		22.01.09	21.05.13	20.07.20	25.03.21	29.07.21	28.04.22	24.03.23	03.04.25	
DATE OF ISSUE										
DRAWING PACKAGE VERSION		1	2	3	4	5	6	7	8	
GENERAL										
S0200-G1	SITE SPECIFICATIONS	AB	A	B	C	AB	A	A	B	
S0200-G2	OVERALL SITE PLAN	AB	A	B	C	AB	A	A	B	
S0200-G3	SITE LAYOUT AND SETOUT PLAN	AB	A	B	C	AB	A	A	B	
S0200-G4	SITE ELEVATION	AB	A	B	C	AB	A	A	B	
ANTENNAS & TRANSMISSION										
S0200-A1	OPTUS PANEL ANTENNA SYSTEM CONFIGURATION - SECTOR 1	AB	A	B	C	AB	A	B	C	
S0200-A2	OPTUS PANEL ANTENNA SYSTEM CONFIGURATION - SECTOR 2	-	-	A	B	AB	A	A	B	
S0200-A3	OPTUS PANEL ANTENNA SYSTEM CONFIGURATION - SECTOR 3	-	-	-	A	AB	A	A	B	
S0200-A4	PHYSICAL ASSET SUMMARY TABLE	-	-	-	-	-	A	A	B	
S0200-P1	OPTUS RF PLUMBING DIAGRAM	-	-	-	-	-	-	-	A	
S0200-T1	SITE TRANSMISSION DETAILS	-	-	A	B	AB	A	A	-	
STRUCTURAL										
ELECTRICAL										
S0200-E1	SITE POWER DETAILS	-	-	-	-	-	A	A	-	
S0200-E2	SINGLE LINE DIAGRAM	-	-	-	-	-	A	A	-	
SHELTER / FITOUT										
S0200-F1	EQUIPMENT ROOM LAYOUT - SHEET 1 OF 3	AB	A	B	C	AB	A	A	B	
EME EXCLUSION ZONES										
LEASE / LICENCE										

OPTUS

OPTUS SITE - S0200

THREDBO

INDARA SITE ID: 3000599

TOP OF KOSCIUSZKO CHAIRLIFT EAGLE'S NEST

LOT 863 DP1128686 FRIDAY DRIVE

THREDBO NSW 2625

UPGRADE 5G (OO MOCN)

OPTUS WORK AUTHORITY Nº 515062

ServiceStream

		22.01.09	21.05.13	20.07.20	25.03.21	29.07.21	28.04.22	24.03.23	03.04.25	
DISTRIBUTION										
OPTUS	SUHAIB OBAID	-	-	1	1	1	1	1	1	
SERVICESTREAM	HABIBUR RAHMAN	-	-	-	-	-	1	1	1	

FOR CONSTRUCTION

Drawing No.
S0200-00

A3

DATE OF ISSUE	22.01.09	21.05.13	20.07.20	25.03.21	29.07.21	28.04.22	24.03.23	03.04.25	
DRAWING PACKAGE VERSION	1	2	3	4	5	6	7	8	

REFERENCE DOCUMENTS

OSD-100	STANDARD CONSTRUCTION NOTES	-	-	B	B	B	C	C	C	
OSD-171-1	SITE SIGNAGE TYPICAL GROUND SITE	-	-	-	-	-	-	-	B	
OSD-171-3	SIGNAGE LEGEND AND NOTES	-	-	-	-	-	-	-	B	
OSD-340	PARABOLIC ANTENNA STRAP MOUNTS ON MONOPOLES	-	-	A	A	A	A	-	-	
-	DALY INTERNATIONAL STRUCTURAL ASSESSMENT	-	1	-	-	-	-	-	-	
STD-21622 SHT. 1	ANTENNA MOUNT @ R.L. 8.90m - GENERAL ARRANGEMENT & DETAILS	-	-	3	3	3	-	-	-	
STD-21622 SHT. 2	ANTENNA MOUNT @ R.L. 8.90m - SUB-ASSEMBLY 2A & DETAIL 2.1	-	-	3	3	3	-	-	-	
87840/11581333/2	STRUCTEL MOUNT CERTIFICATION	-	-	1	1	1	-	-	-	
S0200-NSW/S-Rev 1.1	LENDLEASE STRUCTURAL STATEMENT	-	-	-	1	1	-	-	-	
STD-40010	7.44m STEEL POLE STEEL WORK @ R.L. 8.90m GENERAL ARRANGEMENT	-	-	-	-	-	1	1	1	
87840/P-021049/1	STRUCTEL - THREDBO (NSW) - MOUNT CERTIFICATION DATED 04.02.2022	-	-	-	-	-	1	1	-	
87840/P-021049/2	STRUCTEL - THREDBO (NSW) - MOUNT CERTIFICATION DATED 02.04.2025	-	-	-	-	-	-	-	1	
-	STRUCTURAL ADEQUACY STATEMENT BY SSMC	-	-	-	-	-	-	-	1	

OPTUS

OPTUS SITE - S0200

THREDBO

INDARA SITE ID: 3000599

TOP OF KOSCIUSZKO CHAIRLIFT EAGLE'S NEST

LOT 863 DP1128686 FRIDAY DRIVE

THREDBO NSW 2625

UPGRADE 5G (OO MOCN)

OPTUS WORK AUTHORITY Nº 515062

ServiceStream

FOR CONSTRUCTION

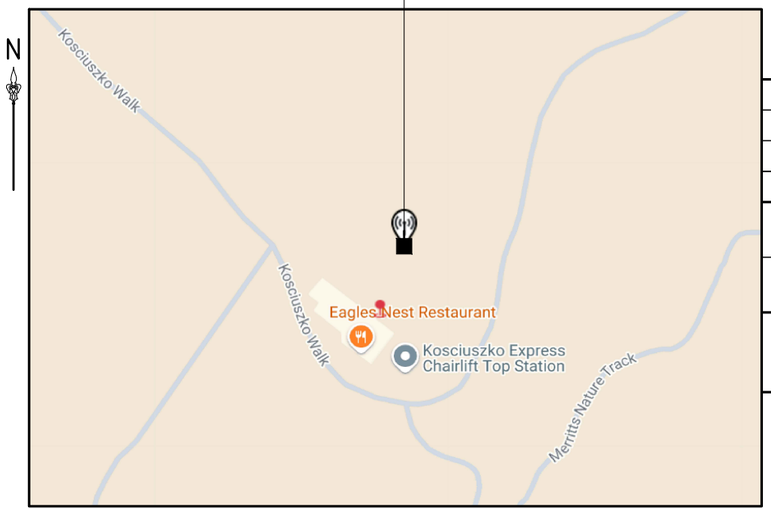
Drawing No.
S0200-01

A3

SITE ADDRESS

TOP OF KOSCIUSZKO CHAIRLIFT EAGLE'S NEST
LOT 863 DP1128686 FRIDAY DRIVE
THREDBO NSW 2625

OPTUS SITE S0200
RFNSA SITE ID: 2625001



SITE LOCATION DATA	
SOURCE: RFNSA	
DATUM: MGA (GDA94)	ZONE: 55
REF LOCATION: ℄ OF MONOPOLE	
EASTING	615 337
NORTHING	5 960 542
LATITUDE	-36.4935°
LONGITUDE	148.28775°

WGS84 DATUM (USED BY GOOGLE EARTH® AND GPS DEVICES) CAN BE CONSIDERED SAME AS GDA94 (SOURCE: "GEOCENTRIC DATUM OF AUSTRALIA TECHNICAL MANUAL" VERSION 2.3)

TOPOGRAPHIC MAP . . . COPYRIGHT © GOOGLE MAPS

EXISTING INDARA STEEL MONOPOLE

1. EXISTING INDARA 7.44m STEEL MONOPOLE ON 3.0m SQUARE x 0.8m HIGH CONCRETE BASE SLAB (BY INDARA). OVERALL HEIGHT OF MONOPOLE AND FOUNDATION IS 7.44m ABOVE GROUND LEVEL. MONOPOLE AND EQUIPMENT FINISHED IN NON REFLECTIVE PALE EUCALYPT GREEN. STRUCTURAL ADEQUACY OF EXISTING STEEL MONOPOLE AND ITS FOUNDATION HAS BEEN CONFIRMED BY INDARA AS PART OF AA PROCESS.
2. NEW OPTUS PASSIVE ANTENNAS AND ANCILLARY EQUIPMENT TO BE INSTALLED ON EXISTING OPTUS SPOKE HEADFRAME WITH NEW ANTENNA MOUNTING PIPES. REFER TO DRAWING STD-40010, SHT 1 REV 1 FOR DETAILS.
3. STRUCTURAL ADEQUACY OF EXISTING OPTUS SPOKE HEADFRAME HAS BEEN CONFIRMED BY SSMC. REFER TO STRUCTURAL CERTIFICATE VER.01 DATED 03.04.2025 FOR DETAILS. B
4. ANTENNA MAINTENANCE ACCESS BY QUALIFIED PERSONNEL ONLY (VIA STEP PEGS WITH FALL ARREST SYSTEM ON MONOPOLE).

OPTUS EQUIPMENT ROOM

1. EXISTING OPTUS TIMBER AND PLYWOOD EQUIPMENT ROOM IN ROOFSPACE ABOVE STOREROOM, LOCATED NEAR THE 'EAGLES NEST' RESTAURANT.
2. REFER TO SHEET S0200-F1 FOR EQUIPMENT ROOM LAYOUT DETAILS.

TRANSMISSION

1. THIS SITE IS LINKED TO THE NETWORK VIA RADIO.

SITE ACCESS

1. ALL SITE ACCESS VIA LOT 863 DP1128686 FRIDAY DRIVE.
2. CONSTRUCTION CONTRACTOR TO FOLLOW ALL SITE PROTOCOLS. APPLICATION APPROVAL AND SITE ACCESS TO BE PERMIT OBTAINED PRIOR TO CARRYING OUT ANY UPGRADES ON SITE.
3. REFER TO INDARA DIGITAL SITE PERMITS GUIDELINE FOR MORE DETAILS. CONTACT INDARA SITE MANAGEMENT CENTRE (SMC) ON 1800 006 667 OR EMAIL ACCESSTOSITE@ACCESSTOSITE.COM.AU FOR FURTHER ASSISTANCE.

SITE HAZARDS

1. EXISTING EME TRANSMITTING ANTENNAS
2. MANUAL HANDLING
3. WORKING AT HEIGHTS
4. SLIP, TRIP AND FALLS
5. ELECTRICAL HAZARDS
6. WEATHER / LIGHTNING /SNOW
7. SUN EXPOSURE
8. WILDLIFE / INSECTS
9. GENERAL PUBLIC (INCLUDING BICYCLE RIDERS AND BUSHWALKERS)

SITE SIGNAGE

1. SITE SIGNAGE SHALL BE IN ACCORDANCE WITH OSD-171-1 (GROUND SITE) AND OSD-171-3 (EME SIGNAGE). B
2. EXISTING MERCS-2 SIGN INSTALLED ON BASE OF THE OPTUS POLE NEEDS TO BE HARD-STAMPED WITH RFNSA ID.

EME EXCLUSION ZONES

REFER TO EME GUIDE FOR LATEST EME EXCLUSION ZONES FOR EXISTING AND NEW ANTENNAS AT THIS SITE.

ELECTRICAL INSTALLATION AND SITE EARTHING

1. GENERAL

1.1 ALL WORKS ARE TO BE IN ACCORDANCE WITH THE OPTUS CONSTRUCTION SPECIFICATION (OSD - 010), OPTUS EARTHING SPECIFICATION (OSD - 020) AND THE OPTUS SHELTER SPECIFICATION (OSD - 040). LATEST EDITION WITH AMENDMENTS AT TIME OF CONSTRUCTION IS TO APPLY.

2. AC SUPPLY TO SHELTER

2.1 EXISTING 3 PHASE 20A IS SUFFICIENT FOR THE PROPOSED SCOPE OF WORK.

3. EARTHING

3.1 ALL NEW EQUIPMENT AND FEEDER CABLING SHOULD BE BONDED TO THE EXISTING EARTH SYSTEM.

3.2 ALL WALKWAYS, HANDRAILS AND EXTRANEOUS METALWORK ASSOCIATED WITH THE OPTUS INSTALLATION IS TO BE BONDED TO THE EXISTING EARTH SYSTEM.

