

FEMA Building Resilient Infrastructure and Communities Grant Program
City of Hickory Snow Creek Pump Station Replacement
Benefit-Cost Analysis Methodology



TECHNICAL MEMORANDUM

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Snow Creek Pump Station Relocation and Flood Hardening

Benefit-Cost Analysis Methodology

January 19, 2021

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City of Hickory, NC

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1. PROJECT OVERVIEW

This technical memorandum identifies the data and methodology used to complete a benefit cost analysis (BCA) for the City of Hickory project 'Snow Creek Pump Station Replacement' (Appendix A). The design approach to mitigate the flooding of the Snow Creek pump station centers around the demolition, decommissioning, and full relocation of the existing pump station to a neighboring vacant lot approximately 125 feet west of its existing location.

The avoided losses from precipitation flooding were quantified for the purposes of this BCA. The following methodology outlines the steps that were taken to calculate a BCA ratio of 2.04, with \$4,749,369 in project costs (including \$3,120 per year in site maintenance) and \$9,673,633 in benefits.

1.1 Project Background

The Snow Creek pump station is located on Snow Creek Road NE, approximately 0.75 miles upstream from Lake Hickory. The pump station serves approximately 5,724 domestic wastewater customers to the south of the pump station. The pump station is a well-pit / dry-pit configuration and has a design pumping rate of 3,200 gallons per minute (GPM) or 4.5 million gallons per day (MGD). The City of Hickory has indicated that while the number of customers may seem relatively small for a pump station sized to handle 4.5 MGD, the area experiences a relatively large daily influx of workers, students, and industrial activity. The pump station has experienced a history of flooding that has caused repeated loss of wastewater service. The location of this pump station is described in Table 1.

Table 1. Snow Creek Pump Station Location

Facility Name	Location Description	Latitude	Longitude
Snow Creek Pump Station	2061 Snow Creek Road NE, Hickory, NC 28601	35.787694	-81.285222

The Snow Creek pump station is located in the FEMA Special Flood Hazard Area (SFHA). For the flood map exported from the FEMA Map Service Center, see Appendix B. The Snow Creek pump station experiences flooding from the nearby Snow Creek, which is approximately 22 feet west of the pump station, as well as from major rainfall events which have impacted the station several times in the past. This historic flooding at the pump station has resulted in full or partial loss of wastewater service and required costly repairs to pump station equipment. Additional information on historic flooding is included in Section 3.

1.2 Proposed Mitigation Action

This project will demolish, decommission, and relocate the existing Snow Creek pump station to mitigate impacts to the facilities from flooding. The mitigation actions will reduce the probability of damages and loss of function to business and property owners in the service area. Relocating the pump station and constructing it outside of the SFHA and at a higher elevation will also prevent the occurrence of sewer overflows, as have happened in the past as a result of flooded facilities, thereby lessening impacts on water quality.

The new location of the station will be well above both the most recent precipitation flood elevation and the 500-year riverine flood elevation as defined by the Catawba County FIS. A hardened precast concrete wet well and valve vault, new submersible pumps, automatic bar screen, electrical and backup generator

will also be constructed and installed. Upon completion of the new station, the old pump station will be service will be transitioned immediately to ensure a limitation of outage times to customers.

Excavation of a terraced floodplain bench is proposed for approximately 200 feet within the extent of the existing pump station property. The bench will extend from the new channel top-of-bank to create widths as great as 50 to 60 feet inland. This new floodplain terrace will begin at a height of approximately 3 feet above the current channel bottom and terraced gradually up to the existing grade to increase hydraulic storage within the reach and reduce stream velocities during high flow events (relative to the currently confined channel).

Along the newly graded flood terraces, coir matting backed with CC-4 erosion control will be combined with suitable vegetative materials to ensure future erosion is either negated or drastically slowed. The coir matting blankets with CC-4 erosion control will consist of coconut fibers stitched between two nets and will be certified as completely biodegradable. Additionally, this erosion control method is considered economical, ideal for slope projects that would benefit from long lasting and high-performance erosion protection for high flow channel projects.

2. FEMA SOFTWARE AND GUIDANCE

The following narrative provides the methodology used to obtain the Snow Creek Pump Station Relocation and Flood Hardening project benefit cost ratio (BCR). Following the FEMA BCA Reference Guide and Supplement, this analysis uses a combination of data from the City of Hickory as the basis for engineering assessment and statistical determinations of likely occurrence and associated damages during expected events. The BCA for this project was primarily guided by FEMA's BCA Reference Guide and Supplement and the BCA Toolkit Version 6.0.

3. HISTORIC EVENTS

In accordance with the FEMA BCA Reference Guide and Supplement, historical loss data can be used to calculate benefits to be used in the benefit cost analysis. Alternatively, expected losses associated with modeled events may be used in the BCA Toolkit. The City of Hickory has a long history with precipitation flood events at this pump station but lacks documentation sufficient for using historical events as the basis for the BCA. Instead, BCA analysts used point precipitation event frequencies, outage times, and elevations provided by the City of Hickory to calculate the BCR based on expected events (Appendix C).

Despite this BCA being based on expected damages, it is important to understand the severity of flooding that has occurred at the pump station in the past. The pump station has experienced chronic flooding due to heavy rainfall events leading to swelled riverine flooding in the past but only two known events have been captured with pump station flow data, runtimes, and motor outages. The City of Hickory indicated that this is largely due to a recent wastewater improvement effort to replace and install a new SCADA software system allowing the Department of Public Utilities to more easily log, track, and interpret problem issues. A record of captured historic precipitation flooding events can be seen in **Table 2** below. A more detailed discussion regarding the use of these events can be found in Section 6.

Table 2. Snow Creek Pump Station Historic Flooding Events

Event	Rainfall Duration (Days)	Rainfall (Inches)	Flood Depths at Snow Creek PS (NAVD88)
07/27/13	1.0	6.00	Unknown*
06/07/19 – 06/09/19	3.0	8.50	973.25 ft
08/14/20 – 08/15/20	2.0	4.17	973.17 ft

* Flood depth and outage information was not captured for this occurrence. However, the City of Hickory has indicated that the Snow Creek pump station experienced a significant outage during this precipitation event.

4. PROJECT AND MAINTENANCE COSTS

The total project and annual maintenance costs for implementing the proposed mitigation project is provided in Table 3 below. Maintenance costs for the project were calculated as \$3,120 per year for the pump station and erosion control measures. These maintenance costs include costs associated operational pump maintenance, bi-annual pump testing, and grounds maintenance and security.

Table 3. Mitigation Project and Maintenance Costs

Mitigation Activity	Project Cost	Annual Maintenance Cost
Snow Creek Pump Station Relocation and Flood Hardening	\$4,706,311	\$3,120

5. PROJECT USEFUL LIFE

According to the FEMA 2009 BCA Reference Guide – Project Useful Life Table (Appendix D), a project useful life of 50 years should be applied to major infrastructure, (minor localized flood reduction projects). As such a useful life of 50 years was used for the Snow Creek Pump Station Relocation and Flood Hardening project in the BCA Toolkit.

6. SNOW CREEK PUMP STATION EXPECTED DAMAGES

The following section contains the data sources, information, and calculations used to determine loss of wastewater service and physical damages for expected flood events at the Snow Creek pump station.

6.1 Current Pump Station Design

The Snow Creek pump station is located just east of Snow Creek, within the SFHA (Appendix B). **Figure 1** shows satellite imagery of the pump station in relation to the creek. The finished floor elevation (FFE) of the pump station is located at an elevation of 969.5 feet NAVD88. During major rainfall events, the Snow Creek swells in size and flood elevations have been identified within the station reaching well above the entryway door handle (evidenced in Figure 2).

The pump station is currently constructed partially at ground level and partially subgrade. The half of the structure at grade contains the majority of the station’s critical electrical equipment (SCADA sensors,

control panels, etc.). The other half of the structure below grade contains the station's pump motors, bar screen motors, and automatic bar screens. Though much of the equipment is located off the ground, severe precipitation events and swelling of Snow Creek can cause significant flood elevations within the station impacting the station's ability to run at full capacity.

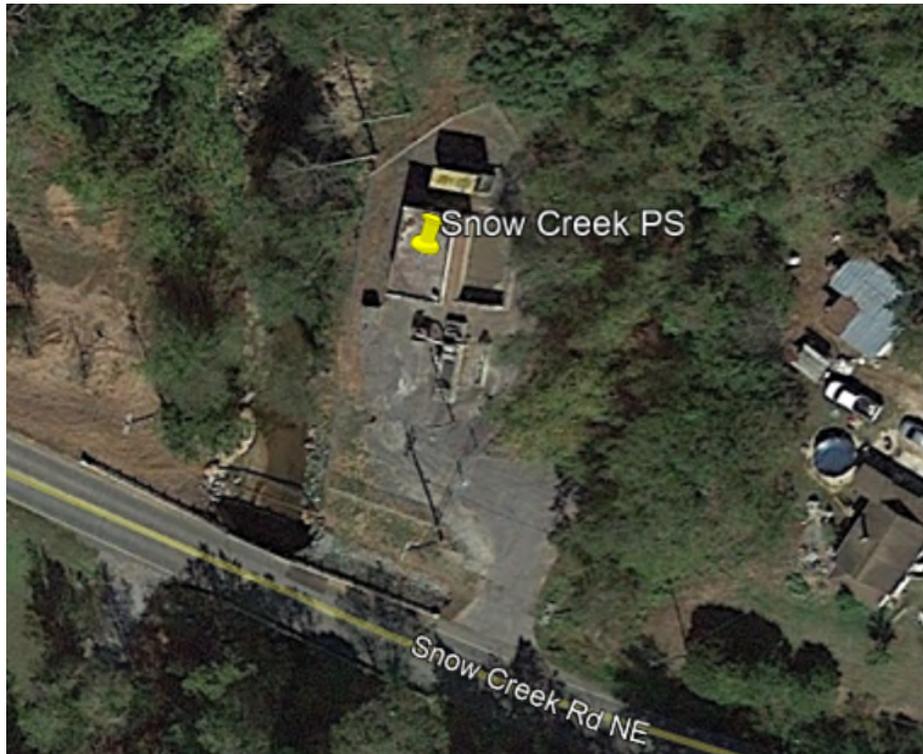


Figure 1. Satellite Imagery of Snow Creek Pump Station, Google Maps



Figure 2. Snow Creek Interior Flooding High Water Marks, City of Hickory

6.2 Source of Flooding

The Snow Creek pump station experiences regular flooding from severe precipitation events and the swelling of the nearby Snow Creek. During flood events, water enters the pump station through the doors located primarily at (or only slightly above) grade. Once water enters the station, pump motors and supporting equipment can become quickly overwhelmed and either fail completely or operate at a partial capacity as will be shown during the 2019 and 2020 events based on SCADA data. The approach used to justify the outages in this BCA should be considered conservative as the losses developed do not account for injection of untreated wastewater into the nearby creek. This issue has occurred in the past but documentation regarding the total amount of wastewater into the creek has not been properly captured to quantify losses for the purposes of this BCA.

6.3 Determining Recurrence Intervals

The recurrence intervals used for the Snow Creek pump station were based on the June 2019 and August 2020 precipitation events as these historic events were well documented with both flood elevation data and outage times. It should again be noted that these events underestimate the frequency at which this pump station likely floods but before the installation of the recent SCADA system, recorded data was not captured as comprehensively as it can be now. Rainfall and event data were based upon United States Geological Survey (USGS) daily precipitation totals from the nearest rain gauge to the project location (USGS 354616081085145 rain gauge at Oxford RS NR Claremont, NC). Rainfall data from this gauge was compared to the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Point Precipitation Frequency Estimates seen below in Figure 3 (see Appendix C for tabular information) at the latitude and longitude specified for the Snow Creek pump station project. Although the rain gauge used in this analysis is approximately 7.8 miles from the project location, this gauge provided the closest information to the project site and served as the best determination of precipitation experienced at the facility. Table 4 shows these historic events, and the associated rainfall and recurrence intervals.

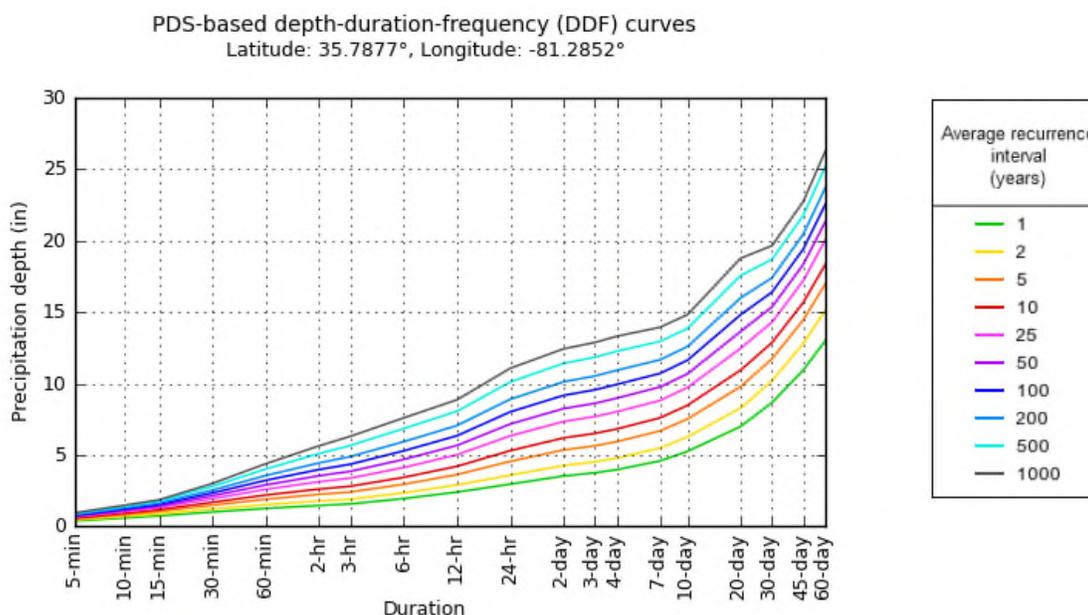


Figure 3. PDS-Based Depth Duration Frequency Curves

Table 4. Snow Creek Pump Station Historic Flooding Events and Associated Recurrence Intervals

Event	Rainfall Duration (Days)	Rainfall (Inches)	Recurrence Interval (Years)	Flood Depth in Snow Creek PS (Feet)
06/07/19 – 06/09/19	3.0	8.50	50	3.75
08/14/20 – 08/15/20	2.0	4.17	2	3.67

6.5 Physical Damages

Historically, flood events at the Snow Creek pump station have required equipment to be replaced or repaired due to damage caused by flooding. The City of Hickory has provided records of damages to the Snow Creek pump station after the 2019 and 2020 precipitation events and the costs to replace damaged equipment (Appendix E) identified in Table 5 below.

Table 5. Snow Creek Pump Station Damages in Dollars per Precipitation Event

Event	Damages (\$)
06/07/19 – 06/09/19	\$70,000
08/14/20 – 08/15/20	\$50,000

The City of Hickory Department of Public Utilities (DPU) staff indicated that during both the 2019 and 2020 precipitation events, flood inundation was significant enough that the Snow Creek pump station became quickly overwhelmed and was placed out of service completely. During these events, DPU staff worked efficiently and effectively to bring the pump station itself back online in a matter of hours but in each instance, pumping from the station was limited and only partial service could be provided due to damages experienced by the pumping motors. This is evidenced by the Snow Creek Daily Flow Reports provided in Appendix F and will be described in further detail in the section below.

6.6 Loss of Function

During the 2019 and 2020 precipitation events, full outage of the pump station only lasted 14 hours and 8.5 hours respectively. Considering the evidenced post-flood highwater marks within the pump station (Figure 2) were approximately 3.75 feet above the finished floor elevation, this degree of expediency is extremely uncommon to bring a pump station back into operation. Engineering estimates from neighboring jurisdictions have indicated it could take anywhere from 14 to 60 days for repairs or replacements equivalent to that of the Snow Creek pump station.

However, it should be noted that although the Snow Creek pump station was brought back online, the station was only able to provide partial service provision due to damages of one of the three pump motors during each event. This becomes clear by analyzing the Snow Creek daily flow reports (Appendix F) which indicates immediately following each rain event that the total runtime of the pump motors drops drastically. The average runtime of the motors per the reports is typically around 1,300 to 1,440 minutes per day (or approximately 21 to 24 hours) when the pump station is fully operational. Focusing on the

precipitation events used to develop the recurrence intervals, runtime dips well below the average into the 900, and even 200 to 400-minute range. This ultimately means that the Snow Creek pump station is providing limited wastewater service to a significant portion of its service population as it simply cannot pump the amount of wastewater required due to the damaged motor.

