

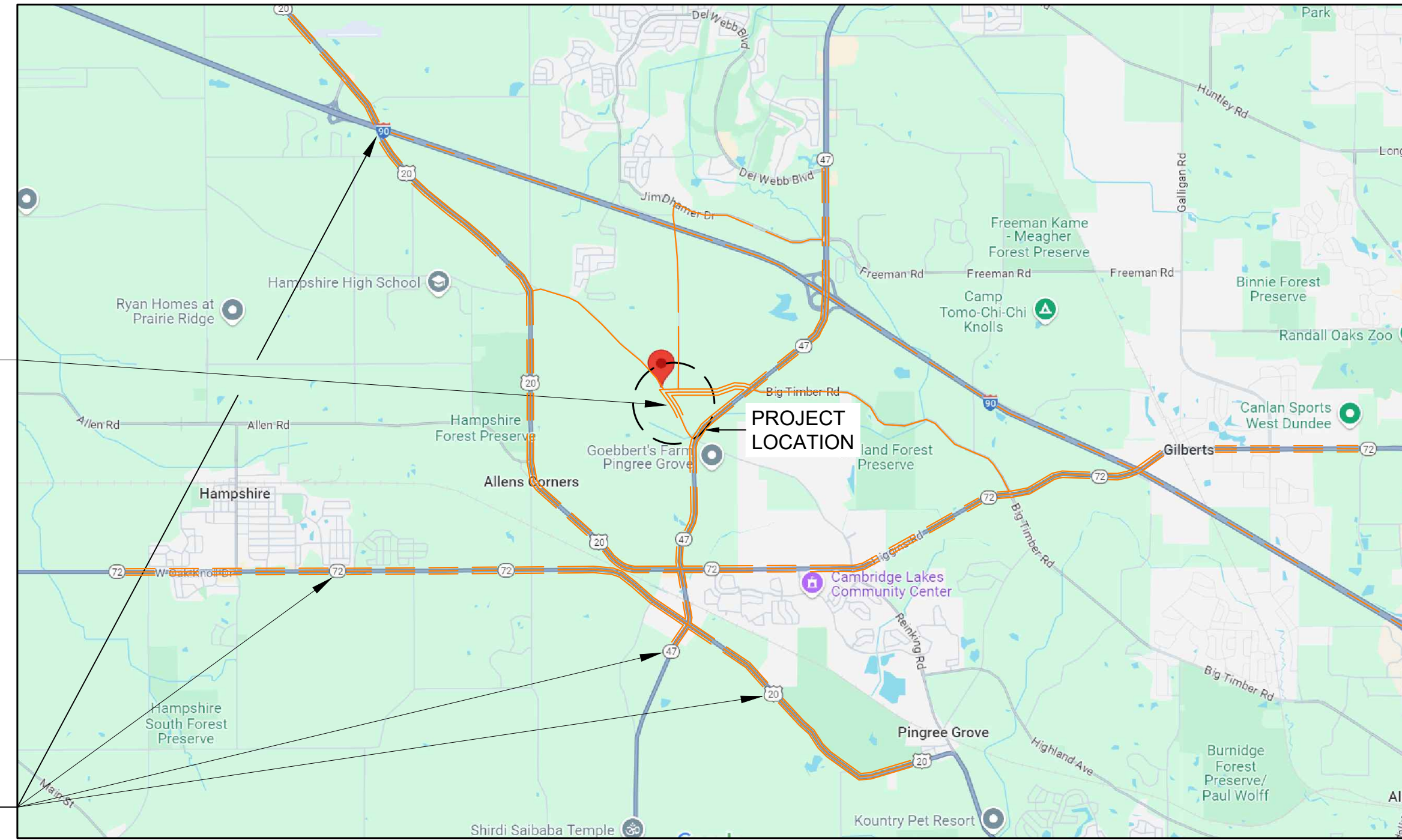
RUTLAND EAST SOLAR FARM, LLC KANE COUNTY, ILLINOIS

SHEET LIST :

E - DEV . 01 - CP	COVER PAGE
E - DEV . 02 - EC	EXISTING GENERAL CONDITIONS PLAN
E - DEV . 03 - SP	NEW POWER FACILITY SITE PLAN
E - DEV . 04 - CD	CONSTRUCTON DETAILS
E - DEV . 05 - FD	FENCE DETAILS
E - DEV . 06 - ES	EQUIPMENT SPECIFICATIONS

GENERAL NOTES:
LEGAL DESCRIPTION OF THE PROJECT SITE IN RELATION TO THE DEVELOPMENT PARCEL SUBMITTED TO KANE COUNTY OF RECORD.
REFER TO DETAIL 1 / E-DEV-06-ES FOR EQUIPMENT SPECIFICATION CUT SHEET. (V) MODULE: 550 WATT (DC) INFORMATION.
REFER TO DETAIL 2 / E-DEV-06-ES FOR EQUIPMENT SPECIFICATION CUT SHEET. STRING INVERTER: 125 KWATT (DC) INFORMATION.

PROJECT ADDRESS PRIMARY CONSTRUCTION LOGISTICS ROUTE
ANY INTERSTATE VIA (I-90)
HEADING NORTH/SOUTH WEST/EAST TOWARDS
(IL-20, IL-47, IL-72),
PARCEL LOCATED NORTH OF (IL-72) HIGGINS ROAD & EAST OF (IL-20) US GRANT MEM HWY ROUTE
AT THE SOUTHEAST INTERSECTION OF REINKING ROAD & BIG TIMBER ROAD,
SITE CONSTRUCTION ENTRANCE GATE VIA (IL-47), BIG TIMBER ROAD WEST
LOCATED SOUTH OFF REINKING ROAD, NORTH OF IL-47 & SOUTH OF BIG TIMBER ROAD, ON EAST SIDE.

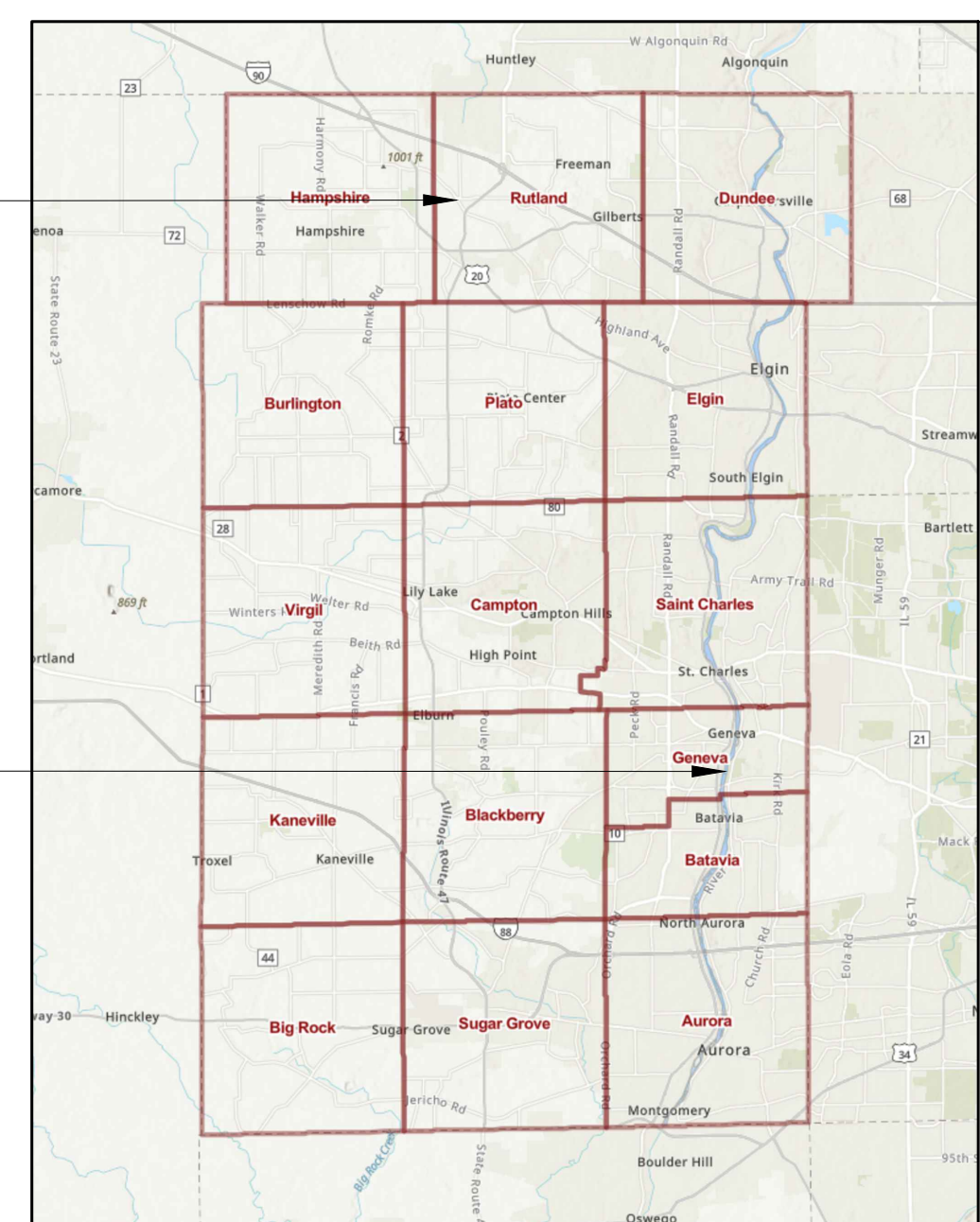


VARIOUS MEANS OF TRANSPORTATION ACCESS (TYP.)

