



EXTINGUISH THE TORCH MEETING - SESSION ONE

FIN: 439051-1-52-01

Contract No.: E8Q77

Project: ITS Electrical Improvements

Contractor: SICE, Inc.

Project Acceptance Date: 09/14/2018

County: Indian River, Okeechobee, Osceola

MEETING AGENDA

1. Introductions - Project Team:

CEI Senior Project Engineer: Harold Dubon, P.E., Carnahan, Proctor and Cross, Inc.

CEI Project Administrator: Greg Dutton, P.E., Carnahan, Proctor and Cross, Inc.

FTE Project Manager: Christopher NeSmith, P.E.

FTE Design Project Manager: Patrick Muensch, P.E.

GEC Project Manager: Steven Soldati, P.E.

Engineer of Record: Jay H. L. Calhoun, P.E., Vibe, Inc.

Contractor Project Manager: Alfonso Otero, SICE, Inc.

2. Project Scope of Work

3. Contract Time and Money

4. Supplemental Agreements and Work Orders – See Attachment A

5. Contractor's Notices of Intent to File Claims – No NOI's

6. Review of the Summary Report

- Lessons Learned – What needed improvement:
 - a) Electrical Service Disconnects - Using existing conduit/disconnects vs F&I new conduit/disconnects for grounding upgrade
 - b) 630-2-12, Conduit, F&I, Directional Bore - Quantity
 - c) Proposed Running Line Conflicts with Existing Conduits - Maintaining 5' Offset
 - d) Use of Alternative Materials - PVC in lieu of HDPE

- What worked well:
 - e) Excellent coordination and cooperation between the EOR, contractor and CEI

7. Feedback

LESSONS LEARNED

SUMMARY REPORT

CEI Consultant

Harold Dubon, PE – Senior Project Engineer

Greg Dutton, PE – Project Administrator

Carnahan, Proctor and Cross, Inc.

604 Courtland Street, Suite 101

Orlando, FL 32804

Florida Turnpike Enterprise

Christopher NeSmith, PE – Construction Project Manager

Patrick Muensch, PE – Design Project Manager

Steve Soldati, PE – GEC Project Manager

Engineer-of-Record

Jay H. L. Calhoun, PE – ITS Plans

Vibe, Inc.

700 Central Ave, Suite 302

St. Petersburg, FL 33701

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A. PROJECT DESCRIPTION & LIMITS:

GENERAL	
Description & Limits:	ITS Electrical Improvements, MP 185.0 to 189.5, MP 202.8 to 207.9, MP 229.5 to 233.6
FPNs:	439051-1-52-01
Contract No:	E8Q77
County:	Indian River, Okeechobee, Osceola
Contractor:	SICE, Inc.
Scope of Work:	Work consists of providing all labor, materials, equipment and incidentals necessary for upgrading electrical connections to the disconnect boxes at all camera and data collector locations associated with load centers I, L and C (MP 185.0 to 189.5, MP 202.8 to 207.9, MP 229.5 to 233.6).

B. CONTRACT DETAILS:

CONTRACT TIME	
Original Contract Days:	210
Contract Begin Date:	January 15, 2018
Original Contract Completion Date:	August 12, 2018
Type	CONTRACT DAYS
Weather Days:	6
Holiday Days:	11
Special Event Days:	1
Time Extension Days:	17
TOTAL DAYS ADDED:	35
Allowable Contract Days:	245
Allowable Contract Completion Date:	September 16, 2018
Final Acceptance Date:	September 14, 2018
Percent Days Added (Other than Weather, Holiday or Special Event Days):	8.6%
Performance Measure (Is the Contract Time Increase <20%):	YES

CONTRACT AMOUNT	
Original Contract Amount:	\$1,559,625.64
Contract Changes:	\$51,808.48
Revised Contract Amount:	\$1,611,434.12
Percent Amount Added (SAs):	3.3%
Performance Measure (Is the Contract Amount Increase <10%):	YES
Final Estimate Amount:	\$1,403,106.42

