

LEGEND

- 34.5kV UNDERGROUND COLLECTOR SYSTEM CIRCUIT 1
- 34.5kV UNDERGROUND COLLECTOR SYSTEM CIRCUIT 2
- 34.5kV UNDERGROUND COLLECTOR SYSTEM CIRCUIT 3
- 34.5kV UNDERGROUND COLLECTOR SYSTEM CIRCUIT 4
- UNDERGROUND FIBER OPTIC CABLE
- UNDERGROUND CROSSING
- CIRCUIT 1 PANELS
- CIRCUIT 2 PANELS
- CIRCUIT 3 PANELS
- CIRCUIT 4 PANELS
- ARCHEOLOGICAL SITES
- DELINEATED WETLAND
- CIVIL BASE ROADS
- PROPERTY BOUNDARY
- 3- WAY PAD MOUNTED SWITCHES
- 4-WAY PAD MOUNTED SWITCHES
- JUNCTION BOX
- PANEL INVERTER
- TRACKER MOTOR
- 1MW GENERATOR STEP-UP TRANSFORMER
- 2MW GENERATOR STEP-UP TRANSFORMER
- 3MW GENERATOR STEP-UP TRANSFORMER
- LOW VOLTAGE CABLE 600VAC
- FENCE LINE

CONCEPTUAL - NOT FOR CONSTRUCTION

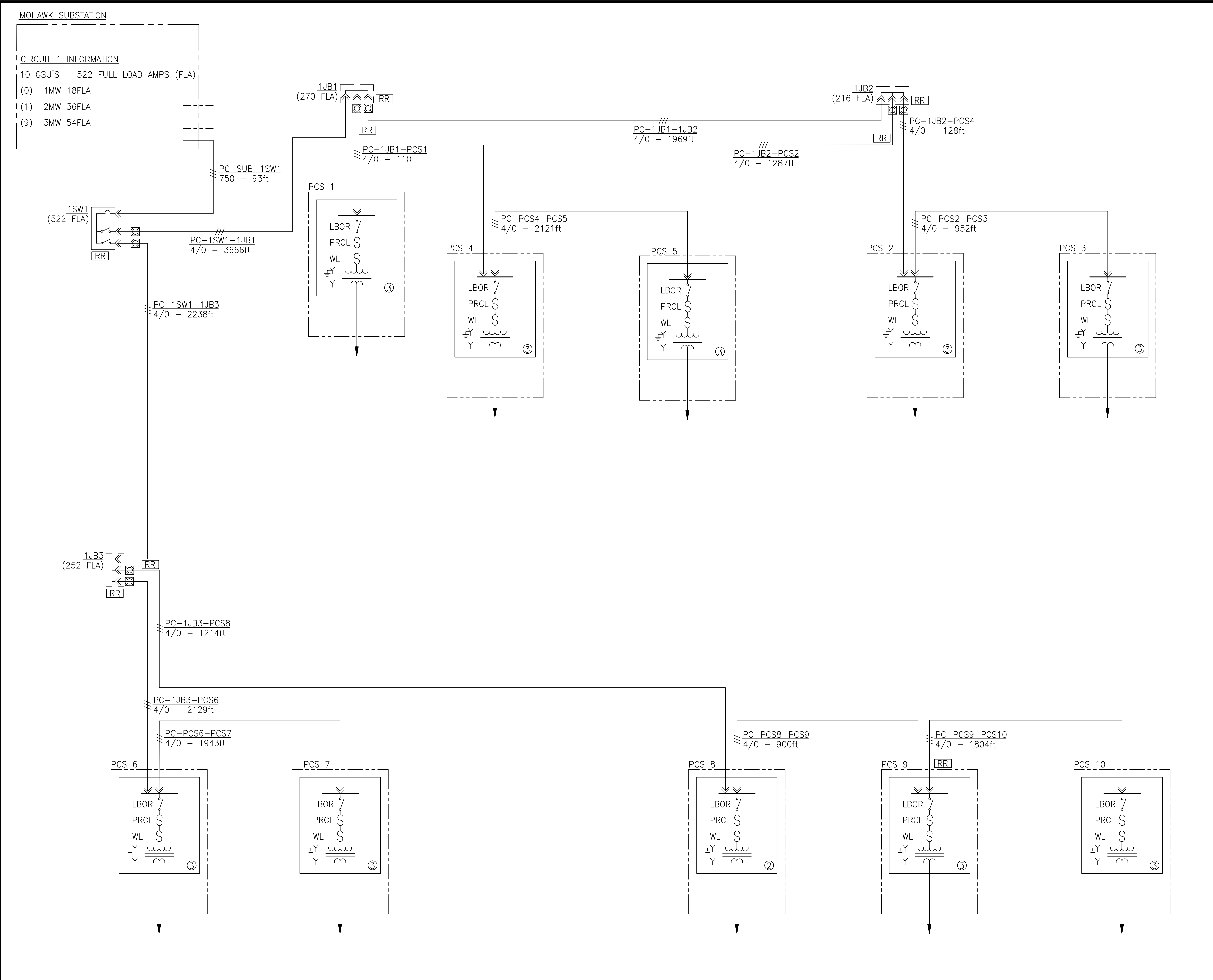
NO.	REVISIONS	DATE	BY	CHK	APR
A	ISSUED FOR REVIEW	10/10/18	EAA	SRA	SRA
B	ISSUED FOR REVIEW	12/19/18	JSS	SRA	SRA
C	ISSUED FOR REVIEW	02/22/19	JSS	SRA	SRA
D	ISSUED FOR REVIEW	04/17/19	BRK	SRA	SRA
E	ISSUED FOR REVIEW	05/01/19	BRK	SRA	SRA
F	ISSUED FOR REVIEW	05/30/19	JSS	SRA	SRA

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ENGINEERING RECORD	DATE
DRAWN: J. STRUBLE	02/15/19
DESIGNED: J. STRUBLE	02/15/19
CHECKED: S. AKERS	05/30/19
APPROVED: S. AKERS	05/30/19

MOHAWK SOLAR
34.5 KV COLLECTION SYSTEM
SYSTEM MAP



NOTES

1. LENGTHS SHOWN ARE ANTICIPATED TRENCH LENGTHS. CONDUCTOR LENGTHS TO BE DETERMINED WHEN EQUIPMENT LOCATIONS AND ROUTES ARE FINALIZED.
2. ALL CABLES & EQUIPMENT SHOWN ON THIS SHEET ARE RATED FOR 35KV OPERATION UNLESS OTHERWISE NOTED.
3. ALL CABLE SIZES ARE PRELIMINARY AND WILL NEED TO BE VERIFIED OR UPDATED ONCE LOCALIZED THERMAL RHO VALUES ARE OBTAINED.

LIST OF CABLE TYPES

1000	1000kcmil, Al, 35kv, 100% INS, Cu CN, XLPE JKT
750	750kcmil, Al, 35kv, 100% INS, Cu CN, XLPE JKT
500	500kcmil, Al, 35kv, 100% INS, Cu CN, XLPE JKT
4/0	4/0AWG, Al, 35kv, 100% INS, Cu CN, XLPE JKT

LEGEND

	POWER CONVERSION STATION
	MVA SIZE OF POWER CONVERSION STATION TRANSFORMER
	JUNCTION BOX, 3-WAY
	JUNCTION BOX, 4-WAY
	SYSTEM GROUND
	RADIO RANGER TRANSMITTER
	TEST POINT MOUNTED FAULT INDICATOR W/REMOTE DISPLAY & AUTO RESET 35KV, 3-PH, 600A
	3-PHASE CIRCUIT TRENCH W/CONTINUOUS TRENCH GROUND

REFERENCED DRAWINGS

CONCEPTUAL - NOT FOR CONSTRUCTION

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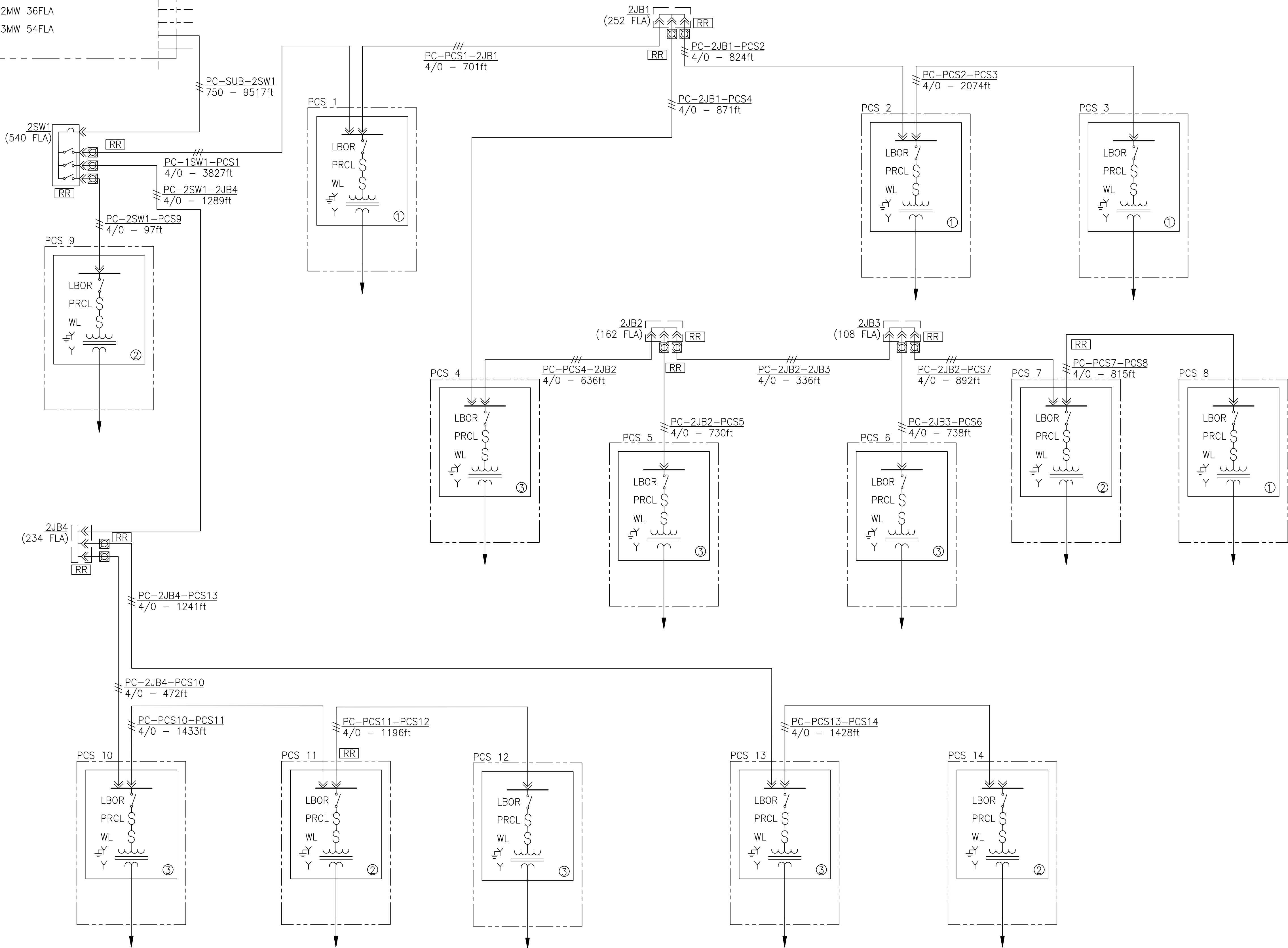
MOHAWK SOLAR PROJECT
34.5KV COLLECTION SYSTEM
SINGLE LINE - FEEDER 1

CADFILE: MHS-E-501-01.dwg	SCALE:NONE	DWG.NO:MHS-E-501-01	SHEET 1 of 4	REV. C.
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MOHAWK SUBSTATION

CIRCUIT 2 INFORMATION

14 GSU'S - 540 FULL LOAD AMPS (FLA)
(4) 1MW 18FLA
(4) 2MW 36FLA
(6) 3MW 54FLA



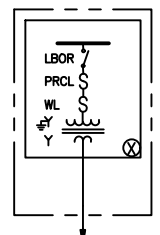
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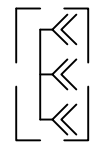
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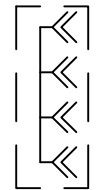
POWER CONVERSION STATION



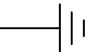
MVA SIZE OF POWER CONVERSION STATION TRANSFORMER



JUNCTION BOX, 3-WAY



JUNCTION BOX, 4-WAY



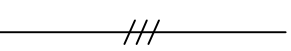
SYSTEM GROUND



RADIO RANGER TRANSMITTER



TEST POINT MOUNTED FAULT INDICATOR
W/REMOTE DISPLAY & AUTO RESET
35KV, 3-PH, 600A



3-PHASE CIRCUIT TRENCH W/CONTINUOUS TRENCH GROUND

REFERENCED DRAWINGS

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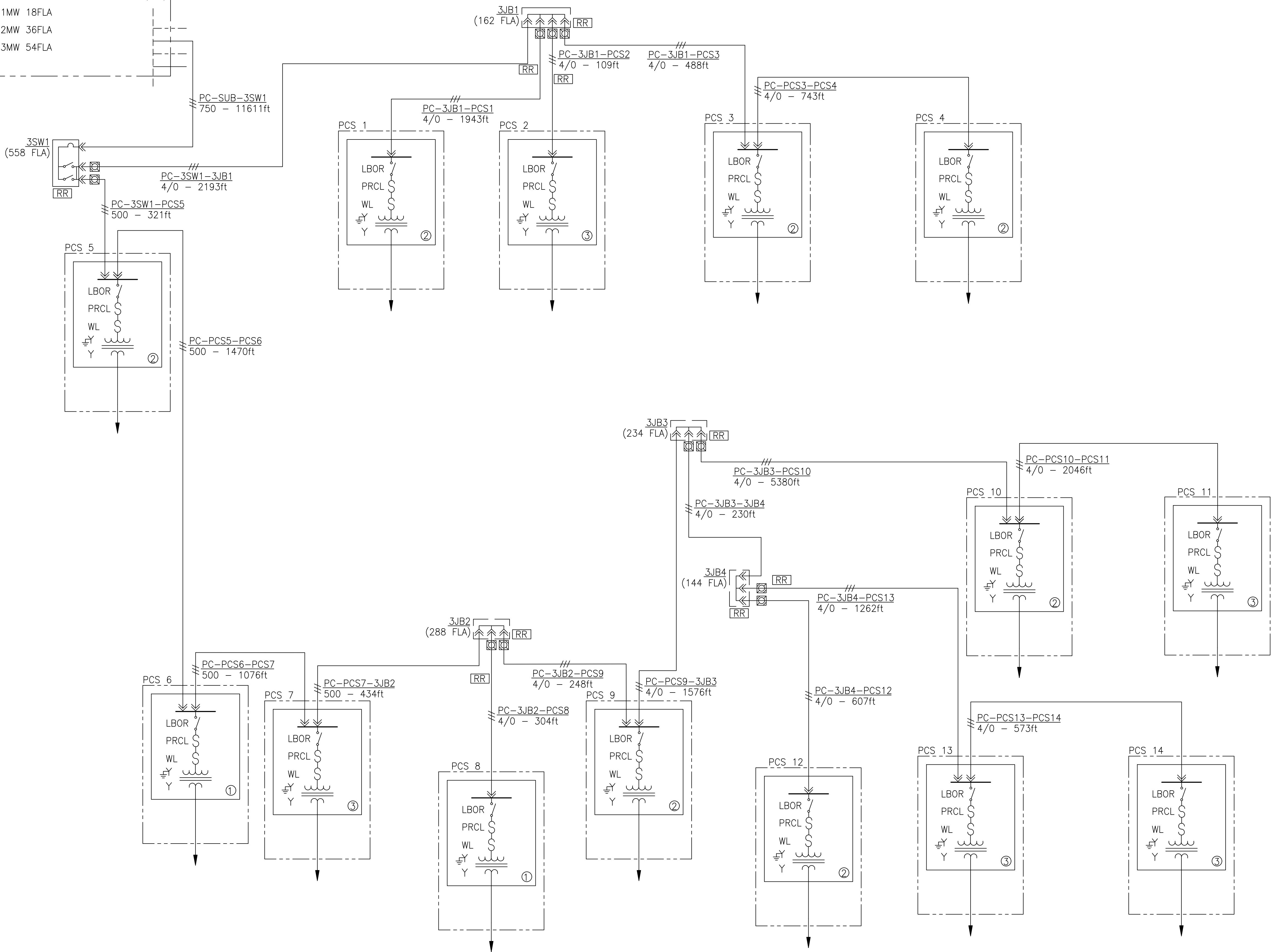
MOHAWK SOLAR PROJECT
34.5KV COLLECTION SYSTEM
SINGLE LINE - FEEDER 2

CADFILE: MHS-E-501-02.dwg	SCALE: NONE	DWG. NO: MHS-E-501-02	SHEET 2 of 4	REV B
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MOHAWK SUBSTATION

CIRCUIT 3 INFORMATION

14 GSU'S - 558 FULL LOAD AMPS (FLA)
(2) 1MW 18FLA
(7) 2MW 36FLA
(5) 3MW 54FLA



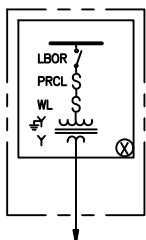
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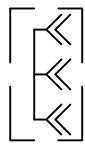
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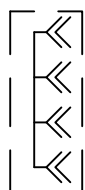
POWER CONVERSION STATION



