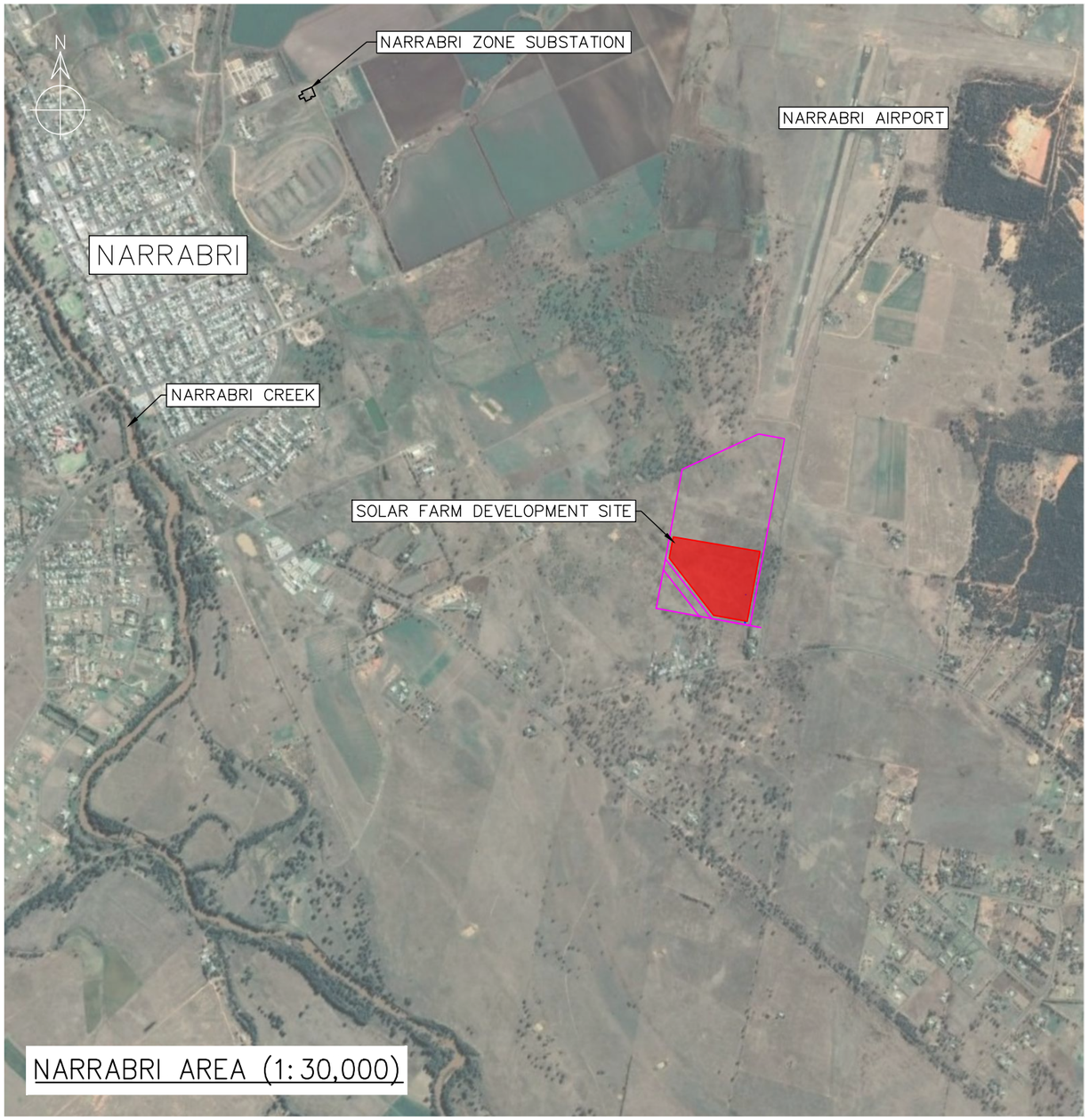
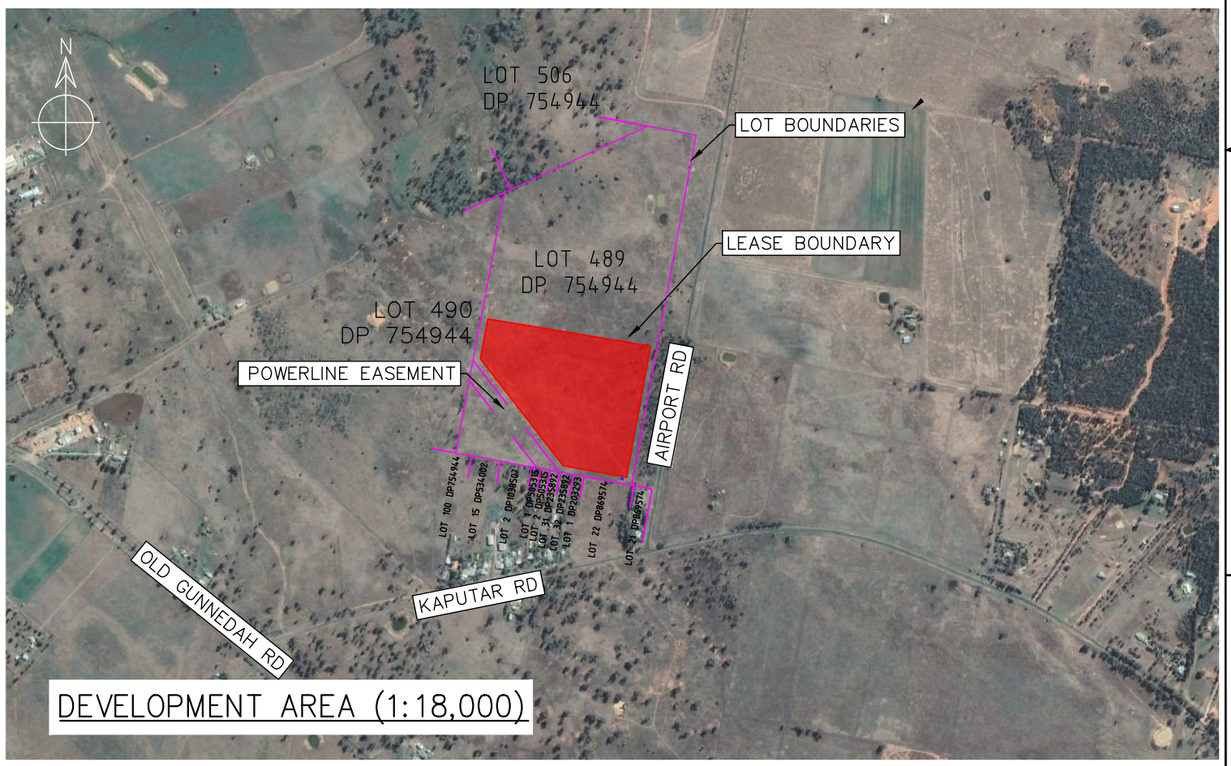


NARRABRI AREA (1:30,000)

ADDRESS
LOT 489, DP 754944
115 AIRPORT ROAD,
NARRABRI,
NSW 2390

COORDINATES
-30.340021°, 149.819839°

NSW STATE MAP



DEVELOPMENT AREA (1:18,000)

PROVIDENCE ASSET GROUP BPE

REFERENCES

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
B	2021.01.14	MINOR REVISIONS	JM	JM	SS	JM
A	2021.01.14	FIRST ISSUE	JM	JM	SS	JM

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TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
LOCATION DETAIL