C. PERFORMANCE MEASURES - Review of Reasons if Measures are Exceeded:

- **CONTRACT TIME:** Days added (other than weather, holiday or special event) = 17
Original contract days = 210
% Increase = 8.6%
Performance Measure Maximum = 20%

Performance Measure is within acceptable parameters

- **CONTRACT AMOUNT:** Amount added = \$51,808.48
Original amount = \$1,559,625.64
% Increase = 3.3%
Performance Measure Maximum = 10%

Performance Measure is within acceptable parameters

D. LESSONS LEARNED SUMMARY

- 1) **Electrical Service Disconnects** - Using existing conduit/disconnects vs F&I new conduit/disconnects for grounding upgrade
- 2) **630-2-12, Conduit, F&I, Directional Bore** - Quantity
- 3) **Proposed Running Line Conflicts with Existing Conduits** - Maintaining 5' Offset
- 4) **Use of Alternative Materials** - PVC in lieu of HDPE
- 5) **Summary of Quantity Discrepancies**

LESSON LEARNED

1) Using existing conduit/disconnects vs F&I new conduit/disconnects for grounding upgrade:

ISSUE SUMMARY: The existing disconnect boxes at the 31 pole locations within the project limits were not planned to be replaced. After construction started, the existing disconnects were found to not meet current code. RFIs 13 and 14 questioned the planned approach to utilize existing conduit and disconnects for upgrading the grounding to current code at each pole location. Based on past experience, the contractor made a recommendation for a quicker and more cost effective solution to the original plan to intercept the existing grounding conduit under the existing concrete slab to run new wiring. The planned approach would require undermining the existing slab to locate the existing conduit which could result in destroying the entire slab and risk damaging the existing fiber-optic line at all 31 locations.

COST INCREASE: \$34,856.93

TIME INCREASE: 17 DAYS

RESOLUTION: The contractor suggested cutting the existing slab to run new conduit from the cabinet to the pull box for the new grounding wire. It would require new and restorative work to the concrete mow pads and an increase of the existing pay item for new disconnect boxes.

The cost of labor, equipment and materials for the extra work involved with sawcutting and restoring concrete mow pads at 31 locations was added. The existing pay item for Electrical Service Disconnects was overrun by 31.

LESSON LEARNED: While it is understood that re-using existing features is a good practice to reduce cost, it is not always feasible when applied in the field. Consideration should be given to impacts created by reusing existing features and the relatively low differential cost of replacing with new features.



LESSON LEARNED

2) 630-2-12, Conduit, F&I, Directional Bore Quantity:

ISSUE SUMMARY: Storm drains and features were found to conflict with the planned open trenching of conduit.

COST INCREASE: \$0.00

TIME INCREASE: 0 DAYS

RESOLUTION: Contractor suggested increasing the directional bore quantity and correspondingly decreasing the open trench quantity.

LESSON LEARNED: Provide for directional bores wherever conflicts may exist to open trenching, especially where conduit runs will coincide with drainage structures or cross an area that is much less conducive to open trenching, like ditches, drainage swales and other significant changes in topography.



LESSON LEARNED

3) Proposed Running Line Conflicts with Existing Conduits / Maintaining 5' Offset:

ISSUE SUMMARY: IT-50/IT-51 at approx. Sta 2879+50, the proposed running line is approximately 37' offset, and the existing power and fiber lines are 35'/36' offset. At Sta 2788+00, which is the south side of the overpass, the running line is 35' offset and the existing lines are approximately 36'/37' offset. The proposed running line encroaches into the existing lines, making it impossible to maintain the 5' minimum required offset from the the existing lines and the designed offset from the edge of roadway.

COST INCREASE: \$0.00

TIME INCREASE: 0 DAYS

RESOLUTION: Contractor and CEI worked together to locate the new running line at a minimum offset from the existing lines.

