



TE KAREAREA BUSINESS PARK BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

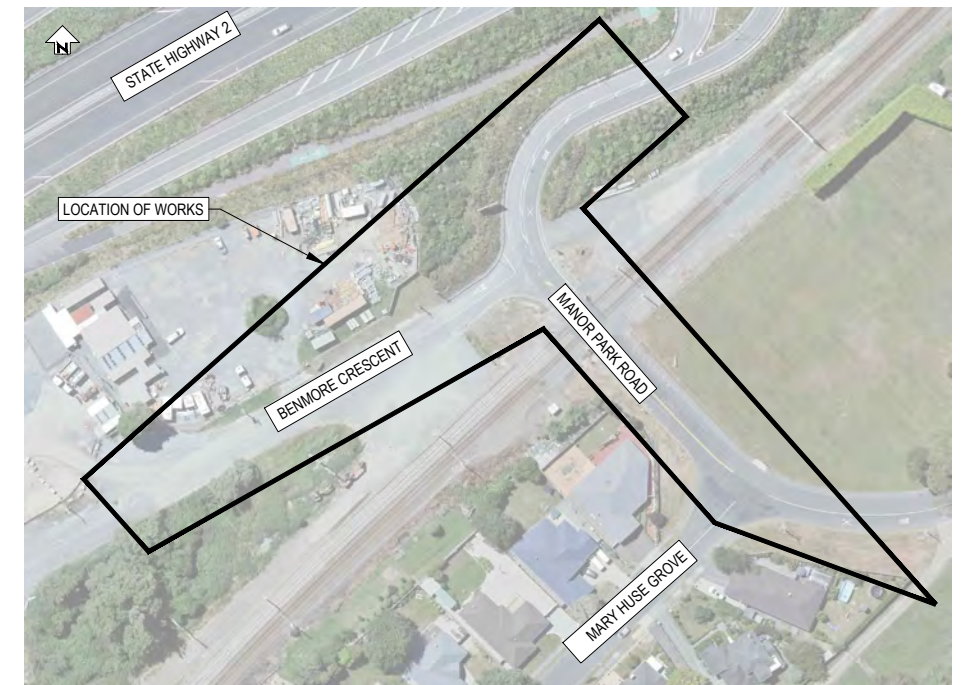
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DRAWINGS INDEX

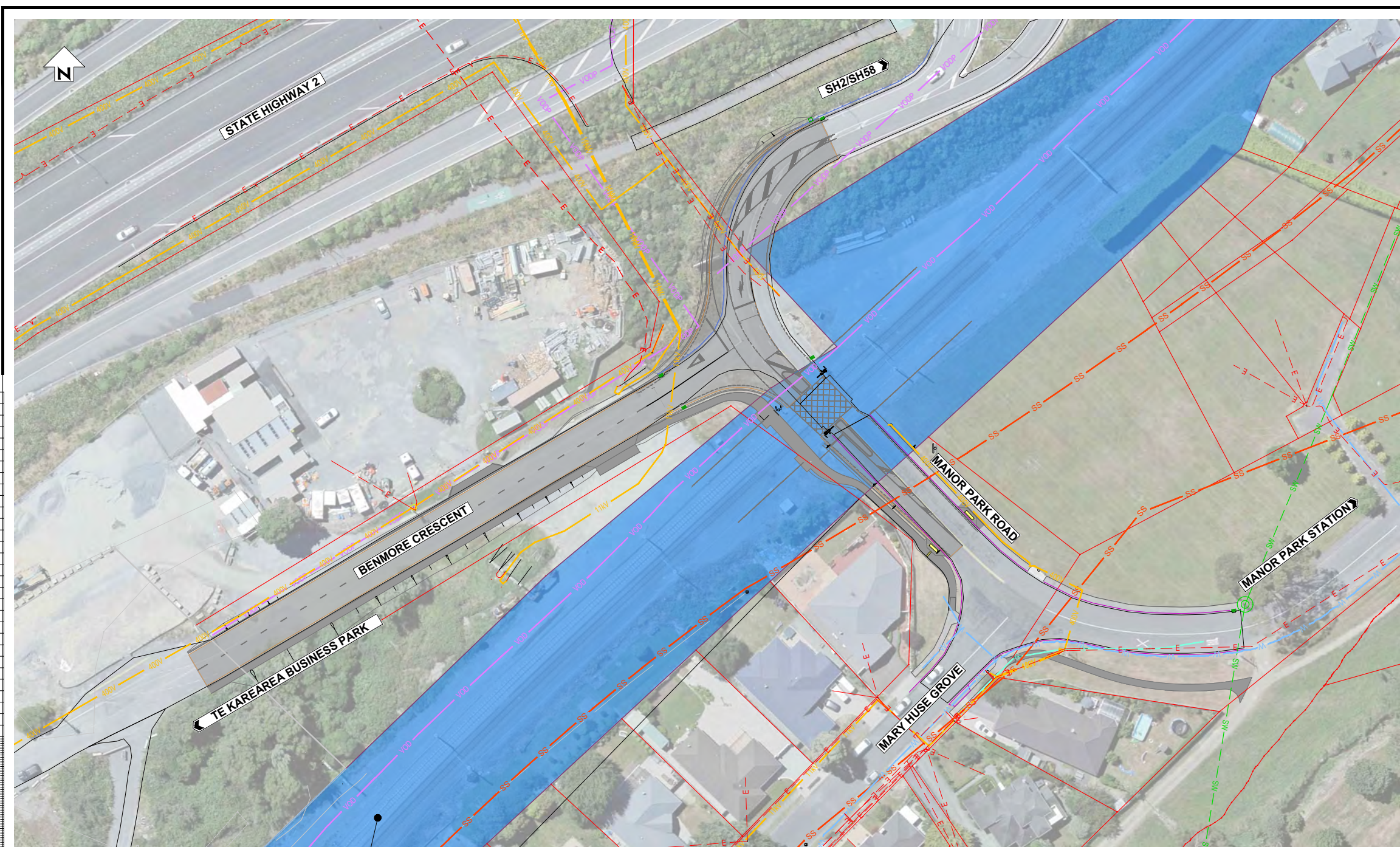
DWG No.	DRAWING TITLE
310204837-01-200-C002	PEDESTRIAN RAIL CROSSING STANDARD NOTES
310204837-01-200-C003	PEDESTRIAN RAIL CROSSING FENCING DETAILS
310204837-01-200-C204	PEDESTRIAN RAIL CROSSING EARTHING AND BONDING DETAILS
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310204837-01-200-C301	PEDESTRIAN RAIL CROSSING GENERAL LAYOUT PLAN
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310204837-01-200-C305	PEDESTRIAN RAIL CROSSING PEDESTRIAN QUADRANT B - SETTING OUT PLAN
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310204837-01-200-C307	PEDESTRIAN RAIL CROSSING DUCTING LAYOUT PLAN
KIWRIL SUPPLIED DRAWINGS (REFER TO KIWRIL FOR CURRENT DRAWING REVISIONS)	
300182 - S1	ROAD AND PEDESTRIAN LEVEL CROSSINGS - FORMATION AND DRAINAGE
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300182 - S3	ROAD AND PEDESTRIAN LEVEL CROSSINGS - CROSSING TRANSITIONS
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300182 - S6	ROAD AND PEDESTRIAN LEVEL CROSSINGS - CONCRETE PANELS
300182 - S7	ROAD AND PEDESTRIAN LEVEL CROSSINGS - CONCRETE PANELS PRECAST
300182 - S8	ROAD AND PEDESTRIAN LEVEL CROSSINGS - TIMBER OR COMPOSITE RUNNERS
300182 - S9	ROAD AND PEDESTRIAN LEVEL CROSSINGS - ASPHALT
300182 - S10	ROAD AND PEDESTRIAN LEVEL CROSSINGS - TIMBER PANELS

LOCALITY PLAN



FOR CONSTRUCTION
18.07.23

ORIGINAL SIZE A1



PLAN
SCALE 1 : 500 @ A1

EXISTING RAIL CORRIDOR

- NOTES**
- SURVEY**
- COORDINATES ARE IN TERMS OF NZGD 2000 (WELLINGTON).
 - HEIGHTS ARE IN TERMS OF WELLINGTON DATUM 1953.
 - ORIGIN OF LEVELS:
MARK NAME PIN I SO 497033.
REDUCED LEVEL 31.522m
SOURCE LINZ GDB
 - THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL SURVEY MARKS AND THEIR OFFSET POSITIONS.
- SERVICES**
- PIPES, CABLES AND OTHER UTILITIES ON THIS DRAWING ARE BASED ONLY ON READILY AVAILABLE RECORD PLANS AND OTHER INFORMATION. SIGN INFORMATION SHOWN ON THE DRAWING ARE INDICATIVE. THIS INFORMATION MAY NOT BE COMPLETE, ACCURATE NOR UP TO DATE. PRIOR TO CARRYING OUT ANY EXCAVATION OR OTHER PHYSICAL WORKS, CONTRACTORS SHALL OBTAIN THE LATEST INFORMATION FROM UTILITY PROVIDERS AND CARRY OUT DETAILED EXPLORATORY WORK. IN ACCORDANCE WITH EACH UTILITY PROVIDERS SPECIFICATIONS TO ENSURE THE UTILITIES ARE NOT DAMAGED. TRACING, LOCATING, PROTECTION AND ALTERATIONS AS ARE REQUIRED UNDER NZS 3910 CLAUSE 5.13.
- GENERAL**
- CADASTRAL BOUNDARIES ARE INDICATIVE ONLY AND TO BE VERIFIED BY SURVEY.
 - ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
 - WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER.
 - ALL LOCATIONS OF STORMWATER STRUCTURES TO BE CONFIRMED BY ENGINEER PRIOR TO THE START OF ALL PAVEMENT WORKS.
- BARRIERS**
- ALL ROAD SAFETY BARRIER SYSTEMS ARE TO BE IN COMPLIANCE WITH NZTA M23 AND RELEVANT WAKA KOTAHĪ STANDARD DRAWINGS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS.
 - EXISTING ROAD SAFETY BARRIERS TO BE RECOVERED, CHECKED FOR DAMAGE AND REUSED WITH NEW FIXING HARDWARE AS APPROPRIATE.
 - REFER TO EXISTING SERVICE PLAN FOR EXPECTED SERVICE LOCATIONS.
 - ALL BARRIERS TO BE INSTALLED WITH ASSOCIATED DELINEATION IN ACCORDANCE WITH WAKA KOTAHĪ TM-2014 AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS.
- ROAD MARKINGS AND SIGNS**
- ALL SIGNS AND MARKINGS SHOULD BE IN ACCORDANCE WITH THE WAKA KOTAHĪ TRAFFIC CONTROL DEVICES (TCD) MANUAL AND/OR MANUAL OF TRAFFIC SIGNS AND MARKINGS (MOTSAM).
 - REFER TO DRAWING 310204837-01-100-C150 FOR ROAD MARKING, ROAD SIGN DETAILS.

SERVICES LEGEND

	400V	WELLINGTON ELECTRICITY 400V
	11kV	WELLINGTON ELECTRICITY 11kV
	E	WELLINGTON ELECTRICITY
	VOD	VODAFONE
	VODP	VODAFONE (PLANNED) - POSSIBLY OBSOLETE
	SS	SEWER TRUNK MAIN
	W	WATER
	SW	STORMWATER
	G	POWERCO GAS
	CHR	CHORUS (INFO TO BE SOURCED)
		RAIL CORRIDOR



DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	FOR TENDER	FOR INFORMATION	REVISIONS	DATE	DRN	CHK	APP
1					17.07.2023	GD	CC	CD
0					19.12.2022	JJ		
A					25.11.2022	JJ		

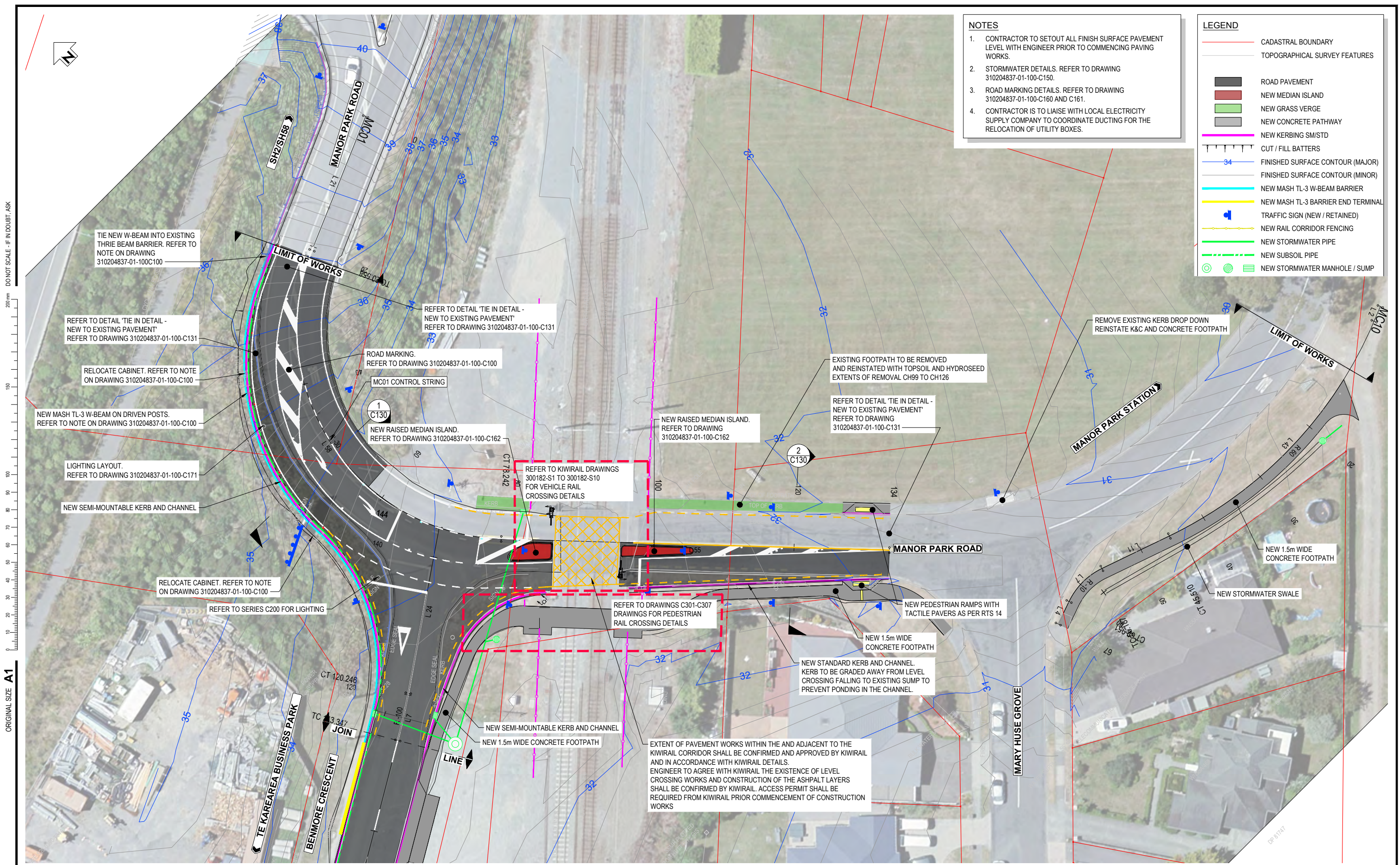
SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23

Client

TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

LOCALITY, SERVICES PLAN AND NOTES

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C100
Rev.	1



- NOTES**
- CONTRACTOR TO SETOUT ALL FINISH SURFACE PAVEMENT LEVEL WITH ENGINEER PRIOR TO COMMENCING PAVING WORKS.
 - STORMWATER DETAILS. REFER TO DRAWING 310204837-01-100-C150.
 - ROAD MARKING DETAILS. REFER TO DRAWING 310204837-01-100-C160 AND C161.
 - CONTRACTOR IS TO LAISE WITH LOCAL ELECTRICITY SUPPLY COMPANY TO COORDINATE DUCTING FOR THE RELOCATION OF UTILITY BOXES.

- LEGEND**
- CADASTRAL BOUNDARY
 - TOPOGRAPHICAL SURVEY FEATURES
 - ROAD PAVEMENT
 - NEW MEDIAN ISLAND
 - NEW GRASS VERGE
 - NEW CONCRETE PATHWAY
 - NEW KERBING SM/STD
 - CUT / FILL BATTERS
 - FINISHED SURFACE CONTOUR (MAJOR)
 - FINISHED SURFACE CONTOUR (MINOR)
 - NEW MASH TL-3 W-BEAM BARRIER
 - NEW MASH TL-3 BARRIER END TERMINAL
 - TRAFFIC SIGN (NEW / RETAINED)
 - NEW RAIL CORRIDOR FENCING
 - NEW STORMWATER PIPE
 - NEW SUBSOIL PIPE
 - NEW STORMWATER MANHOLE / SUMP

DO NOT SCALE - IF IN DOUBT, ASK

200 mm

150

100

90

80

70

60

50

40

30

20

10

0

ORIGINAL SIZE A1


PLAN
SCALE 1 : 250 @ A1

DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	FOR TENDER	FOR INFORMATION	REVISIONS	GD	CC	CD	17.07.2023	JJ	GM	GM	19.12.2022	JJ	GM	25.11.2022	DRN	CHK	APP	DATE	
1	ISSUED FOR CONSTRUCTION																			
0	FOR TENDER																			
A	FOR INFORMATION																			

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PROF REGISTRATION:		

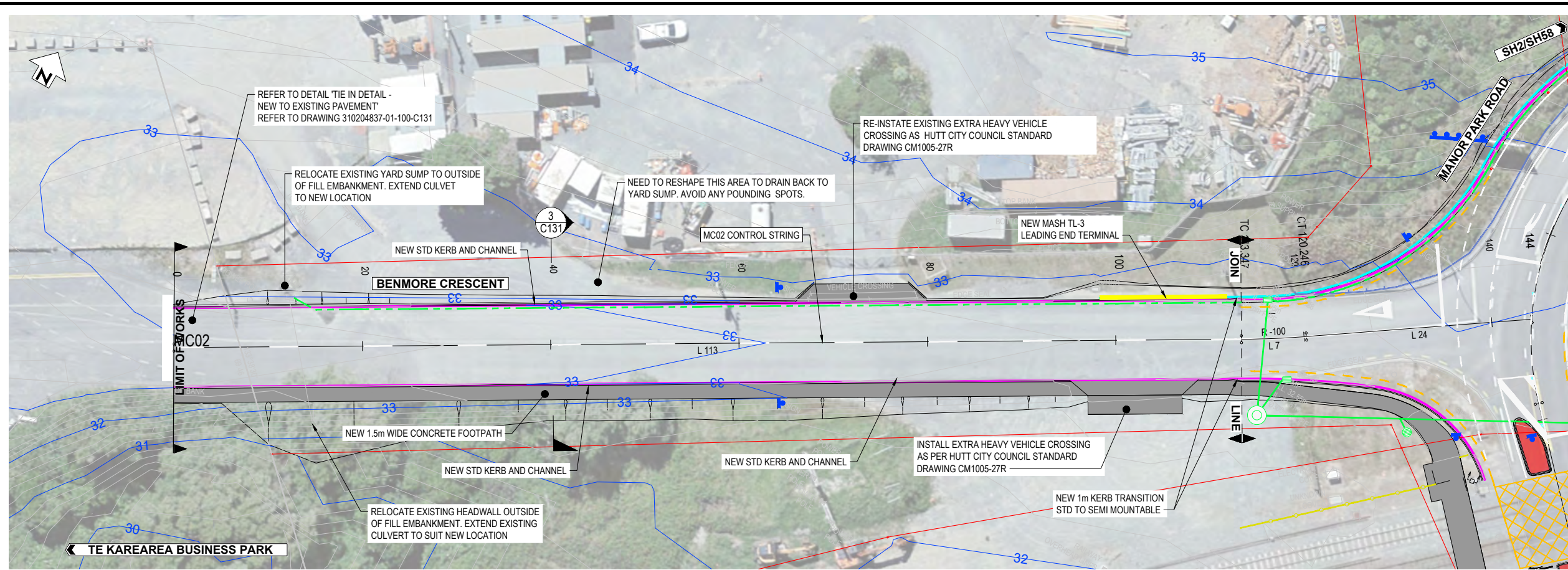
Client:




**TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES**

GENERAL ARRANGEMENT - SHEET 1 OF 2
MANOR PARK ROAD - MC01

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C101
Rev.	1



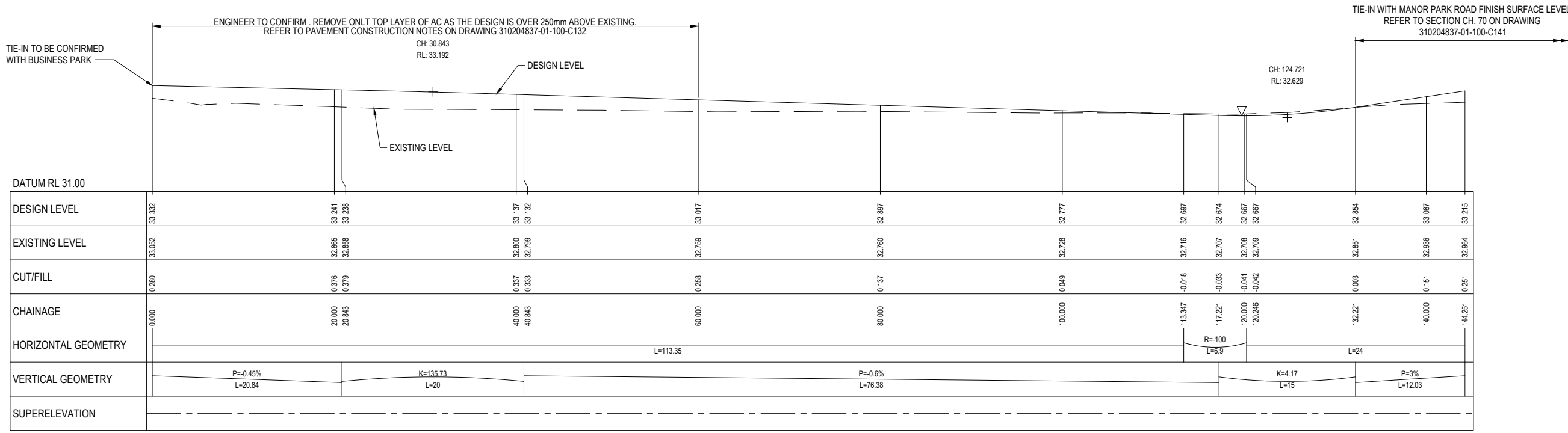
LEGEND

- CADASTRAL BOUNDARY
- TOPOGRAPHICAL SURVEY FEATURES
- ROAD PAVEMENT
- NEW MEDIAN ISLAND
- NEW GRASS VERGE
- NEW CONCRETE PATHWAY
- NEW KERBING SM/STD
- CUT / FILL BATTERS
- 34 FINISHED SURFACE CONTOUR (MAJOR)
- FINISHED SURFACE CONTOUR (MINOR)
- NEW MASH TL-3 W-BEAM BARRIER
- NEW MASH TL-3 BARRIER END TERMINAL
- TRAFFIC SIGN (NEW / RETAINED)
- NEW RAIL CORRIDOR FENCING
- NEW STORMWATER PIPE
- NEW SUBSOIL PIPE
- NEW STORMWATER MANHOLE / SUMP

NOTES

- CONTRACTOR TO SETOUT ALL FINISH SURFACE PAVEMENT LEVEL WITH ENGINEER PRIOR TO COMMENCING PAVING WORKS.
- STORMWATER DETAILS. REFER TO DRAWING 310204837-01-100-C150.
- ROAD MARKING DETAILS. REFER TO DRAWING 310204837-01-100-C160 AND C161.

PLAN
SCALE 1 : 250 @ A1



MC02 - LONGITUDINAL SECTION
SCALES - HZ 1:250
VT 1:50

DRAFT FOR APPROVAL

1	ISSUED FOR CONSTRUCTION	GD	CC	CD	17.07.2023
0	FOR TENDER	JJ			19.12.2022
A	FOR INFORMATION	JJ			25.11.2022
REV	REVISIONS	DRN	CHK	APP	DATE

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APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		

Client

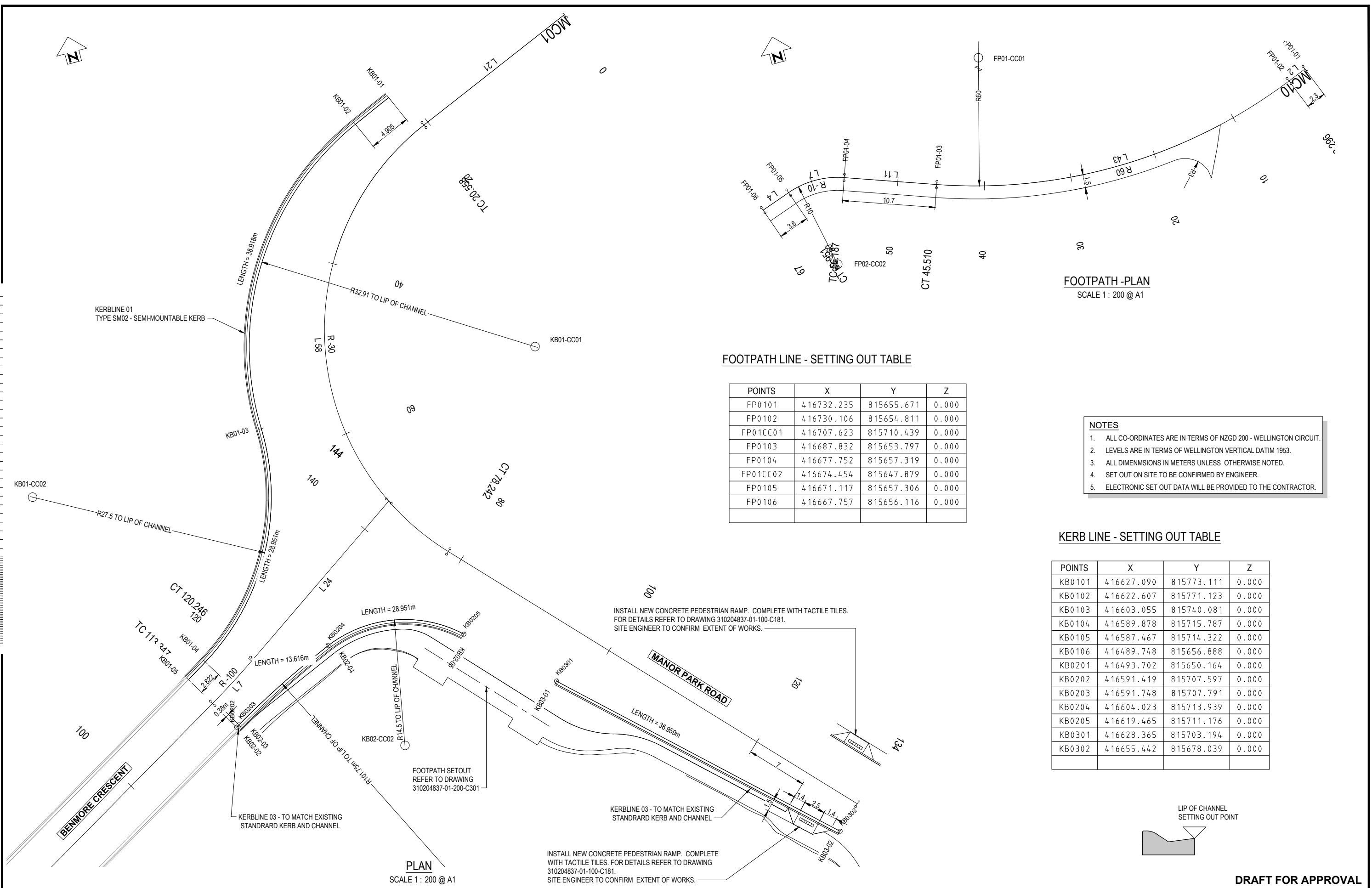
TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

GENERAL ARRANGEMENT - SHEET 2 OF 2
BENMORE CRESCENT - MC02

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C102
Rev.	1

DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A1



FOOTPATH LINE - SETTING OUT TABLE

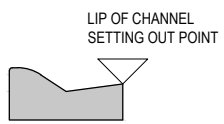
POINTS	X	Y	Z
FP0101	416732.235	815655.671	0.000
FP0102	416730.106	815654.811	0.000
FP01CC01	416707.623	815710.439	0.000
FP0103	416687.832	815653.797	0.000
FP0104	416677.752	815657.319	0.000
FP01CC02	416674.454	815647.879	0.000
FP0105	416671.117	815657.306	0.000
FP0106	416667.757	815656.116	0.000

NOTES

1. ALL CO-ORDINATES ARE IN TERMS OF NZGD 200 - WELLINGTON CIRCUIT.
2. LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953.
3. ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED.
4. SET OUT ON SITE TO BE CONFIRMED BY ENGINEER.
5. ELECTRONIC SET OUT DATA WILL BE PROVIDED TO THE CONTRACTOR.

KERB LINE - SETTING OUT TABLE

POINTS	X	Y	Z
KB0101	416627.090	815773.111	0.000
KB0102	416622.607	815771.123	0.000
KB0103	416603.055	815740.081	0.000
KB0104	416589.878	815715.787	0.000
KB0105	416587.467	815714.322	0.000
KB0106	416489.748	815656.888	0.000
KB0201	416493.702	815650.164	0.000
KB0202	416591.419	815707.597	0.000
KB0203	416591.748	815707.791	0.000
KB0204	416604.023	815713.939	0.000
KB0205	416619.465	815711.176	0.000
KB0301	416628.365	815703.194	0.000
KB0302	416655.442	815678.039	0.000



INSTALL NEW CONCRETE PEDESTRIAN RAMP. COMPLETE WITH TACTILE TILES. FOR DETAILS REFER TO DRAWING 310204837-01-100-C181. SITE ENGINEER TO CONFIRM EXTENT OF WORKS.

INSTALL NEW CONCRETE PEDESTRIAN RAMP. COMPLETE WITH TACTILE TILES. FOR DETAILS REFER TO DRAWING 310204837-01-100-C181. SITE ENGINEER TO CONFIRM EXTENT OF WORKS.

PLAN SCALE 1 : 200 @ A1

DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	REVISIONS	GD	CC	CD	DATE
1	ISSUED FOR CONSTRUCTION		GD	CC	CD	17.07.2023

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APPROVED	Cobus de Kock	17.07.23
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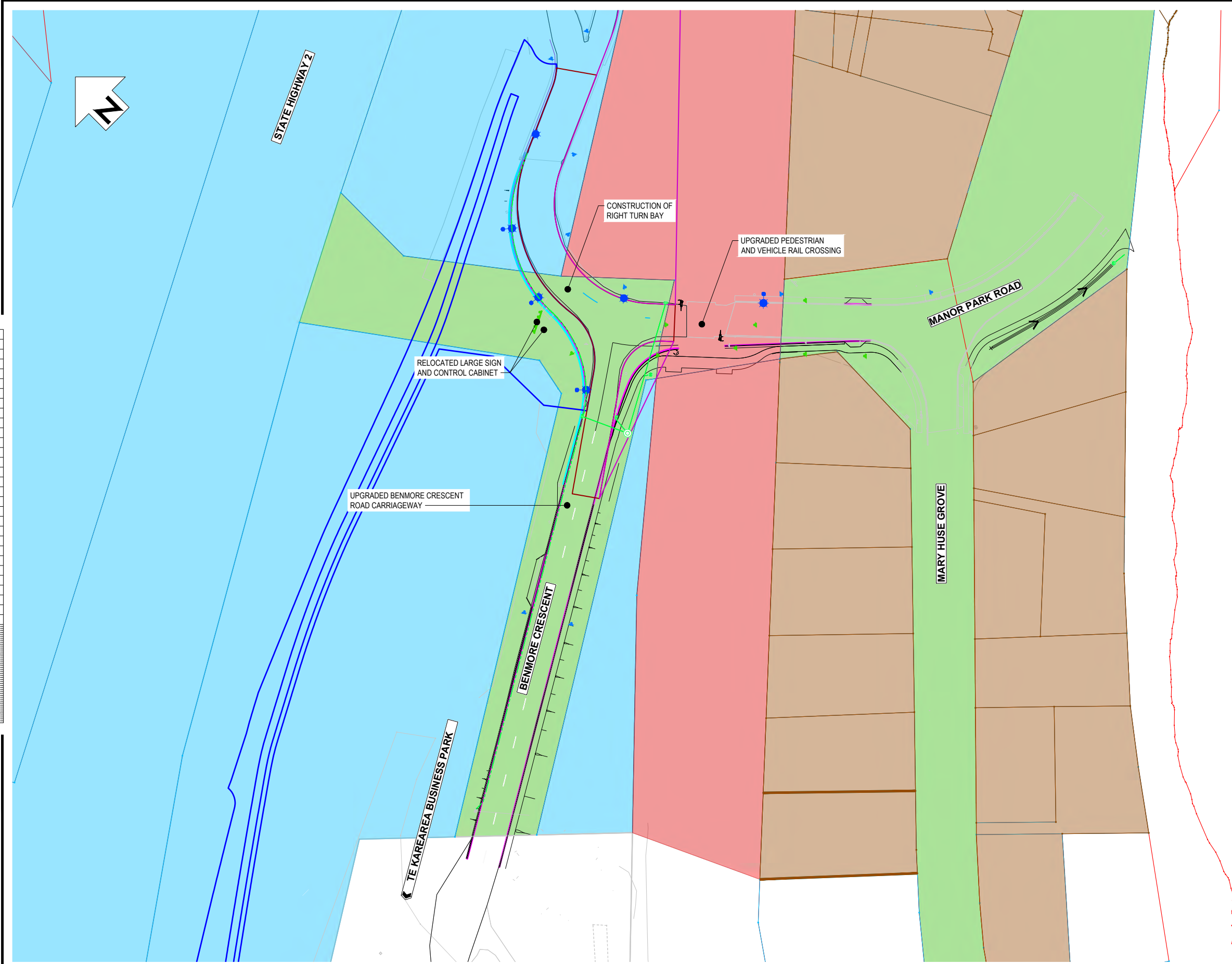
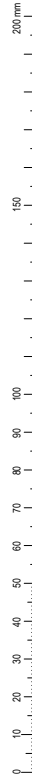


TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES
 GENERAL ARRANGEMENT
 KERB LINE - SETTING OUT MANOR PARK ROAD

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C103
Rev.	1

ORIGINAL SIZE A1

DO NOT SCALE - IF IN DOUBT, ASK



LEGEND	
	CADASTRAL BOUNDARY
	KIWI RAIL MAINTAINED GREEN VEGETATION AREAS
	GWRC MAINTAINED GREEN VEGETATION AREAS
	HCC MAINTAINED CARRIAGEWAY KERB CHANNEL
	WAKA KOTAHI - NEW ZEALAND GOVERNMENT
	KIWI RAIL - RAILWAY CORRUPTION
	HUTT CITY COUNCIL - LOCAL AUTHORITY
	PRIVATE
	SIGN INSTALLATION
	LIGHT INSTALLATION
	STORMWATER PIPELINE

PLAN
SCALE 1 : 250 @ A1

DRAFT FOR APPROVAL

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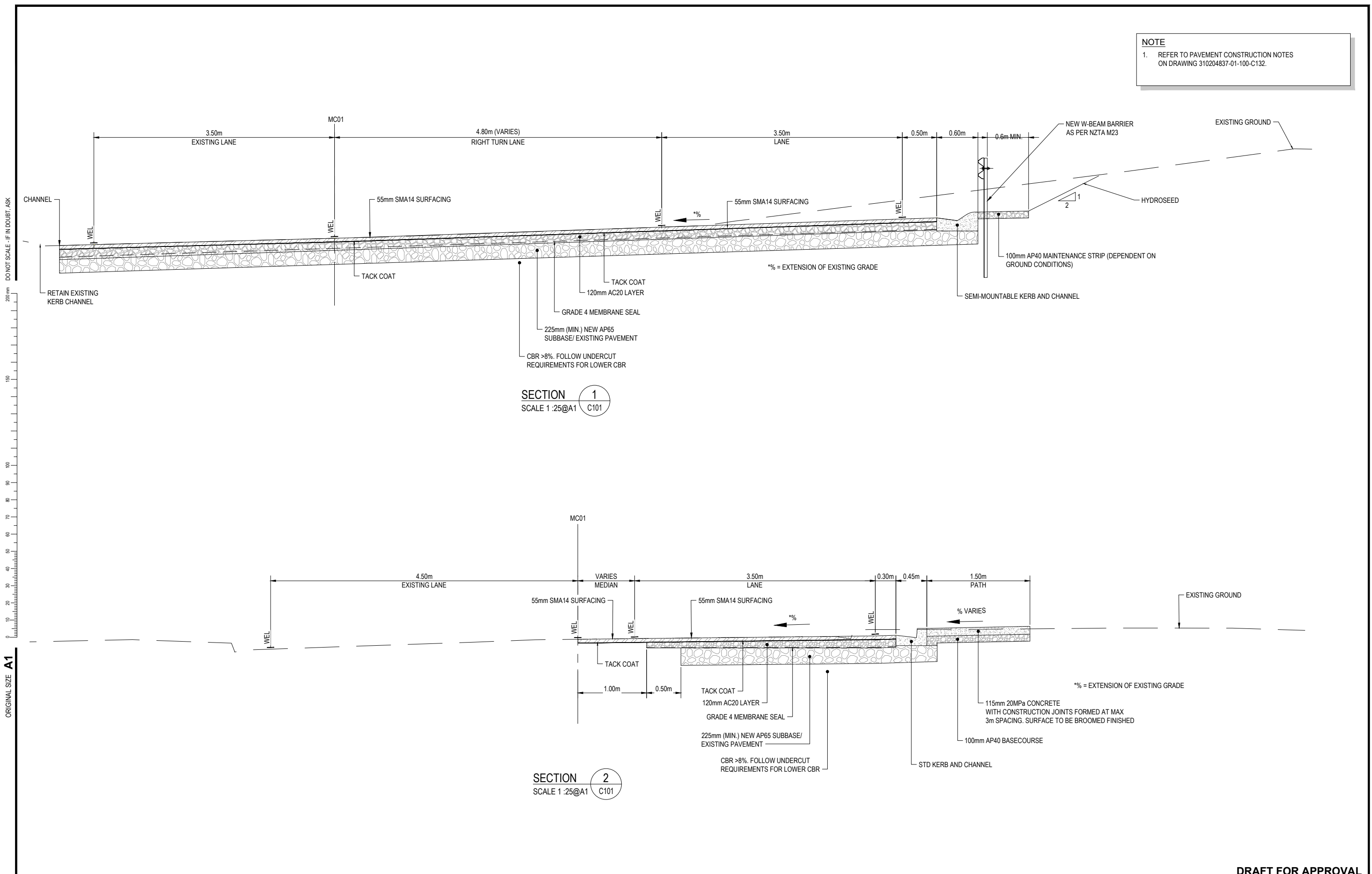


TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

GENERAL ARRANGEMENT
LAND OWNERSHIP

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C105
Rev.	1

NOTE
 1. REFER TO PAVEMENT CONSTRUCTION NOTES ON DRAWING 310204837-01-100-C132.



