

- 2020 Millsite Lease
- 6030 Power House
- PV Racks

Surface Management

- NANA Land
- State



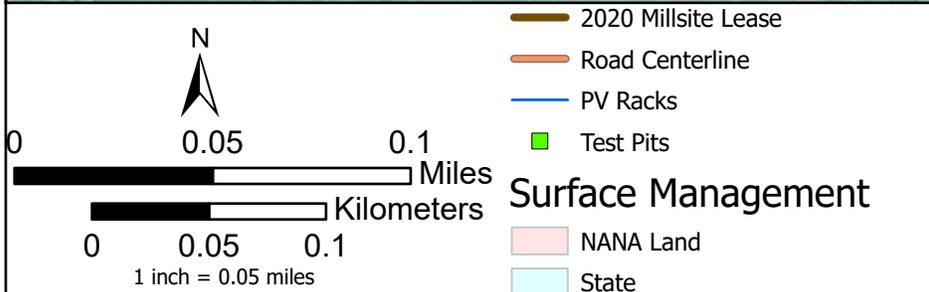
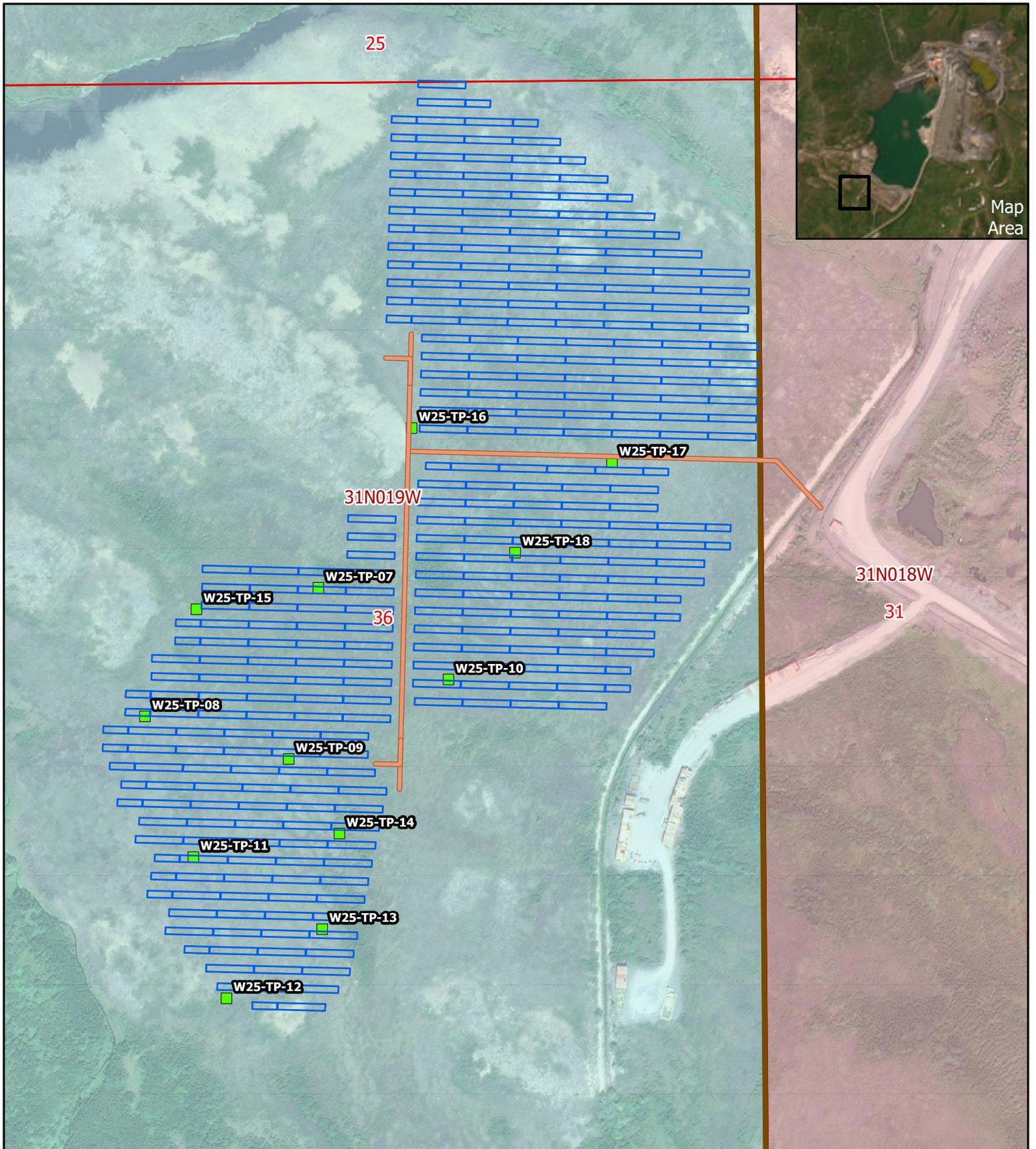
Land Department
 501 N Riverpoint BLVD. Suite 300
 Spokane, WA 99202

Red Dog Renewable Energy / Solar + Battery
 Project Number: 1730 (MWO#875760)
 Sheet Title: Project Overview

Coordinate System: Red Dog Mine LDP

Consultants Name(s): Tugliq, Inc.; Date: 1/15/2026
 Solvest; WSP; SEL; KUNA

Sheet Number: 1 OF 5



	Land Department 501 N Riverpoint BLVD. Suite 300 Spokane, WA 99202
	Red Dog Renewable Energy / Solar + Battery Project Number: 1730 (MWO#875760) Sheet Title: Site Plan
Coordinate System: Red Dog Mine LDP	
Consultants Name(s): Tugliq, Inc.; Solvest; WSP; SEL; KUNA	Date: 1/15/2026
Sheet Number: 2 OF 5	

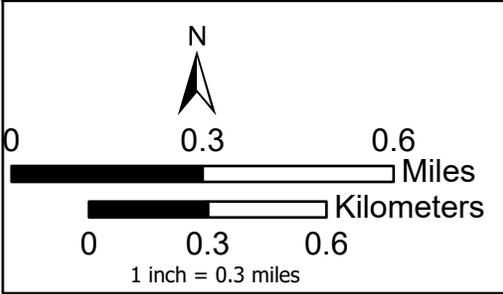
● 6030 Power House
— PV Racks

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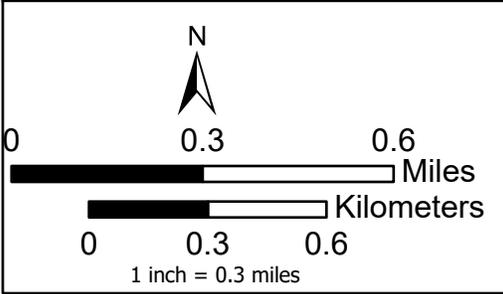
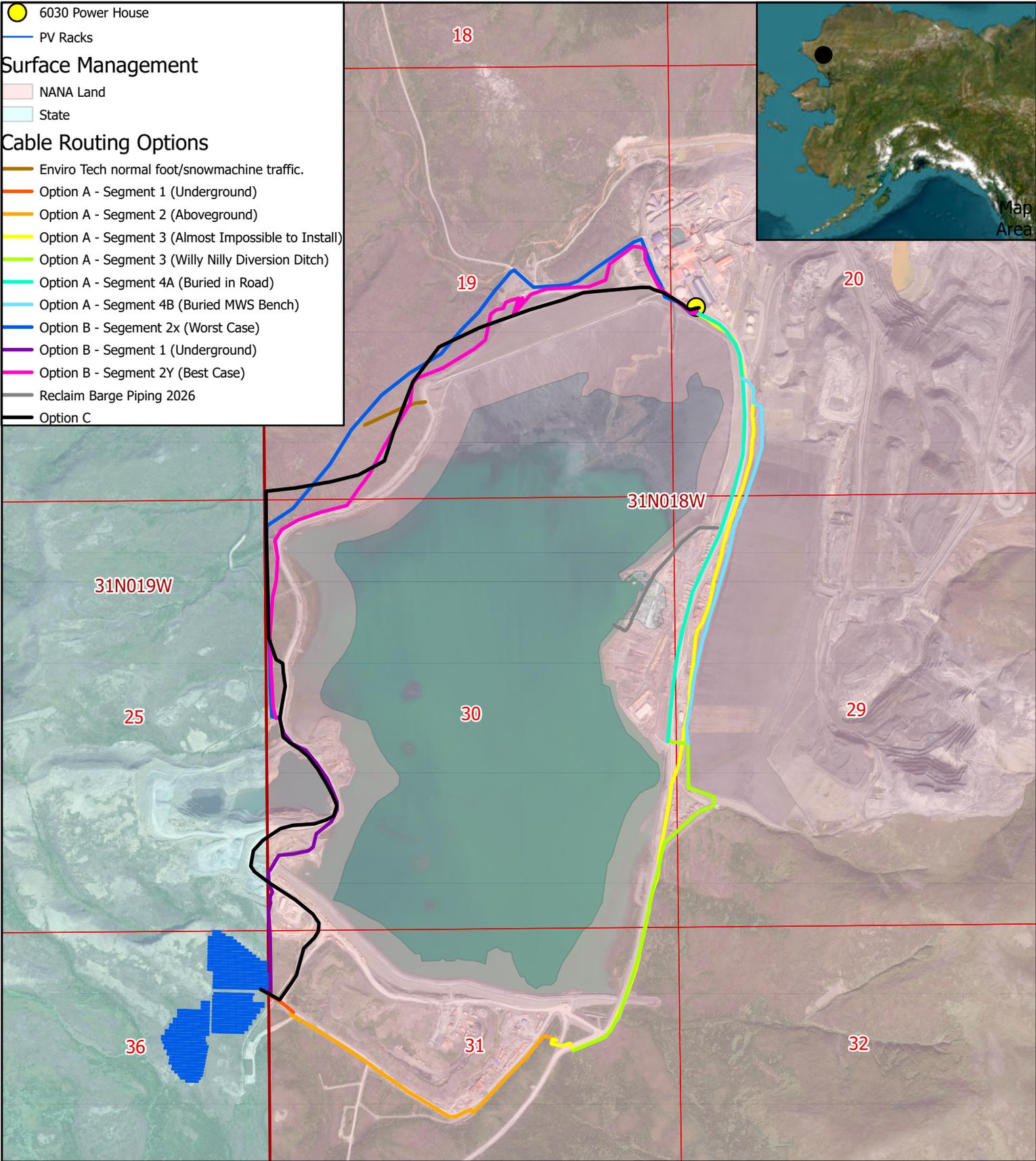
Cable Routing Options

- Enviro Tech normal foot/snowmachine traffic.
- Option A - Segment 1 (Underground)
- Option A - Segment 2 (Aboveground)
- Option A - Segment 3 (Almost Impossible to Install)
- Option A - Segment 3 (Willy Nilly Diversion Ditch)
- Option A - Segment 4A (Buried in Road)
- Option A - Segment 4B (Buried MWS Bench)
- Reclaim Barge Piping 2026



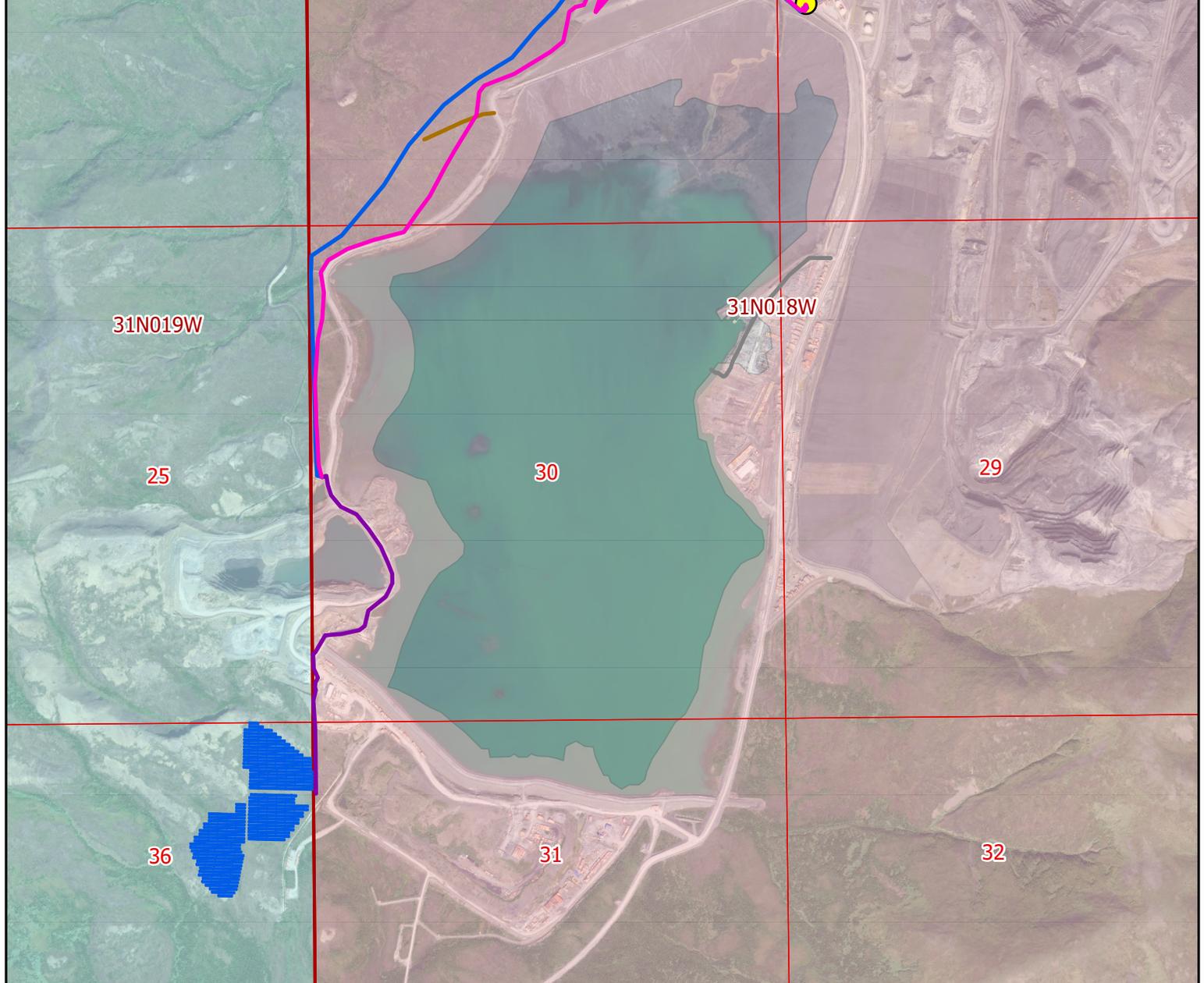
	Land Department 501 N Riverpoint BLVD. Suite 300 Spokane, WA 99202
	Red Dog Renewable Energy / Solar + Battery Project Number: 1730 (MWO#875760) Sheet Title: Cable Routing from Solar Array
Coordinate System: Red Dog Mine LDP	
Consultants Name(s): Tugliq, Inc.; Solvest; WSP; SEL; KUNA	
Date: 1/16/2026 Sheet Number: 3 OF 5	

