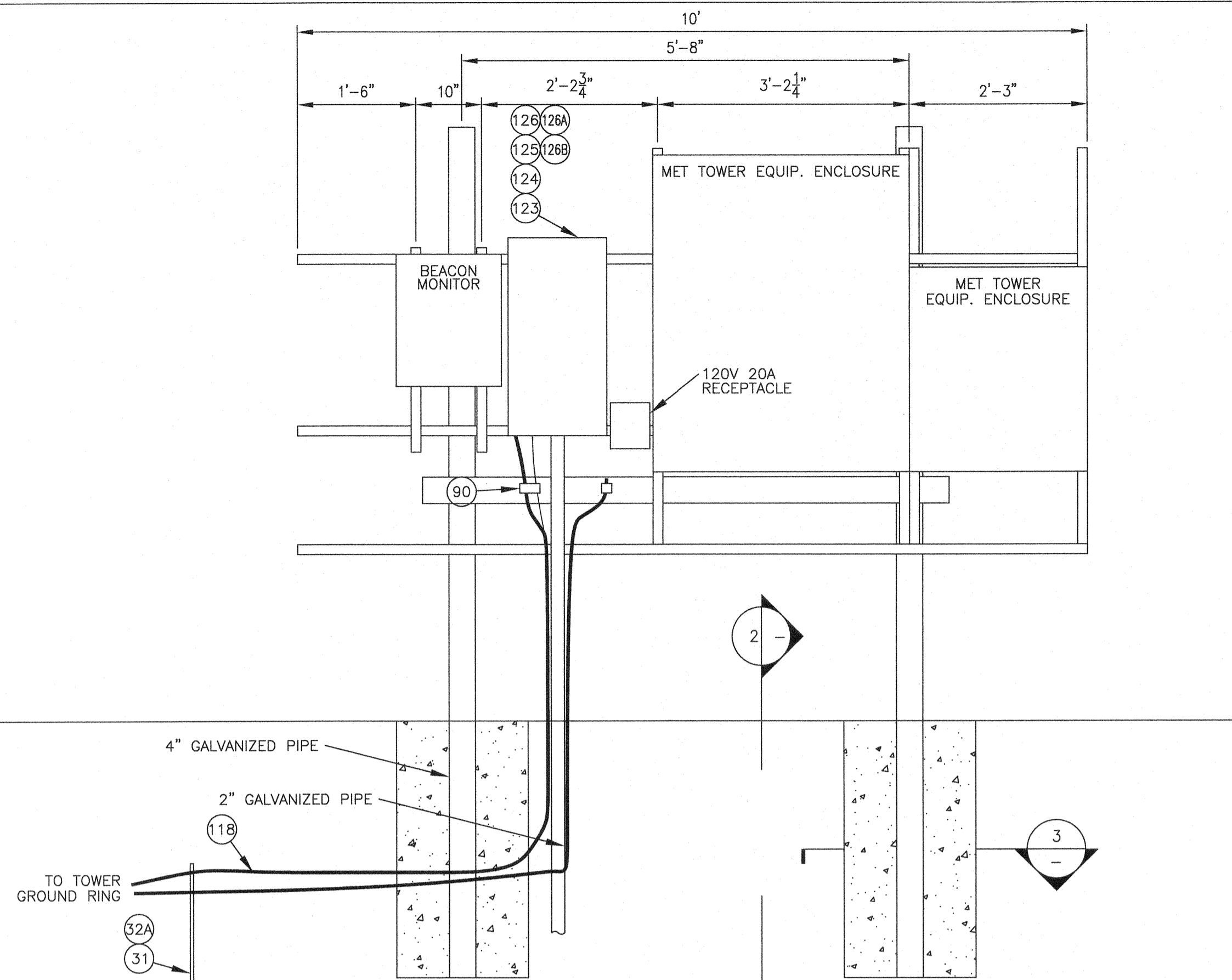
