




NOTES

1. THIS PLAN TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT PROJECT DRAWINGS AND SPECIFICATIONS.
2. WORK TO BE IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE, AND AUCKLAND TRANSPORT DESIGN MANUAL REQUIREMENTS.
3. ALL NEW KERB ENDS TO BE TURNED OUT AND MADE TRAVERSABLE.

PROPOSED LEGEND

-  MOUNTABLE KERB AND CHANNEL (TYPE 6)
-  ISLAND KERB (DETAIL IS0001)
-  EXTENT OF NEW PAVEMENT WIDENING. REFER TO PAVEMENT DESIGN PLANS FOR EXTENT OF NEW PAVEMENT CONSTRUCTION.

TENDER

No	Revision	Drawn	Date	Approved	Date
C	KERB TYPES UPDATED	KA	20.02.24	LC	20.02.24
B	TENDER	KA	30.11.23	LC	30.11.23
A	DETAILED DESIGN	KA	23.08.23	MF	23.08.23



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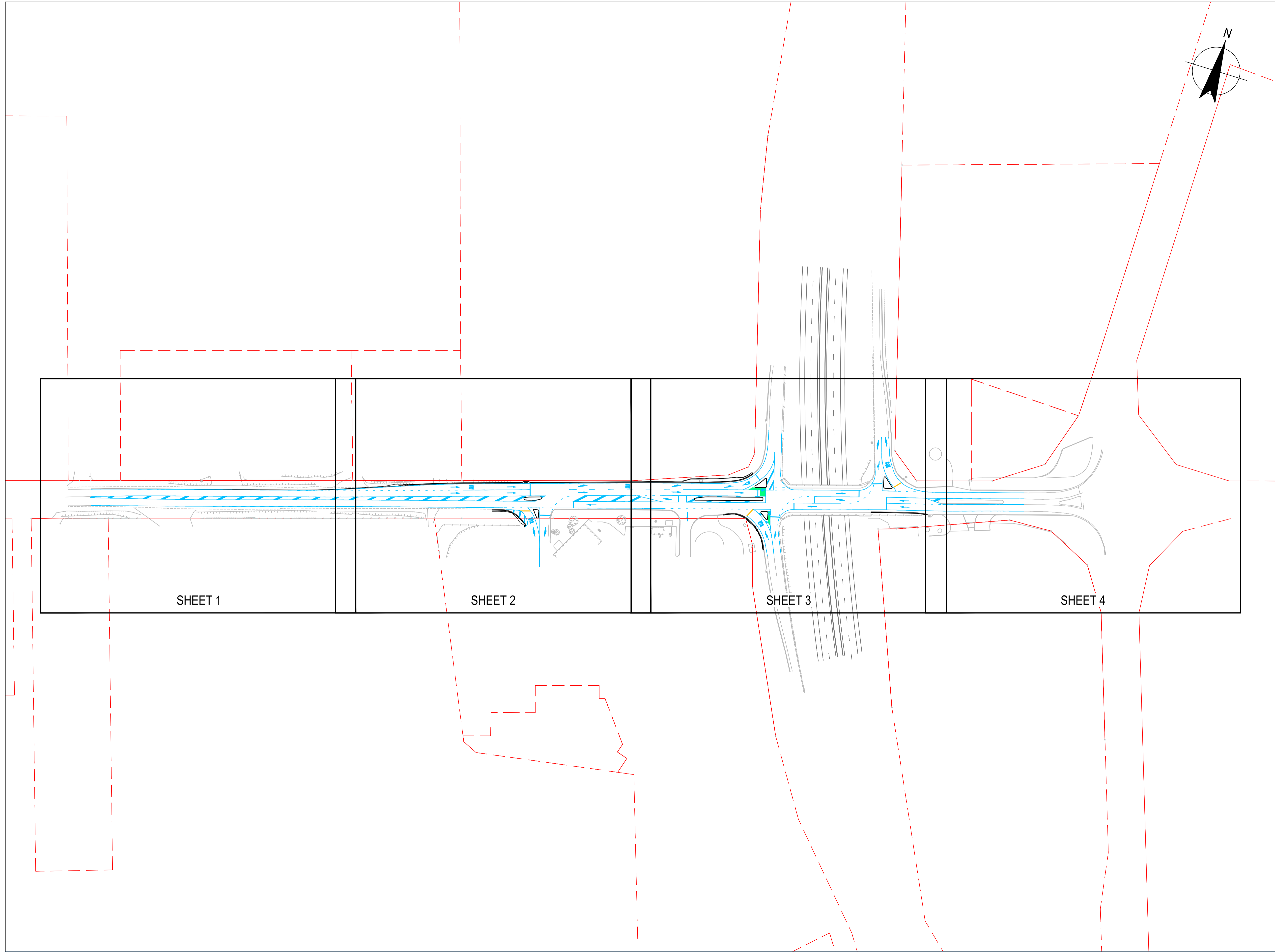
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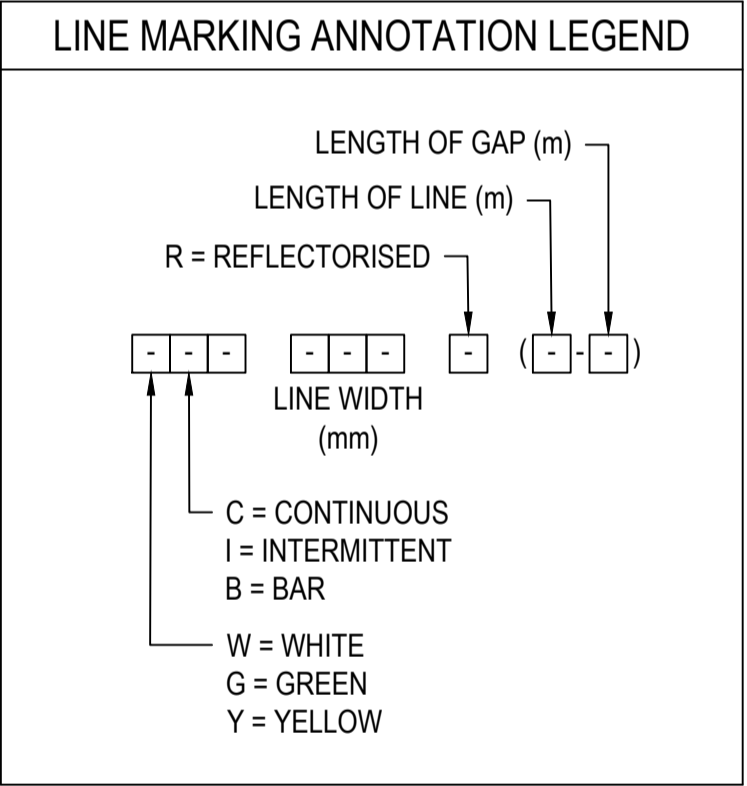
Drawn	K. ASTWOOD	Designer	L. NEL
Drafting Check	L. CAMERON	Design Check	L. CAMERON
Approved	M. FAUVEL		
Date	31 AUGUST 2023		
Scale	1:1000		

Client **NZ TRANSPORT AGENCY - WAKA KOTAHU**
 Project **BOMBAY INTERCHANGE SIGNALISATION**
 Title **ROAD LAYOUT - OVERALL PLAN**

Original Size **A1** Drawing No: **23076** **300** Rev: **C**



- NOTES**
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 2. WORK TO BE IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE, AND AUCKLAND TRANSPORT DESIGN MANUAL REQUIREMENTS.
 3. ALL ROAD LINE MARKINGS TO BE IN ACCORDANCE WITH MOTSAM GUIDELINES.
 4. DIRECTIONAL ARROWS TO BE MARKED IN LOCATIONS SHOWN AS PER MOTSAM GUIDELINES.