- 6030 Power House
 - PV Racks
- ### Surface Management
- NANA Land
 - State
- ### Cable Routing Options
- Enviro Tech normal foot/snowmachine traffic.
 - Option A - Segment 1 (Underground)
 - Option A - Segment 2 (Aboveground)
 - Option A - Segment 3 (Almost Impossible to Install)
 - Option A - Segment 3 (Willy Nilly Diversion Ditch)
 - Option A - Segment 4A (Buried in Road)
 - Option A - Segment 4B (Buried MWS Bench)
 - Option B - Segement 2x (Worst Case)
 - Option B - Segment 1 (Underground)
 - Option B - Segment 2Y (Best Case)
 - Reclaim Barge Piping 2026
 - Option C



Teck	Land Department 501 N Riverpoint BLVD. Suite 300 Spokane, WA 99202
	Red Dog Renewable Energy / Solar + Battery Project Number: 1730 (MWO#875760) Sheet Title: Cable Routing from Solar Array
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Date: 1/15/2026	Sheet Number: 3 OF 5

● 6030 Power House
— PV Racks
Surface Management
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Cable Routing Options
— Enviro Tech normal foot/snowmachine traffic.
— Option B - Segment 2x (Worst Case)
— Option B - Segment 1 (Underground)
— Option B - Segment 2Y (Best Case)
— Reclaim Barge Piping 2026



N

 0 0.3 0.6 Miles
 0 0.3 0.6 Kilometers
 1 inch = 0.3 miles

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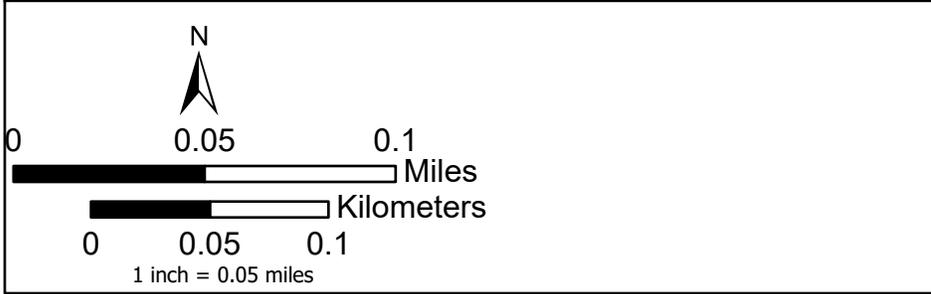
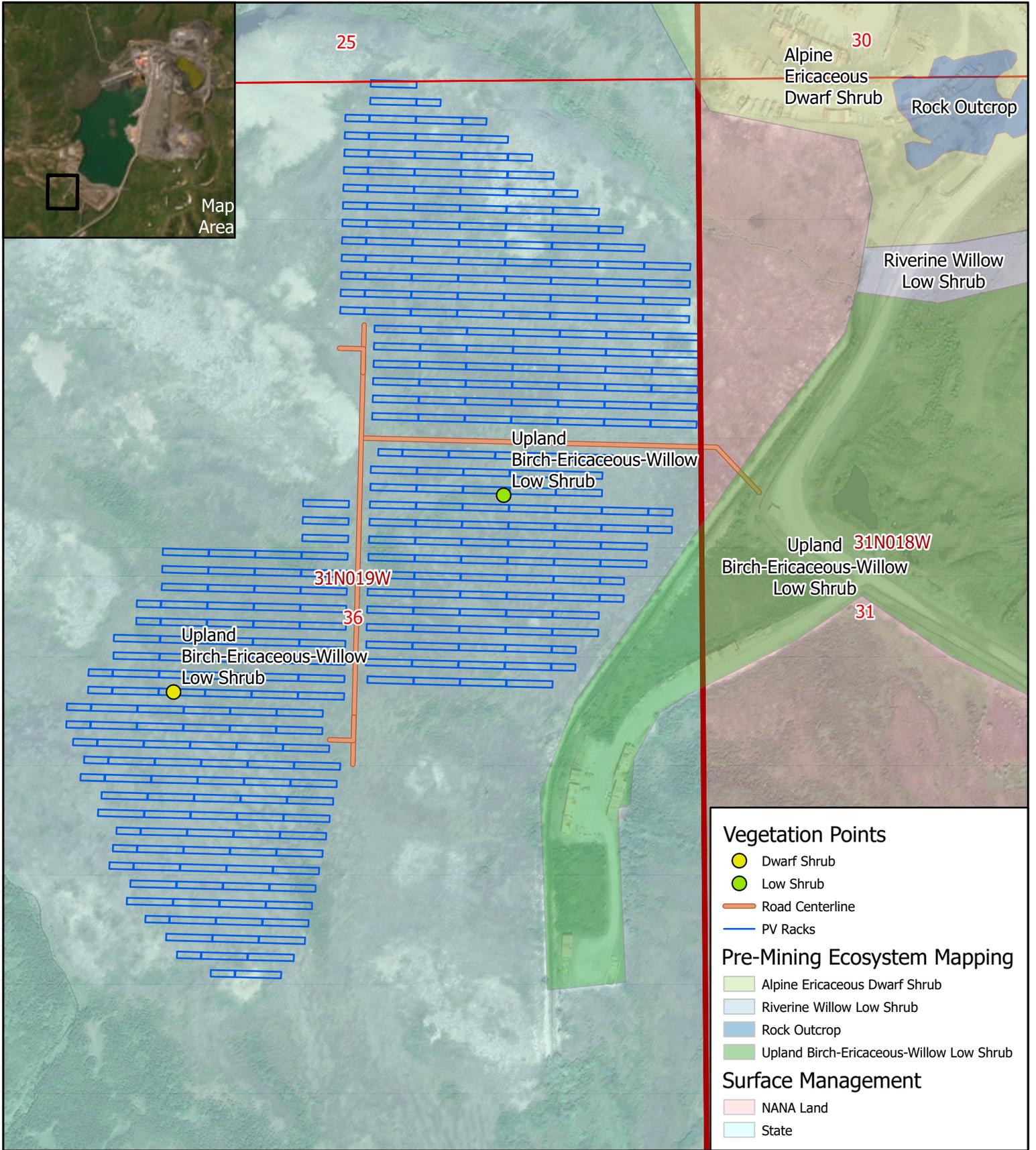
● 6030 Power House
— PV Racks
— Option C
Surface Management
 NANA Land
 State



N

 0 0.3 0.6 Miles
 0 0.3 0.6 Kilometers
 1 inch = 0.3 miles

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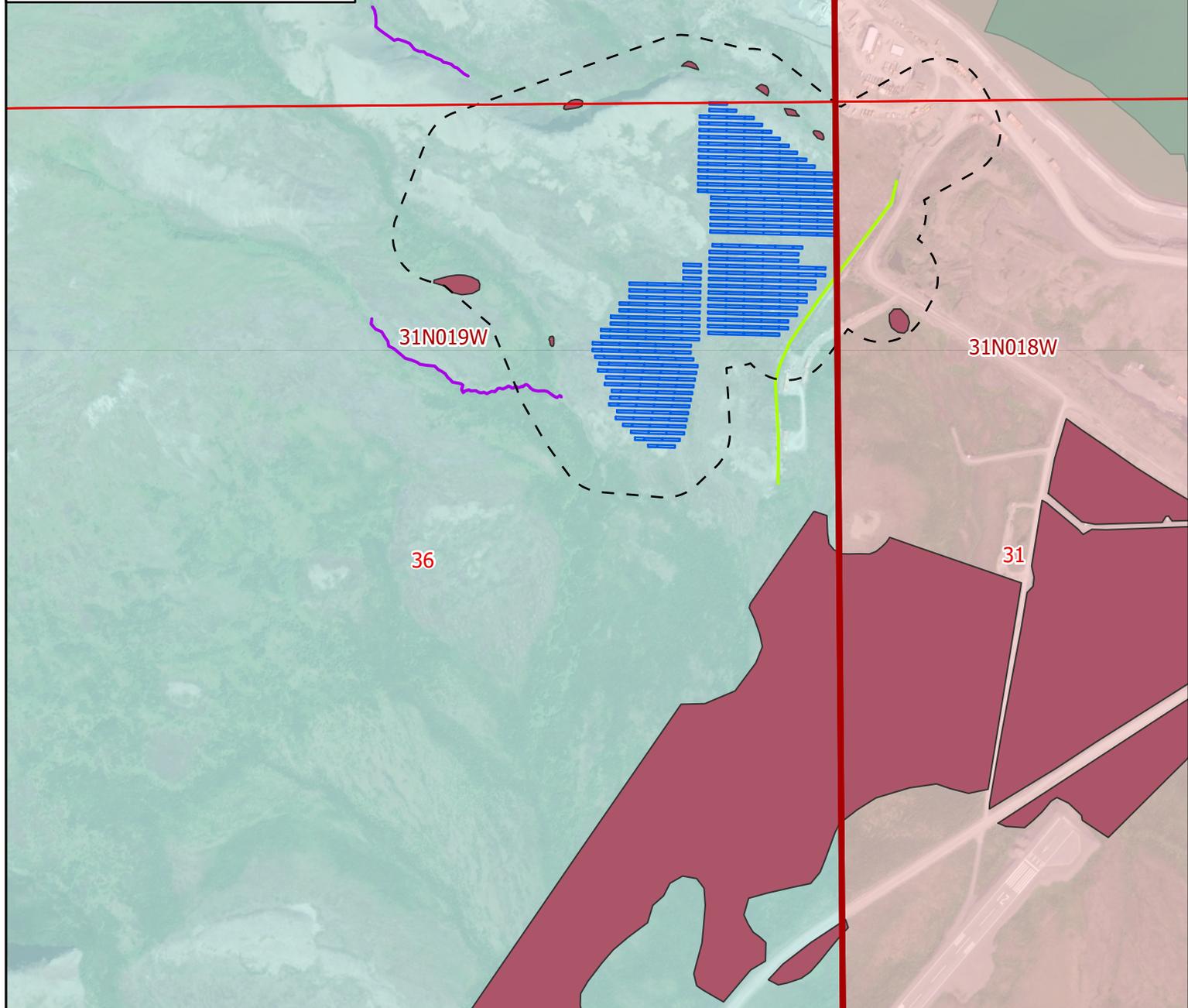


	Land Department 501 N Riverpoint BLVD. Suite 300 Spokane, WA 99202
	Red Dog Renewable Energy / Solar + Battery Project Number: 1730 (MWO#875760) Sheet Title: Solar Array Pre-Mining Ecosystem Mapping
Coordinate System: Red Dog Mine LDP	
Consultants Name(s): Tugliq, Inc.; Solvest; WSP; SEL; KUNA	
Date: 1/16/2026	
Sheet Number: 4 OF 5	

2023 Wetland Survey Area 7
 Wetlands
 DD3 Diversion Ditch
 Intermittent Streams
 PV Racks
Surface Management
 NANA Land
 State

