

**NO. 1 CONDUCTORS/CABLES**

- A. ALL CONDUCTORS AND CABLES FROM SIGNAL HEADS AND DETECTORS SHALL BE RUN IN UNDERGROUND CONDUIT, RISERS ON POLES OR ON MESSENGER CABLE SHALL BE RUN IN THE MOST DIRECT ROUTE TO THE CONTROLLER CABINET IN ACCORDANCE WITH THE PLANS.
- B. A SPARE LENGTH OF CABLE SHALL BE INSTALLED AS SHOWN ON LADOTD STANDARD DETAIL SHEETS LABELED "SPAN WIRE INSTALLATION DETAILS" AND "JUNCTION BOX AND PULL BOX". SIX FEET OF SPARE SIGNAL, LOOP LEAD-IN, COMMUNICATION, AND SERVICE CABLE, SHALL BE INSTALLED IN EACH BASE MOUNTED CABINET IN ACCORDANCE WITH LADOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

**NO. 2 CONDUIT**

- A. ALL ABOVE GROUND CONDUIT AND FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL RIGID STEEL CONDUIT SHALL HAVE BUSHINGS INSTALLED ON OPEN ENDS.
- B. ALL UNDERGROUND CONDUIT AND ELBOWS SHALL BE SCHEDULE 80 PE (POLYETHYLENE) OR PVC (POLYVINYL CHLORIDE) CONDUIT.
- C. ALL PE AND PVC CONDUIT SHALL HAVE BELL BUSHINGS INSTALLED ON OPEN ENDS. THE CONDUIT SHALL BE INSTALLED AT A MINIMUM DEPTH OF 18" FOR SIGNALS AND 36" FOR FIBER. ALL CONDUIT SHALL BE INSTALLED BELOW DITCH INVERT WHERE APPLICABLE.
- D. ALL CONDUIT CONNECTIONS SHALL BE SEALED WITH A WATERPROOF SEALING COMPOUND. ALL CABLE AND WIRE ENTRANCES SHALL BE SEALED AFTER INSTALLATION.

**NO. 3 FOUNDATION DISPOSAL**

THE CONTRACTOR SHALL DISPOSE OF ALL EXISTING CONTROLLER AND POLE BASE FOUNDATIONS. POLE BASE FOUNDATIONS SHALL BE SHAVED 24" BELOW NATURAL GROUND AND BACK FILLED. REMOVAL OF FOUNDATIONS SHALL BE IN ACCORDANCE WITH SECTION 202 OF THE LADOTD STANDARD SPECIFICATIONS.

**NO. 4 HORIZONTAL CLEARANCE**

- A. MINIMUM CLEARANCES FOR TRAFFIC SIGNAL SUPPORTS AND APPARATUS SHALL BE IN ACCORDANCE WITH THE CURRENT ADOPTED EDITION OF THE MUTCD.
- B. IN RURAL AREAS OR UNCURBED URBAN AREAS, THE REQUIRED POLES SHALL BE LOCATED AS FAR AS PRACTICABLE BEYOND THE PAVEMENT EDGE. A MINIMUM CLEARANCE OF 2 FEET OUTSIDE THE SHOULDER OR A MINIMUM CLEARANCE OF 10 FEET OUTSIDE THE PAVEMENT EDGE, WHICHEVER IS GREATER, SHALL BE PROVIDED.
- C. IN CURBED AREAS, POLES SHALL BE PLACED AS FAR AS PRACTICABLE FROM THE EDGE OF THE TRAVEL LANE. A MINIMUM CLEARANCE OF 2 FEET BEHIND CURB SHALL BE MAINTAINED.

**NO. 5 INTERSECTION SPECIFIC NOTES**

SEE INDIVIDUAL INTERSECTION PLAN SHEETS

**NO. 6 JUNCTION BOXES**

- A. JUNCTION BOXES SHALL BE HEAVY DUTY DESIGN AND SHALL CONFORM TO CURRENT LADOTD STANDARD DETAILS.
- B. THE MAXIMUM DISTANCE BETWEEN SIGNAL JUNCTION BOXES SHALL BE 500 FEET. THE MAXIMUM DISTANCE BETWEEN JUNCTION BOXES USED FOR COMMUNICATIONS CABLE SHALL BE 1000 FEET.

