

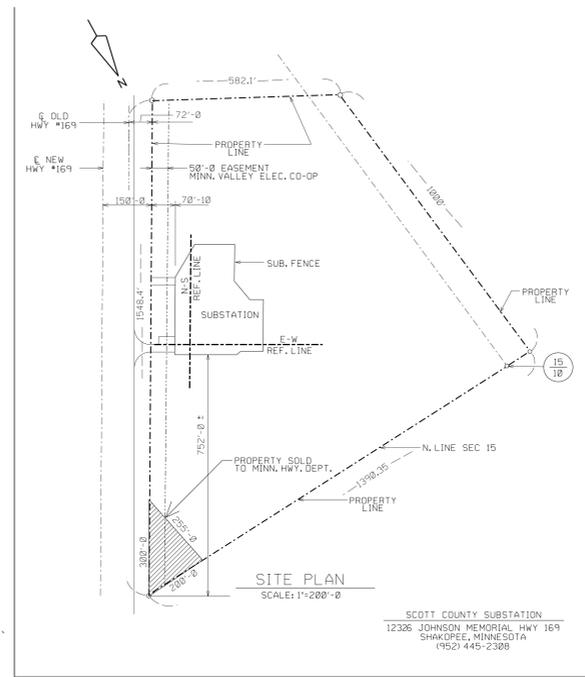
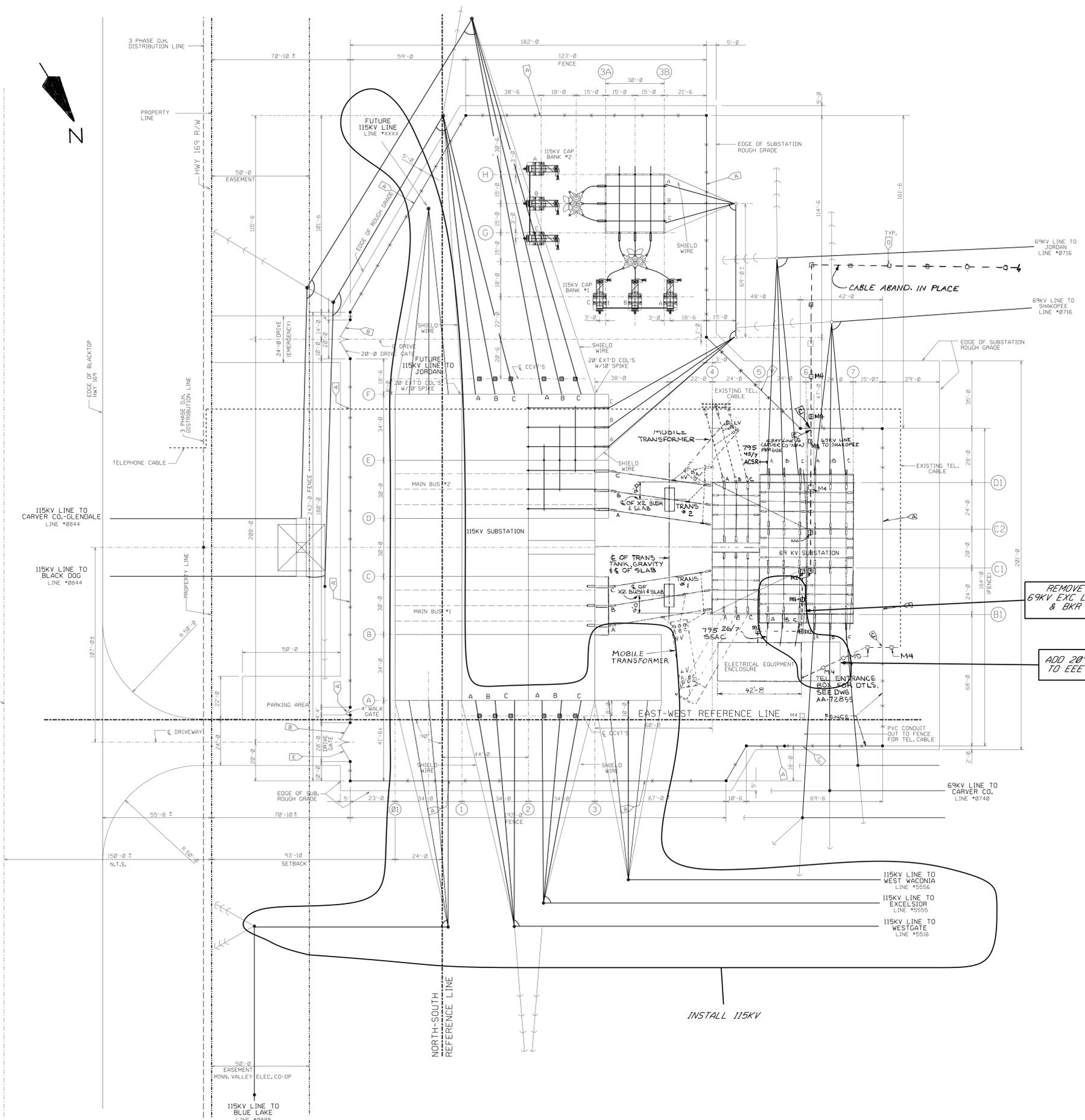
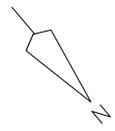
APPENDIX G

