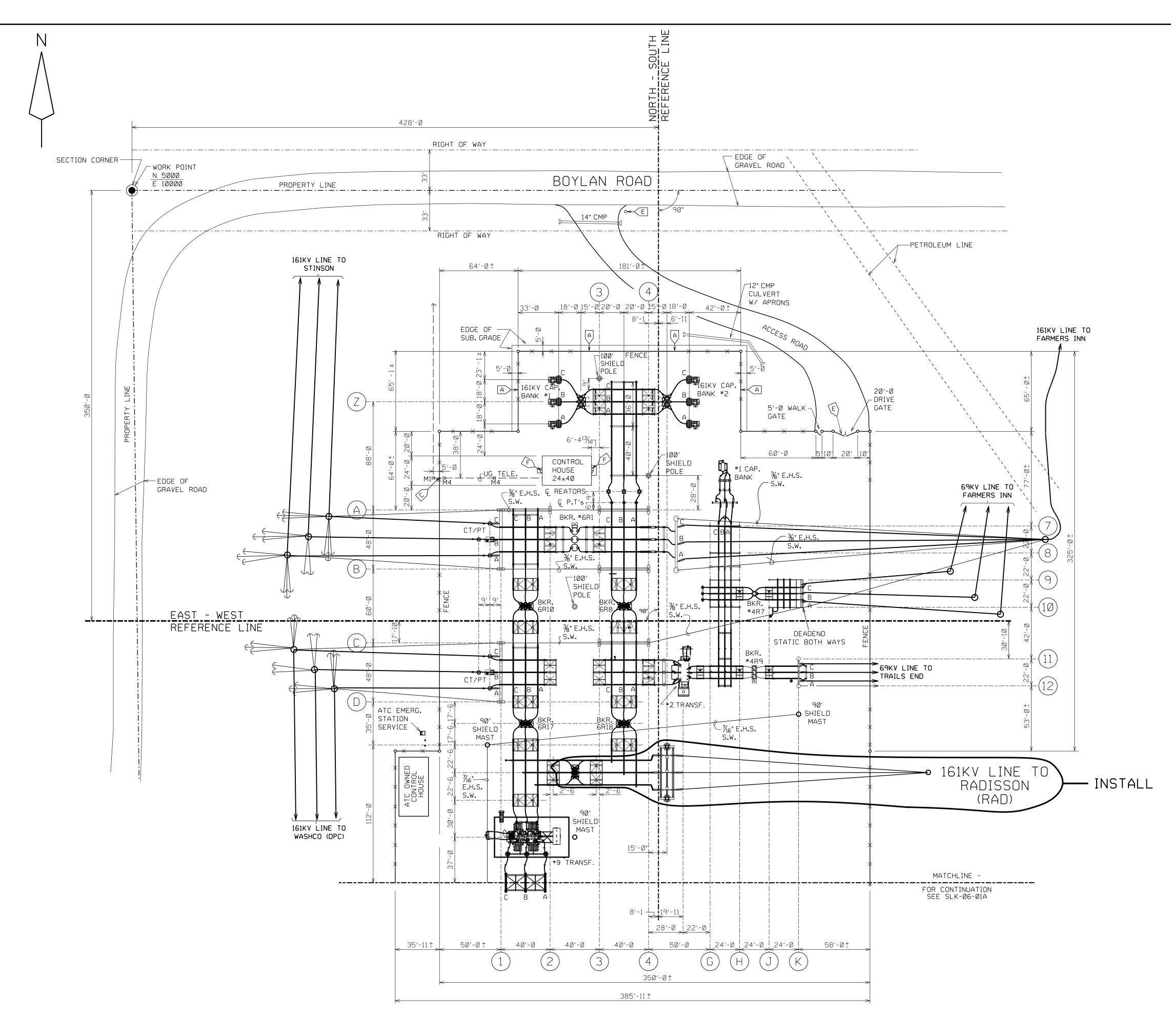
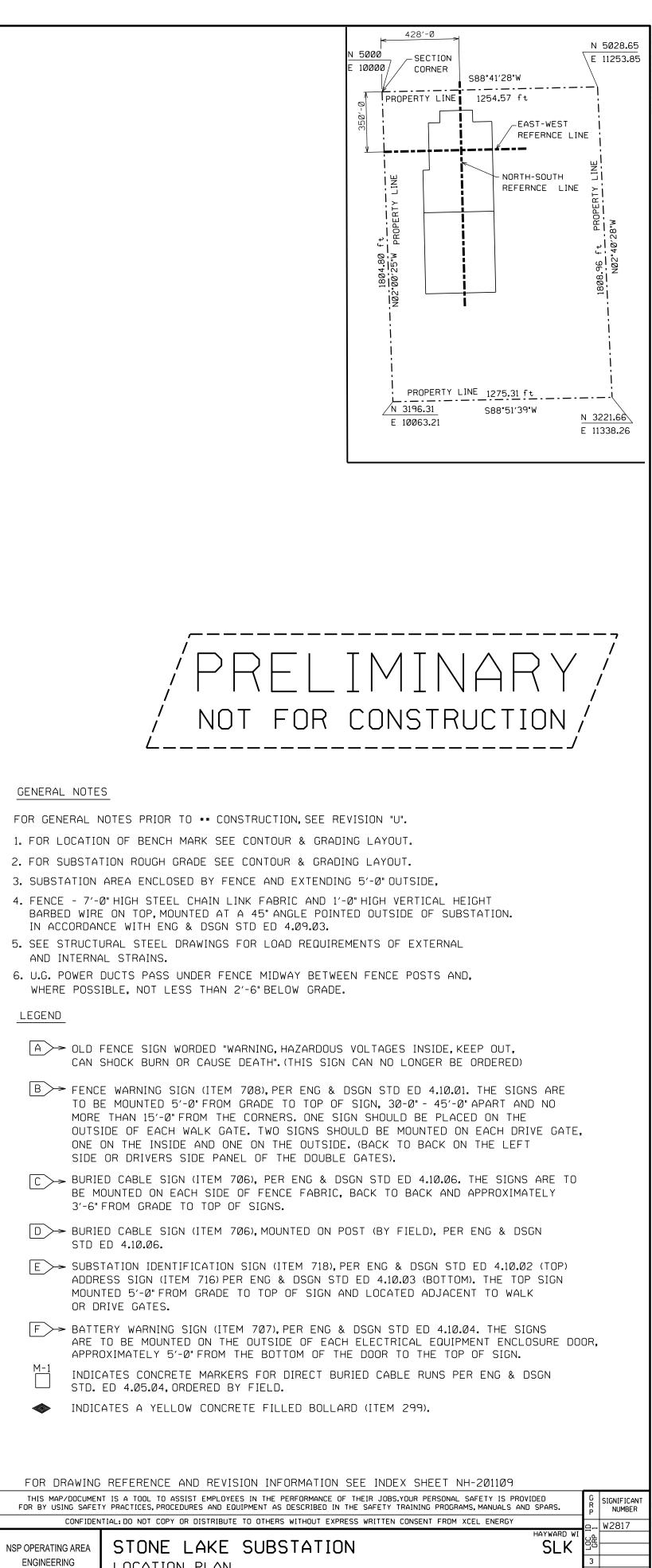