DO NOT SCALE - IF IN DOUBT, ASK

200 mm
150
100
90
80
70
60
50
40
30
20
10
0

ORIGINAL SIZE A1

SECTION 1
 SCALE 1 :25@A1 C101

SECTION 2
 SCALE 1 :25@A1 C101

REV	ISSUED FOR CONSTRUCTION	ISSUED FOR TENDER	FOR INFORMATION	REVISIONS	GD	CC	CD	17.07.2023
0					SS	MG	MG	19.12.2022
A					JJ			25.11.2022
					DRN	CHK	APP	DATE

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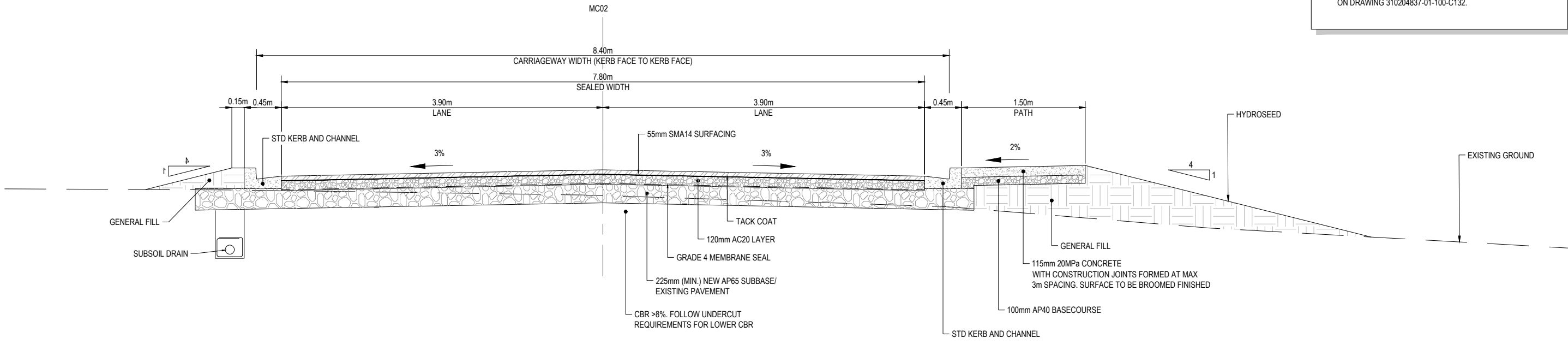
TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

TYPICAL PAVEMENT CROSS SECTIONS
 SECTIONS 1 AND 2

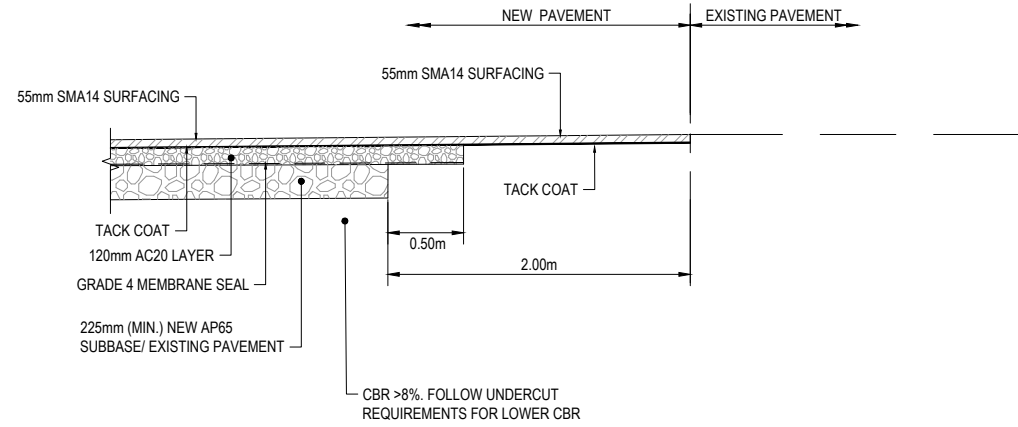
Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C130
Rev.	1

DRAFT FOR APPROVAL

NOTE
 1. REFER TO PAVEMENT CONSTRUCTION NOTES ON DRAWING 310204837-01-100-C132.

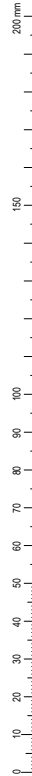


SECTION 3
 SCALE 1:25@A1

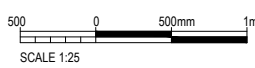


TIE IN DETAIL - NEW TO EXISTING PAVEMENT
 SCALE 1:25 @ A1

DO NOT SCALE - IF IN DOUBT, ASK



ORIGINAL SIZE A1



DRAFT FOR APPROVAL

1	ISSUED FOR CONSTRUCTION	GD	CC	CD	17.07.2023
0	FOR TENDER	SS	GM	GM	19.12.22
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APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		



TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

TYPICAL PAVEMENT CROSS SECTIONS
 SECTION 3

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C131
Rev.	1

ORIGINAL SIZE A1 DO NOT SCALE - IF IN DOUBT, ASK

PAVEMENT CONSTRUCTION NOTES:

FOLLOWING CONSTRUCTION NOTES SHALL BE READ IN CONJUNCTION WITH PROJECT TECHNICAL SPECIFICATIONS AND THE PAVEMENT DESIGN REPORT PREPARED FOR TE RANGIHAETA INDUSTRIAL PARK BENMORE CRESCENT UPGRADE.

CONSTRUCTION ON EXISTING PAVEMENT

1. EXCAVATE EXISTING GROUND TO 175mm BELOW FINISHED LEVEL.
2. EXISTING PAVEMENT SHALL BE SHAPED, COMPACTED PRIOR TO CONSTRUCTION OF THE AC 20 BASECOURSE LAYER.
3. BENKELMAN BEAMS SHALL BE COMPLETED ON THE SUBBASE LAYER. DEFLECTIONS LARGER THAN 1.6mm SHALL BE CONSIDERED AS A SOFT SPOT. THESE AREAS ARE TO BE EXCAVATED AND SUBGRADE CBR TO BE CONFIRMED. EXCAVATION SHALL ALSO CONFIRM A MINIMUM EXISTING PAVEMENT DEPTH OF 225mm.
4. EXCAVATED SOFT SPOT AREAS SHALL BE BACKFILLED WITH AP65 AGGREGATE.
5. BACKFILLED LAYERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH TNZ (2005) B/02 SPECIFICATIONS
6. WHERE UNDERCUTTING OF PAVEMENT IS NECESSARY, A TENSAR TX160 GEOGRID AND A TNZ F7 CLASS C GEOTEXTILE CLOTH MAY BE REQUIRED TO BE LAID OVER THE EXPOSED SUBGRADE PRIOR TO BACKFILLING OF AGREGATE. REFER TABLE ON RIGHT FOR CONTINGENCY CONSTRUCTION NOTES.
7. SUPPLY AND LAY ASPHALT PAVEMENT LAYERS AS PER THE CROSS SECTION DRAWING AND AS PER NZTA M10 (2020) AND M27 (2020) SPECIFICATIONS. GRADE 4 MEMBRANE SEAL SHALL BE CONSTRUCTED ON THE AP65 SUBBASE PRIOR TO LAYING THE AC 20 ASPHALTIC CONCRETE BASECOURSE LAYER.
8. APPLY TACK COAT ON TOP OF THE AC 20 BASECOURSE LAYER. THE CONTRACTOR SHALL ALSO SPRAY ADJACENT VERTICAL FACES. SUPPLY AND PLACE 55mm OF SMA14 WEARING COARSE.
9. ASPHALT MIXES SHALL COMPLY WITH THE INFORMATION PROVIDED IN THE PROJECT TECHNICAL SPECIFICATIONS. BINDER FOR THE ASPHALT MIXES SHALL BE TO NZTA M1-A: (2019), PG58-16-H.
10. CORE TESTING AND PRODUCTION TESTING TO BE CARRIED OUT AS PER NZTA M/10 (2020) AND NZTA M27 (2020) SPECIFICATIONS FOR EACH LAYER OF ASPHALT LAID. EACH LAYER IS TO BE CONSTRUCTED FOLLOWING ACCEPTANCE OF THE CORE TESTING RESULTS FOR EACH LAYER. BACKFILLING OF THE CORE TESTING SHALL BE UNDERTAKEN AS PER NZTA SPECIFICATIONS.
11. AT THE INTERFACE BETWEEN THE NEW AND EXISTING PAVEMENT THE NEW PAVEMENT LAYERS SHALL BE STEPPED INTO THE EXISTING PAVEMENT WITHIN 500mm STEPS.

CONSTRUCTION ON WIDENED AREAS

12. EXCAVATE EXISTING GROUND TO 400mm BELOW FINISHED DESIGN LEVEL.
13. EXISTING SUBGRADE SHALL BE SHAPED, COMPACTED PRIOR TO CONSTRUCTION OF THE SUBBASE LAYER. SUBGRADE SHALL BE PREAPRED ACCORDING TO PROJECT TECHNICAL SPECIFICATIONS.
14. IT SHALL BE ENSURED THAT ALL TOPSOIL AND ORGANIC DETRITUS IS REMOVED PRIOR TO CONSTRUCTION OF THE PAVEMENT LAYERS.
15. SCALA PENETROMETER TESTING TO BE COMPLETED TO ENSURE SUBGRADE CBR $\geq 8\%$. SOFT SPOT AREAS SHALL BE EXCAVATED TO DEPTHS SHOWN ON THE CONTINGENCY CONSTRUCTION NOTES ON RIGHT.
16. TO ENSURE CONSTRUCTABILITY AND ADEQUATE COMPACTION OF THE PAVEMENT LAYERS IN THE AREAS TO BE WIDENED, IT IS RECOMMENDED THAT A MINIMUM ALLOWABLE WIDTH OF WIDENING IS 2m. WIDENING AREAS THAT EXTEND INTO THE LIVE LANE SHALL BE CONSTRUCTED TO NEW DESIGN DEPTHS AND LONGITUDINAL JOINTS LOCATED AWAY FROM THE EXPECTED WHEEL PATHS.
17. REFER NOTES 4 TO 112 TO COMPLETE CONSTRUCTION.

CONTINGENCY CONSTRUCTION NOTES

THE FOLLOWING CONTINGENCY STRATEGIES ARE RECOMMENDED WHERE LOWER SUBGRADE STRENGTHS ARE ENCOUNTERED FROM SCALA PENETROMETER TESTING. ANY DIG-OUT REQUIREMENTS SHOULD FIRST BE DISCUSSED WITH THE ENGINEER

CBR	CONTINGENCY STRATEGY	TOTAL PAVEMENT DEPTH
SAC PAVEMENT CONSTRUCTION		
6% \leq CBR < 8%	EXCAVATE TO 425mm, SUPPLY AND PLACE 250mm AP65, CONSTRUCT SAC LAYER AND SURFACE WITH 55mm SMA14	425mm
5% \leq CBR < 6%	EXCAVATE TO 475mm, SUPPLY AND PLACE 300mm AP65, CONSTRUCT SAC LAYER AND SURFACE WITH 55mm SMA14	475mm
4% \leq CBR < 5%	EXCAVATE TO 575mm, SUPPLY AND PLACE 400mm AP65, CONSTRUCT SAC LAYER AND SURFACE WITH 55mm SMA14	575mm
3% \leq CBR < 4%	EXCAVATE TO 675mm, SUPPLY AND PLACE 500mm AP65, CONSTRUCT SAC LAYER AND SURFACE WITH 55mm SMA14	675mm
2% \leq CBR < 3%*	EXCAVATE TO 925mm, SUPPLY AND PLACE 170mm AP65 WORKING PLATFORM FOR THE CONSTRUCTION OF THE PAVEMENT LAYERS. SUPPLY PLACE AND COMPACT 580mm AP65 SUBBASE LAYER IN 3 LAYERS, CONSTRUCT SAC LAYER AND SURFACE WITH 55mm SMA14	755mm ON A 170mm WORKING PLATFORM
CBR < 2%*	REFER TO ENGINEER.	
* WHERE UNDERCUTTING OF PAVEMENT IS NECESSARY (FOR LOWER CBR), A TENSAR TX160 GEOGRID AND A TNZ F7 CLASS C GEOTEXTILE CLOTH MAY BE REQUIRED TO BE LAID OVER THE EXPOSED SUBGRADE PRIOR TO BACKFILLING OF AGREGATE.		

DRAFT FOR APPROVAL

REV	DESCRIPTION	BY	CHK	APP	DATE
1	ISSUED FOR CONSTRUCTION	GD	CC	CD	17.07.2023
0	FOR TENDER	SS	MG	MG	19.12.22
		DRN	CHK	APP	DATE

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	RANDULA DIAS	11.2022
DRAWN	SHIVNEEL SEN	12.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Charmaine Whitehead	17.07.23
DESIGN REVIEW	Martin Gribble	17.07.23
APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		



TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES
 PAVEMENT NOTES

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	
Drawing No.	310204837-01-100-C132
Rev.	1



ORIGINAL SIZE A1
DO NOT SCALE - IF IN DOUBT, ASK

SCALE 1:200

LEGEND	
	NEW ROAD PAVEMENT
	SEAL OVERLAY - MILL AND FILLED WITH SMA 14 AS
	NEW CONCRETE ISLANDS/ FOOTPATH
	NEW PAVEMENT/SURFACING OVER RAIL
	EXISTING RAIL SURFACE MILLED/UNDERCUT AS REQUIRED AND INFILLED

NOTES	
1.	PAVEMENT DESIGN AND EXTENTS ARE TO BE CONFIRMED. WITH SETOUT OF FINISH SURFACE PAVEMENTS LEVELS TO BE APPROVED BY ENGINEER PRIOR TO COMMENCING PAVING WORKS.
2.	REFER TO PAVEMENT CONTINGENCY CONSTRUCTION NOTES ON DRAWING 310204837-01-100-C132.

EXTENT OF SEAL OVERLAY WITHIN THE KIWI RAIL CORRIDOR, SHALL BE CONFIRMED BY THE ENGINEER. CONSTRUCTION OF THE SEAL OVER LAY SHALL BE CONFIRMED BY KIWI RAIL. ACCESS PERMIT SHALL BE REQUIRED FROM KIWI RAIL PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.

EXTENT OF FULL DEPTH PAVEMENT WORKS WITHIN THE KIWI RAIL CORRIDOR, SHALL BE CONFIRMED BY THE ENGINEER. CONSTRUCTION OF THE PAVEMENT LAYERS SHALL BE CONFIRMED BY KIWI RAIL. ACCESS PERMIT SHALL BE REQUIRED FROM KIWI RAIL PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.

PLAN
SCALE 1 : 250 @ A1

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Charmaine Whitehead	17.07.23
DESIGN REVIEW	Martin Gribble	17.07.23
APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		



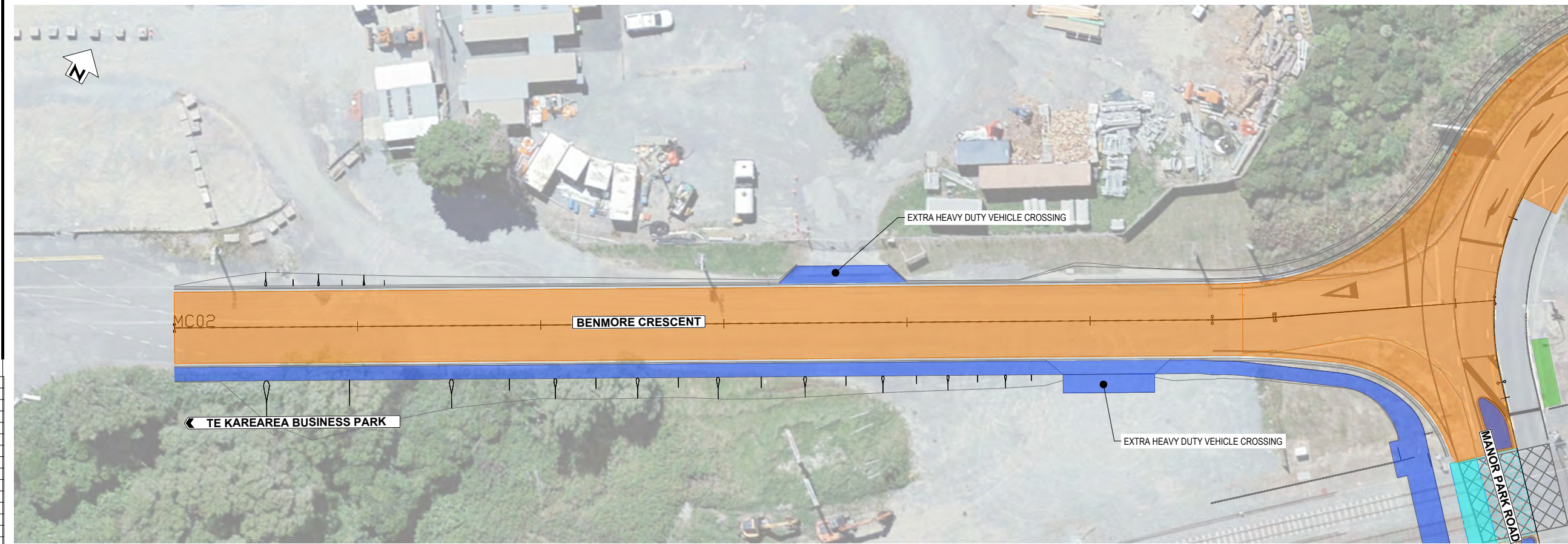
TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PAVEMENT PLAN - SHEET 1 OF 2
MANOR PARK ROAD

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C133
Rev.	1

ORIGINAL SIZE A1

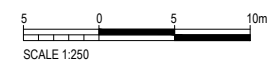
DO NOT SCALE - IF IN DOUBT, ASK



PLAN
SCALE 1 : 250 @ A1

LEGEND	
	NEW ROAD PAVEMENT
	SEAL OVERLAY - MILL AND FILLED WITH SMA 14 AS
	NEW CONCRETE ISLANDS/ FOOTPATH
	NEW PAVEMENT/SURFACING OVER RAIL
	EXISTING RAIL SURFACE MILLED/UNDERCUT AS REQUIRED AND INFILLED

NOTES	
1.	PAVEMENT DESIGN AND EXTENTS ARE TO BE CONFIRMED. WITH SETOUT OF FINISH SURFACE PAVEMENTS LEVELS TO BE APPROVED BY ENGINEER PRIOR TO COMMENCING PAVING WORKS.
2.	REFER TO PAVEMENT CONTINGENCY CONSTRUCTION NOTES ON DRAWING 310204837-01-100-C132.



DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	REVISIONS	GD	CC	CK	17.07.2023	DATE
DRN	CHK	APP	DATE				
1	ISSUED FOR CONSTRUCTION					17.07.2023	

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Charmaine Whitehead	17.07.23
DESIGN REVIEW	Martin Gribble	17.07.23
APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		

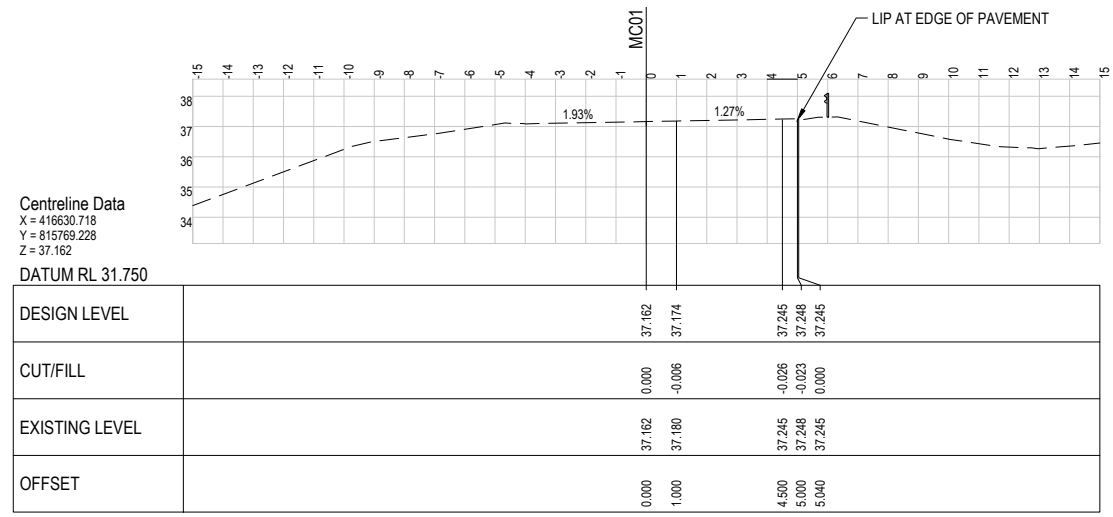
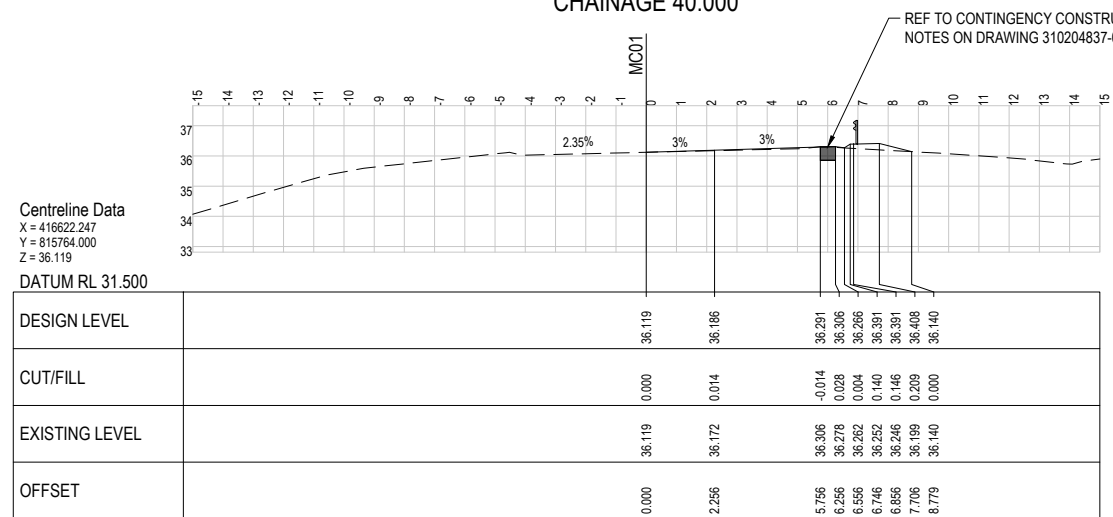
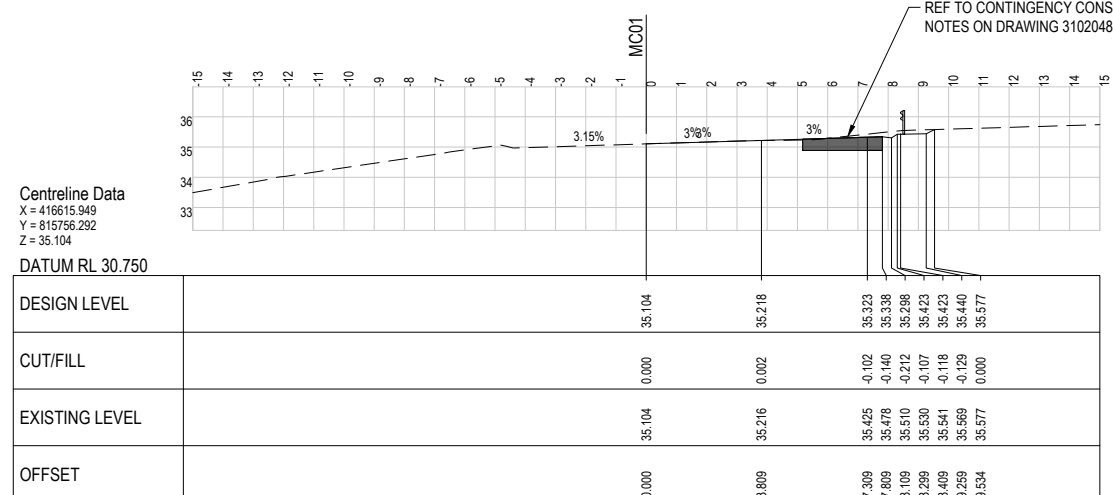
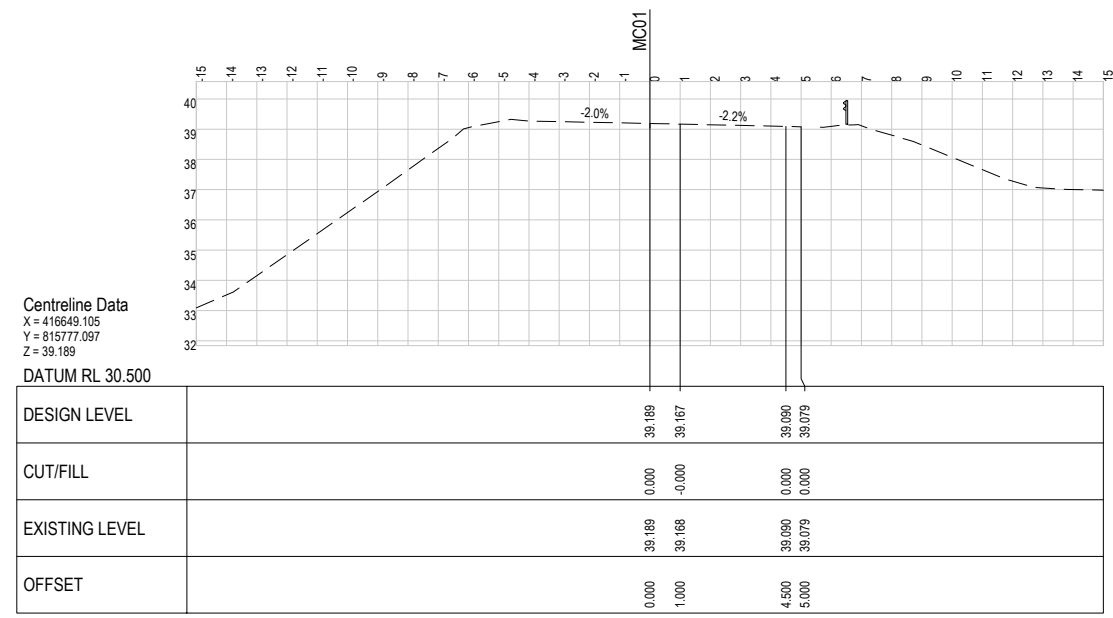
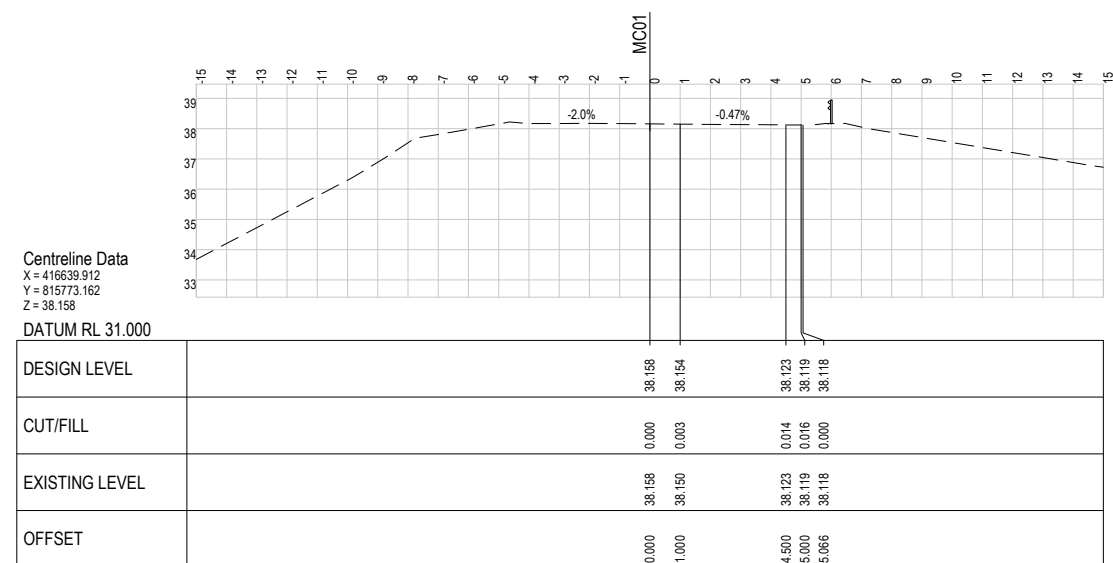
Client

**TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES**

**PAVEMENT PLAN - SHEET 2 OF 2
BENMORE CRESCENT**

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C134
Rev.	1

LEGEND
 NEW ROAD PAVEMENT



ORIGINAL SIZE A1 200mm DO NOT SCALE - IF IN DOUBT, ASK

DRAFT FOR APPROVAL

1	ISSUED FOR CONSTRUCTION	GD	CC	CD	17.07.2023
0	FOR TENDER	JJ			19.12.2022
A	FOR INFORMATION	JJ			25.11.2022
REV	REVISIONS	DRN	CHK	APP	DATE

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avanti	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		



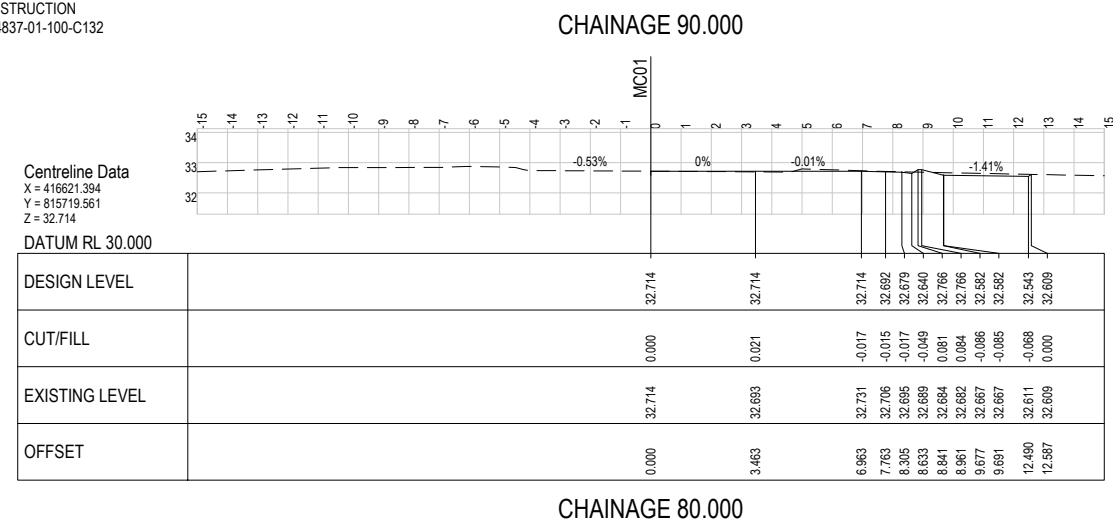
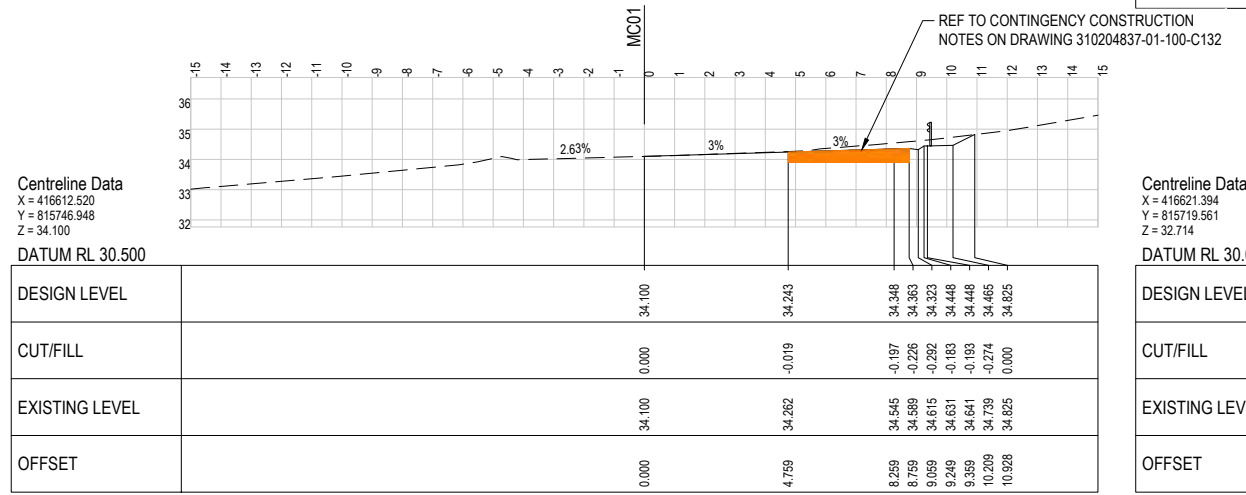
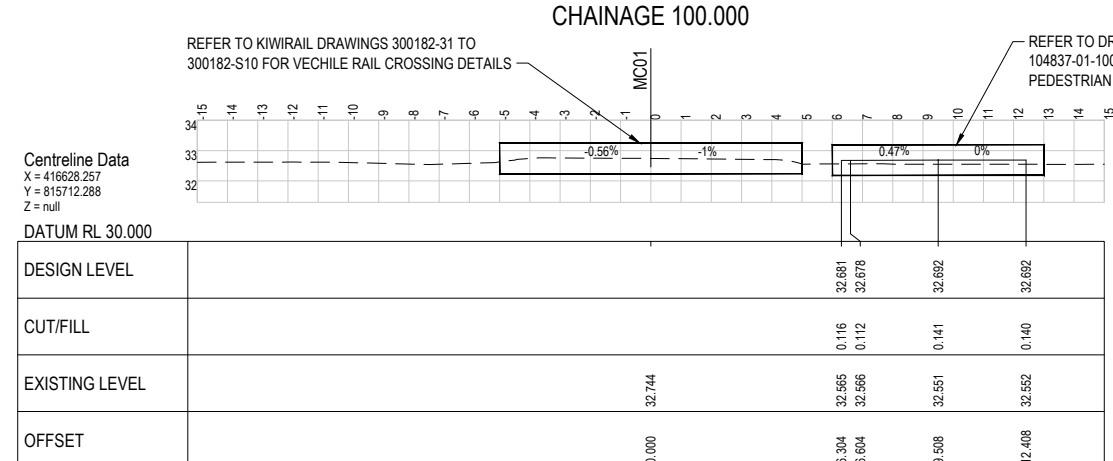
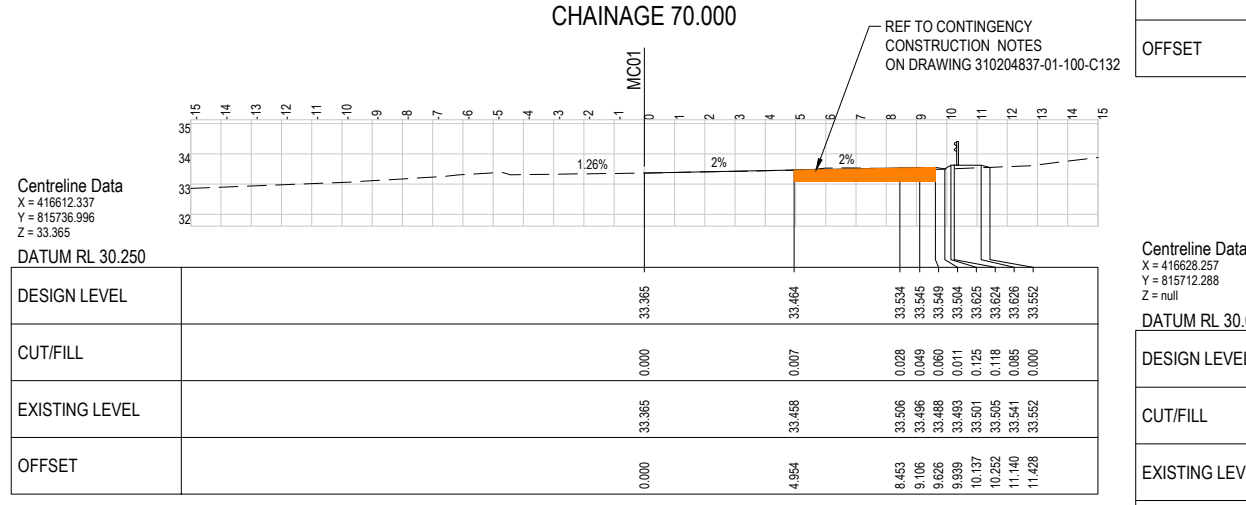
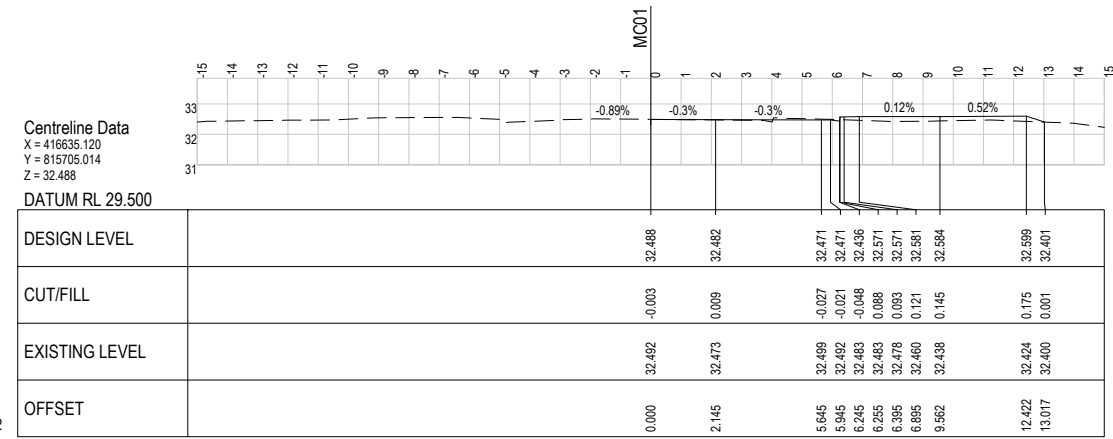
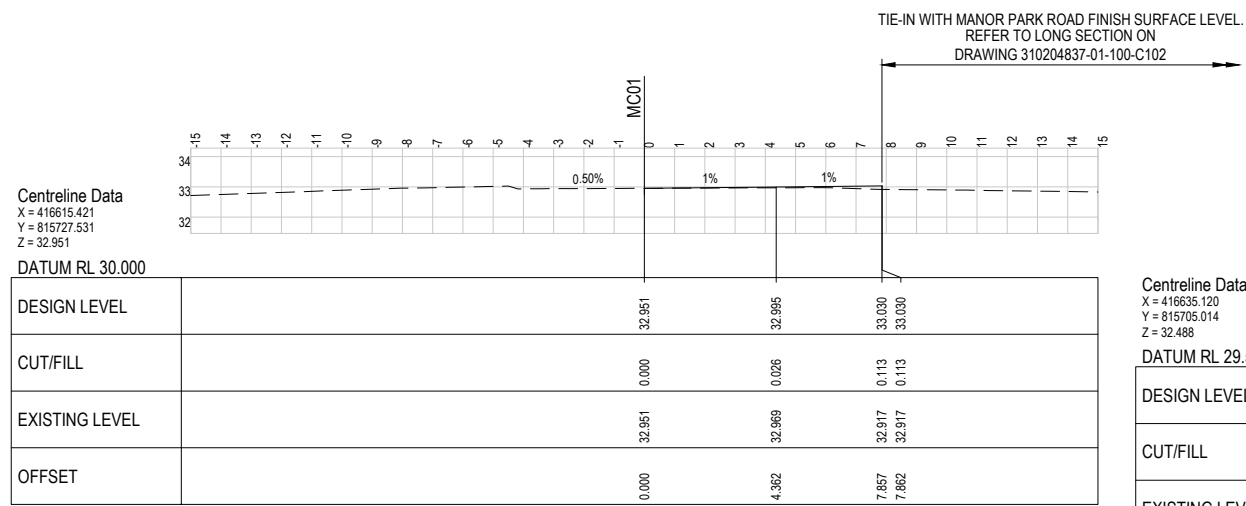
TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

MC01 - CROSS SECTIONS
 CH. 0.000 TO CH. 40.000

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C140
Rev.	1

LEGEND
 NEW ROAD PAVEMENT

ORIGINAL SIZE A1
 200 mm DO NOT SCALE - IF IN DOUBT, ASK



DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	JJ		
A	FOR INFORMATION	25.11.2022	JJ		

ACTIVITY	PERSON	DATE
SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corn/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23

**TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES**

MC01 - CROSS SECTIONS
 CH. 50.000 TO CH. 100.000

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C141
Rev.	1

ORIGINAL SIZE A1

200 mm

150

100

90

80

70

60

50

40

30

20

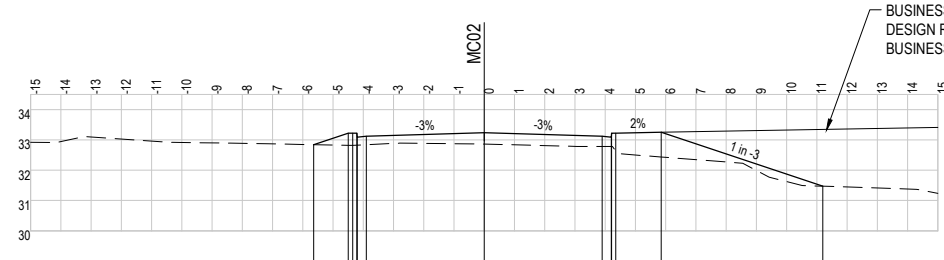
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Centreline Data
X = 416508.967
Y = 815663.660
Z = 33.241

DATUM RL 28.500

DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.844	0.000	32.844	-5.641
33.224	0.401	32.823	-4.500
33.224	0.403	32.822	-4.350
33.224	0.396	32.828	-4.210
33.089	0.261	32.829	-4.200
33.124	0.282	32.843	-3.900
33.241	0.376	32.865	0.000
33.124	0.339	32.786	3.900
33.089	0.304	32.786	4.200
33.224	0.439	32.786	4.210
33.224	0.588	32.626	4.350
33.254	0.818	32.437	5.850
31.471	0.000	31.471	11.199