LESSON LEARNED: As-builts of existing lines are not always reliable in providing accurate location information to the designer to be able to show the proposed lines at a suitable offset. This was a minimal impact issue that resulted in changes to the quantities of existing pay items, but could be improved with more accurate as-built information.



4) Use of Alternative Materials (PVC in lieu of HDPE):

ISSUE SUMMARY: Contractor requested to use 2" PVC instead of 2" HDPE at every ITS Pole location, from the EPB to the base of the pole. FDOT's Standard Spec 630-3, reads: "Use HDPE with an SDR number less than or equal to 13.5, Schedule 80 PVC, or Schedule 40 PVC for underground installations of electrical conduit in earth for lighting applications and landscape irrigation applications".

COST INCREASE: \$0.00

TIME INCREASE: 0 DAYS

RESOLUTION: PVC was allowed by the EOR between the electrical pull box and the pole.

LESSON LEARNED: Consideration of materials and their raw costs. This issue did not affect the ultimate cost or time of this project, but it aided the contractor without affecting quality.



5) Summary of Quantity Discrepancies

439051-1-52-02

Pay Item	Item Description	Issue Summary	Resolution
570-1-2	Performance Turf, Sod	Item was underrun by 97%.	EOR estimated quantity was not needed to provide the full restoration needed at all of the project's pull & junction box locations.
630-2-12	Conduit, F&I, Directional Bore	Item was overrun by 10%.	
639-3-11	Electrical Service Disconnect, F&I, Pole Mount	Item was increased from 4 EA to 35 EA.	The original plans did not anticipate removing and replacing all of the disconnects at the pole locations. Once construction started in the field, the condition of the existing disconnects was assessed and found to require replacement to meet current code. The Department agreed and WO #3 was processed to provide for the removal of the existing disconnect boxes and the extra work involved to restore the mow pads. The new boxes were covered by overrunning the contract pay item by 31.

E. SUMMARY OF ISSUES – ORGANIZED BY FUNCTIONAL AREA (with before & after pictures if available for non-aggregate issues)

- **DRAINAGE** Changes: *None*
 - Pay Items Added or Overrun: *N/A*
 - Work Orders: *N/A*
 - SAs: *N/A*
 - Aggregate Time Spent Resolving Issues: *N/A*

- **MOT** Changes: *None*
 - Aggregate Cost: *N/A*
 - Aggregate Time: *N/A*

- **ITS** Changes:
 - Aggregate Cost: *\$40,382.23*
 - Aggregate Time: *17 days*

- **STRUCTURE** Changes:
 - Aggregate Cost: *N/A*
 - Aggregate Time: *N/A*

- **EROSION CONTROL BMP** Changes:
 - Aggregate Cost: *\$1,808.48*
 - Aggregate Time: *0 days*

- **OUTSIDE AGENCY / PROPERTY OWNER** Changes: *None*
 - Aggregate Cost: *N/A*
 - Aggregate Time: *N/A*

- **TURNPIKE OFFICES REQUESTING EXTRA WORK** Changes:
 - Aggregate Cost: *N/A*
 - Aggregate Time: *N/A*

- **CHANGES TO WARRANTIES:**
 - Aggregate Cost: *N/A*
 - Aggregate Time: *N/A*

- **SPECIFICATION DISCREPANCIES:**
 - Aggregate Cost: **N/A**
 - Aggregate Time: **N/A**

- **UNUSUAL ITEMS RESOLVED IN THE FIELD** (No Cost):
 - Aggregate Time: **N/A**

- **CLAIMS or NOIs:**
 - **None**

F. OUTSTANDING WORK TO BE DONE AFTER FINAL ACCEPTANCE

1. Performance Sod: *Follow-up check within establishment period*
2. Burn-In Period: *N/A*
3. Canal Revetment: *N/A*
4. Trench Drains: *N/A*

