

Section C-941

CHANGE ORDER FORM

Change Order 3

Date of Issuance: 3/16/2020	Effective Date: 3/16/2020
Owner: WSFC Utilities	Owner's Contract No.:
Contractor: D.H. Griffin Infrastructure	Contractor's Project No.: 19-20-1310
Engineer: HIGHFILL Infrastructure Engineering, P.C.	Engineer's Project No.: WIN1702
Project: Idols Rd Regional Lift Station	Contract Name: Idols Rd. Regional Lift Station

The Contract is modified as follows upon execution of this Change Order:

Description: See attached Change Order Background and Scope of Work

Attachments: Change Order Scope with Installation Details, and the Contractors Proposal

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES <i>[note changes in Milestones if applicable]</i>
Original Contract Price: \$ 4,342,900.00	Original Contract Times: Substantial Completion: <u>390</u> Ready for Final Payment: <u>420</u> days
[Increase] [Decrease] from previously approved Change Orders No. <u>1</u> to No. <u>2</u> ; \$ 29,561.46	[Increase] [Decrease] from previously approved Change Orders No. <u>1</u> to No. <u>1</u> ; Substantial Completion: <u>0</u> Ready for Final Payment: <u>0</u> days
Contract Price prior to this Change Order: \$ 4,372,461.46	Contract Times prior to this Change Order: Substantial Completion: <u>390</u> Ready for Final Payment: <u>420</u> days
[Increase] [Decrease] of this Change Order: \$ 72,000.00	[Increase] [Decrease] of this Change Order: Substantial Completion: <u>0</u> Ready for Final Payment: <u>0</u> days
Contract Price incorporating this Change Order: \$ 4,444,461.46	Contract Times with all approved Change Orders: Substantial Completion: <u>390</u> Ready for Final Payment: <u>420</u> days

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: <u>Jacob Sams</u> Engineer (if required)	By: _____ Owner (Authorized Signature)	By: <u>[Signature]</u> Contractor (Authorized Signature)
Title: <u>Project Engineer</u>	Title: _____	Title: <u>Alan Morrison</u>
Date: <u>March 13, 2020</u>	Date: _____	Date: <u>3-16-2020</u>

ACCEPTED:

By: [Signature]
Forsyth County (Authorized Signature)

Title: County Manager

Date: 3/31/2020

Approved by Funding Agency (if applicable):

By: _____ Date: _____

Title: _____

Change Order for Installation of Power Conduits and Related Items
Idols Road Regional LS
February 11, 2020
HIGHFILL Project No. WIN1702

Background:

Duke Power is installing a below-grade power feed from their grid to the Idols Road Regional Lift Station. By policy, Duke Power will not work within areas they deem to be environmentally sensitive. They have placed a white stake at each end of the area of concern and are requiring the Owner (Winston-Salem/Forsyth County Utilities) to install the power conduits between these white stakes for their use.

Scope of Work:

Install 2 runs of 4-inch diameter power conduit between the two white stakes annotated on Figure A, attached. The horizontal distance is 250 feet between the stakes. The conduits installed shall extend 10 feet beyond each stake (270 linear feet total) No conduit turns, horizontal nor vertical, shall exceed 45-degrees.

The ditch crossing is a regulated blue line stream; therefore, the installation shall be by Horizontal Directional Drill. Contractor has the option to drill the conduits individually or drill one larger conduit and install two 4" conduits inside the larger one. Leave each end of conduits sticking up 3-5 feet above grade to identify the location for Duke Power's connection to their installation.

Entry and exit angles shall allow for connection of conduits by Duke Power's open cut trenches at a depth of 36" to 48" of cover. Contractor shall design the HDD pipe wall thickness for depth of installation, HDD operations including pipe pull-back and fusing design. The drilled pipe shall be HDPE or fusible PVC. The drill path shall be a straight line between the stakes to remain within the Duke Power easement.

Immediately following completion of the pilot hole, submit tabulations of vertical and horizontal alignment and profile at a scale of 1"=20'. Submit as-built drawings including guidance system data indicating horizontal and vertical position of drilled pipe along the route.

Provide erosion control devices as required to contain sediment on-site. Provide site stabilization, drilling pit, and other site requirements for the HDD operations. Regrade, seed, fertilize, and mulch disturbed area to restore permanent vegetation. Remove erosion control measures once permanent vegetation is established.