**NO. 7 PROPERTY DAMAGE**

ANY PROPERTY DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE THE CONTRACTORS RESPONSIBILITY.

**NO. 8 POWER SERVICE**

- A. THE POWER SOURCE SHOWN ON THE DRAWINGS IS APPROXIMATE AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF THE POWER SOURCE.
- B. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH AND PAY THE POWER COMPANY FOR TEMPORARY AND PERMANENT ELECTRICAL SERVICE AND SHALL VERIFY THE EXACT LOCATION AND POINTS OF ATTACHMENT BEFORE INSTALLATION IN ACCORDANCE WITH LADOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

**NO. 9 POWER DISCONNECT**

- A. FROM THE POWER DISCONNECT, A 1" CONDUIT WITH THREE #6 AWG-IC STRANDED COPPER TYPE THHN OR THWN INSULATION SHALL BE TURNED UP TO THE POWER COMPANY SERVICE POLE TO A HEIGHT DESIGNATED BY THE POWER COMPANY. THE CONTRACTOR SHALL TERMINATE THE CONDUIT WITH A THREADED SERVICE ENTRANCE FITTING (WEATHER HEAD) AND WIRES SHALL BE A MINIMUM OF 2 FEET BEYOND THE WEATHER HEAD TO ALLOW CONNECTION TO POWER COMPANY WIRING WITH A DRIP LOOP.
- B. THE CONTRACTOR SHALL COORDINATE POWER SERVICE CONNECTION WITH UTILITY COMPANY.
- C. FROM THE POWER DISCONNECT TO THE CONTROLLER, A 2" CONDUIT WITH THREE #8 AWG-IC SHALL BE INSTALLED. MEASUREMENT FOR SIGNAL SERVICE PAYMENT WILL BE IN ACCORDANCE WITH PEDESTAL MOUNTED POWER DISCONNECT.
- D. A POWER DISCONNECT MUST BE LOCATED WITHIN 20 FEET OF THE SIGNAL CONTROLLER CABINET. IF THE POWER SOURCE IS OVER 20 FEET FROM THE CONTROLLER, A SEPARATE PEDESTAL MOUNTED POWER DISCONNECT MUST BE PROVIDED AT THE CONTROLLER LOCATION.

**NO. 10 RIGHT-OF-WAY**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORKING WITHIN THE RIGHT-OF-WAY LIMITS.

**NO. 11 SIGNAL CONTROLLER**

ALL SIGNAL CONTROLLERS SHALL BE NEMA, 8 PHASE, CONTROLLERS THAT MEET CURRENT LADOTD STANDARDS AND SPECIFICATIONS, AND LADOTD TRAFFIC CONTROL STANDARD 18A.

**NO. 12 SIGNAL CONTROLLER CABINET**

- A. ALL CABINETS SHALL BE LADOTD TYPE 6 CABINETS UNLESS OTHERWISE NOTED. THE CONTROLLER SHALL PARALLEL THE MAIN ROADWAY.
- B. THE CONTROLLER CABINET SHALL BE ORIENTED SUCH THAT TRAFFIC ENGINEERING AND SIGNAL PERSONNEL CAN FACE THE INTERSECTION WHEN OPENING THE CABINET. THE BACK OF THE CONTROLLER SHALL BE PARALLEL TO THE MAIN ROADWAY.
- C. A 3' X 5' X 4" CONCRETE PAD SHALL BE POURED IN FRONT OF THE CONTROLLER CABINET. FOR BASE MOUNTED CABINETS AND NEXT TO CONTROLLER CABINET POLE ON POLE MOUNTED CABINETS, PAD SHALL BE ABOVE GROUND LEVEL TO PROVIDE AN ALL WEATHER STANDING AREA FOR SERVICE PERSONNEL.
- D. CONTRACTOR SHALL LABEL ALL SIGNAL, PED, LOOP, AND VIDEO CONDUCTORS WITH A WATER PROOF LABELING TAPE, SHOWING APPROACH DIRECTION AND PHASE ASSIGNMENT.

