# MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

# PLANS FOR PROPOSED STATE HIGHWAY

## PETTIS COUNTY

### DESIGN DESIGNATION

A.A.D.T. - 2013 = 4490
A.A.D.T. - 20XX = -
D.H.V. = -
T = -
V = 55 M.P.H.
D = -

FUNCTIONAL CLASSIFICATION - PRINCIPLE ARTERIAL

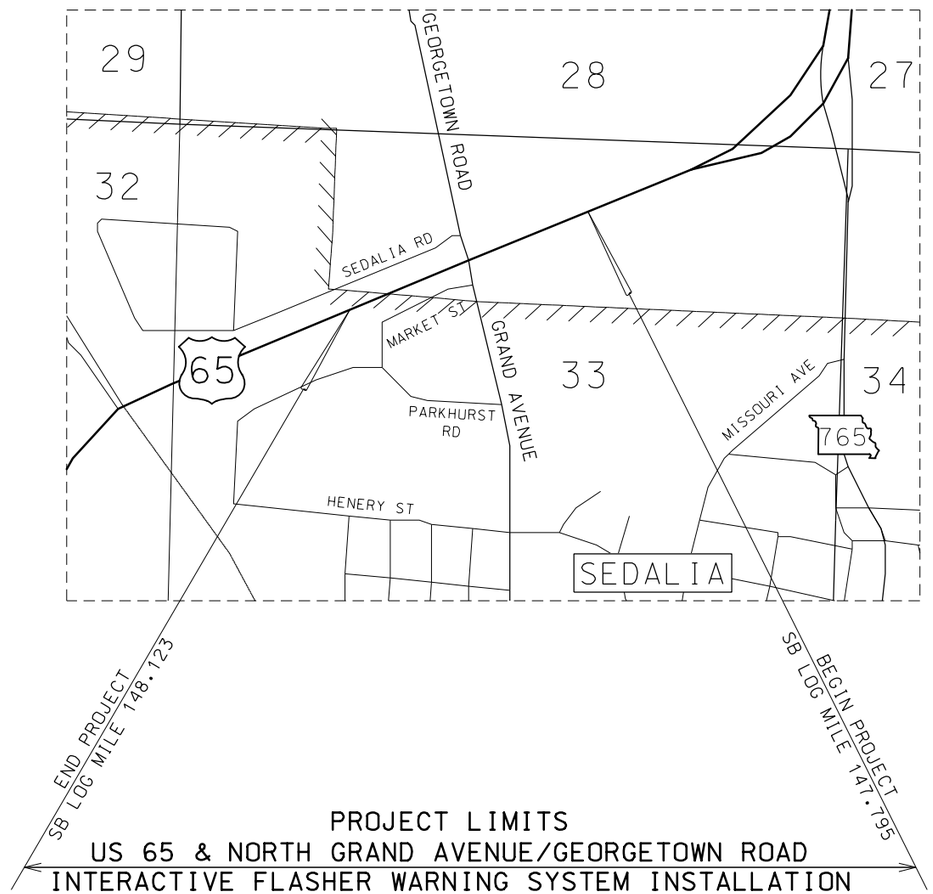
NO RIGHT OF WAY OR EASEMENTS AQUIRED UNDER THIS CONTRACT.

### CONVENTIONAL SYMBOLS
(USED IN PLANS)

| | EXISTING | NEW |
|---|---|---|
| BUILDINGS AND STRUCTURES | | |
| GUARD RAIL | | |
| CONCRETE RIGHT-OF-WAY MARKER | | |
| STEEL RIGHT-OF-WAY MARKER | | |
| LOCATION SURVEY MARKER | | |
| UTILITIES | | |
| FIBER OPTICS | FO | FO |
| OVERHEAD TELEPHONE | | |
| UNDERGROUND TELEPHONE | T | T |
| OVERHEAD POWER | | |
| UNDERGROUND POWER | P | P |
| GAS | G | G |
| WATER | W | W |
| MANHOLE | SAN | |
| FIRE HYDRANT | HYD | |
| WATER VALVE | WV | |
| WATER METER | WM | |
| DROP INLET | DI | |
| DITCH BLOCK | | |
| GROUND MOUNTED SIGN | SIGN | |
| LIGHT POLE | | |
| H-FRAME POWER POLE | | |
| TELEPHONE PEDESTAL | PED | |
| FENCE | | |
| CHAIN LINK | V | |
| WOVEN WIRE | X | |
| GATE POST | | |
| BENCHMARK | BM | |

