, DEPTH VARIES BETWEEN 0.4M AND 1.7M

1.3 SOME SERVICES HAVE BEEN POTHOLED. REFER TO DWGS 3262332-WS-1001 & 3262332-WS-1002.

1.4 ALL SERVICES ARE TO BE LOCATED & MARKED OUT PRIOR TO CONSTRUCTION BEGINNING.

1.5 ITEMS TO BE DISPOSED OF BY CONTRACTOR UNLESS OTHERWISE NOTED.

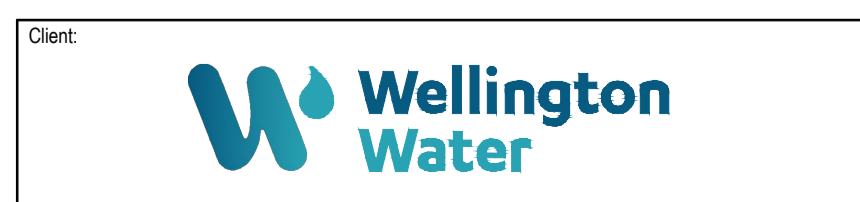
FOR CONSTRUCTION

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Original Scale (A1)	Design	R.HANCOCK	26.04.19	Approved For Construction*
1:100	Drawn	R.McLEAN	26.04.19	R HICKMAN
Reduced Scale (A3)	Verifier	W.MAGUIRE	26.04.19	
1:200	Dwg Check	G.DOWN	16.05.19	Date 30.11.20

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Client: **OMĀRORO RESERVOIR**

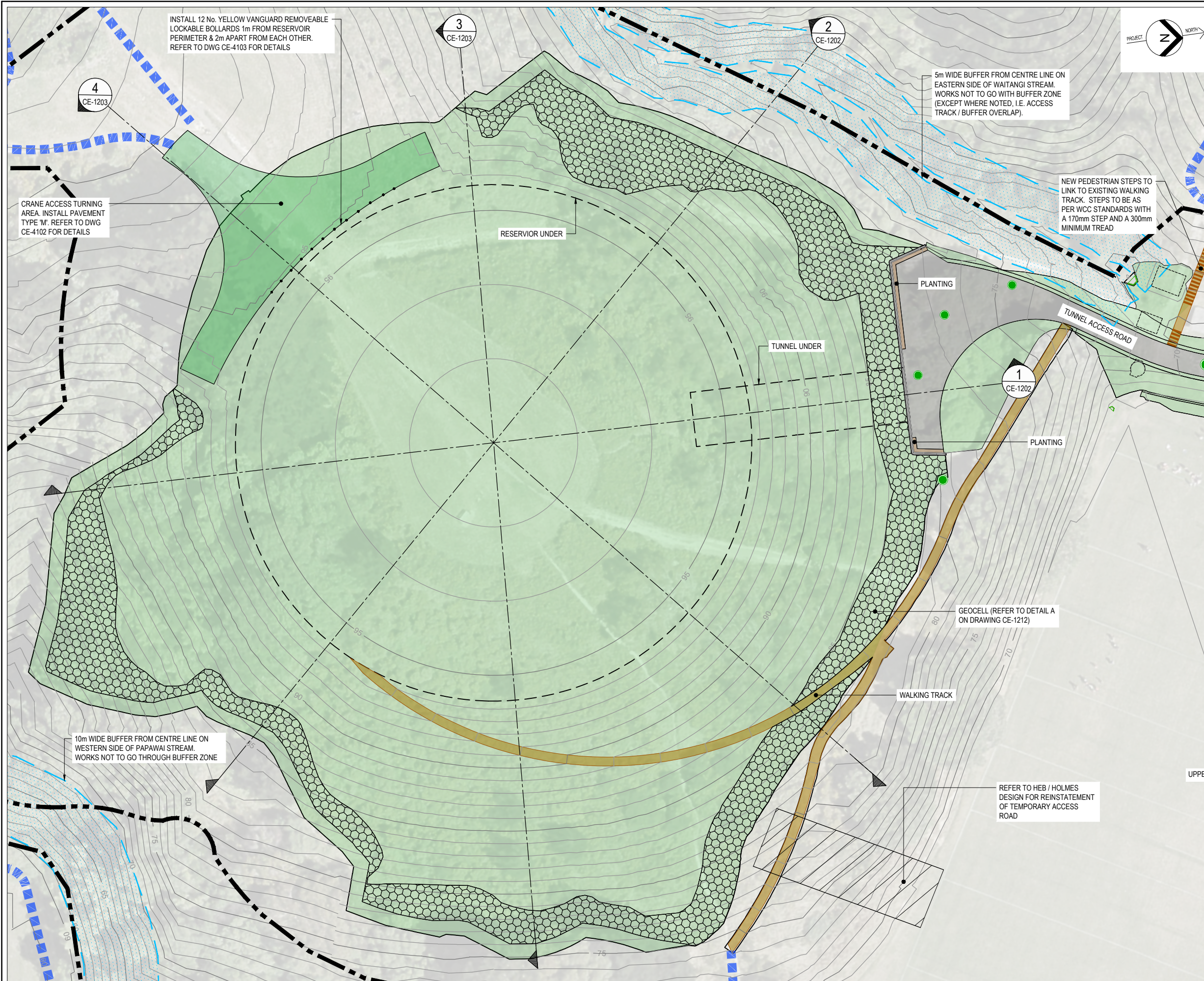
Project: **OMĀRORO RESERVOIR**

Discipline: **CIVIL**

Drawing No: **3262332-CE-1106**

Rev: **1**

Site Clearance Plan
SHEET 2 OF 2



LEGEND:

- FINISHED SURFACE - FILL (REFER TO HEB / HOLMES DESIGN FOR EXTENTS)
- GEOCELL EXTENTS
- STORMWATER MANHOLE
- STORMWATER SUMP
- STORMWATER WINGWALL
- MAJOR CONTOUR - FINISHED GROUND (5m INTERVAL)
- MINOR CONTOUR - FINISHED GROUND (1m INTERVAL)
- EXISTING WALKING TRACKS
- NEW WALKING TRACKS

NOTES:

1.0 GENERAL

- 1.1 DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.
- 1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)
- 1.3 A SET OUT MODEL WILL BE PROVIDED IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR (NZTM)

2.0 BACKFILL REQUIREMENTS

- 2.1 BACKFILLING AROUND THE RESERVOIR SHALL NOT BE UNDERTAKEN UNTIL AFTER THE RESERVOIR DROP TEST HAS BEEN PASSED.
- 2.2 BACKFILLING SHALL BE COMPLETED IN EVEN LAYERS AROUND THE RESERVOIR'S CIRCUMFERENCE. THE MAXIMUM VARIATION IN HEIGHT OF FILL AROUND THE RESERVOIR SHALL BE LESS THAN 1.5M TO PREVENT UNBALANCED LOADING OF THE RESERVOIR.
- 2.3 COMPACTION WITHIN 5M OF THE RESERVOIR WALL SHALL BE USING PLANT WITH A COMPACTION FORCE OF NO MORE THAN 40 KN PER METRE WIDTH OF ROLLER. THIS IS EXPECTED TO BE A NOMINAL 4 TON RIDE-ON SMOOTH STEEL WHEELED ROLLER OR SIMILAR.

FOR CONSTRUCTION

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1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
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Drawing Originator:

Original Scale (A1)	Design	A.GARDNER	26.04.19	Approved For Construction*	R HICKMAN
1:250	Drawn	R.McLEAN	26.04.19	Date	30.11.20
Reduced Scale (A3)	Verifier	W.MAGUIRE	26.04.19		
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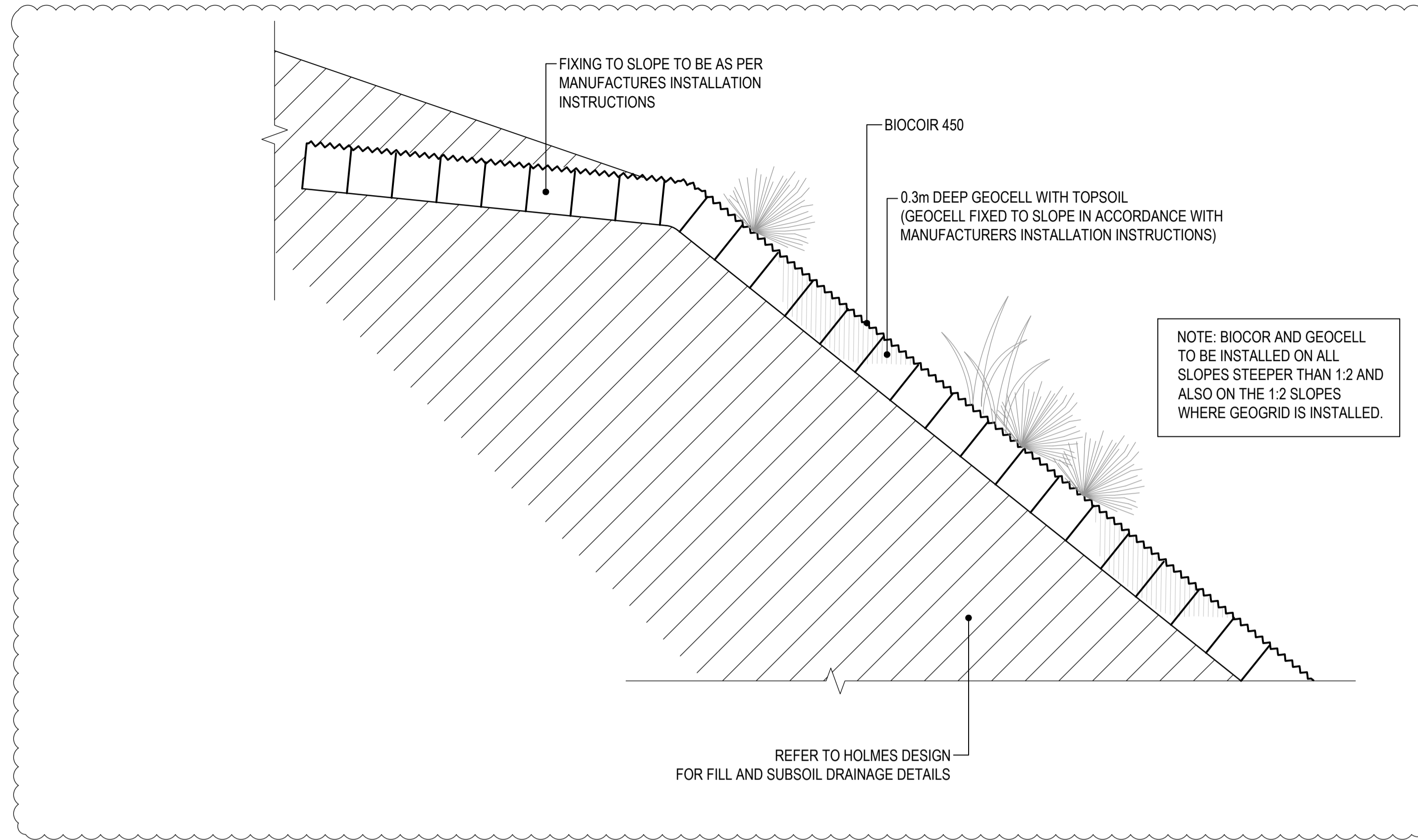
* Refer to Revision 1 for Original Signature

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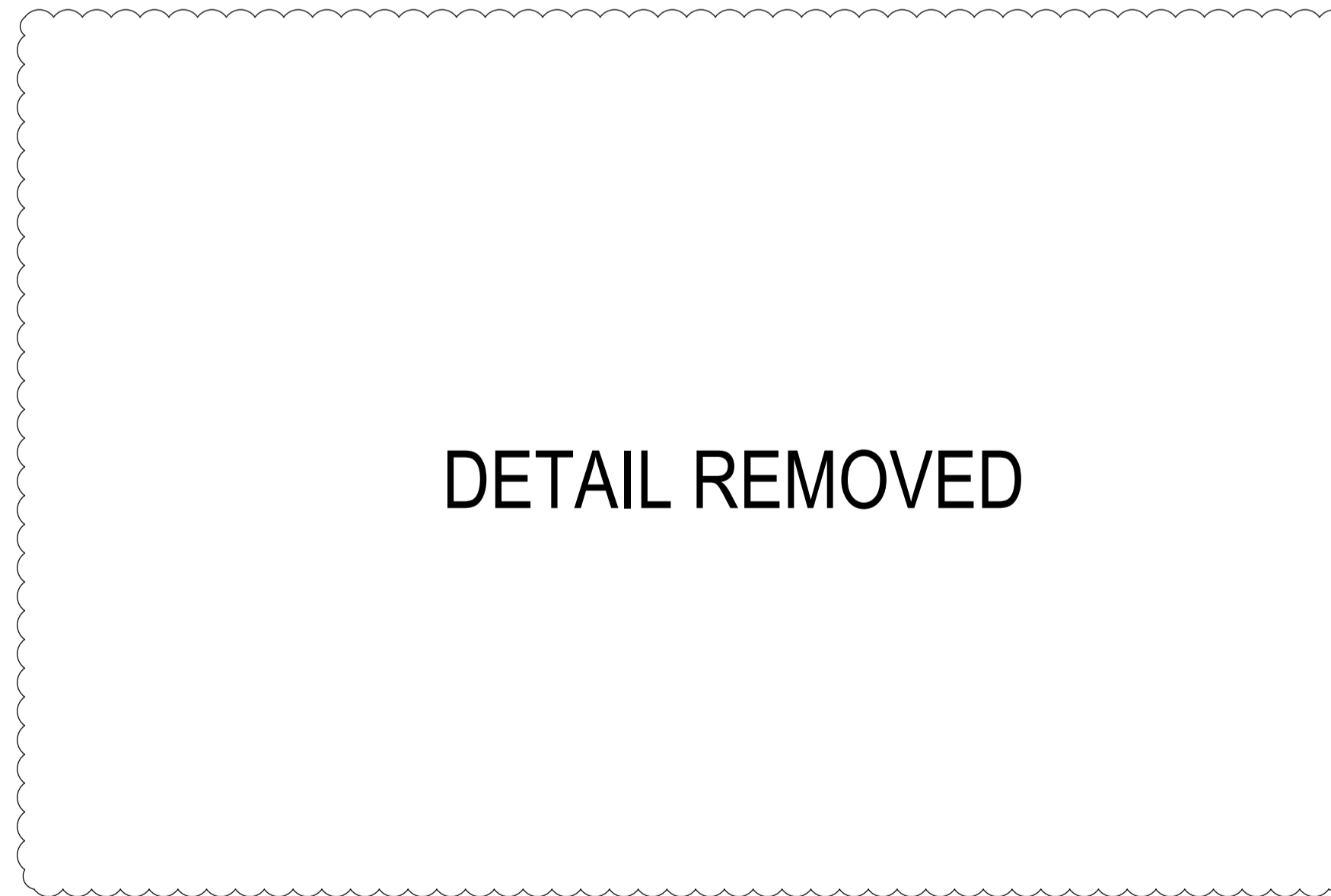
Project: **OMĀRORO RESERVOIR**

RESERVOIR EARTHWORKS FINISHED LEVEL PLAN

Discipline	CIVIL
Drawing No.	3262332-CE-1201
Rev.	1



A RESERVOIR SOIL STABILISATION DETAIL
 CE-1211 SCALE 1:25 (A1)



B SLOPE TOE DETAIL
 CE-1211 SCALE 1:25 (A1)

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:

Original Scale (A1)	Design	M. PREBBLE	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R. McLEAN	26.04.19	R. HICKMAN
Reduced Scale (A3)	Verifier	P. ROBINS	26.04.19	
1/2 SHOWN	Deep Check	G. DOWN	16.05.19	Date 30.11.20

* Refer to Revision 1 for Original Signature

Client:

Project: OMARORO RESERVOIR

RESERVOIR SLOPE STABILISATION DETAILS SHEET 2 OF 2

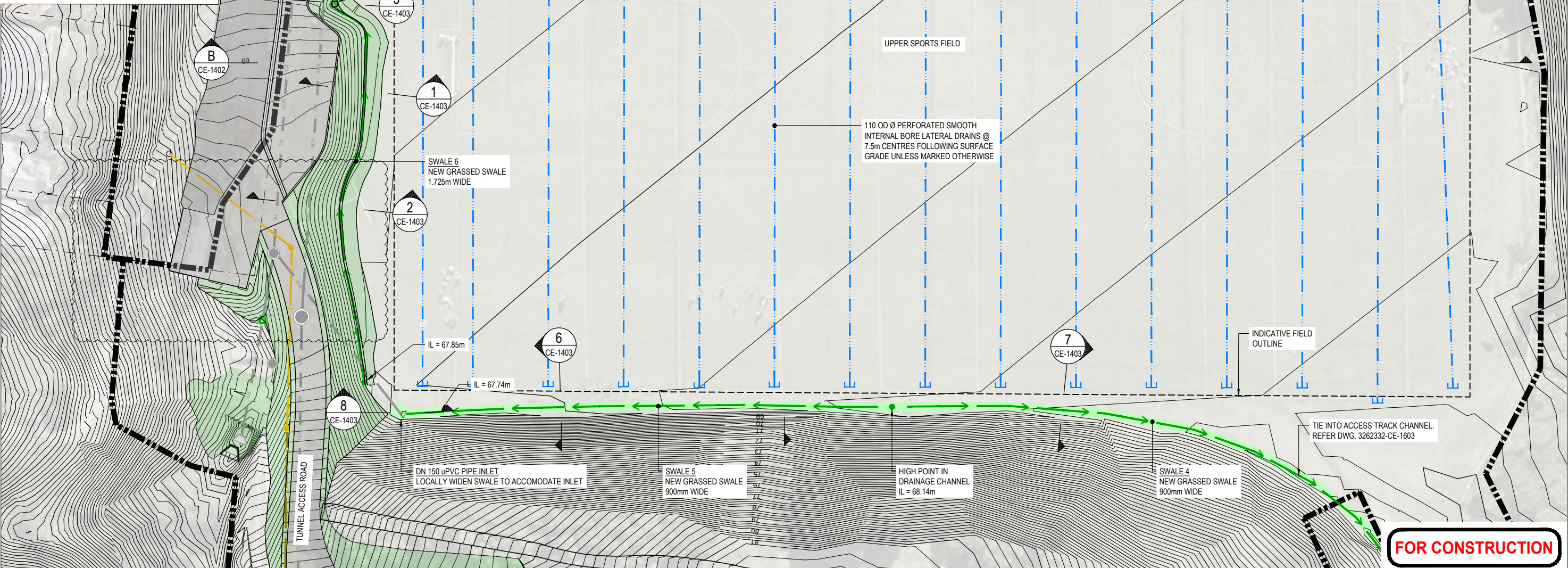
Discipline	CIVIL
Drawing No.	3262332-CE-1212
Rev.	1

NOTES:

- 1.0 GENERAL**
- 1.1 DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.
 - 1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953.
ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)
 - 1.3 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR
 - 1.4 FINISHED SURFACE LEVEL TO BE AS SHOWN WITHIN INDICATIVE FIELD OUTLINE. TIE INTO EXISTING SURFACE LEVELS OUTSIDE INDICATIVE FIELD OUTLINE.
 - 1.5 REFER TO DRAWING CE-3303 FOR SUBSOIL DETAILS.

LEGEND:

- DESIGN CONTOURS
- EXISTING CONTOURS
- SWALE DRAIN
- STORMWATER PIPE
- STORMWATER MANHOLE
- STORMWATER SCRUFFY DOME
- STORMWATER SUMP
- STORMWATER WINGWALL
- 150mmØ SN4 uPVC COLLECTOR DRAIN
- 110mmØ PERFORATED SMOOTH INTERNAL BORE LATERAL DRAIN
- END CAP
- FLUSHING POINT



No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	19.08.19

Drawing Originator:

Original Scale (A1)	Design	D.BRACEY	26.04.19	Approved For Construction*	R.HICKMAN
1:200	Drawn	R.MCLEAN	26.04.19	Checked	
Reduced Scale (A3)	Verifier	K.PURTON	26.04.19	Date	30.11.20
1:400	Dwg Check	G.DOWN	16.05.19		

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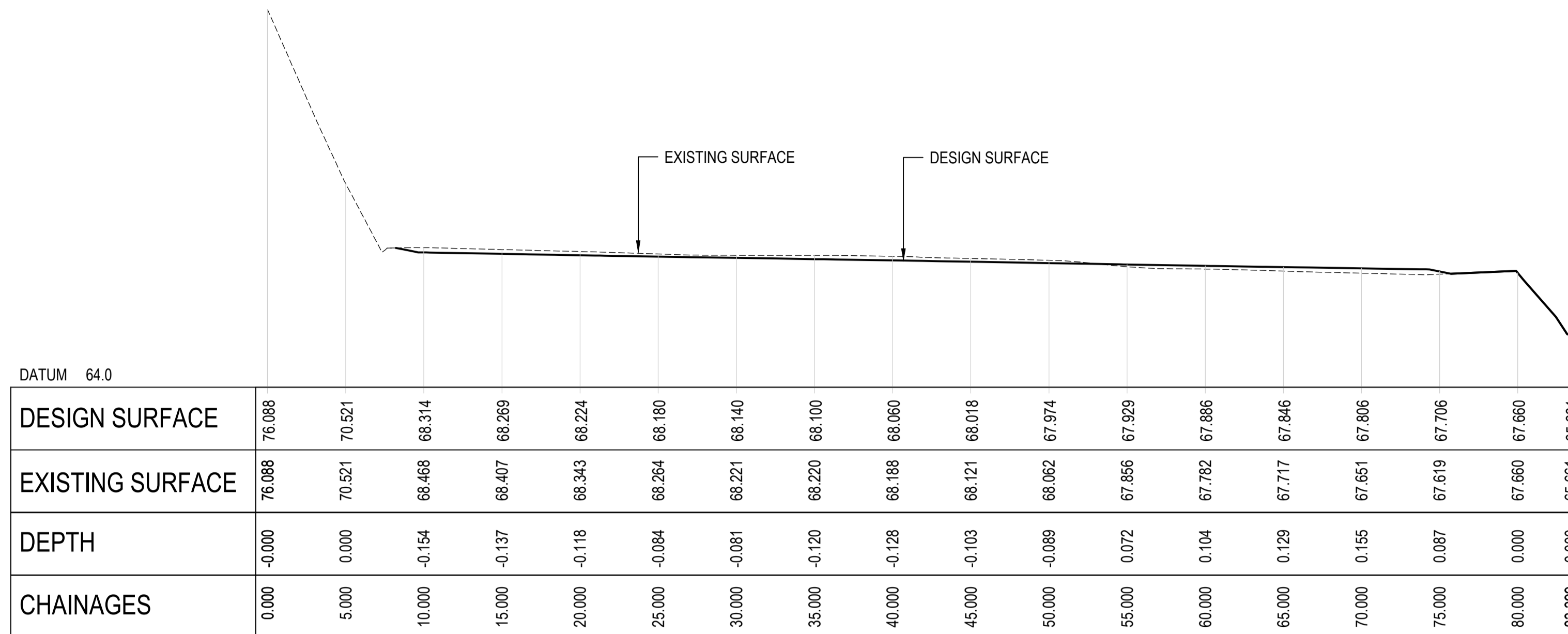
UPPER SPORTS FIELD
FINISHED LEVEL
& DRAINAGE PLAN

Discipline	CIVIL
Drawing No.	3262332-CE-1401
Rev.	1

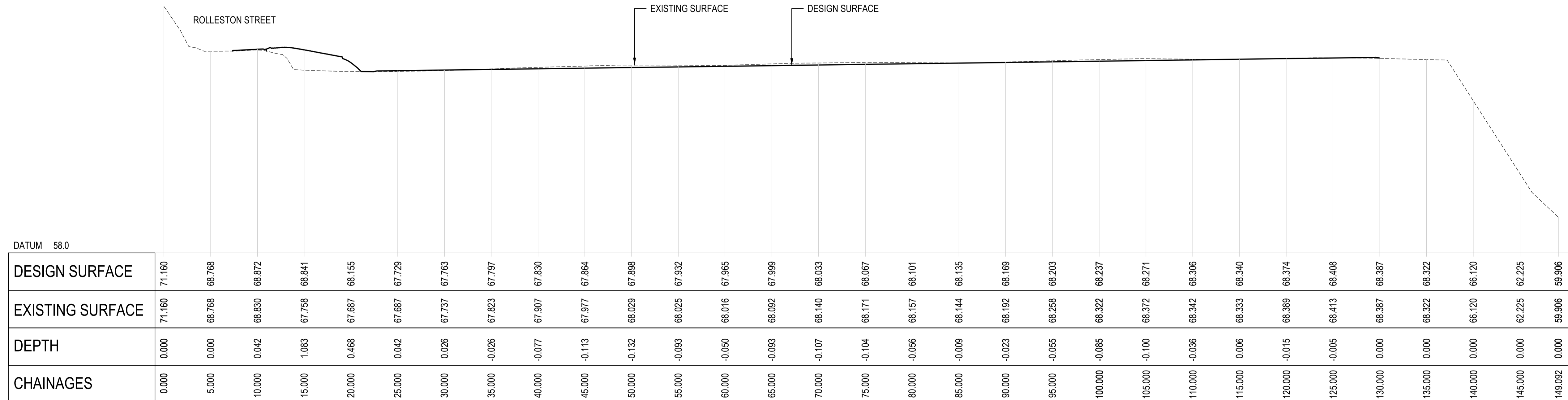
NOTES:

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- 1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953.
ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)
- 1.3 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR
- 1.4 SPORTS FIELD SURFACE TO CONSIST OF MINIMUM 150mm IMPORTED TOPSOIL ON TRIMMED SUBGRADE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 1.5 SUBGRADE TO BE TRIMMED TO +0mm & -50mm TOLERANCE TO ACHIEVE SURFACE LEVELS SHOWN.



A UPPER SPORTS FIELD - SECTION VIEW
CE-1401 1:250



B UPPER SPORTS FIELD - SECTION VIEW
CE-1401 1:250

FOR CONSTRUCTION

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0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



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1:500	Dwg Check	G.DOWN	16.05.19	Date 30.11.20

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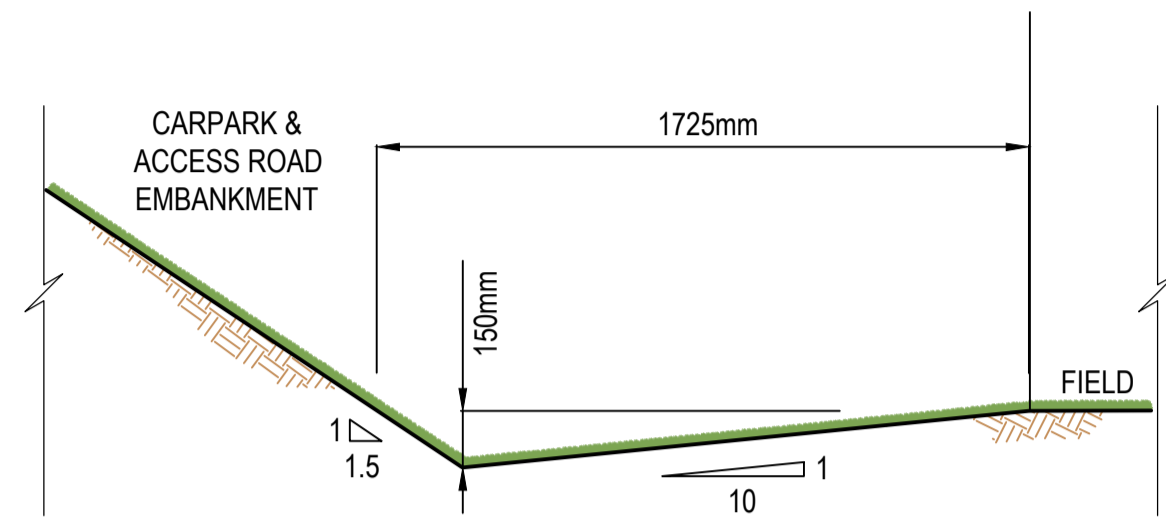


Client: **OMĀRORO RESERVOIR**

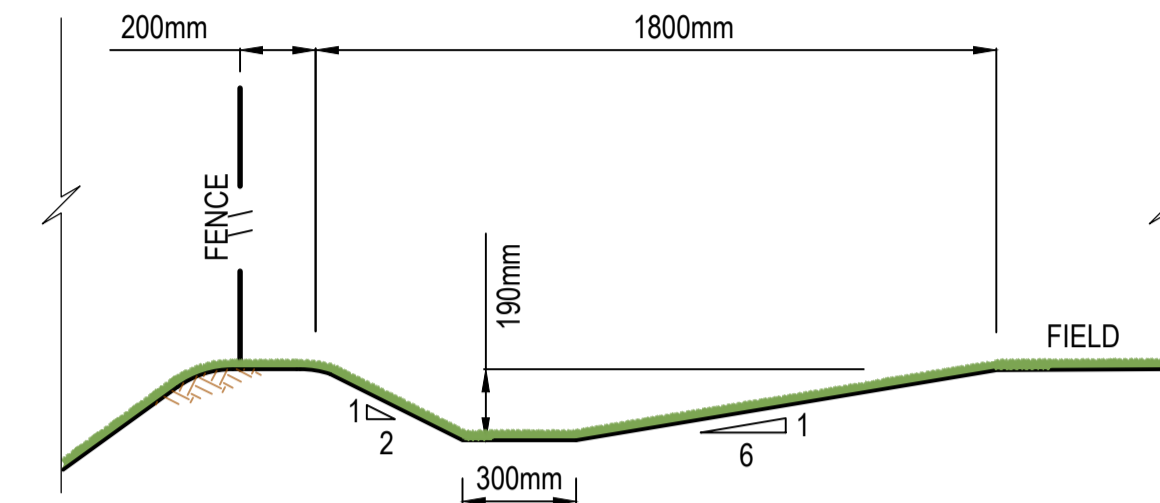
Project: **UPPER SPORTS FIELD CROSS SECTIONS**

Discipline	CIVIL
Drawing No.	3262332-CE-1402
Rev.	1

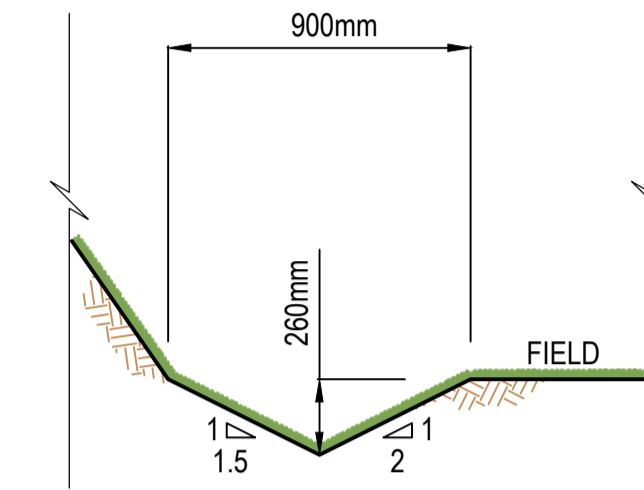
NOTES:
1.0 GENERAL
 1.1 REFER TO DRAWING CE-1401 FOR UPPER SPORTS FIELD FINISHED LEVEL DETAILS.
 1.2 SWALES TO BE HYDROSEEDDED AS PER SSDM SPECIFICATIONS.



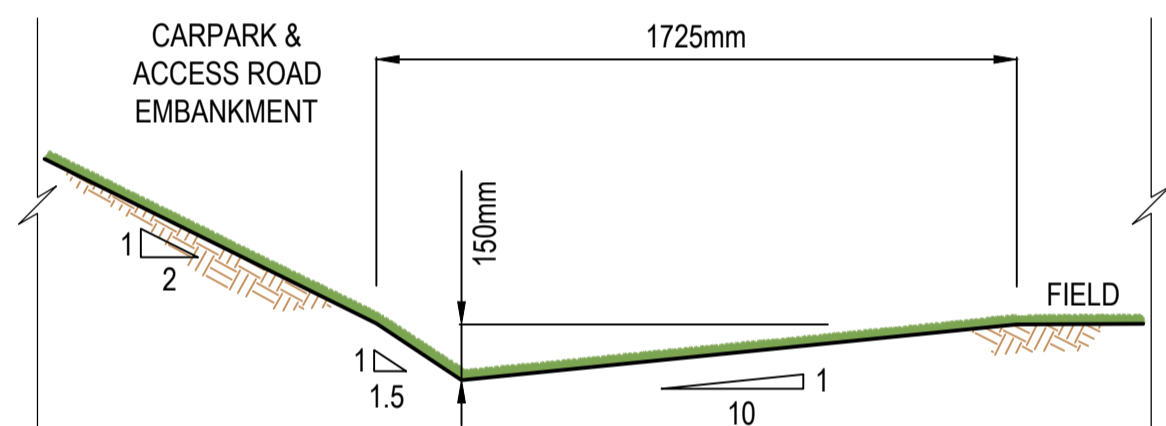
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 CE-1401 SCALE 1:20 (A1)



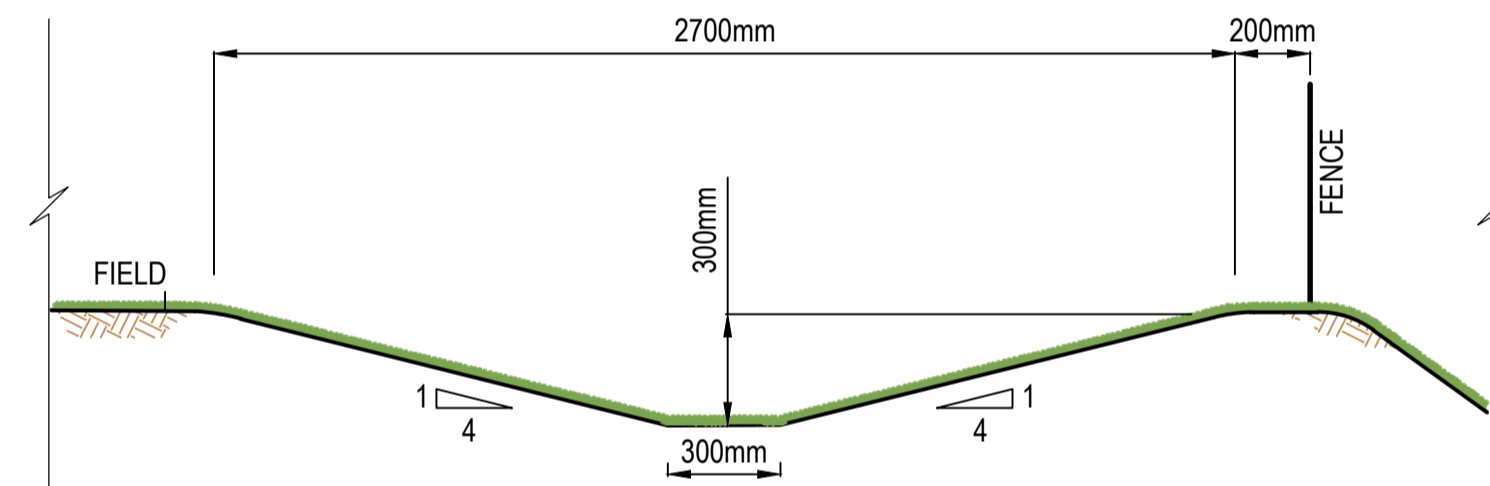
4 SWALE 7 TYPICAL CROSS SECTION
 CE-1401 SCALE 1:20 (A1)



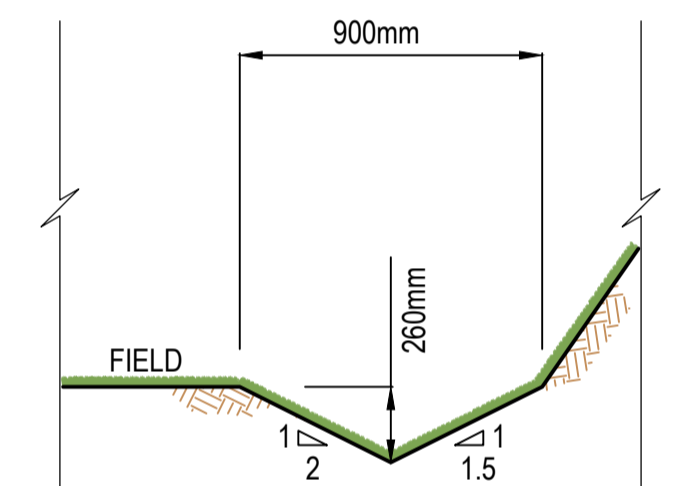
6 SWALE 5 TYPICAL CROSS SECTION
 CE-1401 SCALE 1:20 (A1)



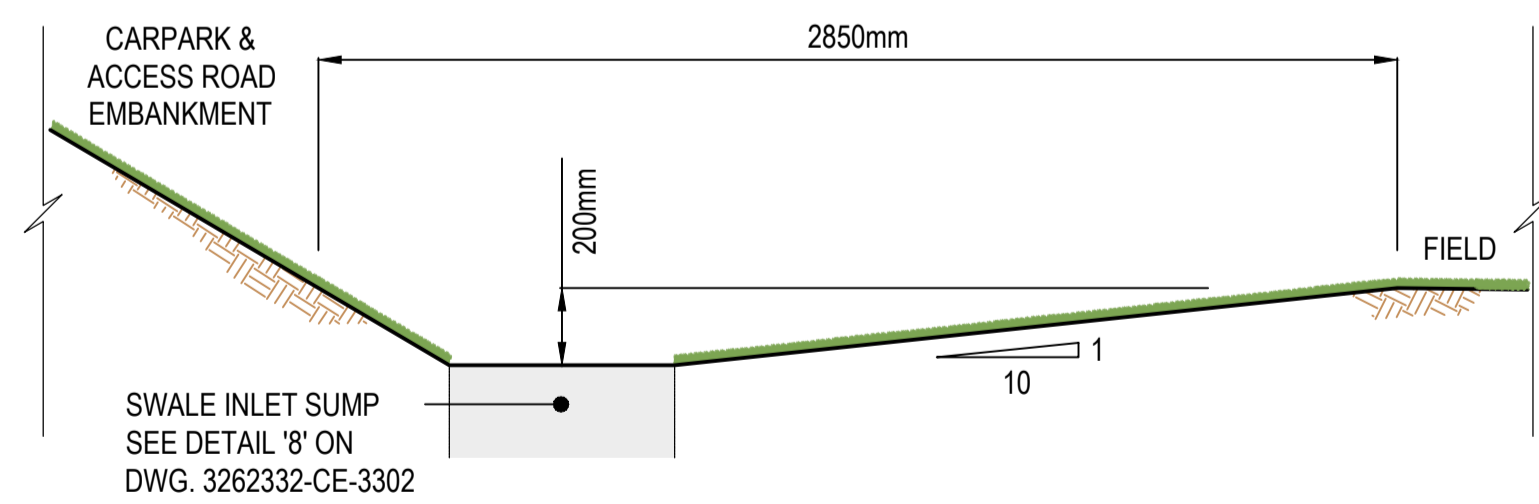
2 SWALE 6 CROSS SECTION
 CE-1401 SCALE 1:20 (A1)



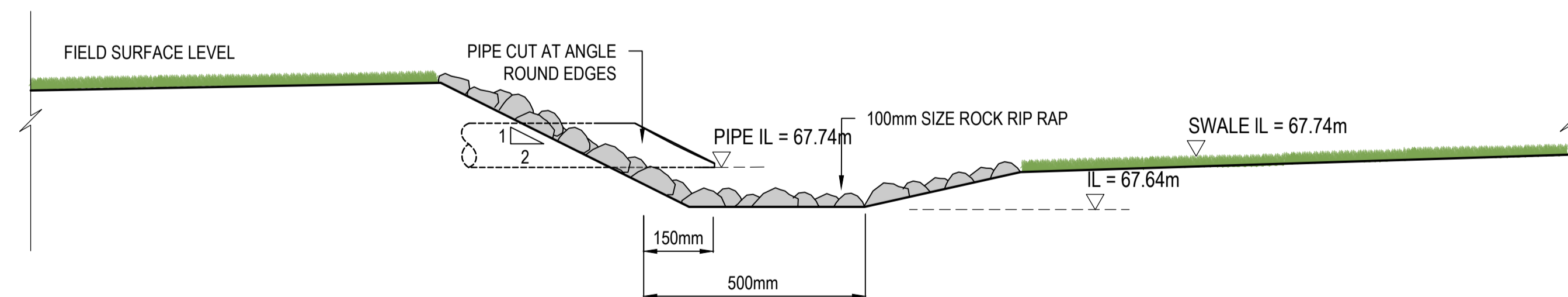
5 SWALE 8 TYPICAL CROSS SECTION
 CE-1401 SCALE 1:20 (A1)



7 SWALE 4 TYPICAL CROSS SECTION
 CE-1401 SCALE 1:20 (A1)



3 SWALE 6 CROSS SECTION
 CE-1401 SCALE 1:20 (A1)



8 SWALE 8 TYPICAL CROSS SECTION
 CE-1401 SCALE 1:10 (A1)

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	D. BRACEY	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R. McLEAN	26.04.19	R. HICKMAN
Reduced Scale (A3)	Verifier	K. PURTON	26.04.19	
1/2 SHOWN	Dwg Check	G. DOWN	16.05.19	Date 30.11.20

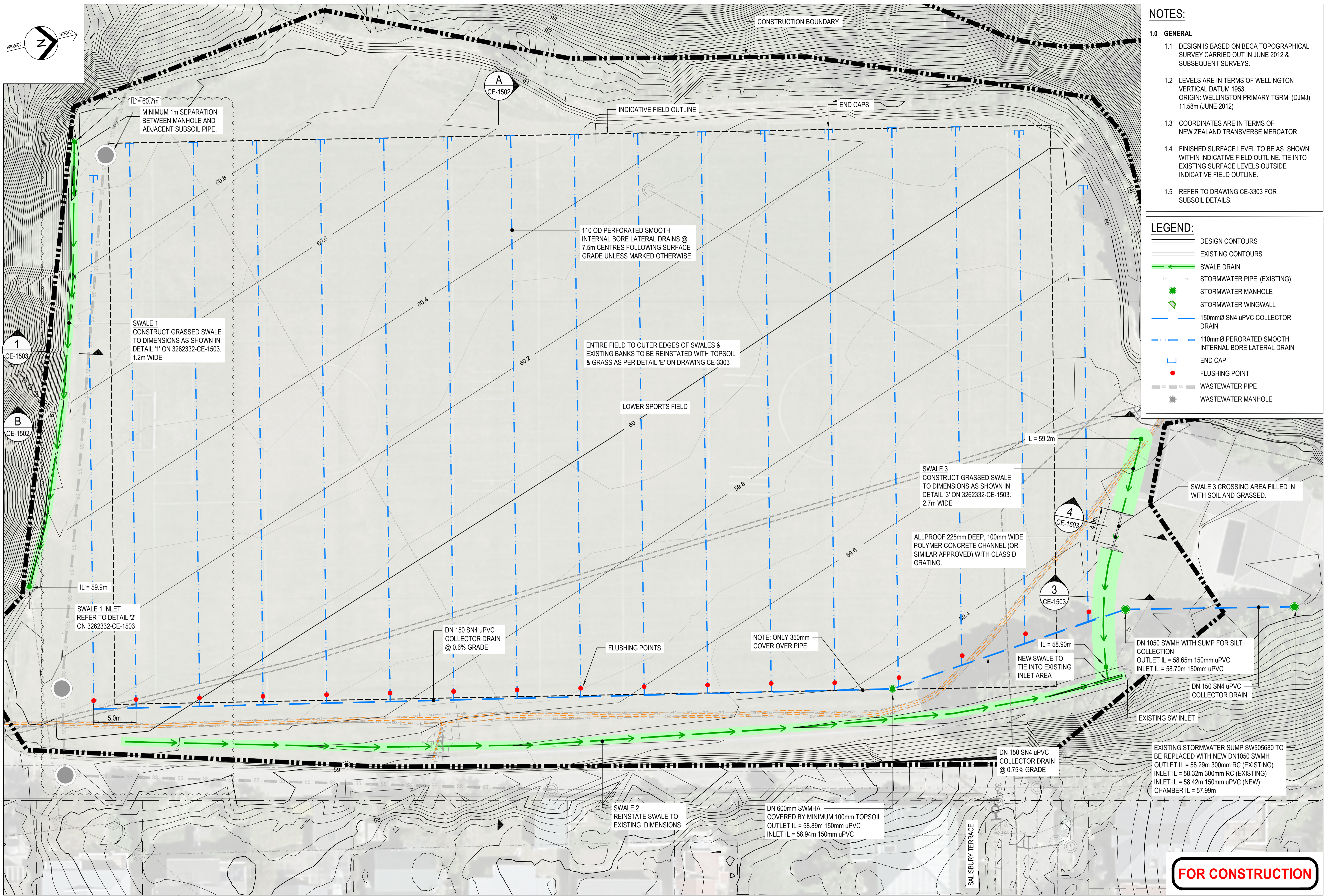
* Refer to Revision 1 for Original Signature



Client: **OMARORO RESERVOIR**

UPPER SPORTS FIELD SURFACE DRAINAGE DETAILS

Discipline	CIVIL
Drawing No.	3262332-CE-1403
Rev.	1



- NOTES:**
- DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.
 - LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJM.J) 11.58m (JUNE 2012)
 - COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR
 - FINISHED SURFACE LEVEL TO BE AS SHOWN WITHIN INDICATIVE FIELD OUTLINE. TIE INTO EXISTING SURFACE LEVELS OUTSIDE INDICATIVE FIELD OUTLINE.
 - REFER TO DRAWING CE-3303 FOR SUBSOIL DETAILS.

