

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

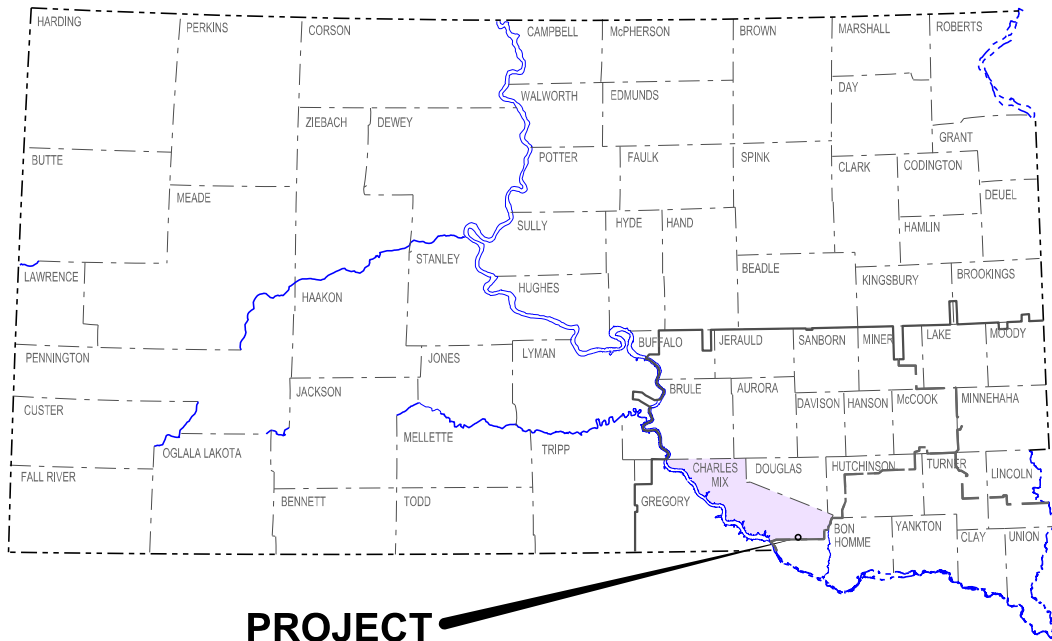
| STATE OF SOUTH DAKOTA | PROJECT | SHEET | TOTAL SHEETS |
|-----------------------|----------|-------|--------------|
| | 000P-251 | 1 | 8 |