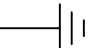
MVA SIZE OF POWER CONVERSION STATION TRANSFORMER



JUNCTION BOX, 3-WAY



JUNCTION BOX, 4-WAY



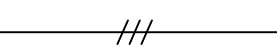
SYSTEM GROUND



RADIO RANGER TRANSMITTER



TEST POINT MOUNTED FAULT INDICATOR
W/REMOTE DISPLAY & AUTO RESET
35KV, 3-PH, 600A



3-PHASE CIRCUIT TRENCH W/CONTINUOUS TRENCH GROUND

REFERENCED DRAWINGS

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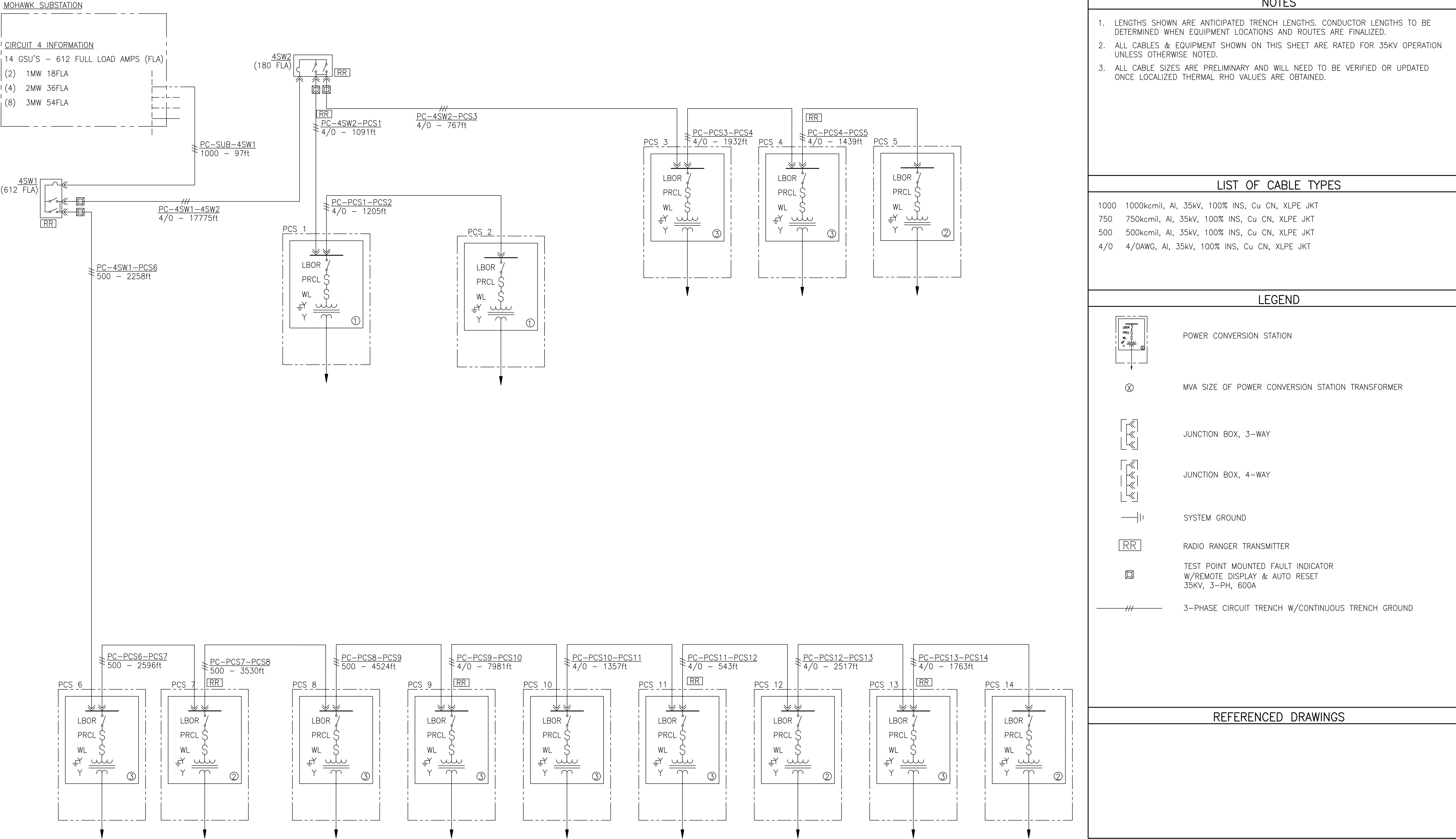
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MOHAWK SOLAR PROJECT
34.5KV COLLECTION SYSTEM
SINGLE LINE - FEEDER 3

CADFILE: MHS-E-501-03.dwg	SCALE:NONE	DWG.NO:MHS-E-501-03	SHEET 3 of 4	REV B
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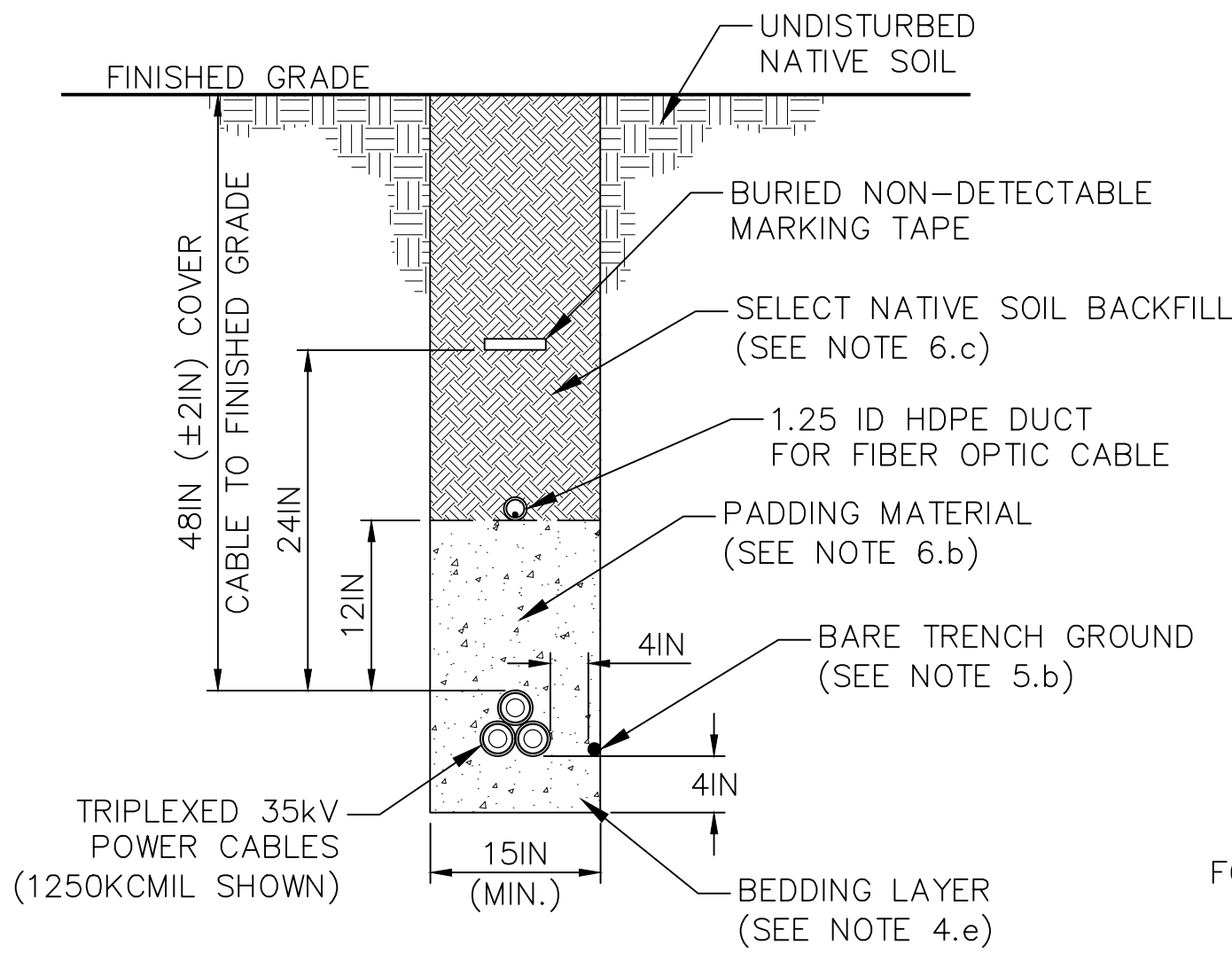
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																CHECKED: S. AKERS	02/22/19				
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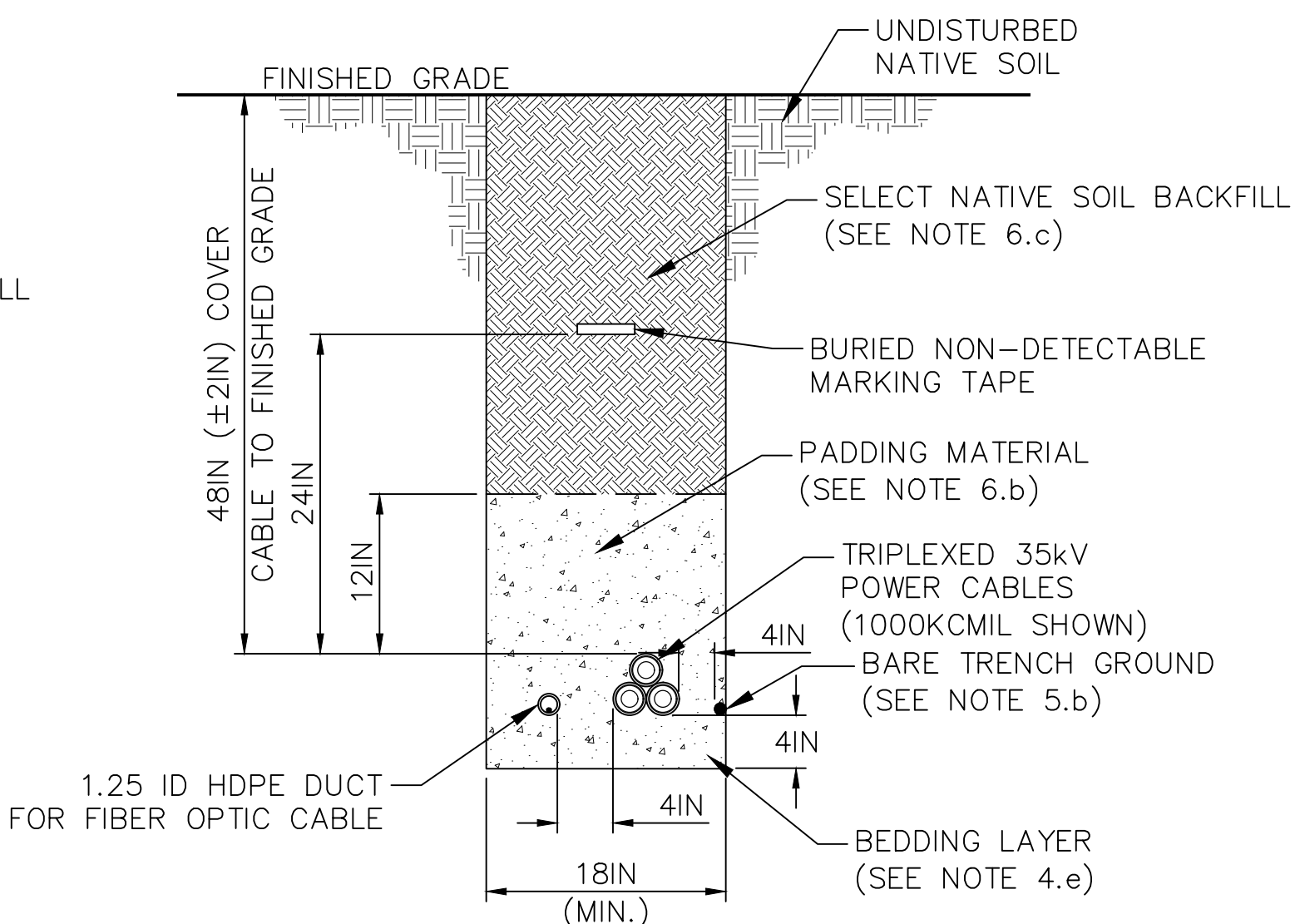
NOTES

- ALL EXISTING UTILITIES MUST BE LOCATED BEFORE ANY EXCAVATION/TRENCHING IS STARTED. REGARDLESS OF OTHER UTILITY CONTACTS, CONTRACTOR MUST NOTIFY LOCAL LOCATING CLEARING HOUSE (I.E. ONECALL) OR OTHER STATE BODY.
- ALL GRADE SURFACES THAT ARE DISTURBED SHALL BE RESTORED TO ESSENTIALLY ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
- THE CABLE ROUTE TO BE FOLLOWED BY CONTRACTOR SHALL BE AS STAKED BY THE CONTRACTOR. ALL TRENCHES SHALL FOLLOW AS STRAIGHT A LINE AS PRACTICAL. ANY DEVIATION FROM THE ROUTING PROVIDED SHALL BE DISCUSSED WITH AND APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. ROCK MAY BE REMOVED BY ANY MEANS CONTRACTOR PREFERS, EXCEPT BLASTING. **BLASTING WILL NOT BE PERMITTED UNLESS SPECIFICALLY AUTHORIZED BY OWNER.**
- IF THE GROUND WATER LEVEL IS ABOVE THE BOTTOM OF THE TRENCH THE CONTRACTOR AND OWNER SHALL DISCUSS AND AGREE UPON AN ALTERNATIVE CABLE INSTALLATION METHOD. IF THE GROUND WATER LEVEL IS BELOW THE BOTTOM OF THE TRENCH THE FOLLOWING REQUIREMENTS SHALL BE SATISFIED:
 - EVERY TRENCH MUST BE A MINIMUM OF 12-INCHES WIDE (WITH PROPER SLOPE FOR WEAK SOILS), AND MUST PROVIDE SUFFICIENT SPACE TO ALLOW COMPACTION AS SPECIFIED WITH THE EQUIPMENT BEING UTILIZED. THE CONTRACTOR SHALL ENSURE THAT SUFFICIENT AMOUNT OF FINE SOIL IS ADDED ABOVE CABLE FOR BACKFILLS.
 - THE TOP SOIL MUST BE PUSHED TO ONE SIDE OF THE TRENCH ROUTE AND KEPT SEPARATE FROM BASE MATERIAL. THE STORED TOP SOIL IS TO BE SPREAD UNIFORMLY OVER THE AREA DISTURBED BY TRENCHING FOLLOWING BACKFILL AND COMPACTION.
 - CONTRACTOR SHALL PROTECT ALL TRENCHES AND OTHER EXCAVATIONS FROM SURFACE WATER RUNOFF. ANY WATER THAT HAS ACCUMULATED IN THE EXCAVATION SHALL BE REMOVED AND ANY SOFT TRENCH BOTTOM REMOVED AND REPLACED PRIOR TO THE INSTALLATION OF THE CABLES. THIS INCLUDES REMOVAL AND REPLACEMENT OF SAND BACKFILL THAT HAS BECOME CONTAMINATED WITH SILT, ROCKS, MUD, CLAY, ETC. THE REMOVAL OF WATER AND CORRECTION OF SOFT GROUND CONDITIONS DUE TO SURFACE WATER WILL BE THE RESPONSIBILITY OF CONTRACTOR.
 - CONTRACTOR MUST PROTECT THE PUBLIC AND LIVESTOCK FROM ALL TRENCHES AND EXCAVATIONS BY UTILIZING SUITABLE BARRICADES OR OTHER WARNING DEVICES.
 - ALL TRENCHES SHALL BE EXCAVATED TO DEPTH AS NECESSARY TO MAINTAIN THE SPECIFIED COVER OVER THE INSTALLED CABLE. IF THE BOTTOM OF THE TRENCH CONTAINS ROCKS, WOOD, VEGETATION MATERIAL OR OTHER HARD, ROUGH, OR SHARP MATERIALS THAT COULD DAMAGE THE CABLE, THE TRENCH SHALL BE OVER-EXCAVATED AND BACKFILLED WITH A 4-INCH LAYER OF COMPACTED FINE CLEAN SOIL (NOTHING LARGER THAN WHAT WOULD PASS THROUGH A 3/8-INCH SCREEN) OR SAND PRIOR TO THE CABLE BEING LAID IN PLACE.
- ALL DIRECT BURIED POWER CABLES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING:
 - 34.5kV CABLES SHALL BE PLACED IN A TRIANGULAR CONFIGURATION, WITH NO INTENTIONAL SEPARATION, SECURED TOGETHER AS NEEDED WITH CABLE TIES TO ENSURE THEY REMAIN IN THIS CONFIGURATION DURING AND AFTER INSTALLATION & BACK-FILL. PROPER TIE-WRAP TOOLS SHALL BE USED TO PREVENT OVER-TIGHTENING OF THE CABLE TIE.
 - A 4/0 BARE COPPER WIRE SHALL RUN IN THE TRENCH WITH THE POWER CABLES. THERE SHALL BE A MINIMUM OF 4 INCHES OF SEPARATION BETWEEN THIS WIRE AND THE POWER CONDUCTORS PER WIND TURBINE GENERATOR MANUFACTURER'S REQUIREMENT OF THERE BEING INTENTIONAL SEPARATION.
 - WHEN INSTALLED ABOVE THE POWER CABLES, THE INNERDUCT FOR FIBER OPTIC COMMUNICATION CABLE SHALL BE LAID ON TOP OF THE PADDING MATERIAL. WHEN INSTALLED AT THE SAME DEPTH AS THE POWER CABLE, THE INNERDUCT AND THE POWER CABLE SHALL BE SEPARATED BY A MINIMUM OF 4 INCHES.
 - WHERE TWO OR MORE PARALLEL COMMUNICATION CABLES ARE REQUIRED IN TRENCH, LAY EACH INNERDUCT NEXT TO EACH OTHER WHILE STILL MAINTAINING CLEARANCES SHOWN.
- BACKFILL AND COMPACTION REQUIREMENTS ARE AS FOLLOWS:
 - ALL EXCAVATED AREAS, INCLUDING TRENCHES AND BELL HOLES MUST BE THOROUGHLY COMPACTED TO NO LESS THAN 85% STANDARD PROCTOR OR 105 PCF, UNLESS OTHERWISE NOTED IN THE PROJECT GEO-TECHNICAL REPORT. COMPACTION SHALL BE BY PROVEN METHODOLOGY. SPECIAL CARE MUST BE TAKEN IN THE AREAS WHERE THE THERMAL TESTING OF SOILS IN THAT AREA INDICATES A POTENTIALLY HIGH RESISTIVITY. **COMPACTION BY FLOODING WILL NOT BE PERMITTED.**
 - THE FIRST 12-INCHES OF BACKFILL ABOVE THE CABLE (THIS IS THE CABLE PADDING) MUST BE FREE OF ROCKS, TOP SOIL, ROOTS, AND OTHER ORGANIC MATTER (NOTHING LARGER THAN WHAT WOULD PASS THROUGH A 3/8-INCH SCREEN). IF HEAVY STIFF CLAY IS ENCOUNTERED, THE NATIVE MATERIAL MUST BE EITHER MIXED WITH SANDY SOIL FROM OTHER STRATA IN THE SAME TRENCH, MIXED WITH FINE GRADE SAND THAT IS IMPORTED, OR REPLACED WITH IMPORTED MATERIAL.
 - SELECT NATIVE SOIL CAN BE USED FOR THE REMAINDER OF THE TRENCH BACKFILL EXCEPT THAT LARGE CLUMPS AND ROCKS LARGER THAN 4-INCHES MUST BE EXCLUDED AND SUFFICIENT FINES PROVIDED TO ELIMINATE VOIDS.
 - AT THE BEGINNING OF THE TRENCH BACKFILLING OPERATION, THE CONTRACTOR AND THE OWNER SHALL DETERMINE THE SUITABILITY OF THE NATIVE SOIL FOR USE AS BACKFILL, AND ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED TO ENSURE ADEQUATE COMPACTION.
 - THE CONTRACTOR SHALL FILL THE TRENCH TO PRE-CONSTRUCTION GRADE WITH THE STOCKPILED TOP SOIL AND WITH ADDITIONAL BACKFILL ADDED TO ALLOW FOR SETTLING. CONTRACTOR MAY SLIGHTLY OVERFILL TRENCH IN ORDER TO ALLOW FOR SETTLING.
- CONTRACTOR SHALL PROVIDE AND INSTALL A PLASTIC WARNING TAPE IN ALL TRENCHES DURING BACKFILLING. THIS TAPE SHALL BE INSTALLED APPROXIMATELY 24-INCHES ABOVE THE CABLES. THE TAPE SHALL BE 6" WIDE, RED WITH BLACK LETTERS, MARKED "CAUTION - BURIED ELECTRIC LINES BELOW".
- EXCAVATED SOIL AND ROCK THAT IS NOT REUSED IN BACKFILLING THE TRENCHES IS TO BE DISTRIBUTED ACROSS THE SITE PER THE DIRECTION OF THE OWNER.
- ALL EXCAVATION, TRENCHING AND ELECTRICAL SYSTEM CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THE FORMAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT.
- A MINIMUM OF 10 FEET OF SEPARATION IS REQUIRED BETWEEN PARALLEL HOME RUN CIRCUITS AS NOTED ON SYSTEM MAP. A MINIMUM OF 15 FEET OF SEPARATION IS REQUIRED BETWEEN ALL OTHER PARALLEL CIRCUITS. A MAXIMUM OF FOUR PARALLEL CIRCUITS IS ANTICIPATED.

