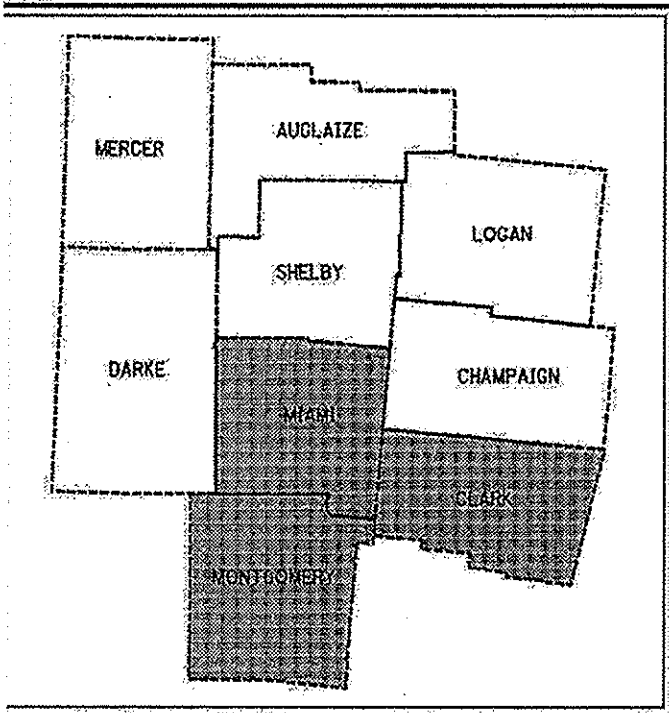


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 7
INTERSECTION TRAFFIC SIGNAL
POWER SUPPLY IMPROVEMENTS

PID NO. 92950
FEDERAL PROJECT NO. FAN E120435
CONSTRUCTION PROJECT NO.
STATE JOB NO. 479810



LOCATION MAP

PROJECT DESCRIPTION

INSTALLATION OF UNINTERRUPTED POWER SUPPLIES FOR TRAFFIC SIGNAL EQUIPMENT AT VARIOUS LOCATIONS THROUGHOUT THE DISTRICT

MAINTENANCE

PROJECT EARTH DISTURBED AREA: 0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
NOTICE OF INTENT EARTH DISTURBED AREA: N/A

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.



I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

12-13-12 Randy Chevrolet, P.E., P.S./P.E.
DATE APPROVED DISTRICT DEPUTY DIRECTOR

12-31-12 Jerry Wray, M.
DATE APPROVED DIRECTOR, DEPT. OF TRANSPORTATION

INDEX OF SHEETS:

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UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
OHIO DEPT. OF TRANSPORTATION
DISTRICT 7 - PLANNING & ENGINEERING
SIDNEY, OH

ENGINEERS SEAL:

SIGNED: Sherry S. Wampler-LEY
DATE: 12/13/12

STANDARD CONSTRUCTION DRAWINGS

MT-95.30	7/20/12	TC-83.10	1/19/07
MT-95.32	7/20/12	TC-83.20	4/20/12
MT-97.10	7/20/12		

SUPPLEMENTAL SPECIFICATIONS

800	1/18/13
832	6/6/09

D07 - VA-TRAFFIC SIGNAL
 130153 PID - 92950
 Dist 7 3/14/2013
 Contract Proposal Available @ www.contracts.dot.state.oh.us/home

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SCOPE OF WORK

The purpose of this contract is to modify existing signalized intersections within District 07 by furnishing and installing traffic signal power supply improvements.

LOCATIONS

All signalized intersections are located within the Ohio Department of Transportation, District 07 at various locations.

TERMS OF CONTRACT

The term of the contract shall be from the date of award for a period of six (6) months or until all work described in the plans is completed, whichever comes first.