Plotting Date: 05/12/2017

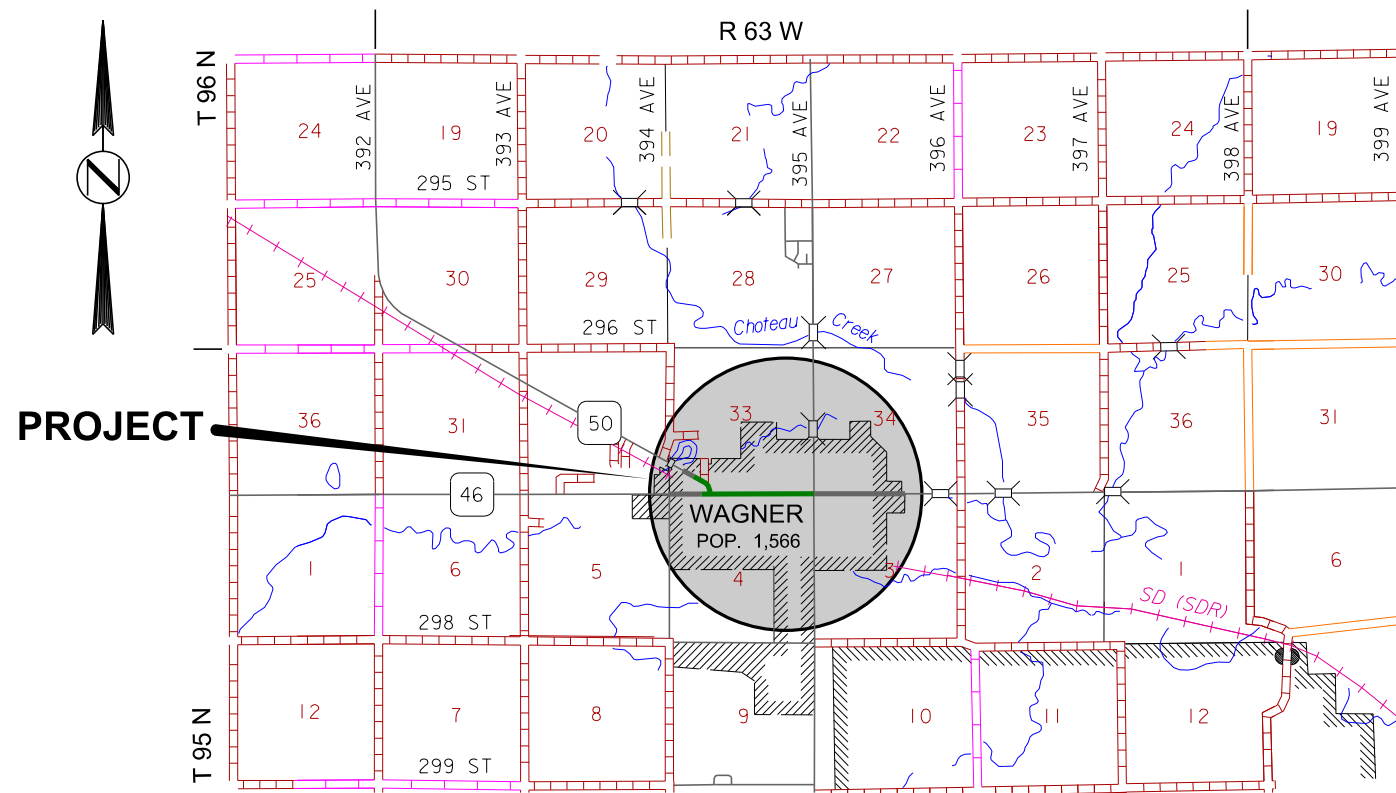
PLANS FOR PROPOSED
PROJECT 000P-251
SD HIGHWAY 46 & 50
CHARLES MIX COUNTY

INDEX OF SHEETS

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ROADWAY LIGHTING
PCN I4T2



SD 46 ADT (2016) 4,144
SD 50 ADT (2016) 1,346

STORM WATER PERMIT
(None required)

| ROUTE | SD46 | SD50 |
|---------|-----------------------|---------------------|
| Length: | 8,020.32' 1.519 Miles | 1,293.6' 0.245 Mile |

PLOT SCALE - 1" = 7000'

PLOTTED FROM - TRM1INT15

PLOT NAME - I

FILE - ... \LIGHTING\CM14T2\TTL14T2.DGN

ESTIMATE OF QUANTITIES

| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
|-----------------|---------------------------------|----------|------|
| 009E0010 | Mobilization | Lump Sum | LS |
| 110E1140 | Remove Concrete Sidewalk | 16.7 | SqYd |
| 110E1510 | Remove Luminaire Pole | 9 | Each |
| 110E1540 | Remove Luminaire Pole Footing | 1 | Each |
| 634E0010 | Flagging | 30.0 | Hour |
| 634E0110 | Traffic Control Signs | 180.5 | SqFt |
| 634E0120 | Traffic Control, Miscellaneous | Lump Sum | LS |
| 635E5020 | 2' Diameter Footing | 7.0 | Ft |
| 635E7000 | Install Luminaire Pole | 10 | Each |
| 635E7500 | Remove and Reset Luminaire Pole | 20 | Each |
| 651E0060 | 6" Concrete Sidewalk | 150 | SqFt |

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

COMMITMENT B4: BALD EAGLE (CONTINUED)

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

The Contractor shall not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the Public ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating No Dumping Allowed.

COMMITMENT H: WASTE DISPOSAL SITE

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

Cost associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

INCIDENTAL WORK

Incidental work includes, but is not limited to, the restoration of all disturbed areas to the satisfaction of the Engineer.

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

The Contractor shall submit shop drawings and catalog cuts in accordance with Section 985 of the Specifications.

PDF submittals shall be sent to the following email addresses:

Norris.Leone@state.sd.us
John.Less@state.sd.us
Pete.Longman@state.sd.us

REMOVE LUMINAIRE POLE FOOTING

The footings of existing luminaire pole L17460016 shall be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area shall be to the satisfaction of the Engineer.

Cost for removing the footings of the existing luminaire poles shall be incidental to the contract unit price per each for Remove Luminaire Pole Footing.

REMOVE AND RESET LUMINAIRE POLE

Existing luminaire poles shall be removed and reset as detailed in these plans.

Luminaire poles will be furnished by the SDDOT and installed by the Contractor. Cost for the furnished items for tax purposes is \$8,112.00.

Three luminaire poles were removed and placed in the City of Wagner Maintenance Yard. Cost for picking up these luminaire poles and resetting them shall be incidental to the contract unit price per each for Remove and Reset Luminaire Pole.

Fluted Aluminum Couplers will be replaced with Transpo Pole-Safe Couplers. The Transpo Pole-Safe Couplers will be provided by the State of South Dakota and installed by the Contractor. Cost for the Transpo Pole-Safe couplers for tax purposes is \$5,256.00. Cost associated with replacing the couplers will be incidental to the contract unit prices per each for Remove and Reset Luminaire Pole and Install Luminaire Pole, respectively.

Luminaire poles and luminaires damaged during relocation shall be repaired or replaced by the Contractor at no cost to the State.

Cost for removing and resetting the existing luminaire poles including new anchor bolts with associated hardware, shall be incidental to the contract unit price per each for Remove and Reset Luminaire Pole.

Rusted areas near the base of Luminaire Pole L17460013 shall be cleaned with a wire brush and galvanized with a spray on galvanizing material. Cost for cleaning and galvanizing rusted areas at this location shall be incidental to the contract unit price per each for Remove and Reset Luminaire Pole.

TABLE OF FOOTING DATA

A new Concrete footing shall be installed 5 feet east of the existing footing L17460016. Footing details shall be as shown in the table below and on Standard Plate 635.55. Cost for extending conduit and wiring to the new footing location shall be incidental to the contract unit price per foot for 2' Diameter Footing.

| Site Designation | Footing Diameter | * Footing Depth | **Spiral Diameter | **Spiral Length | Vertical Reinforcement |
|------------------|------------------|-----------------|-------------------|-----------------|------------------------|
| L17460016 | 2' - 0" | 7' - 0" | 1' - 8" | 49' - 6" | 8-#7 x 6' - 6" |

* Footing depth shall be below ground level.
 ** The size of all spirals shall be #3.

POLES

Luminaire extension(s) for Luminaire Poles L17460005, L17460009, L17460011, L17460012, L17460018, L17460025, L17460026 and L17460027 shall have a 40 Ft. mounting height with 8.0 Ft. arm.

Luminaire extension(s) for Luminaire Poles L17460036 and L17460038 shall have a 40 Ft. mounting height with 6.0 Ft. arm.