SUBSTATION LAYOUT

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APPENDIX G.1
SCOTT COUNTY SUBSTATION

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SCOTT COUNTY SUBSTATION
 12326 JOHNSON MEMORIAL HWY 169
 SHAKOPEE, MINNESOTA
 19521 445-2300

- GENERAL NOTES
1. LOCATION OF BENCH MARK FOR GRADE ELEVATION IS MONUMENT IN NORTH WEST CORNER OF PROPERTY. ELEVATION OF BENCH MARK IS 800.52'.
 2. SUBSTATION ROUGH GRADE ELEVATION IS 800.23'.
 3. SUBSTATION AREA ENCLOSED BY FENCE AND EXTENDING 5'-0" OUTSIDE, SURFACED WITH 4" OF CLEAN 3/4" CRUSHED ROCK.
 4. FENCE - 7'-0" HIGH STEEL CHAIN LINK FABRIC AND 1'-0" HIGH VERTICAL ARM BARBED WIRE ON TOP, IN ACCORDANCE WITH NSP ENG. & DES. STDS. 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.

- SPECIAL NOTES FOR MOBILE TRANSFORMER
1. MOBILE TRANSFORMER TO BE PARKED IN POSITION AS SHOWN.
 2. HIGH VOLTAGE LEADS CONNECTED OVERHEAD WITH HOT LINE CLAMPS TO TRANSFORMER LEADS.
 3. LOW VOLTAGE LEADS CONNECTED WHERE SHOWN ON ELECTRICAL LAYOUT SO THAT TRANSFORMER CURRENT TRANSFORMERS AND CIRCUIT BREAKER (OR LOAD INTERRUPTER SWITCH) REMAIN IN THE CIRCUIT.
 4. ENTRANCE TO CONTROL HOUSE FOR MOBILE TRANSFORMER CONTROL CABLE SHOWN ON CONTROL HOUSE DRAWING AA-72855.