DWG No. 10100-G-GAD-01-1

SCALE
AS SHOWN

REVISION
A

PAPER SIZE
A3

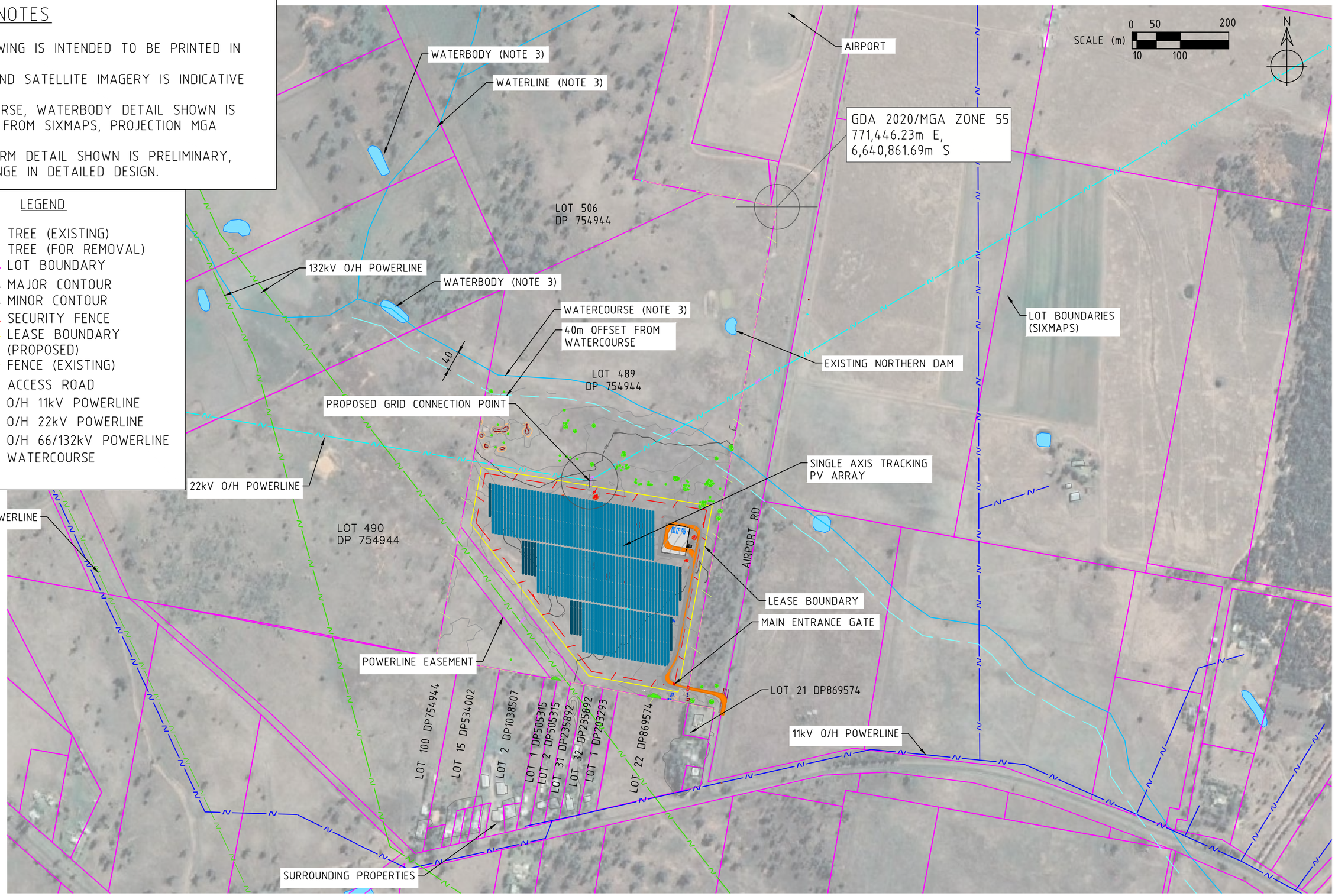
Document Set ID: 1845824
Version: 1, Version Date: 09/03/2021

GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE PRINTED IN COLOUR.
2. BACKGROUND SATELLITE IMAGERY IS INDICATIVE ONLY.
3. WATERCOURSE, WATERBODY DETAIL SHOWN IS OBTAINED FROM SIXMAPS, PROJECTION MGA ZONE 55.
4. SOLAR FARM DETAIL SHOWN IS PRELIMINARY, MAY CHANGE IN DETAILED DESIGN.

LEGEND

- TREE (EXISTING)
- TREE (FOR REMOVAL)
- LOT BOUNDARY
- 400 MAJOR CONTOUR
- MINOR CONTOUR
- SECURITY FENCE
- LEASE BOUNDARY (PROPOSED)
- FENCE (EXISTING)
- ACCESS ROAD
- O/H 11kV POWERLINE
- O/H 22kV POWERLINE
- O/H 66/132kV POWERLINE
- WATERCOURSE



PROVIDENCE ASSET GROUP BPE

REFERENCES

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
C	2021.02.04	CIVIL DETAIL ADDED	JM	JM	SS	JM
B	2021.01.14	MINOR REVISIONS	JM	JM	SS	JM
A	2021.01.14	FIRST ISSUE	JM	JM	SS	JM

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TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
GENERAL ARRANGEMENT
OVERVIEW

DWG No. 10100-G-GAD-02-1

SCALE 1:7,500
REVISION C
PAPER SIZE A3

LEGEND

- TREE (EXISTING)
- TREE (FOR REMOVAL)
- LOT BOUNDARY
- 400 MAJOR CONTOUR
- MINOR CONTOUR
- SECURITY FENCE
- FENCE (EXISTING)
- LEASE BOUNDARY (PROPOSED)
- PV TABLE
- O/H 22kV POWERLINE
- O/H 132kV POWERLINE
- WATERCOURSE

SYSTEM SUMMARY

ELECTRICAL CONFIGURATION:
- TOTAL PV PLANT CAPACITY (DC): 6.260 MWp
- TOTAL INVERTER CAPACITY (AC): 4.95MVA
- PV PLANT MAXIMUM EXPORT CAPACITY (AC): 4.95MW
- DC:AC RATIO: 1.265
- STRINGS OF 28 PV MODULES.
- 207 PV STRINGS PER INVERTER.
- 414 PV STRINGS TOTAL.