TENDER

No	Revision	Drawn	Date	Approved	Date
B	TENDER	KA	30.11.23	LC	30.11.23
A	DETAILED DESIGN	KA	31.08.23	MF	31.08.23

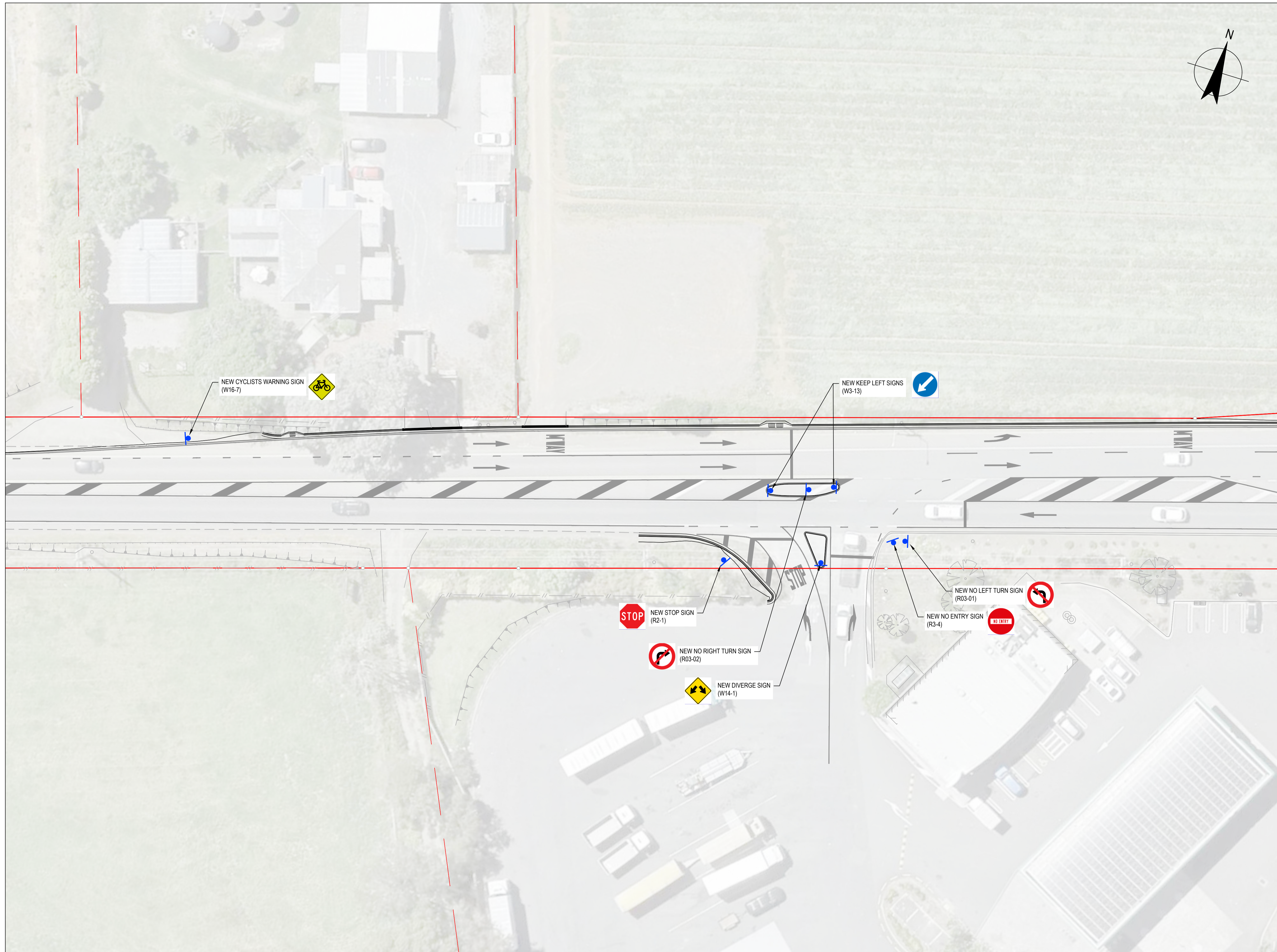


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Drafting Check	L. CAMERON	Design Check	L. CAMERON
Approved	M. FAUVEL		
Date	31 AUGUST 2023		
Scale	1:1000		

Client	NZ TRANSPORT AGENCY - WAKA KOTAHI		
Project	BOMBAY INTERCHANGE SIGNALISATION		
Title	ROAD LINEMARKING - OVERALL PLAN		
Original Size	A1	Drawing No: 23076	360
Rev:	B		



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3. NEW SIGNS BETWEEN SH1 NORTH AND SOUTHBOUND OFF RAMP TO BE A FOLD DOWN TYPE TO ALLOW FOR OVERSIZE LOADS.
4. ALL SIGNS TO BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH NZTA P24:2020 SPECIFICATION FOR PERMANENT TRAFFIC SIGNS.

PROPOSED SIGNAGE LEGEND	
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	EXISTING RELOCATED SIGN
	NEW SIGN

TENDER

No	Revision	Drawn	Date	Approved	Date
C	SIGNS REVISED	KA	18.01.24	LC	18.01.24
B	TENDER	KA	30.11.23	LC	30.11.23
A	DETAILED DESIGN	KA	31.08.23	MF	31.08.23



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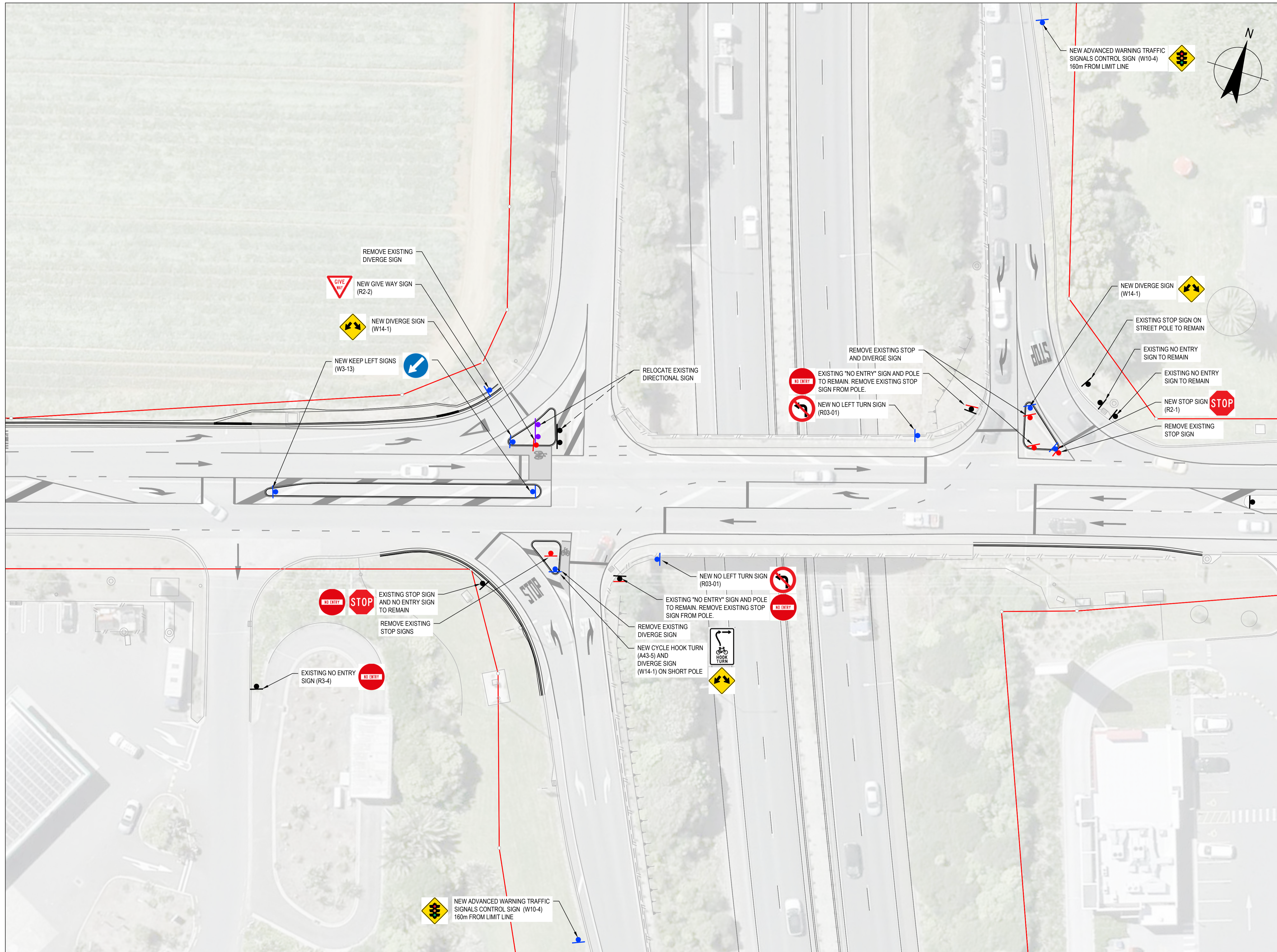
Drawn	A. PORTEOUS	Designer	J. UNDERWOOD
Drafting Check	L. CAMERON	Design Check	L. CAMERON
Approved	M. FAUVEL		
Date	31 AUGUST 2023		
Scale	1:250		

Client **NZ TRANSPORT AGENCY - WAKA KOTAHU**
 Project **BOMBAY INTERCHANGE SIGNALISATION**
 Title **ROAD SIGNAGE - SHEET 2**
PLAN

Original Size **A1** Drawing No: **23076**

372

Rev: **C**



NOTES

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4. ALL SIGNS TO BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH NZTA P24:2020 SPECIFICATION FOR PERMANENT TRAFFIC SIGNS.