Regarding each event, precipitation from the June 2019 event caused approximately 6-days of limited pumping capability at the station while the August 2020 event resulted in approximately 21-days of limited service. These dates have been highlighted within Appendix F. During this time, the City of Hickory DPU staff was working diligently to repair, rebuild, or outright replace necessary parts to bring the pump motor and facility back into full operation. Table 6 indicates the full outage and partial outage times experienced by the Snow Creek pump station during each event.

Table 6. Full and Partial Loss of Function per Event at Snow Creek Pump Station

Event	Full Loss of Function (Days)	Partial Loss of Function (Days)
06/07/19 – 06/09/19	0.58	6.00
08/14/20 – 08/15/20	0.35	21.00

7. LOSS OF SERVICE

7.1 Service Population

The Snow Creek pump station service area is comprised of many residential properties, five schools, one fire department, four medical centers, multiple churches, and several businesses. The Snow Creek pump station is designed to handle approximately 4.5 MGD but the Snow Creek Daily Flow Reports indicate that on average the station handles a daily flow of an estimated 1.30 MGD (Appendix F). For the purposes of this assessment, BCA analysts utilized the total number of miles contained within the Snow Creek pump station service area (Appendix G) and compared this mileage to the 2010 total population per square mile provided by the United States Census Bureau (Appendix H) resulting in a total service population of approximately 5,724 customers (Table 7).

Table 7. Snow Creek Pump Station Customers Served and Utility Properties

Utility Properties	Value
Number of Square Miles Served	4.25
Population per Square Mile	1,346.8
Number of Customers Served	5,724
Type of Service	Wastewater
Value of Unit of Service (\$/person/day)	\$58
Total Value of Service Per Day (\$/day)	\$331,992

7.2 Pump Station Full and Partial Loss of Service

As discussed in Section 6.6, the Snow Creek pump station experienced a relatively small window of full loss of service considering the intensity of the precipitation events and the measured flood elevations within the station itself. However, flow reporting indicates an extended outage time of partial loss of service due to damages to various equipment and most importantly one of the facility’s three primary motors. In order to maintain a conservative BCA, analysts did not apply a total loss of function to the service population over the identified partial loss of service days. Nevertheless, analysts believe it is important that these losses are captured and considered.

To account for these losses analysts assumed that if one of the three pumping motors was placed out of service then approximately 33% of the total partial loss of function days should be utilized and applied to the facility’s losses. In other words, if the pumping station is operating at 66% of its typical pumping capability for a total of 6 days (as identified in the 2019 event) then it will be assumed that the facility experienced a 33% total loss of function or 2 full days of applied outage. Table 8 provides this analysis and indicates the days of outage used in the BCA calculations.

Table 8. Full and Partial Loss of Function per Event at Snow Creek Pump Station

Event Properties	Value
06/07/19 – 06/09/19 Event	
Full Loss of Function (Days)	0.58
Partial Loss of Function (Days)	6.00
33% of Partial Loss of Function (Days)	2.00
Total Loss of Function (Days)	2.58
08/14/20 – 08/15/20 Event	
Full Loss of Function (Days)	0.35
Partial Loss of Function (Days)	21.00
33% of Partial Loss of Function (Days)	7.00
Total Loss of Function (Days)	7.35

8. LEVEL OF PROTECTION

After mitigation, the Snow Creek pump station will be relocated to a higher elevation and have all machinery and equipment elevated to a design flood elevation of 974.5 feet (NAVD88). This is 3.5 feet above the 100-year riverine flood elevation, 2.5 feet above the 500-year riverine flood elevation, and approximately 1.25 feet above the highest precipitation flood inundation event. To maintain a

conservative assessment, BCA analysts assumed the facility would remain protected only slightly past the 50-year precipitation inundation event. This is reflected in the BCA analysis post-mitigation assessment.

8. AFTER MITIGATION DAMAGES

Based on the level of protection calculated in Section 7.0, the Snow Creek pump station will experience residual damages after mitigation. The level of protection of the pump station is greater than the highest precipitation flood event, and therefore will be well-protected against future flooding. The level of protection (in the form of a recurrence interval) was determined based on when there will be 0.01 feet of flooding above the pump station’s new ground elevation. This amount of water is small and will likely cause minimal damage. To remain conservative, BCA analysts assigned 7.35 days of outage time in the unlikely scenario that such a minimal amount of water infiltration would cause the same degree of outage that has occurred in the past. Table 9 displays these after-mitigation damages for the Snow Creek pump station.

Table 9. After-Mitigation Losses at Snow Creek Pump Station

Pump Station	Level of Protection	After-Mitigation Loss of Function	After Mitigation Damages (\$)
Snow Creek Pump Station	51-year event	7.35 days	\$2,490,141

9. RESULTS

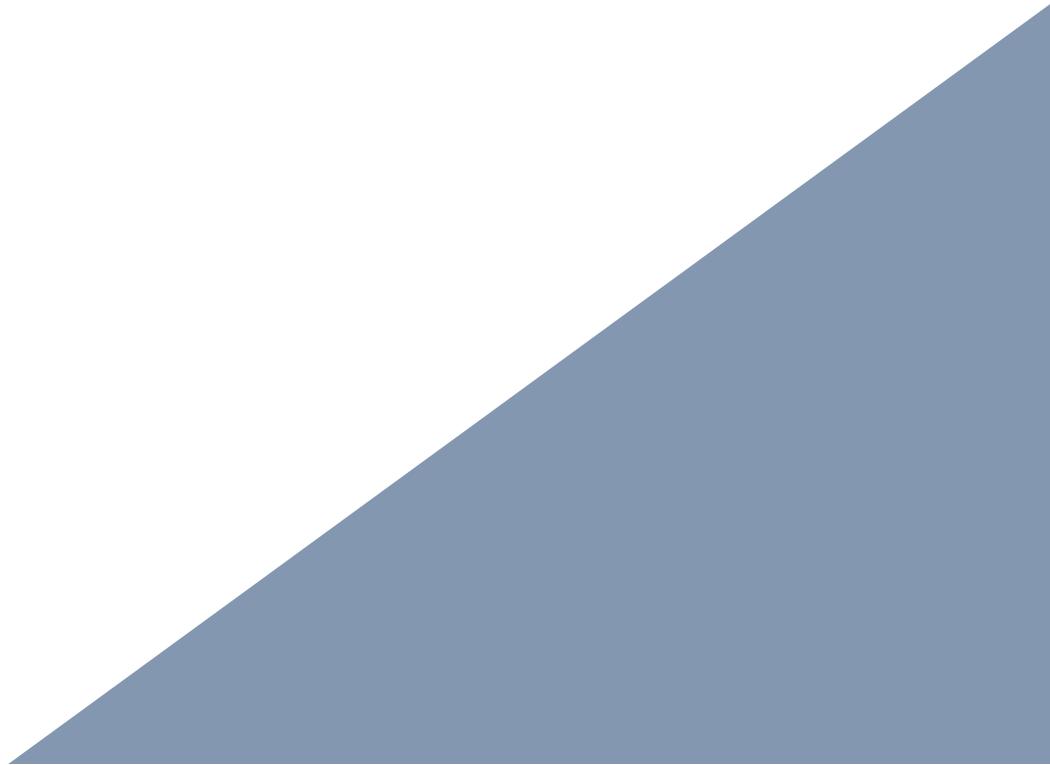
The benefit-cost ratio for the project is listed in **Table 0** below. Costs provided in the determination of the BCR include maintenance costs over the project useful life of the mitigation project. The total project BCR is 2.04 which demonstrates that the mitigation project is a cost-effective solution. The BCA Report is provided in Appendix A and the BCA Excel Spreadsheet is attached to the project application.

Table 10. Benefit Cost Ratio for the Relocation and Flood Mitigation of Snow Creek Pump Station

Description	Benefits	Costs	BCR
Snow Creek Pump Station Relocation and Flood Hardening	\$9,673,633	\$4,749,369	2.04

Appendix A

Benefit Cost Analysis Toolkit Export





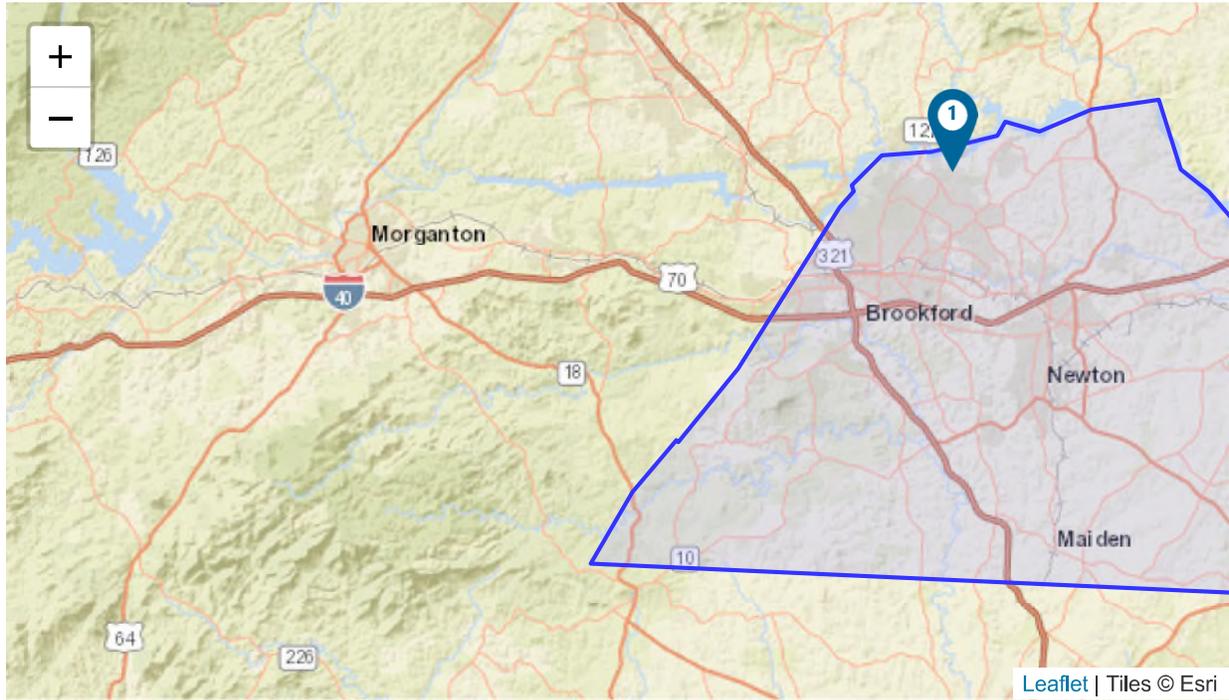
FEMA

Benefit-Cost Calculator

V.6.0 (Build 20210108.2038)

Benefit-Cost Analysis

Project Name: Snow Creek Pump Station Relocation and Flood Hardening



Map Marker	Mitigation Title	Property Type	Hazard	Benefits (B)	Costs (C)	BCR (B/C)
1	Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601		DFA - Riverine Flood	\$ 9,673,633	\$ 4,749,369	2.04
TOTAL (SELECTED)				\$ 9,673,633	\$ 4,749,369	2.04
TOTAL				\$ 9,673,633	\$ 4,749,369	2.04

Property Configuration

Property Title: Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Property Location: 28601, Catawba, North Carolina

Property Coordinates: 35.787705, -81.285191

Hazard Type: Riverine Flood

Mitigation Action Type: Floodproofing Measures

Property Type: Utilities

Analysis Method Type: Professional Expected Damages

Cost Estimation

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Project Useful Life (years): 50

Project Cost: \$4,706,311

Number of Maintenance Years: 50 Use Default:Yes

Annual Maintenance Cost: \$3,120

Damage Analysis Parameters - Damage Frequency Assessment

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Year of Analysis Conducted: 2020

Year Property was Built: 1992

Analysis Duration: 29 Use Default:Yes

Utilities Properties

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Type of Service: Wastewater

Number of Customers Served: 5,724

Value of Unit of Service (\$/person/day): \$49 Use Default:Yes

Professional Expected Damages Before Mitigation

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Recurrence Interval (years)	WASTEWATER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	PS Damages (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
2	7.35	50,000	0	0	0	0	2,490,141
50	2.58	70,000	0	0	0	0	926,539

Annualized Damages Before Mitigation

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
2	2,490,141	729,097
50	926,539	18,531
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	3,416,681	747,628

Professional Expected Damages After Mitigation

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Recurrence Interval (years)	WASTEWATER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	PS Damages (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
51	7.02	50,000	0	0	0	0	2,380,584

Annualized Damages After Mitigation

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
51	2,380,584	46,678
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	2,380,584	46,678

Benefits-Costs Summary

Floodproofing Measures @ 2061 Snow Creek Rd NE, Hickory, North Carolina, 28601

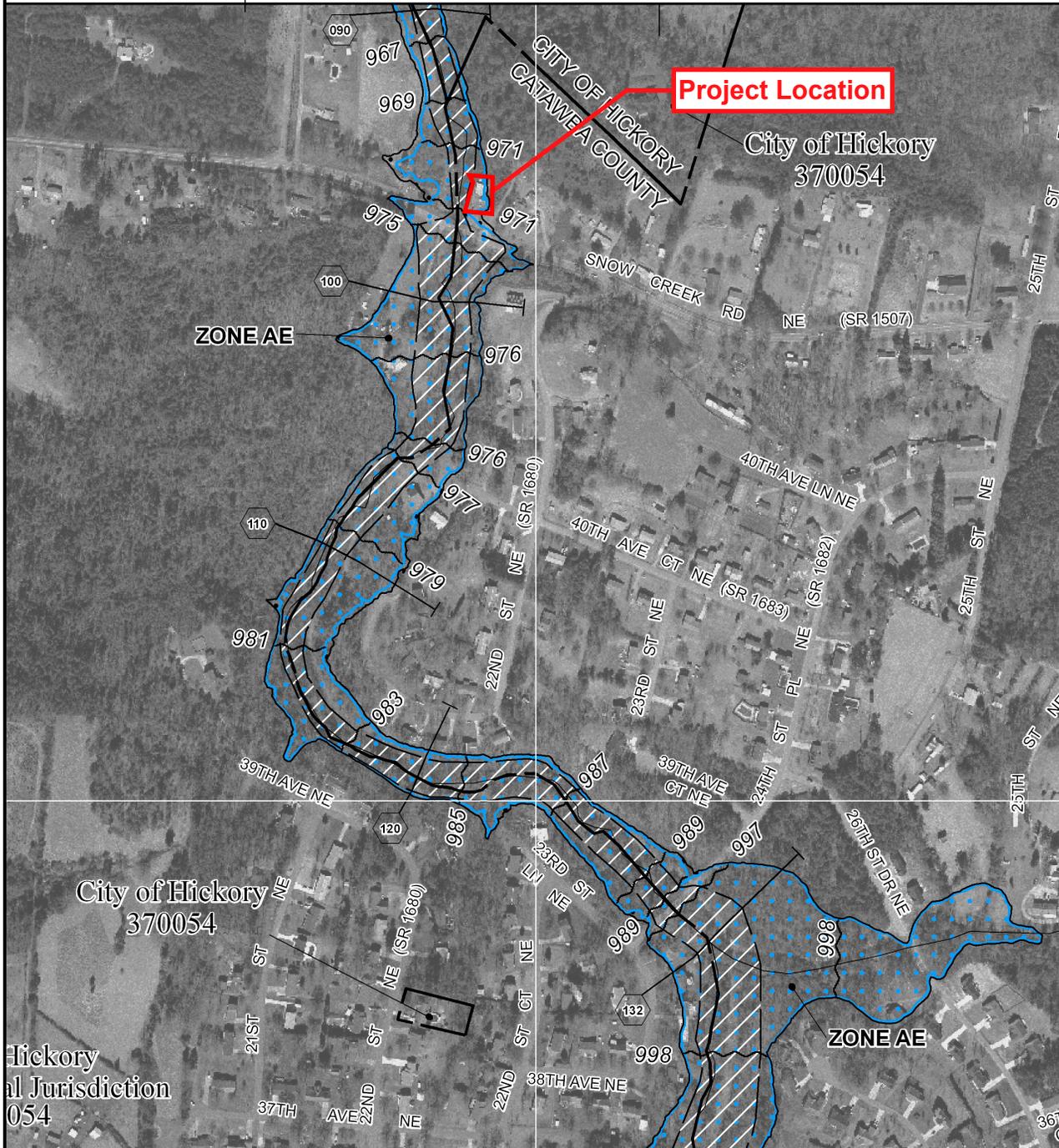
Total Standard Mitigation Benefits:	\$9,673,633
Total Social Benefits:	\$0
Total Mitigation Project Benefits:	\$9,673,633
Total Mitigation Project Cost:	\$4,749,369
Benefit Cost Ratio - Standard:	2.04
Benefit Cost Ratio - Standard + Social:	2.04

Appendix B

Snow Creek Pump Station Flood Insurance Rate Map (FIRM)