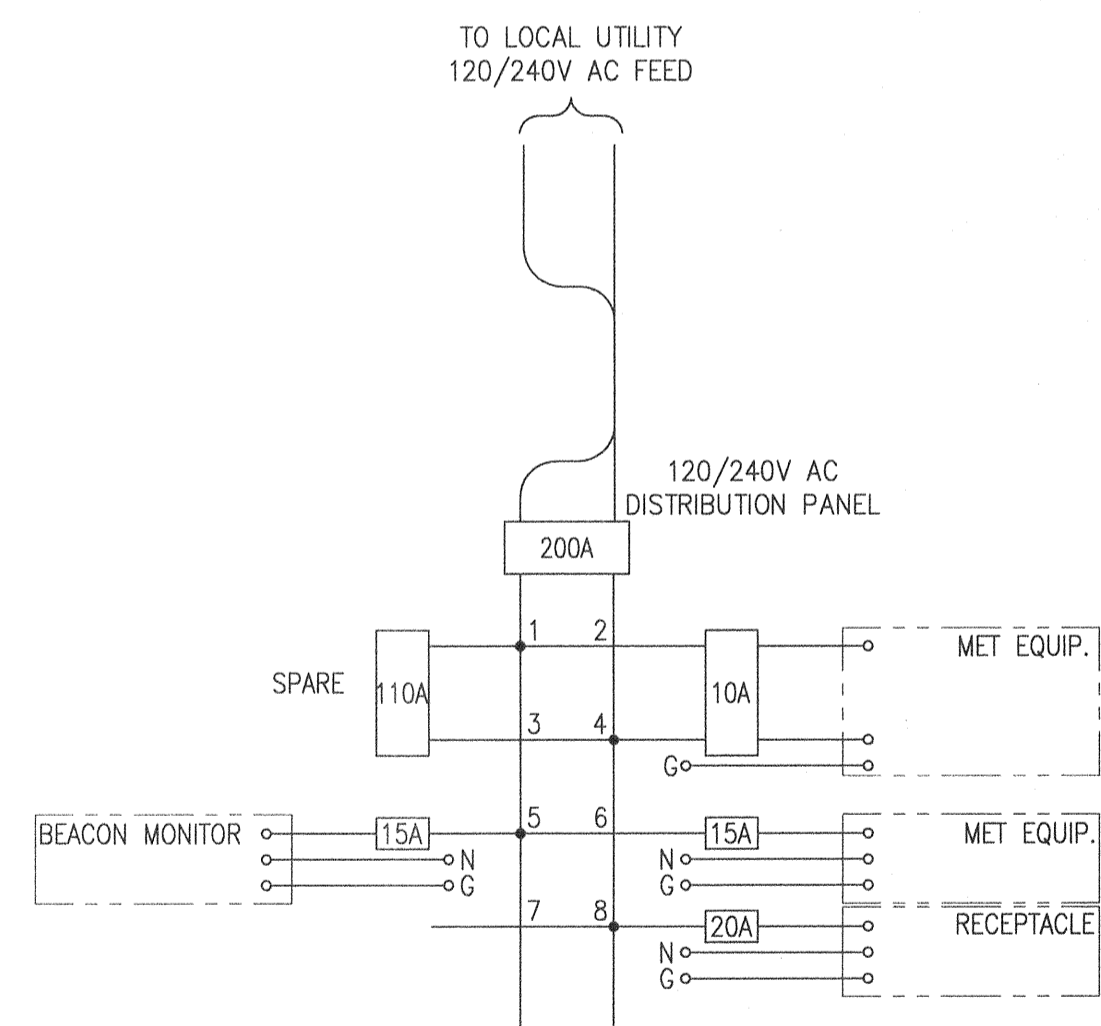