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

T46N R21W




PROJECT LIMITS
US 65 & NORTH GRAND AVENUE/GEORGETOWN ROAD
INTERACTIVE FLASHER WARNING SYSTEM INSTALLATION

NOT TO SCALE

### INDEX OF SHEETS


| DESCRIPTION | SHEET NUMBER |
|---|---|
| TITLE SHEET | 1 |
| TYPICAL SECTIONS (TS) (XX SHEETS) | - |
| QUANTITIES (QU) (XX SHEETS) | - |
| PLAN-PROFILE (PP) | 2 |
| RIGHT OF WAY (RW) | - |
| REFERENCE POINTS (RP) | - |
| COORDINATE POINTS (CP) | - |
| SPECIAL SHEETS (SS) | - |
| TRAFFIC CONTROL SHEETS (TC) | - |
| EROSION CONTROL SHEETS (EC) | - |
| LIGHTING (LT) | - |
| SIGNALS (SG) | 3 - 6 |
| SIGNING (SN) | - |
| PAVEMENT MARKING (PM) | - |
| CULVERT SECTIONS (CS) | - |
| CROSS SECTIONS (XS) | - |


### LENGTH OF PROJECT

BEGINNING OF PROJECT SB LOG MILE 147.795
END OF PROJECT SB LOG MILE 148.123

APPARENT LENGTH 1732.10 FEET

EQUATIONS AND EXCEPTIONS:

TOTAL CORRECTIONS 0.00 FEET
NET LENGTH OF PROJECT 1732.10 FEET
STATE LENGTH 0.328 MILES

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

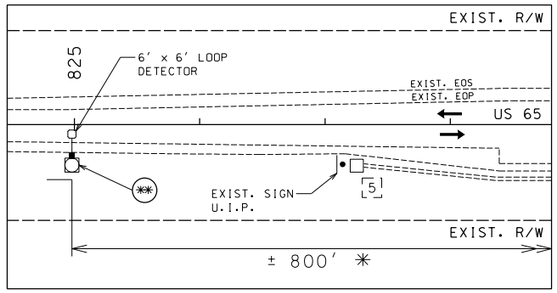
| DATE PREPARED | |
|---|---|
| 8/28/2014 | |
| ROUTE 65 | STATE MO |
| DISTRICT KC | SHEET NO. 1 |
| COUNTY PETTIS | |
| JOB NO. | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

| DATE | DESCRIPTION |
|---|---|
| | |


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)


IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

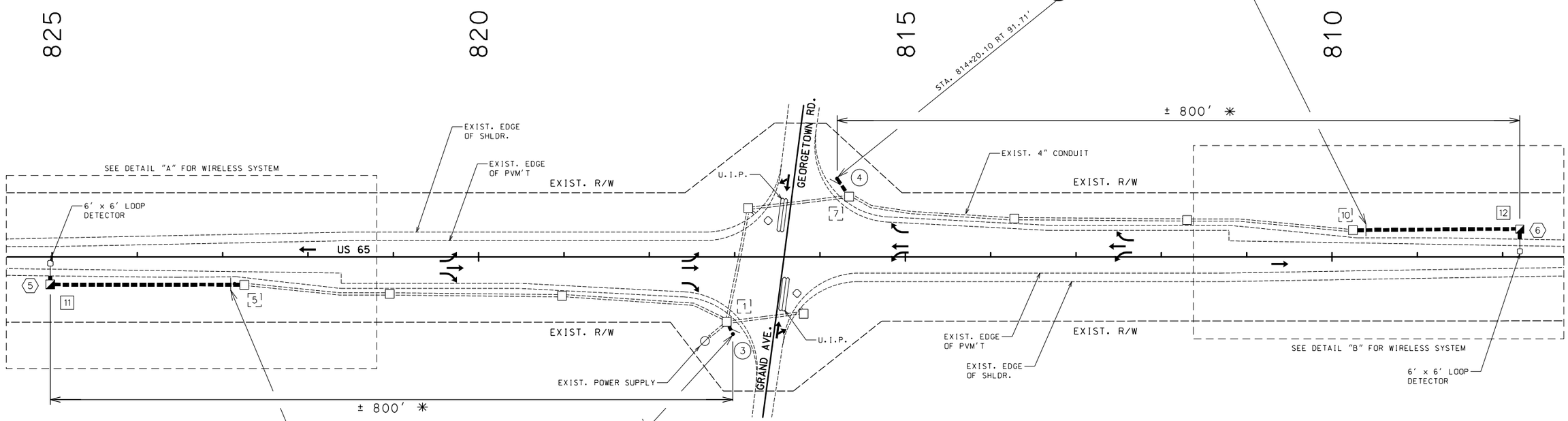



DETAIL "A" OPTIONAL WIRELESS SYSTEM

NOTES:

(1) 3/4" - 8' GROUND ROD AT EVERY BASE.
(2) 2" CONDUIT WITH #6 BARE GROUND FROM GROUND ROD TO LUG IN EVERY BASE.
(3) POST CAPS ON ALL 4 1/2" POSTS.
(4) EXACT LOCATION TO BE DETERMINED IN THE FIELD.
(5) WARNING SIGNS - 48" X 48" BLACK ON YELLOW DIAMOND WITH TEXT "WATCH FOR APPROACHING TRAFFIC."

| SYMBOL | REMARKS |
|---|---|
| 3 4 | TYPE C CONCRETE BASE AND PEDESTAL BASE, 15' - 4 1/2" A1 POST, 2 - 12" SINGLE SECTION, YELLOW LED SIGNAL HEADS WITH VISORS AND BACKPLATES, WARNING SIGN, SOLAR AND WIRELESS. |




| LEGEND | |
|---|---|
| • | SIGN (SIGLE SIDED) |
| ∅ | EXISTING POWER SUPPLY |
| □ | EXISTING PULL BOX |
| ◪ | PREFORMED PULL BOX TYPE 1 |
| | 30 X 6 LOOP DETECTOR |
| | 6 X 6 LOOP DETECTOR |
| | CONDUIT EXISTING |
| | CONDUIT TRENCHED |

SCALE

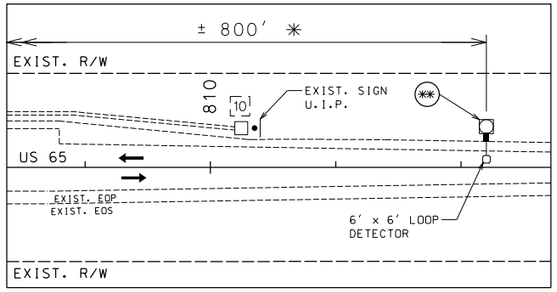
0 60 120 180

WARNING FLASHER SYSTEM OPTION

THE CONTRACTOR MAY SUBSTITUTE A WIRELESS WARNING FLASHER SYSTEM FOR THE HARD WIRED SYSTEM SHOWN (SEE JSP).

SEE "A" AND "B" FOR ADDITIONAL DETAILS.

| SYMBOL | REMARKS |
|---|---|
| ✳✳ | TYPE C CONCRETE BASE AND PEDESTAL BASE, 15' - 4 1/2" A1 POST, DETECTION DEVICE, CONTROL STATION WITH SOLAR AND WIRELESS. |




DETAIL "B" OPTIONAL WIRELESS SYSTEM

✳ - FINAL DIMENSION TO BE DETERMINED IN THE FIELD.