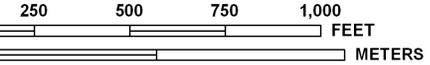
474⁰⁰⁰ M

81°17'00"



GRID NORTH

SCALE 1" = 500' (1 : 6,000)



Project Location

City of Hickory
370054

PANEL 3724J

FIRM

FLOOD INSURANCE RATE MAP

NORTH CAROLINA

PANEL 3724

(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>CID No.</u>	<u>PANEL</u>	<u>SUFFIX</u>
CATAWBA COUNTY	370050	3724	J
HICKORY, CITY OF	370054	3724	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

EFFECTIVE DATE **MAP NUMBER**
SEPTEMBER 5, 2007 **3710372400J**



State of North Carolina
Federal Emergency Management Agency

Hickory
al Jurisdiction
054

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Appendix C

NOAA Point Precipitation Frequency Estimates



NOAA Atlas 14, Volume 2, Version 3
Location name: Hickory, North Carolina, USA*
Latitude: 35.7877°, Longitude: -81.2852°
Elevation: 968.68 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.367 (0.338-0.399)	0.435 (0.400-0.474)	0.513 (0.471-0.560)	0.574 (0.524-0.625)	0.649 (0.588-0.708)	0.704 (0.633-0.770)	0.759 (0.676-0.834)	0.814 (0.715-0.900)	0.883 (0.761-0.986)	0.937 (0.795-1.06)
10-min	0.585 (0.540-0.637)	0.695 (0.640-0.758)	0.822 (0.754-0.896)	0.917 (0.838-0.999)	1.03 (0.936-1.13)	1.12 (1.01-1.23)	1.21 (1.07-1.33)	1.29 (1.13-1.43)	1.40 (1.20-1.56)	1.48 (1.25-1.66)
15-min	0.732 (0.675-0.797)	0.874 (0.804-0.953)	1.04 (0.954-1.13)	1.16 (1.06-1.26)	1.31 (1.19-1.43)	1.42 (1.27-1.55)	1.53 (1.36-1.68)	1.63 (1.43-1.80)	1.76 (1.52-1.96)	1.85 (1.57-2.09)
30-min	1.00 (0.925-1.09)	1.21 (1.11-1.32)	1.48 (1.36-1.61)	1.68 (1.54-1.83)	1.94 (1.76-2.12)	2.14 (1.92-2.34)	2.34 (2.08-2.57)	2.53 (2.23-2.80)	2.80 (2.41-3.13)	3.00 (2.54-3.38)
60-min	1.25 (1.15-1.36)	1.51 (1.39-1.65)	1.89 (1.74-2.07)	2.19 (2.00-2.38)	2.58 (2.34-2.82)	2.90 (2.60-3.17)	3.22 (2.86-3.54)	3.55 (3.12-3.93)	4.01 (3.46-4.48)	4.38 (3.71-4.94)
2-hr	1.46 (1.34-1.59)	1.77 (1.62-1.93)	2.24 (2.04-2.44)	2.61 (2.37-2.84)	3.12 (2.82-3.41)	3.54 (3.16-3.88)	3.98 (3.51-4.38)	4.44 (3.87-4.92)	5.10 (4.35-5.71)	5.63 (4.73-6.37)
3-hr	1.57 (1.44-1.72)	1.90 (1.74-2.08)	2.40 (2.19-2.63)	2.80 (2.55-3.07)	3.37 (3.04-3.71)	3.85 (3.43-4.24)	4.35 (3.83-4.82)	4.88 (4.24-5.45)	5.66 (4.81-6.39)	6.30 (5.26-7.19)
6-hr	1.94 (1.79-2.12)	2.34 (2.15-2.56)	2.94 (2.70-3.22)	3.43 (3.13-3.74)	4.12 (3.73-4.50)	4.68 (4.21-5.13)	5.28 (4.69-5.81)	5.92 (5.19-6.56)	6.84 (5.87-7.65)	7.59 (6.40-8.56)
12-hr	2.40 (2.21-2.60)	2.89 (2.67-3.15)	3.62 (3.33-3.94)	4.20 (3.85-4.57)	5.01 (4.56-5.45)	5.66 (5.11-6.16)	6.34 (5.67-6.92)	7.05 (6.23-7.72)	8.05 (7.00-8.87)	8.86 (7.59-9.81)
24-hr	2.95 (2.74-3.21)	3.58 (3.32-3.89)	4.54 (4.20-4.93)	5.30 (4.88-5.75)	6.33 (5.82-6.87)	7.16 (6.55-7.77)	8.01 (7.29-8.71)	8.90 (8.05-9.68)	10.1 (9.09-11.0)	11.1 (9.90-12.1)
2-day	3.52 (3.25-3.83)	4.25 (3.93-4.63)	5.35 (4.94-5.81)	6.19 (5.70-6.72)	7.34 (6.73-7.96)	8.24 (7.53-8.95)	9.17 (8.35-9.97)	10.1 (9.17-11.0)	11.4 (10.3-12.5)	12.4 (11.1-13.6)
3-day	3.75 (3.47-4.05)	4.51 (4.18-4.89)	5.64 (5.21-6.10)	6.50 (6.00-7.03)	7.68 (7.06-8.31)	8.61 (7.89-9.32)	9.55 (8.72-10.4)	10.5 (9.56-11.4)	11.8 (10.7-12.9)	12.9 (11.6-14.0)
4-day	3.97 (3.69-4.28)	4.77 (4.43-5.15)	5.93 (5.49-6.39)	6.82 (6.30-7.35)	8.03 (7.39-8.66)	8.97 (8.24-9.69)	9.94 (9.09-10.7)	10.9 (9.96-11.8)	12.3 (11.1-13.3)	13.3 (12.0-14.4)
7-day	4.58 (4.28-4.91)	5.48 (5.12-5.88)	6.68 (6.22-7.16)	7.59 (7.07-8.14)	8.81 (8.18-9.45)	9.75 (9.02-10.5)	10.7 (9.87-11.5)	11.7 (10.7-12.5)	12.9 (11.9-13.9)	13.9 (12.7-15.0)
10-day	5.24 (4.92-5.59)	6.25 (5.87-6.66)	7.52 (7.05-8.01)	8.47 (7.92-9.03)	9.72 (9.07-10.4)	10.7 (9.93-11.4)	11.6 (10.8-12.4)	12.6 (11.7-13.4)	13.9 (12.8-14.8)	14.8 (13.6-15.9)
20-day	6.99 (6.61-7.42)	8.29 (7.82-8.78)	9.79 (9.23-10.4)	10.9 (10.3-11.6)	12.5 (11.7-13.2)	13.6 (12.8-14.5)	14.8 (13.9-15.7)	16.0 (14.9-17.0)	17.6 (16.3-18.7)	18.8 (17.4-20.0)
30-day	8.66 (8.26-9.09)	10.2 (9.72-10.7)	11.7 (11.2-12.3)	12.9 (12.3-13.5)	14.3 (13.6-15.0)	15.4 (14.6-16.1)	16.4 (15.5-17.2)	17.4 (16.5-18.3)	18.7 (17.6-19.7)	19.6 (18.5-20.8)
45-day	10.9 (10.5-11.4)	12.8 (12.2-13.4)	14.4 (13.8-15.1)	15.7 (15.0-16.4)	17.2 (16.4-18.0)	18.3 (17.5-19.2)	19.4 (18.5-20.3)	20.4 (19.5-21.4)	21.8 (20.7-22.8)	22.7 (21.6-23.9)
60-day	13.0 (12.5-13.5)	15.1 (14.5-15.8)	17.0 (16.3-17.7)	18.3 (17.6-19.1)	20.1 (19.2-20.9)	21.3 (20.4-22.3)	22.5 (21.6-23.5)	23.7 (22.6-24.8)	25.2 (24.0-26.4)	26.3 (25.0-27.5)

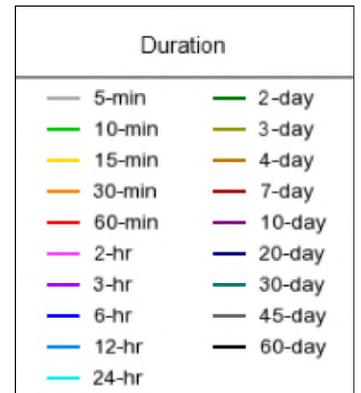
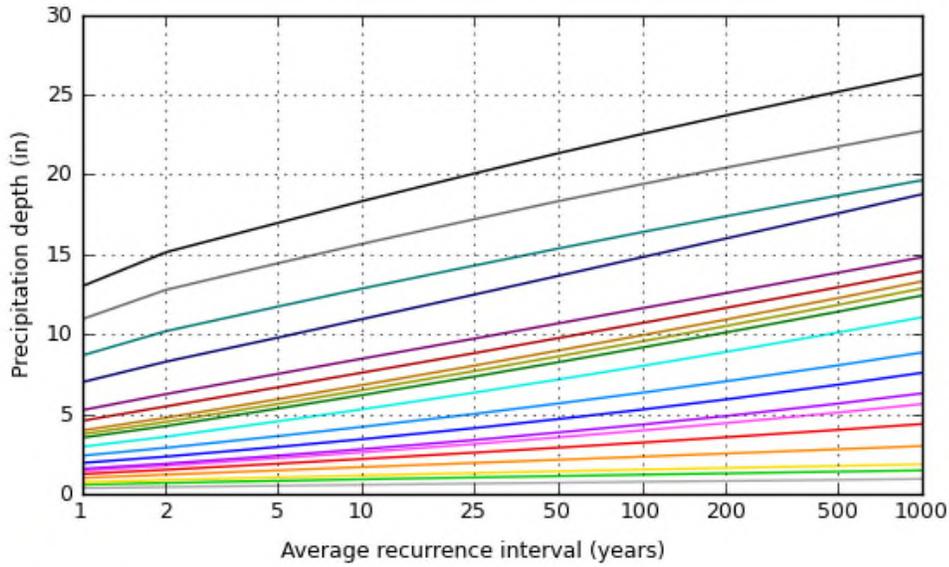
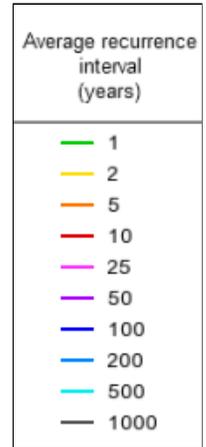
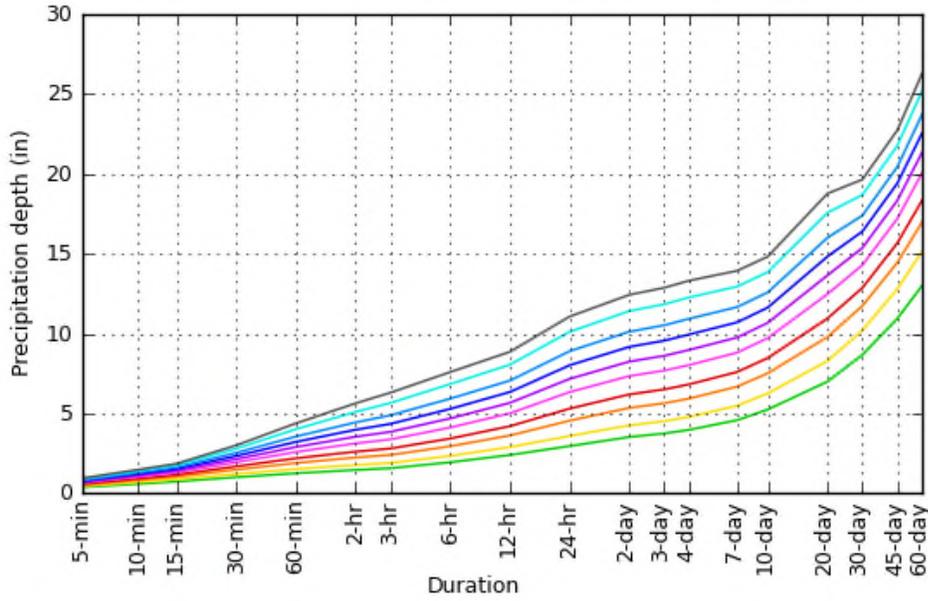
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

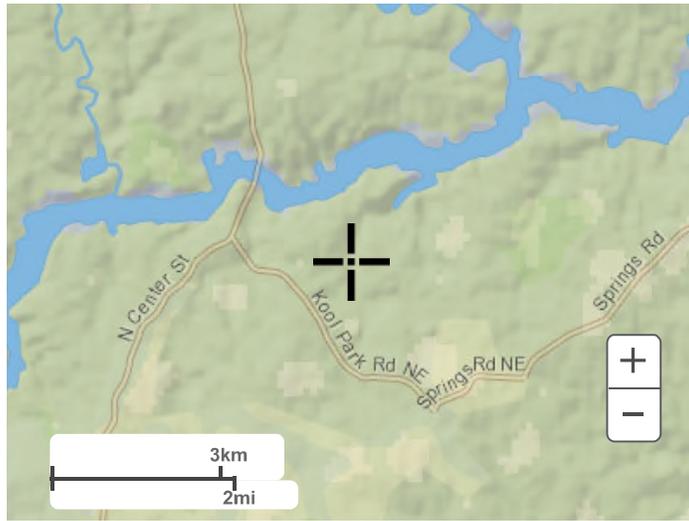
Latitude: 35.7877°, Longitude: -81.2852°



[Back to Top](#)

Maps & aeriels

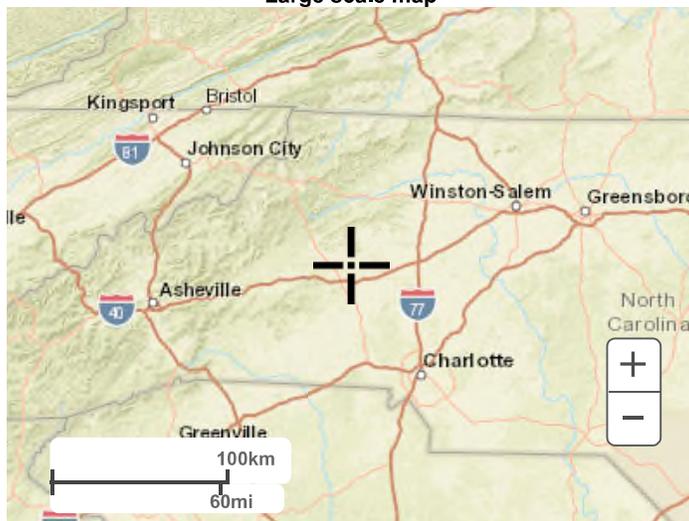
Small scale terrain



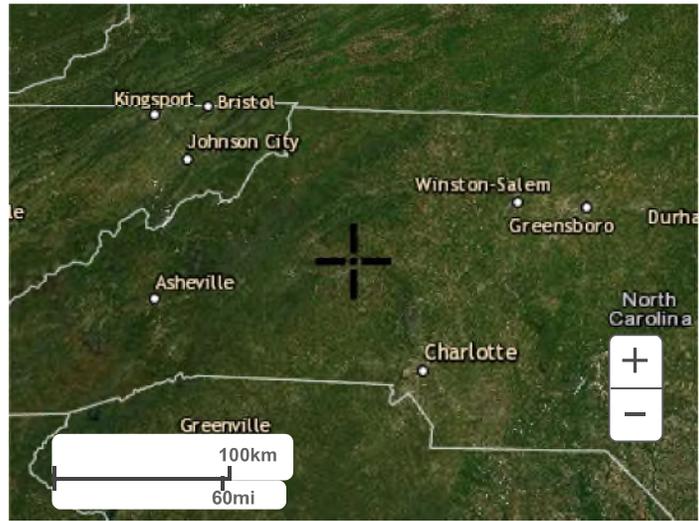
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

Appendix D

FEMA 2009 BCA Reference Guide Appendix D – Project Useful Life Summary

APPENDIX D
Project Useful Life Summary

APPENDIX D Project Useful Life Summary

Project Type	Useful Life (years)		Comment
	Standard Value	Acceptable Limits (documentation required)	
Acquisition/Relocation			
All Structures	100	100	
Elevation			
Residential Building	30	30–50	
Non-Residential Building	25	25–50	
Public Building	50	50–100	
Historic Buildings	50	50–100	
Structural/Non-Structural Building Project			
Residential Building Retrofit	30	30	
Non-Residential Building Retrofit	25	25–50	
Public Building Retrofit	50	50–100	
Historic Building Retrofit	50	50–100	
Roof Diaphragm Retrofit	30	30	Roof hardening and roof clips
Tornado Safe Room – Residential	30	30	
Tornado Safe Room – Community	30	30–50	Retrofit or small community safe room ≤ 16 people (30 yr), New (50 yr)
Non-Structural Building Elements	30	30	Ceilings, electrical cabinets, generators, parapet walls, or chimneys
Non-Structural Major Equipment	15	15–30	Elevators, HVAC, sprinklers
Non-Structural Minor Equipment	5	5–20	Generic contents, racks, shelves
Infrastructure Projects			
Major Infrastructure (minor localized flood reduction projects)	50	35–100	
Concrete Infrastructure, Flood Walls, Roads, Bridges, Major Drainage System	50	35–50	
Culverts (concrete, PVC, CMP, HDPE, etc.)	30	25–50	Culvert with end treatment (i.e., wing walls, end sections, head walls, etc.)
	10	5–20	Culvert without end treatment (i.e., wing walls, end sections, head walls, etc.)
Pump Stations, Substations, Wastewater Systems, or Equipment Such as Generators	50	50	Structures
	5	5–30	Equipment
Hurricane Storm Shutters	15	15–30	Depends on type of storm shutter
Utility Mitigation Projects	50	50–100	Major (power lines, cable, hardening gas, water, sewer lines, etc.)
	5	5–30	Minor (backflow valves, downspout disconnect, etc.)