- LEGEND:**
- DESIGN CONTOURS
 - EXISTING CONTOURS
 - SWALE DRAIN
 - STORMWATER PIPE (EXISTING)
 - STORMWATER MANHOLE
 - STORMWATER WINGWALL
 - 150mmØ SN4 uPVC COLLECTOR DRAIN
 - 110mmØ PERFORATED SMOOTH INTERNAL BORE LATERAL DRAIN
 - END CAP
 - FLUSHING POINT
 - WASTEWATER PIPE
 - WASTEWATER MANHOLE

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:

Original Scale (A1)	Design	Drawn	Checked	Approved For Construction
1:200	D. BRACEY	R. McLEAN	K. PURTON	R. HICKMAN
Reduced Scale (A3)			G. DOWN	
1:400				

Client:

Project: OMARORO RESERVOIR

LOWER SPORTS FIELD FINISHED LEVEL AND DRAINAGE PLAN

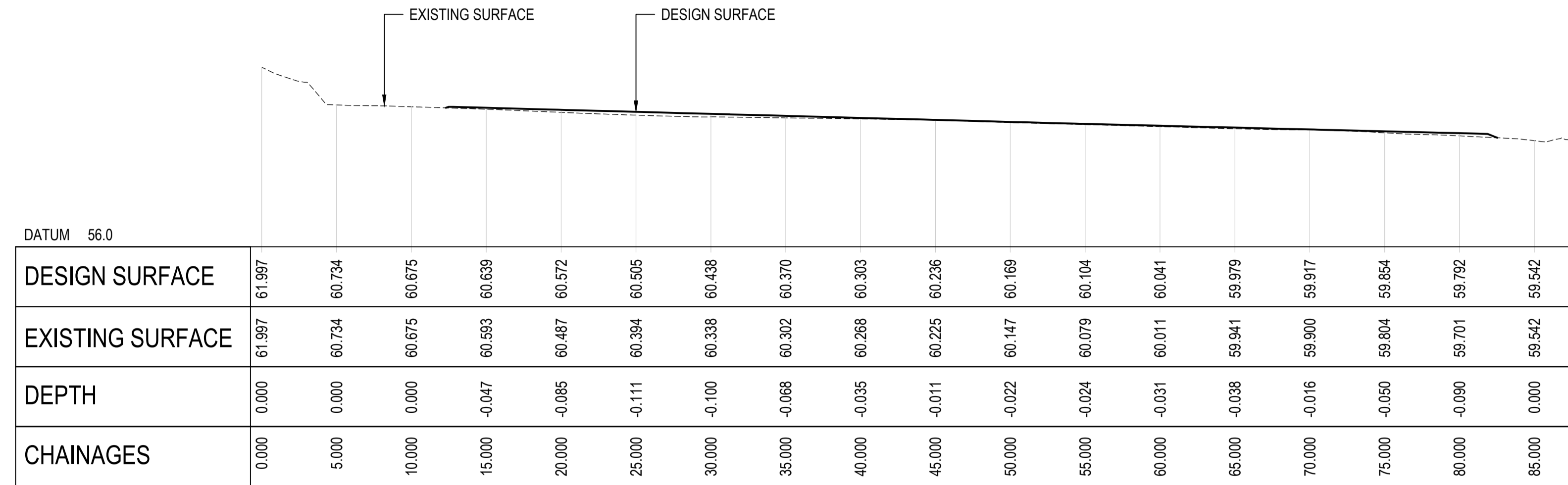
Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-1501	1

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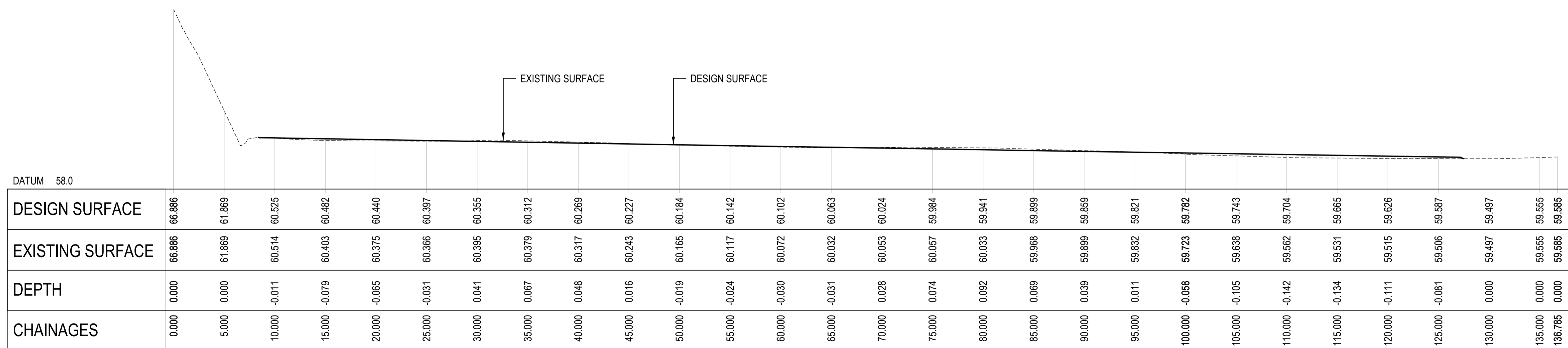
NOTES:

1.0 GENERAL

- 1.1 DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.
- 1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953.
ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)
- 1.3 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR
- 1.4 SPORTS FIELD SURFACE TO CONSIST OF MINIMUM 150mm IMPORTED TOPSOIL ON TRIMMED SUBGRADE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 1.5 SUBGRADE TO BE TRIMMED TO +0mm & -50mm TOLERANCE TO ACHIEVE SURFACE LEVELS SHOWN.



A LOWER SPORTS FIELD - SECTION VIEW
CE-1501 1:250



B LOWER SPORTS FIELD - SECTION VIEW
CE-1501 1:250

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	1:250
Reduced Scale (A3)	1:500
Design	A. GARDNER 26.04.19
Drawn	R. McLEAN 26.04.19
Verifier	K. PURTON 26.04.19
Deep Check	G. DOWN 16.05.19
Approved For Construction*	R. HICKMAN 26.04.19
Date	30.11.20

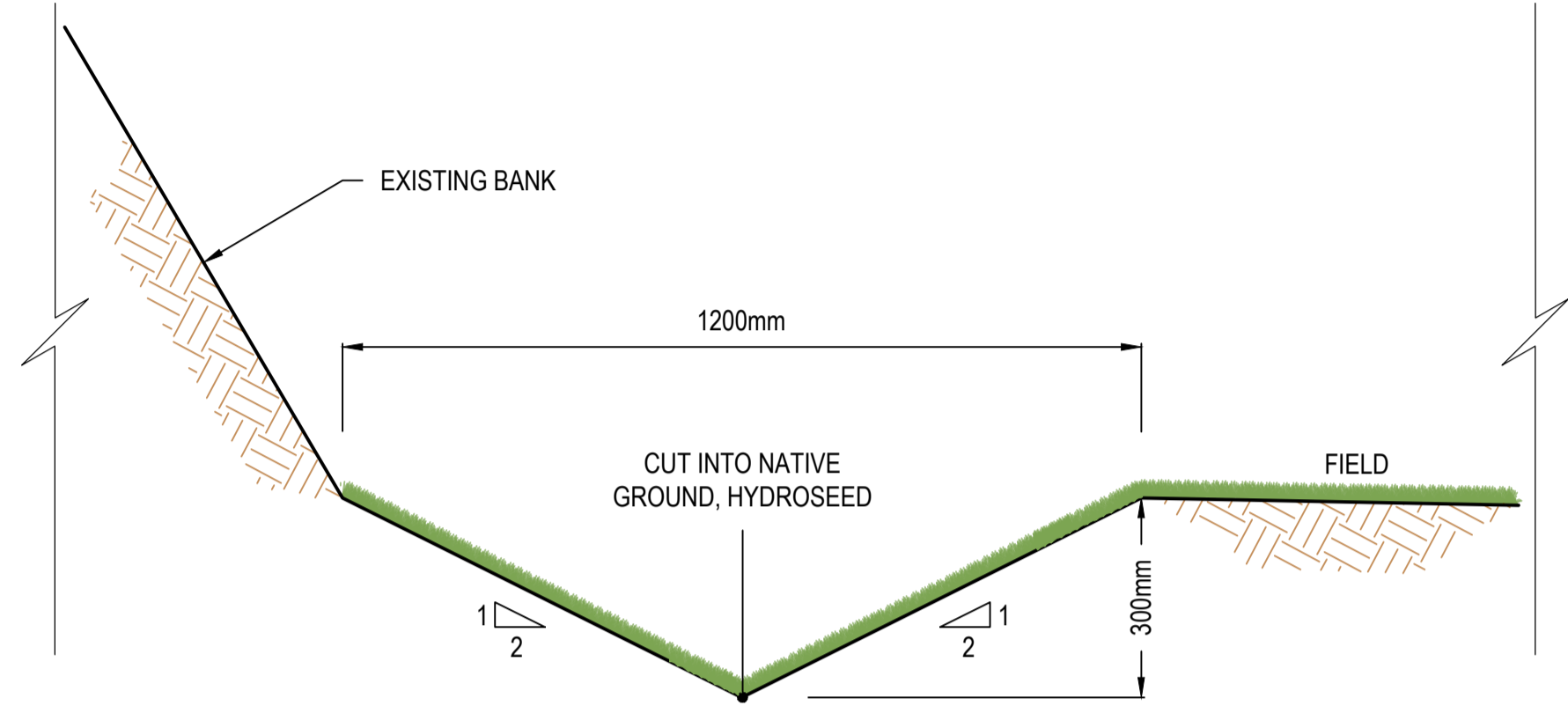


Client: **OMĀRORO RESERVOIR**

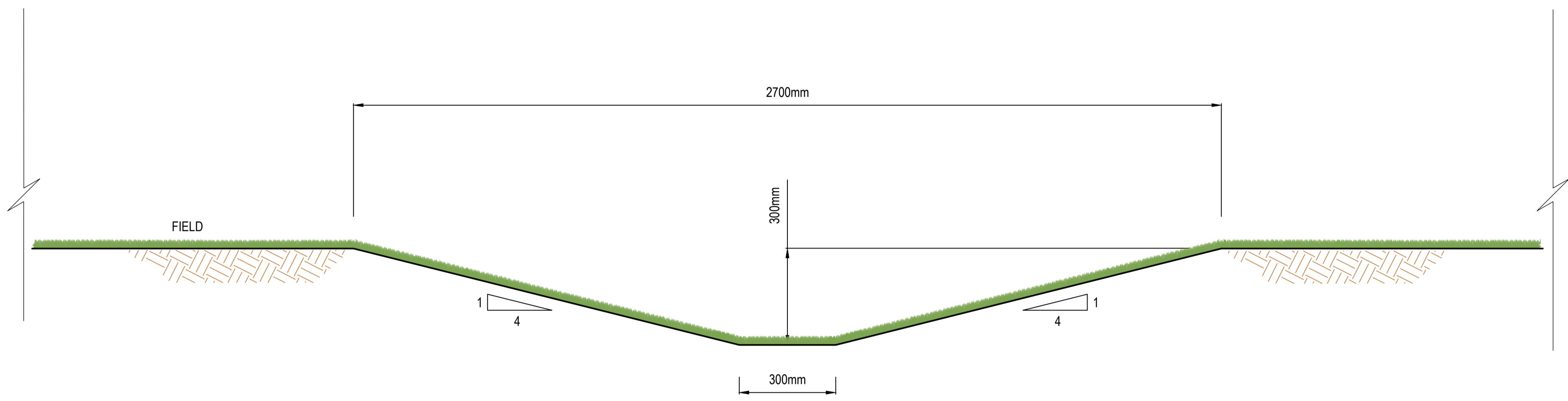
LOWER SPORTS FIELD CROSS SECTIONS

Discipline	CIVIL
Drawing No.	3262332-CE-1502
Rev.	1

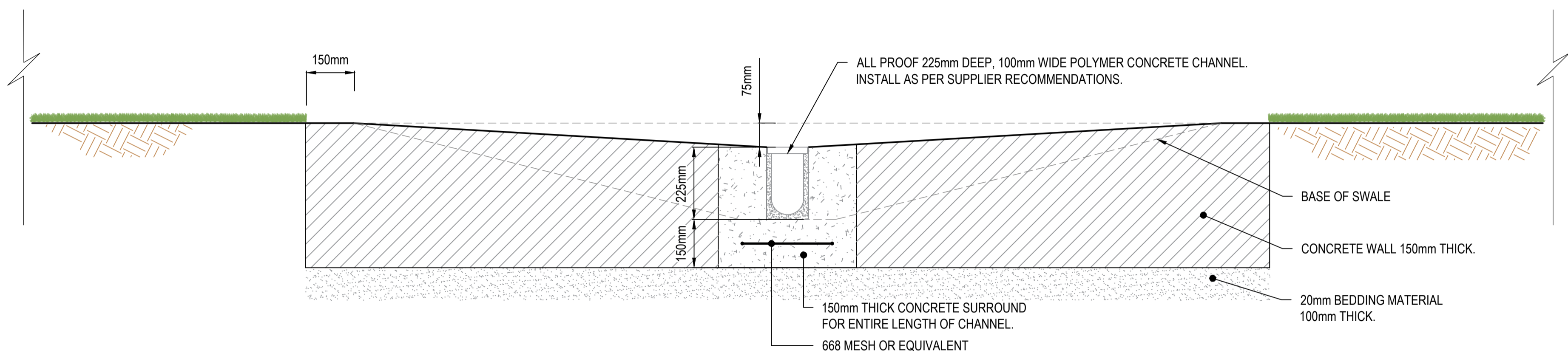
NOTES:
1.0 GENERAL
 1.1 REFER TO DRAWING CE-1501 FOR LOWER SPORTS FIELD FINISHED LEVEL DETAILS.
 1.2 SWALES TO BE HYDROSEEDED AS PER LANDSCAPING SPECIFICATIONS.



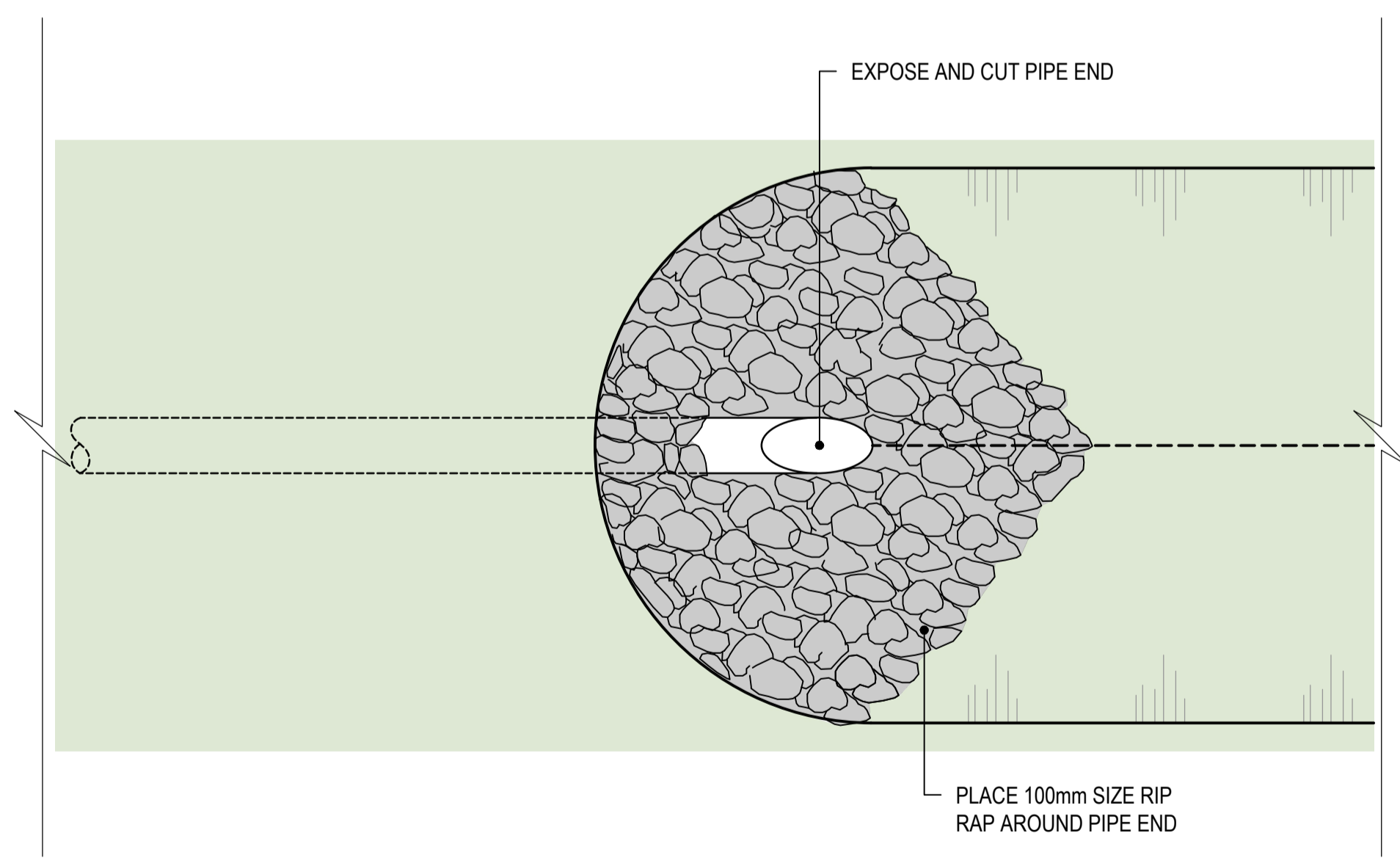
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 CE-1501 SCALE 1:10 (A1)



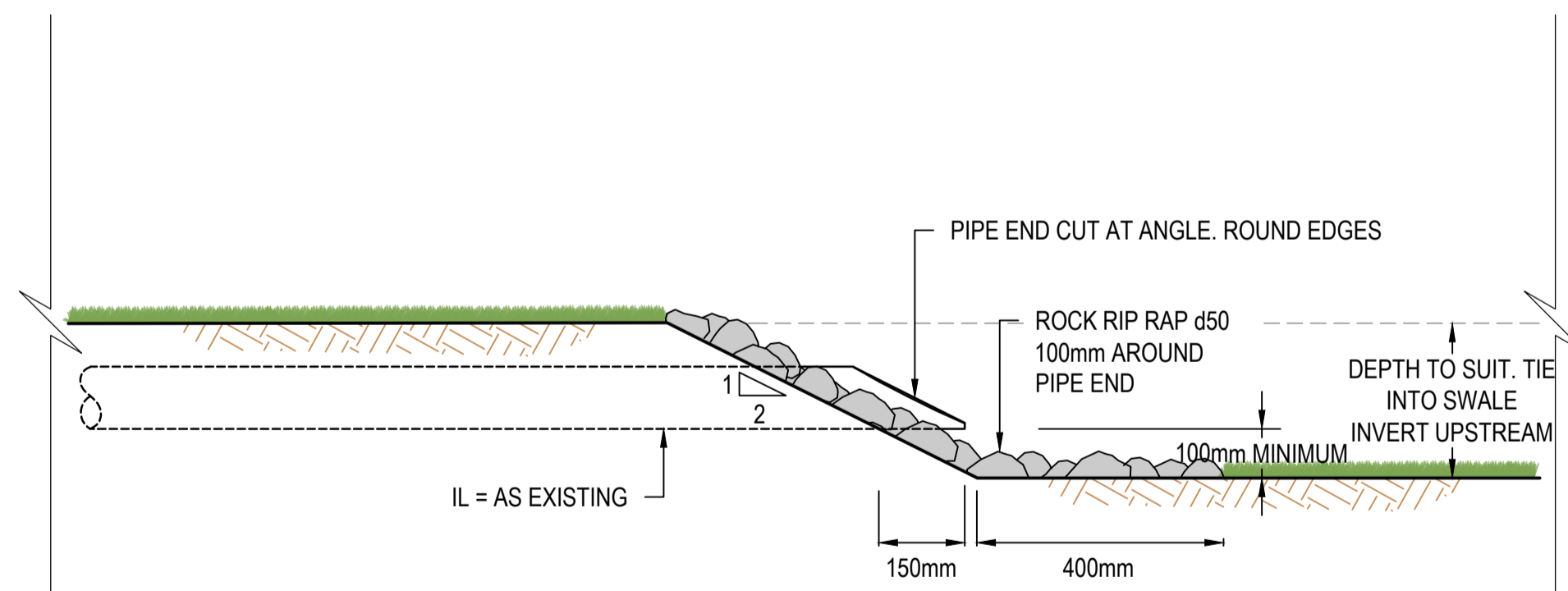
3 SWALE 3 TYPICAL CROSS SECTION
 CE-1501 SCALE 1:10 (A1)



4 SWALE 3 CROSSING AREA CROSS SECTION
 CE-1501 SCALE 1:10 (A1)



PLAN VIEW



ELEVATION VIEW

2 SWALE 1 - INLET DETAIL
 CE-1501 SCALE 1:10 (A1)

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



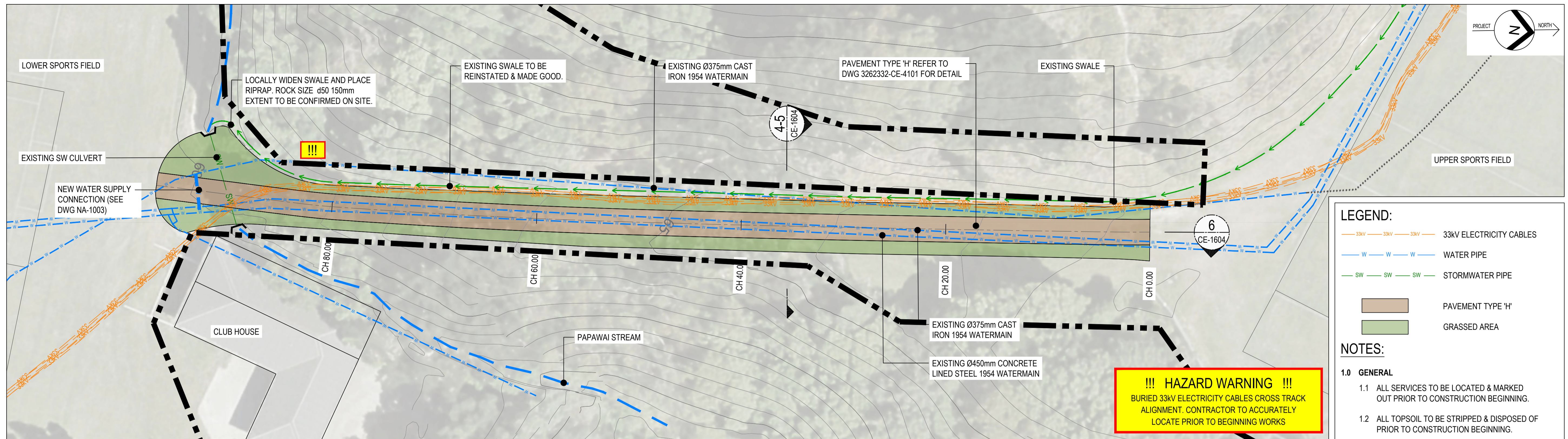
Original Scale (A1)	Design	D.BRACEY	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R.McLEAN	26.04.19	R.HICKMAN
Reduced Scale (A3)	Verifier	K.PURTON	26.04.19	
1/2 SHOWN	Deep Check	G.DOWN	16.05.19	Date 30.11.20



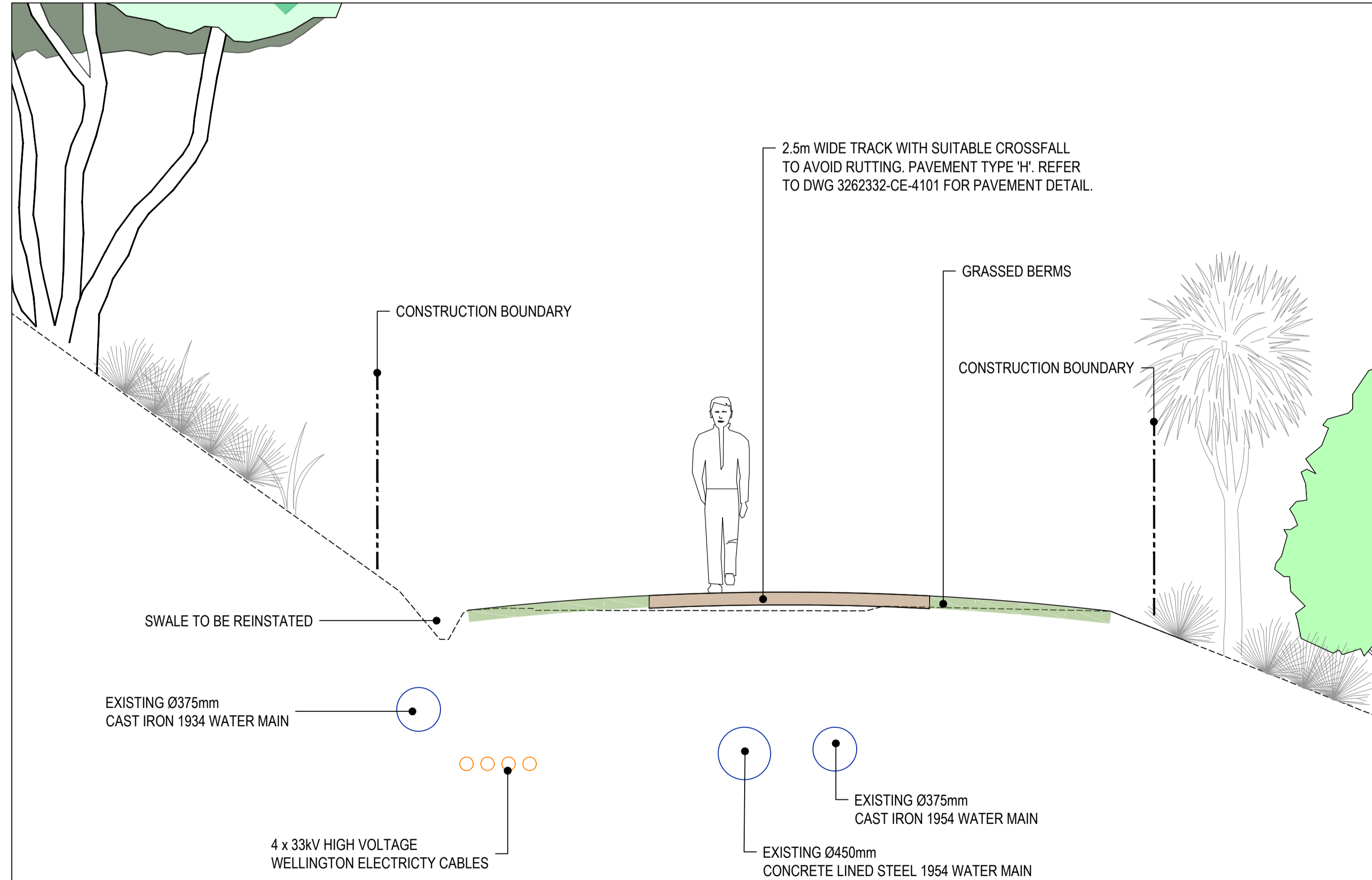
Client: **OMĀRORO RESERVOIR**

Project: **LOWER SPORTS FIELD SURFACE DRAINAGE DETAILS**

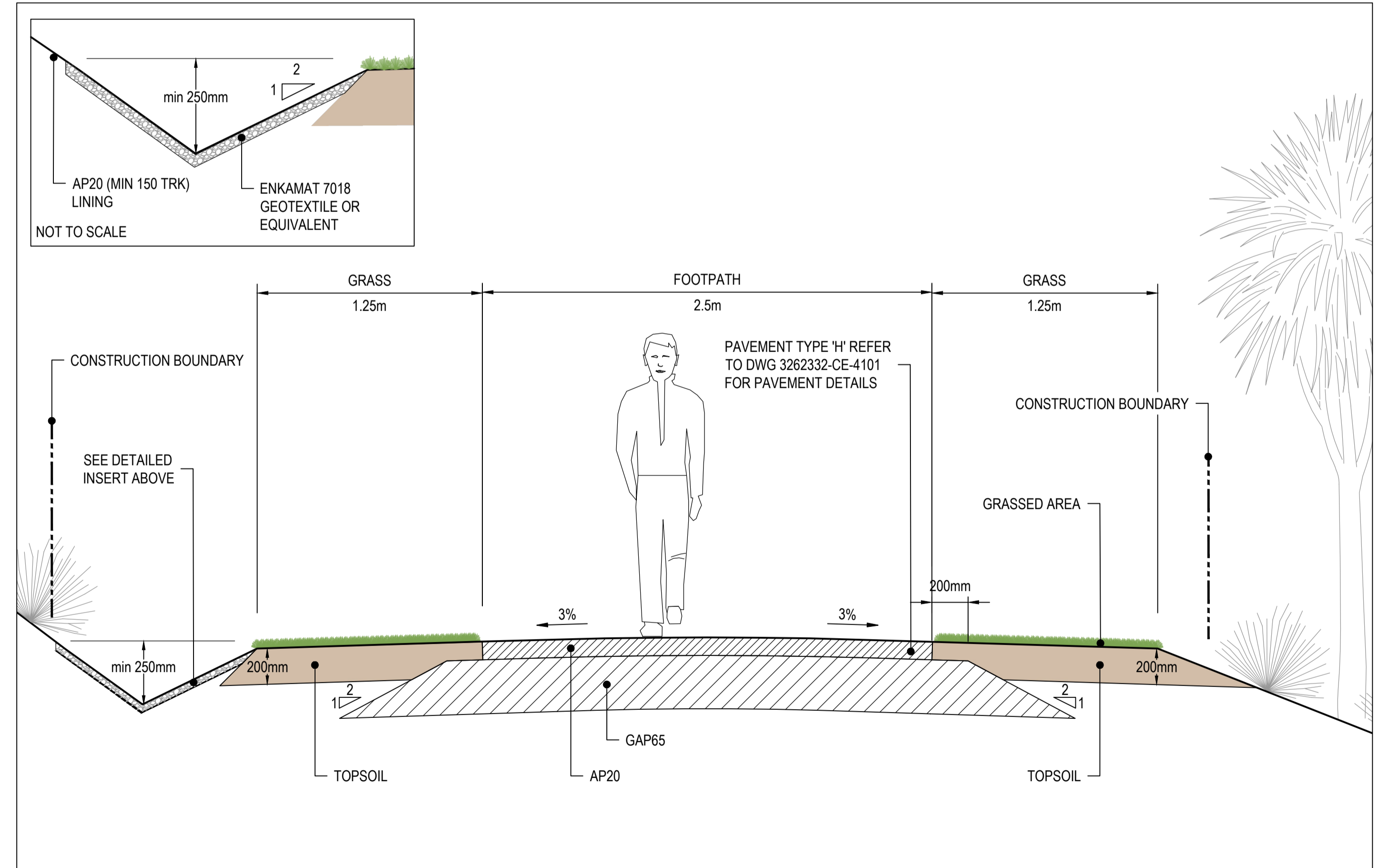
Discipline	CIVIL
Drawing No.	3262332-CE-1503
Rev.	1



FIELD LINK ACCESS TRACK PLAN
SCALE 1:200 @ A1



4 TYPICAL CROSS SECTION - LOWER LINK TRACK - FINAL TREATMENT GENERAL SECTION
NOT TO SCALE



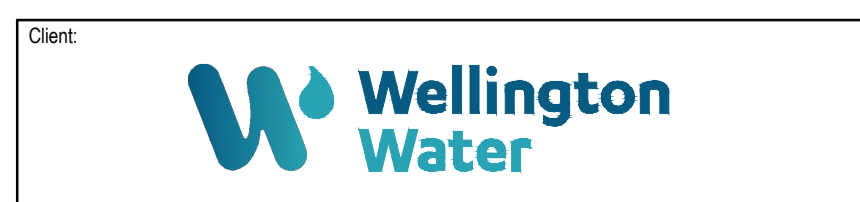
5 TYPICAL CROSS SECTION - LOWER LINK TRACK - FINAL TREATMENT DETAILED SECTION
1:20 @ A1

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



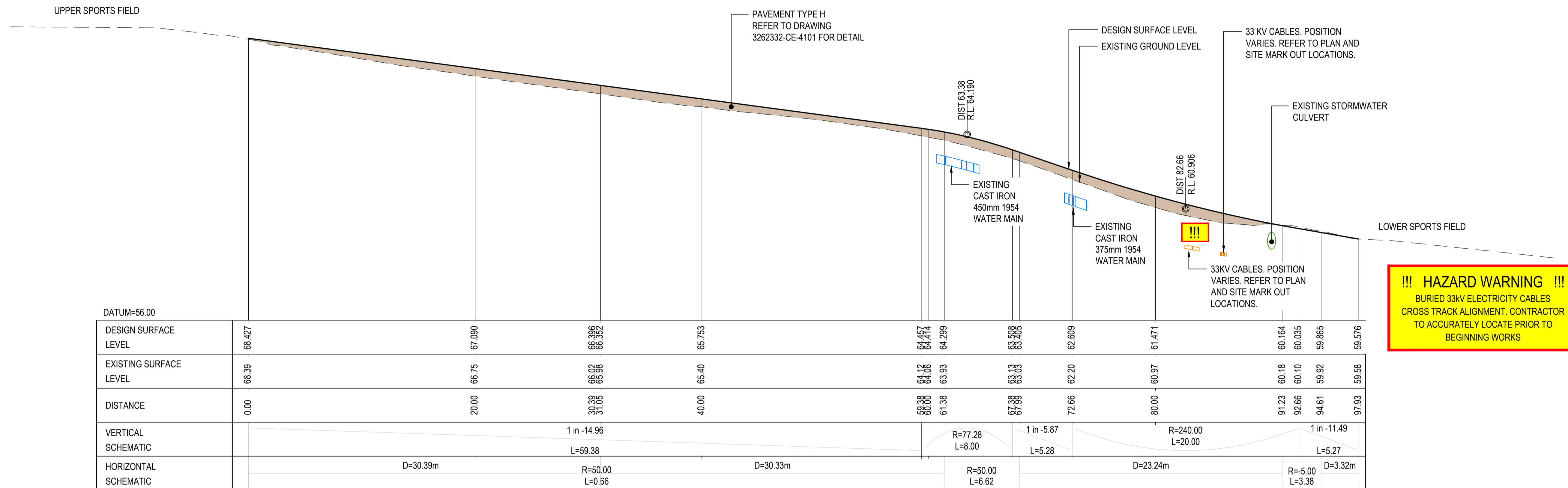
Original Scale (A1)	Design	R. HANCOCK	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R. McLEAN	26.04.19	R. HICKMAN
Reduced Scale (A3)	Verifier	W. MAGUIRE	26.04.19	
1/2 SHOWN	Dwg Check	G. DOWN	16.05.19	Date 30.11.20



Client: **OMĀRORO RESERVOIR**

Project: **FIELD LINK ACCESS TRACK FINAL WORKS SHEET 1 OF 2**

Discipline	CIVIL
Drawing No.	3262332-CE-1603
Rev.	1



6 LONGITUDINAL SECTION - FINAL TRACK SURFACE
CE-1603 1:200 Hz 1:100 Vt

NOTES:

1.0 GENERAL

1.1 EXISTING STORMWATER, WASTEWATER & WATER SERVICES INFORMATION HAS BE COLLATED FROM WELLINGTON CITY COUNCIL DATABASE & ALTERED TO MATCH SURVEY FEATURES OR POTHOLE INFORMATION.

1.2 WELLINGTON ELECTRICITY SERVICES COLLATED FROM ASBUILT INFORMATION & ALTERED TO MATCH POTHOLE INFORMATION. DEPTH VARIES BETWEEN 0.4m & 1.7m

1.3 ACCURACY OF UNDERGROUND SERVICES IS UNKNOWN AWAY FROM POTHOLE LOCATIONS.

1.4 ALL TOPSOIL TO BE STRIPPED & DISPOSED OF PRIOR TO CONSTRUCTION BEGINNING.

LEGEND:

PAVEMENT TYPE 'H'

EXISTING GROUND LEVEL

DESIGN SURFACE LEVEL

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	R. HANCOCK	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R. McLEAN	26.04.19	R HICKMAN
Reduced Scale (A3)	Verifier	W.MAGUIRE	26.04.19	
1/2 SHOWN	Dep Check	G.DOWN	16.05.19	Date 30.11.20

* Refer to Revision 1 for Original Signature



Client: OMARORO RESERVOIR

FIELD LINK ACCESS TRACK
FINAL WORKS
SHEET 2 OF 2

Discipline	CIVIL
Drawing No.	3262332-CE-1604
Rev.	1

FOR CONSTRUCTION

NOTES

1.0 GENERAL

- 1.1 ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH:
 - 1.1.1 WELLINGTON CITY COUNCIL CODE OF PRACTICE FOR WORKING ON THE ROAD AUGUST 2018.
 - 1.1.2 WELLINGTON CITY COUNCIL CODE OF PRACTICE FOR LAND DEVELOPMENT DECEMBER 2012.
 - 1.1.3 NATIONAL CODE OF PRACTICE FOR UTILITIES ACCESS TO TRANSPORT CORRIDOR SEPTEMBER 2016 AND WCC LOCAL CONDITIONS, 23 FEBRUARY 2012.
 - 1.1.4 WELLINGTON WATER REGIONAL STANDARD FOR WATER SERVICES, NOVEMBER 2012.
 - 1.1.5 WELLINGTON WATER APPROVED MATERIALS REGISTER, 2017 AND MANUFACTURER'S SPECIFICATIONS.
 - 1.1.6 WELLINGTON WATER REGIONAL SPECIFICATION FOR WATER SERVICES, JULY 2016.
 - 1.1.7 WELLINGTON WATER SAFETY FENCING OF WORKSITES APRIL 2016.
 - 1.1.8 MINIMUM STANDARDS FOR USE OF ROAD PLATES ON WELLINGTON WATER SITES NOVEMBER 2016.
- 1.2 APPLICABLE STANDARDS:
 - 1.2.1 CONCRETE PIPES
CONCRETE PIPES SHALL COMPLY IN ALL RESPECTS WITH THE REQUIREMENTS SPECIFIED IN: AS/NZS 4058:2007 PRECAST CONCRETE PIPES (PRESSURE AND NON-PRESSURE) AND DESIGNED AND INSTALLED TO: AS/NZS 3725 2007: DESIGN FOR INSTALLATION OF BURIED CONCRETE PIPES.
 - 1.2.2 FLEXIBLE PIPES (CLS AND PE100)
AS/NZS 2566.1:1998 BURIED FLEXIBLE PIPELINES - STRUCTURAL DESIGN
AS/NZS 2566.2:2002 BURIED FLEXIBLE PIPELINES - INSTALLATION
- 1.3 THE CONTRACTOR TO CHECK INVERT LEVELS OF EXISTING AND PROPOSED SYSTEM AND ADVISE ENGINEER OF ANY ANOMALIES PRIOR TO COMMENCING PIPE LAYING.
- 1.4 ALL EMBEDMENT MATERIAL TO BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 150MM DEPTH.
- 1.5 ALL BACKFILL MATERIAL SHOULD BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 200MM IN LOOSE DEPTH.
- 1.6 CONTRACTOR TO PROVIDE ALL NECESSARY TEMPORARY PIPE WORK AND/OR OVER-PUMPING TO CARRY OUT THE WORKS WITHOUT SIGNIFICANT INTERRUPTION TO WATER/WASTEWATER SERVICES.
- 1.7 PIPES, CABLES AND OTHER UTILITIES, LEVELS, REFERENCE MARKS AND OTHER OBSTRUCTIONS INDICATED ON THIS DRAWING ARE BASED ONLY ON READILY AVAILABLE RECORD PLANS AND OTHER INFORMATION. THIS INFORMATION MAY NOT BE COMPLETE, ACCURATE OR UP TO DATE. PRIOR TO CARRYING OUT ANY EXCAVATION OR OTHER PHYSICAL WORK, CONTRACTORS SHALL OBTAIN THE LATEST INFORMATION FROM UTILITY PROVIDERS AND CARRY OUT DETAILED EXPLORATORY WORK, TRACING, LOCATING, PROTECTION, ISOLATION AND ALTERATIONS AS REQUIRED UNDER NZS 3910 CLAUSE 5.13. CONTRACTOR MUST FOLLOW OCCUPATIONAL SAFETY AND HEALTH SERVICE (OSH) GUIDELINES FOR SAFE LOCATION OF UNDERGROUND SERVICES.
- 1.8 RESIDENTS SHALL BE ADEQUATELY NOTIFIED PRIOR TO WORKS COMMENCING, AND 24 HOURS PRIOR TO DISRUPTION OF SERVICE.
- 1.9 ALL CARE MUST BE TAKEN BY THE CONTRACTOR NOT TO DAMAGE PRIVATE PROPERTY, OR ANY GARDENED AREA OTHER THAN THOSE NECESSARY AS PART OF THE WORKS.
- 1.10 ALL WORKS ARE TO BE CONSTRUCTED USING BEST TRADE PRACTICES.
- 1.11 APPROVAL MUST BE SOUGHT FROM THE ENGINEER PRIOR TO REMOVAL OF ANY OBSTACLE SUCH AS FENCE, TREE IN PRIVATE PROPERTY.

2.0 DRAINAGE

- 2.1 THE CONTRACTOR IS TO ENSURE ALL WASTEWATER IS CONTAINED WITHIN THE SEWER SYSTEM. ANY OVERPUMPING IS TO BE ALLOWED FOR IN THE CONTRACT RATES, THERE ARE TO BE NO SEWAGE SPILLS IN PRIVATE PROPERTY.
- 2.2 THE CONTRACTOR IS TO ALLOW FOR ALL SHORING REQUIRED FOR TRENCHING IN ANY UNSTABLE GROUND WHICH MAY BE ENCOUNTERED.
- 2.3 EXISTING LAWN SHALL BE REMOVED AS TURF SLABS AND REINSTATED ON COMPLETION.
- 2.4 CONTRACTOR TO DEWATER AS NECESSARY TO COMPLETE THE WORKS, IN ACCORDANCE WITH THE RELEVANT CONSENT CONDITIONS.
- 2.5 CONTRACTOR TO REINSTATE ALL ROAD SURFACE MARKINGS AND REFLECTIVE RAISED PAVEMENT MARKERS (RRPMs).
- 2.6 THE CONTRACTOR SHALL CHECK AND CONFIRM ALL EXISTING SEWER AND STORMWATER LOCATIONS AND LEVELS ON SITE AS AN INITIAL ACTIVITY, ADVISE THE ENGINEER FOR FURTHER INSTRUCTION SHOULD THESE DIFFER FROM THE INFORMATION SHOWN ON THE DRAWINGS.
- 2.7 THE PIPELINES ARE TO BE CONSTRUCTED AT THE INVERT LEVELS SHOWN ON THE LONG SECTIONS, WITH DEPTHS TO INVERT AND PIPE GRADES PROVIDED FOR GUIDANCE ONLY. DEPTHS TO INVERT AND PIPE GRADES SHALL BE ADJUSTED BY THE CONTRACTOR IF NECESSARY TO ACHIEVE THE SPECIFIED INVERT LEVELS.
- 2.8 ALL NEW MANHOLE FRAMES SHALL BE FITTED WITH SAFETY GRILLES

3.0 UNDERGROUND GAS PIPES

- 3.1 MACHINE DIGGING - STRATEGIC INTERMEDIATE PRESSURE (FEEDER MAIN OPERATING AT PRESSURES GREATER THAN 700 KPa (100 psi) AND MEDIUM PRESSURE GAS PIPES
 - 3.1.1 MACHINE DIGGING IS NOT PERMITTED CLOSER THAN 1.0m FROM ANY STRATEGIC INTERMEDIATE PRESSURE AND MEDIUM PRESSURE GAS MAINS OR SERVICES. ANY EXCAVATION WORK WITHIN THE DISTANCE MUST BE PERFORMED BY HAND DIGGING AND UNDER THE OBSERVATION OF A POWERCO APPROVED WORKS PROTECTION OBSERVER INCLUDING THE BACKFILLING OPERATION.
 - 3.1.2 PLEASE REFER TO THE POWERCO STANDARD "EXCAVATION WORKS IN THE VICINITY OF STRATEGIC CABLES AND PIPES" BEFORE COMMENCING EXCAVATION WORK IN THE VICINITY OF STRATEGIC GAS PIPES.
- 3.2 MEDIUM AND LOW PRESSURE GAS PIPES
 - 3.2.1 MACHINE DIGGING IS NOT PERMITTED CLOSER THAN 500mm FROM ANY MEDIUM OR LOW PRESSURE GAS MAIN OR SERVICE UNLESS THE POSITION OF THE PIPES HAS BEEN VERIFIED BY HAND DIGGING AND EXPOSING THEM FIRST.
- 3.3 NOTIFICATION OF WORK NEAR STRATEGIC INTERMEDIATE PRESSURE AND MEDIUM PRESSURE GAS PIPES.
 - 3.3.1 AT LEAST 2 WORKING DAYS NOTICE MUST BE GIVEN TO POWERCO PRIOR TO ANY EXCAVATION WORK TAKING PLACE.
 - 3.3.2 IT IS THE EXCAVATION CONTRACTOR'S RESPONSIBILITY TO CONTACT THE POWERCO HELP DESK ON 0800 769 372 FOR THE ABOVE NOTIFICATION.
 - 3.3.3 THE EXCAVATION CONTRACTOR WILL BE ISSUED WITH A WORKS AGREEMENT WHICH MUST BE COMPLETED AND SIGNED PRIOR TO ANY EXCAVATION WORK TAKING PLACE NEAR ANY STRATEGIC INTERMEDIATE PRESSURE OR MEDIUM PRESSURE GAS PIPES.
- 3.4 LOCATION OF OTHER SERVICES.
 - 3.4.1 INTERMEDIATE PRESSURE GAS PIPES.
NO SERVICES SHALL BE LAID CLOSER THAN 300mm FROM ANY INTERMEDIATE PRESSURE GAS PIPE
 - 3.4.2 LOW OR MEDIUM PRESSURE GAS PIPES.
NO SERVICES SHALL BE LAID CLOSER THAN 150mm FROM ANY LOW OR MEDIUM PRESSURE GAS PIPE

3.0 UNDERGROUND POWER

- 3.1 AT LEAST 2 WORKING DAYS NOTICE REQUIRED PRIOR TO EXCAVATION. HAND DIGGING IS REQUIRED WHEN EXCAVATING WITHIN 1m OF CABLE. REPLACEMENT TRENCH BACKFILL MATERIAL MUST BE THE SAME AS THAT REMOVED AND MUST BE REPLACED TO THE SAME LEVEL OF COMPACTION.

4.0 UNDERGROUND TELECOM

- 4.1 ONSITE CABLE LOCATE OR STANDOVER IS REQUIRED IF WORKING WITHIN 1m OF THESE CABLES. AT LEAST 2 WORKING DAYS NOTICE REQUIRED PRIOR TO EXCAVATION. FOR LOCATE AND STANDOVER CONTACT 0800 248 344.

IMPORTANT SERVICES NOTE

THE SERVICES SHOWN SHOULD BE CONSIDERED INDICATIVE ONLY AND ARE BASED ON RECORDS SUPPLIED BY THE UTILITY COMPANIES. PRIVATE SERVICES AND CONNECTIONS ARE NOT SHOWN.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SERVICES ARE LOCATED/MARKED BY THE APPROPRIATE SERVICE AUTHORITY, OR THEIR OWN STAFF, PRIOR TO ANY SITE WORKS, AND FOR PROTECTING THESE SERVICES FOR THE DURATION OF THE SITE CONTRACT.