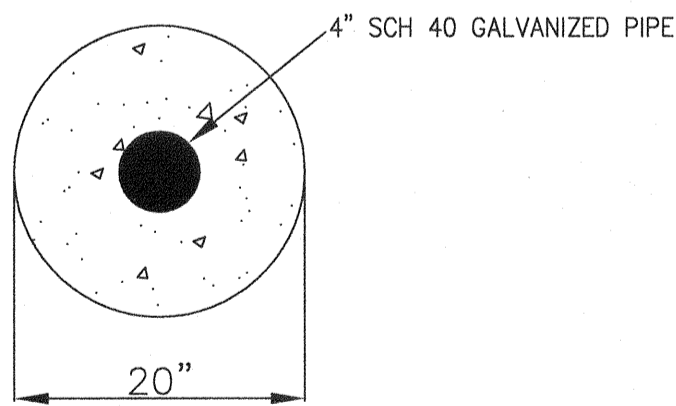
METEOROLOGICAL TOWER SERVICE EQUIP. PANEL
FACING AWAY FROM TOWER (BACK)
SCALE: 3/4"=1'-0"



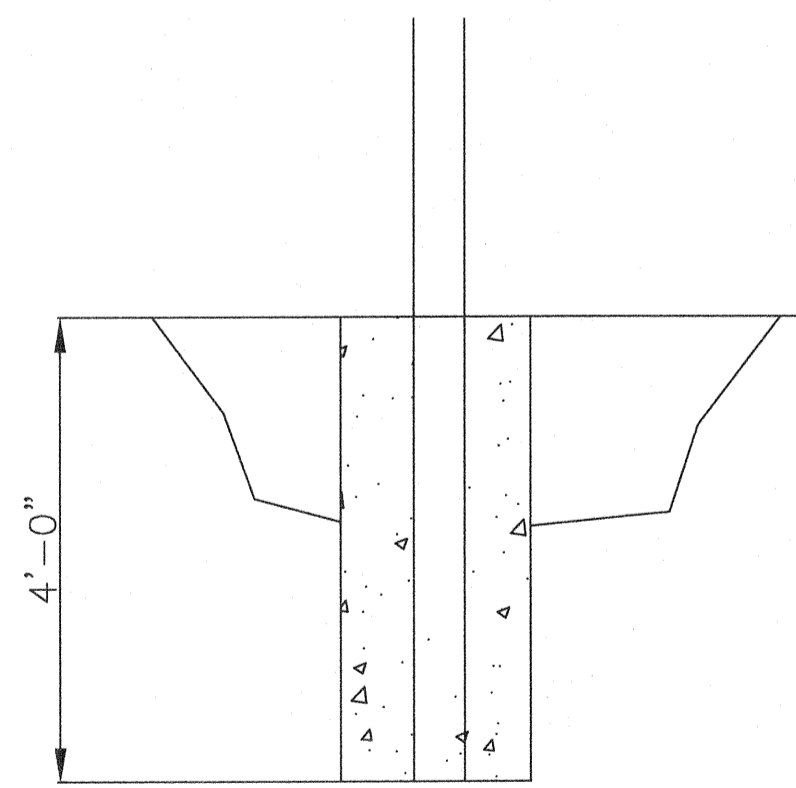
METEOROLOGICAL TOWER SERVICE EQUIP. PANEL
FACING TOWARD TOWER (FRONT)
SCALE: 3/4"=1'-0"



METEOROLOGICAL TOWER AC PANEL DETAILS
SCALE: N.T.S.



DETAIL 3
SCALE: N.T.S.



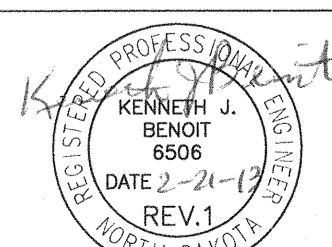
DETAIL 2
SCALE: N.T.S.