PV MODULES:
- MFR: LONGI SOLAR
- MODEL: LR5-72HPH-540M
- NAMEPLATE: 540Wp
- QUANTITY: 11,592 MODULES

INVERTERS:
- MFR: SUNGROW
- MODEL: SG2475HV-MV
- NAMEPLATE: 2475kVA
- QUANTITY: 2

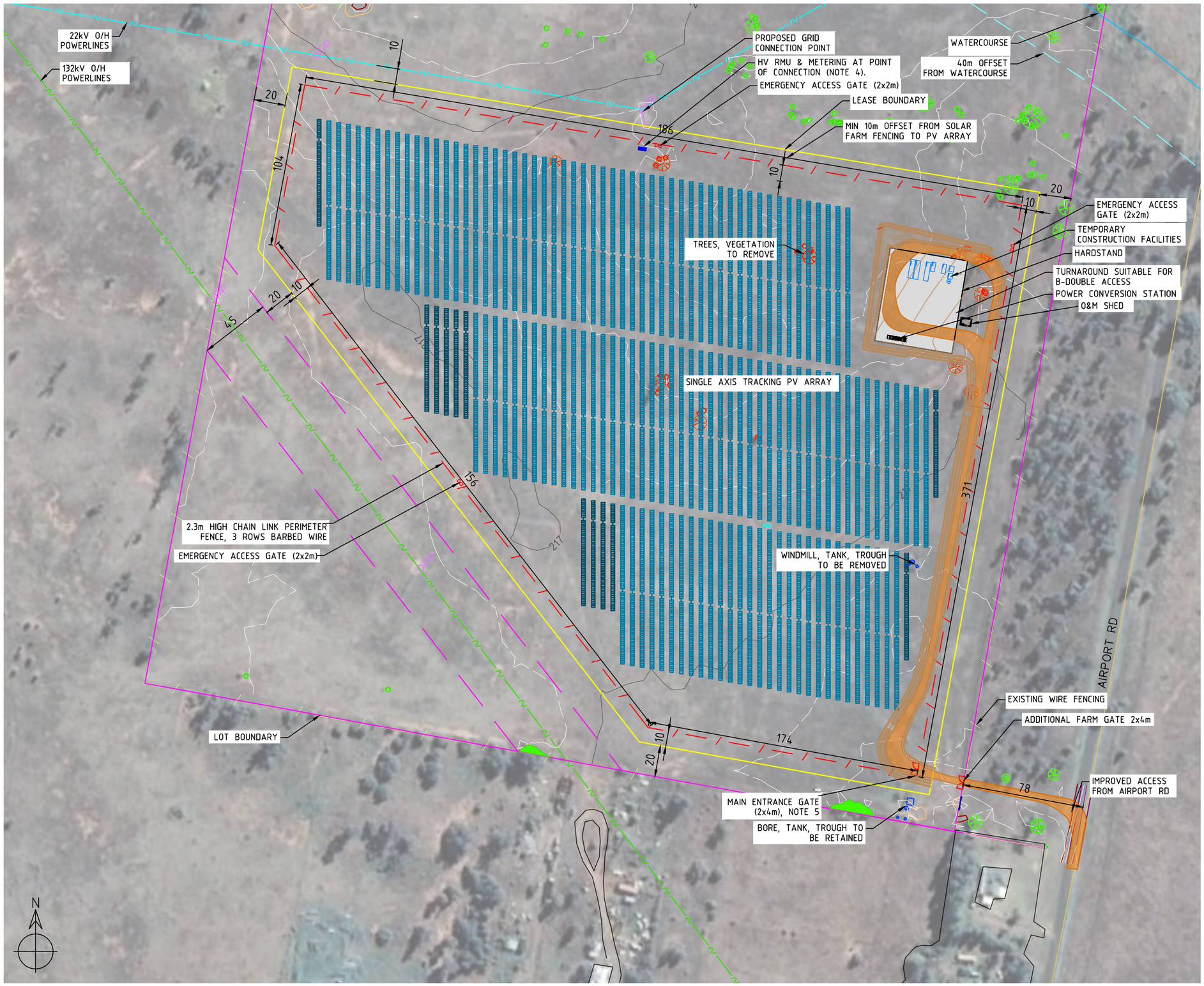
MV POWER STATION:
- MFR: SUNGROW
- MODEL: SG4950HV-MV
- QUANTITY: 1

TRACKER ARRAY:
- TYPE: GROUND MOUNT SINGLE AXIS TRACKING
- CONFIGURATION: INDEPENDENT TYPE
- RANGE OF MOTION: ±60°
- PITCH: 6.25m
- GCR: 36.096%
- QUANTITY: 142 TABLES

FENCED AREA: 132,821 m²
LEASE AREA: 148,223 m²

GENERAL NOTES:

1. DETAIL SHOWN IS PRELIMINARY, MAY CHANGE IN DETAILED DESIGN.
2. ENTRY FROM AIRPORT ROAD.
3. CLEARANCE BETWEEN SOLAR TRACKER ARRAY & SITE SECURITY FENCE TYPICALLY 10m
4. HV RMU & METERING (LOCATION AND TYPE TO BE DETERMINED, IS SUBJECT TO ESSENTIAL ENERGY FEEDBACK).
5. FOR SECURITY GATE DETAILS REFER TO DRAWING 10100-C-DET-02-1.
6. WATERCOURSE, WATERBODY DETAIL FROM SIXMAPS, MGA ZONE 55 PROJECTION
7. FOR ON SITE STORMWATER DETENTION DETAIL REFER TO DRAWING 10100-C-DET-01-1.



SCALE (m) 0 50 200 / 10 100

PROVIDENCE ASSET GROUP BPE

REFERENCES

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
C	2021.02.04	CIVIL DETAIL ADDED	JM	JM	SS	JM
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TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
GENERAL ARRANGEMENT
SYSTEM DETAIL

DWG No. 10100-G-GAD-02-2

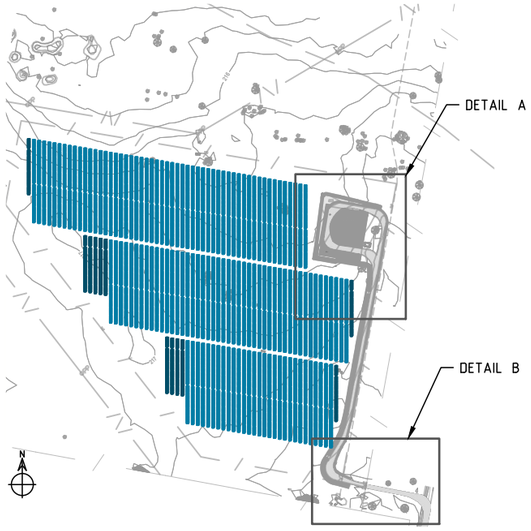
SCALE 1:2,500
REVISION C
PAPER SIZE A3

GENERAL NOTES

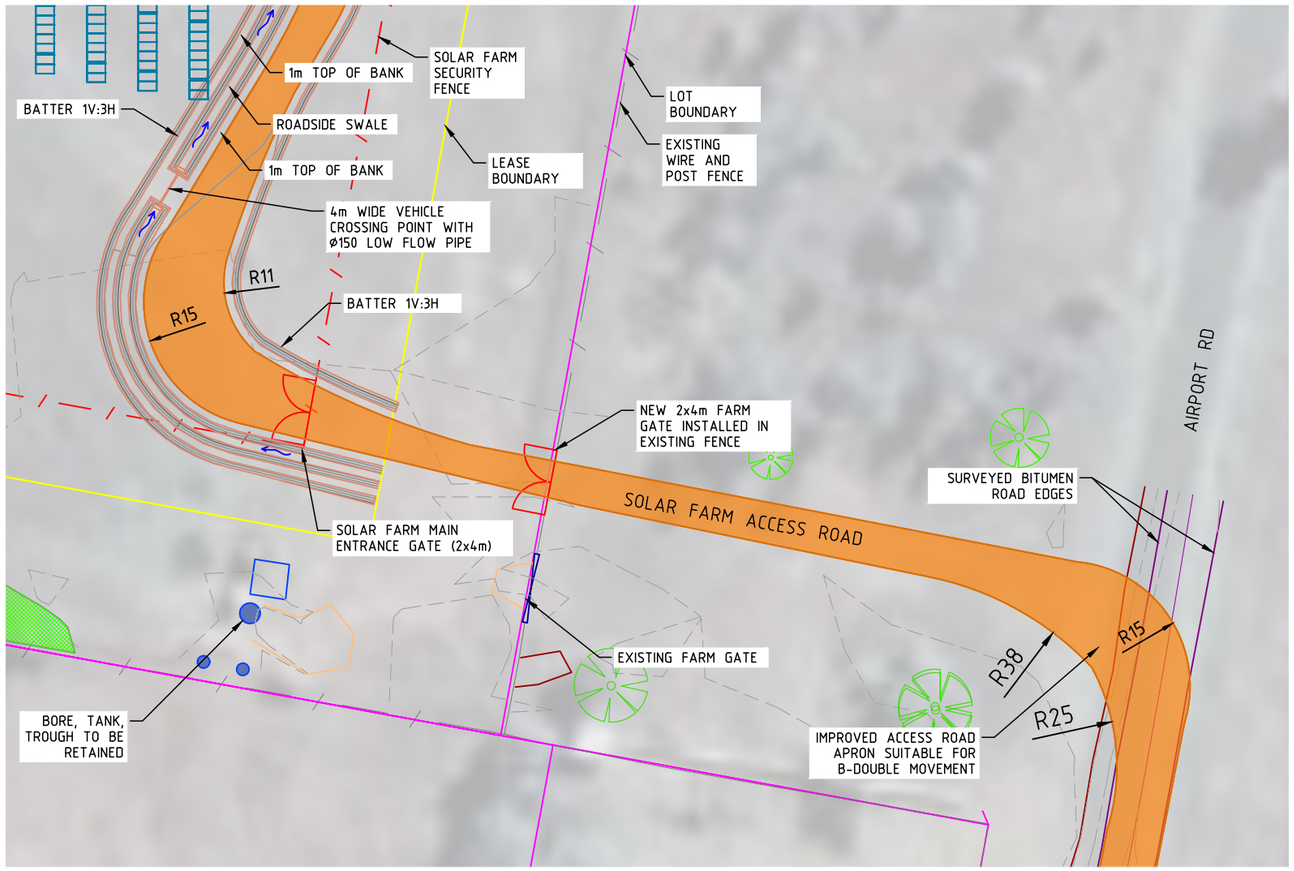
1. PRELIMINARY DETAIL SHOWN, MAY CHANGE IN DETAILED DESIGN.
2. EXISTING ACCESS TRACK TO BE UPGRADED INTO ROAD TRAFFICABLE FOR PRIME MOVER AND B-DOUBLE.
3. NEW APRON TO BE CONSTRUCTED AT THE THE ENTRANCE OFF AIRPORT ROAD.
4. REFER TO 10100-C-DET-02-1 FOR PRELIMINARY ROAD SECTIONAL DETAIL.
5. REFER DETAIL A FOR PRELIMINARY ON SITE STORMWATER DETENTION DETAIL.