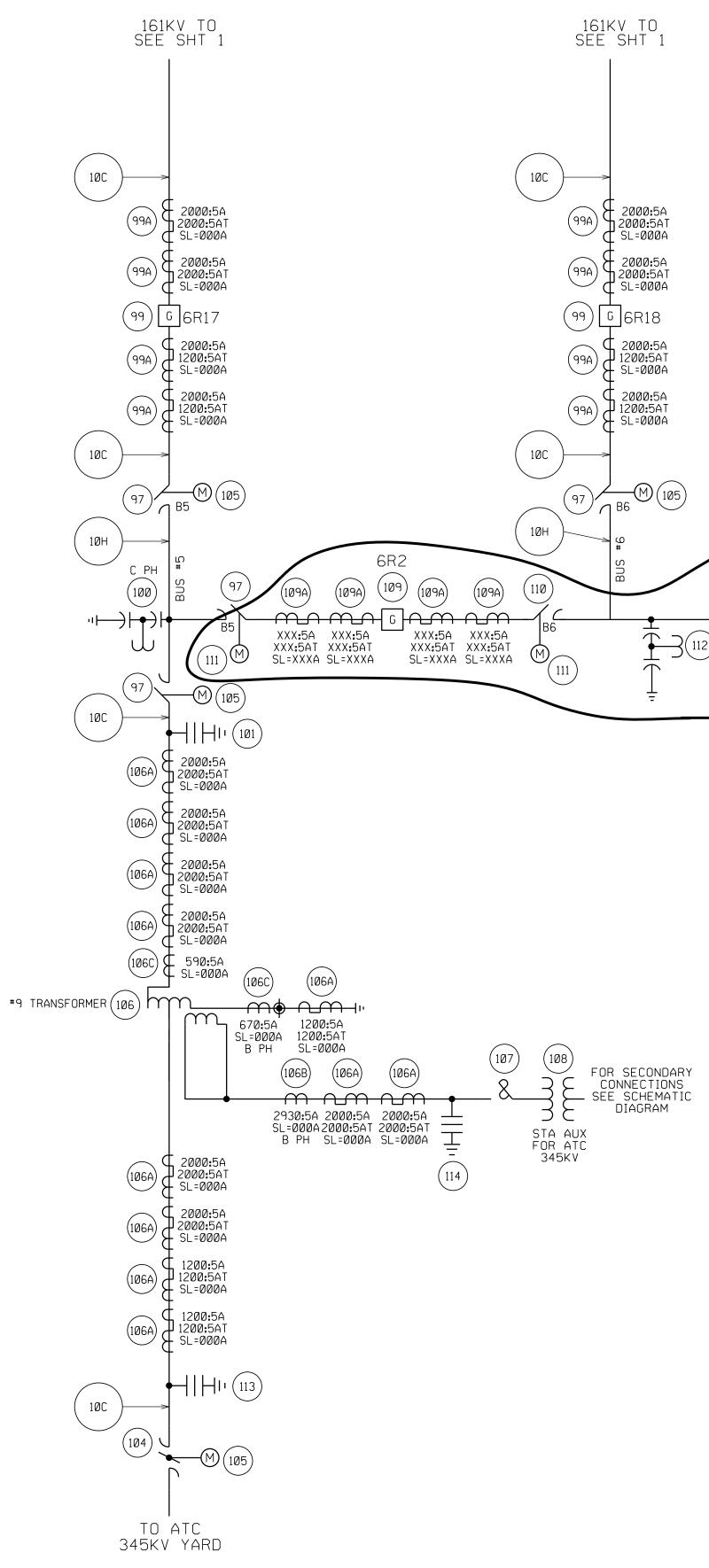
APPENDIX C