3.3 FOR DETAILS OF METHODOLOGY REFER TO OPTUS EARTHING SPECIFICATION, OSD - 020. (LATEST EDITION AT TIME OF CONSTRUCTION IS TO APPLY).

GENERAL

1. CONTRACTOR SHALL COMPLY WITH ALL RELEVANT OPTUS CONSTRUCTION STANDARDS AND SPECIFICATIONS.
2. ALL INFORMATION TO BE CHECKED ON SITE PRIOR TO FABRICATION AND CONSTRUCTION.

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	KK	AQ	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
C	25.03.21	NOTES AMENDED & ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK
B	20.07.20	ISSUED FOR CONSTRUCTION	AXICOM	ADC	GJF	GL	GS
A	30.01.19	FOR CONSTRUCTION	DALY	BRS	SC	DI	CT
AB	22.01.09	AS BUILT	DALY	DI	JM	DI	CT

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title: SITE SPECIFICATIONS

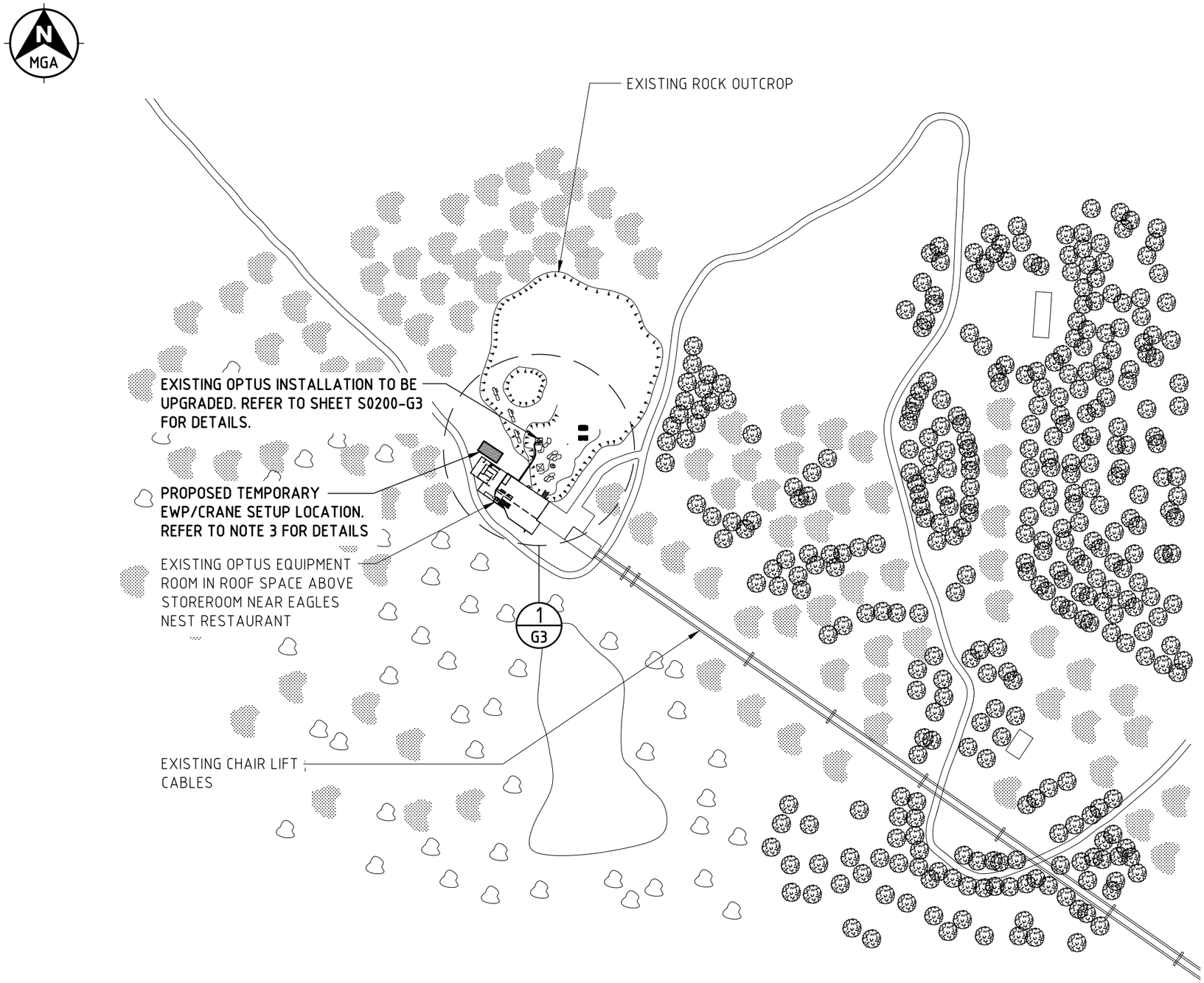
Drawing Status: FOR CONSTRUCTION

Drawing No. S0200-G1

Revision B

20 10 0 10 20 30 40 50mm

A3



OVERALL SITE PLAN

SCALE 1:2000

NOTES:

1. ALL INFORMATION TO BE CHECKED ON SITE PRIOR TO FABRICATION AND CONSTRUCTION.
2. DRAWINGS BASED ON INFORMATION PROVIDED BY OTHERS.
3. CONSTRUCTION CONTRACTOR TO CONFIRM SUITABILITY OF PROPOSED EWP SET-UP/PARKING LOCATION ON SITE PRIOR TO WORK COMMENCING.
4. SERVICES INFORMATION CONTAINED ON THIS DRAWING IS INDICATIVE ONLY AND REFERENCE SHOULD BE MADE TO THE AUTHORITIES DRAWINGS TO CONFIRM ACCURACY AND COMPLETENESS. WHERE INFORMATION IS AVAILABLE, THE SUB-SURFACE SERVICES INSTALLED BY AGENTS OTHER THAN AUTHORITIES HAVE BEEN SHOWN, BUT ADDITIONAL UNDOCUMENTED SERVICES MAY BE PRESENT. IF THE CONTRACTOR BELIEVE THAT SUB-SURFACE SERVICES ARE AT RISK OF DAMAGE DURING CONSTRUCTION, THE CONTRACTOR SHOULD NOTIFY THE RELEVANT AUTHORITIES AND ESTABLISH THE EXACT LOCATION OF THE SERVICES.

LEGEND

EXISTING PROPERTY BOUNDARY

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	KK	AQ	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
C	25.03.21	ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK
B	20.07.20	ISSUED FOR CONSTRUCTION	AXICOM	ADC	GJF	GL	GS
A	30.01.19	FOR CONSTRUCTION	DALY	BRS	SC	DI	CT
AB	22.01.09	AS BUILT	DALY	DI	JM	DI	CT

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title: OVERALL SITE PLAN

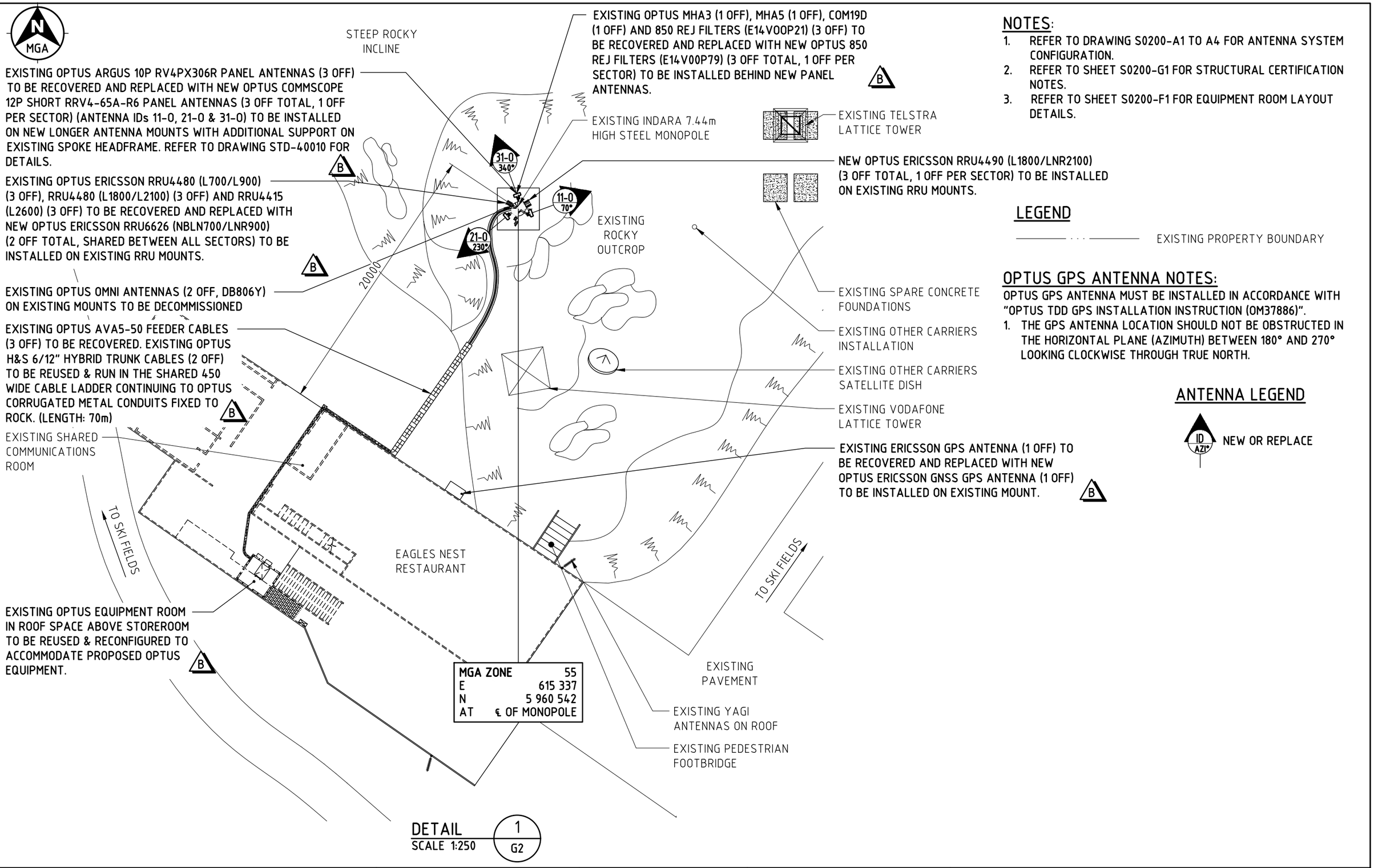
Drawing Status: FOR CONSTRUCTION

Drawing No. S0200-G2

Revision B

20 10 0 10 20 30 40 50mm

A3



NOTES:

1. REFER TO DRAWING S0200-A1 TO A4 FOR ANTENNA SYSTEM CONFIGURATION.
2. REFER TO SHEET S0200-G1 FOR STRUCTURAL CERTIFICATION NOTES.
3. REFER TO SHEET S0200-F1 FOR EQUIPMENT ROOM LAYOUT DETAILS.

LEGEND

EXISTING PROPERTY BOUNDARY

OPTUS GPS ANTENNA NOTES:

OPTUS GPS ANTENNA MUST BE INSTALLED IN ACCORDANCE WITH "OPTUS TDD GPS INSTALLATION INSTRUCTION (OM37886)".

1. THE GPS ANTENNA LOCATION SHOULD NOT BE OBSTRUCTED IN THE HORIZONTAL PLANE (AZIMUTH) BETWEEN 180° AND 270° LOOKING CLOCKWISE THROUGH TRUE NORTH.