3 IDOT CONSTRUCTION LOGISTICS ROUTE(S)
NOT TO SCALE

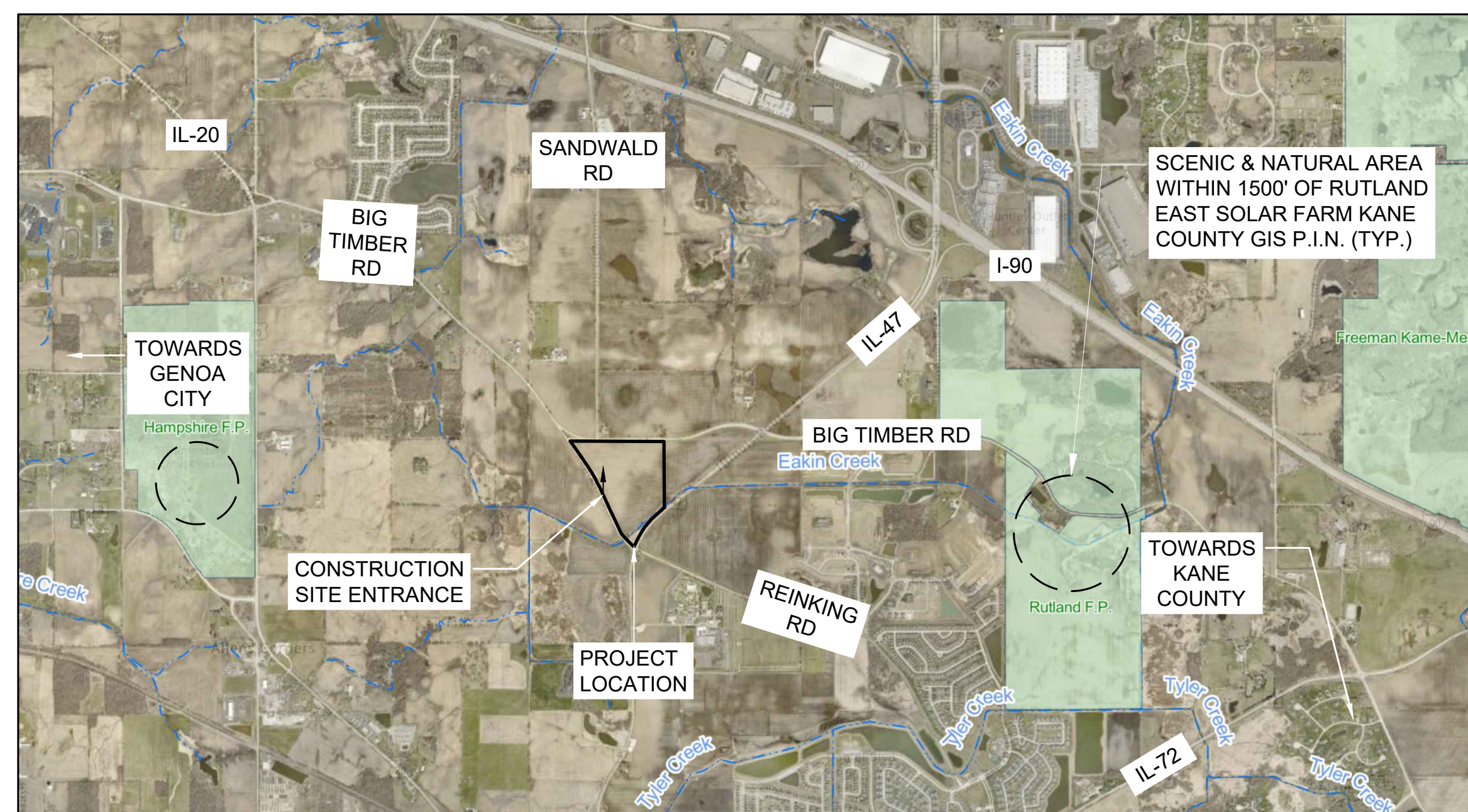
1 KANE COUNTY, IL
NOT TO SCALE

RUTLAND TWP & PROJECT LOCATION



KANE COUNTY CLERK HOUSE

2 KANE COUNTY LOCATION PLAN
NOTE TO SCALE



4 P.I.N. VICINITY MAP
NOT TO SCALE

SITE INFORMATION	
PARCEL ZONING:	A-1 AGRICULTURE
PROJECT DESCRIPTION	
PROJECT LOCATION:	REINKING RD. & IL-21, HAMPSHIRE, IL 60140
PROJECT PARCEL:	51.78
P.I.N.:	02-19-200-007
UTILITY:	COMED
AC SYSTEM SIZE:	5,000 KW / 5,000 KVA
DC SYSTEM SIZE:	7,500 KW
AZIMUTH / TILT:	180° / ± 60
GCR:	40%
MODULE MODEL:	TRINA SOLAR VERTEX 550W TSM-DEG19C20
MODULE WATTAGE:	550 W
MECHANICAL SYSTEM:	HORIZONTAL TRACKER
INVERTER MODEL:	CHINT STRING INVERTER

01/03/2025	ISSUED FOR SUP		
11/29/2024	ISSUED FOR BPLR		
10/03/2024	ISSUED FOR IX		
Date	Revision Details	PRE	ENR
	Revision Table		CHK

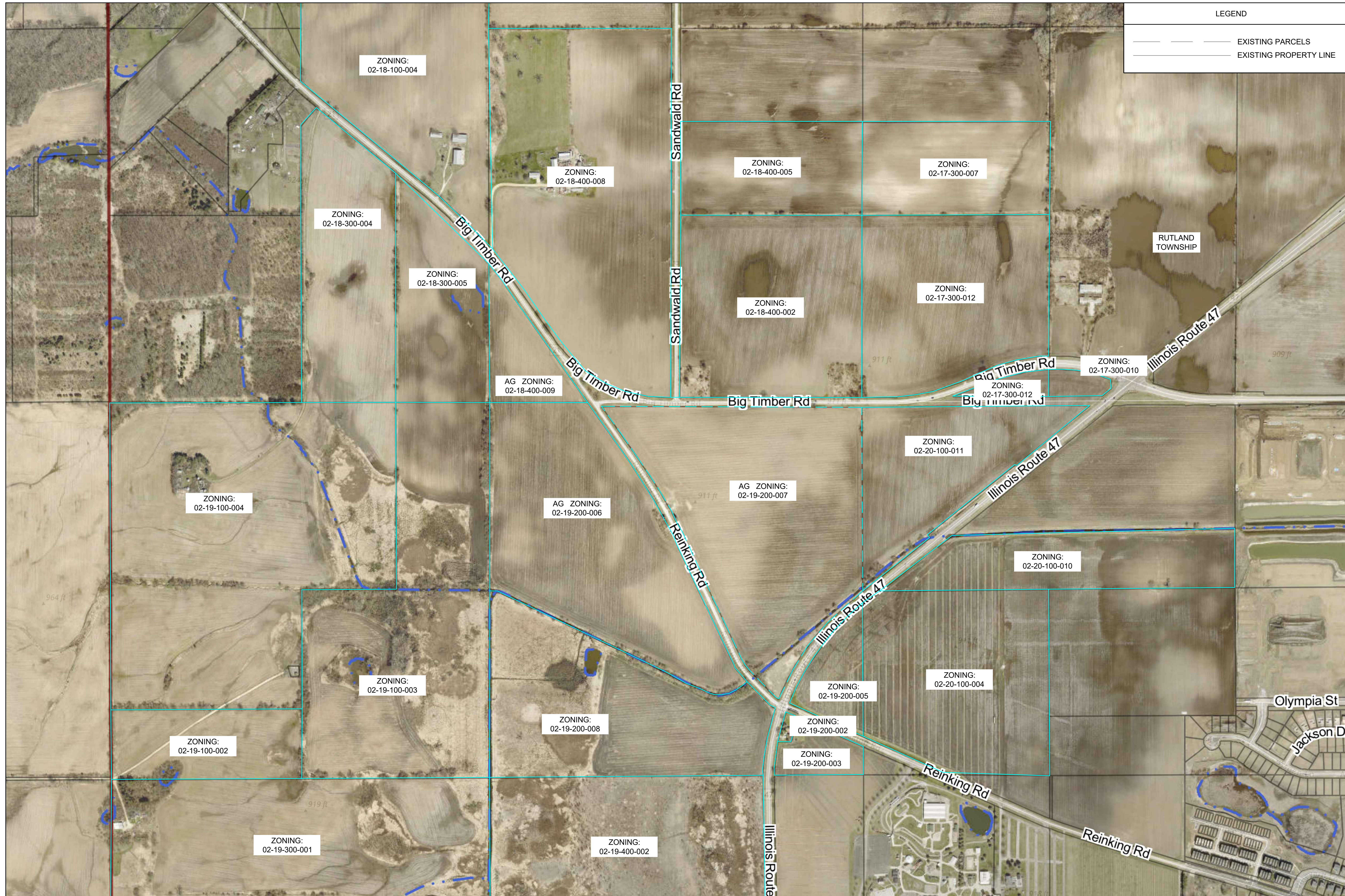
Engineer:
ANATOLY ZELTSER
PROJECT ENGINEER
SURYA POWERED LLC
RUTLAND EAST SOLAR FARM LLC
141 W JACKSON BLVD STE 1002
CHICAGO, IL 60604

Developer:
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CHICAGO, IL 60604
WWW.SURYAPOWERED.COM

Project Name & Address:
RUTLAND EAST SOLAR FARM
REINKING RD. & IL-21,
HAMPSHIRE, IL 60140
KANE COUNTY
P.I.N. 02-19-200-007

Drawing Title:
COVER PAGE
STATE COUNTY MAP,
SATELLITE LOCATION MAP,
VICINITY MAP, ROADS,
SITE PRELIMINARY INFORMATION

Project Number:	8884 a	Drawing Number:	E - DEV.01 - CP
Paper Size:	24" X 36"	Sheet Number:	01



LEGEND	
	EXISTING PARCELS
	EXISTING PROPERTY LINE

GENERAL NOTES:
 LEGAL DESCRIPTION OF THE PROJECT SITE IN RELATION TO THE DEVELOPMENT PARCEL SUBMITTED TO KANE COUNTY OF RECORD.