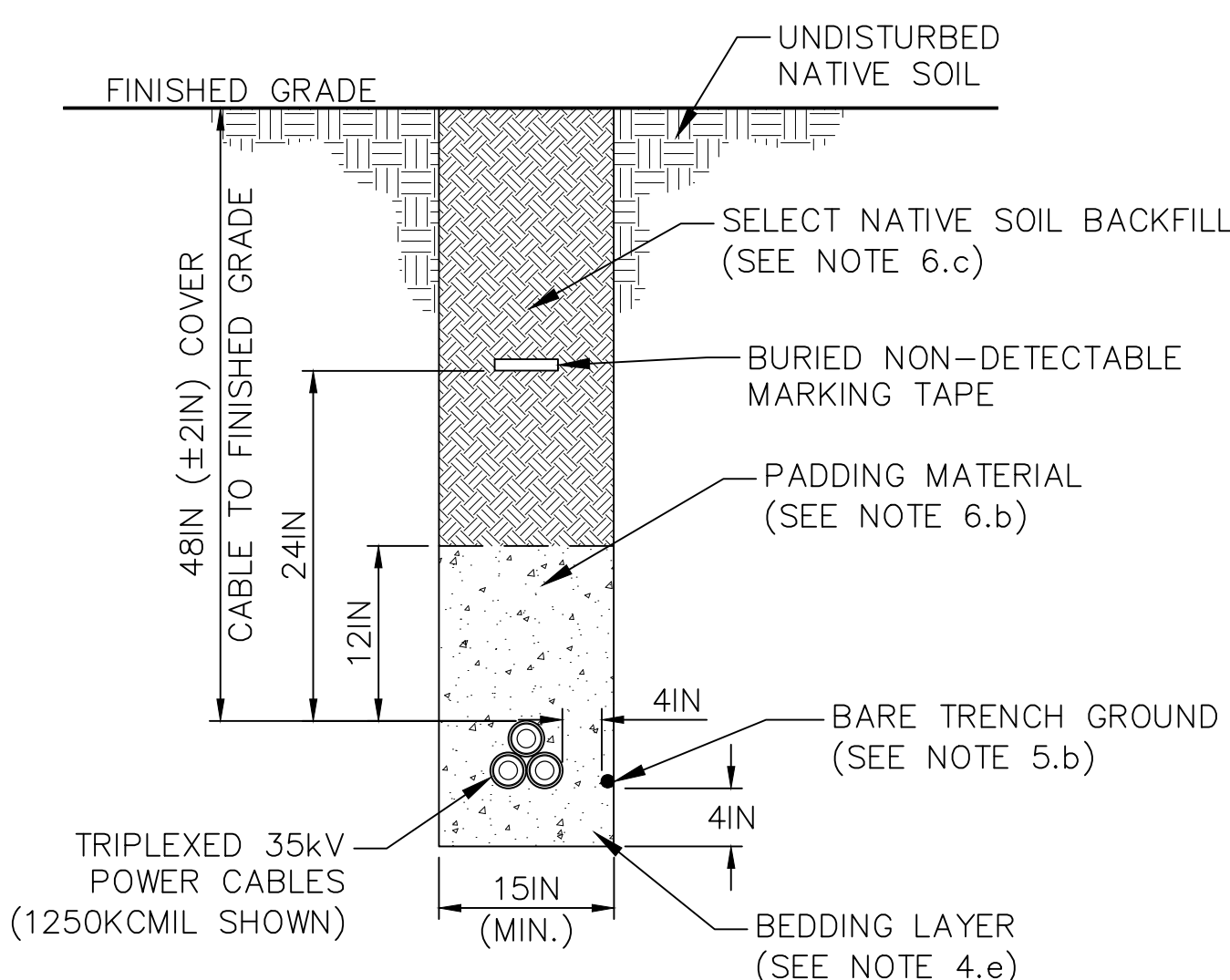
CONCEPTUAL - NOT FOR CONSTRUCTION



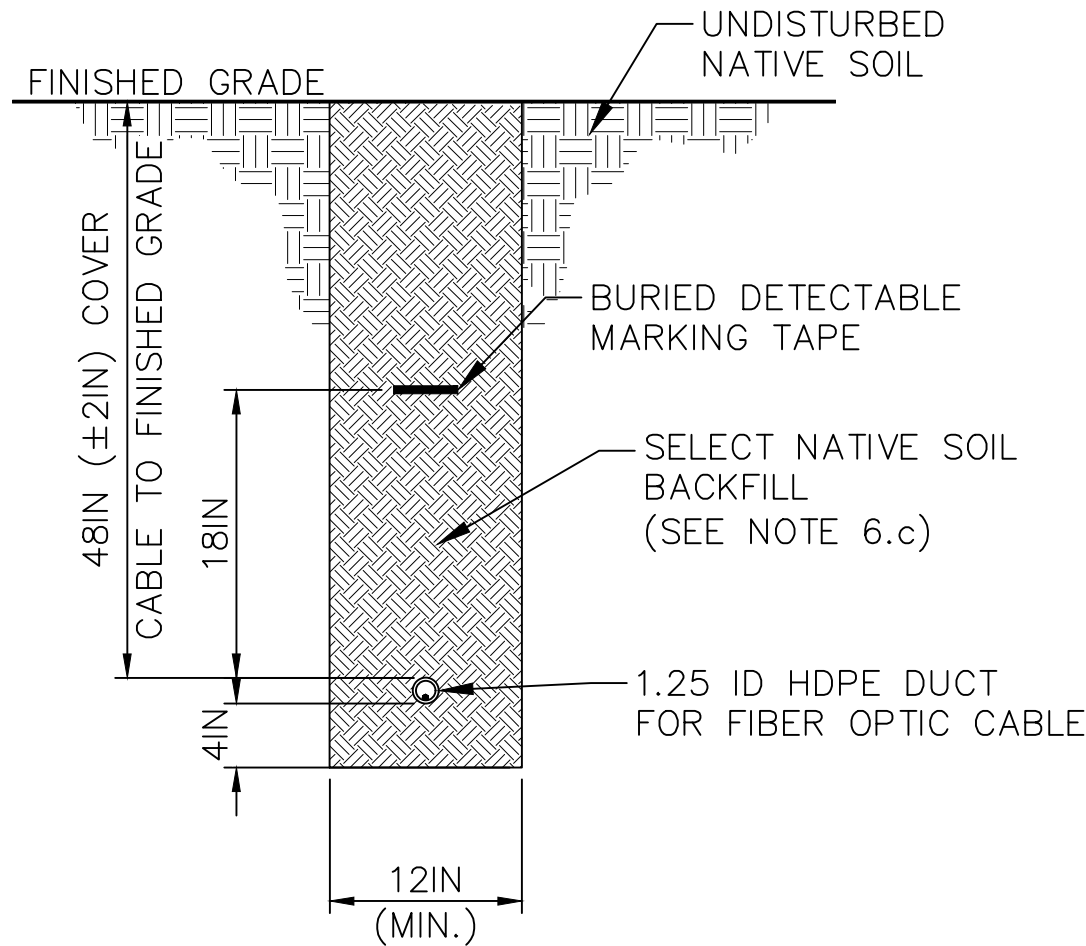
A PRIMARY POWER & COMMUNICATIONS CABLE DITCH
Not to Scale



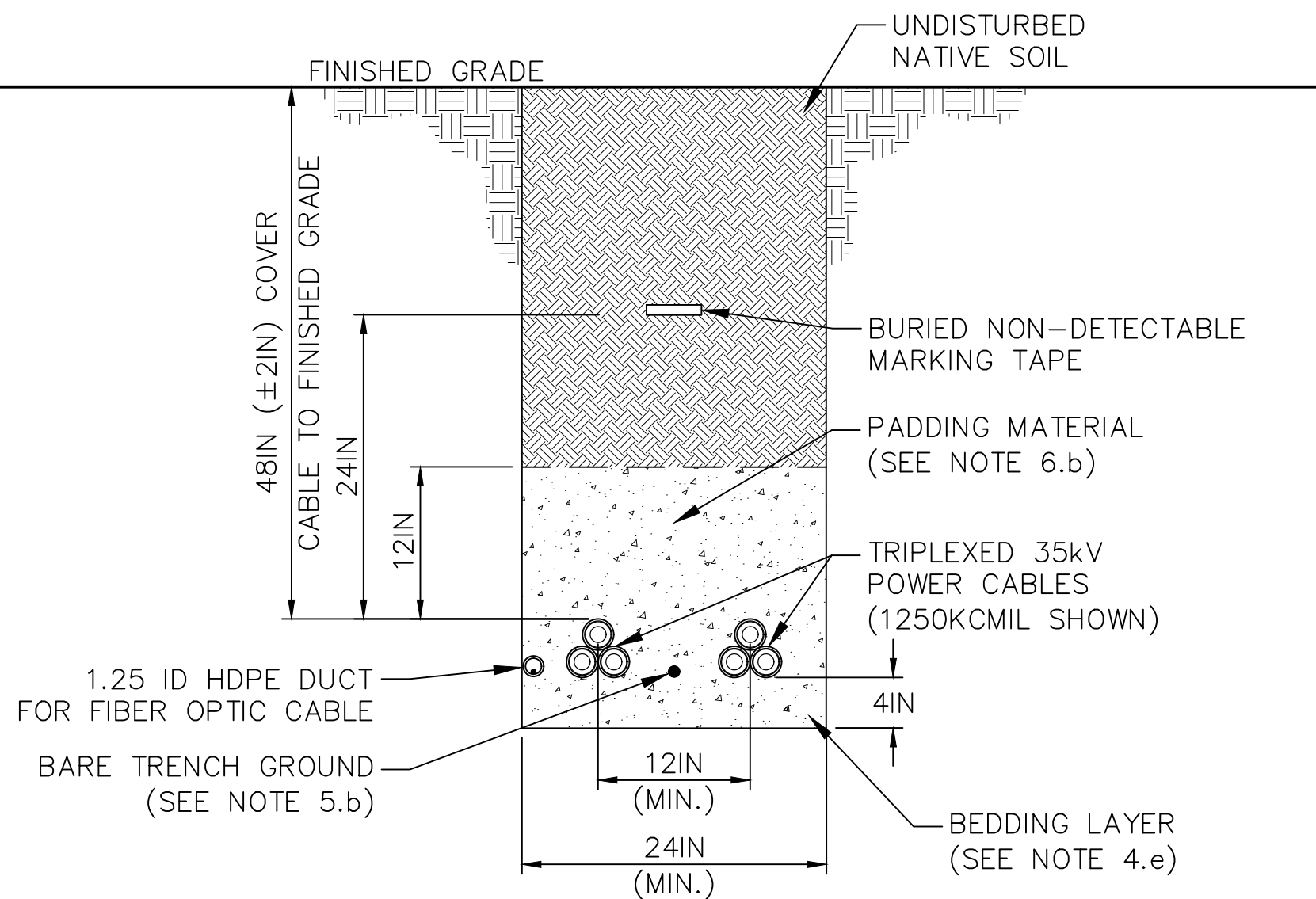
B ALTERNATE POWER & COMMUNICATIONS CABLE DITCH
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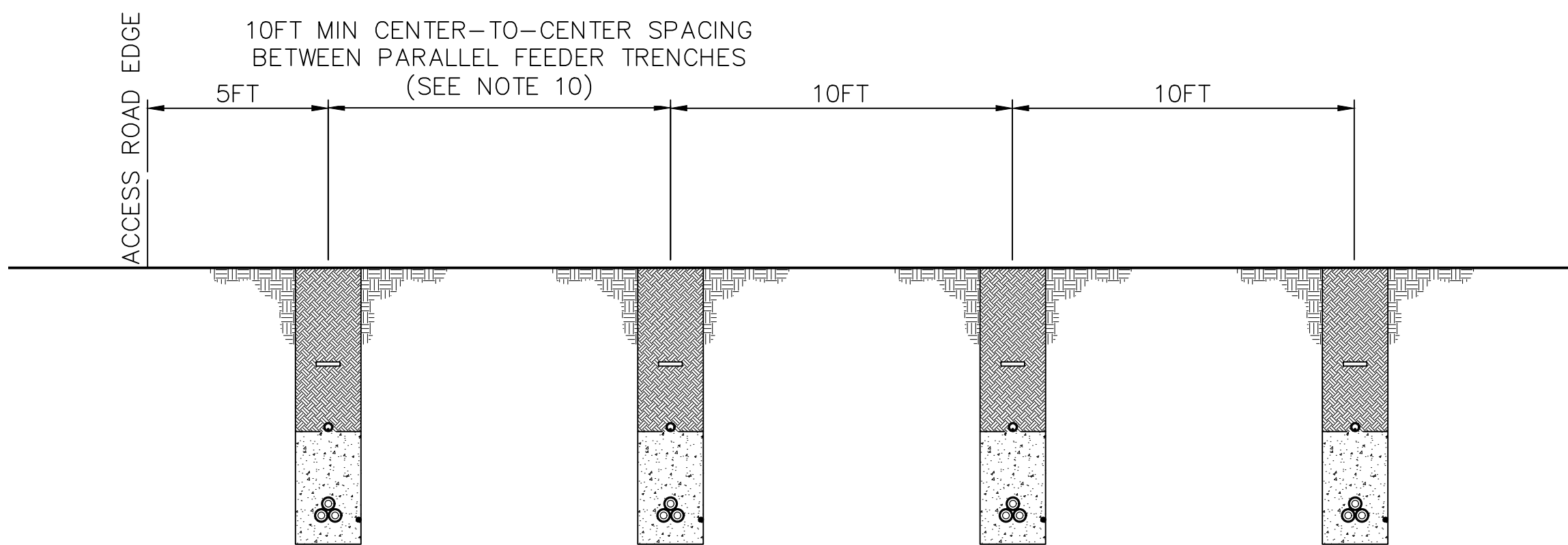
C 3-PHASE POWER ONLY CABLE DITCH
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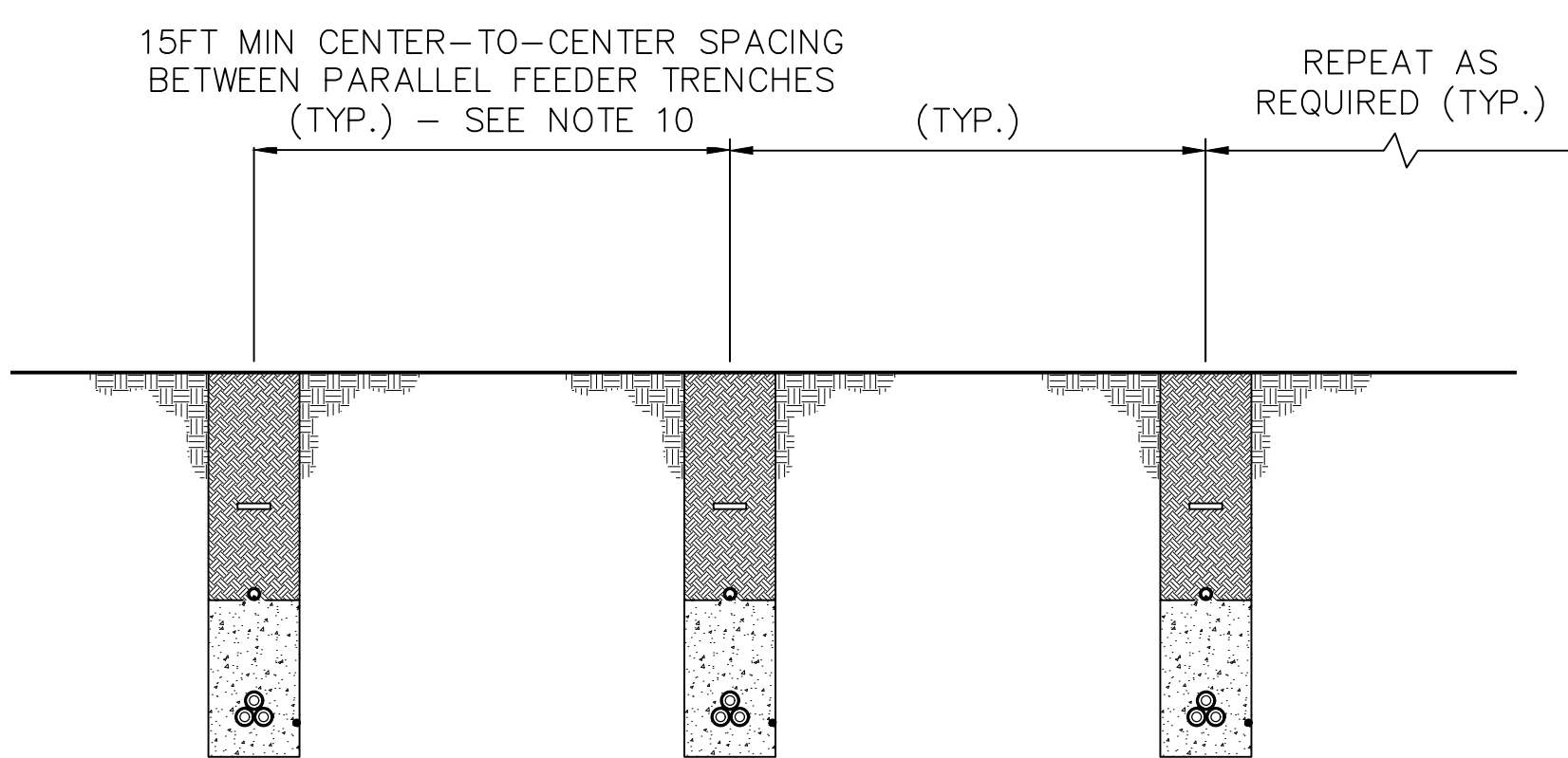
D FIBER ONLY DITCH
Not to Scale