SERVICES LEGEND

STORMWATER

- SW PIPE - EXISTING
- SW PIPE - NEW
- SW PIPE - TO BE ABANDONED
- MANHOLE - EXISTING
- MANHOLE - NEW
- SCRUFFY DOME - NEW
- SUMP - EXISTING
- SUMP (YARD) - NEW
- INLET WINGWALL

WASTEWATER

- SS PIPE - EXISTING
- SS PIPE - NEW
- SS PIPE - TO BE ABANDONED
- MANHOLE - EXISTING
- MANHOLE - NEW

WATER

- W PIPE - EXISTING
- W PIPE - TO BE ABANDONED
- FH FIRE HYDRANT
- V VALVE
- T TOBY

UTILITIES LEGEND

ELECTRICITY

- 400V CABLE - U/G 400
- 110V CABLE - U/G 11kV
- 33kV CABLE - U/G 33kV
- POWERSPOLE
- STREET LIGHT

COMMUNICATIONS

- CABLE - CHORUS
- CABLE - VODAFONE
- CABLE - FIBRE OPTIC
- CABLE - CITYLINK BROADBAND

GAS

- PIPE - POWERCO

GENERAL LEGEND

- BOUNDARY (PROPERTY)
- FENCE

!!! HAZARD WARNING !!!
 BURIED 33kV ELECTRICITY CABLES.
 CONTRACTOR TO ACCURATELY LOCATE
 PRIOR TO BEGINNING WORKS

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:



Original Scale (A1)	Design	Drawn	Date	Approved For Construction*
N.T.S	D BRACEY	R HANCOCK	26.04.19	R HICKMAN
Reduced Scale (A3)	Dwg Verifier	K.PURTON	26.04.19	
N.T.S	Dwg Check	G.DOWN	16.05.19	Date 30.11.20

* Refer to Revision 1 for Original Signature

Client:



Project: OMĀRORO RESERVOIR

Title: DRAINAGE NOTES

Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-2001	1

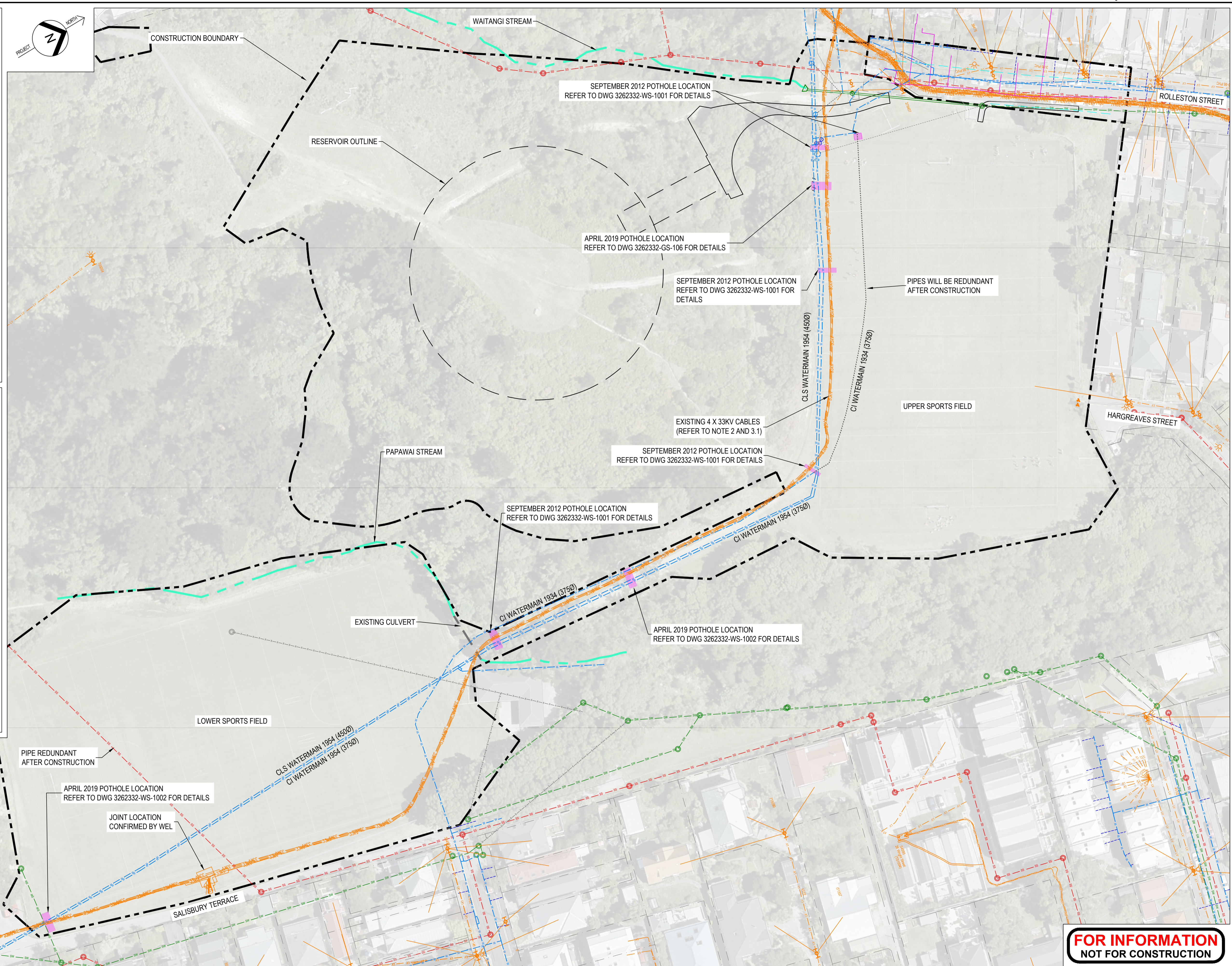
LEGEND

- W — W EXISTING WATER MAIN
- SW — SW EXISTING STORMWATER
- SS — SS EXISTING WASTEWATER
- - - X — X — X — X ABANDONED SERVICE
- - - PRIVATE WATER
- - - PRIVATE STORMWATER
- - - PRIVATE WASTEWATER
- KERBS
- GAS CABLES
- - - GAS CABLES NO PRESSURE
- CHORUS CABLE
- - - PARCEL BOUNDARY
- STREAMS
- EXISTING SW SUMP
- 33kV U/G POWER
- LV — 33kV U/G POWER
- EXISTING SS/SW MANHOLE
- ☀ LIGHT POLES
- ⚡ POWER POLE
- V EXISTING VALVE
- SM LINZ SURVEY MARK

NOTES:

1.0 GENERAL

- 1.1 EXISTING STORMWATER, WASTEWATER AND WATER SERVICES INFORMATION HAS BEEN COLLATED FROM WELLINGTON CITY COUNCIL DATABASE AND ALTERED TO MATCH SURVEY FEATURES OR POTHOLE INFORMATION.
- 1.2 WELLINGTON ELECTRICITY SERVICES COLLATED FROM ASBUILT INFORMATION AND ALTERED TO MATCH POTHOLE INFORMATION, DEPTH VARIES BETWEEN 0.4M AND 1.7M
- 1.3 SOME SERVICES HAVE RESTRICTIONS ON STOCKPILING (REFER TO STOCKPILE PLANS CE-1421 & CE-1521), AND VIBRATION. THESE INCLUDE:
 - 1.3.1 STOCKPILE IS NOT PERMITTED OVER THE EXISTING 4 X 33 KV CABLES. CLEARANCE OF 3M IS REQUIRED. SOME POWER CABLES ARE FLUID INSULATED AND SUSCEPTIBLE TO DAMAGE FROM NEARBY MOVEMENT AND VIBRATION.
 - 1.3.1 STOCKPILING ON WATER PIPES NOT PERMITTED.
- 1.4 ACCURACY OF UNDERGROUND SERVICES IS UNKNOWN AWAY FROM POTHOLE LOCATIONS.
- 1.5 ALL SERVICES ARE TO BE LOCATED & MARKED OUT PRIOR TO CONSTRUCTION BEGINNING.



**FOR INFORMATION
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR INFORMATION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:

Original Scale (A1)	Design	Drawn	Checked	Approved For Construction*
1:500	-	A. KOCHAR	02.19	R HICKMAN
Reduced Scale (A3)		W.MAGUIRE	26.04.19	
1:1000		G.DOWN	16.05.19	

* Refer to Revision 1 for Original Signature

Client:

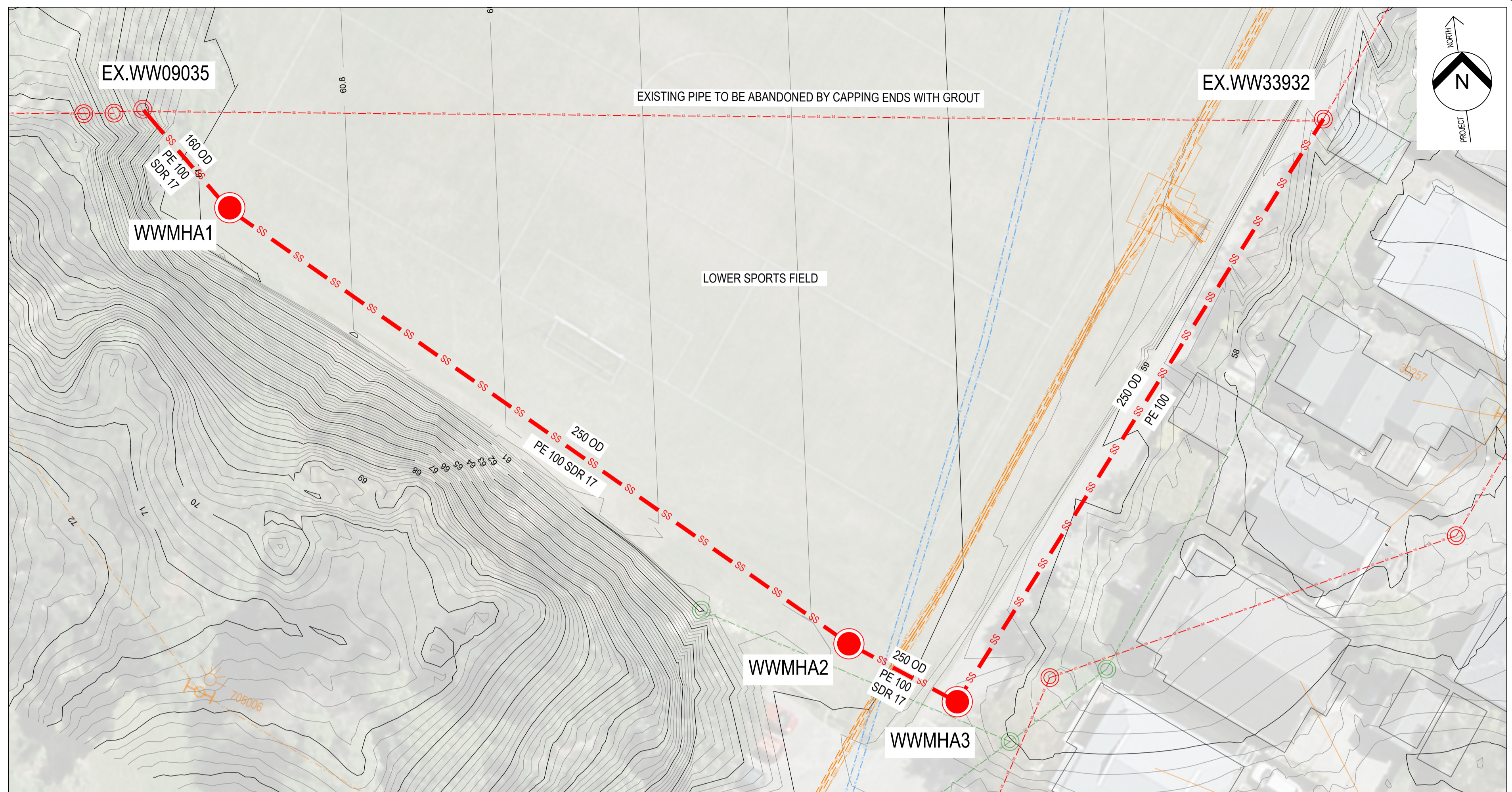
Project: **OMĀRORO RESERVOIR**

Title: **EXISTING UTILITIES PLAN**

Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-2002	1

LEGEND:

- PROPOSED WASTEWATER PIPE
- EXISTING SERVICES
- WCC WATER MAIN
- STORMWATER MAIN
- WASTEWATER MAIN
- POWER CABLE
- EXISTING MANHOLE
- NEW MANHOLE



- NOTES:**
- 1.0 GENERAL
 - 1.1 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58M (JUNE 2012)
 - 1.2 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR (NZTM).
 - 1.4 REFER TO STANDARD NOTES AND ABBREVIATIONS ON DRAWING 3262332-CE-2001
 - 1.5 EXISTING SERVICES SHOWN ON PLAN ARE FROM BEFORE U DIG ENQUIRIES IN NOVEMBER 2018.
 - 1.9 CONTOUR INTERVAL IS 0.2m. CONTOURS SHOWN ARE FINISHED SURFACE LEVEL.
 - 2.0 WASTE WATER MANOLES WITHIN SPORTS FIELD ARE TO HAVE BURIED LIDS.

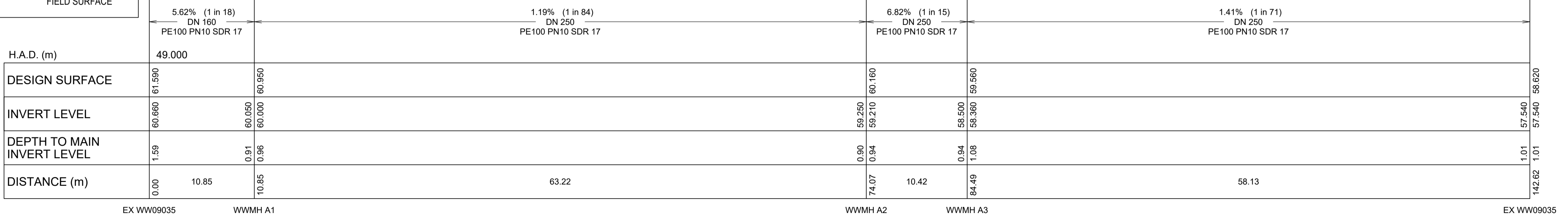
SET OUT COORDINATES

MH No.	NORTHING	EASTING
WWMHA1	5425650.58mN	1748324.87mE
WWMHA2	5425638.84mN	1748386.99mE
WWMHA3	5425638.17mN	1748397.38mE
WW33932	5425695.76mN	1748405.23mE
WW09035	5425654.87mN	1748314.91mE

WASTEWATER RELOCATION PLAN
SCALE 1:250 @ A1

LEGEND:

- EXISTING SURFACE
- PROPOSED SPORTS FIELD SURFACE



1 WASTEWATER RELOCATION LONGITUDINAL SECTION
1:100(H) 1:250(V) at A1

CONSTRUCTION RECORD

No.	Revision	By	Chk	Appd	Date
2	CONSTRUCTION RECORD	RM	WM	DS	23.11.20
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.19
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	Drawn	Verified	Checked	Date
AS SHOWN	D.BRACEY	R.HANCOCK	K.PURTON	G.DOWN	22.02.19
Reduced Scale (A3)					26.04.19
1/2 SHOWN					26.04.19
					16.05.19

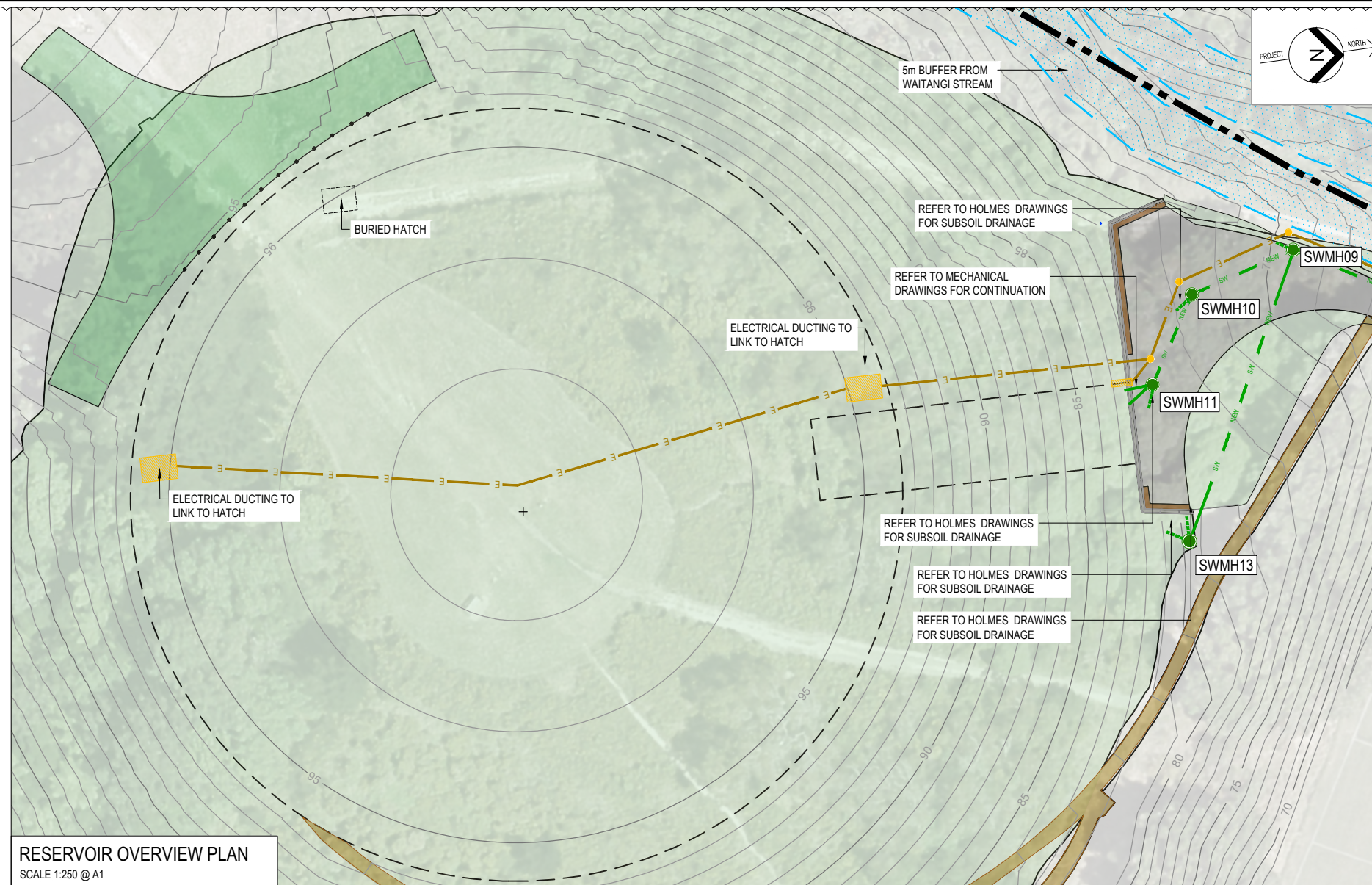


Client: **OMĀRORO RESERVOIR**

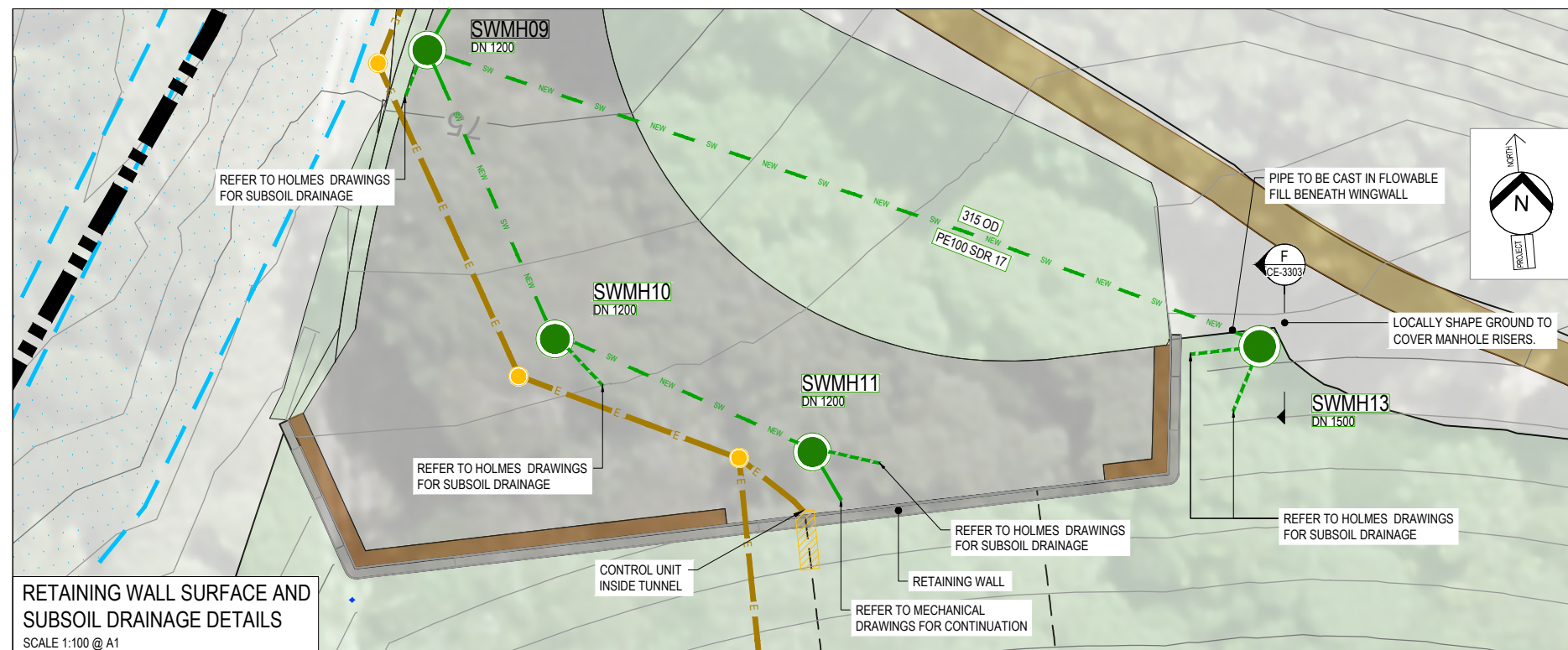
Project: **WASTEWATER RELOCATION PLAN & LONGSECTION**

Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-2011	2

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RESERVOIR OVERVIEW PLAN
SCALE 1:250 @ A1



RETAINING WALL SURFACE AND SUBSOIL DRAINAGE DETAILS
SCALE 1:100 @ A1

- NOTES:**
- 1.0 GENERAL**
 - 1.1 DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.
 - 1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)
 - 1.3 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR (NZTM).
 - 1.4 REFER TO DWG 3262332-CE-2001 FOR STANDARD NOTES.
 - 2.0 DRAINAGE**
 - 2.1 REFER TO DWG 3262332-CE-3301 & 3302 FOR DRAINAGE DETAILS.
 - 2.2 NEW STORMWATER PIPES TO BE LAID BY OPEN TRENCHING.
 - 2.6 REFER TO DRAWING CE-3101 FOR STORMWATER DRAINAGE PLAN & DRAWING CE-3102 FOR STORMWATER DRAINAGE LONG SECTIONS

LEGEND:

- FINISHED SURFACE - FILL
- STORMWATER MANHOLE
- GRASSED SWALE WITH TURF REINFORCING
- MAJOR CONTOUR - FINISHED GROUND (5m INTERVAL)
- MINOR CONTOUR - FINISHED GROUND (1m INTERVAL)
- SW NEW PE100 SDR 17 NON PERFORATED STORMWATER PIPE
- E ELECTRIC DUCTING

SETOUT SCHEDULE		
ASSET ID	NORTHING (mN)	EASTING (mE)
SWMH13	5425888.40	1748280.14

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



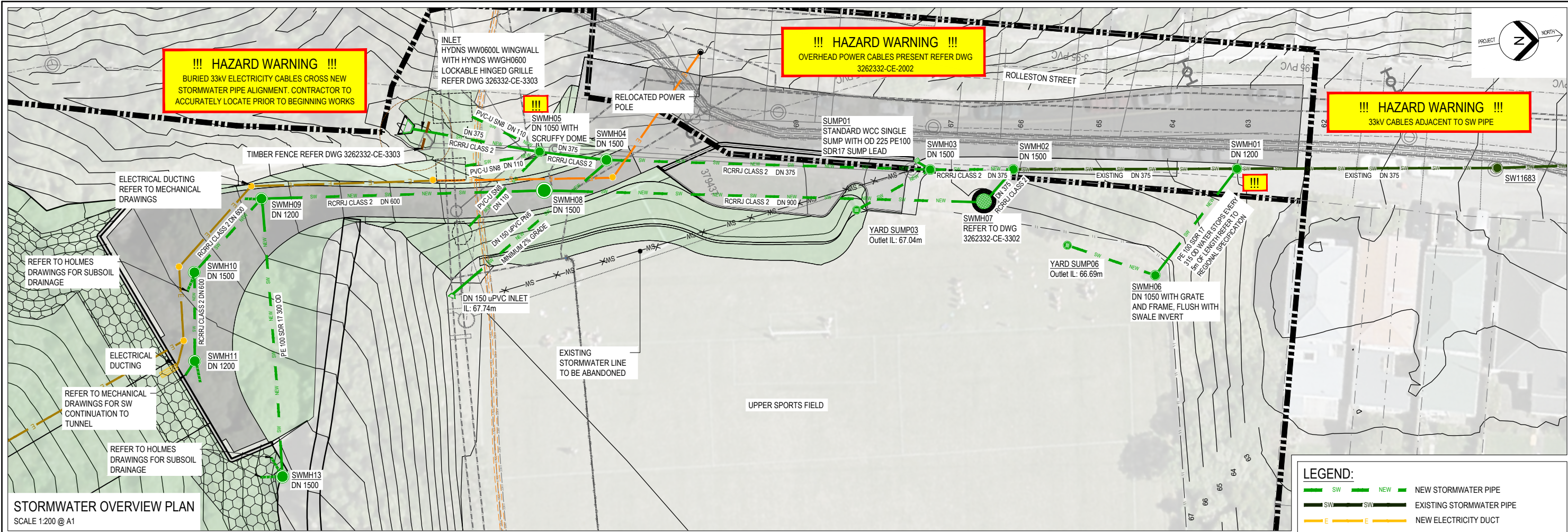
Original Scale (A1)	Design	D. BRACEY	01.05.19	Approved For Construction	R. HICKMAN
AS SHOWN	Drawn	M. SUMALINGO	01.05.19		
Reduced Scale (A3)	Verifier	K. PURTON	01.05.19		
1/2 AS SHOWN	Dwg Check	G. DOWN	16.05.19	Date	30.11.20



Client: **OMĀRORO RESERVOIR**

RESERVOIR SUBSOIL DRAINAGE & DUCTING

Discipline	CIVIL	
Drawing No.	3262332-CE-3001	Rev.
		1

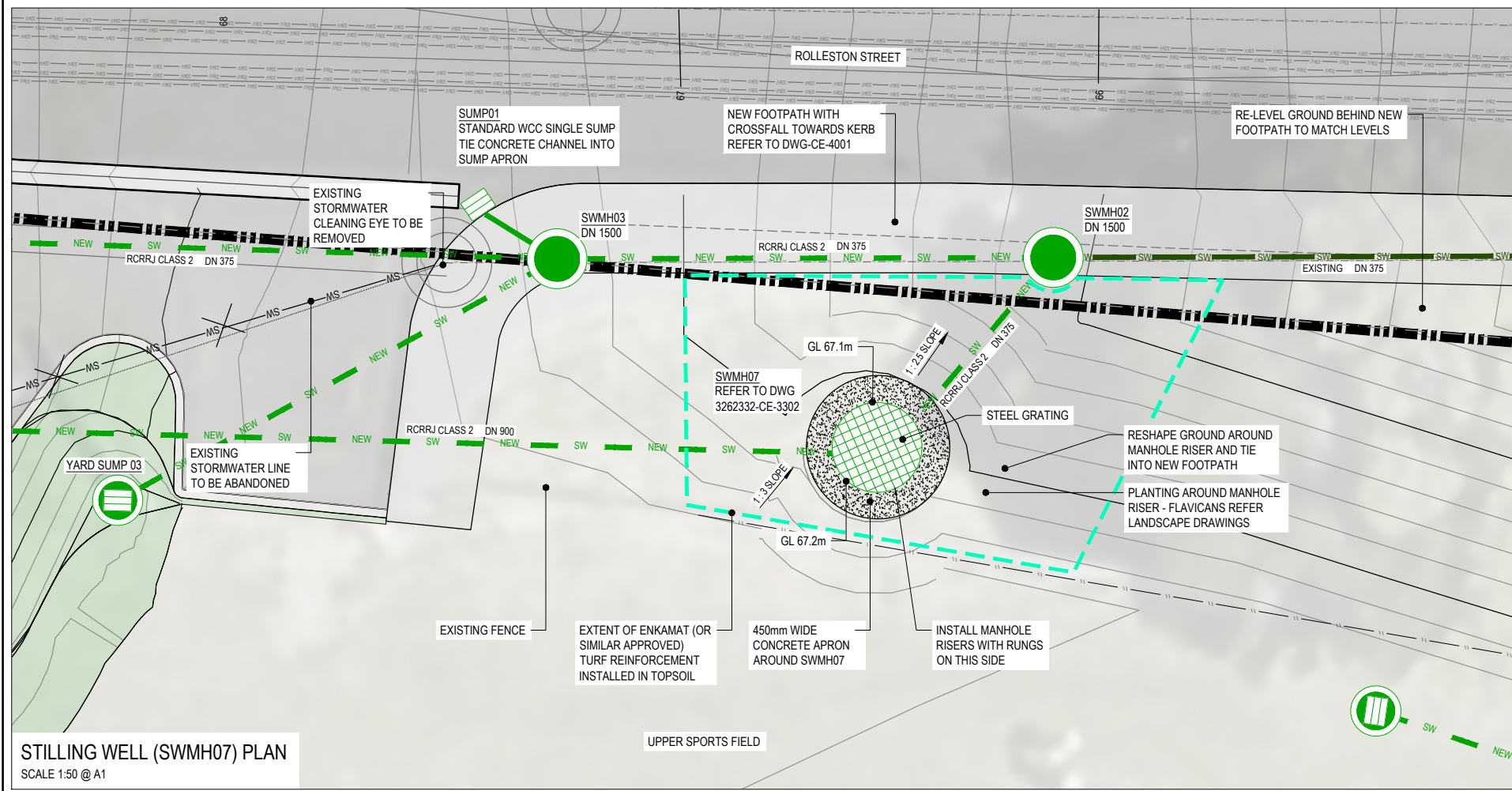


STORMWATER OVERVIEW PLAN
SCALE 1:200 @ A1

LEGEND:

- SW NEW NEW STORMWATER PIPE
- SW EXISTING STORMWATER PIPE
- E NEW ELECTRICITY DUCT
- NEW ELECTRICITY MANHOLE
- NEW STORMWATER MANHOLE
- EXISTING STORMWATER MANHOLE
- ⊙ STORMWATER SCRUFFY DOME
- ⊙ STORMWATER SUMP
- ⊙ STORMWATER INLET - WINGWALL
- MAJOR CONTOUR
- MINOR CONTOUR
- FENCE

- NOTES:**
- 1.0 GENERAL
 - 1.1 DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.
 - 1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)
 - 1.3 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR (NZTM).
 - 1.3 EXISTING UNDERGROUND SERVICES / UTILITIES SHOWN (GREY) ARE INDICATIVE ONLY. CONTRACTOR TO LOCATE PRIOR TO EXCAVATION.
 - 1.4 CONTRACTOR TO CONFIRM EXISTING LEVELS ON SITE AS AN INITIAL ACTIVITY. NOTIFY ENGINEER IF THERE ARE ANY DIFFERENCES TO THOSE SHOWN.
 - 1.5 REFER TO DWG 3262332-CE-2001 FOR STANDARD NOTES.
 - 1.6 REFER TO DWG 3262332-CE-3301 & 3302 FOR DRAINAGE DETAILS.
 - 1.7 CONTRACTOR TO USE CCTV THROUGH EXISTING PIPE PRIOR TO COMMENCING WORKS AND ADVISE ENGINEER OF ANY DEFECTS DISCOVERED.
 - 1.8 SUMP LEADS TO BE DN 150 uPVC PN6, AND LAID AT MINIMUM 1% GRADES UNLESS NOTED OTHERWISE.
 - 1.9 NEW STORMWATER PIPES TO BE LAID BY OPEN TRENCHING.



STILLING WELL (SWMH07) PLAN
SCALE 1:50 @ A1

SETOUT SCHEDULE		
ASSET ID	NORTHING (mN)	EASTING (mE)
EXISTING MANHOLE		
SW11683	5426011.85	1748301.17
NEW MANHOLE		
SWMH01	5425988.05	1748290.70
SWMH02	5425967.60	1748281.70
SWMH03	5425959.99	1748278.35
SWMH04	5425930.82	1748264.34
SWMH05	5425920.66	1748260.21
SWMH06	5425976.27	1748297.13
SWMH07	5425963.26	1748283.05
SWMH08	5425923.90	1748264.61
SWMH09	5425897.74	1748253.90
SWMH10	5425888.64	1748257.92
SWMH11	5425885.07	1748266.04
NEW SUMP		
SUMP01	5425958.88	1748276.71
NEW YARD SUMP		
YARD SUMP03	5425951.63	1748279.06
YARD SUMP REMOVED	-	-
YARD SUMP05	5425911.33	1748270.33
YARD SUMP06	5425972.84	1748292.99

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



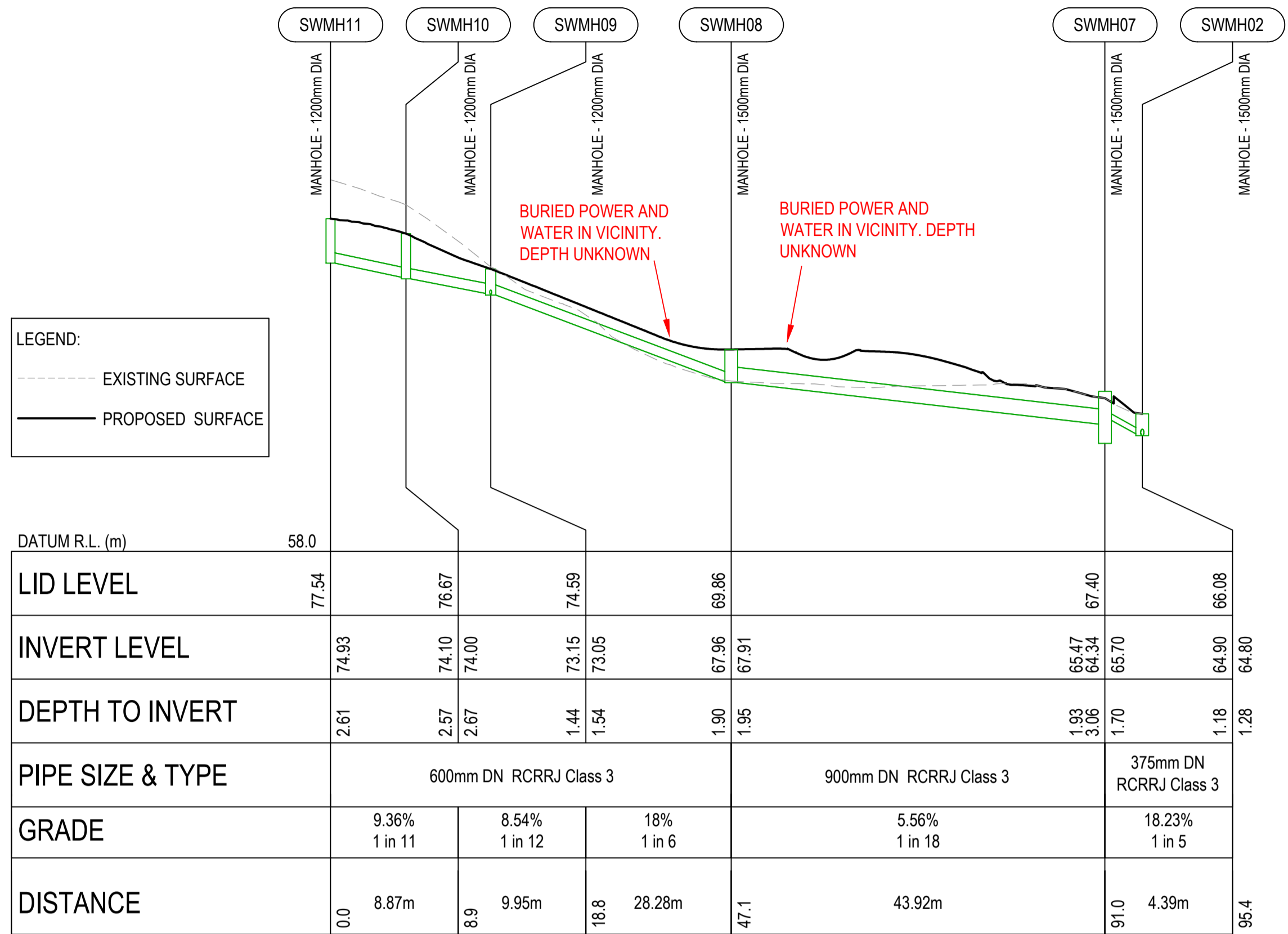
Original Scale (A1) AS SHOWN	Design D. BRACEY 26.04.19	Approved For Construction R. HICKMAN
Reduced Scale (A3) 1/2 AS SHOWN	Drawn R. McLEAN 26.04.19	Date 30.11.20
	Verifier K. PURTON 08.05.19	
	Dwg Check G. DOWN 16.05.19	



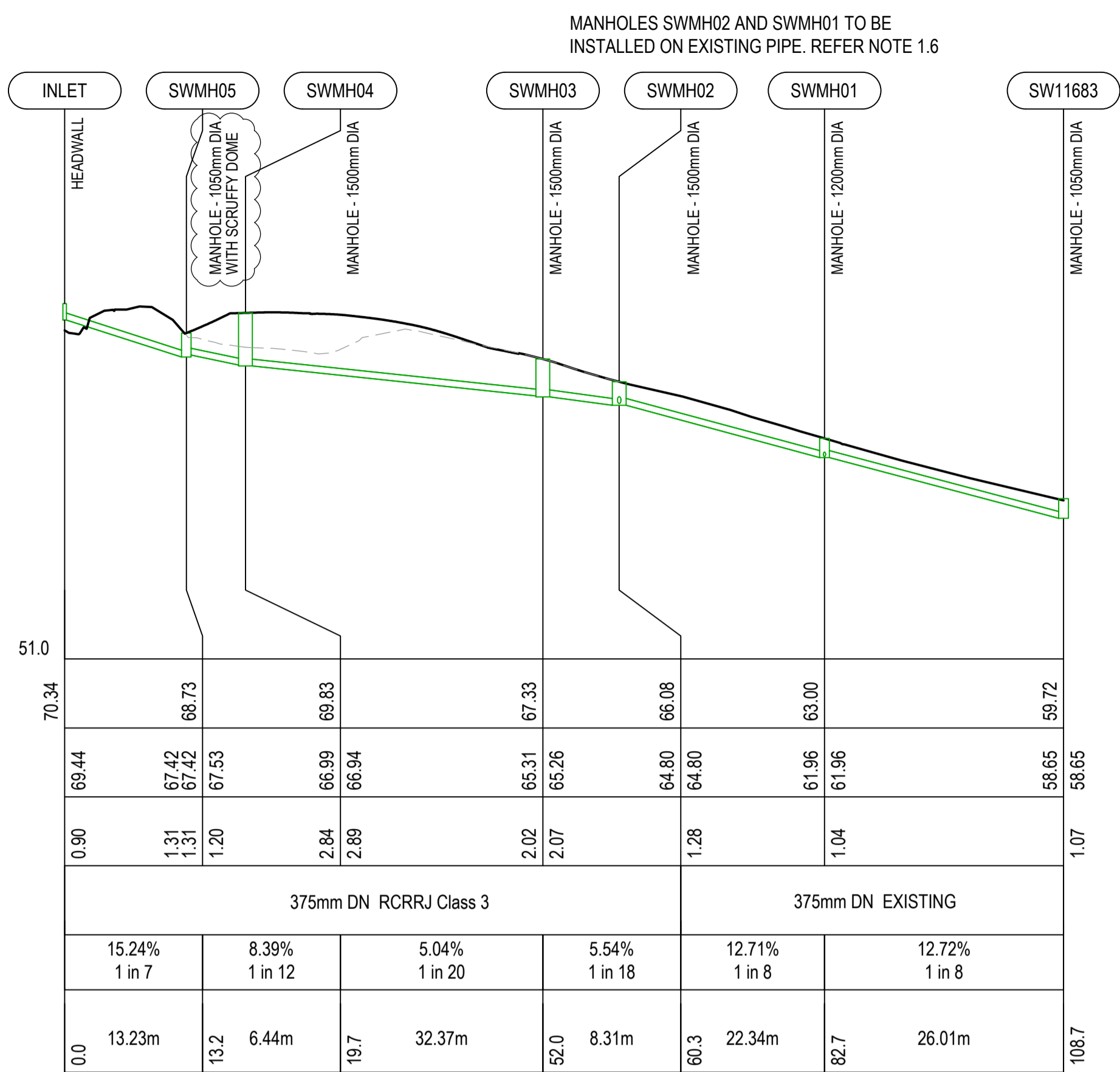
Client: **OMĀRORO RESERVOIR**

Project: **TUNNEL ACCESS ROAD & ROLLESTON STREET STORMWATER PLAN**

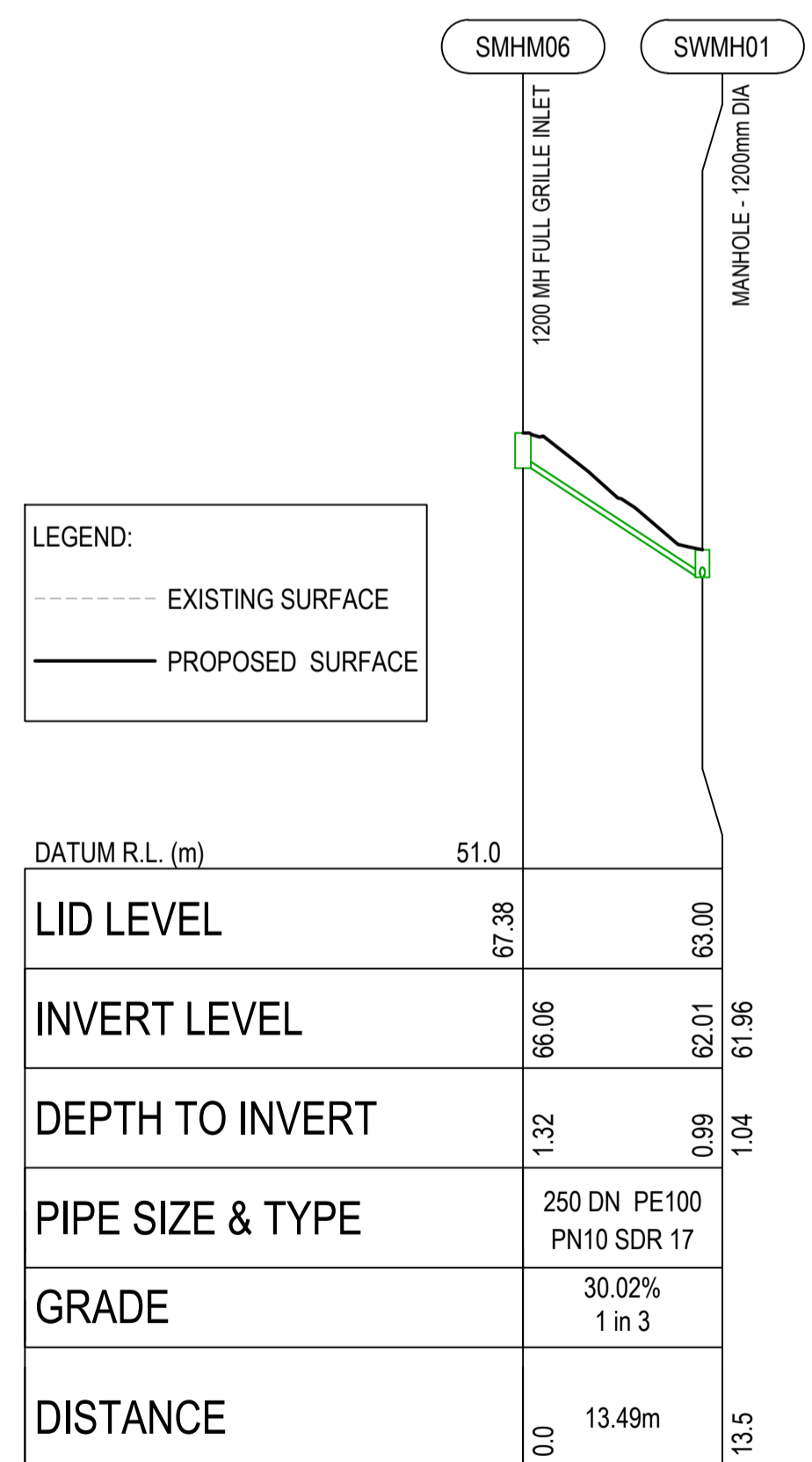
Discipline: CIVIL	Rev: 1
Drawing No: 3262332-CE-3101	



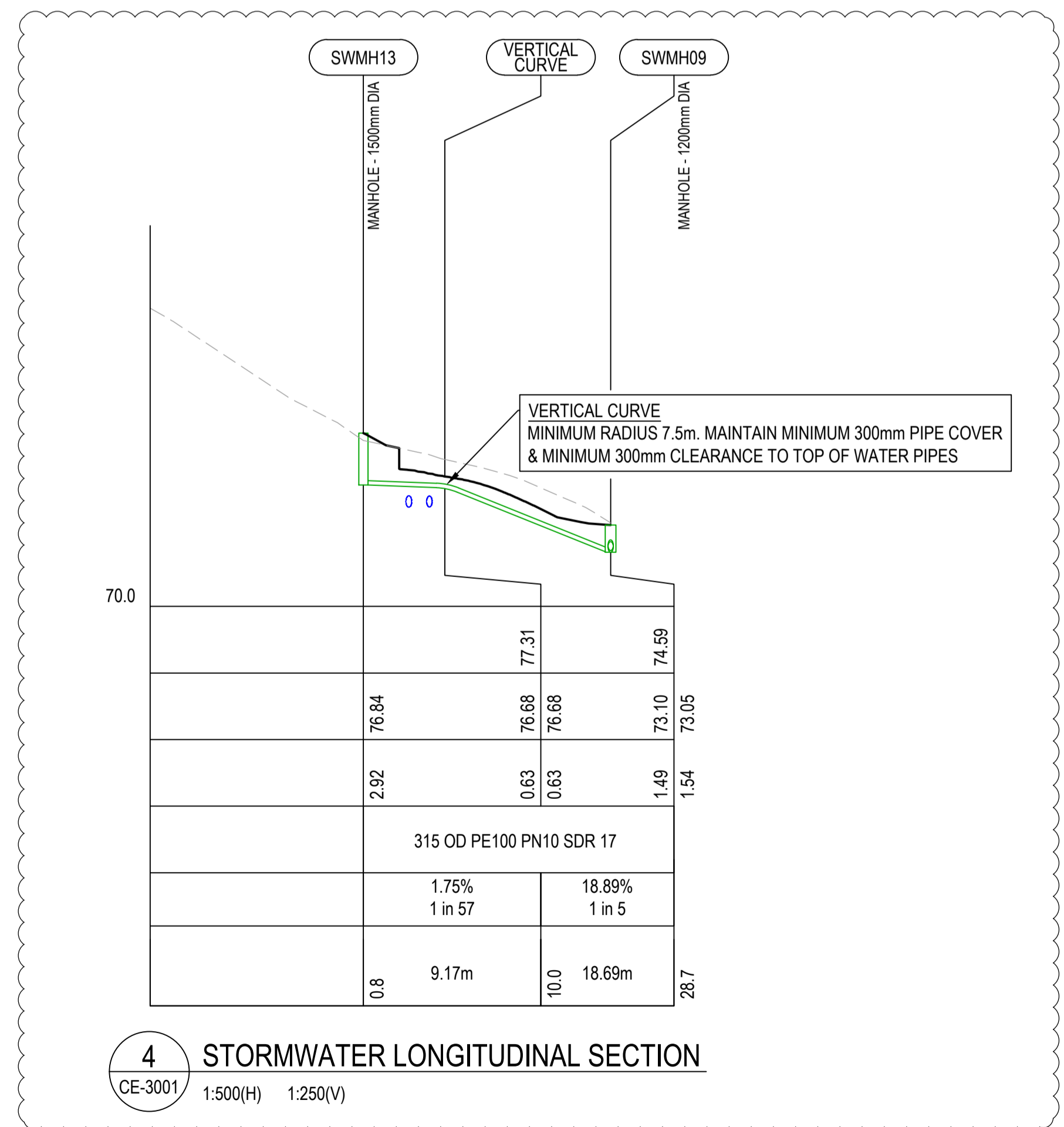
1 STORMWATER OVERFLOW LONGITUDINAL SECTION
CE-3101 1:500(H) 1:250(V)



2 ROLLESTON ST STORMWATER LONGITUDINAL SECTION
CE-3101 1:500(H) 1:250(V)



3 UPPER FIELD STORMWATER LONGITUDINAL SECTION
CE-3201 1:500(H) 1:250(V)



4 STORMWATER LONGITUDINAL SECTION
CE-3001 1:500(H) 1:250(V)

- NOTES:**
- DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.
 - LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)
 - COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR
 - EXISTING UNDERGROUND SERVICES / UTILITIES SHOWN ARE INDICATIVE ONLY
 - CONTRACTOR TO CONFIRM EXISTING LEVELS ON SITE AS AN INITIAL ACTIVITY. NOTIFY ENGINEER IF THERE ARE ANY DIFFERENCES TO THOSE SHOWN
 - INVERT LEVELS SHOWN ARE INDICATIVE ONLY. CONTRACTOR TO CONFIRM EXISTING INVERT LEVELS AS INITIAL ACTIVITY AND ADVISE ENGINEERS IF THERE ARE ANY DIFFERENCES TO THOSE SHOWN.