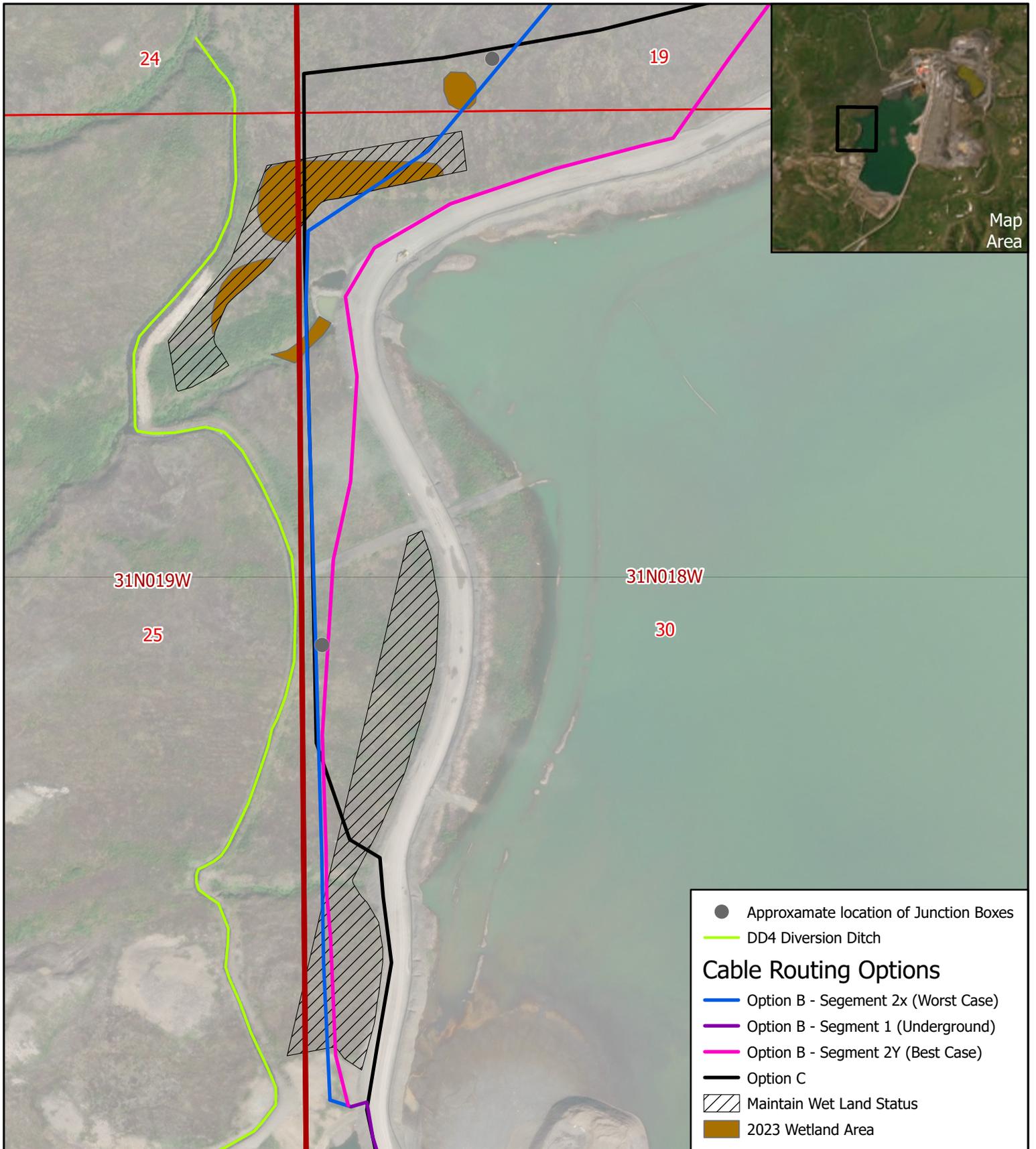


Map Area



1 inch = 0.15 miles

	Land Department 501 N Riverpoint BLVD. Suite 300 Spokane, WA 99202
	Red Dog Renewable Energy / Solar + Battery Project Number: 1730 (MWO#875760) Sheet Title: Wetlands
Coordinate System: Red Dog Mine LDP	
Consultants Name(s): Tugliq, Inc.; Solvest; WSP; SEL; KUNA	
Date: 1/16/2026 Sheet Number: 5 OF 5	



- Approximate location of Junction Boxes
- DD4 Diversion Ditch

Cable Routing Options

- Option B - Segement 2x (Worst Case)
- Option B - Segment 1 (Underground)
- Option B - Segment 2Y (Best Case)
- Option C
- ▨ Maintain Wet Land Status
- 2023 Wetland Area

N

0 0.07 0.15
 Miles

0 0.05 0.1
 Kilometers

1 inch = 0.07 miles

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Teck

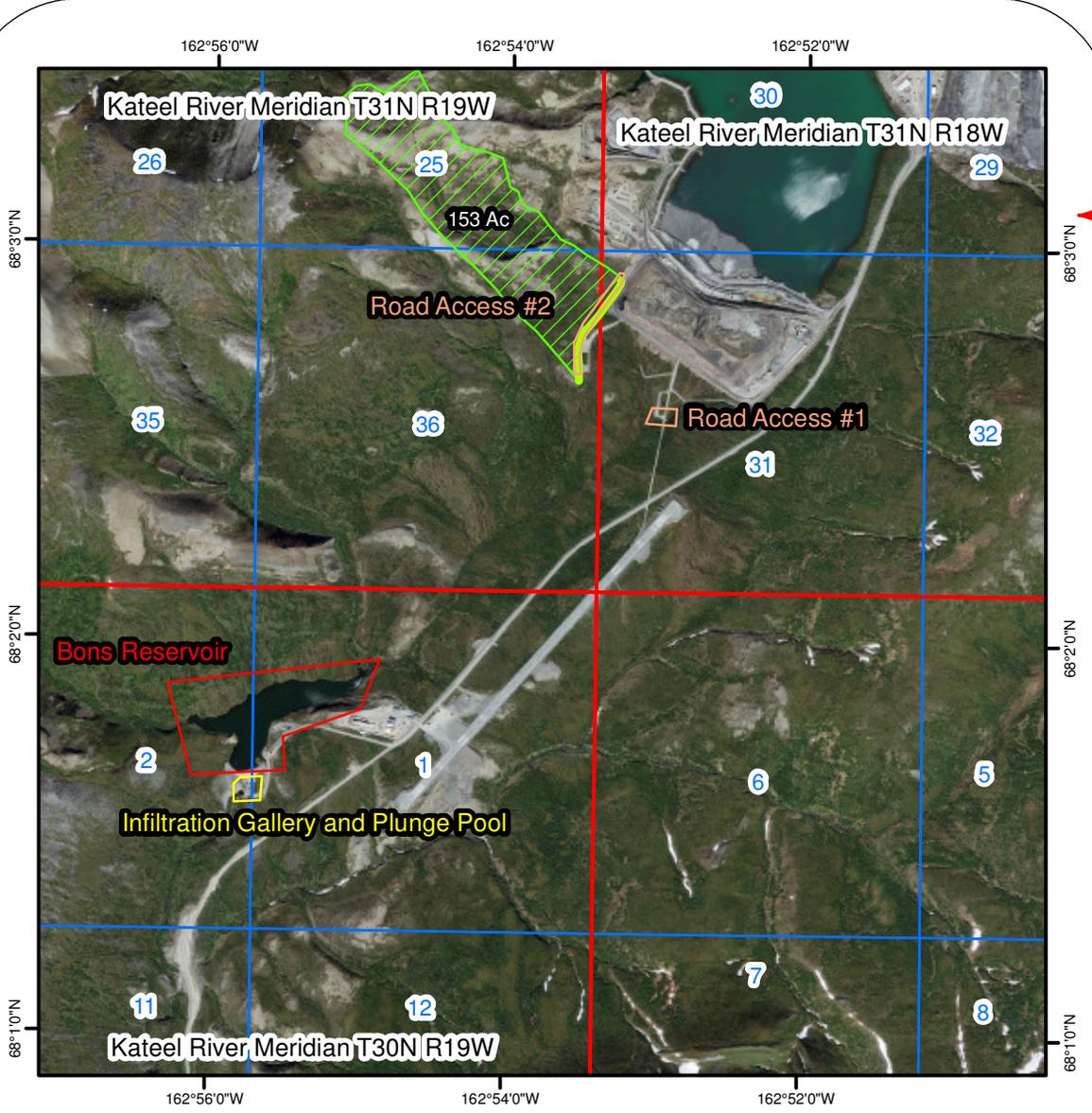
Red Dog Renewable Energy / Solar + Battery
 Project Number: 1730 (MWO#875760)
 Sheet Title: Wetlands

Coordinate System: Red Dog Mine LDP

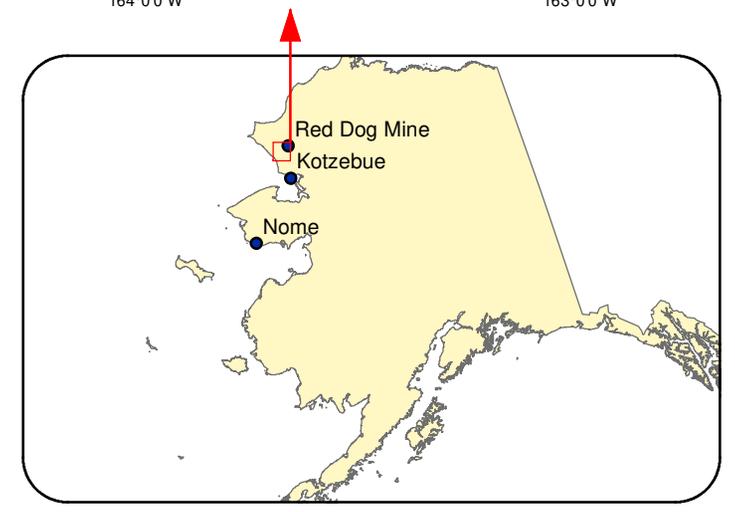
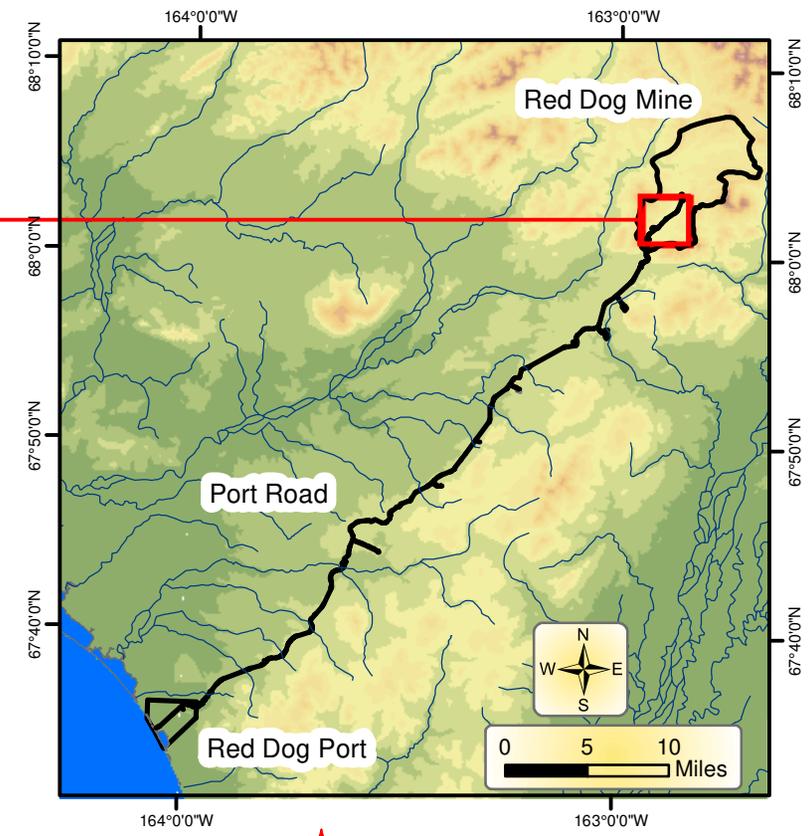
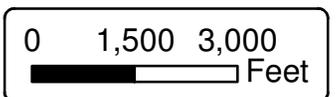
Consultants Name(s): Tugliq, Inc.; Solvest; WSP; SEL; KUNA Date: 1/16/2026

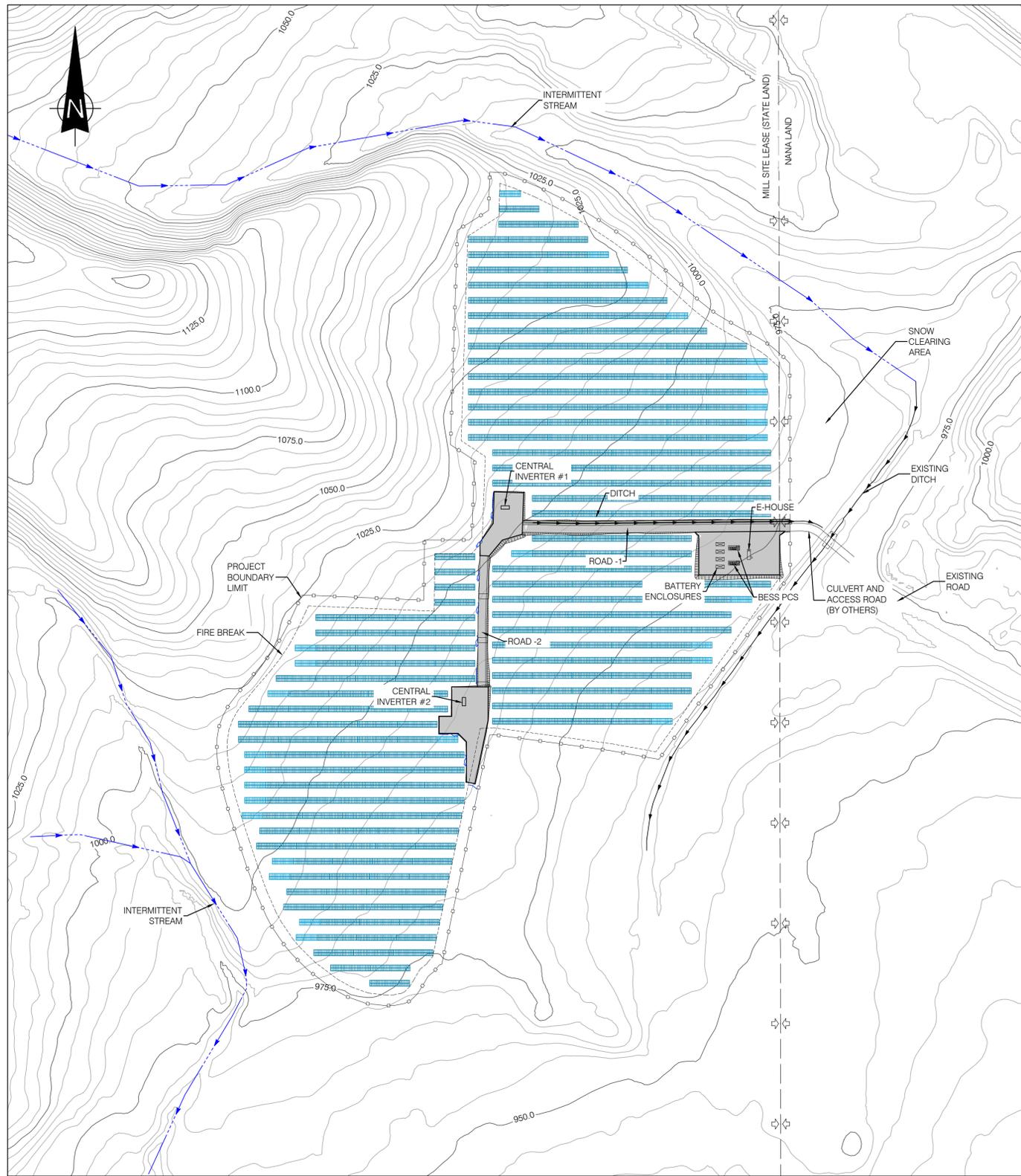
Sheet Number: 5 OF 5

Bons Creek and Reservoir Water Withdrawal Locations



- Diversion Ditch 3
- Diversion Ditch 3 Drainage Basin





PLAN VIEW
SCALE: 1" = 150'



KEY PLAN
N.T.S.