**NO. 13 SIGNAL DETECTOR- LOOPS**

- A. LOOPS SHALL CONSIST OF A CONTINUOUS LENGTH OF IMSA 51-7 #14 AWG, COPPER INSULATED WIRE WITH 19 STRANDS. (INSULATION SHALL BE 0.035 INCH XLPE WITH POLYETHYLENE LOOSE TUBE. THE TUBE SHALL HAVE A MAXIMUM O.D. OF 250 MILS.)
- B. SLOTS SHALL BE DRY AND CLEANED OF LOOSE MATERIAL AND THE WIRE SHALL BE CAREFULLY INSTALLED TO ENSURE INSULATION IS NOT DAMAGED. LOOP WIRE SHALL BE INSTALLED USING WOOD INSTRUMENTS. METAL OBJECTS SHALL NOT BE USED WHILE PLACING WIRE IN SLOTS.
- C. THE PROJECT ENGINEER SHALL APPROVE THE DEPTH AND CLEANLINESS OF EACH DETECTOR LOOP SLOT BEFORE THE CONTRACTOR PLACES WIRE IN THE SLOT.
- D. SHIELDED CABLE SHALL BE SPLICED TO LOOP WIRE AT A PULL BOX NEAREST THE LOOP (OR LOCATION SPECIFICALLY DESIGNATED ON THE PLANS) AND SHALL BE CONTINUOUS TO THE TERMINATION PANEL IN THE CONTROLLER CABINET. NO SPLICE SHALL BE PERMITTED BETWEEN THE LOOP LEAD-IN AND THE TERMINATION PANEL.
- E. LOOPS OPERATING ON THE SAME PHASE SHALL BE WIRED IN SERIES. A SINGLE LOOP LEAD-IN WIRE SHALL BE RAN FROM THE JUNCTION BOX TO THE CONTROLLER.

**NO. 14 SIGNAL DETECTOR - VIDEO**

ALL VIDEO DETECTORS SHALL BE POSITIONED AND PROGRAMMED TO BE ABLE TO COUNT EVERY LANE OF EVERY APPROACH IN ADDITION TO THE NORMAL DETECTION SHOWN ON PLANS.

**NO. 15 SIGNAL EQUIPMENT LOCATION**

- A. LOCATIONS OF POLES, SIGNALS, LOOP DETECTORS, SYSTEM SENSORS, CONTROLLERS AND JUNCTION BOXES ARE APPROXIMATE. EXACT LOCATIONS SHALL BE APPROVED BY THE PROJECT ENGINEER.
- B. THE CONTRACTOR SHALL STAKE THE RIGHT-OF-WAY, EDGE OF THE PAVEMENT/CURB, LANE LINES, UTILITY MARKUP, AND ELEVATION & LOCATION OF EACH POLE FOUNDATION FOR THE PROJECT ENGINEER'S APPROVAL DURING THE ASSEMBLY PERIOD. ANY EXCEPTION HAS TO BE APPROVED BY THE PROJECT ENGINEER. AFTER APPROVAL THE CONTRACTOR MAY PROCEED WITH THE INSTALLATION OF THE POLE FOUNDATION.
- C. ONCE THE POLE FOUNDATION IS INSTALLED, MAST ARM LENGTHS SPECIFIED ON PLANS ARE TO BE VERIFIED TO ORDER THE MATERIALS. IF A TIME EXTENSION IS NEEDED, IT SHALL BE AT THE DISCRETION OF THE PROJECT ENGINEER TO GRANT THE EXTENSION.

**NO. 16 SIGNAL EQUIPMENT REMOVAL**

- A. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT, CONTROL DEVICES, AND COMMUNICATIONS AT EACH INTERSECTION SHALL BE REMOVED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PROJECT ENGINEER.
- B. THE CONTRACTOR SHALL DELIVER ALL SALVAGEABLE EQUIPMENT TO THE OWNER.
- C. THE REMOVAL AND DELIVERY EQUIPMENT TO THE OWNER SHALL BE PAID FOR UNDER ITEM FOR "REMOVAL OF TRAFFIC SIGNAL EQUIPMENT".