PROPOSED SIGNAGE LEGEND	
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	EXISTING RELOCATED SIGN
	NEW SIGN

TENDER

No	Revision	Drawn	Date	Approved	Date
B	TENDER	KA	30.11.23	LC	30.11.23
A	DETAILED DESIGN	ALP	31.08.23	MF	31.08.23



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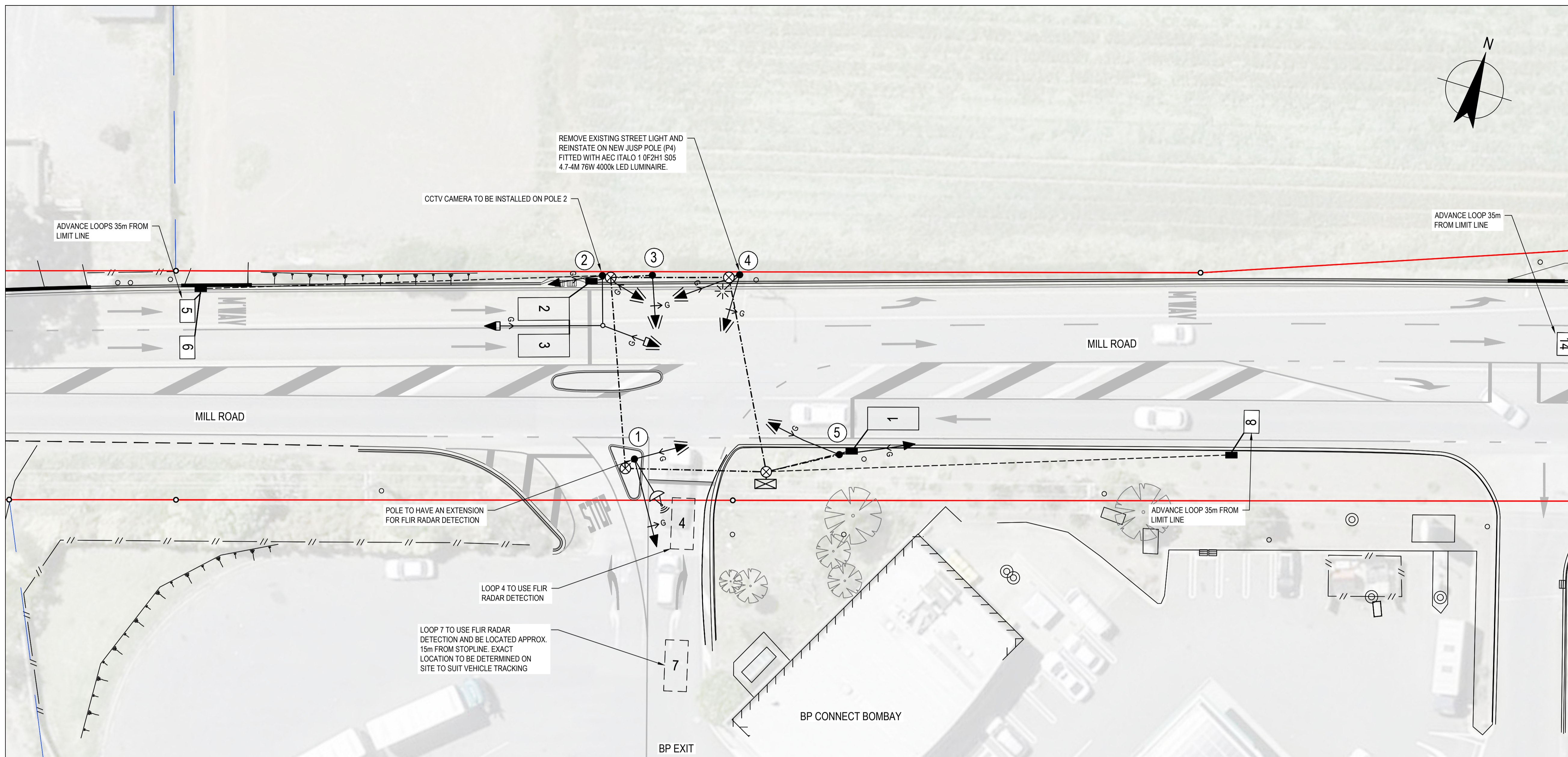
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Drafting Check	L. CAMERON	Design Check	L. CAMERON
Approved	M. FAUVEL		
Date	31 AUGUST 2023		
Scale	1:250		

Client **NZ TRANSPORT AGENCY - WAKA KOTAHI BOMBAY INTERCHANGE SIGNALISATION**
 Project **ROAD SIGNAGE - SHEET 3**
 Title **PLAN**