APPENDIX D
Project Useful Life Summary

Project Type	Useful Life (years)		Comment
	Standard Value	Acceptable Limits (documentation required)	
Miscellaneous Equipment Projects			
Equipment Purchases	2	2–10	Small, portable equipment (e.g., computer)
	30	5–30	Heavy equipment
Wildfire Mitigation Projects			
Defensible Space/Hazardous Fuels Reduction	4	2–4	Brush – Depends on drought conditions
Vegetation Management	1	1	Grass – Depends on geographic location and precipitation
	20	3–20	Forest canopy – Must be maintained every 3 years
Ignition-Resistant Construction	10	10–30	Depends on type of construction and materials used

Appendix E

Historic Damage Records at Snow Creek Pump Station



American Rewinding of NC. Inc.
 1825 N Rocky River Rd
 Monroe, NC 28110
 UNITED STATES
 (704)-289-4177

INVOICE

INVOICE NUMBER 1000009306
 INVOICE DATE 6/13/2019
 PAGE 1

S HIC076
 O Hickory, City of
 L PO Box 398
 D Hickory, NC 28603

 T
 O



S Hickory, City of
 H PO Box 398
 I Hickory, NC 28603
 P

 T
 O

NET DUE 10,094.17

SALES REP	SHIP DATE	SHIP VIA	TERMS	JOB NO	TRANS ID
200	6/13/2019		30	00029422	00008822

CUSTOMER PO: 075846 PO RELEASE: MISC NUMBER:

NAMEPLATE DATA

HP:200; MOTOR RPM(SYNCH):1800; FRAME:444T; MAKE:GE; VOLTS:460; SERIAL #:2fg503028; MODEL #:5k5445dp

SPECIAL INSTRUCTIONS

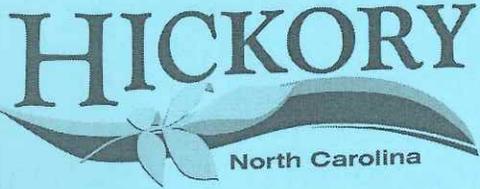
No special instructions

ITEM # / DESCRIPTION / NOTES	LINKED JOB ID	UNITS	QUANTITY	UNIT PRICE	EXTENSION
Labor Subtotal					5,572.50
Material Subtotal					3,861.30

Receipt

ACCT# _____
 PROJ# _____
 PO# 75846
 APPROVAL [Signature]

TAXABLE	NONTAXABLE	FREIGHT	SALES TAX	MISC	TOTAL
9,433.80	0.00	0.00	660.37	0.00	10,094.17
PREPAYMENT	0.00			NET DUE	10,094.17



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INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing PAGE: 1
 (828) 323-7466
 ahollar@hickorync.gov

DATE: 07/18/19 REQ. NO.: 75678 ACCOUNT NO.: 03080245441502 PO: 075846
 06/18/19

VENDOR: 15667
 AMERICAN REMENDING OF NC INC
 C/O MAGNOLIA FINANCIAL IN
 PO BOX 16807
 ATLANTA, GA 30321-0807

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: KJOHNSON/KEVIN H

TERMS: NET

PROJECT NO.:

DELIVER BY: 07/18/19

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	12916.40	EA	REPAIR 3 MOTORS AT SNOW CREEK PUMP STATION DUE TO DAMAGE CAUSED BY HEAVY RAIN EVENT ON 6/8/19 * PER JOB# 00029424 DATED 6/10/19 \$1,741.30 * PER JOB# 00027423 DATED 6/10/19 \$1,741.30 * PER JOB# 00029422 DATED 6/10/19 \$9,433.80 ✓	1.0000	12916.40
SUB-TOTAL					12916.40
TOTAL					12916.40

E-VERIFY: Employers and their subcontractors with 25 or more employees as defined in Article 2 Chapter 64 of the NC General Statutes must comply with E-Verify requirements to contract with governmental units. E-Verify is a Federal program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law.

IRAN DIVESTMENT ACT: The City only contracts with entities that are not listed on the Iran Final Divestment List ("List") created by the State Treasurer pursuant to N.C.G.S. 147-86.58, Iran Divestment Act ("Act"). Any contract with a company on the list is deemed as a void contract per State statute. The List can be found on the State Treasurer's website and is updated annually.

COMPANIES BOYCOTTING ISRAEL ACT: The City only contracts with entities that are not listed on the Companies that Boycott Israel Final Divestment List ("List") created by the State Treasurer pursuant to S.L. 2017-193 (H161). Any contract with a company on the list is deemed as a void contract per State statute. The List can be found on the State Treasurer's website and is updated annually.

IMPORTANT: Additional terms and conditions that govern this purchase order are listed on the City of Hickory website at www.hickorync.gov/content/purchasing. This purchase order is a counteroffer and not an acceptance. Vendors are advised to verify all information contained herein and to notify the purchasing division of any discrepancies. Applicable taxes must be stated separately on invoice. Purchase order number and complete Ship To address must appear on all shipping labels and invoice. COD shipments are not acceptable.

THIS INSTRUMENT HAS BEEN PRE-AUDITED IN THE MANNER REQUIRED BY THE LOCAL GOVERNMENT BUDGET AND FISCAL CONTROL ACT.

Aminda Hollar

FINANCE OFFICER

Aminda Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000075678
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : EMERGENCY DUE TO HEAVY RAIN EVENT - SNOW CREEK PS
 By : KJOHNSON/KEVIN H
 Date : 6/18/19
 Vendor : 15667 AMERICAN REWINDING OF NC INC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 7/18/19
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
- 1	12916.40	EA	REPAIR 3 MOTORS AT SNOW CREEK PUMP STATION DUE TO DAMAGE CAUSED BY HEAVY RAIN EVENT ON 6/8/19 * PER JOB# 00029424 DATED 6/10/19 \$1,741.30
			Total: 12916.40 +

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print

*MSP
6.18.19*

J



PO Box 2676
 Hickory, NC 28603
 Phone: 828-267-0829
 Fax: 828-267-0874
 www.bmelectricmotorservice.com



Invoice

Date	Invoice #
6/19/2019	39744

Bill To
City of Hickory PO Box 398 Hickory, NC 28603

Ship To
Hickory

Received

JUN 27 2019

Public Utilities

P.O. Number	Terms	Project
075828	Net 30	

Quantity	Item Code	Description	Price Each	Ordered	Backordered	S.O. No.	Amount
2	F510-4215-...	Teco Inverters	9,386.25		0		18,772.50T
1	FREIGHT	Freight	129.40		0		129.40T
		DT# 39744					
		NC SALES TAX	7.00%				1,323.13
						Total	\$20,225.03

ACCT# _____

PROJ# _____

PO# 75828

APPROVAL [Signature]



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COMPLETED

INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov
 PAGE: 1

DATE: 06/10/19 REQ. NO.: 75660 ACCOUNT NO.: 03080225441501 PO: 075828
 06/10/19

VENDOR: 11279
 B&M ELECTRIC MOTOR SERVICE INC
 PO BOX 2676
 HICKORY, NC 28603-2676

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (828) 267-0874

ATTN: HENRY FORK PLANT

REQUESTED BY: KJOHNSON/ KEVIN H

TERMS: NET

PROJECT NO.:

DELIVER BY: 07/10/19

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	2.00	EA	TECO INVERTERS 200HP/480VOLT (CAT# F510-4215-C3-U) PER QUOTE# SM061019-04	9386.2500	18772.50
SUB-TOTAL					18772.50
TOTAL					18772.50

E-VERIFY: Employers and their subcontractors with 25 or more employees as defined in Article 2 Chapter 64 of the NC General Statutes must comply with E-Verify requirements to contract with governmental units. E-Verify is a Federal program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law.

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THIS INSTRUMENT HAS BEEN PRE-AUDITED IN THE MANNER REQUIRED BY THE LOCAL GOVERNMENT BUDGET AND FISCAL CONTROL ACT.

Aminda Hollar

FINANCE OFFICER

Aminda Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000075660
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : EMERGENCY - PUMPS FOR SNOW CREEK
 By : KJOHNSON/KEVIN H
 Date : 6/10/19
 Vendor : 11279 B&M ELECTRIC MOTOR SERVICE INC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 7/10/19
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
1	2.00	EA	TECO INVERTERS 200HP/480VOLT (CAT# F510-4215-C3-U) PER QUOTE# SM061019-04

Total: 19670.00 +

F9=Print

F3=Exit F7=Alternate view
F10=Approval info F12=Cancel F20=Comments

*Flood
6-7-19
MSB
6.10.19*

Diversified Integration, Inc.

2113 Fries Road, Galax, VA 24333
 Phone: (276) 236-7211
 FAX: (276) 236-0170

Invoice

Date: 6/17/19
Sold To: City of Hickory
 Mr. Kevin Hutchison
 PO Box 398
 Hickory, NC 28603

Invoice Number: 19085
Ship To: City of Hickory
 PO Box 398
 Hickory, NC 28603

Phone: (828) 323-7590
P.O. No: 75847
Contact: Kenny Pennell

Phone: (828) 323-7590
Terms: Net 30

Ship Via: Best Way

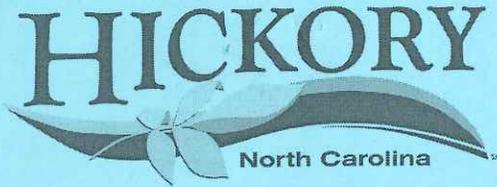
Requested Delivery: 6/12/19



Item	Qty	Mfg	Part No.	Description	Net	Extended
1	24			Service Hours to troubleshoot and repair flood damage at Snow Creek PS.	\$85.00	\$2,040.00
2	1	Cmore	EA9-T7CL-R	Operator Interface, 24 VDC, 7" Color	\$645.00	\$645.00
3	1	Direct Logic	D2-260	PLC CPU	\$390.00	\$390.00
4	1	Direct Logic	D2-06B-1	PLC Rack, 120 VAC	\$235.00	\$235.00
5	1	Direct Logic	F2-04AD-1	Four Point Analog Input Card	\$260.00	\$260.00
6	1	Direct Logic	F2-02DA-1	Two Point Analog Output Card	\$195.00	\$195.00
7	1	Direct Logic	D2-12TR	Relay Output Card	\$135.00	\$135.00
8	1			Mileage and Expenses	\$0.00	
				ACCT# _____ PROJ# _____ PO# <u>75847</u> APPROVAL <u>[Signature]</u>		

Past due invoices subject to a service charge of 1.5% per month.

Total Cost: \$3,900.00



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COMPLETED

INVOICE TO: Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY: Purchasing
 (828) 323-7466
 ahollar@hickorync.gov

PAGE: 1

DATE: 07/18/19 REQ. NO.: 75679 ACCOUNT NO.: 03080245441502 PO: 075847
 06/18/19

VENDOR: 7437
 DIVERSIFIED INTEGRATION INC
 2113 FRIES ROAD
 GALAX, VA 24333

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (540) 236-0170

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: KJOHNSON/ KEVIN H

TERMS: NET

PROJECT NO.:

DELIVER BY: 07/18/19

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	3900.00	EA	REPAIR SNOW CREEK PUMP STATION PLC PER SERVICE REPORT DATED 6/12 - 6/14/19 DAMAGE CAUSED BY HEAVY RAIN EVENT ON 6/8/19	1.0000	3900.00
SUB-TOTAL					3900.00
TOTAL					3900.00

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Kevin Miller

FINANCE OFFICER

Amanda Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000075679
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : EMERGENCY DUE TO HEAVY RAIN EVENT - SNOW CREEK PS
 By : KJOHNSON/KEVIN H
 Date : 6/18/19
 Vendor : 7437 DIVERSIFIED INTEGRATION INC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 7/18/19
 Buyer :
 Fiscal year code . . . : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
1	3900.00	EA	REPAIR SNOW CREEK PUMP STATION PLC PER SERVICE REPORT DATED 6/12 - 6/14/19 DAMAGE CAUSED BY HEAVY RAIN EVENT ON 6/8/19
			Total: 3900.00

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print

MSD
6.18.19



Hickory
1075 First Ave SW
HICKORY, NC 28602-2625
828-328-2646
Fax 828-328-9580

030-3021-544.15-02



Ship Ticket

ACT# _____
PROJ# _____
PO# _____
APPROVAL

ORDER DATE	ORDER NUMBER	PAGE NO.
06/12/2019	S124990802.001	1 of 2
CUST PO#:	Kenny	
JOB/REL#:		

**** C.O.D. ** C.O.D. ** C.O.D. ***

SOLD TO:

CITY OF HICKORY
PO BOX 398
HICKORY, NC 28603-0398

SHIP TO:

CITY OF HICKORY/WATER FILTRATION PL
1560 OLD LENOIR RD
HICKORY, NC 28601-2279

CUSTOMER NUMBER	CUSTOMER PHONE#	ORDERED BY	SALESPERSON
973979			Mark Fahrenz
WRITER	SHIP VIA	WAREHOUSE	SHIP DATE
Rodney Herron 3406	PICK UP	Ship: 3406 Price: 3406	06/12/2019
ORDER QTY	SHIP QTY	DESCRIPTION	
7ea	7ea	BUR BIT350 350-10 BOTHSIDE UNITAP UPC: 78181013353 Amount Paid Today 06/12/2019 -320.54 <div style="border: 1px solid black; padding: 5px;"> <p align="center">Credit Card Information</p> <p>Merchant ID#: 174449029993 TimeEDT/Date: 14:06:41 12 JUN 2019 Card Number: XXXXXXXXXXXXX9818 Card Type: Visa Card Holder: CITY OF HICKORY Auth Code: 083253 Charge 320.54 Charge Date: 06/12/2019</p> <p>Signature: _____</p> <p>I agree to pay above total amount according to card issuer agreement</p> </div>	
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p align="center">ORDER SUMMARY</p> <p>Total Sales for Order 320.54 Payments to Date -320.54 Balance 0.00</p> </div>			

*Pump Stations
Snow Creek*

2019/06/12 02:08:40 PM S124990802.1

[Signature]

Continued on Next Page *

Subtotal	
S&H Charges	
Tax	
Payments	
Amount Due	



on 6/12/2019 2:08:42 PM



PO Box 2676
 Hickory, NC 28603
 Phone: 828-267-0829
 Fax: 828-267-0874
 www.bmelectricmotorservice.com



Invoice

Date	Invoice #
8/5/2019	39968

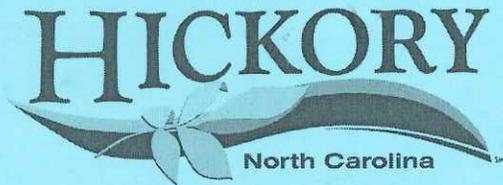
Bill To
City of Hickory PO Box 398 Hickory, NC 28603

Ship To
Hickory
Received AUG 14 2019 ClearWater, Inc.

P.O. Number	Terms	Project
076088	Net 30	Shaw Crk

Quantity	Item Code	Description	Price Each	Ordered	Backordered	S.O. No.	Amount
1	870132140....	SEW METRIC MOTOR 5 HP, 3370 RPM, 230/460 VOLTS, 100L2 FRAME, TEFC	817.65		0		817.65T
1	FREIGHT-	FREIGHT	158.74		0		158.74T
		DT#39968	7.00%				68.35
		NC SALES TAX					
						Total	\$1,044.74

ACCT# _____
 PROJ# 76088
 PO# _____
 APPROVAL [Signature]



Life. Well Crafted.