ATTACHMENT A

SAs / Time Extensions / Work Orders

Supplemental Agreements

439051-1-52-01 ITS Electrical Improvements			
SA No	Description	Cost	Time
01 (CO 05)	A) SWPPP (RFI 1&2); B) <u>Increase existing pay items (RFI 6)</u> 1) 630.2.12 Conduit, Furnish & Install, Directional Bore; 2) 639.2.1 Electrical Service Wire, F&I, and 3) 639.3. 11 Electrical Service Disconnect, F & I Pole Mount. <u>Decrease existing pay items:</u> 1) 630.2.11 Conduit, F&I, Open Trench; 2) 635.211 Pull & Splice Box, F&I, 13" x 24" Cover Size.	\$1,808.48	0
02 (CO 10)	CSA	\$50,000.00	0
Totals:		\$51,808.48	0
Original Contract Amount:		\$1,559,625.64	
Added Amount:		\$51,808.48	
% Amount Increase:		3.3%	<10%

Time Extensions

439051-1-52-01 ITS Electrical Improvements			
TE No	Description	Cost	Time
01	N/A	N/A	N/A
Totals:		N/A	0
Original Contract Time:		210	
Added Time (SA + TE - Other than Weather, Holiday or Special Event):		0	
% Time Increase:		0.0%	<20%

Work Orders

439051-1-52-01 ITS Electrical Improvements			
WO No	Description	Cost	Time
01	999-25-01: Extend Flex Time	\$0.00	0
02	999-25-02: PRECO Invoice Payment (4 Special Transformers)	\$5,525.30	0
03	999-25-03: Added Disconnects	\$34,856.93	17
Totals:		\$40,382.23	17

ATTACHMENT B

RFIs / RFMs / RFCs

Breakdown by Type:

A - PLAN ERROR OR OMISSION

RFIs: 001, 002, 003, 015, 018 (5) – 26%

B - CONFLICTING INFORMATION / CLARIFICATION

RFIs: 005, 006, 010, 011, 013, , 016, 017, 019 (8) – 42%

C - RECOMMENDATION (RFM)

RFIs: 004, 007, 008, 009, 012, 014 (6) – 32%

Summary:

- RFI No. 01 – Pay Item for Service Pole on IT-15 (A)**
EOR Response: Per the detail sheet on sheet IT-/67 the new Load Center-I is replacing the old one which is on an H-Frame. The call out for Service Pole was not called out for the same reason on sheet It-15. Disregard the Quantity shown on sheet IT-3. This coincides with the quantities shown on submittal #3 shop drawing. CLOSED.
- RFI No. 02 – Erosion Control Plan/SWPPP** - In order to submit an NOI and pay the corresponding fee, there needs to be a SWPPP in place. However, plans do not provide an SWPPP. **(A)**
EOR Response: The quantities shown on the Plans are estimates only. In order to determine if a SWPPP is required, VIBE needs to know the method by which the existing conduit will be removed and how the new conduit will be installed (trenched or bored). This information will provide a much more accurate estimate of area that will be disturbed. CLOSED.
- RFI No. 03 – Erosion Control Plan/SWPPP (A)**
EOR Response: EOR thinks there will be soil disturbance of more than an acre. With this being said the plans will have to be updated to include the SWPPP in the plans. This will be done as part of Revision #1 plans. CLOSED.
- RFI No. 04 – Increase Directional Bore Quantity** (to avoid storm drain concrete culverts where it is not possible to trench above or around) **(C)**
EOR Response: The EOR agrees with the contractor about directionally drilling at the locations specified; (approx. STA 4242+00, approx. STA 4230+00 & approx. STA 4213+00) to avoid the storm drain concrete culverts. CLOSED.
- RFI No. 05 – Rain Gauge Requirements (B)**
EOR Response: There is not any particular requirement for the installation of the rain gauge. However, that being said, do not attach the gauge to the guardrail or guardrail posts, be sure the gauge is not obstructed from catching the rainfall and that it is not in the way of the maintenance department to perform mowing on the shoulders, as to be damaged or knocked down. Mounting on a station board or survey stake may be a potential solution. CLOSED.
- RFI No. 06 – Fuse Switch ITS Station 189-SB (B)**
EOR Response: Fort Drum ITS station 189-SB requires a new service disconnect as stated on sheet IT-73 and the one line diagram will be updated and per the EOR will be included as part of Revision #1 Plans. CLOSED.
- RFI No. 07 – Existing running line deviations (C)**
EOR Response: The existing utilities (fiber and electrical conduits) shown on the plans are approximate and the contractor needs to field verify all the utilities and make appropriate changes to the design upon