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01/03/2025	ISSUED FOR SUP			
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10/03/2024	ISSUED FOR IX			

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 REINKING RD & ILL-21,
 HAMPSHIRE, IL 60140
 KANE COUNTY
 P.I.N. 02-19-200-007

Drawing Title:
 EXISTING CONDITIONS
 EXISTING GENERAL CONDITIONS PLAN
 SHOWING ADJACENT LAND PARCELS,
 ZONING & PIN NUMBER, ROADS,
 GEOGRAPHY PROPERTIES,
 SATELLITE VIEW

Project Number: 8884 a	Drawing Number: E - DEV.02 - EC
Paper Size: 24" X 36"	Sheet Number: 02

1 EXISTING GENERAL CONDITIONS PLAN
 SCALE: 1" = 415'

PER EXISTING PIPELINE APPROVAL NEW UTILITY OHE FEEDERS CROSSING THE EXISTING PIPELINE ROW SERVING PHOTOVOLTAIC (PV) POWER FACILITY (MIN. 20' A.F.G.)

EXISTING UTILITY OHE T&D POLELINE, TO BE REMOVED, RELOCATED AND REINSTALLED TO NEW LOCATION BY UTILITY AS NECESSARY FOR FUTURE SANDWALD ROAD RIGHT OF WAY (TYP.)

PROPOSED NEW POINT OF INTERCONNECTION WITH UTILITY MV-KV FEEDERS PROVIDED BY COMMONWEALTH EDISON

EQUIDISTANT ROW 25' SETBACK FROM EXISTING U.G. PIPELINE INCLUDING EQUIDISTANT 10' SETBACK FROM EXISTING U.G. PIPELINE ROW TO FENCE WALL

EXISTING BUCKEYES UNDERGROUND 12-INCH HIGH PRESSURE PETROLEUM PRODUCTS PIPELINE & ROW

NEW LED SITE LIGHTING WITH EMERGENCY BACKUP HOUSING TRIM SHIELDED & FOCUSED DOWNWARD

NEW PROPOSED TURNABOUT FOR LOCAL EMERGENCY SERVICE VEHICLES (TYP.)

NEW UGE-MV FEEDER DUCTBANK SEE SHEET NOTE 2

NEW PV 600VAC SWITCHBOARD-1, PAD MOUNTED AND SOLAR INVERTERS 1-20, SEE SHEET NOTE 4

NEW UGE-600V FEEDER CABLES SEE SHEET NOTE 2

NEW PV 600VAC SWITCHBOARD-2, PAD MOUNTED AND SOLAR INVERTERS 21-40, SEE SHEET NOTE 4

FUTURE SANDWALD ROAD, RIGHT OF WAY : EXTENSION AND EXPANSION FULL-WIDTH 150' ROW, HALF-WIDTH 75' SETBACK INCLUDING FULL-WIDTH 20' EASEMENT SETBACK FROM EXISTING CENTERLINE TO NEW PROPERTY BOUNDARY

EXISTING GIS KC-DOT ROAD AHJ - TOWNSHIP

NEW PATHWAY FOR FIRE DISTRICT ACCESS (WIDTH 20' TYP.)

ACCESS PATHWAYS (WIDTH 20' TYP.)

NEW 20' WIDE EXTERNAL - INTERNAL ACCESS ROAD SEE SHEET NOTE 3

NEW 20' WIDE ACCESS DOUBLE SWING GATE SEE SHEET NOTE 6

NEW STORMWATER U.G.D. CULVERT PIPE (AS NECESSARY)

NEW SOLAR ARRAY SINGLE-AXIS TRACKER MECHANICAL EQUIPMENT STRUCTURE (TYP.)

SOLAR ARRAY TYP. 14' INTER ROW SPACING GROUND COVERAGE VARIES PER GRADE TOPOGRAPHY, SEE SHEET NOTE 1

REINKING ROAD, RIGHT OF WAY : FULL-WIDTH 66' ROW, HALF-WIDTH 33' SETBACK FROM EXISTING CENTERLINE TO NEW PROPERTY BOUNDARY

Sandwald

NEW UTILITY RECLOSER POLE

NEW UTILITY PRIMARY METER POLE

NEW UTILITY GOAB POLE

NEW CUSTOMER GOAB & FUSE POLE (POINT OF COMMON COUPLING)

NEW CUSTOMER RISER POLE WITH GROUND ACCESSIBLE MAIN EPO

NEW SOLAR TRANSFORMER-1 PAD MOUNTED, SEE SHEET NOTE 4

NEW SOLAR TRANSFORMER-2 PAD MOUNTED, SEE SHEET NOTE 4

RUTLAND TOWNSHIP

BIG TIMBER ROAD, RIGHT OF WAY : FULL-WIDTH 120' ROW, HALF-WIDTH 60' SETBACK INCLUDING FULL-WIDTH 20' EASEMENT SETBACK FROM EXISTING CENTERLINE TO NEW PROPERTY BOUNDARY

EXISTING GIS KC-DOT ROAD AHJ - COUNTY

Big Timber Rd

Reinking Rd

Illinois Route 47

NEW PROPERTY BOUNDARY

NEW FIXED KNOT FARM 8' FENCE BOUNDARY, SEE SHEET NOTE 5

NEW VEGETATION LANDSCAPE SCREENING 15' SETBACK FROM FENCE BOUNDARY

NEW PANEL ARRAY 50' SETBACK FROM PROPERTY BOUNDARY

NEW PANEL ARRAY 20' SETBACK FROM FENCE BOUNDARY

FEMA FLOOD ZONE 5' SETBACK PER COUNTY INFORMATION OF RECORD

EXISTING COUNTY GIS FEMA FLOOD ZONE

EXISTING GIS KC-DOT ROAD AHJ - STATE

QUANTITIES		
DESCRIPTION	VALUE	UNIT
ACCESS ROAD	22,896	SF
FENCE	5,275	LF
FENCE POSTS	528	EA
DOUBLE SWING GATE	1	EA
MODULE	14,226	EA
INVERTERS	40	EA
UNDERGROUND UTILITY LINE	50	LF
OVERHEAD UTILITY LINE	150	LF
EQUIPMENT PAD	700	SF

SETBACK		
DESCRIPTION	VALUE	UNIT
FENCE SETBACK	20	LF
SETBACK FOR SOLAR PANELS, STRUCTURES, AND ELECTRICAL EQUIPMENT	50	LF
RESIDENT SETBACK	150	LF
WETLAND SETBACK	15 - 25	LF

IMPERVIOUS QUANTITIES		
DESCRIPTION	VALUE	UNIT
ACCESS ROAD	22,896	SF
EQUIPMENT PADS	700	SF
FENCE POSTS @ 0.79 SF EACH	416.7	SF
TOTA NEW IMPERVIOUS	24,013	SF
	0.55	AC
PROJECT PARCEL AREA	43.31	AC
IMPERVIOUS PERCENTAGE	1.27%	%

LEGEND	
	EXISTING PARCELS
	PROPERTY LINE
	EXISTING ROADS { AHJ: TWP - CO - ST }
	EXISTING UTILITY OVERHEAD ELECTRIC LINE
	NEW FIXED FARM KNOT FENCE
	NEW MEDIUM VOLTAGE FEEDER
	EXISTING U.G. PIPELINE BUCKEYE CO.
	NEW F.D. SITE ACCESS GRAVEL ROAD
	EXISTING COUNTY GIS FEMA FLOOD ZONE

GENERAL NOTES:
LEGAL DESCRIPTION OF THE PROJECT SITE IN RELATION TO THE DEVELOPMENT PARCEL SUBMITTED TO KANE COUNTY OF RECORD.
WETLAND DELINEATION REPORT MAY IMPACT PV MODULE PANEL ARRAY LOCATION. WETLANDS OR FLOODZONES INCLUDING BASEFLOOD ELEVATION HAVE BEEN IDENTIFIED ON THE PROJECT SITE.
EMERGENCY TURNAROUND FOR PROPOSED ACCESS WAY STILL TO BE DETERMINED BY LOCAL EMERGENCY SERVICES.
PROPOSED ACCESSWAY IS TO BE FURTHER REVIEWED BY CIVIL ENGINEERS AND LOCAL AHJ.
PROPOSED ACCESSWAY MAY CHANGE DUE TO PUBLIC ROW.
PROPOSED ACCESSWAY GATE MAY BE CHANGED DUE TO PUBLIC ROW.
STORMWATER DRAINAGE PLAN PER RUTLAND-PLATO TOWNSHIP DRAINAGE DISTRICT OF RECORD.
EXISTING UNDERGROUND COMMODITY UTILITIES FOR OIL AND NATURAL GAS PIPELINES FIELD VERIFIED WITHIN OR ADJACENTLY SURROUNDING SUBJECT PARCEL PER INDEPENDENT CONSULTANT SURVEY OF RECORD.