Luminaire poles shall be designed to include loadings created by banners that are 2 feet wide by 7 feet long, mounted 15 feet from the bottom of the pole to the bottom of the banner.

All poles shall have a convenience duplex festoon outlet receptacle (15 amp, 3 wire) suitable for outdoor use.

Poles not reused, including those in the City of Wagner's yard shall become the property of the Contractor and shall be disposed of to insure the damaged poles are not re-used. All hardware attached to damaged poles shall be removed and delivered to the City of Wagner Maintenance Yard.

INSTALL LUMINAIRE POLE

Luminaire poles will be furnished by the SDDOT and installed by the Contractor. Cost for the furnished items for tax purposes is \$8,112.00.

Luminaire poles with arms shall be installed by the. Luminaire poles with arms are located in the City of Wagner Maintenance Yard. The Contractor shall be responsible for transporting the luminaire poles with arms from the City of Wagner Maintenance Yard to the installation sites.

The Contractor may contact the City of Wagner for luminaire poles with arms pick up information. Contact The City of Wagner Street Superintendent, Larry Blaha, (605) 491-0817.

Work involved in installing and transporting the luminaire poles with arms shall be incidental to the contract unit prices per each for Install Signal Pole with Mast Arm and Luminaire Arm and Install Luminaire Pole.

LUMINAIRES

The Contractor will remove existing luminaires and install them in the new luminaire poles. Cost for installing the luminaires shall be incidental to the contract unit prices per each for Remove and Reset Luminaire Pole and Install Luminaire Pole.

WIRE SPLICING FOR LIGHTING

Wire splices for lighting shall be made using TE Connectivity GTAP connectors, NSI Industries Polaris Blue connectors, or an approved equal.

CONCRETE SIDEWALK

All areas to be replaced shall be designated by the Engineer.

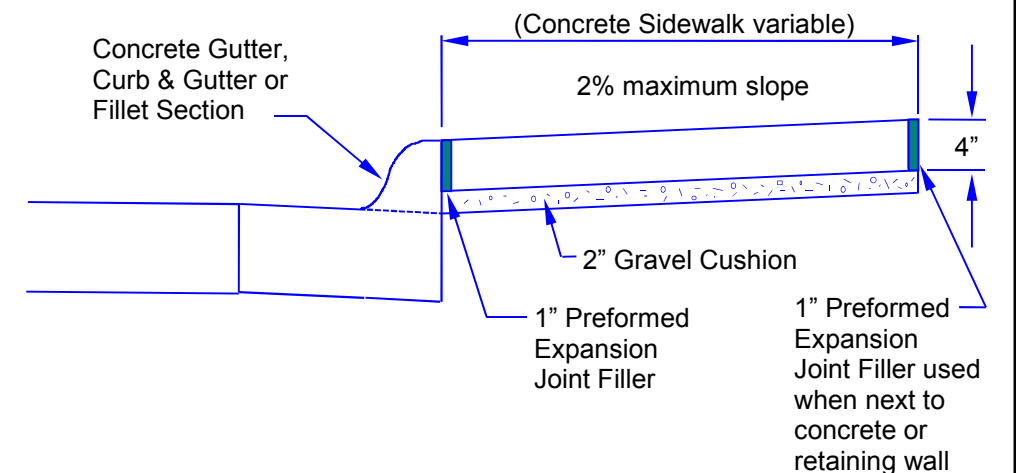
Existing sidewalk shall be removed and replaced as directed by the Engineer. If the end of any section to be removed does not fall on an existing joint, a sawed joint (3" to 4" deep) must be made to provide a vertical face with the new joint.

Existing foundation material shall be shaped and compacted to a firm, uniform bearing surface, conforming to the existing section or established grades as set by the Engineer. Unsuitable foundation material shall be removed and replaced as directed.

Cost for labor, equipment, material and incidentals required for excavation and providing cushion material shall be incidental to the contract unit prices for the various items.

Curb and Gutter shall not be disturbed. Curb and Gutter that is damaged during removal or placement of Concrete shall be repaired by the Contractor at no cost to the Department of Transportation.

The Contractor shall satisfactorily restore all disturbed areas adjacent to the new concrete placement to the satisfaction of the Engineer. Cost for this restoration work shall be incidental to the contract unit prices for the various items.



GENERAL MAINTENANCE OF TRAFFIC

Sufficient traffic control devices have been included in these plans to sign one workspace. If the Contractor elects to work on additional sites simultaneously, the cost for additional traffic control devices shall be incidental to the contract unit price per square foot for Traffic Control Signs.

LIGHTPOLE AND FOOTING QUANTITIES

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

| SIGN CODE | SIGN DESCRIPTION | CONVENTIONAL ROAD | | | |
|-----------------------------------|----------------------------------|-------------------|-----------|---------------|--------------|
| | | NUMBER | SIGN SIZE | SQFT PER SIGN | SQFT |
| W3-4 | BE PREPARED TO STOP | 2 | 48" x 48" | 16.0 | 32.0 |
| W4-2 | LEFT or RIGHT LANE ENDS (symbol) | 1 | 48" x 48" | 16.0 | 16.0 |
| W20-1 | ROAD WORK AHEAD | 3 | 48" x 48" | 16.0 | 48.0 |
| W20-4 | ONE LANE ROAD AHEAD | 1 | 48" x 48" | 16.0 | 16.0 |
| W20-5 | LEFT or RIGHT LANE CLOSED AHEAD | 1 | 48" x 48" | 16.0 | 16.0 |
| W20-7 | FLAGGER (symbol) | 3 | 48" x 48" | 16.0 | 48.0 |
| G20-2 | END ROAD WORK | 1 | 36" x 18" | 4.5 | 4.5 |
| CONVENTIONAL ROAD | | | | | |
| TRAFFIC CONTROL SIGNS SQFT | | | | | 180.5 |