LEGEND

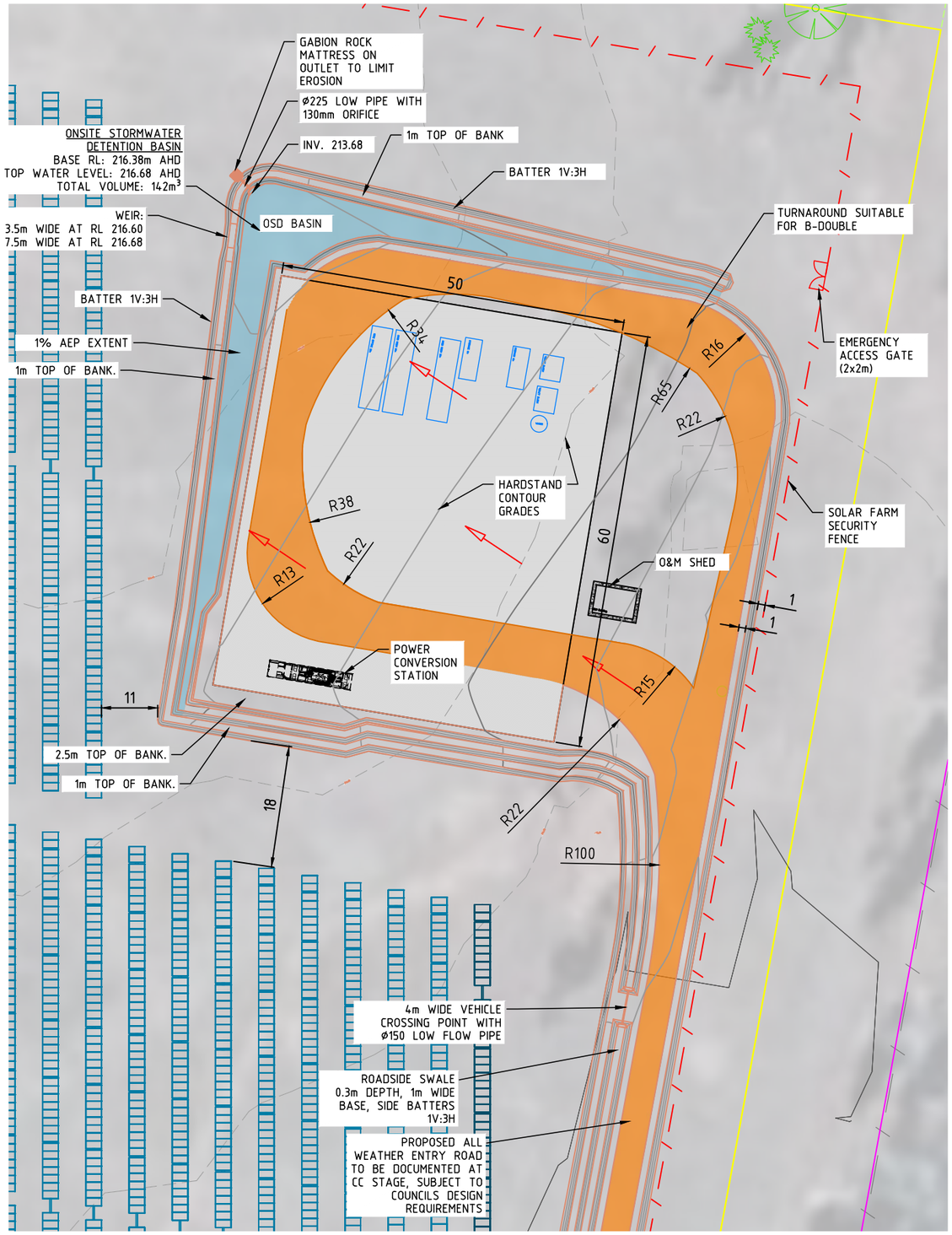
DIRECTION OF SURFACE FLOW
OVERLAND FLOW PATH



PLAN VIEW (1:7500)



DETAIL A: ENTRY TO SOLAR FARM FROM AIRPORT ROAD (1:600)



DETAIL B: ON SITE STORMWATER DETENTION (1:600)

PROVIDENCE ASSET GROUP BPE

REFERENCES

REVISIONS

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
A	2021.02.05	FIRST ISSUE	JM	JM	SS	JM

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TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
CIVIL DETAIL

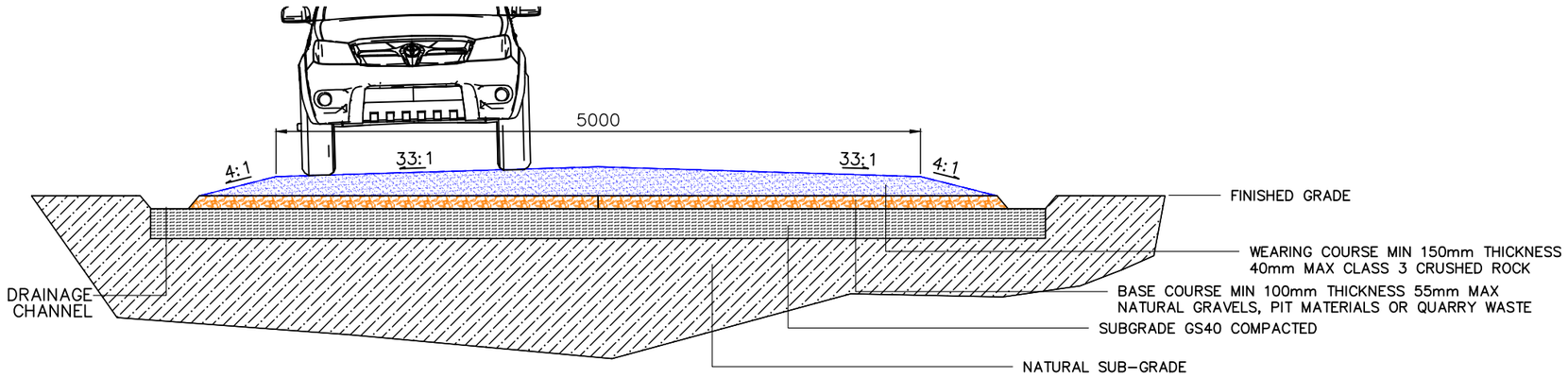
DWG No. 10100-C-DET-01-1

SCALE AS SHOWN
REVISION A
PAPER SIZE A3

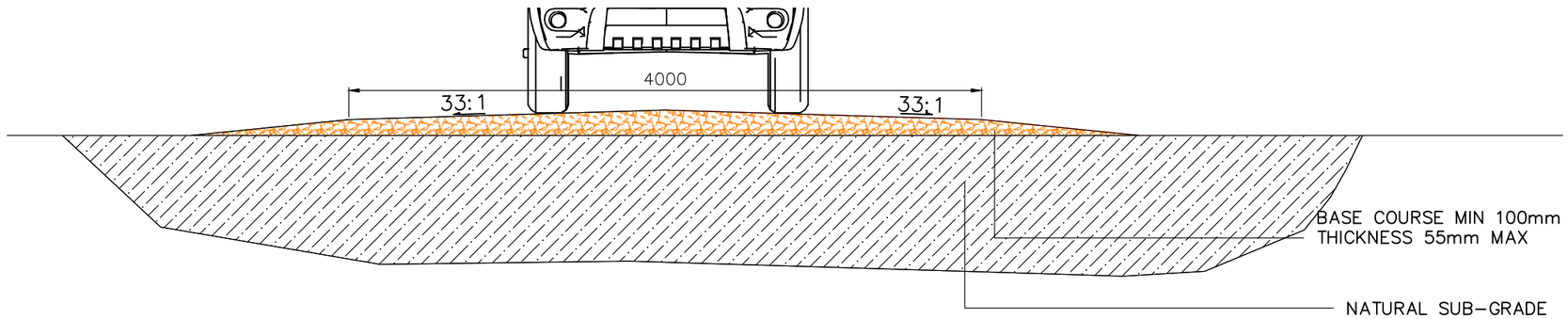
Document Set ID: 1845824
Version: 1, Version Date: 09/03/2021

GENERAL NOTES

1. DETAILS SHOWN ARE PRELIMINARY, PAVEMENT DESIGN SUBJECT TO FINAL TRAFFICABILITY ASSESSMENT.
2. TRAFFIC LANE TYPICAL WIDTHS OF 4m TO 5m AS SHOWN. SECTIONS MAY BE WIDER THAN SHOWN TO ACCOMMODATE REQUIRED VEHICLE TURNING CIRCLES.
3. ALL ROADS TO HAVE ADEQUATE CROSS FALL FROM CENTER AND SHALL MAINTAIN MINIMUM LAYER THICKNESSES PER THE PAVEMENT DESIGNS.
4. ACCESS ROAD SHALL BE RAISED MINIMUM 150mm ABOVE EXISTING GROUND LEVEL.