SHEET NOTES:
1. REFER TO DETAIL 1 / E-DEV-04-CD FOR MECHANICAL SINGLE AXIS TRACKER RACKING STRUCTURE SYSTEM INFORMATION.
2. REFER TO DETAIL 2 / E-DEV-04-CD FOR U.G. DIRECT BURIED ELECTRICAL CONDUIT TRENCH DETAIL INFORMATION.
3. REFER TO DETAIL 3 / E-DEV-04-CD FOR FIRE DEPARTMENT ACCESS ROAD INFORMATION INFORMATION.
4. REFER TO DETAIL 4 / E-DEV-04-CD FOR SUBGRADE EQUIPMENT REINFORCED FOUNDATION INFORMATION.
5. REFER TO DETAIL 1 / E-DEV-05-FD FOR FIXED KNOT FARM FENCE INFORMATION.
6. REFER TO DETAIL 2 / E-DEV-05-FD FOR FIXED KNOT FARM FENCE 20' WIDE DOUBLE SWING GATE INFORMATION.

EXISTING U.G. PIPELINE ROW NOTES & SPECIFICATIONS:
OPERATING EQUIPMENT SPECIFICATIONS SHALL BE PROVIDED AT GMP CONTRACTOR ONBOARDING DETERMINATION.
VEGETATION LANDSCAPING, FENCE WALLS AND UTILITY POLES WHICH WILL CREATE AN OBSTRUCTION OR PREVENT THE INSPECTION OF THE RIGHT-OF-WAY BY AIR OR FOOT, SHALL NOT BE ERRECTED WITHIN THE RIGHT-OF-WAY.
TREES, SHRUBS, AND BUSHES ARE NOT PERMITTED WITHIN THE RIGHT-OF-WAY. TREES PLANTED OUTSIDE OF THE RIGHT-OF-WAY SHOULD BE PLACED SO BRANCHES AND LIMBS WILL NOT OVERHANG THE PIPELINE RIGHT-OF-WAY AS THE TREE MATURES. BUCKEYE MAY REMOVE OVERHANGING BRANCHES AND LIMBS THAT ENCRONCH INTO THE RIGHT-OF-WAY.
WHEN ANY CONSTRUCTION ACTIVITY IS CONDUCTED IN OR AROUND THE EXISTING U.G. PIPELINE OR RIGHT-OF-WAY, PIPELINE COMPANY CONTRACTOR'S ON-SITE INSPECTOR MUST BE PRESENT AT ALL TIMES. NO WORK SHALL TAKE PLACE WITHOUT A BUCKEYE ON-SITE INSPECTOR PRESENT. FOR THIS FREE-OF-CHARGE SERVICE, CONTACT LOCAL FIELD OPERATIONS MANAGER AT THE BUCKEYE FACILITY NEAREST TO YOUR PROPOSED PROJECT.

BEFORE ANY PRELIMINARY FIELD WORK OR CONSTRUCTION BEGINS IN THE VICINITY OF BUCKEYE'S PIPELINE, A DETERMINATION OF THE EXACT LOCATION AND ELEVATION OF THE PIPELINE MUST BE MADE.
FIELD TAKE OFF LOCATION EASEMENT TRACK & DEPTH OF EXISTING U.G. PIPELINE TO BE PROVIDED BY PIPELINE COMPANY BUCKEYE CONTRACTOR.
O.C. SHALL CONTACT AND COORDINATE WITH EXISTING PIPELINE COMPANY CONTRACTOR BUCKEYE ON ALL GROUND DISTURBANCES (PILE DRIVING) WITHIN 1,500' OF EXISTING U.G. PIPELINE & ROW.
CONSTRUCTION ACTIVITIES THAT GENERATE GROUND VIBRATIONS, INCLUDING, BUT WITHOUT LIMITATION, PILE DRIVING, SHEET DRIVING, SOIL COMPACTOR WORK, JACKHAMMERS, OR RAMMING, SHALL BE REVIEWED BY BUCKEYE ON A CASE-BY-CASE BASIS.
DEEP FOUNDATIONS WHICH INCLUDE PIERS, CAISSONS, DRILLED SHAFTS, BORED PILES, AND CAST-IN-PLACE PILES LOCATED WITHIN 500 FEET OF THE PIPELINE SHALL BE INSTALLED/DRILLED USING AN AUGER.
ANY MODIFICATIONS TO AN EXISTING DRAINAGE PATTERN SHALL BE DESIGNED SUCH THAT THE EROSION OF THE PIPELINE COVER IS CONTROLLED.

ABOVEGROUND CABLES:
1) A MINIMUM OF 20' OF ABOVE-GRADE CLEARANCE FOR A DISTANCE OF 25' ON EACH SIDE OF THE PIPELINE IS REQUIRED.
2) MECHANICAL SUPPORTS AND SERVICE DROPS INCLUDING POLES, TOWERS, CUY WIRES, GROUND RODS, ANCHORS, ETC., ARE NOT PERMITTED WITHIN 50' OF THE PIPELINE.
CONSTRUCTION ACTIVITIES THAT GENERATE GROUND VIBRATIONS, INCLUDING, BUT WITHOUT LIMITATION, PILE DRIVING, SHEET DRIVING, SOIL COMPACTOR WORK, JACKHAMMERS, OR RAMMING, SHALL BE REVIEWED BY BUCKEYE ON A CASE-BY-CASE BASIS.
DEEP FOUNDATIONS WHICH INCLUDE PIERS, CAISSONS, DRILLED SHAFTS, BORED PILES, AND CAST-IN-PLACE PILES LOCATED WITHIN 500 FEET OF THE PIPELINE SHALL BE INSTALLED/DRILLED USING AN AUGER.
ANY MODIFICATIONS TO AN EXISTING DRAINAGE PATTERN SHALL BE DESIGNED SUCH THAT THE EROSION OF THE PIPELINE COVER IS CONTROLLED.

FENCES AND WALLS:
A) PRIVACY FENCES OR FENCES THAT PREVENT ACCESS TO THE RIGHT-OF-WAY ARE NOT PERMITTED.
B) ALL OTHER FENCE INSTALLATIONS WITHIN THE RIGHT-OF-WAY WILL BE REVIEWED FOR APPROVAL BY BUCKEYE ON A CASE-BY-CASE BASIS. UPON BUCKEYE'S WRITTEN APPROVAL, FENCES SHALL BE CONSTRUCTED WITH A 4' GATE OR REMOVABLE SECTIONS ACROSS THE RIGHT-OF-WAY.
C) FENCE POSTS SHALL NOT BE INSTALLED WITHIN 5' OF THE PIPELINE AND MUST BE EQUIDISTANT IF CROSSING THE PIPELINE.
D) NO FENCE SHALL CROSS THE RIGHT-OF-WAY AT LESS THAN A 90-DEGREE ANGLE.
E) FENCES THAT RUN PARALLEL TO THE PIPELINE SHALL BE INSTALLED OUTSIDE THE RIGHT-OF-WAY.

ATTACHMENT 1: BUCKEYE FACILITY LOCATIONS & CONTACT NUMBERS
ILLINOIS: ARGO (781) 269-1352, LEMONT (WEST SHORE) (888) 625-7310, KANKAKEE (815) 932-2025, HARTFORD (815) 255-1120
ATTACHMENT 2: RIGHT OF WAY & ENCROACHMENT CONTACTS
JANA CUTHBERT - SPECIALIST, RIGHT OF WAY II, J.CUTHBERT@BUCKEYE.COM
WEST REGION: NORTHERN & CENTRAL ILLINOIS, INDIANA, WISCONSIN, 5521 WEST LINCOLN HIGHWAY, CROWN POINT, IN (219) 741-0201
ATTACHMENT 3: STATE ONE CALL SYSTEMS (NATIONAL - DIAL 811)
ILLINOIS: NON-CHICAGO - JULIE, INC. (800) 852-0123
WWW.ILLINOIS1CALL.COM
CHICAGO - DIGGER - UTILITY ALERT NETWORK (800) 744-7000
WWW.CITYOFCHICAGO.ORG/ITRANS

Date	Revision/Issue	PN	ENR	CHK
01/02/2025	ISSUED FOR SUP			
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10/03/2024	ISSUED FOR IX			

Engineer:
ANATOLY ZELTSER
PROJECT ENGINEER
SURYA POWERED LLC
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CHICAGO, IL 60604

Developer:
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Project Name & Address:
RUTLAND EAST SOLAR FARM
REINKING RD. & I.-21,
HAMPSHIRE, IL 60140
KANE COUNTY
P.I.N. 02-19-200-007

Drawing Title:
SITE PLAN - EAST
NEW SITE PLAN LAYOUT OF
SOLAR FARM EQUIPMENT,
INTERNAL ROADS
AND SETBACKS

Project Number:
8884 a

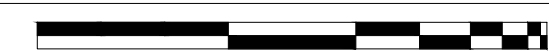
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E - DEV.03 - SP
Sheet Number:
03