| Light Pole Number | Remove Luminaire Pole 110E1510 Each | Remove Luminaire Pole Footing 110E1540 Each | 2' Diameter Footing 635E5020 FT | Install Luminaire Pole 635E7000 Each | Remove and Reset Luminaire Pole 635E7500 Each | Remove Coupler Install Transpo Pole-Safe Coupler NBI | Remarks |
|-------------------|-------------------------------------|---|---------------------------------|--------------------------------------|---|--|---------------|
| L17460004 | | | | | 1 | 1 | |
| L17460005 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460006 | | | | | 1 | 1 | (*) |
| L17460007 | | | | | 1 | 1 | |
| L17460008 | | | | | 1 | 1 | |
| L17460009 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460010 | | | | | 1 | 1 | |
| L17460011 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460012 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460013 | | | | | 1 | 1 | |
| L17460014 | | | | | 1 | 1 | |
| L17460015 | | | | | 1 | 1 | (*) |
| L17460016 | | 1 | 7 | | 1 | 1 | (*) |
| L17460017 | | | | | 1 | 1 | |
| L17460018 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460019 | | | | | 1 | 1 | |
| L17460020 | | | | | 1 | 1 | |
| L17460021 | | | | | 1 | 1 | |
| L17460022 | | | | | 1 | 1 | |
| L17460023 | | | | | 1 | 1 | |
| L17460024 | | | | | 1 | 1 | |
| L17460025 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460026 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460027 | 1 | | | 1 | | 1 | 8 FT ARM |
| L17460028 | | | | | 1 | 1 | |
| L17460029 | | | | | 1 | 1 | |
| L17460030 | | | | | 1 | 1 | |
| L17460036 | 1 | | | 1 | | 1 | 6 FT ARM |
| L17460037 | | | | | 1 | 1 | |
| L17460038 | | | | 1 | | 1 | 6 FT ARM (**) |
| Subtotal: | 9 | 1 | 7 | 10 | 20 | 30 | |

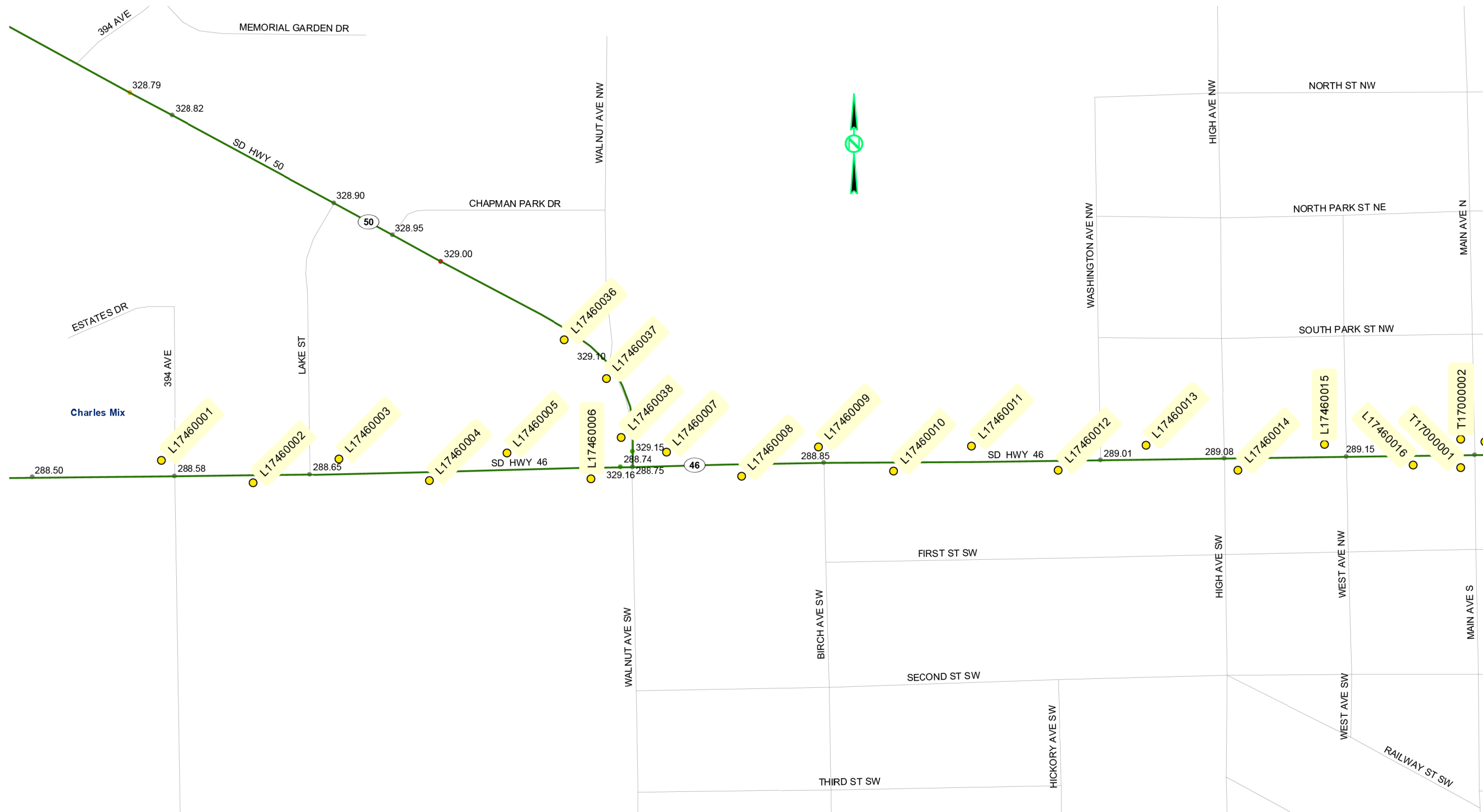
(*) = Pole removed by City of Wagner and may be reused