!!! HAZARD WARNING !!!
BURIED 33kV ELECTRICITY CABLES & POTABLE WATER CROSS NEW STORMWATER PIPE ALIGNMENT. CONTRACTOR TO ACCURATELY LOCATE PRIOR TO BEGINNING WORKS

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	D BRACEY	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R HANCOCK	26.04.19	R HICKMAN
Reduced Scale (A3)	Design Check	K PURTON	08.05.19	
1/2 AS SHOWN	Design Check	G DOWN	16.05.19	



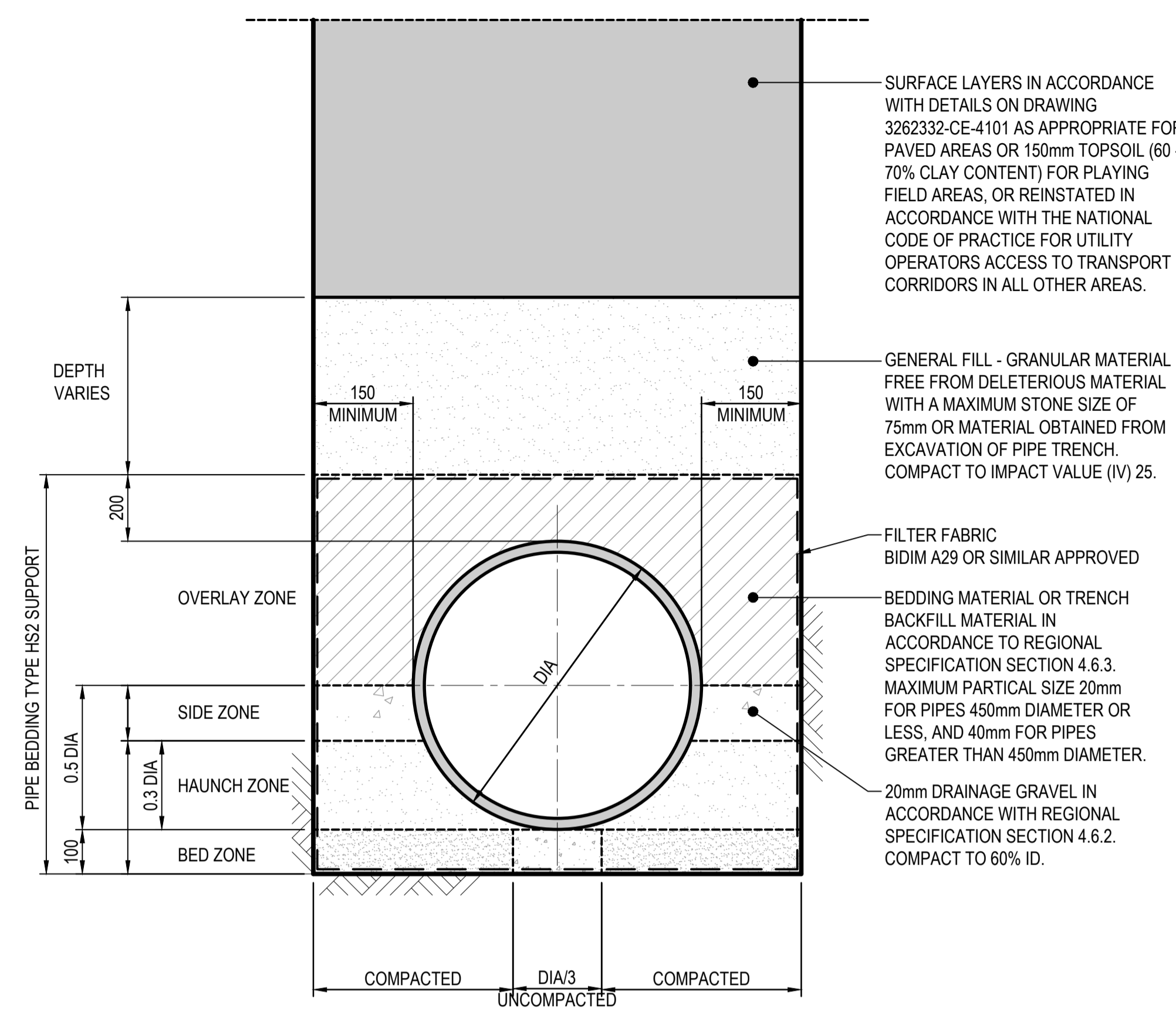
Client: OMARORO RESERVOIR

Title: STORMWATER LONG SECTIONS

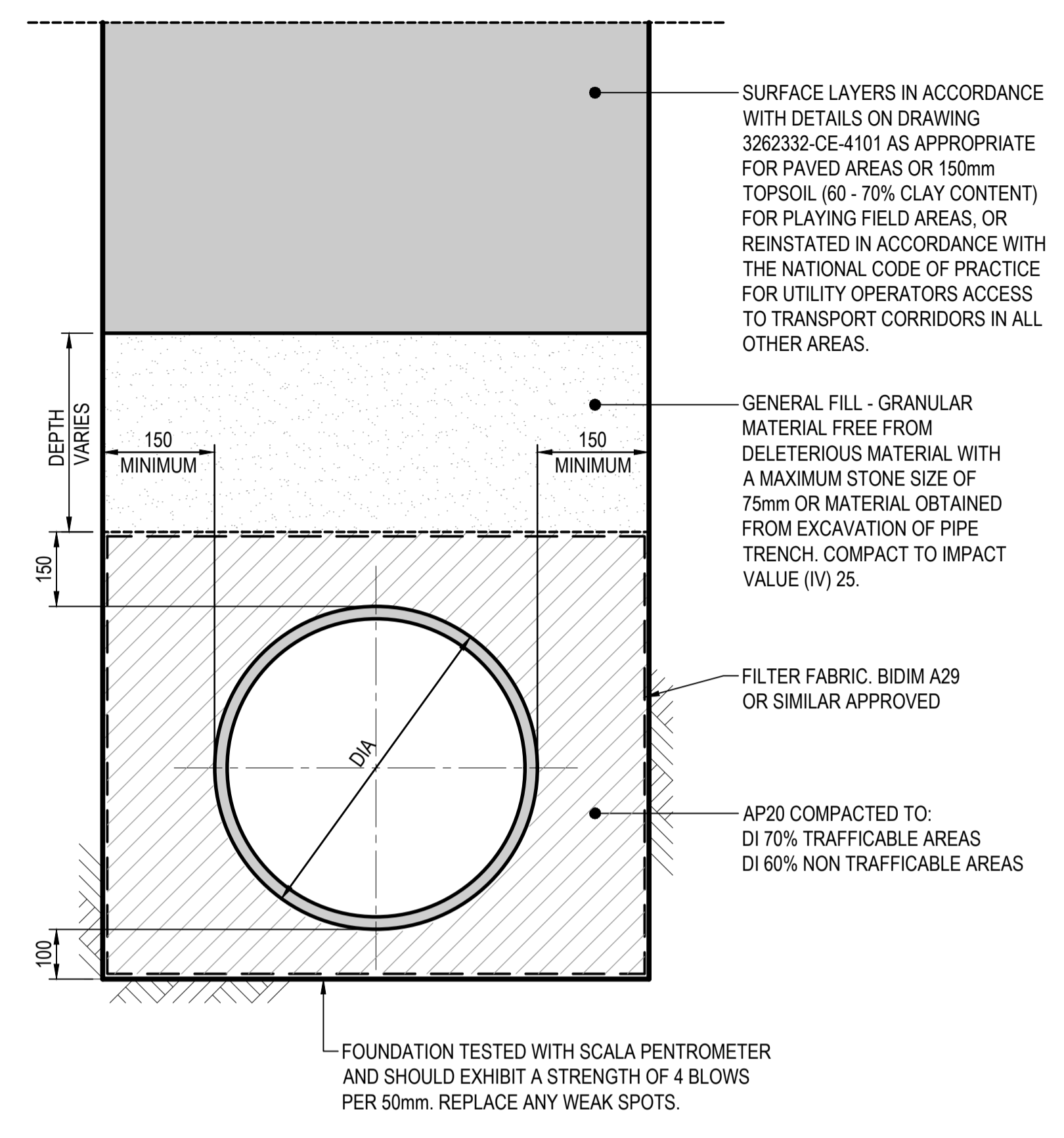
Discipline	CIVIL
Drawing No.	3262332-CE-3102
Rev.	1

NOTES:

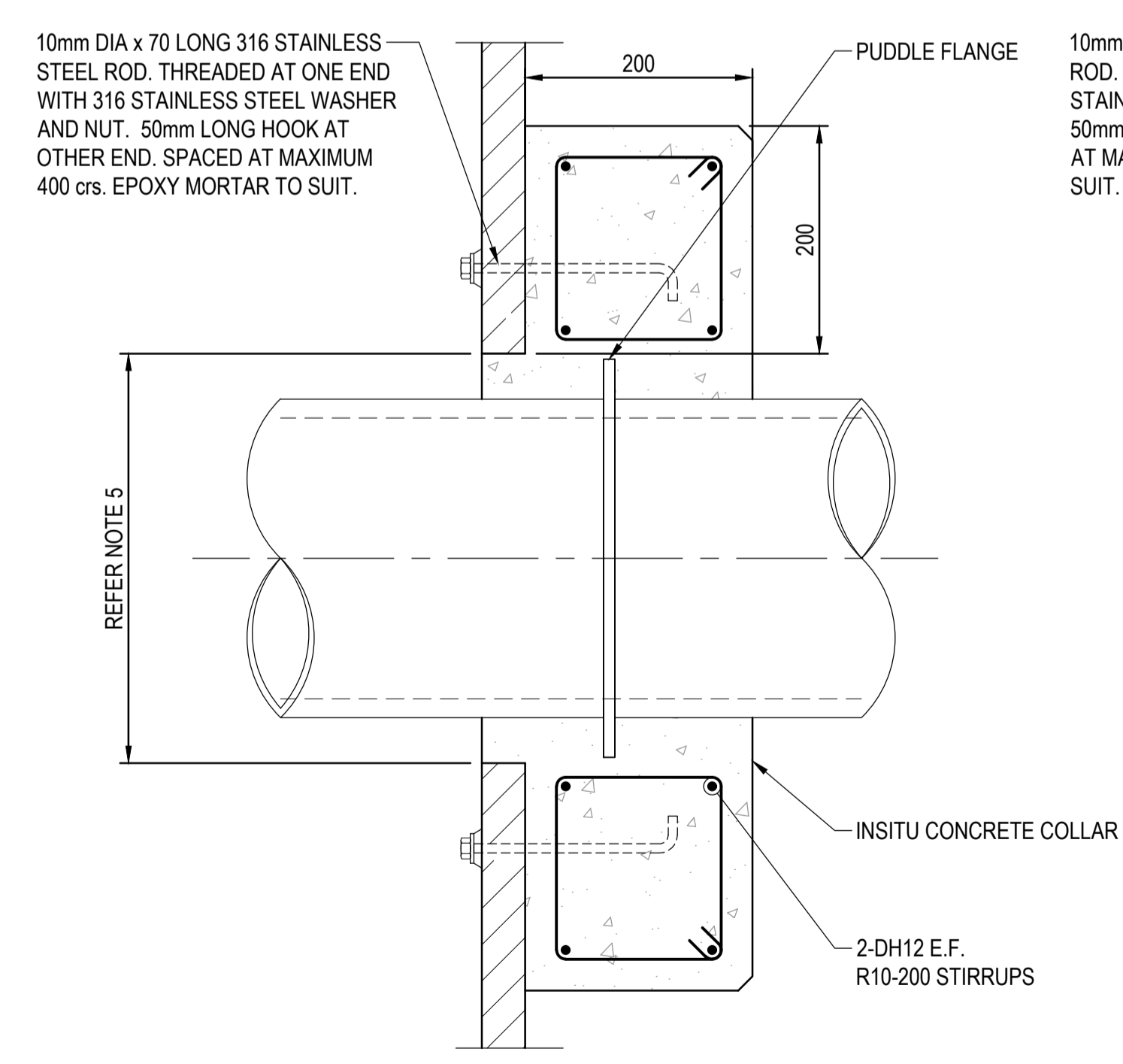
- 1.0 GENERAL
- 1.1 ALL DIMENSIONS SHOWN ARE IN MILLIMETRES
- 2.0 TRENCHING
- 2.1 PLACEMENT AND COMPACTION OF ALL LAYERS FOR PIPE BEDDING MUST BE IN LAYERS NOT EXCEEDING 150mm (COMPACTED) THICKNESS.
- 2.2 PLACEMENT AND COMPACTION OF ALL LAYERS ABOVE PIPE BEDDING MUST BE IN LAYERS NOT EXCEEDING 200mm (COMPACTED) THICKNESS.
- 2.3 APPROPRIATE TRENCH SIDE SUPPORT TO BE PROVIDED.
- 2.4 SLOPE OF EXCAVATION IS TO BE KEPT VERTICAL TO AT LEAST 150mm ABOVE THE PIPE.
- 2.5 CORE HOLE OF FOLLOWING DIAMETER:
OD OF PIPE +100mm (SPIGOTTED PIPE)
OD OF PIPE FLANGE +10MM (FLANGED PIPE)



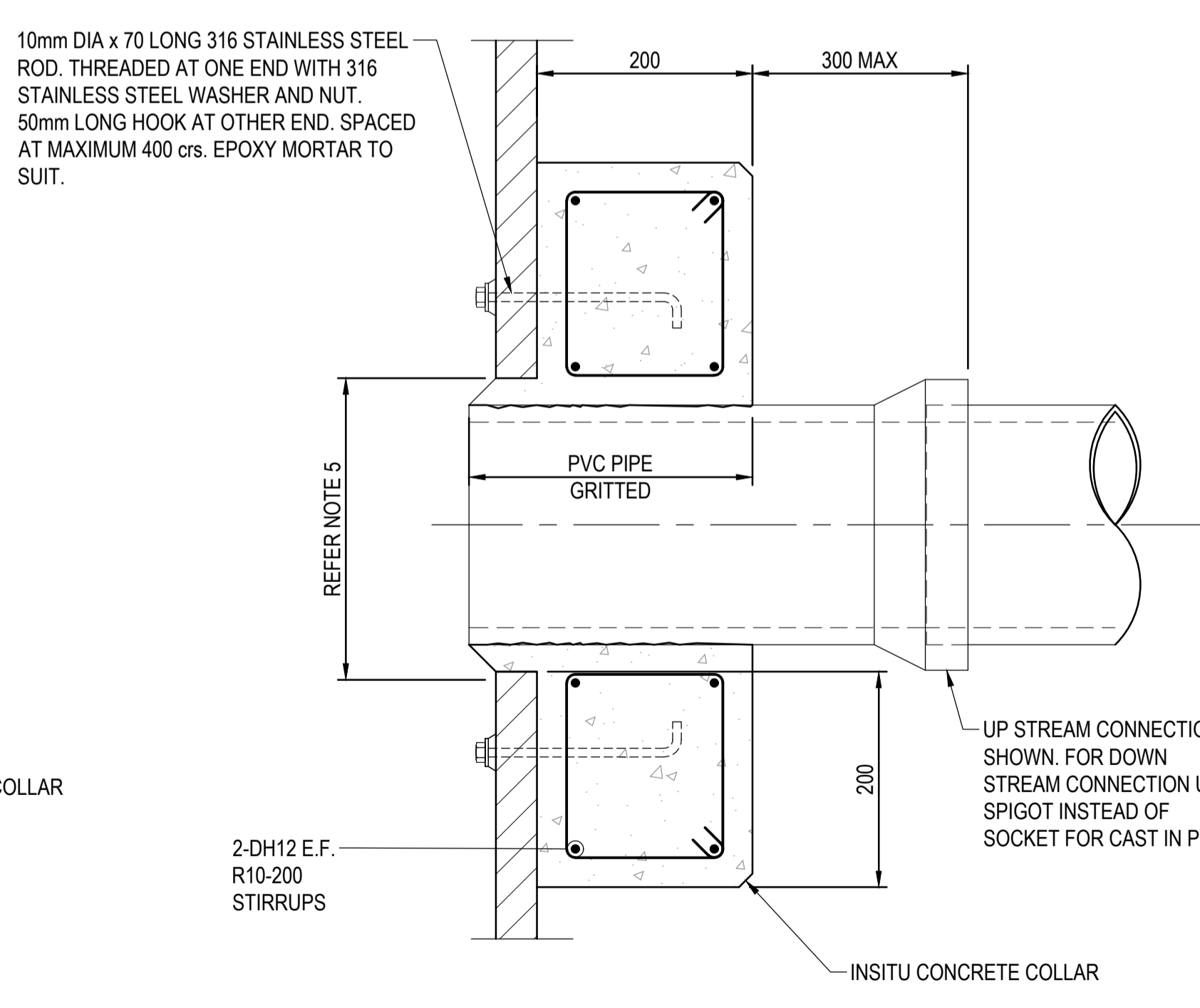
TYPE 1 - CONCRETE PIPE HS2 TRENCH DETAILS
(NOT TO SCALE)
FOR ROAD RESERVE, PLAYING FIELDS & RESERVOIR ACCESS ROAD



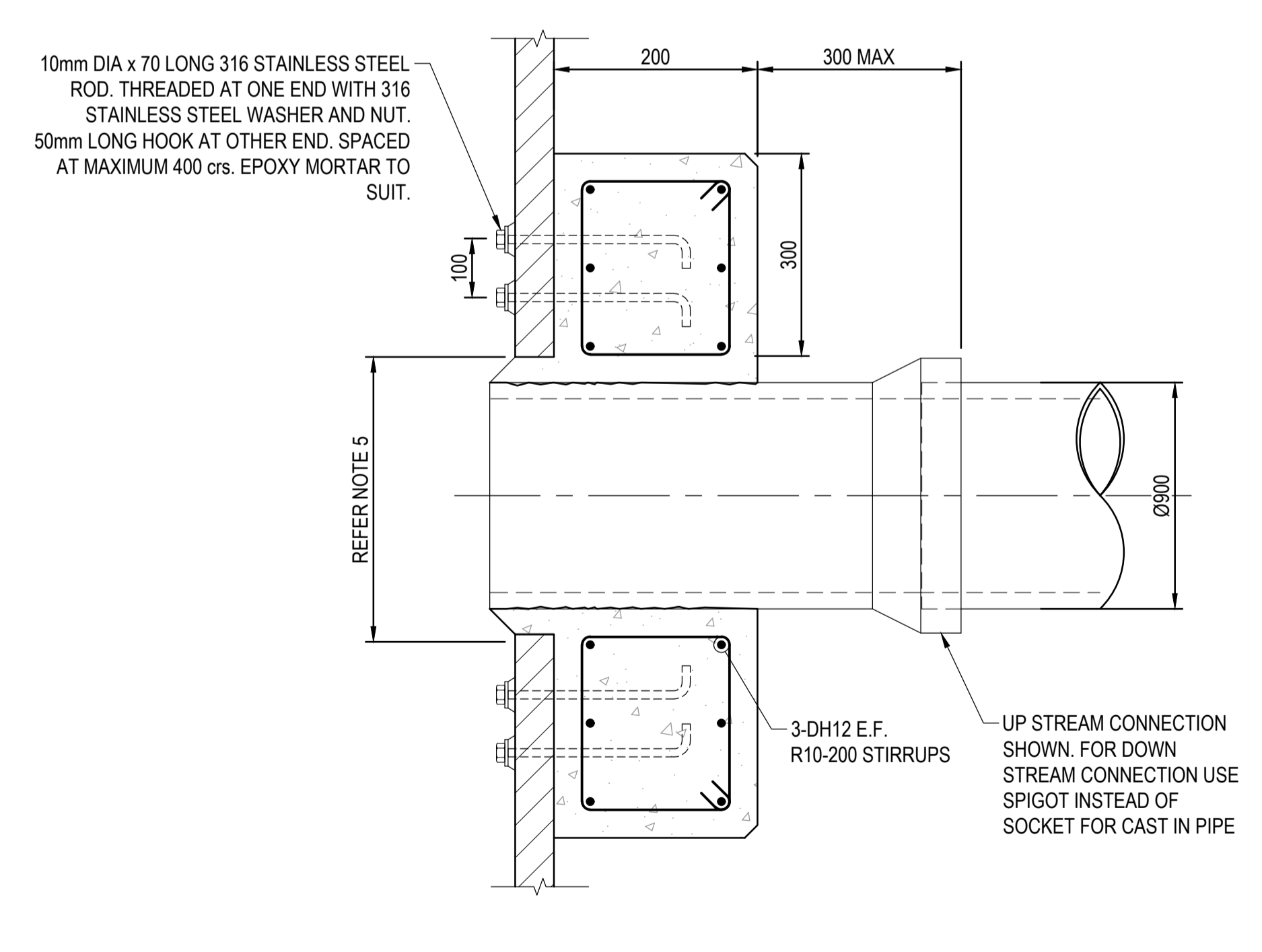
TYPE 2 - FLEXIBLE PIPE (PE, PVC) TRENCH DETAILS
(NOT TO SCALE)



TYPE A CONCRETE COLLAR DETAILS
(FOR PE PIPE)
(NOT TO SCALE)



TYPE B CONCRETE COLLAR DETAILS
(FOR PVC OR CONCRETE PIPE, DIAMETER LESS THAN 900mm)
(NOT TO SCALE)



TYPE C CONCRETE COLLAR DETAILS
(FOR DN 900mm CONCRETE PIPE)
(NOT TO SCALE)

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	D.BRACEY	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R.McLEAN	26.04.19	R.HICKMAN
Reduced Scale (A3)	Verifier	K.PURTON	08.05.19	
1/2 SHOWN	Dep Check	G.DOWN	16.05.19	Date 30.11.20

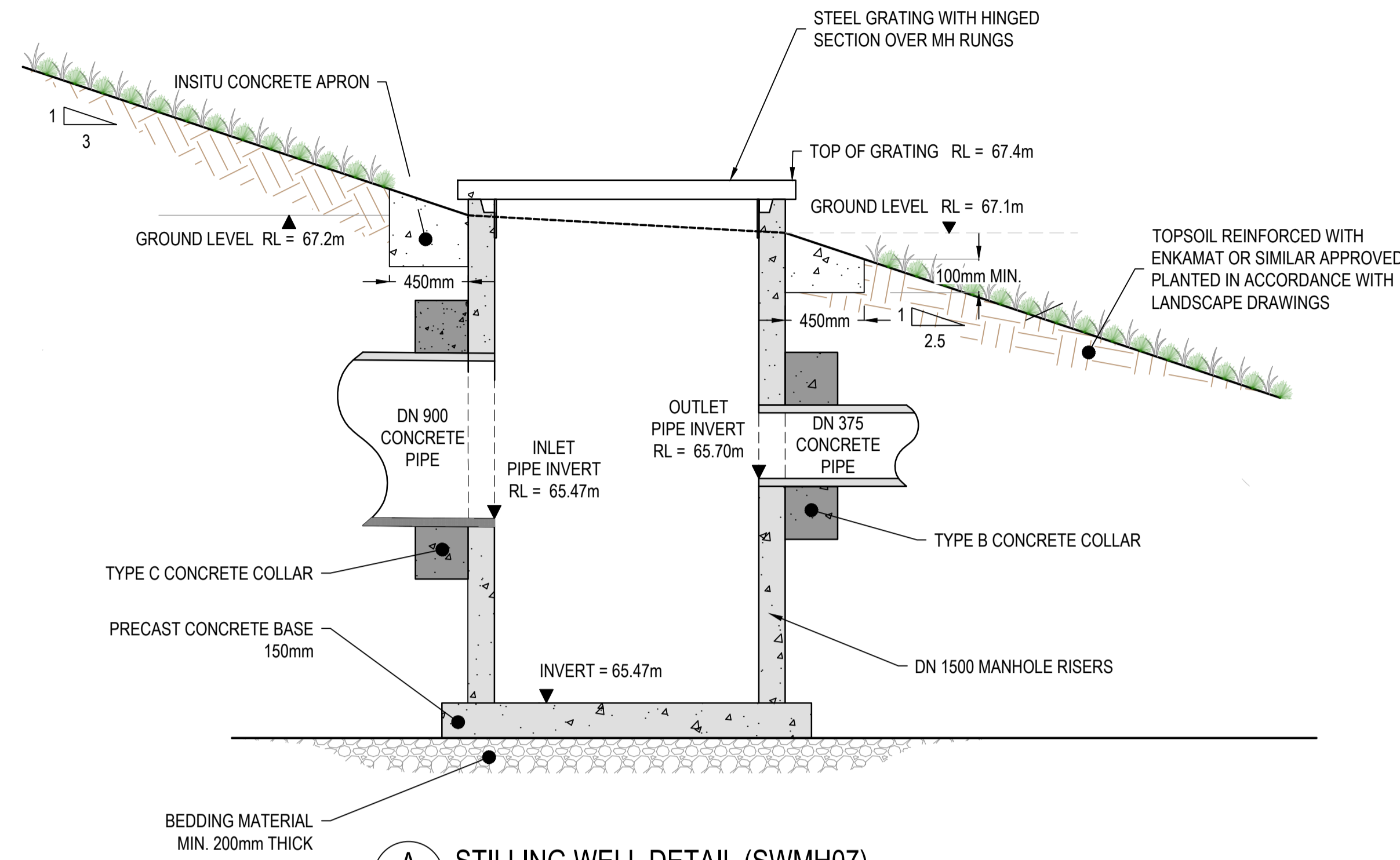
* Refer to Revision 1 for Original Signature



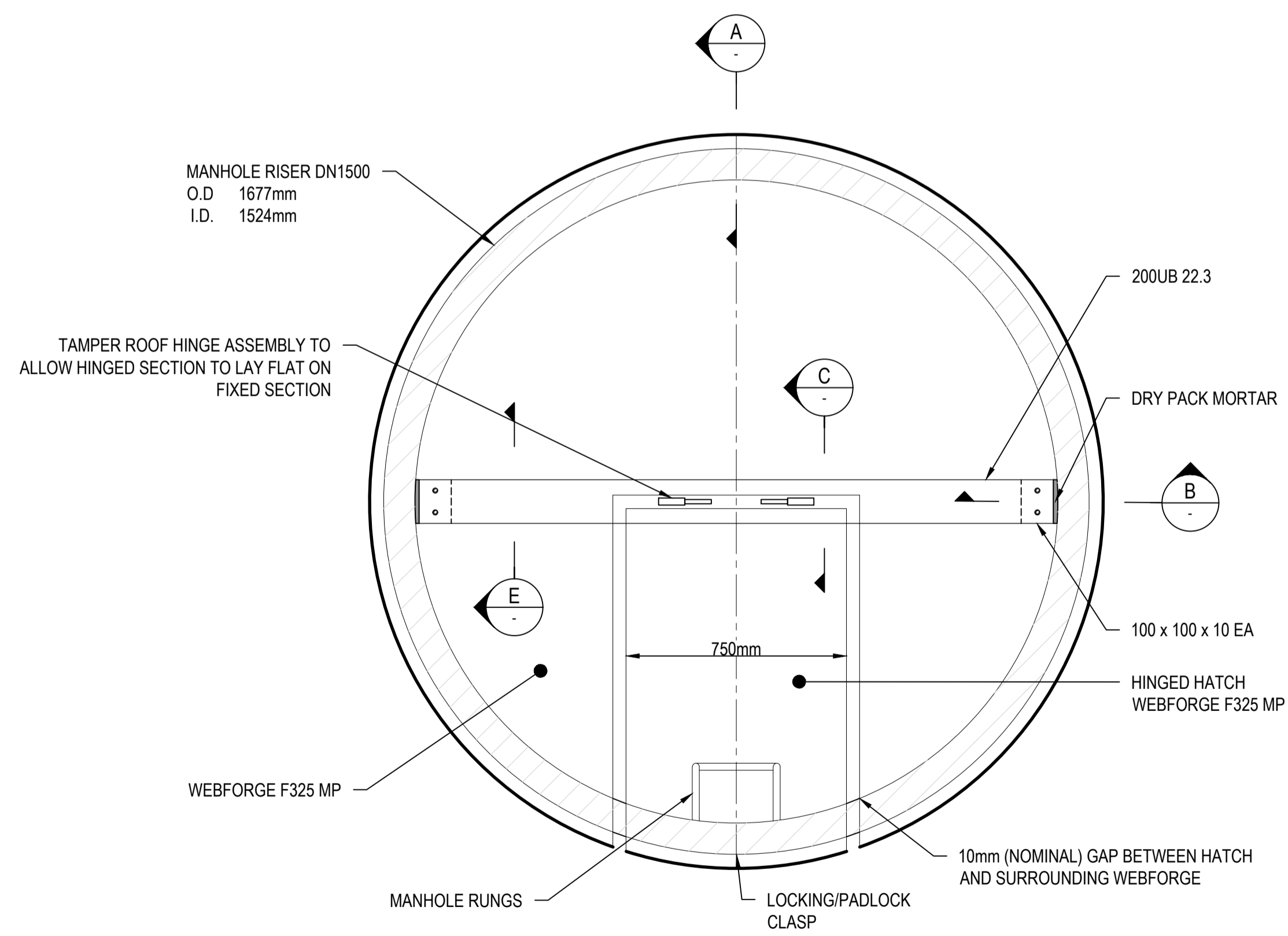
Client: **OMARORO RESERVOIR**

Project: **DRAINAGE DETAILS SHEET 1 OF 3**

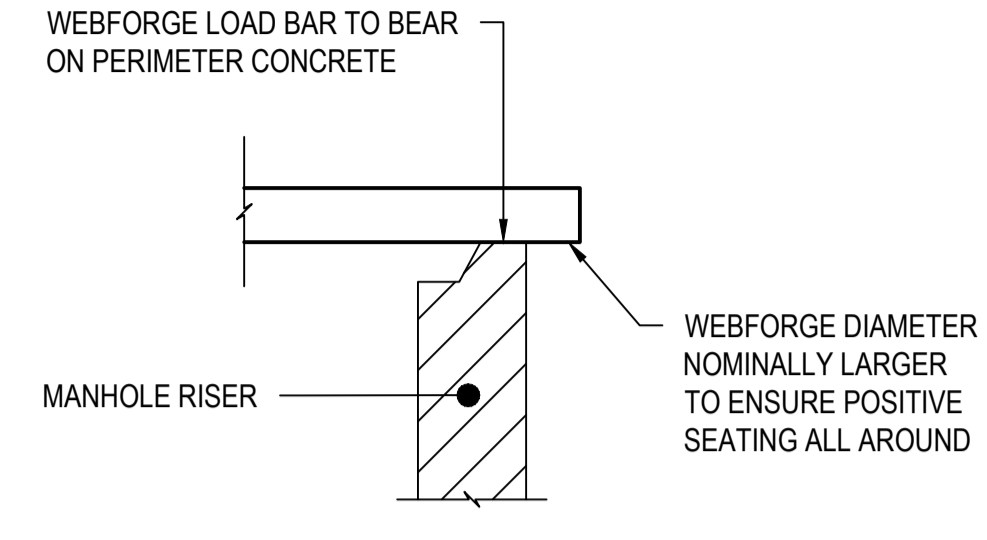
Discipline	CIVIL
Drawing No.	3262332-CE-3301
Rev.	1



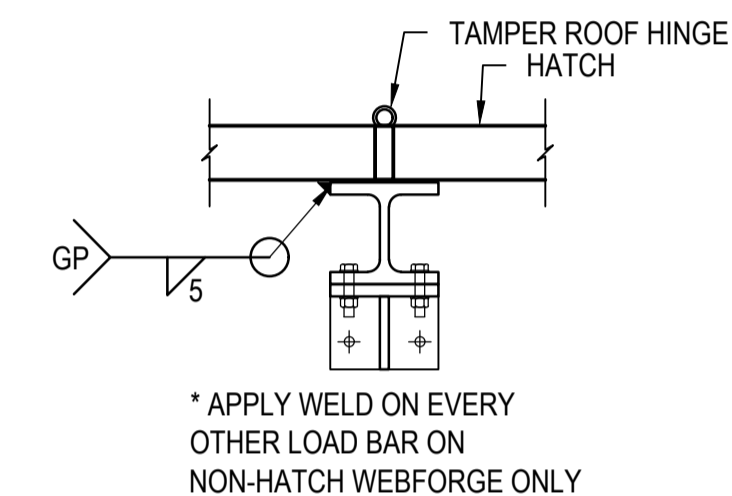
A STILLING WELL DETAIL (SWMH07)
CE 3101 1:25 AT A1



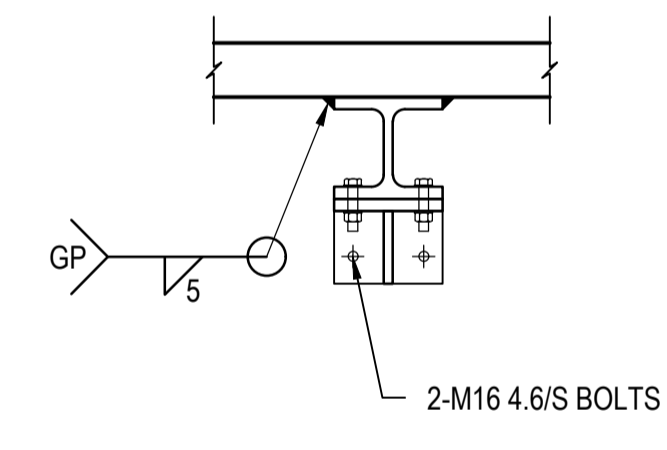
SWMH07 - GA PLAN
NOT TO SCALE



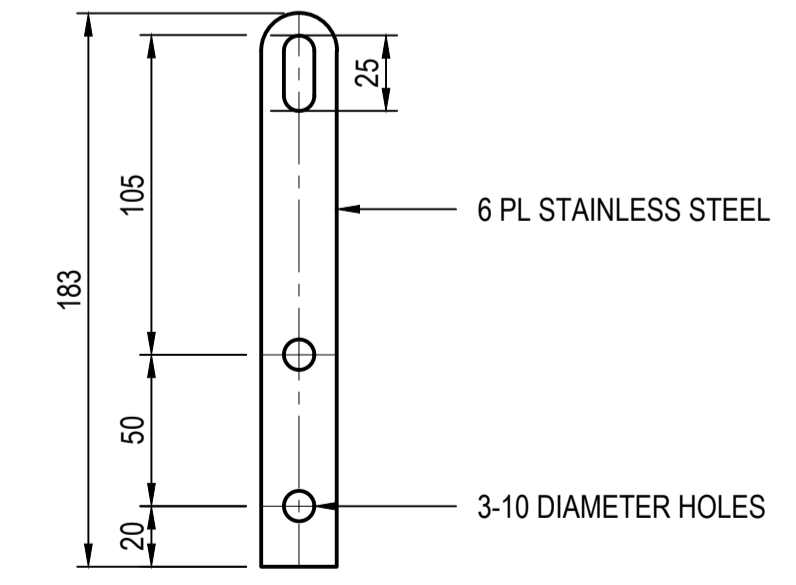
A SECTION
NOT TO SCALE



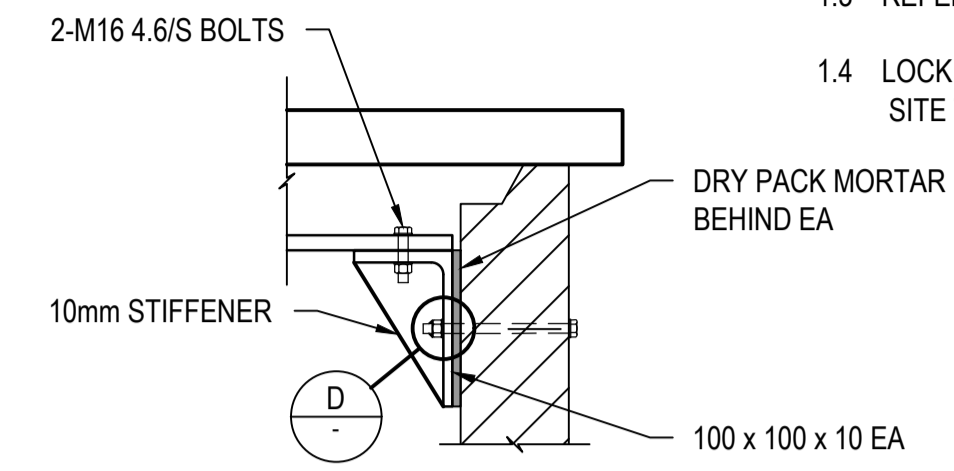
C SECTION
NOT TO SCALE



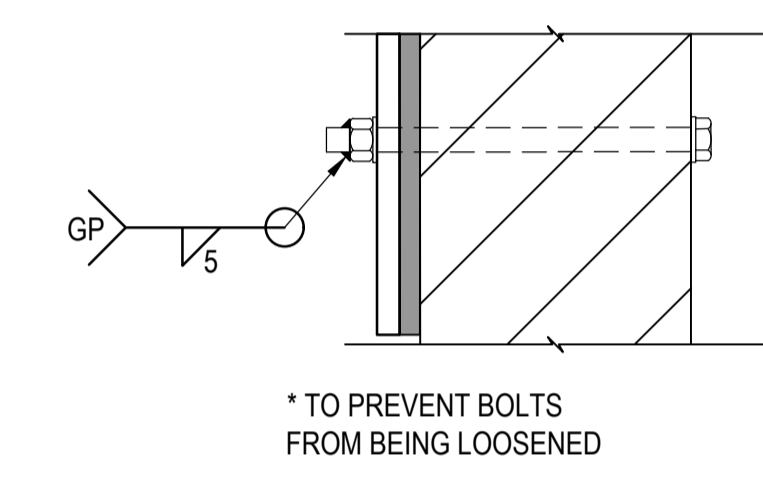
E SECTION
NOT TO SCALE



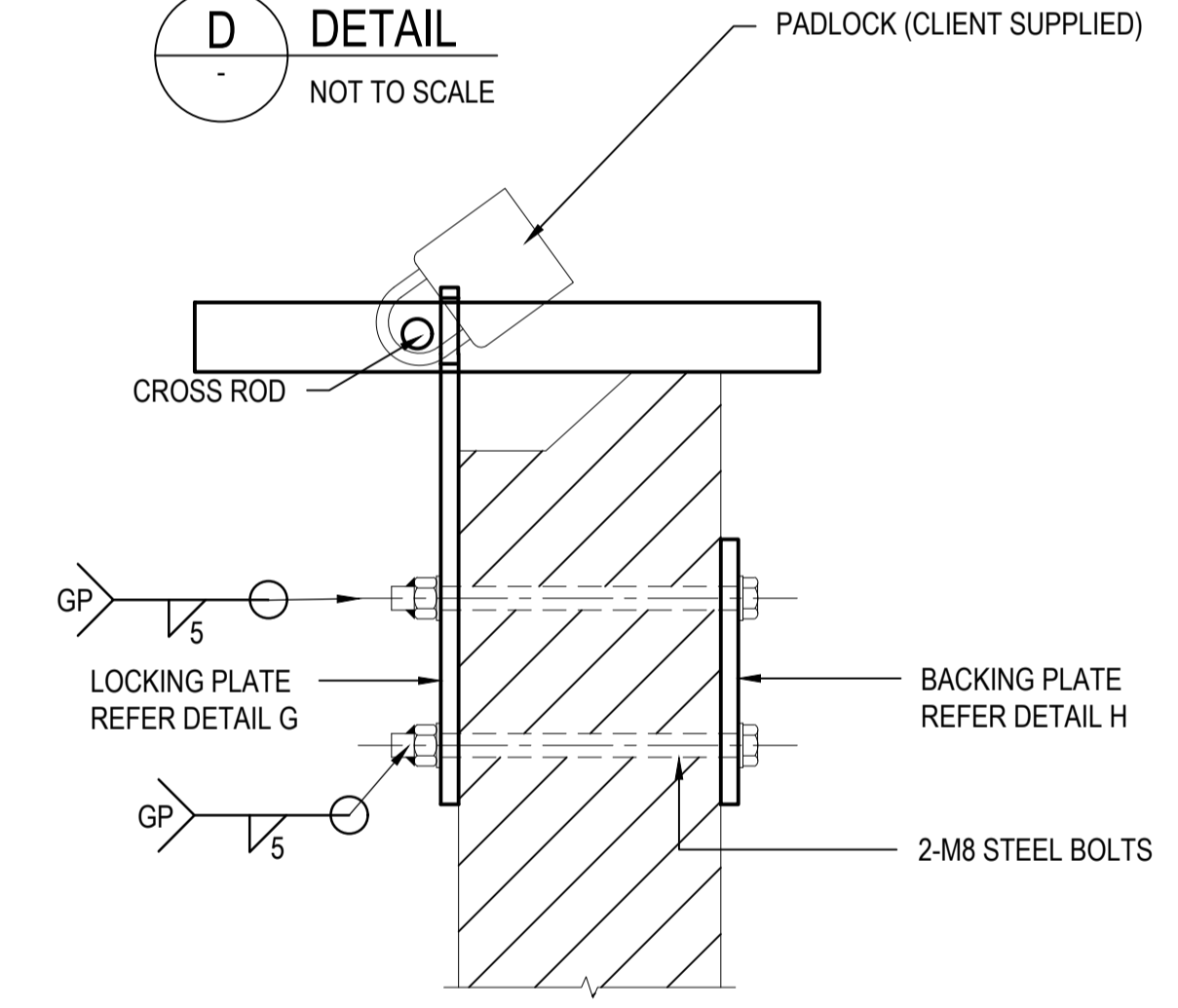
G LOCKING PLATE
SCALE: 1:2.5 AT A1



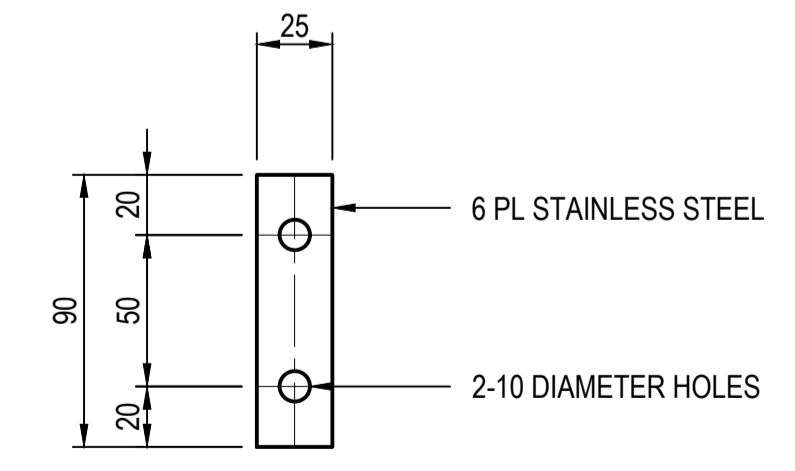
B SECTION
NOT TO SCALE



D DETAIL
NOT TO SCALE



F CHAMBER LID LOCK DETAIL
SCALE: 1:2.5 AT A1



H BACKING PLATE
SCALE: 1:2.5 AT A1

NOTES:

- 1.0 GENERAL
- 1.1 ALL STEEL TO BE GALVANISED.
- 1.2 WELD TO BE TOUCHED UP WITH GALVANIC-RICH PAINT.
- 1.3 REFER DWG 3262332-SE-0401 FOR STRUCTURAL STEEL GRADES.
- 1.4 LOCKING PLATE DIMENSIONS AND INSTALLATION CONFIRMED ON SITE TO SUIT WEBFORGE INSTALLATION.