- NOTES:**
- COORDINATES AND ELEVATIONS ARE IN FEET.
 - SURFACE CONTOURS ARE BASED ON INFORMATION PROVIDED BY SOLVEST INC.
 - GROUND SURFACE CONTOURS ARE 5 FT MINOR AND 25FT MAJOR.
 - COORDINATE SYSTEM OF THE CLIENT PROVIDED LIDAR REMAINS TO BE CONFIRMED. SLIGHT ADJUSTMENT OF THE PROJECT SITE MAY BE REQUIRED.
 - ALL REQUIRED PERMITS MUST BE IN PLACE BEFORE START OF CONSTRUCTION.
 - SOLAR PANEL ARRANGEMENT IS PER DRAWING 200040005-000000-47-D20-0001.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS, STANDARD DRAWINGS AND THE GEOTECHNICAL REPORT.
 - DEFINITIONS:
- BESS = BATTERY ENERGY STORAGE SYSTEM
- PCS = POWER CONVERSION SYSTEM

- LEGEND:**
- PV TABLE
 - FIRE BREAK
 - PROJECT BOUNDARY LIMIT
 - LEASE LINE
 - SWALE
 - INTERMITTENT STREAM
 - DITCH
 - NATURAL DRAINAGE PATH



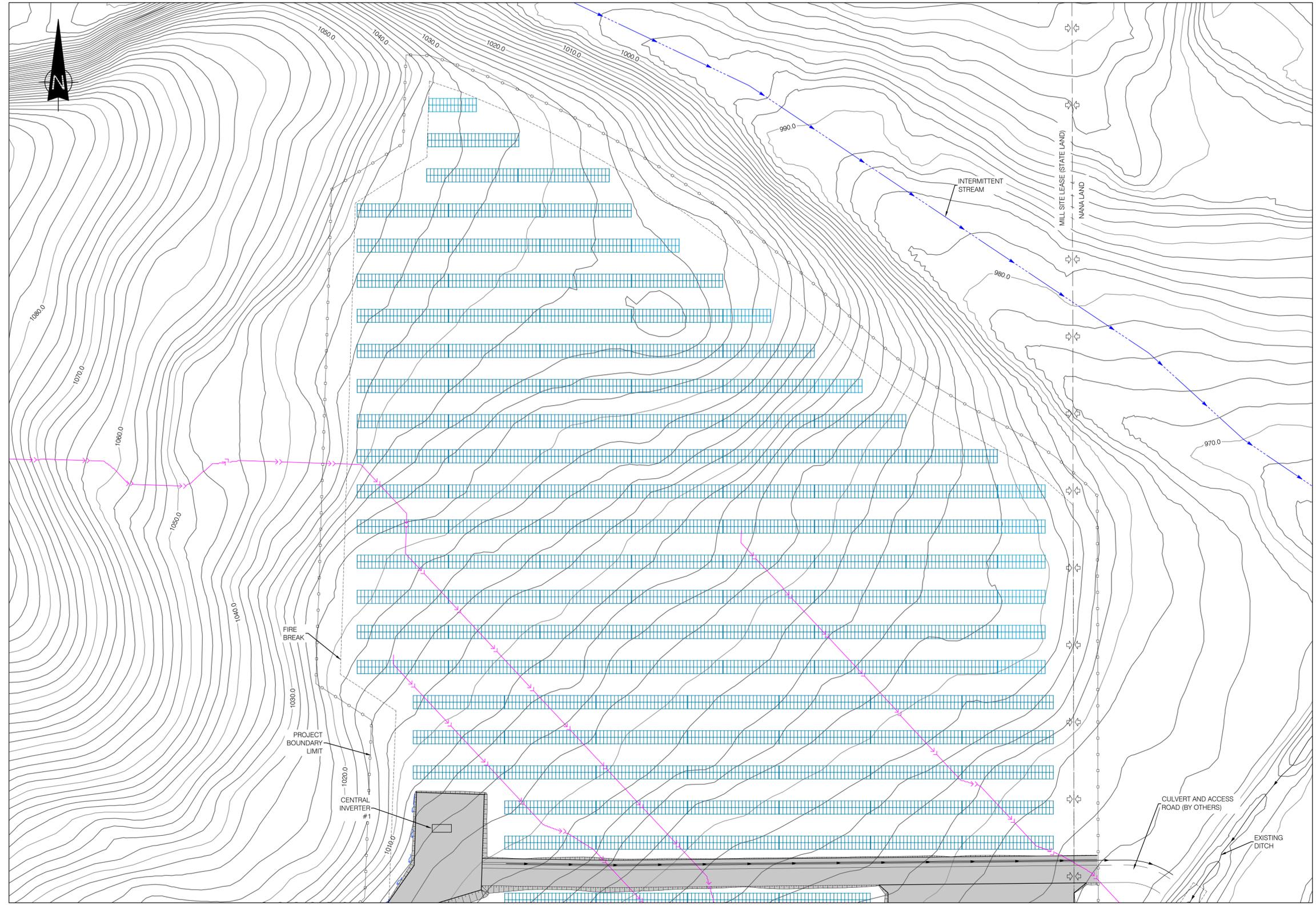
FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION

DRAWING No.	DESCRIPTION	REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
		AB	REVISED AS PER CLIENT COMMENTS	B. HERNANDEZ	M. DRENSKA	2026-01-30
		AA	FOR COMMENTS - 30%	B. HERNANDEZ	M. DRENSKA	2026-01-23
REFERENCE DRAWINGS		REVISIONS				

SEAL:

SOLVEST

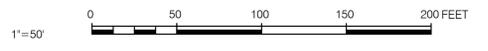
PROJECT: RED DOG MINE SOLAR AND BESS	
TITLE: CIVIL OVERALL ARRANGEMENT PLAN	
DESIGNED BY: J. HU	DRAFTED BY: J. HU
PREPARED BY: B. HERNANDEZ	CHECKED BY: M. DRENSKA
SCALE: 1" = 150'	DATE: 2026-01-07
DRAWING No.: 200040005-000000-41-D20-0001	SHEET: 01
	SIZE: D
	REV: AB



- NOTES:**
- COORDINATES AND ELEVATIONS ARE IN FEET.
 - SURFACE CONTOURS ARE BASED ON INFORMATION PROVIDED BY SOLVEST INC.
 - GROUND SURFACE CONTOURS ARE 2 FT MINOR AND 10 FT MAJOR.
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 - DEFINITIONS:
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- PCS = POWER CONVERSION SYSTEM
 - THE DITCH AND SWALE SYSTEMS WERE DESIGNED FOR THE 100 YEAR STORM EVENT USING RAINFALL INTENSITIES DERIVED FROM THE IDF CURVES FROM THE RED DOG MINE WEATHER STATION.
 - SITE RUNOFF IS DIRECTED TO THE EXISTING DITCH AND INTERMITTENT STREAMS. ANY DISCHARGE FROM THESE SYSTEMS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE DESIGNATED THIRD PARTY ENVIRONMENTAL ENTITY.
 - THE SOLAR PLANT SITE RUNOFF DISCHARGES INTO AN EXISTING NEARBY BODY OF WATER. APPROVAL OF THIS FINAL DISCHARGE POINT TO BE VERIFIED BY OTHERS.

- LEGEND:**
- PV TABLE
 - FIRE BREAK
 - PROJECT BOUNDARY LIMIT
 - LEASE LINE
 - SWALE
 - INTERMITTENT STREAM
 - DITCH
 - NATURAL DRAINAGE PATH

FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION



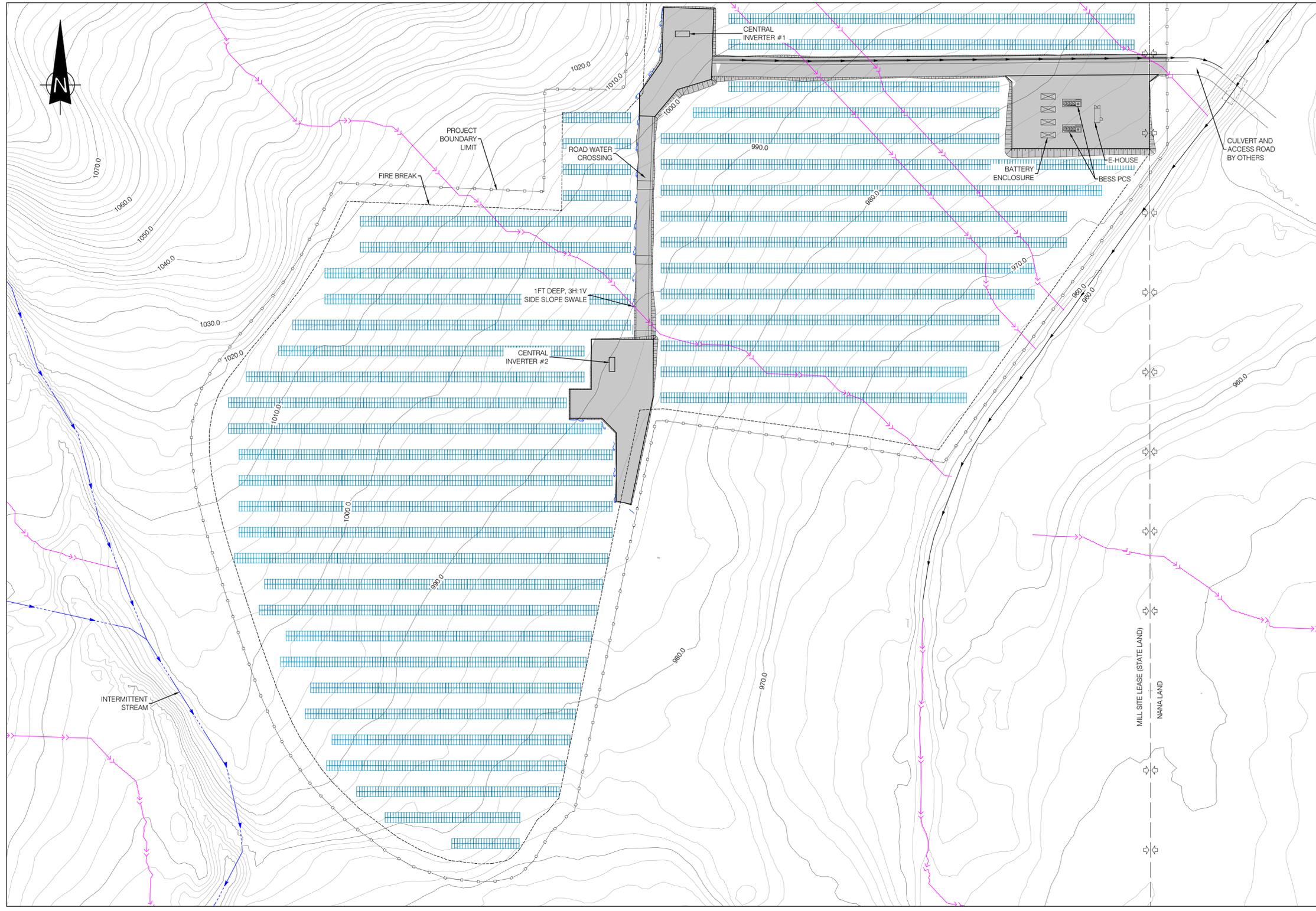
PLAN VIEW
SCALE: 1"=50'

DRAWING No.	DESCRIPTION	REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
		AB	REVISED AS PER CLIENT COMMENTS	B. HERNANDEZ	M. DRENSKA	2026-01-30
		AA	FOR COMMENTS - 30%	B. HERNANDEZ	M. DRENSKA	2026-01-23
REFERENCE DRAWINGS		REVISIONS				

SEAL:	
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CLIENT:

PROJECT: RED DOG MINE SOLAR AND BESS	
TITLE: CIVIL GRADING AND DRAINAGE PLAN NORTH QUADRANT	
DESIGNED BY: J. HU	DRAFTED BY: J. HU
PREPARED BY: B. HERNANDEZ	CHECKED BY: M. DRENSKA
SCALE: 1" = 50'	DATE: 2026-01-07
DRAWING No.: 200040005-000000-41-D50-0001	SHEET: 01
	SIZE: D
	REV: AB



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 - THE SOLAR PLANT SITE RUNOFF DISCHARGES INTO AN EXISTING NEARBY BODY OF WATER. APPROVAL OF THIS FINAL DISCHARGE POINT TO BE VERIFIED BY OTHERS.