GENERAL SUMMARY ESTIMATED QUANTITIES

Quantities shown in the general summary are estimated quantities based on all of the potential locations being included within this contract. They are not construed as exact and variance can be expected in the actual quantities based on actual field review. All pay items listed in the plans are considered contingency quantities meaning the Contractor will not receive payment for work that is not performed or materials that are not used unless otherwise specified in the plans.

The Contractor shall not order materials for any location until the Engineer establishes the quantities through the site inspection.

WORK INSPECTION

The Contractor shall provide the Engineer with 2 working days notice of any work to be performed at the intersection sites so that the inspection services can be supplied.

CONTRACTOR'S COMMITMENT

If at any time the Contractor is unable to meet his commitment under the terms of this contract, as determined by the Engineer, the State will proceed by any means necessary to complete the work. Any expense incurred by ODOT is connections with the completion of the work shall be charged against any amounts due the Contractor.

MATERIALS

All materials furnished for this project shall be in accordance with the new requirements of the Ohio Department Transportation Construction and Materials Specifications (CMS) dated as shown on sheet 1. Furnish new materials and equipment of first quality, of current design and free from defects. No used material will be permitted.

EXISTING PLANS AND SITE INSPECTION

Existing plans may be inspected in the ODOT District 07 Office in Sidney, Ohio.

Site inspection shall include visitation of each location and providing the Engineer with documentation for each installation. The Engineer will approve the documentation prior to any work commencing for that installation.

UTILITIES NOTE

During site inspection, the Contractor shall check for conflicts between existing and proposed improvements. Where such conflicts exist, the Contractor shall purpose a work plan to avoid the conflicts. There are no utilities shown in these plans. It is the Contractor's responsibility to properly locate and work around all utilities if any conflicts exist.

GUARANTEE

The Contractor shall guarantee that the traffic control equipment installed as part of this contract shall operate satisfactorily for a period of 90 days following the successful completion of the 10 day performance test.

The guarantee shall cover all traffic signal equipment installed by the contractor at the intersection as part of this contract.

Customary and applicable ODOT specified manufacturer's guarantees for the installed items shall be turned over to the state following acceptance of the equipment.

The cost of guaranteeing the traffic control systems will be incidental to and included in the contract unit price bid for Item 633 Uninterruptible Power Supply (UPS), As Per Plan.

ITEM 614 MAINTAINING TRAFFIC

The Contractor shall provide, erect, and maintain signs and sign supports (in proper position, clean and legible, and in good working condition) as detailed in the Ohio Manual of Uniform Traffic Control Devices.

The Contractor shall furnish and install advance warning "ROAD WORK AHEAD" (W20-1) signs, "SHOULDER WORK AHEAD" (W21-H5) signs, and "RIGHT" or "LEFT SHOULDER CLOSED" (W21-5a) signs. The actual locations shall be subject to the approval of the Engineer.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN

In addition to the requirements of CMS 633 and 733, the Contractor shall furnish, install, and test the blue LED status indicator lamp that allows maintenance personnel and law enforcement to quickly assess whether a traffic signal cabinet is being powered by an uninterruptible power supply (UPS). The LED housing shall be NEMA 4X rated for outdoor use and be tamper/shatter resistant. It shall be a natural aluminum caged globe enclosure containing a clear lens with blue LED that is visible from 100 feet minimum. The enclosure and LED lamp unit should be placed and centered on the top surface of the UPS cabinet and sealed from water intrusion. It should be wired using a minimum no. 20 AWG stranded, insulated hookup wire to the status relay outputs of the UPS. The wires shall be terminated by lugs at the display end and permanently labeled "Backup Power Status Display", with wire polarity indicated. The blue LED shall only illuminate to indicate the cabinet is operating under UPS backup power (the "backup" operating condition). This item also includes programming the UPS status relay outputs to produce the lamp status displays. These status displays will be solid 100% duty cycle (not flashing) displays. The operating voltage of the LED lamp shall be 120V AC unless otherwise indicated. All material necessary to complete the work is included in the unit price.