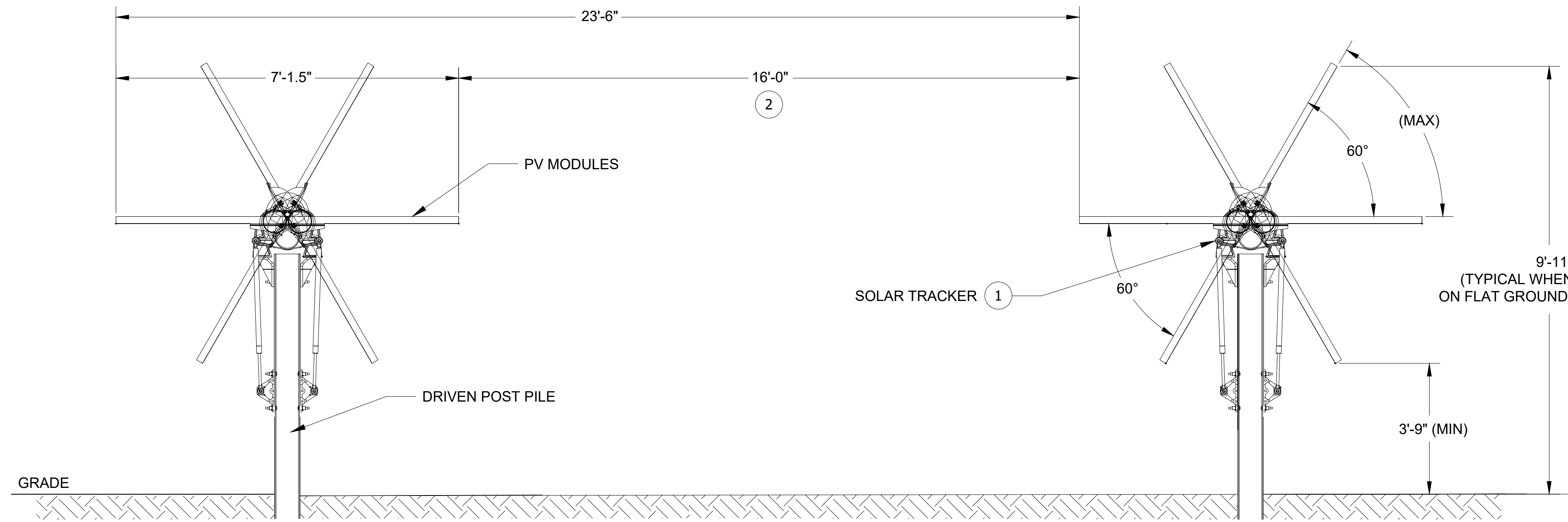


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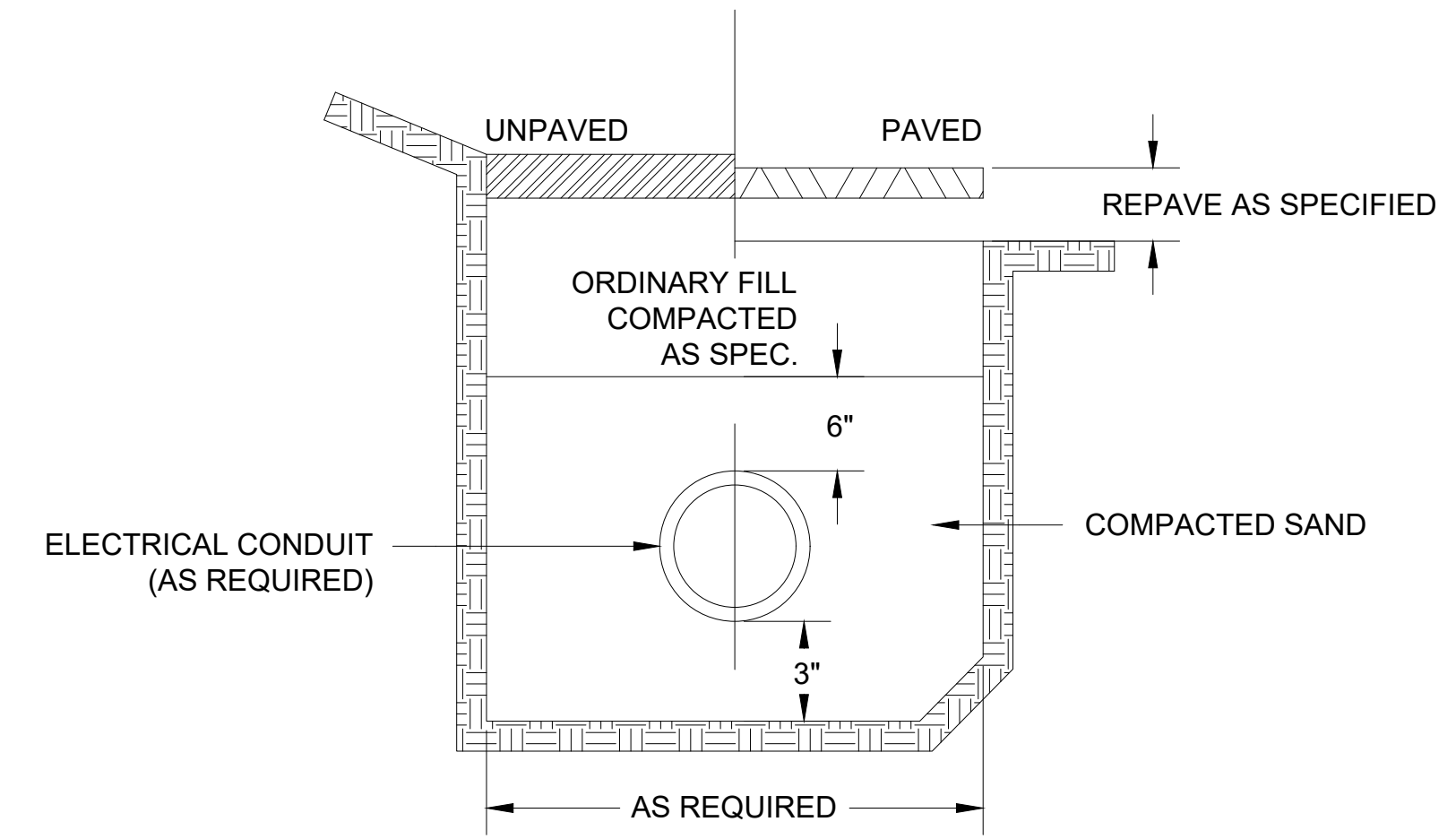
NEW POWER FACILITY SITE PLAN - EAST

SCALE: 1" = 149.5'