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 - FIRE BREAK
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 - INTERMITTENT STREAM
 - DITCH
 - NATURAL DRAINAGE PATH

FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION

PLAN VIEW
SCALE: 1" = 70'



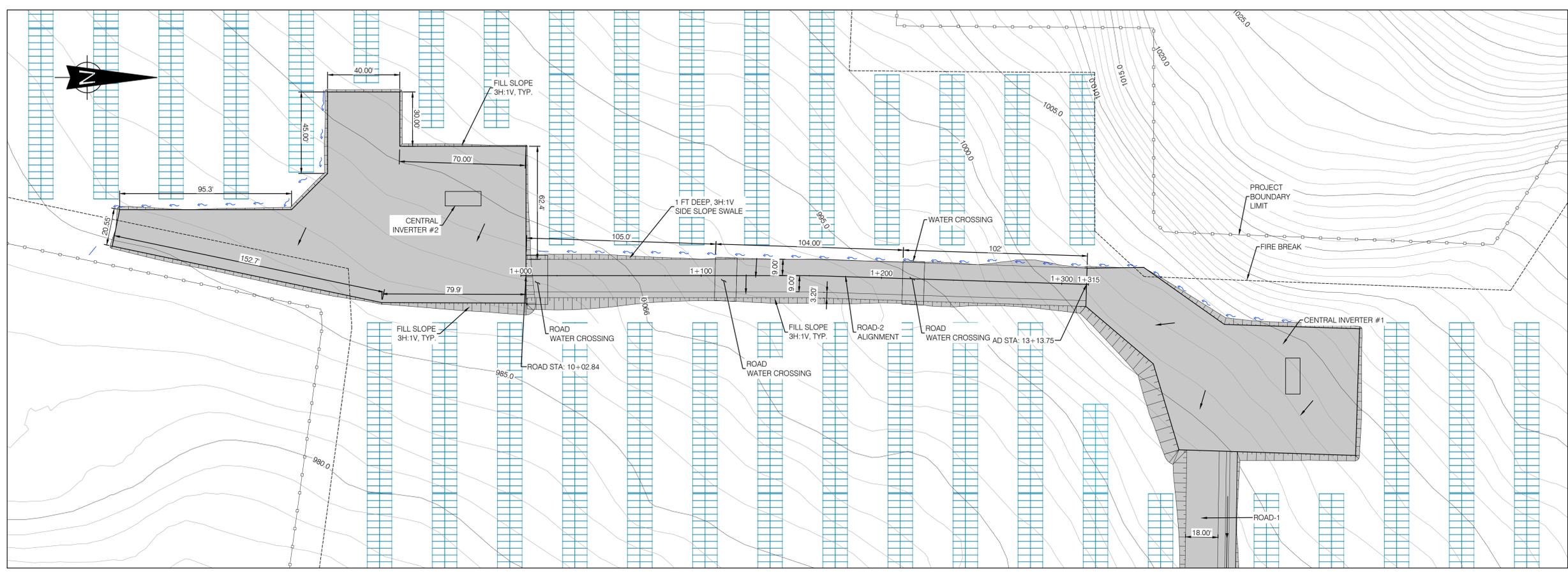
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		AB	REVISED AS PER CLIENT COMMENTS	B. HERNANDEZ	M. DRENSKA	2026-01-30
		AA	FOR COMMENTS - 30%	B. HERNANDEZ	M. DRENSKA	2026-01-23
REFERENCE DRAWINGS		REVISIONS				

SEAL:

SOLVEST

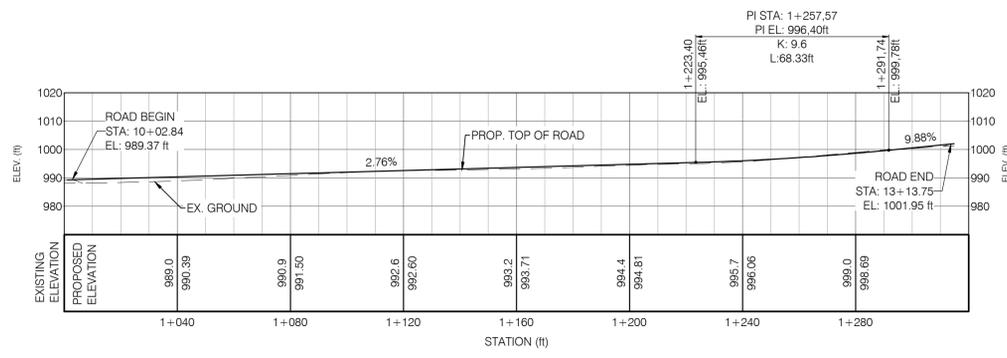
PROJECT: RED DOG MINE SOLAR AND BESS	
TITLE: CIVIL GRADING AND DRAINAGE PLAN SOUTH QUADRANT	
DESIGNED BY: J. HU	DRAFTED BY: J. HU
PREPARED BY: B. HERNANDEZ	CHECKED BY: M. DRENSKA
SCALE: 1" = 70'	DATE: 2026-01-07
DRAWING No.: 200040005-000000-41-D50-0002	SHEET: 01
SIZE: D	REV: AB

BY: CHELSEA LAWRENCE
PRINT: 2026-01-30 11:28:56 AM



PLAN: ROAD -2
1"=30'

- NOTES:**
- COORDINATES AND ELEVATIONS ARE IN FEET.
 - GROUND SURFACE CONTOURS ARE 1 FT MINOR AND 5 FT MAJOR.
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 - SOLAR PANEL ARRANGEMENT IS PER DRAWING 200040005-000000-47-D20-0001.
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PROFILE VIEW: ROAD -2
1"=30'

- LEGEND:**
- PV TABLE
 - FIRE BREAK
 - PROJECT BOUNDARY LIMIT
 - LEASE LINE
 - SWALE
 - INTERMITTENT STREAM
 - DITCH
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FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION



DRAWING No.	DESCRIPTION	REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
		AB	REVISED AS PER CLIENT COMMENTS	B. HERNANDEZ	M. DRENSKA	2026-01-30
		AA	FOR COMMENTS - 30%	B. HERNANDEZ	M. DRENSKA	2026-01-23
REFERENCE DRAWINGS		REVISIONS				

	PROJECT: RED DOG MINE SOLAR AND BESS TITLE: CIVIL ROAD PLAN VIEW AND PROFILE SOUTH QUADRANT
	DESIGNED BY: J. HU PREPARED BY: B. HERNANDEZ SCALE: 1" = 30' DRAWING No.: 200040005-000000-41-D52-0002

ABBREVIATIONS:

- AC ALTERNATING CURRENT
- C/W COMPLETE WITH
- NEC NATIONAL ELECTRICAL CODE, NFPA 70-2026
- DC DIRECT CURRENT
- ITS INVERTER TRANSFORMER STATION
- STR PV STRING
- TBD TO BE DETERMINED
- EOR ENGINEER OF RECORD
- DP DISTRIBUTION PANEL

GENERAL NOTES:

1. REFER TO THE TECHNICAL SPECIFICATION DOCUMENT FOR ADDITIONAL TECHNICAL AND INSTALLATION REQUIREMENTS.
2. THE FULL SET OF CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS TO BE REVIEWED AND COMPREHENDED.
3. ALL WORK PERFORMED ON SITE SHALL COMPLY WITH THE LATEST REVISION OF THE NEC - NATIONAL ELECTRICAL CODE, NFPA 70-2026, INCLUDING ALL STANDARD VARIATIONS.
4. MATERIAL PROCURED FOR THE CONSTRUCTION OF THE SOLAR PROJECT MUST BE NEW AND HAVE CERTIFICATIONS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
5. EQUIPMENT MOUNTED OUTDOORS SHALL BE RATED FOR EXPECTED ENVIRONMENTAL CONDITIONS.

PERMITS AND INSPECTIONS:

6. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN REQUIRED ELECTRICAL PERMITS.
7. CONTRACTOR IS RESPONSIBLE TO REQUEST "DIAL BEFORE YOU DIG" (DBYD) PRIOR TO COMMENCING ANY TRENCHING OR PLOWING TO IDENTIFY ANY UNDERGROUND UTILITIES.
8. CONTRACTOR SHALL BE RESPONSIBLE TO ARRANGE ALL REQUIRED INSPECTIONS.

WIRING & WIRE MANAGEMENT:

9. CONTRACTOR TO ENSURE ALL CONDUCTORS COMPLY WITH COLOUR CODE AND/OR MARKING REQUIREMENTS PER NEC ARTICLE 215.12:

CABLE IDENTIFICATION	
CABLE	MARKER TAPE
AC POWER	
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUND	GREEN
DC POWER	
POSITIVE	RED
NEGATIVE	BLACK
NEUTRAL	WHITE
GROUND	GREEN

10. CABLE BEND RADIUS MUST NOT EXCEED CABLE MANUFACTURER'S RECOMMENDATIONS.
11. CONDUCTORS IN RACEWAYS SHALL NOT BE SUBJECT TO SHARP EDGES OR REPETITIVE ABRASION THAT MAY COMPROMISE CONDUCTOR INSULATION.
12. ALL DC FIELD WIRING SHALL BE TAGGED AT BOTH ENDS WITH PERMANENT GRADE LABELS WITH LEGIBLE TEXT SIZE.
13. PV MODULE STRING CABLE SHALL BE RATED AT MINIMUM 1500V DC, 90 °C, UV RATED, RPVU90 TYPE.
14. PV MODULE STRING WIRING TO BE SUPPORTED ALONG THE RACKING STRUCTURE AS SHOWN IN THE DESIGN PACKAGE USING COATED METALLIC BASED TIES. SPLIT LOOM IS TO BE USED FOR UV PROTECTION AT GAPS BETWEEN TABLES.
15. SPLICES IN LOW VOLTAGE CABLES ARE NOT ACCEPTABLE.
16. CABLES SHALL BE SUITABLY PROTECTED AGAINST MOISTURE INGRESS AND MECHANICAL DAMAGE WHEN STORED OR LEFT COILED ON SITE PRIOR TO TERMINATION

TRENCHING:

17. CONDUCTORS TO BE INSTALLED AS PER THE TRENCH PLANS AND TRENCH DETAILS PROVIDED WITHIN THIS DESIGN PACKAGE.
18. WHERE CABLES TRANSITION ABOVE GROUND LEVEL, THEY SHALL BE PROTECTED FROM MECHANICAL DAMAGE BY CONDUIT. CONDUIT TO INCLUDE AN ELBOW BELOW GROUND LEVEL IN THE DIRECTION OF THE CABLE RUN AT A DEPTH SHOWN IN THE TRENCH DETAILS. EXPANSION JOINTS TO BE USED WHERE REQUIRED. CONDUITS TO EXTEND MINIMUM 300 MM ABOVE GROUND UNLESS OTHERWISE STATED ON THE DRAWINGS.
19. THE INSTALLATION SHALL BE PROVIDED WITH WARNING TAPE BURIED APPROXIMATELY HALFWAY BETWEEN THE TOP OF CABLES AND GROUND LEVEL.

CONDUITS:

20. CONTRACTOR TO ENSURE CONDUITS ARE SIZED APPROPRIATELY FOR THE APPLICATION AS PER NEC.
21. CONTRACTORS TO SEAL CONDUIT OPENINGS USING APPROVED FIRE RATED SEALANT OR GROMMETS OR WEATHER HEADS SPECIFICALLY DESIGNED FOR THE SIZE AND NUMBER OF CONDUCTORS. SILICONE SEALANT IS NOT AN ACCEPTABLE MEANS OF SEALING.
22. CONTRACTOR TO MINIMIZE CONDUIT SIDE ENTRIES INTO ENCLOSURES. BOTTOM ENTRY IS THE STANDARD. WHEN SIDE ENTRY CANNOT BE AVOIDED, ENTRY POINTS MUST BE PROPERLY SEALED USING APPROPRIATE CAULKING TO PREVENT MOISTURE INGRESS.

TERMINATIONS:

23. A PENETRATING OXIDE PREVENTION COMPOUND SHALL BE USED FOR TERMINATIONS AND SPLICES OF STRANDED ALUMINUM CONDUCTORS, UNLESS THE MANUFACTURER SPECIFICALLY STATES AN ANTI-OXIDIZING COMPOUND IS NOT REQUIRED.
24. CONTRACTOR TO FOLLOW INSULATION STRIPPING LENGTH TO AVOID PINCHED INSULATION COMPROMISING TERMINATIONS.
25. CONTRACTOR TO ENSURE PREVENTION OF DISSIMILAR METALS CONTACTING EACH OTHER.
26. LUGS SHALL NOT HAVE MORE CONDUCTORS TERMINATED THAN RATED FOR BY THE MANUFACTURER.
27. ALL TERMINATIONS SHALL BE TORQUED AND MARKED AS PER THE EQUIPMENT MANUFACTURER'S SPECIFICATIONS.

GROUNDING AND BONDING:

28. CONTRACTOR TO ENSURE BONDING PATHS CONFORM WITH THE CABLE SCHEDULES & CODE.
29. ALL NON-CURRENT CARRYING METAL COMPONENTS, SHALL BE EFFECTIVELY BONDED. BONDING CONNECTIONS SHALL NOT BE COMPROMISED BY PAINTED SURFACES OR OTHER NON-CONDUCTIVE COATINGS. WHERE PAINT OR COATING EXISTS, IT SHALL BE REMOVED AT THE CONNECTION CONTACT SURFACE AND TOUCHED UP USING A ZINC BASED COATING.
30. GROUNDING SYSTEM COMPONENTS SHALL BE CERTIFIED AND PURPOSE BUILT FOR THE EXPECTED ENVIRONMENT.
31. PV MODULE BONDING SHALL ENSURE THE REMOVAL OF A MODULE DOES NOT BREAK THE BONDING PATH OF OTHER EQUIPMENT.
32. RACKING BONDING PROCEDURE AND SPECIFICATION TO BE FOLLOWED TO PROPERLY BOND THE PV MODULES.
33. EXPOSED COPPER SURFACES ABOVEGROUND SHALL BE COATED WITH GLYPTAL 1201 OR APPROVED EQUAL TO PROTECT AGAINST CORROSION.

ENCLOSURES:

34. CONTRACTOR TO ENSURE ALL ENCLOSURE ENTRIES, EVEN THOSE NOT IN USE, DO NOT ALLOW ENTRANCE OF WATER OR INSECTS.
35. CONTRACTOR TO REMOVE ANY CONSTRUCTION DEBRIS FROM ENCLOSURES PRIOR TO COMMISSIONING.
36. ENCLOSURES SHALL BE PENETRATED FROM THE BOTTOM. SIDE ENTRY IS ONLY ALLOWED WHERE BOTTOM ENTRY IS NOT POSSIBLE. TOP ENTRY IS NOT PERMITTED.
37. GLANDS SHALL MEET OR EXCEED THE ENCLOSURE IP RATING.