- LEGEND
1. [Symbol] ON ALL MINNESOTA AND WISCONSIN COMPANY SUBSTATION FENCES INSTALL NO TRESPASSING SIGNS WORDED "WARNING/HAZARDOUS VOLTAGES INSIDE/KEEP OUT/CAN SHOCK BURN OR CAUSE DEATH". THIS SIGN IS NSP STOCK NO. 16-0092. (NSP STD. DWG. - NO-160280). THESE SIGNS ARE TO BE MOUNTED ON THE OUTSIDE OF THE FENCE FABRIC APPROXIMATELY 4'-6" FROM FINISHED GRADE TO THE CENTER OF SIGN AND EVERY 50'-0" AROUND THE FENCE PERIMETER.
 2. [Symbol] ON ALL MINNESOTA AND WISCONSIN COMPANY SUBSTATION FENCES INSTALL ENTRY WARNING SIGNS WORDED "WARNING/LIMITED OVERHEAD ELECTRICAL CLEARANCES WITHIN/ENTRY BY AUTHORIZED PERSONAL". THIS SIGN IS NSP STOCK NO. 19-0094. (NSP STD. DWG. - NO-160279). MOUNT TWO SIGNS APPROXIMATELY 4'-6" FROM GRADE TO CENTER OF SIGNS, BACK TO BACK, ON THE INSIDE AND OUTSIDE OF EACH WALK GATE AND DRIVE GATE FABRIC. THE DRIVE GATE SIGNS SHOULD BE MOUNTED ON THE DRIVERS SIDE PANEL OF THESE DOUBLE GATES.
 3. [Symbol] INDICATES "CAUTION-BURIED CABLE" SIGNS, (NSP STOCK NO. 16-0088), ORDERED BY FIELD AND MOUNTED EACH SIDE OF FENCE FABRIC, BACK TO BACK, APPROXIMATELY 3'-6" FROM GRADE TO TOP OF SIGNS.
 4. [Symbol] INDICATES "CAUTION-BURIED CABLE" SIGNS, (NSP STOCK NO. 16-0088), POST MOUNTED, ORDERED AND INSTALLED BY FIELD.
 5. [Symbol] M-INDICATES CONCRETE MARKERS FOR DIRECT BURIED CABLE RUNS. E & D STD. E.D. 4.05.04, ORDERED BY FIELD.
 6. [Symbol] INDICATES SUBSTATION ADDRESS SIGN, ORDERED BY ENGINEERING AND FIELD MOUNTED BY CONSTRUCTION. MOUNT ADDRESS SIGN AT APPROXIMATELY 4'-6" FROM GRADE TO CENTER OF SIGN ON SUBSTATION DRIVE GATE.