(**) = Pole removed by City of Wagner - Not to be reused

| | | | |
|-----------------------|----------|-------|--------------|
| STATE OF SOUTH DAKOTA | PROJECT | SHEET | TOTAL SHEETS |
| | 000P-251 | 5 | 8 |

Plotting Date: 05/05/2017

LIGHT POLE LAYOUT



PLOT SCALE - 1:800

PLOTTED FROM - IRWIN125

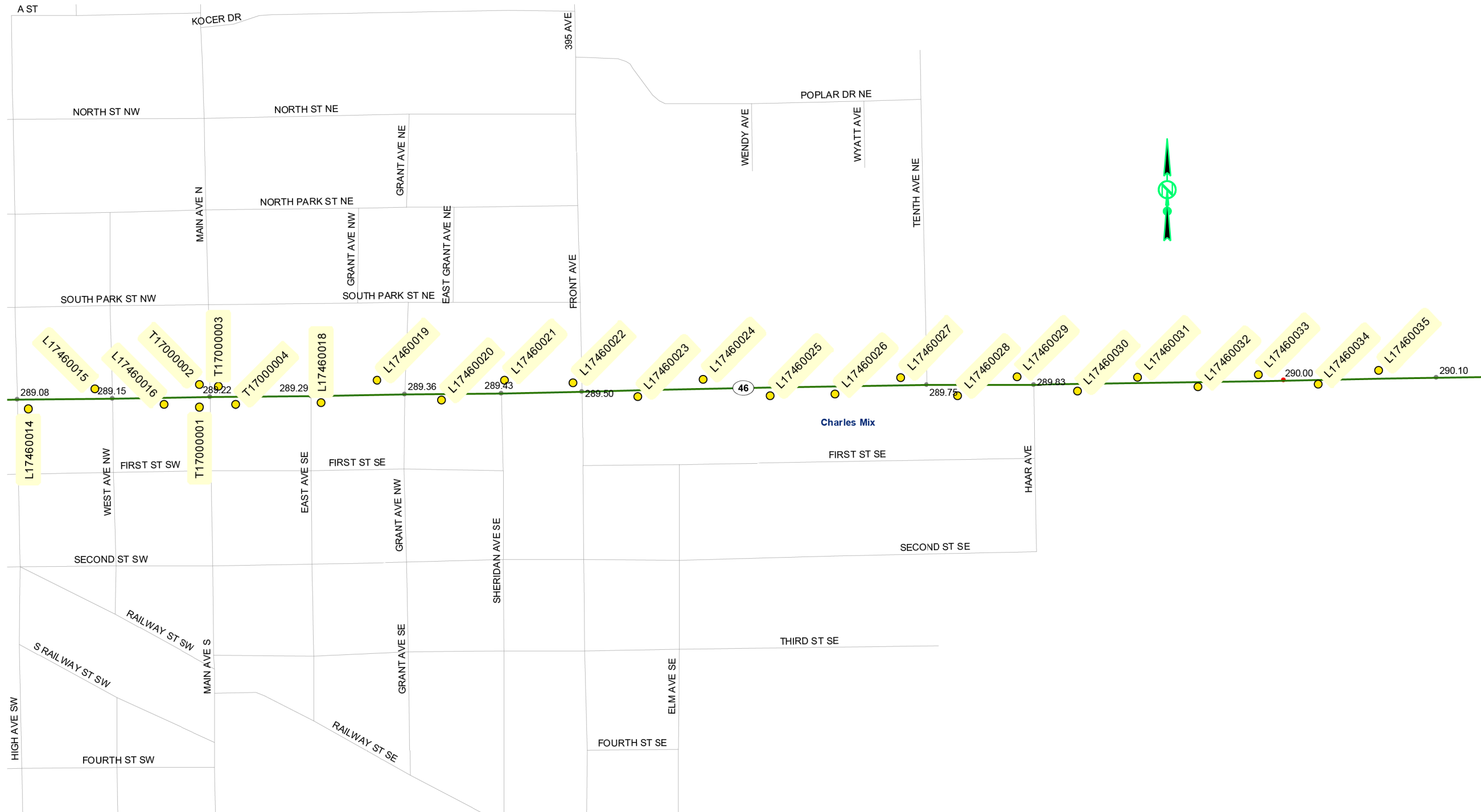
PLOT NAME - 1

FILE - ... \POLE LAYOUT.DGN

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|-----------------------|----------|-------|--------------|
| STATE OF SOUTH DAKOTA | PROJECT | SHEET | TOTAL SHEETS |
| | 000P-251 | 6 | 8 |