Original Size **A1** Drawing No: **23076** **373** Rev: **B**

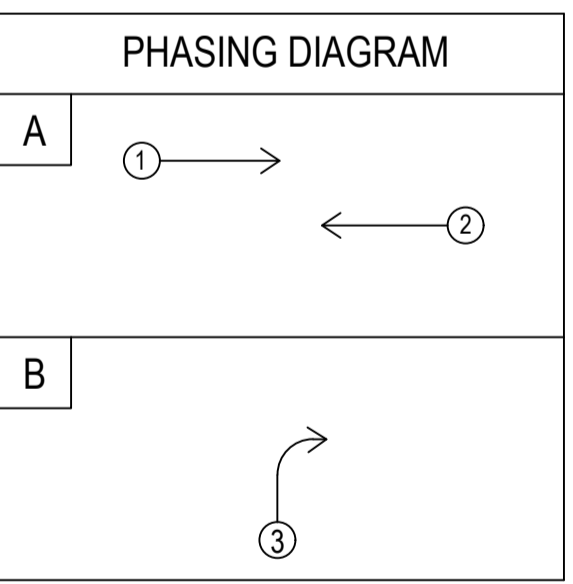
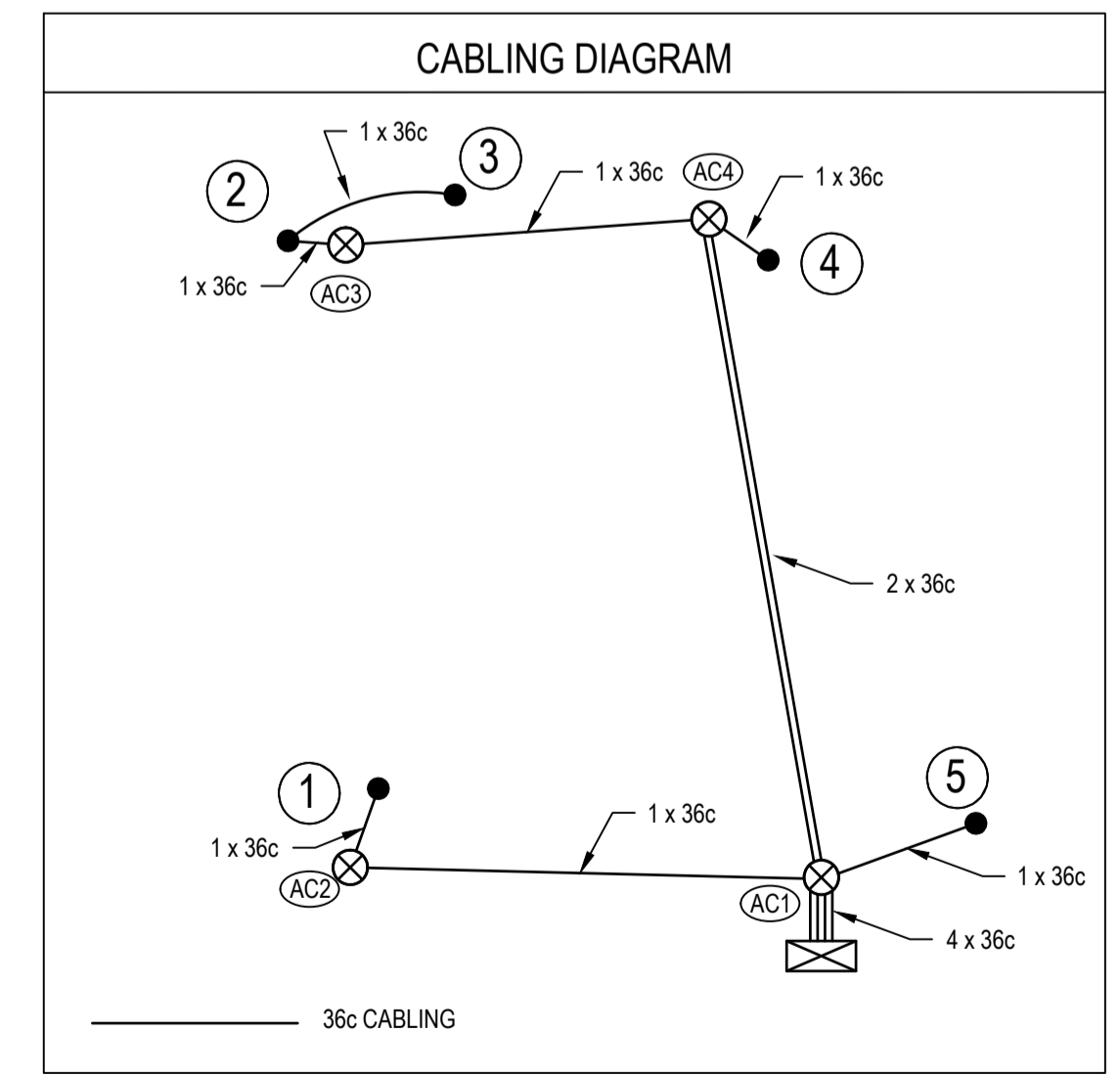
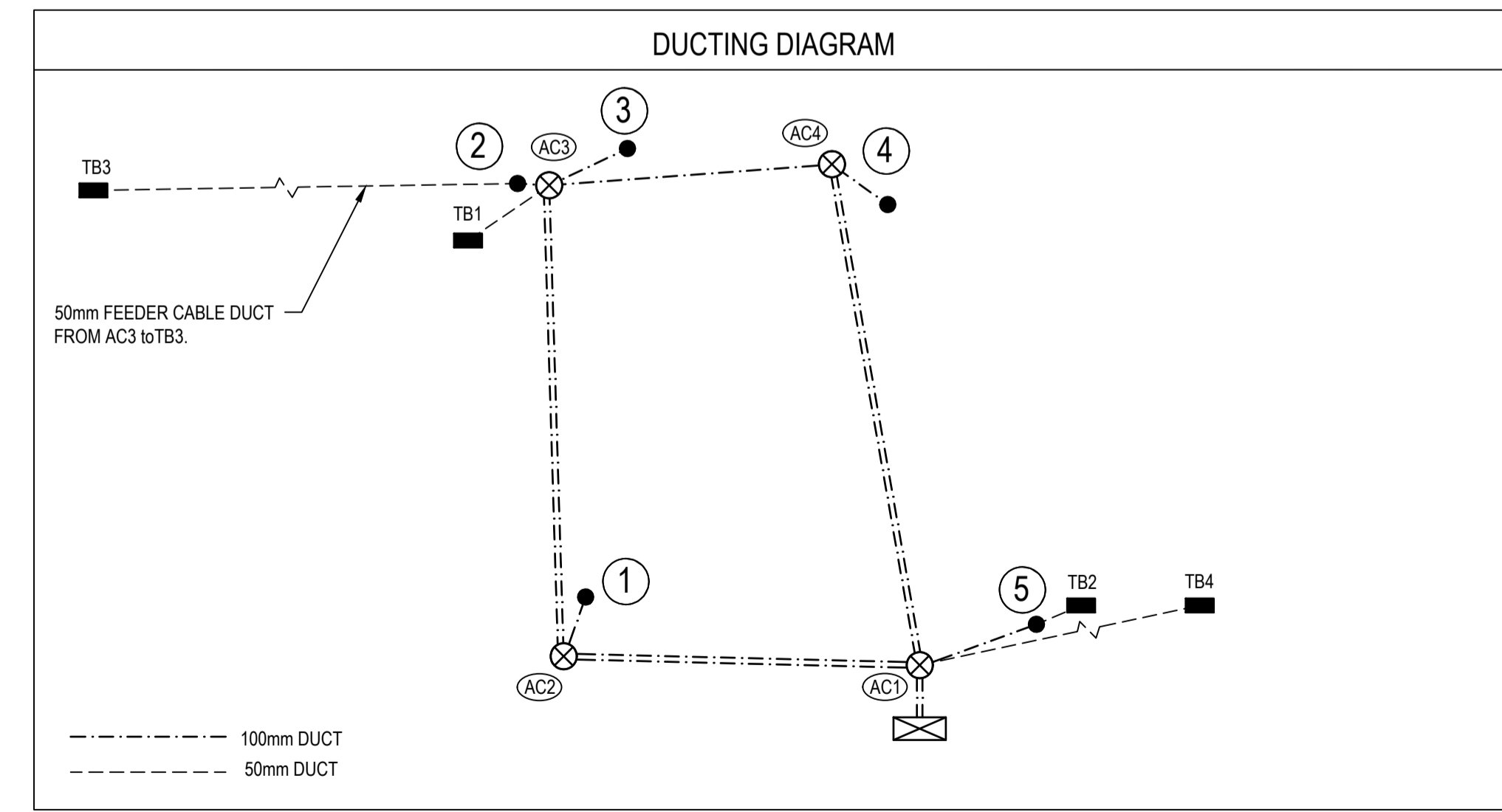


SIGNALS LEGEND

	CONTROLLER		TERMINATION CABINET
	SIGNAL DUCT ACCESS CHAMBER		KERB SIDE JUNCTION BOX
	POST AND POST NUMBER		POST WITH OVERHEAD STREETLIGHT (JUSP/JUMA)
	POST WITH OVERHEAD MAST ARM		200mm LED ASPECTS - OPEN VISOR
	300mm LED ASPECTS - OPEN VISOR		ASPECTS WITH CLOSED VISOR
	3 ASPECT DISPLAY		3 ASPECT DISPLAY WITH SINGLE ARROW STRAIGHT THROUGH DISPLAY
	200mm 3 ASPECT DISPLAY WITH SINGLE GREEN RIGHT TURN ARROW DISPLAY		4 ASPECT DISPLAY WITH SINGLE GREEN RIGHT TURN ARROW DISPLAY
	3 ASPECT DISPLAY WITH SUPP. 3 ARROW DISPLAY		FLIR RADAR DETECTOR
	50mm FEEDER DUCTING		100mm DUCTING
	INDUCTANCE LOOP - STOPLINE LOOP & NUMBER		INDUCTANCE LOOP - ADVANCE LOOP & NUMBER
	FLIR RADAR DETECTION LOOP		

- ### NOTES
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 - A TSC/4 COMPLIANT 8 GROUP CONTROLLER SHALL BE INSTALLED AND COMPLY WITH THE LATEST SPECIFICATION.
 - TRAFFIC SIGNAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH P43.
 - POLE POSITIONS ARE INDICATIVE ONLY. FINAL POSITIONS TO BE DETERMINED ON SITE WITH THE ENGINEER.
 - THE CONTRACTOR TO LAISE WITH SERVICE AUTHORITIES TO DETERMINE LOCATIONS OF SERVICES PRIOR TO ANY EXCAVATION.
 - THE CONTRACTOR SHALL ALLOW FOR THE TESTING OF THE E-PROM IN THE CONTROLLER THAT IS TO BE INSTALLED ON THE SITE.
 - ALL ROAD CROSSINGS DUCTS TO BE 2 x 100mm Dia ORANGE uPVC DUCTING.
 - ALL DUCTS FROM ACCESS CHAMBERS TO POLES TO BE 1 x 100mm Dia ORANGE uPVC DUCTS.
 - DUCT AND CHAMBER POSITIONS ARE INDICATIVE ONLY. FINAL POSITIONS TO BE DETERMINED ON SITE WITH THE ENGINEER.
 - DUCTING TO BE INSTALLED IN CONJUNCTION WITH UTILITY SERVICE RELOCATION USING SAME TRENCHING.
 - DUCTING TO KERB SIDE JUNCTION BOXES SHALL BE A MINIMUM OF 50mm DIAMETER.
 - ALL LANTERNS SHALL BE APPROVED LED TYPE.
 - ALL LANTERNS BODIES AND BACKING BOARDS SHALL BE ALUMINUM BODIED.
 - POSTED SPEED LIMIT ON MILL ROAD IS 60 km/h.
 - CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS WHEN INSTALLING NEW POLES IN CLOSE PROXIMITY TO OVERHEAD POWER CABLES.
 - ADVANCE LOOPS TO EXTEND PHASE AND NOT CALL.