agreement with the CEI in the field. Contractor should make sure a minimum offset of 5' is being maintained at all times. CLOSED.

8. **RFI No. 08 - Directional Bores (2) (C):** As requested under RFI E8Q77-004, YCOM has encountered some additional culverts that do not allow to do open trench at the locations specified in the plans. The locations would be @ IT-39 from approximate Sta#2725+50 to 2720+75, and @ IT-40 from approximate Sta#2730+30 to 2736+00. Please, confirm it is acceptable to switch from open trench to directional bores at this locations. In addition, SICE would like to know if it is acceptable to take care of similar issues on the field through a field change, and document them in the As-Built.

***EOR Response:** The EOR agrees with the contractor about directionally drilling at the locations specified to avoid the storm drain concrete culverts. For any future similar issues the EOR takes no exception in changing the design from open trenching to directional drilling if the CEI is in lieu with the contractor. CLOSED.*

9. **RFI No. 09 – Use of PVC in lieu of HDPE (ITS) (C):** Contractor is asking, if is acceptable to use 2" PVC instead of 2" HDPE at every ITS Pole location, from the EPB to the base of the pole. FDOT's Standard Spec 630, section 630-3, reads as follows "Use HDPE with an SDR number less than or equal to 13.5, Schedule 80 PVC, or Schedule 40 PVC for underground installations of electrical conduit in earth for lighting applications and landscape irrigation applications".

***EOR Response:** The EOR takes no exception in the usage of 2" PVC conduit for all the drops from ITS pole to the new electrical pull boxes and make sure that it is recorded as part of the as-built documentation. CLOSED.*

10. **RFI No. 10 – Electrical wire size clarification (ITS) (B):** Contractor requests confirmation about the wire size to be used inside conduit installed by directional bore on Load Center C. According to the plan sheets IT-54 to IT-66, every time there is directional bore, the size of the wire to be installed is #1/0 AWG, whereas inside the conduit installed by open trench, the wire size is #1 AWG. In addition, the one line diagram for this load center (IT-72) only shows wire size of #1 AWG. Please confirm.

***EOR Response:** Per the Voltage Drop Calculations, sheet IT-72 is right and the callout of running a #1/0 AWG wire was an error. Please follow the One Line Diagram for the installation of Service Wire as the callouts on the One-Line Diagram are correct. CLOSED.*

11. **RFI No. 11 – Wire Size from EPB to ITS Pole (B):** Contractor requested confirmation of the wire size (#AWG) to be run from Electrical pull box towards ITS pole. According to ITS Plan sheets IT-13 thru IT-66, the size of the wire is either #1 AWG for load centers I & C, and #1/0 AWG for load center L. However, one line riser diagrams (IT-70 thru IT-72) actually show #6 AWG to be run from pull box to ITS pole (call outs 2B & 2C). Is it SICE's understanding that the appropriate size is #6 AWG for the three load centers, based on this disconnects' size.

