UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Utilities Service

BULLETIN 1724D-103

SUBJECT: System Planning Guide, System Mapping Guide

TO: RUS Electric Borrowers and RUS Electric Staff

EFFECTIVE DATE: Date of Approval

OFFICE OF PRIMARY INTEREST: Distribution Branch, Electric Staff Division


AVAILABILITY: This bulletin can be accessed on the Internet at:

http://www.usda.gov/rus/electric/bulletins.htm

PURPOSE: The purpose of this bulletin is to provide guidance to borrowers and engineers for the preparation of various maps and system diagrams required for facilities identification and location, planning and the operations of the electric distribution systems.

[Signature]
Acting Assistant Administrator
Electric Program

[Signature]
Date
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Mapping Symbols

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System Planning Guide
1 INTRODUCTION

A series of symbols, and their definitions, pertaining to electrical lines, equipment, facilities and appurtenances used on electric utility power systems, and geographic and political mapping symbols and their definitions has been developed. They are attached to this bulletin as "Mapping Symbols."

a It is suggested that RUS electric borrowers adopt these symbols as a standard and use them on maps and system diagrams which are furnished, to RUS for various reasons.

b It is anticipated that the adoption and use of these standard symbols will improve clarity and expedite reviews of maps and system diagrams furnished to RUS.

2 PURPOSE

The purpose of this bulletin is to provide guidance to borrowers and engineers for the preparation of various maps and system diagrams required for facilities identification and location, planning and the operations of the electric distribution systems.
POLE
MEMBER
IDLE SERVICE
LIGHT
FUSE

SWITCH add (no)

ABS ADD ABS OR GOAB
MOTOR OP. ADD MO
LOAD BREAK ADD LB

SUB/METERING POINT SUB NUMBER 14

MP
NAME MVA
VOLTAGE

GENERATOR UNIT NUMBER 4
NAME MW
TYPE

TRANSMISSION LINE OWNER VOLTAGE

SECONDARY JUNCTION PEDESTAL 0
SECONDARY JUNCTION PEDESTAL UG 0
VOLTAGE DROP BLOCK

REGULATED 4.2
MILES FROM SOURCE 27.2

PRIMARY/AUTO TRANSFORMER

AUTO

ALL WIRE ACSR UNLESS OTHERWISE LABELED

SINGLE PHASE

V PHASE

THREE PHASE

SECONDARY

1/0

PRIMARY UNDERGROUND

SINGLE PHASE

V PHASE

THREE PHASE

SECONDARY UNDERGROUND
JUNCTION BOXES

SWITCH BOX

PROPOSED CIRCLE/BOX/CLOUD AROUND PROJECT (3-477)

OPEN

CAPACITOR SHUNT

CAPACITOR SERIES

REGULATORS

STATION BREAKER

RECLOSERS

SECTIONALIZER

TRANSFORMER

PAD MOUNTED TRANSFORMER
BOUNDARIES

STATE LINE & INTERNATIONAL BOUNDARY

COUNTY LINE

TOWNSHIP LINE

SECTION LINE

LATITUDE & LONGITUDE LINES

RESERVATIONS, NATIONAL & STATE FORESTS & PARKS

PROJECT BOUNDARY

TERRITORY BOUNDARIES

CITY LIMITS
CULTURAL FEATURES

INTERSTATE HIGHWAY

U.S. ROUTE

STATE ROAD

FARM TO MARKET ROAD

COUNTY ROAD

UNIMPROVED ROAD

RAILROAD

ELECTRIC RAILWAY

TELEPHONE

FIBER OPTIC TRUNK LINES

BRIDGE

CITIES AND TOWNS (within corporate limits)

TOWNS AND VILLAGES
<table>
<thead>
<tr>
<th>Location Type</th>
<th>Icon</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATE CAPITAL</td>
<td>⭐</td>
</tr>
<tr>
<td>COUNTY SEAT</td>
<td>⚪</td>
</tr>
<tr>
<td>HOUSES AND OTHER BUILDINGS</td>
<td>🏠</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>🏠</td>
</tr>
<tr>
<td>CHURCH</td>
<td>🔔</td>
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<tr>
<td>HOSPITAL</td>
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<td>FACTORY</td>
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<tr>
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<tr>
<td>DOCK</td>
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<tr>
<td>CEMETERY</td>
<td>⚰</td>
</tr>
<tr>
<td>WINDMILL</td>
<td>🔔</td>
</tr>
<tr>
<td>OIL OR GAS WELLS</td>
<td>🔔</td>
</tr>
<tr>
<td>MINE OR QUARRY</td>
<td>🔨</td>
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