Duke Power construction crews will clear the right of way from the PS site to the site of the HDD and from the High Voltage power lines to the HDD site.

All costs for the complete installation shall be included in the Contractors pricing.

The following are Duke Power's requirements (per Rob Swain email to Jake Lowe on Jan 16, 2020) which shall be incorporated into the installation:

- The “*ConduitCrossing-SvcReqmtManual*” document is a visual reference for the conduit installation, regardless of the obstacle being crossed in most cases. The primary take away from this document are the specifics surrounding the **conduit marking, pull string, end encapsulation, and minimum depths**. [Figure D, attached]
- The “*ConduitTypes-SvcReqmtManual*” document identifies which types of conduit material are acceptable for electrical use. If individual conduit sections are installed, please ensure they are securely glued together to ensure separation during pulling activities does not take place. [Figure E, attached]
- As it pertains to installation depth [by open cut], the conduit shall be a minimum of **36 inches** deep (measured from grade to top of conduit) to a maximum of **48 inches** deep along all sections of the installation. The depth of the conduit installation where the conduit will physically reside underneath the stream bed will also need to comply with the minimum/maximum stated earlier.
- Conduit ends shall extend a minimum of **50 feet** from the edge of the stream bank and reside outside of any wetland or area in which the soil is saturated or water is fully present at the time of crews excavating up to the ends of the conduit.
- The minimum size conduit for this crossing would be 4 inch as long as the run is straight, free of any turns exceeding 45 degrees. If turns are introduced, 6 inch conduit would be recommended.
- It is the recommendation that (2) runs of conduit be installed, (1) for immediate use and (1) for a spare need.

Attachments:

Figure A – Plan view of site

Figure B – Open-cut trench detail (if any open cut installation is used)