REMOVE 69KV EXC LINE & BKR

ADD 20' TO EEE

PRELIMINARY
 NOT FOR CONSTRUCTION

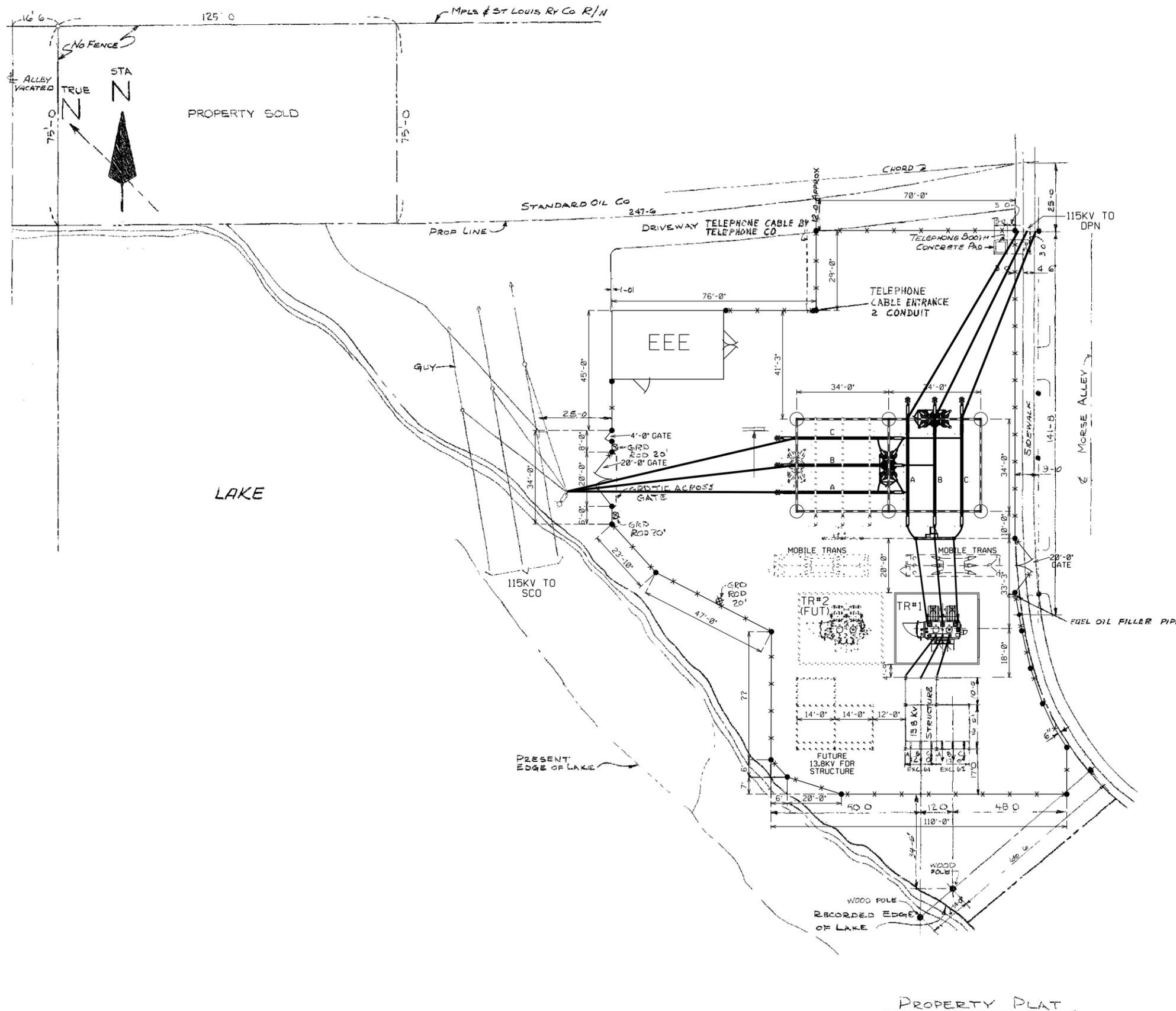
FOR DRAWING REFERENCE AND REVISION INFORMATION SEE INDEX SHEET NO-281153

THIS INFORMATION IS A TOOL TO ASSIST EMPLOYEES IN THE PERFORMANCE OF THEIR DUTIES. PERSONAL SAFETY IS PROVIDED FOR BY USING SAFETY PRACTICES, PROCEDURES AND EQUIPMENT AS DESCRIBED IN THE SAFETY TRAINING PROGRAM, MANUALS AND DRAWINGS. CONFIDENTIAL: DO NOT COPY OR DISTRIBUTE TO OTHERS WITHOUT EXPRESS WRITTEN CONSENT FROM XCEL ENERGY.

NSP OPERATING AREA ENGINEERING MINNESOTA, MN	SCOTT COUNTY SUBSTATION LOCATION PLAN ADDRESS: 12326 JOHNSON MEM HWY 169	SCO
XcelEnergy	SCALE: 1"=20'-0"	AA-71867-UPGRADE
	REV	PRE

APPENDIX G.2
EXCELSIOR SUBSTATION

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CONCRETE

1. REINFORCING STEEL: ALL REINFORCING STEEL, DEFORMED TYPE ASTM A-305, NEW BASIC OPEN-HEARTH BILLET STOCK ASTM A-15, INTERMEDIATE GRADE.
2. COVER: TWO-INCH MINIMUM PROTECTIVE COVER OF CONCRETE OVER REINFORCING STEEL; GREATER COVERAGE WHERE NOTED. EXPOSED EDGES OF CONCRETE ABOVE GROUND CHAMFERED 3/4" RADIUS EXCEPT AS NOTED.
3. CEMENT: CONCRETE MADE WITH AIR-ENTRAINING PORTLAND CEMENT (ASTM C-175), OR STANDARD PORTLAND TYPE I, II, OR III (ASTM C-150) WITH AN AIR-ENTRAINING AGENT. AIR CONTENT 3% TO 6% A 28-DAY COMPRESSIVE STRENGTH OF 3750 PSI USED THROUGHOUT.
4. AGGREGATE: FINE AND COARSE AGGREGATE CONFORMING TO ASTM C-33; 3/4" MAXIMUM SIZE.
5. CURING: CONCRETE CURED BY SEALING WITH POLYETHYLENE FILM, SPRAYED CURING COMPOUND, OR OTHER ADEQUATE MEANS FOR A PERIOD OF 7 DAYS (OR 3 DAYS FOR HIGH-EARLY-STRENGTH CONCRETE). CONCRETE PROTECTED FROM FREEZING DURING CURING PERIOD. FOUNDATIONS SHOULD NOT BE LOADED UNTIL 3750 PSI STRENGTH HAS BEEN REACHED.