**NO. 17 SIGNAL POLE HEIGHT**

- A. THE CONTRACTOR SHALL PROVIDE HEIGHTS THAT ARE SUFFICIENT TO ENSURE THAT THE BOTTOM OF THE LOWEST SIGNAL ON AN ASSEMBLY IS NOT LESS THAN 17' ABOVE THE PAVEMENT. FOR MAXIMUM HEIGHT REFER TO THE CURRENT ADOPTED EDITION OF THE MUTCD.
- B. SIGNAL HEAD ALIGNMENT AND CLEARANCE SHALL BE IN ACCORDANCE WITH THE LADOTD SIGNAL MANUAL.

**NO. 18 SIGNAL POLE LOADING**

ALL FURNISHED METAL STRAIN POLES SHALL HAVE A MINIMUM WORKING LOAD CAPACITY OF 4,000 POUNDS APPLIED ONE (1) FOOT BELOW TOP OF POLE, UNLESS OTHERWISE SPECIFIED.

**NO. 19 SIGNAL POLE FINISH REPAIR**

IF HOT-DIPPED GALVANIZED STEEL POLES ARE DAMAGED, THE DAMAGED GALVANIZED AREA SHALL BE REPAIRED BY THE CONTRACTOR IN ACCORDANCE WITH SUBSECTION 811.12 OF THE LADOTD STANDARD SPECIFICATIONS.

**NO. 20 SIGNAL POLE ELECTRICAL CLEARANCES**

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PROPER CLEARANCES FROM EXISTING UTILITY LINES AND LUMINARIES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL SAFETY CODE.

**NO. 21 STANDARDS**

- A. ALL WORK SHALL CONFORM TO THE LATEST LADOTD SPECIFICATIONS.
- B. ALL SIGNS, SIGNALS, PAVEMENT MARKINGS AND TEMPORARY TRAFFIC CONTROL DEVICES ARE TO CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) (2003 EDITION AND ALL SUBSEQUENT ADOPTED REVISIONS).

**NO. 22 TRAFFIC CONTROL, EXISTING SIGNALS**

- A. THE CONTRACTOR, SHALL BE RESPONSIBLE FOR THE CONTINUAL OPERATION OF THE NEW, EXISTING OR TEMPORARY TRAFFIC SIGNALS DURING THE PERIOD OF CONSTRUCTION WHICH INCLUDES RELOCATING POLES, DETECTORS, SIGNAL HEADS, AND OTHER ITEMS, AND SHALL PROVIDE TEMPORARY POLES OR OTHER MATERIALS NECESSARY TO ENSURE THE CONTINUAL OPERATION OF THE SIGNAL AND COMMUNICATION EQUIPMENT AT ALL TIMES. WHERE VEHICLE DETECTORS ARE PRESENT, VEHICLE DETECTION MUST BE MAINTAINED.
- B. THE CONTRACTOR SHALL SCHEDULE WORK SO THAT THE CHANGE OVER FROM THE EXISTING SIGNAL EQUIPMENT TO THE NEW SIGNAL EQUIPMENT SHALL BE DONE PROMPTLY.
- C. THE CHANGE OVER SHALL BE SCHEDULED DURING NON PEAK HOUR TRAFFIC CONDITIONS UNLESS DIRECTED OTHERWISE BY THE PROJECT ENGINEER, AS ADVISED BY THE OFFICE OF THE DISTRICT TRAFFIC OPERATIONS ENGINEER.