1 SITE ACCESS ROAD SECTION



2 PV ARRAY ACCESS ROAD SECTION

PROVIDENCE ASSET GROUP BPE

REFERENCES

10100-C-DET-01-1 CIVIL DETAIL

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
A	04.01.2021	FIRST ISSUE	JM	JM	SS	JM

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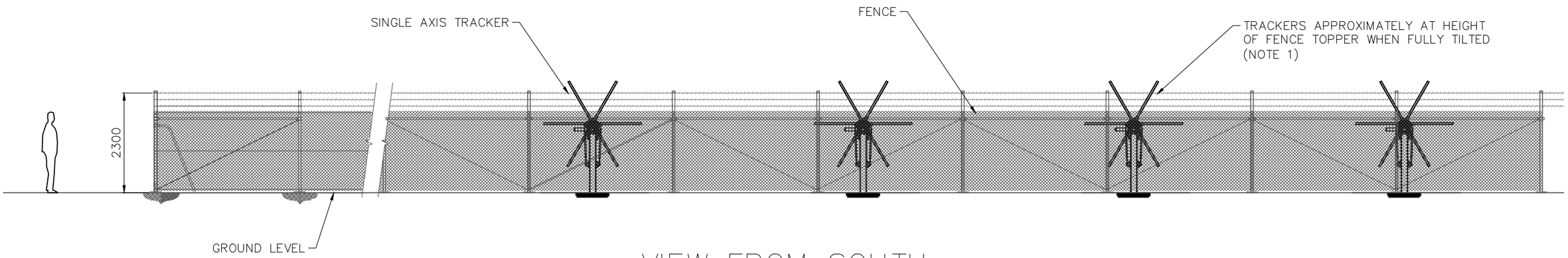
TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
ROAD SECTION DETAIL
TYPICAL

DWG No. 10100-C-DET-06-1

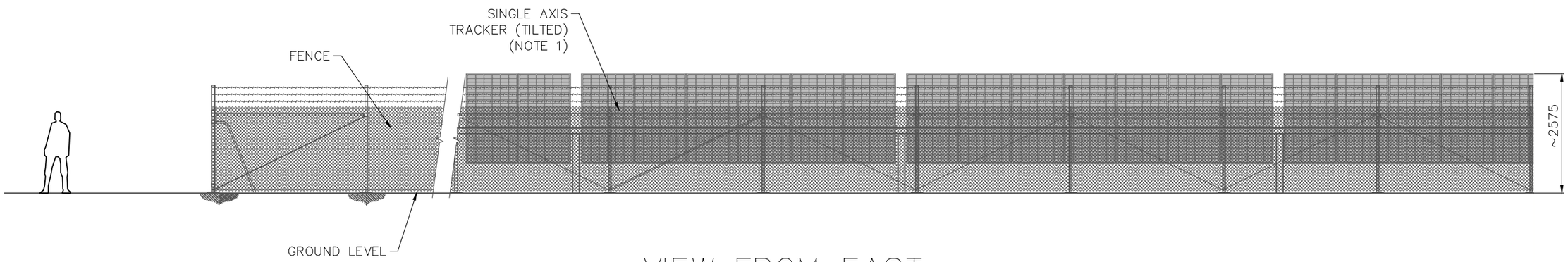
SCALE: AS SHOWN
REVISION: A
PAPER SIZE: A3

GENERAL NOTES

1. NB DETAIL PRESENTED IS PARALLEL PROJECTION. PV TRACKERS WILL BE 1–MODULE–IN PORTRAIT SINGLE AXIS TRACKING TYPE, AND WILL BE POSITIONED SUFFICIENTLY FAR FROM THE FENCELINE AS TO APPEAR SMALLER THAN AS SHOWN.
2. PRELIMINARY EQUIPMENT SELECTION:
   PV MODULE: LONGI LR5–72HPH–540M
   TRACKING SYSTEM: NEXTRACKER NX HORIZON
   DETAIL PRESENTED IS BASED UPON EQUIPMENT SELECTION, MAY CHANGE DURING DETAILED DESIGN.
3. GROUND LEVEL SIMPLIFIED TO CONSTANT ELEVATION, GROUND LEVEL VARIES ACROSS SITE.
4. REFER TO 10100–C–DET–02–1 FOR FENCING DETAIL.
5. LANDSCAPING EXTERNAL TO FENCE NOT SHOWN.



VIEW FROM SOUTH



VIEW FROM EAST

PROVIDENCE ASSET GROUP BPE

REFERENCES

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
A	04.01.2021	FIRST ISSUE	JM	JM	SS	JM

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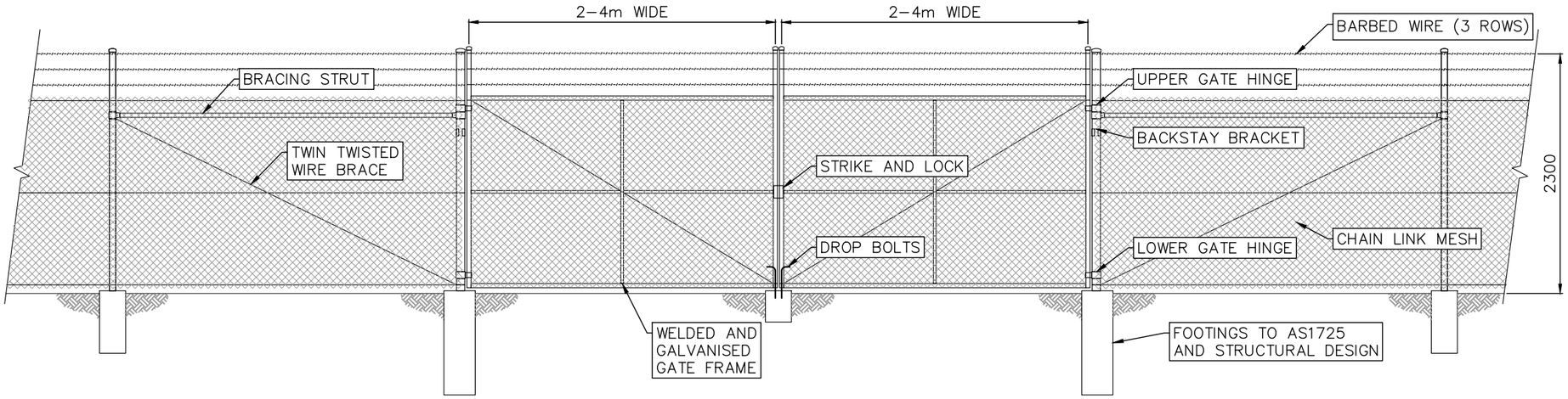
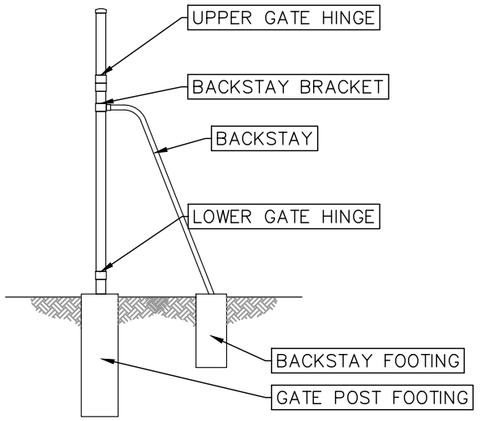
TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
SITE ELEVATION DETAIL

DWG No. 10100–G–DET–01–1

SCALE DNS
REVISION A
PAPER SIZE A3



TYPICAL FENCE & GATE ELEVATION



TYPICAL BACKSTAY ELEVATION

GENERAL NOTES

1. SOLAR FARM PERIMETER FENCE TO BE GALVANISED CHAIN LINK MESH FENCE WITH 3 ROWS BARBED WIRE.
2. NOMINAL MESH HEIGHT TO BE 1800mm.
3. NOMINAL OVERALL HEIGHT TO BE 2300mm +/– 100mm.
4. ALL FENCING COMPONENTS AND FOOTINGS TO COMPLY WITH AS 1725.
5. GATE WIDTH AS PER GA LAYOUT DRAWINGS.
6. BRACING STRUT AND WIRE BRACE REQUIRED AT ENDS, CORNERS AND GATES. DIAGONAL BRACE STRUT MAY ALSO BE USED IN LIEU OF BRACE & WIRE.
7. INTERMEDIATE BRACED PANEL CONSISTING OF TWIN TWISTED WIRE BRACE ON BOTH DIAGONALS REQUIRED AT MAX. 150m INTERVALS.
8. PERSONNEL ACCESS GATES REQUIRE BRACING STRUTS ON BOTH SIDES.
9. FOOTING DESIGN TO BE CONFIRMED DURING DETAILED DESIGN.
10. FENCE GENERALLY NOT REQUIRED TO BE EARTHED UNLESS IN CLOSE IS PROXIMITY TO ELECTRICAL COMPONENTS OR AS REQUIRED WITHIN UTILITY EASEMENTS OR SIMILAR. TO BE DETERMINED DURING DETAILED DESIGN.