ANTENNA LEGEND

ID / AZI° — NEW OR REPLACE

DETAIL 1/G2
SCALE 1:250

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	KK	AQ	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
C	25.03.21	NOTES AMENDED & ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK
B	20.07.20	ISSUED FOR CONSTRUCTION	AXICOM	ADC	GJF	GL	GS
A	30.01.19	FOR CONSTRUCTION	DALY	BRS	SC	DI	CT
AB	22.01.09	AS BUILT	DALY	DI	JM	DI	CT

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

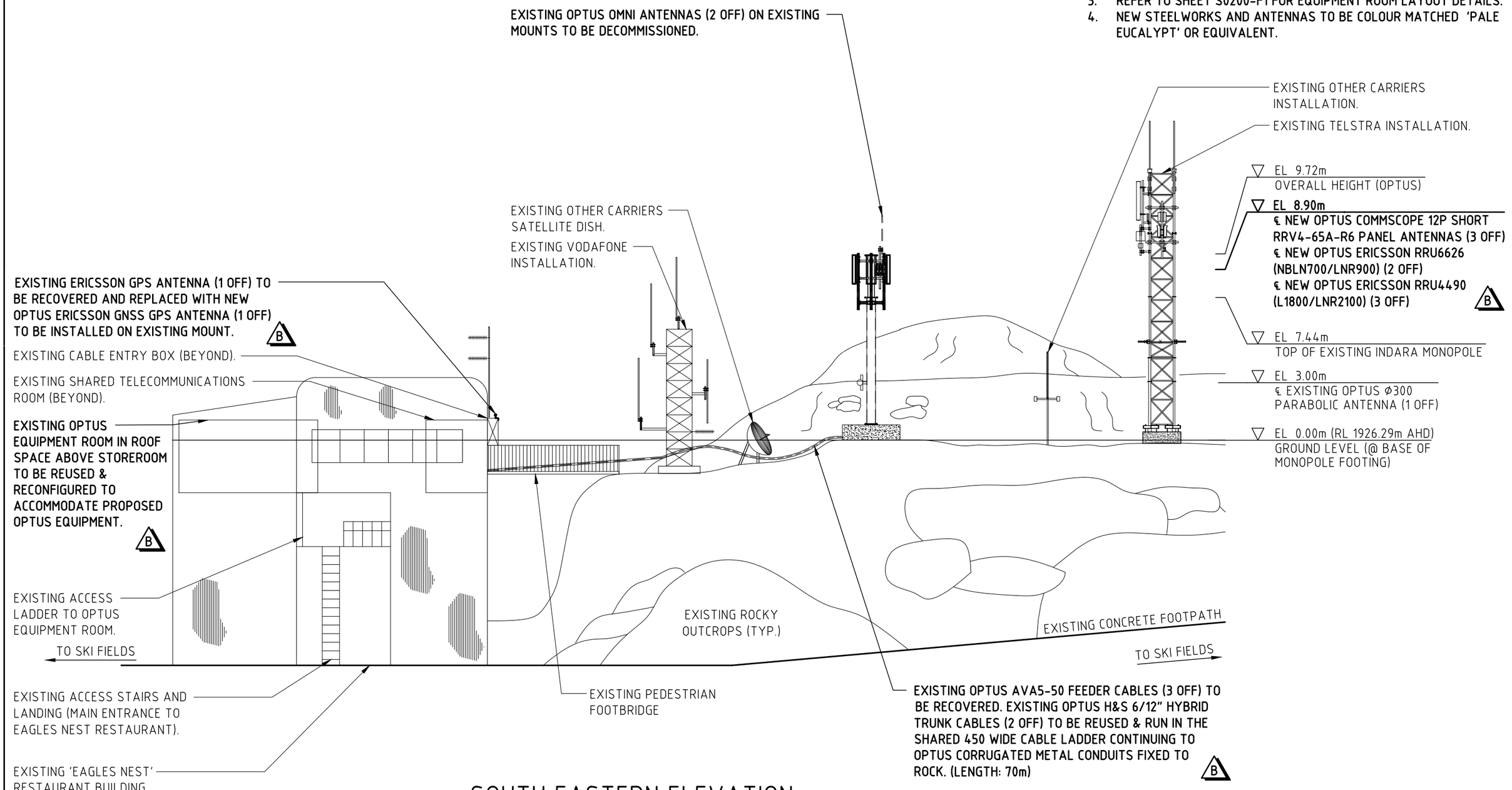
Drawing Title: SITE LAYOUT AND SETOUT PLAN

Drawing Status: FOR CONSTRUCTION
Drawing No. S0200-G3
Revision B

20 10 0 10 20 30 40 50mm
A3

NOTES:

1. REFER TO DRAWING S0200-A1 TO A4 FOR ANTENNA SYSTEM CONFIGURATION.
2. REFER TO SHEET S0200-G1 FOR STRUCTURAL CERTIFICATION NOTES.
3. REFER TO SHEET S0200-F1 FOR EQUIPMENT ROOM LAYOUT DETAILS.
4. NEW STEELWORKS AND ANTENNAS TO BE COLOUR MATCHED 'PALE EUCALYPT' OR EQUIVALENT.



SOUTH EASTERN ELEVATION

SCALE 1:200

(CHAIRLIFT STATION IN FOREGROUND OMITTED FOR CLARITY)

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	KK	AQ	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
C	25.03.21	ELEVATION & NOTES AMENDED & ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK
B	20.07.20	ISSUED FOR CONSTRUCTION	AXICOM	ADC	GJF	GL	GS
A	30.01.19	FOR CONSTRUCTION	DALY	BRS	SC	DI	CT
AB	22.01.09	AS BUILT	DALY	DI	JM	DI	CT

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title: SITE ELEVATION

Drawing Status: FOR CONSTRUCTION

Drawing No. S0200-G4

Revision B

20 10 0 10 20 30 40 50mm

A3

A1 - PHYSICAL ANTENNA GROUP 1 DETAILS

ANTENNA DETAILS							
PHYSICAL ANTENNA GROUP (N2)		1					
CO-ORDINATES (N5)	LATITUDE	-36.4935					
	LONGITUDE	148.28775					
ANTENNA OPERATOR		OPTUS					
PHYSICAL ANTENNA NUMBER (N3)		1					
PHYSICAL ANTENNA ID (N4)		11-O					
ANTENNA ALIAS		12-PORT SHORT					
ANTENNA STATUS		NEW					
PHYSICAL AZIMUTH (°) (N6)		70°					
PHYSICAL ANT CL EL (m) (N7)		8.90m					
MECH DOWN-TILT (°)		0°					
MODEL NO.		RRV4-65A-R6					
MANUFACTURER		COMMS					
TYPE		PASSIVE					
NO. OF RF PORTS / TxRx		12					
PORT TYPE		4.3-10					
BAND CAPABILITY		07 / 09 / 18 / 21 / 23 / 26					
DIMENSIONS (HxWxD) (mm)		1499 × 498 × 197					
WEIGHT (kg)		33					
RF SECTOR & BAND ALLOCATION							
RF SECTOR ID / SUB-SECTOR ID		1					
PHYSICAL ARRAY ID		L11	L21	H12	H22	H13	H23
LOGICAL ANTENNA PORT		LP1 & LP2	LP3 & LP4	LP5 & LP6	LP7 & LP8	LP9 & LP10	LP11 & LP12
PHYSICAL ANTENNA PORT (OEM LABEL)		3 & 4	1 & 2	11 & 12	9 & 10	7 & 8	5 & 6
ETILT (N8)		7	7			5	5
ARRAY BEAM OFFSET (°)		0					
ARRAY BEAM AZIMUTH (°)		70°					
ARRAY BAND CAPABILITY		7,8,9	7,8,9	18,21,23,26	18,21,23,26	18,21,23,26	18,21,23,26
ASSIGNED ARRAY OPERATOR		O	O	O	O	O	O
ASSIGNED RF PORT FREQUENCY 1		07/09	07/09			18/21	18/21
ASSIGNED RF PORT FREQUENCY 2							
ASSIGNED RF PORT FREQUENCY 3							
ASSIGNED RF PORT FREQUENCY 4							

C

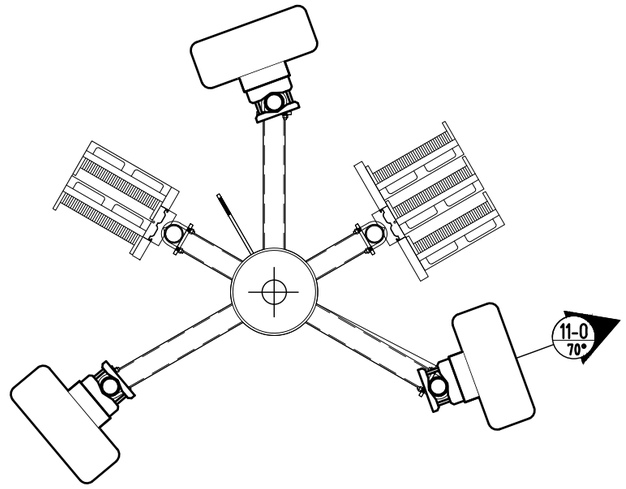
NOTES:

1. THE ANTENNA TABLE SHALL BE READ IN CONJUCTION WITH THE DETAIL RF PLUMBING FOR THIS SITE.
2. A PHYSICAL SECTOR GROUP IS DEFINED AS A GROUP OF ANTENNAS GENERALLY ORIENTATED WITH SIMILAR AZIMUTHS AND EACH GROUP IS ASSIGNED A NUMBER 1, 2, 3,4. ETC. THE PHYSICAL SECTOR GROUP MAY INCLUDE SINGLE BEAM OR MULTI-BEAM ANTENNAS. IN THE CASE OF MULTI-BEAM ANTENNAS, THE RF SECTOR MAY DIFFER TO THE PHYSICAL SECTOR.
3. THE PHYSICAL ANTENNA NUMBER DEFINED BY ASSIGNING SEQUENCED NUMBERS TO EACH JV OPERATOR'S ANTENNAS WITHIN A PHYSICAL SECTOR GROUP, STARTING FROM LEFT TO RIGHT, TOP TO BOTTOM.
4. THE PHYSICAL ANTENNA ID IS DEFINED BY THE NUMBER MADE UP BY CONCATENATING THE PHYSICAL SECTOR GROUP NUMBER WITH THE PHYSICAL ANTENNA NUMBER & THE FIRST LETTER FROM THE OPERATOR'S NAME OR JOINT (O, V, J), SAME AS THE SAO NUMBER, AS SPECIFIED IN OSD-070 SECTION 5,6.
5. ANTENNA CO-ORDINATES ARE TO BE IN GDA94/GDA2020 REFERENCE SYSTEM, SPECIFIED FOR CENTRE OF EACH SECTOR TO NEAREST METRE.
6. THE PHYSICAL AZIMUTH () DEFINED AS THE DIRECTION OF THE PHYSICAL ANTENNA BORE SIGHT WITH RESPECT TO TRUE NORTH, AZIMUTHS OF EACH BEAM OF MULTI-BEAM ANTENNAS ARE NOT DOCUMENTED IN THIS TABLE.
7. THE PHYSICAL ANT CL EL (m) IS DEFINED AS THE MID-HEIGHT OF THE PHYSICAL ANTENNA. THE HEIGHT OF INDIVIDUAL BEAMS OR DIFFERENT SEGMENTS OF MULTI-BEAM OR HYBRID ANTENNAS (IPAA) ARE NOT DOCUMENTED IN THIS TABLE.
8. ELECTRICAL DOWN-TILTS ARE ONLY ACCURATE AT THE TIME OF BUILD AS THEY ARE FREQUENTLY OPTIMISED. ALWAYS REFER TO CURRENT VALUES IN MNIS.