E SECTION - TRENCH TYPE 5
Not to Scale



F PARALLEL HOME RUN TRENCHES
Not to Scale SEE DETAILS A, B AND C FOR DETAILS ON EACH INDIVIDUAL TRENCH



G TYPICAL PARALLEL TRENCHES
Not to Scale SEE DETAILS A, B AND C FOR DETAILS ON EACH INDIVIDUAL TRENCH

NO.	REVISIONS	DATE	BY	CHK	APR
	A				
	B				

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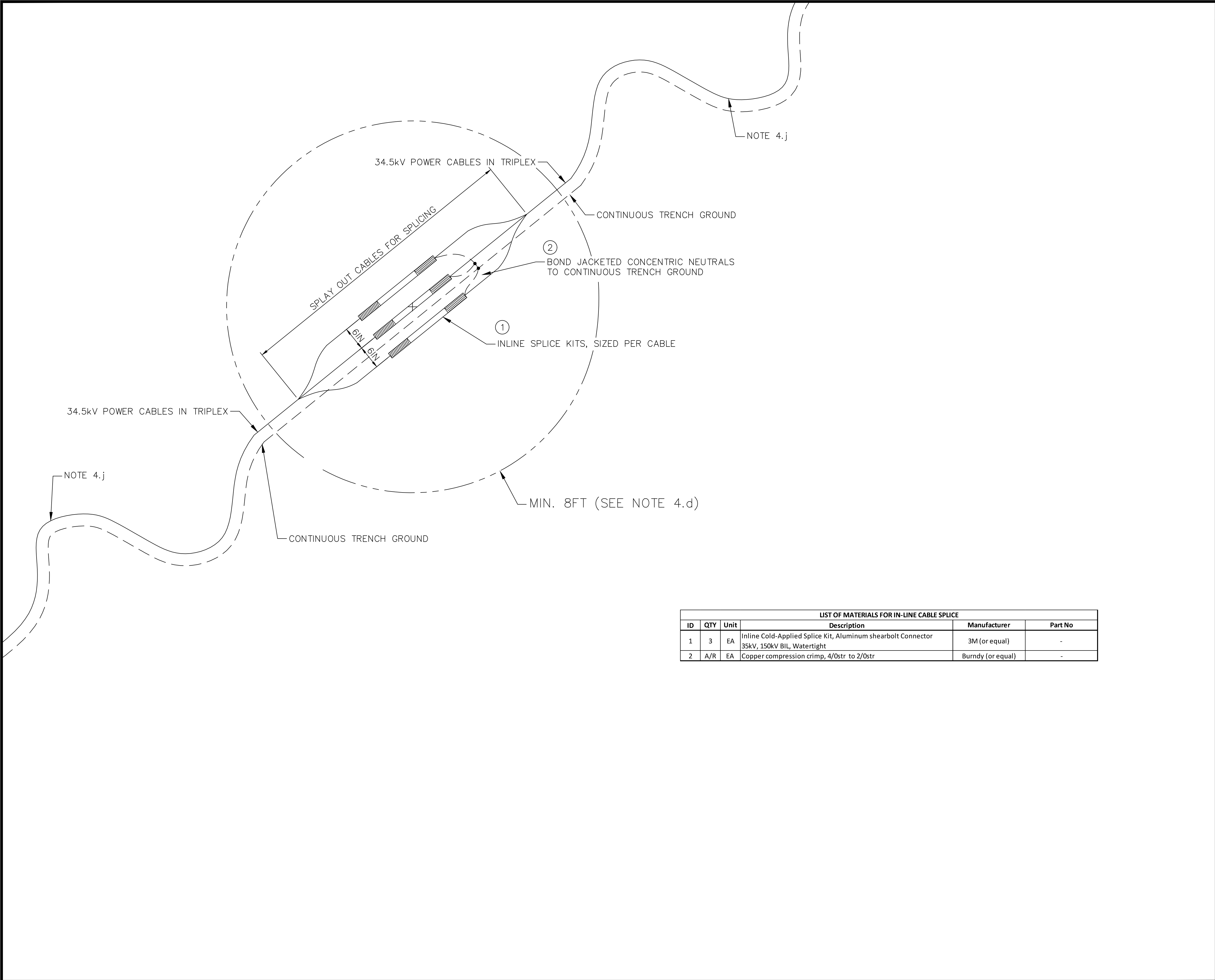


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ENGINEERING RECORD	DATE
DRAWN: J. STRUBLE	02/15/19
DESIGNED: J. STRUBLE	02/15/19
CHECKED: S. AKERS	02/22/19
APPROVED: S. AKERS	02/22/19

MOHAWK SOLAR 34.5KV COLLECTOR SYSTEM AC CABLE TRENCH DETAILS	
CADFILE: MHS-E-520-01.DWG	SCALE:NENTS
DWG.NO: MHS-E-520-01	SHEET 1 OF 1
REV B	



NOTES

1. IN GENERAL, ALL CABLE SPLICING IS PREFERRED TO BE IN ABOVE GROUND SPLICE BOXES. HOWEVER, ON LONG HOME-RUNS, UNDERGROUND SPLICES ARE ALLOWED AS DESCRIBED ON THIS DETAIL. ALSO, IN ORDER TO USE PARTIAL REELS OF 4/0AWG CABLE, UNDERGROUND SPLICES MAY BE INSTALLED BETWEEN THE LAST TWO TURBINES IN A STRING AND MARKED ON THE AS-BUILT DRAWINGS.
2. UNDERGROUND POWER CABLE SPLICES ARE ONLY PERMITTED IN HOME RUNS WHERE THE CABLE RUN EXCEEDS MANUFACTURER’S REEL LENGTH. IN NO CASE MAY UNDERGROUND RUNS EXCEED TWO (2) REEL LENGTHS OR A MAXIMUM DISTANCE OF 7000- FEET BEFORE CABLE IS SPLICED IN AN ABOVE GROUND SPLICE BOX. THE CONTRACTOR SHALL FURNISH AND INSTALL ABOVE-GROUND DEAD-FRONT JUNCTION BOXES (SEE TBD) FOR SPLICING THE MV CABLE WHEN REQUIRED.
3. UNDERGROUND SPLICES MAY ALSO BE INSTALLED WHEN THE UNDERGROUND COLLECTOR SYSTEM IS INSTALLED IN CONDUIT VIA DIRECTIONAL BORING.
4. WHEN REQUIRED AND ALLOWED AS DESCRIBED ABOVE, THE CONTRACTOR SHALL INSTALL DIRECT BURIED INLINE SPLICES AS FOLLOWS:
 - 4.a. WHERE CABLES ARE TO BE SPLICED AN AREA OF SUFFICIENT SIZE MUST BE EXCAVATED TO PROVIDE ENVIRONMENTAL CONTROLS AS NEEDED.
 - 4.b. ALL 3 PHASES SHALL BE SPLICED AT THE SAME LOCATION.
 - 4.c. AFTER CABLE IS CUT, A WATER-TIGHT PROTECTIVE SEAL MUST BE APPLIED TO EXPOSED ENDS TO PREVENT DIRT AND MOISTURE FROM ENTERING THE CABLE.
 - 4.d. A PLASTIC TARP SHALL BE PLACED UNDER THE CABLE COVERING AN AREA OF AT LEAST 8 FEET IN DIAMETER MEASURED FORM THE SPLICING LOCATION.
 - 4.e. A PROTECTIVE TENT MUST BE ERECTED AROUND THE SPLICING LOCATION. THE PROTECTIVE TENT SHALL BE LARGE ENOUGH TO COMPLETELY COVER THE TARPED AREA UNDER AND AROUND THE SPLICE LOCATION. THE PROTECTIVE TENT SHALL HAVE ADEQUATE SEALS TO ALLOW NO DUST OR PRECIPITATION TO BLOW INTO THE SPLICING AREA.
 - 4.f. IF THE TEMPERATURE AT THE SPLICING LOCATION IS BELOW 40°F A HEAT SOURCE SHALL BE LOCATED AT THE SPLICING LOCATION TO HEAT THE PROTECTIVE TENT TO 45°F OR MORE.
 - 4.g. THE SPLICE SHALL BE INSTALLED PER MANUFACTURER INSTRUCTIONS AND TRAINING USING APPROVED COLDSHRINK MATERIALS. ALL PERSONNEL INSTALLING SPLICES SHALL HAVE COMPLETED MANUFACTURER TRAINING FOR THE SPECIFIC SPLICES TO BE INSTALLED WITHIN 6-MONTHS PRIOR TO INSTALLING THE SPLICE. CERTIFICATION DOCUMENTATION FOR EACH PERSON INSTALLING SPLICES SHALL BE MADE AVAILABLE TO THE OWNER.
 - 4.h. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING TERMINATIONS, CABLE OR SPLICES THAT DO NOT PASS QUALITY CONTROL TESTING OR MEET IEEE STANDARDS.
 - 4.i. ~~SPLICING OF TWO DIFFERENT SIZES OF CABLE IS FORBIDDEN.~~
 - 4.j. THE CONTRACTOR SHALL INSTALL A MINIMUM OF 12 FEET OF EXCESS CABLE, PER END, AT EACH SPLICE LOCATION FOR POSSIBLE FUTURE REPAIR AND RE-TERMINATION. THE CONTRACTOR SHALL LAY THIS EXCESS SLACK IN "S" CURVES WITHIN THE EXCAVATED AREA AND THEN BACKFILL ALL EXCAVATION TO THE SAME SPECS AS TRENCH BACKFILL NOTED ON SHEET 1.
5. A SPLICE LOCATOR BALL SHALL BE BURIED DIRECTLY OVER EVERY SPLICE LOCATION. THE SPLICE LOCATORS MUST BE DESIGNED TO BE LOCATED USING ELECTRONIC EQUIPMENT. GPS COORDINATES SHALL BE RECORDED AND DOCUMENTED AT EACH SPLICE LOCATION. THE LOCATION SHALL BE MARKED ON THE AS BUILT DRAWINGS WITH COORDINATES.
6. REGARDING BACKFILL OF EXCAVATED AREAS:
 - 6.a. THE FIRST 12 INCHES OF BACKFILL ABOVE THE CABLE SHALL BE SELECT NATIVE MATERIAL WITH NO ROCKS, ROOTS, OR OTHER MATERIAL LARGER THAN WOULD PASS THROUGH A 3/8-INCH SCREEN AND SHOULD HAVE SUFFICIENT FINES TO ELIMINATE ANY VOIDS IN THE BACKFILL.
 - 6.b. THE REMAINING BACKFILL ABOVE THE FIRST 12-INCHES OF COVER SHALL BE SELECT NATIVE MATERIALS WITH NO ROCKS, ROOTS, OR OTHER MATERIAL LARGER THAN 4-INCHES AND SHALL HAVE SUFFICIENT FINES TO ELIMINATE ANY VOIDS IN THE BACKFILL PROCESS.
 - 6.c. ALL EXCAVATED AREAS ARE TO BE BACKFILLED BACK TO PRE-CONSTRUCTION GRADE WITH WITH SELECT NATIVE MATERIALS AND TOPSOIL AND COMPACTED TO 85% OF MAXIMUM DENSITY OR 105 PCF.
7. EFFECTIVELY GROUND THE JACKETED CONCENTRIC NEUTRALS WHEREVER THE CN'S ARE EXPOSED TO CONTACT BY PERSONNEL. THIS INCLUDES ALL CABLE TERMINATION, JUNCTION, AND SPLICE LOCATIONS.

LIST OF MATERIALS FOR IN-LINE CABLE SPLICE					
ID	QTY	Unit	Description	Manufacturer	Part No
1	3	EA	Inline Cold-Applied Splice Kit, Aluminum shearbolt Connector 35kv, 150kv BIL, Watertight	3M (or equal)	-
2	A/R	EA	Copper compression crimp, 4/0str to 2/0str	Burndy (or equal)	-

CONCEPTUAL - NOT FOR CONSTRUCTION

NO. REVISIONS					DATE	BY	CHK	APR	NO. REVISIONS					DATE	BY	CHK	APR
									A	ISSUED FOR REVIEW				12/19/18	JSS	SRA	SRA
									B	ISSUED FOR REVIEW				02/22/19	JSS	SRA	SRA

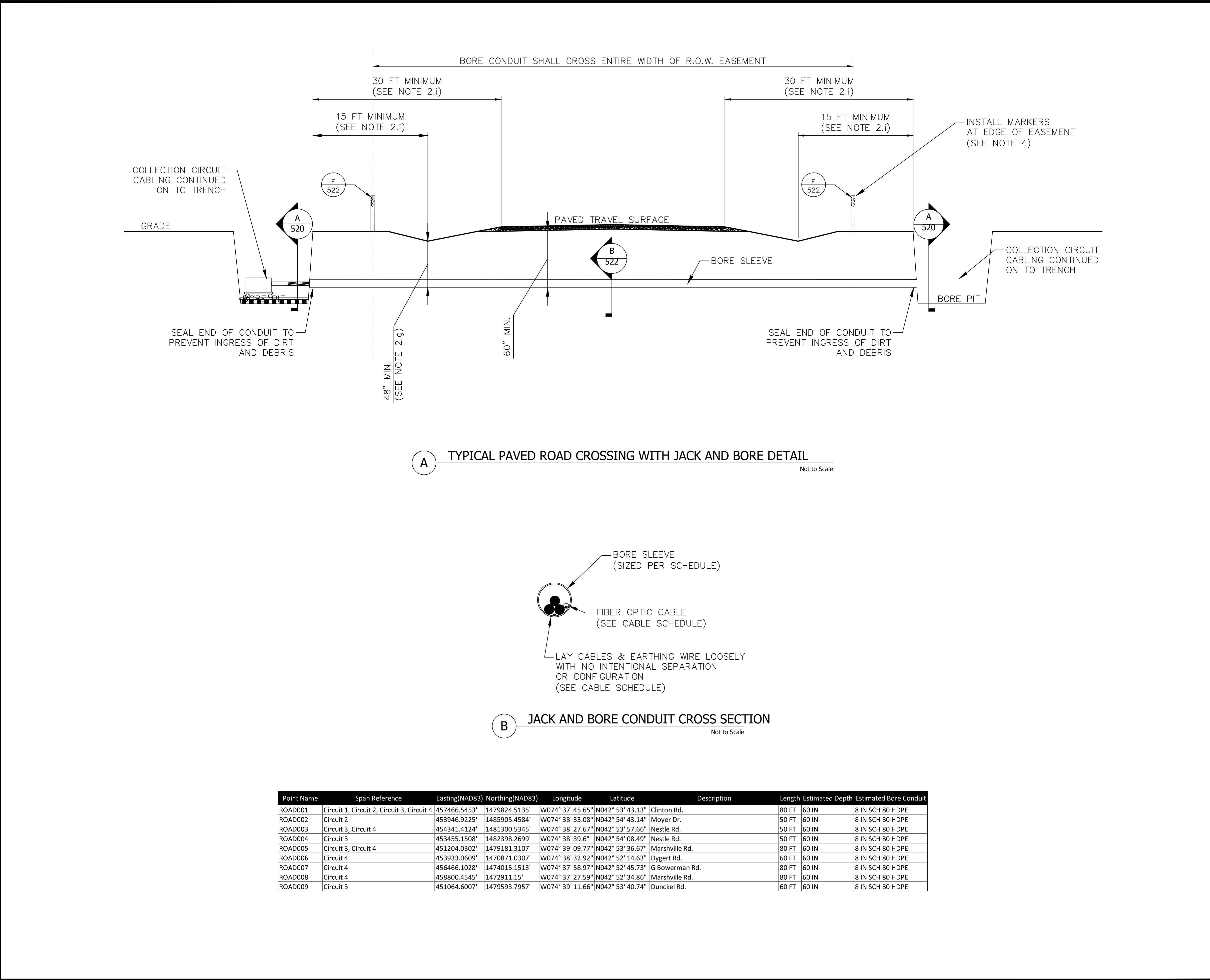


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ENGINEERING RECORD	DATE	MOHAWK SOLAR 34.5KV COLLECTOR SYSTEM CABLE SPLICING DETAILS		
DRAWN: J. STRUBLE	02/15/19			
DESIGNED: J. STRUBLE	02/15/19			
CHECKED: S.AKERS	02/22/19			
APPROVED: S.AKERS	02/22/19			
CADFILE: MHS-E-521-01.DWG	SCALE:NTS	DWG.NO: MHS-E-521-01	SHEET 1 OF 1	REV B



A TYPICAL PAVED ROAD CROSSING WITH JACK AND BORE DETAIL
Not to Scale

B JACK AND BORE CONDUIT CROSS SECTION
Not to Scale

Point Name	Span Reference	Easting(NAD83)	Northing(NAD83)	Longitude	Latitude	Description	Length	Estimated Depth	Estimated Bore Conduit
ROAD001	Circuit 1, Circuit 2, Circuit 3, Circuit 4	457466.5453'	1479824.5135'	W074° 37' 45.65"	N042° 53' 43.13"	Clinton Rd.	80 FT	60 IN	8 IN SCH 80 HDPE
ROAD002	Circuit 2	453946.9225'	1485905.4584'	W074° 38' 33.08"	N042° 54' 43.14"	Moyer Dr.	50 FT	60 IN	8 IN SCH 80 HDPE
ROAD003	Circuit 3, Circuit 4	454341.4124'	1481300.5345'	W074° 38' 27.67"	N042° 53' 57.66"	Nestle Rd.	50 FT	60 IN	8 IN SCH 80 HDPE
ROAD004	Circuit 3	453455.1508'	1482398.2699'	W074° 38' 39.6"	N042° 54' 08.49"	Nestle Rd.	50 FT	60 IN	8 IN SCH 80 HDPE
ROAD005	Circuit 3, Circuit 4	451204.0302'	1479181.3107'	W074° 39' 09.77"	N042° 53' 36.67"	Marshville Rd.	80 FT	60 IN	8 IN SCH 80 HDPE
ROAD006	Circuit 4	453933.0609'	1470871.0307'	W074° 38' 32.92"	N042° 52' 14.63"	Dygert Rd.	60 FT	60 IN	8 IN SCH 80 HDPE
ROAD007	Circuit 4	456466.1028'	1474015.1513'	W074° 37' 58.97"	N042° 52' 45.73"	G Bowerman Rd.	80 FT	60 IN	8 IN SCH 80 HDPE
ROAD008	Circuit 4	458800.4545'	1472911.15'	W074° 37' 27.59"	N042° 52' 34.86"	Marshville Rd.	80 FT	60 IN	8 IN SCH 80 HDPE
ROAD009	Circuit 3	451064.6007'	1479593.7957'	W074° 39' 11.66"	N042° 53' 40.74"	Dunckel Rd.	60 FT	60 IN	8 IN SCH 80 HDPE

NOTES

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- SPECIAL NOTE:
REFER TO 17 CRR-NY131.9 DEPTH OF BURY AND VERTICAL AND LATERAL CLEARANCES, AND 17 CRR-NY131.19 UNDERGROUND WORK.