ITEM 633 CONTROLLER ITEM, MISC.: UNINTERRUPTIBLE POWER SUPPLY (UPS) FOUNDATION RETROFIT

This item shall consist of all work and materials required for the retrofit and upgrade of the existing traffic signal foundation to accommodate the UPS enclosures. The proposed retrofit shall include required excavation and additional concrete to produce a pad at least 20 inches wide and of a length equal to the existing cabinet foundation length. The new foundation shall be doweled into the existing foundation with 2 inch diameter dowels spaced approximately 12 to 18 inches center to center horizontally. The dowels shall be 18 inches long with at least 6 inches of the dowel into each foundation, existing and new. The depth of the foundation retrofit will be equal to the existing cabinet foundation. Dowels will also be required vertically with similar spacing requirements. Anchor bolts shall be required as directed by the UPS enclosure manufacturer. All conduit and fittings required shall be 2 inches. Care should be taken during construction to avoid disturbance of the existing

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**D07 - SIGNAL POWER
SUPPLY IMPROVEMENTS**

GENERAL NOTES

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**ITEM 633 CONTROLLER ITEM, MISC.: UNINTERRUPT-
IBLE POWER SUPPLY (UPS) FOUNDATION RETROFIT
(cont.)**

cabinet foundation, conduit and ells, and grounding. If any of these items are damaged during construction affecting the function and operation of a signal, any work or materials required to restore the function and operation will be included in the price for the retrofit. Materials and labor required for the installation of controller workpads as per SCD TC-83.20 is also included in the foundation retrofit. If the existing traffic cabinet is on a riser, the UPS enclosure will require a similar riser. Existing plans should be obtained from ODOT District 7 for each site. Based on the plans and site inspection, the foundation retrofit shall be laid out and approved by the project Engineer prior to construction. Details not described above shall be completed as per sheet 4 of the plans, applicable CMS sections, and Engineer direction. Payment for all labor and materials relating to foundation retrofit shall be included in the contract price bid for the item.

**ITEM 633 CONTROLLER ITEM, MISC.: UNINTERRUPT-
IBLE POWER SUPPLY (UPS) POLE RETROFIT**

This item shall consist of all work and materials required for the retrofit and upgrade of the existing traffic signal pole to accommodate the UPS enclosures. The proposed retrofit shall include required conduit, attachments, and connectors. The UPS cabinets shall be banded to the existing poles without interfering or disrupting with existing attachments to the pole. All conduit and fittings required shall be 2 inches. Care should be taken during installation to avoid disturbance of the existing cabinet, conduit and ells, and grounding. If any of these items are damaged during construction affecting the function and operation of a signal, any work or materials required to restore the function and operation will be included in the price for the retrofit. Conduit and ells required for connecting the disconnect switch enclosure and the proposed UPS cabinet shall be included in the cost. The exact quantities of those materials required will vary by site. The quantity of cable required for grounding conductor connections will also vary. The installation height of the UPS cabinet will be dependent on the existing cabinet, meter, and

**ITEM 633 CONTROLLER ITEM, MISC.: UNINTERRUPT-
IBLE POWER SUPPLY (UPS) POLE RETROFIT
(cont.)**

disconnect switch enclosure heights. Existing plans should be obtained from ODOT District 7 for each site. Based on the plans and site inspection, the pole retrofit shall be laid out and approved by the project Engineer prior to construction. Details not described above shall be completed as per sheet 5 of the plans, applicable CMS sections, and Engineer direction. Payment for all labor and materials relating to pole retrofit shall be included in the contract price bid for the item.