***EOR Response:** The callouts for the run between proposed pull box to the service disconnect shown on Plan Sheets IT-13 thru IT-66 are incorrect and the One Line Riser Diagrams are correct. Please use the #6 wire between Proposed Pull Box to the Service Disconnect. CLOSED.*

12. **RFI No. 12 – Existing infrastructure to remain (C):** Contractor requested clarification about if existing electric infrastructure to remain meets the new electric infrastructure installed (typically where there are drops to the NB side of the road), if it is acceptable that the existing electrical pull boxes at the beginning of the run also remain (closer to the new electric infrastructure). Contractor would provide a conduit jumper between boxes to connect new infrastructure with existing infrastructure, and be able to replace the electric wires.

***EOR Response:** Per the meeting held on April 10, 2018 the existing pull box shall be removed. CLOSED.*

13. **RFI No. 13 – New Disconnects and Grounding Notes (B):** Contractor submitted Plan Sheets IT-12, IT-73 & IT-75 with red-marks about the new design that SICE believes is needed for the new disconnects, and also comments about the grounding at the ITS locations, and asked for clarification. SICE also asked to evaluate the new design, and identify the time, materials, resources and equipment actually needed to comply with the request to exchange the disconnects.

***EOR Response:** Per the meeting held on April 10, 2018 the Contractor is in agreeance with EOR about bringing the existing grounding to current standards. CLOSED.*

14. **RFI No. 14 – New Disconnects and Grounding Notes (C):** Contractor would like to know if it is acceptable to run a new 3/4" conduit for grounding purposes from the ITS hub cabinet to the new 480V pull box at every pole location within the project limits, instead of intercepting the existing conduit under the concrete slab to route it inside the new 480V Pull Box. Please, let us know if this solution is acceptable. Resubmitted in 05/11/2018 for approval of the Line side disconnect @ Canoe Creek SP requested by Duke Energy.
EOR Response: After coordination with the CEI and Construction PM the EOR takes no exception to the Contractor's approach of installing new conduit for grounding purposes at all the ITS device locations. CLOSED
15. **RFI No. 15 – Additional Disconnect at Canoe Creek Plaza (Duke Energy) (A):** During the coordination with Duke Energy to get power at Canoe Creek Service Plaza, they advised that an additional disconnect on the line side will be needed according to their standards for voltages of 480V (attached), and that our plans do not show (attached plan sheets IT-54, 69, 72). In addition to this, if we are to install the additional disconnect, the current service pole does not have enough space to accommodate the additional disconnect, therefore an additional P-II service pole would be required in order to build an H-frame and accommodate all the elements. Please advise.
EOR Response: After review of the provided documentation, the EOR takes no exception to the Contractor's approach for installing an additional disconnect on the line side of the meter and an additional P-II service pole to accommodate all of the elements. CLOSED.
16. **RFI No. 16 – Clarification for Detail on PS# IT-48 (Existing infrastructure to remain) (B):** Contractor is asking for clarification related to RFI#012 (Existing infrastructure to remain): it was found that sheet IT-48 shows a conduit jumper from the new electrical pull box to an existing electrical pull box (that would remain), which is actually our request under RFI#012 for plan sheets IT-29, IT-46, IT-54 & IT-55.
EOR Response: The callout of 15 LF shouldn't have been shown on sheet IT-48. The intended approach during design phase at these locations in question was that the existing conduit if needed will be re-routed into the new boxes but the EOR takes no exception if Turnpike maintenance is in agreement with this approach. CLOSED.
17. **RFI No. 17 – Clarification for Detail on PS# IT-67 (Use of Polaris Connector) (B):** Contractor has observed that the existing breaker where SICE is directed to connect @ Canoe Creek Service Plaza (Call out #2 IT-67) currently has 2 wires in a single lug. Per NEC Standards, this is not allowed (see pictures and correspondence attached). Therefore, SICE would like to know if it is acceptable to use a Polaris Connector or similar (attached cut sheet) in order to double tap this breaker.
EOR Response: The EOR takes no exception with the usage of a unitap at Fort Drum Service Plaza bearing in mind that the existing and new loads cannot pass 80% of the breakers capacity per NEC code. CLOSED.
18. **RFI No. 18 – Missing pull-box (IT-48) and clarification for grounding arrays (IT-73) (A):** Regarding location CCTV/VDS-91-206.9-NB/SB (IT-48), we found that there is no existing electrical pull box where to install the main ground rod in order to bring the ground array up to standards, as requested on sheet # IT-73. See pictures attached. Contractor is asking how to proceed at this location.
EOR Response: It is our belief that the pull box might be buried. We say this because when a conduit crosses an Interstate it is standard practice to have a pull box on either side of the run. Attached is a snap from Google Earth showing what we think are the pull boxes. CLOSED.
19. **RFI No. 19 – Electrical Route Marker (B):** Specific display or wording for the electrical route markers, in reference to Note 13 on plan sheet IT-12. Per this note, contractor shall refer to the FDOT standard spec 630-2.5 & 630-3.10. However, these sections refer back to the plans, in the event of providing a SRM for a different use rather than fiber optic.
EOR Response: Please see the attached for EOR's response. Please review and confirm the EOR's questions. Standard drawing indicates PVC tube. Picture may show improper call information. FTE decided that markers are only required for fiber lines, not electrical lines. Since no fiber lines were installed, FTE closed the issue. CLOSED.