TRAFFIC SIGNAL PLAN
SCALE 1:200

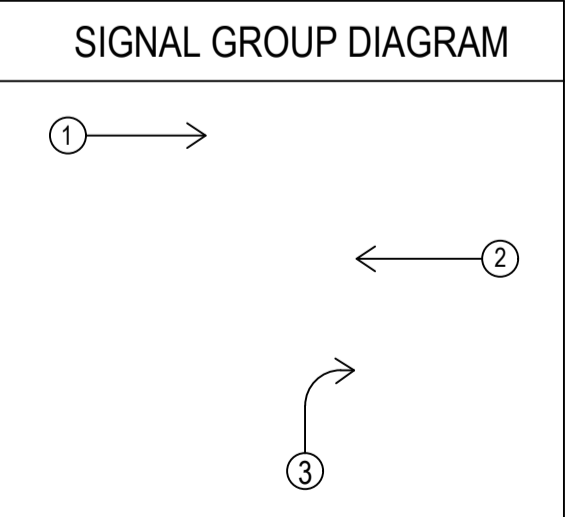


POLE DETAILS

ID	POLE TYPE	COMMENTS
1	STANDARD 5M with extension	Extension for FLIR camera inputs 4 and 7
2	JUMA (5M OUTREACH)	Pole 2 to accommodate CCTV camera. Minimum clearance = 6.5m
3	STANDARD 5M	
4	JUSP	
5	STANDARD 5M	

ACRONYMS

JUMA	JOINT USE SIGNAL MAST ARM AND STREETLIGHT POLE
JUSP	JOINT USE SIGNAL AND STREETLIGHT POLE



TENDER

C	DUCTING AND CABLING REVISED	KA	18.01.24	LC	18.01.24
B	TENDER	KA	30.11.23	LC	30.11.23
No	Revision	Drawn	Date	Approved	Date



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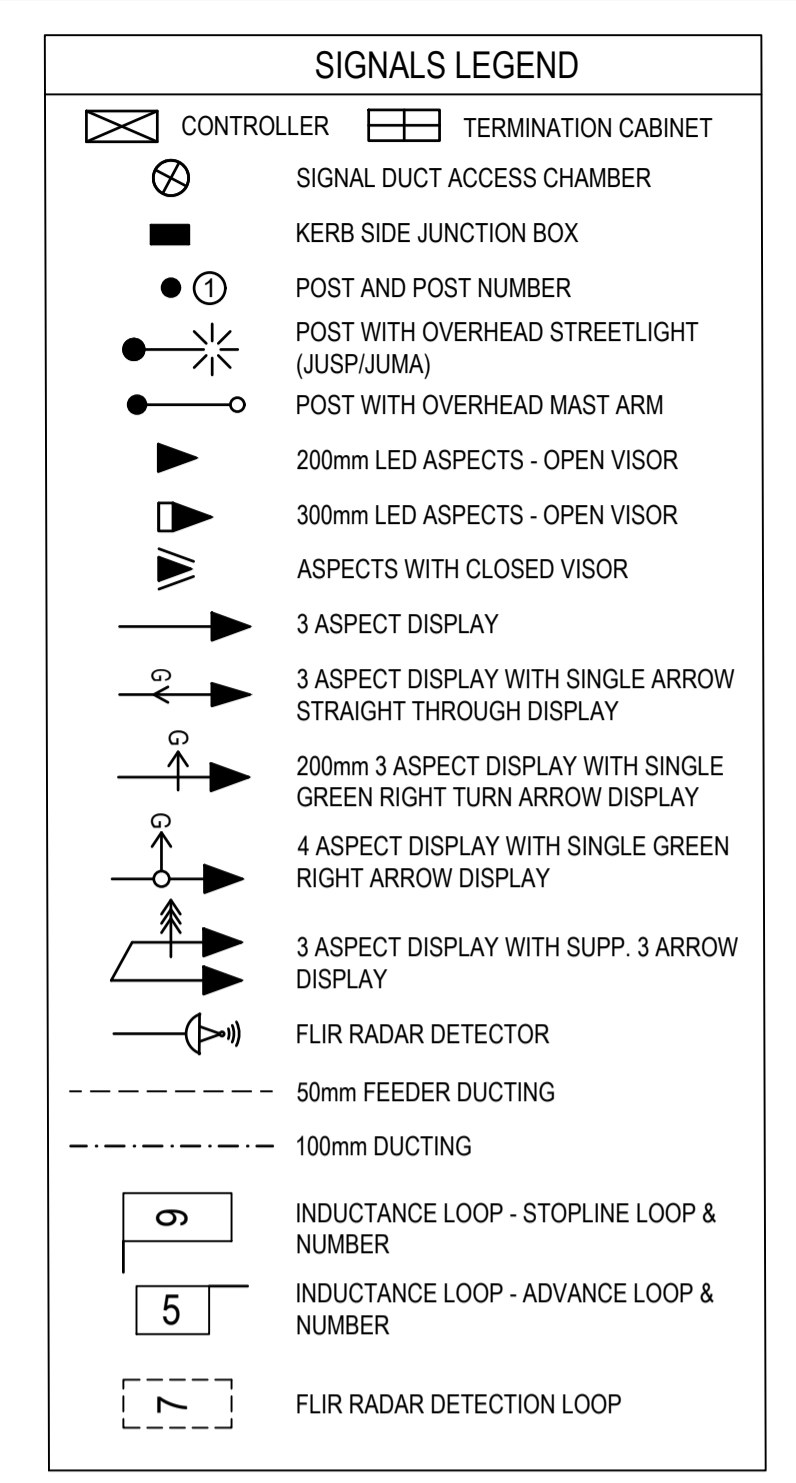
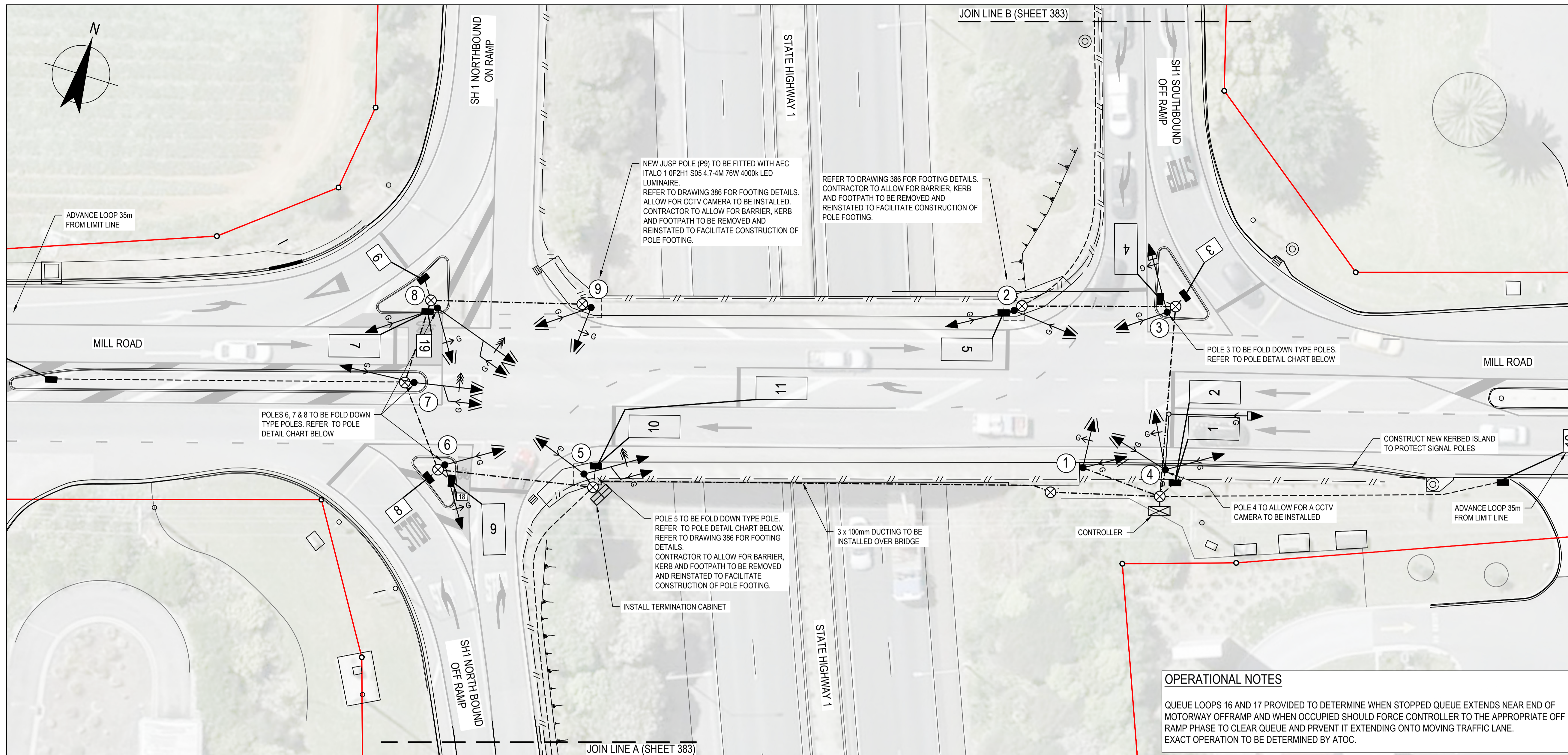
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Drafting Check	L. CAMERON	Design Check	L. CAMERON
Approved	M. FAUVEL		
Date	31 AUGUST 2023		
Scale	1:200		