Plotting Date: 05/05/2017

LIGHT POLE LAYOUT



PLOT SCALE - 1:800

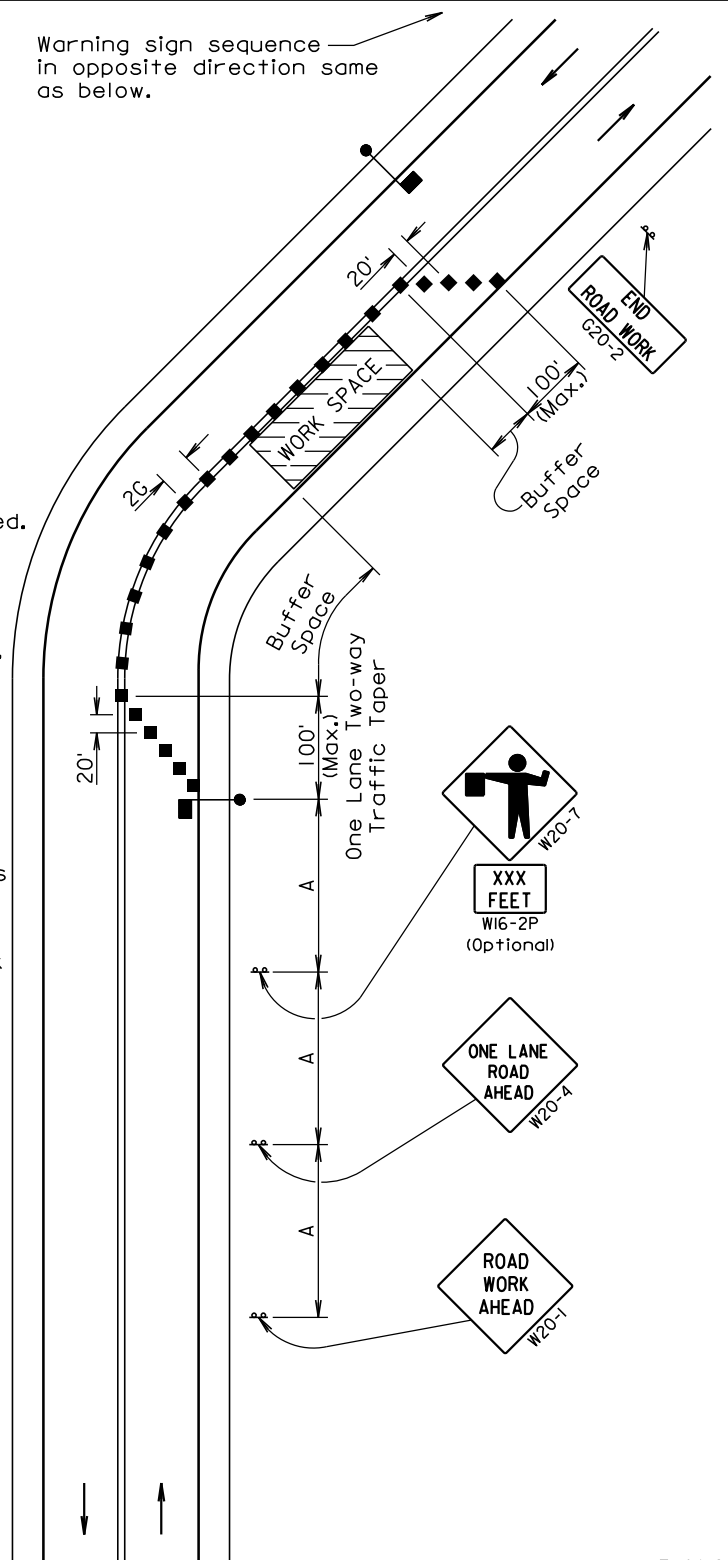
PLOTTED FROM - IRWIN125

PLOT NAME - 2

FILE - ... \POLE LAYOUT.DGN

| Posted Speed Prior to Work (M.P.H.) | Spacing of Advance Warning Signs (Feet) (A) | Spacing of Channelizing Devices (Feet) (G) |
|-------------------------------------|---|--|
| 0 - 30 | 200 | 25 |
| 35 - 40 | 350 | 25 |
| 45 | 500 | 25 |
| 50 | 500 | 50 |
| 55 | 750 | 50 |
| 60 - 65 | 1000 | 50 |

Warning sign sequence in opposite direction same as below.



For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

END ROAD WORK G20-2

Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

June 3, 2016

| Posted Speed Prior to Work (M.P.H.) | Spacing of Advance Warning Signs (Feet) (A) | Taper Length (Feet) (L) | Spacing of Channelizing Devices (Feet) (G) |
|-------------------------------------|---|-------------------------|--|
| 0 - 30 | 200 | 180 | 25 |
| 35 - 40 | 350 | 320 | 25 |
| 45 | 500 | 600 | 25 |
| 50 | 500 | 600 | 50 * |
| 55 | 750 | 660 | 50 * |
| 60 - 65 | 1000 | 780 | 50 * |

* Spacing is 40' for 42" cones.