CONCEPTUAL - NOT FOR CONSTRUCTION

NO.	REVISIONS	DATE	BY	CHK	APR	NO.	REVISIONS	DATE	BY	CHK	APR	ENGINEERING RECORD	DATE	MOHAWK SOLAR 34.5KV COLLECTION SYSTEM ROAD CROSSING DETAILS		
						A	ISSUED FOR REVIEW	11/26/18	EA	SA	SA	DRAWN: J. STRUBLE	02/15/19			
						B	ISSUED FOR REVIEW	12/19/18	JSS	SRA	SRA	DESIGNED: J. STRUBLE	02/15/19			
						C	ISSUED FOR REVIEW	02/22/19	JSS	SRA	SRA	CHECKED: S.AKERS	06/03/19			
						D	ISSUED FOR REVIEW	06/03/19	JSS	SRA	SRA	APPROVED: S.AKERS	06/03/19			
												CADFILE: MHS-E-522-01.DWG	SCALE:NITS	DWG.NO: MHS-E-522-01	SHEET 1 OF 4	REV. D

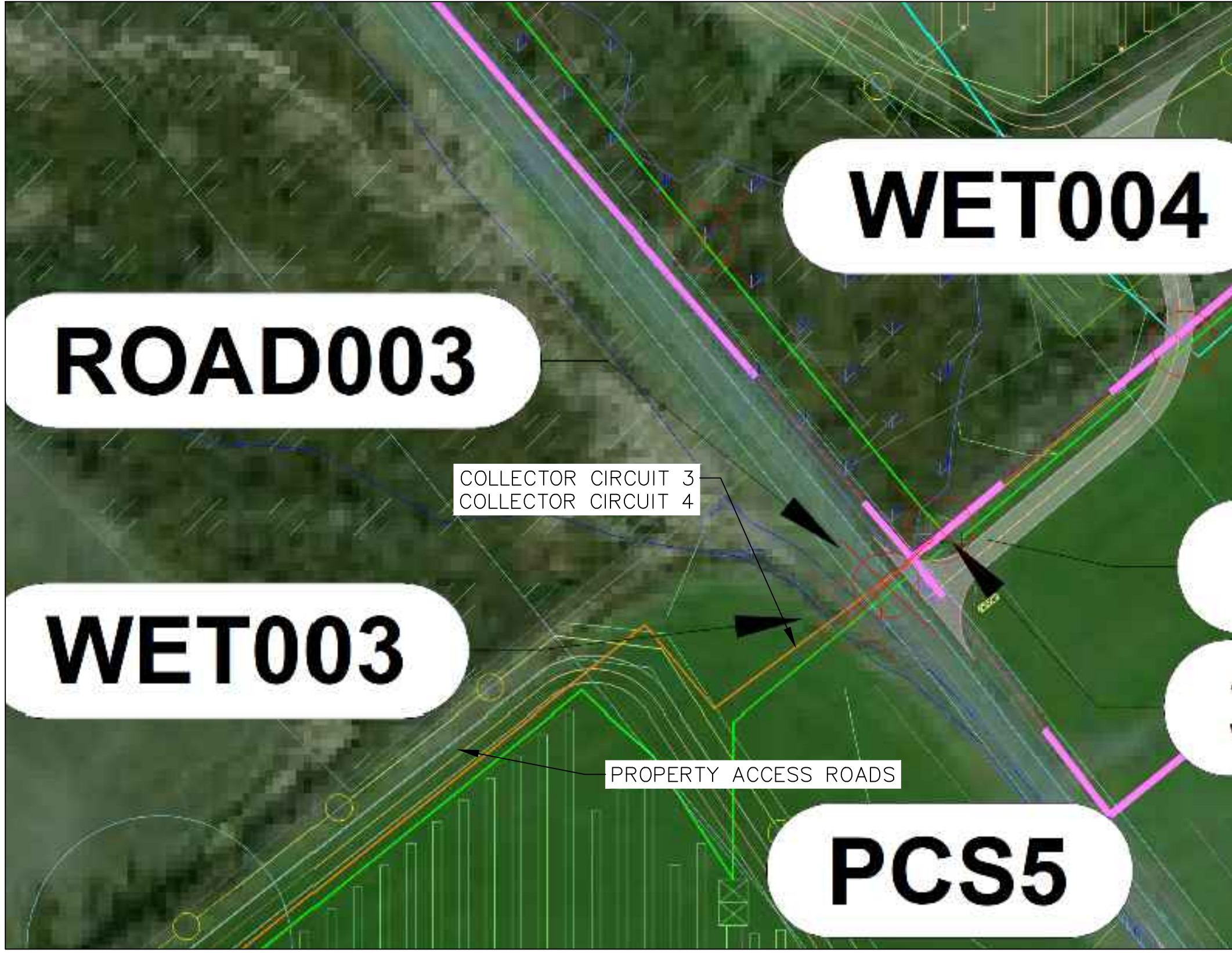




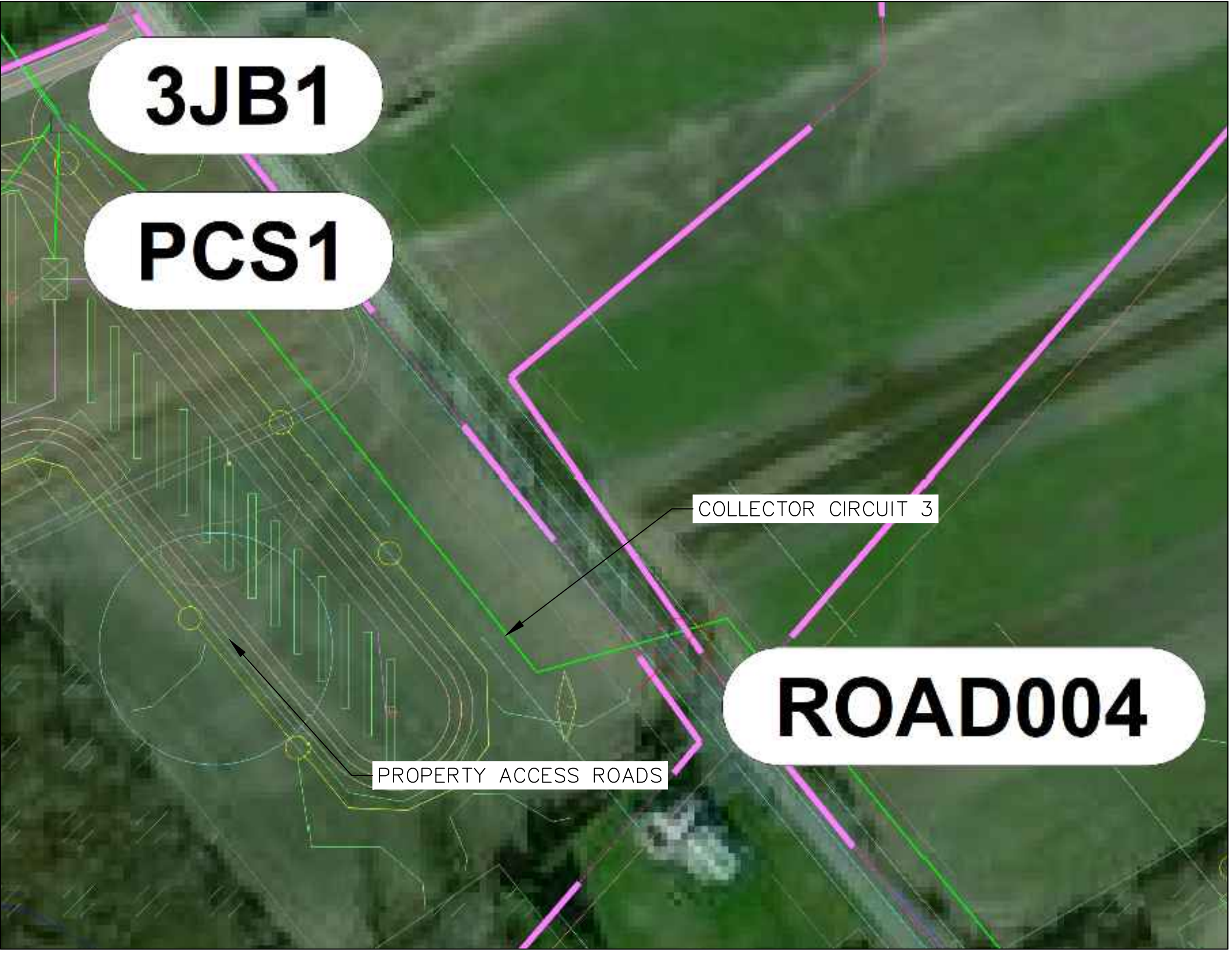
1 ROAD CROSSING 1 - PLAN VIEW



2 ROAD CROSSING 2 - PLAN VIEW



3 ROAD CROSSING 3 - PLAN VIEW



4 ROAD CROSSING 4 - PLAN VIEW

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CONCEPTUAL - NOT FOR CONSTRUCTION

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5 ROAD CROSSING 5 - PLAN VIEW



6 ROAD CROSSING 6 - PLAN VIEW



7 ROAD CROSSING 7 - PLAN VIEW



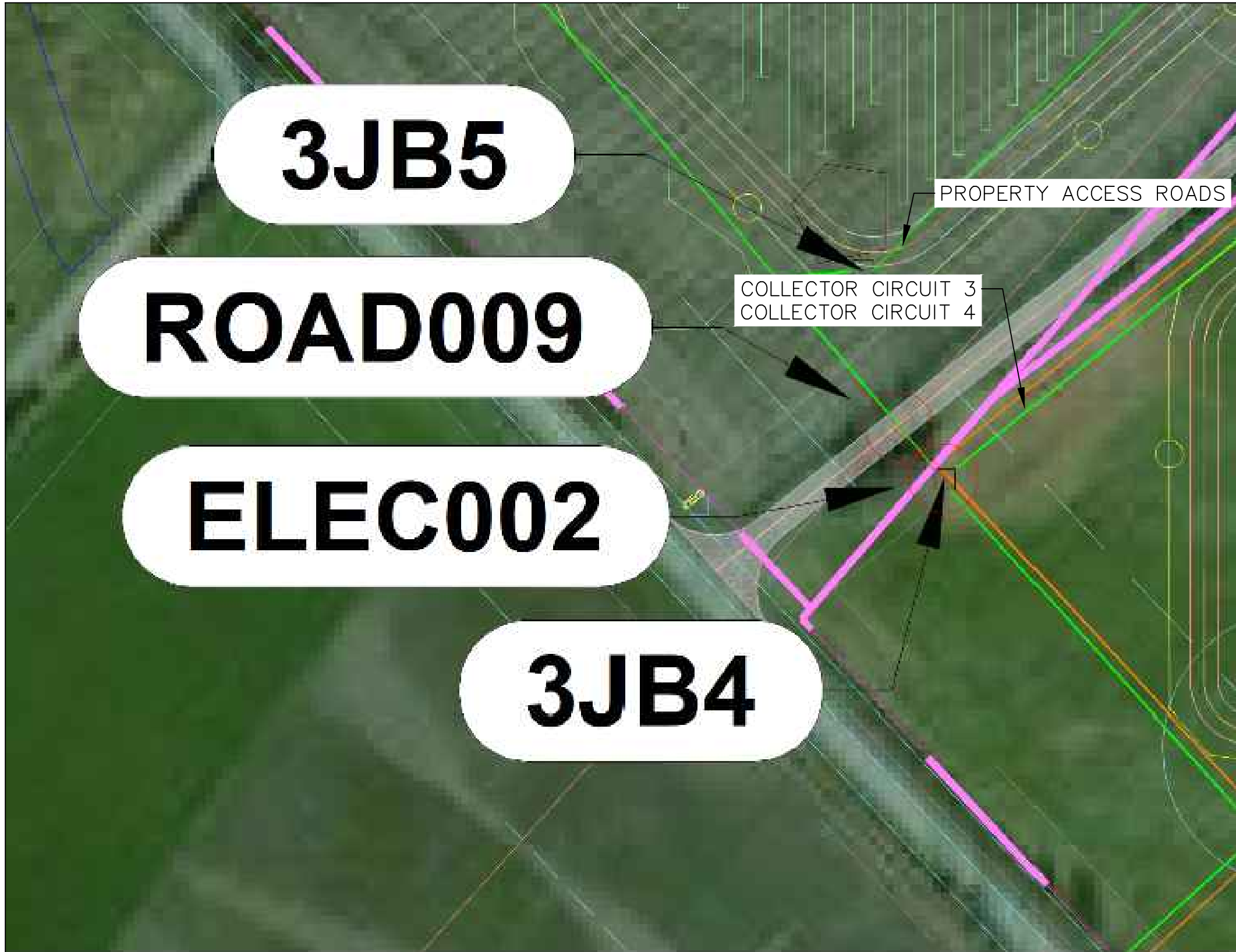
8 ROAD CROSSING 8 - PLAN VIEW

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 - 6. NO DIGGING OR EQUIPMENT WILL BE PERMITTED IN CENTER MEDIANS OR DITCH LINES OR ROAD R.O.W. WITHOUT WRITTEN PERMISSION FROM THE EASEMENT OWNER.
- SPECIAL NOTE:
REFER TO 17 CRR-NY131.9 DEPTH OF BURY AND VERTICAL AND LATERAL CLEARANCES, AND 17 CRR-NY131.19 UNDERGROUND WORK.

CONCEPTUAL - NOT FOR CONSTRUCTION

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9 ROAD CROSSING 9 - PLAN VIEW

NOTES

1. CONTRACTOR SHALL CONTACT LOCAL ONE CALL UTILITY LOCATING SERVICES, PRIOR TO EXCAVATION.
2. REGARDING PAVED ROAD UNDERGROUND POWER CABLE CROSSINGS:

2.a. WHEN MV COLLECTION CIRCUITS CROSS UNDER PAVED ROADS, THESE CABLES SHALL BE INSTALLED IN CONDUIT VIA HORIZONTAL DIRECTIONAL BORING (HDB) UNDER THE ROADWAY.

2.b. A #4/0 AWG BARE COPPER GROUND WIRE SHALL BE INSTALLED WITH EACH POWER CIRCUIT IN THE SAME CONDUIT.

2.c. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PREPARE DRAWINGS OR SKETCHED DETAILS OF THE CABLE CROSSING AS PART OF THE PERMIT APPLICATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING FOR AND SECURING ANY AND ALL PERMITS AND PERMIT PAYMENTS AND/OR APPLICATION FEES.

2.d. THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE OWNER OF ALL CROSSING CONSTRUCTION METHODS.

2.e. THE CONTRACTOR SHALL COMPLY WITH ANY SPECIFIC AGREEMENTS AND PERMITS OBTAINED FROM ROAD OWNER/OPERATOR. IN THE CASE THAT THIS DOCUMENT CONFLICTS WITH THESE SPECIFIC AGREEMENTS AND/OR PERMITS, THE CONTRACTOR SHALL COMPLY WITH THE AGREEMENTS/PERMITS AND NOTIFY THE ENGINEER OF RECORD OF THE CONFLICT.

2.f. THE CONTRACTOR MAY UTILIZE A SINGLE SPLICE ON ONE SIDE OF THE CROSSING. THE SPLICE MUST BE PLACE OUTSIDE OF THE RIGHT-OF-WAY, EASEMENT, OR ANY OTHER PROPERTY SETBACKS FOR FUTURE ACCESS.

2.g. THE CONTRACTOR SHALL MAINTAIN A MINIMUM DEPTH of 48-INCHES TO THE TOP OF CONDUIT AND BELOW THE LOWEST GRADE IN THE RIGHT-OF-WAY AT THE CROSSING LOCATION.

2.h. CABLES SHALL BE WRAP-TIED IN TREFOIL CONFIGURATION AT LEAST EVERY 10' THROUGHOUT THE ENTIRE BORE CONDUIT.

2.i. IN THE INTEREST OF SAFETY, THE FACE OF THE BORE PIT SHALL BE NO CLOSER THAN 15' TO THE BOTTOM OF THE ROADWAY EMBANKMENT (OR DITCH FLOW LINE) AND/OR NO CLOSER THAN 30' TO THE EDGE OF THE TRAVELED SURFACE, UNLESS OTHERWISE SPECIFIED OR DIRECTED BY THE STATE/LOCAL AUTHORITY REGULATIONS OR DISCRETION.
3. REGARDING UNPAVED OR GRAVEL ROAD CROSSINGS:

3.a. REFER TO DETAIL "F" ON MHK-E-520-01 FOR MORE INFORMATION ABOUT CUTTING TRENCHES THROUGH GRAVEL OR UNPAVED ROADS.