ATTACHMENT C

Plan Revisions / Shop Drawings

PLAN REVISIONS:

- **01:** Added sheets IT-76 & IT-77 (SWPPP). Updated EOR Information (Vibe, Inc. assumed the plans from Kapsch Trafficcom Transportation, Inc.)

SHOP DRAWINGS:

- **SD-0001 & SD-0001.1:** Conduit Product Data (630). S-12.13.17 & 12.18.17
- **SD-0002 & SD-0002.1:** Pull Boxes 13" x 24", and Product Data. S-12.18.18 & 01/29/18.
- **SD-0003:** Pre-stressed Concrete Pole, P-II Pedestal (641). S-12.29/17
- **SD-0004: VOID**
- **SD-0005:** Electrical Service Wire Product Data (639). S-02.08.18
- **SD-0006:** Electrical Power Service Transformer. S-02.16.18
- **SD-0007:** Electrical Surge Protection Device. S-02.16.18
- **SD-0008:** 639. Electrical Service Disconnect-Pole Mount, Product Data. S-02.26.18
- **SD-0009 & SD-0009.1:** 630. Conduit Aluminum Reverse Thread Couplings Product Data. S-02.08.18 & 02.16.18
- **SD-0010:** 639. Electrical Service Wire-Splicing. Connector's Product Data. S-02.26.18
- **SD-0011:** 639. Electrical Power Service Transformer. Fuses Product Data. S-02.26.18
- **SD-011.1:** 639. Rev-Electrical Power Service Transformer. Fuses Product Data. S-02.26.18
- **SD-0012:** 639. Electrical Service Disconnect-Pole Mount Product Data. S-03.07.18
- **SD-0013:** 641. Pre-stressed Concrete Pole PII-A @ Canoe Creek Service Plaza. S-05.04.18
- **SD-0014:** 639 Electrical Power Service Assemblies. Line side disconnect @ Canoe Creek SP requested by Duke. S-05.11.18
- **SD-0015 – VOID**

ATTACHMENT D

Warranty Information

The warranties on this project include:

1) 635 Pull, Splice & Junction Boxes (see below):

635-5 Warranty:

Ensure all pull, splice, and junction boxes have a manufacturer's warranty covering defects for a minimum of one year from the date of final acceptance in accordance with 5-11 and Section 608. Ensure the warranty includes providing replacements, within 30 calendar days of notification, for defective parts and equipment during the warranty period at no cost to the Department or the maintaining agency.

2) T639 Electrical Power Service – Transformer Furnish & Install (see below):

T639-4 Warranty:

Standard manufacturer's warranties shall be transferable to the Department at final acceptance.