NOTE:
GENERATING PLANT RETIRED
EFFECTIVE NOV 1, 1975

PRELIMINARY
NOT FOR CONSTRUCTION

GENERAL NOTES -

FENCE 7'-0" HIGH WITH BARBED WIRE TOP AND 6'-0" HIGH GALVANIZED STEEL CHAIN LINK FABRIC. STRAIGHT POSTS ALONG SOUTH PROPERTY LINE OTHER SIDES CURVED TOP POSTS.
AREA ENCLOSED BY FENCE GRADED AND SURFACED WITH 4" OF CRUSHED ROCK OR GRAVEL TO ELEVATION SUFFICIENT TO PROVIDE ADEQUATE DRAINAGE.
EXTERNAL LOAD ON STRUCTURE NOT TO EXCEED 1600 LBS PER CONDUCTOR AT 30° MAX. ANGLE AND SHALL MEET N.E.S.C. HEAVY LOADING CONDITIONS.
GRADE ELEV. OF 13.8KV STRUCTURE IS SAME AS GRADE OF EXISTING 69KV STRUCTURE. TOP OF 69KV PIERS EL. = 100.0

DRAWING REFERENCE

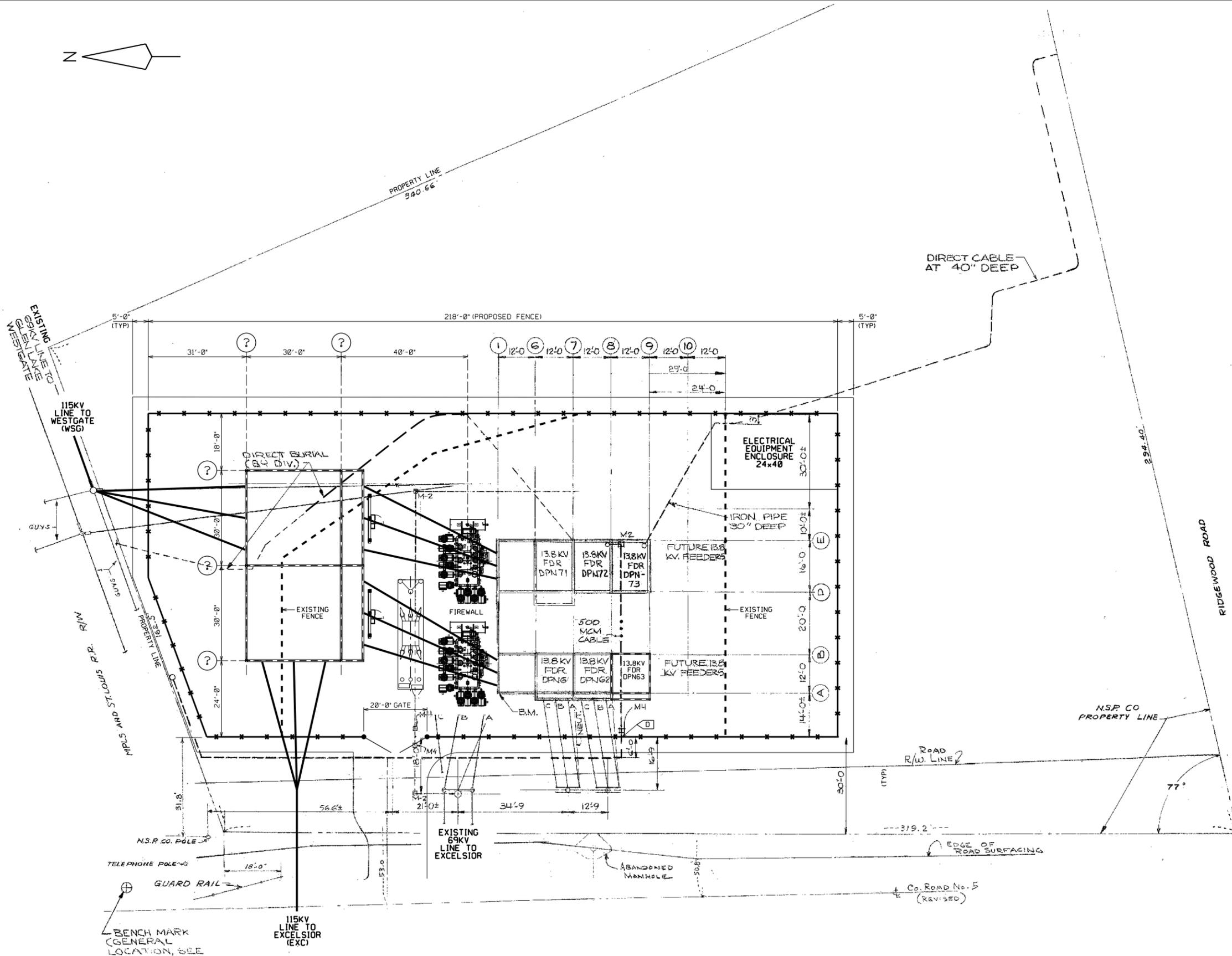
CIRCUIT DIAGRAM AND LIST OF REFERENCE DRAWINGS	NH-10019
ELECTRICAL INSTALLATION - PLAN - SHEET 1	NH-10020
DETAIL OF TELEPHONE BOOTH	NH-3464
SUBSTATION SITE	NL-8134
PROPERTY PLAT	ND-15243