CHAINAGE 20.000

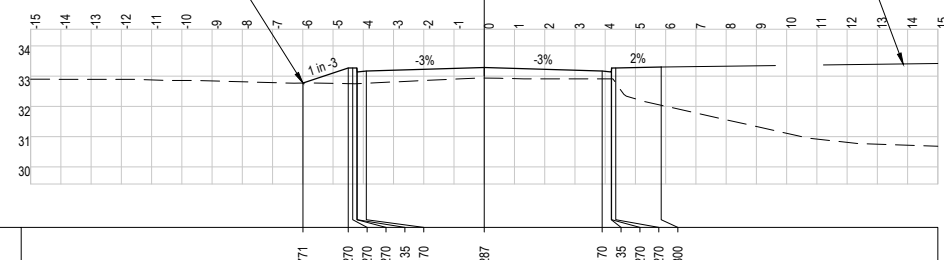
LOCATION OF EXISTING SOAK PIT / YARD SUMP TO BE CONFIRMED

BUSINESS PARK BUND. DESIGN REFER TO SPENCER HOLMES BUSINESS PARK DRAWING SERIES

Centreline Data
X = 416500.346
Y = 815658.593
Z = 33.287

DATUM RL 28.000

DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.771	0.000	32.771	-5.997
33.270	0.519	32.750	-4.500
33.270	0.522	32.748	-4.350
33.270	0.519	32.750	-4.210
33.135	0.384	32.751	-4.200
33.170	0.405	32.765	-3.900
33.287	0.352	32.935	0.000
33.170	0.260	32.909	3.900
33.135	0.225	32.909	4.200
33.270	0.360	32.909	4.210
33.270	0.495	32.775	4.350
33.300	1.263	32.036	5.850



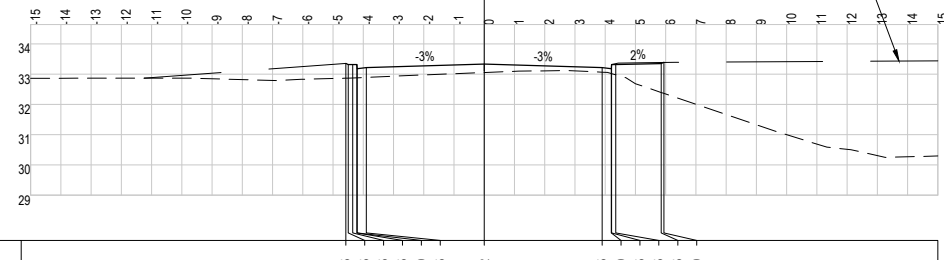
CHAINAGE 10.000

BUSINESS PARK BUND. DESIGN REFER TO SPENCER HOLMES BUSINESS PARK DRAWING SERIES

Centreline Data
X = 416491.725
Y = 815653.525
Z = 33.332

DATUM RL 27.500

DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
33.355	0.489	32.866	-4.580
33.315	0.447	32.868	-4.500
33.315	0.443	32.872	-4.350
33.315	0.439	32.875	-4.210
33.180	0.304	32.876	-4.200
33.215	0.325	32.890	-3.900
33.332	0.280	33.052	0.000
33.215	0.152	33.063	3.900
33.180	0.161	33.019	4.200
33.315	0.299	33.016	4.210
33.315	0.339	32.976	4.350
33.345	0.952	32.392	5.850
33.390	1.028	32.362	5.940

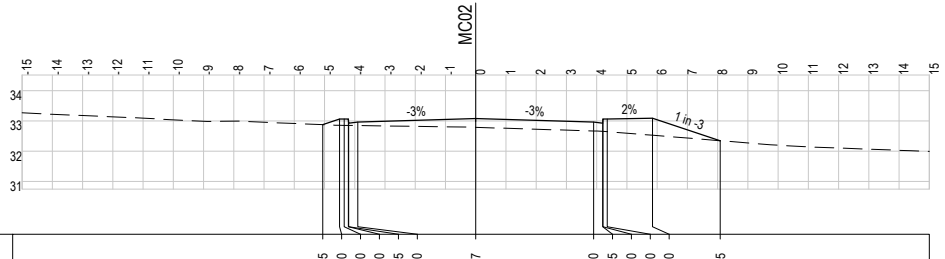


CHAINAGE 0.000

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Y = 815678.861
Z = 33.077

DATUM RL 29.250

DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.875	0.001	32.874	-5.057
33.060	0.206	32.854	-4.500
33.060	0.208	32.852	-4.350
33.060	0.210	32.850	-4.210
32.925	0.075	32.850	-4.200
32.960	0.114	32.846	-3.900
33.077	0.291	32.787	0.000
32.860	0.294	32.666	3.900
32.925	0.404	32.657	4.200
33.060	0.415	32.656	4.210
33.060	0.565	32.646	4.350
32.345	0.000	32.345	5.850
32.345	0.000	32.345	8.087

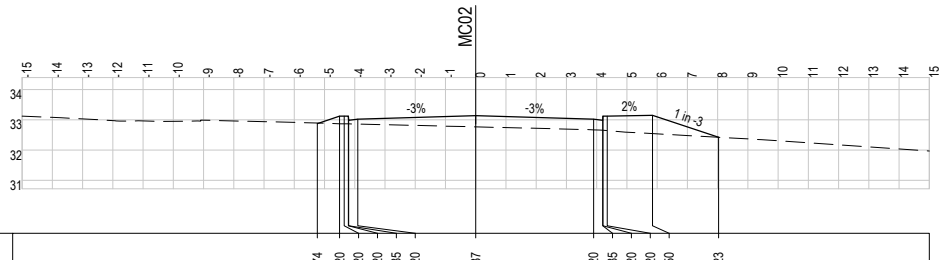


CHAINAGE 50.000

Centreline Data
X = 416526.209
Y = 815673.794
Z = 33.137

DATUM RL 29.250

DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.874	-0.022	32.896	-5.238
33.120	0.249	32.871	-4.500
33.120	0.251	32.869	-4.350
33.120	0.253	32.867	-4.210
32.885	0.118	32.867	-4.200
33.020	0.158	32.862	-3.900
33.137	0.370	32.768	0.000
33.020	0.351	32.669	3.900
32.885	0.330	32.655	4.200
33.120	0.466	32.655	4.210
33.120	0.477	32.643	4.350
33.150	0.606	32.545	5.850
32.423	0.000	32.423	8.031

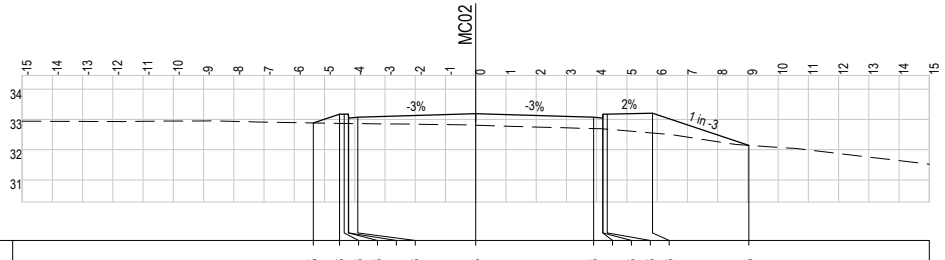


CHAINAGE 40.000

Centreline Data
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Y = 815668.727
Z = 33.193

DATUM RL 29.000

DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.885	0.000	32.885	-5.372
33.176	0.306	32.870	-4.500
33.176	0.308	32.868	-4.350
33.176	0.309	32.867	-4.210
33.041	0.175	32.866	-4.200
33.076	0.213	32.863	-3.900
33.193	0.384	32.809	0.000
33.076	0.376	32.700	3.900
33.041	0.350	32.691	4.200
33.176	0.485	32.691	4.210
33.176	0.497	32.679	4.350
33.206	0.655	32.551	5.850
32.145	0.000	32.145	9.034



CHAINAGE 30.000

DRAFT FOR APPROVAL

FOR CONSTRUCTION

Date Stamp 18.07.23

Scales AS SHOWN

Drawing No. 310204837-01-100-C143

Rev. 1

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23



TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

MC02 - CROSS SECTIONS
CH. 0.000 TO CH. 50.000

ORIGINAL SIZE A1

200 mm

150

100

70

40

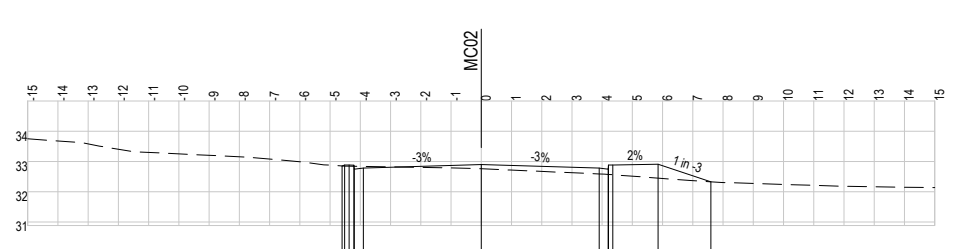
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Centreline Data
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Y = 815694.062
Z = 32.897

DATUM RL 29.500

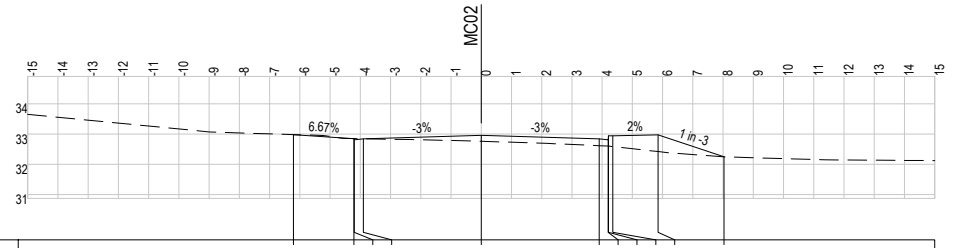


DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.853	0.000	32.853	
32.881	0.036	32.845	-4.801
32.881	0.038	32.843	-4.517
32.879	0.039	32.840	-4.367
32.745	-0.095	32.840	-4.210
32.760	-0.065	32.835	-3.900
32.897	0.137	32.760	0.000
32.760	0.192	32.568	3.900
32.745	0.174	32.571	4.200
32.880	0.310	32.571	4.210
32.880	0.320	32.560	4.350
32.910	0.461	32.450	5.850
32.328	0.000	32.328	7.597

CHAINAGE 80.000

Centreline Data
X = 416552.073
Y = 815688.995
Z = 32.957

DATUM RL 29.500

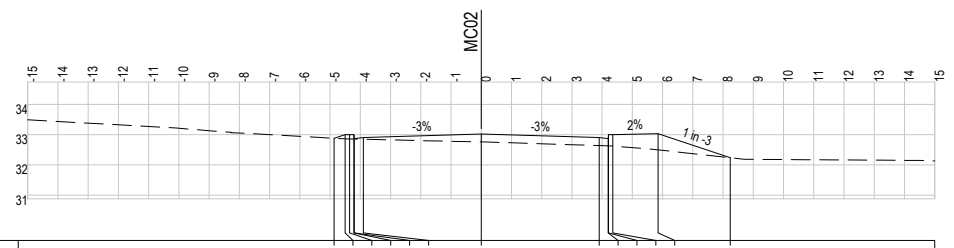


DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.979	0.000	32.979	
32.845	-0.002	32.847	-4.210
32.805	-0.042	32.847	-4.200
32.840	-0.002	32.842	-3.900
32.957	0.198	32.760	0.000
32.840	0.227	32.613	3.900
32.805	0.205	32.600	4.200
32.940	0.341	32.600	4.210
32.940	0.355	32.585	4.350
32.970	0.552	32.418	5.850
32.244	0.000	32.244	8.028

CHAINAGE 70.000

Centreline Data
X = 416543.452
Y = 815683.928
Z = 33.017

DATUM RL 29.500

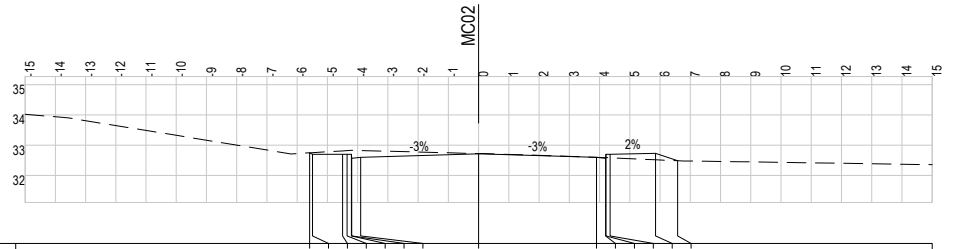


DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.878	0.001	32.878	
33.000	0.139	32.861	4.866
33.000	0.143	32.857	4.500
33.000	0.146	32.854	4.350
32.865	0.012	32.854	-4.210
32.900	0.054	32.847	-3.900
33.017	0.258	32.759	0.000
32.900	0.264	32.636	3.900
32.865	0.239	32.626	4.200
33.000	0.374	32.626	4.210
33.000	0.380	32.620	4.350
33.030	0.535	32.495	5.850
32.235	0.000	32.235	8.237

CHAINAGE 60.000

Centreline Data
X = 416586.557
Y = 815709.264
Z = 32.717

DATUM RL 29.750

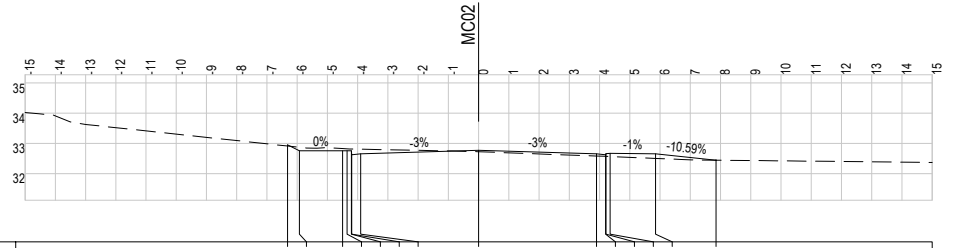


DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.748	0.000	32.748	
32.700	-0.054	32.754	-5.591
32.700	-0.113	32.814	-4.500
32.700	-0.122	32.822	-4.350
32.700	-0.131	32.831	-4.210
32.565	-0.268	32.831	-4.200
32.600	-0.224	32.824	-3.900
32.717	-0.006	32.723	0.000
32.600	0.001	32.600	3.900
32.565	-0.024	32.589	4.200
32.700	0.111	32.589	4.210
32.700	0.118	32.583	4.350
32.730	0.212	32.518	5.850
32.487	0.000	32.487	6.581

CHAINAGE 110.000

Centreline Data
X = 416577.936
Y = 815704.196
Z = 32.777

DATUM RL 29.750

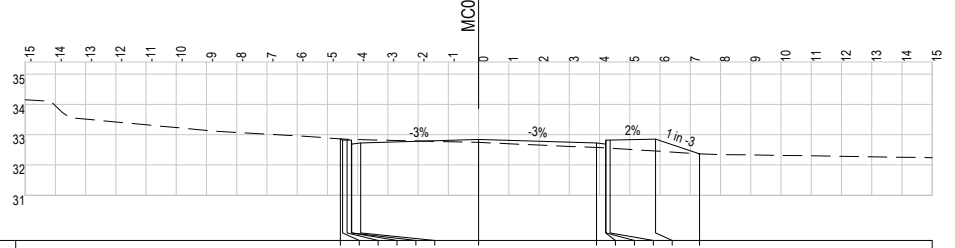


DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.955	0.040	32.915	-5.318
32.760	-0.114	32.874	-5.928
32.760	-0.072	32.833	-4.500
32.760	-0.063	32.824	-4.350
32.760	-0.057	32.818	-4.210
32.625	-0.192	32.817	-4.200
32.660	-0.151	32.811	-3.900
32.777	0.049	32.728	0.000
32.660	0.075	32.585	3.900
32.625	0.051	32.575	4.200
32.665	0.091	32.574	4.210
32.675	0.107	32.568	4.350
32.660	0.154	32.507	5.850
32.448	0.000	32.448	7.850

CHAINAGE 100.000

Centreline Data
X = 416569.315
Y = 815689.129
Z = 32.837

DATUM RL 29.500



DESIGN LEVEL	CUT/FILL	EXISTING LEVEL	OFFSET
32.857	-0.001	32.858	-4.574
32.820	-0.033	32.853	-4.500
32.820	-0.025	32.845	-4.350
32.820	-0.021	32.841	-4.210
32.685	-0.156	32.841	-4.200
32.720	-0.113	32.834	-3.900
32.837	0.096	32.742	0.000
32.720	0.146	32.575	3.900
32.685	0.126	32.560	4.200
32.620	0.261	32.559	4.210
32.620	0.270	32.550	4.350
32.650	0.395	32.456	5.850
32.365	0.000	32.365	7.305

CHAINAGE 90.000

DRAFT FOR APPROVAL

FOR CONSTRUCTION

Date Stamp 18.07.23

Scales AS SHOWN

Drawing No. 310204837-01-100-C144

Rev. 1

REV	ISSUED FOR CONSTRUCTION	FOR TENDER	FOR INFORMATION	REVISIONS	DATE	DRN	CHK	APP
1					17.07.2023	GD	CC	CD
0					19.12.2022	JJ		
A					25.11.2022	JJ		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avanti	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23

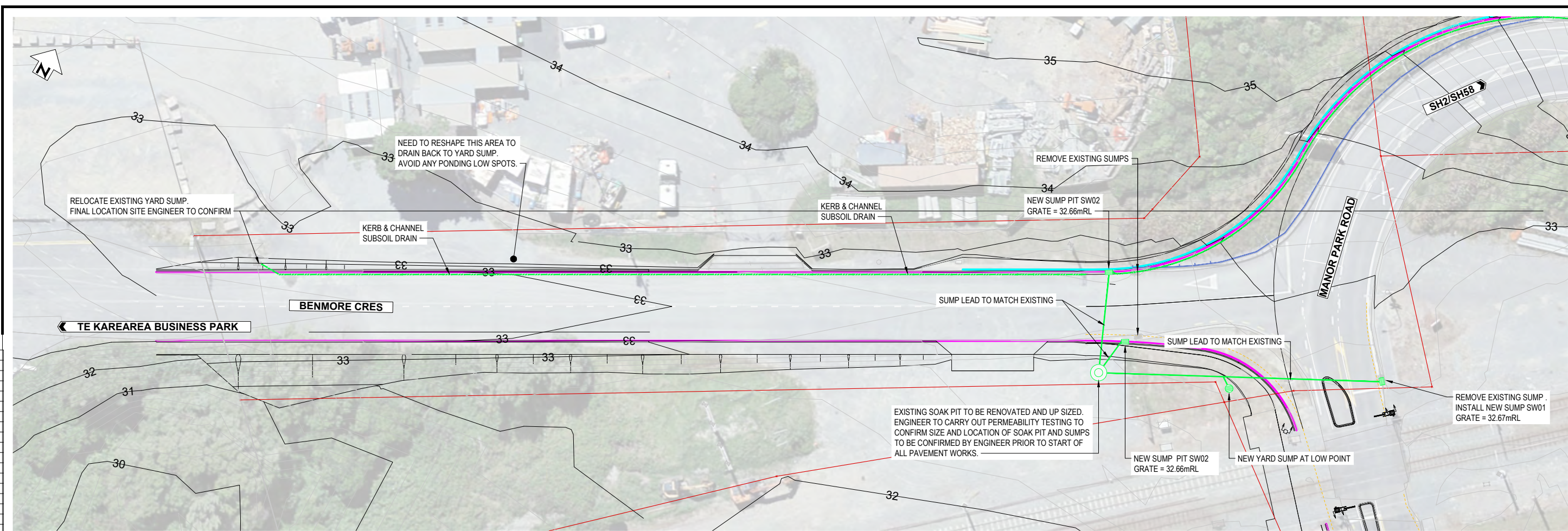
Client

TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

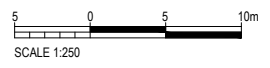
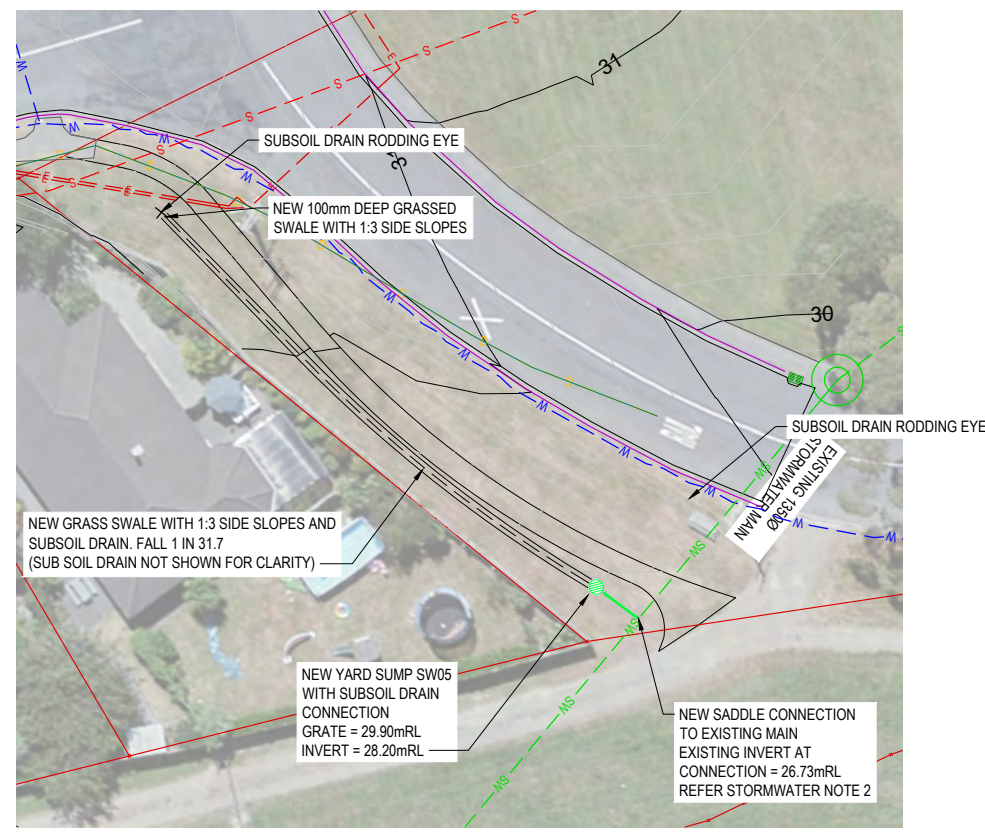
MC02 - CROSS SECTIONS
CH. 60.000 TO CH. 110.000

ORIGINAL SIZE A1

DO NOT SCALE - IF IN DOUBT, ASK



PLAN
SCALE 1 : 250 @ A1



- NOTES**
- GENERAL**
- REFER TO DRAWING 310204837-01-100-C100 FOR SURVEY, SERVICES, AND GENERAL NOTES
- STORMWATER**
- THE EXISTING STORMWATER NETWORK HAS NOT BEEN FULLY SURVEYED AT TIME OF DESIGN. THE CONTRACTOR IS TO INVESTIGATE PIPE AND OUTLET LOCATIONS ON SITE PRIOR TO CONSTRUCTION AND ADVISE THE ENGINEER. THE NEW STORMWATER NETWORK IS TO CONNECT TO THE UP SIZED EXISTING SOAK PIT INDICATIVELY SHOWN ON THIS DRAWING.
 - EXISTING STORMWATER MAIN LEVELS ARE FROM WELLINGTON WATER GIS SYSTEM AND ARE APPROXIMATE ONLY. LEVELS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.

STORMWATER LEGEND

	NEW STORMWATER 225Ø uPVC SN16 @ MINIMUM 0.5% GRADE UNLESS OTHERWISE NOTED
	STORMWATER CONNECTION TO EXISTING NETWORK. REFER STORMWATER NOTE 1
	NEW STORMWATER 110Ø uPVC SUBSOIL PIPE
	NEW CONCRETE MANHOLE
	NEW HUTT CITY COUNCIL STANDARD ROAD SUMP
	NEW CONCRETE YARD SUMP (HYNDS PRECAST SILT TRAP OR SIMILAR APPROVED)

REFER TO DRAWING 310204837-01-100-C100 LEGEND FOR ALL OTHER ITEMS

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	IL	VA	
A	FOR INFORMATION	25.11.2022	IL	VA	

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Ian Leask	11.2022
DRAWN	Jazz Shergill	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23



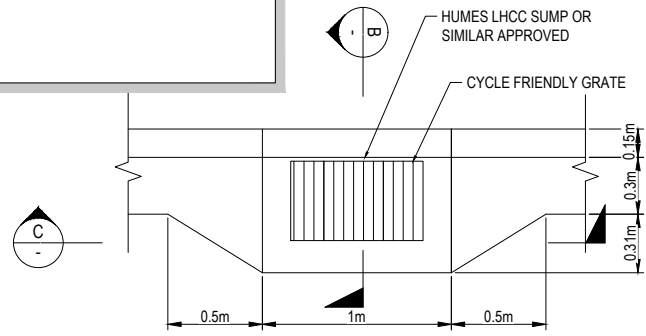
TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

STORMWATER PLAN
BENMORE CRESCENT

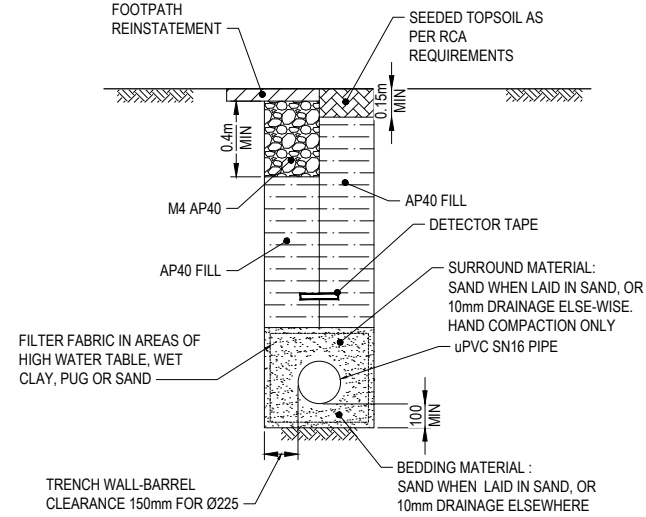
Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C150
Rev.	1

TRENCH NOTES

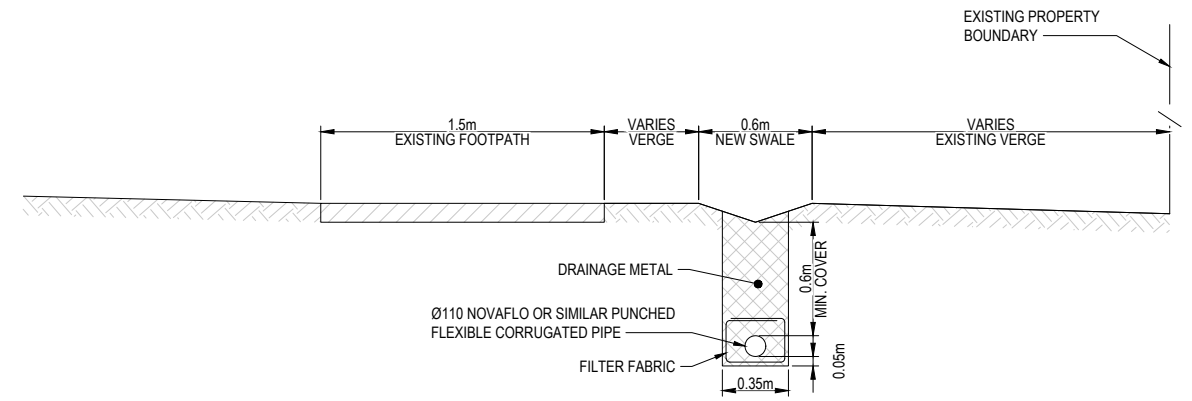
1. SELECTED FILL IS AP40.
2. ALL MATERIALS TO BE COMPACTED IN 150mm LAYERS.
3. RIGID PIPES INCLUDING: CONCRE PIPES, EARTHENWARE PIPES, CORRUGATED STEEL AND ALUMINIUM PIPES, STEEL AND DUCTILE IRON PIPES.
4. FLEXIBLE PIPES INCLUDE ALL PVC PIPES, ALL POLYTHELENE PIPES, COPPER AND POLYBUTYLENE.



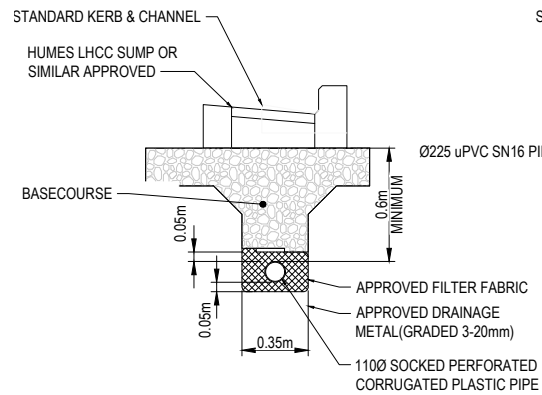
DETAIL - SINGLE SUMP
SCALE 1 : 20 @ A1



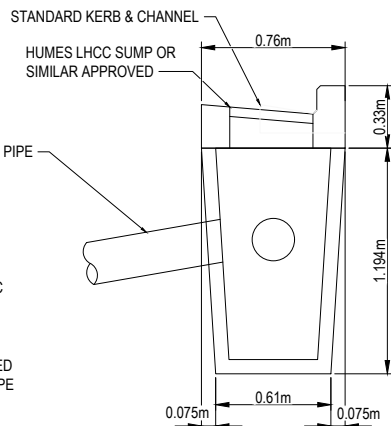
TYPICAL BEDDING AND BACKFILL DETAIL
SCALE 1 : 20 @ A1



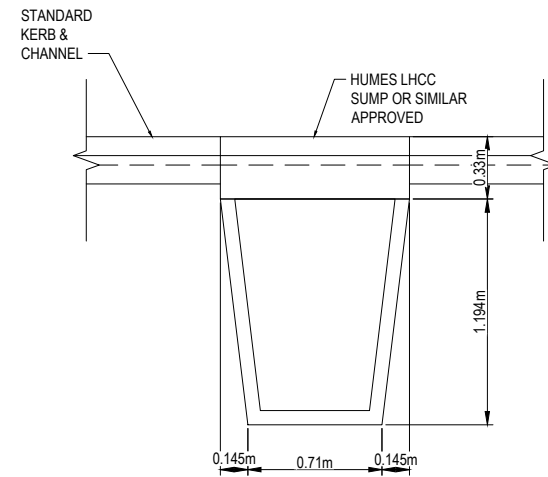
TYPICAL SECTION A
SCALE 1:20 @A1 C500



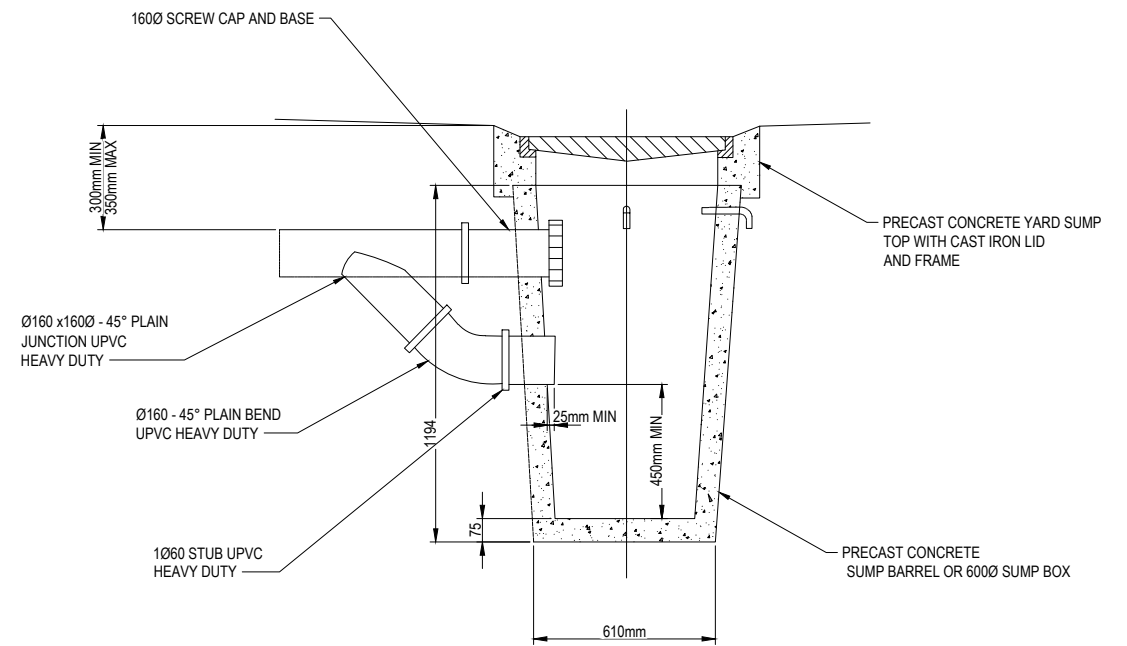
K&C - SUBSOIL DRAIN
SCALE 1 : 20 @ A1



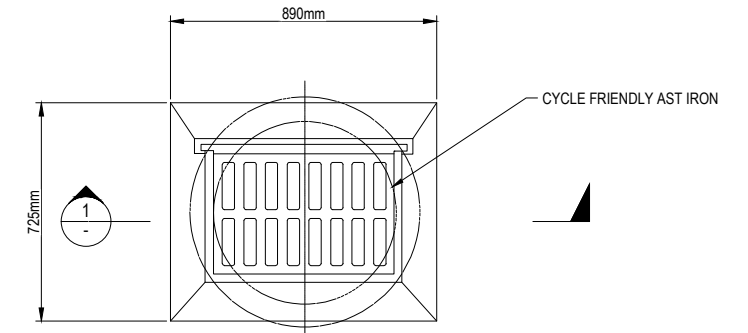
SECTION B
SCALE 1 : 20 @A1



SECTION C
SCALE 1 : 20 @A1



SECTION 1
NOT TO SCALE



WWL DR05YARD SUMP - PLAN
NOT TO SCALE

ORIGINAL SIZE A1

DO NOT SCALE - IF IN DOUBT, ASK

REV	DESCRIPTION	DRN	CHK	APP	DATE
1	ISSUED FOR CONSTRUCTION	GD	CC	CD	17.07.2023
0	FOR TENDER	IL	VA		19.12.2022
A	FOR INFORMATION	IL	VA		25.11.2022

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Ian Leask	11.2022
DRAWN	Jazz Shergill	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23



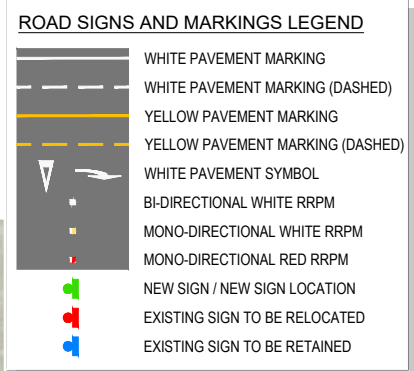
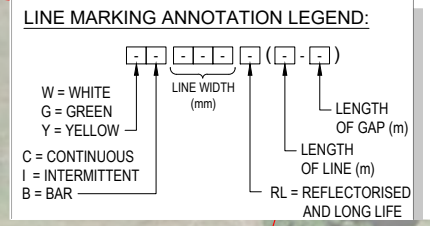
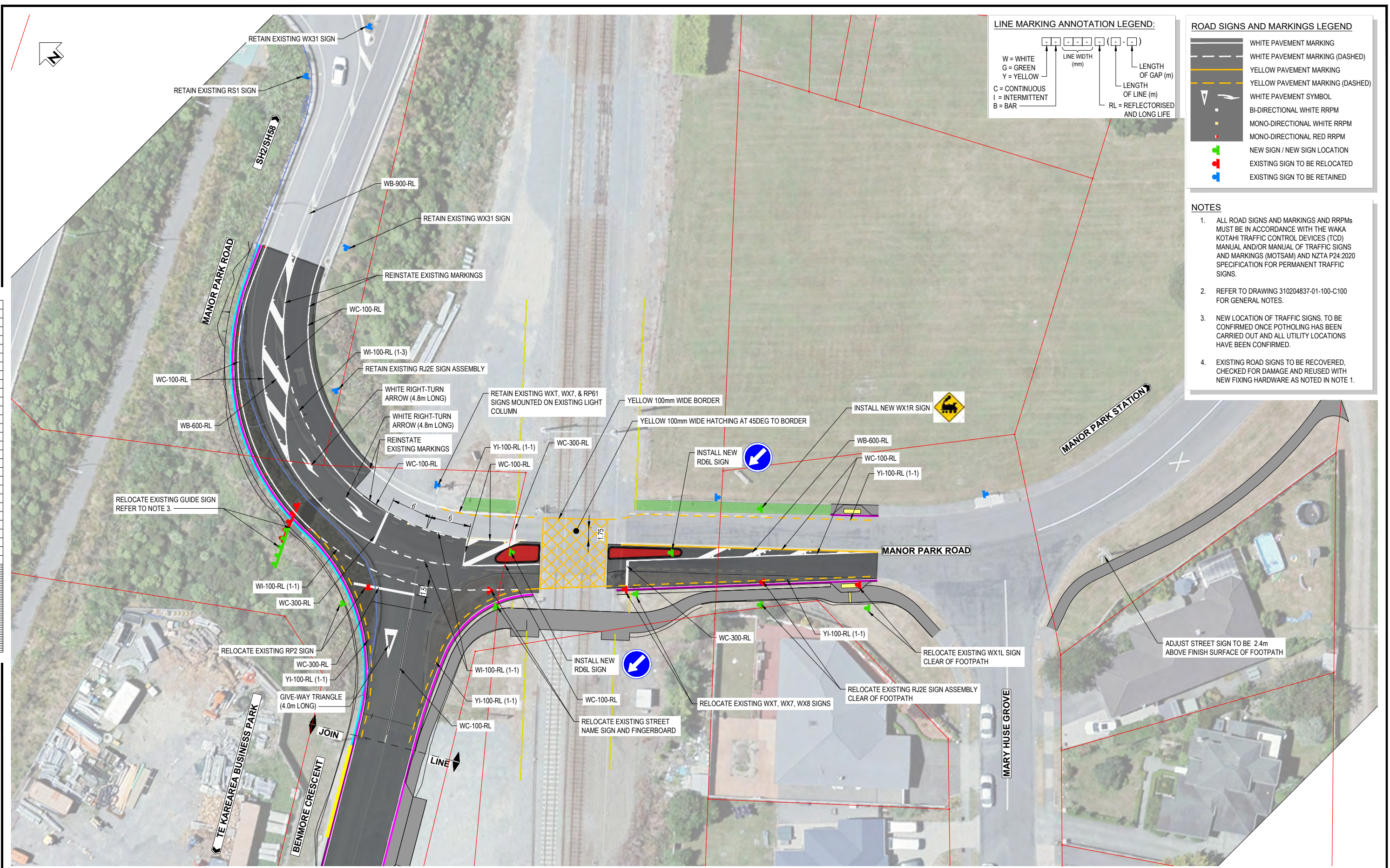
TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES
STORMWATER DETAILS

DRAFT FOR APPROVAL

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C153
Rev.	1

DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A1



- NOTES**
1. ALL ROAD SIGNS AND MARKINGS AND RRPMS MUST BE IN ACCORDANCE WITH THE WAKA KOTAHĪ TRAFFIC CONTROL DEVICES (TCD) MANUAL AND/OR MANUAL OF TRAFFIC SIGNS AND MARKINGS (MOTSAM) AND NZTA P24:2020 SPECIFICATION FOR PERMANENT TRAFFIC SIGNS.
 2. REFER TO DRAWING 310204837-01-100-C100 FOR GENERAL NOTES.
 3. NEW LOCATION OF TRAFFIC SIGNS. TO BE CONFIRMED ONCE POTHOLING HAS BEEN CARRIED OUT AND ALL UTILITY LOCATIONS HAVE BEEN CONFIRMED.
 4. EXISTING ROAD SIGNS TO BE RECOVERED, CHECKED FOR DAMAGE AND REUSED WITH NEW FIXING HARDWARE AS NOTED IN NOTE 1.