ANTENNA LEGEND

ID / AZI° NEW OR REPLACE

N MGA



OPTUS ANTENNA PLAN

SCALE 1:25

OPTUS PANEL ANTENNA SYSTEM CONFIGURATION FOR SECTOR 1

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
C	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	KK	AQ	HR
B	24.03.23	TABLE UPDATED	SSMC	JW	AM	FA	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
C	25.03.21	TABLE, NOTES AMENDED & ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK
B	20.07.20	ISSUED FOR CONSTRUCTION	AXICOM	ADC	GJF	GL	GS
A	30.01.19	FOR CONSTRUCTION	DALY	BRS	SC	DI	CT
AB	22.01.09	AS BUILT	DALY	DI	JM	DI	CT

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title: OPTUS PANEL ANTENNA SYSTEM CONFIGURATION - SECTOR 1

Drawing Status: FOR CONSTRUCTION

Drawing No. S0200-A1

Revision C

20 10 0 10 20 30 40 50mm

A3

A2 - PHYSICAL ANTENNA GROUP 2 DETAILS

ANTENNA DETAILS							
PHYSICAL ANTENNA GROUP (N2)		2					
CO-ORDINATES (N5)	LATITUDE	-36.4935					
	LONGITUDE	148.28775					
ANTENNA OPERATOR		OPTUS					
PHYSICAL ANTENNA NUMBER (N3)		1					
PHYSICAL ANTENNA ID (N4)		21-O					
ANTENNA ALIAS		12-PORT SHORT					
ANTENNA STATUS		NEW					
PHYSICAL AZIMUTH (°) (N6)		230°					
PHYSICAL ANT CL EL (m) (N7)		8.90m					
MECH DOWN-TILT (°)		0°					
MODEL NO.		RRV4-65A-R6					
MANUFACTURER		COMMS					
TYPE		PASSIVE					
NO. OF RF PORTS / TxRx		12					
PORT TYPE		4.3-10					
BAND CAPABILITY		07 / 09 / 18 / 21 / 23 / 26					
DIMENSIONS (HxWxD) (mm)		1499 × 498 × 197					
WEIGHT (kg)		33					
RF SECTOR & BAND ALLOCATION							
RF SECTOR ID / SUB-SECTOR ID		2					
PHYSICAL ARRAY ID		L11	L21	H12	H22	H13	H23
LOGICAL ANTENNA PORT		LP1 & LP2	LP3 & LP4	LP5 & LP6	LP7 & LP8	LP9 & LP10	LP11 & LP12
PHYSICAL ANTENNA PORT (OEM LABEL)		3 & 4	1 & 2	11 & 12	9 & 10	7 & 8	5 & 6
ETILT (N8)		6	6			5	5
ARRAY BEAM OFFSET (°)		0					
ARRAY BEAM AZIMUTH (°)		230°					
ARRAY BAND CAPABILITY		7,8,9	7,8,9	18,21,23,26	18,21,23,26	18,21,23,26	18,21,23,26
ASSIGNED ARRAY OPERATOR		O	O	O	O	O	O
ASSIGNED RF PORT FREQUENCY 1		07/09	07/09			18/21	18/21
ASSIGNED RF PORT FREQUENCY 2							
ASSIGNED RF PORT FREQUENCY 3							
ASSIGNED RF PORT FREQUENCY 4							

B

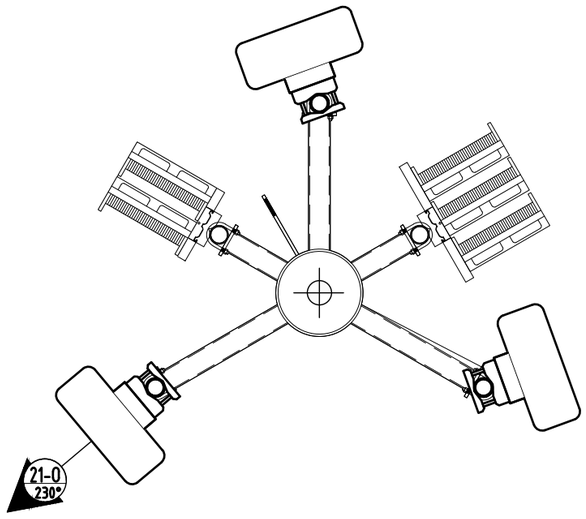
NOTES:

1. THE ANTENNA TABLE SHALL BE READ IN CONJUCTION WITH THE DETAIL RF PLUMBING FOR THIS SITE.
2. A PHYSICAL SECTOR GROUP IS DEFINED AS A GROUP OF ANTENNAS GENERALLY ORIENTATED WITH SIMILAR AZIMUTHS AND EACH GROUP IS ASSIGNED A NUMBER 1, 2, 3,4. ETC. THE PHYSICAL SECTOR GROUP MAY INCLUDE SINGLE BEAM OR MULTI-BEAM ANTENNAS. IN THE CASE OF MULTI-BEAM ANTENNAS, THE RF SECTOR MAY DIFFER TO THE PHYSICAL SECTOR.
3. THE PHYSICAL ANTENNA NUMBER DEFINED BY ASSIGNING SEQUENCED NUMBERS TO EACH JV OPERATOR'S ANTENNAS WITHIN A PHYSICAL SECTOR GROUP, STARTING FROM LEFT TO RIGHT, TOP TO BOTTOM.
4. THE PHYSICAL ANTENNA ID IS DEFINED BY THE NUMBER MADE UP BY CONCATENATING THE PHYSICAL SECTOR GROUP NUMBER WITH THE PHYSICAL ANTENNA NUMBER & THE FIRST LETTER FROM THE OPERATOR'S NAME OR JOINT (O, V, J), SAME AS THE SAO NUMBER, AS SPECIFIED IN OSD-070 SECTION 5,6.
5. ANTENNA CO-ORDINATES ARE TO BE IN GDA94/GDA2020 REFERENCE SYSTEM, SPECIFIED FOR CENTRE OF EACH SECTOR TO NEAREST METRE.
6. THE PHYSICAL AZIMUTH () DEFINED AS THE DIRECTION OF THE PHYSICAL ANTENNA BORE SIGHT WITH RESPECT TO TRUE NORTH, AZIMUTHS OF EACH BEAM OF MULTI-BEAM ANTENNAS ARE NOT DOCUMENTED IN THIS TABLE.
7. THE PHYSICAL ANT CL EL (m) IS DEFINED AS THE MID-HEIGHT OF THE PHYSICAL ANTENNA. THE HEIGHT OF INDIVIDUAL BEAMS OR DIFFERENT SEGMENTS OF MULTI-BEAM OR HYBRID ANTENNAS (IPAA) ARE NOT DOCUMENTED IN THIS TABLE.
8. ELECTRICAL DOWN-TILTS ARE ONLY ACCURATE AT THE TIME OF BUILD AS THEY ARE FREQUENTLY OPTIMISED. ALWAYS REFER TO CURRENT VALUES IN MNIS.

ANTENNA LEGEND

ID / AZI° NEW OR REPLACE

N MGA



OPTUS ANTENNA PLAN

SCALE 1:25

OPTUS PANEL ANTENNA SYSTEM CONFIGURATION FOR SECTOR 2

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	KK	AQ	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
B	25.03.21	DIAGRAM AMENDED & ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK
A	20.07.20	ISSUED FOR CONSTRUCTION	AXICOM	ADC	GJF	GL	GS

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title: OPTUS PANEL ANTENNA SYSTEM CONFIGURATION - SECTOR 2

Drawing Status:	Drawing No.	Revision
FOR CONSTRUCTION	S0200-A2	B

20 10 0 10 20 30 40 50mm

A3

A3 - PHYSICAL ANTENNA GROUP 3 DETAILS

ANTENNA DETAILS							
PHYSICAL ANTENNA GROUP (N2)		3					
CO-ORDINATES (N5)	LATITUDE	-36.4935					
	LONGITUDE	148.28775					
ANTENNA OPERATOR		OPTUS					
PHYSICAL ANTENNA NUMBER (N3)		1					
PHYSICAL ANTENNA ID (N4)		31-O					
ANTENNA ALIAS		12-PORT SHORT					
ANTENNA STATUS		NEW					
PHYSICAL AZIMUTH (°) (N6)		340°					
PHYSICAL ANT CL EL (m) (N7)		8.90m					
MECH DOWN-TILT (°)		0°					
MODEL NO.		RRV4-65A-R6					
MANUFACTURER		COMMS					
TYPE		PASSIVE					
NO. OF RF PORTS / TxRx		12					
PORT TYPE		4.3-10					
BAND CAPABILITY		07 / 09 / 18 / 21 / 23 / 26					
DIMENSIONS (HxWxD) (mm)		1499 × 498 × 197					
WEIGHT (kg)		33					
RF SECTOR & BAND ALLOCATION							
RF SECTOR ID / SUB-SECTOR ID		3					
PHYSICAL ARRAY ID		L11	L21	H12	H22	H13	H23
LOGICAL ANTENNA PORT		LP1 & LP2	LP3 & LP4	LP5 & LP6	LP7 & LP8	LP9 & LP10	LP11 & LP12
PHYSICAL ANTENNA PORT (OEM LABEL)		3 & 4	1 & 2	11 & 12	9 & 10	7 & 8	5 & 6
ETILT (N8)		4	4			4	4
ARRAY BEAM OFFSET (°)		0					
ARRAY BEAM AZIMUTH (°)		340°					
ARRAY BAND CAPABILITY		7,8,9	7,8,9	18,21,23,26	18,21,23,26	18,21,23,26	18,21,23,26
ASSIGNED ARRAY OPERATOR		O	O	O	O	O	O
ASSIGNED RF PORT FREQUENCY 1		07/09	07/09			18/21	18/21
ASSIGNED RF PORT FREQUENCY 2							
ASSIGNED RF PORT FREQUENCY 3							
ASSIGNED RF PORT FREQUENCY 4							

B

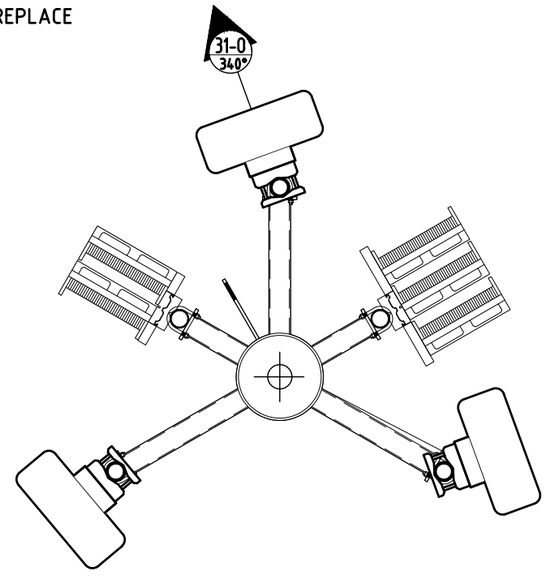
OPTUS PANEL ANTENNA SYSTEM CONFIGURATION FOR SECTOR 3

NOTES:

1. THE ANTENNA TABLE SHALL BE READ IN CONJUCTION WITH THE DETAIL RF PLUMBING FOR THIS SITE.
2. A PHYSICAL SECTOR GROUP IS DEFINED AS A GROUP OF ANTENNAS GENERALLY ORIENTATED WITH SIMILAR AZIMUTHS AND EACH GROUP IS ASSIGNED A NUMBER 1, 2, 3,4. ETC. THE PHYSICAL SECTOR GROUP MAY INCLUDE SINGLE BEAM OR MULTI-BEAM ANTENNAS. IN THE CASE OF MULTI-BEAM ANTENNAS, THE RF SECTOR MAY DIFFER TO THE PHYSICAL SECTOR.
3. THE PHYSICAL ANTENNA NUMBER DEFINED BY ASSIGNING SEQUENCED NUMBERS TO EACH JV OPERATOR'S ANTENNAS WITHIN A PHYSICAL SECTOR GROUP, STARTING FROM LEFT TO RIGHT, TOP TO BOTTOM.
4. THE PHYSICAL ANTENNA ID IS DEFINED BY THE NUMBER MADE UP BY CONCATENATING THE PHYSICAL SECTOR GROUP NUMBER WITH THE PHYSICAL ANTENNA NUMBER & THE FIRST LETTER FROM THE OPERATOR'S NAME OR JOINT (O, V, J), SAME AS THE SAO NUMBER, AS SPECIFIED IN OSD-070 SECTION 5,6.
5. ANTENNA CO-ORDINATES ARE TO BE IN GDA94/GDA2020 REFERENCE SYSTEM, SPECIFIED FOR CENTRE OF EACH SECTOR TO NEAREST METRE.
6. THE PHYSICAL AZIMUTH () DEFINED AS THE DIRECTION OF THE PHYSICAL ANTENNA BORE SIGHT WITH RESPECT TO TRUE NORTH, AZIMUTHS OF EACH BEAM OF MULTI-BEAM ANTENNAS ARE NOT DOCUMENTED IN THIS TABLE.
7. THE PHYSICAL ANT CL EL (m) IS DEFINED AS THE MID-HEIGHT OF THE PHYSICAL ANTENNA. THE HEIGHT OF INDIVIDUAL BEAMS OR DIFFERENT SEGMENTS OF MULTI-BEAM OR HYBRID ANTENNAS (IPAA) ARE NOT DOCUMENTED IN THIS TABLE.
8. ELECTRICAL DOWN-TILTS ARE ONLY ACCURATE AT THE TIME OF BUILD AS THEY ARE FREQUENTLY OPTIMISED. ALWAYS REFER TO CURRENT VALUES IN MNIS.