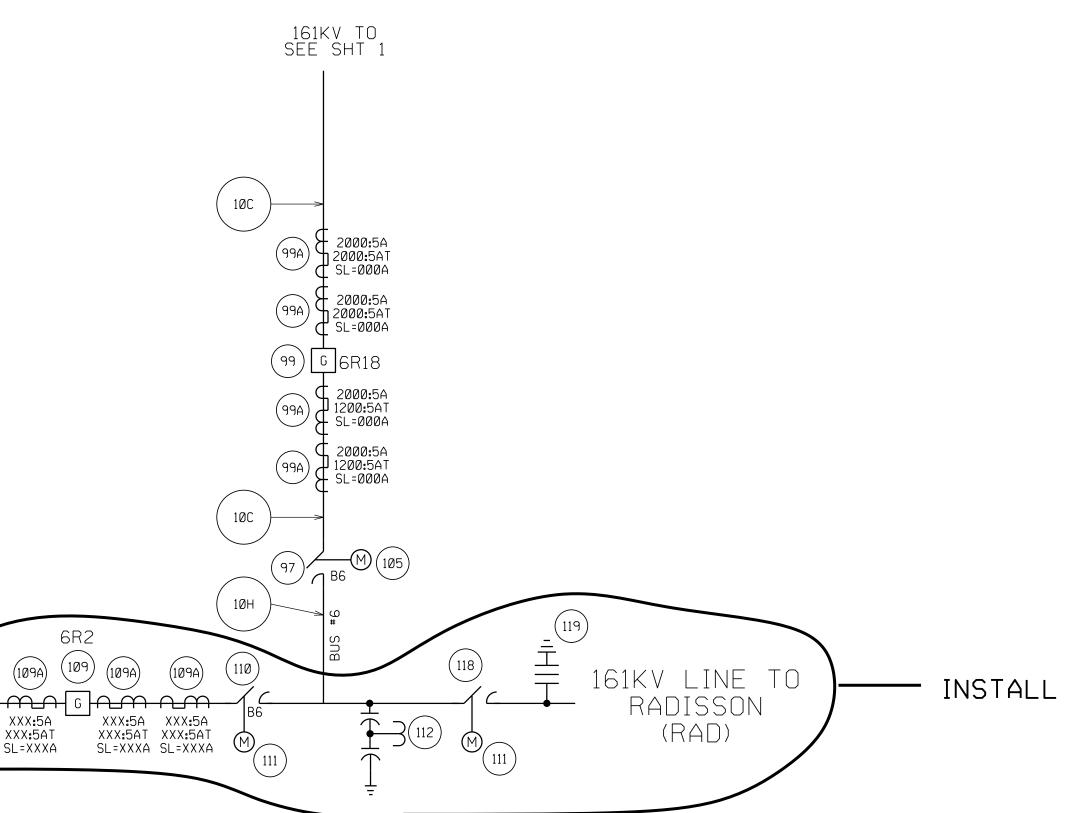
Substation Facilities





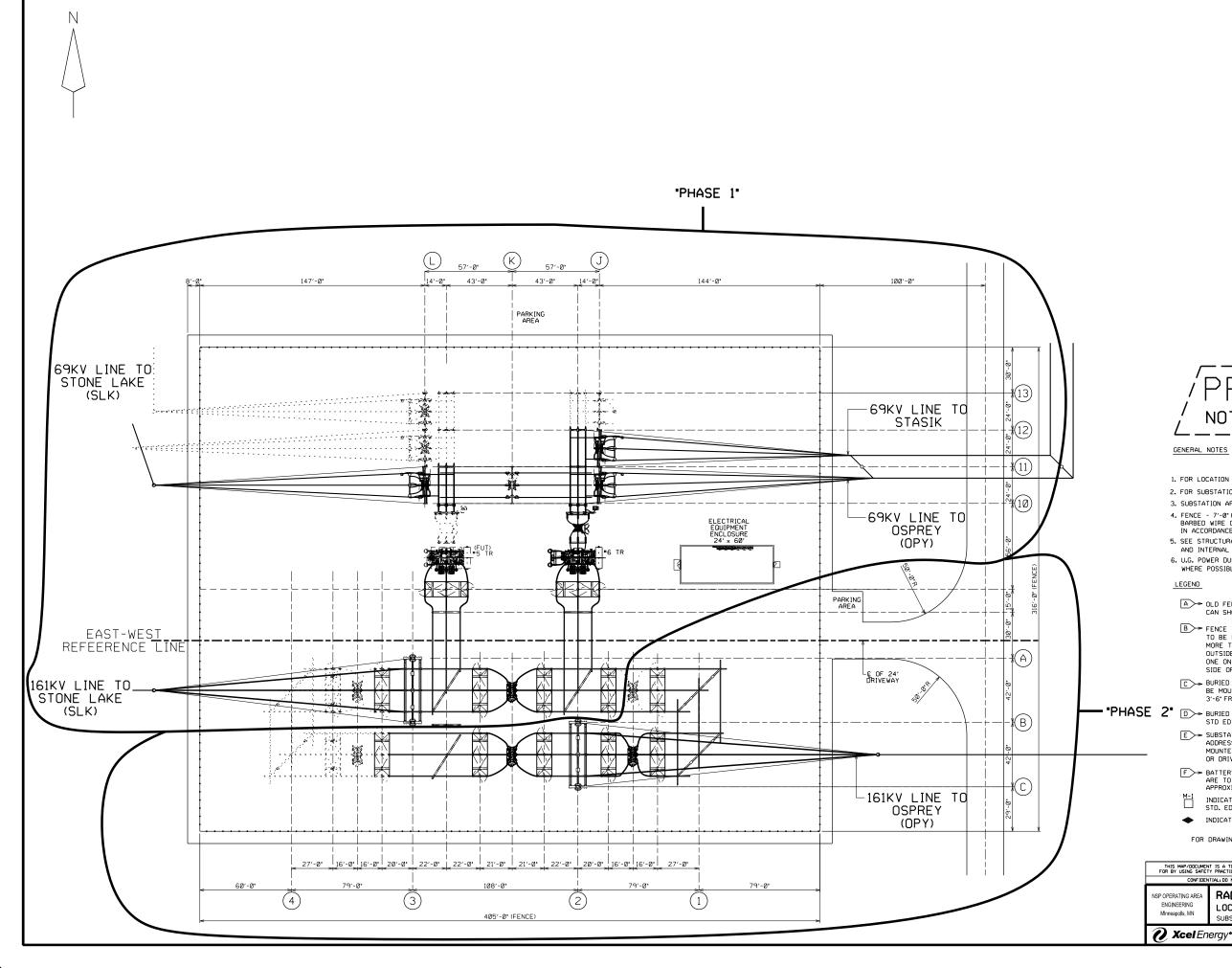
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minicapolio, mit					5A	
		SCALE		REV	5B	6210
(?)). Xcel En	orav°		NH-159304			
() Xcel Energy		1"=40'-0"		U	CL	