Client	NZ TRANSPORT AGENCY - WAKA KOTAHI
Project	BOMBAY INTERCHANGE SIGNALISATION
Title	TRAFFIC SIGNALS - SHEET 1 MILL ROAD / BP EXIT PLAN
Original Size	A1
Drawing No.	23076
381	
Rev.	C

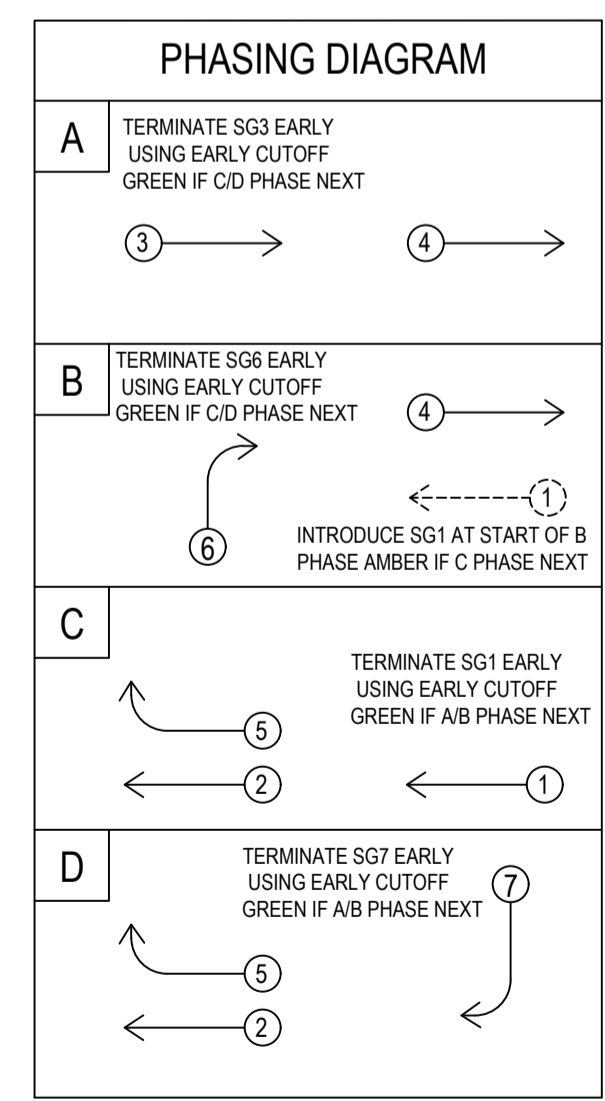
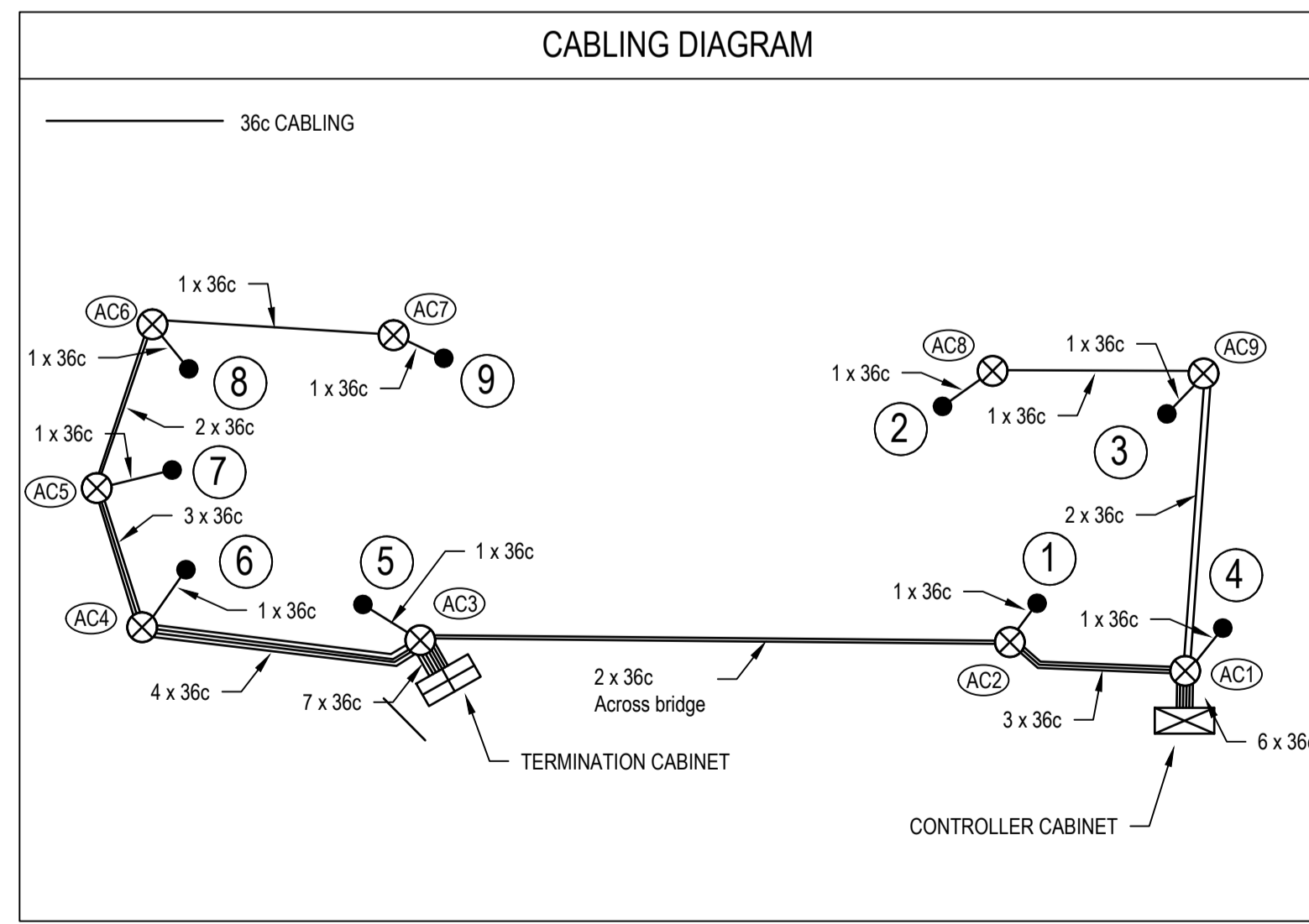
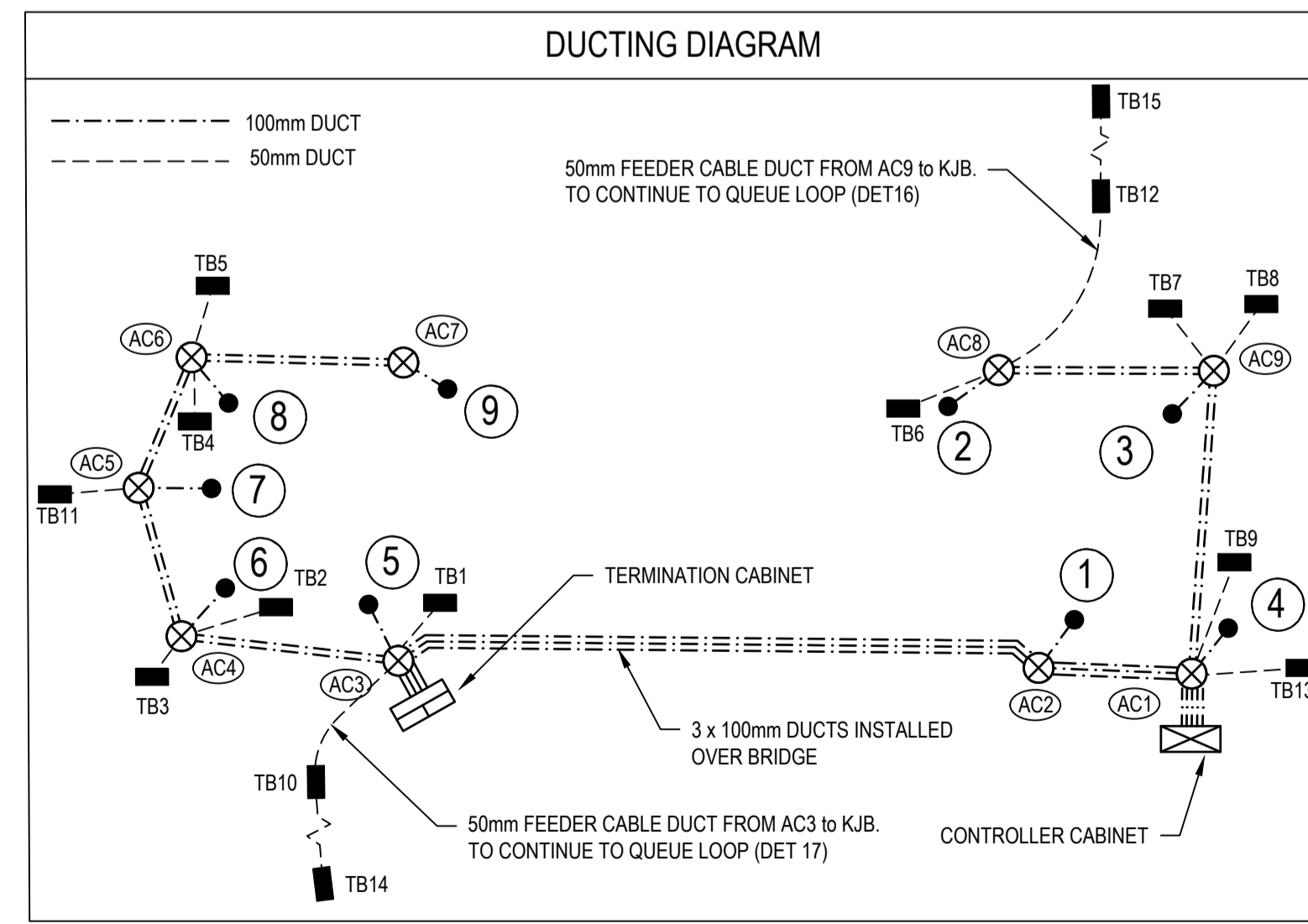