ANTENNA LEGEND

ID / AZI° NEW OR REPLACE



OPTUS ANTENNA PLAN

SCALE 1:25

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	KK	AQ	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
A	25.03.21	ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title: OPTUS PANEL ANTENNA SYSTEM CONFIGURATION - SECTOR 3

Drawing Status: FOR CONSTRUCTION

Drawing No. S0200-A3

Revision B

20 10 0 10 20 30 40 50mm A3

PHYSICAL ASSET SUMMARY TABLE

EQUIPMENT ALIAS	PART NO.	STATUS	LOCATION	OPERATOR	PHY ANT GRP	QTY	FREQUENCY	MFR	RF PORT TYPE	DIM (H x W x D)	WT (Kg)
850 REJ	E14V00P79	NEW	ANTENNA	O	1	1	85	COMMS	4.3-10	292 × 219 × 124	9.2
850 REJ	E14V00P79	NEW	ANTENNA	O	2	1	85	COMMS	4.3-10	292 × 219 × 124	9.2
850 REJ	E14V00P79	NEW	ANTENNA	O	3	1	85	COMMS	4.3-10	292 × 219 × 124	9.2

RADIO UNITS

EQUIPMENT ALIAS	PART NO.	STATUS	LOCATION	OPERATOR	PHY ANT GRP	QTY	RF PORT CONNECTED	MFR	NO. RF PORTS / TxRx	RF PORT TYPE	DIM (H x W x D)	WT (Kg)
RRU 700/900	RRU6626	NEW	ANTENNA	O	1, 2, 3	2	6	ERICSSON	6T6R	4.3-10	786 × 397 × 192	48.75
RRU 1800/2100	RRU4490	NEW	ANTENNA	O	1	1	4	ERICSSON	4T4R	4.3-10	552 × 397 × 146	24.5
RRU 1800/2100	RRU4490	NEW	ANTENNA	O	2	1	4	ERICSSON	4T4R	4.3-10	552 × 397 × 146	24.5
RRU 1800/2100	RRU4490	NEW	ANTENNA	O	3	1	4	ERICSSON	4T4R	4.3-10	552 × 397 × 146	24.5

COAXIAL FEEDER / HFDC TRUNK CABLES

CABLE ALIAS	STATUS	LENGTH (m)	OPERATOR	PHY ANT GRP	QTY	COAX BAND ASSIGNMENT	MFR
HFDC 6/12	EXISTING	70m	O	1	1	FOR SECTOR 1 (2 X RRU6626 IS TO BE CONNECTED ON SECTOR 1 CABLE TRUNK)	H+S
HFDC 6/12	EXISTING	70m	O	2 & 3	1	SHARED BETWEEN SECTOR 2 & 3	H+S

B

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RF PLUMBING DIAGRAM DRAWING S0200-P1.
2. ANTENNA CO-ORDINATES ARE SPECIFIED FOR CENTRE OF STRUCTURE, TO THE NEAREST METRE.
3. INFORMATION IN THE TABLES SUPPLIED AND VERIFIED BY OPTUS.
4. ANCILLARIES REFER TO ITEMS AT OR NEAR THE ANTENNA.
5. THE TAIL LENGTH BETWEEN RRU AND ANTENNA NOT TO EXCEED 10m.
6. EXISTING OPTUS H&S 6/12" MLEH TRUNK CABLES (1 OFF) FOR SECTOR 1 (700/900/1800/2100) RRUs. LENGTH 70m.
7. EXISTING OPTUS H&S 6/12" MLEH TRUNK CABLE (1 OFF) SHARED BETWEEN SECTOR 2 & 3 (1800/2100) RRUs. LENGTH 70m.

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (OO MOCN))	RMSI	MV	KK	AQ	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS

ServiceStream

Client: OPTUS

Project:
MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title:
PHYSICAL ASSET SUMMARY TABLE

Drawing Status: FOR CONSTRUCTION

Drawing No. S0200-A4

Revision B

20 10 0 10 20 30 40 50mm

A3

NOTES:

1. THIS DRAWING IS READ IN CONJUNCTION WITH DRAWING S0200-A1 TO A4.

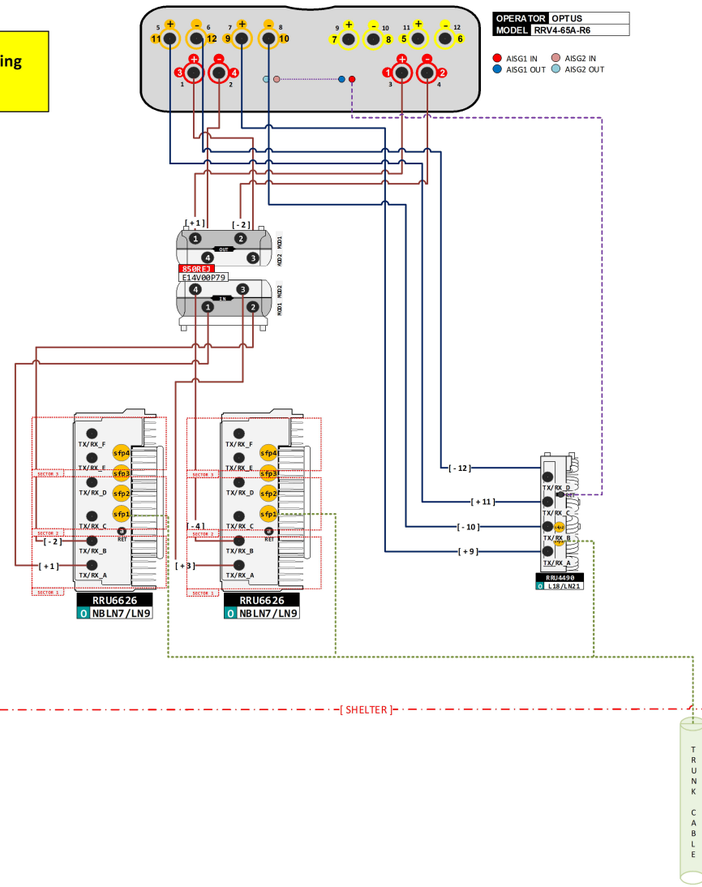
LEGEND

- PANEL PORT
- DC STOP
- DC PATH
- RET PATH
- DC SOURCE
- AISG BYPASS KIT
- CROSS CONNECTS
- LB FEEDER
- OFF HB FEEDER
- VHA HB FEEDER
- RET CABLE
- TxRx Paths
- Rx Paths

Band Colours

- 700 MHz
- 850 MHz
- 900 MHz
- 1800 MHz
- 2100 MHz
- 2300 MHz
- 2600 MHz

Optus Detailed Plumbing Sector 1, 2 & 3



NOTES

2xRRU6626 in total, to be shared between 3 sectors.

S1: OO MOCN RSD3
S2: OO MOCN RSD3
S3: OO MOCN RSD3

"For BBU connection instructions, please refer to the relevant IME documents".

OPTUS Site Specific RF Drawing No.				Optus Site Code	Optus Site No.	JV Site No.	Site Name	Template Title	FILE: S0200_5G_Upgrade_MOCN OO DPD_v3.0_05122024.vsdx	APPROVED BY		
										Date	Name	Company
	S0200-0	V	3.0	22TH	S0200		THREDBO		DPD			Lendlease

OPTUS RF PLUMBING DIAGRAM

PER SECTOR

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
A	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (OO MOCN))	RMSI	MV	KK	AQ	HR

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

Drawing Title: OPTUS RF PLUMBING DIAGRAM

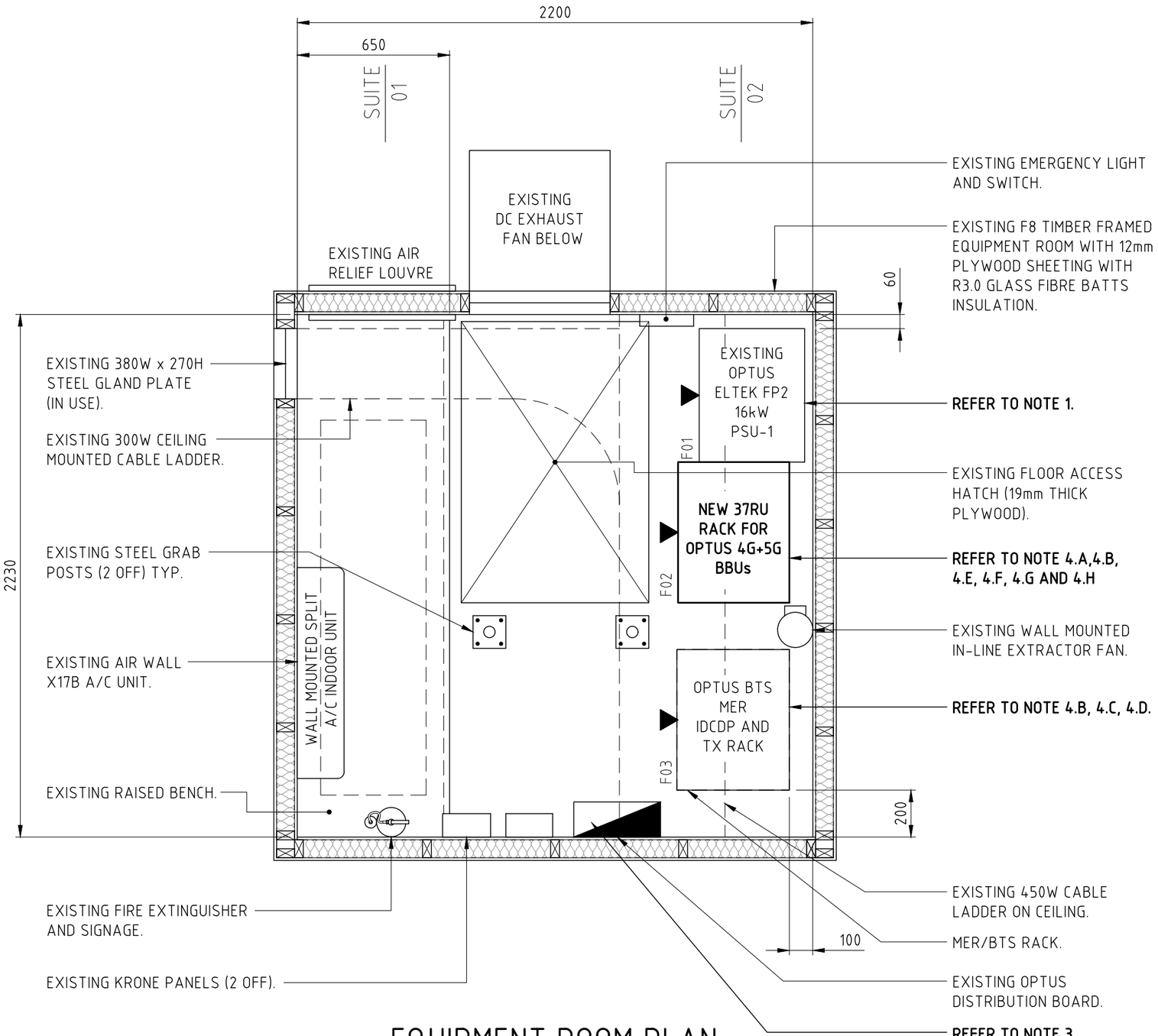
Drawing Status: FOR CONSTRUCTION

Drawing No. S0200-P1

Revision A

20 10 0 10 20 30 40 50mm

A3



EQUIPMENT ROOM PLAN

SCALE 1:20

NOTE:

FOR ALL INSTALLATION OF THE EQUIPMENT REFER TO OPTUS ENGINEERING ORDER FOR DETAILS AND OPTUS CURRENT INSTALLATION GUIDELINES.