3.b. DISTURBED PORTIONS OF THE ROADWAY SHALL BE RESTORED TO ORIGINAL CONDITION AS DESCRIBED IN THE TRENCH DETAIL DRAWINGS.

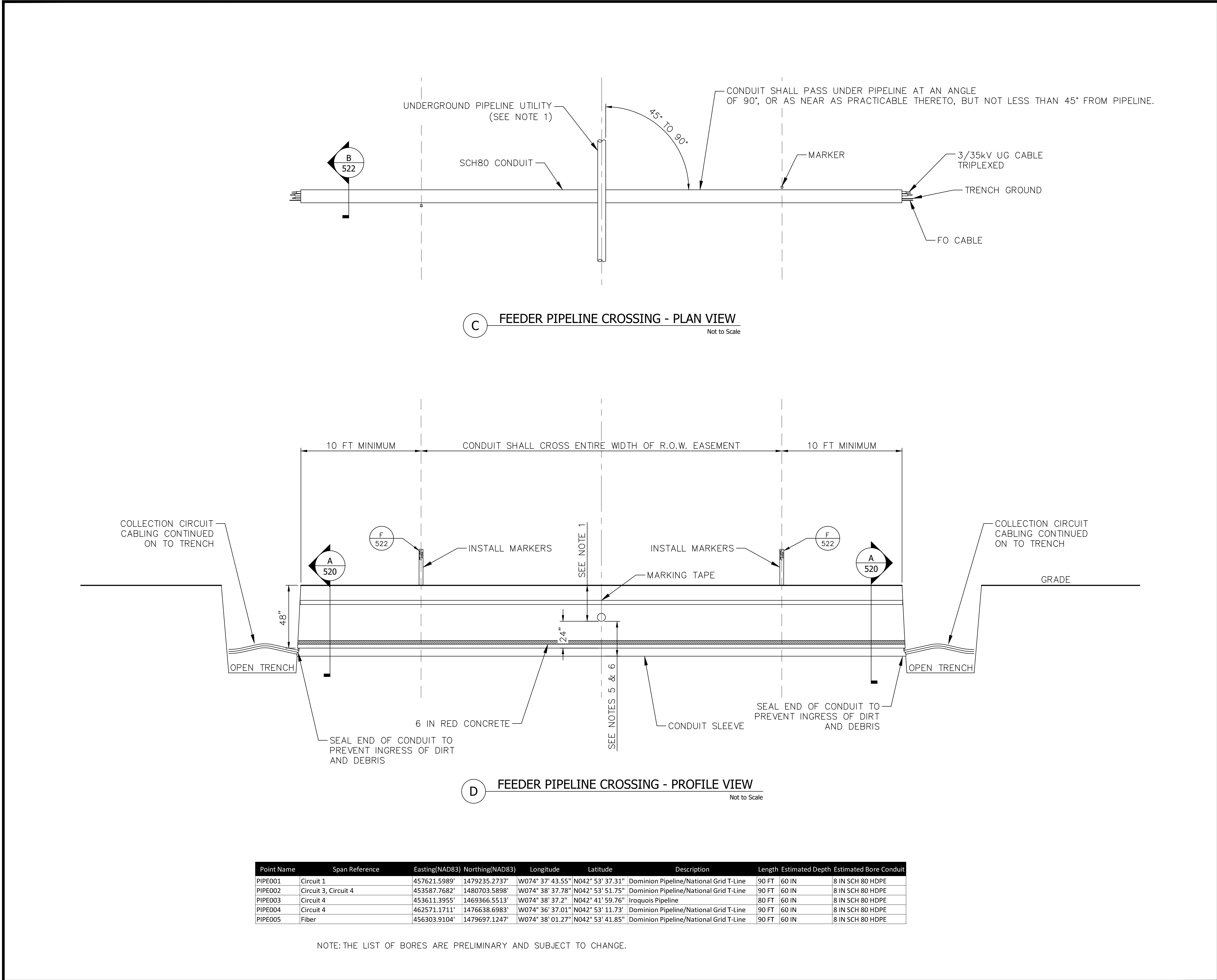
3.c. CARE SHALL BE TAKEN NOT TO DAMAGE CABLE DURING COMPACTION OF GRAVEL.
4. PERMANENT ABOVE GROUND MARKERS IDENTIFYING UNDERGROUND CROSSING POWER CABLES SHALL BE INSTALLED AND MAINTAINED AT BOTH EDGES OF THE ROW EASEMENT.
5. IN THE INTEREST OF SAFETY, TRENCHING AND THE PARKING OF EQUIPMENT SHOULD BE PERFORMED AS FAR AS POSSIBLE FROM TRAFFIC LANES.
6. NO DIGGING OR EQUIPMENT WILL BE PERMITTED IN CENTER MEDIANS OR DITCH LINES OR ROAD R.O.W. WITHOUT WRITTEN PERMISSION FROM THE EASEMENT OWNER.
- SPECIAL NOTE:

REFER TO 17 CRR-NY131.9 DEPTH OF BURY AND VERTICAL AND LATERAL CLEARANCES, AND 17 CRR-NY131.19 UNDERGROUND WORK.

CONCEPTUAL - NOT FOR CONSTRUCTION

NO.					REVISIONS					DATE	BY	CHK	APR	NO.					REVISIONS					DATE	BY	CHK	APR	 <div>M MOTT MACDONALD</div>								ENGINEERING RECORD		DATE	MOHAWK SOLAR 34.5KV COLLECTION SYSTEM ROAD CROSSING DETAILS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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NOTES

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2. ALL PIPELINE CROSSINGS SHALL COMPLY WITH SPECIFIC AGREEMENTS AND PERMITS WITH PIPELINE OWNER/OPERATOR. IN THE CASE THAT THIS DOCUMENT CONFLICTS WITH THESE SPECIFIC AGREEMENTS AND/OR PERMITS, THE CONTRACTOR SHALL COMPLY WITH THE AGREEMENTS/PERMITS AND NOTIFY THE OWNER OF THE CONFLICT.

3. PERMANENT ABOVE GRADE ROUTE MARKERS SHALL BE INSTALLED AND MAINTAINED AT THE LIMITS OF THE PIPELINE EASEMENT UNLESS THE CROSSING IS IN A CULTIVATED FIELD. IF CROSSING IS IN A CULTIVATED FIELD, THEN UNDERGROUND EXTENDED-RANGE MARKER BALLS SHALL BE INSTALLED.

4. EACH INSTALLED CROSSING SHALL BE ENCASED THROUGHOUT THE WIDTH OF THE PIPELINE UTILITY EASEMENT.

5. CONTRACTOR SHALL PROVIDE AND INSTALL A PLASTIC WARNING TAPE 18 INCHES BELOW GRADE.

6. CONTRACTOR SHALL MAINTAIN A SEPARATION OF NOT LESS THAN 24 INCHES WHEN PARALLELING GAS, WATER, OIL, OR OTHER PIPELINE SYSTEMS AND NOT LESS THAN 24 INCHES WHEN CROSSING THESE PIPELINE SYSTEMS BETWEEN THE BOTTOM OF THE PIPELINE SYSTEM AND THE TOP OF THE COLLECTION SYSTEM INSTALLATION CONDUIT, UNLESS OTHERWISE SPECIFICALLY AGREED UPON AND NOTED BY AVANGRID AND THE PIPELINE UTILITY PRIOR TO CONSTRUCTION.

7. COLLECTION SYSTEM CABLES SHALL BE SEPARATED FROM GAS TRANSMISSION LINES BY A CLEARANCE OF NOT LESS THAN 24 INCHES. IF THIS CLEARANCE CANNOT BE ATTAINED, THE GAS TRANSMISSION LINE SHALL BE PROTECTED FROM DAMAGE THAT MIGHT RESULT FROM THE PROXIMITY OF THE COLLECTION SYSTEM CABLES.

8. A THREE PHASE SPLICE CAN BE INSTALLED ON EITHER SIDE OF THE CROSSING FOR PULLING THROUGH THE CONDUIT. ALL SPLICES TO BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.

9. THE BORE LENGTH IN THE TABLE CORRESPONDS TO THE DOMINION PIPELINE AS WELL AS THE NATIONAL GRID TRANSMISSION LINE BECAUSE THEY RUN PARALLEL IN THE SAME CORRIDOR.

CONCEPTUAL - NOT FOR CONSTRUCTION

ENGINEERING RECORD

DATE

DRAWN: J. STRUBLE

02/15/19

DESIGNED: J. STRUBLE

02/15/19

CHECKED: S.AKERS

06/03/19

APPROVED: S.AKERS

06/03/19

CADFILE: MHS-E-522-02.DWG

SCALE:N/T/S

DWG.NO: MHS-E-522-02

SHEET 1 OF 3

REV. D

MOHAWK SOLAR

34.5KV COLLECTION SYSTEM

PIPELINE/T-LINE ROW CROSSING DETAILS

NO.

REVISIONS

DATE

BY

CHK

APR

NO.

REVISIONS

DATE

BY

CHK

APR

11/26/18

EA

SA

SA

12/19/18

JSS

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02/22/19

JSS

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06/03/19

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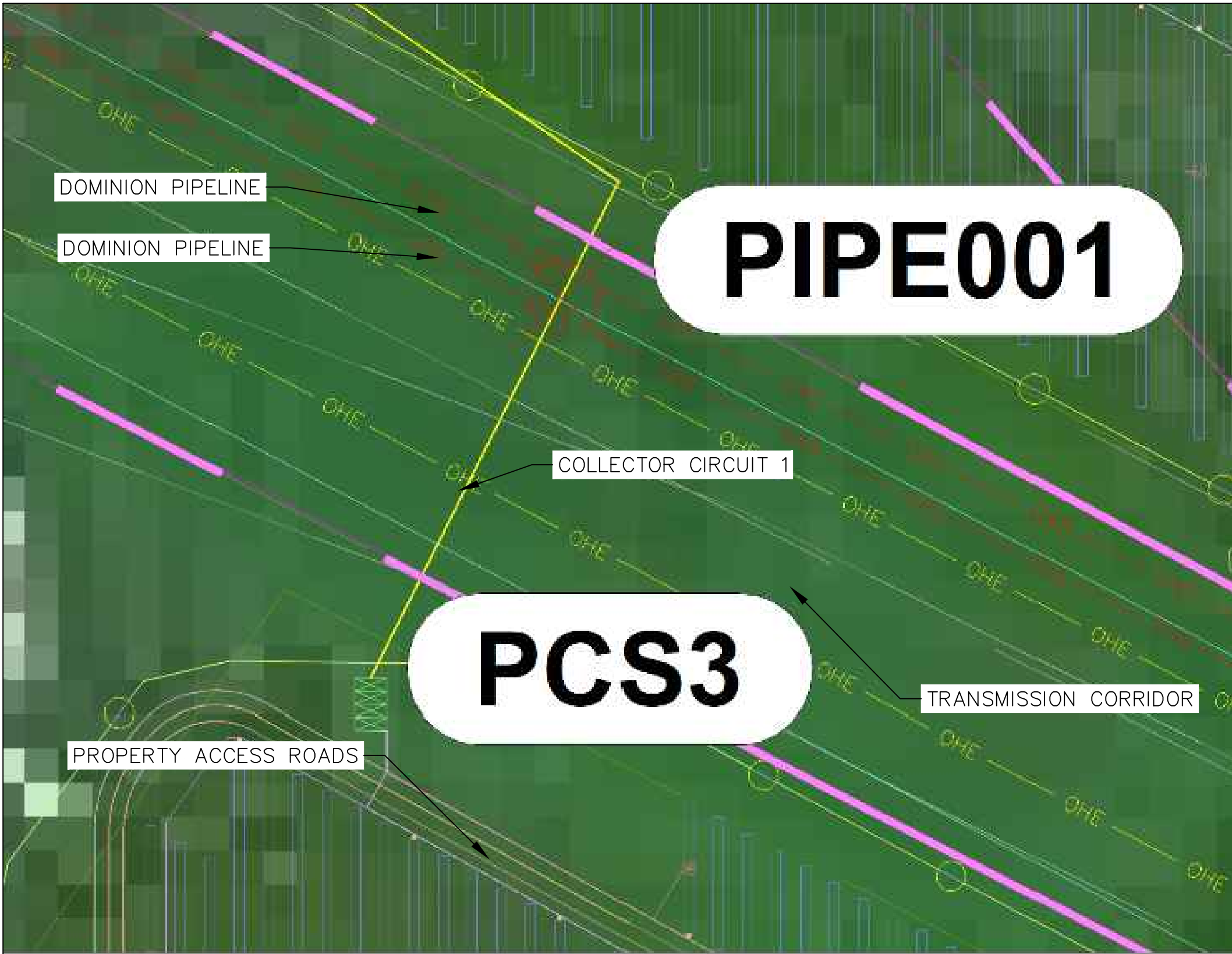
RENEWABLES

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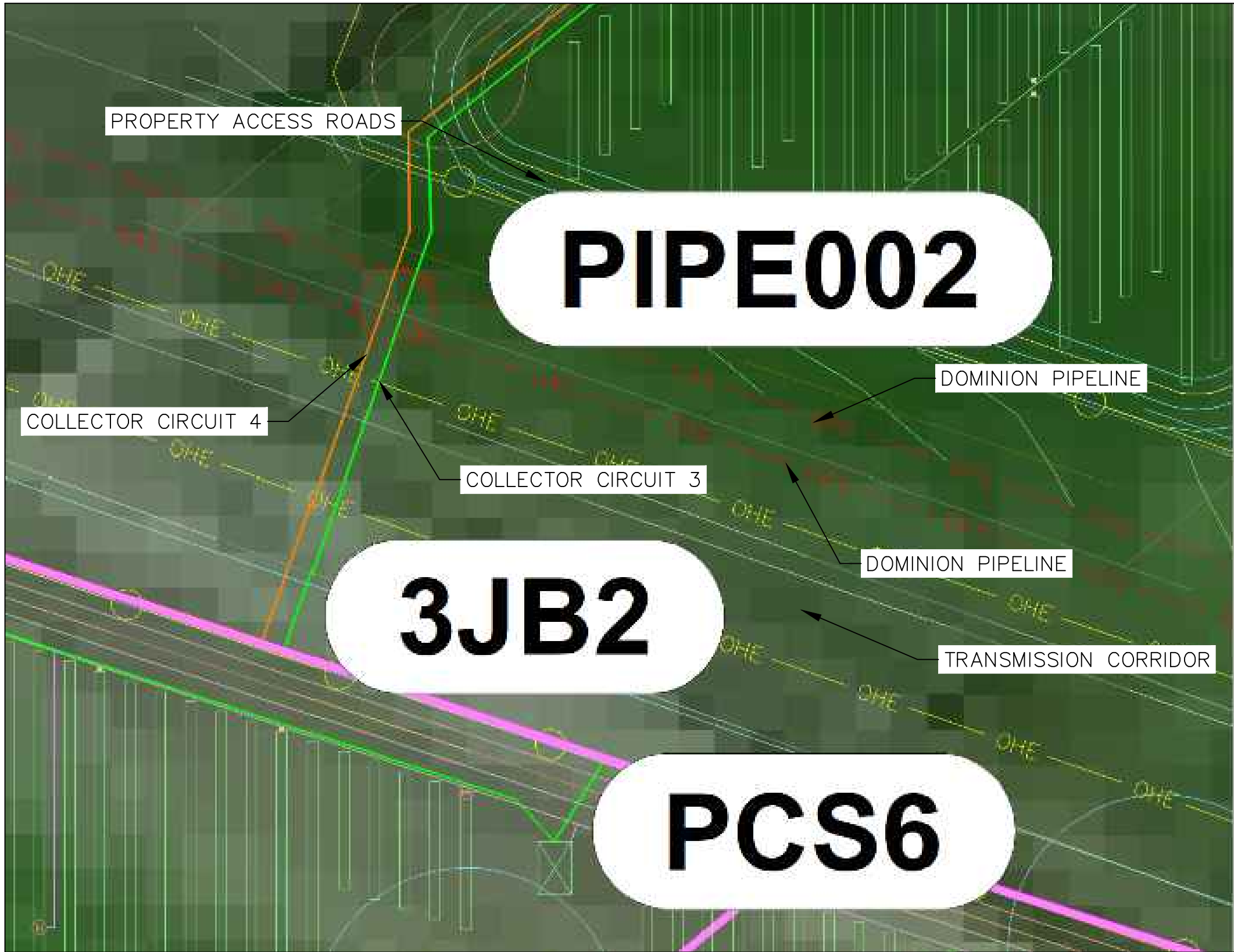
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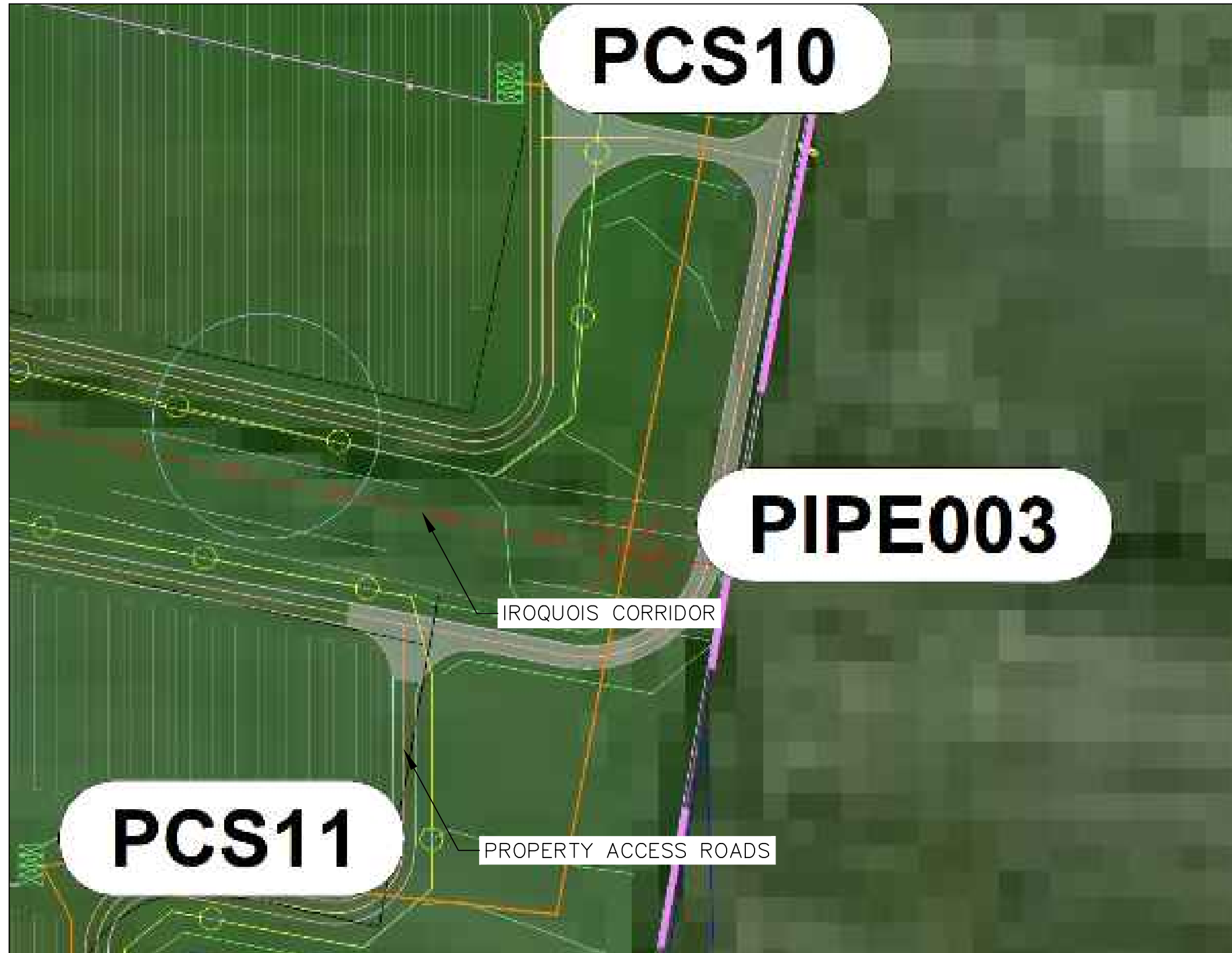
MACDONALD