FOR G	ENERAL	NOTES & I	_EGEND SEE SHT 1			
FOR D	RAWING	REFERENCE	AND REVISION INFORMATION SEE INDEX SHEET NO)-201109		
THIS MAP/DOCUMENT IS A TOOL TO ASSIST EMPLOYEES IN THE PERFORMANCE OF THEIR JOBS.YOUR PERSONAL SAFETY IS PROVIDED FOR BY USING SAFETY PRACTICES, PROCEDURES AND EQUIPMENT AS DESCRIBED IN THE SAFETY TRAINING PROGRAMS, MANUALS AND SPARS.				G R P	SIGNIFICANT NUMBER	
CONFIDEN	TIAL:DO NOT	T COPY OR DIST	RIBUTE TO OTHERS WITHOUT EXPRESS WRITTEN CONSENT FROM XCEL ENERG			W2817
ISP OPERATING AREA	STO	NE LAK	KE SUBSTATION	HAYWARD WI	L C C R D C R D	
ENGINEERING Minneapolis, MN		UIT DIA(GRAM		3 4	
	345KV				5A	2200
🕖 Xcel En	ergy•	scale NONE	NH-111828-2PZ1	rev Z	5B 6 CL	2200
						l



/PRELIMINARY/ NOT FOR CONSTRUCTION,

GENERAL NOTES

- 1. FOR LOCATION OF BENCH MARK SEE CONTOUR & GRADING LAYOUT.
- 2. FOR SUBSTATION ROUGH GRADE SEE CONTOUR & GRADING LAYOUT.

LOCATION PLAN

SUBSTATION ADDRESS

SCALE

1"=30'-0"