PLAN
SCALE 1 : 250 @ A1

DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	GD	CC	CD	DATE
1	ISSUED FOR CONSTRUCTION				17.07.2023
0	FOR TENDER				19.12.2022
A	FOR INFORMATION				25.11.2022

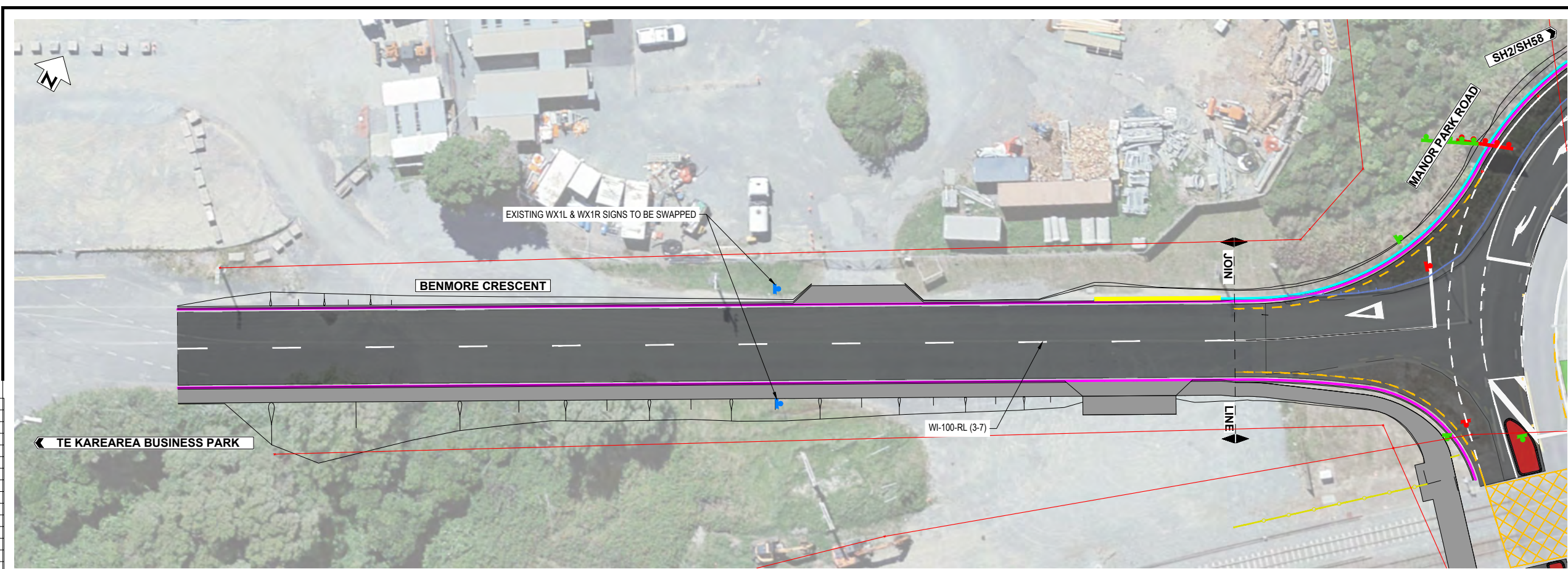
SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23



TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES
ROAD SIGNS AND MARKINGS
MANOR PARK ROAD - MC01

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C160
Rev.	1

ORIGINAL SIZE A1



PLAN
SCALE 1 : 250 @ A1

ROAD SIGNS AND MARKINGS LEGEND

	WHITE PAVEMENT MARKING
	WHITE PAVEMENT MARKING (DASHED)
	YELLOW PAVEMENT MARKING
	YELLOW PAVEMENT MARKING (DASHED)
	WHITE PAVEMENT SYMBOL
	BI-DIRECTIONAL WHITE RRPm
	MONO-DIRECTIONAL WHITE RRPm
	MONO-DIRECTIONAL RED RRPm
	NEW SIGN / NEW SIGN LOCATION
	EXISTING SIGN TO BE RELOCATED
	EXISTING SIGN TO BE RETAINED

- NOTES**
1. ALL ROAD SIGNS AND MARKINGS AND RRPm MUST BE IN ACCORDANCE WITH THE WAKA KOTAHĪ TRAFFIC CONTROL DEVICES (TCD) MANUAL AND/OR MANUAL OF TRAFFIC SIGNS AND MARKINGS (MOTSAM) AND NZTA P24:2020 SPECIFICATION FOR PERMANENT TRAFFIC SIGNS.
 2. REFER TO DRAWING 310204837-01-100-C100 FOR GENERAL NOTES.
 3. NEW LOCATION OF TRAFFIC SIGNS TO BE CONFIRMED ONCE POTHOLING HAS BEEN CARRIED OUT AND ALL UTILITY LOCATIONS HAVE BEEN CONFIRMED.
 4. EXISTING ROAD SIGNS TO BE RECOVERED, CHECKED FOR DAMAGE AND REUSED WITH NEW FIXING HARDWARE AS NOTED IN NOTE 1.

LINE MARKING ANNOTATION LEGEND:

W = WHITE	G = GREEN	Y = YELLOW	C = CONTINUOUS	I = INTERMITTENT	B = BAR
LINE WIDTH (mm)			LENGTH OF GAP (m)		
			LENGTH OF LINE (m)		
			RL = REFLECTORISED AND LONG LIFE		

REV	ISSUED FOR CONSTRUCTION	FOR TENDER	FOR INFORMATION	REVISIONS	DATE	DRN	CHK	APP
1					17.07.2023	GD	CC	CD
0					19.12.2022	JJ		
A					25.11.2022	JJ		

PROF REGISTRATION:	DATE	NAME
SURVEYED	08.2022	SPENCER HOLMES
DESIGNED	11.2022	Janco Jordaan
DRAWN	11.2022	Janco Jordaan
CAD REVIEW	17.07.23	Matt Hopkins
DESIGN CHECK	17.07.23	J.Reddy/V.Avari
DESIGN REVIEW	17.07.23	G.Corin/C.Calef
APPROVED	17.07.23	Cobus de Kock

Client

TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

ROAD SIGNS AND MARKINGS
BENMORE CRESCENT - MC02

DRAFT FOR APPROVAL

FOR CONSTRUCTION

Date Stamp: 18.07.23

Scales: AS SHOWN

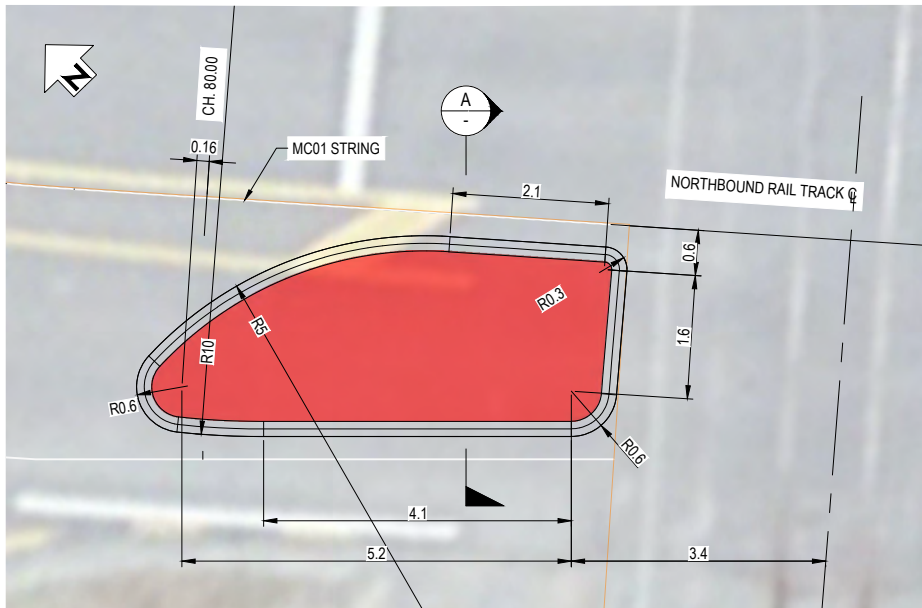
Drawing No. 310204837-01-100-C161

Rev. 1

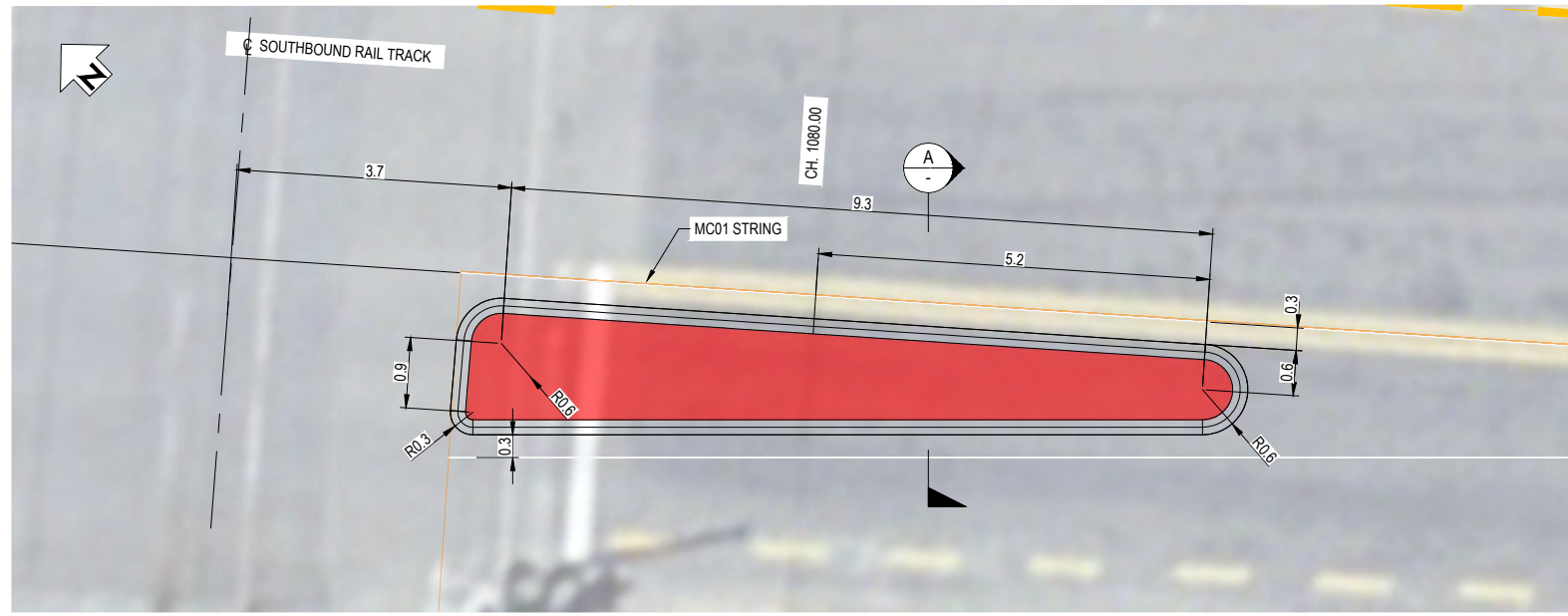
DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A1

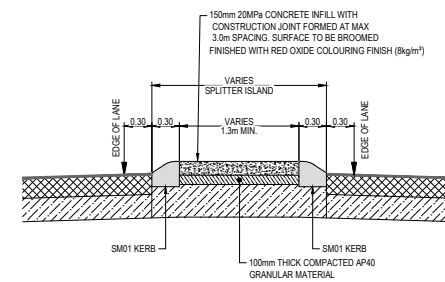
- NOTES**
- MEDIAN ISLAND LOCATION, REFER TO DRAWING 310204837-01-100-C101
 - ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED.
 - SET OUT ON SITE TO BE CONFIRMED BY ENGINEER.



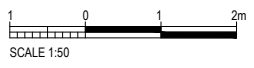
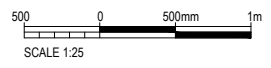
MEDIAN ISLAND - TYPE 1
SCALE 1 : 50



MEDIAN ISLAND - TYPE 2
SCALE 1 : 50



SECTION A
SCALE 1 : 25



DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	REVISIONS	GD	CC	CD	DATE
DRN	CHK	APP				
1						17.07.2023

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Janco Jordaan	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23



TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

MEDIAN TRAFFIC ISLAND
DETAILS

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C162
Rev.	1

LUMINAIRE AND POLE LIST

TYPE	LUMINAIRE DESCRIPTION	POLE DESCRIPTION	MOUNTING HEIGHT	ARM LENGTH	TILT ANGLE	No. OF
A	AEC ITALO 2 STU-M 4000K 350mA 8M 10270 lm 75W LED	NEW HDG STEEL LIGHTING POLE C/W CURVED OUTREACH ARM	10	2	5	3
B	AEC ITALO 2 STU-M 4000K 525mA 8M 14750 lm 113W LED	NEW HDG STEEL LIGHTING POLE C/W CURVED OUTREACH ARM	10	1	0	1
C	AEC ITALO 2 STU-M 4000K 350mA 8M 10270 lm 75W LED	EXISTING HDG STEEL LIGHTING POLE C/W CURVED OUTREACH ARM	9.5	2	5	1
D	AEC ITALO 2 STU-M 4000K 700mA 8M 18580 lm 151W LED	EXISTING HDG STEEL LIGHTING POLE C/W CURVED OUTREACH ARM	9.5	2	0	1

LEGEND

- A NEW LUMINAIRE MOUNTED ON NEW LIGHTING POLE (LETTER DENOTES PARTICULAR LUMINAIRE TYPE AND POLE MOUNTING DETAILS AS PER THE LUMINAIRE AND POLE LIST)
- C NEW LUMINAIRE MOUNTED ON EXISTING LIGHTING POLE (LETTER DENOTES PARTICULAR LUMINAIRE TYPE AND POLE MOUNTING DETAILS AS PER THE LUMINAIRE AND POLE LIST)
- EXISTING LUMINAIRE MOUNTED ON EXISTING LIGHTING POLE (OUTSIDE SCOPE OF THIS DEIGN)
- EXISTING LUMINAIRE AND LIGHTING POLE TO BE REMOVED (NOTE 7)
- EXISTING POWER POLE
- EXISTING OVERHEAD POWER LINES
- ILLUMINANCE DESIGN AREAS
- PROPOSED LIGHTING ISOLUX CONTOUR LINES

NOTES

- THIS LIGHTING DESIGN IS LIMITED TO THE CURVE AND RAIL CROSSING AS FAR AS THE EXTENTS OF THE SPLITTER ISLAND, AND HAS BEEN DONE IN ACCORDANCE WITH THE SUBCATEGORY V4 REQUIREMENTS OF AS/NZS 1158.1.1:2022 AND NZTA M30. THE LIGHTING AT THE CURVE HAS BEEN DESIGNED IN ACCORDANCE WITH SECTION 4.3.2 (a) AND FIGURE 4.6 OF AS/NZS 1158.1.1:2022; THE LIGHTING AT THE SOUTH EAST END OF THE SPLITTER ISLAND HAS BEEN DESIGNED IN ACCORDANCE WITH SECTION 4.2.2.4 AND FIGURE 4.3 OF AS/NZS 1158.1.1:2022; AND THE LIGHTING AT THE RAIL CROSSING HAS BEEN DESIGNED IN ACCORDANCE WITH SECTION 4.6 AND FIGURE 4.17 OF AS/NZS 1158.1.1:2022. REFER TO THE ILLUMINANCE CALCULATION RESULTS SUMMARY TABLE. NOTE THAT ILLUMINANCE CALCULATIONS FOR THE NORTH WEST END OF THE SPLITTER ISLAND HAS NOT BEEN INCLUDED AS IT IS WITHIN THE DESIGN AREA OF THE CURVED SECTION OF ROADWAY.
- ALL NEW POLES SHALL BE SPUNLITE (OR EQUAL) HOT DIP GALVANISED TAPERED OCTAGONAL STEEL FRANGIBLE GROUND PLANTED POLES C/W CURVED OUTREACH ARMS COMPLYING WITH NZTA M26. ALL POLES SHALL BE ORIENTATED SO THAT THE ARMS ARE AT RIGHT ANGLES (90°) TO THE ROADWAY CENTERLINES, UNLESS OTHERWISE SHOWN ON THE LAYOUT DRAWINGS.
- ALL NEW LUMINAIRES SHALL BE AEC ITALO LEDs (OR EQUAL), WITH MODULES AND WATTAGES AS SPECIFIED IN THE LUMINAIRE AND POLE LIST. THE LUMINAIRES SHALL BE SUPPLIED WITH THE LATEST GENERATION LUXEON MX LED CHIPS. THE QUALITY OF MANUFACTURE AND OPTICAL PERFORMANCE OF ANY ALTERNATIVE LED LUMINAIRES SHALL MATCH OR EXCEED THAT OF THE AEC ITALO (INCLUDING THE CURRENT DESIGN SPACINGS) AND SUPPORTING CALCULATIONS (ILLUMINANCE) SHALL BE SUBMITTED ALONG WITH ANY ALTERNATIVE LUMINAIRES OFFERED. ANY ALTERNATIVE LUMINAIRES OFFERED SHALL BE ON THE NZTA APPROVED LED LUMINAIRE LIST. WHEN INSTALLED ALL NEW LUMINAIRES SHALL HAVE MOUNTING HEIGHTS, OUTREACH ARM LENGTHS AND TILT ANGLES AS SPECIFIED IN THE LUMINAIRE AND POLE LIST.
- WHEN POLES ARE SET IN PLACE THEY SHALL BE VERTICAL TO WITHIN 1°. WHEN EACH LUMINAIRE IS INSTALLED IT SHALL HAVE THE REQUIRED TILT TO WITHIN 2° AND THE AXIS OF THE LUMINAIRE BEAM SHALL BE IN A VERTICAL PLANE TO WITHIN 2°.
- THE COMPLETE LIGHTING UPGRADE REQUIRES NEW LUMINAIRES TO BE MOUNTED ONTO NEW LIGHTING POLES AND TWO (2) EXISTING LIGHTING POLES. THE CONTRACTOR SHALL LIAISE WITH NZTA TO DETERMINE THE SUITABILITY OF THE EXISTING LIGHTING POLES TO BE REUSED (TO SUPPORT THE NEW LUMINAIRES) PRIOR TO INSTALLATION. IF THE EXISTING LIGHTING POLES (TO BE REUSED) ARE FOUND TO BE UNSUITABLE THEN THE CONTRACTOR SHALL REPLACE THEM WITH NEW LIGHTING POLES FOLLOWING APPROVAL FROM NZTA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF EXISTING LIGHTING EQUIPMENT (LUMINAIRES, LIGHTING POLES AND ASSOCIATED EQUIPMENT) AS IDENTIFIED ON THE DRAWINGS.
- ALL MATERIALS (INCLUDING LUMINAIRES, POLES, ARMS AND MOUNTING HARDWARE) SHALL COMPLY WITH THE DURABILITY REQUIREMENTS OF NZTA M26 AND M30.
- THIS DRAWING ONLY DEPICTS THE LUMINAIRES, POLE LOCATIONS AND MOUNTING REQUIREMENTS ASSOCIATED WITH THE LIGHTING DESIGN. ALL WORK ASSOCIATED WITH ESTABLISHING AND/OR MODIFYING THE STREET LIGHTING NETWORK (SLN) IS OUTSIDE THE SCOPE OF THIS DESIGN.
- THE CONTRACTOR SHALL LIAISE WITH THE LOCAL ELECTRICITY NETWORK COMPANY AND ARRANGE FOR ANY SLN WORKS (DESIGN AND CONSTRUCTION REQUIRED TO ESTABLISH AND/OR EXTEND THE SLN) AND PAY ANY ASSOCIATED LOCAL ELECTRICITY NETWORK FEES. THIS WORK SHALL ONLY BE CARRIED OUT BY A CONTRACTOR APPROVED BY THE LOCAL ELECTRICITY NETWORK COMPANY AND SHALL COMPLY WITH THE ELECTRICITY ACT, THE ELECTRICITY (SAFETY) REGULATIONS, THE NZ WIRING RULES (AS/NZS 3000) AND ANY SPECIFIC LOCAL ELECTRICITY NETWORK RULES AND PROCEDURES.
- EACH NEW LIGHTING POLE IS A SEPARATE ELECTRICAL INSTALLATION (AS DEFINED BY AS/NZS 3000) AND SHALL BE FITTED WITH A SUITABLY SIZED FUSE BOARD (OR MODULAR ASSEMBLY) COMPLETE WITH PROTECTIVE DEVICE(S), NEUTRAL BAR (OR NEUTRAL TERMINAL), EARTH BAR (OR EARTH TERMINAL), M.E.N. LINK, DRIVEN EARTH ELECTRODE AND ALL INTERNAL WIRING AND ELECTRICAL CONNECTIONS TO THE LUMINAIRE AND EARTHING SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE ELECTRICAL INSTALLATION WORK IS CARRIED OUT BY A COMPETENT PERSON (OR PERSONS) IN ACCORDANCE WITH THE ELECTRICITY ACT, THE ELECTRICITY (SAFETY) REGULATIONS AND THE NZ WIRING RULES.

ILLUMINANCE CALCULATION RESULTS

Label	CalcType	Units	Avg	Min	Max/Min	Description
Curve Roadway	Illuminance	Lux	N.A.	8.6	6.92	Category V4 - 5 Lux (Min) and Uniformity (Max/Min) of 8 (Max)
Curve Surround E	Illuminance	Lux	N.A.	5.6	7.66	Category V4 - 2.5 Lux (Min) and Uniformity (Max/Min) of 8 (Max)
Curve Surround W	Illuminance	Lux	N.A.	4.8	6.33	Category V4 - 2.5 Lux (Min) and Uniformity (Max/Min) of 8 (Max)
Railway Crossing Track NW Side	Illuminance	Lux	13	N.A.	N.A.	Point Vertical Illuminance of 10 Lux (Avg)
Railway Crossing Track SE Side	Illuminance	Lux	10	N.A.	N.A.	Point Vertical Illuminance of 10 Lux (Avg)
Splitter Island SE Nose	Illuminance	Lux	N.A.	19.7	1.24	Category V4 - 2.5 Lux (Min) and Uniformity (Max/Min) of 8 (Max)
Splitter Island SE Roadway	Illuminance	Lux	N.A.	13.7	2.60	Category V4 - 5 Lux (Min) and Uniformity (Max/Min) of 8 (Max)

REFERENCE DRAWINGS

310204837-01-100-C171 ROAD LIGHTING LAYOUT PLAN

DRAFT FOR APPROVAL

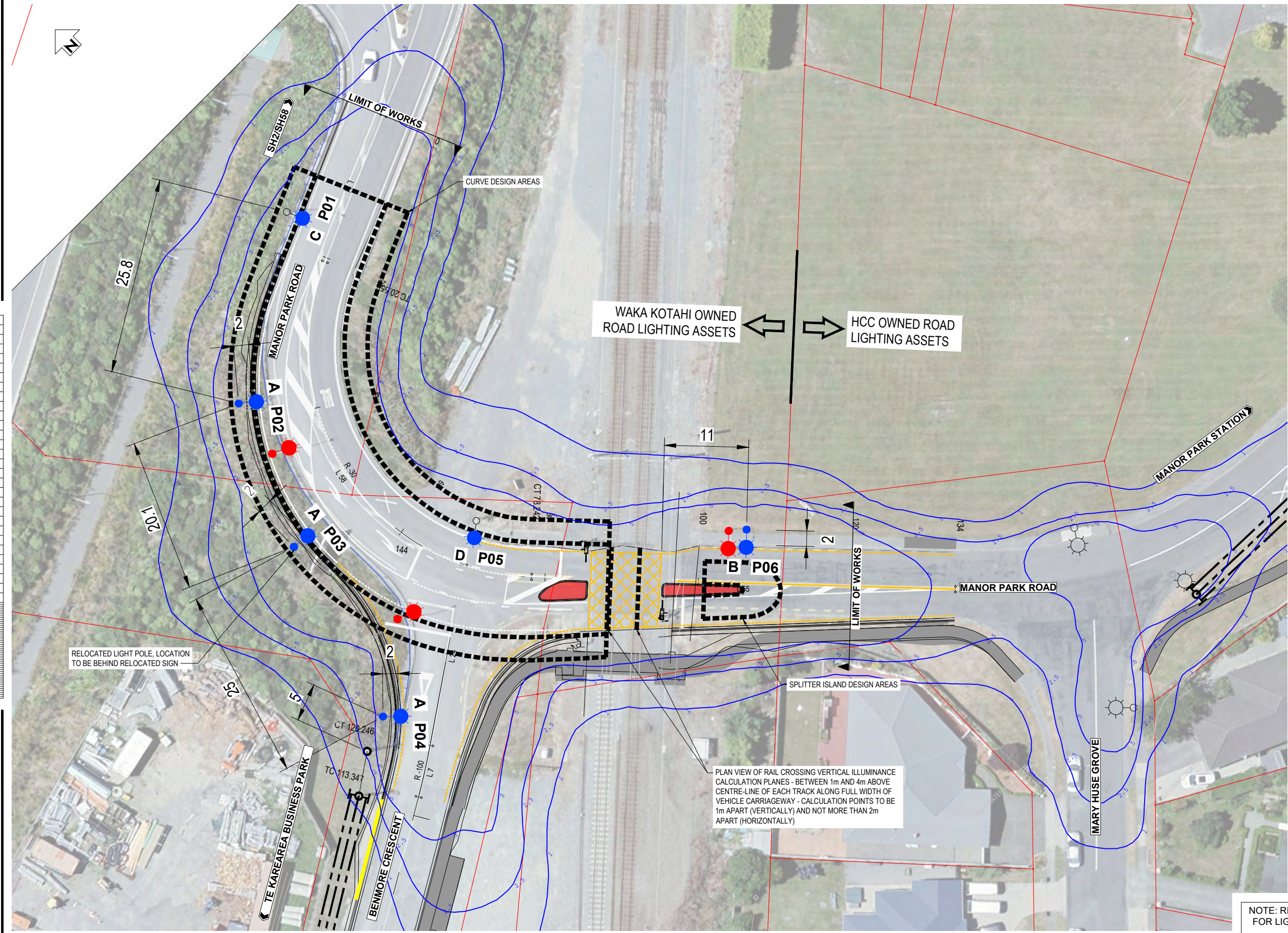
1 ISSUED FOR CONSTRUCTION 0 FOR TENDER A FOR INFORMATION REV REVISIONS	GD CC CD 17.07.2023 IC 19.12.2022 IC 25.11.2022 DRN CHK APP DATE	SURVEYED SPENCER HOLMES 08.2022 DESIGNED Ian Campbell 11.2022 DRAWN Ian Campbell 11.2022 CAD REVIEW Matt Hopkins 17.07.23 DESIGN CHECK Aditi Shankardas 17.07.23 DESIGN REVIEW Aditi Shankardas 17.07.23 APPROVED Cobus de Kock 17.07.23 PROF REGISTRATION:		TE KAREAREA BUSINESS PARK BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES ROAD LIGHTING INFORMATION SHEET	Status Stamp FOR CONSTRUCTION Date Stamp 18.07.23 Scales AS SHOWN Drawing No. 310204837-01-100-C170 Rev. 1
	CLIENT: SPENCER HOLMES			PROJECT: TE KAREAREA BUSINESS PARK BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES	

DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A1

ORIGINAL SIZE A1

DO NOT SCALE - IF IN DOUBT, ASK



NOTE: REFER TO DRAWING 310204837-01-100-C170 FOR LIGHTING LEGEND, NOTES AND EQUIPMENT SCHEDULE

PLAN
SCALE 1 : 250 @ A1

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	CONSTRUCTION ISSUED	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	IC		
A	FOR INFORMATION	25.11.2022	IC		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Ian Campbell	11.2022
DRAWN	Ian Campbell	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Aditi Shankardas	17.07.23
DESIGN REVIEW	Aditi Shankardas	17.07.23
APPROVED	Cobus de Kock	17.07.23

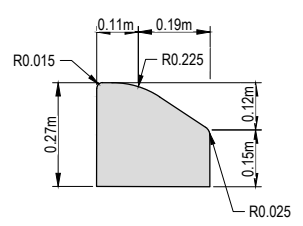


TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES
ROAD LIGHTING LAYOUT PLAN

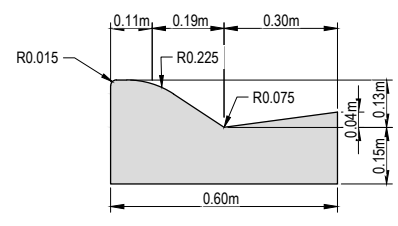
Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C171
Rev.	1

ORIGINAL SIZE A1

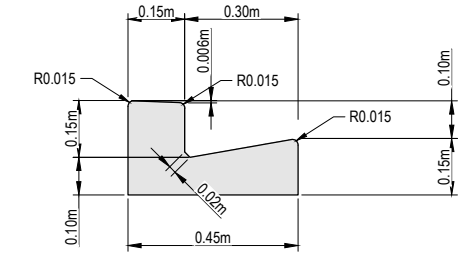
DO NOT SCALE - IF IN DOUBT, ASK



TYPE SM01 - SEMI MOUNTABLE KERB
SCALE 1 : 10 @ A1

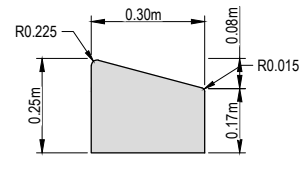


TYPE SM02 - SEMI MOUNTABLE KERB
SCALE 1 : 10 @ A1

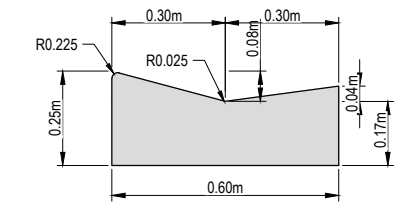


TYPE SM03 - KERB AND CHANNEL
SCALE 1 : 10 @ A1

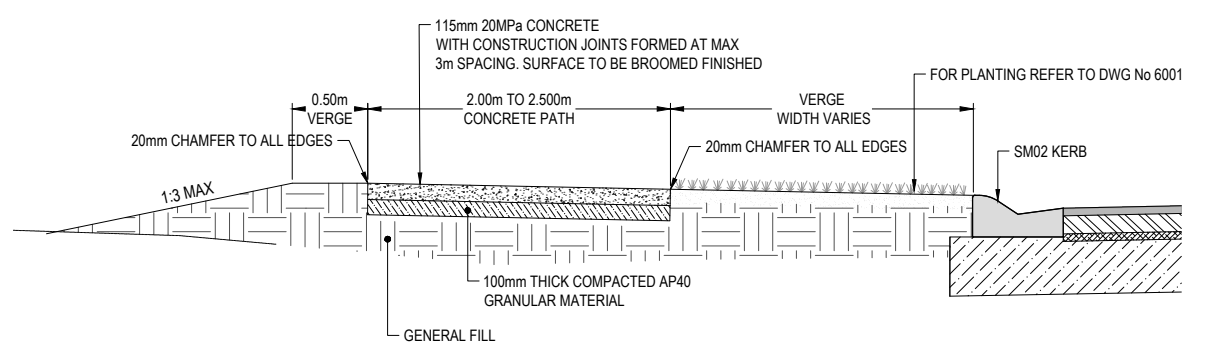
- NOTES**
- KERB TO BE SAW CUT (S/J) FOR CONSTRUCTION JOINT AT 4.0m CENTRES.
 - REFER TO KERB LINE - SETTING OUT BENMORE CRESCENT PLANS FOR KERB LAYOUT.
 - THE CONCRETE PATH SURFACE SHALL BE SCREEDED AND AFTER THE INITIAL SET, IT SHALL BE CAREFULLY BROOMED TO PRESENT A NON-SKID SURFACE. THE SURFACE SHALL COMPLY WITH NZS 3114 CLASS U5.



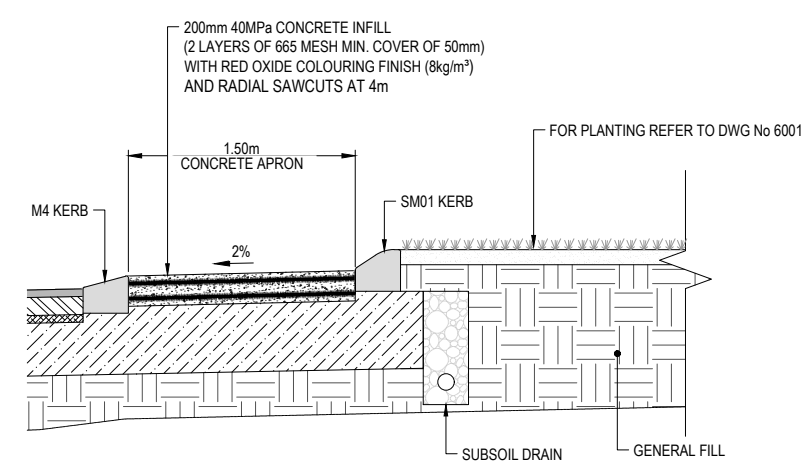
TYPE M4 - MOUNTABLE KERB
SCALE 1 : 10 @ A1



TYPE M5 - MOUNTABLE KERB
SCALE 1 : 10 @ A1



TYPICAL CONCRETE PATH DETAIL
SCALE 1 : 25 @ A1



APRON DETAIL
SCALE 1 : 25 @ A1

DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	FOR INFORMATION	REVISIONS	DRN	CHK	APP	DATE
1	ISSUED FOR CONSTRUCTION			GD	CC	CD	17.07.2023
A	FOR INFORMATION						25.11.2022

SURVEYED		
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G.Corin/C.Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		

Client



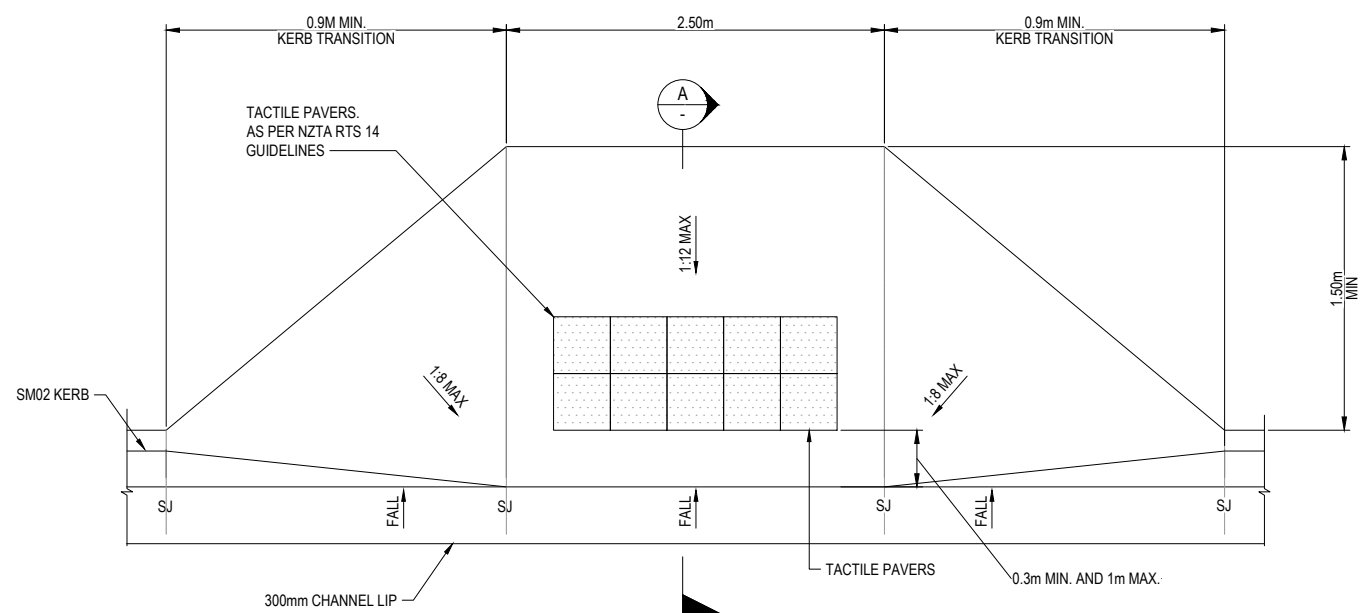

TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

TYPICAL DETAILS - SHEET 1

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C180
Rev.	1

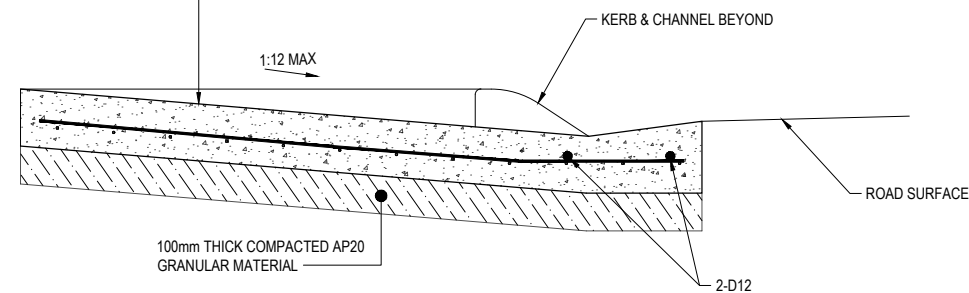
ORIGINAL SIZE A1

DO NOT SCALE - IF IN DOUBT, ASK



PEDESTRIAN / PRAM RAMP CROSSING - PLAN
SCALE 1 : 20 @ A1

20MPa CONCRETE WITH
1 LAYER 665 MESH CENTRALLY
PLACED. SURFACE TO BE BROOMED FINISHED



SECTION A
SCALE 1 : 10 @ A1

NOTES

1. KERB TO BE SAW CUT (SJ) FOR CONSTRUCTION JOINT AT 4.0m CENTRES.
2. KERB LINE - SETTING OUT BENMORE CRESCENT REFER TO GENERAL ARRANGEMENT PLANS FOR KERB LAYOUT.
3. THE CONCRETE PATH SURFACE SHALL BE SCREEDED AND AFTER THE INITIAL SET IT SHALL BE CAREFULLY BROOMED TO PRESENT A NON-SKID SURFACE. THE SURFACE SHALL COMPLY WITH NZS 3114 CLASS U5. IN AREAS DESIGNATED ON THE DRAWINGS THE SURFACE SHALL HAVE AN EXPOSED AGGREGATE FINISH IN ACCORDANCE WITH KCDC FOOTPATHS.
4. TACTILE PAVEMENT MARKERS TO BE SET OUT ON SITE AND AGREED WITH THE DESIGNER BEFORE PLACING.