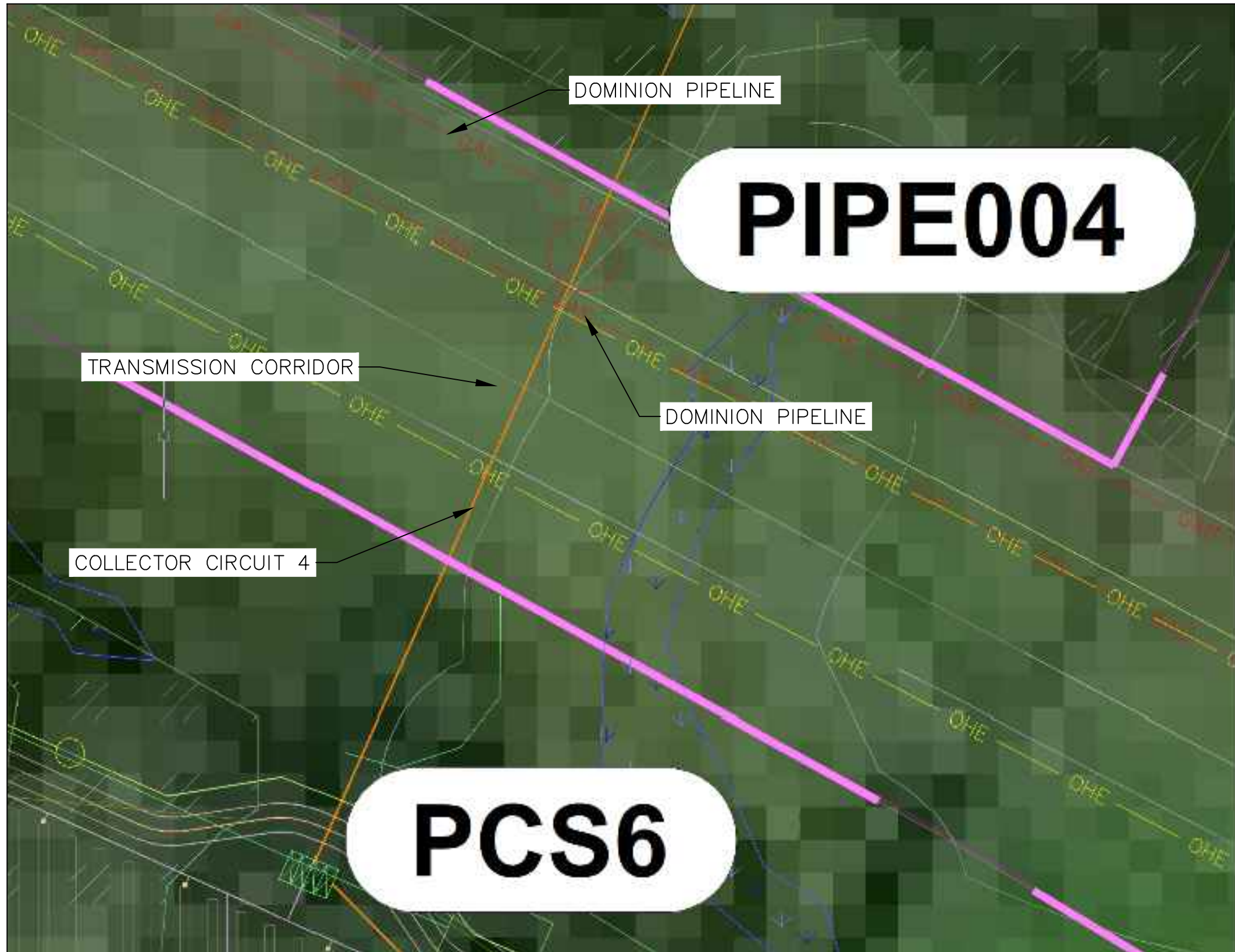
1 PIPELINE CROSSING 1 - PLAN VIEW



2 PIPELINE CROSSING 2 - PLAN VIEW



3 PIPELINE CROSSING 3 - PLAN VIEW



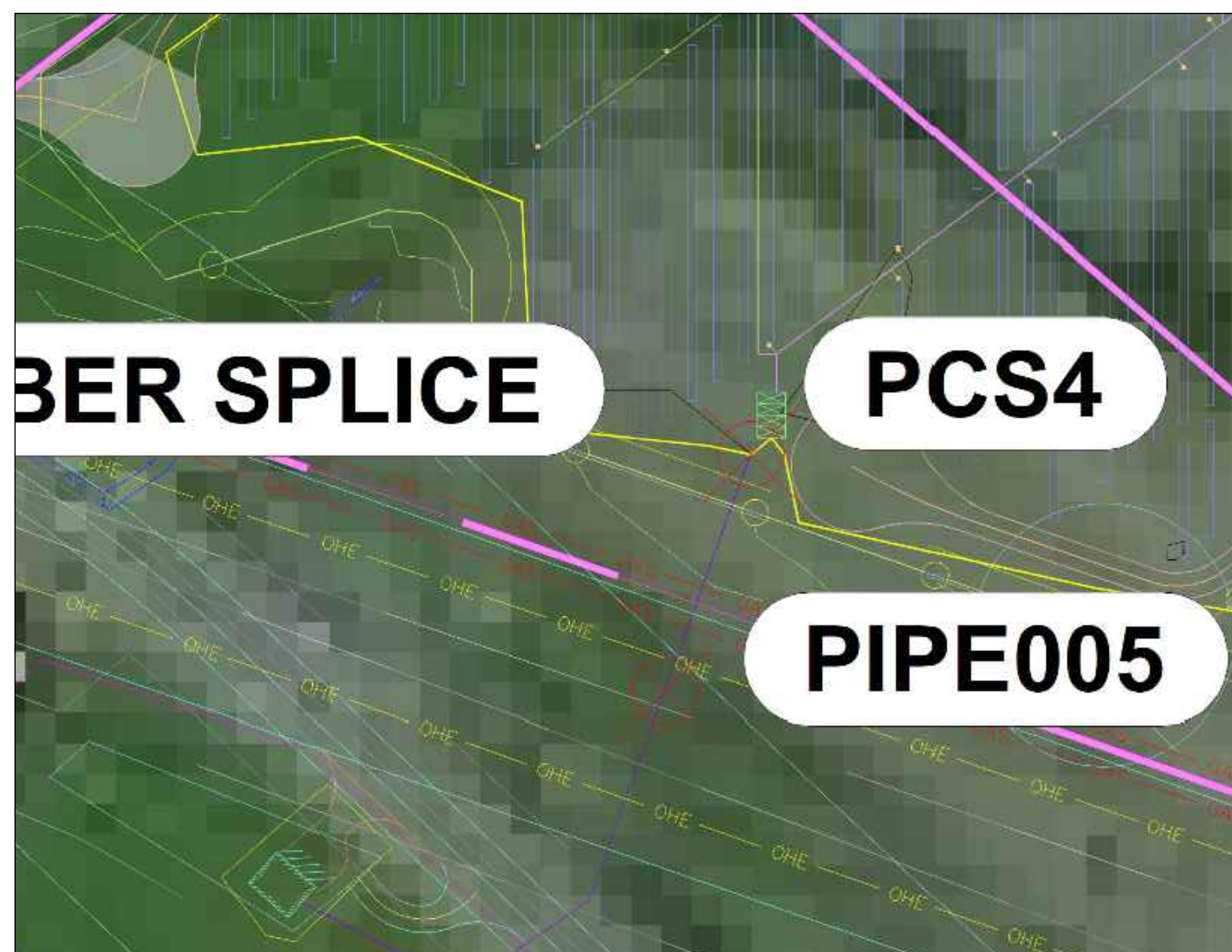
4 PIPELINE CROSSING 4 - PLAN VIEW

NOTES

- 1. PRIOR TO EXCAVATION, CONTRACTOR SHALL CONTACT LOCAL ONE CALL UTILITY LOCATING SERVICES TO VERIFY DEPTH AND LOCATION OF ALL UTILITIES AT THE CROSSING LOCATION.
- 2. ALL PIPELINE CROSSINGS SHALL COMPLY WITH SPECIFIC AGREEMENTS AND PERMITS WITH PIPELINE OWNER/OPERATOR. IN THE CASE THAT THIS DOCUMENT CONFLICTS WITH THESE SPECIFIC AGREEMENTS AND/OR PERMITS, THE CONTRACTOR SHALL COMPLY WITH THE AGREEMENTS/PERMITS AND NOTIFY THE OWNER OF THE CONFLICT.
- 3. PERMANENT ABOVE GRADE ROUTE MARKERS SHALL BE INSTALLED AND MAINTAINED AT THE LIMITS OF THE PIPELINE EASEMENT UNLESS THE CROSSING IS IN A CULTIVATED FIELD. IF CROSSING IS IN A CULTIVATED FIELD, THEN UNDERGROUND EXTENDED-RANGE MARKER BALLS SHALL BE INSTALLED.
- 4. EACH INSTALLED CROSSING SHALL BE ENCASED THROUGHOUT THE WIDTH OF THE PIPELINE UTILITY EASEMENT.
- 5. CONTRACTOR SHALL PROVIDE AND INSTALL A PLASTIC WARNING TAPE 18 INCHES BELOW GRADE.
- 6. CONTRACTOR SHALL MAINTAIN A SEPARATION OF NOT LESS THAN 24 INCHES WHEN PARALLELING GAS, WATER, OIL, OR OTHER PIPELINE SYSTEMS AND NOT LESS THAN 24 INCHES WHEN CROSSING THESE PIPELINE SYSTEMS BETWEEN THE BOTTOM OF THE PIPELINE SYSTEM AND THE TOP OF THE COLLECTION SYSTEM INSTALLATION CONDUIT, UNLESS OTHERWISE SPECIFICALLY AGREED UPON AND NOTED BY AVANGRID AND THE PIPELINE UTILITY PRIOR TO CONSTRUCTION.
- 7. COLLECTION SYSTEM CABLES SHALL BE SEPARATED FROM GAS TRANSMISSION LINES BY A CLEARANCE OF NOT LESS THAN 24 INCHES. IF THIS CLEARANCE CANNOT BE ATTAINED, THE GAS TRANSMISSION LINE SHALL BE PROTECTED FROM DAMAGE THAT MIGHT RESULT FROM THE PROXIMITY OF THE COLLECTION SYSTEM CABLES.
- 8. A THREE PHASE SPLICE CAN BE INSTALLED ON EITHER SIDE OF THE CROSSING FOR PULLING THROUGH THE CONDUIT. ALL SPLICES TO BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.

CONCEPTUAL - NOT FOR CONSTRUCTION

NO.					REVISIONS					DATE	BY	CHK	APR	NO.					DATE	BY	CHK	APR	ENGINEERING RECORD				DATE	MOHAWK SOLAR 34.5KV COLLECTION SYSTEM PIPELINE CROSSING DETAILS			
					A	ISSUED FOR REVIEW				11/26/18	EA	SA	SA						02/15/19	JSS	SRA	SRA	DRAWN: J. STRUBLE				02/15/19				
					B	ISSUED FOR REVIEW				12/19/18	JSS	SRA	SRA						02/15/19	JSS	SRA	SRA	DESIGNED: J. STRUBLE				02/15/19				
					C	ISSUED FOR REVIEW				02/22/19	JSS	SRA	SRA						06/03/19	JSS	SRA	SRA	CHECKED: S. AKERS				06/03/19				
					D	ISSUED FOR REVIEW				06/03/19	JSS	SRA	SRA										APPROVED: S. AKERS				06/03/19				
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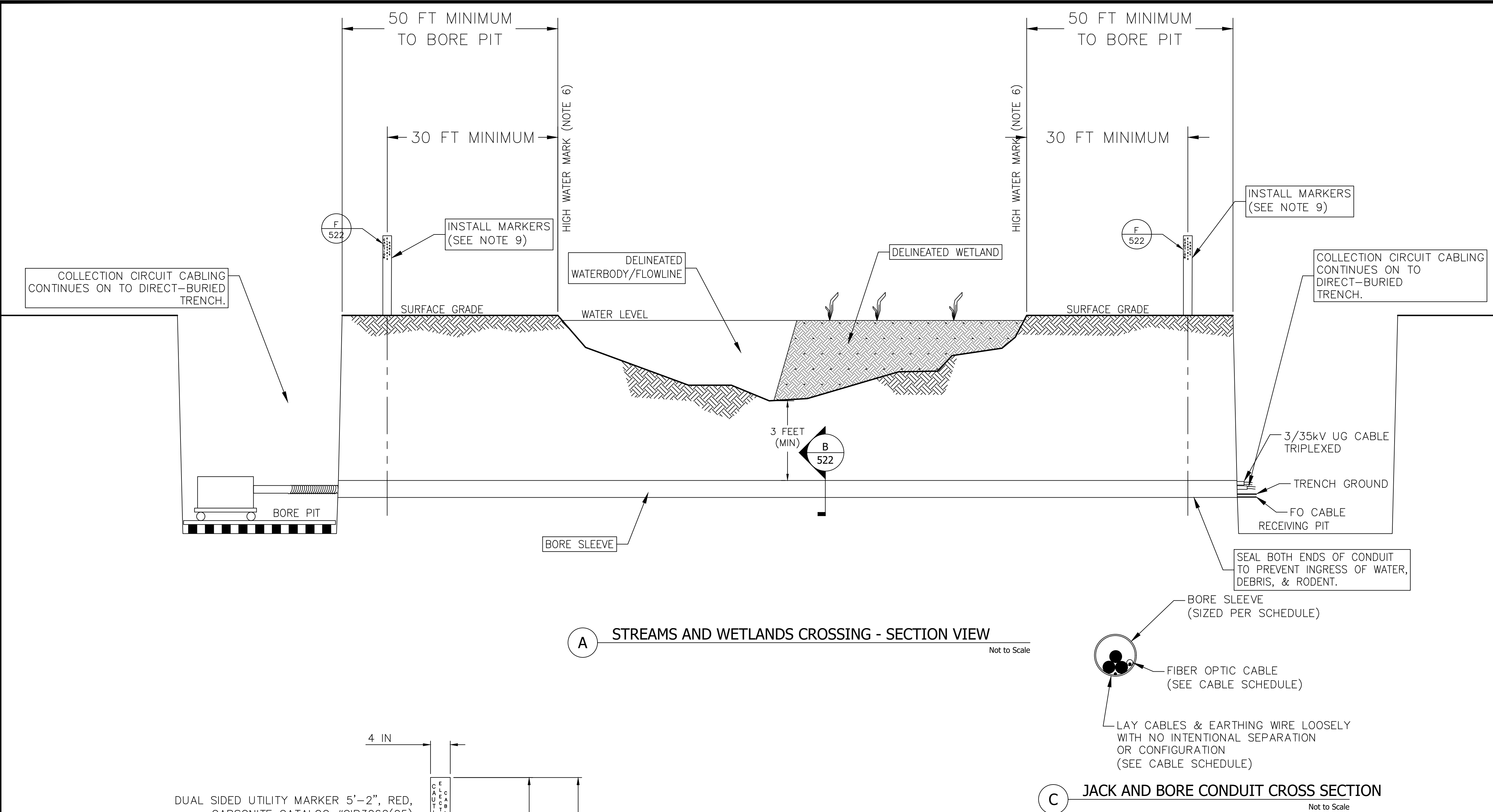