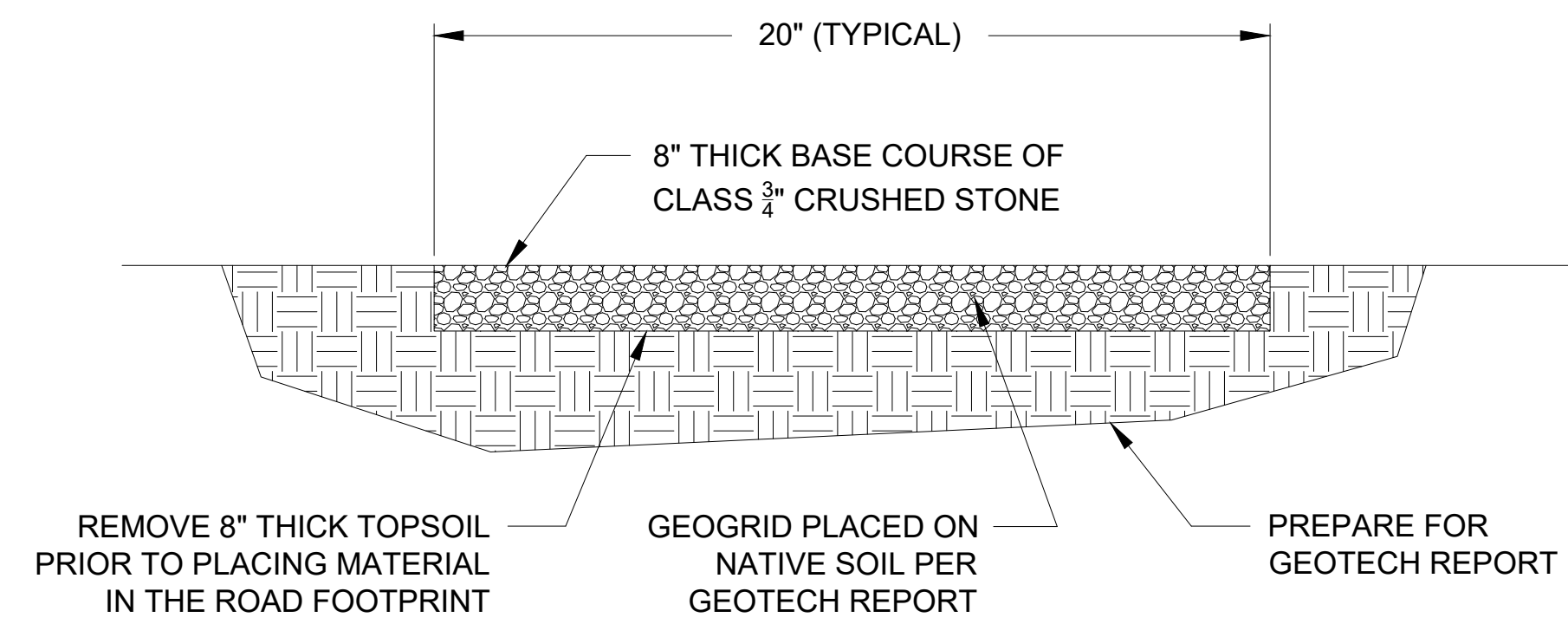




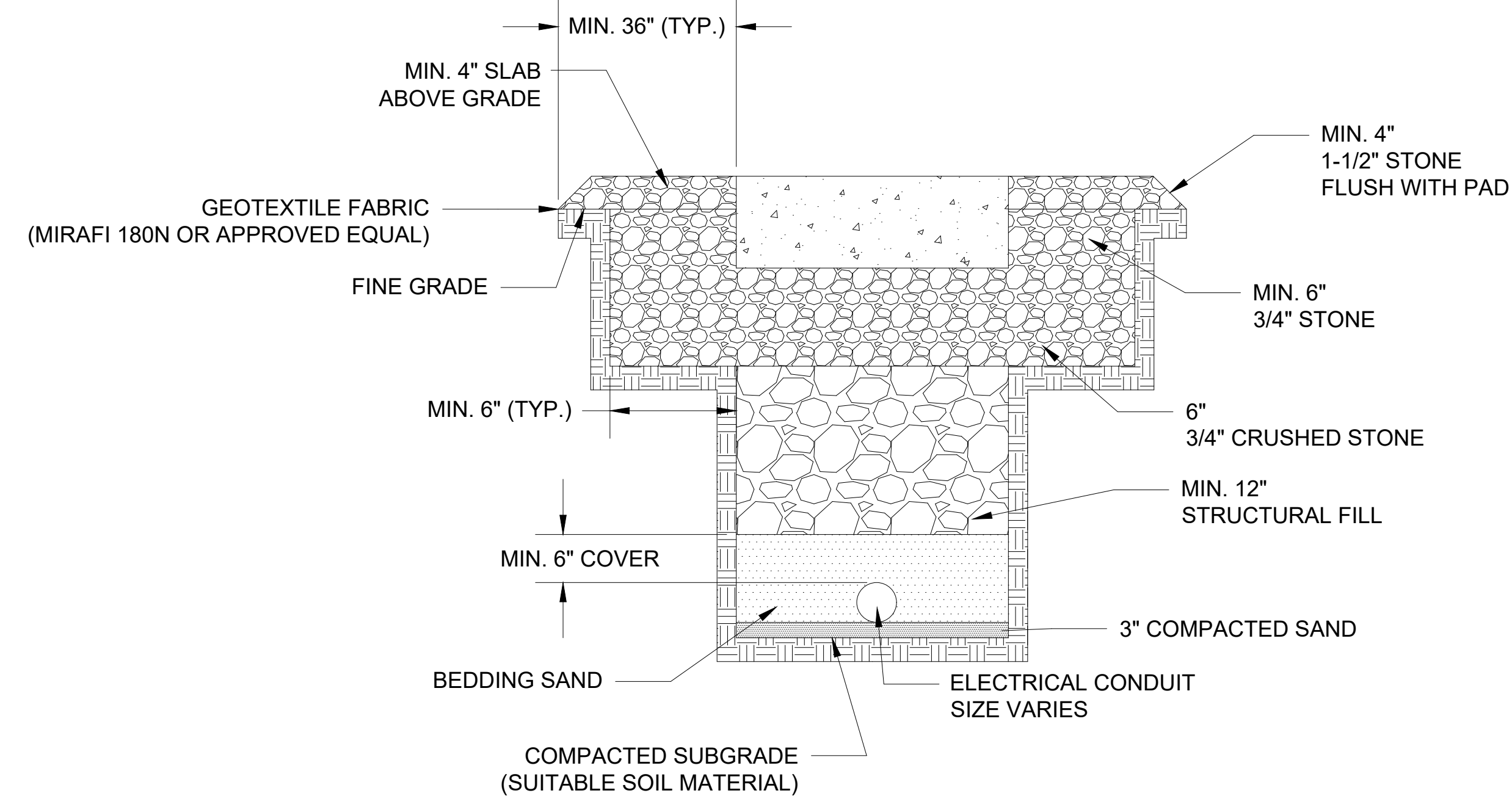
1 MECHANICAL SINGLE AXIS TRACKER RACKING STRUCTURE SYSTEM DETAIL: SCHEMATIC DESIGN
NOT TO SCALE



2 U.G.E. DIRECT BURIED ELECTRICAL CONDUIT TRENCH DETAIL
NOT TO SCALE



3 FIRE DEPARTMENT ACCESS ROAD DETAIL
NOT TO SCALE



4 SUBGRADE EQUIPMENT REINFORCED FOUNDATION DETAIL
NOT TO SCALE

SHEET NOTES:
1. SINGLE AXIS TRACKER MECHANICAL RACKING SYSTEM BY AXIAL TRACKER. SEE MANUFACTURER DRAWINGS FOR ADDITIONAL INFORMATION.
2. STRUCTURE DIMENSIONS SHOWN ARE TYPICAL FOR FLAT GRADE. DIMENSIONS MAY VARY WHERE SLOPES EXIST.

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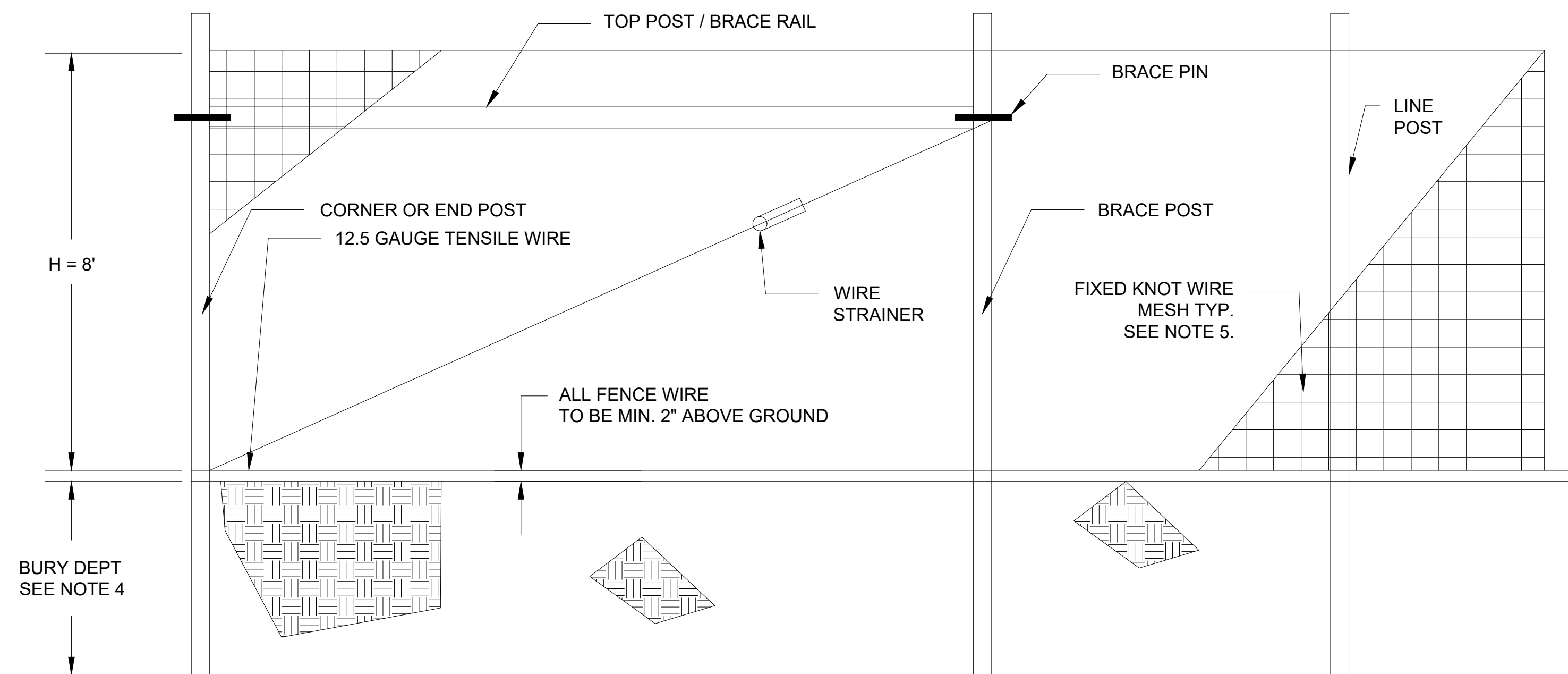
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REINKING RD. & I.-21,
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Drawing Title:
CONSTRUCTION DETAILS
TYPICAL DETAILS, CUT SECTIONS & ELEVATIONS OF
FIRE DEPARTMENT ACCESS ROAD, EQUIPMENT FOUNDATIONS,
PV MECHANICAL TRACKER RACKING STRUCTURE SYSTEM,
U.G.E. CONDUIT TRENCHING