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	D.BRACEY	06.05.19	Approved For Construction*
AS SHOWN	Drawn	M.SUMALINGO	06.05.19	R HICKMAN
Reduced Scale (A3)	Verifier	K.PURTON	08.05.19	
1/2 SHOWN	Dep Check	G.DOWN	16.05.19	Date 30.11.20

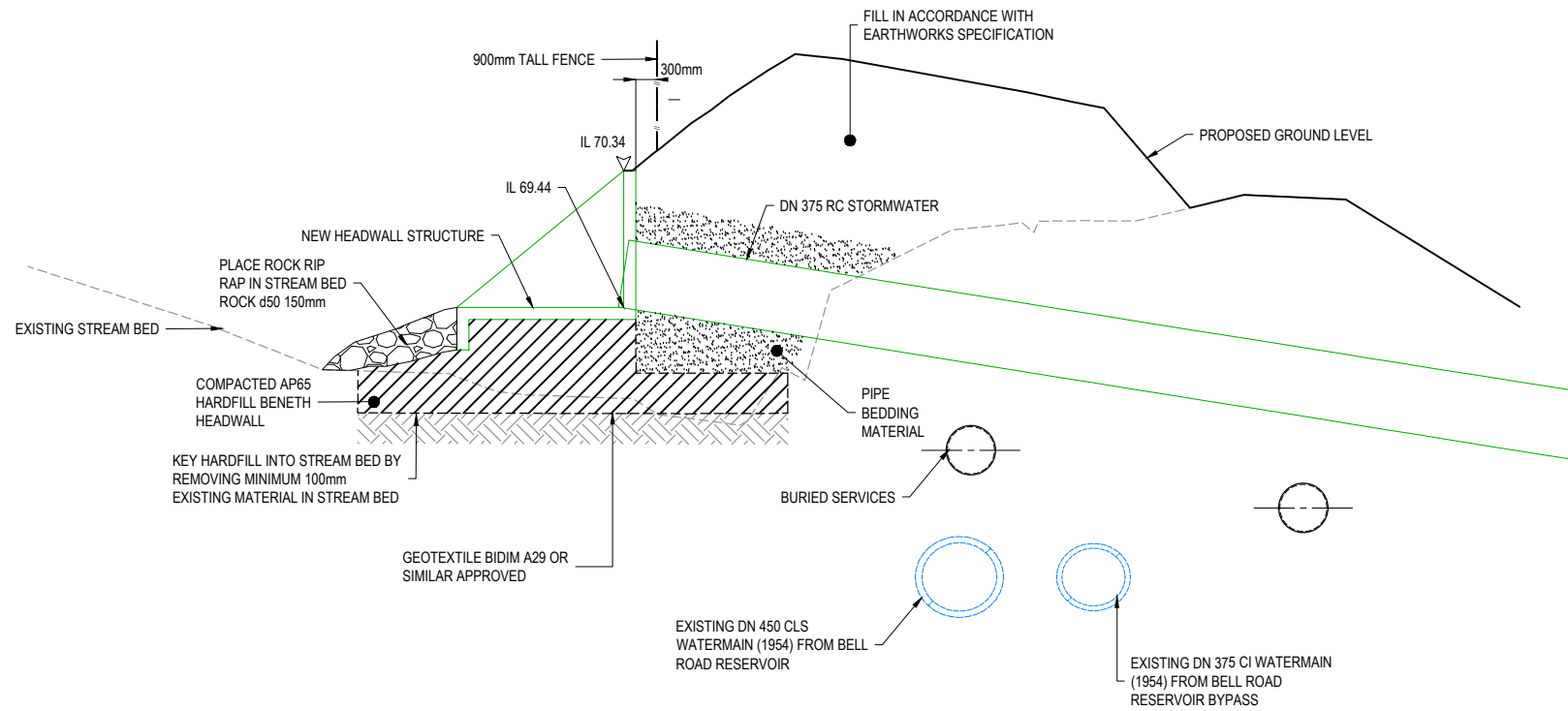


Client: **OMĀRORO RESERVOIR**

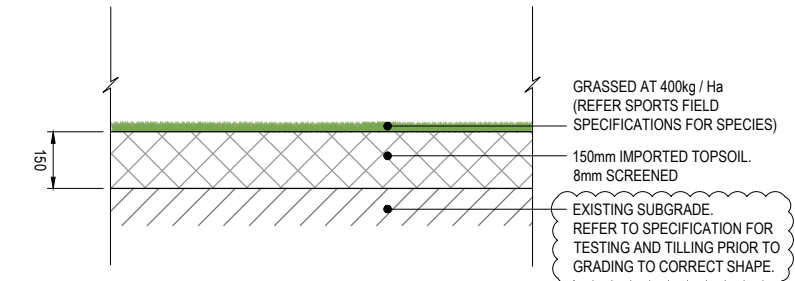
Discipline: **CIVIL**
Drawing No: **3262332-CE-3302**
Rev: **1**

Discipline: **CIVIL**
Drawing No: **3262332-CE-3302**
Rev: **1**

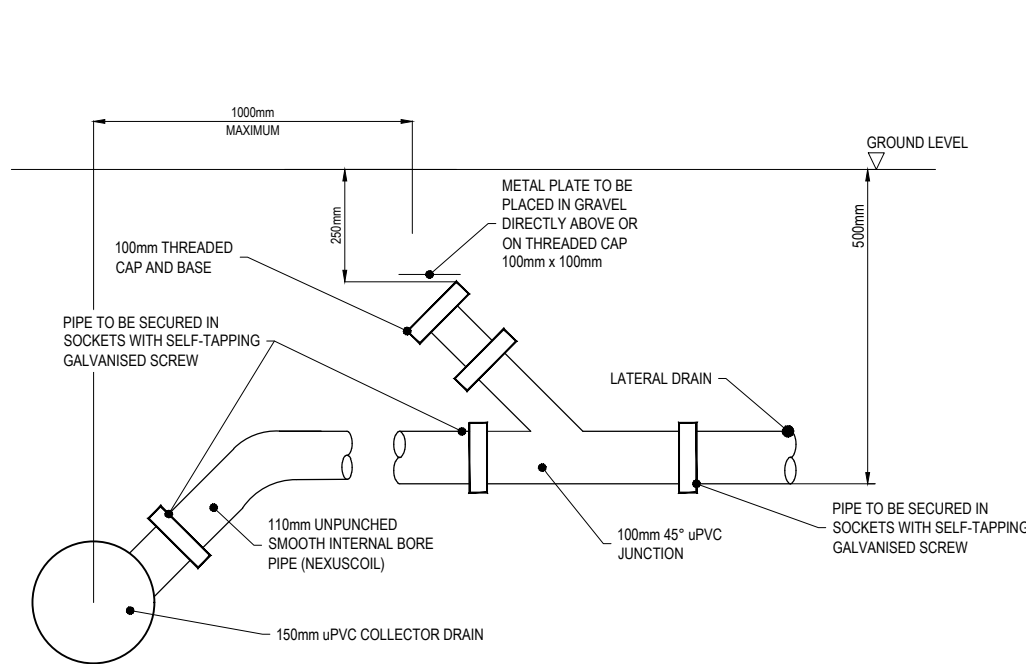
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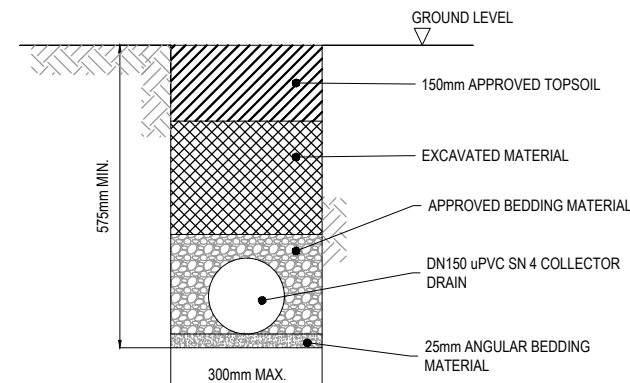
A INLET HEADWALL DETAIL - (REFER DWGS 3262332-CE-3101 AND 3102 FOR PLAN AND LONGSECTION)
NOT TO SCALE



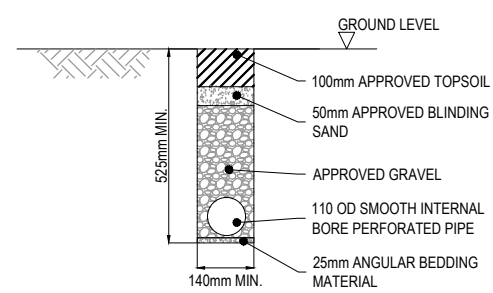
E SPORTS FIELD SECTION DETAIL
NOT TO SCALE



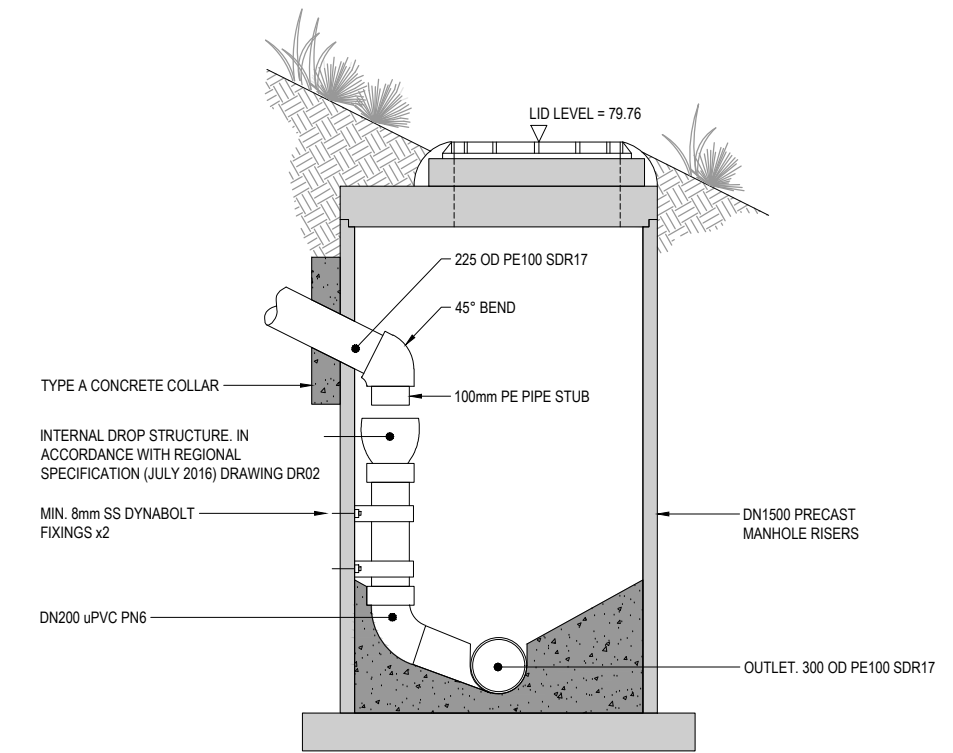
B FIELD SUBSOIL DRAINAGE INSPECTION/FLUSHING POINT
NOT TO SCALE



C FIELD SUBSOIL DN150 uPVC COLLECTOR DRAIN CROSS SECTION
NOT TO SCALE



D FIELD SUBSOIL DRAINAGE 110 OD LATERAL DRAIN
NOT TO SCALE



F SWMH13 INTERNAL DROP STRUCTURE
CE-3001 SCALE: 1:20

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	WM	WM	DS	30.11.20
0A	ISSUE FOR TENDER	WM	WM	DS	11.11.19
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	K.PURTON	06.05.19	Approved For Construction	R HICKMAN
AS SHOWN	Drawn	M.SUMALINOG	06.05.19		
Reduced Scale (A3)	Verifier	K.PURTON	08.05.19		
1/2 SHOWN	Draw Check	G.DOWN	16.05.19	Date	30.11.20

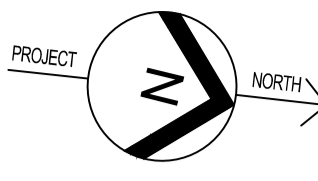


Client: OMĀRORO RESERVOIR

Discipline: CIVIL
Drawing No: 3262332-CE-3303
Rev: 1

Discipline: CIVIL
Drawing No: 3262332-CE-3303
Rev: 1

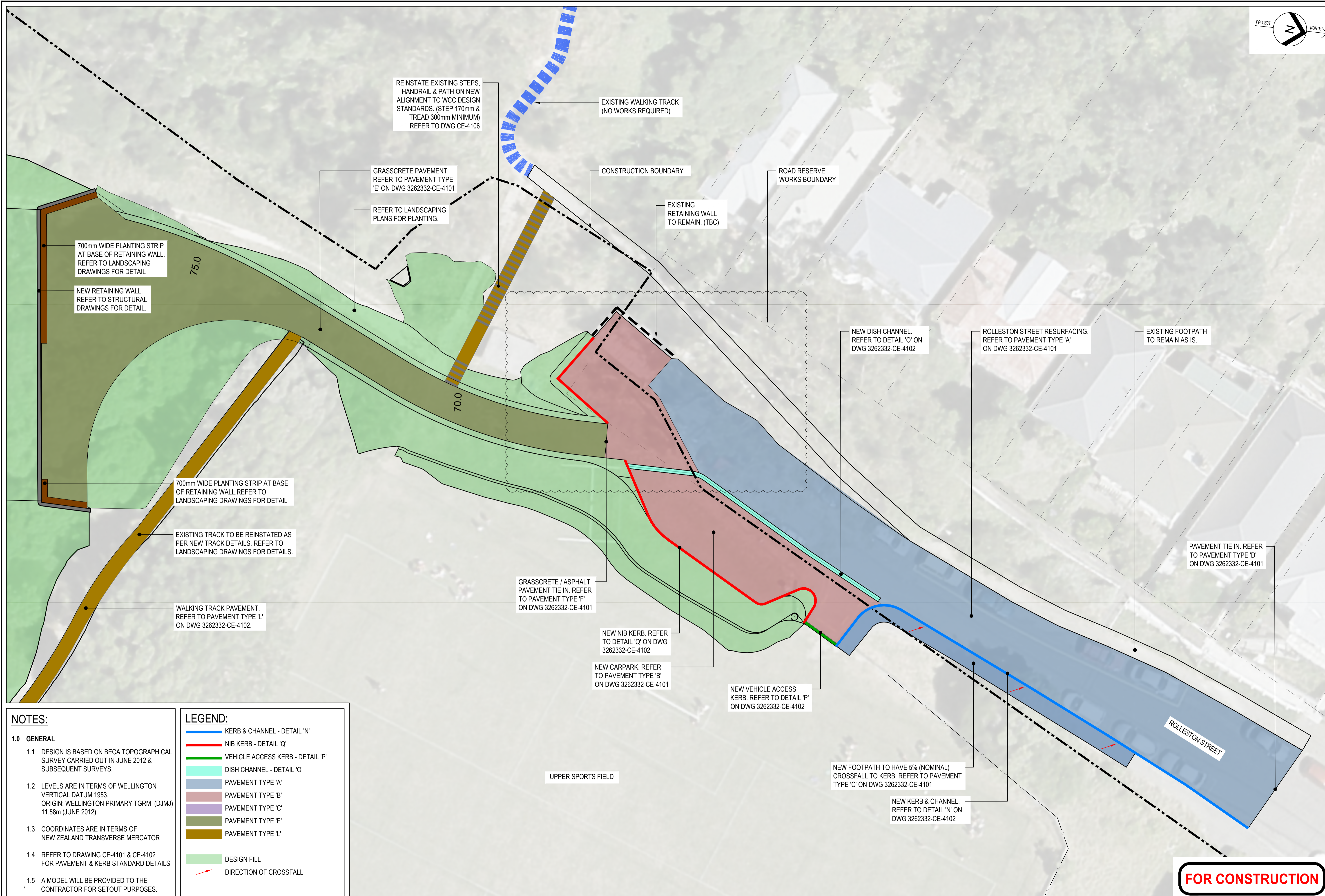
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Document No. P:\26\3262332\CAD\3262332-CE-4001.DWG



NOTES:

1.0 GENERAL

1.1 DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.

1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)

1.3 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR

1.4 REFER TO DRAWING CE-4101 & CE-4102 FOR PAVEMENT & KERB STANDARD DETAILS

1.5 A MODEL WILL BE PROVIDED TO THE CONTRACTOR FOR SETOUT PURPOSES.

LEGEND:

	KERB & CHANNEL - DETAIL 'N'
	NIB KERB - DETAIL 'Q'
	VEHICLE ACCESS KERB - DETAIL 'P'
	DISH CHANNEL - DETAIL 'O'
	PAVEMENT TYPE 'A'
	PAVEMENT TYPE 'B'
	PAVEMENT TYPE 'C'
	PAVEMENT TYPE 'E'
	PAVEMENT TYPE 'L'
	DESIGN FILL
	DIRECTION OF CROSSFALL

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	1:150
Reduced Scale (A3)	1:300
Design	D.BUDHATHOKI 26.04.19
Drawn	R.McLEAN 26.04.19
Verifier	B.STEVEN 26.04.19
Dwg Check	G.DOWN 16.05.19
Approved For Construction*	R.HICKMAN 26.04.19
Date	30.11.20

* Refer to Revision 1 for Original Signature

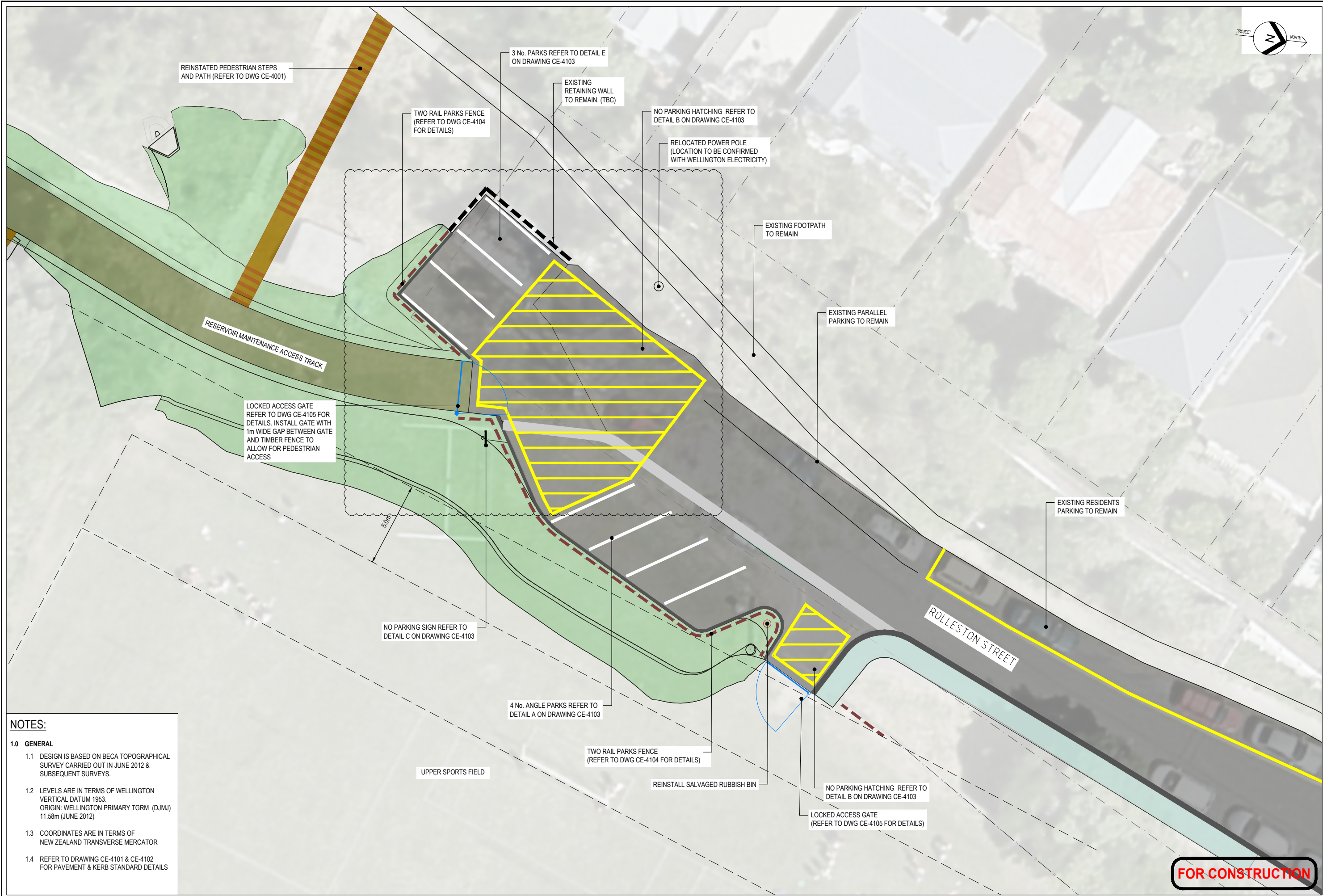


Client: OMARORO RESERVOIR

Project: ACCESS ROAD & ROLLESTON ST PAVEMENT PLAN

Discipline	CIVIL
Drawing No.	3262332-CE-4001
Rev.	1

FOR CONSTRUCTION



NOTES:

1.0 GENERAL

1.1 DESIGN IS BASED ON BECA TOPOGRAPHICAL SURVEY CARRIED OUT IN JUNE 2012 & SUBSEQUENT SURVEYS.

1.2 LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN: WELLINGTON PRIMARY TGRM (DJMJ) 11.58m (JUNE 2012)

1.3 COORDINATES ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR

1.4 REFER TO DRAWING CE-4101 & CE-4102 FOR PAVEMENT & KERB STANDARD DETAILS

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:

Original Scale (A1)	Design	D. BUDHATHOKI	26.04.19	Approved For Construction*
1:100	Drawn	R. McLEAN	26.04.19	R. HICKMAN
Reduced Scale (A3)	Verifier	B. STEVEN	26.04.19	
1:200	Dwg Check	G. DOWN	16.05.19	Date 30.11.20

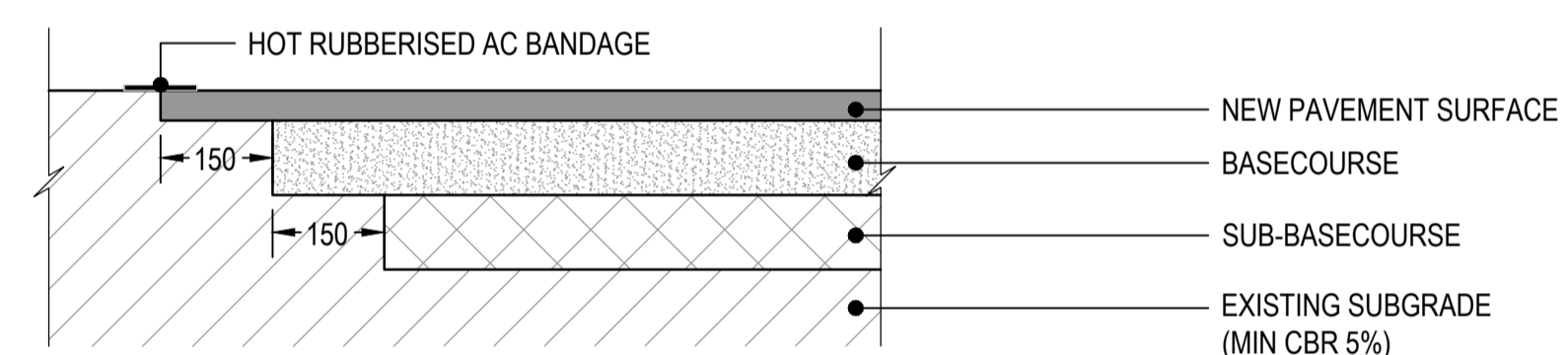
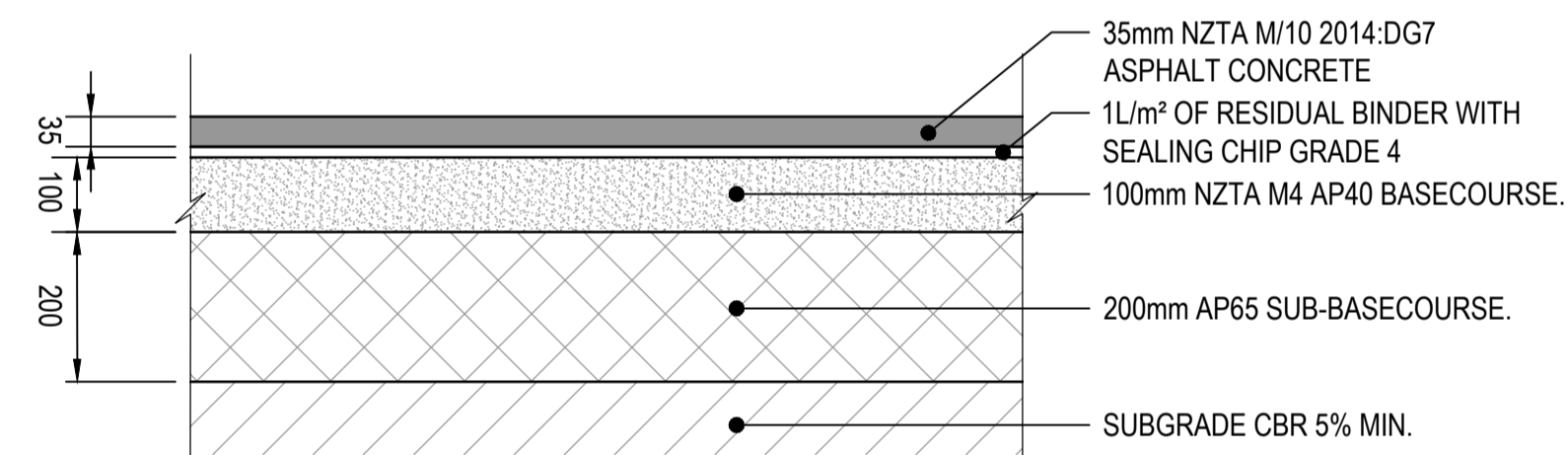
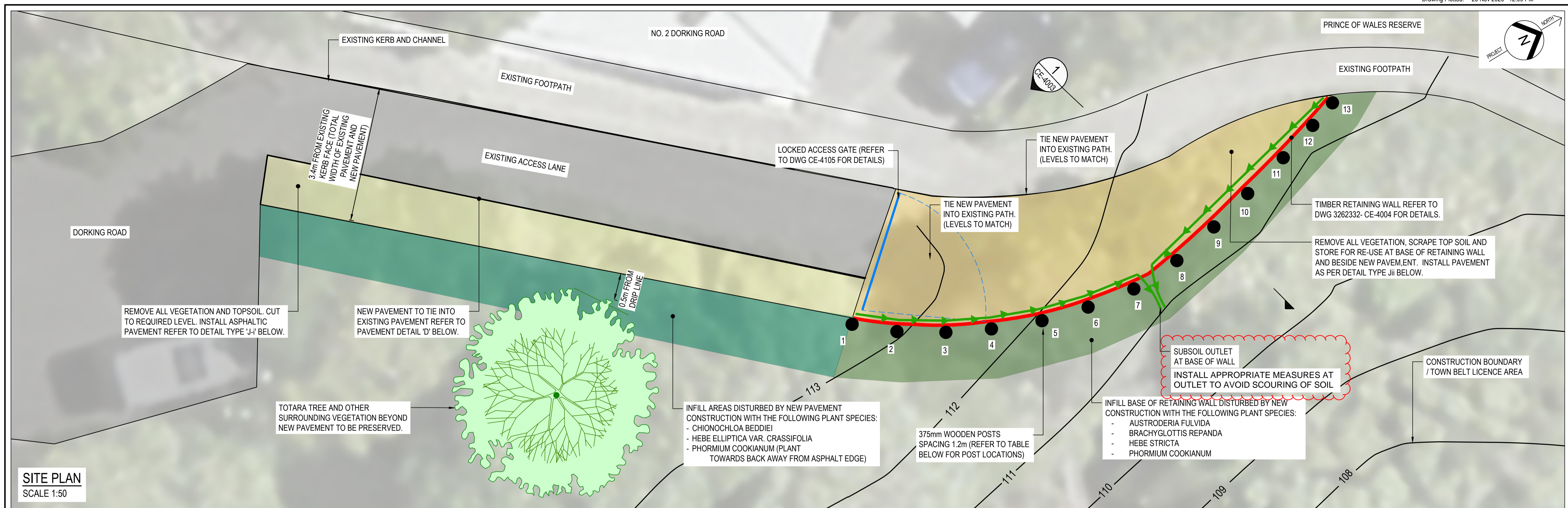
* Refer to Revision 1 for Original Signature

Client:

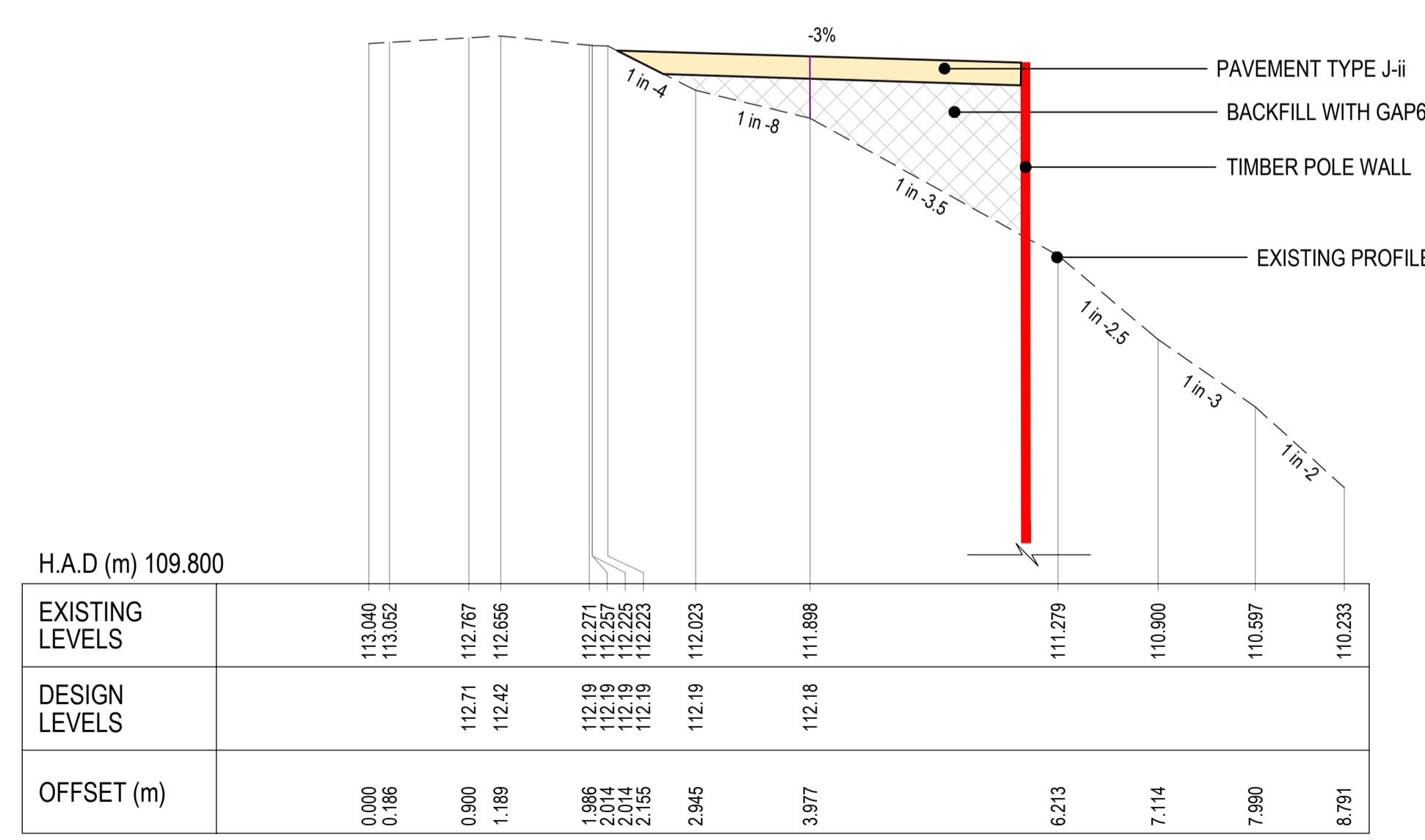
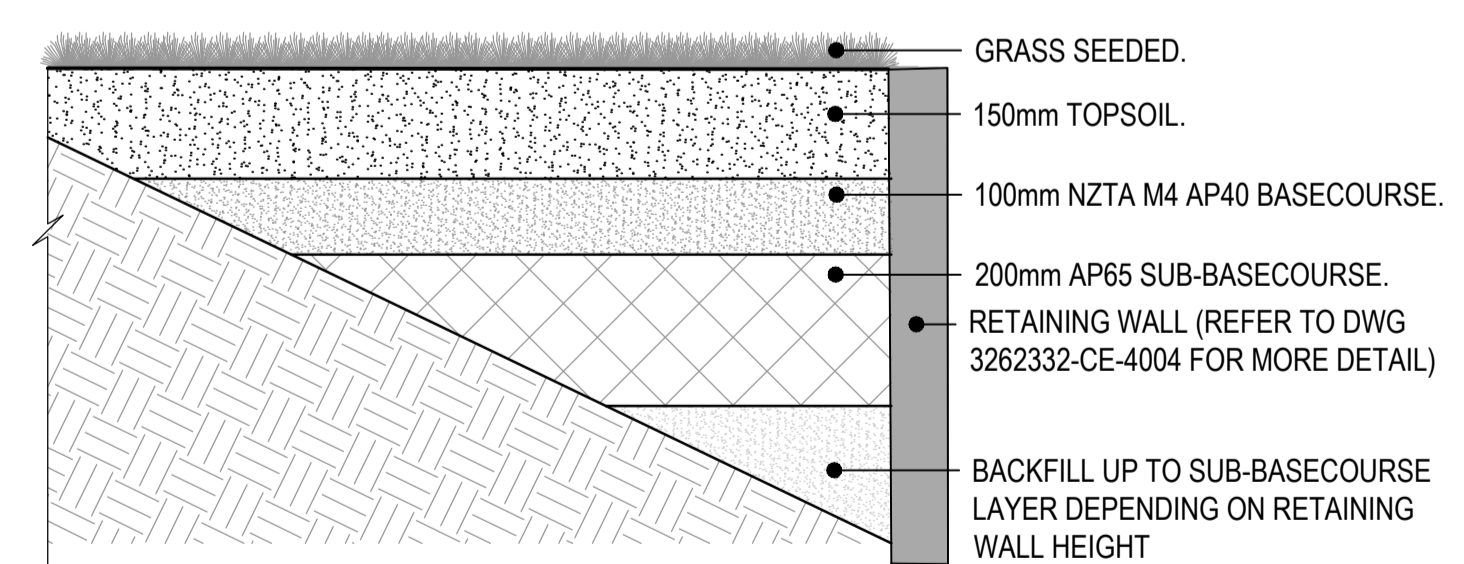
Project: OMĀRORO RESERVOIR

ROLLESTON ST AREA SIGNAGE AND MARKING PLAN

Discipline	CIVIL
Drawing No.	3262332-CE-4002
Rev.	1



- LEGEND**
- EXTENT OF PAVEMENT TYPE J-i
 - EXTENT OF GRASSCRETE
 - EXISTING FOOTPATH
 - EXISTING ROAD PAVEMENT
 - TIE IN EXTENT OF PAVEMENT D
 - PROPERTY BOUNDARIES
 - EXTENT OF RETAINING WALL
 - EXTENT OF SUBSOIL DRAIN
- NOTES:**
- 1.0 GENERAL**
- 1.1 ALL SERVICES TO BE LOCATED & MARKED OUT PRIOR TO CONSTRUCTION BEGINNING
 - 1.2 ALL TOPSOIL TO BE STRIPPED & DISPOSED OF PRIOR TO CONSTRUCTION BEGINNING.
 - 1.3 CARE IS TO BE TAKEN DURING CONSTRUCTION OF THE PAVEMENT TO ENSURE THAT THE TOTARA TREE ROOTS ARE NOT DAMAGED.



POST SETOUT COORDINATES:

POST ID	NORTHING	EASTING
1	5425740.64mN	1748173.10mE
2	5425741.62mN	1748173.96mE
3	5425742.61mN	1748174.65mE
4	5425738.50mN	1748170.34mE
5	5425739.10mN	1748171.33mE
6	5425739.86mN	1748172.28mE
7	5425743.69mN	1748175.24mE
8	5425748.60mN	1748176.04mE
9	5425750.45mN	1748176.11mE
10	5425749.70mN	1748176.09mE
11	5425744.93mN	1748175.61mE
12	5425746.17mN	1748175.80mE
13	5425747.36mN	1748175.92mE

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19
0A	FOR RESOURCE CONSENT	RH	WM	DS	20.02.20

Drawing Originator:

Original Scale (A1)	Design	Drawn	Verified	Checked	Date	Approved For Construction*
AS SHOWN	K. CHEW	R. HANCOCK	P. ROBINS	G. DOWN	26.04.19	R. HICKMAN
Reduced Scale (A3)					26.04.19	
1/2 SHOWN					16.05.19	

* Refer to Revision 1 for Original Signature

Client:

Project: OMARORO RESERVOIR

DORKING ROAD ACCESS PLAN

Discipline	CIVIL
Drawing No.	3262332-CE-4003
Rev.	1

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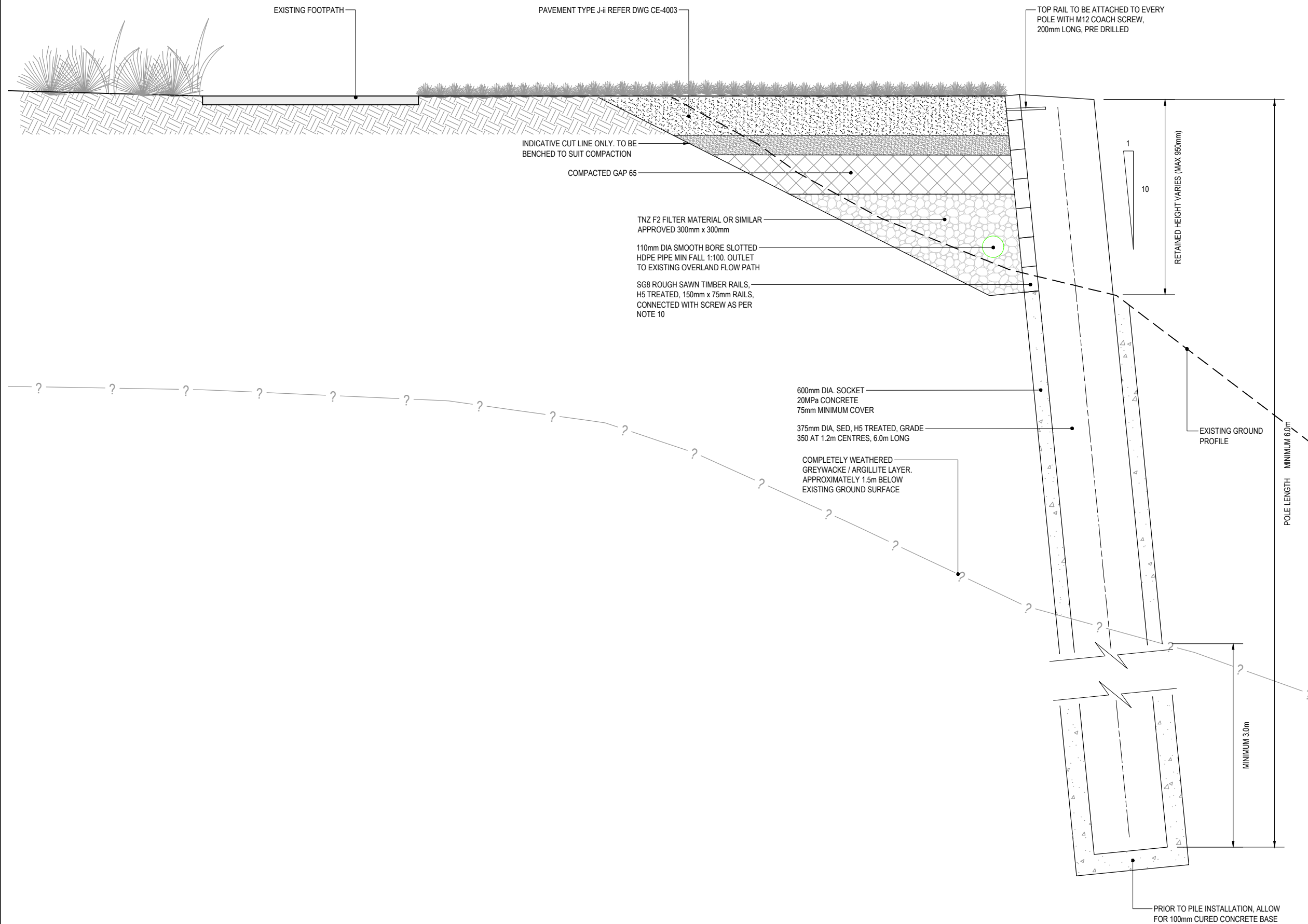
www.beca.com

Document No. P:\2613262332\CAD\3262332-CE-4003.DWG

NOTES

1.0 GENERAL

- 1.1 DURING ALL PHASES OF WORK THE ENGINEER SHALL BE INFORMED ON A DAILY BASIS AS TO THE WORK ANTICIPATED TO BE CARRIED OUT TO ENABLE MONITORING TO BE UNDERTAKEN.
- 1.2 THE CONTRACTOR SHALL LOCATE AND PROTECT ALL SERVICES PRIOR TO COMMENCING WORK & SHALL INFORM THE ENGINEER SHOULD ANY CONFLICTS ARISE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO SERVICES CAUSED BY THEIR ACTIVITIES.
- 1.3 ALL TIMBER SHALL BE TREATED IN ACCORDANCE WITH NZS 3604 HAZARD CLASS H5. TIMBER POLES, WALER & RAILS SHALL BE RADIATA PINE OR CORSICAN PINE. THE POLES & RAILS SHALL BE STRAIGHT & FREE OF DECAY, KNOTS, SPLITS, CHECK OR ANY OTHER DEFECTS THAT MAY AFFECT THE STRENGTH OF THE POLE.
- 1.4 ALL CUT TIMBER TO BE TREATED VIA SITE APPLICATION OF A SUITABLE PRODUCT TO THE SUPPLIERS SPECIFICATION TO ACHIEVE A LEVEL OF TREATMENT EQUAL TO OR GREATER THAN THE MEMBERS ORIGINAL LEVEL OF TREATMENT.
- 1.5 ALL POLES SHALL BE PLACED LARGE END INTO THE BASE OF THE HOLE.
- 1.6 BORED HOLES ARE TO BE UNDERTAKEN AS HIT AND MISS AND NOT TO REMAIN OPEN OVER NIGHT. HOLES MUST BE THOROUGHLY CLEANED OUT BEFORE PLACING CONCRETE. POLES SHALL BE INSTALLED THE SAME DAY AS BORING. MAXIMUM 10m LENGTHS OF WALL TO BE CONSTRUCTED AT ANY TIME.
- 1.7 THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY STABILITY.
- 1.8 POLES ARE TO BE BRACED DURING & AFTER CONCRETING TO MAKE SURE THE REQUIRED ALIGNMENT IS MAINTAINED.
- 1.9 ALL STEEL FIXING COMPONENTS SHALL BE HOT DIPPED GALVANISED IN ACCORDANCE WITH AS/NZS 4680.
- 1.10 RAIL JOINTS TO OCCUR AT POSTS ONLY. RAIL JOINTS ARE TO BE STAGGERED EVERY THIRD POLE. RAILS TO BE SECURED TO POSTS WITH 4mm, 200mm LONG SELF DRILLING SCREWS, 2 SCREWS AT EACH POST.
- 1.11 COMPACTION TO CONSIST OF MAX. 120KG PLATE COMPACTOR WITHIN 1.0m OF BACK OF RETAINING WALL. GAP65 PLACED IN MAX. 150mm LIFTS.
- 1.12 SET OUT POINT TO BE CONFIRMED ON SITE WITH SURVEYOR.
- 1.13 GROUND PROFILE IS BASED ON LOGICAL INTERPRETATION OF INFORMATION. IF CONDITIONS AT THESE SECTIONS DIFFER FROM THAT NOTED THIS SHOULD BE ADDRESSED WITH THE ENGINEER



FOR CONSTRUCTION

No.	Revision	By	Chk.	Appd.	Date
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0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	Drawn	Checked	Date	Approved For Construction*
N.T.S.	K.CHEW	R.HANCOCK	P.ROBINS	10.04.19	R.HICKMAN
Reduced Scale (A3)	G.DOWN			26.04.19	
N.T.S.				16.05.19	

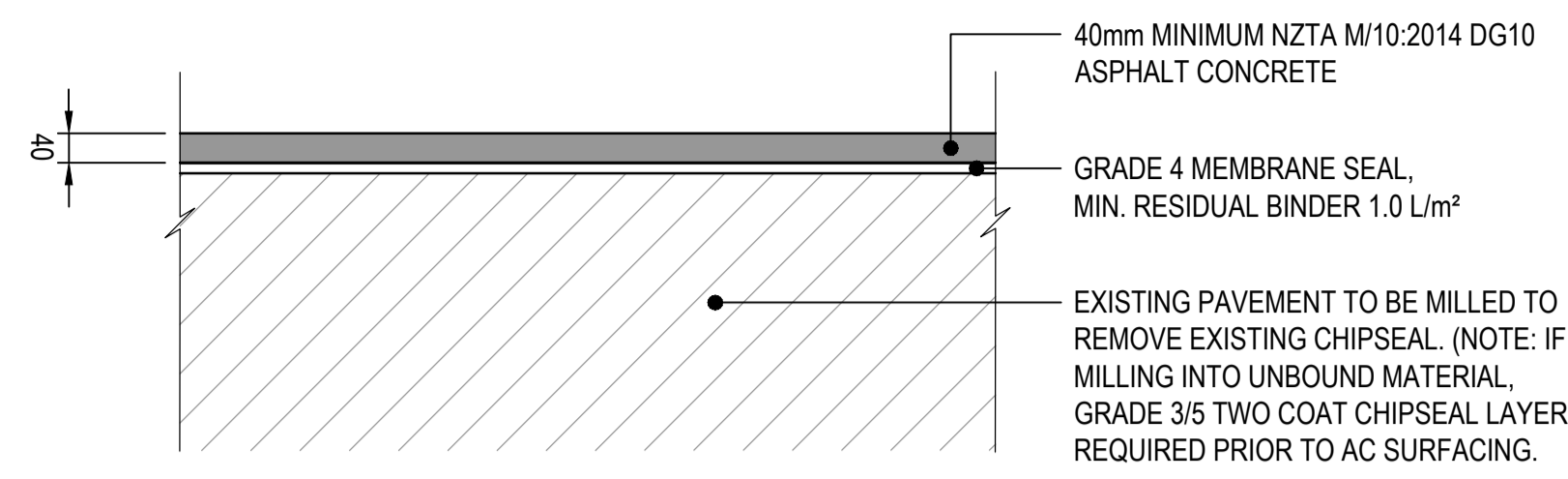
* Refer to Revision 1 for Original Signature



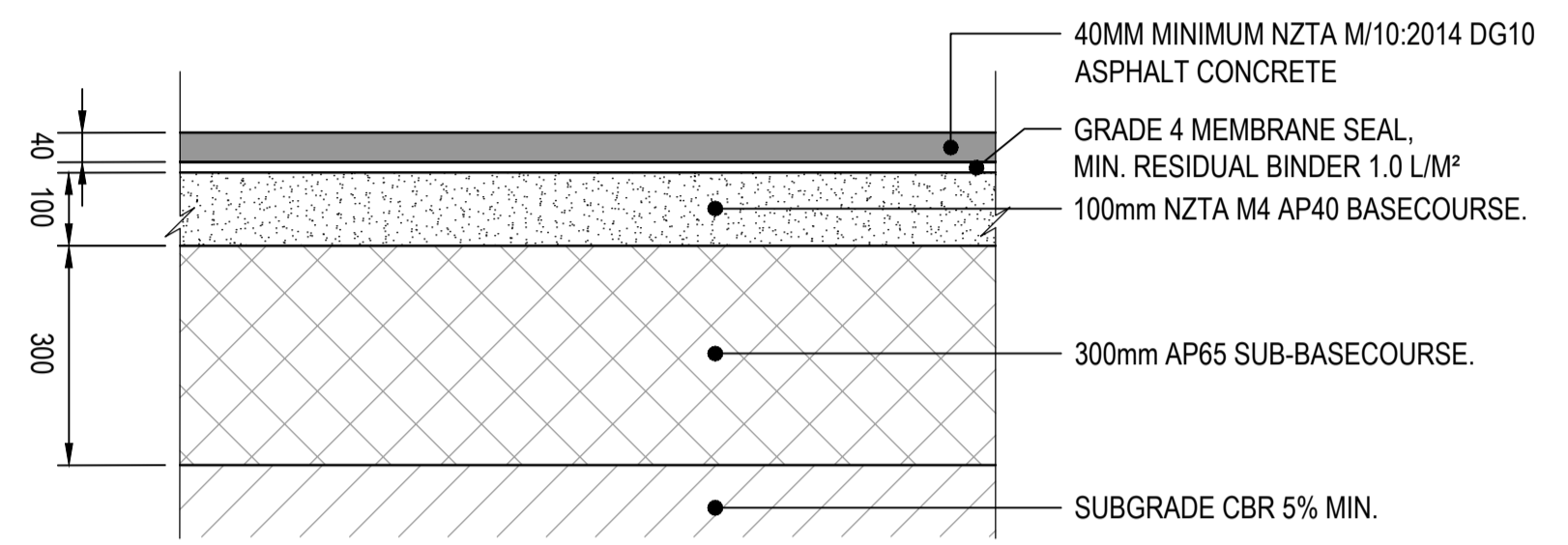
Client: **OMARORO RESERVOIR**

Project: **DORKING ROAD ACCESS RETAINING DETAILS**

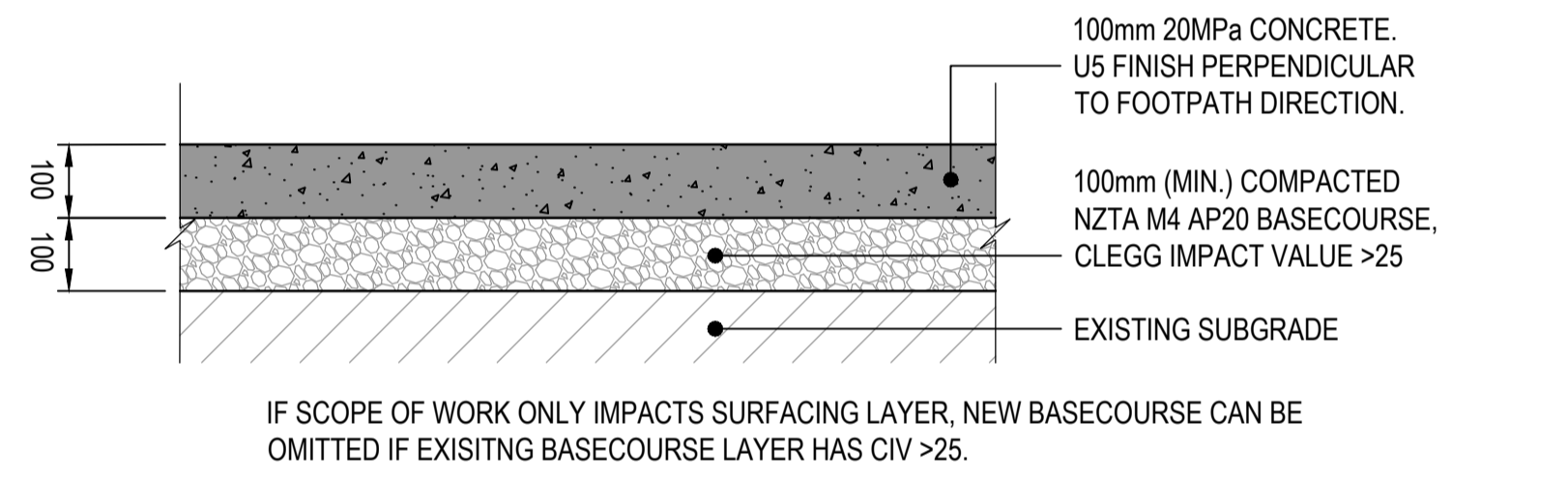
Discipline	Rev.
CIVIL	1
Drawing No.	3262332-CE-4004