Figure C –not used

Figure D – Duke Power’s Customer Installed Conduit Crossings Detail

Figure E – Duke Power’s Customer Installed Conduit Crossings Specification

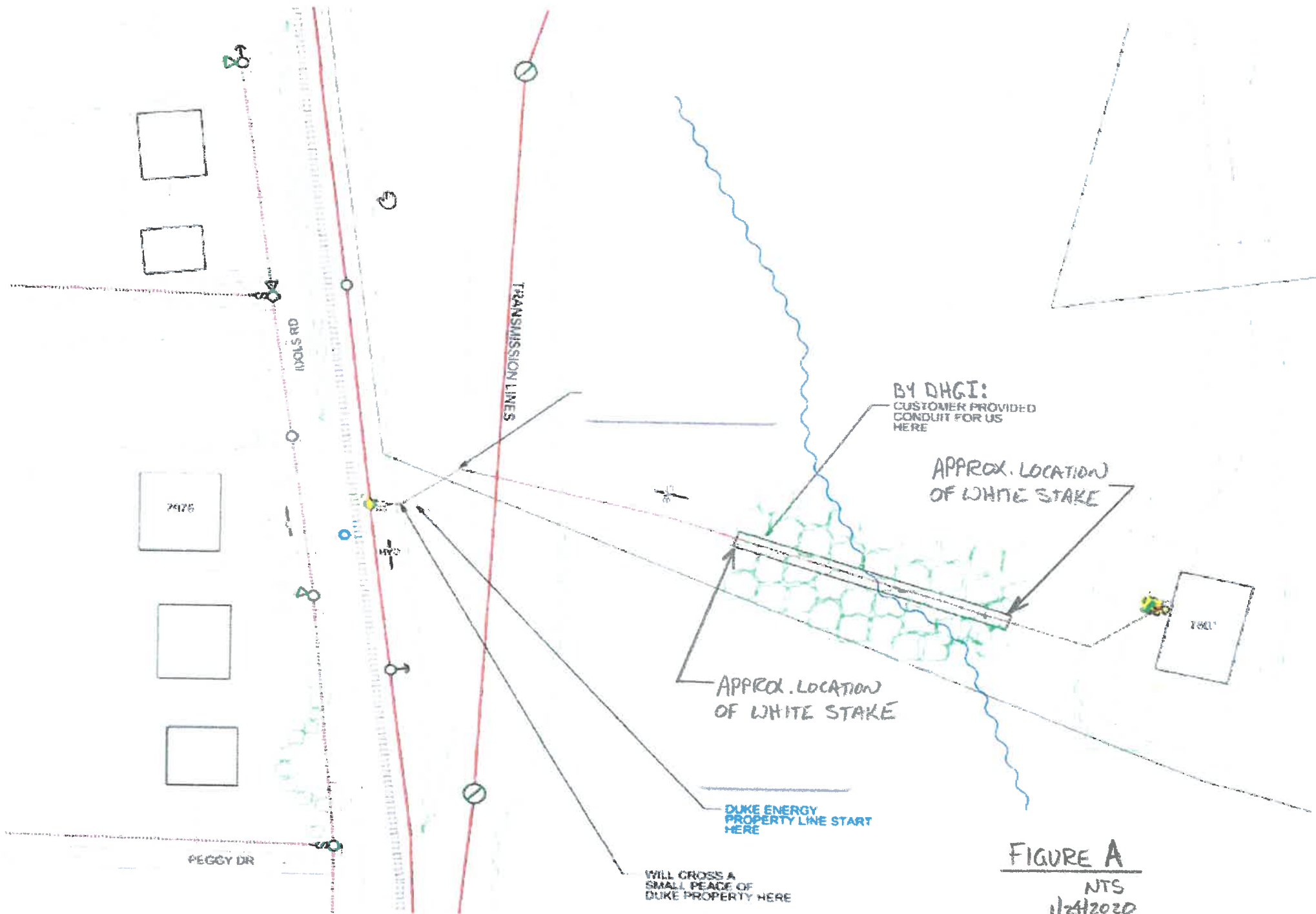


FIGURE A
NTS
1/24/2020



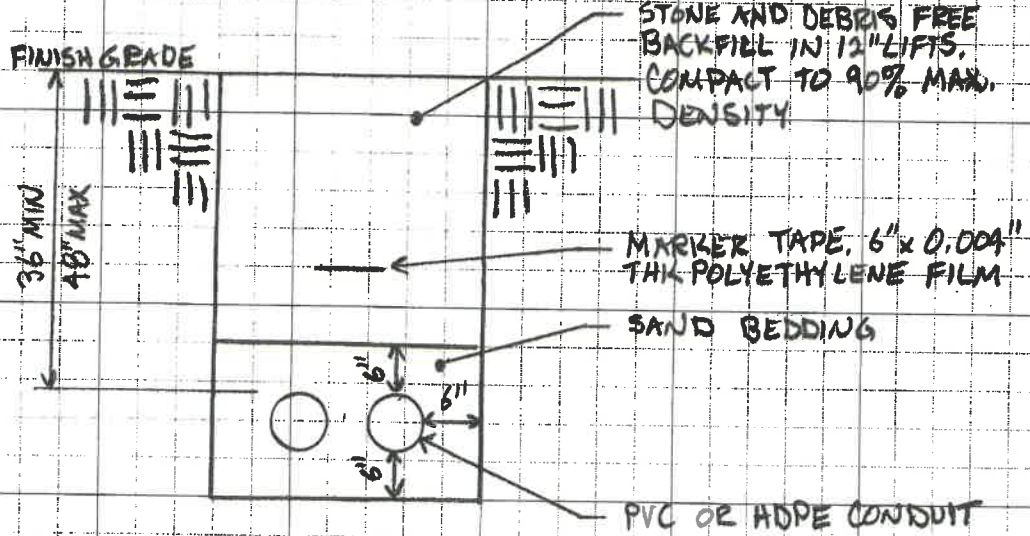
SUBJECT: _____

PROJECT NO.: _____

BY: _____ DATE: _____

CHKD: _____ DATE: _____

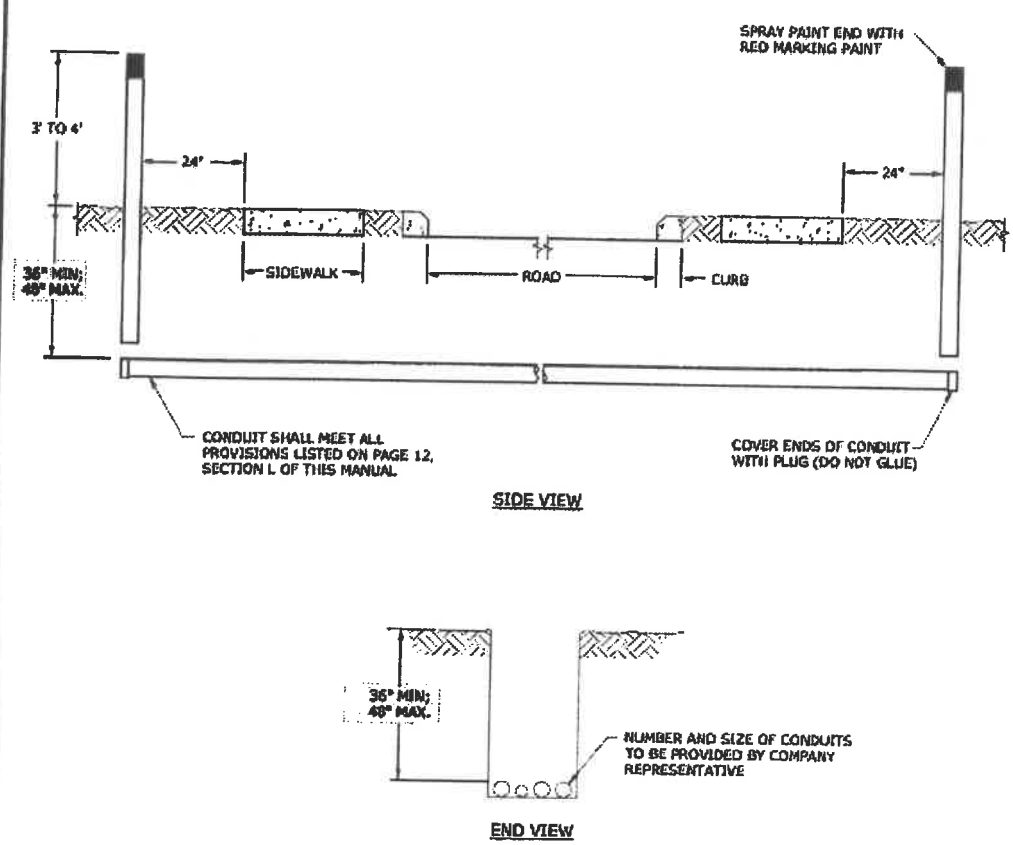
SHEET _____ OF _____



DETAIL - CONDUIT TRENCH
NTS

FIGURE B

1/24/2020



NOTES:

1. MINIMUM COVER IS MEASURED TO TOP OF CONDUIT.
2. EXTEND CONDUIT BEYOND EDGES OF ROAD, SIDEWALK, CURB, ETC. BY MINIMUM OF 24" ON EITHER END. CONDUITS SHALL BE INSTALLED WITH PULL STRING INSIDE THE FULL LENGTH.
3. ALL CONDUIT SECTIONS INSTALLED FOR WIRE SHOULD BE GLUED.
4. PLUG/SEAL BOTH CONDUIT ENDS (DO NOT GLUE).
5. MARK CONDUIT ENDS BY VERTICALLY PLACING A SCRAP PIECE OF CONDUIT OR 2" X 4" WOOD STUD AT EACH SEALED END FOR VISUAL IDENTIFICATION ABOVE GROUND. SPRAY PAINT THE END OF THESE WITH RED MARKING PAINT.