INVOICE TO: **COMPLETED** ACCOUNT INQUIRY: **PAGE: 1**
 Accounts Payable Purchasing
 PO Box 398 (828) 323-7466
 Hickory, NC 28603 ahollar@hickorync.gov
 (828) 323-7477
 mmiller@hickorync.gov

DATE: 07/08/19 REQ.NO.: 75907 ACCOUNT NO.: 03080215441502 PO: 076088

07/08/19

VENDOR: 11279
 B&M ELECTRIC MOTOR SERVICE INC
 PO BOX 2676
 HICKORY, NC 28603-2676

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (828) 267-0874

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: KJOHNSON/KEVIN H

TERMS: NET

PROJECT NO.:

DELIVER BY: 08/08/19

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	817.65	EA	SWR REPLACEMENT MOTOR 5 HP, 3370 RPM, 230/460VOLT PER QUOTE# SM062519-07	1.0000	817.65
				SUB-TOTAL	817.65
				TOTAL	817.65

E-VERIFY: Employers and their subcontractors with 25 or more employees as defined in Article 2 Chapter 64 of the NC General Statutes must comply with E-Verify requirements to contract with governmental units. E-Verify is a Federal program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law.

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Kevin Miller

FINANCE OFFICER

Amanda Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000075907
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : REPAIR BARSCREEN MOTOR FOR SNOW CRK - FLOOD DAMAGE
 By : KJOHNSON/KEVIN H
 Date : 7/08/19
 Vendor : 11279 B&M ELECTRIC MOTOR SERVICE INC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 8/08/19
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
- 1	817.65	EA	SWR REPLACEMENT MOTOR 5HP, 3370 RPM, 230/460VOLT PER QUOTE#SM062519-07

Total: 817.65

F9=Print

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

*MSP
7.8.19*



American Rewinding of NC.
 Inc.
 1825 N Rocky River Rd
 Monroe, NC 28110
 UNITED STATES
 (704)-289-4177

INVOICE

INVOICE NUMBER 1000009553
 INVOICE DATE 8/6/2019
 PAGE 1

S
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HIC076
 Hickory, City of
 PO Box 398
 Hickory, NC 28603



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Hickory, City of
 PO Box 398
 Hickory, NC 28603

NET DUE 4,365.40

SALES REP	SHIP DATE	SHIP VIA	TERMS	JOB NO	TRANS ID
200	8/6/2019		30	00029696	00009066

CUSTOMER PO: 076229 PO RELEASE: MISC NUMBER:

NAMEPLATE DATA
 No nameplate data

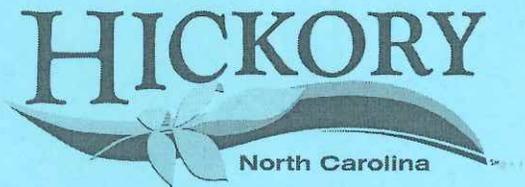
SPECIAL INSTRUCTIONS
 blind qoute for pump repair C5445, C5446 T60 FRAME (SNOW CREEK)

ITEM # / DESCRIPTION / NOTES	LINKED JOB ID	UNITS	QUANTITY	UNIT PRICE	EXTENSION
Labor Subtotal					1,140.00
Material Subtotal					2,939.81

ACCT# _____
 PROJ# _____
 PO# 76229
 APPROVAL

Remit to: American Rewinding of NC c/o Magnolia Financial P.O. Box 16807 Atlanta, GA 30321-0807

TAXABLE	NONTAXABLE	FREIGHT	SALES TAX	MISC	TOTAL
4,079.81	0.00	0.00	285.59	0.00	4,365.40
PREPAYMENT	0.00			NET DUE	4,365.40



Life. Well Crafted.

INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov
 PAGE: 1

DATE: 07/24/19 REQ. NO.: 76044 ACCOUNT NO.: 03080215441502 PO: 076229
 07/24/19

VENDOR: 15667
 AMERICAN REWINDING OF NC INC
 C/O MAGNOLIA FINANCIAL IN
 PO BOX 16807
 ATLANTA, GA 30321-0807

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

ATTN: PUBLIC UTILITIES ADMIN. REQUESTED BY: KJOHNSON/KEVIN H

TERMS: NET

PROJECT NO.: DELIVER BY: 08/24/19

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	5223.08	EA	REPAIR PUMP FOR SNOW CREEK - DAMAGED DURING HEAVY RAIN EVENT ON 6/8/19 PER JOB#00029696 DATED 7/15/19	1.0000	5223.08
			SUB-TOTAL		5223.08
			TOTAL		5223.08

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Amber Miller

FINANCE OFFICER

Amanda Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000076044
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : REPAIR SNOW CREEK PUMP - DAMAGED IN 6/8/19 STORM
 By : KJOHNSON/KEVIN H
 Date : 7/24/19
 Vendor : 15667 AMERICAN REWINDING OF NC INC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 8/24/19
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
1	5223.08	EA	REPAIR PUMP FOR SNOW CREEK - DAMAGED DURING HEAVY RAIN EVENT ON 6/8/19 PER JOB#00029696 DATED 7/15/19

Total: 5223.08

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print

*MSH
7/24/19*

FISTER FENCE OF HICKORY, LLC

1702 11th Ave. S.W.
HICKORY, NC 28602

Voice: 828-855-9860
Fax: 828-855-9862

INVOICE

Invoice Number: 19-380
Invoice Date: Oct 4, 2019
Page: 1
Duplicate

Received
OCT 23 2019
Public Utilities

Bill To:	Ship to:
CITY OF HICKORY ATTN: ACCOUNTS PAYABLE P. O. BOX 398 HICKORY, NC 28603	SNOW CREEK PUMP STATION

Customer ID	Customer PO	Payment Terms	
CIHI	076256	Net 30 Days	
Sales Rep ID	Shipping Method	Ship Date	Due Date
TIM	Airborne	9/28/19	11/3/19

Quantity	Item	Description	Unit Price	Amount
		351' OF 6' GALVANIZED CHAIN LINK WITH BARBWIRE WITH 1 NEW 18' WIDE SINGLE GATE & 1 EXISTING 12' DOUBLE GATE INSTALLED AND 2- 4" HOOK-UPS INSTALLED		6,906.00
ACCT# _____ PROJ# _____ PO# <u>16256</u> APPROVAL <u>[Signature]</u>				
Subtotal				6,906.00
Sales Tax				483.42
Total Invoice Amount				7,389.42
Payment/Credit Applied				
TOTAL				7,389.42

Check/Credit Memo No:

A 2% Surcharge will be added
all invoices paid by credit card



Life. Well Crafted.

COMPLETED

INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov

PAGE: 1

DATE: 07/30/19 REQ. NO.: 76071

ACCOUNT NO.: 03080215441502

PO: 076256

07/31/19

VENDOR: 14099
 FISTER FENCE OF HICKORY LLC
 1702 11TH AVE SW
 HICKORY, NC 28602

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (828) 855-9862

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: KJOHNSON/ KEVIN H

TERMS: NET

PROJECT NO.:

DELIVER BY: 08/30/19

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	6906.00	EA	INSTALL NEW FENCE WITH GATE & BARB WIRE AROUND SNOW CREEK PUMP STATION DUE TO DAMAGE FROM 6/8/19 HEAVY RAIN EVENT/FLOOD. PER 7/29/19 QUOTE FROM TIM PFISTER ** 351' OF 6' #9 GAUGE GALVENIZED CHAIN LINK FENCE W/ 2" LINE POSTS, 1 2/8" TOP RAIL, BOTTOM TENSION WIRE & 3- STRAND BARB WIRE ** (6) 3" END, CORNER & GATE POSTS ** (2) 4" GATE POSTS ** (1) 18' X 6'; DOUBLE SWING GATE W/ BARB WIRE ** EXISTING 12' DOUBLE SWING GATE INSTALLED ** (2) 4" HOOK-UPS	1.0000	6906.00
				SUB-TOTAL	6906.00
				TOTAL	6906.00

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Kevin Miller

FINANCE OFFICER

Amanda Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000076071
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : REPAIR FENCE @ SNOW CRK - DUE TO 6/8/19 HEAVY RAIN
 By : KJOHNSON/KEVIN H
 Date : 7/30/19
 Vendor : 14099 FISTER FENCE OF HICKORY LLC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 8/30/19
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
1	6906.00	EA	INSTALL NEW FENCE WITH GATE & BARBWIRE AROUND SNOW CREEK PUMP STATION DUE TO DAMAGE FROM 6/8/19 HEAVY RAIN EVENT/FLOOD.

Total: 6906.00 +
F9=Print

F3=Exit F7=Alternate view
F10=Approval info F12=Cancel F20=Comments

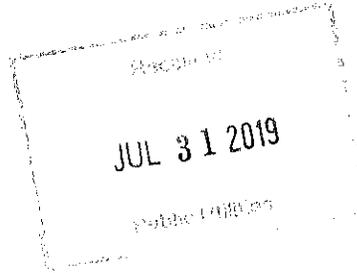
*MSP
7.30.19
Flood Damage*



Mission Communications, LLC
 3170 Reys Miller Rd
 Suite 190
 Norcross, GA 30071-5403
 Phone: 678-969-0021
 Fax: 678-969-0541

INVOICE

Invoice Date
7/24/2019
 Invoice Number
1031658



Bill To

City of Hickory
 Accounts Payable/Public Utilities
 PO Box 398
 Hickory, NC 28603

Ship To

Hickory NC, City of Public Works
 Attn: Kenney Pennell
 1441 9th Ave.
 Hickory, NC 28601

Snow Creek

CUSTOMER PO		END USER		SHIPPING METHOD		DUE DATE		
Verbal: Kenney Pennell		Hickory, NC				8/23/2019		
S.O. No.		SALES REP ID	TERRITORY	SHIP DATE		PAYMENT TERMS		
122589		CW MA	MA	7/22/2019		Net 30		
QTY	Item	Description	Serial No.	Unit Name	Svc. Start	Svc. End	Unit Price	Extension
1	CP652	Printed Circuit Board - Wet Well Module, Revision 2 (Replacement)					64.00	64.00T
1	RF416C	Antenna Cable, 50' (Includes: Low signal loss 9913 cable with TNC-M connectors on both ends, 8" TNC-F to SMA-M adapter and 7.5" TNC-F to Molded Antenna Base adapter)					210.00	210.00T
1	FREIGHT	FREIGHT CHARGES 1ZV3973E0361287255					10.00	10.00
		Ticket #141236 Order per Cory Warmington						0.00

REC# 0808021544.1502
 PROJ# _____
 PO# _____
 APPROVAL

Please make checks payable to Mission Communications, LLC

For your convenience Mission accepts credit cards. Card payments less than \$3,000 received within (7) days of the invoice date may avoid the 3% credit card processing fee.

If you have any questions concerning this invoice please contact our accounting department, 877-993-1911 option 5, accounting@123mc.com

Subtotal	USD 284.00
Sales Tax (0.0%)	USD 0.00
Payment Received	USD 0.00
Balance Due	USD 284.00



Life. Well Crafted.

INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov

PAGE: 1

DATE: 09/21/20 REQ. NO.: 78016

ACCOUNT NO.: 03080215441502

PO: 078168

08/24/20

VENDOR: 15567
 CAPITAL ELECTRIC
 222 22ND ST SW
 HICKORY, NC 28602

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: KJOHNSON/ HUTCH

TERMS: NET

PROJECT NO.:

DELIVER BY: 09/21/20

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	6525.00	EA	300 SERIES AUTOMATIC OPEN TRANSITION TRANSFER SWITCH PER QUOTE# S041508747 DATED 8/18/2020 FOR SNOW CREEK PUMP STATION DAMAGED DURING HEAVY RAIN EVENT ON 8/15/2020	1.0000	6525.00
SUB-TOTAL					6525.00
TOTAL					6525.00

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NOTICE: Contracts funded partially or in whole by FEMA and/or other Federal grants are subject to these and additional provisions as required by law, as applicable: Equal Employment Opportunity (41 CFR Part 60); Davis-Bacon Act (40 USC 3141-3148); Copeland "Anti-Kickback" Act (40 USC 3145); Byrd Anti-Lobbying Act (31 USC 1352); Contract Work Hours and Safety Standards Act (40 USC 3701-3708); Clean Air Act (42 USC 7401-7671e); and the Federal Water Pollution Control Act (33 USC 1241-1387); Debarment and Suspension (Executive Orders 12549 and 12689); Byrd Anti-Lobbying Amendment (31 USC 1352); and Procurement of Recovered Materials (2 CFR Part 200.322).

IMPORTANT: Additional terms and conditions that govern this purchase order, including provisions under federal funding, can be read in their entirety on the City of Hickory website at www.hickorync.gov/content/purchasing. This purchase order is a counteroffer and not an acceptance. Vendors are advised to verify all information contained herein and to notify the purchasing division of any discrepancies. Applicable taxes must be stated separately on invoice. Purchase order number and complete Ship To address must appear on all shipping labels and invoice. COD shipments are not acceptable.

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Amber Miller

FINANCE OFFICER

Amber Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000078016
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : EMERGENCY REPAIR - SNOW CRK PUMP STATION
 By : KJOHNSON/HUTCH
 Date : 8/21/20
 Vendor : 15567 CAPITAL ELECTRIC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 9/21/20
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description	
- 1	6525.00	EA	300 SERIES AUTOMATIC OPEN TRANSITION TRANSFER SWITCH PER QUOTE# S041508747 DATED 8/18/2020	
				Total: 6525.00 +

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print

MSB
8/21/20



Life. Well Crafted.

INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov
 PAGE: 1

DATE: 08/27/20 REQ. NO.: 78037 ACCOUNT NO.: 03080215441502 PO: 078188
 08/31/20

VENDOR: 12632
 CITY ELECTRIC SUPPLY CO
 601 10TH STREET BLVD NW
 HICKORY, NC 28601

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (828) 322-7508

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: KJOHNSON/ HUTCH

TERMS: NET

PROJECT NO.:

DELIVER BY: 09/27/20

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	3525.26	EA	THHN- 350- STR- BLK- CU (750 FT) PER QUOTE# HIC/010541 DATED 8/26/2020	1.0000	3525.26
2	175.88	EA	THHN- 1- STR- BLK- CU (125 FT)	1.0000	175.88
			SUB- TOTAL		3701.14
			TOTAL		3701.14

E-VERIFY: Employers and their subcontractors with 25 or more employees as defined in Article 2 Chapter 64 of the NC General Statutes must comply with E-Verify requirements to contract with governmental units. E-Verify is a Federal program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law.

IRAN DIVESTMENT ACT: The City only contracts with entities that are not listed on the Iran Final Divestment List ("List") created by the State Treasurer pursuant to N.C.G.S. 147-86.58, Iran Divestment Act ("Act"). Any contract with a company on the list is deemed as a void contract per State statute. The List can be found on the State Treasurer's website and is updated annually.

COMPANIES BOYCOTTING ISRAEL ACT: The City only contracts with entities that are not listed on the Companies that Boycott Israel Final Divestment List ("List") created by the State Treasurer pursuant to S.L. 2017-193 (H161). Any contract with a company on the list is deemed as a void contract per State statute. The List can be found on the State Treasurer's website and is updated annually.

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THIS INSTRUMENT HAS BEEN PRE-AUDITED IN THE MANNER REQUIRED BY THE LOCAL GOVERNMENT BUDGET AND FISCAL CONTROL ACT.

Amber Miller
 FINANCE OFFICER
Amanda Hollar
 PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000078037
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : WIRE FOR VFD'S AT SNOW CREEK
 By : KJOHNSON/HUTCH
 Date : 8/27/20
 Vendor : 12632 CITY ELECTRIC SUPPLY CO
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 9/27/20
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
- 1	3525.26	EA	THHN-350-STR-BLK-CU (750 FT) PER QUOTE# HIC/010541 DATED 8/26/2020
- 2	175.88	EA	THHN-1-STR-BLK-CU (125 FT)

Total: 3701.14

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print

*MSS
8.27.20*



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INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickory nc.gov

DATE: 08/27/20 REQ. NO.: 78036 ACCOUNT NO.: 03080215441502 PO: 078187
 08/31/20

VENDOR: 16103
 INDUSTRIAL MECHANICAL & ELECTR
 301 10TH STREET NW D-104
 CONOVER, NC 28613

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: K JOHNSON/ HUTCH

TERMS: NET

PROJECT NO.:

DELIVER BY: 09/27/20

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	2057.61	EA	200HP 460V WEG SOFT START FOR SNOW CREEK PUMP STATION PER 8/24/2020 EMAIL FROM CAROLYN MCDONALD PUMP DAMAGED DURING 8/15/2020 HEAVY RAIN EVENT	1.0000	2057.61
SUB-TOTAL					2057.61
TOTAL					2057.61

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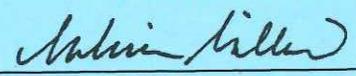
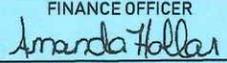
IRAN DIVESTMENT ACT: The City only contracts with entities that are not listed on the Iran Final Divestment List ("List") created by the State Treasurer pursuant to N.C.G.S. 147-86.58, Iran Divestment Act ("Act"). Any contract with a company on the list is deemed as a void contract per State statute. The List can be found on the State Treasurer's website and is updated annually.