LAMACCOIDS:

38. CONTRACTOR TO ENSURE ENCLOSURES ARE LABELED PRIOR TO PULLING CABLE.
39. ALL INTERACTIVE SYSTEM(S) POINTS OF INTERCONNECTION WITH OTHER SOURCES SHALL BE MARKED WITH THE MAXIMUM OUTPUT OPERATING VOLTAGE AND CURRENT.
40. ARC FLASH LABELS SHALL BE INSTALLED WITH RESULTS OF THE ARC FLASH STUDY PRIOR TO ENERGIZATION.

QA/QC AND COMMISSIONING:

41. ALL TESTING EQUIPMENT SHALL HAVE CURRENT AND VALID CALIBRATION CERTIFICATES.
42. CONTRACTOR WILL RECORD THE TEST EQUIPMENT SERIAL NUMBER AND ATTACH A COPY OF THE CALIBRATION CERTIFICATE AS PART OF QA/QC HANDOVER.
43. CONTRACTOR TO PERFORM INSULATION RESISTANCE TESTING ON CABLES PRIOR TO AND AFTER TRENCH BACKFILL.
44. CONTRACTOR SHALL PROMPTLY NOTIFY OF ANY EQUIPMENT THAT DOES NOT MEET TESTING ACCEPTABLE RANGES.
45. WORKMANSHIP ISSUES AND CONSTRUCTION DEBRIS SHALL BE RECTIFIED TO SATISFACTION OF THE OWNER.

FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION

BY: LIZARRAGA NUNEZ, KEVIN
PRINTED: 2025-01-14 11:25:24

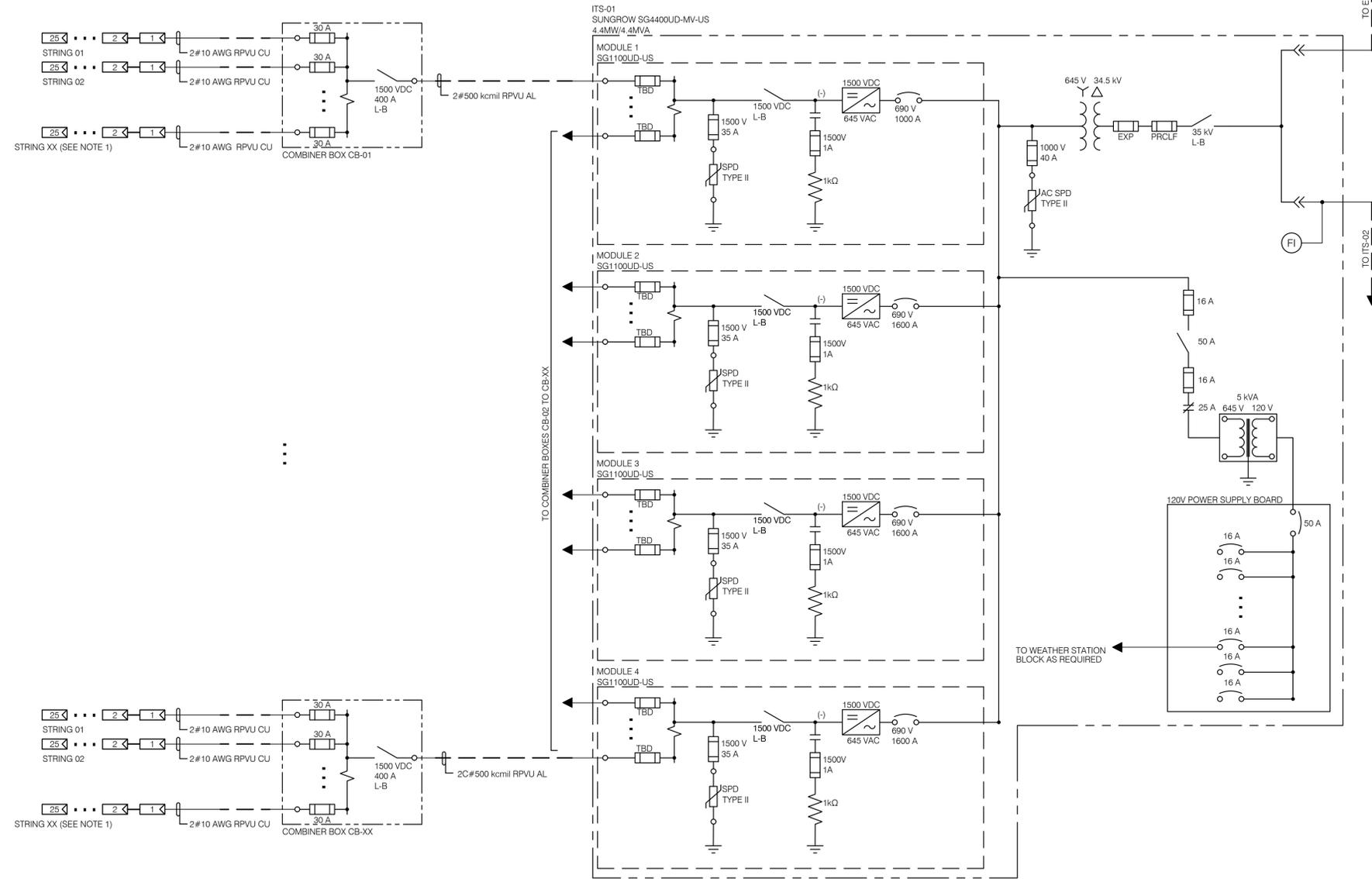
DRAWING No.	DESCRIPTION	REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
-	-	AA	FOR COMMENTS - 30% DESIGN	E. MAZE	S. STAN J. LILLOQUIST	2025-01-14
REFERENCE DRAWINGS				REVISIONS		

SEAL:	
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PROJECT: RED DOG MINE SOLAR AND BESS			
TITLE: ELECTRICAL NOTES AND ABBREVIATIONS			
DESIGNED BY: E. MAZE	DRAFTED BY: K. OLSAKOVA		
PREPARED BY: E. MAZE	CHECKED BY: S. STAN J. LILLOQUIST		
SCALE: NTS	DATE: 2025-12-17		
DRAWING No.: 200040005-000000-47-D01-0002	SHEET: 01	SIZE: D	REV: AA



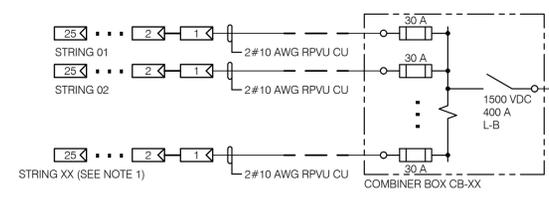
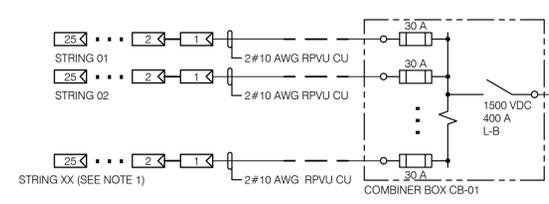
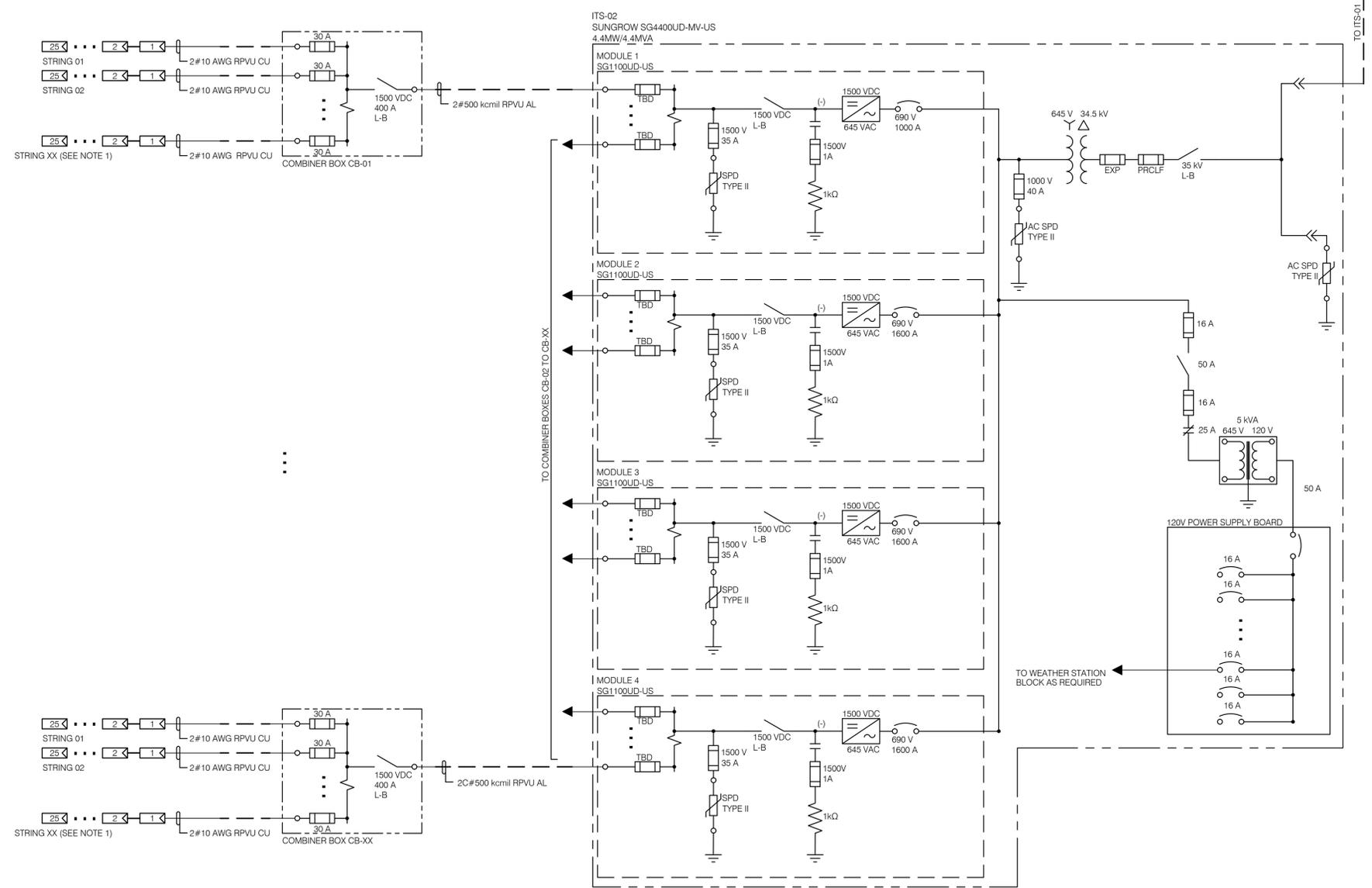
- NOTES**
- REFER TO OVERALL SITE PLAN (DWG# TBD) AND CABLE SCHEDULE FOR NUMBER OF STRING CABLES PER COMBINER BOX.
 - STANDARD TEST CONDITIONS (STC):
 - IRRADIANCE: 1,000 W/m²
 - SPECTRUM: AM 1.5
 - CELL TEMPERATURE: 25 °C
 - DC COLLECTOR IS NEGATIVE GROUNDED WITH SINGLE POLE FUSE ON POSITIVE ONLY.
 - FAULT INDICATORS CONNECTED TO CAPACITIVE TEST POINTS ON 35 kV DEADBREAK ELBOWS PER IEEE STD 386.
 - CABLE SIZES ARE PRELIMINARY AND WILL BE CONFIRMED AFTER AMPACITY STUDY IS COMPLETE AS PART OF 60% DESIGN.