5 PIPELINE CROSSING 5 - PLAN VIEW

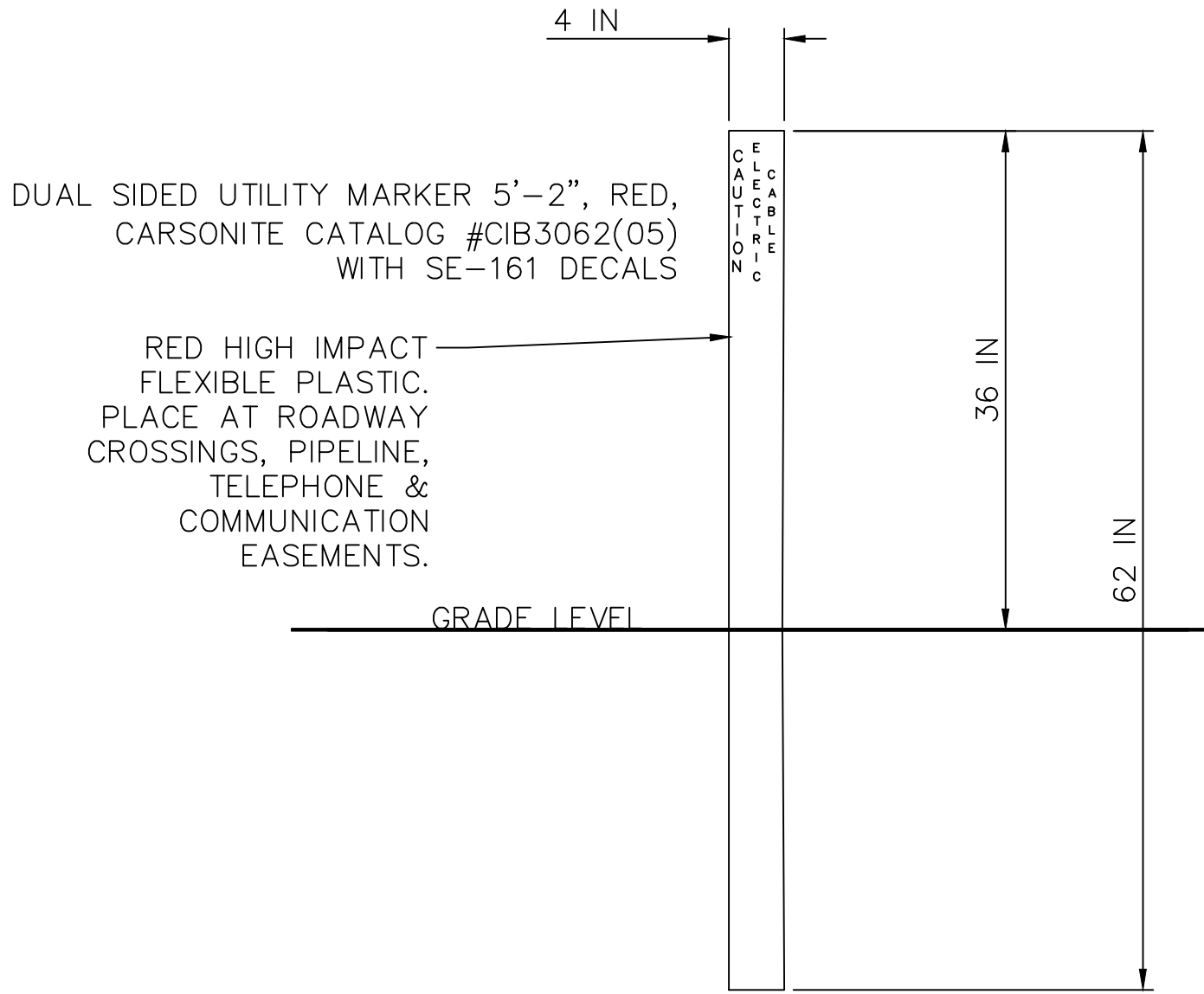
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4. EACH INSTALLED CROSSING SHALL BE ENCASED THROUGHOUT THE WIDTH OF THE PIPELINE UTILITY EASEMENT.
5. CONTRACTOR SHALL PROVIDE AND INSTALL A PLASTIC WARNING TAPE 18 INCHES BELOW GRADE.
6. CONTRACTOR SHALL MAINTAIN A SEPARATION OF NOT LESS THAN 24 INCHES WHEN PARALLELING GAS, WATER, OIL, OR OTHER PIPELINE SYSTEMS AND NOT LESS THAN 24 INCHES WHEN CROSSING THESE PIPELINE SYSTEMS BETWEEN THE BOTTOM OF THE PIPELINE SYSTEM AND THE TOP OF THE COLLECTION SYSTEM INSTALLATION CONDUIT, UNLESS OTHERWISE SPECIFICALLY AGREED UPON AND NOTED BY AVANGRID AND THE PIPELINE UTILITY PRIOR TO CONSTRUCTION.
7. COLLECTION SYSTEM CABLES SHALL BE SEPARATED FROM GAS TRANSMISSION LINES BY A CLEARANCE OF NOT LESS THAN 24 INCHES. IF THIS CLEARANCE CANNOT BE ATTAINED, THE GAS TRANSMISSION LINE SHALL BE PROTECTED FROM DAMAGE THAT MIGHT RESULT FROM THE PROXIMITY OF THE COLLECTION SYSTEM CABLES.
8. A THREE PHASE SPLICE CAN BE INSTALLED ON EITHER SIDE OF THE CROSSING FOR PULLING THROUGH THE CONDUIT. ALL SPLICES TO BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.

[illegible]



A STREAMS AND WETLANDS CROSSING - SECTION VIEW
Not to Scale



B UTILITY MARKERS
Not to Scale

C JACK AND BORE CONDUIT CROSS SECTION
Not to Scale

UTILITY MARKER NOTES

- UTILITY MARKERS SHALL BE PLACED ON EACH SIDE OF ROADWAY CROSSINGS, PIPELINE CROSSINGS, TELEPHONE AND COMMUNICATION EASEMENTS.
- IN THE CASE OF FARMED FIELDS, UNDERGROUND MARKERS/LOCATORS SHALL BE INSTALLED IN LIEU OF UTILITY MARKERS.
- FOR A CONTINUOUS TRENCH IN AN EASEMENT FOR A DISTANCE OF GREATER THAN 1000 FEET, AN UNDERGROUND CABLE LOCATOR WITH GPS COORDINATES SHALL BE INSTALLED.
- UTILITY MARKERS SHALL BE EMBEDDED A MINIMUM OF 18".

Point Name	Span Reference	Easting(NAD83)	Northing(NAD83)	Longitude	Latitude	Description	Length	Estimated Depth	Estimated Bore Conduit
WET001	Circuit 1, Circuit 2, Circuit 3, Circuit 4	461079.1818'	1478086.6029'	W074° 36' 57.08"	N042° 53' 26.01"	Delineated Wetland	150FT	TBD	8 IN SCH 80 HDPE
WET002	Circuit 2	454875.3128'	1485056.4468'	W074° 38' 20.58"	N042° 54' 34.77"	Delineated Wetland	50FT	TBD	8 IN SCH 80 HDPE
WET003	Circuit 3, Circuit 4	454313.1476'	1481279.5676'	W074° 38' 28.05"	N042° 53' 57.45"	Delineated Wetland	50FT	TBD	8 IN SCH 80 HDPE
WET004	Circuit 3	454203.052'	1481561.6602'	W074° 38' 29.53"	N042° 54' 00.24"	Delineated Wetland	550FT	TBD	8 IN SCH 80 HDPE
WET005	Circuit 3	448555.6885'	1476243.8686'	W074° 39' 45.28"	N042° 53' 7.61"	Delineated Stream	50FT	TBD	8 IN SCH 80 HDPE
WET006	Circuit 4	455251.0154'	1473350.954'	W074° 38' 15.27"	N042° 52' 39.15"	Delineated Stream	150FT	TBD	8 IN SCH 80 HDPE
WET007	Circuit 4	463269.8003'	1475820.5724'	W074° 36' 27.61"	N042° 53' 3.66"	Delineated Wetland	TBD	TBD	8 IN SCH 80 HDPE
WET008	Circuit 3, Circuit 4	450307.862'	1477756.5074'	W074° 39' 21.78"	N042° 53' 22.58"	Delineated Wetland	50FT	TBD	8 IN SCH 80 HDPE
WET009	Circuit 3, Circuit 4	450008.5071'	1477270.4849'	W074° 39' 25.79"	N042° 53' 17.77"	Delineated Wetland	50FT	TBD	8 IN SCH 80 HDPE
WET010	Circuit 3	449450.4113'	1476386.7431'	W074° 39' 33.26"	N042° 53' 09.03"	Delineated Wetland	150FT	TBD	8 IN SCH 80 HDPE

NOTES

- CONTRACTOR SHALL CONTACT LOCAL DEPARTMENT OF NATURAL RESOURCES PRIOR TO EXCAVATION TO CONFIRM WHICH STREAMS AND WETLAND CROSSINGS THROUGHOUT THE PROJECT SITE WILL REQUIRE ANY SPECIAL PROCEDURES OR RESTRICTIONS ABOVE WHAT IS DESCRIBED ON THIS DRAWING.
- IF INTERMITTENT STREAMS ARE FLOWING AT THE TIME THE PROJECT COMMENCES, WORK IN AND AROUND INTERMITTENT STREAMS SHALL BE RESTRICTED UNTIL SURFACE WATERS ARE NOT LONGER FLOWING.
- ALL CROSSINGS OF STREAMS AND WETLANDS SHALL COMPLY WITH THE PROJECT SWPP PLAN AND ANY SPECIFIC AGREEMENTS OR PERMITS BY JURISDICTIONAL AUTHORITY. IN THE CASE THAT THIS DOCUMENT CONFLICTS WITH THESE SPECIFIC AGREEMENTS AND/OR PERMITS, THE CONTRACTOR SHALL COMPLY WITH THE AGREEMENTS/PERMITS AND NOTIFY THE OWNER OF THE CONFLICT.
- CONTRACTOR MAY INSTALL UNDERGROUND COLLECTOR SYSTEM CABLES VIA TRENCH WHEN CROSSING EPHEMERAL STREAM BEDS IF THE JURISDICTIONAL AUTHORITY WILL ALLOW IT.
- CONTRACTOR SHALL INSTALL UNDERGROUND COLLECTOR SYSTEM CABLES VIA JACK AND BORE WHEN CROSSING PERENNIAL OR INTERMITTENT STREAMS.
- ALL PRACTICABLE EROSION CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED IN GOOD WORKING ORDER THROUGHOUT CONSTRUCTION TO PREVENT THE UNAUTHORIZED DISCHARGE OF MATERIAL INTO A WETLAND OR TRIBUTARY. THE DEVICES SHALL BE INSTALLED TO MAXIMIZE THEIR EFFECTIVENESS, E.G. SEDIMENT FENCES SHALL GENERALLY BE BURIED OR SIMILARLY SECURED. THESE CONTROLS SHALL BE MAINTAINED UNTIL PERMANENT EROSION CONTROLS ARE IN PLACE. PRACTICABLE EROSION CONTROL MEASURES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - FILL IS PLACED IN A MANNER THAT AVOIDS DISTURBANCE TO THE MAXIMUM PRACTICABLE EXTENT (E.G. PLACING FILL WITH A MACHINE RATHER THAN END-DUMPING FROM A TRUCK).
 - PREVENT ALL CONSTRUCTION MATERIALS AND DEBRIS FROM ENTERING WATERWAY.
 - USE FILTER BAGS, SEDIMENT FENCES, SEDIMENT TRAPS OR CATCH BASINS, SILT CURTAINS, LEAVE STRIPS OR BERMS, JERSEY BARRIERS, SAND BAGS, OR OTHER MEASURES SUFFICIENT TO PREVENT MOVEMENT OF SOIL.
 - USE IMPERVIOUS MATERIALS TO COVER STOCKPILES WHEN UNATTENDED OR DURING RAIN EVENT.
 - NO HEAVY MACHINERY IN A WETLAND OR OTHER WATERWAY.
 - USE A GRAVEL STAGING AREA AND CONSTRUCTION ACCESS.
 - FENCE OFF PLANTED AREAS TO PROTECT FROM DISTURBANCE AND/OR EROSION.
 - FLAT OR FENCE OFF WETLANDS ADJACENT TO THE CONSTRUCTION AREA.
- ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED DAILY TO ENSURE THEIR CONTINUED EFFECTIVENESS.
- THE HIGH WATER MARK FOR ALL STREAMS AND WETLANDS SHALL BE DETERMINED BY THE GOVERNING AUTHORITY.
- PERMANENT ABOVE GRADE UTILITY MARKERS SHALL BE INSTALLED AND MAINTAINED AT A MINIMUM OF 30 FEET FROM HIGH WATER MARK AT POINT OF CROSSING.
- EACH UNDERGROUND CROSSING SHALL BE ENCASED THROUGHOUT THE ENTIRE WIDTH OF STREAM OR WETLAND TO AT LEAST 30 FEET BEYOND HIGH WATER MARK AT THE POINT OF CROSSING.
- A THREE PHASE SPLICE CAN BE INSTALLED ON EITHER SIDE OF THE CROSSING FOR PULLING THROUGH THE CONDUIT. ALL SPLICES TO BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.

CONCEPTUAL - NOT FOR CONSTRUCTION

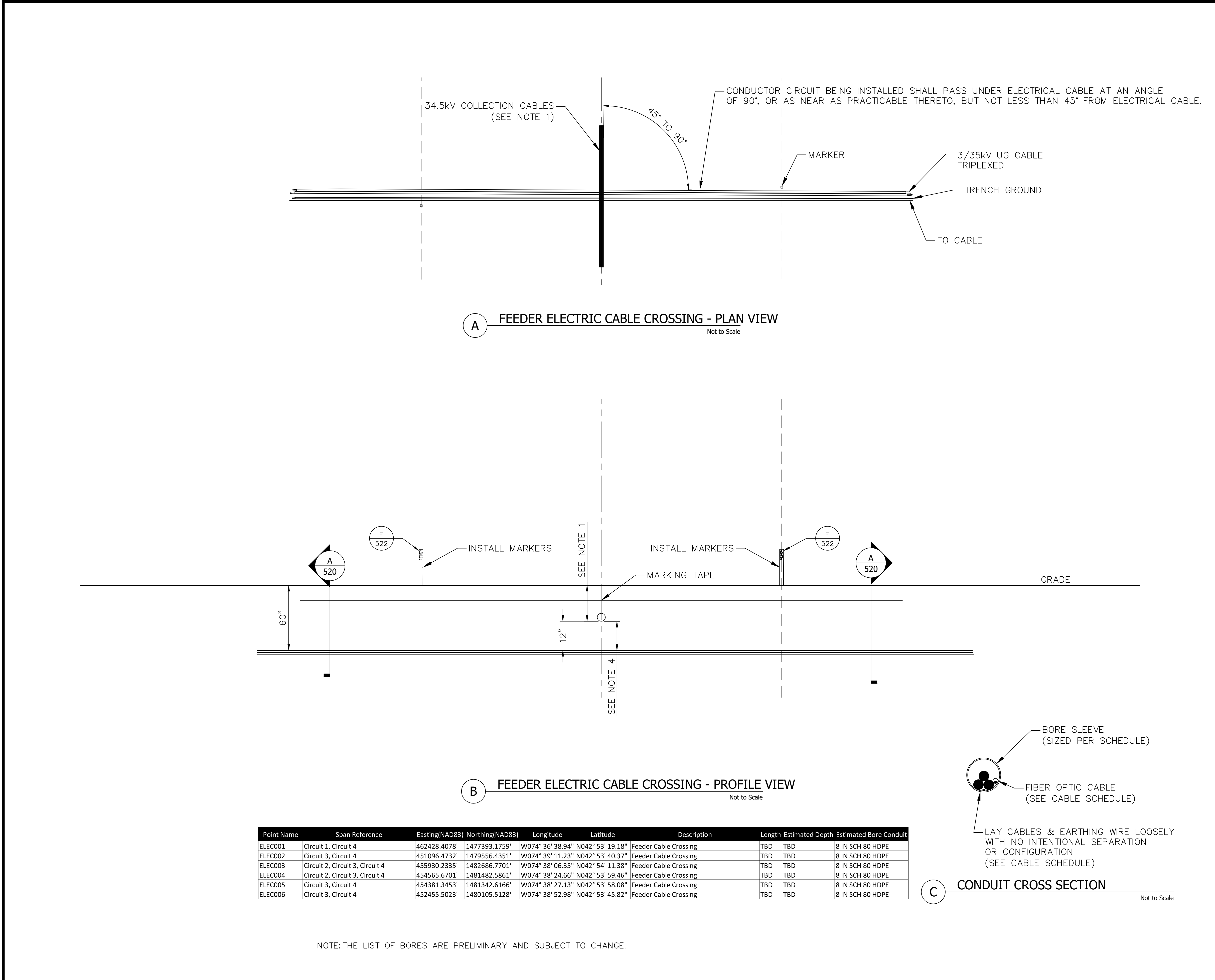
NO.	REVISIONS	DATE	BY	CHK	APR

NO.	REVISIONS	DATE	BY	CHK	APR
A	ISSUED FOR REVIEW	10/10/18	EA	SA	SA
B	ISSUED FOR REVIEW	12/19/18	JSS	SRA	SRA
C	ISSUED FOR REVIEW	02/22/19	JSS	SRA	SRA



ENGINEERING RECORD	DATE
DRAWN: J. STRUBLE	02/15/19
DESIGNED: J. STRUBLE	02/15/19
CHECKED: S.AKERS	02/22/19
APPROVED: S.AKERS	02/22/19

MOHAWK SOLAR
34.5KV COLLECTION SYSTEM
WETLAND CROSSING DETAILS



NOTES

1. PRIOR TO EXCAVATION, CONTRACTOR SHALL CONTACT LOCAL ONE CALL UTILITY LOCATING SERVICES TO VERIFY DEPTH AND LOCATION OF ALL UTILITIES AT THE DIGGING LOCATION.

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3. CONTRACTOR SHALL PROVIDE AND INSTALL A PLASTIC WARNING TAPE 18 INCHES BELOW GRADE.

4. COLLECTION SYSTEM CABLES SHALL BE SEPARATED FROM ELECTRICAL UTILITY LINES BY A CLEARANCE OF NOT LESS THAN 12 INCHES. IF THIS CLEARANCE CANNOT BE ATTAINED, THE LINE SHALL BE PROTECTED FROM DAMAGE THAT MIGHT RESULT FROM THE PROXIMITY OF THE COLLECTION SYSTEM CABLES.

5. THIS DRAWING ONLY APPLIES TO THE CROSSING OF A MOHAWK CIRCUIT BY ANOTHER MOHAWK CIRCUIT.

CONCEPTUAL - NOT FOR CONSTRUCTION

ENGINEERING RECORD

DATE

DRAWN: J. STRUBLE

02/15/19

DESIGNED: J. STRUBLE

02/15/19

CHECKED: S.AKERS

02/22/19

APPROVED: S.AKERS

02/22/19

CADFILE: MHS-E-522-04.DWG

SCALE:N/T

DWG.NO: **MHS-E-522-04**

SHEET 1 OF 1

REV. B

MOHAWK SOLAR

34.5KV COLLECTION SYSTEM

ELECTRIC CABLE CROSSING DETAILS

NO.

REVISIONS

DATE

BY

CHK

APR

NO.

REVISIONS

DATE

BY

CHK

APR

A

ISSUED FOR REVIEW

12/19/18

JSS

SRA

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ISSUED FOR REVIEW

02/22/19

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AVANGRID

RENEWABLES

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