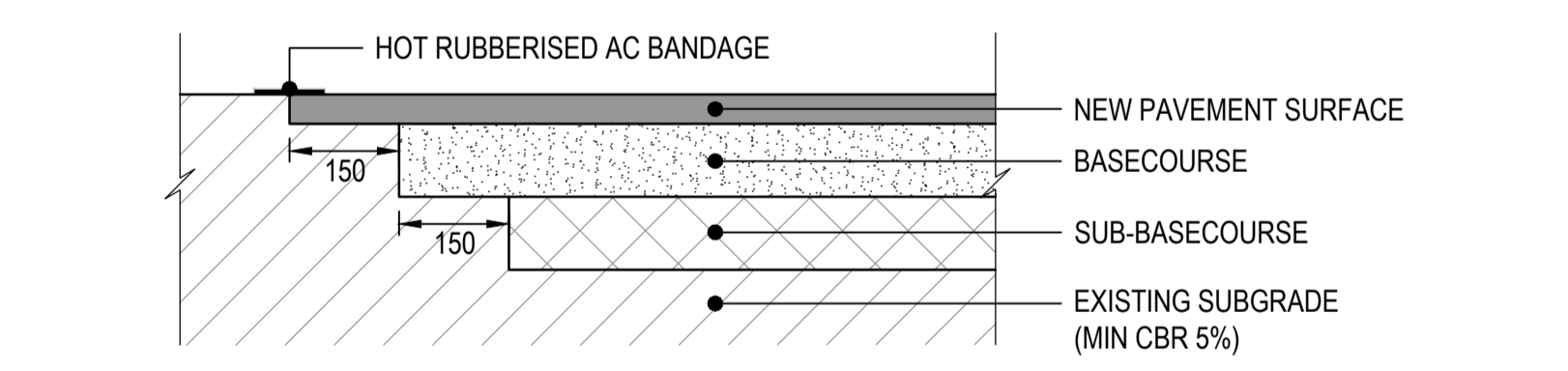
A PAVEMENT TYPE A - ROLLESTON STREET MILL & INLAY (ASPHALT)
SCALE 1:10 (A1)



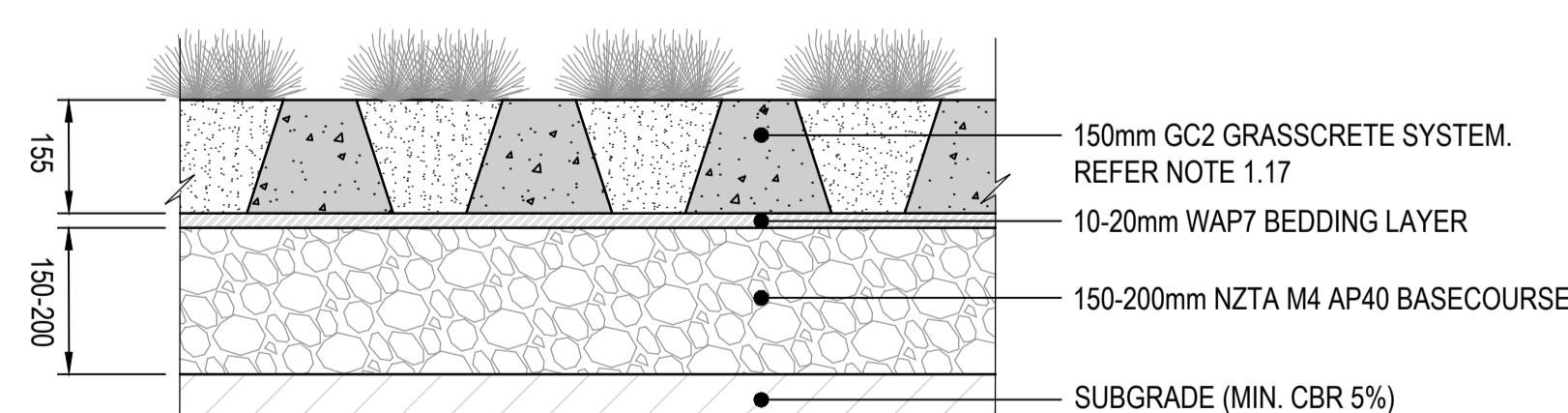
B PAVEMENT TYPE B - ROLLESTON STREET CARPARK
SCALE 1:10 (A1)



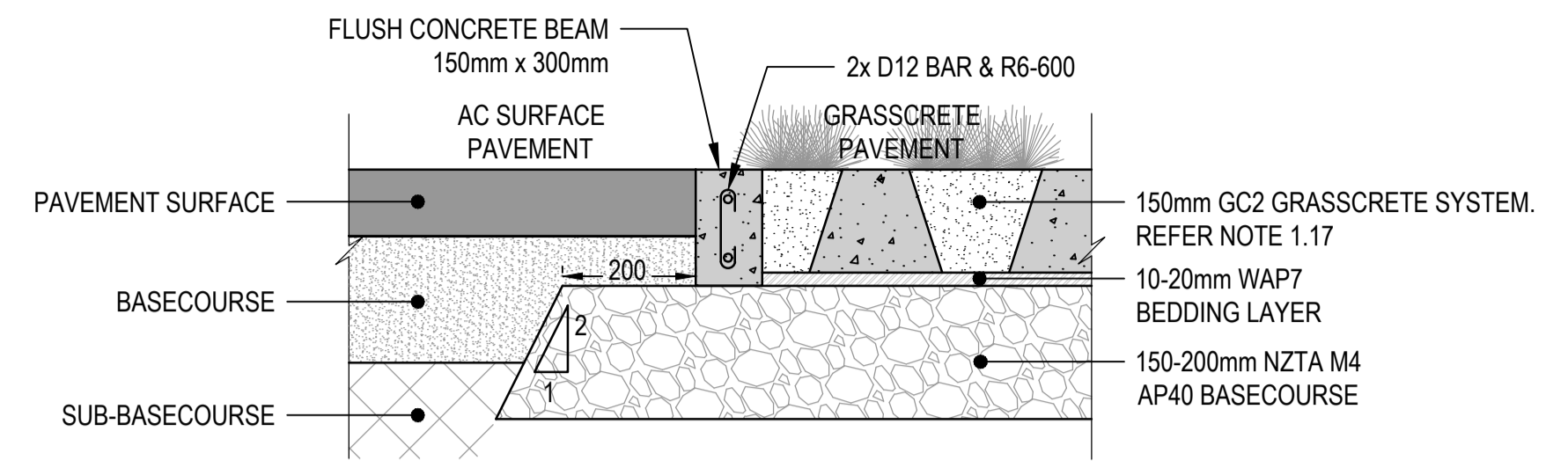
C PAVEMENT TYPE C - CONCRETE FOOTPATH
SCALE 1:10 (A1)



D PAVEMENT TYPE D - BENCHING & JOINT DETAILS
SCALE 1:10 (A1)



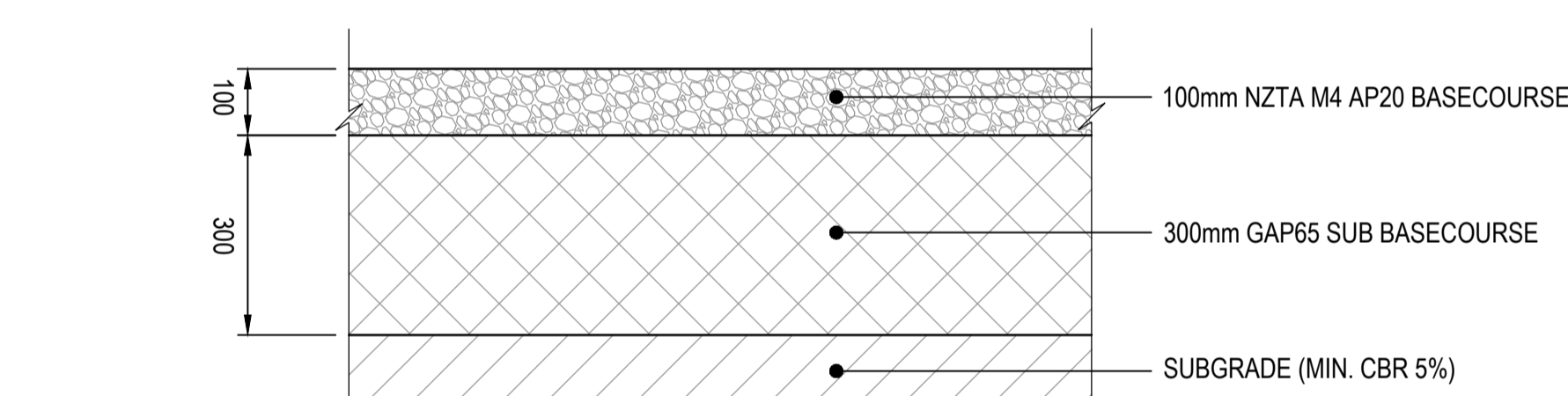
E PAVEMENT TYPE E - ACCESS ROAD GRASSCRETE
SCALE 1:10 (A1)



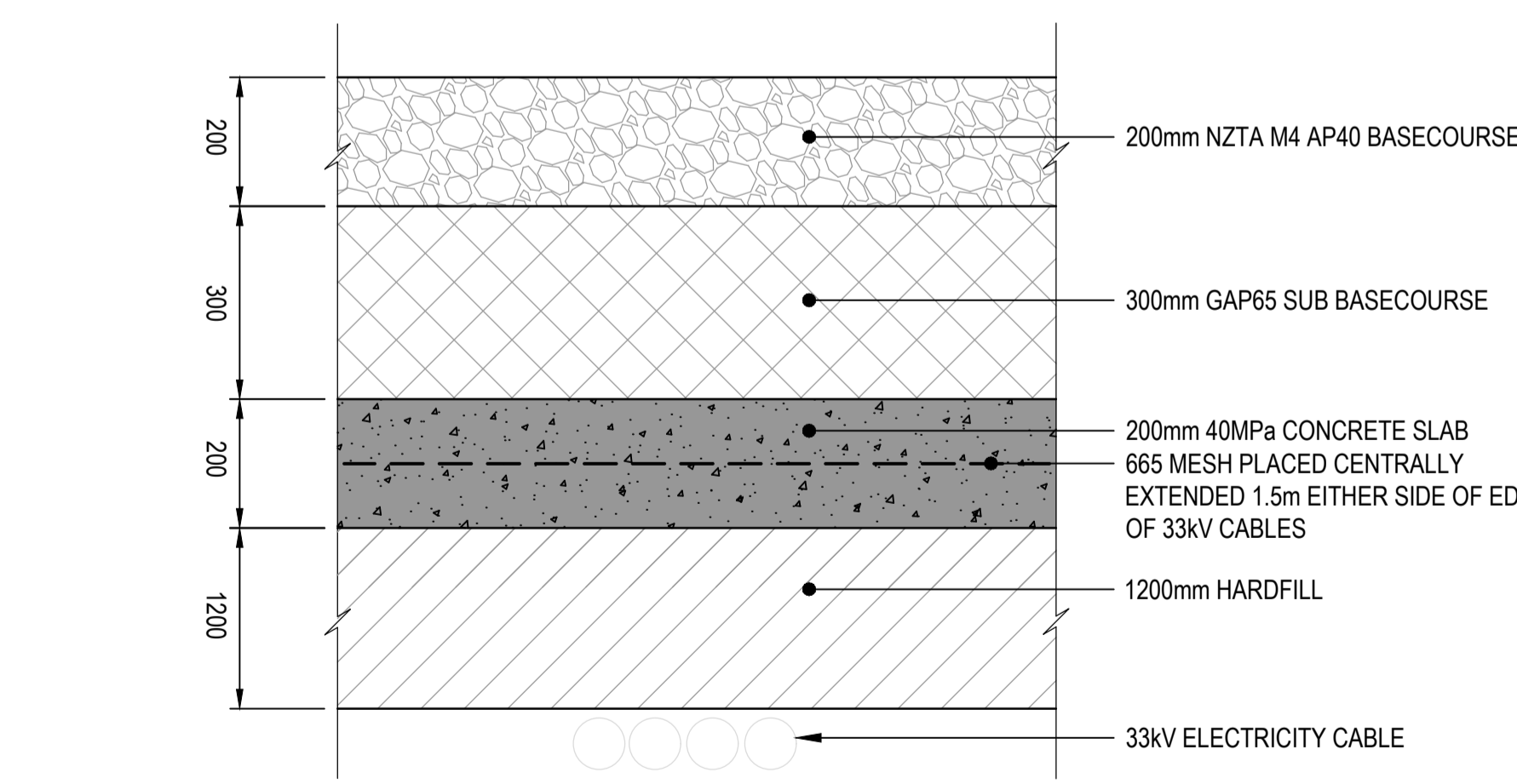
F PAVEMENT TYPE F - AC - GRASSCRETE TIE IN DETAIL
SCALE 1:10 (A1)



G PAVEMENT TYPE G - ACCESS LINK TRACK - TEMPORARY
SCALE 1:10 (A1)



H PAVEMENT TYPE H - ACCESS LINK TRACK - FINAL
SCALE 1:10 (A1)



I PAVEMENT TYPE I - ACCESS LINK TRACK (TEMPORARY) - WITH 33kV ELECTRICITY CABLE
SCALE 1:10 (A1)

GENERAL NOTES:

- 1.0 PAVEMENT**
- 1.1 FOR PAVEMENT WIDENING, CONSIDERATION NEEDS TO BE GIVEN TO THE FOLLOWING TO LESSEN THE LIKELIHOOD OF PREMATURE DISTRESS ALONG THE LONGITUDINAL JOINT AND IN ADJOINING PAVEMENT AREAS:
 - 1.2 IF APPROPRIATE, AND WHERE POSSIBLE, WIDENING SHOULD HAVE SIMILAR PAVEMENT STIFFNESS TO THE EXISTING PAVEMENT AS THIS WILL REDUCE THE LIKELIHOOD OF A CRACK DEVELOPING ALONG THE LONGITUDINAL JOINT.
 - 1.3 IF APPROPRIATE, AND WHERE POSSIBLE, THE PERMEABILITY AND LAYER THICKNESS OF THE WIDENING AND EXISTING PAVEMENT SHOULD BE SIMILAR TO ASSIST THE DRAINAGE OF MOISTURE TO THE OUTER EDGE. IT IS ALSO DESIRABLE FOR THE SUBGRADE LEVEL OF THE WIDENING TO BE AT OR BELOW THE SUBGRADE LEVEL OF THE EXISTING PAVEMENT.
 - 1.4 AS A CRACK MAY DEVELOP ALONG THE LONGITUDINAL JOINT, CONSIDERATION NEEDS TO BE GIVEN TO PROVIDING A LONGITUDINAL PAVEMENT DRAIN BELOW SUBGRADE LEVEL TO DRAIN ANY MOISTURE ENTERING THE PAVEMENT. SUCH DRAINAGE MAY ALSO BE REQUIRED WHERE THE PERMEABILITY AND LAYER THICKNESS OF THE WIDENING AND EXISTING PAVEMENT DIFFER, AS SUCH DIFFERENCES MAY LEAD TO MOISTURE ACCUMULATING AT THE INTERFACE AS IT DRAINS TOWARDS THE OUTER EDGE ON THE LOW SIDE OF THE PAVEMENT. SUBSURFACE DRAINS IN TRAFFICKED PAVEMENT AREAS MAY REQUIRE A NO-FINES CONCRETE BACKFILL TO REDUCE THE LIKELIHOOD OF FURTHER COMPACTION AND THEREFORE PAVEMENT DEFORMATION UNDER TRAFFIC.
 - 1.5 THE STRUCTURAL COMPETENCY OF THE PAVEMENT AT LONGITUDINAL JOINTS IS GENERALLY NOT AS SOUND AS IN OTHER THIS MAY BE DUE TO REDUCED COMPACTION, LACK OF AGGREGATE INTERLOCK, OR MATERIAL SEGREGATION AND MAY LEAD TO CRACKING AND DEFORMATION NEAR THE JOINT. WHERE APPROPRIATE AND PRACTICAL, LONGITUDINAL JOINTS MAY BE OFFSET FROM ONE LAYER TO THE NEXT BY NOT LESS THAN 150 MM.
 - 1.6 IT IS PREFERABLE TO LOCATE LONGITUDINAL JOINTS AWAY FROM THE WHEEL PATHS. CONSIDERATION SHOULD BE GIVEN TO LOCATING LONGITUDINAL JOINTS WITHIN 300 MM OF THE PLANNED POSITION OF TRAFFIC LANE LINES OR WITHIN 300 MM OF THE CENTRE OF A TRAFFIC LANE.
 - 1.7 A GEOTEXTILE OR SAMI MAY BE USEFUL IN DELAYING THE ONSET OF LONGITUDINAL CRACKING ALONG THE JOINT.
 - 1.8 IF IT IS PROPOSED TO MILL THE ASPHALT, THEN THE CHARACTERISTIC DEFLECTIONS AND CHARACTERISTIC CURVATURES BASED ON MEASUREMENTS TAKEN AT THE SURFACE OF THE EXISTING PAVEMENT NEED TO BE INCREASED TO ALLOW FOR THICKNESS OF ASPHALT REMOVED IN THE MILLING PROCESS. FOR MILLING DEPTHS UP TO 50 MM, IT MAY BE ASSUMED DEFLECTIONS AND CURVATURES INCREASE BY ABOUT 15% AND 25%, RESPECTIVELY, FOR EACH 25 MM OF ASPHALT REMOVED. IF THE MILLING DEPTH EXCEEDS 50 MM, IT IS RECOMMENDED THAT EITHER:
 - 1.9 THE DEFLECTIONS BE MEASURED AFTER MILLING AND THESE DEFLECTIONS BE USED TO DESIGN THE OVERLAY REQUIREMENTS
 - 1.10 GENERAL MECHANISTIC PROCEDURES FOR OVERLAY DESIGN ARE USED AS DESCRIBED IN SECTION 6.3 OF GUIDE TO PAVEMENT TECHNOLOGY PART 5: PAVEMENT EVALUATION AND TREATMENT DESIGN.
 - 1.11 FOR INTERFACE BETWEEN NEW AND EXISTING PAVEMENTS, EACH LAYER TO BE BENCHED 150mm INTO EXISTING MATERIAL.
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 - 1.14 FOOTPATH BASECOURSE TO HAVE CLEGG CIV>25.
 - 1.15 AC JOINTS TO BE BANDAGED.
 - 1.16 NEW SEAL (AC) OVERLAY TO FINISH FLUSH WITH THE EXISTING LIP OF CHANNEL.
 - 1.17 REFER TO STORMWATER 360 GRASSCRETE CAST INSITU PAVING SYSTEM DESIGN AND SPECIFICATION GUIDE FOR MORE DETAIL ON GRASSCRETE PAVEMENT DETAIL. ALSO, REFER TO STORMWATER 360 GRASSCRETE CAST INSITU PAVING SYSTEM DESIGN AND SPECIFICATION GUIDE: CHAPTER 2, PART 6 TABLE FOR MORE DETAILS ON GRASSCRETE SYSTEM SURFACING.

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:
Beca

Original Scale (A1)	Design	D.BUDHATHOKI	26.04.19	Approved For Construction*
AS SHOWN	Drawn	R.McLEAN	26.04.19	R HICKMAN
Reduced Scale (A3)	Verifier	B.STEVEN	26.04.19	
1/2 SHOWN	Dep Check	G.DOWN	16.05.19	Date 30.11.20

* Refer to Revision 1 for Original Signature

Client:
Wellington Water

Project:
OMĀRORO RESERVOIR

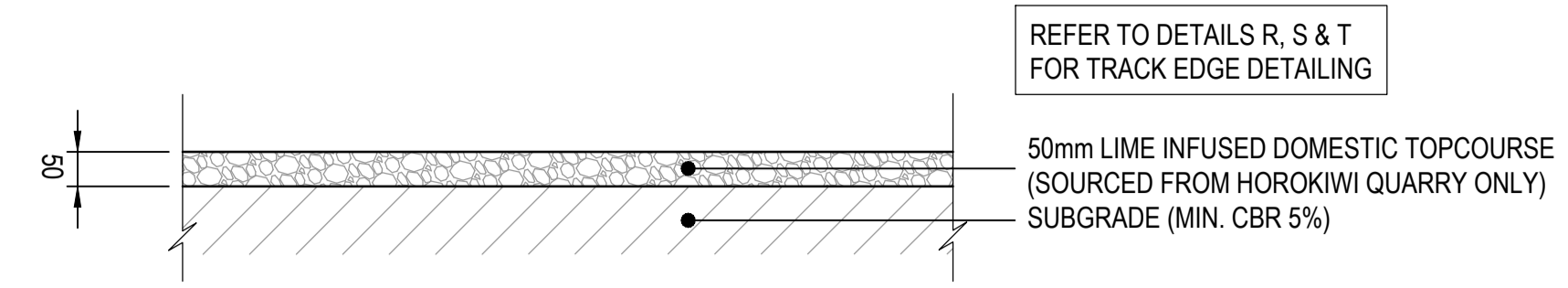
PAVEMENT DETAILS
SHEET 1 OF 2

Discipline	CIVIL
Drawing No.	3262332-CE-4101
Rev.	1

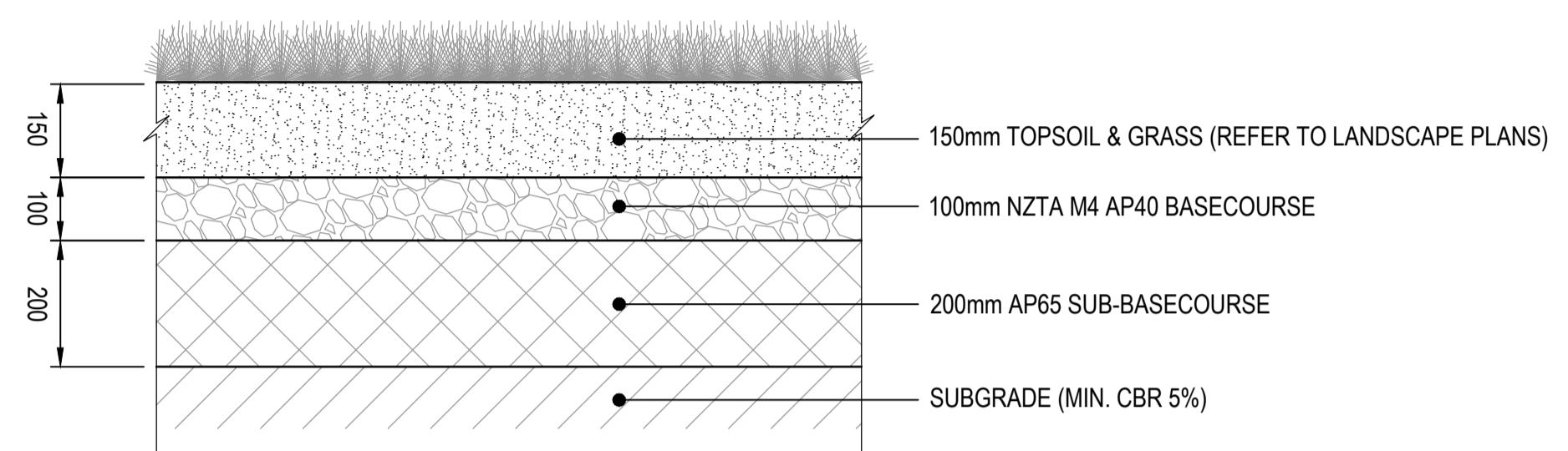
GENERAL NOTES:

1.0 PAVEMENT

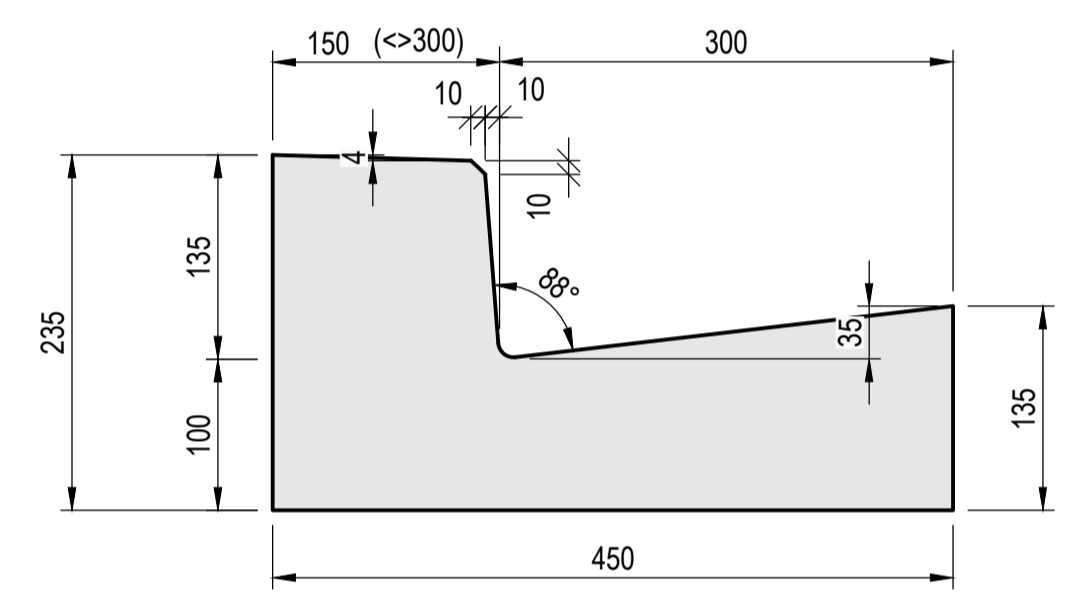
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- 1.8 IF IT IS PROPOSED TO MILL THE ASPHALT, THEN THE CHARACTERISTIC DEFLECTIONS AND CHARACTERISTIC CURVATURES BASED ON MEASUREMENTS TAKEN AT THE SURFACE OF THE EXISTING PAVEMENT NEED TO BE INCREASED TO ALLOW FOR THICKNESS OF ASPHALT REMOVED IN THE MILLING PROCESS. FOR MILLING DEPTHS UP TO 50 MM, IT MAY BE ASSUMED DEFLECTIONS AND CURVATURES INCREASE BY ABOUT 15% AND 25%, RESPECTIVELY, FOR EACH 25 MM OF ASPHALT REMOVED. IF THE MILLING DEPTH EXCEEDS 50 MM, IT IS RECOMMENDED THAT EITHER:
 - 1.9 THE DEFLECTIONS BE MEASURED AFTER MILLING AND THESE DEFLECTIONS BE USED TO DESIGN THE OVERLAY REQUIREMENTS
 - 1.10 GENERAL MECHANISTIC PROCEDURES FOR OVERLAY DESIGN ARE USED AS DESCRIBED IN SECTION 6.3 OF GUIDE TO PAVEMENT TECHNOLOGY PART 5: PAVEMENT EVALUATION AND TREATMENT DESIGN.
- 1.11 FOR INTERFACE BETWEEN NEW AND EXISTING PAVEMENTS, EACH LAYER TO BE BENCHED 150mm INTO EXISTING MATERIAL.
- 1.12 WATERPROOF MEMBRANE TO BE INTACT AND UNIFORM. IF MILLING INTO UNBOUND MATERIAL GRADE 3/5 TWO COAT CHIPSEAL LAYER REQUIRED PRIOR TO FINAL SEAL LAYER.
- 1.13 WHERE PAVEMENT SURFACE IS BEING SCARIFIED, REMOVE EXISTING SURFACE TO BASE COURSE LEVEL AND TIE IN PROPOSED EDGE OF SEAL TO NEW METAL SURFACE.
- 1.14 FOOTPATH BASECOURSE TO HAVE CLEGG CIV>25.
- 1.15 AC JOINTS TO BE BANDAGED.
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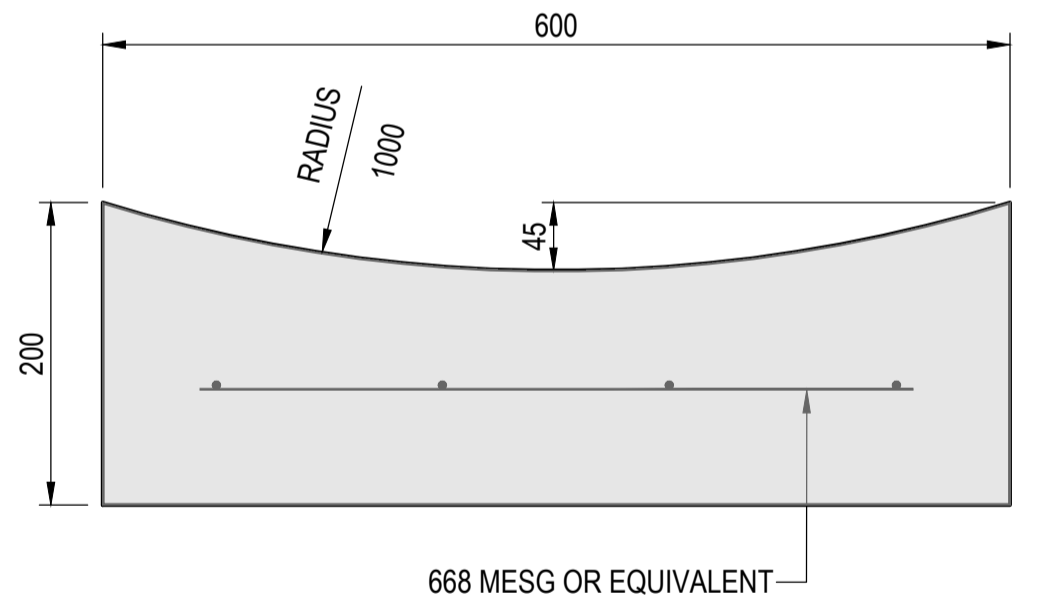
L PAVEMENT TYPE L - WALKING TRACK DETAIL
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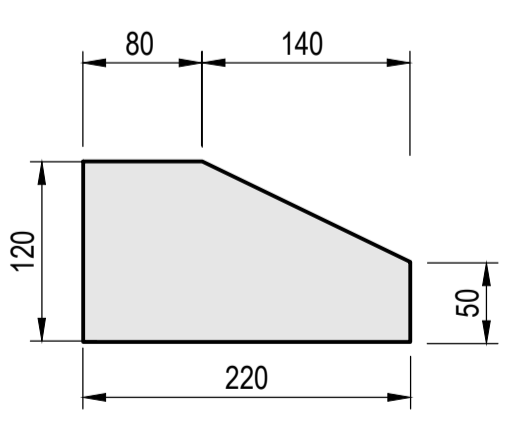
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SCALE 1:10 (A1)



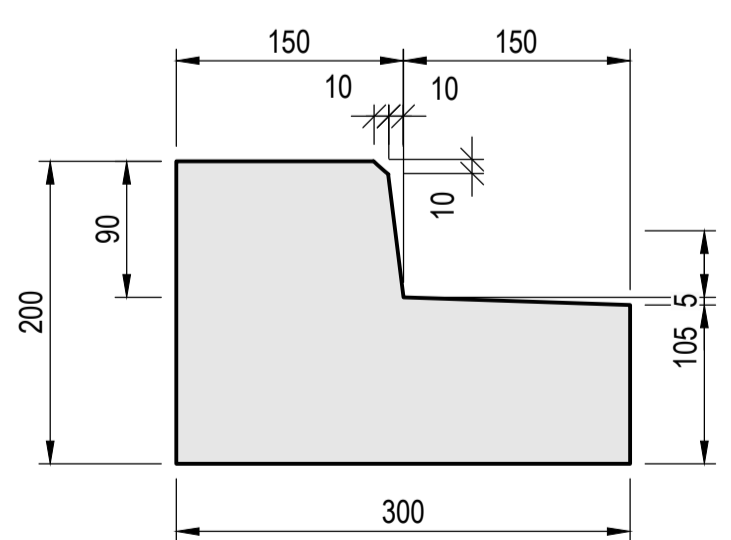
N STANDARD KERB AND CHANNEL
SCALE 1:5 (A1)



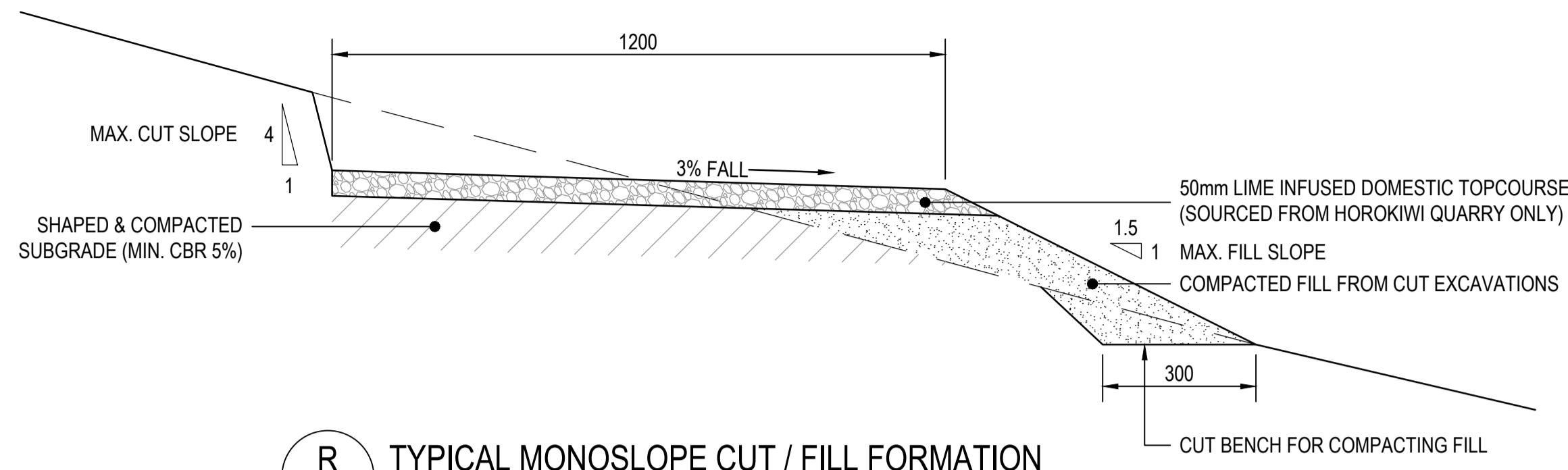
O STANDARD CARRIAGEWAY DISHED CHANNEL
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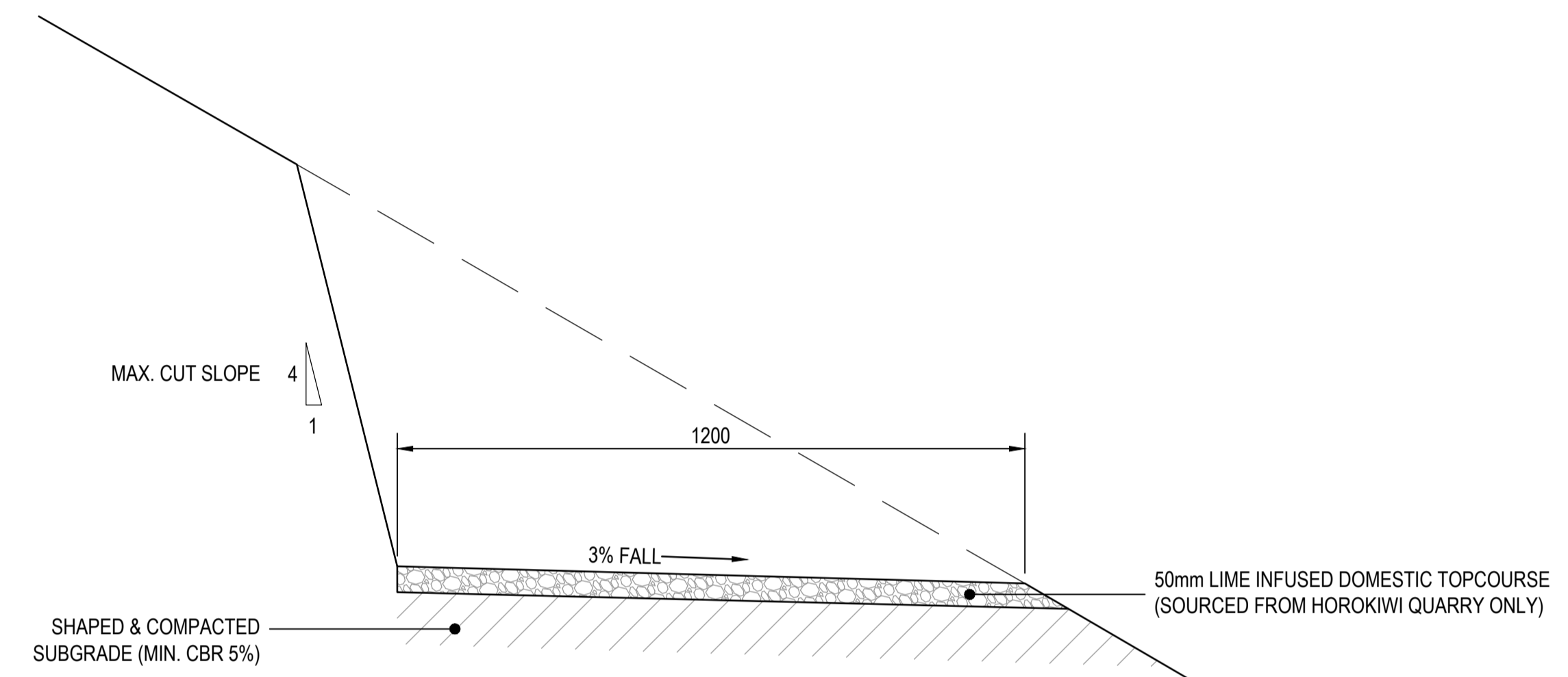
P VEHICLE ACCESS KERB
SCALE 1:5 (A1)



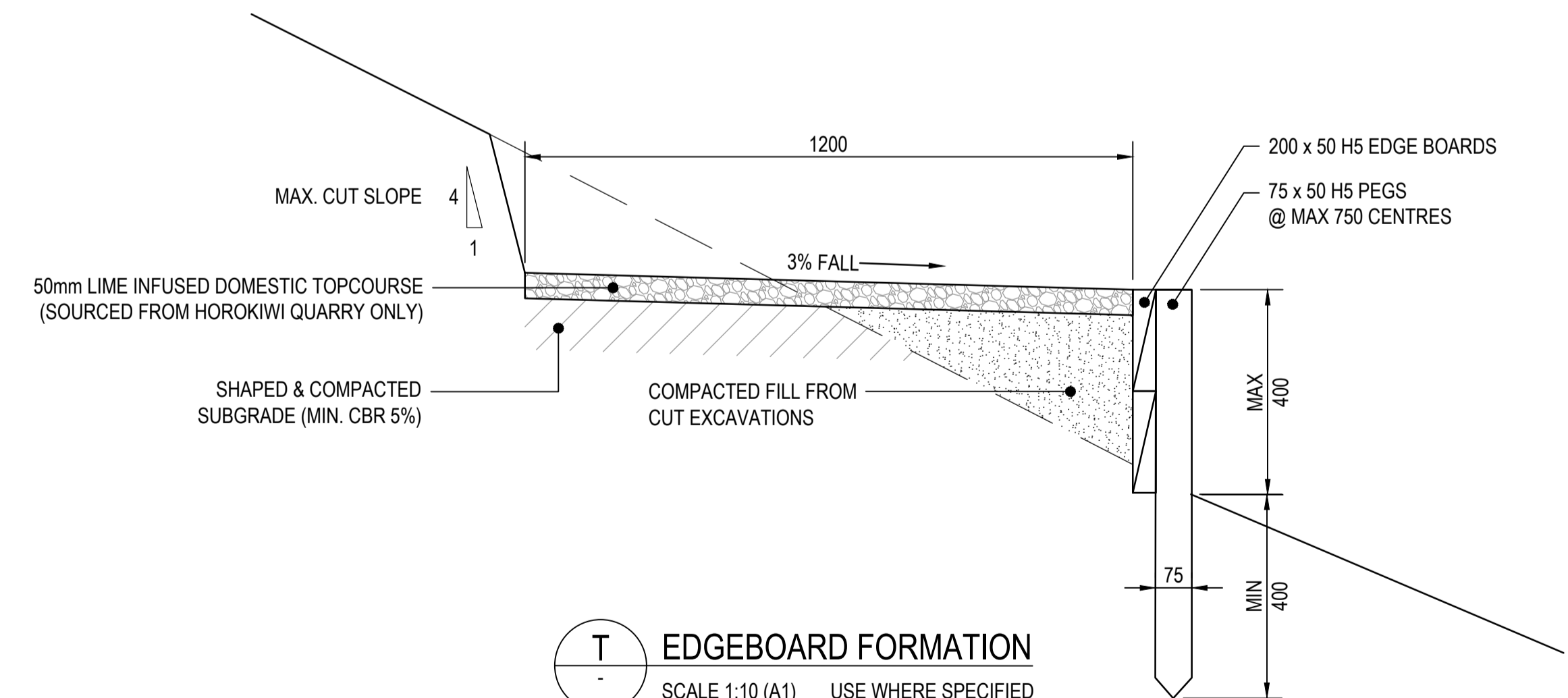
Q STANDARD NIB KERB
SCALE 1:5 (A1)



R TYPICAL MONOSLOPE CUT / FILL FORMATION
SCALE 1:10 (A1) USE ON CROSSFALL LESS THAN 50%



S TYPICAL MONOSLOPE CUT / FILL FORMATION
SCALE 1:10 (A1) USE ON CROSSFALL GREATER THAN 50%



T EDGEBOARD FORMATION
SCALE 1:10 (A1) USE WHERE SPECIFIED

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19

Drawing Originator:

Original Scale (A1)	Design	D. BUDHATHOKI	26.04.19	Approved For Construction*
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Reduced Scale (A3)	Verifier	B. STEVEN	26.04.19	
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* Refer to Revision 1 for Original Signature

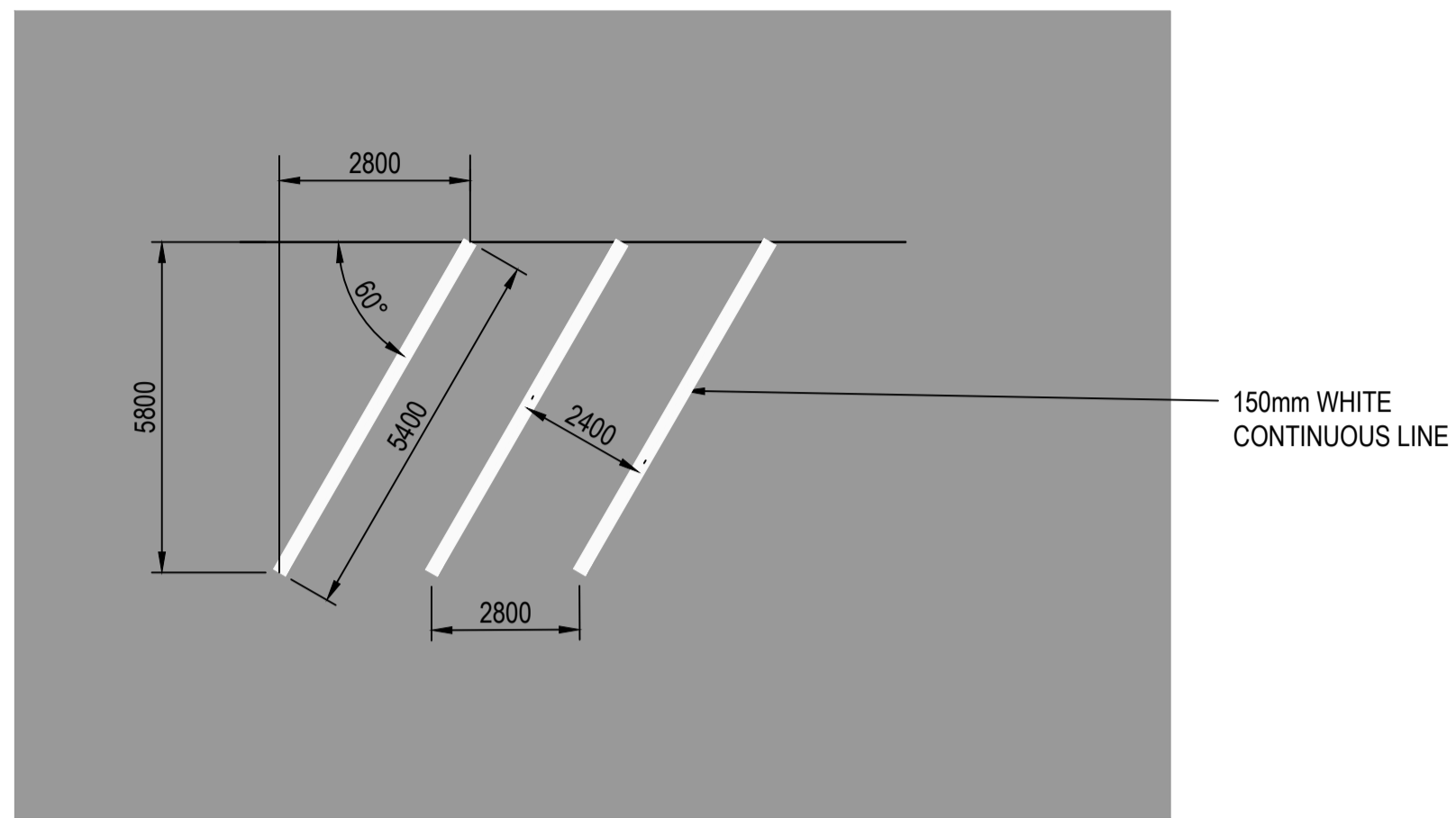
Client:

Project: **OMĀRORO RESERVOIR**

PAVEMENT DETAILS SHEET 2 OF 2

FOR CONSTRUCTION

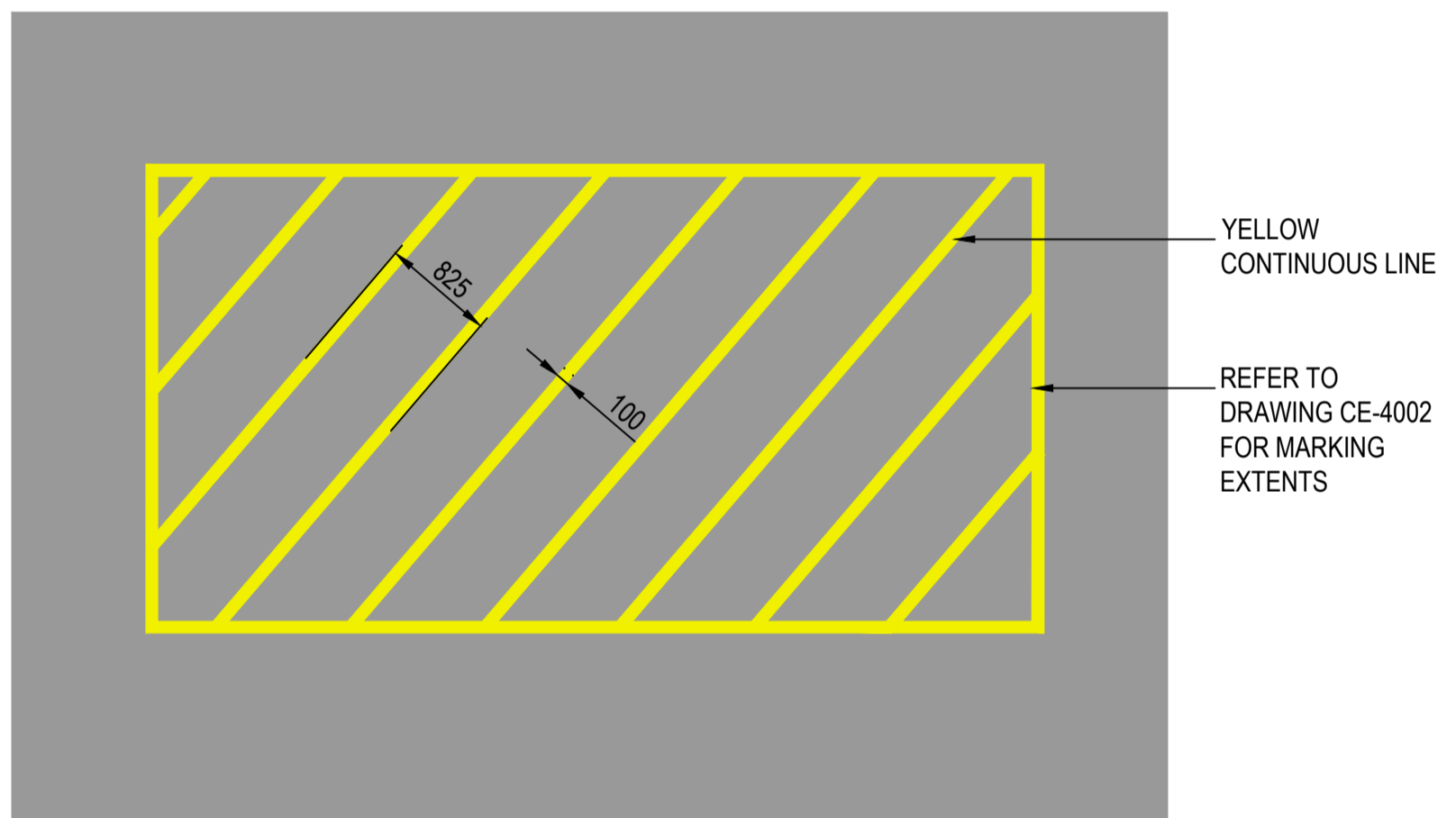
Discipline	CIVIL	
Drawing No.	3262332-CE-4102	Rev.
		1