PLAN SHEET
WARNING FLASHER INSTALLATION
INTERSECTION OF RTE. 65, GRAND AVE., GEORGETOWN RD.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

| DATE PREPARED | |
|---|---|
| 4/24/2015 | |
| ROUTE 65 | STATE MO |
| DISTRICT KC | SHEET NO. 2 |
| COUNTY PETTIS | |
| JOB NO. | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

EFFECTIVE: 07/01/2013

| POST NUMBER | PULL BOX NUMBER | LOCATION: APPROACH | LOCATION: STATION | LOCATION: OFFSET | BASE: A 9 | A 9.5 | A 10 | A 10.5 | A 11 | A 12 | F 9 | F 9.5 | F 10 | F 10.5 | F 11 | F 12 | C | CONCRETE** (CU. YDS.) | PULL BOX: PREFORMED CONCRETE CLASS 1 | CLASS 2 | CLASS 3 | CLASS 5 | STANDARD | DOUBLE, TYPE A | DOUBLE, TYPE B | DRAIN TYPE* I | II A | II B | II C | POST: TOP MOUNT POST 8 FT. | 15 FT. | TYPE C & CL: ARM LENGTH A | A | A | A | SIGNAL SPACING B | C | D | D' | SIGN SPACING B | C | D | D' | TYPE B & BL: ARM LENGTH E | K | E | K | E | K | LEFT ARM E: SIGNAL SPACING F | G | H | H' | SIGN SPACING F | G | H | H' | RIGHT ARM K: SIGNAL SPACING L | M | N | N' | SIGN SPACING L | M | N | N' | INCLUDED ANGLE | LUMINAIRE BRACKET ARM* 4 FT. | 6 FT. | 8 FT. | 10 FT. | 12 FT. | 15 FT. |
|---|---|---

EFFECTIVE: 07-01-2008

## CONDUIT

| FROM | TO | CENTER TO CENTER DISTANCE | LOOP DET. 1" | TRENCH 2" | TRENCH 3" | TRENCH 4" | | PUSHED 2" | PUSHED 3" | PUSHED 4" | MEDIAN 2" | MEDIAN 3" | MEDIAN 4" | ON STRUCTURE 2" | ON STRUCTURE 3" | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 16′ | | | 18′ | | | | | | | | | | | | |
| 7 | 4 | 26′ | | | 28′ | | | | | | | | | | | | |
| 5 | 11 | 128′ | | | 126′ | | | | | | | | | | | | |
| 11 | 5 | 10′ | 10′ | | | | | | | | | | | | | | |
| 10 | 12 | 196′ | | | 194′ | | | | | | | | | | | | |
| 12 | 6 | 12′ | 12′ | | | | | | | | | | | | | | |
| SUBTOTALS | | | 22′ | | 366′ | | | | | | | | | | | | |
| TOTALS | | | 22′ | | 366′ | | | | | | | | | | | | |

## CABLE

| FROM | TO | CENTER TO CENTER DISTANCE | POWER | | CONTROL 3c #12 | CONTROL 5c #16 | CONTROL 7c #16 | CONTROL 3c #16 | CLOSED LOOP INTERCONNECT 3 PAIR #16 | LUMINAIRE CONTROL 2c #12 | LUMINAIRE POLE & BRACKET 1c #10 | DETECTOR 1c #14 IN DUCT | DETECTOR 2c #14 LEAD-IN CABLE | FIBER SINGLE-MODE | FIBER MULTI-MODE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ø | 31 | 50′ | | | 77′ | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | |
| Ø | 41 | 314′ | | | 341′ | | | | | | | | | | | |
| | 42 | | | | | | | | | | | | | | | |
| Ø | 5 | 858′ | | | | | | | | | | 100′ | 893′ | | | |
| Ø | 6 | 1105′ | | | | | | | | | | 100′ | 1152′ | | | |
| SUBTOTALS | | | | | 418′ | | | | | | | 200′ | 2045′ | | | |
| TOTALS | | | | | 418′ | | | | | | | 200′ | 2045′ | | | |

INTERSECTION US 65, GRAND AVE., GEORGETOWN RD.

D-37B

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 8/28/2014

ROUTE 65 | STATE MO

DISTRICT KC | SHEET NO. 4

COUNTY PETTIS

JOB NO.