1. REUSED EXISTING ELTEK 18kW PSU:

- RECOVER EXISITNG 2 x SILVER RECTIFIERS AND 1 x FAULTY RECTIFIER AT SLOT 5
- PROPOSED 3 x FP2 HE 2kW RECTIFIERS, TOTAL 6 X FP2 HE 2kW RECTIFIERS.
- RELOCATE ALL RECTIFIERS, TO ENSURE IT BALANCE ACROSS 3 PHASE. REFER TO "PSU RECTIFIER RESTRICTION CONFIGURATION TABLE" FOR RECTIFIERS ALLOCATION
- NO CHANGES TO THE EXISTING BATTERIES STRINGS, TOTAL 5 STRINGS OF BATTERIES.

2. IDCDP CONFIGURATION:

- EXISTING 15 WAY IDCDP IS TO BE REUSED AND RECONFIGURED FOR OPTUS PROPOSED RRUs CONTRACTOR TO ENSURE ALL DC FEED IS CONFORM WITH OPTUS 112% RULE, POLE FILLER TO BE INSTALLED.
- PROPOSED 3 x POLE FILLER, 4 x 32A FOR THE IDCDP, REUSED EXISTING 6 x 40A CB.

3. A/C COOLING SYSTEM:

- CONTRACTOR IS TO REWIRE AND ENSURE THAT THE A/C UNIT IS CONNECTED TO PHASE 3 ONLY.

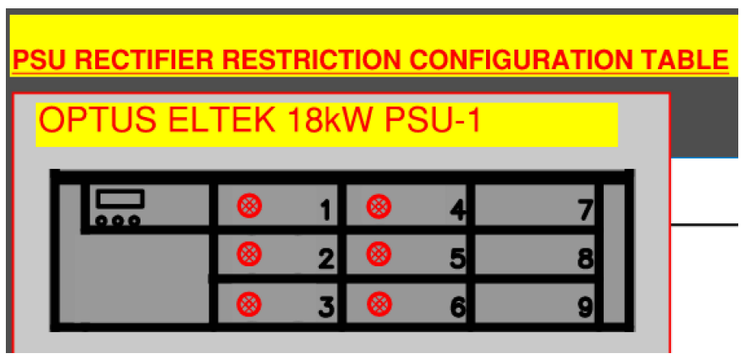
4. BBU:

A. EXISTING 1 x OPTUS HUAWEI U9/U21 BTS RACK /BBUs IS TO BE RECOVERED, (RFU AND BBU INCLUDED).
B. EXISTING TX EQUIPMENT IS TO BE RELOCATED FROM SUITE 02 F02 TO SUITE 02 F03
C. ENSURE ALL EXISTING TX EQUIPMENT IS POWER VIA THE APDP OR DCDU UNIT DIVERSIFIED BOTH FEED
D. RECOVER EXISITNG 2 x LEGACY ERICSSON BBUs
E. PROPOSED 1 x 37RU MER RACK AT SUTIE 02 F02
F. PROPOSED 1 x ERICSSON BBUs FOR OPTUS 4G AND 5G TECHNOLOGY AS PER LATEST OPTUS ERICSSON LATEST BTS DESIGN
G. PROPOSED 1 x C6610 CONTROLLER AND 1 x SAU
H. PROPOSED 1 x VERTIV 12 WAY DCDU FOR POWERING ERICSSON RP6651.

5. ALARM SYSTEM:

- ALL EXTERNAL ALARMS (ENVIRONMENTAL ETC) TO BE MIGRATED FROM 3G TO 4G AND 5G BBU.
- ALL KRONE PANELS TO BE REPLACED WITH RJ45 PATCH PANELS.

PSU RECTIFIER RESTRICTION CONFIGURATION TABLE



Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	03.04.25	ISSUED FOR CONSTRUCTION (UPGRADE 5G (00 MOCN))	RMSI	MV	EY	RI	HR
A	28.04.22	FOR CONSTRUCTION	RMSI	RT	KK	VR	RS
AB	29.07.21	AS BUILT (REGIONAL UG)	LENDLEASE	SRS	_	_	SA
C	25.03.21	NOTES AMENDED & ISSUED FOR CONSTRUCTION	LENDLEASE	AB	AQ	SK	SK
B	20.07.20	ISSUED FOR CONSTRUCTION	AXICOM	ADC	GJF	GL	GS
A	30.01.19	FOR CONSTRUCTION	DALY	BRS	SC	DI	CT
AB	22.01.09	AS BUILT	DALY	DI	JM	DI	CT

ServiceStream

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- S0200
THREDBO
LOT 863 DP1128686 FRIDAY DRIVE

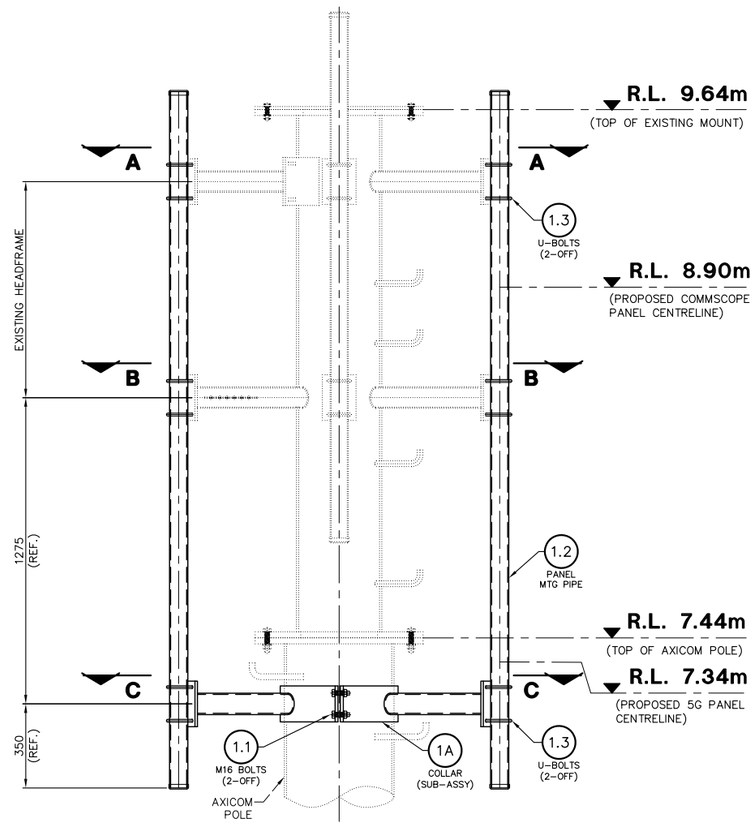
Drawing Title: EQUIPMENT ROOM LAYOUT SHEET 1 OF 3

Drawing Status: FOR CONSTRUCTION

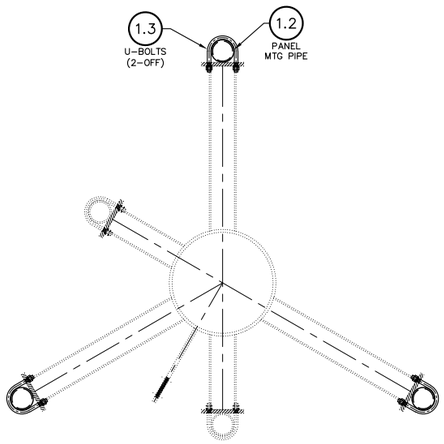
Drawing No. S0200-F1

Revision B

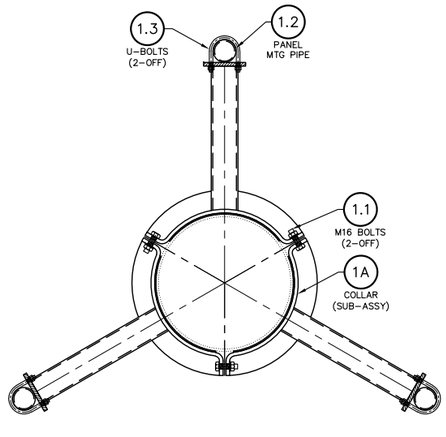
20 10 0 10 20 30 40 50mm A3



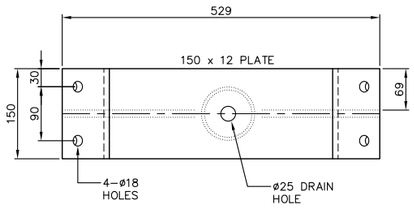
ANTENNA MOUNT ELEVATION @ R.L. 8.90m

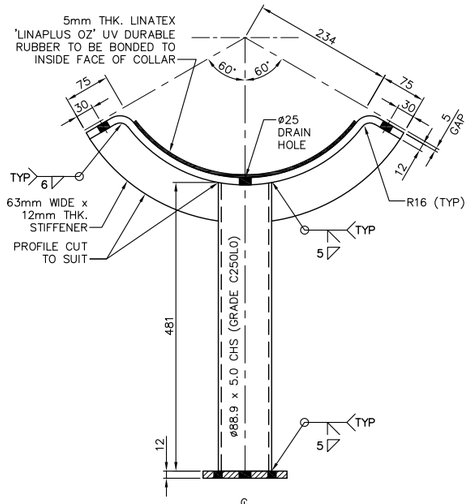


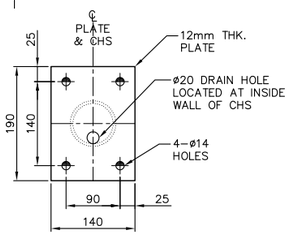
SECTION A - A (AS DRAWN)
SECTION B - B (SIMILAR)



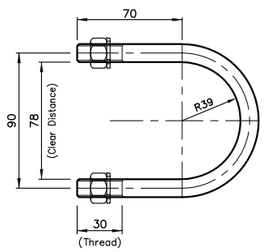
SECTION C - C





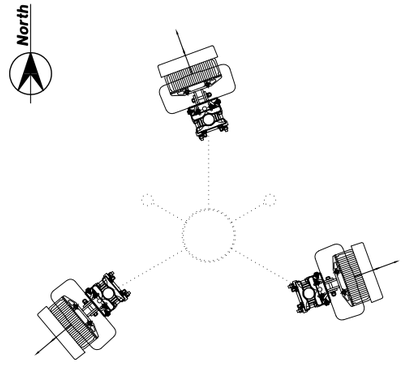


COLLAR (SUB-ASSEMBLY)
(1A)



NOTES:
1. ALL U-BOLTS SUPPLIED COMPLETE WITH CORRESPONDING NUTS & SPRING WASHERS.
2. HOT BEND AT 900°C. ALLOW TO AIR COOL AFTER BENDING AND GALVANISING.
3. HOT DIP GALVANISE ALL PARTS TO AS1214.

(1.3) ø12 U-BOLT TO FIT ø76.1 PIPE



PLAN @ R.L. 8.90m

NOTE FOR MANUFACTURER & INSTALLER:
TRIAL ASSEMBLE PRIOR TO GALVANISING AND DELIVERY TO SITE TO ENSURE CORRECT FIT AND NUMBER OF PARTS

GENERAL NOTES:
1. ALL STEEL TO BE HOT DIP GALVANISED TO AS4680 (2006). BOLTS GALVANISED TO AS1214 (2016).
2. ALL WELDING TO BE CATEGORY SP TO AS1554 (2014). ALL WELDS TO BE 5mm CFW, U.N.O.
3. ALL HOLLOW SECTIONS TO AS1163 (2016).
4. ALL HOT ROLLED STEEL TO AS3678 (2016) & AS3679.1 (2016), (Grade 300).
5. ALL SPRING WASHERS TO AS1968 (1976).
6. HIGH STRENGTH BOLTS TO AS1252.1 (2016) & AS1252.2 (2016) – (Grade 8.8/S).
7. REMOVE ALL SWARF, BURRS & SHARP EDGES TO ALL FRESHLY CUT, WELDED OR DRILLED STEEL ON SITE. APPLY TWO COATS OF ZINC RICH PAINT. ALTERNATIVELY, REFER TO REPORT OR MOP FOR SPECIFIC COATING SCHEDULE.
8. REFER TO MOP AND SOW FOR ADDITIONAL SITE-SPECIFIC NOTES AND INSTRUCTIONS, AS APPLICABLE.
9. CONTACT STRUCTEL AND REFER REPORT No. 87840/P-021049/1 FOR FURTHER INFORMATION IF REQUIRED.