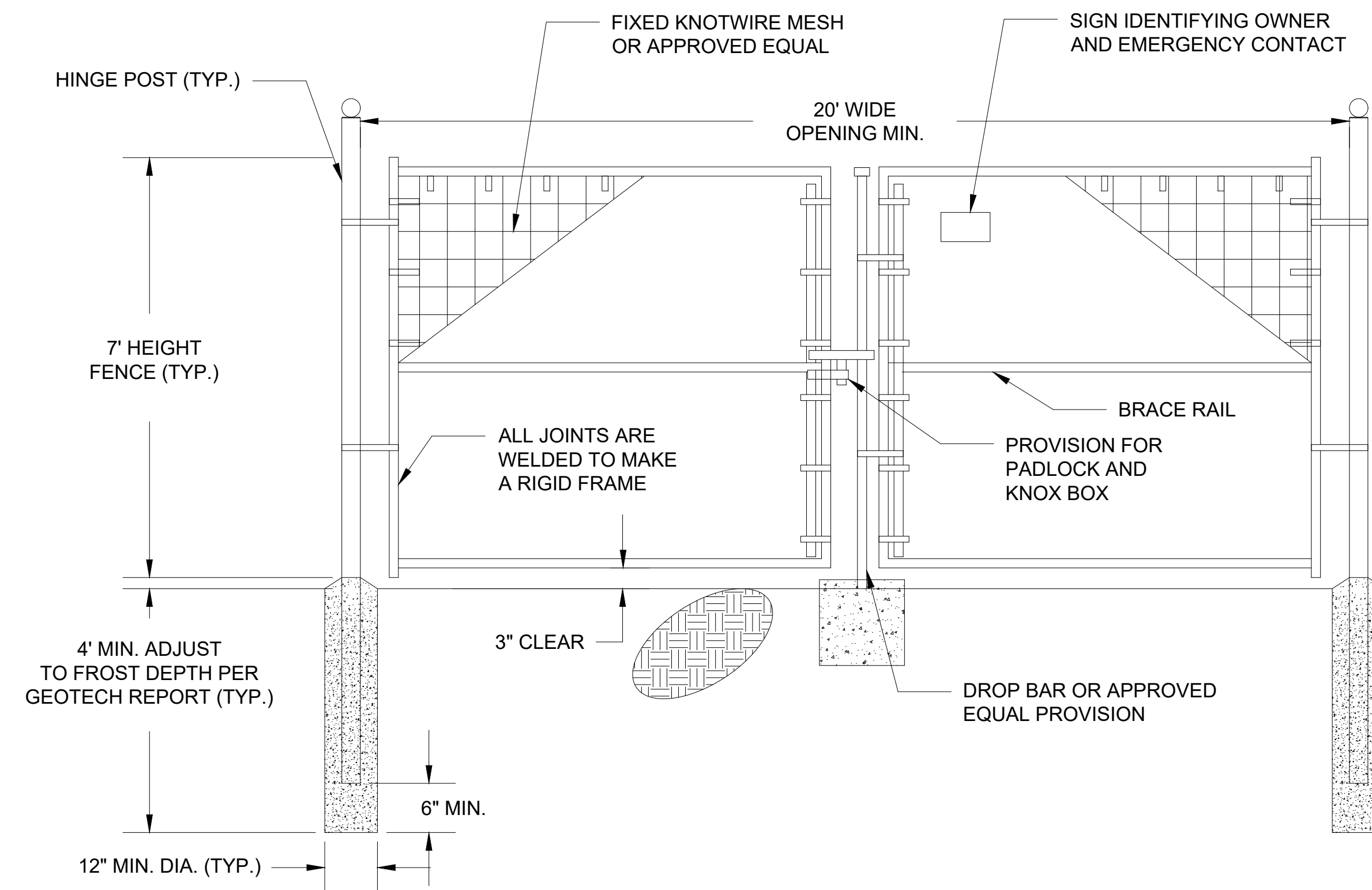
Project Number: 8884 a	Drawing Number: E - DEV.04 - CD
Paper Size: 24" X 36"	Sheet Number: 04



1 FIXED KNOT FARM FENCE DETAIL
NOT TO SCALE

NOTES:

1. INSTALL ALL FENCING COMPONENTS PER MANUFACTURERS SPECIFICATIONS.
2. ALL FENCING AND HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.
3. ALL SQUARE POSTS TO BE MIN. 5"X5" NOMINAL SIZE OR ROUND POST WITH MIN. 5" OR 6" DIAMETER PRESSURE TREATED WOOD OR APPROVED EQUAL. PREFER POSTS TO HAVE A CHAMFERED TOP.
4. ALL LINE POST TO BE SET TO A MIN. DEPTH OF 4' BELOW GRADE, ALL CORNER, END OR GATE POSTS SHALL BE SET TO A MIN. DEPTH OF 6' BELOW GRADE, UNLESS OTHERWISE NOTES.
5. FIXED KNOT WIRE MESH TO BE BEKAERT SOLID LOCK® PRO, 12.5 GAUGE, CLASS 3 GLAVANIZED, 6" VERTICAL SPACING OR APPROVED EQUAL.
6. BRACING IS REQUIRED AT ALL CORNER, END AND GATE POSTS, DOUBLE BRACING (TWO BRACE ASSEMBLIES IN A ROW) SHOULD BE USED FOR STRAIGHT RUNS OF FENCE THAT EXCEED 1,000 LF. AN ADDITIONAL BRACE ASSEMBLY SHOULD BE INSTALLED MID SPAN FOR STRAIGHT RUNS OF FENCE THAT EXCEED 1,320 LF. ADDITIONAL BRACING MAY BE STILL BE REQUIRED OVER UNEVEN TERRAIN, CONTRACTOR SHALL INSTALL ADDITIONAL BRACING AS NEEDED IF DEFLECTION IS NOTICED DURING TENSIONING.



2 FIXED KNOT FARM FENCE 20' WIDE DOUBLE SWING GATE DETAIL
NOT TO SCALE

NOTES:

1. INSTALL ALL FENCING COMPONENTS PER MANUFACTURER'S SPECIFICATIONS.
2. ALL FENCING AND HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE NOTES.
3. HINGE POSTS MAY BE TIMBER IF CONTRACTOR DESIRES, TIMBER HINGE POSTS DO NOT NEED TO BE SET IN CONCRETE. UTILIZE HINGE THRU BOLTS TO CONNECT TO TIMBER HINGE POSTS OR LAG SCREWS, PER MANUFACTURERS RECOMMENDATIONS.
4. IF CONTRACTOR UTILIZES METAL HINGE POST THAN POSTS SHALL BE SET IN CONCRETE AS SHOWN IN DETAIL.
5. BRACING REQUIRED AT FOR ALL GATES. SEE FIXED KNOT FARM FENCE DETAIL.
6. FIXED KNOT WIRE MESH TO BE BEKAERT SOLIDLOCK® PRO, 12.5 GAUGE, CLASS 3 GLAVANIZED, 6" VERTICAL SPACING OR APPROVED EQUAL.
7. BRACE RAIL SHOWN FOR REFERENCE ADDITIONAL BRACE RAILS MAY BE REQUIRED (NOT SHOWN) OR TRUSS RODS MAY BE REQUIRED PER MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES:
ADDITIONAL FENCING AND GATE DETAILS TO BE FURTHER REVIEWED BY KANE COUNTY OF RECORD AUTHORITY HAVING JURISDICTION DURING BUILDING PERMIT APPROVAL. THE FOLLOWING PLAN IS CONCEPTUAL, PRELIMINARY SCHEMATIC DESIGN AND IS SUBJECT TO CHANGE.

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KANE COUNTY
P.I.N. 02-19-200-007

Drawing Title:
FENCE DETAILS
TYPICAL DETAILS, CUT SECTIONS & ELEVATIONS OF FENCING & DOUBLE SWING ACCESS GATE.

Project Number: 8884 a	Drawing Number: E - DEV.05 - FD
Paper Size: 24" X 36"	Sheet Number: 05

CPS 100/125 kW, 1500 Vdc String Inverters for North America



Key Features

- NFPA 70 and NEC compliant
- Touch-safe DC Fuse holders add convenience and safety
- CPS FlexDM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper- and aluminum-compatible AC connections
- NEMA Type 4X outdoor rated enclosure
- Advanced Smart-Grid Features (CA Rule 21 certified)
- kVA headroom yields 100 kW @ 0.9 PF and 125 kW @ 0.95 PF
- Generous 1.87 (100 kW) and 1.5 (125 kW) DC/AC inverter load ratios
- Separable wire box design for fast service
- Enhanced DC wire boxes available