BILL OF MATERIALS - METEOROLOGICAL TOWER					
ITEM	QUANTITY	UNIT	DESCRIPTION	MANUFACTURER	CATALOG
31	2	EA	GROUND ROD, 5/8" x 8'	BLACKBURN - OE	6258
32A	1	EA	CONNECTOR, COPPER, 1/2"-5/8" ROD TO #6-1/0	HUBBELL/ ANDERSON	GC103-01
90	2	EA	GROUND CONNECTOR, TWO CABLE TO FLAT, FOR MET TOWER SERVICE PANEL	SEFCOR	GF2-08B
116	2	EA	CONDUIT BODY, TYPE LR, 1" PVC	CARLON	E985F-CAR
117	1	EA	2"x24"x90 DEGREE SWEEP RGS	CARION - OE	
118	*	FT	2#6 AWG CU MC CABLE W/PVC JACKET FOR DIRECT BURIAL W/GROUND	SOUTHWIRE	
122	2	EA	SURGE ARRESTER, 1 OR 3 PHASE, 650VAC PHASE TO GROUND MAX	SQUARE D	SDSA1175
123	1	EA	QO LOAD CENTER W/ FACTORY INSTALLED GROUND BAR	SQUARE D	QO1816M200FTRB
124	1	EA	200 AMP MAIN BREAKER, 2 POLE	SQUARE D	QO2200
125	1	EA	110 AMP CIRCUIT BREAKER, 2 POLE	SQUARE D	QO2110
126	1	EA	10 AMP CIRCUIT BREAKER, 2 POLE	SQUARE D	QO210
126A	1	EA	15A CIRCUIT BREAKER, SINGLE POLE	SQUARE D	QO115
126B	1	EA	20A CIRCUIT BREAKER, SINGLE POLE	SQUARE D	QO120
127	A/R	FT	2" RGS CONDUIT		
128	6	FT	3" SCH 80 PVC		
131	1	EA	OUTDOOR WALLBOX ASSEMBLY, TYPE FDS 24	CLEARFIELD	WDZ-024-A1F-ZZZ
144	2	EA	POST GROUND CONNECTOR	SEFCOR	GUI-6009

NOTES:

- KEEP 6" RADIUS ABOVE FIBER FREE AND CLEAR OF ROCK, (3/8" MINUS SCREENING). PROTECTIVE LAYER BELOW AS NEEDED.
- FOR ALL FIBER TRENCH DETAILS SEE DRAWING E-CA-31.
- TERMINATIONS PER SIEMENS AND MINNESOTA POWER SPECIFICATIONS.
- NATIVE SOIL TO BE USED FOR BACKFILL.
- POWER AND COMMUNICATIONS CABLE WARNING TAPE AS REQUIRED.
- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4000 PSI.
- ALL CONDUITS SHOULD BE PROPERLY FOAM FILLED AT EACH END TO PREVENT MOISTURE AND DIRT INFILTRATION.
- FOR ADDITIONAL REFERENCE, REFER TO SIEMENS SPECIFICATION FOR FIBER OPTIC INFRASTRUCTURE - ONSHORE. DOC ID: ERWP-PR-30-1432-2, PG 13. DWG TAG 1005165.
- CONTRACTOR TO INSTALL CONDUIT AND CABLE AS NECESSARY TO CONNECT ELECTRICAL EQUIPMENT.
- IF COAL SEAM IS ENCOUNTERED AT BOTTOM OF PIER, EXTEND THRU COAL SEAM SO PIER DOES NOT BEAR ON COAL SEAM.
- CABLING NOT SHOWN FOR CLARITY

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION
A	RJG	CSF	CSF	7/6/11	90% DELIVERABLE
B	RJG	CEG	CSF	7/19/11	REVISED PER CLIENT CHANGES
C	BNK	RJG	CSF	7/21/11	REVISED PER CLIENTS COMMENTS
D	BNK	RJG	CSF	8/4/11	ISSUED FOR CONSTRUCTION
1	NJG	KJK	KJK	2/21/13	CONSTRUCTION REVISIONS



CLIENT	7/8/11/16/19/20/11
BID	
CONSTRUCTION PERMITTING	10/4/11
RELEASED TO/FOR	A B C 0 1 2 3
DATE RELEASED	



Project Office:
BARR ENGINEERING CO.
4700 WEST 77TH STREET
MINNEAPOLIS, MN.
55435-4803
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Scale	N.T.S.
Date	07/08/11
Drawn	RJG
Checked	CSF
Designed	RJG
Approved	JLM



A WIND ENERGY INITIATIVE OF MINNESOTA POWER IN NORTH DAKOTA

BISON 3 WIND PROJECT
MORTON & OLIVER COUNTIES, NORTH DAKOTA
COLLECTOR SYSTEM
MET TOWER SERVICES



PIKE ENERGY SOLUTIONS, LLC.
10101 Claude Freeman Drive, Suite 100W
Charlotte, NC 28262
ND License No. 954PE

BARR PROJECT No.	34/33-1006
CLIENT PROJECT No.	
DWG. No.	E-MT-31
REV. No.	1