PARTS LIST

PART No.	DESCRIPTION	No. OFF
1A	SEE DETAIL – TOP COLLAR (SUB-ASSEMBLY)	3
1.1	M16 (x 65 Long) HEX HEAD BOLT, (Grade 8.8/S) c/w NUT & SPRING WASHER	6
1.2	ø76.1 x 4.5 CHS (x 2900 Long) PANEL MOUNTING PIPE (Grade C250LO) (Provide galvanised pressed metal end caps after galvanising)	3
1.3	SEE DETAIL – ø12 U-BOLT (TO FIT ø76.1 PIPE)	18

OPTUS SITE:
S0200 – THREDBO

HOLE SYMBOLS: ø 14, ø 18, ø 22, ø 26, ø 32, ø 33

Material: GRADE 300 UNLESS OTHERWISE STATED
Finish: HOT DIP GALVANISE TO A.S. 4680
ALL BOLTS TO A.S. 1111 (GRADE 4.6/S) U.N.O
Welding: STRUCTURAL WELD (SP) TO A.S. 1554 SEAL WELD ALL CONTACTING FACES
DRAWING PRACTICE TO A.S. 1100

DIMENSIONS IN MILLIMETRES
TOLERANCES: UNLESS OTHERWISE STATED
1. LINEAR & HOLES C/C ± 1
2. OVERALL LENGTH ± 1.5
3. HOLE DIAMETER + 0.5 0
4. ANGULAR ± 30'

STRUCTEL PTY. LTD.
ISSUE No. 1
DESIGNED BY . . . . JH
APPROVED BY . . . . AM
DATE 04.02.22

PROJ. No.	DRAWN	CHKD	AMENDMENT	DESIG.	APPD	DATE	ISS
P-021049	ND	AM		JH	AM	04.02.22	1

Structel Pty. Ltd. A.C.N. 064 274 835

Structel

THREADBO (NSW)
7.44m STEEL POLE
STEELWORK @ R.L. 8.90m
GENERAL ARRANGEMENT

STD-40010 SHEET 1 OF 1 (CAD)

DO NOT SCALE
DIMENSIONS IN MILLIMETRES

GENERAL AND PRELIMINARY

1. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR ALL WORKS AND REQUIREMENTS UNLESS NOTED OTHERWISE.
2. THE CONTRACTOR OR REPRESENTATIVE SHALL BE RESPONSIBLE FOR LIAISONS WITH THE PROPERTY OWNER REGARDING CONSTRUCTION OF THE INSTALLATION. THE PROPERTY MUST REMAIN SERVICEABLE AND OPERATIONAL AT ALL TIMES UNLESS AGREED WITH THE PROPERTY OWNER.
3. THE CONTRACTOR SHALL CONFIRM ALL DIMENSIONS ON SITE PRIOR TO FABRICATION AND CONSTRUCTION.
4. REFER TO GIVEN DIMENSIONS ONLY, DRAWINGS SHOULD NOT TO BE SCALED. DIMENSIONS ARE IN MILLIMETRES UNO.
5. SPECIFIED PRODUCTS (OR THEIR APPROVED EQUIVALENTS) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
6. THE CONTRACTOR SHALL USE DROP SHEETS OR ANY OTHER METHOD DEEMED NECESSARY TO PROTECT THE EXISTING BUILDING FROM DAMAGE DURING CONSTRUCTION.
7. NORTH POINT AS SHOWN ON DRAWINGS INDICATES MGA NORTH (GDA 94 DATUM) UNLESS NOTED OTHERWISE.
8. ANTENNA AZIMUTHS ARE SPECIFIED IN DEGREES REFERENCED TO TRUE NORTH (TN).
9. ALL LEVELS ARE EXPRESSED IN METRES TO AUSTRALIAN HEIGHT DATUM (AHD).

SET OUT

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SET OUT OF THE SHELTER OR OUTDOOR UNITS IN ACCORDANCE WITH THE DESIGN INTENT AS SHOWN ON THE DRAWINGS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SET OUT OF THE CABLE LADDER IN ACCORDANCE WITH THE DESIGN INTENT AS SHOWN ON THE DRAWINGS.
3. CONCRETE WORKS TOLERANCES SHALL COMPLY WITH CLAUSE 17.5 OF AS 3600. △C
4. STRUCTURAL STEELWORK TOLERANCES SHALL COMPLY WITH CLAUSE 15.3 OF AS 4100.

USE OF OPTUS STANDARD DRAWINGS

CONSTRUCTION DETAILS ON OPTUS STANDARD DRAWINGS SHALL BE ONLY BE USED WITHIN THE SPECIFIED DESIGN CRITERIA. THE OPTUS DESIGN CONSULTANT SHALL CONFIRM APPLICABILITY TO THE SITE. THE OPTUS CONTRACTOR SHALL CONFIRM ACTUAL SITE CONDITIONS ARE SAME AS STATED ON THE STANDARD DRAWINGS REFERENCED.

STRUCTURAL STEELWORK

1. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS 4100, AS 1657 AND AS/NZS 1554.1.
2. ALL STEELWORK SHALL BE IN ACCORDANCE WITH AS/NZS 3679.1 (GRADE 300) FOR HOT-ROLLED SECTIONS AND BARS), AS/NZS 3678 (GRADE 250) FOR HOT-ROLLED PLATES AND AS 1163 (GRADE 250 (MIN)) FOR HOLLOW SECTIONS. △C
3. THE CONTRACTOR SHALL CONFIRM ALL DIMENSIONS ON SITE PRIOR TO FABRICATION.
4. ALL PREFABRICATED STEELWORK SHALL BE HOT-DIP GALVANISED AFTER FABRICATION, IN ACCORDANCE WITH AS/NZS 4680. PLUG AND SEAL WATERTIGHT ANY HOLES MADE FOR GALVANISING.
5. THE CONTRACTOR SHALL PROVIDE ALL CLEATS AND HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL, WHETHER OR NOT DETAILED ON THE STEELWORK DRAWINGS.
6. UNLESS SPECIFIED OTHERWISE, WELDS SHALL BE GENERAL PURPOSE (GP) CONTINUOUS FILLET WELDS. DEFAULT SIZE IS LESSOR OF 6mm AND THICKNESS OF THE THINNEST PART BEING JOINED. STRUCTURAL PURPOSE (SP) WELDS SHALL BE SELECTED FOR STRUCTURES SUBJECT TO FATIGUE. △C
7. ANY CUTS, HOLES AND WELDS TO EXISTING STEELWORK SHALL BE TREATED WITH 'COLD-GAL' ZINC RICH PAINT.
8. BOLTS NOT DESIGNATED SHALL BE GRADE 8.8 TO AS/NZS 1252 AND 'SNUG' TIGHTENED.
9. ALL BOLTS AND U-BOLTS SHALL BE SNUG TIGHTENED AND SECURED WITH FLAT WASHER AND SPRING WASHER (UNLESS SPECIFIED OTHERWISE). △C
10. PROVIDE APPROVED NEOPRENE (OR EQUIVALENT) WASHERS AND COLLARS AT ALL DISSIMILAR METAL INTERFACES.
11. ALL CHEMICAL AND MECHANICAL MASONRY ANCHORS SHALL BE STAINLESS STEEL (UNLESS SPECIFIED OTHERWISE) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
12. TWO-HOLE EARTH LUGS SHALL BE PROVIDED ON ALL MOUNTS, EXCEPT ON STEEL MONOPOLES, LATTICE TOWERS AND GUYED MASTS.

CONCRETE WORK

1. ALL CONCRETE WORK SHALL COMPLY WITH THE CURRENT ISSUE OF AS 3600 AND OTHER RELEVANT STANDARDS REFERENCED THEREIN.
2. UNLESS SPECIFIED OTHERWISE, CONCRETE MIX SHALL CONTAIN PORTLAND CEMENT TYPE GP OR GB, 20mm GRADED COARSE AGGREGATE AND ACHIEVE 80mm SLUMP AT POINT OF DELIVERY.
3. UNLESS SPECIFIED OTHERWISE, CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS (f'c) SHALL BE 32 MPa.
4. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED COATINGS. BEAM DEPTHS INCLUDES SLAB THICKNESS (IF ANY).
5. CONCRETE SURFACES SHALL BE CURED FOR A MINIMUM OF 7 DAYS, COMMENCING IMMEDIATELY AFTER PLACING.

MASONRY WORK

1. ALL MASONRY WORK SHALL CONFORM WITH THE CURRENT ISSUE OF AS 3700 AND OTHER STANDARDS REFERENCED THEREIN.
2. BUILD IN AS NECESSARY, LINTELS, FRAMES, BOLTS, LUGS, WALL TIES AND METALWORK.
3. CAREFULLY POSITION OPENINGS FOR OTHER TRADES TO ELIMINATE CUTTING.
4. BED JOINTS ARE TO BE 10mm THICK.
5. BEFORE LAYING MASONRY UNITS, ENSURE THAT THE BASE IS CLEAN AND FREE OF LAITANCE.
6. INSTALL WIRING FOR POWER AND OTHER CONDUITS WITHIN BLOCK CORES (WHERE APPLICABLE). DO NOT CUT CHASES IN HOLLOW BLOCKWORK.
7. ALL WALL INTERSECTIONS SHALL BE OF BONDED CONSTRUCTION OR TIED TO EXISTING WITH MEDIUM DUTY (MIN) TIES AT 400mm CENTRES VERTICALLY.

TIMBER WORK

1. ALL TIMBER WORK SHALL CONFORM WITH THE CURRENT ISSUE OF AS/NZS 1684 AND AS/NZS 1720 AND OTHER STANDARDS REFERENCED THEREIN.
2. MINIMUM STRENGTH GRADE SHALL BE F7, UNLESS SPECIFIED OTHERWISE.

ELECTRICAL WORK (POWER)

1. THE ELECTRICAL INSTALLATION SHALL COMPLY WITH THE RELEVANT CODES, STANDARDS, RULES, AND REGULATIONS OF STATUTORY AUTHORITIES. IN PARTICULAR: STATE SERVICE AND INSTALLATION RULES, AS/NZS 3000 WIRING RULES, AS3015, AS/NZS 3017 AND THE SUPPLY AUTHORITY REGULATIONS.
2. THE LOCATIONS AND MOUNTING HEIGHTS OF THE NEW INSTALLATION SHOWN ON THE SITE DRAWINGS IS INDICATIVE ONLY. THE FINAL LOCATIONS AND HEIGHTS SHALL BE DETERMINED ON SITE TO SUIT THE CLIENT AND THE INSTALLATION. THE CONTRACTOR SHOULD VISIT THE SITE DURING THE TENDER PERIOD TO BECOME FAMILIAR WITH THE SCOPE OF WORK.
3. ALL REQUIREMENTS FOR INSTALLATIONS REGARDING SUPPLY ARRANGEMENTS, PROVISION OF SERVICE CABLES AND CONSUMER MAINS AND METERING SHALL BE IN ACCORDANCE WITH AS/NZS 3000 AND RELEVANT STATE SERVICE AND INSTALLATION RULES.
4. A SEPARATE MEN EARTH ELECTRODE SHALL BE PROVIDED BY THE CONTRACTOR BELOW THE METER BOX AS REQUIRED.
5. ALL WIRING SYSTEMS SHALL BE INSTALLED AND ENCLOSED BY APPROVED METHODS WHICH WILL READILY PERMIT CABLES TO BE DRAWN IN OR REPLACED AFTER COMPLETION OF CONSTRUCTION.
6. CABLE MARKERS SHALL BE PROVIDED FOR UNDERGROUND WIRING FROM WITHIN THE PROPERTY BOUNDARY AND TO THE OPTUS INSTALLATION, AT THE COMMENCEMENT AND FINISH OF EACH ROUTE AND AT EACH CHANGE OF DIRECTION.
7. ALL EXISTING SURFACES, KERBS, GUTTERS, INVERTS, VEHICLE CROSSINGS AND PAVEMENTS DISTURBED AFTER INSTALLATION OF UNDERGROUND WIRING SHALL BE REINSTATED AND MADE GOOD BY THE CONTRACTOR.
8. LOCATE AND INDENTIFY ALL UNDERGROUND SERVICES BEFORE COMMENCING WORK.