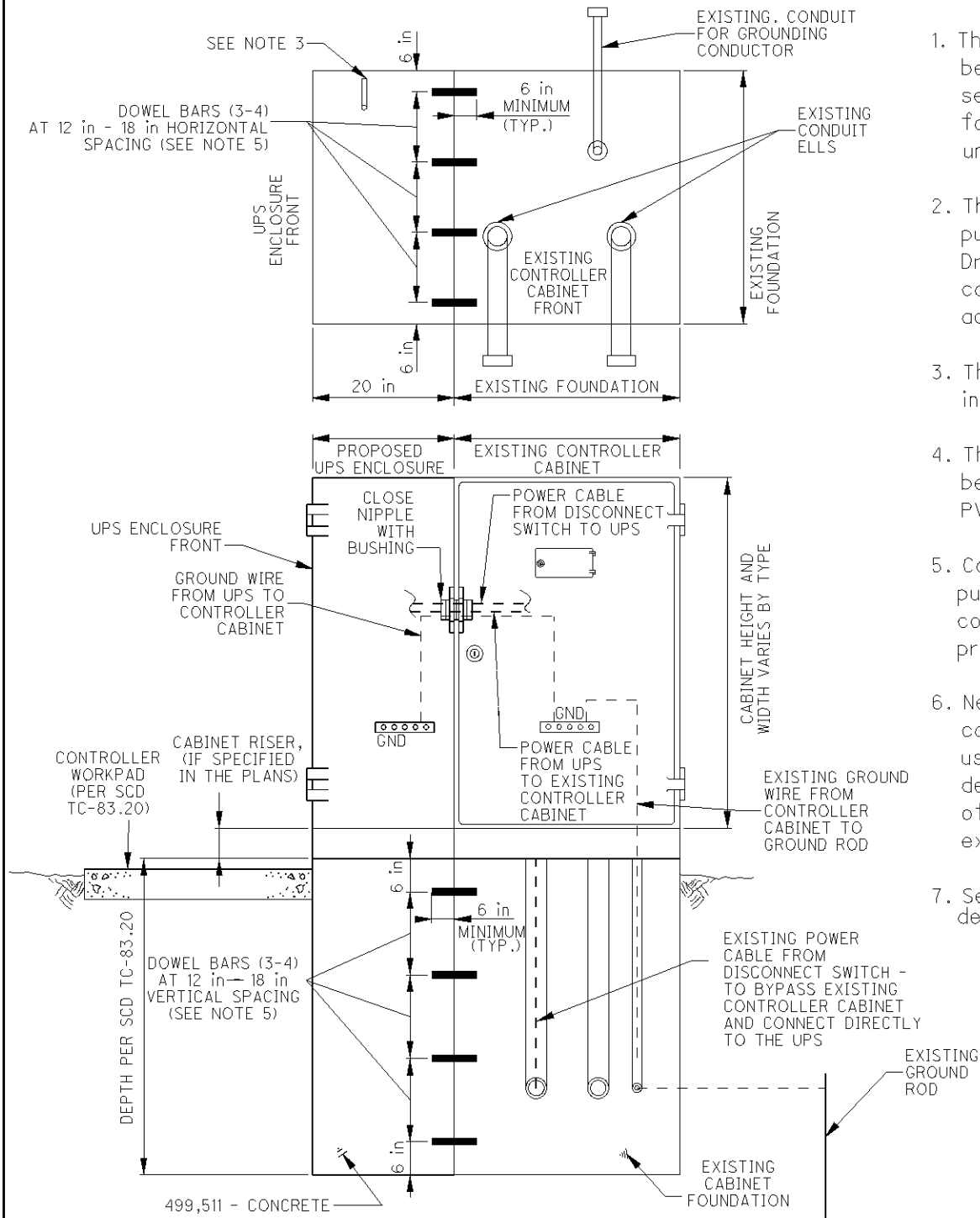
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**D07 - SIGNAL POWER
SUPPLY IMPROVEMENTS**