PROVIDENCE ASSET GROUP BPE

REFERENCES

REVISIONS

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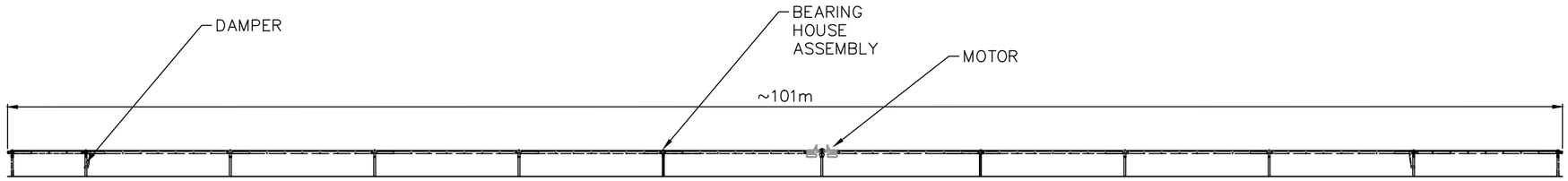
TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
SECURITY FENCE DETAIL
TYPICAL

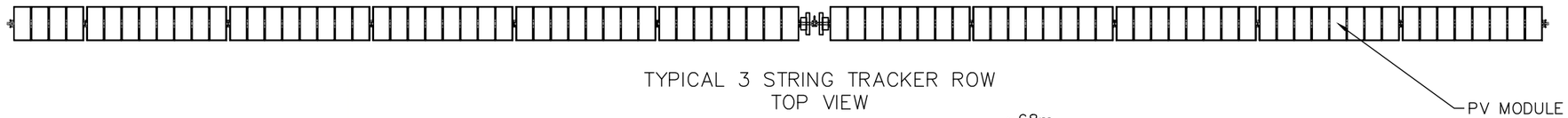
DWG No. 10100–C–DET–02–1

SCALE DNS
REVISION A
PAPER SIZE A3

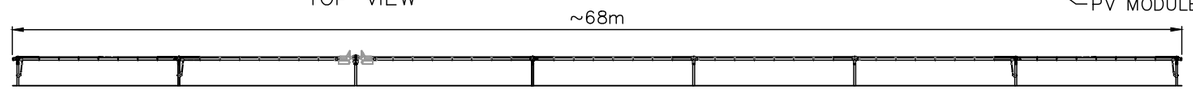
Document Set ID: 1845824
Version: 1, Version Date: 09/03/2021



TYPICAL 3 STRING TRACKER ROW
SIDE VIEW

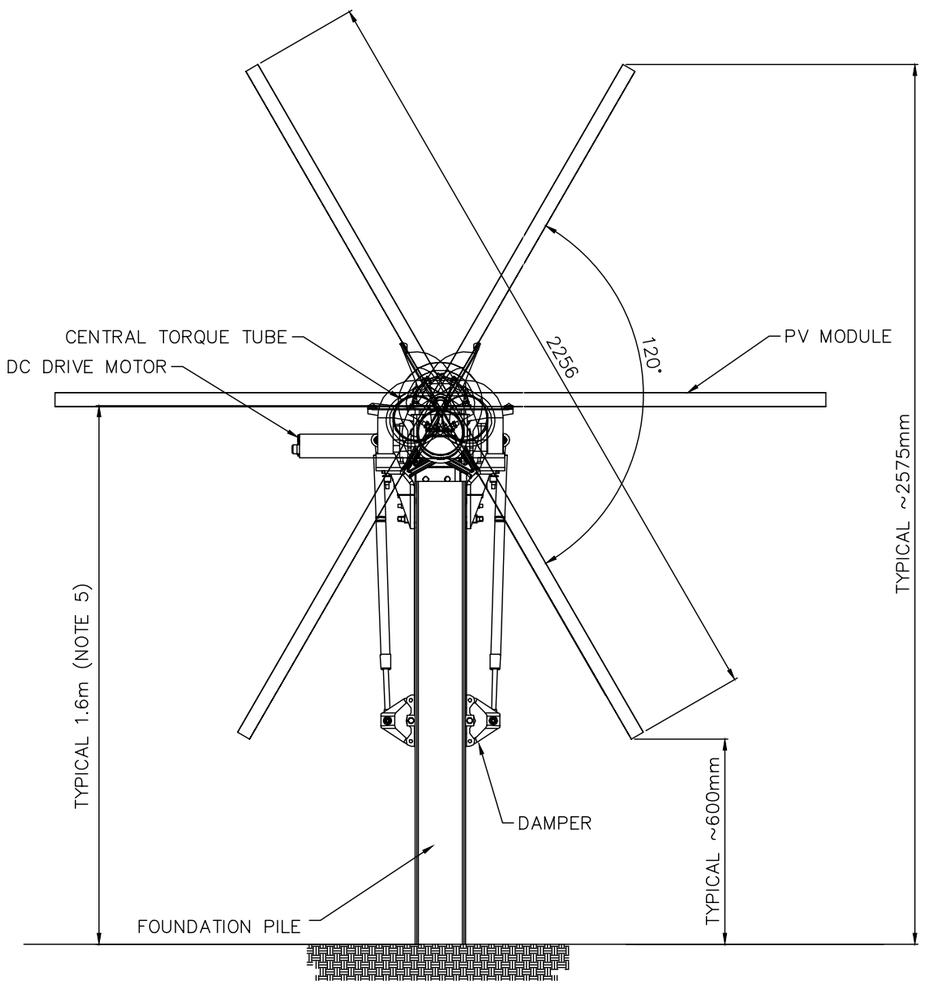


TYPICAL 3 STRING TRACKER ROW
TOP VIEW



TYPICAL 2 STRING TRACKER ROW
SIDE VIEW

TYPICAL 2 STRING TRACKER ROW
TOP VIEW



SECTION DETAIL

GENERAL NOTES

1. NEXTRACKER NX HORIZON INDEPENDENT SINGLE AXIS TRACKING SYSTEM SHOWN. TRACKING SYSTEM AND DIMENSIONS MAY CHANGE DURING DETAILED DESIGN.
2. SYSTEM FOLLOWS THE SUN POSITION TO MAXIMISE GENERATION DURING SOLAR HOURS (VIA ASTRONOMICAL ALGORITHM).
3. DIMENSIONS AND CONSTRUCTION PRESENTED ARE PRELIMINARY; FINAL DESIGN WILL DIFFER IN TRACKER FRAME LENGTH (NUMBER OF INSTALLED PV MODULES PER FRAME).
4. TRACKING SYSTEM CONSISTS OF SUPPORT FRAME INSTALLED ON MULTIPLE DRIVEN PILE (STEEL SECTION) FOUNDATIONS. EACH FRAME IS DRIVEN BY A SINGLE DC DRIVE MOTOR AND CONTROLLED BY TRACKER CONTROLLER AND NETWORK CONTROL UNIT.
5. TYPICAL HEIGHT FROM AGL TO AXIS OF ROTATION VARIES WITH GROUND UNDULATION & REQUIRED HEIGHT ABOVE FLOOD LEVEL (IF APPLICABLE) TYPICAL CLEARANCES OF 600mm EXPECTED BETWEEN GROUND LEVEL & BOTTOM EDGE OF PV MODULE AT MAXIMUM TILT.
6. TYPICAL DISTANCE BETWEEN PILES IS BETWEEN 7 TO 10m DEPENDING ON DESIGN CONDITION, AND WHETHER ROW (TABLE) IS INTERIOR OR EXTERIOR TYPE.

