



NO CURRENT FLOW IN WIND FARM GROUND CONDUCTORS BACK TO SUB

69kV TRANSMISSION LINE WITH OVERHEAD GROUND WIRE FOR LIGHTNING PROTECTION

WIND FARM SUBSTATION

34.5kV UNDERGROUND CABLE WITH EQUIPMENT GROUND CONDUCTORS

DISTRIBUTION SUBSTATION

STANDARD 12.47kV DISTRIBUTION SYSTEM

TO OTHER DISTRIBUTION LOAD

SINGLE PHASE TRANSFORMER AT FARM

EQUIPMENT GROUNDING CONDUCTOR IN BARN

TO FARM ELECTRICAL LOAD

COW CONTACT VOLTAGE

NEUTRAL EARTH VOLTAGE (NEV) (STRAY VOLTAGE)

METAL FEED TROUGH

ISOLATED GROUND ROD

NOTE: METAL TROUGH CONNECTED TO ELECTRICAL GROUNDING SYSTEM IN BARN

LEGEND

- VOLT METER
- OVERHEAD CONDUCTOR
- UNDERGROUND CONDUCTOR
- CURRENT FLOW
- GROUND ROD

A	01/27/10	MAK	PRELIMINARY ISSUE				
REV.	DATE	DRAWN	DESCRIPTION	WORK ORDER	CHKD	APPD	DATE
			CONSULTING ENGINEERS GROUP FARMINGTON MINNESOTA				
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA				GOODHUE WIND ELECTRICAL DISTRIBUTION SYSTEM			
NAME	DATE	REGISTER NO.	CHECKED	DATE	SCALE	NONE	
			DRAWN	DATE	W.O. NO.	CEGAWA01	
			MAK	01/27/10	MAP NO.		
					DWG. NO.		