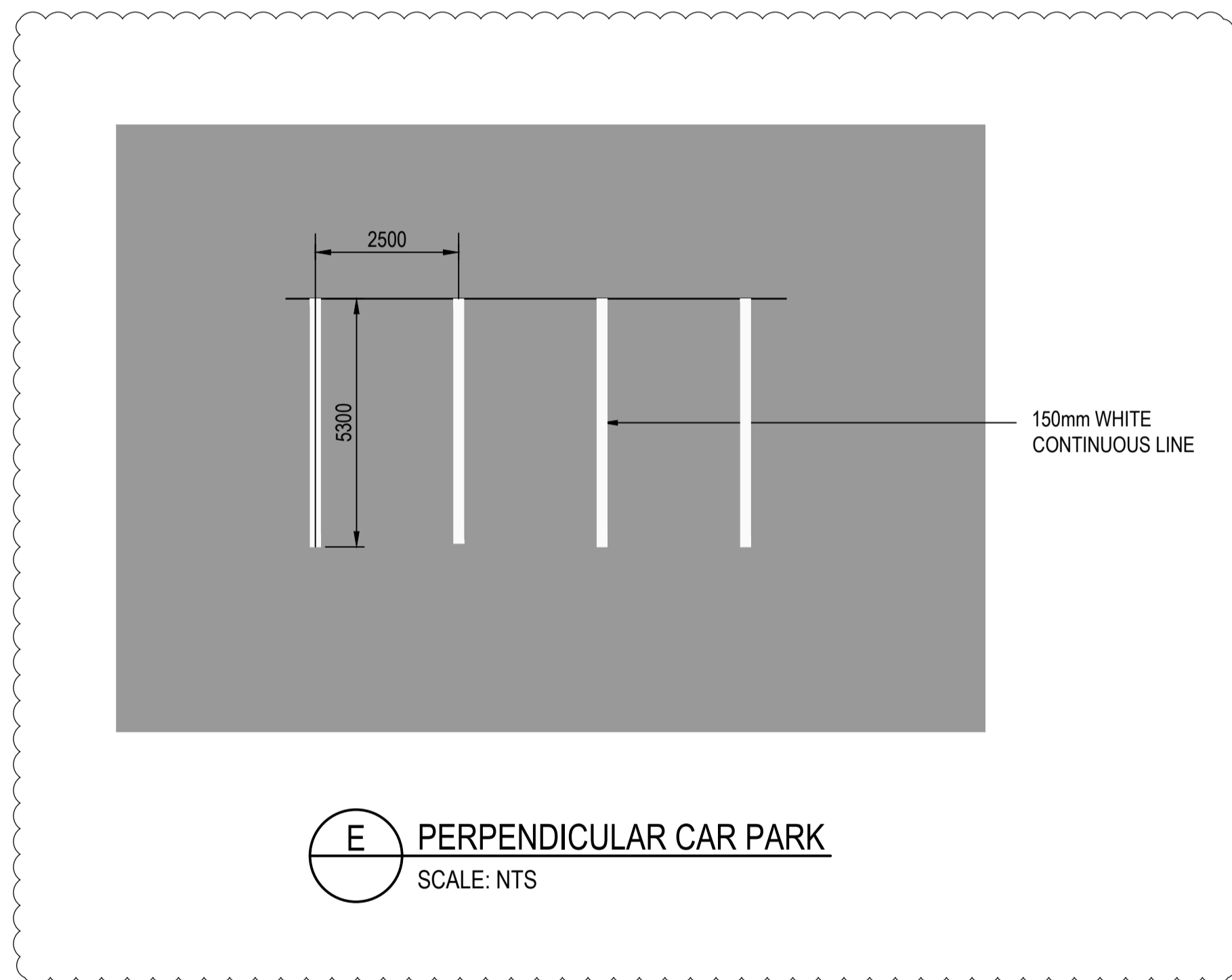
A ANGULAR CAR PARK
SCALE: NTS



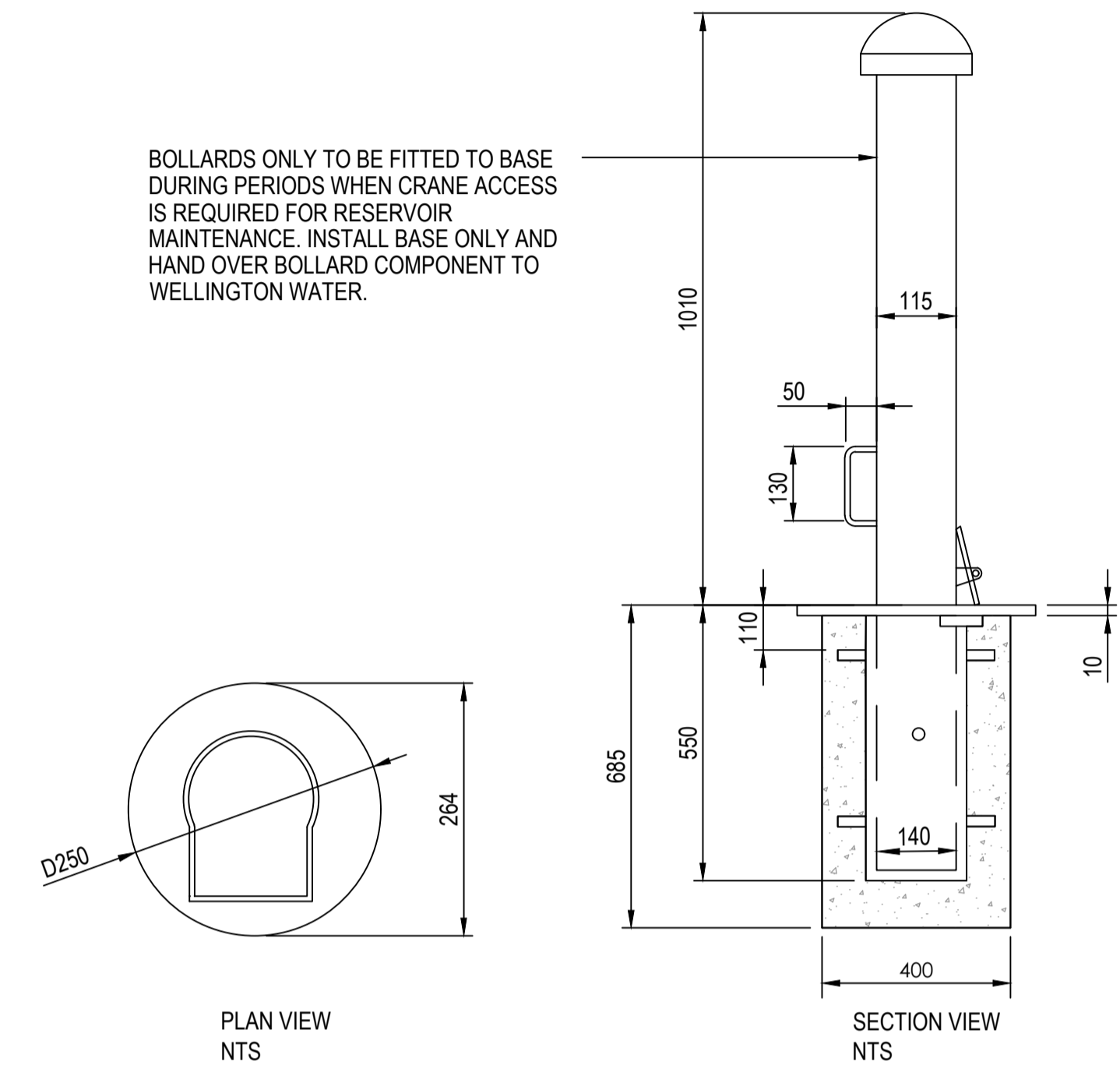
C NO PARKING SIGN
SCALE: NTS



B NO PARKING AREA
SCALE: NTS



E PERPENDICULAR CAR PARK
SCALE: NTS



INSTALLATION NOTES:

1. MINIMUM 300mm DIAMETER AND 600mm CONCRETE FOOTING.
2. POSITION THE GROUND SLEEVE ACCURATELY SO THAT THE TOP OF THE COVER PLATE IS FLUSH WITH THE SURROUNDING SURFACE AND SUPPORT IT WHILE NON SHRINK FLOW GROUT OR CONCRETE IS ADDED TO THE HOLE AROUND THE BOLLARD.
3. FINISH GROUT / CONCRETE NEATLY AND LEVEL WITH TOP OF SLEEVE AND SURROUNDING SURFACE AS REQUIRED.
4. NOTE: IT IS SOMETIMES AN ADVANTAGE TO KEEP THE BOLLARD INSERTED INTO THE BASE WHILE SETTING IN PLACE TO ENSURE THE BOLLARD IS SITTING TRUE.

D VANGUARD REMOVABLE BOLLARD
SCALE: NTS

NOTES

1.0 GENERAL

- 1.1 PAINT SHALL COMPLY WITH TNZ M07.
- 1.2 ALL MARKINGS SHALL BE SET OUT AND APPROVED BY THE DESIGN ENGINEER PRIOR TO PAINTING.
- 1.3 ALL DIMENSIONS ARE IN mm.
- 1.4 ADDITIONAL 300MM CLEARANCE ON EACH SIDE FOR ANGULAR PARKING WHERE THERE IS AN OBSTRUCTION TO VEHICLE DOOR OPENING.
- 1.5 REFER MOTSAM PART 1: SIGNS AND PART 2 MARKINGS FOR MORE DETAILS ON INSTALLATION AND COMPLIANCE ON SIGNAGE AND MARKINGS.

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	NTS	Design	D.BUDHATHOK	26.04.19	Approved For Construction*
Drawn	R.HANCOCK	26.04.19	R.HICKMAN		
Reduced Scale (A3)	NTS	Verifier	B.STEVEN	26.04.19	
		Draw Check	G.DOWN	16.05.19	Date 30.11.20

* Refer to Revision 1 for Original Signature



Client: **OMARORO RESERVOIR**

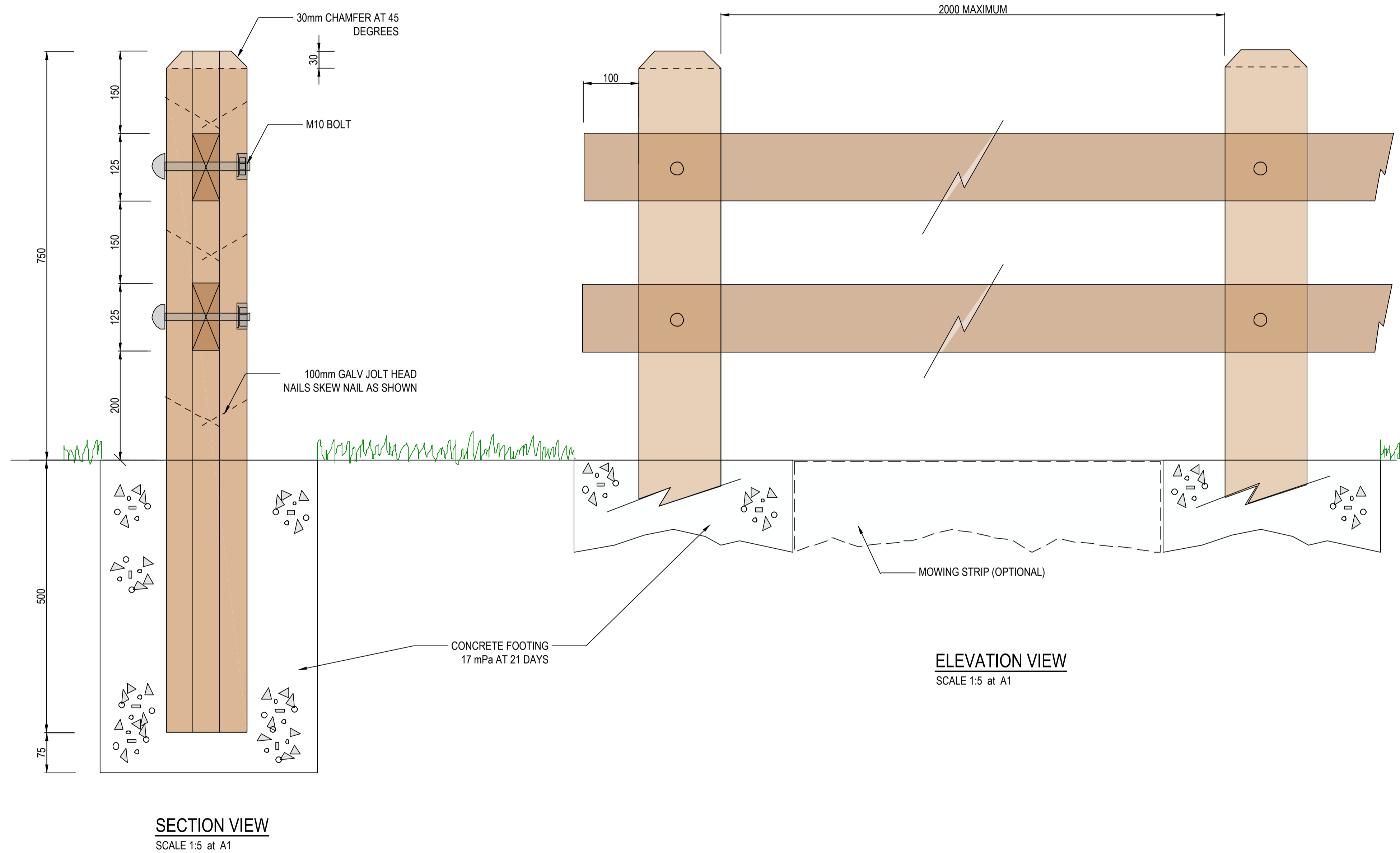
SIGNAGE, PAINT MARKING & BOLLARD DETAILS

Discipline	CIVIL
Drawing No.	3262332-CE-4103
Rev.	1

NOTES:

1.0 GENERAL

- 1.1 150 X 50 H4 ROUGH SAWN PINE TO CREATE POSTS.
- 1.2 125 X 50 H4 ROUGH SAWN PINE FOR RAILS.
- 1.3 M10 GALV ROUND HEAD BOLTS TO HOLD RAILS; COUNTER SINK NUT AND WASHER END.
- 1.4 MOWING STRIP MAY BE REQUIRED IN GRASSED AREAS.
- 1.5 CONTRACTOR TO VERIFY DIMENSIONS ON SITE BEFORE CONSTRUCTION.



DRAWING SOURCED FROM WCC

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



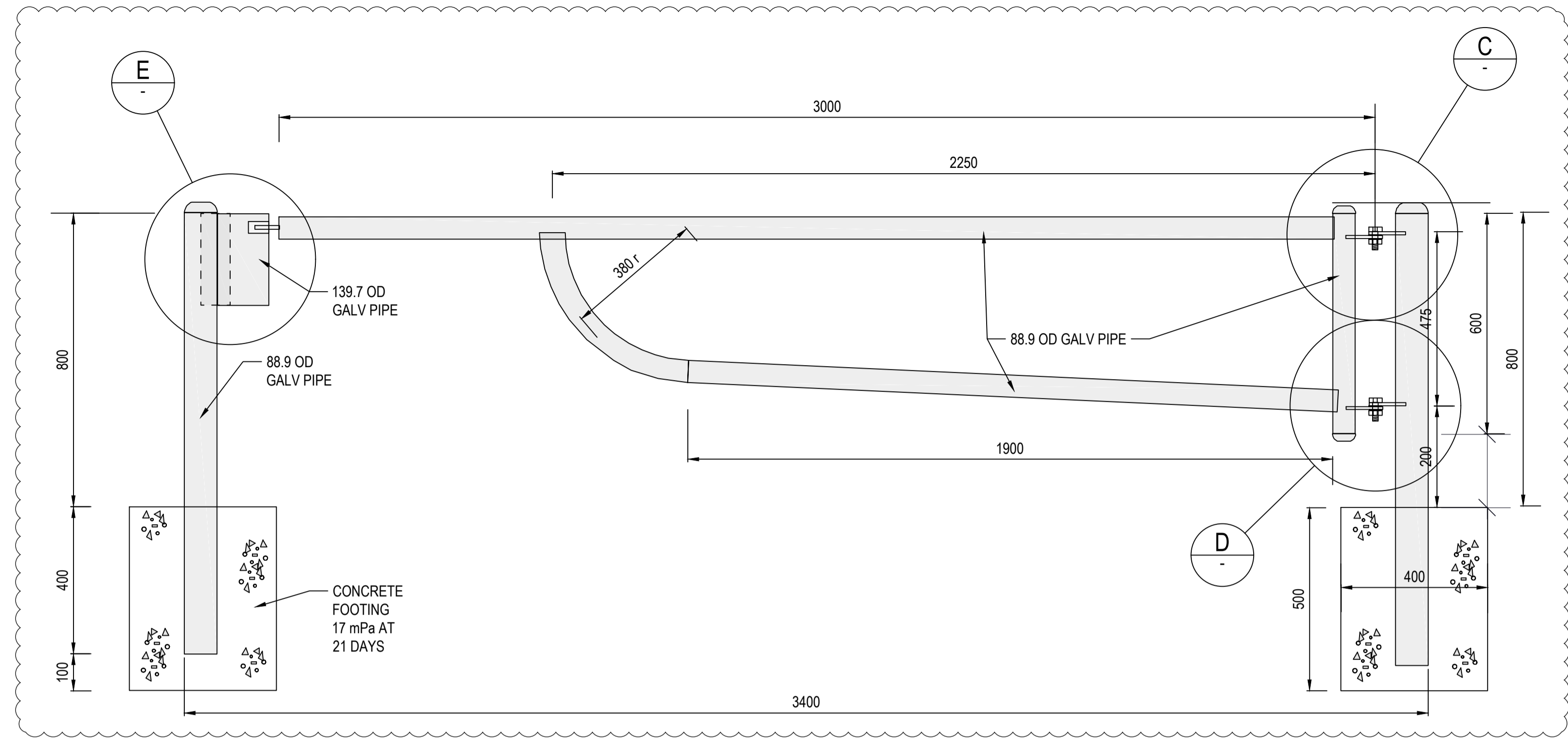
Original Scale (A1)	1:5
Reduced Scale (A3)	1:10

Design	-	Approved For Construction*	R HICKMAN
Drawn	R.HANCOCK	13.05.19	
Verifier	W.MAGUIRE	13.05.19	
Dep Check	G.DOWN	16.05.19	Date 30.11.20

Client:	Wellington Water
Project:	OMARORO RESERVOIR

Discipline	CIVIL
Drawing No.	3262332-CE-4104
Rev.	1

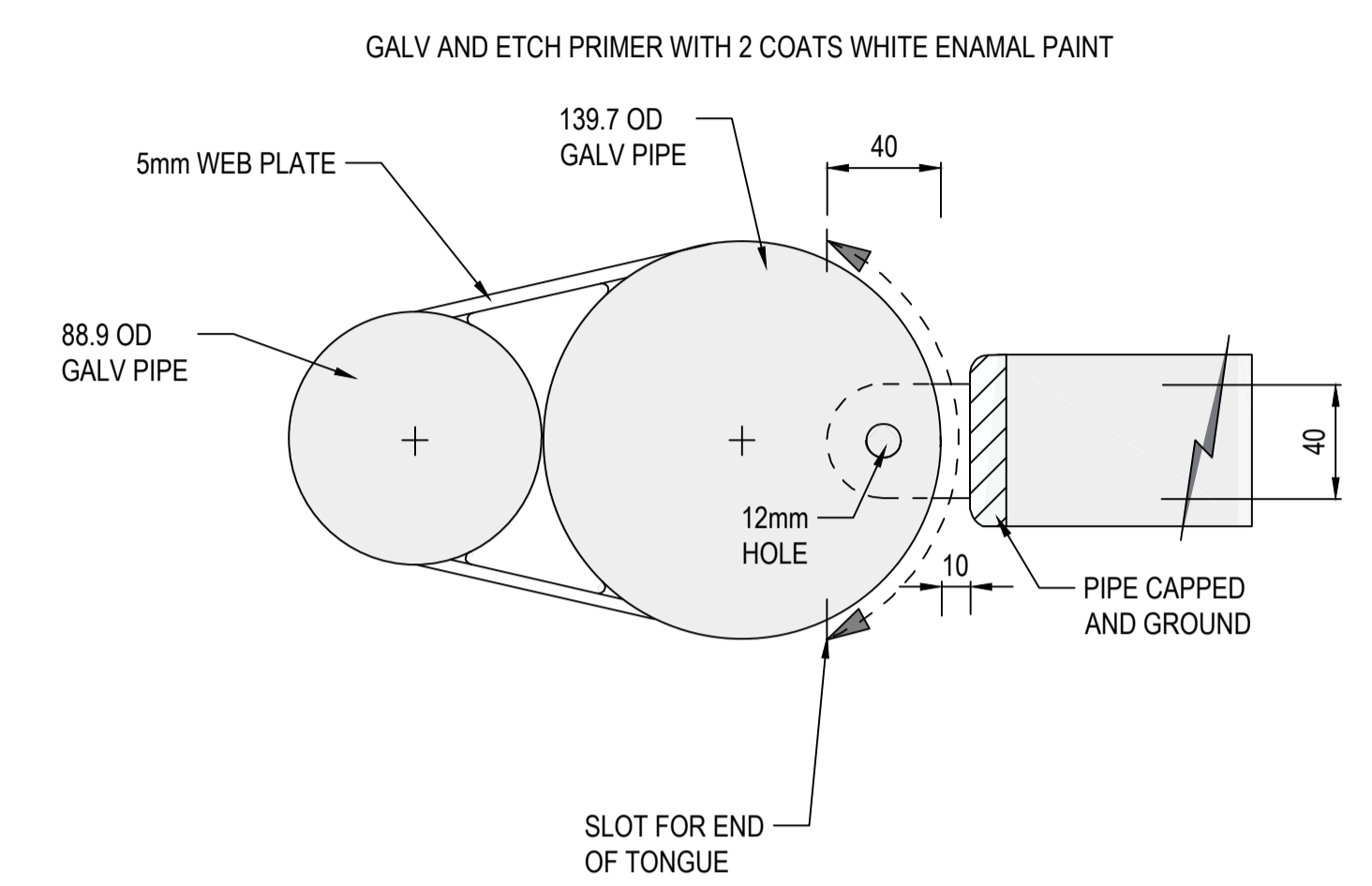
FOR CONSTRUCTION	
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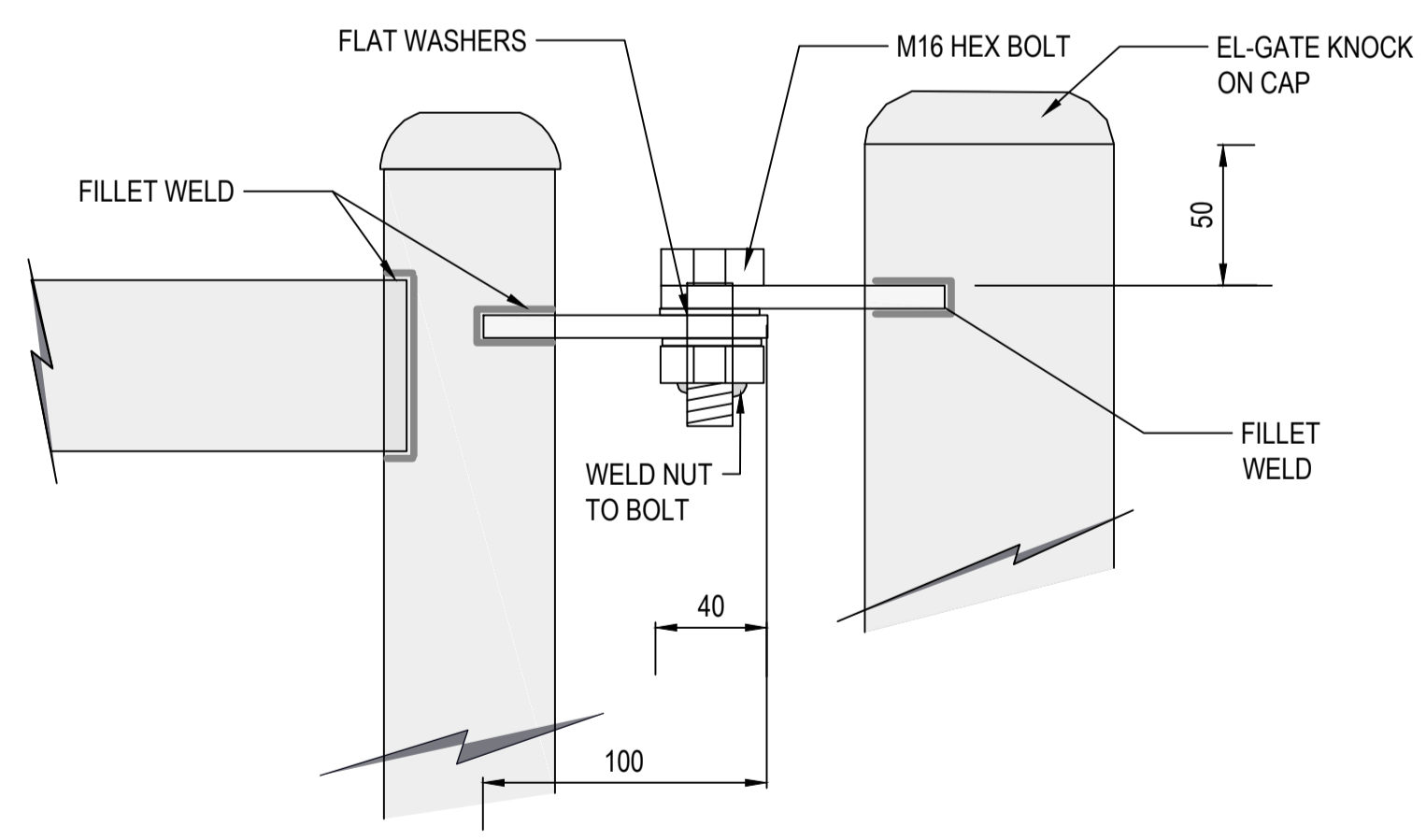
A STANDARD VEHICLE GATE ELEVATION VIEW
SCALE 1:10 (A1)

NOTES:

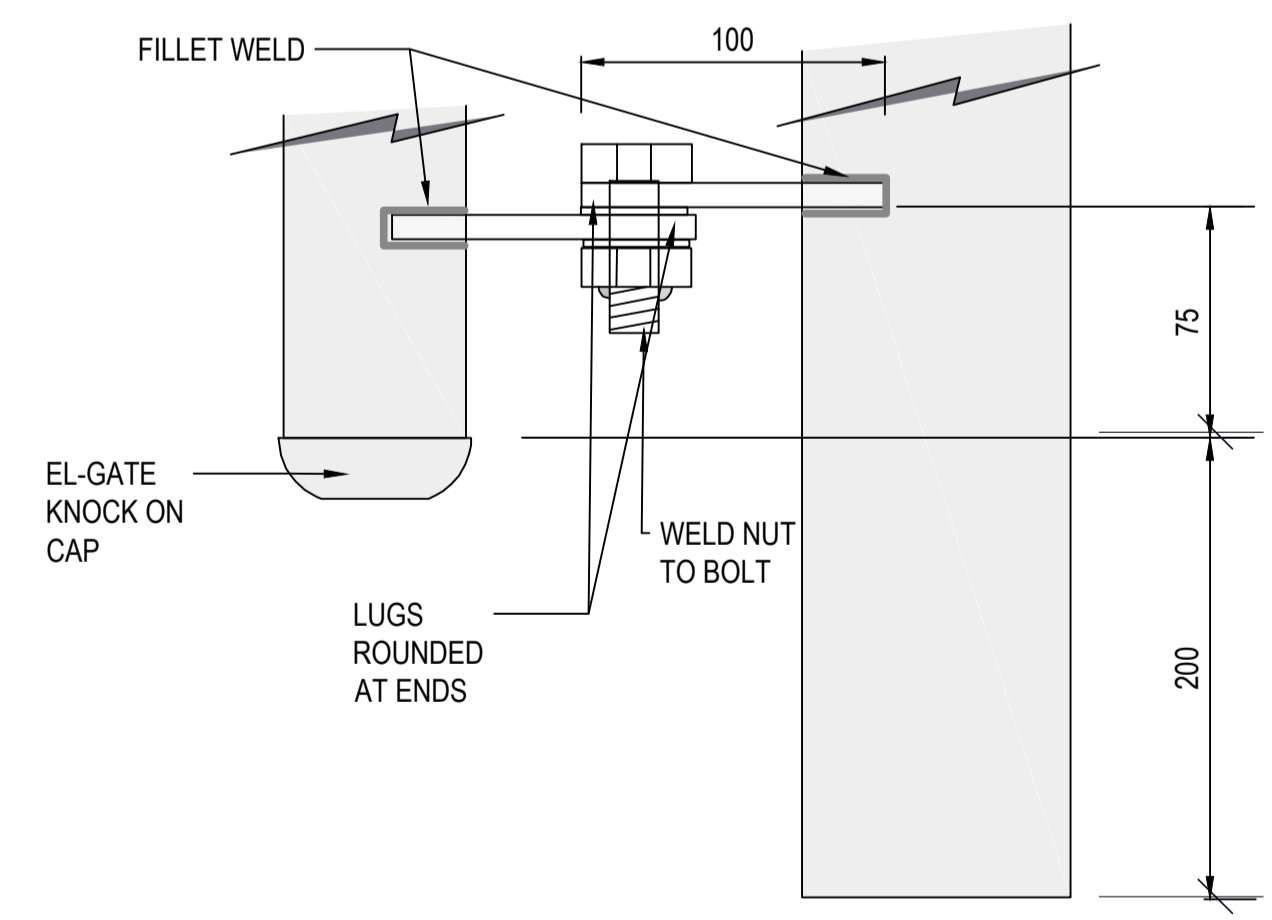
- 1.0 GENERAL
- 1.1 CONTRACTOR TO VERIFY DIMENSIONS ON SITE BEFORE CONSTRUCTION



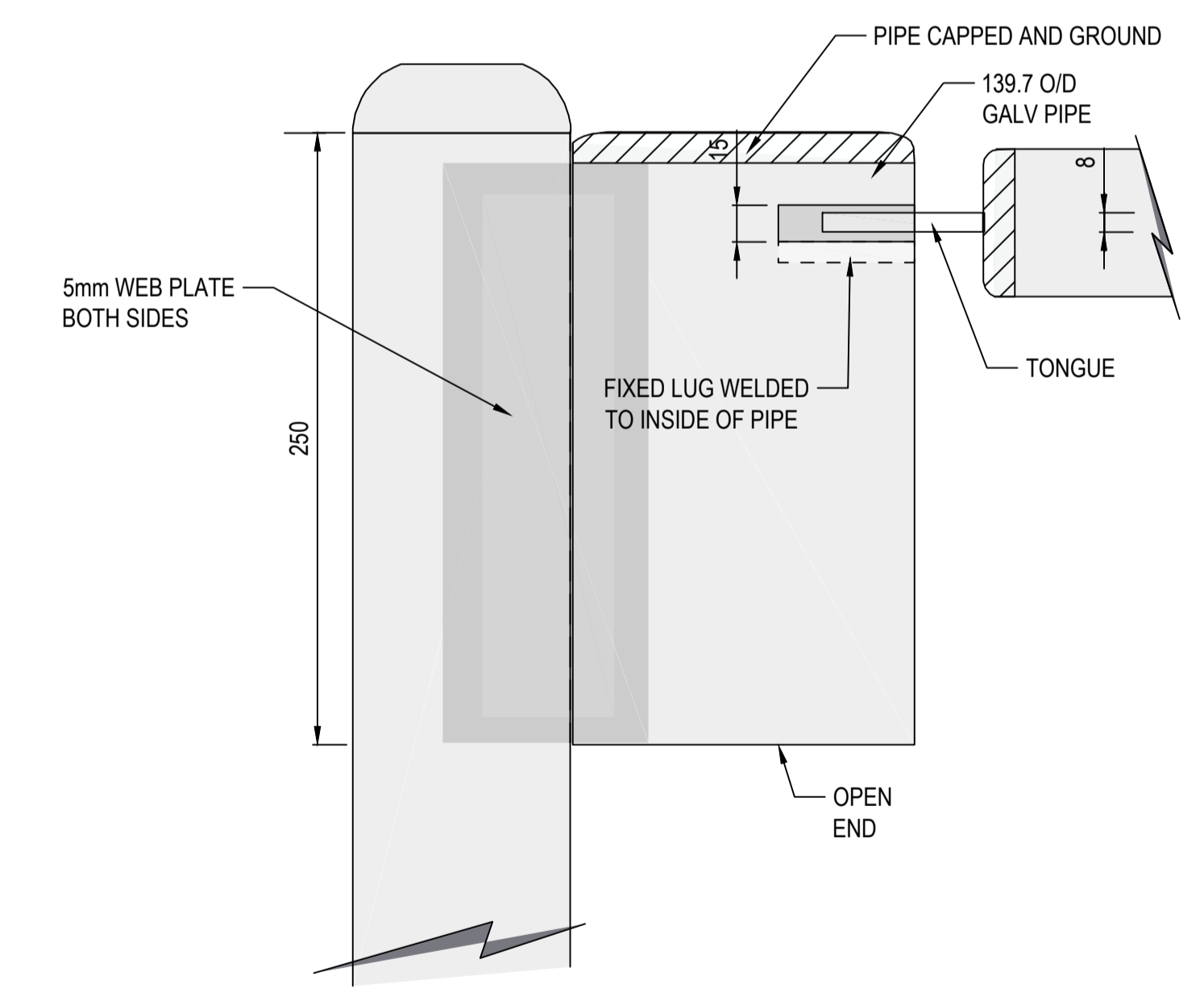
B STANDARD VEHICLE GATE PADLOCK ENCLOSURE PLAN VIEW
SCALE 1:2.5 (A1)



C STANDARD VEHICLE GATE TOP SWIVEL HINGE
SCALE 1:2.5 (A1)



D STANDARD VEHICLE GATE BOTTOM SWIVEL HINGE
SCALE 1:2.5 (A1)



E STANDARD VEHICLE GATE PADLOCK ENCLOSURE ELEVATION VIEW
SCALE 1:2.5 (A1)

DRAWING SOURCED FROM WCC

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



Original Scale (A1)	Design	Drawn	Checked	Approved For Construction
AS SHOWN	-	R.HANCOCK	13.05.19	R HICKMAN
Reduced Scale (A3)	Design Check	W.MAGUIRE	13.05.19	
1/2 AS SHOWN		G.DOWN	16.05.19	Date 30.11.20



Client: OMARORO RESERVOIR

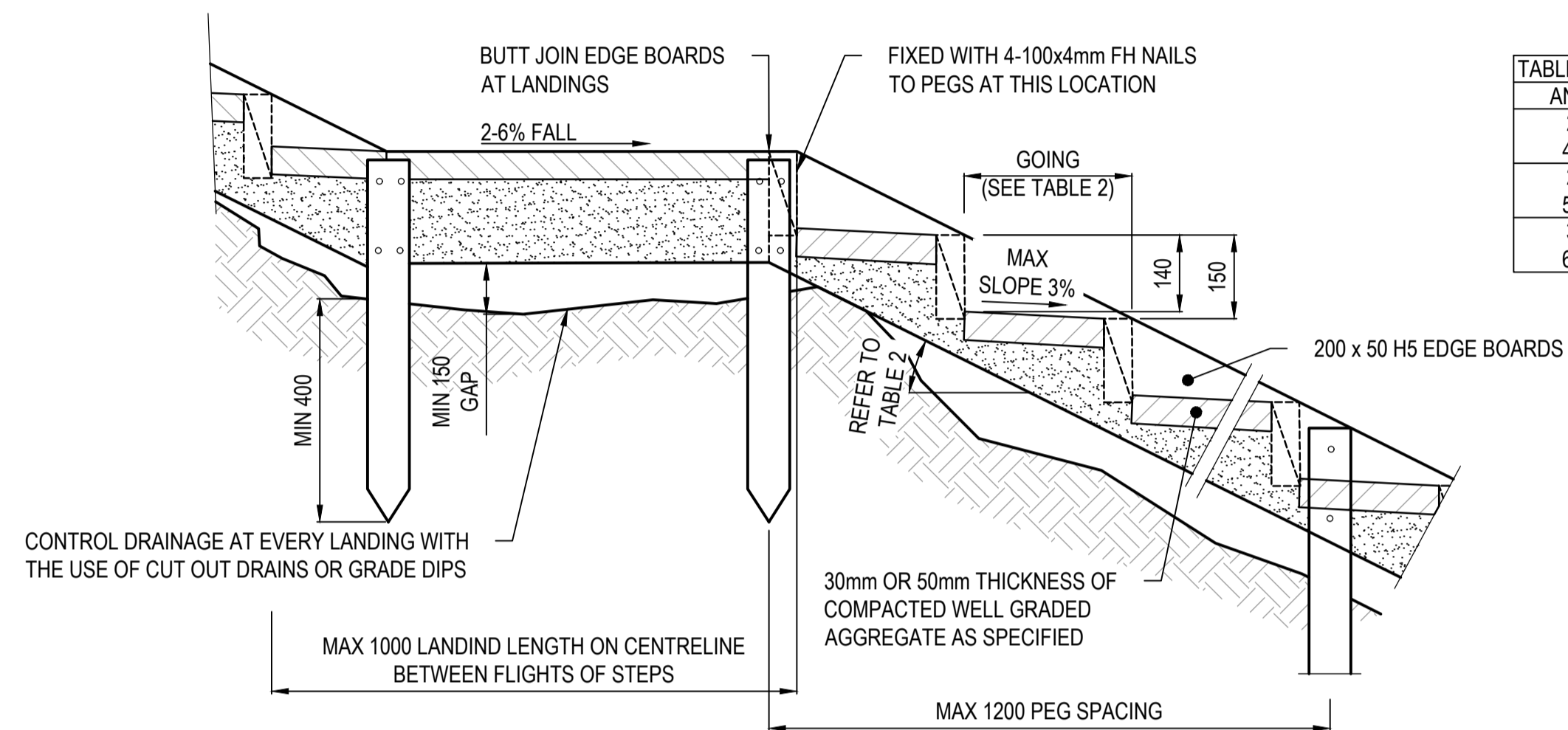
Project: STANDARD VEHICLE BARRIER GATE

Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-4105	1

NOTES

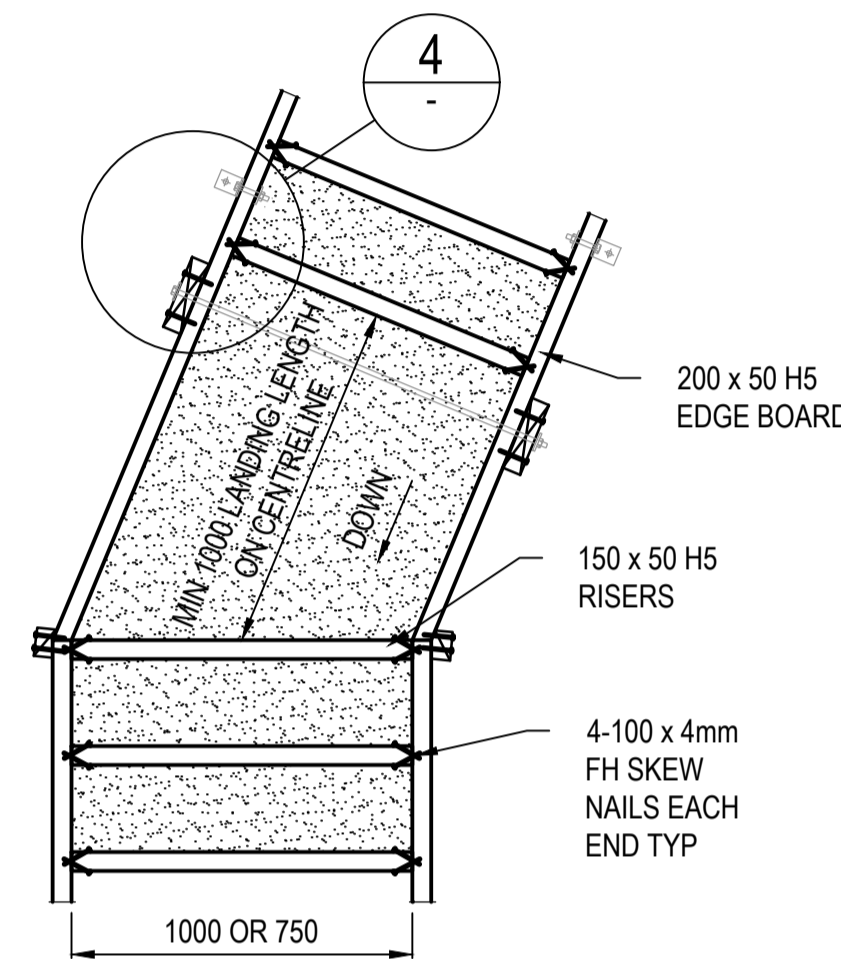
1.0 STEPS

- 1.1 DETAILS SOURCED FROM WCC
- 1.2 PROVIDE A LANDING EVERY MAX 12 STEPS.
- 1.3 LANDING SHALL CONSIST OF AT LEAST 900mm LEVEL STEP.
- 1.4 ALL TIMBER TO BE H5 TREATED.
- 1.5 STEPS SHALL HAVE UNIFORM LENGTH AND RISER HEIGHT WITHIN EACH FLIGHT BETWEEN LANDINGS.