PROVIDENCE ASSET GROUP BPE

REFERENCES

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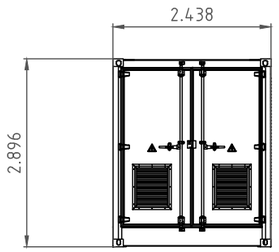
TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
PV MOUNTING SYSTEM DETAIL

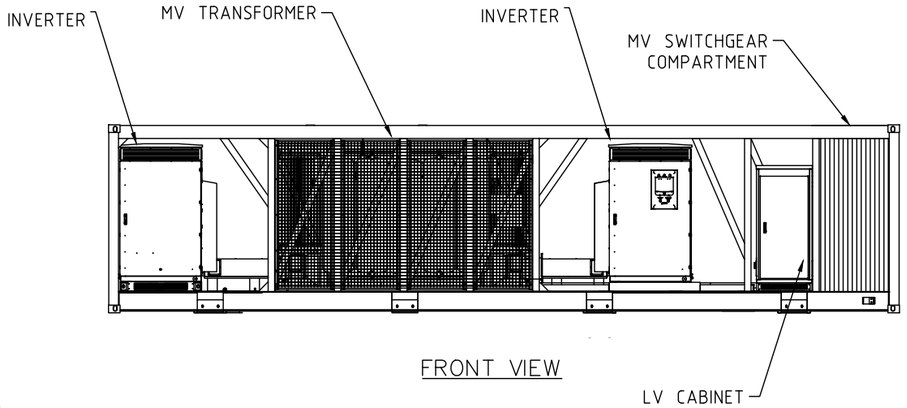
DWG No. 10100-E-DET-01-1

SCALE AS SHOWN
REVISION A
PAPER SIZE A3

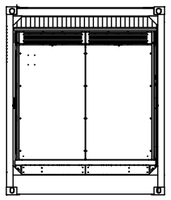
Document Set ID: 1845824
Version: 1, Version Date: 09/03/2021



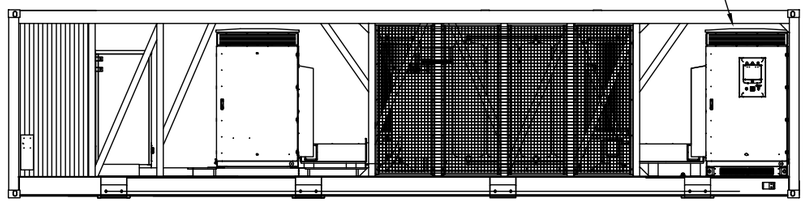
RIGHT VIEW
(RMU ACCESS)



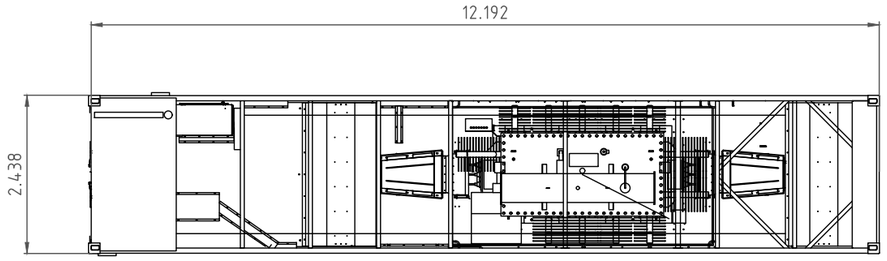
FRONT VIEW



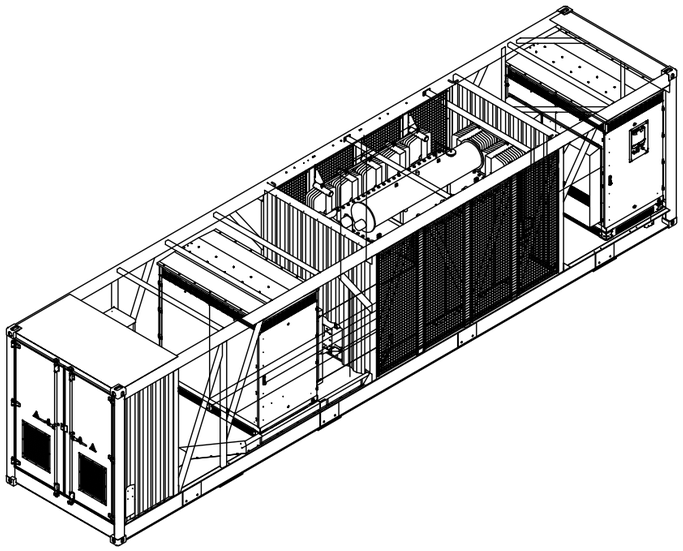
LEFT VIEW



BACK VIEW



TOP VIEW



ISOMETRIC VIEW (OPEN)

GENERAL NOTES

1. POWER CONVERSION STATION (PCS) CONSISTS OF CENTRAL PV INVERTERS, MV TRANSFORMER, MV SWITCHGEAR AND AUXILIARY PLANT. PCS IS CONTAINERISED AND RAISED ABOVE GROUND LEVEL ON CONCRETE OR DRIVEN STEEL PILE FOOTINGS.
2. TYPICAL PILE FOOTINGS WITH SURROUND OF COMPACTED EARTH WITH ~100MM BLUE METAL TOP LAYER.
3. PCU SHOWN IS THE SUNGROW SG4950HV-MV MEDIUM VOLTAGE POWER STATION SYSTEM. THE PCS MAKE AND MANUFACTURER MAY BE SUBJECT TO CHANGE.

PROVIDENCE ASSET GROUP BPE

REFERENCES

REVISIONS

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
A	04.01.2021	FIRST ISSUE	JM	JM	SS	JM

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TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
POWER CONVERSION STATION DETAIL
SHEET 1

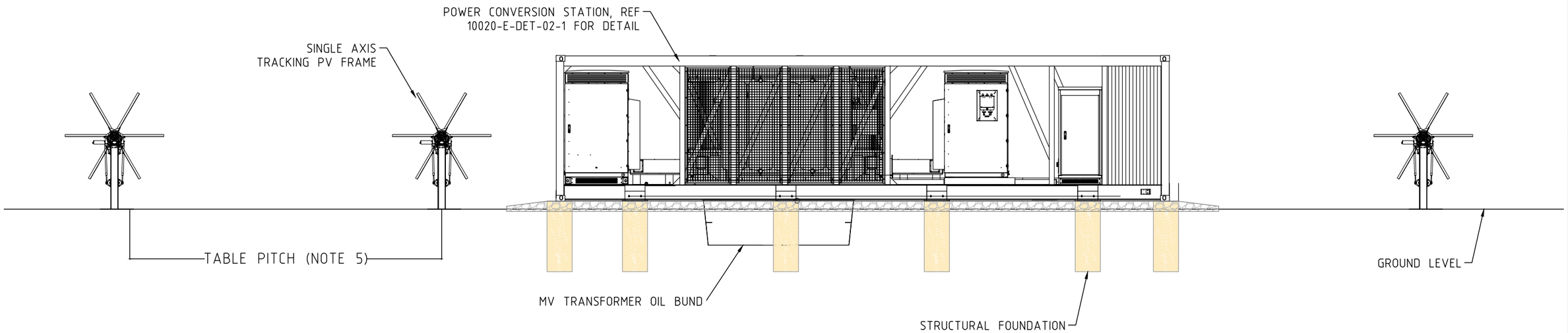
DWG No. 10100-E-DET-02-1

SCALE DNS
REVISION A
PAPER SIZE A3

Document Set ID: 1845824
Version: 1, Version Date: 09/03/2021

GENERAL NOTES

1. TYPICAL INSTALLATION DETAIL SHOWN, MAY CHANGE DURING DETAILED DESIGN.
2. TYPICAL INSTALLATION SHOWN; PCS RAISED ABOVE GROUND LEVEL ON CONCRETE/STRUCTURAL PILE FOUNDATIONS, WITH BLUE METAL SURROUND. FOR LOW LYING AREAS SKID REQUIRES RAISING ABOVE FLOOD LEVEL BY COMPACTED EARTH MOUND. TYPICAL 1:3 BATTER, WITH ONE SIDE MIN 1:6 FOR PEDESTRIAN ACCESS, SUBJECT TO FINAL DESIGN.
3. SINGLE AXIS TRACKER ASSEMBLY – FULL HEIGHT TYPICALLY 2.575m AGL, +/– 0.5m DEPENDING ON GROUND TOPOGRAPHY. TYPICALLY 1.6m AGL, +/– 0.5m WHEN IN FLAT POSITION.
4. MINIMUM CLEARANCE OF 600MM BETWEEN GROUND LEVEL AND PV MODULE EDGE AT MAXIMUM ROTATION TO BE MAINTAINED.
5. SINGLE AXIS TRACKING FRAME – TYPICAL TABLE PITCH OF 6.0 – 7.0m
6. COMBINER BOX TYPICALLY 1.5m +/– 0.5m HIGH.