LEGEND	
	INTERNAL WIRING (BY VENDOR)
	FIELD WIRING (BY CONTRACTOR)
	FAULT INDICATOR
	35 kV DEADBREAK ELBOW
	SURGE ARRESTER
	DISCONNECT
	FUSE
	POWER TRANSFORMER
	CIRCUIT BREAKER
	DC-AC INVERTER
	BIFACIAL PV MODULE
	TERMINAL
	EARTH GROUND
	LOAD BREAK / DEAD BREAK
	EXPULSION FUSE
	PARTIAL RANGE CURRENT LIMITING FUSE
	NEGATIVE GROUNDING

FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION

DRAWING No.	DESCRIPTION	REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
AA	FOR COMMENTS - 30% DESIGN			S. KUNG	S. STAN	2025-01-14
REVISIONS						

	PROJECT: RED DOG MINE SOLAR AND BESS
	TITLE: SOLAR ELECTRICAL ITS-01 SINGLE LINE DIAGRAM
DESIGNED BY: S. KUNG	DRAFTED BY: K. LIZARRAGA NUNEZ
PREPARED BY: S. KUNG	CHECKED BY: S. STAN J. LILLQUIST
SCALE: NTS	DATE: 2025-12-18
DRAWING No.: 200040005-000000-47-D10-0001	SHEET: 01 SIZE: D REV: AA



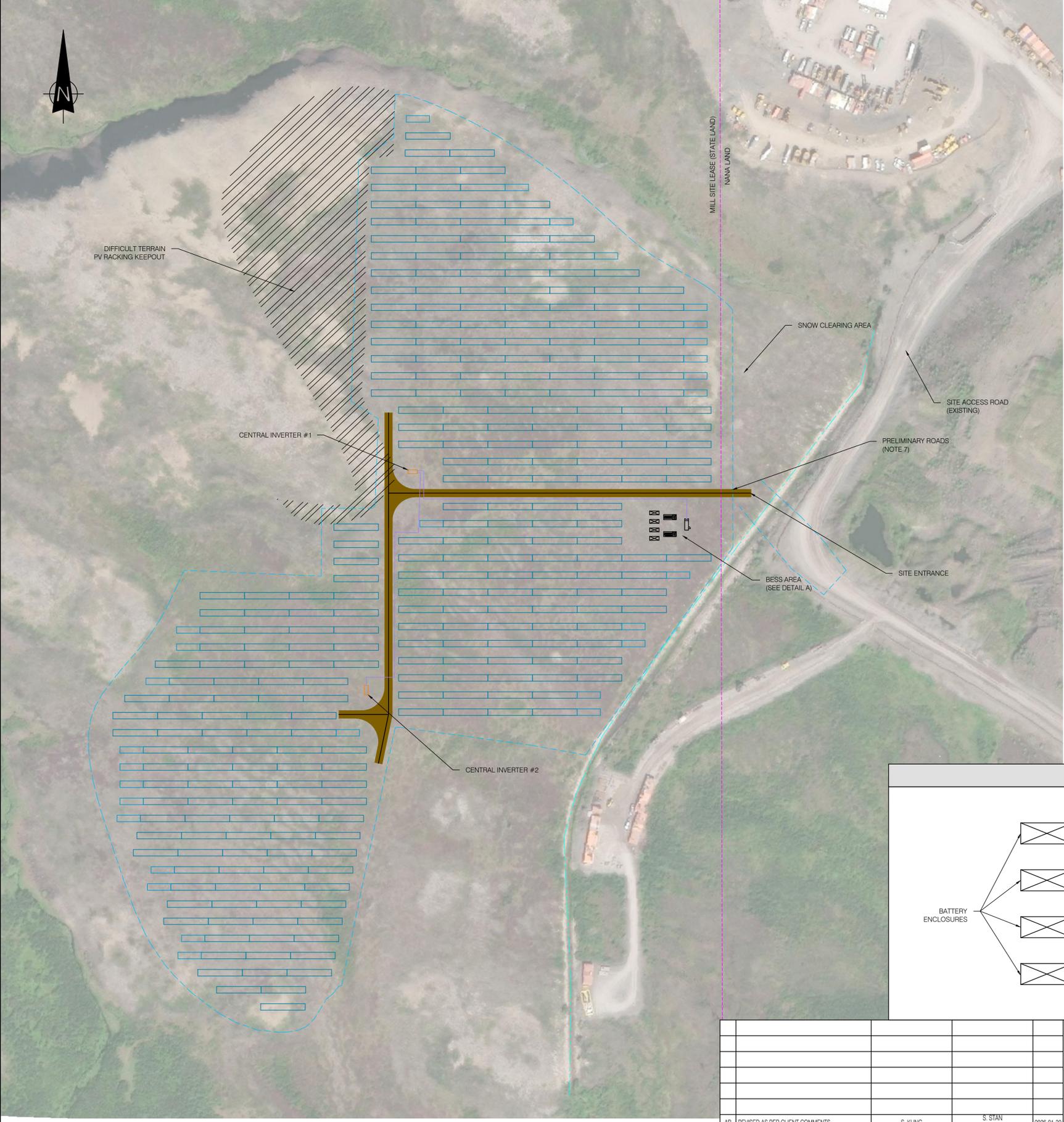
- NOTES**
- REFER TO OVERALL SITE PLAN (DWG# TBD) AND CABLE SCHEDULE FOR NUMBER OF STRING CABLES PER COMBINER BOX.
 - STANDARD TEST CONDITIONS (STC):
 - IRRADIANCE: 1,000 W/m²
 - SPECTRUM: AM 1.5
 - CELL TEMPERATURE: 25 °C
 - DC COLLECTOR IS NEGATIVE GROUNDED WITH SINGLE POLE FUSE ON POSITIVE ONLY.
 - CABLE SIZES ARE PRELIMINARY AND WILL BE CONFIRMED AFTER AMPACITY STUDY IS COMPLETE AS PART OF 60% DESIGN.

LEGEND	
	INTERNAL WIRING (BY VENDOR)
	FIELD WIRING (BY CONTRACTOR)
	35 kV DEADBREAK ELBOW
	SURGE ARRESTER
	DISCONNECT
	FUSE
	POWER TRANSFORMER
	CIRCUIT BREAKER
	DC-AC INVERTER
	BIFACIAL PV MODULE
	TERMINAL
	EARTH GROUND
	LOAD BREAK / DEAD BREAK
	EXPULSION FUSE
	PARTIAL RANGE CURRENT LIMITING FUSE
	NEGATIVE GROUNDING

FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION

DRAWING No.	DESCRIPTION	REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
AA	FOR COMMENTS - 30% DESIGN			S. KUNG	S. STAN J. LILQUIST	2025-01-14
REVISIONS						

	PROJECT: RED DOG MINE SOLAR AND BESS
	TITLE: SOLAR ELECTRICAL ITS-02 SINGLE LINE DIAGRAM
DESIGNED BY: S. KUNG	DRAFTED BY: K. LIZARRAGA NUNEZ
PREPARED BY: S. KUNG	CHECKED BY: S. STAN J. LILQUIST
SCALE: NTS	DATE: 2025-12-18
DRAWING No.: 200040005-000000-47-D10-0002	SHEET: 01 SIZE: D REV: AA



- NOTES:**
- ALL DIMENSIONS IN FEET AND INCHES, UNLESS OTHERWISE NOTED.
 - THIS PAGE CONTAINS PRELIMINARY INFORMATION AND IS SUBJECT TO CHANGE PENDING DETAILED DESIGN.
 - THE LOCATION OF EXISTING SERVICES INCLUDING THE SITE ACCESS ROAD AND EXCLUSION ZONES HAVE BEEN APPROXIMATED. ACTUAL LOCATIONS PENDING SITE SURVEY.
 - PROJECT BOUNDARY LIMITS DIMENSIONS AND SETBACKS:
 - AREA: 127094 m² (12.7 ha)
 - LENGTH: 1,775 m (5,823')
 - SETBACK MINIMUM: 7.62 m (25')
 - ASSUMES NO ENVIRONMENTAL RESTRICTIONS OR SENSITIVE SPECIES SETBACKS IDENTIFIED WITHIN THE PROJECT BOUNDARY LIMITS, UNLESS INDICATED.
 - DEFINITIONS:
 - BESS = BATTERY ENERGY STORAGE SYSTEM
 - PCS = POWER CONVERSION SYSTEM
 - ROAD LAYOUT IS PRELIMINARY, TO BE CONFIRMED IN CIVIL 30% DESIGN PACKAGE.

SYMBOL LEGEND	
	PROPOSED AC COLLECTOR CABLE - 34.5kV
	BATTERY ENCLOSURE
	CENTRAL INVERTER (SG4400)
	DC COMBINER BOX
	EXCLUSION ZONE - DIFFICULT TERRAIN
	FULL PV TABLE (2 x 25 MODULES)
	HALF PV TABLE (13 + 12 MODULES)
	BESS PCS
	PROJECT BOUNDARY LIMIT
	DD-3 DITCH (EXISTING PERMITTED DITCH)
	SITE ROADS (NEW)
	STATE LAND BOUNDARY
	FIREBREAK (25')

PV SYSTEM INFORMATION	
TOTAL DC CAPACITY	9.38 MW _{DC}
TOTAL AC CAPACITY	8.80 MW _{AC}
DC/AC RATIO	1.065

PV INVERTER SYSTEM INFORMATION	
PV INVERTER	SUNGROW SG4400UD-MV-US
QUANTITY	TWO (2)
MAXIMUM DC INPUT VOLTAGE	1500 V
RATED AC VOLTAGE	34.5 kV
AC POWER (DERATED)	4.4 MVA
CEC EFFICIENCY	98.5%
POWER FACTOR CAPABILITY	0.8 LEADING - 0.8 LAGGING

PV MODULE INFORMATION	
PV MODULE	THORNOVA TS-BGT66 (620W)
QUANTITY	15,125
OPEN CIRCUIT VOLTAGE @ STC	49.60 V
SHORT CIRCUIT CURRENT @ STC	15.92 A
RATED POWER	620 W

PV STRING INFORMATION	
PV MODULES PER STRING	25
STRING QUANTITY	605

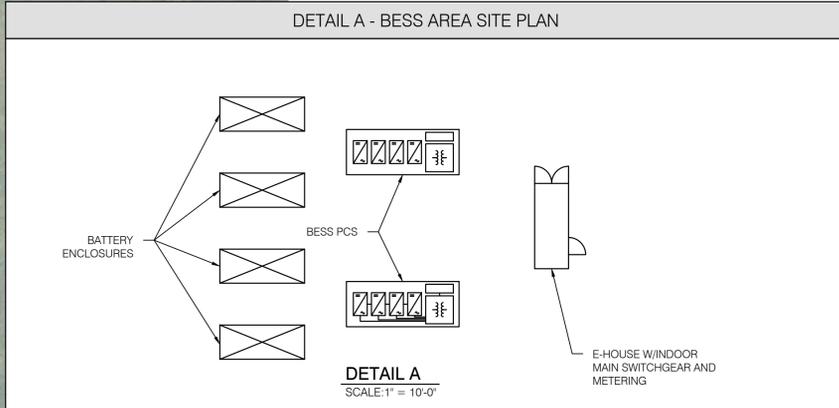
LAYOUT INFORMATION	
PV MODULES ORIENTATION	PORTRAIT - 2P
RACK CONFIGURATION	FIXED TILT - 30°
RACK QUANTITY	FULL PV TABLES - 288 HALF PV TABLES - 29
PITCH SPACING	11 m (36.1')
COMBINER BOX QUANTITY	TBD

BESS SYSTEM INFORMATION	
TOTAL POWER (MW)	TBD
TOTAL ENERGY (MWh)	TBD

BATTERY ENCLOSURE INFORMATION	
MANUFACTURER	TBD
MODEL	TBD
QUANTITY	TBD

BESS PCS INFORMATION	
MANUFACTURER	TBD
QUANTITY	TBD
INVERTER CAPACITY @ 40°C (MVA)	TBD
MAXIMUM DC INPUT VOLTAGE (V)	TBD
RATED AC VOLTAGE (kV)	TBD
AC POWER (DERATED) (MVA)	TBD
CEC EFFICIENCY	TBD
POWER FACTOR CAPABILITY	TBD

FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION



REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
AB	REVISED AS PER CLIENT COMMENTS	S. KUNG	S. STAN J. LILLOQUIST	2026-01-30
AA	FOR COMMENTS - 30% DESIGN	S. KUNG	S. STAN J. LILLOQUIST	2026-01-14

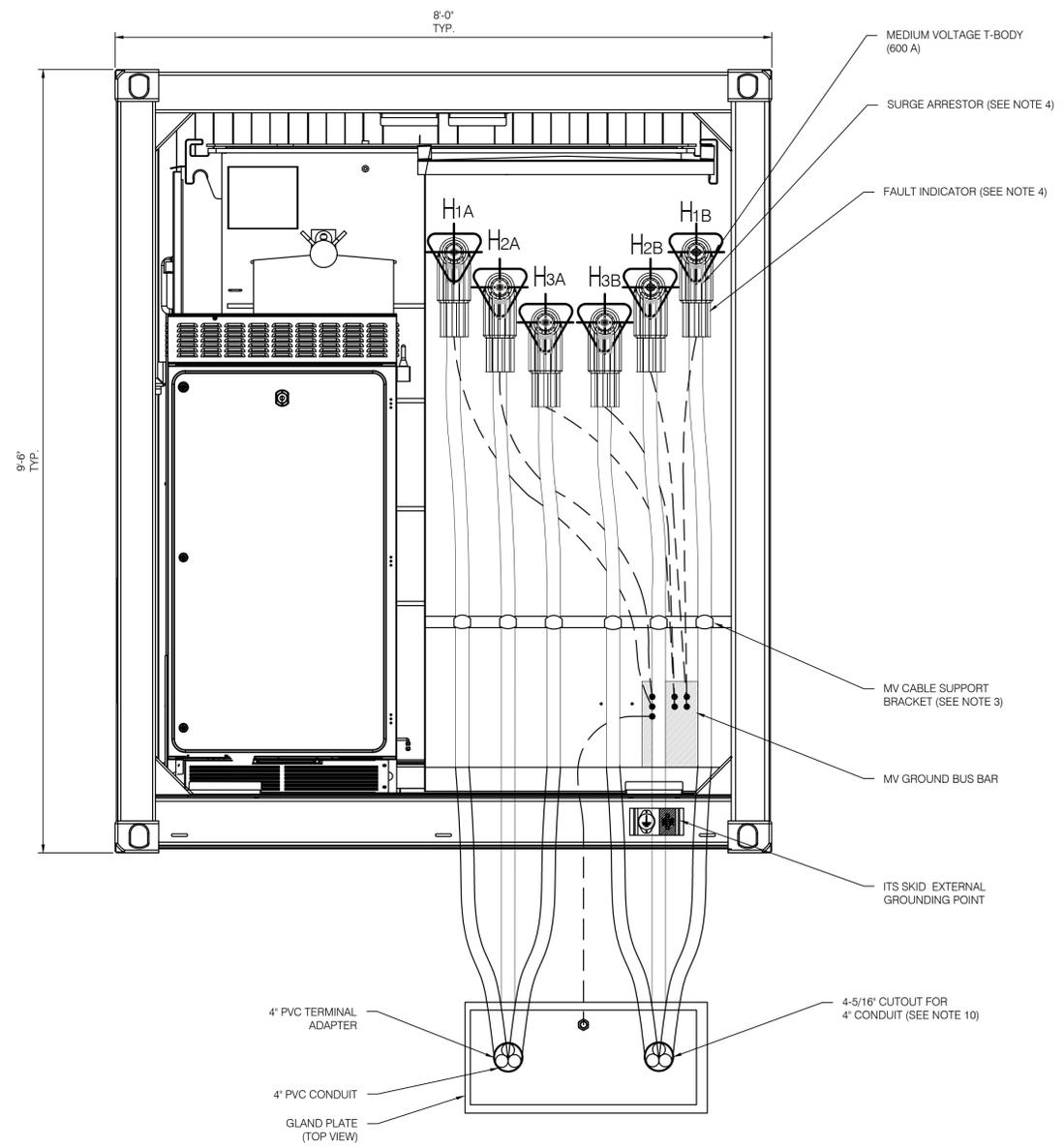
SEAL:

CLIENT:

PROJECT: RED DOG MINE SOLAR AND BESS	
TITLE: GENERAL ELECTRICAL OVERALL SITE PLAN	
DESIGNED BY: A. MARTENS	DRAFTED BY: A. MARTENS
PREPARED BY: S. KUNG	CHECKED BY: S. STAN J. LILLOQUIST
SCALE: AS SHOWN	DATE: 2025-12-17
DRAWING No.: 200040005-000000-47-D20-0001	SHEET: 01
	SIZE: D
	REV: AB

OVERALL PLAN
SCALE: 1" = 1000'-0"

- NOTES:**
- ALL DIMENSIONS ARE IN FEET AND INCHES, UNLESS OTHERWISE NOTED.
 - CABINET DIMENSIONS AND LAYOUT ARE INDICATIVE ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL FINAL DIMENSIONS AND LAYOUT.
 - CABLES ARE TO BE SUPPORTED SUCH THAT TERMINATIONS ARE FREE OF ALL MECHANICAL STRESS AND STAIN. CABLE SUPPORT TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.
 - SURGE ARRESTOR AND TEST POINT FAULT INDICATOR MOUNTING AS PER CONTRACTOR.
 - REFER TO DRAWING DWG # TBD FOR SURGE ARRESTOR AND FAULT INDICATOR LOCATIONS.
 - REFER TO THE FINALIZED VENDOR SHOP DRAWINGS FOR THE IS ENCLOSURE.
 - REFER TO DRAWING 200040005-000000-47-D20-0010-01 FOR CONDUIT AND GLAND PLATE DETAILS.
 - CONCENTRIC NEUTRAL WIRES OF EACH POWER CABLE SHALL BE INDEPENDENTLY CONNECTED TO THE GROUNDING BUS BAR.
 - FOR GROUNDING CABLE SIZE AND CONNECTION DETAILS REFER TO GROUNDING DOCUMENTS.
 - ITS 2 WILL ONLY REQUIRE ONE 4" CONDUIT FROM THE MV CABINET.



AC CABINET RIGHT VIEW
SCALE: 1" = 1'-0"

FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION

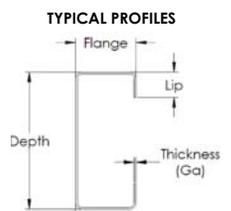
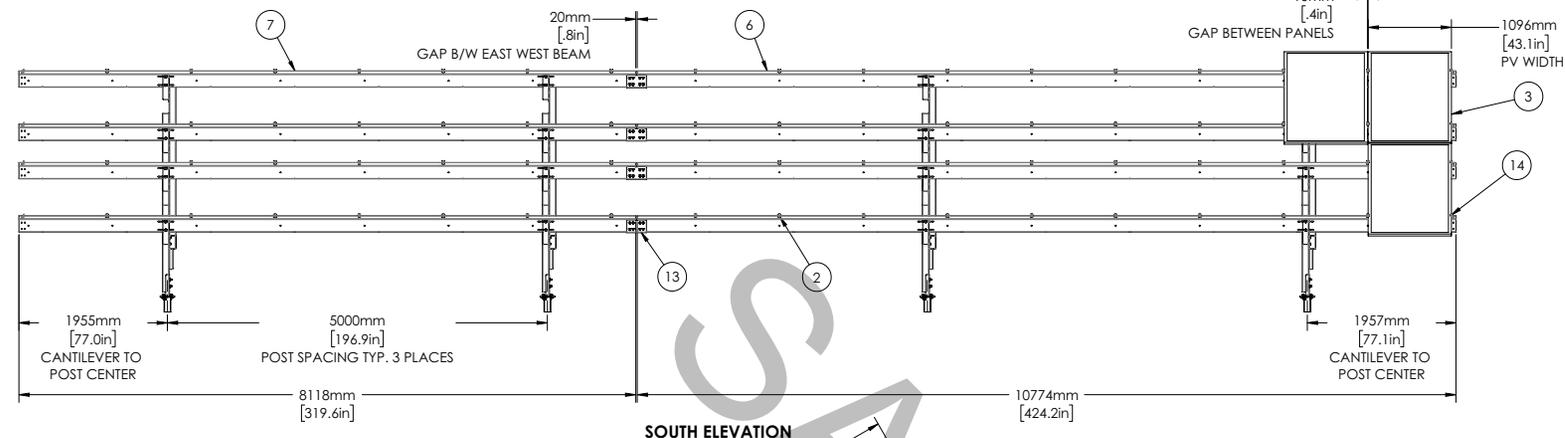
DRAWING No.	DESCRIPTION	REV	DESCRIPTION	PREPARED BY	CHECKED BY	DATE
		AA	FOR COMMENTS - 30% DESIGN	E. MAZE	S. STAN J. LILQUIST	2025-01-14
REFERENCE DRAWINGS		REVISIONS				

	PROJECT: RED DOG MINE SOLAR AND BESS TITLE: SOLAR ELECTRICAL ITS TYPICAL DETAILS AC CABINET
	DESIGNED BY: E. MAZE PREPARED BY: E. MAZE SCALE: AS SHOWN DRAWING No.: 200040005-000000-47-D20-0010
CLIENT:	DRAFTED BY: A. MARTENS CHECKED BY: S. STAN DATE: 2025-12-16 SHEET: 03 SIZE: D REV: AA



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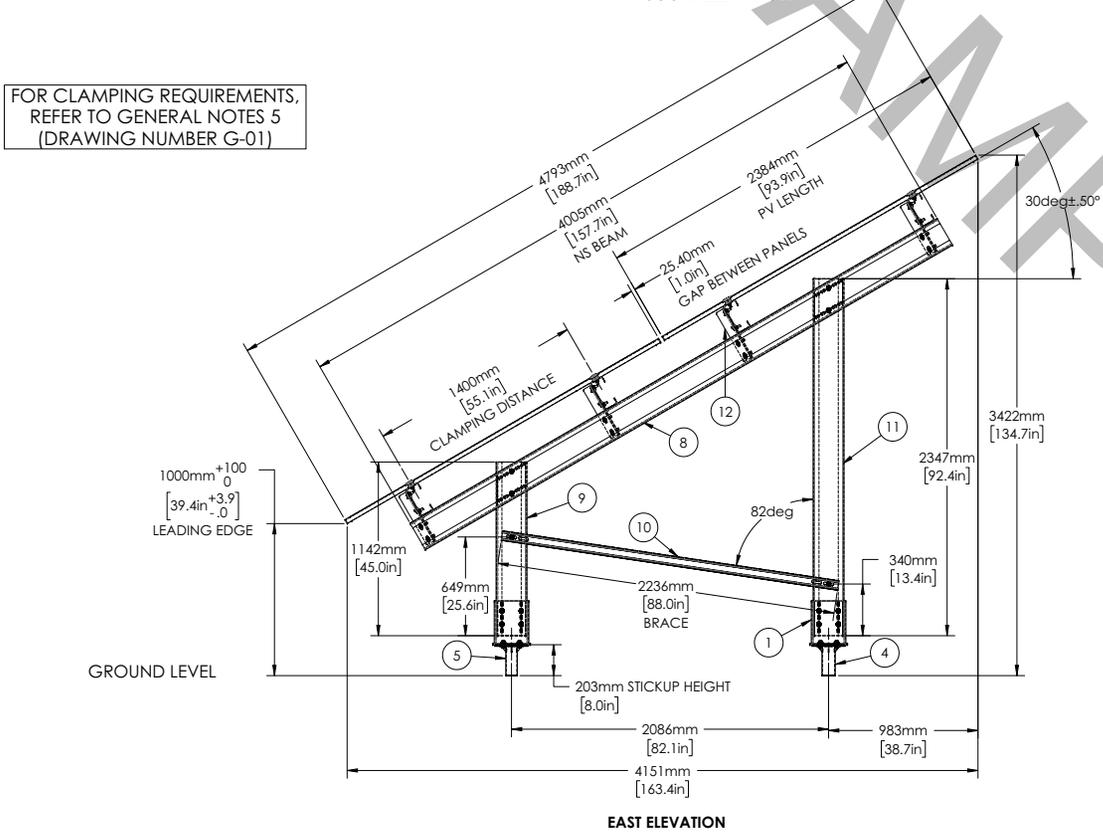
REVISIONS				
REV.	DATE	DESCRIPTION	ECO	SIGNATURE
A	03/FEB/2023	INITIAL RELEASE	N/A	MG
B	06/FEB/2023	REVISED DESCRIPTIONS	N/A	MG



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REV.: **B**

FOR CLAMPING REQUIREMENTS, REFER TO GENERAL NOTES 5 (DRAWING NUMBER G-01)



PART	MIN. THICKNESS (mm)	PROFILE (in.) Depth x Flange x Lip	MATERIAL Fy (ksi)
NORTH-SOUTH BEAM	2.15	8.0 x 3.5 x 1.5	50
EAST-WEST BEAM	2.15	8.0 x 3.5 x 1.5	50
LATERAL BRACE	2.5	2.5 x 2.0 x 0.5	50
TABLE LEG (FRONT)	2.15	8.0 x 3.5 x 1.5	50
TABLE LEG (BACK)	2.15	8.0 x 3.5 x 1.5	50
GROUND SCREW (FRONT)	3.5	HSS 76.2X3.5	50
GROUND SCREW (BACK)	5.0	HSS 88.9x5	50

CLIMATIC DESIGN LOADS:
 - GROUND SNOW LOAD: 70 psf
 - WIND LOAD: 105 mph

ARRAY INFORMATION	
RACK TYPE	PRU-P FIXED
ARRAY SIZE	2X17
TILT ANGLE	30°
MODULE TYPE	TSM-DEG19C.20-555 / 555W
MODULE DIMS.	2384x1096x30 mm

MAIN COMPONENTS BILL OF MATERIALS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	900799001	Foot Bracket Assembly, 8" Beam, 4x150mm Bolt Circle, HDG	8
2	400030001	Clamp, Intermodule w/ Bonding, 9 mm Sq. Hole, 50 mm, Ga13, 304 SS	64
3	400026XXX	72 Cells Module, 2384X1096X30mm, TSM-DEG19C.20-555 / 555W (Not Polar Supply)	34
4	301100001	Ground Screw, w/ Flange, 88.9mm OD, 2950mm L, 600mm L Helix, 5.1mm Wall, 50ksi YS, HDG	4
5	301090001	Ground Screw, w/ Flange, 76.2mm OD, 2950mm L, 600mm L Helix, 3.5mm Wall, 50ksi YS, HDG	4
6	300972001	Beam, EWE, C8x3.5x1.5, 10774 mm, 2.15 mm THK, G90, P-2x17, 4P, 1096 mm PV Width	4
7	300971001	Beam, EWW, C8x3.5x1.5, 8118 mm, 2.15 mm THK, G90, P-2x17, 4P, 1096 mm PV Width	4
8	300964001	Beam, NS, C8x3.5x1.5, 4005 mm, 2.15 mm THK, G90, P-2P, 2384 mm PV Length	4
9	300963001	Table Leg, Front, C8x3.5x1.5, 1142 mm, 2.15 mm THK, G90, 30° Tilt	4
10	300962001	Brace, Lateral, C2.5x2x0.5, 2236 mm, 2.5 mm THK, G90	4
11	300961001	Table Leg, Back, C8x3.5x1.5, 2347 mm, 2.15 mm THK, G90, 30° Tilt	4
12	300222001	Bracket, East-West, 8" Beam, Ga10, HDG	16
13	300186002	Splice, East-West, 8" Beam, Ga10, HDG	4
14	300104005	PRG, Clamp, Top, 26-30 mm Module Height, 40 mm, Ga12, G90	8

HARDWARE BILL OF MATERIALS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
15	100085005	Bolt, Hex Head, 1/2"-13 x 1-1/2", PT, ASTM A325 Type 1, HDG	32
16	100064008	Bolt, Hex Flange, Serrated, 5/16"-18 x 1", 18-8 SS, ASTM F593C	8
17	100064002	Bolt, Hex Flange, Serrated, 1/2"-13 x 1-1/2", Gr. 5, Magni 565	72
18	100063008	Nut, Hex Flange, Serrated, 5/16"-18, 18-8 SS, ASTM F594C	88
19	100063002	Nut, Hex Flange, Serrated, 1/2"-13, Gr. 5, Magni 565	88
20	100063001	Nut, Hex Flange, Serrated, 3/8"-16, Gr. 5, Magni 565	64
21	100045019	Bolt, Carriage, 5/16"-18 x 2-1/2", 18-8 SS, ASTM F593C	64
22	100045009	Bolt, Carriage, 3/8"-16 x 1", Gr. 5, Magni 565	64
23	100033019	Washer, Split Lock, 3/8", 18-8 SS	72
24	100033002	Washer, Split Lock, 1/2", HDG	32
25	100015002	Nut, Hex Head, 1/2"-13, A194 Grade-2H, HDG	32
26	100011016	Washer, Flat, 3/8" x 1" O.D., 18-8 SS, USS	72
27	100011004	Washer, Flat, 1/2" x 1.375" O.D., HDG	32

PAPER SIZE: **D**

PROJECT NAME:

TITLE: RACKING ASSEMBLY DETAILS ORANGE 2X17

PROJ. NO.:	DWG. BY:	CHECKED BY:	SCALE:
008583	GK	MG	NTS

CUSTOMER DRAWING NUMBER:

DRAWING NUMBER: S-01

ASSEMBLY NUMBER: 900784001