PROPERTY PLAT

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.		SIGNIFICANT NUMBER 2416
CONFIDENTIAL: DO NOT COPY OR DISTRIBUTE TO OTHERS WITHOUT EXPRESS WRITTEN CONSENT FROM XCEL ENERGY		
NSP OPERATING AREA ENGINEERING Minneapolis, MN	EXCELSIOR SUBSTATION	EXC
	LOCATION PLAN	
	SUBSTATION ADDRESS:	
Xcel Energy	SCALE 1"=20'	NH-20525-SKETCH
	REV NONE	

APPENDIX G.3
DEEPHAVEN SUBSTATION

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SPECIAL NOTES FOR MOBILE TRANSFORMER

1. MOBILE TRANSFORMER TO BE PARKED IN POSITION AS SHOWN.
2. HIGH VOLTAGE LEADS CONNECTED OVERHEAD WITH HOT LINE CLAMPS TO TRANSFORMER LEADS.
3. LOW VOLTAGE LEADS CONNECTED APPROXIMATELY WHERE SHOWN ON THIS DRAWING SO THAT CURRENT TRANSFORMERS AND CIRCUIT BREAKER (OR LOAD INTERRUPTER SWITCH) REMAIN IN THE CIRCUIT.
4. ENTRANCE TO THE ELECTRICAL EQUIPMENT ENCLOSURE FOR MOBILE TRANSFORMER CONTROL CABLES IS SHOWN ON ELECTRICAL EQUIPMENT ENCLOSURE LAYOUT DRAWING.

GENERAL NOTES

- FOR GENERAL NOTES PRIOR TO 2009 CONSTRUCTION, SEE REVISION 'N'.
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

- A** 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.
- D** 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 (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 BE 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).