GENERAL NOTES

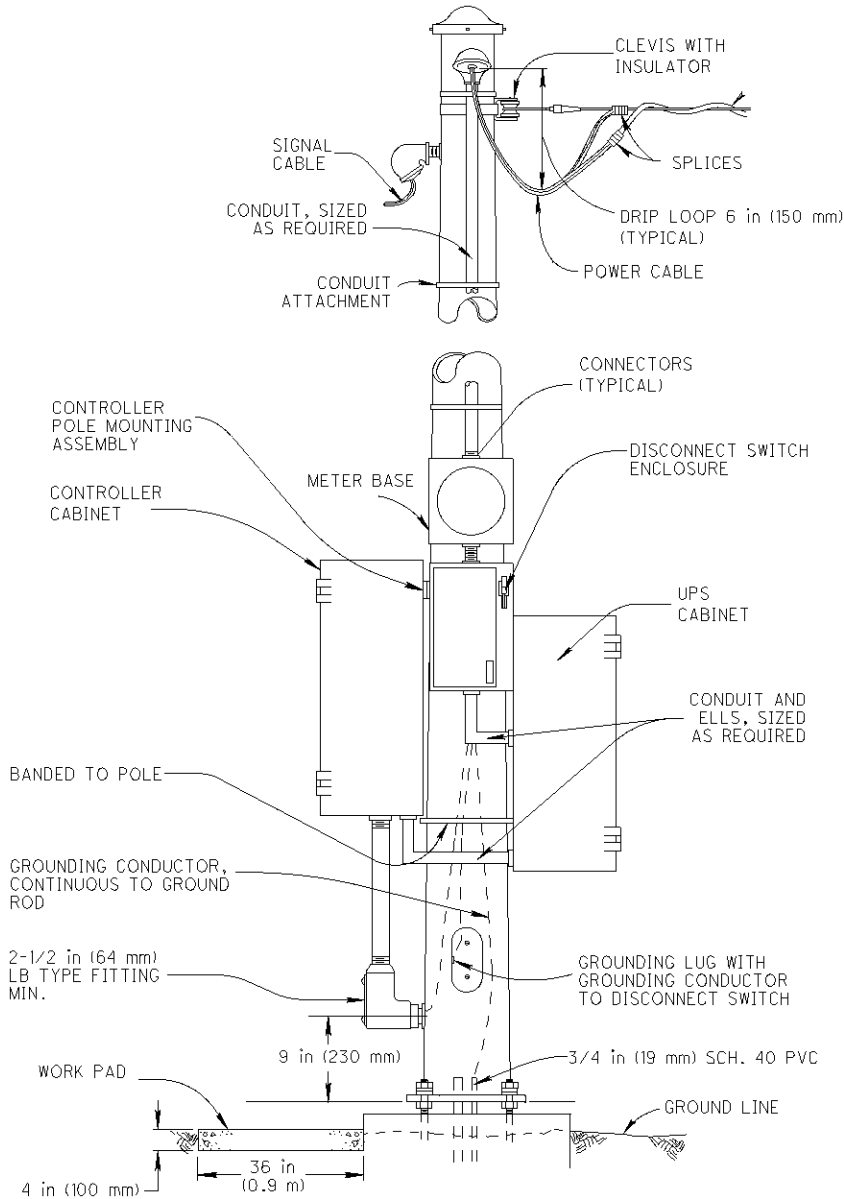
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1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc...
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a 3/4 inch schedule 40 PVC shall be installed in each foundation.
5. Conduit shown between the cabinets is for estimating purposes only and additional items may be needed for the completion of work and are to be included in the unit price.
6. New UPS enclosure foundations with abutting existing cabinet foundations are to be doweled to each other by use of 3/4 inch diameter by 18 inch long epoxy coated deformed dowel bars, as per CMS 509 and 510. The number of horizontal dowel bars required varies based on the existing foundation dimensions.
7. See Standard Construction Drawing TC-83.20 for further details.