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 FINANCE OFFICER

 PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000078036
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : REPAIR SNOW CREEK PUMP STATION
 By : KJOHNSON/HUTCH
 Date : 8/27/20
 Vendor : 16103 INDUSTRIAL MECHANICAL & ELECTR
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 9/27/20
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

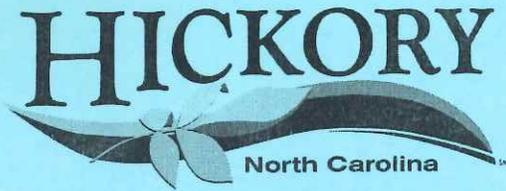
5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description	
1	2057.61	EA	200HP 460V WEG SOFT START FOR SNOW CREEK PUMP STATION PER 8/24/2020 EMAIL FROM CAROLYN MCDONALD	
				Total: 2057.61 +

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print

*msf
8.27.20*



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INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov

DATE: 09/01/20 REQ. NO.: 78053 ACCOUNT NO.: 03080215441502 PO: 078222
 09/03/20

VENDOR: 14099
 FISTER FENCE OF HICKORY LLC
 1702 11TH AVE SW
 HICKORY, NC 28602

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (828) 855-9862

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: K JOHNSON/ HUTCH

TERMS: NET

PROJECT NO.:

DELIVER BY: 10/01/20

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	4225.00	EA	REPAIR FENCE AT SNOW CREEK PUMP STATION PER 8/31/2020 QUOTE FROM TIM PFISTER FENCE DAMAGED BY 8/15/2020 HEAVY RAIN EVENT	1.0000	4225.00
				SUB-TOTAL	4225.00
				TOTAL	4225.00

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Aminda Hollar

FINANCE OFFICER

Aminda Hollar

PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000078053
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : REPAIR FENCE AT SNOW CREEK - FROM HEAVY RAIN EVENT
 By : KJOHNSON/HUTCH
 Date : 9/01/20
 Vendor : 14099 FISTER FENCE OF HICKORY LLC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 10/01/20
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description	Total:
- 1	4225.00	EA	REPAIR FENCE AT SNOW CREEK PUMP STATION PER 8/31/2020 QUOTE FROM TIM PFISTER FENCE DAMAGED BY 8/15/2020 HEAVY RAIN EVENT	4225.00

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print

*WJH
9/1/20*

Flood Damage



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INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov

PAGE: 1

DATE: 09/14/20 REQ. NO.: 78116 ACCOUNT NO.: 03080215441502 PO: 078266

09/14/20

VENDOR: 11279
 B&M ELECTRIC MOTOR SERVICE INC
 PO BOX 2676
 HICKORY, NC 28603-2676

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (828) 267-0874

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: K JOHNSON/ HUTCH

TERMS: NET

PROJECT NO.:

DELIVER BY: 10/14/20

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	871.54	EA	BARSCREEN MOTOR FOR SNOW CRK PUMP STATION SEW-4401 PER QUOTE# 9/4/20TC DAMAGED DURING HEAVY RAIN EVENT ON 8/15/2020	1.0000	871.54
				SUB-TOTAL	871.54
				TOTAL	871.54

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Aminda Miller
 FINANCE OFFICER
Aminda Hollar
 PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000078116
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : BARSCREEN MOTOR FOR SNOW CREEK
 By : KJOHNSON/HUTCH
 Date : 9/14/20
 Vendor : 11279 B&M ELECTRIC MOTOR SERVICE INC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 10/14/20
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description
1	871.54	EA	BARSCREEN MOTOR FOR SNOW CRK PUMP STATION
			SEW-4401 PER QUOTE# 9/4/20TC

Total: 871.54

F9=Print

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

*MSP
9.14.20*



ELECTRIC MOTOR SERVICE
INCORPORATED

PO Box 2676
Hickory, NC 28603
Phone: 828-267-0829
Fax: 828-267-0874
www.bmelectricmotorservice.com



Invoice

Date	Invoice #
9/2/2020	23171

Bill To
City of Hickory PO Box 398 Hickory, NC 28603

Ship To
Hickory-SnowCreek

Received

SEP 16 2020

Public Utilities

S.O. No.	P.O. No.	Terms
23171	078189	Net 30

Description	Amount
GE: 200 HP, 1785 RPM, 460 VOLTS, B DESIGN, 3 PHASE, 60 HERTZ, 214 AMPS, 1.15 SF, DP ENCL, G CODE, MODEL: 5KS445DP217P, S/N: ZF6503027	
AC MOTOR MINOR REPAIR: DISASSEMBLE, PRESSURE WASH ALL PARTS AND WINDINGS, INSPECT THE MECHANICAL FITS, MEGGER AND SURGE TEST THE STATOR WINDINGS, BALANCE THE ROTOR TO UNDER .5 MIL, INSTALL NEW BEARINGS, ASSEMBLE THE UNIT, TEST RUN AT FULL VOLTAGE, AND PAINT.	477.95T
LABOR \$477.95 MATERIALS \$1,101.00 DT#40860	
	1,101.00T

PO# _____
 PROJ# 18189
 PO# _____
 APPROVAL

Subtotal	\$1,578.95
Sales Tax (7.0%)	\$110.53
Total	\$1,689.48
Payments/Credits	\$0.00
Balance Due	\$1,689.48



ELECTRIC MOTOR SERVICE
INCORPORATED

PO Box 2676
Hickory, NC 28603
Phone: 828-267-0829
Fax: 828-267-0874
www.bmelectrictorservice.com



Invoice

Date	Invoice #
9/2/2020	40763

Bill To
City of Hickory PO Box 398 Hickory, NC 28603

Ship To
Hickory
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p>Received</p> <p>SEP 16 2020</p> <p>Public Utilities</p> </div>

P.O. Number	Terms	Project
078189	Net 30	

Quantity	Item Code	Description	Price Each	Ordered	Backordered	S.O. No.	Amount
1	F510-4215-...	Teco Inverters	9,000.00		0		9,000.00T
2	JN5-NK-A0...	NEMA1 KIT / F510 (Bottom cover to Chassis) DT#40763 NC SALES TAX	459.00		0		918.00T
			7.00%				694.26

POI# _____
 PROJ# 78189
 PO# _____
 APPROVAL

	Total	\$10,612.26
--	--------------	-------------



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INVOICE TO:
 Accounts Payable
 PO Box 398
 Hickory, NC 28603
 (828) 323-7477
 mmiller@hickorync.gov

ACCOUNT INQUIRY:
 Purchasing
 (828) 323-7466
 ahollar@hickorync.gov

DATE: 08/28/20 REQ. NO.: 78044 ACCOUNT NO.: 03080215441502 PO: 078189
 08/31/20

VENDOR: 11279
 B&M ELECTRIC MOTOR SERVICE INC
 PO BOX 2676
 HICKORY, NC 28603-2676

SHIP TO: CITY OF HICKORY
 PUBLIC UTILITIES
 1441 9TH AV NE
 HICKORY, NC 28601

FAX# (828) 267-0874

ATTN: PUBLIC UTILITIES ADMIN.

REQUESTED BY: K JOHNSON/ HUTCH

TERMS: NET

PROJECT NO.:

DELIVER BY: 09/28/20

LINE	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	EXTENDED COST
1	18918.00	EA	TECO INVERTORS FOR SNOW CREEK PUMP STATION REPLACE ONES DAMAGED BY HEAVY RAIN EVENT 8/15/2020 PER QUOTE# 81920- TC DATED 8/19/2020	1.0000	18918.00
	9918				
2	5899.22	EA	REPAIR 3 MOTORS FOR SNOW CREEK PUMP STATION PER QUOTE# 23169, 23170 & 81921- TC DATED 8/19/2020 PUMPS DAMAGED DURING HEAVY RAIN EVENT 8/15/2020	1.0000	5899.22
SUB- TOTAL					24817.22
TOTAL					24817.22

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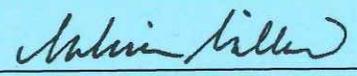
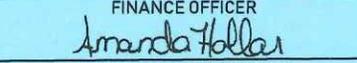
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 FINANCE OFFICER

 PURCHASING TECHNICIAN

CITY OF HICKORY
Purchase Requisition

Number : 0000078044
 Type : 1 PURCHASE REQUISITION
 Status : REQUISITION APPROVAL
 Reason : REPAIR SNOW CREEK
 By : KJOHNSON/HUTCH
 Date : 8/28/20
 Vendor : 11279 B&M ELECTRIC MOTOR SERVICE INC
 Contract nbr :
 Ship to : PU PUBLIC UTILITIES
 Deliver by date : 9/28/20
 Buyer :
 Fiscal year code : C C=Current year, P=Previous year, F=Future year

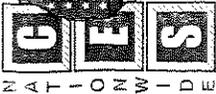
Type options, press Enter.

5=Display 8=Item extended description

Opt Line#	Quantity	UOM	Description	
- 1	18918.00	EA	TECO INVERTORS FOR SNOW CREEK PUMP STATION REPLACE ONES DAMAGED BY HEAVY RAIN EVENT 8/15/2020 PER QUOTE# 81920-TC DATED 8/19/2020	
				Total: 24817.22 +

F3=Exit F7=Alternate view
 F10=Approval info F12=Cancel F20=Comments

F9=Print



City of Hickory
 1001 W. Market Blvd. NW, Hickory, NC
 28601

PHONE: 828-372-7117
 FAX: 828-372-7508
 E-MAIL: hickory@cityofhickory.com

030-8021-54415-02

CASH SALE

HIC/029137

28 AUG 2020

Page 1/1

[Signature]

ENTERED BY: DILLON MACNEIL

ACCOUNT: 00350010001

CHECK NUMBER: SANDY CREEK

Pump Station

330.00

CEC 27
 501.101
 HICKORY, NC 28601
 828-372-7117
 51000034890
 Merchant ID: 4890
 Store #: 0001
 Ref #: 0008

Sale

XXXXXXXXXXXXXXXX4987

VISA Entry Method: Chip

Total: \$ 248.24

08/28/20 11:48:52

Inh #: 000008 Appr Code: 035296
 Transaction ID: 580241569320747
 Apprv: Online Batch#: 000028

VISA CREDIT

AID: A0000000031010

TSI: E800

TR: 0000048000

Merchant Copy
 NO SIGNATURE REQUIRED

THANK YOU!

Credit Card No. 4487 Payment \$248.24

Goods Total: \$232.00
 Tax Total: \$16.24
 Total: \$248.24

Print Name:

Signature:



030-8 021-544-15-02

Acknowledgement

CAPITAL ELECTRIC
 222 22ND STREET SW
 HICKORY, NC 28602
 828-328-2295 Fax 828-322-1260
 Josh.Franklin@capitalelectricsupply.com

APPROVAL

ORDER DATE	ORDER NUMBER
08/18/20	S041510357
PAGE NO	
1 of 1	

SOLD TO:
 CITY OF HICKORY/PUMP STATIONS
 PO BOX 398
 HICKORY, NC 27055-0398

SHIP TO:
 CITY OF HICKORY/PUMP STATIONS
 PO BOX 398
 HICKORY, NC 27055-0398

TIMING RELAYS FOR SNOW CREST & CAT SPRINGS CONSTANT

CUSTOMER NUMBER	CUSTOMER ORDER NUMBER	JOB NAME	ORDERED BY		
331413	CC/KENNY				
SALESPERSON	SHIP VIA	FREIGHT ALLOWED	SHIP DATE		
JOSH FRANKLIN	WC WILL-CALL	No	08/20/20		
ORDER QTY	UPC	DESCRIPTION	UNIT PRICE	U	EXT PRICE
		***** Shipping Instructions ***** * KENNY 828-569-9130 * *****			
2ea	S0240451411	IDEC RTE-P2AF20 100-240V 11P(01S-600HR) OFF/SINGL OFF/SINGLE *Procured Item*	65.440	e	130.88
2ea	S0240454652	IDEC SR3P-05 DIN RAIL SNP/MT SOCKET *Procured Item*	6.540	e	13.08
Pd 08/20/20-Visa Card# 9818 \$154.04 Appr# 057300			Subtotal		143.96
			S&H CHGS		0.00
			Sales Tax		10.08
			Payments		-154.04
			Amount Due		0.00

TERMS & CONDITIONS

This order is subject to Company Terms and Conditions of Sale, which shall govern in the event of any conflict with any Terms or Conditions of Purchaser's proposal, purchase order or other documents.



030-8021-5244-15-02

Ship Ticket

CAPITAL ELECTRIC
222 22ND STREET SW
HICKORY, NC 28602
828-328-2295 Fax 828-322-1260



S041578178.001

SHIP VIA
WC WILL-CALL
PAGE
1 of 1

Josh.Franklin@capitalelectricsupply.com

SOLD TO:
CITY OF HICKORY/PUMP STATIONS
PO BOX 398
HICKORY, NC 27055-0398
Fax:

SHIP TO:
CITY OF HICKORY/PUMP STATIONS
PO BOX 398
HICKORY, NC 27055-0398
Fax:

*Snow Creek
Bar Screen*

CUSTOMER NUMBER		CUSTOMER ORDER NUMBER		JOB NAME		ORDERED BY	
WRITER		SALES ORDER#		SHIP BRANCH		SHIP DATE	
331413		CC/KENNY					
JOSH FRANKLIN		S041578178.001		XHIC		08/26/20	
ORDER QTY	SHIP QTY	UM	DESCRIPTION	UNIT PRICE	U	EXT PRICE	
			***** Shipping Instructions *****				
			* CALL KENNY 828-569-9130	*			

2	2	ea	SQD LC1D09G7 CONTACTOR 600VAC 9AMP IEC +OPTIONS	86.790	e	173.58	
2	2	ea	SQD LADN22 CONTACTOR AUXILIARY CONTACT BLOCK *Procured Item* <<** 2 Tagged to T005317295 **>>	38.320	e	76.64	
1	1	ea	SQD LRD08 BIMETALLIC OVERLOAD RELAY 600V 4A	55.400	e	55.40	
1	1	ea	SQD LRD12 BIMETALLIC OVERLOAD RELAY 600V 8A	57.250	e	57.25	
Pd 08/27/20-Visa Card# 4487 \$388.27 Appr# 099198						Subtotal 362.87	
						S&H CHGS 0.00	
						Sales Tax 25.40	
						Payments -388.27	
						Amount Due 0.00	
08-27-2020 08:19:37 AM S041578178.001							

Stage Loc:
Totals: CTNS _____ COIL _____ BUND _____ REEL _____

Handwritten signature

TERMS & CONDITIONS

Merchandise listed on this order has been produced in accordance with the Fair Labor Standards Act of 1938 as amended. Material not returnable without permission. This order is subject to Company Terms and Conditions of Sale, which provisions shall govern in the event of any conflict with any Terms or Conditions of Purchaser's proposal, purchase order or other documents. If you make a tax-free purchase that is later determined by a Department of Revenue to be a taxable purchase, you are responsible for all applicable taxes, interest, and penalties. 1.50% PER MONTH FINANCE CHARGE WILL BE ADDED TO ALL PAST DUE INVOICES. THIS IS AN ANNUAL RATE OF 18.00%