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

| DESCRIPTION | DATE |
|---|---|
| | |

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

EFFECTIVE 0401-2002

## POWER SUPPLY

| LOCATION | | | POWER SUPPLY ASSEMBLY | | CIRCUIT BREAKER TRIP RATING ✱ | | | | LIGHTING CONTROL ✱ (ON POWER SUPPLY) | | SERVICE POLE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CONTROLLER | | POWER SUPPLY DISCONNECT | | | | | |
| APPROACH | STATION | OFFSET | DRAWING 902.15 | DRAWING | AUXILIARY BREAKER | CONT & SIGNAL LAMPS | MAIN BREAKER | | 120 VOLT CONTROL CABINET | MAIN BREAKER | CONTRACT FURNISH | UTILITY COMPANY |
| | | | | | | | SIGNALS | LIGHTING | | | | |
| | | | Type | | 15 Amps | 15 Amps | 40 Amps | Amps | | Amps | Cl. Ft. | |
| | | | Type | | 15 Amps | Amps | Amps | Amps | | Amps | Cl. Ft. | |

## CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT

| LOCATION | | | SYSTEM MASTER (CLOSED LOOP) | | ACTUATED | | ON-OFF ✱ SWITCH TYPE | | COORDINATION INTERFACE ✱ | | | | | | TIME ✱ CLOCK | NEMA CABINET TYPE ✱ | | | 170 CABINET TYPE ✱ | | 170 SOFTWARE ✱ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 12C/7C HARDWIRE (1) | | | CLOSED LOOP | | | | | | | | | | |
| APPROACH | STATION | OFFSET | NEMA | 170 | NEMA | 170 | I | II | MASTER | LOCAL | TIME BASE | NEMA | 170 | FIBER | | E | EV | DOUBLE | 332 | 336S | BITRAN | WAPITI |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |

## DETECTOR SCHEDULE

| DETECTOR NUMBER | APPROACH | TYPE | | | | |
|---|---|---|---|---|---|---|
| | | PUSH BUTTON | INDUCTION LOOP (2) | | | VIDEO |
| | | | STANDARD | DELAY/ EXTEND ✱ | CALL UNIT ✱ | |
| 5 | ROUTE 65 | | 1 | | | |
| 6 | ROUTE 65 | | 1 | | | |
| TOTAL | | | 2 | | | |

✱ ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

(1) MoDOT "D" PLUG SHALL BE WIRED INTO ALL NEMA CONTROLLERS WITH 7C HARDWIRE INTERCONNECT.

(2) PAYMENT IS MADE FOR THE NUMBER OF 2-CHANNEL DETECTOR CARDS AS SHOWN BELOW THE ASSIGNMENT CHART.

## NEMA DETECTOR ASSIGNMENT

| | | CARD POSITION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| CHANNEL | 1 | | | | | | | | |
| | 2 | | | | | | | | |

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

## 170 INPUT FILE ASSIGNMENTS

| | CHANNEL | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| "I" | U | | | | | | | | | | | | | | |
| | L | | | | | | | | | | | | | | |
| "J" | U | | | | | | | | | | | | | | |
| | L | | | | | | | | | | | | | | |

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

## 170 OUTPUT FILE ASSIGNMENTS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| FR1 | | | | | | | MONITOR |
| FR2 | | | | | | | |
| FR3 | | | | | | | |
| FR4 | | | | | | | |

## 170 AUXILIARY OUTPUT FILE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| FR5 | | | | | | | |
| FR6 | | | | | | | |

## NEMA LOAD SWITCH ASSIGNMENTS

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |

US 65, GRAND AVE., GEORGETOWN RD.

INTERSECTION

D-37C

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

| DATE PREPARED | |
|---|---|
| 3/4/2015 | |
| ROUTE 65 | STATE MO |
| DISTRICT KC | SHEET NO. 5 |
| COUNTY PETTIS | |
| JOB NO. | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