DRAFT FOR APPROVAL

REV	DESCRIPTION	DRN	CHK	APP	DATE
1	ISSUED FOR CONSTRUCTION		GD	CC	CD
A	FOR INFORMATION				17.07.2023
					25.11.2022

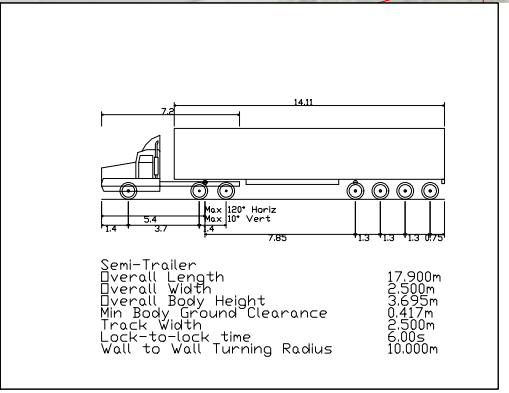
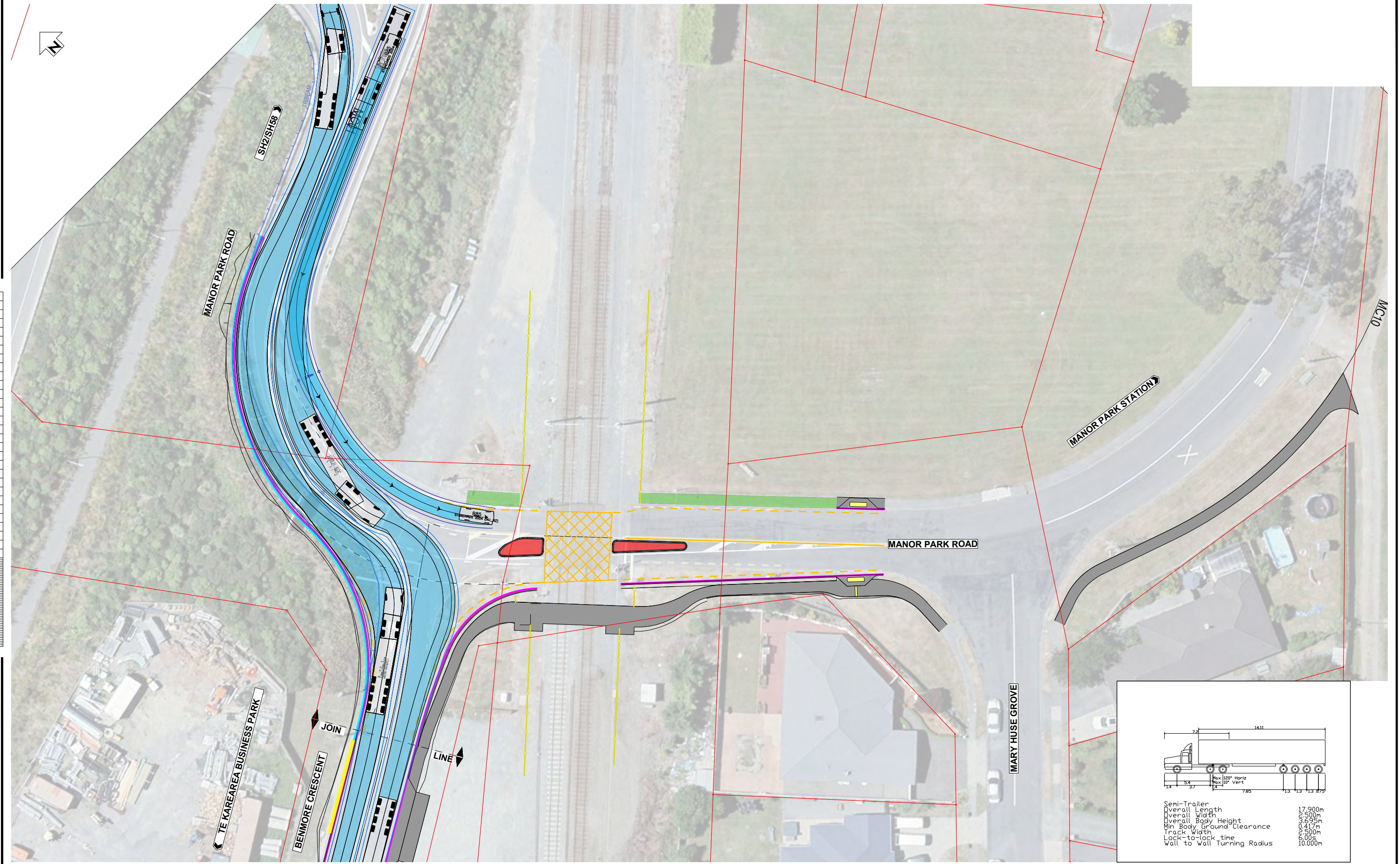
ACTIVITY	BY	DATE
SURVEYED		
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	J.Reddy/V.Avari	17.07.23
DESIGN REVIEW	G. Corin/C. Calef	17.07.23
APPROVED	Cobus de Kock	17.07.23



TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES
TYPICAL DETAILS - SHEET 2

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C181
Rev.	1

ORIGINAL SIZE A1
 200 mm
 150
 100
 90
 80
 70
 60
 50
 40
 30
 20
 10
 0
 DO NOT SCALE - IF IN DOUBT, ASK



DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	REVISIONS	GD	CC	CD	DATE
DRN	CHK	APP				
1	ISSUED FOR CONSTRUCTION		GD	CC	CD	17.07.2023

SURVEYED	DESIGNED	DRAWN	CAD REVIEW	DESIGN CHECK	DESIGN REVIEW	APPROVED
08.2022	Janco Jordaan	Janco Jordaan	Matt Hopkins	J.Reddy/V.Avari	G.Corin/C.Calef	Cobus de Kock
11.2022	11.2022	17.07.23	17.07.23	17.07.23	17.07.23	17.07.23



TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-100-C190
Rev.	1

ORIGINAL SIZE A1 DO NOT SCALE - IF IN DOUBT, ASK

NOTES:

1. ALL DIMENSIONS AND LEVELS ARE INDICATIVE AND HAVE POTENTIAL ACCURACY LIMITATIONS ASSOCIATED WITH THE SURVEY METHOD. THE CONTRACTOR MUST CONFIRM ALL DIMENSIONS AND LEVELS ON SITE PRIOR TO FABRICATION, FITTING AND ANY CIVIL WORKS.
2. PIPES, CABLES AND OTHER UTILITIES, FOUNDATIONS, LEVELS, REFERENCE MARKS AND OTHER OBSTRUCTIONS INDICATED ON THIS DRAWING ARE BASED ONLY ON READILY AVAILABLE RECORD PLANS AND OTHER INFORMATION. ALL UTILITY AND SIGN INFORMATION SHOWN ON THE DRAWING ARE INDICATIVE AND BASED ON WELLINGTON WATER GIS INFORMATION. THIS INFORMATION MAY NOT BE COMPLETE, ACCURATE NOR 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. IN ACCORDANCE WITH EACH UTILITY PROVIDERS SPECIFICATIONS TO ENSURE THE UTILITIES ARE NOT DAMAGED. TRACING, LOCATING, PROTECTION, ISOLATION AND ALTERATIONS AS ARE REQUIRED UNDER NZS 3910 CLAUSE 5.13.
3. ALL TRAFFIC MANAGEMENT TO FACILITATE THE WORKS SHALL BE IN ACCORDANCE WITH WAKA KOTAHU CODE OF PRACTICE FOR TEMPORARY TRAFFIC MANAGEMENT (CoPPTM) AND ALSO COMPLY WITH KIWRAIL AND LOWER HUTT CITY COUNCIL REQUIREMENTS.
4. ALL KIWRAIL APPROVALS TO ENTER SITE AND TO CARRY WORKS ADJACENT TO THE RAIL CORRIDOR. SHALL BE SIGNED OFF BEFORE ESTABLISHING ON SITE.
5. THE CONTRACTOR SHALL ENSURE THAT ALL COSTS ASSOCIATED WITH THE WORKS SHOWN ON THE DRAWING ARE INCLUDED IN THE SCHEDULED RATES WHETHER OR NOT THE ITEMS ARE SCHEDULED.
6. THE CONTRACTOR IS TO MINIMISE DAMAGE TO THE EXISTING CONCRETE PADS AND ALL MATERIALS AND INSTALLATION SHALL MEET KIWRAIL CODE, SPECIFICATIONS AND STANDARDS.
7. ALL PANELS TO BE FIXED TO POSTS WITH GALVANISED COATED CLIPS. NUTS, BOLTS AND WASHERS SHALL BE M8 STAINLESS STEEL. SOME ON SITE FABRICATION MAY BE REQUIRED INCLUDING, BUT NOT LIMITED TO, THE RE-DRILLING OF FIXING HOLES.
8. ALL EXPOSED STEEL CAUSED BY ON SITE FABRICATION WORK INCLUDING DRILLING OR FENCE PANEL ADJUSTMENT SHALL BE SPRAY COATED WITH TWO COATS OF GALVIT PAINT OR APPROVED EQUIVALENT.
9. ALL FOLDED WIRE FENCE AND TRAFFIC SIGNS INCLUDING POST, THAT ARE REMOVED ARE TO BE STOCK PILED AND STORED IN A SECURE AND SAFE LOCATION TO PREVENT BEING DAMAGE, AND ARE TO BE REUSED WHERE INDICATED ON THE DRAWINGS AND NEW FENCING OR RELOCATE SIGN REUSED EXISTING FACING WHERE NEW FENCING IS TO BE INSTALLED.
10. ALL NEW FENCING POSTS TO BE INSTALLED AS PER DETAILS ON SHEET C003 & C004.
11. CENTRE OF NEW FLASHING LIGHT LENSES SHALL BE 1950mm ABOVE FOOTPATH LEVEL. MASTS ARE TO BE INSTALLED A MINIMUM OF 2.6m FROM THE CENTRE OF THE NEAREST TRACK.
12. ALL NEW PEDESTRIAN CROSSING DUCTING SHALL BE uPVC PIPE WITH 50mm RISERS TO NEW INFRASTRUCTURE. REFER TO DRAWING 310204837-01-200-C307.
13. ALL NEW FLASHING LIGHTS AND BELL ASSEMBLIES SHALL BE INSTALLED 1.0m FROM THE EDGE OF THE CLOSEST FENCE AND IN LINE WITH THE NEW AUTOMATIC GATES IN THE CLOSED POSITION. FINAL LOCATION OF ASSEMBLIES ARE TO BE CONFIRMED BY KIWRAIL ENGINEER.
14. ALL NEW BELL ASSEMBLIES TO BE AN 85db UNIT UNLESS OTHERWISE NOTED.
15. REFER ELECTRICAL DRAWINGS FOR EARTHING AND BONDING DETAILS. ALL NEW FENCING AND GATES TO BE BONDED TO EXISTING, SOME CHASING OF BONDING CABLES MAY BE REQUIRED.
16. CONTRACTOR IS TO LIAISE WITH LOCAL ELECTRICITY SUPPLY COMPANY TO COORDINATE DUCTING FOR NEW LIGHTING COLUMNS AND THE RELOCATION OF UTILITY BOXES.
17. SETOUT DIMENSIONS SHOWN MAY CHANGE FOR THE CONSTRUCTION SUBJECT APPROVALS FROM GWRC, HCC, KIWI RAIL AND WELLINGTON WATER LIMITED, ISSUE DRAWINGS.

DRAFT FOR APPROVAL

REV	DESCRIPTION	BY	CHK	APP	DATE
1	ISSUED FOR CONSTRUCTION	GD	CC	CD	17.07.2023
0	FOR TENDER	GD			19.12.2022
A	FOR INFORMATION	GD			25.11.2022

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	JANCO JORDAAN	11.2022
DRAWN	GORDON DOBSON	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23

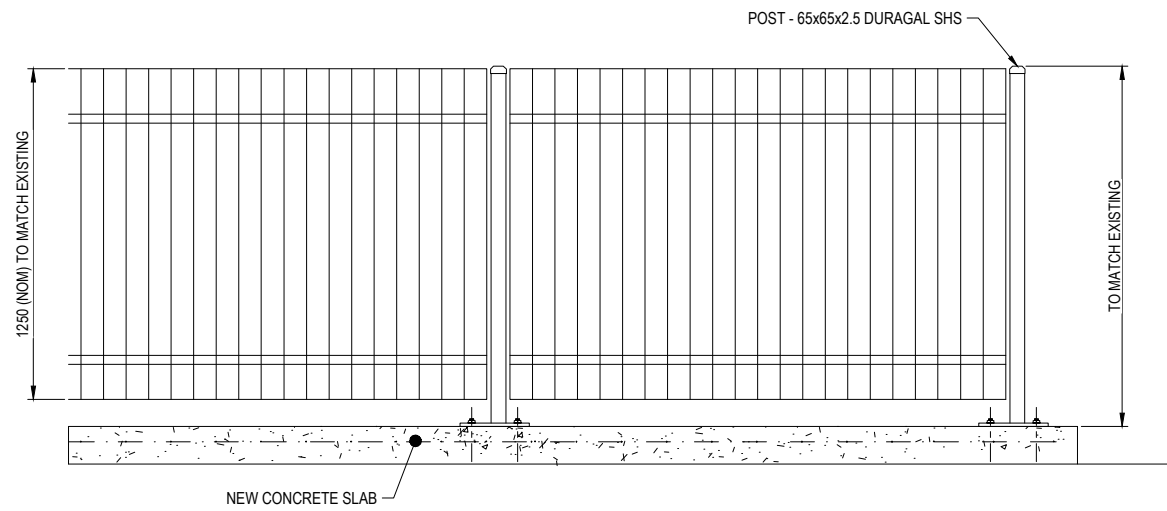


TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

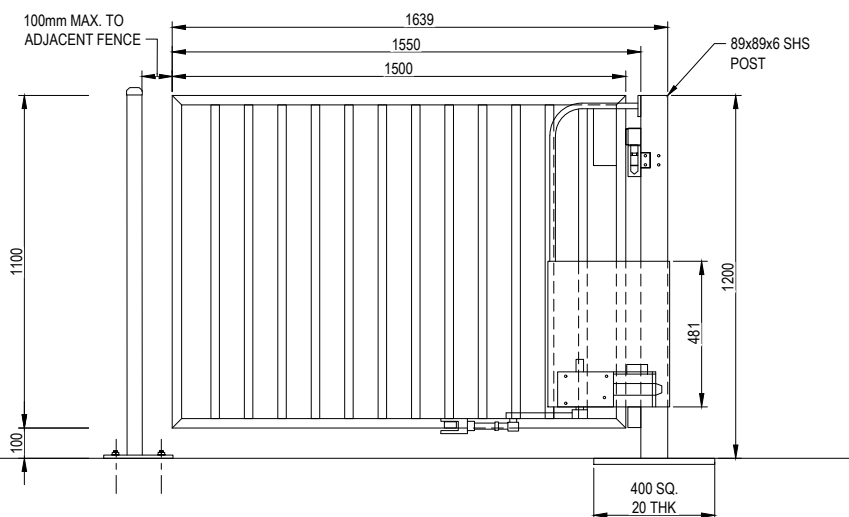
PEDESTRIAN RAIL CROSSING
 STANDARD NOTES AND KERBING & TRAFFIC ISLAND DETAILS

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	
Drawing No.	310204837-01-200-C002
Rev.	1

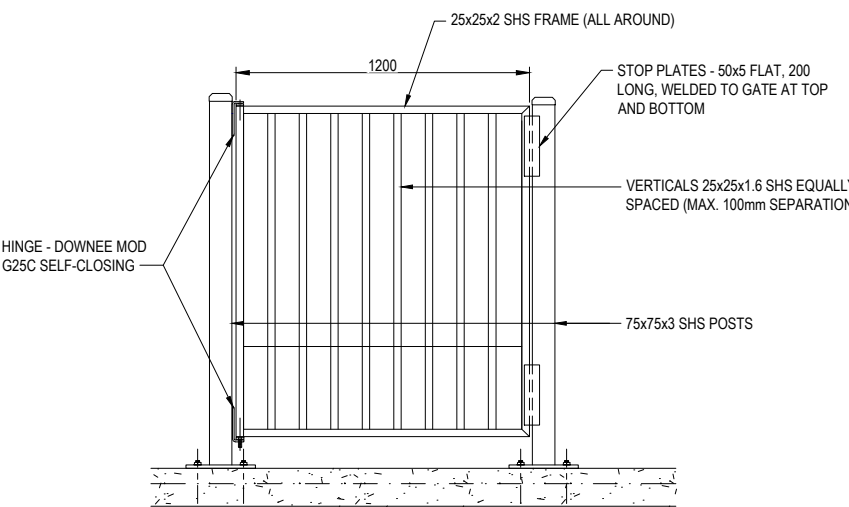
ORIGINAL SIZE A1



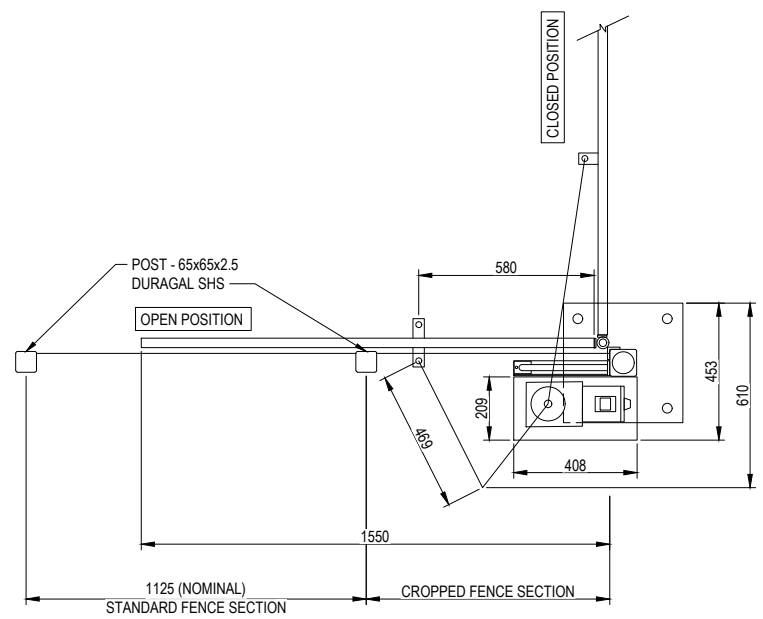
FOLDED WIRE FENCE PANEL - ELEVATION
N.T.S



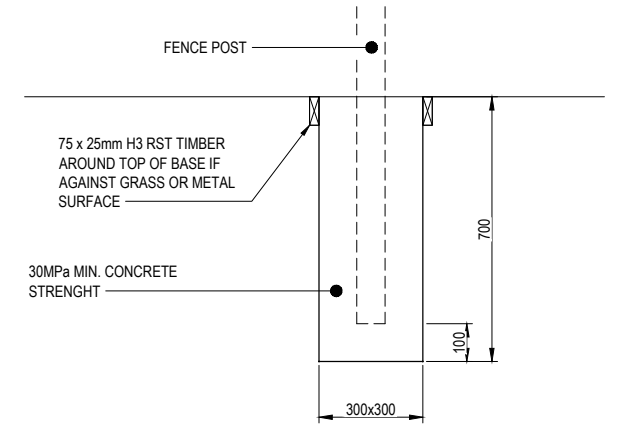
TYPICAL GATE - ELEVATION
N.T.S



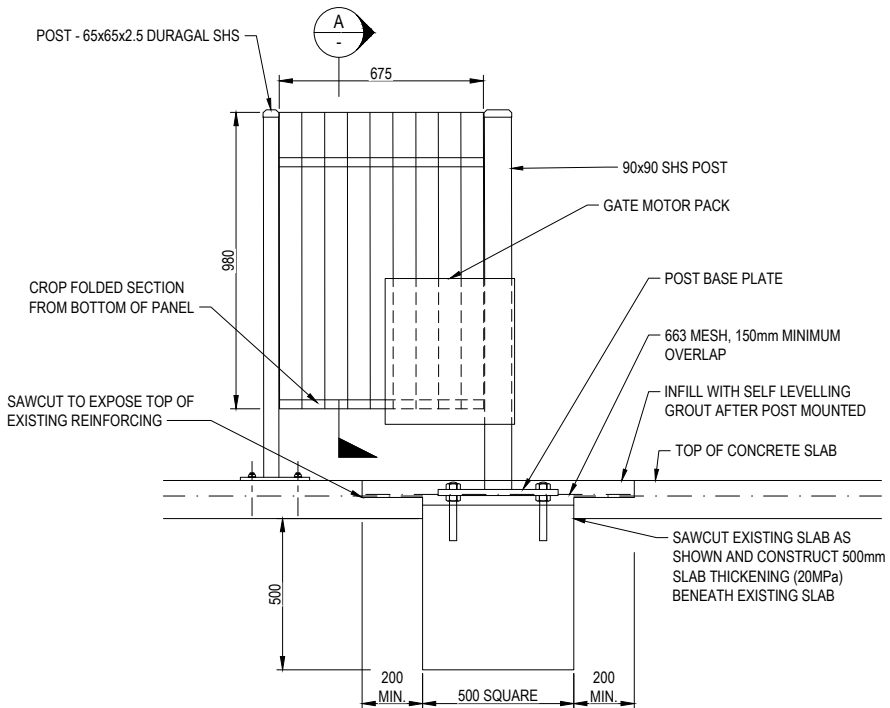
EMERGENCY EGRESS GATE - ELEVATION
N.T.S
(GATE TO BE SUPPLIED BY OTHERS)



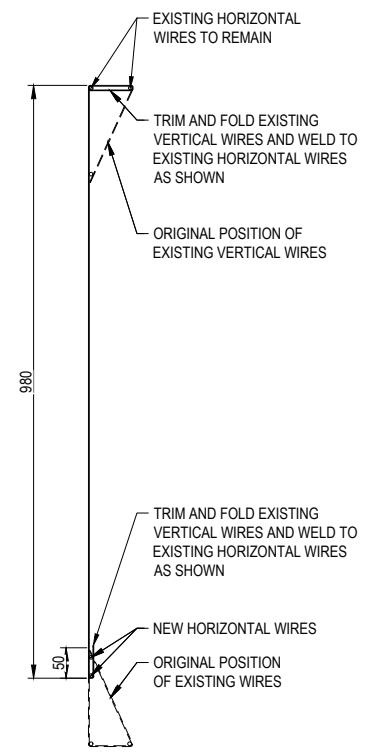
TYPICAL GATE - PLAN
N.T.S



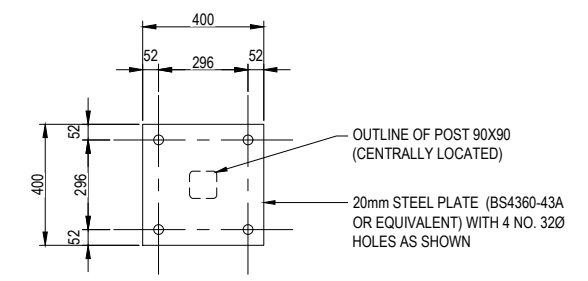
FENCE POST WITH FOOTING IN GRASS OR METAL SURFACE
N.T.S



CROPPED PANEL
N.T.S



SECTION A
N.T.S



FENCE POST BASE PLATE
N.T.S

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
 2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING C002 STANDARD NOTES AND PROJECT SPECIFICATIONS.
 3. AUTOMATIC GATE, POST, HINGES, POST BASE AND FIXING TO BE SUPPLIED BY OTHERS.
 4. EMERGENCY EGRESS GATE, POSTS, HINGES, MAGLOCK SYSTEM, AND FIXINGS TO SUPPLIED BY OTHERS.
 5. APPLY SILICON SEAL AROUND EDGE OF NEW GROUT TO STOP WATER EGRESS INTO JOINT.

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	JANCO JORDAAN	11.2022
DRAWN	GORDON DOBSON	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23



TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
FENCING DETAILS

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C003
Rev.	1

POWER SUPPLY, EARTHING AND BONDING NOTES

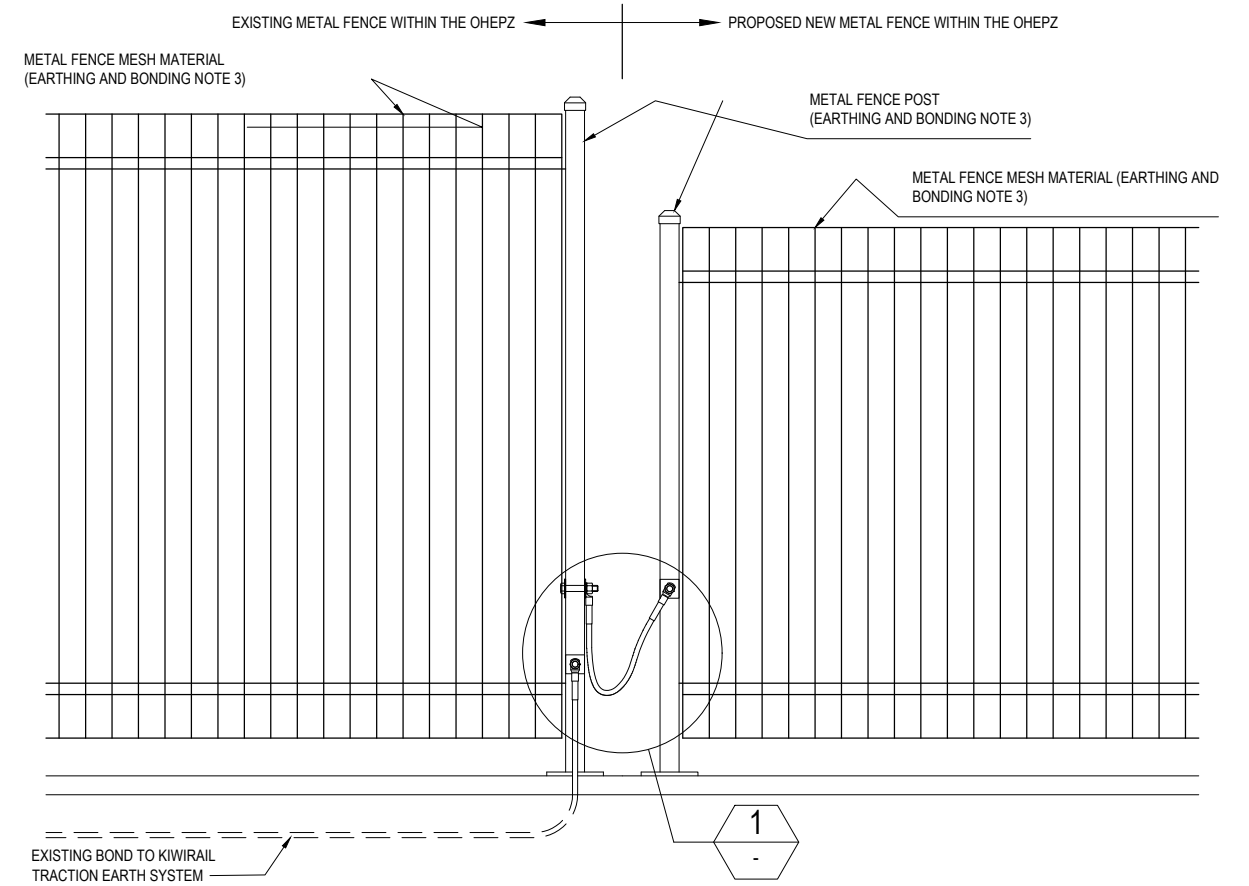
ALL NEW METAL STRUCTURES (LIGHTING POLES, FENCES, GATES, ETC), ASSOCIATED WITH THE NEW PEDESTRIAN RAIL CROSSINGS, THAT ARE LOCATED WITHIN THE OVERHEAD CONTACT LINE ZONE AND PANTOGRAPH ZONE (OHEPZ) OR OUTSIDE THE OHEPZ BUT IN THE EQUIPOTENTIAL ZONE SHALL BE BONDED TO THE KIWRIL TRACTION EARTH SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE KIWRIL AEA EARTHING AND BONDING DESIGN STANDARD (E-ST-AE-0101).

THE FOLLOWING NOTES PROVIDE SITE SPECIFIC POWER SUPPLY, EARTHING AND BONDING REQUIREMENTS BASED ON E-ST-AE-0101:

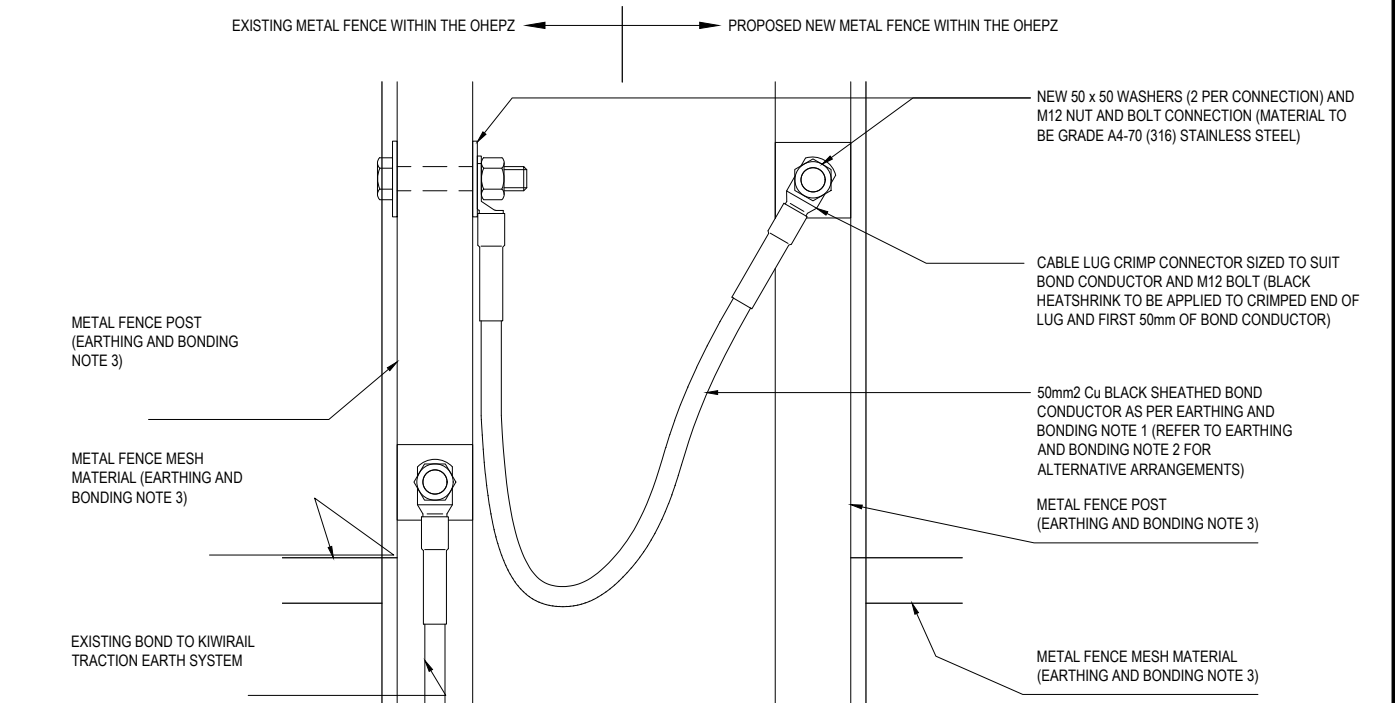
1. ANY NEW EXPOSED METAL FENCE STRUCTURE WITHIN THE OHEPZ (WITHIN 5m OF THE TRACK CENTRE LINE) SHALL BE BONDED TO THE KIWRIL TRACTION EARTH SYSTEM BY A 50mm² COPPER BLACK SHEATHED CABLE THAT SHALL BE TERMINATED ONTO THE ADJACENT KIWRIL METAL FENCE THAT IS ALREADY BONDED TO THE TRACTION EARTH SYSTEM. REFER TO THE TYPICAL EARTHING AND BONDING DETAILS ON THIS DRAWING.
2. ANY NEW EXPOSED METAL FENCE STRUCTURE OUTSIDE THE OHEPZ BUT IN THE EQUIPOTENTIAL ZONE (WITHIN 2.5m OF AN EXISTING METAL STRUCTURE THAT IS ALREADY CONNECTED TO THE TRACTION EARTH SYSTEM) SHALL BE BONDED TO THE EXISTING METAL STRUCTURE BY A 35mm² COPPER OR 70mm² ALUMINIUM BLACK SHEATHED CABLE.
3. THE METAL FENCE DETAILS ON THIS DRAWING DEPICT A TYPICAL EARTHING AND BONDING ARRANGEMENT ONLY AND THE ACTUAL TYPE OF ANY NEW METAL FENCE AND/OR GATE STRUCTURE SHALL BE DETERMINED BY OTHERS.
4. THE NEW LIGHTING POLES DO NOT NEED TO BE BONDED TO THE KIWRIL TRACTION EARTH SYSTEM AS THEY ARE OUTSIDE THE OHEPZ AND ARE NOT WITHIN 2.5m OF ANY EXISTING METAL STRUCTURE THAT IS CONNECTED TO THE TRACTION EARTH SYSTEM.
5. THE NEW LIGHTING SHALL BE CONNECTED TO THE NEAREST STREET LIGHTING NETWORK (SLN) CONNECTION POINT IN ACCORDANCE WITH VECTOR REQUIREMENTS.

NOTES

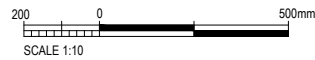
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING C002 STANDARD NOTES AND PROJECT SPECIFICATIONS.
3. AUTOMATIC GATE, POST, HINGES, POST BASE AND FIXING TO BE SUPPLIED BY OTHERS.
4. EMERGENCY EGRESS GATE, POSTS, HINGES, MAGLOCK SYSTEM, AND FIXINGS TO SUPPLIED BY OTHERS.
5. APPLY SILICON SEAL AROUND EDGE OF NEW GROUT TO STOP WATER EGRESS INTO JOINT.



TYPICAL EARTHING AND BONDING BETWEEN EXISTING METAL FENCE AND PROPOSED METAL FENCE
SCALE 1:10



DETAIL 1
SCALE 1 : 2.5



DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	GD	CC	CD	17.07.2023
DRN	CHK	APP	DATE		
1					

SURVEYED		
DESIGNED		11.2022
DRAWN		11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23



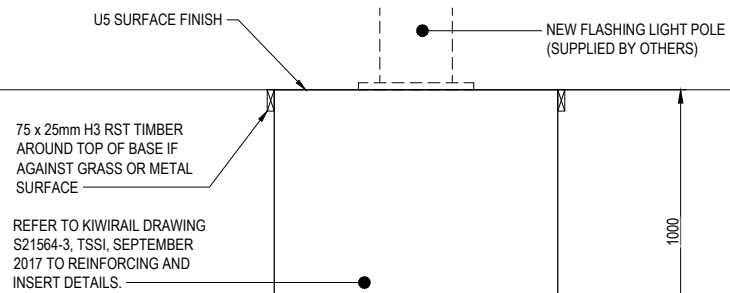
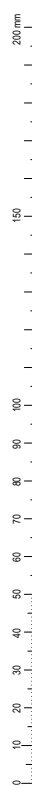
TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
EARTHING AND BONDING DETAILS

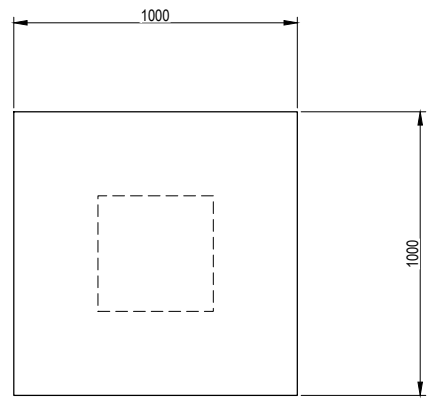
Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C004
Rev.	1

ORIGINAL SIZE A1

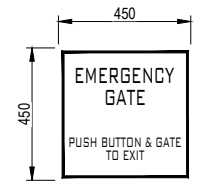
DO NOT SCALE - IF IN DOUBT, ASK



SIGNAL BASE FOOTING - ELEVATION
N.T.S



SIGNAL BASE FOOTING - PLAN
N.T.S



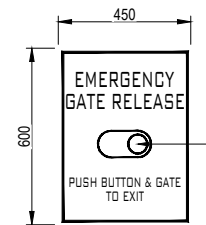
SIGN TYPE 1
EMERGENCY GATE



SIGN TYPE 2
NO ENTRY

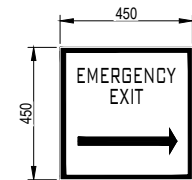


SIGN TYPE 3
W8X LOOK FOR TRAINS



SIGN TYPE 4
EMERGENCY EXIT

BUTTON TO BE INSTALLED ON SIGN 900mm ABOVE FINISHED SURFACE LEVEL (BUTTON SUPPLIED BY OTHERS)



SIGN TYPE 5
EMERGENCY EXIT
*ARROW TO POINT TOWARDS EXIT

RAIL CROSSING SIGNS
N.T.S

- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
 - THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING C002 STANDARD NOTES AND PROJECT SPECIFICATIONS.
 - AUTOMATIC GATE, POST, HINGES, POST BASE AND FIXING TO BE SUPPLIED BY OTHERS.
 - EMERGENCY EGRESS GATE, POSTS, HINGES, MAGLOCK SYSTEM, AND FIXINGS TO SUPPLIED BY OTHERS.
 - APPLY SILICON SEAL AROUND EDGE OF NEW GROUT TO STOP WATER EGRESS INTO JOINT.

REV	DESCRIPTION	DRN	CHK	APP	DATE
1	issued for construction	GD	CC	CD	17.07.2023
0	FOR TENDER	GD			19.12.2022
A	FOR INFORMATION	GD			25.11.2022

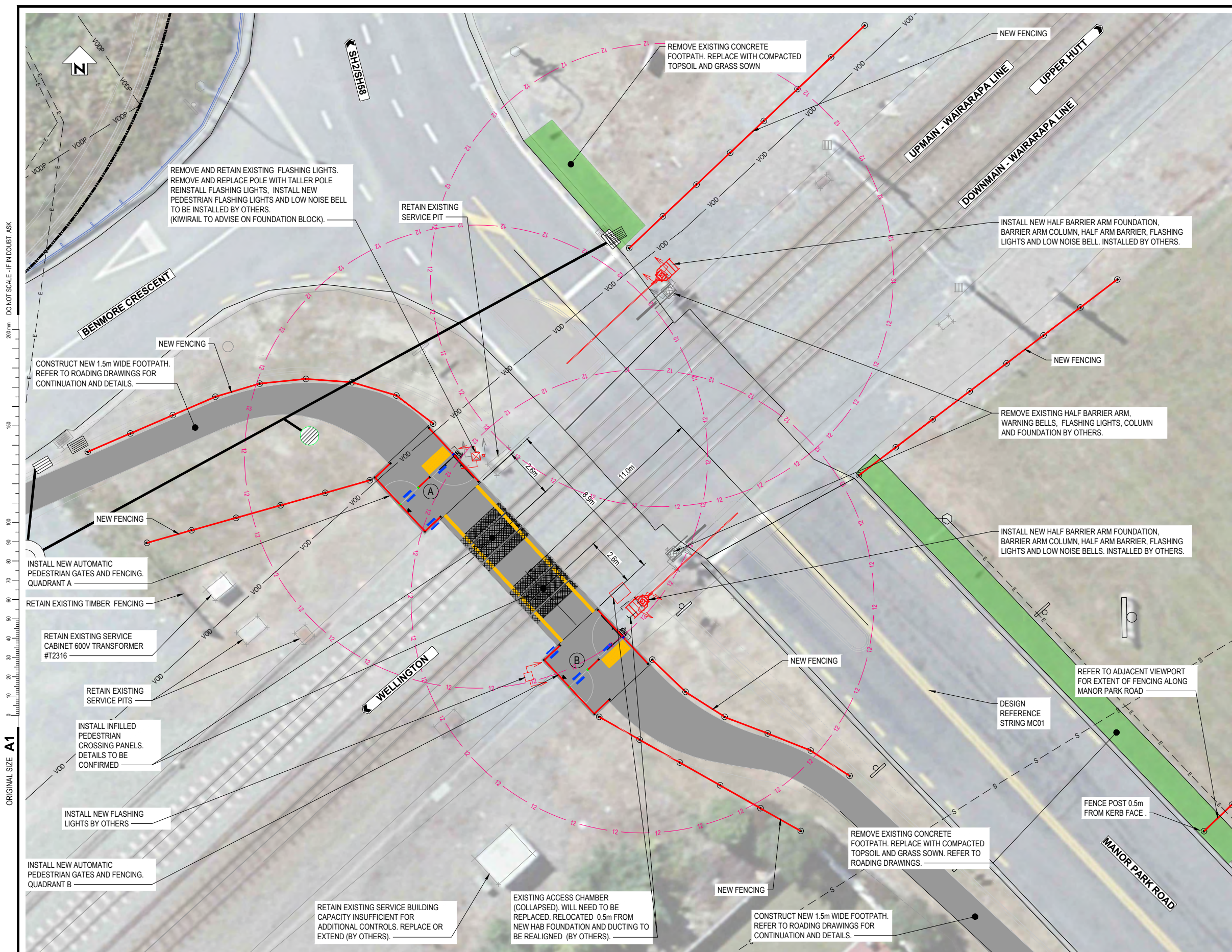
STATUS	NAME	DATE
SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	JANCO JORDAAN	11.2022
DRAWN	GORDON DOBSON	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23



TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
DETAILS - SIGNAL POLE FOOTING, TRACK PAVEMENT, SIGNS

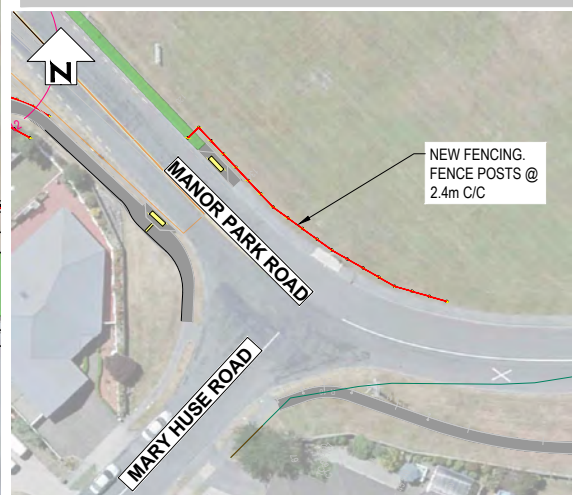
DRAFT FOR APPROVAL	
FOR CONSTRUCTION	
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C005
Rev.	1



LEGEND:

- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS AND LOW LEVEL BELLS.
- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS.
- NEW VEHICLE BARRIER ARM WITH ONE PAIR OF FLASHING LIGHTS AND BELL. "RAILWAY", "Z", "TRACKS" SIGNS
- EXISTING PAIR OF FLASHING LIGHTS AND BELLS
- EXISTING PAIR OF LIGHTS
- EXISTING BELLS
- EXISTING VEHICLE BARRIER ARM
- NEW WARNING TACTILE PAVERS 300x300
- NEW WARNING TACTILE PAVERS 300x150
- PROPOSED NEW FOLDED WIRE FENCE
- GATE QUADRANT REFERENCE
- NEW 65mm POST
- NEW 75mm POST
- NEW 90mm POST
- NEW SIGN
- LOW NOISE
- GRASSED SIDE VERGE

- NOTE:**
- THIS DRAWING TO BE READ IN CONJUNCTION WITH:
C002 STANDARD NOTES;
C003 STANDARD GATES DETAILS;
C004 STANDARD FENCE AND SIGNS DETAILS.
 - ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING CONSTRUCTION.
 - ALL UNDER TRACK DUCTS TO BE INSTALLED AS PER THE REQUIREMENTS OF S-ST-CW-2140, PARTICULARLY SECTIONS 12 AND 13.
 - ALL SETOUT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE QUADRANT DETAIL DRAWINGS.
 - HALF-ARM BARRIER (HAB) AND FLASHING LIGHT BEACON (FLB), ARE TO BE REPLACED IN THE 2023/24 FY. WILL NEED TO BE REPOSITIONED AS STANDARD REQUIRES NEWEST PART OF HAB / FLB TO BE 1.0m FROM EDGE OF SEAL OR KERB.