Appendix F

Snow Creek Pump Station Average Daily Flow Documentation

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Jun 2019 - 30 Jun 2019

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Jun 2019	1	764.0	764.0	0	0	676.0	0.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
2 Jun 2019	0	676.0	0.0	0	1	764.0	764.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
3 Jun 2019	2	765.0	382.5	0	1	675.0	675.0	0	0	0.0	0.0	0	3	1440.0	0	0.00
4 Jun 2019	0	676.0	0.0	0	1	764.0	764.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
5 Jun 2019	1	764.0	764.0	0	0	676.0	0.0	0	21	62.0	3.0	0	22	1502.0	0	0.01
6 Jun 2019	0	676.0	0.0	0	1	764.0	764.0	0	29	86.0	3.0	0	30	1526.0	0	0.00
7 Jun 2019	1	725.0	725.0	0	0	676.0	0.0	0	53	252.0	4.8	0	54	1653.0	0	3.08
8 Jun 2019	0	676.0	0.0	0	1	762.0	762.0	0	65	418.0	6.4	0	66	1856.0	0	3.14
9 Jun 2019	29	24.0	0.8	0	69	714.0	10.3	0	39	235.0	6.0	0	137	973.0	0	2.00
10 Jun 2019	2	2.0	1.0	0	4	0.0	0.0	0	137	417.0	3.0	0	143	419.0	0	0.13
11 Jun 2019	0	0.0	0.0	0	0	0.0	0.0	0	52	348.0	6.7	0	52	348.0	0	0.00
12 Jun 2019	0	0.0	0.0	0	1	0.0	0.0	0	41	270.0	6.6	0	42	270.0	0	0.00
13 Jun 2019	0	0.0	0.0	0	13	1.0	0.1	0	40	261.0	6.5	0	53	262.0	0	0.00
14 Jun 2019	0	0.0	0.0	0	8	785.0	98.1	0	13	85.0	6.5	0	21	870.0	0	0.00
15 Jun 2019	0	0.0	0.0	0	1	1430.0	1430.0	0	0	0.0	0.0	0	1	1430.0	0	0.00
16 Jun 2019	0	0.0	0.0	0	1	1436.0	1436.0	0	0	0.0	0.0	0	1	1436.0	0	0.00
17 Jun 2019	0	0.0	0.0	0	1	1434.0	1434.0	0	0	0.0	0.0	0	1	1434.0	0	0.07
18 Jun 2019	0	0.0	0.0	0	1	1426.0	1426.0	0	0	0.0	0.0	0	1	1426.0	0	0.53
19 Jun 2019	0	0.0	0.0	0	1	1385.0	1385.0	0	0	0.0	0.0	0	1	1385.0	0	0.00
20 Jun 2019	0	0.0	0.0	0	2	1437.0	718.5	0	0	0.0	0.0	0	2	1437.0	0	0.00
21 Jun 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
22 Jun 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.64
23 Jun 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
24 Jun 2019	0	0.0	0.0	0	2	1437.0	718.5	0	0	0.0	0.0	0	2	1437.0	0	0.20
25 Jun 2019	0	0.0	0.0	0	1	1432.0	1432.0	0	0	0.0	0.0	0	1	1432.0	0	0.00
26 Jun 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
27 Jun 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
28 Jun 2019	0	0.0	0.0	0	1	1432.0	1432.0	0	0	0.0	0.0	0	1	1432.0	0	0.00
29 Jun 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
30 Jun 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
Total	36	5748.0	87.9	0	118	30177.0	844.0	0	490	2434.0	1.8	0	644	38359.0	0	9.80

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Jul 2019 - 31 Jul 2019

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Jul 2019	0	0.0	0.0	0	2	1431.0	715.5	0	0	0.0	0.0	0	2	1431.0	0	0.00
2 Jul 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.05
3 Jul 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
4 Jul 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.03
5 Jul 2019	0	0.0	0.0	0	1	1430.0	1430.0	0	0	0.0	0.0	0	1	1430.0	0	0.14
6 Jul 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
7 Jul 2019	0	0.0	0.0	0	1	1433.0	1433.0	0	0	0.0	0.0	0	1	1433.0	0	0.02
8 Jul 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.04
9 Jul 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
10 Jul 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
11 Jul 2019	0	0.0	0.0	0	1	1078.0	1078.0	0	15	98.0	6.5	0	16	1176.0	0	0.10
12 Jul 2019	0	0.0	0.0	0	0	0.0	0.0	0	35	230.0	6.6	0	35	230.0	0	0.00
13 Jul 2019	0	0.0	0.0	0	1	697.0	697.0	0	13	87.0	6.7	0	14	784.0	0	0.00
14 Jul 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
15 Jul 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
16 Jul 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
17 Jul 2019	0	0.0	0.0	0	0	979.0	0.0	0	0	0.0	0.0	0	0	979.0	0	0.00
18 Jul 2019	0	0.0	0.0	0	1	1167.0	1167.0	0	0	0.0	0.0	0	1	1167.0	0	0.00
19 Jul 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
20 Jul 2019	0	0.0	0.0	0	1	1143.0	1143.0	0	0	0.0	0.0	0	1	1143.0	0	0.09
21 Jul 2019	1	0.0	0.0	0	1	1418.0	1418.0	0	0	0.0	0.0	0	2	1418.0	0	0.00
22 Jul 2019	33	1.0	0.0	0	1	1419.0	1419.0	0	0	0.0	0.0	0	34	1420.0	0	0.01
23 Jul 2019	0	0.0	0.0	0	1	1022.0	1022.0	0	0	0.0	0.0	0	1	1022.0	0	0.77
24 Jul 2019	1	0.0	0.0	0	1	1411.0	1411.0	0	1	0.0	0.0	0	3	1411.0	0	0.00
25 Jul 2019	0	0.0	0.0	0	1	1423.0	1423.0	0	0	0.0	0.0	0	1	1423.0	0	0.00
26 Jul 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	1	0.0	0.0	0	2	1438.0	0	0.00
27 Jul 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
28 Jul 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
29 Jul 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
30 Jul 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.35
31 Jul 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.01
Total	35	1.0	0.0	0	30	40504.0	1251.9	0	65	415.0	0.6	0	130	40920.0	0	1.61

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Aug 2019 - 31 Aug 2019

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.07
2 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
3 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
4 Aug 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.20
5 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
6 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
7 Aug 2019	0	0.0	0.0	0	1	1431.0	1431.0	0	0	0.0	0.0	0	1	1431.0	0	0.03
8 Aug 2019	0	0.0	0.0	0	2	922.0	461.0	0	9	58.0	6.4	0	11	980.0	0	0.00
9 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
10 Aug 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
11 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
12 Aug 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
13 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.03
14 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.13
15 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
16 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
17 Aug 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
18 Aug 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
19 Aug 2019	0	0.0	0.0	0	1	1414.0	1414.0	0	0	0.0	0.0	0	1	1414.0	0	0.00
20 Aug 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
21 Aug 2019	0	0.0	0.0	0	1	1072.0	1072.0	0	12	81.0	6.8	0	13	1153.0	0	0.00
22 Aug 2019	0	0.0	0.0	0	2	982.0	491.0	0	9	59.0	6.6	0	11	1041.0	0	0.02
23 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.09
24 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.15
25 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
26 Aug 2019	0	0.0	0.0	0	1	1047.0	1047.0	0	7	46.0	6.6	0	8	1093.0	0	0.00
27 Aug 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.08
28 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
29 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
30 Aug 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
31 Aug 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
Total	0	0.0	0.0	0	33	42822.0	1350.6	0	37	244.0	0.9	0	70	43066.0	0	0.80

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Sep 2019 - 30 Sep 2019

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
2 Sep 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
3 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
4 Sep 2019	0	0.0	0.0	0	2	1097.0	548.5	0	5	34.0	6.8	0	7	1131.0	0	0.00
5 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
6 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
7 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
8 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
9 Sep 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
10 Sep 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
11 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
12 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
13 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
14 Sep 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.04
15 Sep 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
16 Sep 2019	0	0.0	0.0	0	2	1436.0	718.0	0	0	0.0	0.0	0	2	1436.0	0	0.00
17 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
18 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
19 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
20 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
21 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
22 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
23 Sep 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
24 Sep 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
25 Sep 2019	0	0.0	0.0	0	1	1436.0	1436.0	0	0	0.0	0.0	0	1	1436.0	0	0.00
26 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
27 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
28 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
29 Sep 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
30 Sep 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.22
Total	0	0.0	0.0	0	32	42799.0	1384.4	0	5	34.0	0.2	0	37	42833.0	0	0.26

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Oct 2019 - 31 Oct 2019

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Oct 2019	0	0.0	0.0	0	1	1435.0	1435.0	0	0	0.0	0.0	0	1	1435.0	0	0.00
2 Oct 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
3 Oct 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
4 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
5 Oct 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
6 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
7 Oct 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
8 Oct 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.18
9 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
10 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
11 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
12 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
13 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.54
14 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
15 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
16 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.37
17 Oct 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
18 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
19 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.86
20 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.52
21 Oct 2019	0	0.0	0.0	0	2	1435.0	717.5	0	0	0.0	0.0	0	2	1435.0	0	0.00
22 Oct 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.51
23 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
24 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
25 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
26 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.42
27 Oct 2019	0	0.0	0.0	0	1	1411.0	1411.0	0	0	0.0	0.0	0	1	1411.0	0	0.37
28 Oct 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
29 Oct 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
30 Oct 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	1.63
31 Oct 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	1.48
Total	0	0.0	0.0	0	32	44554.0	1414.1	0	0	0.0	0.0	0	32	44554.0	0	6.88

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Nov 2019 - 30 Nov 2019

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
2 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
3 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
4 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
5 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
6 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
7 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.19
8 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
9 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
10 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
11 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
12 Nov 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.42
13 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
14 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
15 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
16 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
17 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
18 Nov 2019	0	0.0	0.0	0	2	1138.0	569.0	0	0	0.0	0.0	0	2	1138.0	0	0.05
19 Nov 2019	0	0.0	0.0	0	0	1200.0	0.0	0	0	0.0	0.0	0	0	1200.0	0	0.05
20 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
21 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
22 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
23 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	1.15
24 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
25 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
26 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
27 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.46
28 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
29 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.00
30 Nov 2019	0	0.0	0.0	0	1	1440.0	1440.0	0	0	0.0	0.0	0	1	1440.0	0	0.82
Total	0	0.0	0.0	0	30	42649.0	1362.7	0	0	0.0	0.0	0	30	42649.0	0	3.14

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Dec 2019 - 31 Dec 2019

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Dec 2019	0	0.0	0.0	0	1	1208.0	1208.0	0	0	0.0	0.0	0	1	1208.0	0	0.76
2 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
3 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
4 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
5 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
6 Dec 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
7 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
8 Dec 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
9 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.26
10 Dec 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.40
11 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.01
12 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
13 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.90
14 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.27
15 Dec 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
16 Dec 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
17 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.34
18 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
19 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
20 Dec 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
21 Dec 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
22 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.23
23 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.65
24 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
25 Dec 2019	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
26 Dec 2019	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
27 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
28 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
29 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.43
30 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.03
31 Dec 2019	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
Total	0	0.0	0.0	0	31	44351.0	1430.7	0	0	0.0	0.0	0	31	44351.0	0	4.28

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Jan 2020 - 31 Jan 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
2 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.60
3 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.57
4 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.09
5 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
6 Jan 2020	0	0.0	0.0	0	1	1435.0	1435.0	0	0	0.0	0.0	0	1	1435.0	0	0.00
7 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.08
8 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
9 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
10 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.02
11 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.86
12 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
13 Jan 2020	0	0.0	0.0	0	2	1435.0	717.5	0	0	0.0	0.0	0	2	1435.0	0	0.31
14 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.37
15 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
16 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
17 Jan 2020	0	0.0	0.0	0	3	1436.0	478.7	0	0	0.0	0.0	0	3	1436.0	0	0.00
18 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.08
19 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
20 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
21 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
22 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
23 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
24 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	1.48
25 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
26 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
27 Jan 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.11
28 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
29 Jan 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
30 Jan 2020	0	0.0	0.0	0	1	1435.0	1435.0	0	0	0.0	0.0	0	1	1435.0	0	0.00
31 Jan 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.21
Total	0	0.0	0.0	0	34	44566.0	1383.6	0	0	0.0	0.0	0	34	44566.0	0	4.78

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Feb 2020 - 29 Feb 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
2 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
3 Feb 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
4 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
5 Feb 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.24
6 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	32	506.0	15.8	0	33	1944.0	0	5.01
7 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.04
8 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.01
9 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
10 Feb 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.69
11 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.44
12 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
13 Feb 2020	0	0.0	0.0	0	1	1436.0	1436.0	0	0	0.0	0.0	0	1	1436.0	0	1.14
14 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
15 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
16 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
17 Feb 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
18 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.19
19 Feb 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.03
20 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.16
21 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
22 Feb 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
23 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
24 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.39
25 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.29
26 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.16
27 Feb 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
28 Feb 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
29 Feb 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
Total	0	0.0	0.0	0	29	41704.0	1438.1	0	32	506.0	0.5	0	61	42210.0	0	8.79

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Mar 2020 - 31 Mar 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
2 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
3 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.20
4 Mar 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
5 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
6 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
7 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
8 Mar 2020	0	0.0	0.0	0	1	1378.0	1378.0	0	0	0.0	0.0	0	1	1378.0	0	0.00
9 Mar 2020	0	0.0	0.0	0	2	1432.0	716.0	0	0	0.0	0.0	0	2	1432.0	0	0.00
10 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.01
11 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.01
12 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
13 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.03
14 Mar 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
15 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
16 Mar 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
17 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.10
18 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.03
19 Mar 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.13
20 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.08
21 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.03
22 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.02
23 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.46
24 Mar 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.84
25 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.34
26 Mar 2020	0	0.0	0.0	0	3	1425.0	475.0	0	0	0.0	0.0	0	3	1425.0	0	0.00
27 Mar 2020	1	1.0	1.0	0	6	1384.0	230.7	0	0	0.0	0.0	0	7	1385.0	0	0.00
28 Mar 2020	0	0.0	0.0	0	1	1437.0	1437.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
29 Mar 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
30 Mar 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
31 Mar 2020	2	544.0	272.0	0	1	887.0	887.0	0	0	0.0	0.0	0	3	1431.0	0	0.07
Total	3	545.0	8.8	0	39	43896.0	1325.1	0	0	0.0	0.0	0	42	44441.0	0	2.35

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Apr 2020 - 30 Apr 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Apr 2020	1	588.0	588.0	0	3	847.0	282.3	0	1	2.0	2.0	0	5	1437.0	0	0.00
2 Apr 2020	1	896.0	896.0	0	0	541.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
3 Apr 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
4 Apr 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
5 Apr 2020	0	541.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
6 Apr 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
7 Apr 2020	0	541.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1437.0	0	0.01
8 Apr 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
9 Apr 2020	0	542.0	0.0	0	1	897.0	897.0	0	0	0.0	0.0	0	1	1439.0	0	0.01
10 Apr 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
11 Apr 2020	0	542.0	0.0	0	1	897.0	897.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
12 Apr 2020	1	896.0	896.0	0	0	541.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.98
13 Apr 2020	0	542.0	0.0	0	1	896.0	896.0	0	5	34.0	6.8	0	6	1472.0	0	1.11
14 Apr 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
15 Apr 2020	0	541.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
16 Apr 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
17 Apr 2020	0	541.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
18 Apr 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.01
19 Apr 2020	0	542.0	0.0	0	1	897.0	897.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
20 Apr 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.70
21 Apr 2020	0	542.0	0.0	0	1	897.0	897.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
22 Apr 2020	1	896.0	896.0	0	0	541.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
23 Apr 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.42
24 Apr 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
25 Apr 2020	0	541.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1437.0	0	0.19
26 Apr 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
27 Apr 2020	0	541.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
28 Apr 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
29 Apr 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	1.57
30 Apr 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.69
Total	16	21616.0	467.8	0	17	21522.0	427.7	0	6	36.0	0.3	0	39	43174.0	0	5.69

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 May 2020 - 31 May 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 May 2020	0	542.0	0.0	0	1	897.0	897.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
2 May 2020	1	896.0	896.0	0	0	541.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
3 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
4 May 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
5 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
6 May 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.01
7 May 2020	0	541.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
8 May 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.05
9 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
10 May 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
11 May 2020	0	542.0	0.0	0	1	897.0	897.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
12 May 2020	1	896.0	896.0	0	0	541.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
13 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.06
14 May 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
15 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
16 May 2020	1	897.0	897.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
17 May 2020	0	541.0	0.0	0	1	894.0	894.0	0	0	0.0	0.0	0	1	1435.0	0	0.00
18 May 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
19 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.83
20 May 2020	1	398.0	398.0	0	0	542.0	0.0	0	51	363.0	7.1	0	52	1303.0	0	1.45
21 May 2020	1	896.0	896.0	0	2	24.0	12.0	0	46	311.0	6.8	0	49	1231.0	0	1.18
22 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.07
23 May 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
24 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
25 May 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
26 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
27 May 2020	1	896.0	896.0	0	0	542.0	0.0	0	4	21.0	5.2	0	5	1459.0	0	1.05
28 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	5.0	0.0	0	1	1443.0	0	0.16
29 May 2020	1	896.0	896.0	0	1	483.0	483.0	0	2	13.0	6.5	0	4	1392.0	0	0.32
30 May 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
31 May 2020	1	743.0	743.0	0	0	542.0	0.0	0	6	40.0	6.7	0	7	1325.0	0	0.00
Total	16	21816.0	441.5	0	18	21533.0	449.5	0	109	753.0	1.0	0	143	44102.0	0	5.18