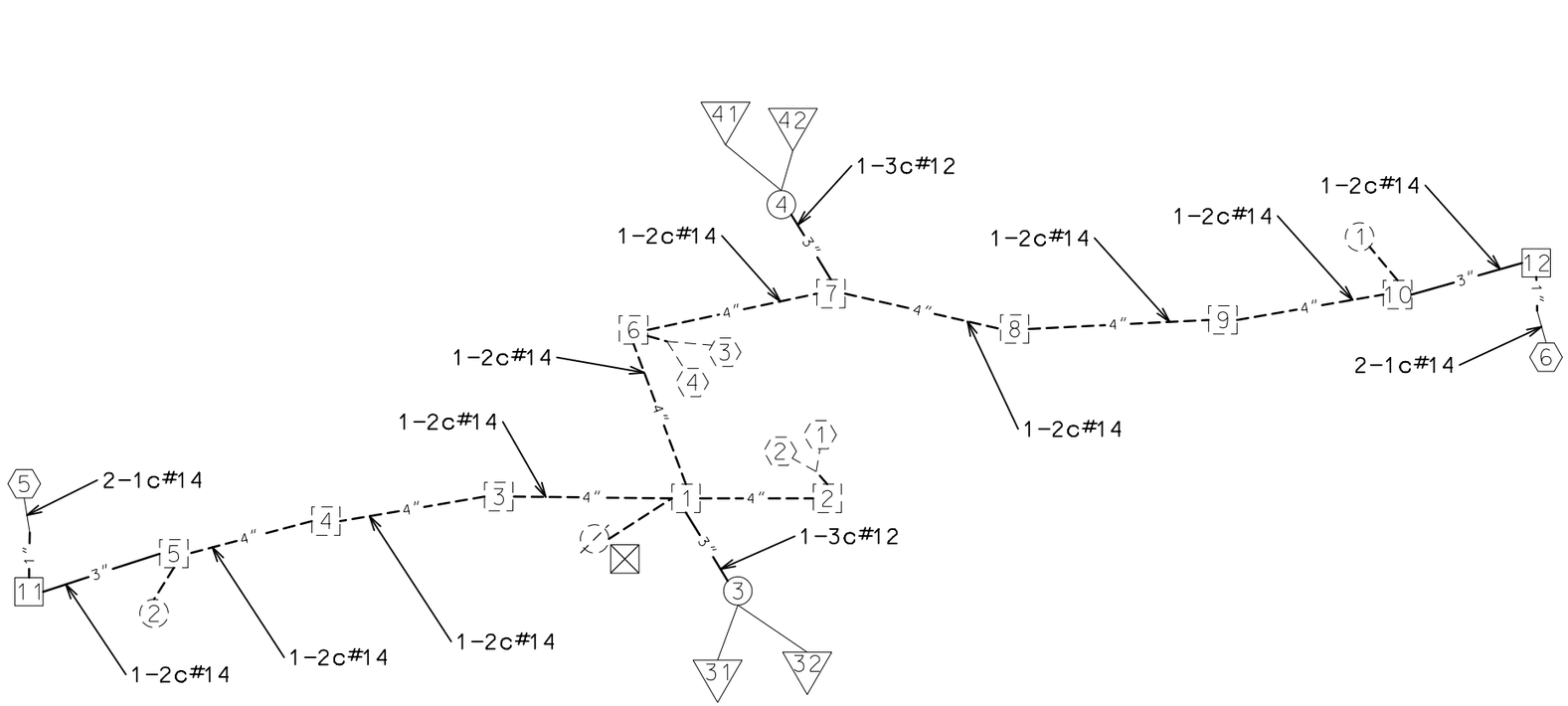
| DESCRIPTION | DATE |
|---|---|
| | |

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

EFFECTIVE 04-01-99

# WIRING DIAGRAM




NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

## LEGEND

| | |
|---|---|
| 3" | CONDUIT CONTAINING CABLE WITH SIZE |
| | CABLE |
| X-Xc | MULTI-CONDUCTOR CABLE #12 AWG (UNLESS OTHERWISE INDICATED) |
| LIC | #14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED) |
| X | PULL BOX WITH NUMBER |
| X | POST WITH NUMBER |
| X | POST WITH MAST ARM |
| X | POST WITH MAST ARM AND LUMINAIRE |
| X | DETECTOR WITH NUMBER |
| X | SIGNAL HEAD WITH NUMBER |
| | SIGNAL CONTROLLER |
| | POWER SUPPLY |
| | LIGHTING CONTROLLER |

US 65, GRAND AVE., GEORGETOWN RD.

INTERSECTION

D-37D

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

| DATE PREPARED | |
|---|---|
| 9/9/2014 | |
| ROUTE 65 | STATE MO |
| DISTRICT KC | SHEET NO. 6 |
| COUNTY PETTIS | |
| JOB NO. | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

| DATE | DESCRIPTION |
|---|---|
| | |

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.