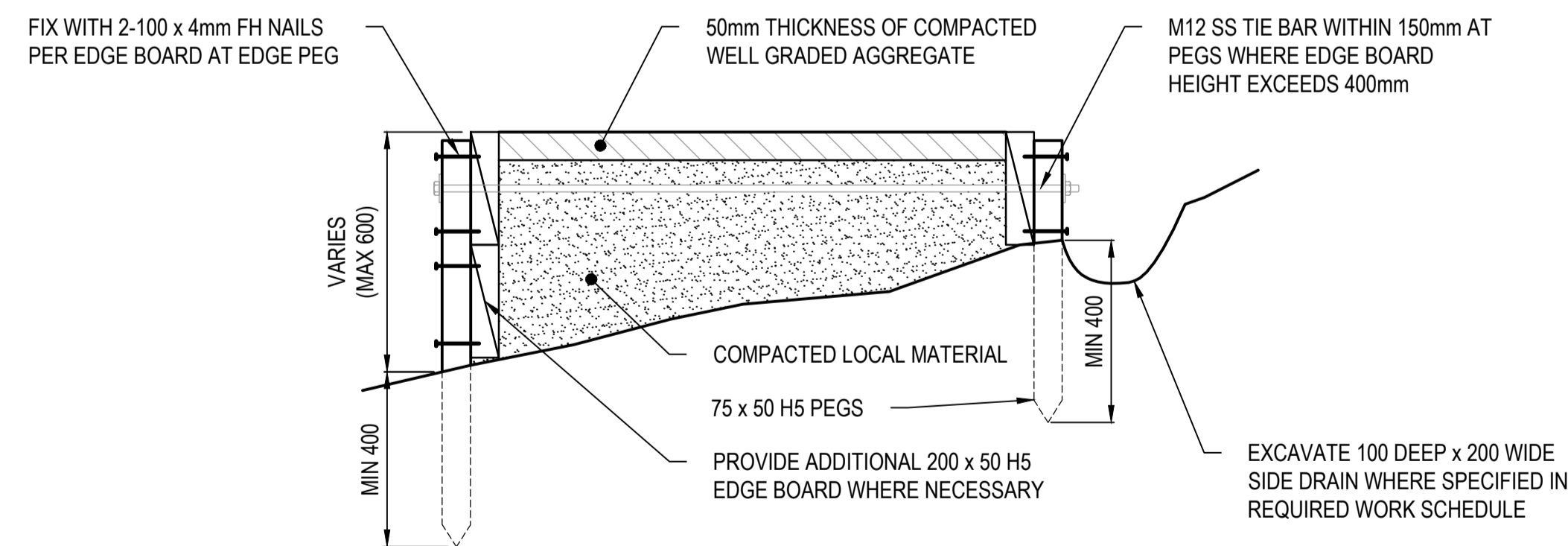


1 TYPICAL BOXED STEP ELEVATION
SCALE 1:10 (A1)

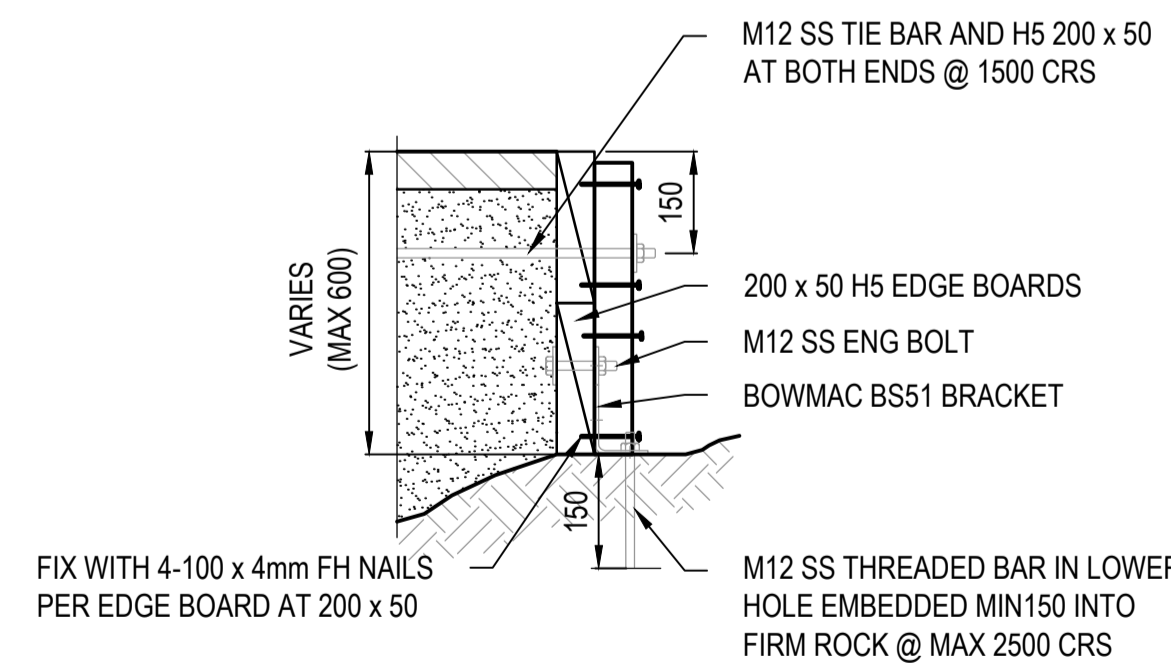
TABLE 2 - STEP GEOMETRY	
ANGLE	GOING
22°	375
40%	
27°	300
50%	
31°	250
60%	



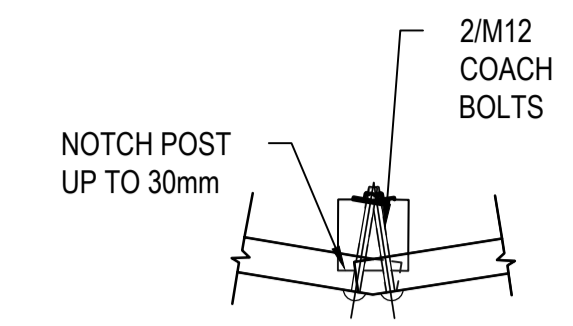
3 PART PLAN ON BOXED STEPS
SCALE 1:10 (A1)



2 TYPICAL SECTION ON BOXED STEPS
SCALE 1:10 (A1)

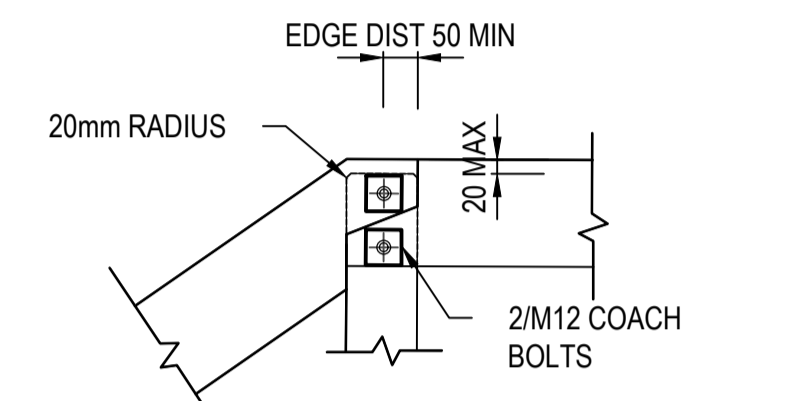


4 ROCK FIXING DETAIL
SCALE 1:10 (A1)



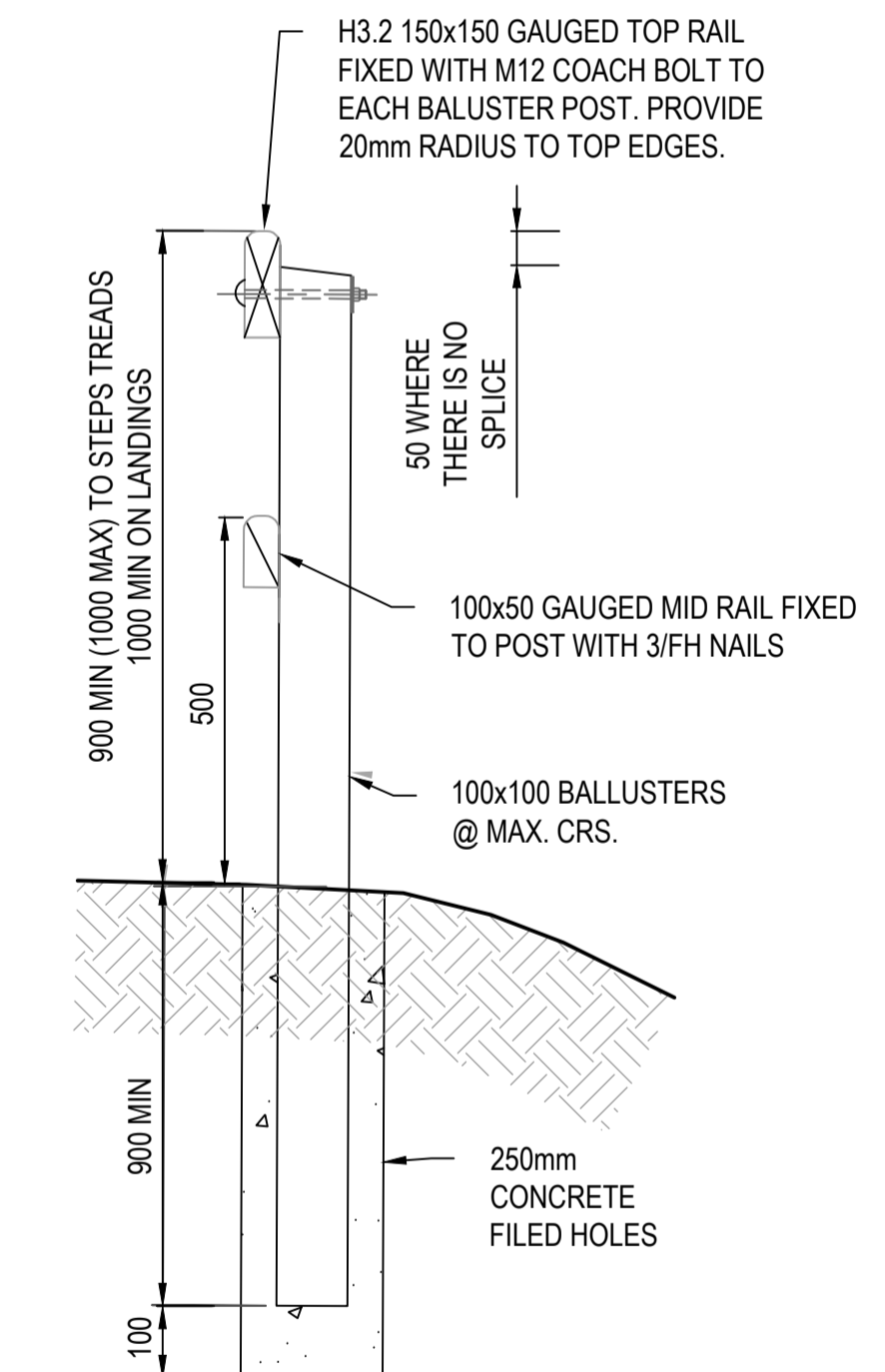
SPLICE DETAIL AT DIRECTION CHANGE

5 HANDRAIL PLAN
SCALE 1:10 (A1)



SPLICE DETAIL AT GRADE CHANGE (ANGLE TO SUIT)

6 HANDRAIL ELEVATION
SCALE 1:10 (A1)



PEGS ARE NOT REQUIRED WHERE HANDRAIL IS PRESENT

7 HANDRAIL DETAILS
SCALE 1:10 (A1)

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR CONSTRUCTION	RM	WM	DS	30.11.20
0	ISSUE FOR TENDER	RM	WM	DS	18.09.19



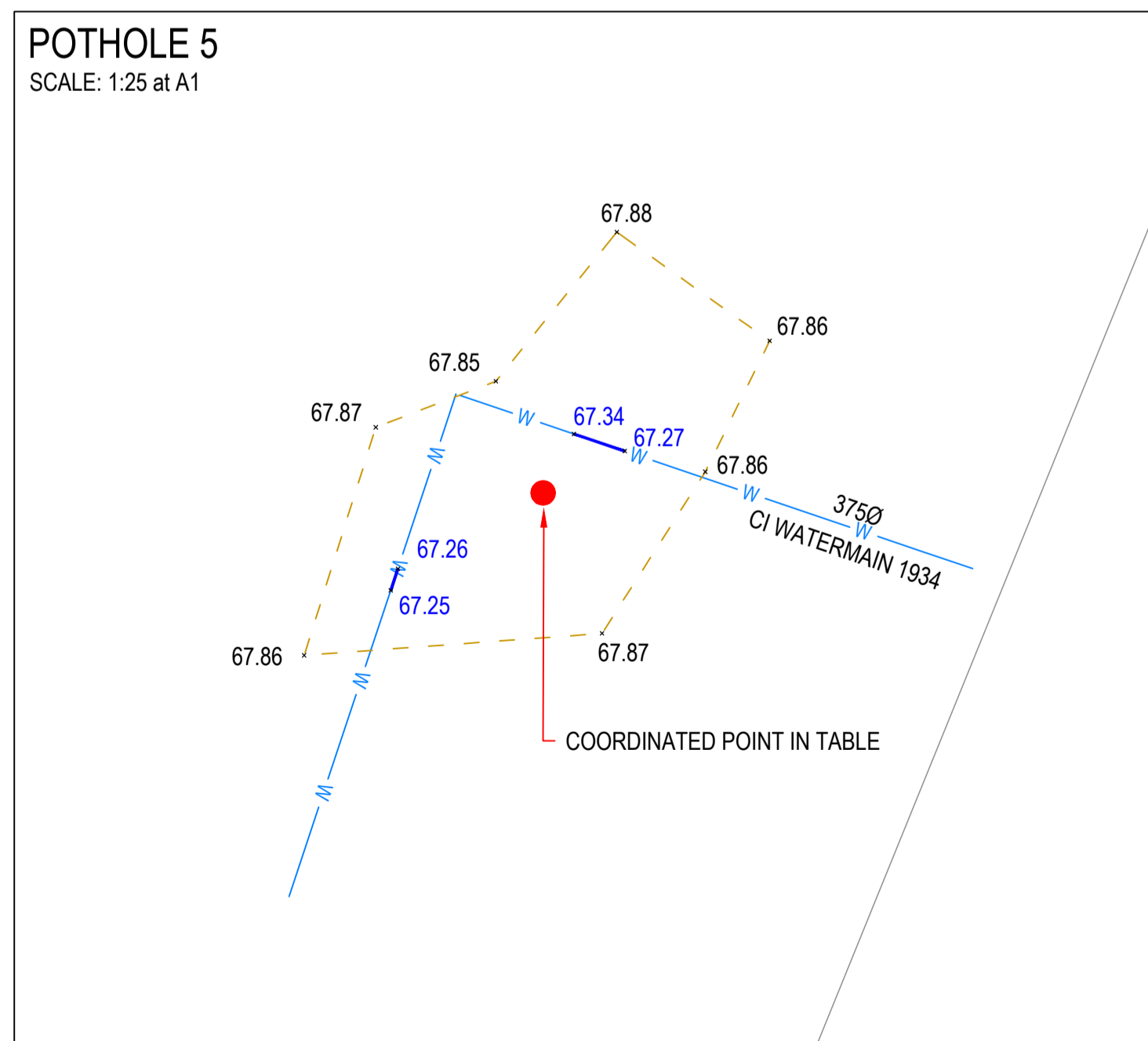
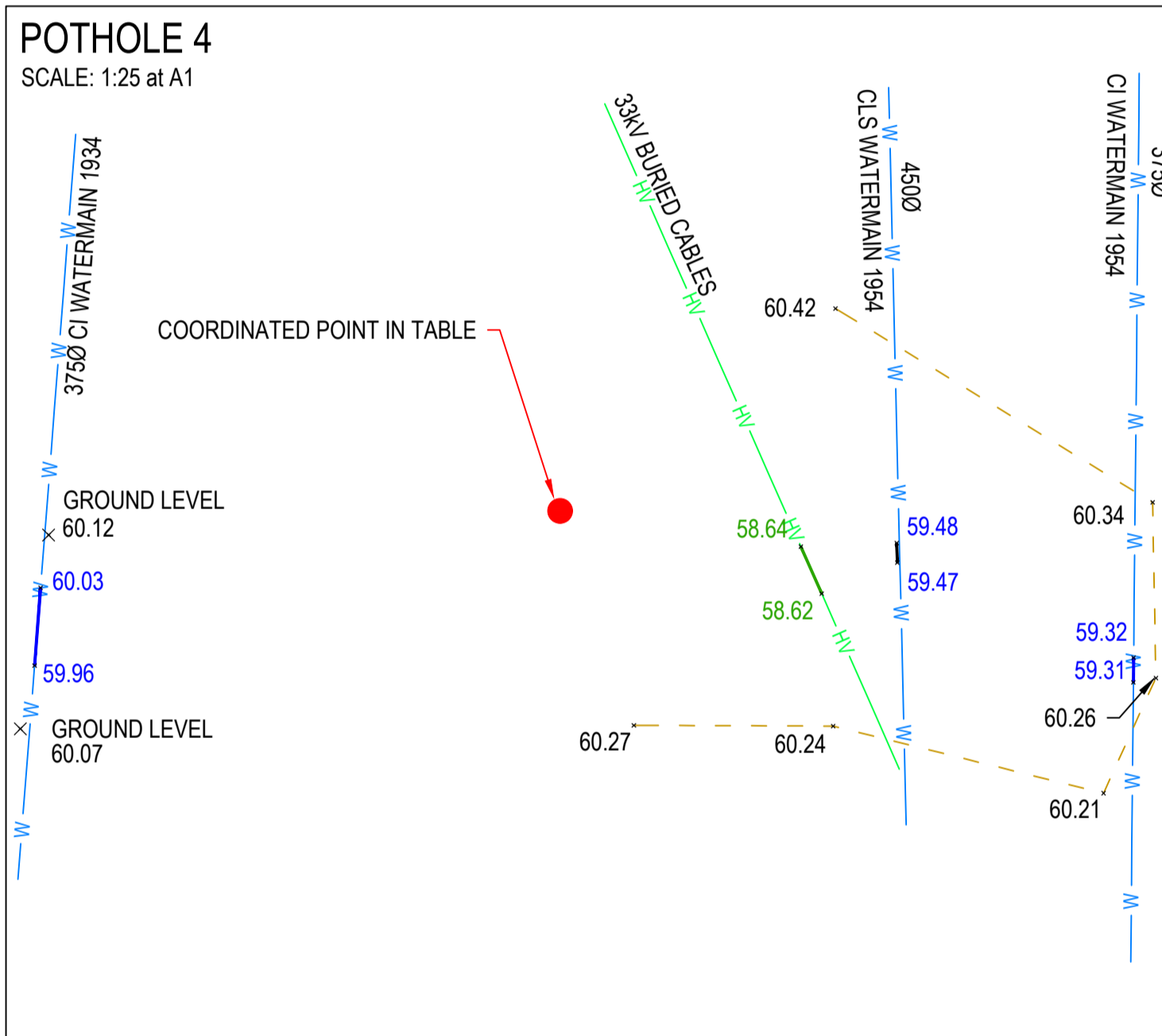
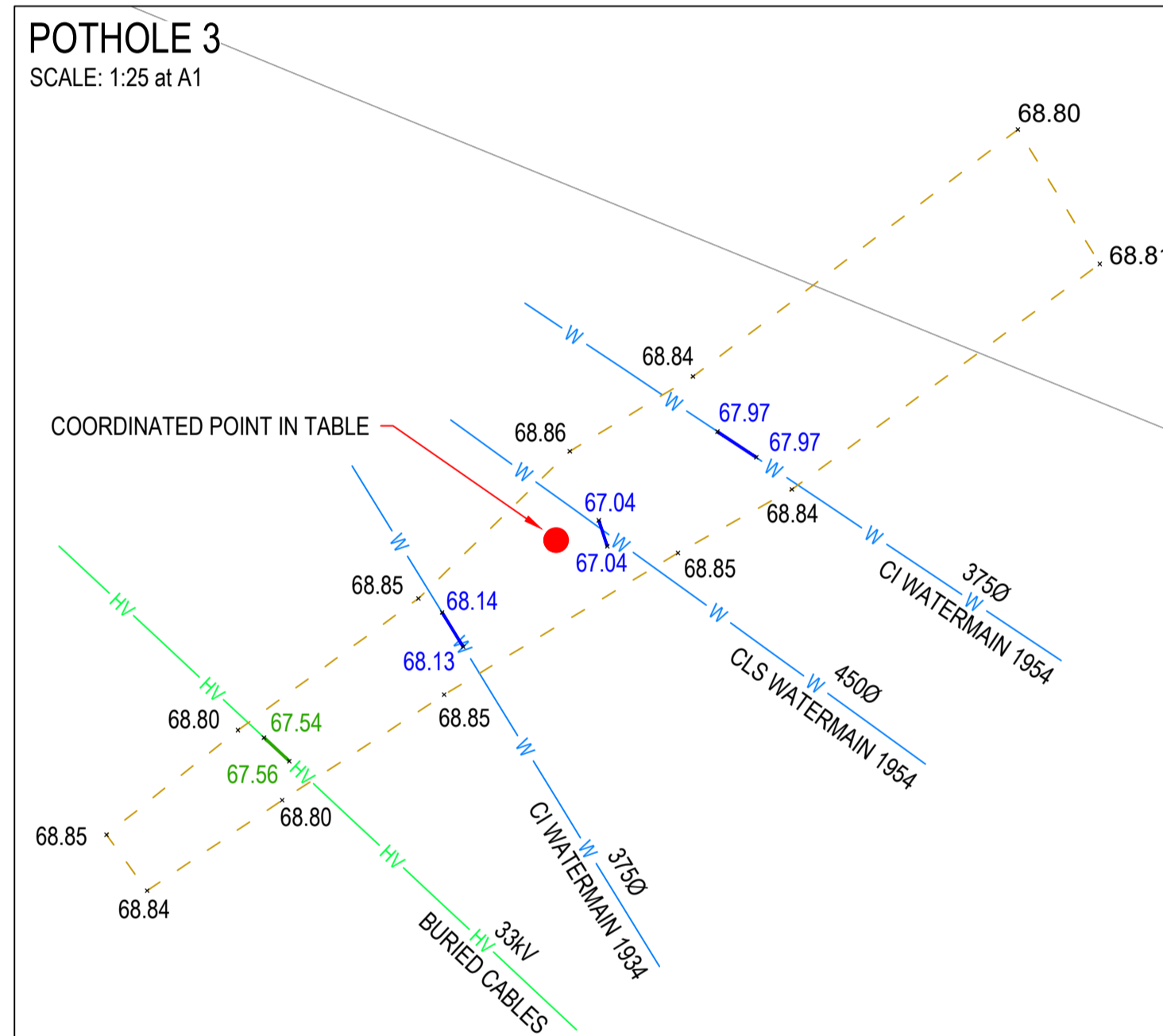
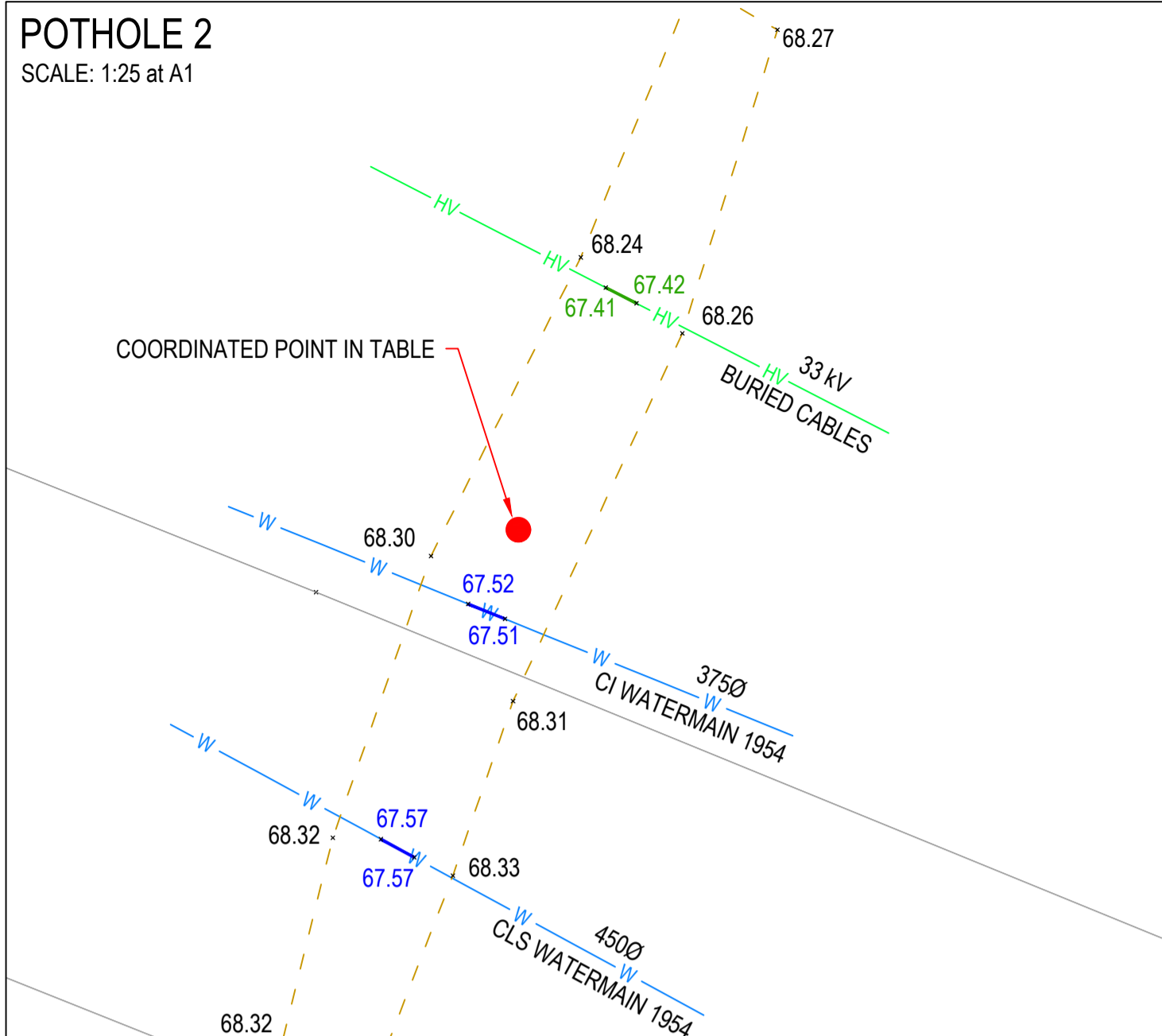
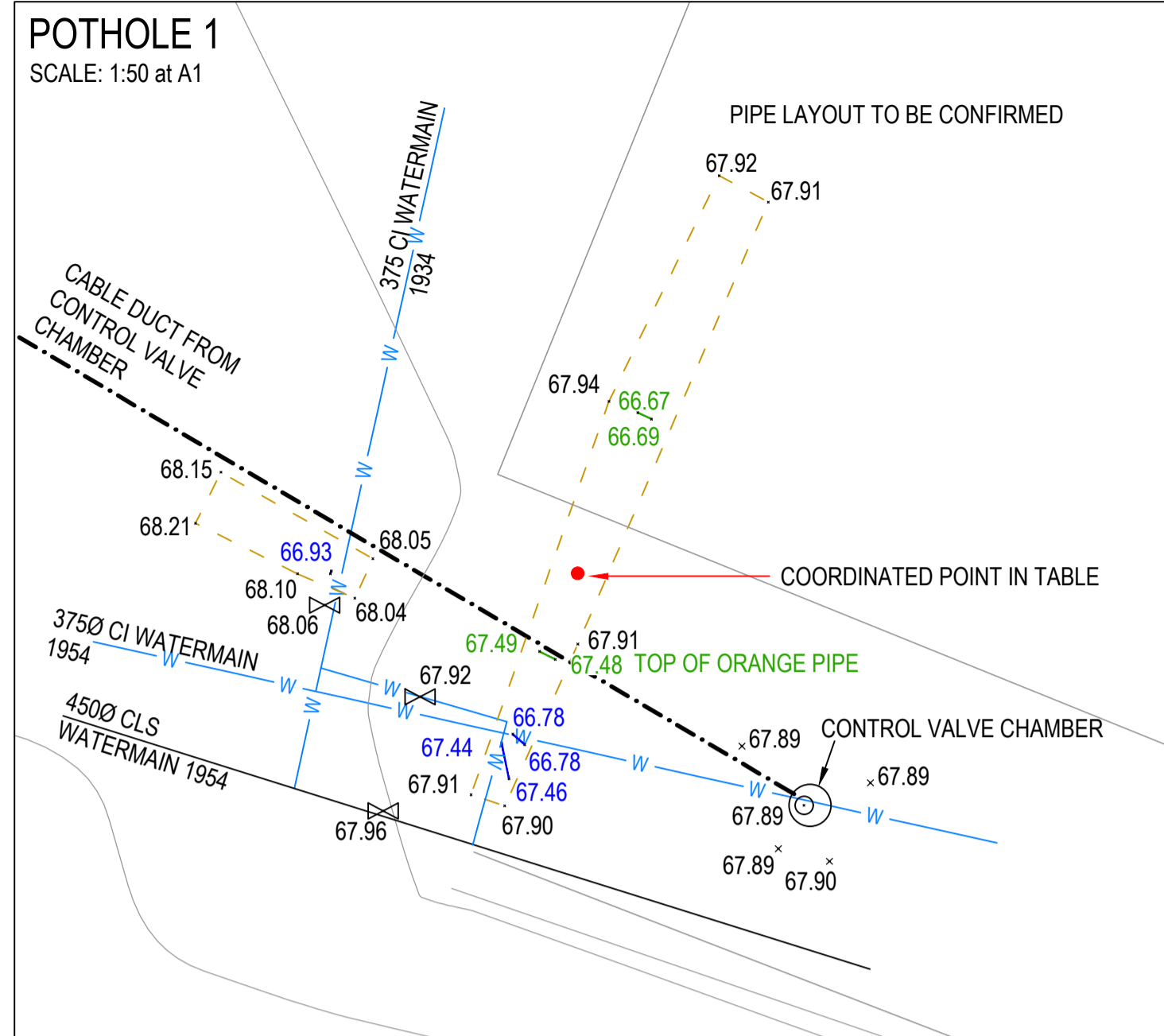
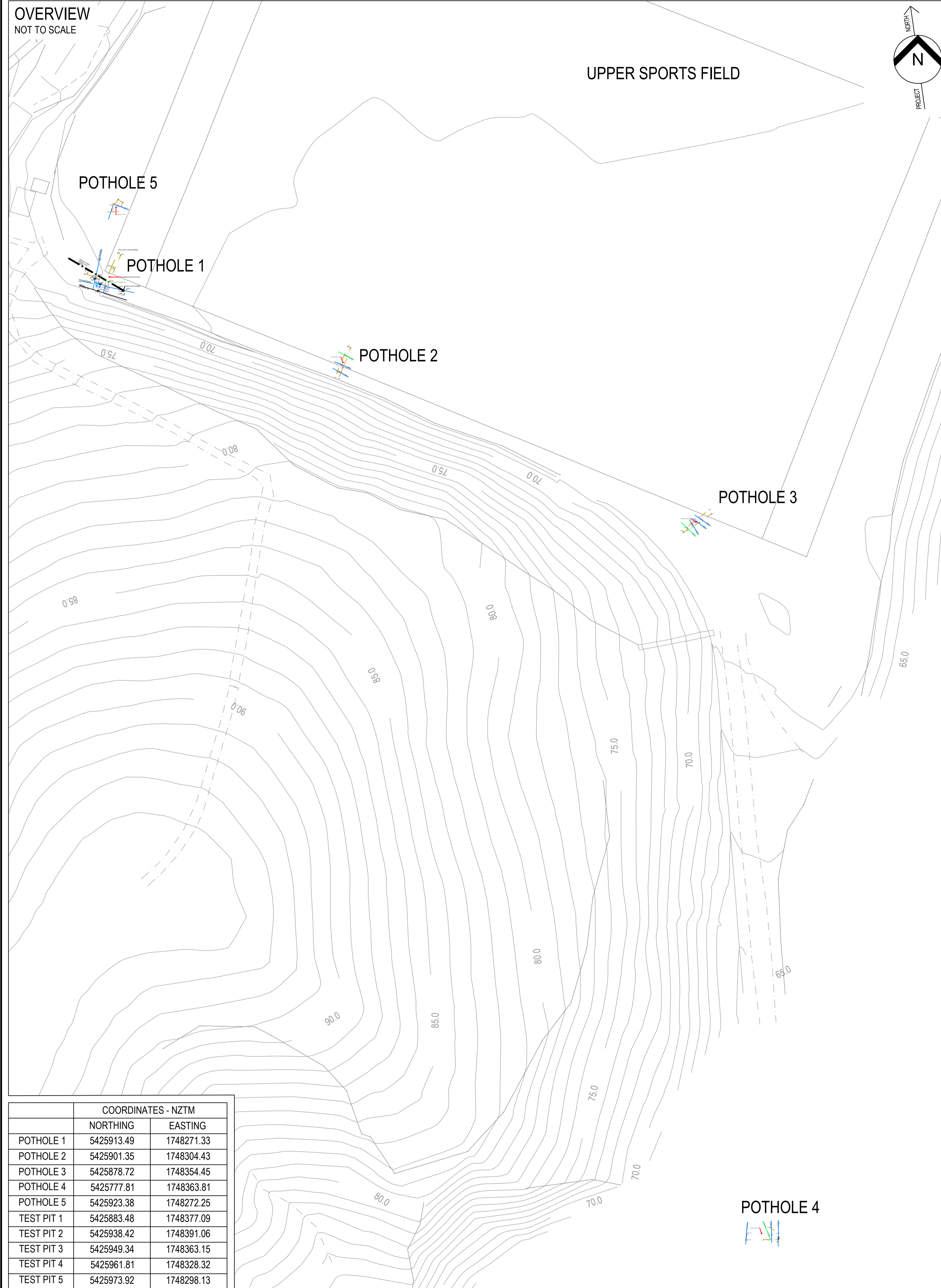
Original Scale (A1)	Design	Drawn	Checked	Approved For Construction*
AS SHOWN	-	R.HANCOCK	13.05.19	R HICKMAN
Reduced Scale (A3)	Design	W.MAGUIRE	13.05.19	
1/2 AS SHOWN	Check	G.DOWN	16.05.19	



Client: **OMĀRORO RESERVOIR**

Project: **STANDARD BOX TIMBER STEPS**

Discipline	Drawing No.	Rev.
CIVIL	3262332-CE-4106	1



LEGEND:

- 58.64 ELECTRICAL - TOP OF CONCRETE
- 59.47 WATER - TOP OF PIPE
- 59.47 EDGE OF EXCAVATION - GROUND LEVEL
- MANHOLE
- VALVE

NOTES:

1.0 GENERAL

1.1 INFORMATION SHOWN IN GRAY HAS BEEN TAKEN FROM THE TOPOGRAPHICAL SURVEY DATA SURVEYED IN JUNE 2012.

1.2 ALL SURVEYED POSITIONS OF SERVICE ARE TO TOP OF PIPE/CABLE.

COORDINATES - NZTM		
	NORTHING	EASTING
POTHOLE 1	5425913.49	1748271.33
POTHOLE 2	5425901.35	1748304.43
POTHOLE 3	5425878.72	1748354.45
POTHOLE 4	5425777.81	1748363.81
POTHOLE 5	5425923.38	1748272.25
TEST PIT 1	5425883.48	1748377.09
TEST PIT 2	5425938.42	1748391.06
TEST PIT 3	5425949.34	1748363.15
TEST PIT 4	5425961.81	1748328.32
TEST PIT 5	5425973.92	1748298.13

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR INFORMATION	RM	AG	DS	30.11.20
0	ISSUE FOR TENDER	RM	AG	DS	18.09.19



Original Scale (A1)	Design	Drawn	20.09.12	Approved For Construction*
AS SHOWN	R.McLEAN	R.McLEAN	21.09.12	R HICKMAN
Reduced Scale (A3)	Varifier	A.GARDNER	21.09.12	
1/2 SHOWN	Dwg Check	G.DOWN	16.05.19	Date 30.11.20

* Refer to Revision 1 for Original Signature



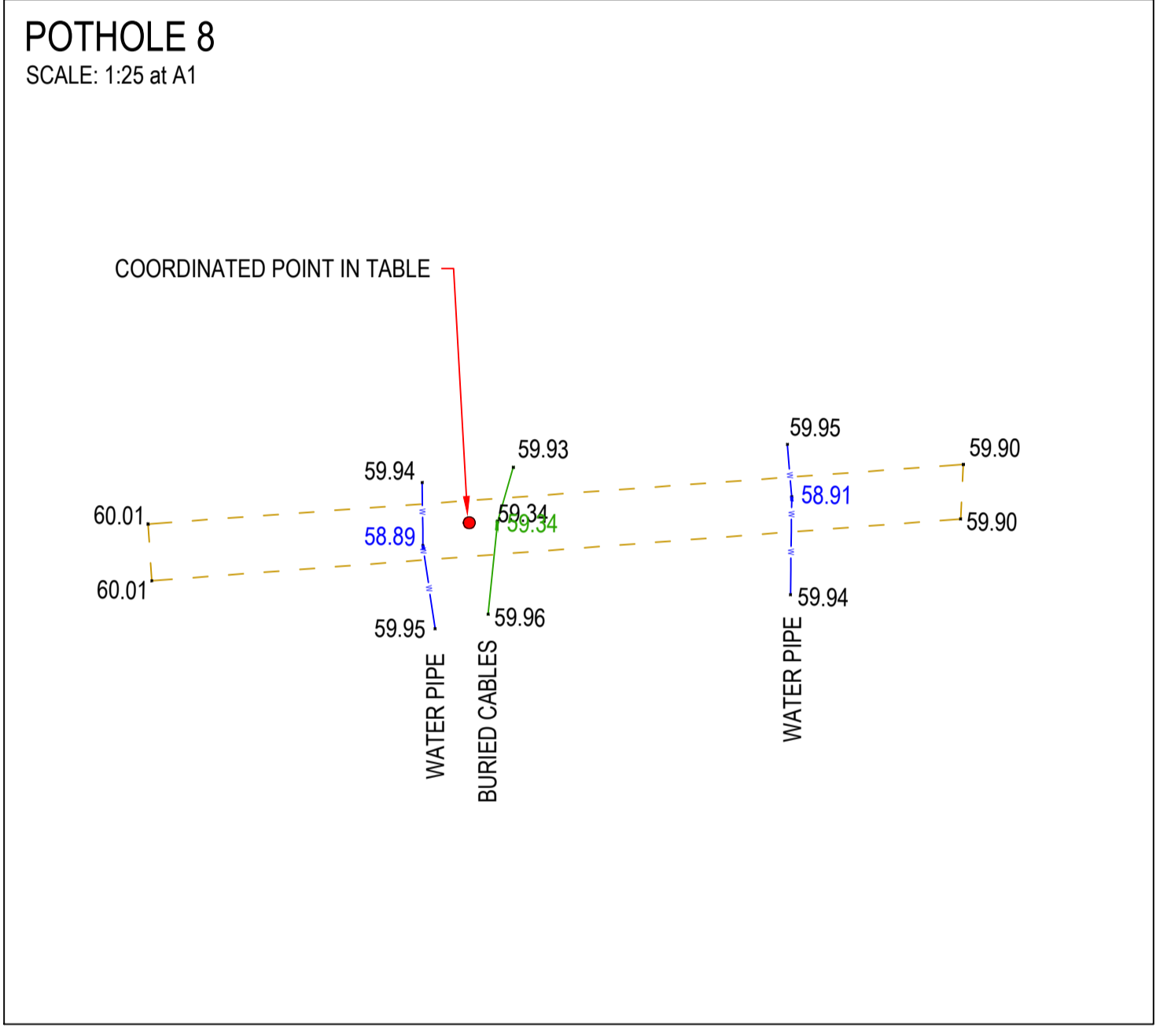
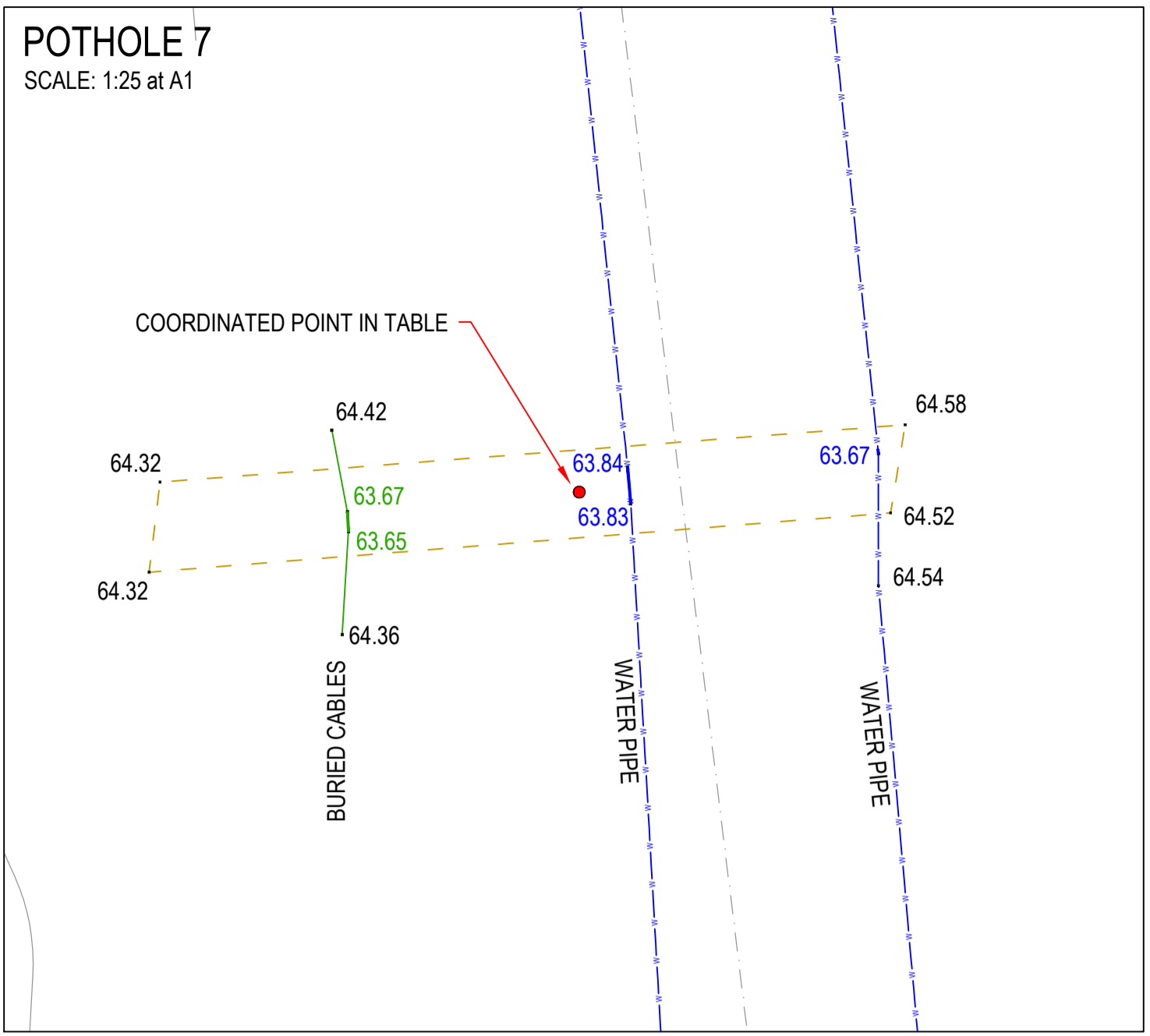
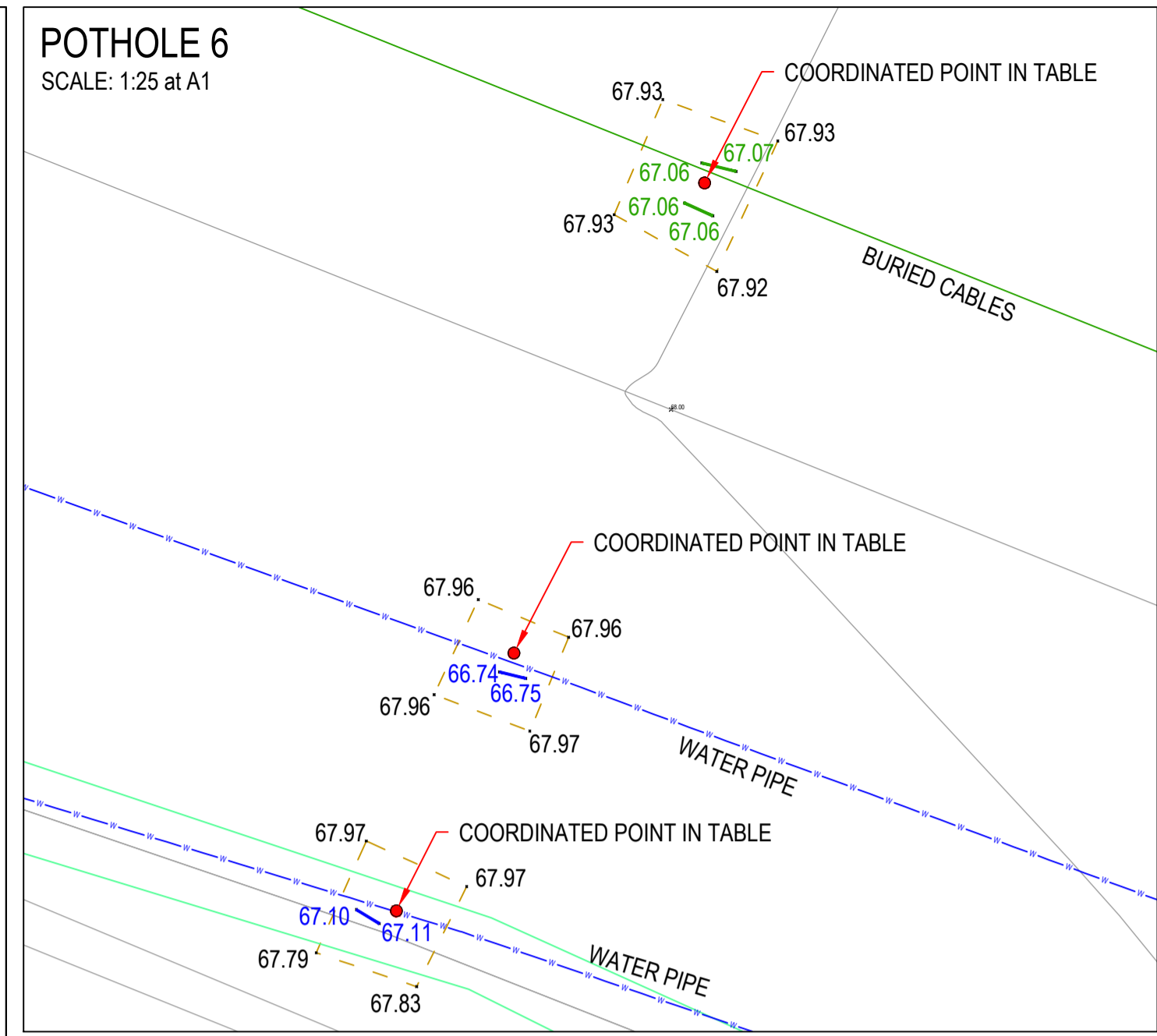
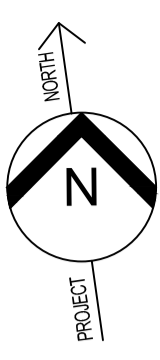
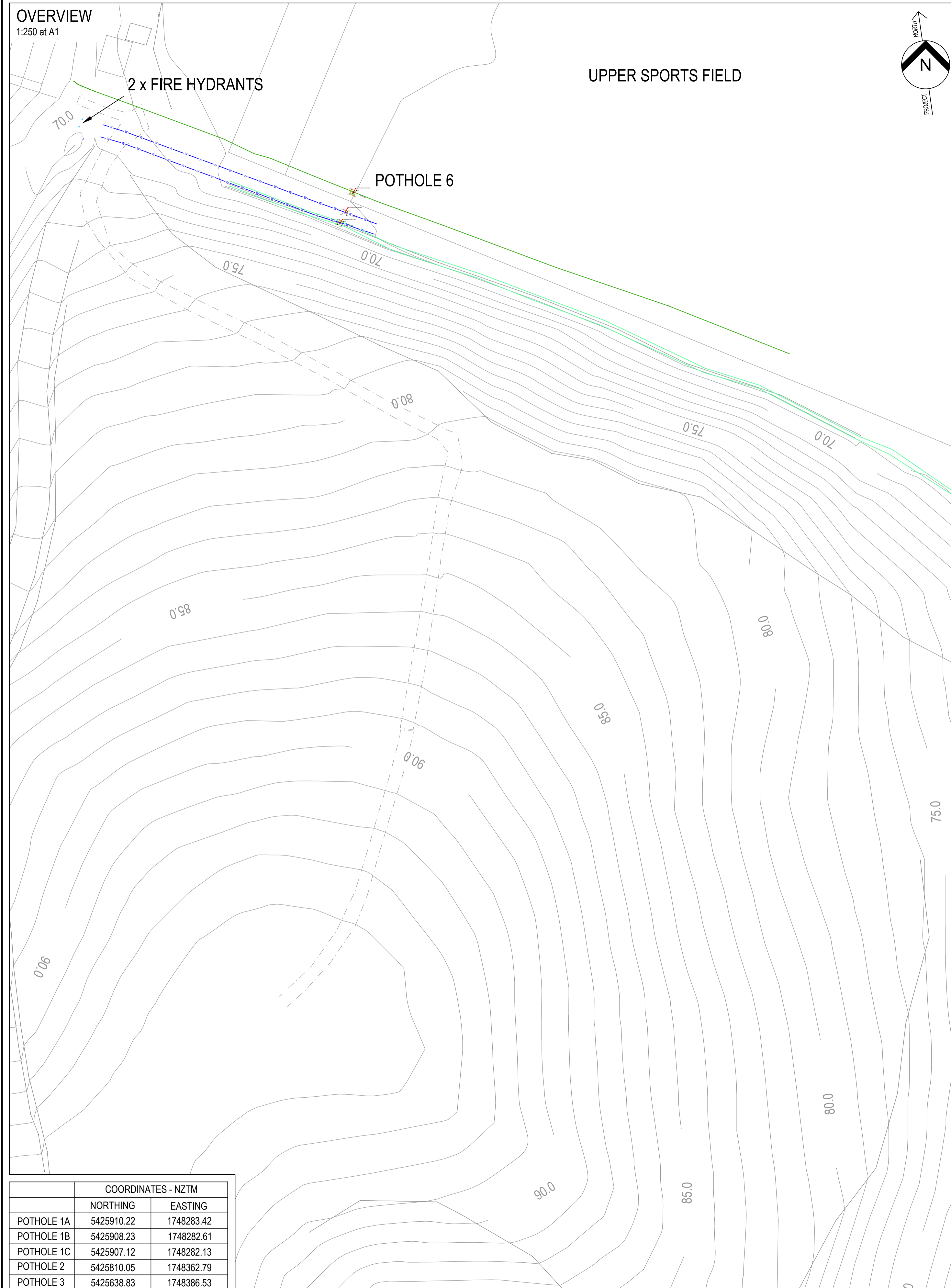
Client: OMARORO RESERVOIR

Discipline: SURVEY

Drawing No. 3262332-WS-1001

Rev. 1

FOR INFORMATION NOT FOR CONSTRUCTION



COORDINATES - NZTM		
	NORTHING	EASTING
POT HOLE 1A	5425910.22	1748283.42
POT HOLE 1B	5425908.23	1748282.61
POT HOLE 1C	5425907.12	1748282.13
POT HOLE 2	5425810.05	1748362.79
POT HOLE 3	5425638.83	1748386.53

- LEGEND:**
- 58.64 ELECTRICAL - TOP OF CONCRETE
 - 59.47 WATER - TOP OF PIPE
 - 59.47 EDGE OF EXCAVATION - GROUND LEVEL
 - ⊙ MANHOLE
 - ⊗ VALVE
- NOTES:**
- 1.0 GENERAL
- 1.1 INFORMATION SHOWN IN GRAY HAS BEEN TAKEN FROM THE TOPOGRAPHICAL SURVEY DATA SURVEYED IN JUNE 2012.
- 1.2 ALL SURVEYED POSITIONS OF SERVICE ARE TO TOP OF PIPE/CABLE.

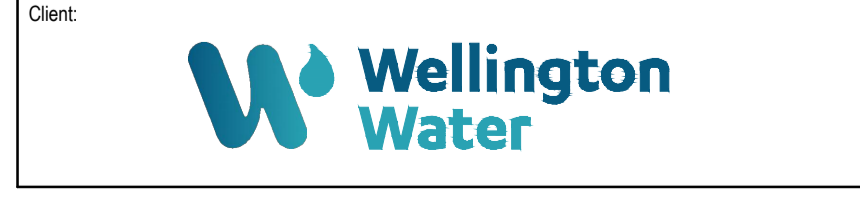
FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	ISSUE FOR INFORMATION	RM	AG	DS	30.11.20
0	ISSUE FOR TENDER	RM	AG	DS	18.09.19



Original Scale (A1)	Design	M.COETSER	05.04.19	Approved For Construction*
AS SHOWN	Drawn	M.COETSER	09.04.19	R HICKMAN
Reduced Scale (A3)	Verifier	A.GARDNER	09.04.19	
1/2 SHOWN	Dep Check	G.DOWN	16.05.19	Date 30.11.20

* Refer to Revision 1 for Original Signature



Client: OMARORO RESERVOIR

POT HOLE PLAN SHEET 2 OF 2

Discipline	SURVEY	
Drawing No.	3262332-WS-1002	Rev.
		1