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 - TRAFFIC SIGNAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH P43.
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 - THE CONTRACTOR TO LIAISE WITH SERVICE AUTHORITIES TO DETERMINE LOCATIONS OF SERVICES PRIOR TO ANY EXCAVATION.
 - THE CONTRACTOR SHALL ALLOW FOR THE TESTING OF THE E-PROM IN THE CONTROLLER THAT IS TO BE INSTALLED ON THE SITE.
 - ALL ROAD CROSSINGS DUCTS TO BE 2 x 100mm Dia ORANGE uPVC DUCTING.
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 - DUCTING TO KERB SIDE JUNCTION BOXES SHALL BE A MINIMUM OF 50mm DIAMETER.
 - ALL LANTERNS SHALL BE APPROVED LED TYPE.
 - ALL LANTERNS BODIES AND BACKING BOARDS SHALL BE ALUMINUM BODIED.
 - POSTED SPEED LIMIT ON MILL ROAD IS 60 km/h.
 - CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS WHEN INSTALLING NEW POLES IN CLOSE PROXIMITY TO OVERHEAD POWER CABLES.
 - ADVANCE LOOPS TO EXTEND PHASE AND NOT CALL.

OPERATIONAL NOTES

QUEUE LOOPS 16 AND 17 PROVIDED TO DETERMINE WHEN STOPPED QUEUE EXTENDS NEAR END OF MOTORWAY OFFRAMP AND WHEN OCCUPIED SHOULD FORCE CONTROLLER TO THE APPROPRIATE OFF RAMP PHASE TO CLEAR QUEUE AND PREVENT IT EXTENDING ONTO MOVING TRAFFIC LANE. EXACT OPERATION TO BE DETERMINED BY ATOC.

TRAFFIC SIGNAL PLAN
SCALE 1:200



POLE DETAILS

ID	POLE TYPE	COMMENTS
1	STANDARD 5M	
2	STANDARD 5M	
3	STANDARD 5M FD	Pole to fold down for O/S loads
4	MAST ARM (5M OUTREACH)	Extension to support CCTV camera. Minimum clearance = 6.5M
5	STANDARD 5M FD	Pole to fold down for O/S loads
6	STANDARD 5M FD	Pole to fold down for O/S loads
7	STANDARD 5M FD	Pole to fold down for O/S loads
8	STANDARD 5M FD	Pole to fold down for O/S loads
9	JUSP	Supports CCTV camera.

ACRONYMS

FD	FOLD DOWN POLE TO CATER FOR OVERSIZE LOAD ROUTE
JUSP	JOINT USE SIGNAL AND STREET POLE

SIGNAL GROUP DIAGRAM

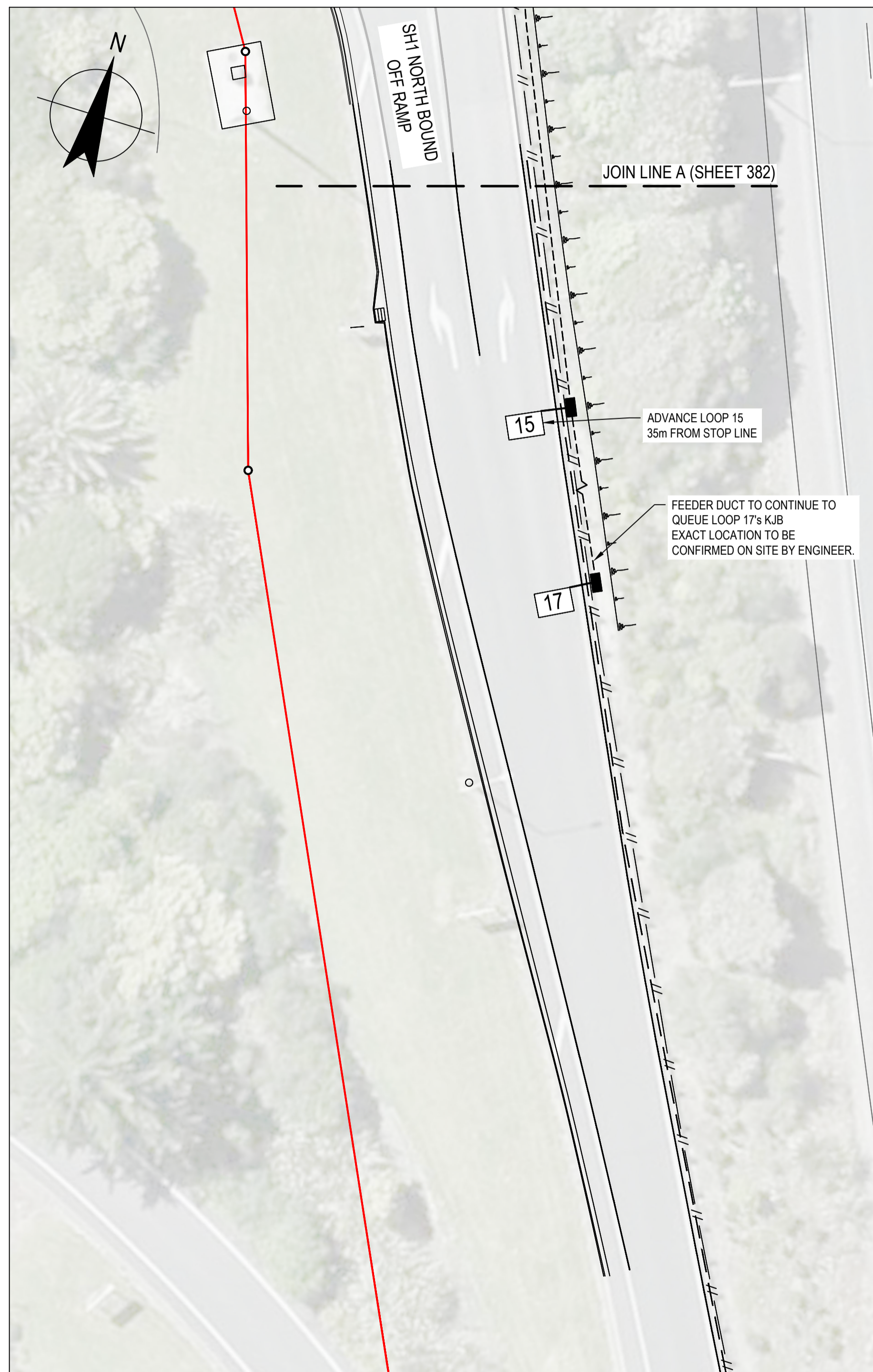
No	Revision	Drawn	Date	Approved	Date
C	DUCTING AND CABLING REVISED	KA	18.01.24	LC	18.01.24
B	TENDER	KA	30.11.23	LC	30.11.23
A	DETAILED DESIGN	KA	31.08.23	MF	31.08.23