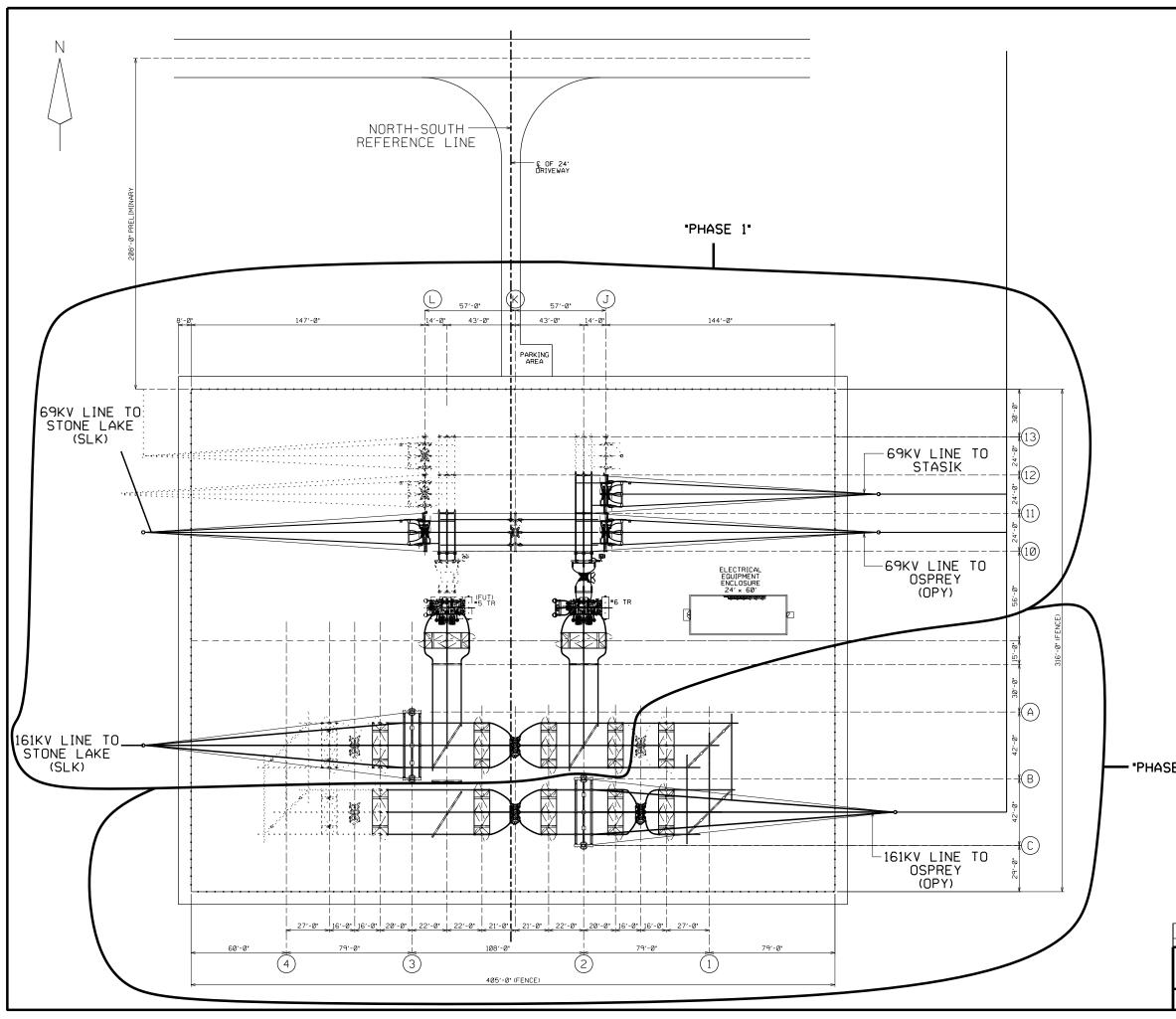
NH-245592A

- 3. SUBSTATION AREA ENCLOSED BY FENCE AND EXTENDING 5'-0" OUTSIDE,
- 4. FENCE 7'-0" HIGH STEEL CHAIN LINK FABRIC AND 1'-0" HIGH VERTICAL HEIGHT BARBED WIRE ON TOP, MOUNTED AT A 45" ANGLE POINTED OUTSIDE OF SUBSTATION. IN ACCORDANCE WITH ENG & DSGN STD ED 4.09.03.
- 5. SEE STRUCTURAL STEEL DRAWINGS FOR LOAD REQUIREMENTS OF EXTERNAL AND INTERNAL STRAINS.
- 6. U.G. POWER DUCTS PASS UNDER FENCE MIDWAY BETWEEN FENCE POSTS AND. WHERE POSSIBLE, NOT LESS THAN 2'-6'BELOW GRADE.

		OLD FENCE SIGN WORDED "WARNING, HAZARDOUS VOLTAGES INSIDE, KEEP OUT, CAN SHOCK BURN OR CAUSE DEATH", (THIS SIGN CAN NO LONGER BE ORDERED)					
	B	FENCE WARNING SIGN (ITEM 708), PER ENG & DSGN STD ED 4.10.01. THE SIGNS ARE TO BE MOUNTED 5'-0" FROM GRADE TO TOP OF SIGN, 30-0" - 45'-0" APART AND NO MORE THAN 15'-0" FROM THE CORNERS. ONE SIGN SHOULD BE PLACED ON THE OUTSIDE OF EACH WALK GATE. TWO SIGNS SHOULD BE MOUNTED ON EACH DRIVE GATE, ONE ON THE INSIDE AND ONE ON THE OUTSIDE. (BACK TO BACK ON THE LEFT SIDE OR DRIVERS SIDE PANEL OF THE DOUBLE GATES).					
	C>>	BURIED CABLE SIGN (ITEM 706), PER ENG & DSGN STD ED 4.10.06. THE SIGNS ARE TO BE MOUNTED ON EACH SIDE OF FENCE FABRIC, BACK TO BACK AND APPROXIMATELY 3'-6'FROM GRADE TO TOP OF SIGNS.					
2		BURIED CABLE SIGN (ITEM 706), MOUNTED ON POST (BY FIELD), PER ENG & DSGN STD ED 4.10.06.					
	E>> SUBSTATION IDENTIFICATION SIGN (ITEM 718), PER ENG & DSGN STD ED 4.10.02 (TC ADDRESS SIGN (ITEM 716) PER ENG & DSGN STD ED 4.10.03 (BOTTOM), THE TOP SIG MOUNTED 5'-0'FROM GRADE TO TOP OF SIGN AND LOCATED ADJACENT TO WALK OR DRIVE GATES.						
	F	BATTERY WARNING SIGN (ITEM 707), PER ENG & DSGN STD ED 4,10,04. THE SIGNS ARE TO MOUNTED ON THE OUTSIDE OF EACH ELECTRICAL EQUIPMENT ENCLOSURE DOOR. APPROXIMATELY 5'-0' FROM THE BOTTOM OF THE DOOR TO THE TOP OF SIGN.					
	м-1	INDICATES CONCRETE MARKERS FOR DIRECT BURIED CABLE RUNS PER ENG & DSGN STD. ED 4.05.04.ORDERED BY FIELD.					
	-	INDICATES A YELLOW CONCRETE FILLED BOLLARD (ITEM 299).					
FOR DRAWING REFERENCE AND REVISION INFORMATION SEE INDEX SHEET N?-							
THIS MAP/DOCUMENT IS A TOOL TO ASSIST EMPLOYEES IN THE PERFORMANCE OF THEIR JOBS, YOUR PERSONAL SAFETY IS PROVIDED 6 FOR BY USING SAFETY PRACTICES, PROCEDURES AND EQUIPMENT AS DESCRIBED IN THE SAFETY TRAINING PROGRAMS, MANUALS AND SPARS, R							
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NSP OPI	ERATING AREA	RADISSON SUBSTATION Preferred Site					