⊙ ReflectORIZED Drum

■ Channelizing Device

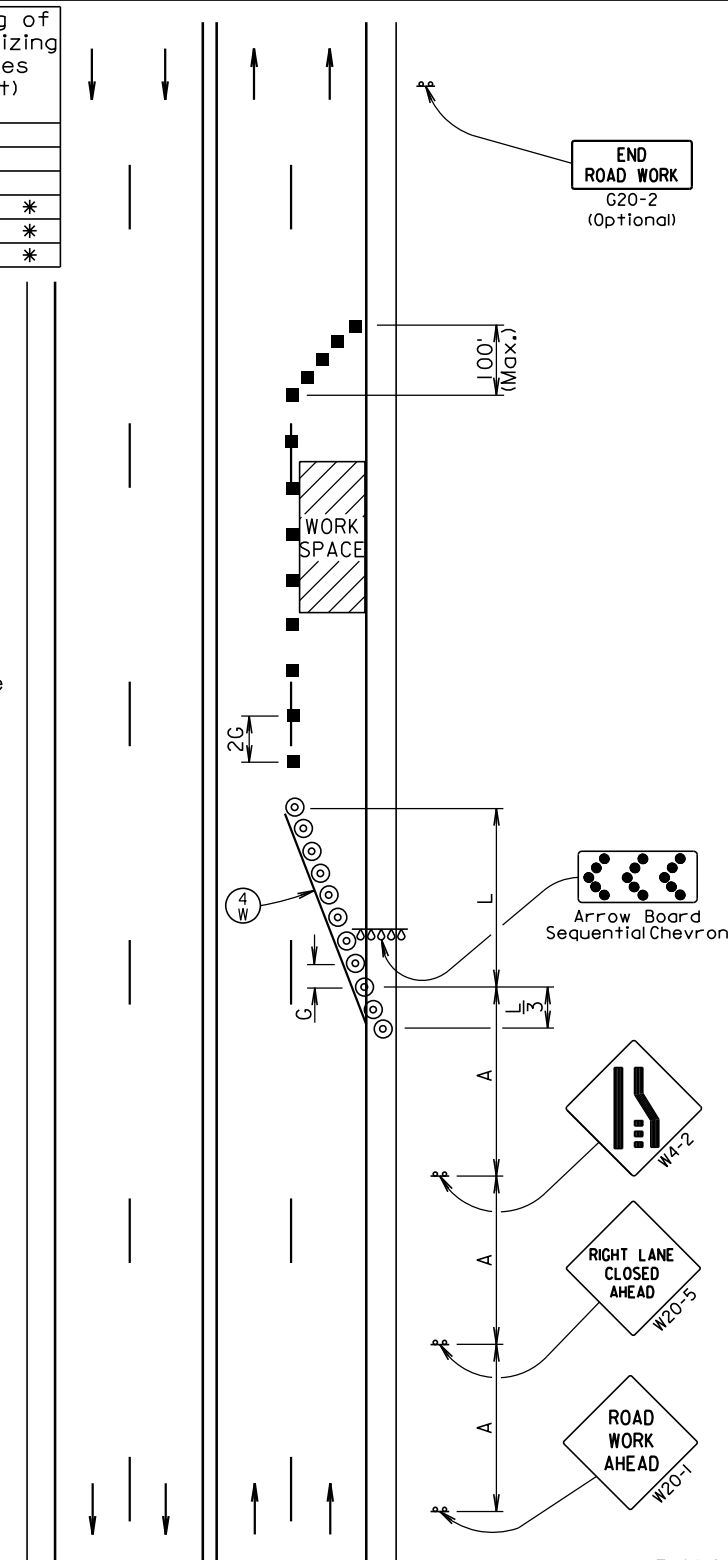
④ 4" White Temporary Pavement Marking

The channelizing devices shall be 42" cones or drums.

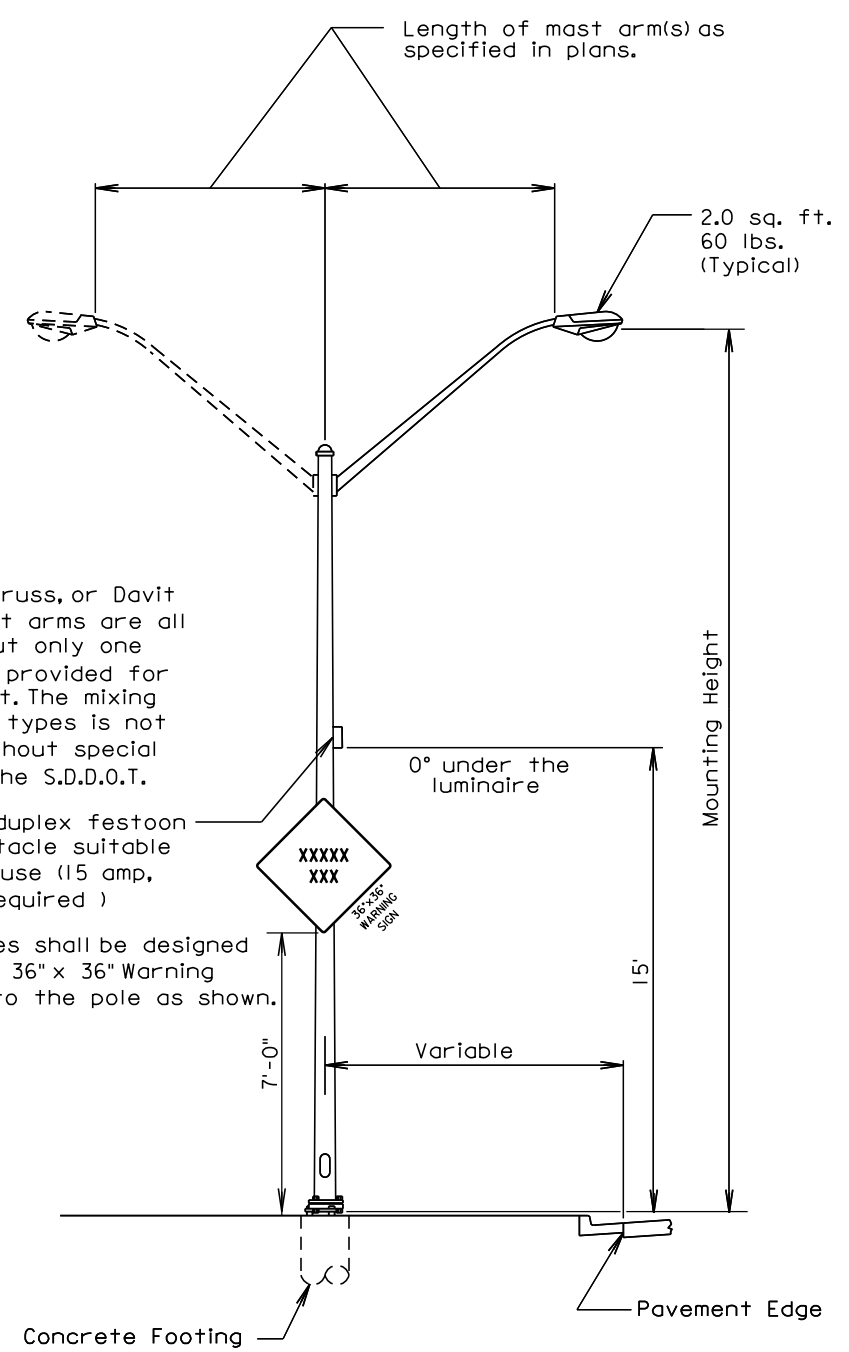
42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Temporary pavement markings shall be used if traffic control must remain overnight.