DUKE ENERGY.

DEC	DEM	DEP	DEF
X		X	

FIG 51

1				
2				
3				
0	10/21/19	GABES	EMES	ADNDLK
REVISED	BY	CHK'D	APPR.	

CUSTOMER INSTALLED CONDUIT CROSSINGS

FIGURE D
1/24/2020

L. CUSTOMER INSTALLATION OF CONDUITS

IN ORDER TO FACILITATE THE INSTALLATION OF COMPANY FACILITIES, IT MAY BE NECESSARY OR ADVANTAGEOUS FOR THE CUSTOMER TO INSTALL CONDUITS AT THE DIRECTION OF THE COMPANY'S ENGINEERING REPRESENTATIVE. CONDUITS INSTALLED FOR THESE PURPOSES SHALL BE SIZED AND AT THE DEPTH INDICATED BY THE COMPANY, INSTALLED WITH A PULL STRING, AND ARE LIMITED TO THE FOLLOWING TYPES:

1. GRAY SCHEDULE 40 PVC
2. GRAY SCHEDULE 40 HDPE
3. RED SCHEDULE 40 HDPE
4. BLACK SCHEDULE 40 HDPE WITH THREE LONGITUDINAL RED STRIPES

ANY CONDUIT SHALL BE RATED FOR 90-DEGREE C CONDUCTORS. FOR INFORMATION SPECIFIC TO CUSTOMER INSTALLED CONDUIT CROSSINGS, REFER TO FIGURE 51.

FIGURE E
1/21/2020