ORIGINAL SIZE A1
SCALE 1:100

PLAN
SCALE 1:100

PLAN
SCALE 1:500
DRAFT FOR APPROVAL

REV	ISSUED FOR CONSTRUCTION	FOR TENDER	FOR INFORMATION	REVISIONS	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION				17.07.2023	GD	CC	CD
0	FOR TENDER				19.12.2022	GD		
A	FOR INFORMATION				25.11.2022	GD		

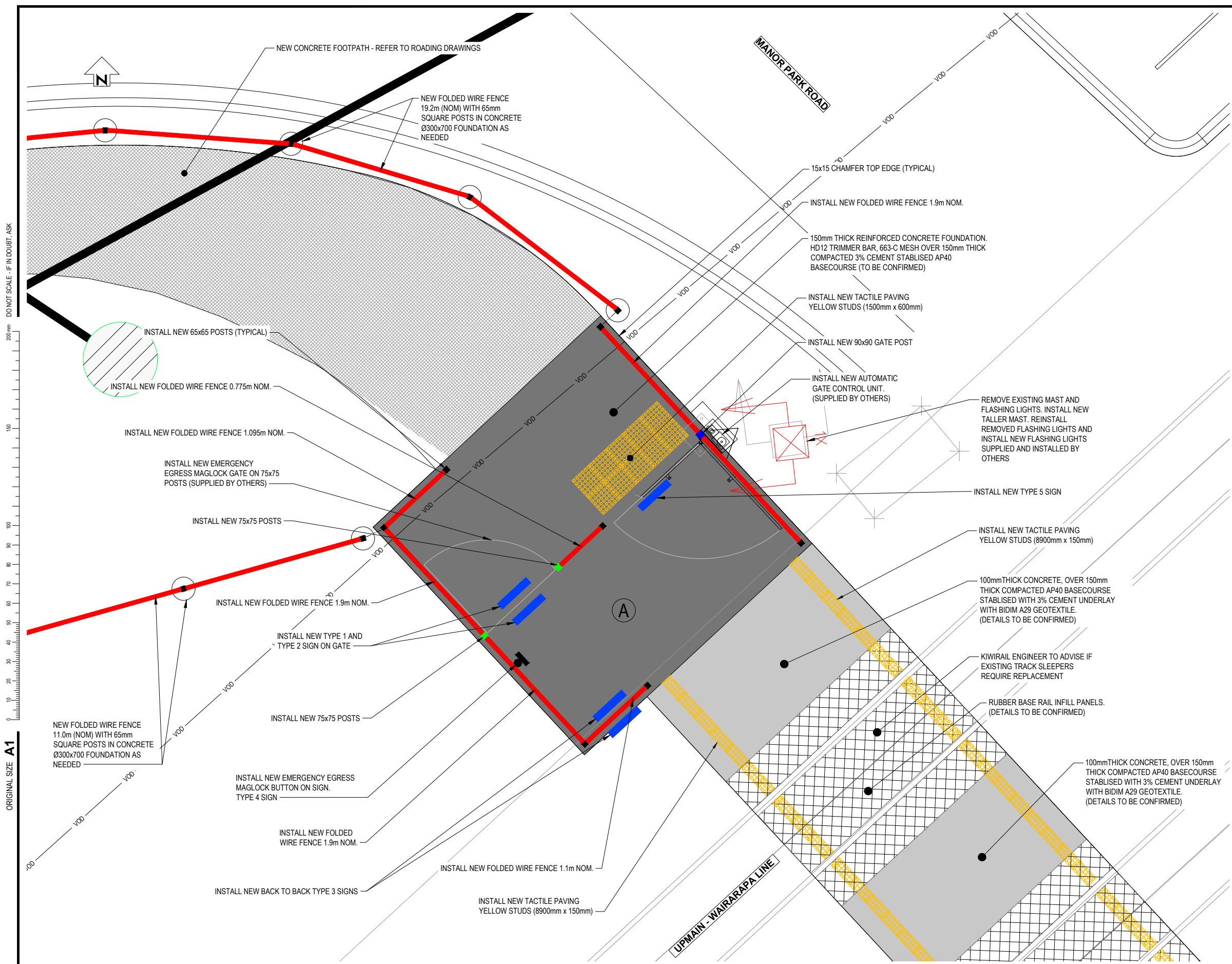
SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23



TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
GENERAL LAYOUT PLAN

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C301
Rev.	1



LEGEND:

- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS AND LOW LEVEL BELLS.
- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS.
- NEW VEHICLE BARRIER ARM WITH ONE PAIR OF FLASHING LIGHTS AND BELL. "RAILWAY", "2", " TRACKS" SIGNS
- EXISTING PAIR OF FLASHING LIGHTS AND BELLS
- EXISTING PAIR OF LIGHTS
- EXISTING BELLS
- EXISTING VEHICLE BARRIER ARM
- NEW WARNING TACTILE PAVERS 300x300
- NEW WARNING TACTILE PAVERS 300x150
- PROPOSED NEW FOLDED WIRE FENCE
- GATE QUADRANT REFERENCE
- NEW 65mm POST
- NEW 75mm POST
- NEW 90mm POST
- NEW SIGN
- LOW NOISE
- GRASSED SIDE VERGE

- NOTES:**
- THIS DRAWING TO BE READ IN CONJUNCTION WITH:
C002 STANDARD NOTES;
C003 FENCING DETAILS;
C004 DETAILS - SIGNAL POLE FOOTING, TRACK PAVEMENT, SIGNS.
 - ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING CONSTRUCTION.
 - ALL SETOUT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE QUADRANT LAYOUT PLAN DRAWINGS.

SCALE 1:25

PLAN
SCALE 1:25

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23

Client

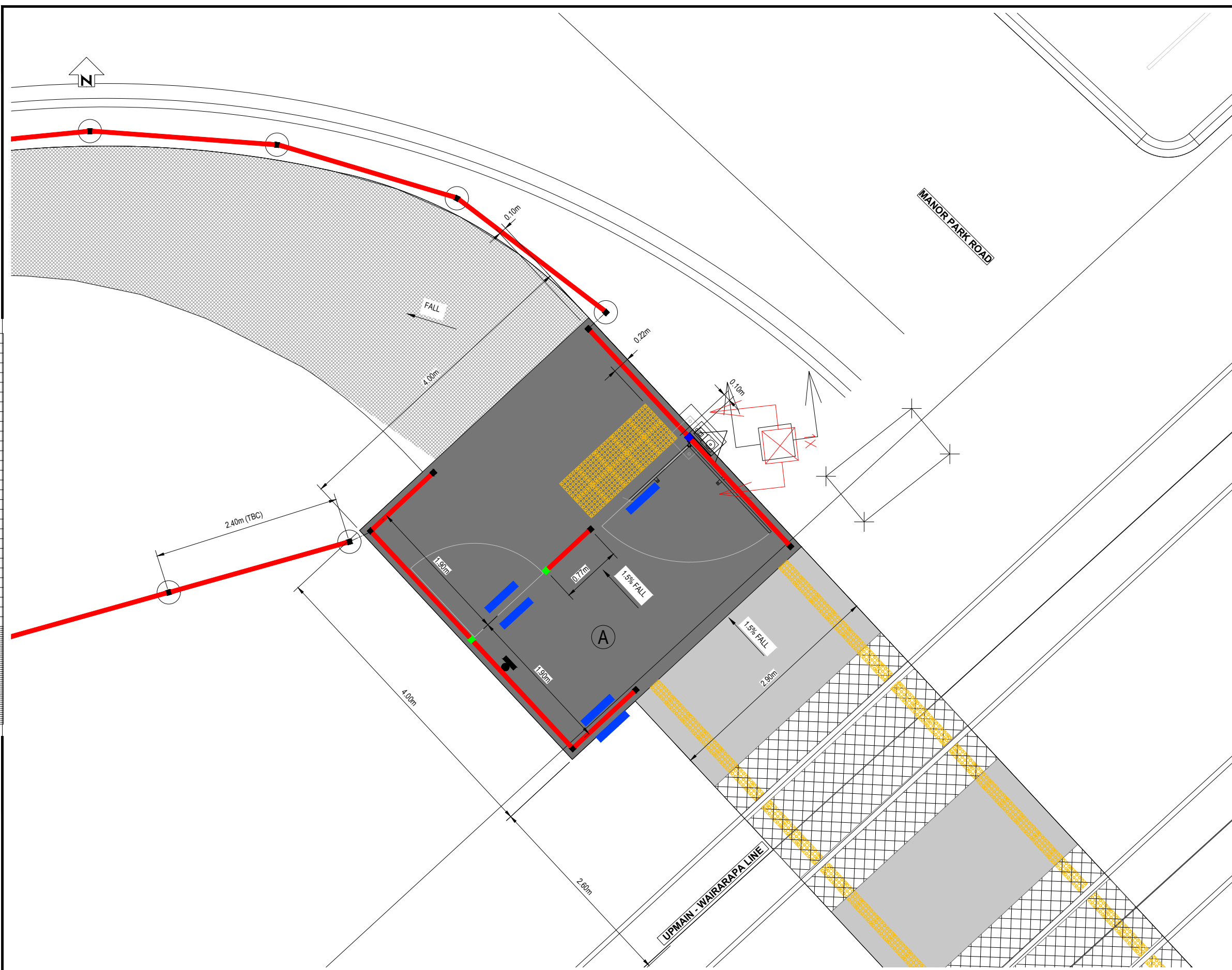
TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
PEDESTRIAN QUADRANT A - LAYOUT PLAN

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C302
Rev.	1

ORIGINAL SIZE A1

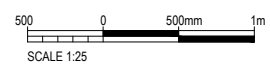
DO NOT SCALE - IF IN DOUBT, ASK



LEGEND:

- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS AND LOW LEVEL BELLS.
- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS.
- NEW VEHICLE BARRIER ARM WITH ONE PAIR OF FLASHING LIGHTS AND BELL. "RAILWAY", "2", "TRACKS" SIGNS
- EXISTING PAIR OF FLASHING LIGHTS AND BELLS
- EXISTING PAIR OF LIGHTS
- EXISTING BELLS
- EXISTING VEHICLE BARRIER ARM
- NEW WARNING TACTILE PAVERS 300x300
- NEW WARNING TACTILE PAVERS 300x150
- PROPOSED NEW FOLDED WIRE FENCE
- GATE QUADRANT REFERENCE
- NEW 65mm POST
- NEW 75mm POST
- NEW 90mm POST
- NEW SIGN
- LOW NOISE
- GRASSED SIDE VERGE

- NOTES:**
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH:
 C002 STANDARD NOTES;
 C003 FENCING DETAILS;
 C004 DETAILS - SIGNAL POLE FOOTING, TRACK PAVEMENT, SIGNS.
 2. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING CONSTRUCTION.
 3. ALL SETOUT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE QUADRANT LAYOUT PLAN DRAWINGS.



PLAN
SCALE 1 : 25

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		
	REVISIONS				

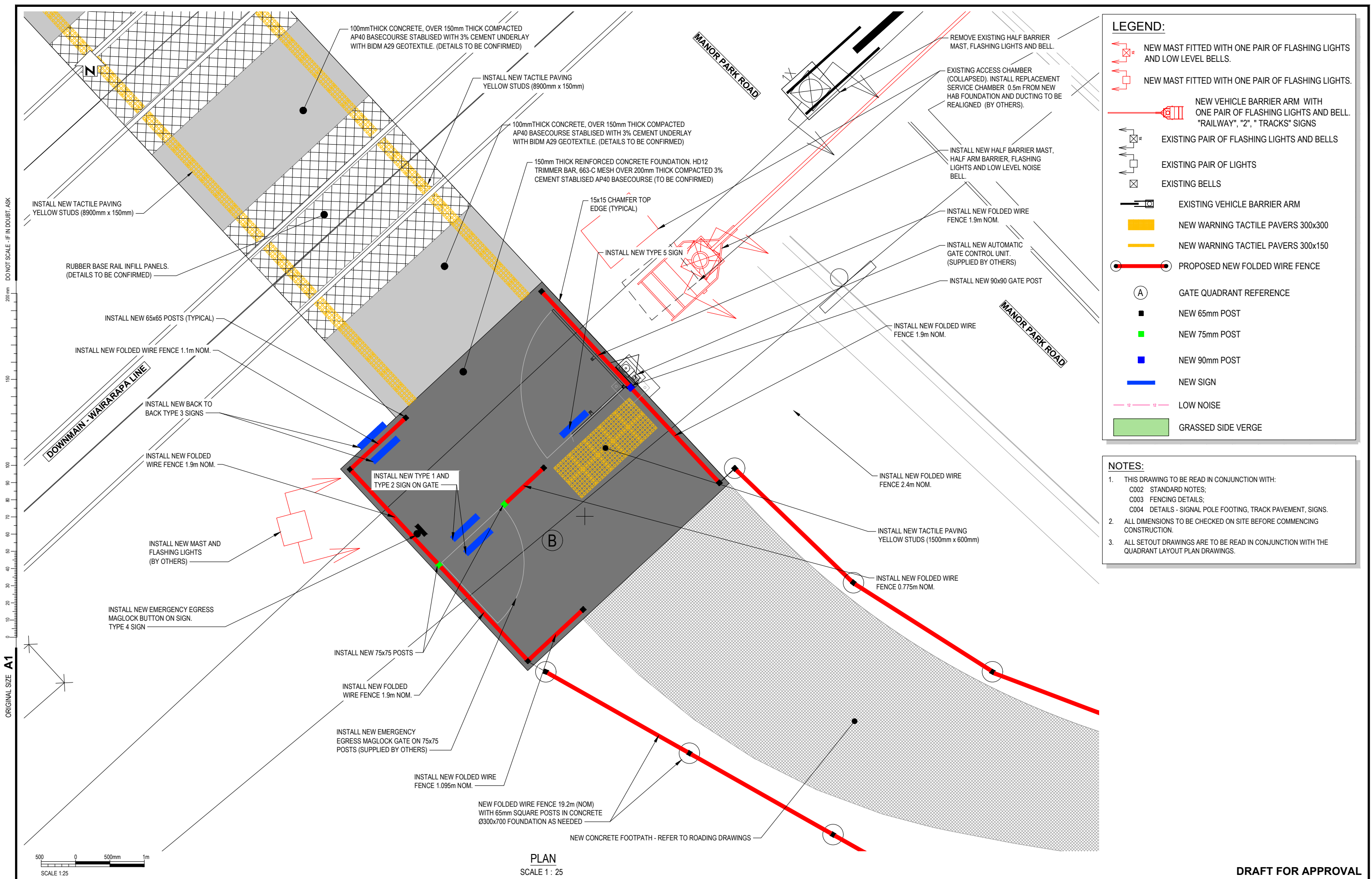
SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		



TE KAREAREA BUSINESS PARK
 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
 PEDESTRIAN QUADRANT A - SETTING OUT PLAN

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C303
Rev.	1



LEGEND:

- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS AND LOW LEVEL BELLS.
- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS.
- NEW VEHICLE BARRIER ARM WITH ONE PAIR OF FLASHING LIGHTS AND BELL. "RAILWAY", "Z", "TRACKS" SIGNS
- EXISTING PAIR OF FLASHING LIGHTS AND BELLS
- EXISTING PAIR OF LIGHTS
- EXISTING BELLS
- EXISTING VEHICLE BARRIER ARM
- NEW WARNING TACTILE PAVERS 300x300
- NEW WARNING TACTILE PAVERS 300x150
- PROPOSED NEW FOLDED WIRE FENCE
- GATE QUADRANT REFERENCE
- NEW 65mm POST
- NEW 75mm POST
- NEW 90mm POST
- NEW SIGN
- LOW NOISE
- GRASSED SIDE VERGE

- NOTES:**
- THIS DRAWING TO BE READ IN CONJUNCTION WITH:
C002 STANDARD NOTES;
C003 FENCING DETAILS;
C004 DETAILS - SIGNAL POLE FOOTING, TRACK PAVEMENT, SIGNS.
 - ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING CONSTRUCTION.
 - ALL SETOUT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE QUADRANT LAYOUT PLAN DRAWINGS.

PLAN
SCALE 1 : 25

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23

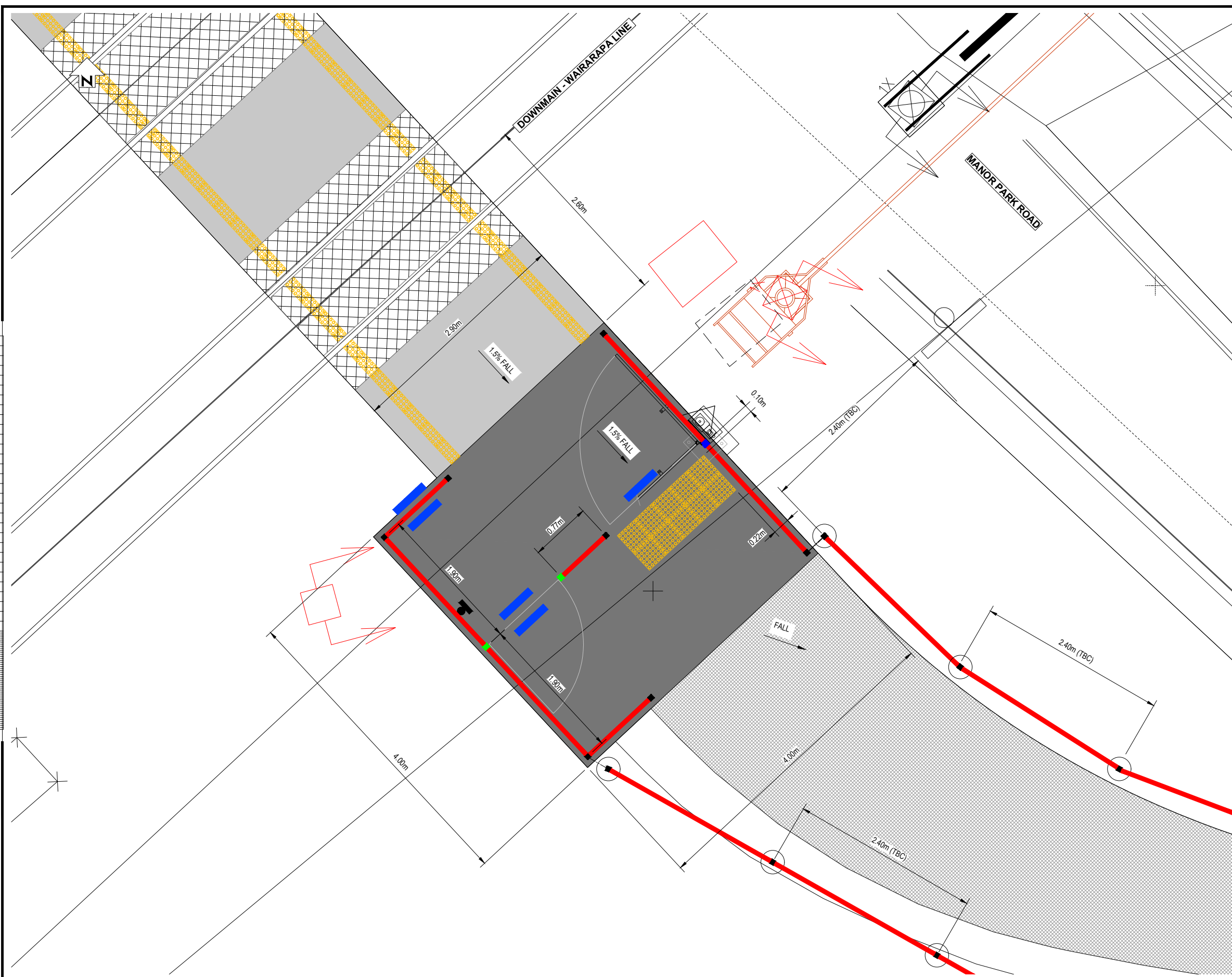


TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
PEDESTRIAN QUADRANT B - LAYOUT PLAN

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C304
Rev.	1

ORIGINAL SIZE A1
200 mm
150
100
90
80
70
60
50
40
30
20
10
0

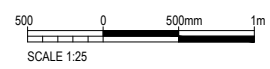


LEGEND:

- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS AND LOW LEVEL BELLS.
- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS.
- NEW VEHICLE BARRIER ARM WITH ONE PAIR OF FLASHING LIGHTS AND BELL. "RAILWAY", "2", "TRACKS" SIGNS
- EXISTING PAIR OF FLASHING LIGHTS AND BELLS
- EXISTING PAIR OF LIGHTS
- EXISTING BELLS
- EXISTING VEHICLE BARRIER ARM
- NEW WARNING TACTILE PAVERS 300x300
- NEW WARNING TACTILE PAVERS 300x150
- PROPOSED NEW FOLDED WIRE FENCE
- GATE QUADRANT REFERENCE
- NEW 65mm POST
- NEW 75mm POST
- NEW 90mm POST
- NEW SIGN
- LOW NOISE
- GRASSED SIDE VERGE

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH:
C002 STANDARD NOTES;
C003 FENCING DETAILS;
C004 DETAILS - SIGNAL POLE FOOTING, TRACK PAVEMENT, SIGNS.
2. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING CONSTRUCTION.
3. ALL SETOUT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE QUADRANT LAYOUT PLAN DRAWINGS.



PLAN
SCALE 1 : 25

DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23



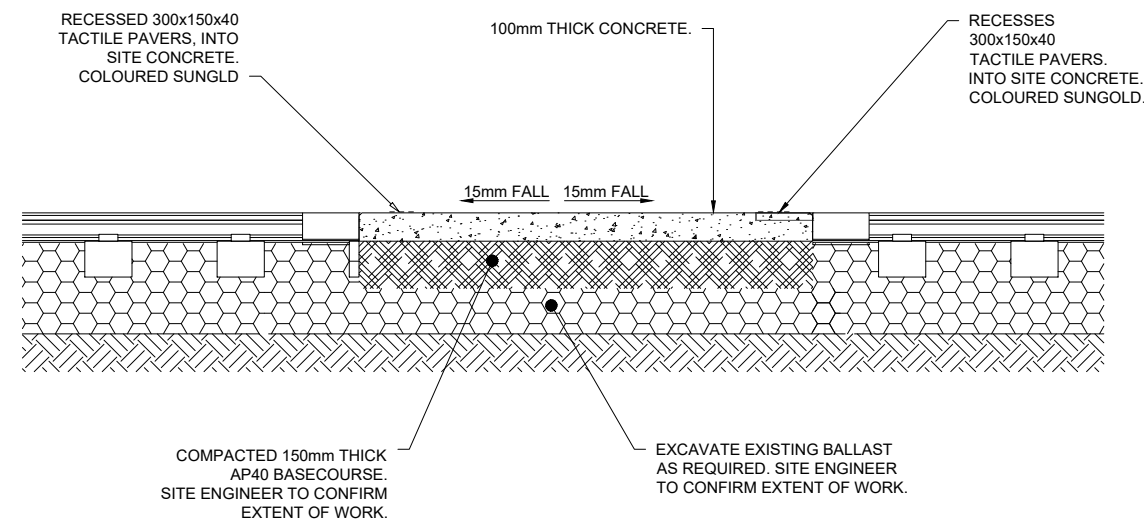
TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
PEDESTRIAN QUADRANT B - SETTING OUT PLAN

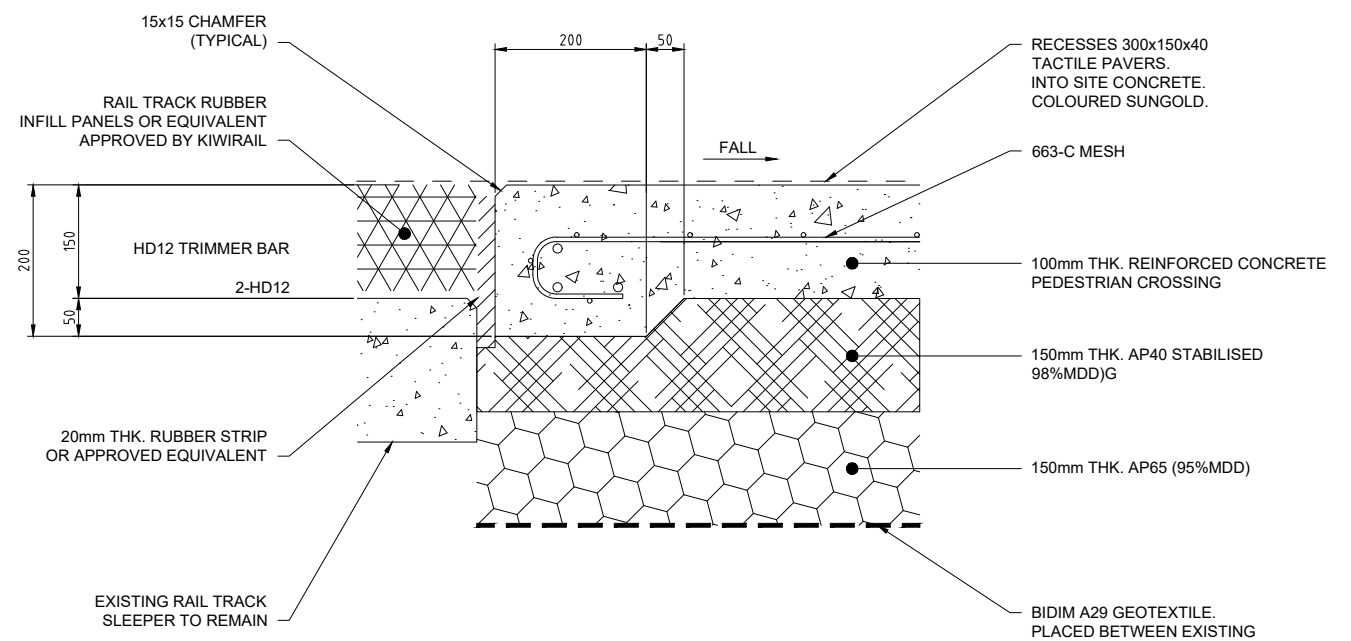
Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C305
Rev.	1

DO NOT SCALE - IF IN DOUBT, ASK

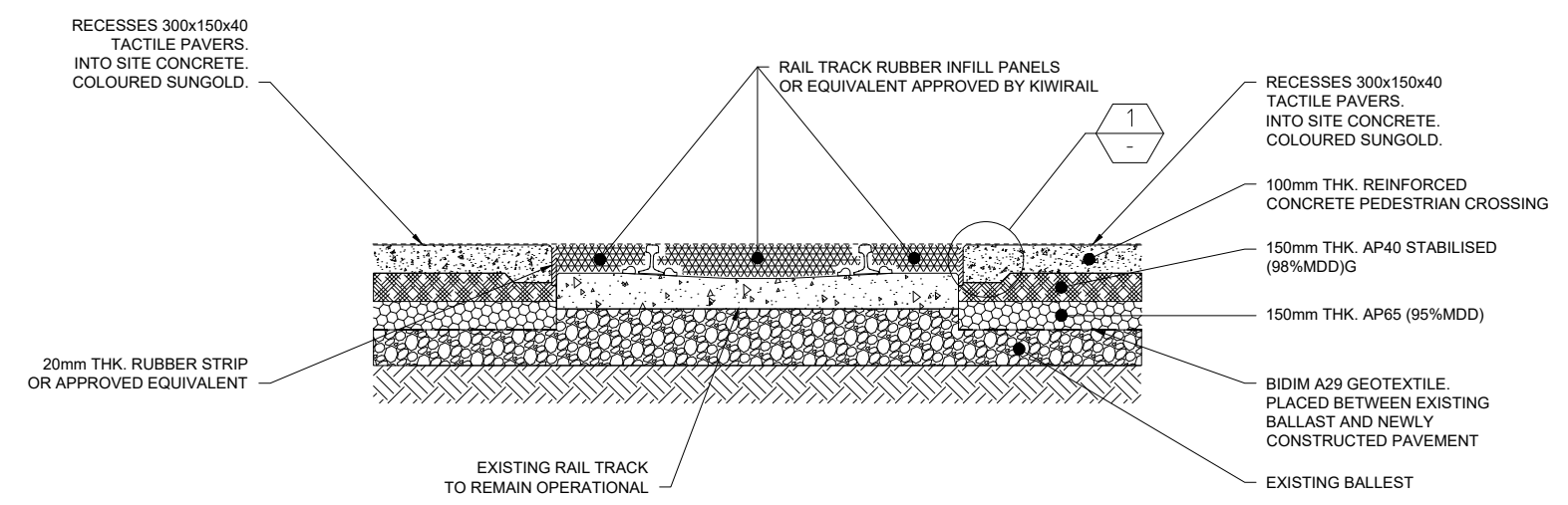
ORIGINAL SIZE A1



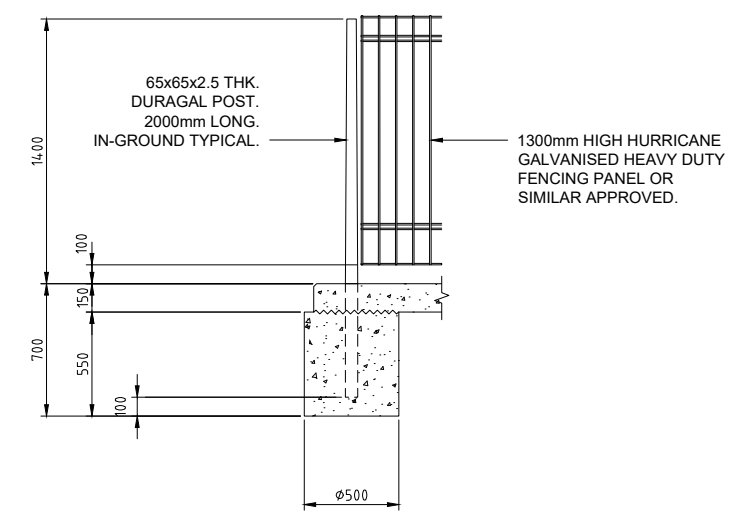
TYPICAL PEDESTRIAN CROSS SECTION
SCALE 1:20



DETAIL 1
SCALE 1:5



TYPICAL RAIL CROSS SECTION
SCALE 1:20



POST DETAIL
SCALE 1:20

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING C002 STANDARD NOTES.



DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		
	REVISIONS				

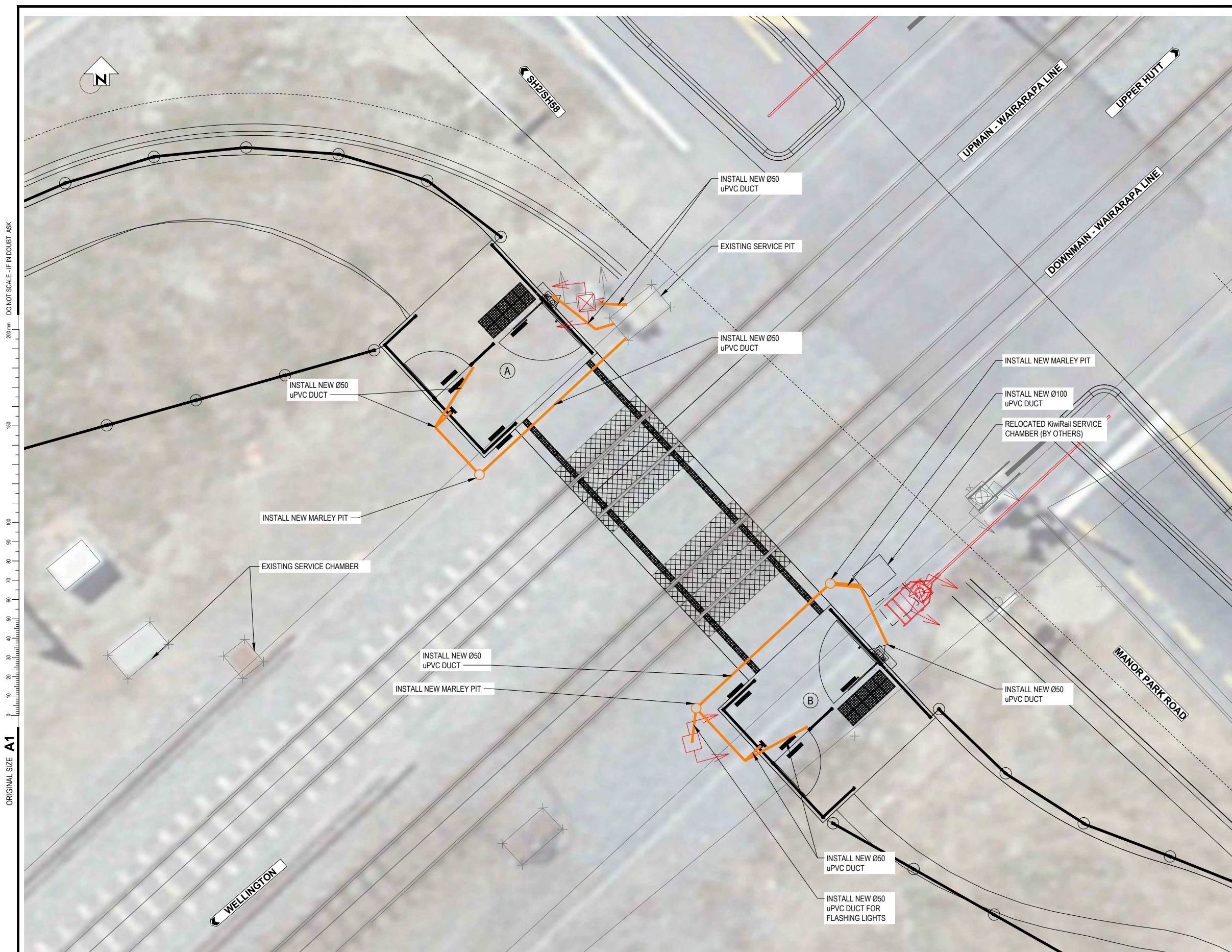
SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23
PROF REGISTRATION:		

Client

TE KAREAREA BUSINESS PARK
BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
PAVEMENT CROSSING - TYPICAL DETAILS

Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C306
Rev.	1



LEGEND:

- NEW DUCTING
- NEW MARLEY PIT DUCTING
- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS AND LOW LEVEL BELLS.
- NEW MAST FITTED WITH ONE PAIR OF FLASHING LIGHTS.
- NEW VEHICLE BARRIER ARM WITH ONE PAIR OF FLASHING LIGHTS AND BELL. "RAILWAY", "2", " TRACKS" SIGNS
- EXISTING PAIR OF FLASHING LIGHTS AND BELLS
- EXISTING PAIR OF LIGHTS
- EXISTING BELLS
- EXISTING VEHICLE BARRIER ARM
- GATE QUADRANT REFERENCE

NOTES:

- THIS DRAWING TO BE READ IN CONJUNCTION WITH:
 C002 STANDARD NOTES;
 C003 FENCING DETAILS;
 C004 DETAILS - SIGNAL POLE FOOTING, TRACK PAVEMENT, SIGNS
- ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING CONSTRUCTION.
- ALL UNDER TRACK DUCTS TO BE INSTALLED AS PER THE REQUIREMENTS OF S-ST-CW-2140, PARTICULARLY SECTIONS 12 AND 13.