PRELIMINARY
NOT FOR CONSTRUCTION

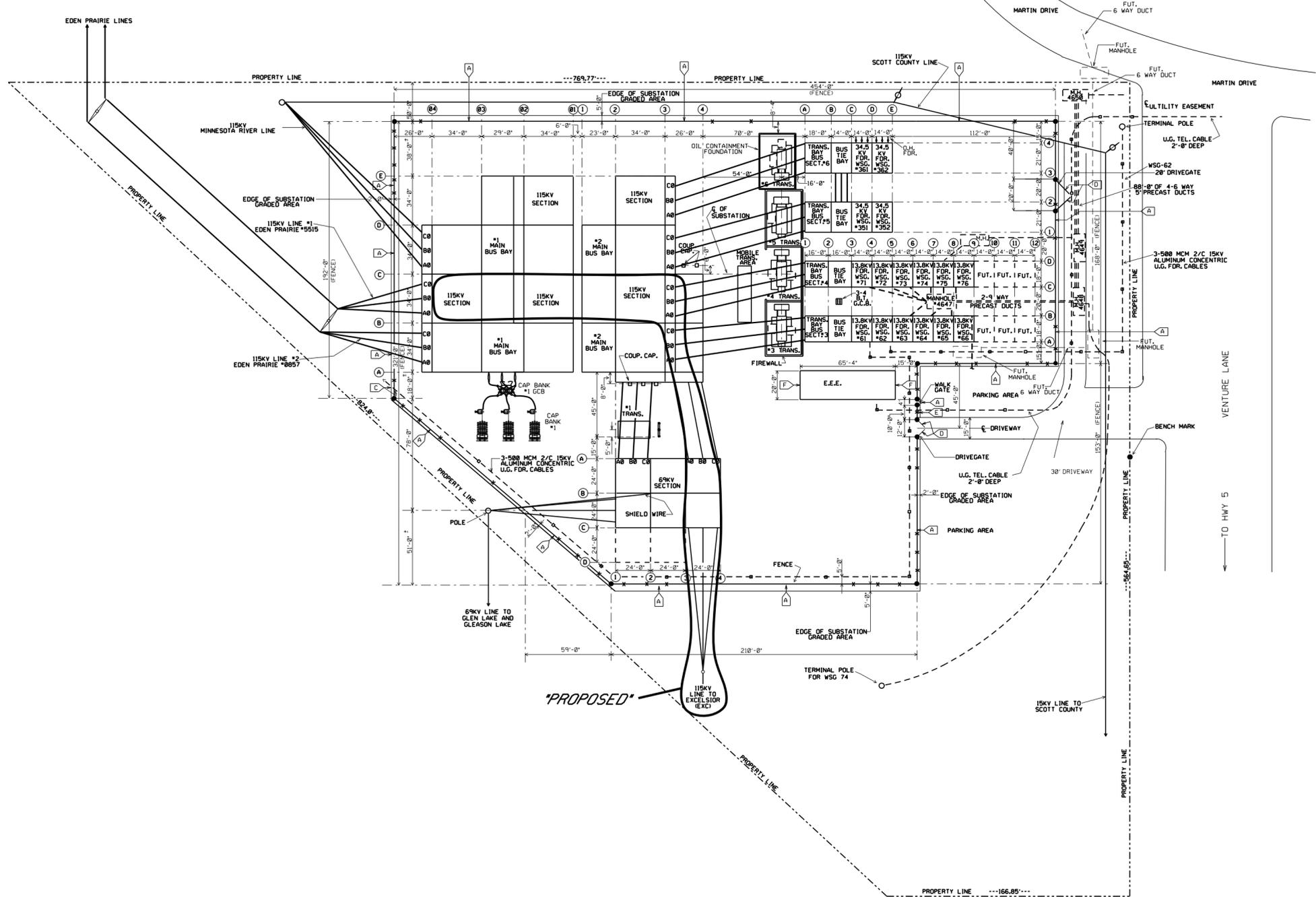
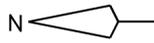
FOR DRAWING REFERENCE AND REVISION INFORMATION SEE INDEX SHEET NH-237544

THIS MAP/DRAWING 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.		SIGNIFICANT NUMBER
INTERNAL INFORMATION: DO NOT COPY OR DISTRIBUTE WITHOUT EXPRESS WRITTEN CONSENT FROM XCEL ENERGY		2417
NSP OPERATING AREA ENGINEERING Minneapolis, MN	DEEPAVEN SUBSTATION LOCATION PLAN PROPOSED OPTION #4	DEEPAVEN #1 DPN
Xcel Energy	SCALE 1/16" = 1'-0"	REV 2
NH-6330P4		REV 6 210