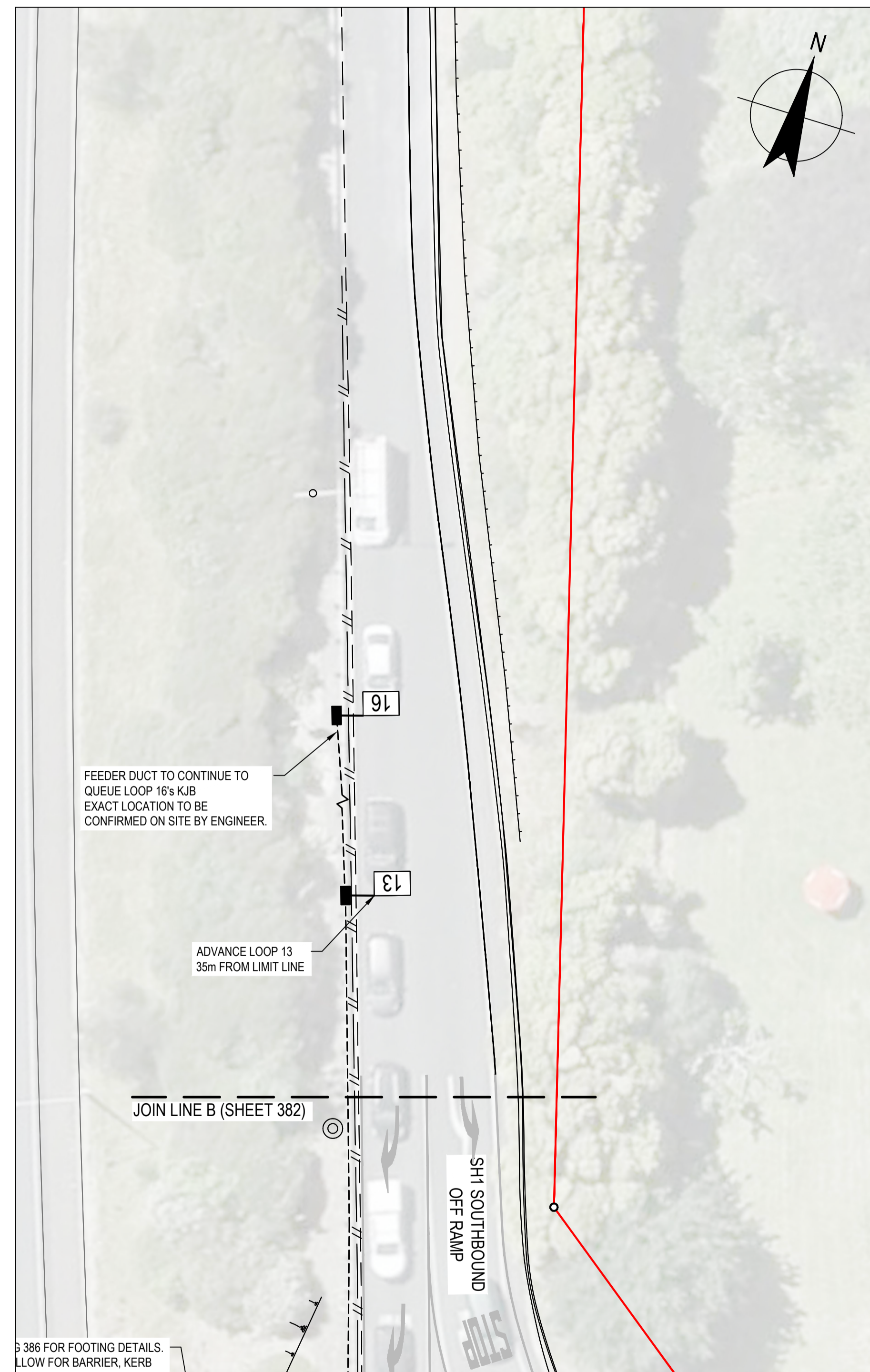
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DO NOT SCALE	
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Designer	R. THOMSON
Drafting Check	L. CAMERON
Design Check	L. CAMERON
Approved	M. FAUVEL
Date	31 AUGUST 2023
Scale	1:200

Client		Project		Title	
NZ TRANSPORT AGENCY - WAKA KOTAHU		BOMBAY INTERCHANGE SIGNALISATION		TRAFFIC SIGNALS - SHEET 2	
				MILL ROAD / SH1 INTERCHANGE PLAN	
Original Size	A1	Drawing No:	23076	382	Rev: C



INSET A
SCALE 1:200



INSET B
SCALE 1:200

SIGNALS LEGEND	
	CONTROLLER
	TERMINATION CABINET
	SIGNAL DUCT ACCESS CHAMBER
	KERB SIDE JUNCTION BOX
	POST AND POST NUMBER
	POST WITH OVERHEAD STREETLIGHT (JUSP/JUMA)
	POST WITH OVERHEAD MAST ARM
	200mm LED ASPECTS - OPEN VISOR
	300mm LED ASPECTS - OPEN VISOR
	ASPECTS WITH CLOSED VISOR
	3 ASPECT DISPLAY
	3 ASPECT DISPLAY WITH SINGLE ARROW STRAIGHT THROUGH DISPLAY
	200mm 3 ASPECT DISPLAY WITH SINGLE GREEN RIGHT TURN ARROW DISPLAY
	4 ASPECT DISPLAY WITH SINGLE GREEN RIGHT ARROW DISPLAY
	3 ASPECT DISPLAY WITH SUPP. 3 ARROW DISPLAY
	FLIR RADAR DETECTOR
	50mm FEEDER DUCTING
	100mm DUCTING
	INDUCTANCE LOOP - STOPLINE LOOP & NUMBER
	INDUCTANCE LOOP - ADVANCE LOOP & NUMBER
	FLIR RADAR DETECTION LOOP

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- POSTED SPEED LIMIT ON MILL ROAD IS 60 km/h.
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- ADVANCE LOOPS TO EXTEND PHASE AND NOT CALL.

TENDER

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A	DETAILED DESIGN	KA	31.08.23	MF	31.08.23



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Approved	M. FAUVEL		
Date	31 AUGUST 2023		
Scale	1:200	 SCALE 1:200 AT ORIGINAL SIZE	

Client	NZ TRANSPORT AGENCY - WAKA KOTAHU BOMBAY INTERCHANGE SIGNALISATION		
Project	TRAFFIC SIGNALS - SHEET 3 SOUTHERN MOTORWAY PLAN		
Title			
Original Size	A1	Drawing No: 23076	383 Rev: B