DESIGNED R.J.L.	REVISION DATE 04/20/12	CHECKED J.M.Y.	OFFICE OF TRAFFIC ENGINEERING
PLAN INSERT SHEET			UNINTERRUPTIBLE POWER SUPPLY (UPS) FOUNDATION RETROFIT
D07 - SIGNAL POWER SUPPLY IMPROVEMENTS			
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UPS POLE MOUNTING ON STEEL POLES



NOTES

1. Orientation of the cabinet, meter, UPS cabinet, and disconnect switch enclosure shall be arranged to minimize exposure to the street side and also minimize encroachment on sidewalks, unless otherwise shown on the plans.
2. UPS cabinets and hardware added to existing wood poles shall be similar to that shown for the steel pole with the exception of the attachment hardware.
3. The top of the meter base shall not exceed 6 feet (1.8 m) above the ground. The mounting height of the LB type fitting may be decreased in order to accommodate a larger meter base.
4. Conduit attachment shall be by means of two hole conduit straps with a maximum spacing of 5 feet (1.5 m) minimum fastener requirements are as follows:
 wood poles- 1/4 x 3 inch (6.4 x 76 mm) long lag screws, No. 14 X 3 inch (76 mm) long round head screws, or 20d spikes
 steel poles- 1/4 inch (6.41 mm) screws, self tapping or with drilled and tapped hole, in lieu of conduit clamps, 3/4 inch (19 mm) wide passivated stainless steel banding may be used on steel poles.
5. Conduit connections at the top and bottom of the UPS cabinet shall be watertight and shall use the hubs listed on the enclosure and meter base U. L. labels. Conduit shall be bent to allow the conduit to enter straight into the cabinet, and to provide space for the weatherhead when riser is pulled tight against the pole.
6. No field drilling of existing poles will be permitted.
7. See Standard Construction Drawing TC-83.10 and Plan Insert Sheet 208321 for further details not shown here.

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**D07 - SIGNAL POWER
SUPPLY IMPROVEMENTS**

**UNINTERRUPTIBLE POWER SUPPLY (UPS) -
POLE MOUNTING RETROFIT**

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County	Ref. No.	Location	Existing Cabinet Type
CLA	1	SR 41 and Titus Ridge Road	pole
CLA	2	SR 41 and Upper Valley Mall Entrance	pole
CLA	3	US 68 and Young's Jersey Dairy Drive	ground
CLA	4	IR 70 and SR 41 EB Ramp	pole
CLA	5	IR 70 and SR 41 WB Ramp	pole
CLA	6	SR 235 and Styer Drive	ground
MIA	7	IR 75 and SR 571 NB Ramp	ground
MIA	8	IR 75 and SR 571 SB Ramp	ground
MIA	9	IR 75 and US 36 NB Ramp	pole
MIA	10	IR 75 and US 36 SB Ramp	ground
MOT	11	SR 4 and Dayton-Liberty Road	ground
MOT	12	US 35 and Diamond Mill Road	pole
MOT	13	IR 75 and Wagner-Ford Road NB/SB Ramps	pole
MOT	14	IR 75 and Needmore Road NB/SB Ramps	ground
MOT	15	IR 75 and US 40 NB Ramp	ground
MOT	16	IR 75 and US 40 SB Ramp	ground
MOT	17	IR 675 and Alex-Bell Road	ground
MOT	18	IR 675 and SR 48	pole
MOT	19	SR 725 and Mall Park Drive	ground
MOT	20	SR 725 and Kingsridge Drive	ground
MOT	21	SR 725 and South Towne Center Drive	ground
MOT	22	SR 725 and Southwind-Washington Village Road	ground
MOT	23	SR 725 and McEwen Road	ground
MOT	24	SR 725 and Paragon Road	ground
MOT	25	SR 725 and North Congress Park Drive	ground
MOT	26	SR 725 and IR 675 NB	ground
MOT	27	SR 741 and Miami Village Drive	ground
MOT	28	SR 741 Carnation Road	ground
MOT	29	SR 741 and Meijers Drive	ground

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**D 07 - SIGNAL POWER
SUPPLY IMPROVEMENTS**

LOCATION DETAILS

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