Standard Wire Boxes **Enhanced DC Wire Boxes**

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Technical Data

Model Name	CPS SCH100KTL-DO/US-600	CPS SCH125KTL-DO/US-600
DC Input		
Max. PV power	187.5 kW	175 kW
Max. DC input voltage	1500V	1500V
Operating DC input voltage range	800-1450 Vdc	800-1450 Vdc
Start-up DC input voltage / power	900 V / 250 W	900 V / 250 W
Number of MPPT trackers	1	1
MPPT voltage range	870-1300 Vdc	870-1300 Vdc
Max. PV input current (Isc x1.25)	275 A	275 A
Number of DC inputs	Distributed Wire Box: 20 PV source circuits, positive and negative fused Centralized Wire Box: 1 input circuit, 1-2 terminations per pole, non-fused	
DC disconnection type	Load-rated AC switch	
DC surge protection	Type II MOV (with indicator/remote signaling)	
AC Output		
Rated AC output power ¹	100 kW	125 kW
Max. AC apparent power (selectable)	100 kVA (111 kVA @ PF > 0.9)	125 kVA (132 kVA @ PF > 0.95)
Rated output voltage	600 Vac	600 Vac
Output voltage range ²	528-660 Vac	528-660 Vac
Grid connection type ³	3Ø / 3L / N (optional optional)	3Ø / 3L / N (optional optional)
Max. AC output current @ 600 Vac	96.2 / 106.8 A	120.3 / 127.0 A
Rated output frequency	60 Hz	60 Hz
Output frequency range ⁴	57.6-63 Hz	57.6-63 Hz
Power factor	>0.99 (±0.8 adjustable)	>0.99 (±0.8 adjustable)
Current THD	<3%	<3%
Max. fault current contribution (1 cycle RMS)	43.47 A	43.47 A
Max. DC/PO rating	400 A	400 A
AC disconnection type	Load-rated AC switch	
AC surge protection	Type II MOV (with indicator/remote signaling)	
System		
Topology	transformerless	
Max. efficiency	99.5%	
CEC efficiency	99.5%	
Standby / night consumption	< 4 W	
Environment		
Enclosure protection degree	NEMA Type 4X	
Cooling method	Variable speed cooling fans	
Operating temperature range ⁵	-23°F to 140°F / -30°C to 60°C	
Non-operating temperature range ⁶	-47°F to 158°F / -40°C to 70°C	
Operating humidity	0-100%	
Operating altitude	8202 ft / 2500 m (no derating)	
Airflow noise	< 65 dBA @ 2 m and 77 ft (25 ft)	
Display and Communication		
User interface and display	LED indicators, Wi-Fi and app	
Inverter monitoring	Modbus RTU	
Site-level monitoring	CPS FlexDM Gateway (1 per 32 inverters)	
Mobile data mapping	SurfEye / CPS	
Remote diagnostics / firmware upgrade functions	Standard / with FlexDM Gateway	
Physical		
Dimensions (W x H x D)	Distributed Wire Box: 45.28 x 24.25 x 9.84 in (1150 x 616 x 250 mm) Centralized Wire Box: 39.37 x 24.25 x 9.84 in (1000 x 616 x 250 mm)	
Weight	Inverter: 212 lb (95 kg) Distributed Wire Box: 55 lb (25 kg) Centralized Wire Box: 31 lb (15 kg)	
Mounting / installation angle	15-90 degrees from horizontal (vertical or angled)	
AC termination	M10 stud type terminal (3Ø) (wire range: 1/0 AWG-500 kcmil CU/AL); lugs (not supplied) Screw clamp terminal block (N) (#12-1/0 AWG CU/AL)	
DC termination	Distributed Wire Box: Some clamp fuse holder (wire range: #12-46 AWG CU) Centralized Wire Box: Rubber M10 both (wire range: #1-46 AWG 300 kcmil CU/AL) (1 termination per pole), #1 AWG-300 kcmil CU/AL (2 terminations per pole); lugs (not supplied)	
Fused string inputs	Standard Distributed Wire Boxes: 25 A fuses provided (fuse values up to 30 A acceptable) Enhanced DC Wire Boxes: 20 A fuses provided (fuse values up to 30 A acceptable)	
Certifications and standards	UL 1741 SA/SA Ed. 3, CSA-C22.2 NO.107-1-01, IEEE 1547-2018, FCC PART15	
Selectable grid standard	IEEE 1547-2018, IEEE 1547-2018B, CA Rule 21, ISO-NE	
Smart-grid features	Volt RideThru, Freq. RideThru, Ramp Rate, Specified P _{max} , Volt/VAR, Freq. Volt, Volt/Watt	
Warranty		
Standard	5 years	
Extended terms	10, 15, and 20 years	

1) See user manual for further information regarding MPPT voltage range when operating at non-unity PF.
2) The voltage output range and output frequency range may differ according to the specific grid standard.
3) Only configurations tested for UL compliance.
4) See user manual for further information regarding non-operating conditions.
5) Temperature range is for site equipment.
6) Temperature range is for site equipment.

2 EQUIPMENT SPECIFICATION CUT SHEET DETAIL: STRING INVERTER 125 KWATT (DC) NOT TO SCALE

Vertex BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-08G16C-20
PRODUCT RANGE: 935-555W

555W MAXIMUM POWER OUTPUT **0~+5W** POSITIVE POWER TOLERANCE **21.2%** MAXIMUM EFFICIENCY

High customer value

- Lower LCOE (Levelized Cost of Energy), reduced BOS (Balance of System) cost, shorter payback time
- Lowest guaranteed first year and annual degradation
- Designed for compatibility with existing mainstream system components
- Higher return on investment

High power up to 555W

- Up to 21.2% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection


High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.34%) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty

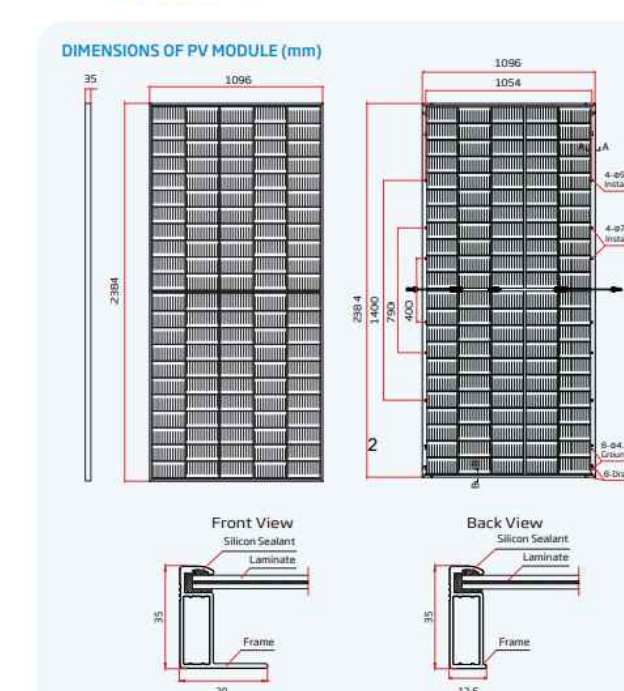


Comprehensive Products and System Certificates

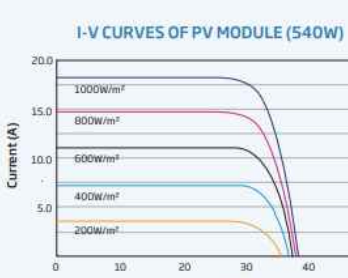
- ISO 9001:2015 Quality Management System
- ISO 14001:2015 Environmental Management System
- ISO 45001:2018 Occupational Health and Safety Management System
- ISO 14064:2014 Greenhouse Gas Emissions Verification
- ISO 9000:2015 Occupational Health and Safety Management System

Vertex BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

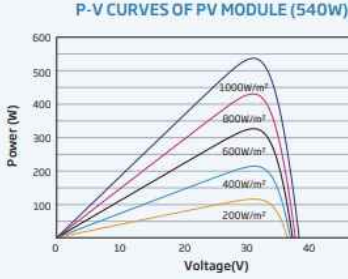
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (540W)



P-V CURVES OF PV MODULE (540W)



ELECTRICAL DATA (STC)

Peak Power (Watt)	535	540	545	550	555
Maximum Power Voltage (V)	31.2	31.4	31.6	31.8	32.0
Maximum Power Current (A)	17.10	17.20	17.24	17.28	17.30
Open Circuit Voltage (V)	37.5	37.7	37.8	38.1	38.3
Short Circuit Current (A)	18.24	18.30	18.35	18.39	18.43
Module Efficiency (%)	20.5	20.7	20.8	21.0	21.2

MECHANICAL DATA

Parameter	Value
Module Dimensions	2084 (2080±0.2)mm x 1000 (±0.2)mm x 35 (±0.1)mm
Weight	10.7kg (23.6 lbs)
Front Glass	3.2mm (0.126") High Transmittance, Anti-Reflection Coated Glass
Back Glass	2.0mm (0.079") Heat Strengthened Glass (with Gold Coating)
Frame	Aluminum Alloy
Connector	MC4

ELECTRICAL DATA (NOCT)

Parameter	Value
Maximum Power Voltage (V)	31.2
Maximum Power Current (A)	18.36
Open Circuit Voltage (V)	37.5
Short Circuit Current (A)	18.32
Module Efficiency (%)	20%

TEMPERATURE RANGES

Parameter	Value
Operating Temperature	-40~+60°C
Maximum System Voltage	1500V DC (IEC)
Maximum System Voltage	1500V DC (UL)
Max Series Fuse Rating	32A

PACKAGING CONFIGURATION

Parameter	Value
12 year Product Workmanship Warranty	Module per box: 32 pieces
30 year Power Warranty	Module per 40 container: 527 pieces
2% first year degradation	
0.4%/A Annual Power Attenuation	

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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1 EQUIPMENT SPECIFICATION CUT SHEET DETAIL: PV MODULE 550 WATT (DC) NOT TO SCALE

GENERAL NOTES:

ADDITIONAL EQUIPMENT SPECIFICATION DETAILS TO BE FURTHER REVIEWED BY KANE COUNTY OF RECORD AUTHORITY HAVING JURISDICTION DURING BUILDING PERMIT APPROVAL. THE FOLLOWING PLAN IS CONCEPTUAL, PRELIMINARY SCHEMATIC DESIGN AND IS SUBJECT TO CHANGE.

Date	Revision Details	PM	ENR	CHK
01/03/2025	ISSUED FOR SUP			
11/29/2024	ISSUED FOR BPLR			
10/03/2024	ISSUED FOR IX			
Date	Revision Details			

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Drawing Title: EQUIPMENT SPECIFICATIONS
EQUIPMENT DETAILS, CUT SHEETS & SPECIFICATIONS OF PV MODULE & STRING INVERTER EQUIPMENT.

Project Number	Drawing Number
8884 a	E - DEV.06 - ES
Paper Size	Sheet Number
24" X 36"	06