The length of A and L may be adjusted to fit field conditions.



June 3, 2016



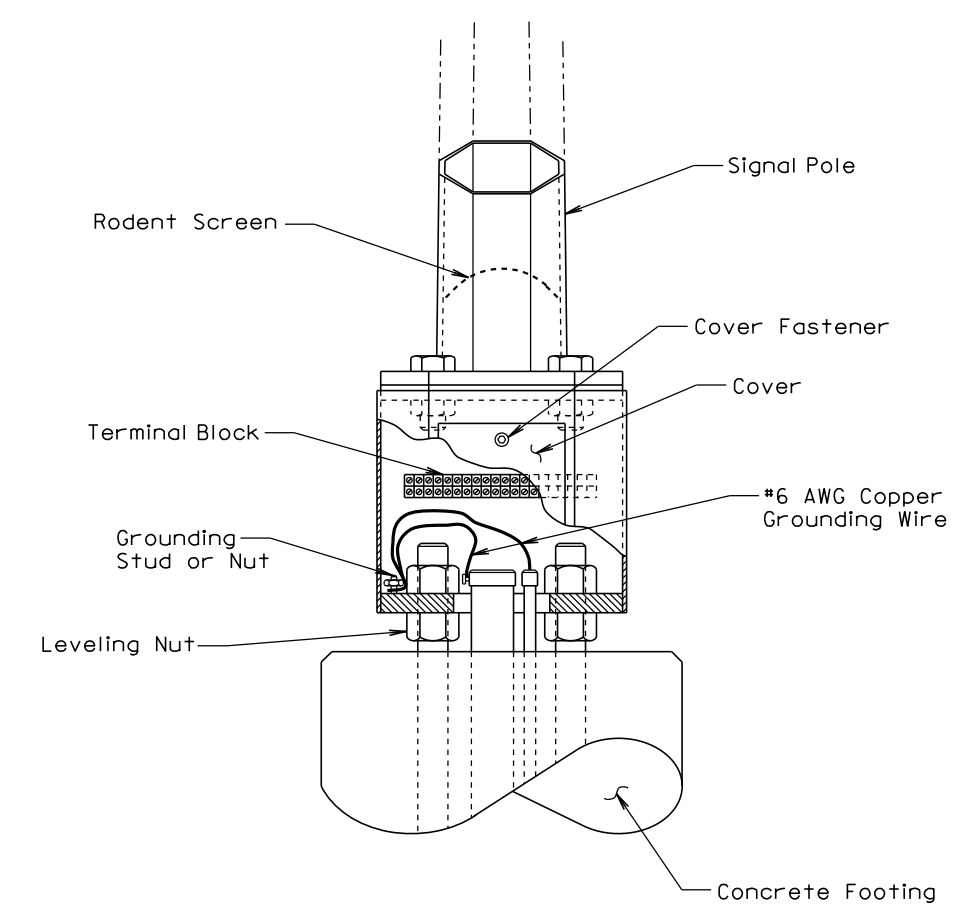
Single Tube, Truss, or Davit types of mast arms are all acceptable, but only one type shall be provided for each contract. The mixing of different types is not permitted without special approval by the S.D.D.O.T.

Convenience duplex festoon outlet receptacle suitable for outdoor use (15 amp, 3-wire) (as required)

Luminaire poles shall be designed to support a 36" x 36" Warning sign banded to the pole as shown.

March 31, 2000

| | | |
|----------------------------------|--|------------------------|
| S D D O T | STEEL ROADWAY LUMINAIRE POLE WITH MAST ARM(S) | PLATE NUMBER 635.01 |
| | Published Date: 2nd Qtr. 2017 | Sheet 1 of 1 |



GENERAL NOTES:

Base details are provided for example only and are not intended to be a complete design.

The Contractor shall furnish and install a rodent screen in the signal pole above the transformer base. The rodent screen shall be a galvanized steel mesh with a maximum opening size of 1/4 inch. The rodent screen shall be friction fitted or installed by other methods approved by the Engineer.

All costs for furnishing and installing the rodent screen including labor, equipment, and materials shall be incidental to the contract unit price per each for the corresponding signal pole bid item.

December 23, 2008

| | | |
|----------------------------------|-------------------------------------|------------------------|
| S D D O T | TRANSFORMER SIGNAL POLE BASE | PLATE NUMBER 635.50 |
| | Published Date: 2nd Qtr. 2017 | Sheet 1 of 1 |