

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

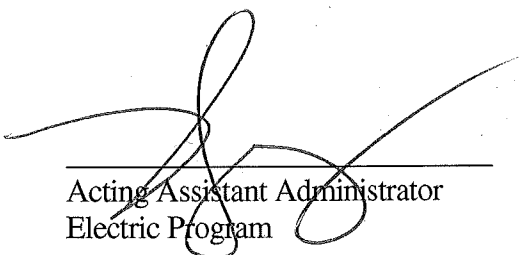
**OFFICE OF PRIMARY INTEREST:** Distribution Branch, Electric Staff Division

**FILING INSTRUCTIONS:** This Bulletin replaces Bulletin 1724D-103, "System Planning Guide, System Mapping Guide," dated July 19, 1993.

**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.



\_\_\_\_\_  
Acting Assistant Administrator  
Electric Program



\_\_\_\_\_  
Date

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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   
NAME  
MVA  
VOLTAGE

GENERATOR UNIT NUMBER   
NAME  
MW  
TYPE

TRANSMISSION LINE 

SECONDARY JUNCTION PEDESTAL 

SECONDARY JUNCTION PEDESTAL UG 

VOLTAGE DROP BLOCK

UNREG	12.7
REGULATED	4.2
MILES FROM SOURCE	27.2

PRIMARY/AUTO TRANSFORMER



ALL WIRE ACSR UNLESS OTHERWISE LABELED

SINGLE PHASE



V PHASE



THREE PHASE



SECONDARY



PRIMARY UNDERGROUND

SINGLE PHASE



V PHASE



THREE PHASE



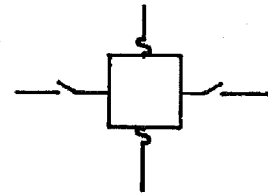
SECONDARY UNDERGROUND



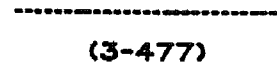
JUNCTION BOXES



SWITCH BOX



PROPOSED  
CIRCLE/BOX/CLOUD AROUND PROJECT



OPEN



CAPACITOR SHUNT



CAPACITOR SERIES



REGULATORS



STATION BREAKER



RECLOSERS



OR



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



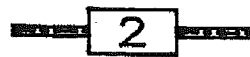
U.S. ROUTE



STATE ROAD



FARM TO MARKET ROAD



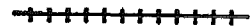
COUNTY ROAD



UNIMPROVED ROAD



RAILROAD



ELECTRIC RAILWAY



TELEPHONE



FIBER OPTIC TRUNK LINES



BRIDGE



CITIES AND TOWNS (within corporate limits)



TOWNS AND VILLAGES





STATE CAPITAL



COUNTY SEAT



HOUSES AND OTHER BUILDINGS



SCHOOL



CHURCH



HOSPITAL



FACTORY



CAMP



DOCK



CEMETERY



WINDMILL



OIL OR GAS WELLS



MINE OR QUARRY



PIPE LINE



AIRPORT



LOCATED OR LANDMARK OBJECT



TRIANGULATION STATION  
USGS BENCH MARK

ADD B.M.