ORIGINAL SIZE A1

DO NOT SCALE - IF IN DOUBT, ASK
 200 mm
 150
 100
 90
 80
 70
 60
 50
 40
 30
 20
 10
 0

PLAN
 SCALE 1 : 100



DRAFT FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	CHK	APP
1	ISSUED FOR CONSTRUCTION	17.07.2023	GD	CC	CD
0	FOR TENDER	19.12.2022	GD		
A	FOR INFORMATION	25.11.2022	GD		

SURVEYED	SPENCER HOLMES	08.2022
DESIGNED	Janco Jordaan	11.2022
DRAWN	Gordon Dobson	11.2022
CAD REVIEW	Matt Hopkins	17.07.23
DESIGN CHECK	Alasdair McGeachie	17.07.23
DESIGN REVIEW	Andrew Quigley	17.07.23
APPROVED	Cobus de Kock	17.07.23

Client

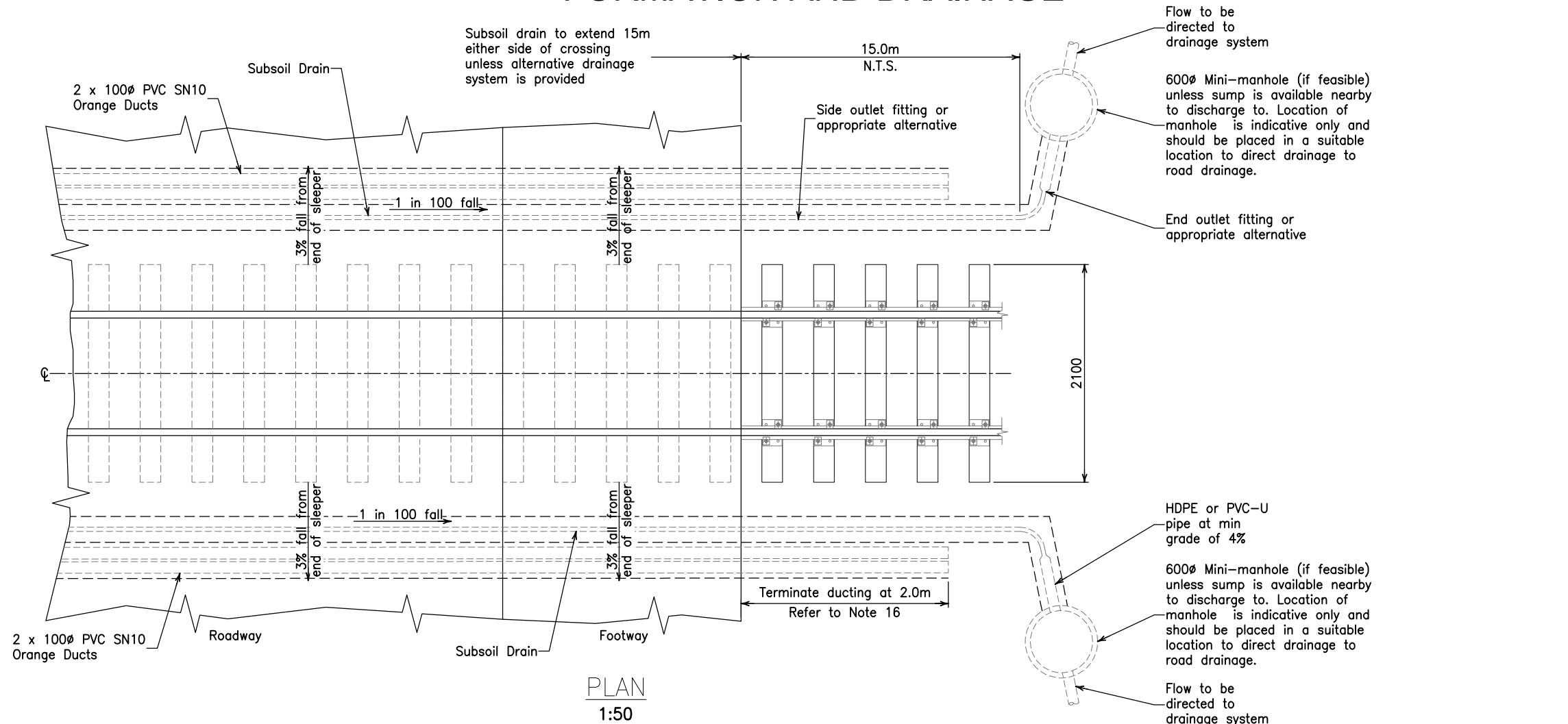
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 BENMORE CRESCENT AND MANOR PARK ROAD UPGRADES

PEDESTRIAN RAIL CROSSING
 DUCTING LAYOUT PLAN

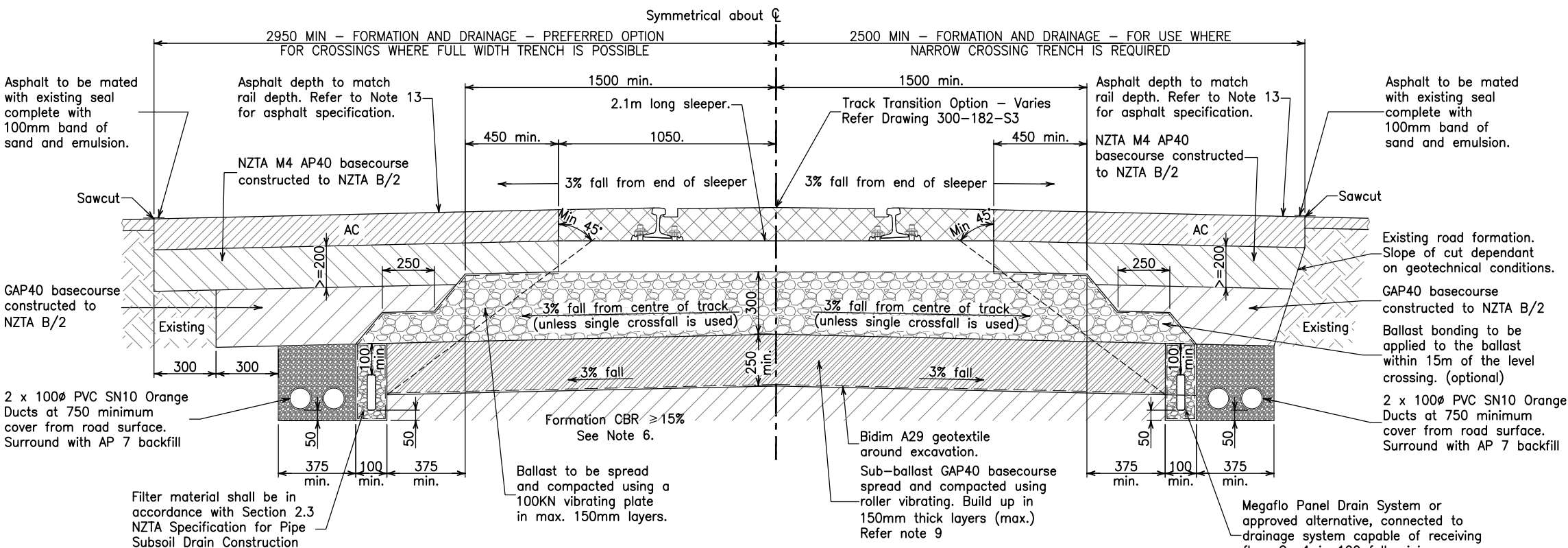
Status Stamp	FOR CONSTRUCTION
Date Stamp	18.07.23
Scales	AS SHOWN
Drawing No.	310204837-01-200-C307
Rev.	1

FORMATION AND DRAINAGE

NOTES



- The purpose of this drawing is to give guidelines for level crossing construction. The drawing may not be suitable for all scenarios and therefore design checks should be carried out. The drawing should be read in conjunction with the KiwiRail Formation Standard C-ST-FO-4110.
- Typical construction cross section detail on left of centreline is the preferred option and shall apply to all cases except where identified constraints require use of narrow crossing detail on right of centreline. Use of narrow crossing trench can only be used with prior approval from KiwiRail.
- Materials can be substituted with the approval of the Professional Head of Civil Engineering where suitable, more cost effective options are available.
- Any other variation to this must be approved by the Professional Head of Civil Engineering.
- Location of existing services and signals to be confirmed prior to excavation.
- The minimum formation CBR shall be $\geq 15\%$ (max 15mm / 1 blow on Scala penetrometer). Sub ballast improvements may be necessary as set out in the Formation Standard C-ST-FO-4110. Approval required from Professional Head Civil for improvements.
- 2 x 100Ø ducts on both sides are indicative of S&T requirements for future proofing. Duct requirements to be confirmed with Network Services Cable Network Coordinator.
- Geotextile sheets must overlap by 500mm minimum.
- This Sub-ballast GAP 40 layer is shown only as a guide for formation conditions assumed (including CBR 15). These layers shall be constructed to the standard set out in the KiwiRail Formation Standard C-ST-FO-4110.
- For ballast to achieve interlocking, a 100KN vibrating plate must be used (not a vibrating roller).
- Overlift track by 25mm to allow for settlement.
- M4 AP40 may be modified with lime and/or cement.
- Asphaltic concrete (AC) depth to match rail depth and must not be reduced. If this is not possible, alternative crossing options shall be considered. Asphalt to NZTA M10:2014.
- AP20 over a geotextile may be used prior to sealing road crossings (with a sacrificial chip seal in critical urban areas).
- Crossing surface is to be graded to suit the rail. The road surface level shall be adjusted to accommodate this.
- Where a 3% fall from end of sleeper is not possible consider installation of a slot drain across the roadway feeding into the drainpipes. Refer drawing 300-182-S2-2.
- Sumps to be provided to ensure adequate drainage from adjacent roads if necessary.
- Minimum 100,000 tonnes gross to pass prior to sealing crossing. (See note 14)



- Asphaltic concrete (AC) depth to match rail depth and must not be reduced. If this is not possible, alternative crossing options shall be considered. Asphalt to NZTA M10:2014.
- AP20 over a geotextile may be used prior to sealing road crossings (with a sacrificial chip seal in critical urban areas).
- Crossing surface is to be graded to suit the rail. The road surface level shall be adjusted to accommodate this.
- Where a 3% fall from end of sleeper is not possible consider installation of a slot drain across the roadway feeding into the drainpipes. Refer drawing 300-182-S2-2.
- Sumps to be provided to ensure adequate drainage from adjacent roads if necessary.
- Minimum 100,000 tonnes gross to pass prior to sealing crossing. (See note 14)

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B	FOR CONSTRUCTION - UPDATED	JH	MAY 2016	CHECKED	BP	MAR 2016
C	FOR CONSTRUCTION - UPDATED	JH	AUG 2016	APPROVED	DH	OCT 2016
D	NOTES AMENDED	ES	OCT 2016	LINE: N/A	Km: N/A	

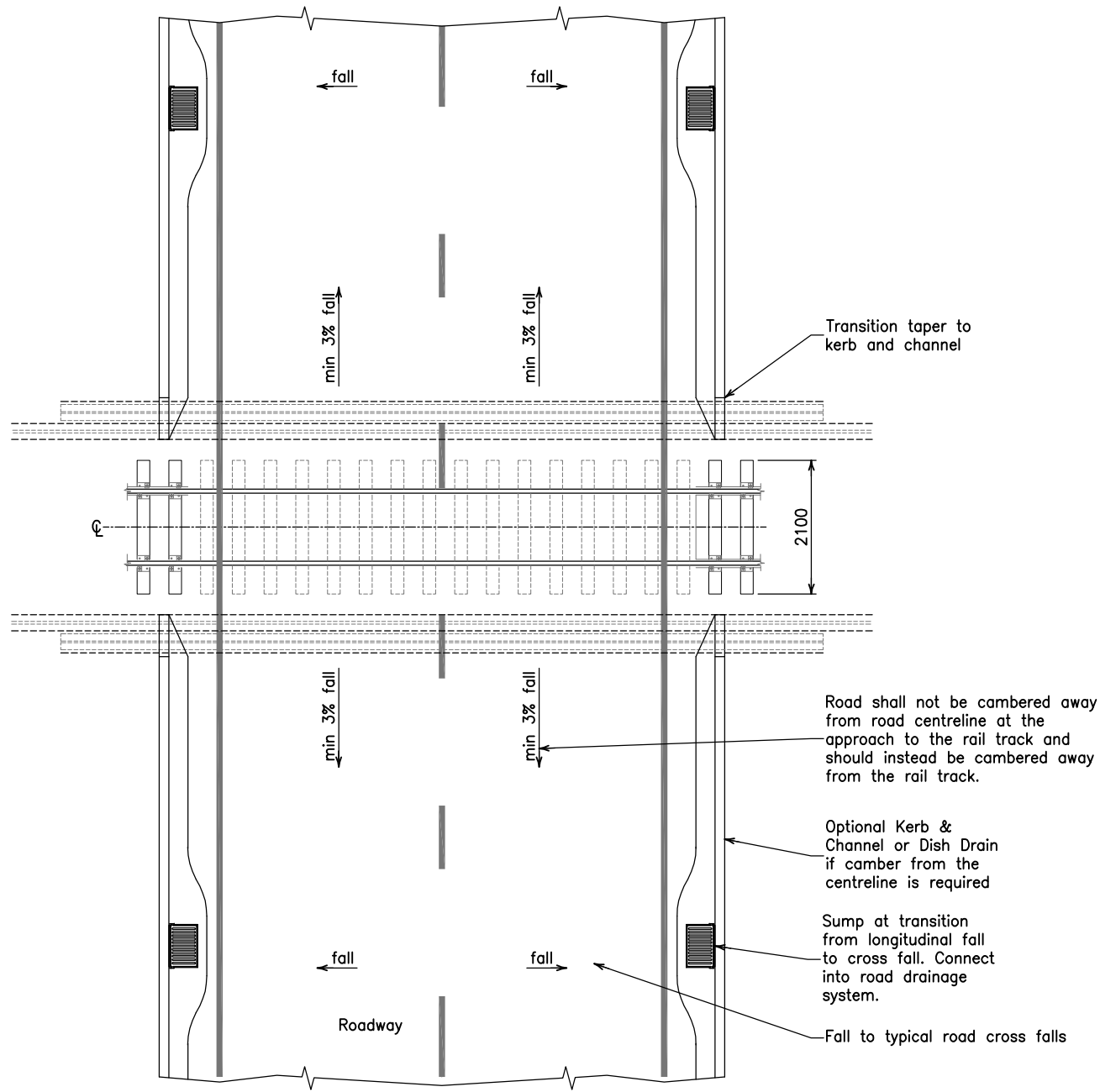
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ROAD AND PEDESTRIAN
 LEVEL CROSSINGS
 FORMATION AND DRAINAGE

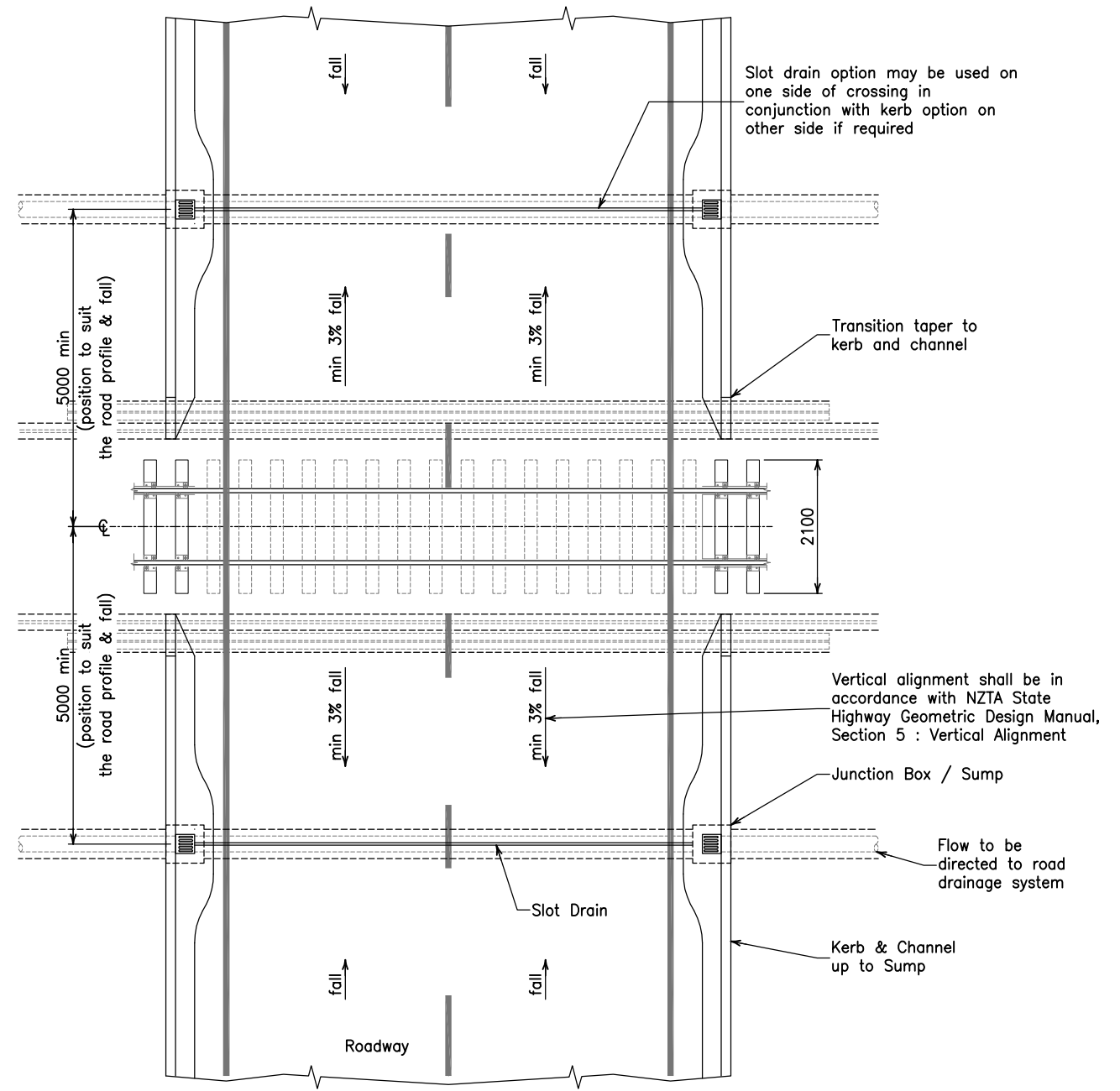
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 Tel: (0800) 801 070, Fax: +64 9 487 0117

DRAWING No. 300 182 Original A3 Std S1 REV. No. D

FORMATION AND DRAINAGE - TRACK APPROACH

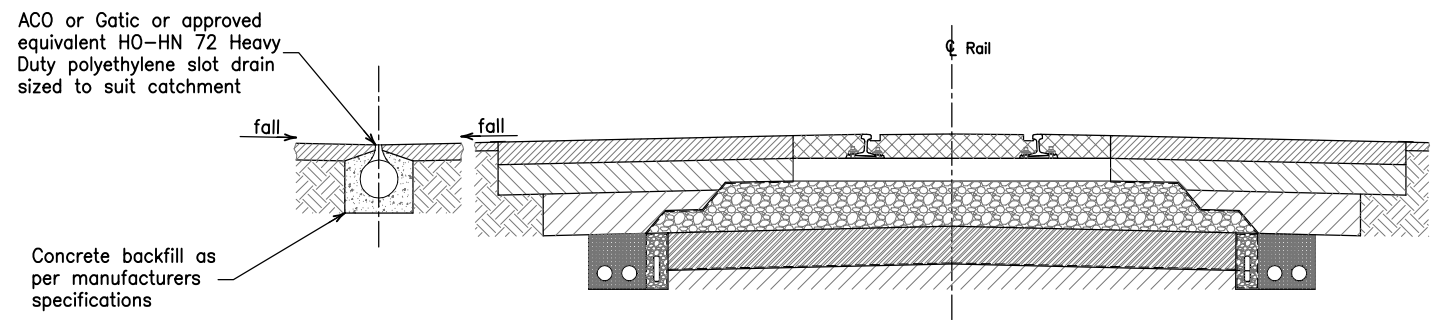


TYPICAL PLAN - TRACK APPROACH
(PREFERRED OPTION)
1:100



PLAN - TRACK APPROACH
(SLOT DRAIN OPTION)
1:100

Note: Slot drains should only be used where terrain does not allow fall away from the track



CROSS SECTION - SLOT DRAIN DETAIL
1:50

FOR CONSTRUCTION

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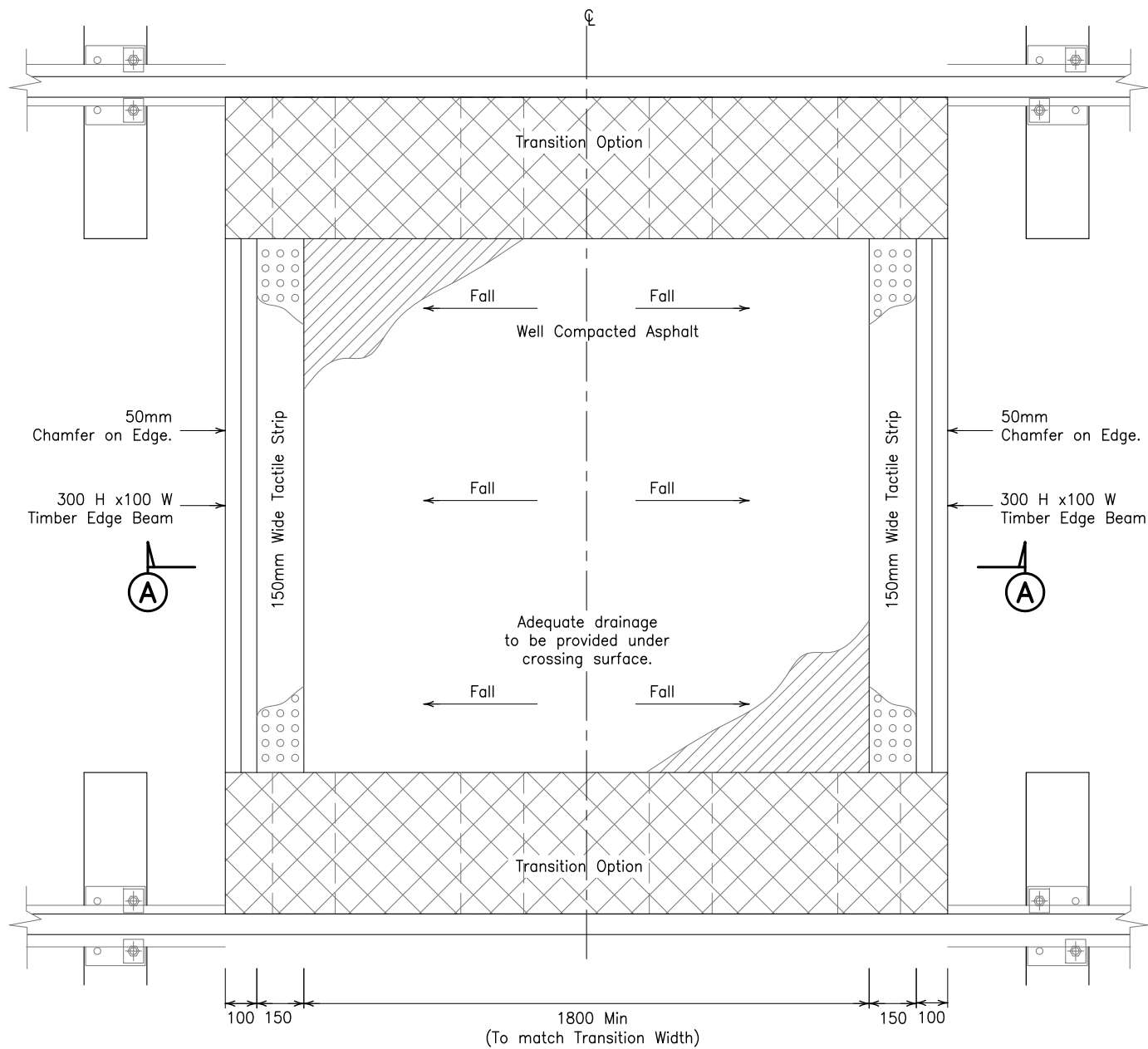
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D	NOTE AMENDED	ES	OCT 2016	LINE: N/A	Km: N/A	SCALE: AS SHOWN

ROAD AND PEDESTRIAN
LEVEL CROSSINGS
FORMATION & DRAINAGE TRACK APPROACH

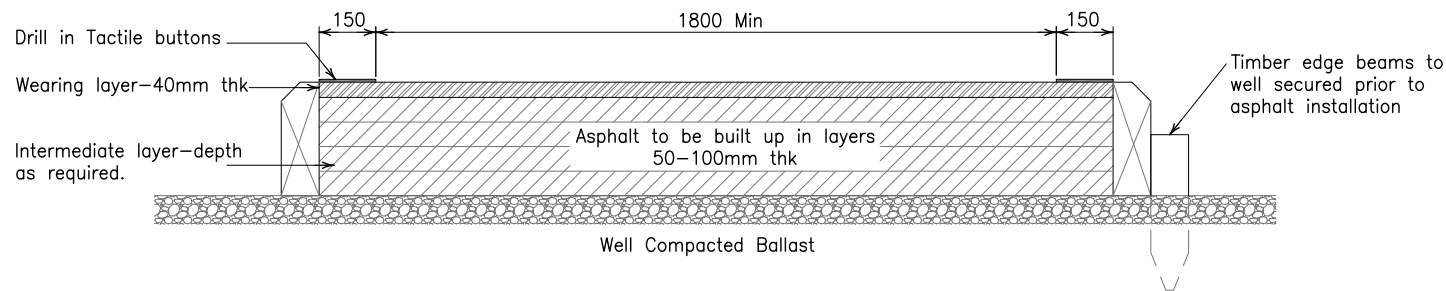
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DRAWING No. 300 182
Original A3 Std S2
REV. No. D

CROSSING TRANSITIONS

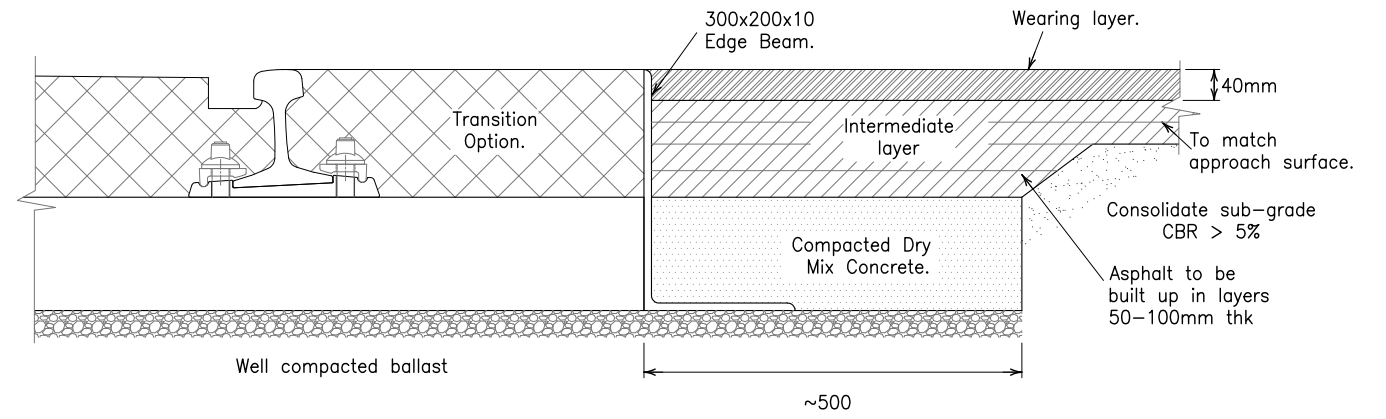


PLAN-DOUBLE TRACK TRANSITIONS
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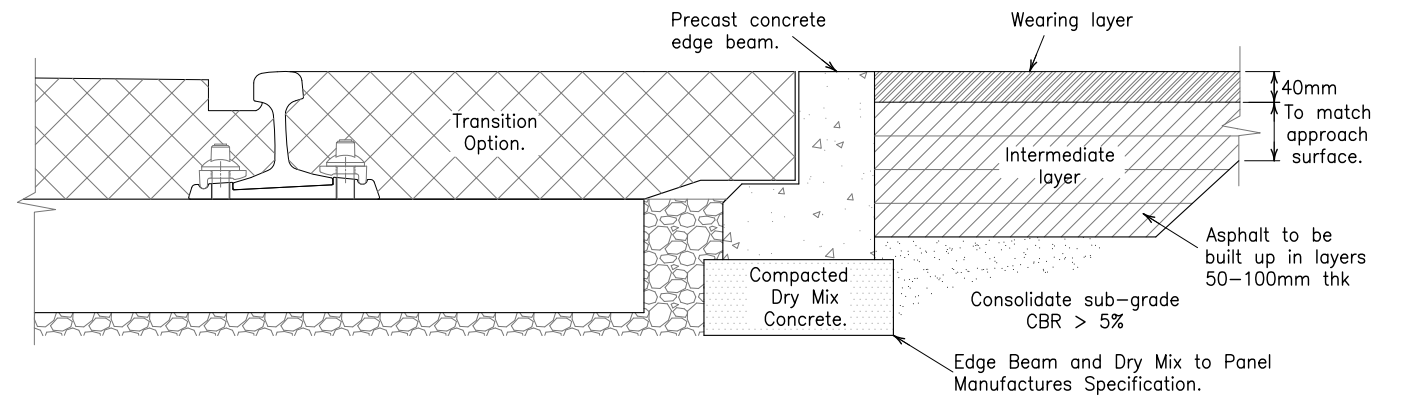
SECTION A-A
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APPROACH TRANSITIONS



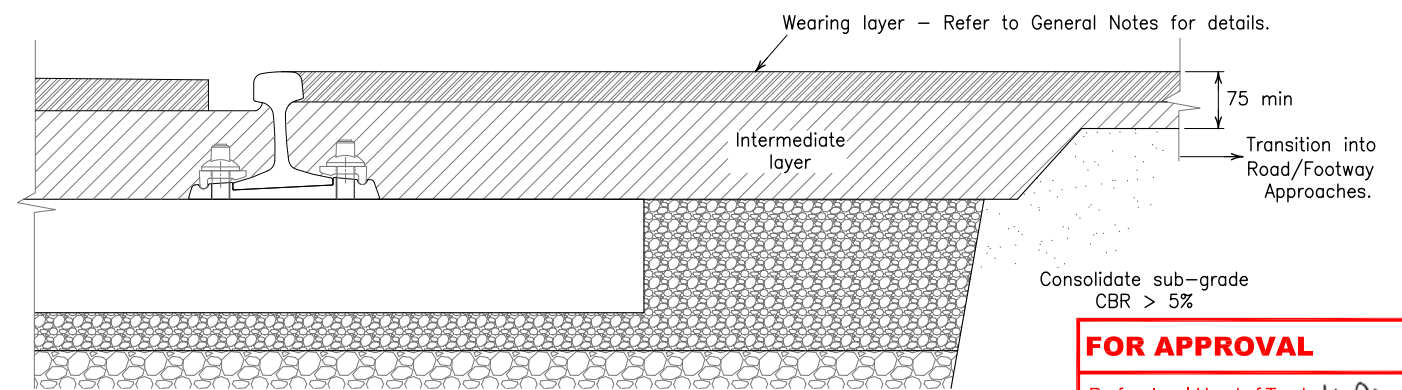
DETAIL A
1:10

Applies to : Baron Holdfast/Concrete Panels/Pedestrial Options.



DETAIL B
1:10

Applies to : Innostrail/ Velostrail - Where edge beam is required.



DETAIL C
1:10

Applies to : All Asphalt Options.

FOR APPROVAL

Professional Head of Track *[Signature]*

Date: 13-02-15

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ROAD AND PEDESTRIAN
LEVEL CROSSINGS
CROSSING TRANSITIONS

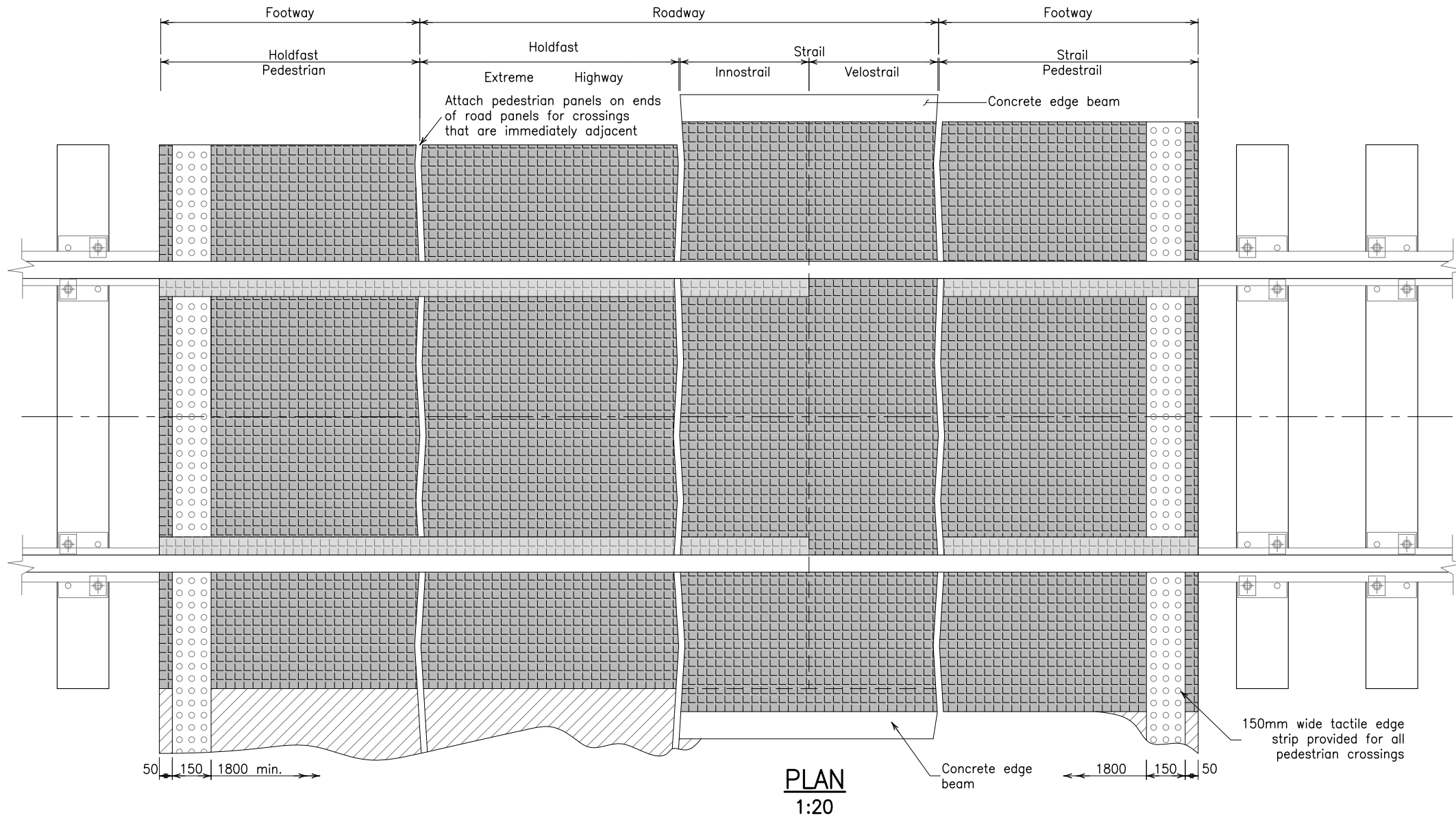
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DRAWING No. Original A3 Std
300 182 S3

REV. No. A

RUBBER PANEL - ROAD AND PEDESTRIAN CROSSINGS



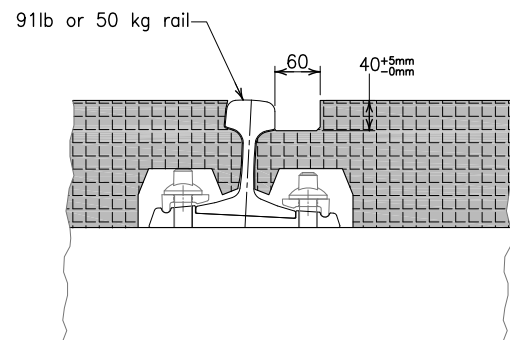
Notes:

- Sheet provides general layout only – Refer to Manufacture Drawings for specific details and dimensions.
- Pedestrian crossing to be 2.1 m wide minimum measured perpendicular to crossing direction. Tactile strips to be provided on edges.
- All options require site specific design as in accordance with the manufacturers specifications.
- Refer to manufacturers guidelines for installation requirements.
- VeloStrail and flange filler options require site specific risk assessments to prevent Hirail de-railments.
- Pedestrian Rubber Panels not to be used in areas accessible to traffic loads.
- Road crossings require lateral restraint as per manufacturer's requirements.
- Concrete edge beams required for heavy traffic loads. To be detailed as per manufacturer's requirements.
- Holdfast and Strail pedestrian crossings can be used singularly or attached to other panels when crossing is immediately adjacent.

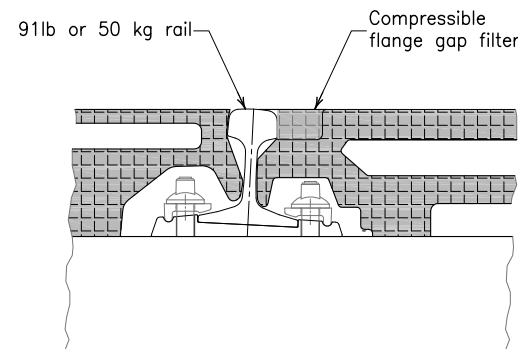
FOR APPROVAL

Professional Head of Track *[Signature]*

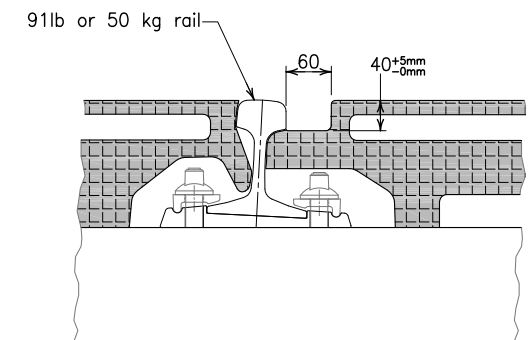
Date...13-02-15



DETAIL A – HOLDFAST/INNOSTRAIL INTERFACE
1:20



DETAIL B – VELOSTRAIL INTERFACE
1:20



DETAIL C – PEDESTRIAL INTERFACE
1:20

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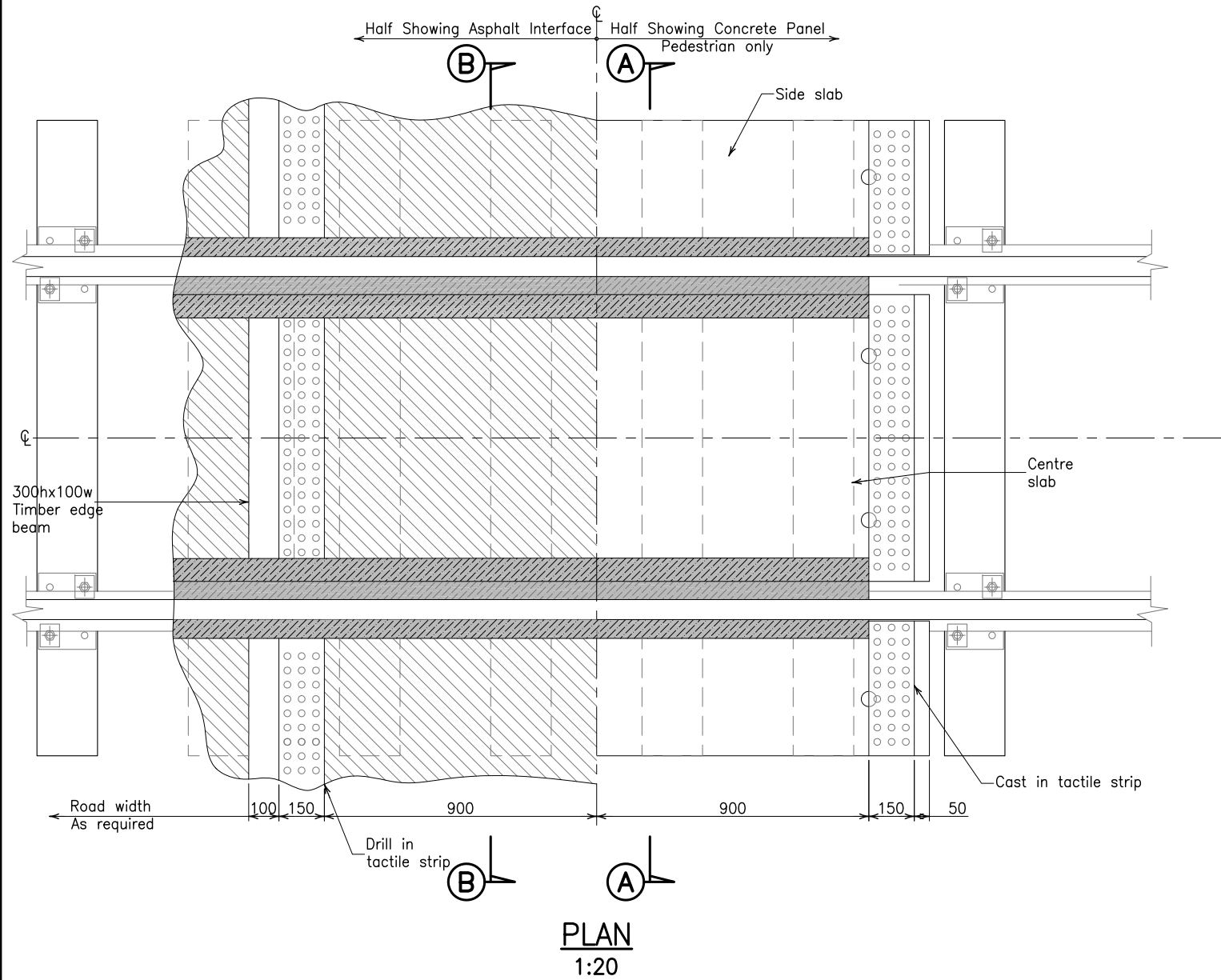
ROAD AND PEDESTRIAN
LEVEL CROSSINGS
RUBBER PANELS

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Tel: 0800 801 070 Fax: +64 9 487 0117

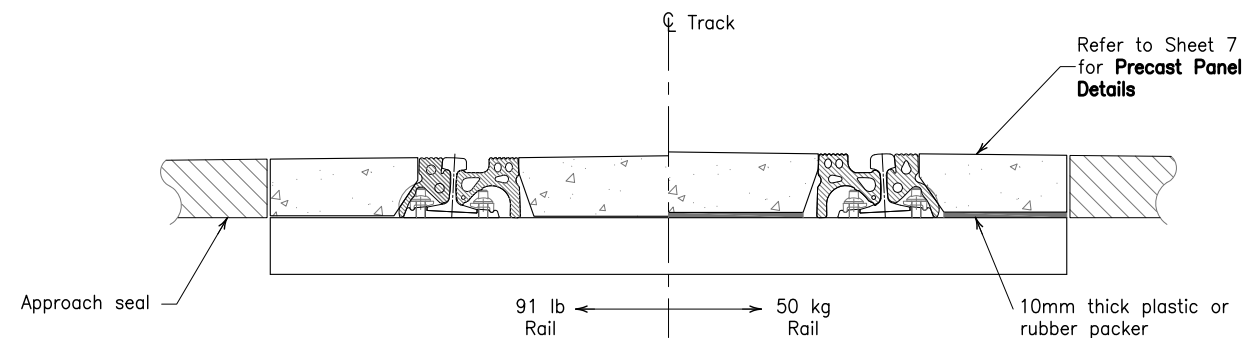
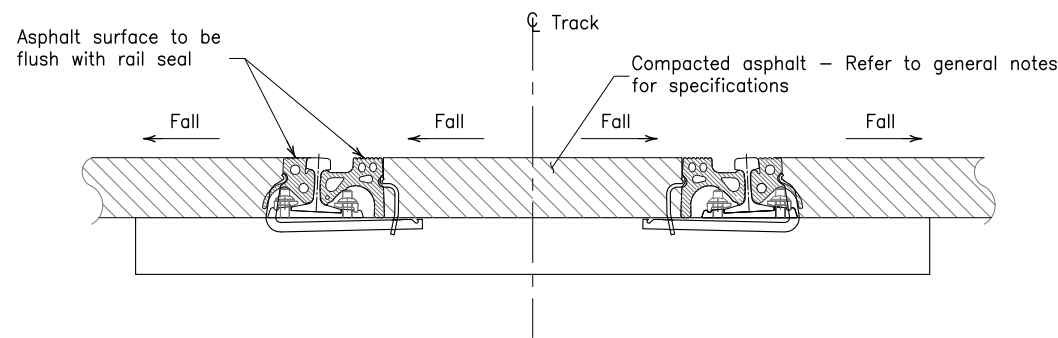
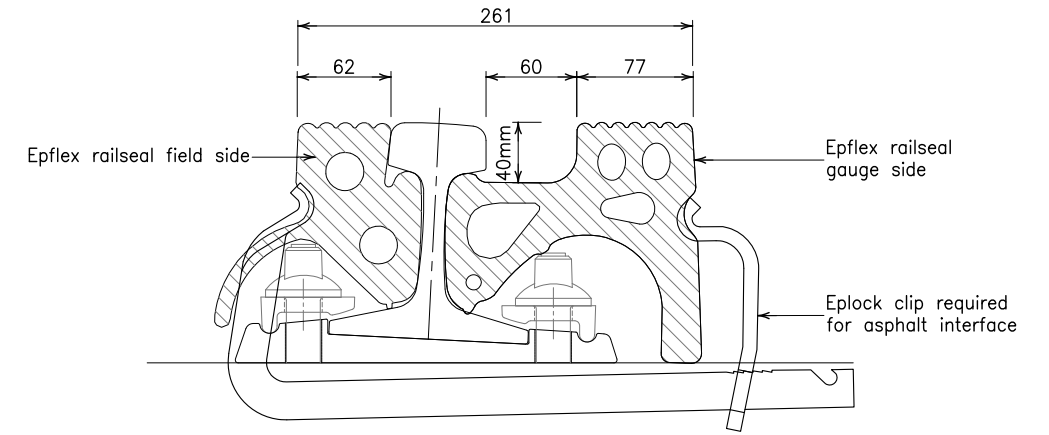
DRAWING No. 300 182 Original A3Std S4 REV. No. A

EPFLEX RAILSEAL - ROAD AND PEDESTRIAN CROSSINGS



Notes:

- Concrete panels only to be used on pedestrian crossings with 90° skew.
- Refer to Polycorp Drawing RA 4050-1-1B (50kg) and 4091-1-1B (91lb) for Rail Seal Details.
- Central slab varies in width to the concrete panel option on S6. Refer Refer to S7 for details.
- Plastic packer to match sleeper dimensions and be adequately secured prior to panel installation.