EARTHING

1. EQUIPMENT AND ANTENNA MOUNTS SHALL BE EARTHED IN ACCORDANCE WITH THE EARTHING SPECIFICATION (OSD-030).
2. ALL EXTERIOR EARTH TAPE ELECTRODES SHALL BE COPPER BONDED HARDENED STEEL UNLESS OTHERWISE NOMINATED ON THE SITE DRAWINGS.
3. THE EARTHING SYSTEM SHALL BE CHECKED FOR CONTINUITY AND IMPEDANCE SHALL BE MEASURED AND A WRITTEN TEST REPORT PROVIDED.
4. EARTHING ELECTRODES SHALL BE INSTALLED AT A DEPTH OF NOT LESS THAN 3 METRES UNLESS NOTED OTHERWISE.

UNDERGROUND SERVICES

1. EXISTING SERVICES SHOWN ON SITE DRAWINGS IS REPRESENTATIVE OF AVAILABLE INFORMATION (OBTAINED FROM LOCAL AUTHORITIES) AND THE SITE SURVEY.
2. SERVICES INFORMATION SHALL BE READ IN CONJUNCTION WITH THE RELEVANT LOCAL AUTHORITIES DRAWINGS TO CONFIRM ACCURACY AND COMPLETENESS.
3. ADDITIONAL UNDOCUMENTED SERVICES MAY BE PRESENT ON SITE. FOR INFORMATION OF UTILITY UNDERGROUND SERVICES CALL 1100 'DIAL BEFORE YOU DIG'.
4. THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF THE WORKS USING MANUAL POTHOLING OR OTHER APPROVED MEANS.

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
C	OCT 18	STRUCTURAL STEELWORKS NOTES AMENDED	HW	QG	JYW	BL	MVDL
B	DEC 10	DATUM CHANGED TO MGA; ELECTRICAL REVISED	AA	DCL	DCL	MTA	NT
A	NOV 08	ISSUED FOR CONSTRUCTION (REPLACES GSM-SPEC1)	CW	DCL	DCL	MTA	SN

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Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA

OPTUS STANDARD DRAWING

Drawing Title: STANDARD CONSTRUCTION NOTES

Drawing Status: FOR CONSTRUCTION

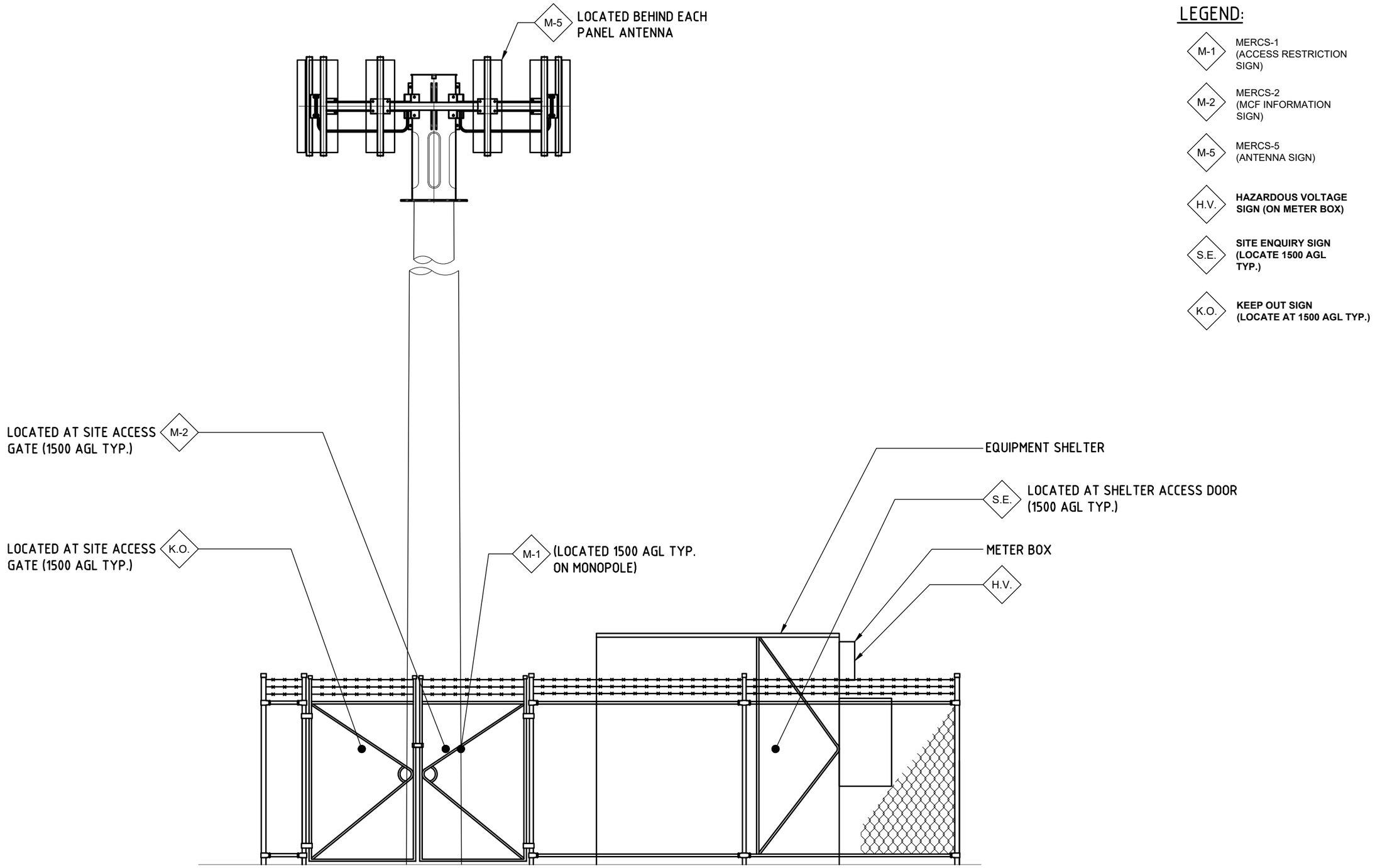
Drawing No. OSD-100

Revision C

CAD File: C:\Users\Q8409804\Desktop\OSD updated drawings\Updated CAD&PDF\STDWG-96524_OSD_100_Rev_C.dwg Date: 08.10.2018 5:50 PM

20 10 0 10 20 30 40 50mm

A3



LEGEND:

- M-1 — MERCS-1 (ACCESS RESTRICTION SIGN)
- M-2 — MERCS-2 (MCF INFORMATION SIGN)
- M-5 — MERCS-5 (ANTENNA SIGN)
- H.V. — **HAZARDOUS VOLTAGE SIGN (ON METER BOX)**
- S.E. — **SITE ENQUIRY SIGN (LOCATE 1500 AGL TYP.)**
- K.O. — **KEEP OUT SIGN (LOCATE AT 1500 AGL TYP.)**

NORTH ELEVATION

SCALE 1:150

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	10.10.23	SMALL CELL DRAWING REMOVED	VENTIA	UH	RY	-	-
A	05.04.22	REVISED AND CONSOLIDATED OSD-170, OSD-180 AND OSD-191 INTO THIS DRAWING ADDED NEW TYPICAL SMALL CELL DRAWING DETAILS OF THE CHANGES AND REQUIREMENTS ARE IN OSD-070 SECTION 5.14	KORDIA	UH	RY	-	-

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Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- OPTUS
STANDARD DRAWING

Drawing Title: SITE SIGNAGE TYPICAL GROUND SITE

Drawing Status: FOR CONSTRUCTION

Drawing No.: OSD-171-1

Revision: B

20 10 0 10 20 30 40 50mm

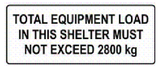
A3

CAD File: C:\Users\HENENU\OneDrive - Ventia\Desktop\OSD-171\OSD-171 19.10.2023.dwg
Plot By: Ustina Henen Date: 19.10.23 11:02 AM

SIGNAGE LEGEND

SIGN NAME	SYMBOL	SIGN IMAGE
MERCS-1 (ACCESS RESTRICTION SIGN)	M-1	
MERCS-2 (MCF INFORMATION SIGN)	M-2	
MERCS-3 (NO PEDESTRIAN ACCESS GENERAL PUBLIC SIGN)	M-3	
MERCS-4 (NO PEDESTRIAN ACCESS OCCUPATIONAL SIGN)	M-4	
MERCS-5 (ANTENNA SIGN)	M-5	
MERCS-6 (MICROWAVE ANTENNA SIGN)	M-6	
MERCS-7 (CONCEALED ANTENNA SIGN)	M-7	
MERCS-8A (MICROCELL SIGN 2m) MERCS-8B (MICROCELL SIGN 1m) MERCS-8C (MICROCELL SIGN 0.5m)	M-8A M-8B M-8C	

SIGN NAME	SYMBOL	SIGN IMAGE
MERCS-9 (IN-BUILDING ANTENNA SIGN)	M-9	
MERCS-10 (REPEATER ANTENNA SIGN)	M-10	
MERCS-14 (ISOLATION SWITCH SIGN)	M-14	
MERCS-15 (MACRO SIGN AT 3.5m ABOVE AGL TYP.)	M-15	
MERCS-16 (MACRO SIGN)	M-16	
MERCS-17 (STREET LIGHT SIGN)	M-17	
MERCS-18 (SMALL CELL SIGN)	M-18	

SIGN NAME	SYMBOL	SIGN IMAGE
MERCS-19 (SMALL CELL ISOLATION SWITCH SIGN AFFIXED NO HIGHER THAN 4m AGL TYP.)	M-19	
MERCS-20 (GENERIC ADJACENT RF HAZARD SIGN)	M-20	
HAZARDOUS VOLTAGE SIGN ON METER BOX	H.V.	
SITE ENQUIRY SIGN (LOCATE 1500 AGL TYP.)	S.E.	
KEEP OUT SIGN (LOCATE 1500 AGL TYP.)	K.O.	
KEEP OFF ROOF SIGN (LOCATE AT EDGE OF ROOF AT POINT OF ACCESS	K.O.R	
LOAD EXCLUSION SIGN (LOCATE 1500 AGL TYP.)	L.E.	
EQUIPMENT LOADING SIGN (LOCATE 1500 AGL TYP.)	E.L.	
LADDER USE SIGN (LOCATE 1500 AGL TYP. TYP.)	L.U.	
WALKWAY SIGN (ON WALKWAY OR HANDRAIL)	W.	

SIGN NAME	SYMBOL	SIGN IMAGE
OPTUS ISOLATION SWITCH (MICROCELL RF SHUTDOWN SIGN)	O.I.S.	

NOTES:

1. REFER TO CURRENT RFSP, MANUAL 2 "PREFERRED SITE SIGNAGE" FOR EME SIGNAGE REQUIREMENTS AND INSTALLATION REQUIREMENTS.
2. REFER TO SECTION 5 OF THE OPTUS MOBILE NETWROK DRAWING SPECIFICATION (OSD-070) FOR DRAWING REQUIREMENTS.
3. REFER TO SECTION 6 OF THE OPTUS DESIGN & CONSTRUCTION SPECIFICATION (OSD-010) FOR SIGNAGE DETAILS INCLUDING SIZE, MATERIALS AND FIXING.
4. THIS IS A TEMPLATE DRAWING ONLY. ACTUAL SITE DRAWING MUST BE PRODUCED TO REFLECT SITE SPECIFIC CONDITION.

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
B	10.10.23	SMALL CELL DRAWING REMOVED	VENTIA	UH	RY	-	-
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Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- OPTUS
STANDARD DRAWING

Drawing Title: SIGNAGE LEGEND AND NOTES

Drawing Status: FOR CONSTRUCTION

Drawing No. OSD-171-3

Revision B

20 10 0 10 20 30 40 50mm A3

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Plot By: Usfina Henen Date: 19.10.23 11:02 AM