6210

NONE



PRELIMINARY

GENERAL NOTES

- 1. FOR LOCATION OF BENCH MARK SEE CONTOUR & GRADING LAYOUT.
- 2. FOR SUBSTATION ROUGH GRADE SEE CONTOUR & GRADING LAYOUT.
- 3. SUBSTATION AREA ENCLOSED BY FENCE AND EXTENDING 5'-0" OUTSIDE,
- 4. FENCE 7'-0' HIGH STEEL CHAIN LINK FABRIC AND 1'-0' HIGH VERTICAL HEIGHT BARBED WIRE ON TOP, MOUNTED AT A 45' ANGLE POINTED OUTSIDE OF SUBSTATION. IN ACCORDANCE WITH ENG & DSGN STD ED 4.09.03.
- 5. SEE STRUCTURAL STEEL DRAWINGS FOR LOAD REQUIREMENTS OF EXTERNAL AND INTERNAL STRAINS.
- 6. U.G. POWER DUCTS PASS UNDER FENCE MIDWAY BETWEEN FENCE POSTS AND, WHERE POSSIBLE, NOT LESS THAN 2'-6'BELOW GRADE.

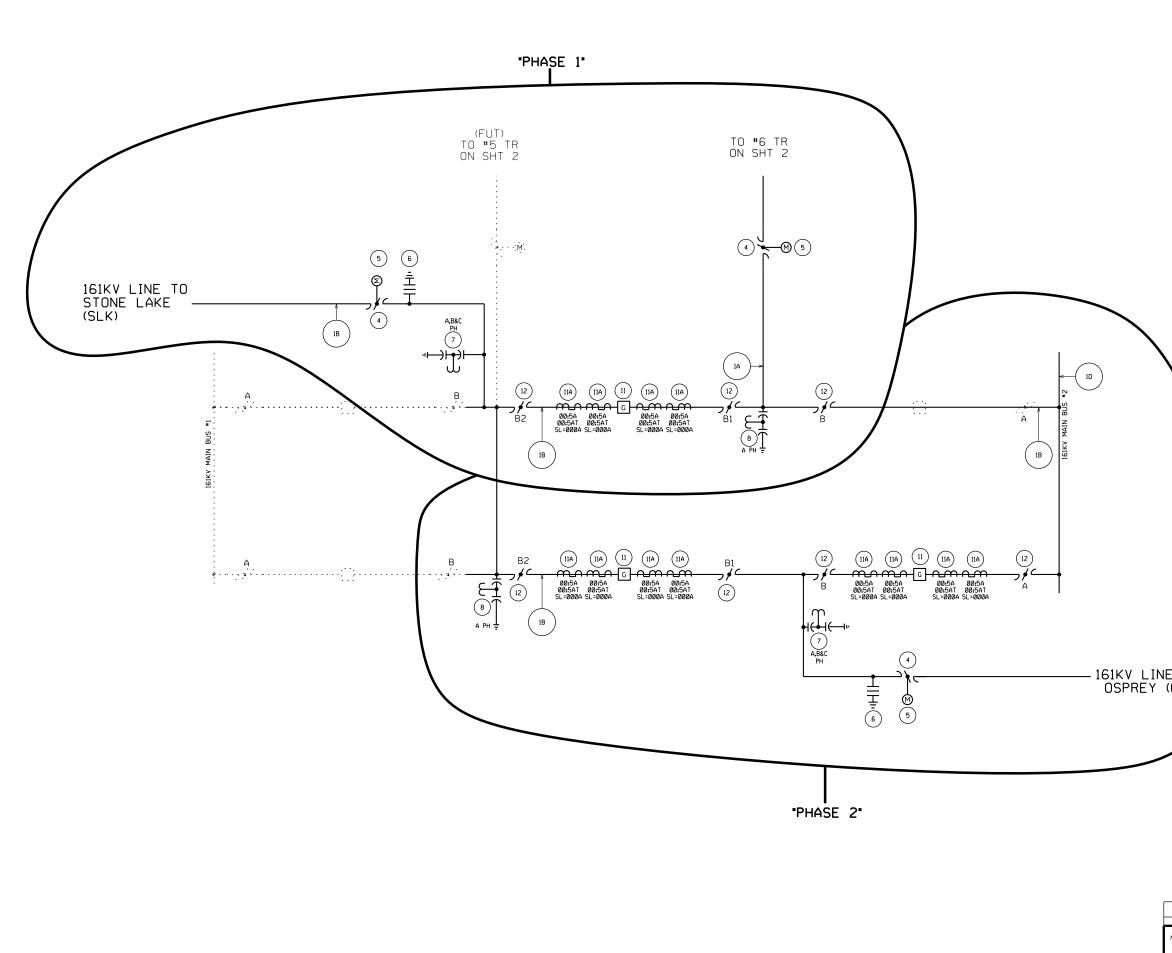
LEGEND