FOR APPROVAL
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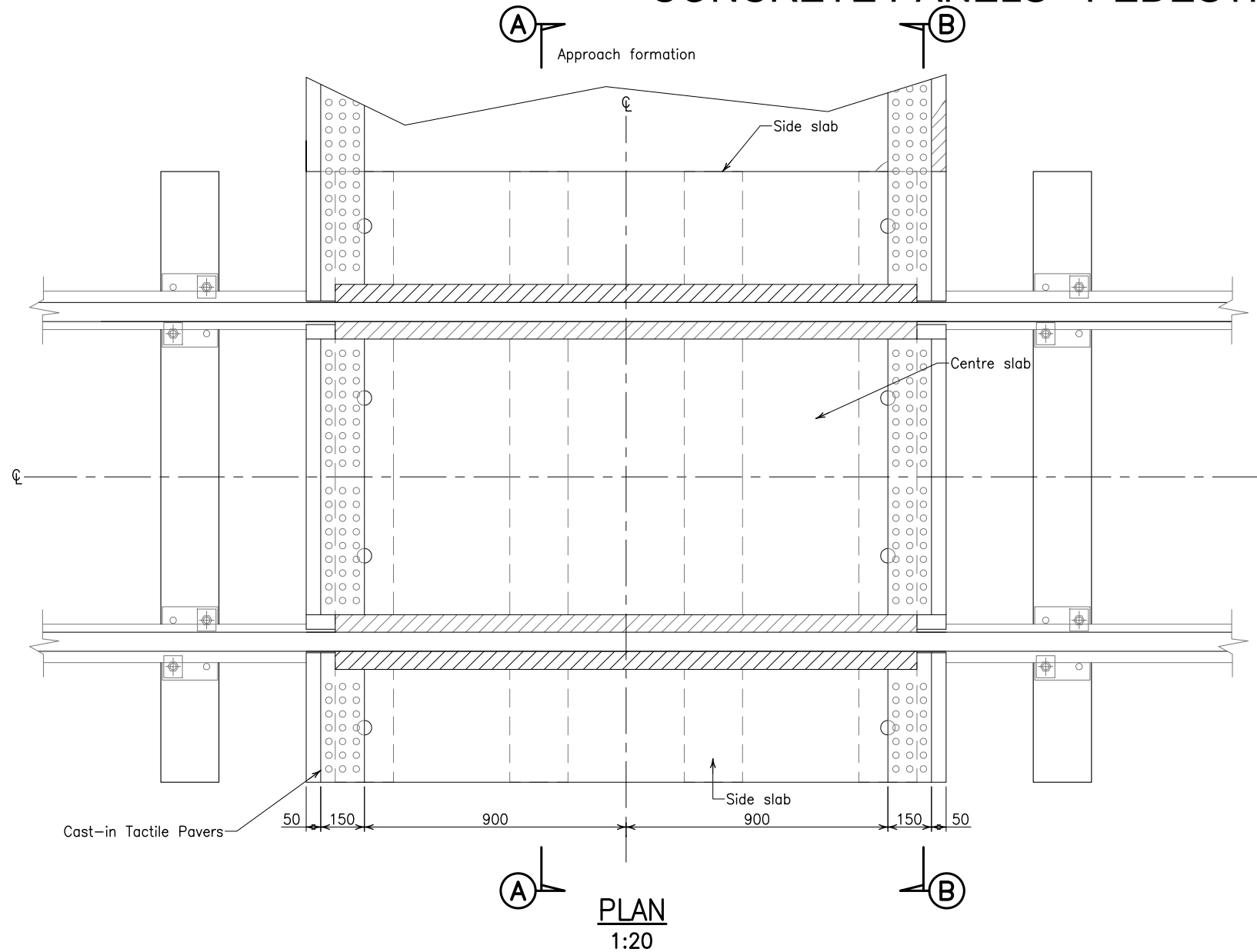
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ROAD AND PEDESTRIAN
LEVEL CROSSINGS
EPFLEX RAILSEAL

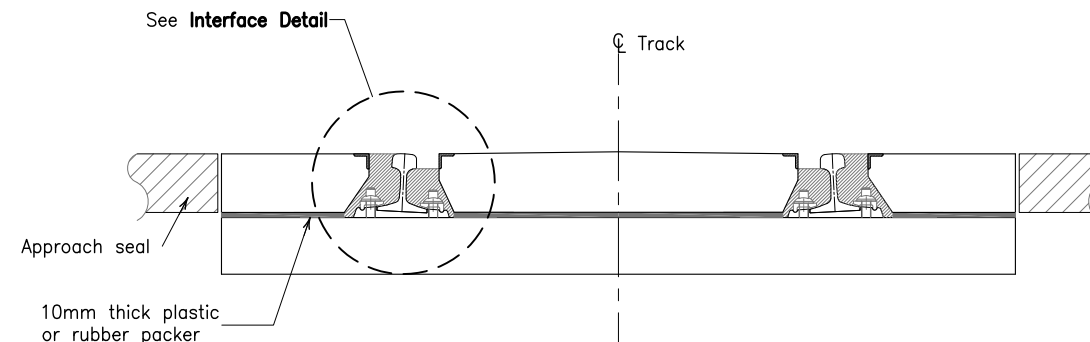
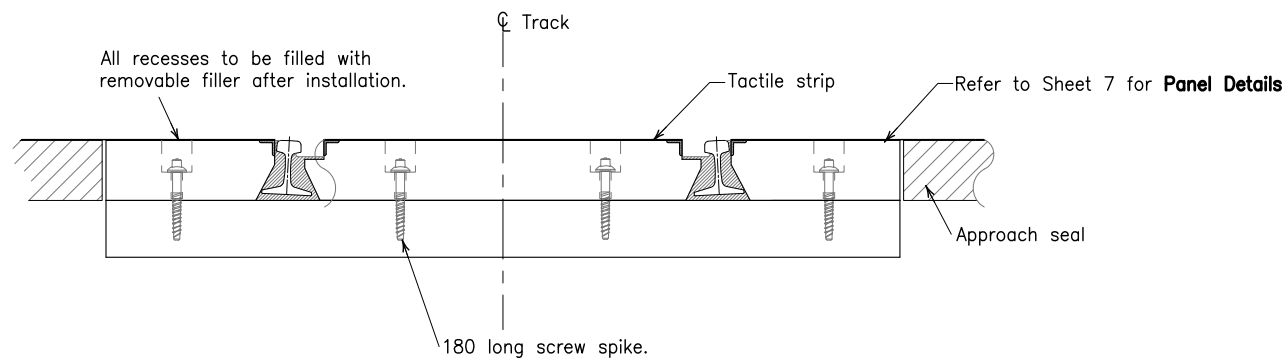
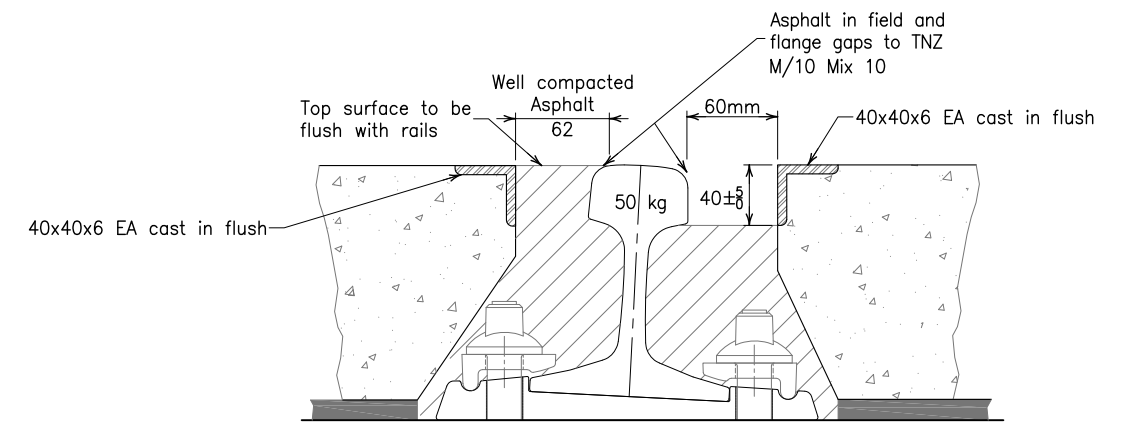
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DRAWING No. 300 182 Original A3 Std S5 REV. No. A

CONCRETE PANELS - PEDESTRIAN CROSSINGS



Notes:

- Asphalt interface option to be used only if rail seal is unavailable.
- Crossing to be used when 90° to straight track only.
- Prior to installation the subsurface is to be well compacted and adequate drainage provided to prevent settlement and movement of track.
- Central slab varies in width to the rail seal concrete option on S5. Refer to S7 for details.
- Plastic packer to match sleeper dimensions and be adequately secured prior to panel installation.



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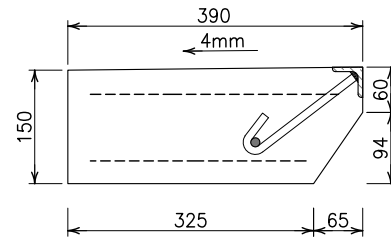
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ROAD AND PEDESTRIAN
LEVEL CROSSINGS
CONCRETE PANELS

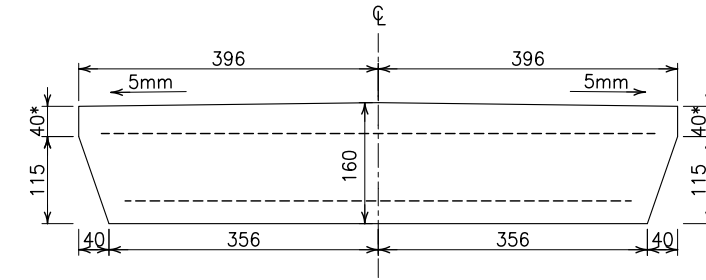
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CONCRETE PANEL - PRECAST DETAILS

SIDE PANELS



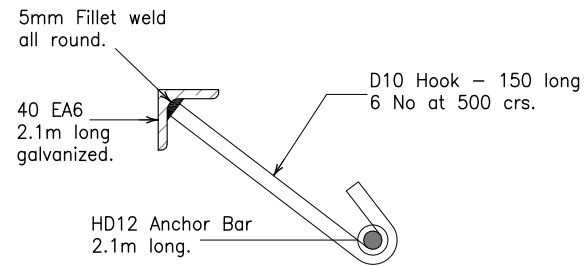
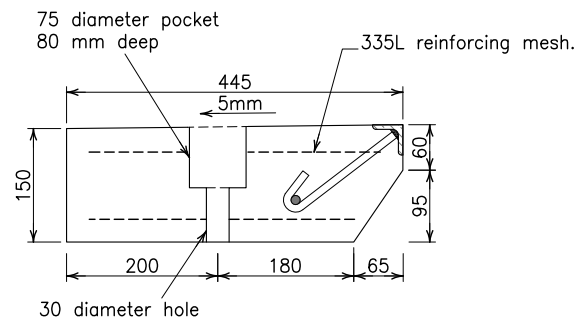
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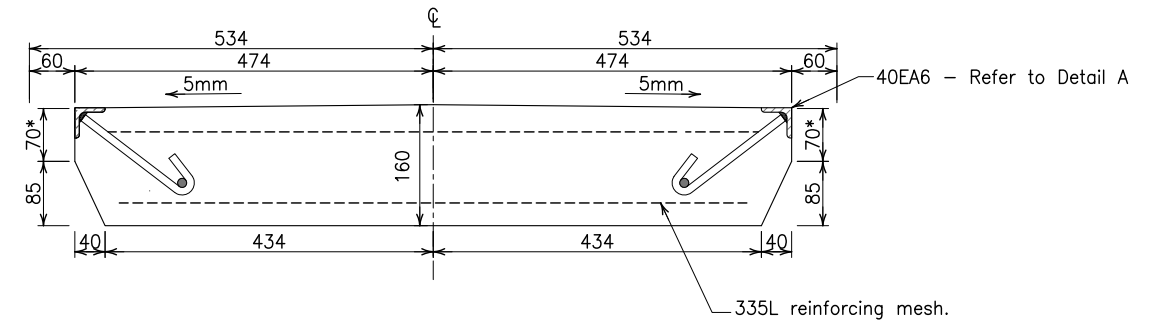
Notes:

- Concrete strength to be f'_c 28 days = 50 MPa
- Cover to reinforcing is to be 30mm minimum.
- Reinforcing mesh to be 335L or approved equivalent.
- Swiftlift anchors with sufficient capacity to be provided on slabs.
- Shop drawings to be provided by precast yard for approval.

SHEET 5/6 SECTION A-A – ON WALKWAY 1:10



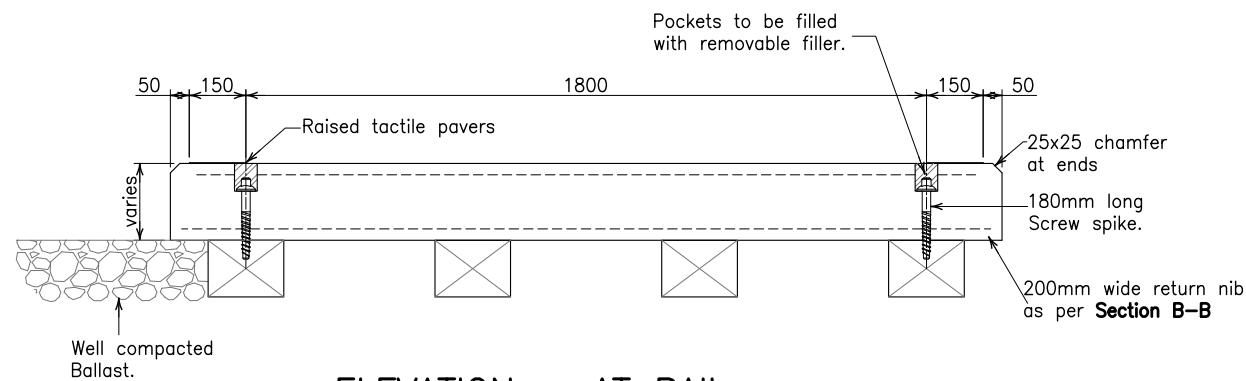
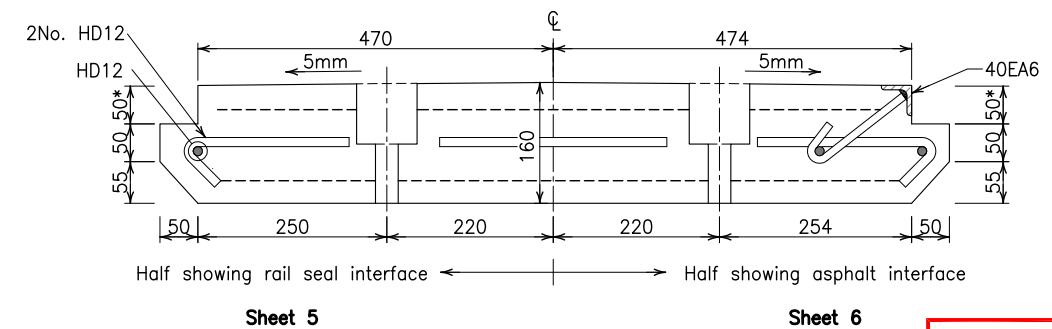
SHEET 5 SECTION A-A – ON WALKWAY – RAIL SEAL 1:10



SHEET 5/6 SECTION B-B – AT ENDS 1:10

DETAIL A – EDGING 1:5

SHEET 6 SECTION A-A – ON WALKWAY – ASPHALT 1:10



ELEVATION – AT RAIL 1:20

SHEET 5/6 SECTION B-B – AT ENDS 1:10

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Professional Head of Track
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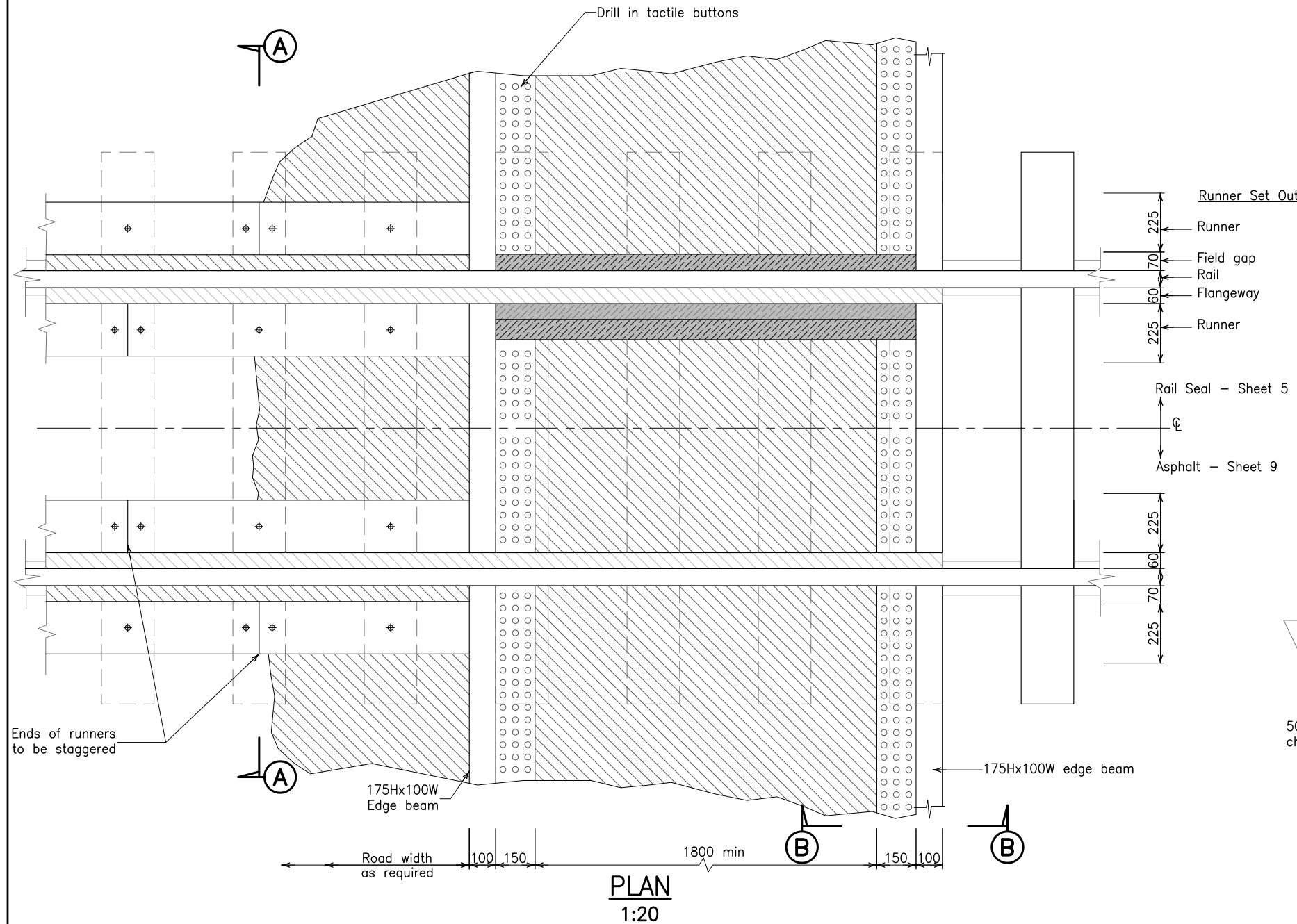
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ROAD AND PEDESTRIAN
LEVEL CROSSINGS
CONCRETE PANELS PRECAST

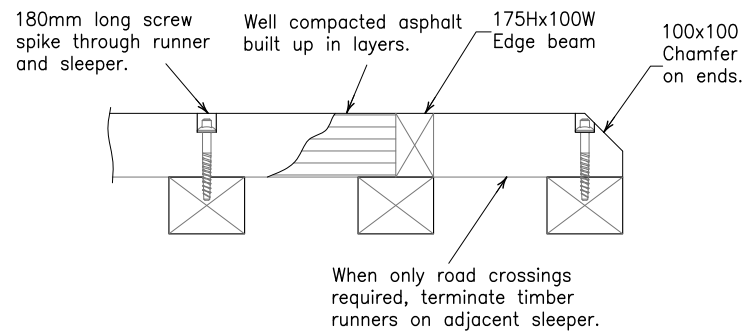
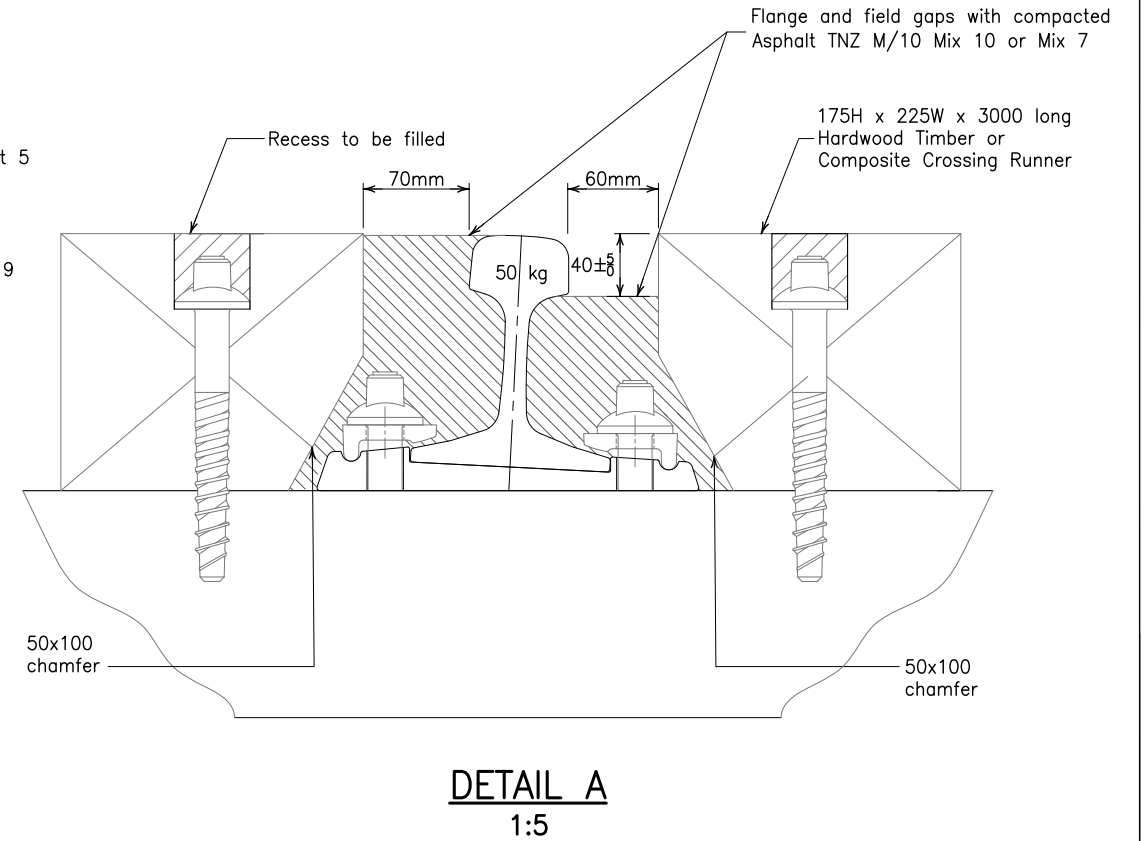
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DRAWING No. 300 182 Original A3 Std S7 REV. No. A

TIMBER/COMPOSITE RUNNERS - ROAD CROSSINGS

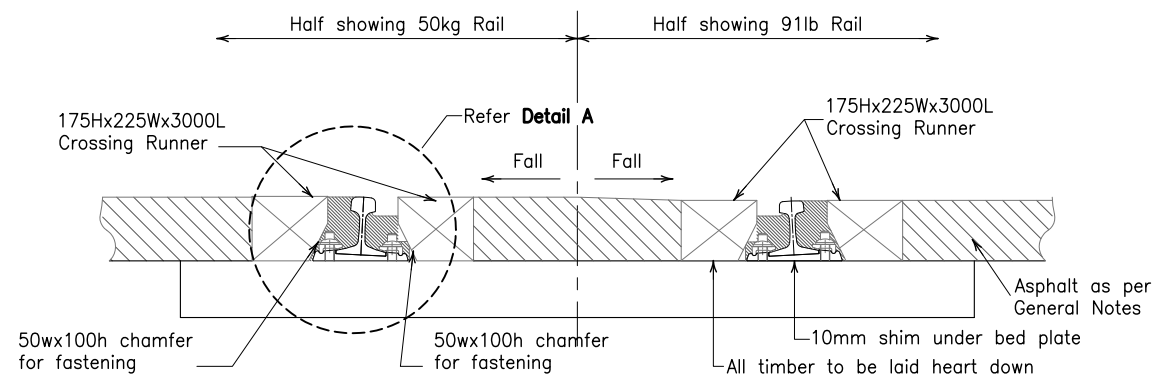


Notes:

- Timber/Composite runners not to be used on pedestrian crossings. Adjacent to road crossings use Type F and J crossing options.
- Use 175mm High runner for both 91lb rail and 50 Kg rail.
- 10mm shim to be installed on 91lb rail to make up height difference.
- Flangeway asphalt to be well compacted to prevent spreading.
- Hardwood timber to be Azobe or other approved.



SECTION B-B - ROAD TERMINATIONS
1:20



SECTION A-A
1:20

FOR APPROVAL

Professional Head of Track

Date: 13-02-15

FOR CONSTRUCTION

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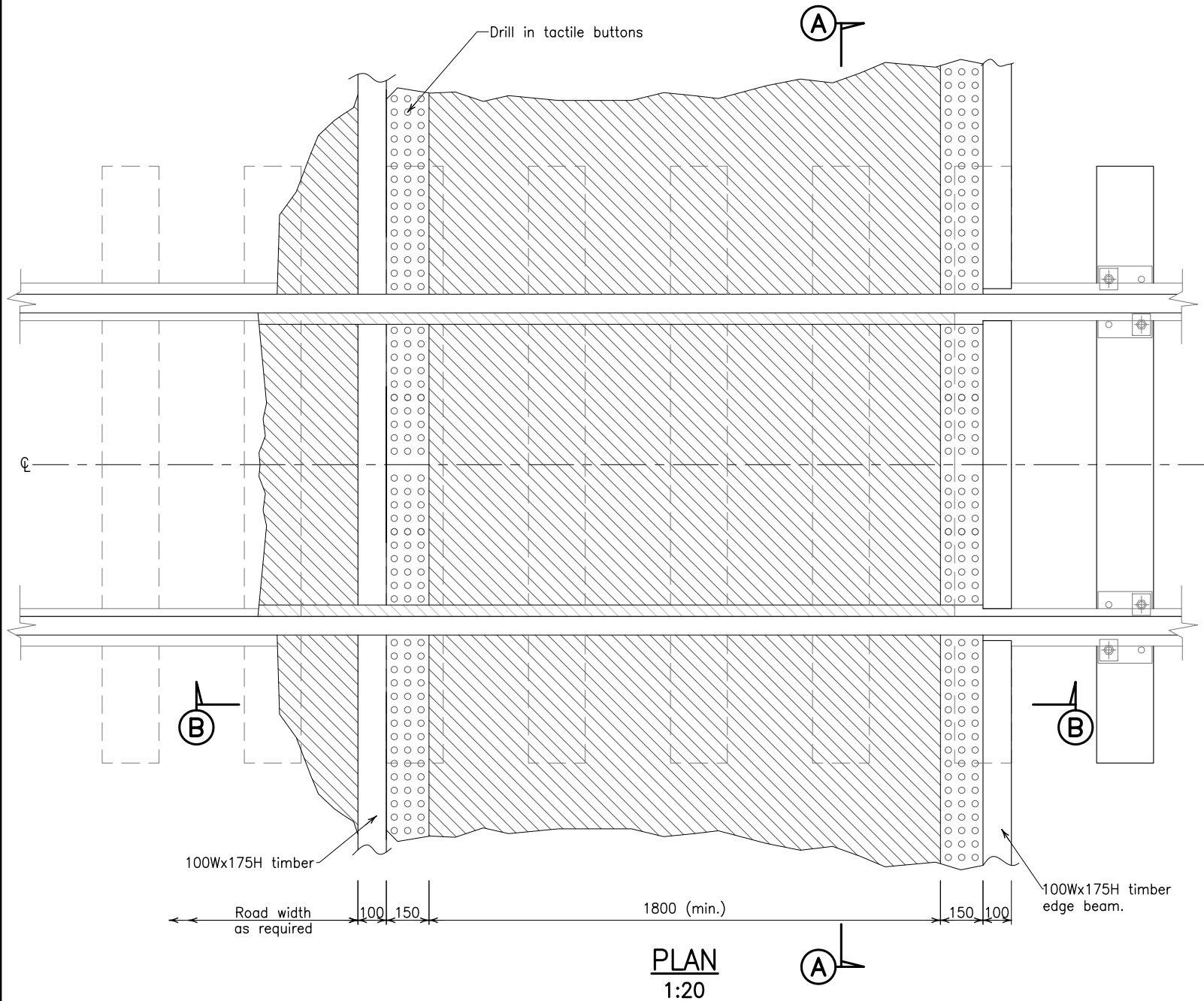
ROAD AND PEDESTRIAN
LEVEL CROSSINGS
TIMBER OR COMPOSITE RUNNERS

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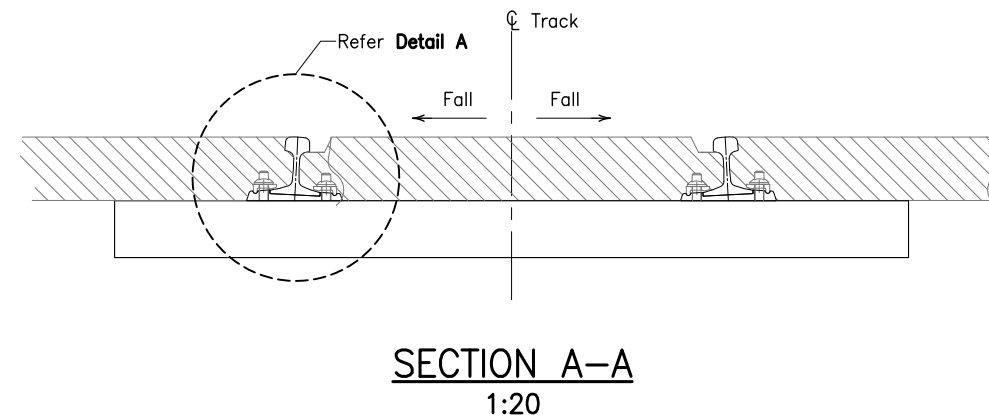
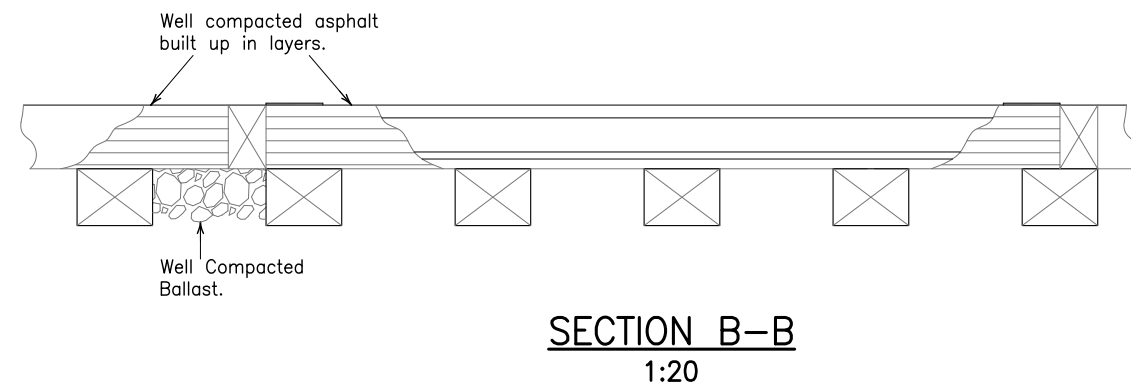
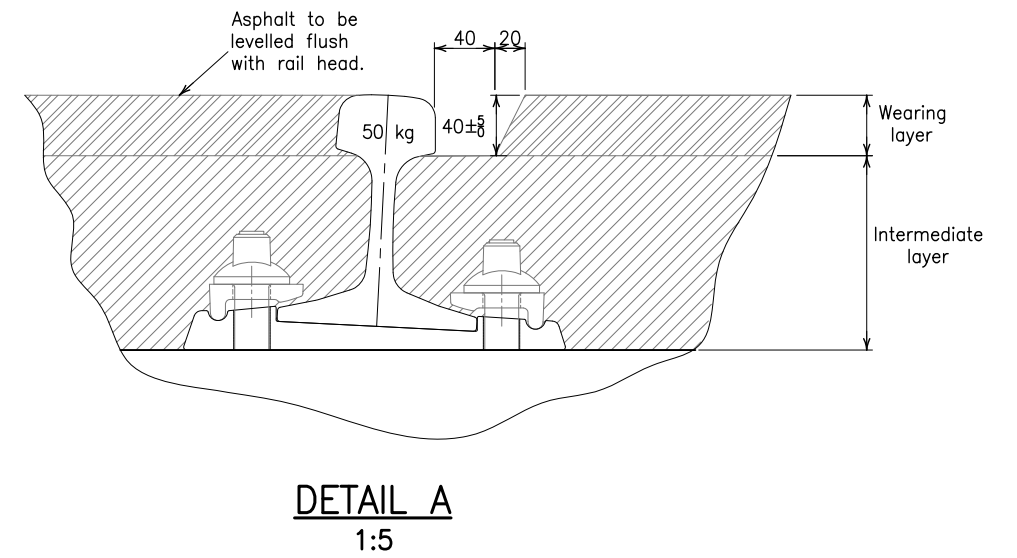
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ASPHALT - ROAD AND PEDESTRIAN CROSSING



Notes:

- Suitable confinement to be provided at edges of asphalt.
- Flangeway edge to be bevelled back to prevent wheel impact damage.
- Asphalt to be well compacted and built up in layers.
- Wearing layer to be TNZ M/10
 - Mix 15 - Roadways
 - Mix 10 - Footways



FOR APPROVAL

Professional Head of Track

Date...13-02-15

FOR CONSTRUCTION

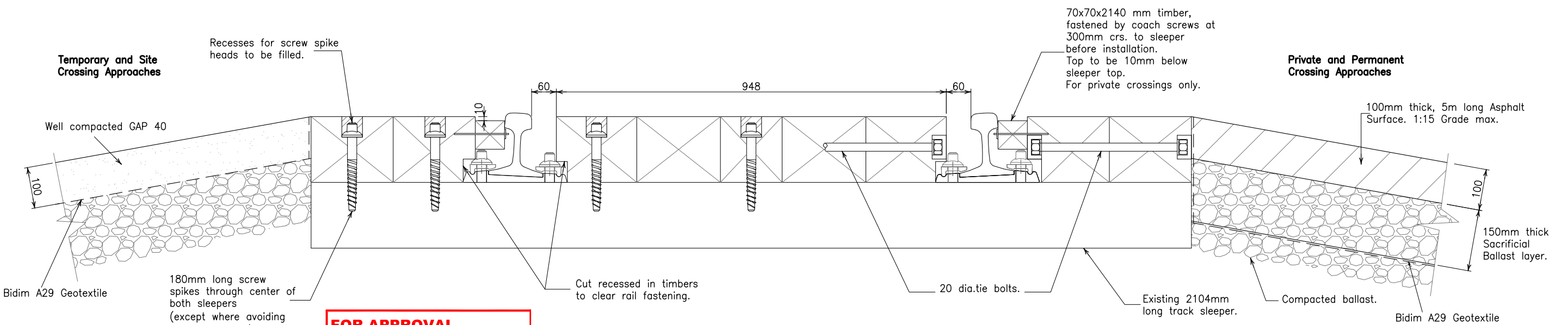
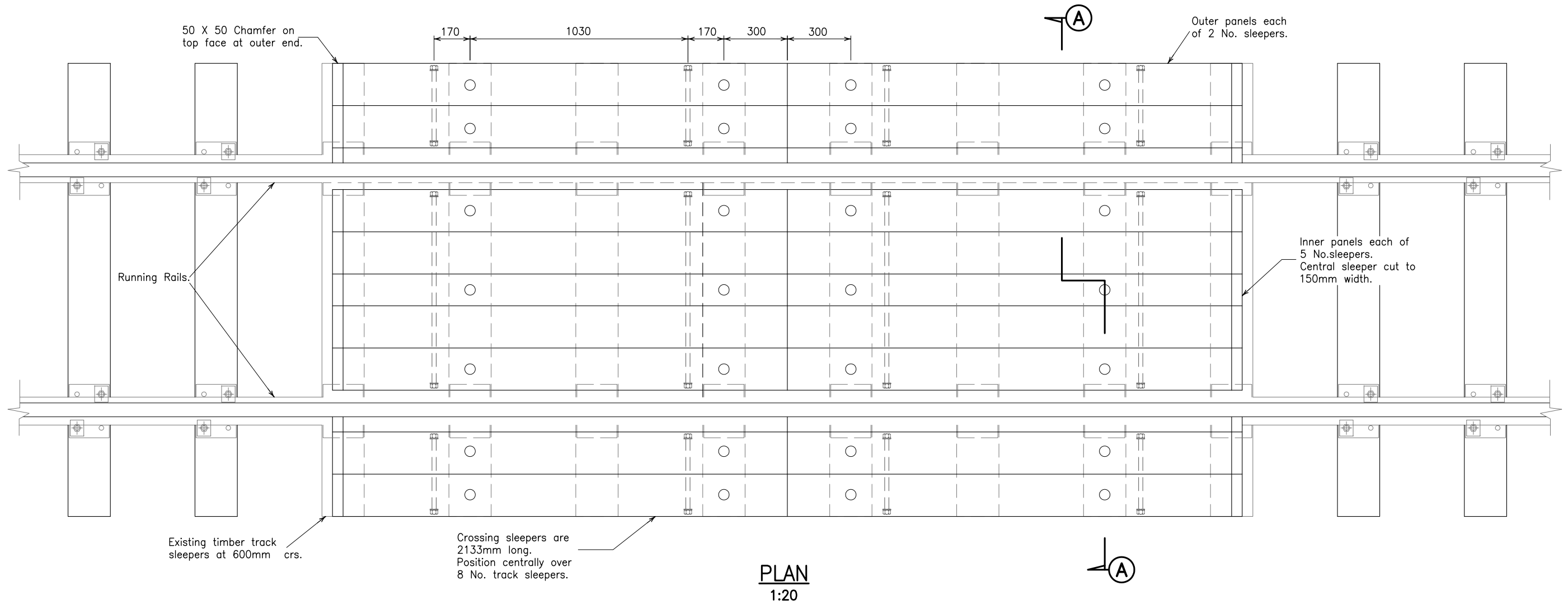
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PROJECT FILE No:

REV	REVISION PARTICULARS	DRAWN	DATE	DESIGNED	INITIALS	DATE
0	PRELIMINARY	VSR	JUNE 2013	ML	ML	MAY 2013
1	FOR APPROVAL	VSR	JUNE 2013	JKA	JKA	MAY 2013
A	FOR CONSTRUCTION	JKA	NOV 2014	CHECKED	MS	OCT 2014
				APPROVED	MS	OCT 2014
				LINE: N/A	Kim: N/A	
				SCALE: AS SHOWN		

ROAD AND PEDESTRIAN
LEVEL CROSSINGS
ASPHALT

KiwiRail
Level 3, Silver Building, 8 - 14 Stanley St, Auckland 1010
Tel: 0800 801 070 Fax: +64 9 487 0117
DRAWING No. 300 182 Original A3Std REV. No. S9 A

TIMBER PANELS - YARDS, SITE AND PRIVATE CROSSINGS



FOR APPROVAL

Professional Head of Track

[Signature]

Date...13-02-15

COMPOSITE CROSS SECTION

1:10

Notes:

- Panels not to be used where public pedestrian access is required.

FOR CONSTRUCTION

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ROAD AND PEDESTRIAN
LEVEL CROSSINGS
TIMBER PANELS

KiwiRail

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DRAWING No. Original A3 Std
300 182 S10

REV. No. A