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Jun 2020 - 30 Jun 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Jun 2020	1	260.0	260.0	0	1	312.0	312.0	0	25	167.0	6.7	0	27	739.0	0	0.00
2 Jun 2020	0	0.0	0.0	0	0	0.0	0.0	0	42	280.0	6.7	0	42	280.0	0	0.00
3 Jun 2020	0	0.0	0.0	0	1	878.0	878.0	0	13	84.0	6.5	0	14	962.0	0	0.00
4 Jun 2020	1	484.0	484.0	0	1	950.0	950.0	0	0	0.0	0.0	0	2	1434.0	0	0.00
5 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.11
6 Jun 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
7 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
8 Jun 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
9 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.34
10 Jun 2020	1	836.0	836.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1378.0	0	0.10
11 Jun 2020	0	542.0	0.0	0	1	597.0	597.0	0	0	0.0	0.0	0	1	1139.0	0	0.43
12 Jun 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
13 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
14 Jun 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
15 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.01
16 Jun 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	1.60
17 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.46
18 Jun 2020	1	895.0	895.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.08
19 Jun 2020	0	543.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1439.0	0	1.67
20 Jun 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
21 Jun 2020	0	543.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1439.0	0	0.31
22 Jun 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
23 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.25
24 Jun 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
25 Jun 2020	0	542.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
26 Jun 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
27 Jun 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
28 Jun 2020	1	895.0	895.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.02
29 Jun 2020	0	543.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1439.0	0	0.09
30 Jun 2020	1	895.0	895.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.03
Total	15	19378.0	411.0	0	16	20537.0	449.6	0	80	531.0	0.7	0	111	40446.0	0	5.50

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Jul 2020 - 31 Jul 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Jul 2020	0	543.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
2 Jul 2020	1	896.0	896.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
3 Jul 2020	0	543.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
4 Jul 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
5 Jul 2020	0	542.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1437.0	0	0.70
6 Jul 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.28
7 Jul 2020	0	542.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1438.0	0	0.43
8 Jul 2020	1	895.0	895.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
9 Jul 2020	0	543.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
10 Jul 2020	1	895.0	895.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.12
11 Jul 2020	0	543.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
12 Jul 2020	1	895.0	895.0	0	0	542.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
13 Jul 2020	0	543.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
14 Jul 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
15 Jul 2020	0	542.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
16 Jul 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
17 Jul 2020	0	542.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
18 Jul 2020	1	895.0	895.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
19 Jul 2020	0	543.0	0.0	0	1	896.0	896.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
20 Jul 2020	1	510.0	510.0	0	0	543.0	0.0	0	19	123.0	6.5	0	20	1176.0	0	0.00
21 Jul 2020	0	0.0	0.0	0	0	0.0	0.0	0	42	274.0	6.5	0	42	274.0	0	0.52
22 Jul 2020	0	0.0	0.0	0	0	0.0	0.0	0	36	235.0	6.5	0	36	235.0	0	0.00
23 Jul 2020	1	78.0	78.0	0	1	895.0	895.0	0	9	61.0	6.8	0	11	1034.0	0	0.47
24 Jul 2020	1	896.0	896.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.02
25 Jul 2020	0	542.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
26 Jul 2020	1	895.0	895.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
27 Jul 2020	0	543.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1438.0	0	0.10
28 Jul 2020	1	895.0	895.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.10
29 Jul 2020	1	315.0	315.0	0	5	1044.0	208.8	0	2	18.0	9.0	0	8	1377.0	0	0.19
30 Jul 2020	1	895.0	895.0	0	0	543.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
31 Jul 2020	0	543.0	0.0	0	1	895.0	895.0	0	0	0.0	0.0	0	1	1438.0	0	0.18
Total	16	19598.0	404.6	0	19	21178.0	411.1	0	108	711.0	1.1	0	143	41487.0	0	3.11

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Aug 2020 - 31 Aug 2020

Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Aug 2020	0	0.0	0.0	0	0	60.0	0.0	0	0	0.0	0.0	0	0	60.0	0	0.00
2 Aug 2020	1	955.0	955.0	0	0	483.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.06
3 Aug 2020	0	483.0	0.0	0	1	955.0	955.0	0	0	0.0	0.0	0	1	1438.0	0	0.55
4 Aug 2020	1	955.0	955.0	0	0	483.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.79
5 Aug 2020	0	483.0	0.0	0	1	955.0	955.0	0	0	0.0	0.0	0	1	1438.0	0	2.00
6 Aug 2020	1	955.0	955.0	0	0	483.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.51
7 Aug 2020	0	410.0	0.0	0	4	878.0	219.5	0	1	24.0	24.0	0	5	1312.0	0	1.26
8 Aug 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
9 Aug 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
10 Aug 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
11 Aug 2020	0	0.0	0.0	0	1	1148.0	1148.0	0	7	40.0	5.7	0	8	1188.0	0	0.00
12 Aug 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	1.74
13 Aug 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	0.13
14 Aug 2020	0	0.0	0.0	0	1	1438.0	1438.0	0	0	0.0	0.0	0	1	1438.0	0	1.35
15 Aug 2020	0	0.0	0.0	0	1	1439.0	1439.0	0	0	0.0	0.0	0	1	1439.0	0	2.95
16 Aug 2020	79	39.0	0.5	0	35	221.0	6.3	0	72	557.0	7.7	0	186	817.0	0	0.00
17 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	50	498.0	10.0	0	50	498.0	0	0.72
18 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	43	440.0	10.2	0	43	440.0	0	0.00
19 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	38	387.0	10.2	0	38	387.0	0	0.58
20 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	34	344.0	10.1	0	34	344.0	0	0.00
21 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	35	355.0	10.1	0	35	355.0	0	0.97
22 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	46	471.0	10.2	0	46	471.0	0	0.00
23 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	39	393.0	10.1	0	39	393.0	0	0.07
24 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	35	351.0	10.0	0	35	351.0	0	0.00
25 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	31	317.0	10.2	0	31	317.0	0	0.00
26 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	30	303.0	10.1	0	30	303.0	0	0.00
27 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	30	305.0	10.2	0	30	305.0	0	0.00
28 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	30	301.0	10.0	0	30	301.0	0	0.10
29 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	29	294.0	10.1	0	29	294.0	0	0.14
30 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	29	295.0	10.2	0	29	295.0	0	0.00
31 Aug 2020	0	0.0	0.0	0	0	0.0	0.0	0	31	300.0	9.7	0	31	300.0	0	0.77
Total	82	4280.0	89.5	0	49	15734.0	417.2	0	639	6265.0	6.2	0	770	26279.0	0	14.69

Monthly Runtime Data
Hickory NC, City of Public Works - Snow Creek
1 Sep 2020 - 30 Sep 2020

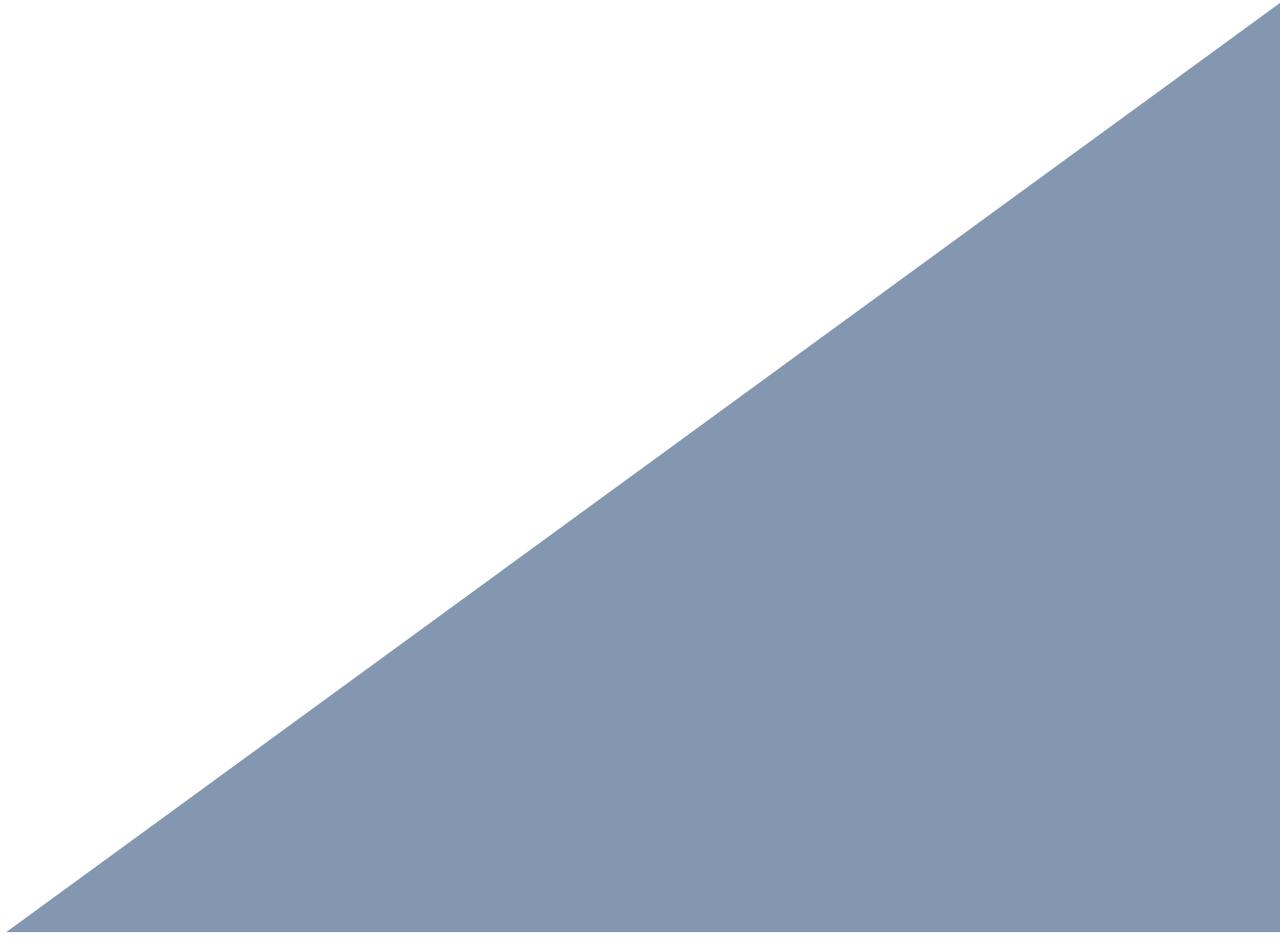
Date/Time	Pump 1				Pump 2				Both				Total			Rainfall (Inches)
	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Average	Gallons	Starts	Runtime	Gallons	KHKY:Hickory
1 Sep 2020	0	0.0	0.0	0	0	0.0	0.0	0	1	10.0	10.0	0	1	10.0	0	0.73
2 Sep 2020	0	0.0	0.0	0	0	0.0	0.0	0	33	333.0	10.1	0	33	333.0	0	0.00
3 Sep 2020	0	0.0	0.0	0	0	0.0	0.0	0	35	357.0	10.2	0	35	357.0	0	0.00
4 Sep 2020	0	0.0	0.0	0	0	0.0	0.0	0	16	164.0	10.2	0	16	164.0	0	0.00
5 Sep 2020	2	875.0	437.5	0	0	0.0	0.0	0	0	0.0	0.0	0	2	875.0	0	0.00
6 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
7 Sep 2020	4	1436.0	359.0	0	0	0.0	0.0	0	0	0.0	0.0	0	4	1436.0	0	0.00
8 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
9 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.13
10 Sep 2020	1	1439.0	1439.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.06
11 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
12 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.42
13 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
14 Sep 2020	1	1439.0	1439.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.32
15 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
16 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
17 Sep 2020	1	1439.0	1439.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	2.93
18 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
19 Sep 2020	1	1439.0	1439.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
20 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.00
21 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
22 Sep 2020	1	1439.0	1439.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
23 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
24 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.12
25 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	1.63
26 Sep 2020	1	1439.0	1439.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.00
27 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
28 Sep 2020	1	1438.0	1438.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1438.0	0	0.31
29 Sep 2020	1	1439.0	1439.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1439.0	0	0.44
30 Sep 2020	1	1437.0	1437.0	0	0	0.0	0.0	0	0	0.0	0.0	0	1	1437.0	0	0.00
Total	31	38200.0	1183.4	0	0	0.0	0.0	0	85	864.0	1.3	0	116	39064.0	0	7.09

Appendix G

Snow Creek Pump Station Service Area Map

Appendix H

US Census Bureau 2010 Population per Square Mile – Hickory, NC



QuickFacts

Hickory city, North Carolina; United States

QuickFacts provides statistics for all states and counties, and for cities and towns with a *population of 5,000 or more*.

Table

 **PEOPLE**

Population			
Population estimates, July 1, 2019, (V2019)		41,171	328,239,523
Population estimates base, April 1, 2010, (V2019)		40,035	308,758,105
Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019)		2.8%	6.3%
Population, Census, April 1, 2010		40,010	308,745,538
Age and Sex			
Persons under 5 years, percent		▲ 5.2%	▲ 6.0%
Persons under 18 years, percent		▲ 22.3%	▲ 22.3%
Persons 65 years and over, percent		▲ 16.9%	▲ 16.5%
Female persons, percent		▲ 52.7%	▲ 50.8%
Race and Hispanic Origin			
White alone, percent		▲ 71.1%	▲ 76.3%
Black or African American alone, percent (a)		▲ 12.6%	▲ 13.4%
American Indian and Alaska Native alone, percent (a)		▲ 0.0%	▲ 1.3%
Asian alone, percent (a)		▲ 5.1%	▲ 5.9%
Native Hawaiian and Other Pacific Islander alone, percent (a)		▲ 0.0%	▲ 0.2%
Two or More Races, percent		▲ 2.8%	▲ 2.8%
Hispanic or Latino, percent (b)		▲ 12.8%	▲ 18.5%
White alone, not Hispanic or Latino, percent		▲ 67.0%	▲ 60.1%
Population Characteristics			
Veterans, 2015-2019		2,485	18,230,322
Foreign born persons, percent, 2015-2019		9.0%	13.6%
Housing			
Housing units, July 1, 2019, (V2019)		X	139,684,244
Owner-occupied housing unit rate, 2015-2019		54.8%	64.0%
Median value of owner-occupied housing units, 2015-2019		\$168,600	\$217,500
Median selected monthly owner costs -with a mortgage, 2015-2019		\$1,188	\$1,595
Median selected monthly owner costs -without a mortgage, 2015-2019		\$424	\$500
Median gross rent, 2015-2019		\$734	\$1,062
Building permits, 2019		X	1,386,048
Families & Living Arrangements			
Households, 2015-2019		16,690	120,756,048
Persons per household, 2015-2019		2.35	2.62
Living in same house 1 year ago, percent of persons age 1 year+, 2015-2019		82.7%	85.8%
Language other than English spoken at home, percent of persons age 5 years+, 2015-2019		16.1%	21.6%
Computer and Internet Use			
Households with a computer, percent, 2015-2019		87.7%	90.3%
Households with a broadband Internet subscription, percent, 2015-2019		82.0%	82.7%
Education			
High school graduate or higher, percent of persons age 25 years+, 2015-2019		88.1%	88.0%
Bachelor's degree or higher, percent of persons age 25 years+, 2015-2019		33.3%	32.1%
Health			
With a disability, under age 65 years, percent, 2015-2019		9.1%	8.6%
Persons without health insurance, under age 65 years, percent		▲ 14.7%	▲ 9.5%
Economy			
In civilian labor force, total, percent of population age 16 years+, 2015-2019		62.1%	63.0%
In civilian labor force, female, percent of population age 16 years+, 2015-2019		54.1%	58.3%

Total accommodation and food services sales, 2012 (\$1,000) (c)	210,443	08,138,598
Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c)	D	2,40,441,808
Total manufacturers shipments, 2012 (\$1,000) (c)		
Total merchant wholesaler sales, 2012 (\$1,000) (c)	3,196,134	5,208,023,478
Total retail sales, 2012 (\$1,000) (c)	1,934,170	4,219,821,871
Total retail sales per capita, 2012 (c)	\$48,242	\$13,443

Transportation

Mean travel time to work (minutes), workers age 16 years+, 2015-2019	19.6	26.9
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Income & Poverty

Median household income (in 2019 dollars), 2015-2019	\$47,652	\$62,843
Per capita income in past 12 months (in 2019 dollars), 2015-2019	\$29,727	\$34,103
Persons in poverty, percent	▲ 17.1%	▲ 10.5%

BUSINESSES

Businesses

Total employer establishments, 2018	X	7,912,405
Total employment, 2018	X	130,881,471
Total annual payroll, 2018 (\$1,000)	X	7,097,310,272
Total employment, percent change, 2017-2018	X	1.8%
Total nonemployer establishments, 2018	X	26,485,532
All firms, 2012	5,415	27,626,360
Men-owned firms, 2012	3,152	14,844,597
Women-owned firms, 2012	1,402	9,878,397
Minority-owned firms, 2012	557	7,952,386
Nonminority-owned firms, 2012	4,425	18,987,918
Veteran-owned firms, 2012	433	2,521,682
Nonveteran-owned firms, 2012	4,470	24,070,685

GEOGRAPHY

Geography

Population per square mile, 2010	1,346.8	87.4
Land area in square miles, 2010	29.71	3,531,905.43
FIPS Code	3731060	1

All Topics

Population estimates, July 1, 2019, (V2019)

Hickory city,
North Carolina

41,17