PROVIDENCE ASSET GROUP BPE

REFERENCES

REVISIONS

REV.	DATE	DESCRIPTION	DRWN.	DESIGNED	CHKD.	APPR.
A	04.01.2021	FIRST ISSUE	JM	JM	SS	JM

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TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
POWER CONVERSION STATION DETAIL
SHEET 2

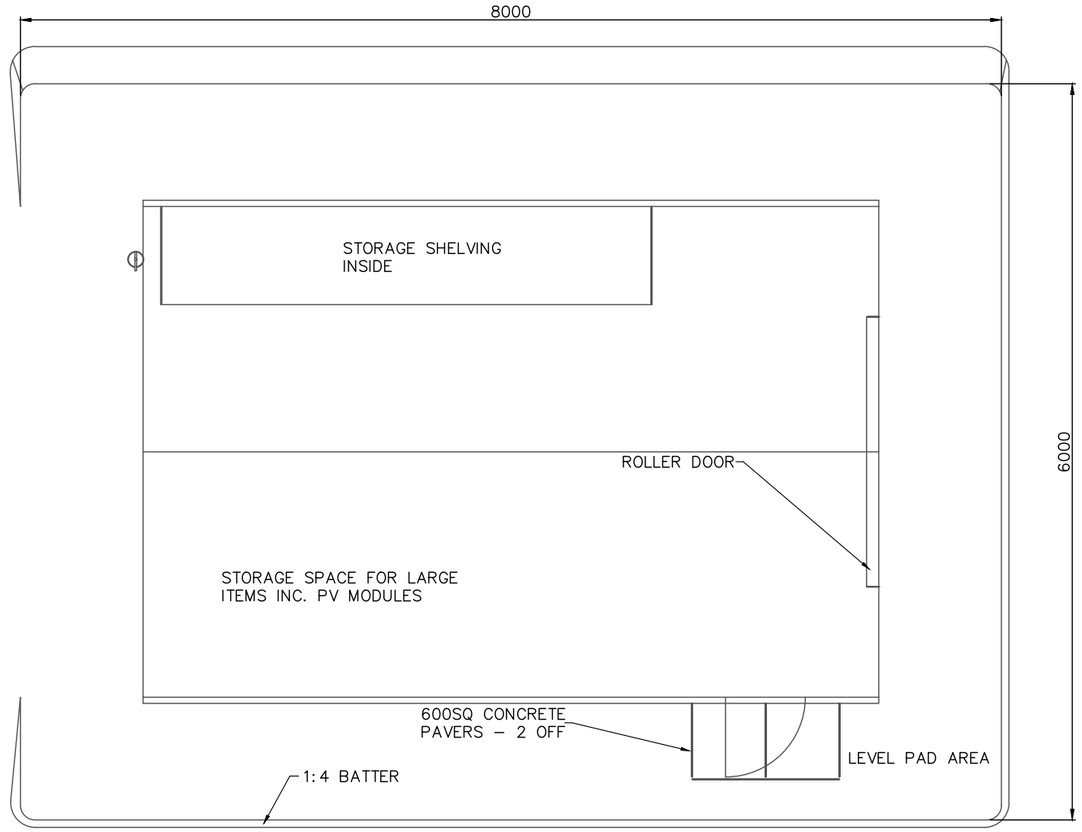
DWG No. 10100-E-DET-02-2

SCALE DNS
REVISION A
PAPER SIZE A3

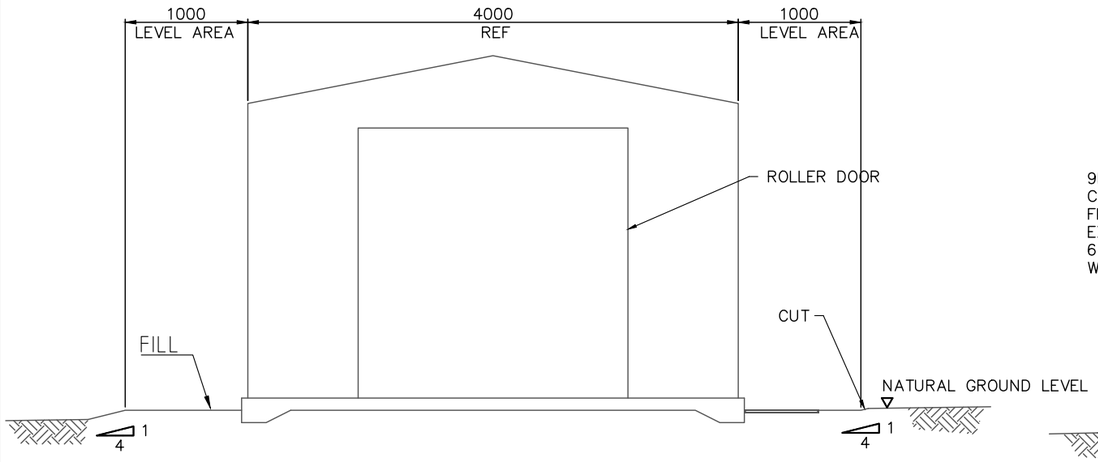
Document Set ID: 1845824
Version: 1, Version Date: 09/03/2021

GENERAL NOTES:

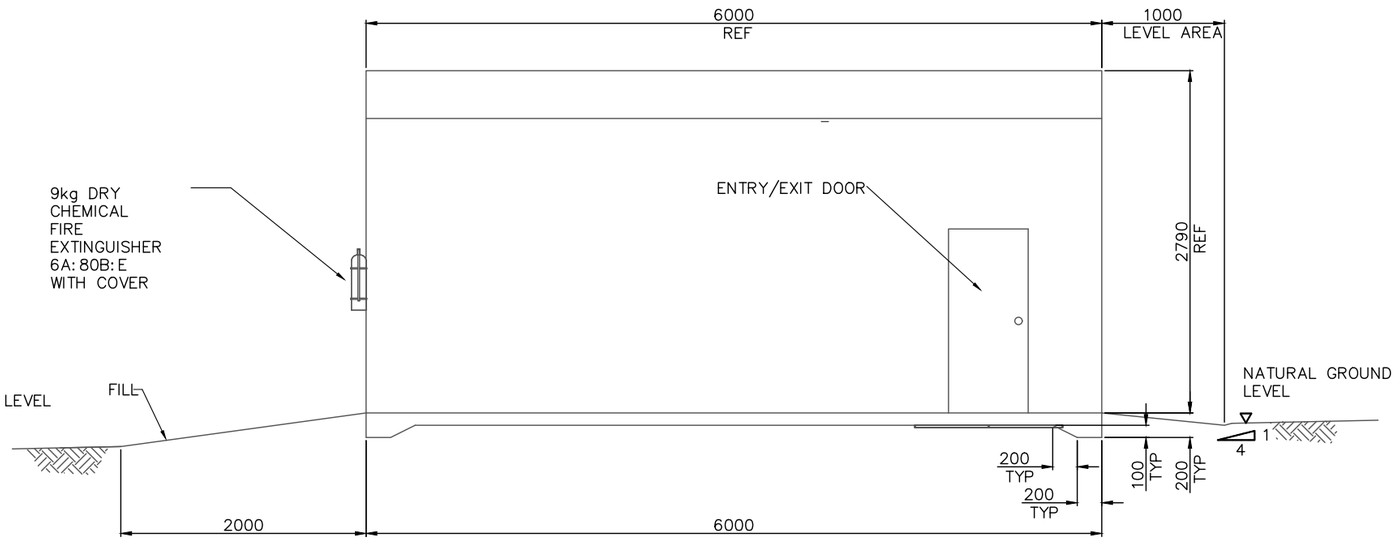
1. DIMENSIONS ARE SHOWN IN MILLIMETERS (mm)
2. SHED DESIGNED AND SUPPLIED BY (TBC).
3. WIND REGION A1, IMPORTANCE LEVEL 2
4. COMPLIES WITH PART B1 OF BUILDING CODE OF AUSTRALIA



PLAN



SIDE ELEVATION



ELEVATION

PROVIDENCE ASSET GROUP BPE

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TITLE
PROVIDENCE ASSET GROUP
NARRABRI SOLAR FARM
SHED DETAIL
TYPICAL

DWG No. 10100-C-DET-05-1

SCALE: AS SHOWN
REVISION: A
PAPER SIZE: A3