NH-6330P4.DWG 12/12/22 PM 4/27/2012

APPENDIX G.4
WESTGATE SUBSTATION

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- SPECIAL NOTES FOR MOBILE TRANSFORMER**
- MOBILE TRANSFORMER TO BE PARKED IN POSITION AS SHOWN.
 - HIGH VOLTAGE LEADS CONNECTED OVERHEAD WITH HOTLINE CLAMPS OR LUGS TO TRANSFORMER LEAD.
 - LOW VOLTAGE LEADS CONNECTED TO TRANSFORMER SIDE OF 'B' DISCONNECT SWITCH SEE CIRCUIT DIAGRAM FOR TRANS. SIDE OF LOAD INTERRUPTER SWITCH IN CASES WHERE THERE IS NO TRANSFORMER D.C.B. THE TRANSFORMER C.T.'S SHOULD ALWAYS REMAIN IN CIRCUIT.
 - ENTRANCE TO CONTROL HOUSE FOR MOBILE TRANSFORMER CONTROL CABLE SHOWN ON CONTROL HOUSE DWG. NH-35469.

- GENERAL NOTES**
- FOR GENERAL NOTES PRIOR TO 2008 CONSTRUCTION, SEE REVISION AX.
- LOCATION OF BENCH MARK FOR GRADE ELEVATION IS TOP OF IRON ON SOUTH LOT LINE 280 DEGREES WEST OF SOUTH EAST LOT CORNER. ELEVATION OF BENCH MARK IS 853.3'
 - AREA ENCLOSED BY FENCE AND EXTENDING 1'-0" OUTSIDE GRADED AND SURFACED WITH APPROX. 4" OF CRUSHED ROCK OR GRAVEL TO ELEVATION 847.2'
 - FENCE 1'-0" HIGH, VERTICAL ARM BARBED WIRE TOP AND 6'-0" HIGH STEEL CHAIN LINK FABRIC IN ACCORDANCE WITH N.S.P., ENG. & DES. STDS.
 - SEE STRUCTURAL STEEL DRAWINGS FOR LOAD REQUIREMENTS OF EXTERNAL AND INTERNAL STRAINS. EE 1.3701.
 - U.G. POWER DUCTS PASS UNDER FENCE MIDWAY BETWEEN FENCE POSTS AND, WHERE POSSIBLE, NOT LESS THAN 2'-6" BELOW GRADE.
 - 6 INCHES OF CRUSHED ROCK ON DRIVEWAY - 1/2" MAXIMUM TO FINE IN 3 LAYERS COURSE ON BOTTOM TO FINE ON TOP.

- LEGEND**
- A** - 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 (16-0092), 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 (16-0088), 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, ORDERED BY FIELD.
 - D** - BURIED CABLE SIGN MOUNTED ON POST (16-0095), PER ENG & DSGN STD ED 4.10.06. POST AND SIGN ORDERED BY FIELD.
 - E** - SUBSTATION IDENTIFICATION SIGN PER ENG & DSGN STD ED 4.10.02 (TOP) AND ADDRESS SIGN 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 (57-5454), PER ENG & DSGN STD ED 4.10.04. THE SIGNS ARE TO BE MOUNTED ON THE OUTSIDE OF EACH CONTROL HOUSE DOOR, APPROXIMATELY 5'-0" FROM THE BOTTOM OF THE DOOR TO THE TOP OF SIGN.
 - M** - INDICATES CONCRETE MARKERS FOR DIRECT BURIED CABLE RUNS. E & D STD. ED 4.05.04, ORDERED BY FIELD.

HIGH WATER NOTE:
GROUND WATER TABLE IS APPROXIMATELY 20" BELOW GRADE THIS ELEVATION NOTED 3-10-71 PUMPS MAY BE REQUIRED WHEN INSTALLING NEW FOUNDATIONS AND U.G. CABLES.

PRELIMINARY
NOT FOR CONSTRUCTION

FOR DRAWING REFERENCE AND REVISION INFORMATION SEE INDEX SHEET NH-201318		DATE	BY
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NSP OPERATING AREA	WESTGATE SUBSTATION	DATE	BY
ENGINEERING	LOCATION PLAN	10/24	WSP
MINNEAPOLIS, MN	PROPOSED	10/24	WSP
SCALE	1"=30'-0"	DATE	BY
XcelEnergy	NF-160355P1	10/24	WSP
SCALE	1"=30'-0"	DATE	BY
		10/24	WSP