OLD FENCE SIGN WORDED 'WARNING, HAZARDOUS VOLTAGES INSIDE, KEEP OUT, CAN SHOCK BURN OR CAUSE DEATH', (THIS SIGN CAN NO LONGER BE ORDERED)
B FENCE WARNING SIGN (ITEM 708), PER ENG & DSGN STD ED 4.10.01. THE SIGNS ARE TO BE MOUNTED 5'-0' FROM GRADE TO TOP OF SIGN, 30-0' - 45'-0' APART AND NO MORE THAN 15'-0' FROM THE CORNERS. ONE SIGN SHOULD BE PLACED ON THE OUTSIDE OF EACH WALK GATE. TWO SIGNS SHOULD BE MOUNTED ON EACH DRIVE GATE ONE ON THE INSIDE AND ONE ON THE OUTSIDE. (BACK TO BACK ON THE LEFT SIDE OR DRIVERS SIDE PANEL OF THE DOUBLE GATES).

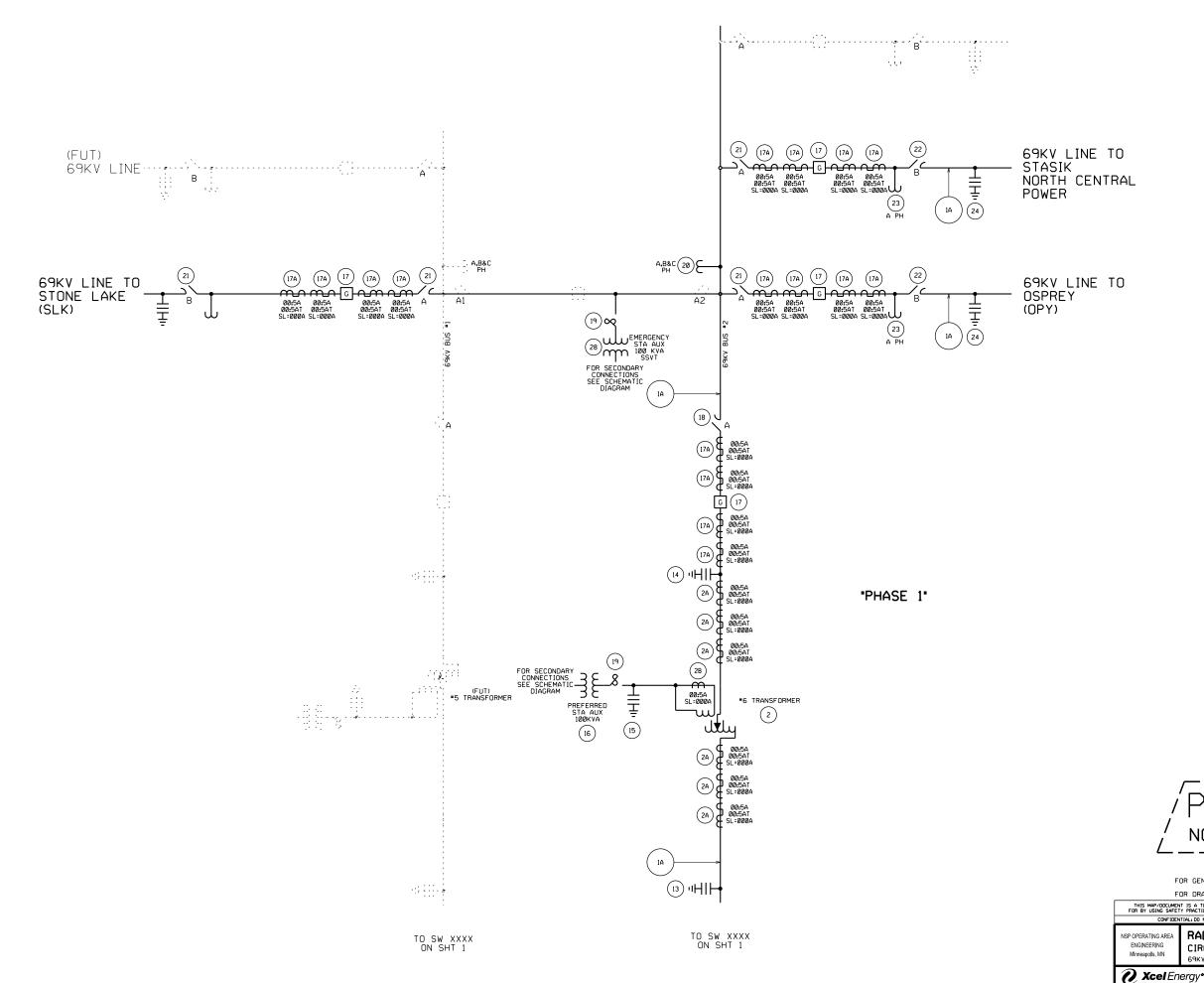
C BURIED CABLE SIGN (ITEM 706), PER ENG & DSGN STD ED 4.10.06. THE SIGNS ARE TO BE MOUNTED ON EACH SIDE OF FENCE FABRIC, BACK TO BACK AND APPROXIMATELY 3'-6' FROM GRADE TO TOP OF SIGNS.