**NO. 23 TRAFFIC CONTROL, POLICE ASSISTANCE**

THE CONTRACTOR SHALL PROVIDE POLICE SUPERVISION OF TRAFFIC ANYTIME THE TRAFFIC SIGNAL SYSTEM IS NOT IN OPERATION, IN ACCORDANCE WITH LADOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

**NO. 24 UTILITIES, UNDERGROUND**

- A. UNDERGROUND UTILITIES MAY EXIST IN THE CONSTRUCTION AREAS. THE LOCATION AND TYPE SHOWN IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE INFORMATION IS SHOWN SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE ENGINEER DOES NOT GUARANTEE ACCURACY OR GUARANTEE THAT ALL UTILITIES ARE SHOWN.
- B. BEFORE ANY EXCAVATIONS, THE CONTRACTOR SHALL CONTACT "LOUISIANA ONE CALL", THE APPROPRIATE UTILITY COMPANY, AND LADOTD TRAFFIC OPERATIONS AT 225-935-0147 FOR LOCATION OF THE UNDERGROUND SERVICE A MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. THE "LOUISIANA ONE CALL" NUMBER IS 1-800-272-3020.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH, AND SIZE OF ALL UNDERGROUND UTILITIES AND STRUCTURES AND SHALL BE LIABLE FOR ANY DAMAGES CAUSED BY FAILURE TO COMPLY WITH THESE INSTRUCTIONS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAKING INDEPENDENT INVESTIGATIONS, INCLUDING ANY SUBSURFACE INVESTIGATIONS AS NECESSARY.

**NO. 25 INSPECTION**

THE CONTRACTOR SHALL CALL LADOTD TRAFFIC OPERATIONS SECTION AT 225-935-0147 A MINIMUM OF 7 BUSINESS DAYS BEFORE BEGINNING CONSTRUCTION AND AGAIN A MINIMUM OF 7 BUSINESS DAYS BEFORE SIGNAL TURN ON.

**NO. 26 BACKPLATES**

BACKPLATES WITH A REFLECTIVE STRIP SHALL BE REQUIRED ON ALL NEW SIGNAL HEADS BEING INSTALLED ON MAST ARMS, PEDESTALS AND MOUNTED ON POLES. BACKPLATES SHALL BE DESIGNED TO FIT THE COMBINATION OF SECTIONS OF EACH SIGNAL FACE. BACKPLATES SHALL BE FLAT ALUMINUM ALLOY AT LEAST 0.05 INCH (1.3 MM) (NO. 18 GAGE) THICK WITH ROUNDED CORNERS AND SHALL WITHSTAND DISTORTION IN 70 MPH (115 KM/H) WINDS AND SHALL BE FIRMLY ATTACHED TO EACH SIGNAL FACE TO WITHSTAND THE ABOVE WIND LOAD. THE BACKPLATE SHALL PERMIT OPENING OF THE SIGNAL HEAD. WIDTH OF BACKPLATES SHALL EXTEND A MINIMUM OF 5 1/2 INCHES (140 MM) FROM THE SIGNAL HEAD IN ALL DIRECTIONS OR AS SPECIFIED ON THE PLANS. BACKPLATES SHALL BE FURNISHED WITH AN OVEN BAKED DULL BLACK ENAMEL FINISH ON THE FRONT AND BACK. BACKPLATES SHALL ALSO BE FURNISHED WITH A 3 INCH YELLOW REFLECTIVE STRIP AROUND THE PERIMETER CONFORMING TO ASTM D4956 TYPE X.

**NO. 27 COMMUNICATIONS - FIBER**

ANY FIBER OPTIC CABLE INSTALLED SHALL BE REQUIRED TO HAVE A 10 AWG, TYPE THHN-THWN GREEN, 600V, COPPER CONDUCTOR, 19 STRAND TRACEW WIRE IN THE SAME CONDUIT. PAYMENT WILL BE MADE UNDER THE FIBER OPTIC CABLE PAY ITEM.

FOR INFORMATIONAL PURPOSES ONLY



SHEET NUMBER		PARISH		FEDERAL PROJECT		STATE PROJECT	
DESIGNED	CHECKED	D. LORO	S. MCCARROLL	DATE	SHEET	1	OF 14
TRAFFIC SIGNAL STANDARD DETAILS		SIGN NOTES		TSD-00		TRAFFIC ENGINEERING	