- PHASE 2' D- BURIED CABLE SIGN (ITEM 706), MOUNTED ON POST (BY FIELD), PER ENG & DSGN STD ED 4.10.06.
 - SUBSTATION IDENTIFICATION SIGN (ITEM 718), PER ENG & DSGN STD ED 4.10.02 (TOP) ADDRESS SIGN (ITEM 716) PER ENG & DSGN STD ED 4.10.03 (BOTTOM), THE TOP SIGN MOUNTED 5-0° FROM GRADE TO TOP OF SIGN AND LOCATED ADJACENT TO WALK OR DRIVE GATES.
 - F BATTERY WARNING SIGN (ITEM 707), PER ENG & DSGN STD ED 4.10.04. THE SIGNS ARE TO MOUNTED ON THE OUTSIDE OF EACH ELECTRICAL EQUIPMENT ENCLOSURE DOOR. APPROXIMATELY 5'-0' FROM THE BOTTOM OF THE DOOR TO THE TOP OF SIGN.
 - M-1 INDICATES CONCRETE MARKERS FOR DIRECT BURIED CABLE RUNS PER ENG & DSGN STD. ED 4.05.04. ORDERED BY FIELD.
 - ◆ INDICATES A YELLOW CONCRETE FILLED BOLLARD (ITEM 299).
 - FOR DRAWING REFERENCE AND REVISION INFORMATION SEE INDEX SHEET N?-

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NOT FOR CONSTRUCTION NOT FOR CONSTRUCTION (25) AUTOMATIC TRANSFER SWITCH (26) BATTERY (27) BATTERY CHARGER STATION AUXILIARIES LOCATED IN THE LECTRICAL EQUIPMENT ENCLOSURE SEE SCHEMATIC DIAGRAM (7) INDICATES EQUIPMENT ITEM NUMBER SHOWN ON 'LIST OF EQUIPMENT' DRAWING. (7) INDICATES SUBSTATION CONDUCTOR ITEM NUMBER SHOWN ON 'LIST OF EQUIPMENT' DRAWING. (7) INDICATES TRANSMISSION CONDUCTOR ITEM NUMBER SHOWN ON 'LIST OF EQUIPMENT' DRAWING. (7) INDICATES TRANSMISSION CONDUCTOR ITEM NUMBER (7) INDICATES TRANSMISSION CONDUCTOR ITEM NUMBER (7) INDICATES TRANSMISSION CONDUCTOR ITEM NUMBER (7) INDICATES TRANSMISSION CONDUCTOR ITEM NUMBER SHOWN ON 'LIST OF EQUIPMENT' DRAWING. USE TRANSMISSION DRAWING NH-237757. SL INDICATES 'SECONDARY LIMITATION'. SUBSTATION DESIGN BASIS SUBSTATION DESIGN BASIS SUBSTATION MEES CONDUCTOR AND EQUIPMENT RATINGS USED INTHIS SUBSTATION ARE PER THE MOST RECENT VERSION OF NSP ED 6.01.01. THIS SUBSTATION IS CLASSIFIED AS <u>UNENCLOSED</u> AND A WIND SPEED OF 4 <u>FEET/SECOND</u> SHALL BE USED FOR DETERMINING			
BUS CONDUCTOR RATINGS. FAULT CURRENT DESIGN BASIS: TUBULAR BUS DESIGN BASIS: 161 KV: 26KA 69 KV: 20KA kV:KA FOR THE INDIVIDUAL EQUIPMENT DESIGN BASIS SEE THE CIRCUIT DIAGRAM LIST OF EQUIPMENT DRAWING. FOR THE GROUND GRID DESIGN BASIS SEE THE GROUNDING LAYOUT DRAWING.			
FOR DRAWING REFERENCE AND REVISION INFORMATION SEE INDEX SHEET THIS MAP/DOCUMENT IS A TOOL TO ASSIST EMPLOYEES IN THE PERFORMANCE OF THEIR JOBS.YOUR PERSONAL SAFETY PROTAKS, MANUALS AND FOR BY USING SAFETY PRACTICES, PROCEDURES AND EDUIPMENT AS DESCRIBED IN THE SAFETY TRAINING PROGRAMS, MANUALS AND		0 GR P	SIGNIFICAN
CONFIDENTIAL: DO NOT COPY OR DISTRIBUTE TO OTHERS WITHOUT EXPRESS WRITTEN CONSENT FROM XCEL ENERGY	RADISSON WI	e	
NSP OPERATING AREA RADISSON SUBSTATION ENGINEERING CIRCUIT DIAGRAM	RAD	4 v LOC	
Minneapolis, MN 161KV	05.1	5A	2200
<i>O</i> Xcel Energy* SCALE NH-245591-1		6 CL	





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NH-245591-2

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FOR DRAWING REFERENCE AND REVISION INFORMATION SEE INDEX SHEET ND-245590

SIGNIFICAN NUMBER

200

RAD

FOR GENERAL NOTES & LEGEND SEE SHT 1

RADISSON SUBSTATION

CIRCUIT DIAGRAM

SCALE NONE

69KV

ENGINEERING

Minneapolis, MN